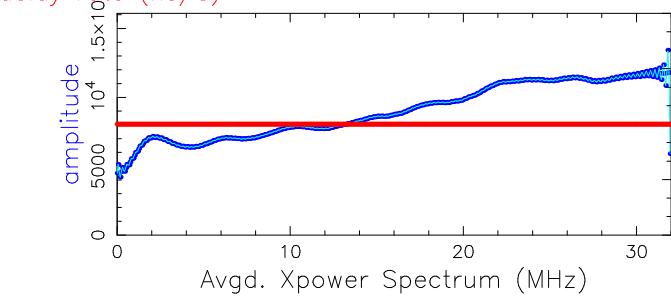
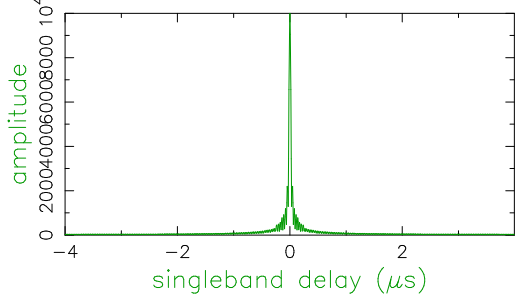
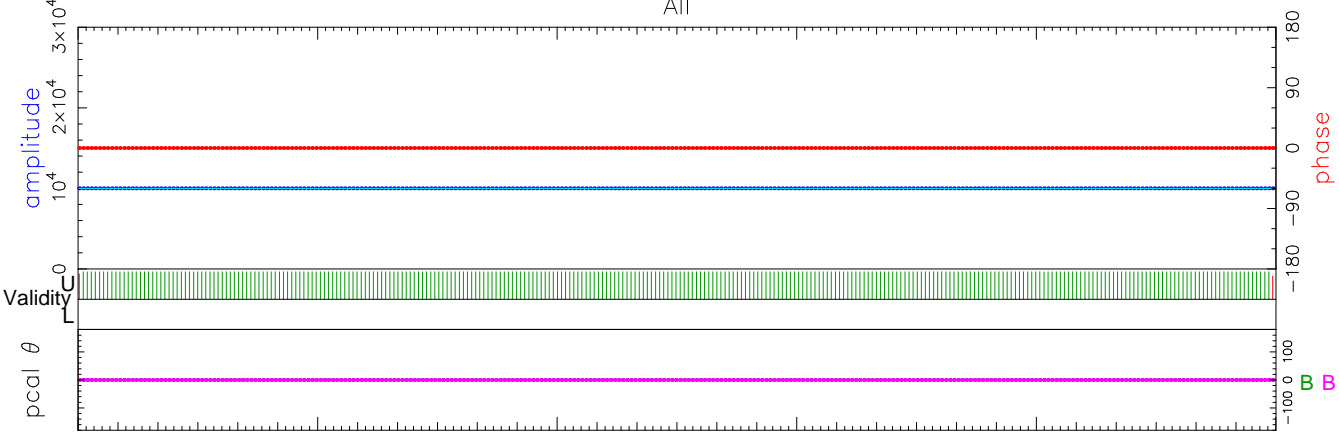


Fringe quality 9  
SNR 118372.4  
Int time 299.796  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



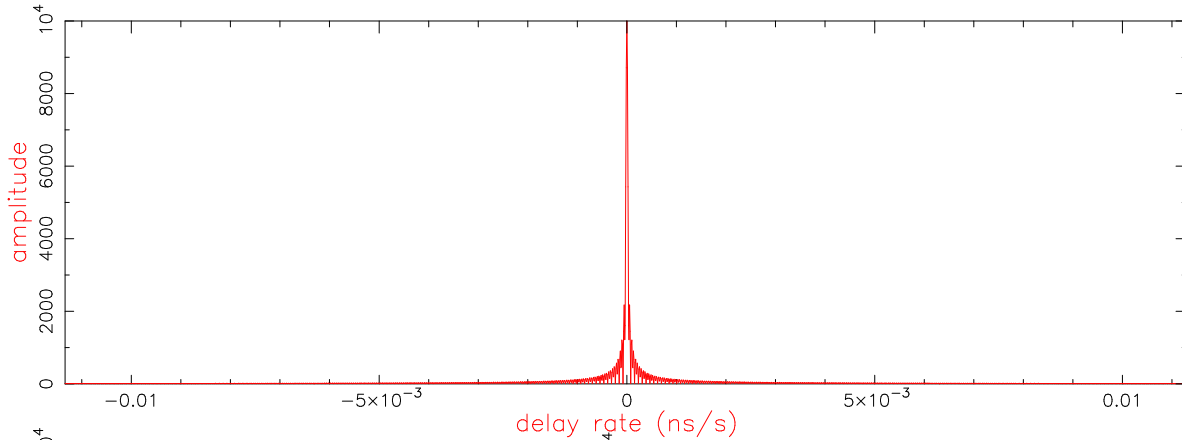
Validity  
pcal  $\theta$   
86140.00  
0.0  
10000.0  
513.0  
U/L 586/0  
B 0  
B 0  
B:B 0:0  
B:B 0:0  
B 1000  
B 1000  
B W04UR  
B W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

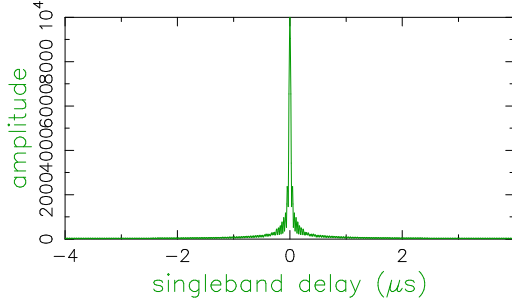
|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.35349431159E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25551E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34766924153E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34767E-09  | +/- | 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |        |                 |                     |                  |                             |                       |         |                  |          |                  |      |      |
|--------------|-----|-----|--------|-----------------|---------------------|------------------|-----------------------------|-----------------------|---------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 0.0 | RMS | Theor. | Amplitude       | 10000.000 +/- 0.084 | Pcal mode:       | MANUAL, MANUAL              | PC period (AP's)      | 5, 5    | sb window (us)   | -4.000   | 4.000            |      |      |
| amp/seg (%)  | 0.0 | 0.0 | 0.0    | Search (2048X8) | 10000.000           | Pcal rate:       | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm:          | enabled | mb window (us)   | -0.000   | 0.000            |      |      |
| ph/frq (deg) | 0.0 | 0.0 | 0.0    | Inc. seg. avg.  | 10000.000           | Bits/sample:     | 2x2                         | Sample rate(MSamp/s): | 64      | dr window (ns/s) | -0.011   | 0.011            |      |      |
| amp/frq (%)  | 0.0 | 0.0 | 0.0    | Inc. frq. avg.  | 10000.000           | Data rate(Mb/s): | 128                         | nlags:                | 512     | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

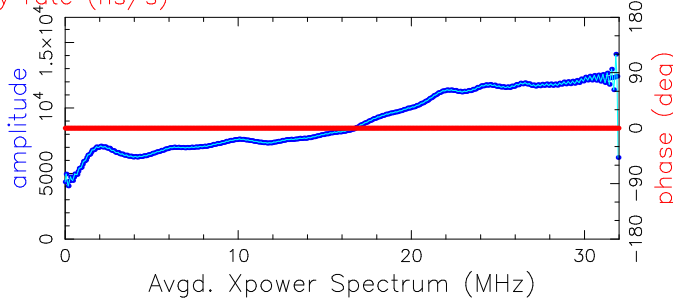
B: az 247.2 el 37.9 pa 37.6      B: az 247.2 el 37.9 pa 37.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//BB..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//BB.W.10.0QR2SH



Fringe quality 9  
SNR 118372.4  
Int time 299.796  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

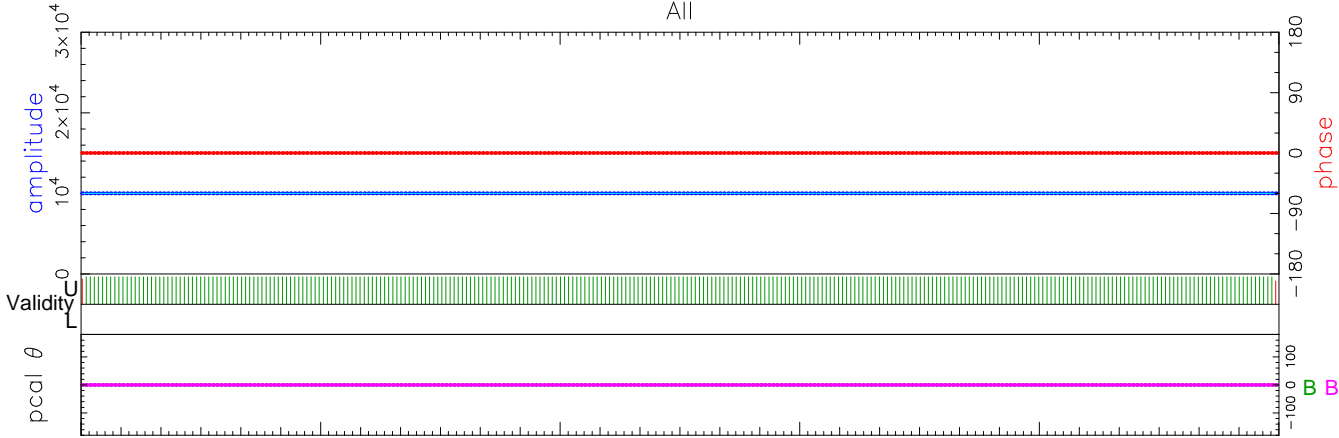


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171805  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



All

86140.00 Freq (MHz)  
0.0 Phase  
10000.0 Ampl.  
513.0 Sbd box  
U/L 586/0 APs used  
B 0 PC freqs  
B 0 PC freqs  
B:B 0:0 PC phase  
B:B 0:0 Mani PC  
B 1000 PC amp  
B 1000  
B W04UL Chan ids  
B W04UL Chan ids

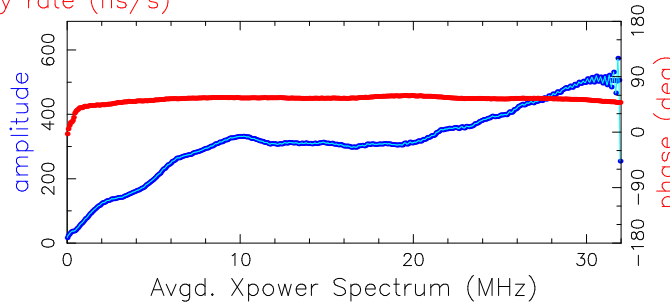
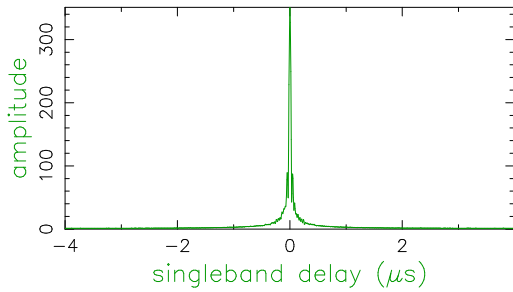
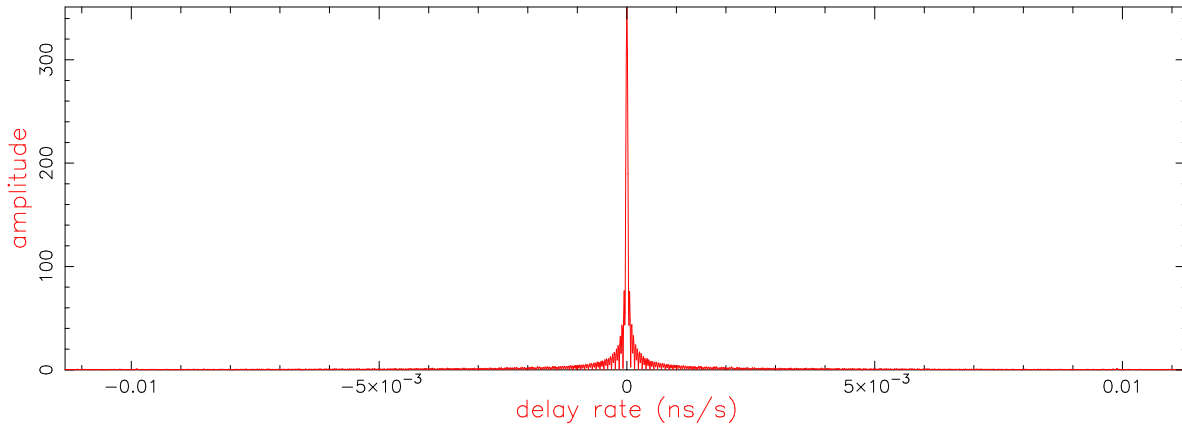
|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.36498723009E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24402E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34553449929E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34553E-09  | +/- | 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |     |                |           |                |                     |                       |           |                  |                |                  |                           |                  |              |
|--------------|-----|-----|-----|----------------|-----------|----------------|---------------------|-----------------------|-----------|------------------|----------------|------------------|---------------------------|------------------|--------------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor.         | 0.0       | Amplitude      | 10000.000 +/- 0.084 | Search (2048X8)       | 10000.000 | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5                      |                  |              |
| amp/seg (%)  | 0.0 | 0.0 | 0.0 | Inc. seg. avg. | 10000.000 | Inc. frq. avg. | 10000.000           | Bits/sample:          | 2x2       | SampCntNorm:     | enabled        | sb window (us)   | -4.000 4.000              |                  |              |
| ph/frq (deg) | 0.0 | 0.0 | 0.0 | Inc. seg. avg. | 10000.000 | Inc. frq. avg. | 10000.000           | Sample rate(MSamp/s): | 64        | nlags:           | 512            | t_cohere         | infinite                  | dr window (ns/s) | -0.011 0.011 |
| amp/frq (%)  | 0.0 | 0.0 | 0.0 | Inc. seg. avg. | 10000.000 | Inc. frq. avg. | 10000.000           | Data rate(Mb/s):      | 128       | ion window (TEC) | 0.00           | 0.00             | simultaneous interpolator |                  |              |

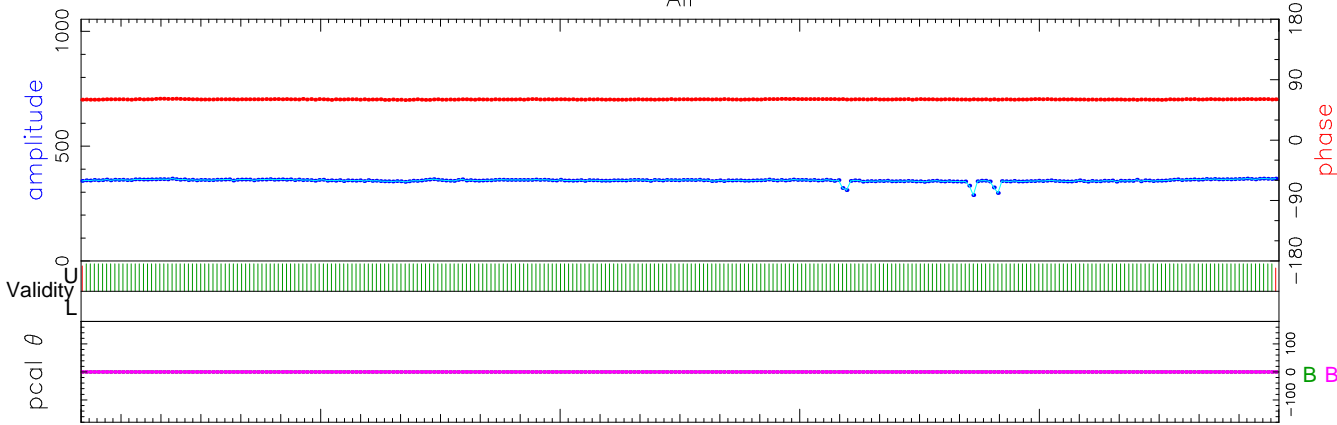
Fringe quality 9

SNR 4156.4  
Int time 299.796  
Amp 351.131  
Phase 60.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.000895  
MBD -0.000007  
Fringe rate (Hz)  
0.000012  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

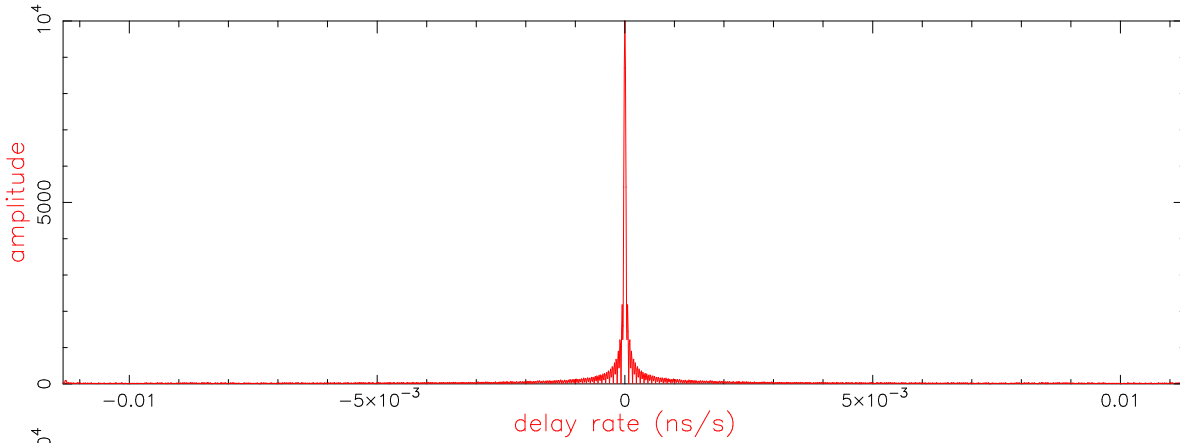


86140.00  
60.6  
350.7  
513.1  
U/L 586/0  
B 0  
B 0  
B:B 0:0  
B:B 0:0  
B 1000  
B 1000  
B W04UL  
B W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

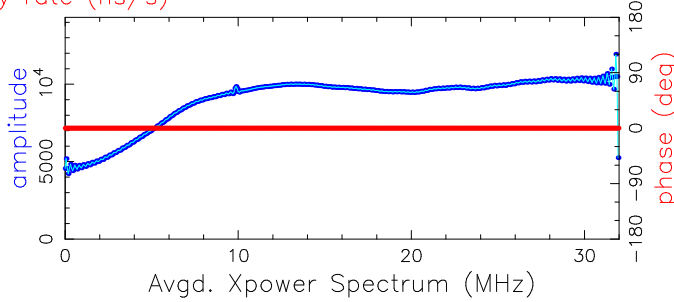
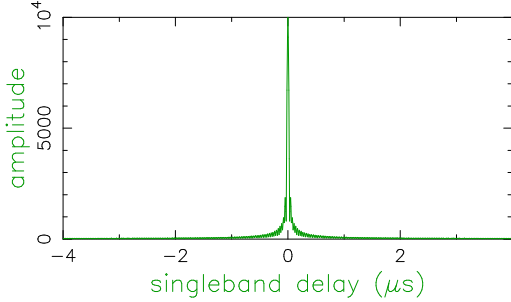
|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 8.98297701416E-04 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.20497E-06 | +/- | 4.1E-06 |
| Sband delay (usec)      | 8.94500000000E-04 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 8.94500E-04  | +/- | 4.1E-06 |
| Phase delay (usec)      | 1.95387426238E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.95387E-06  | +/- | 8.9E-10 |
| Delay rate (us/s)       | 1.41711523917E-10 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 1.41712E-10  | +/- | 5.1E-12 |
| Total phase (deg)       | 60.6              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 60.6         | +/- | 0.0     |

|              |     |     |                 |                   |                       |                             |                  |              |                |              |                  |           |
|--------------|-----|-----|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 0.3 | 0.2 | Amplitude       | 351.131 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 2.0 | 0.4 | Search (2048X8) | 350.713           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.1 | 0.0 | Inc. seg. avg.  | 350.723           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |     |     | Inc. frq. avg.  | 350.720           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |



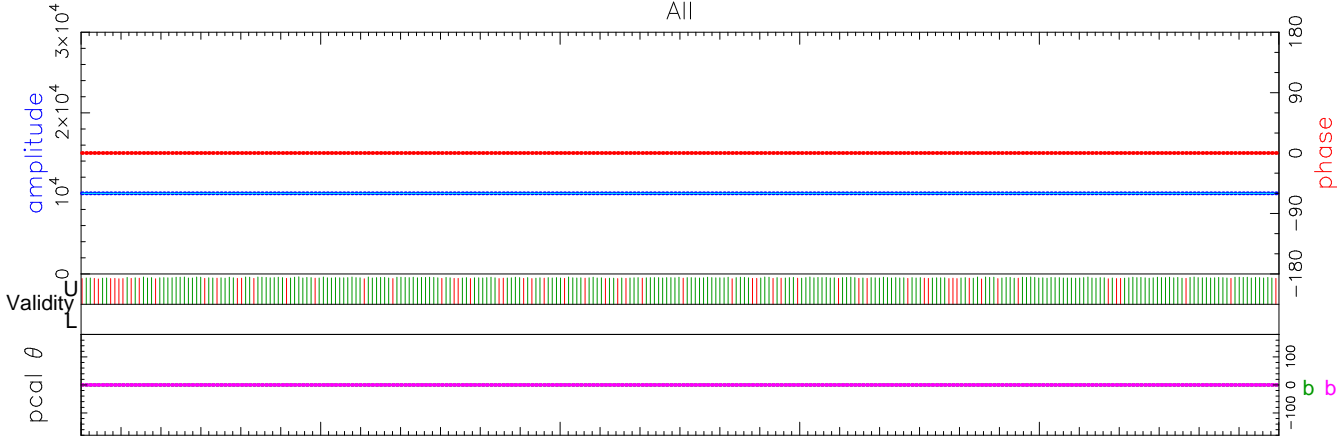
Fringe quality 9

SNR 116218.4  
 Int time 288.984  
 Amp 10000.002  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171808  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



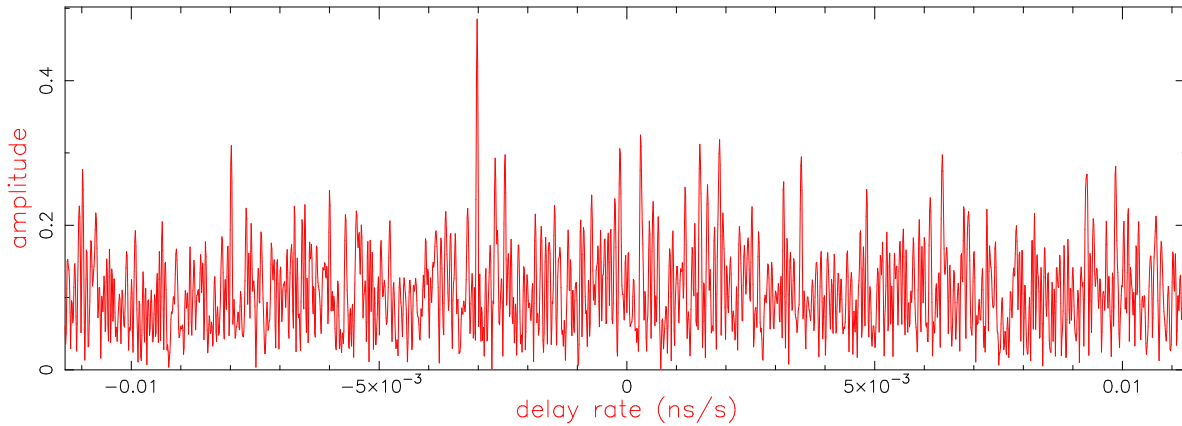
86140.00 Freq (MHz)  
 0.0 Phase  
 10000.0 Ampl.  
 513.0 Sbd box  
 U/L 586/0 APs used  
 b 5000 PC freqs  
 b 5000 PC freqs  
 b:b 0:0 PC phase  
 b:b 0:0 Mani PC  
 b 1000 PC amp  
 b 1000  
 b W04UL Chan ids  
 b W04UL Chan ids

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.35340143952E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25561E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34768649197E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34769E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |        |     |                 |                     |  |                       |                  |          |       |
|--------------|-----|--------|-----|-----------------|---------------------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.002 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 | 0.0    | 0.0 | Search (2048X8) | 10000.003           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 | 0.0    | 0.0 | Interp.         | 0.000               | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 | 0.0    | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 10000.003           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

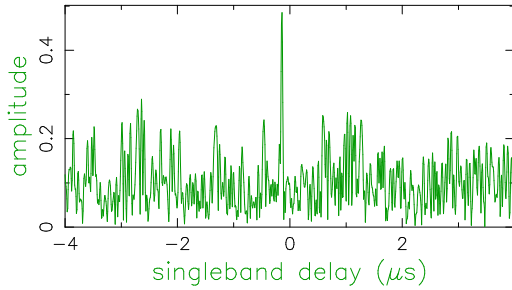
b: az 88.2 el 20.4 pa -44.0 b: az 88.2 el 20.4 pa -44.0 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bb..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bb.W.28.0QR2SH

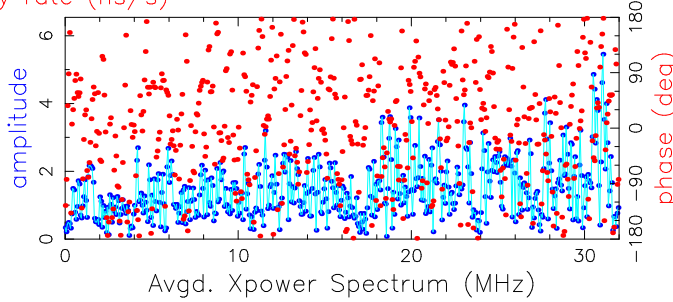


Fringe quality 0

SNR 5.7  
Int time 288.325  
Amp 0.502  
Phase -80.8  
PFD 8.5e-01  
Delays (us)  
SBD -0.142311  
MBD -0.000005  
Fringe rate (Hz)  
-0.260545  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

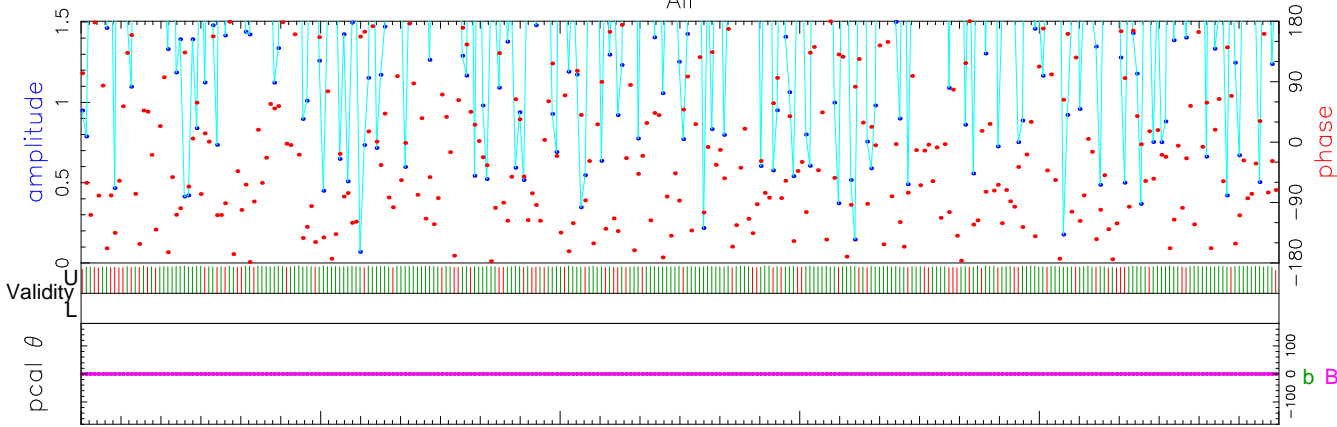


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-80.8  
0.5  
494.8  
U/L 586/0  
b 5000  
B 0  
b:B 0:0  
b:B 0:0  
b 1000  
B 1000  
b W04UR  
B W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.31998883595E+03 | Apriori delay (usec)     | -5.31984652750E+03 | Resid mbdelay (usec) | -5.22591E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -5.31998883850E+03 | Apriori clock (usec)     | -3.9345272E+00     | Resid sbdelay (usec) | -1.42311E-01 | +/- | 3.0E-03 |
| Phase delay (usec)      | -5.31984653010E+03 | Apriori clockrate (us/s) | 4.2699999E-07      | Resid phdelay (usec) | -2.60444E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.69622330669E+00  | Apriori rate (us/s)      | 1.69622633136E+00  | Resid rate (us/s)    | -3.02467E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -37.0              | Apriori accel (us/s/s)   | 2.74053238535E-05  | Resid phase (deg)    | -80.8        | +/- | 20.3    |

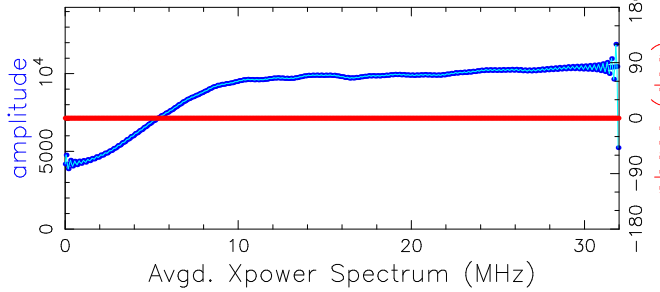
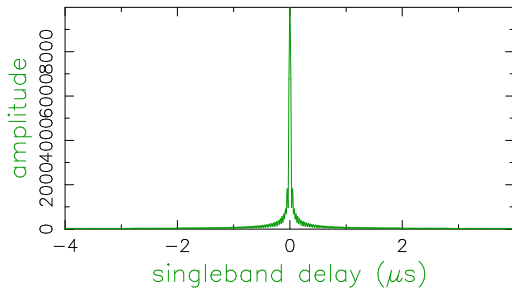
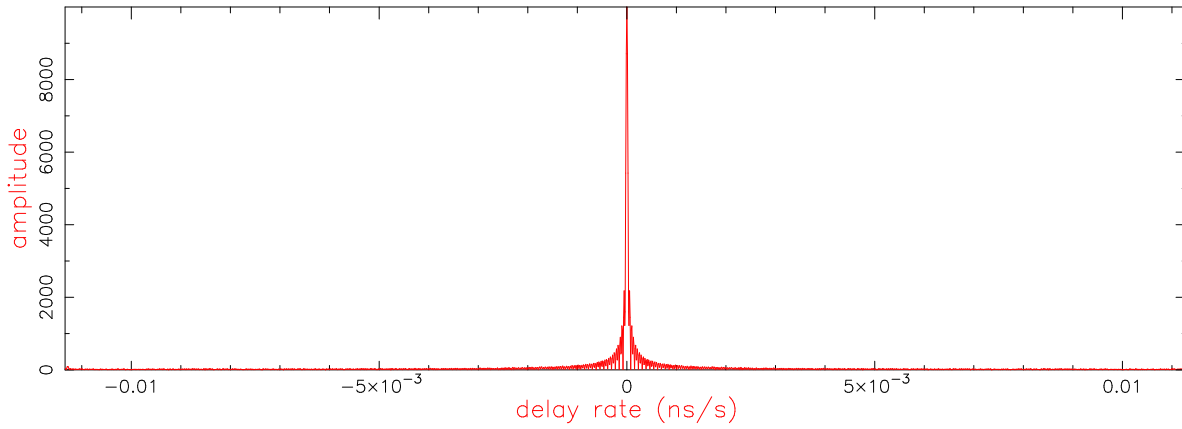
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 89.7  | Theor.          | 173.3 | Amplitude      | 0.502 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 358.7 | Search (2048X8) | 0.483 | Search         | 0.483           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.352           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.5   | Inc. frq. avg.  | 0.492 | Inc. frq. avg. | 0.492           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

b: az 88.2 el 20.4 pa -44.0    B: az 247.2 el 37.9 pa 37.6    u,v (fr/asec) -10082.326 443.938    simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bB..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bB.W.32.0QR2SH

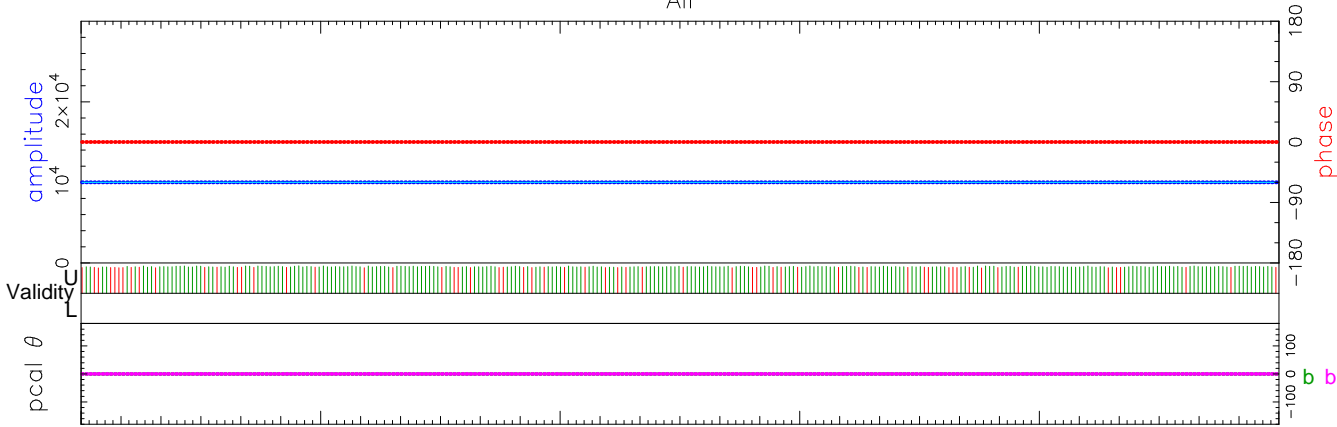
Fringe quality 9

SNR 116219.4  
Int time 288.989  
Amp 9999.999  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
0.0  
10000.0  
513.0  
U/L 586/0  
b 5000  
b 5000  
b:b 0:0  
b:b 0:0  
b 1000  
b 1000  
b W04UR  
b W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.46923612723E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.13977E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.32617087781E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.32617E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |        |     |                 |                    |  |                       |                  |          |       |
|--------------|-----|--------|-----|-----------------|--------------------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 9999.999 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |        | 0.0 | Search (2048X8) | 9999.999           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000          | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 9999.999           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

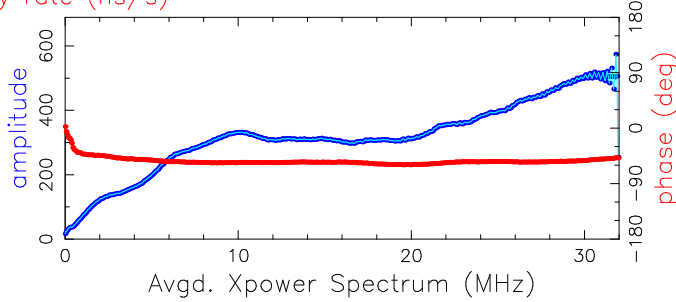
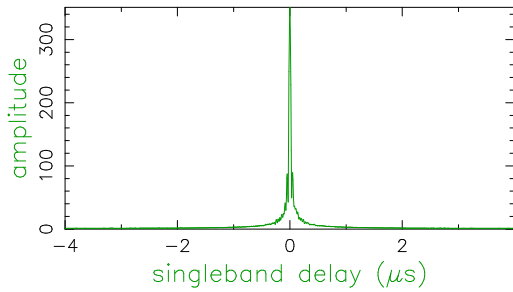
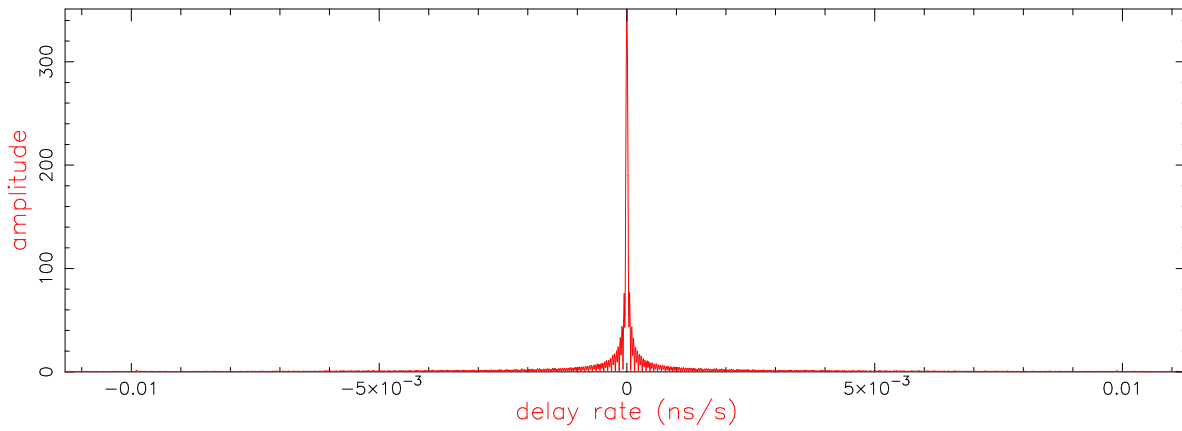
b: az 88.2 el 20.4 pa -44.0    b: az 88.2 el 20.4 pa -44.0    u,v (fr/asec) 0.000 0.000    simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bb..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bb.W.38.0QR2SH

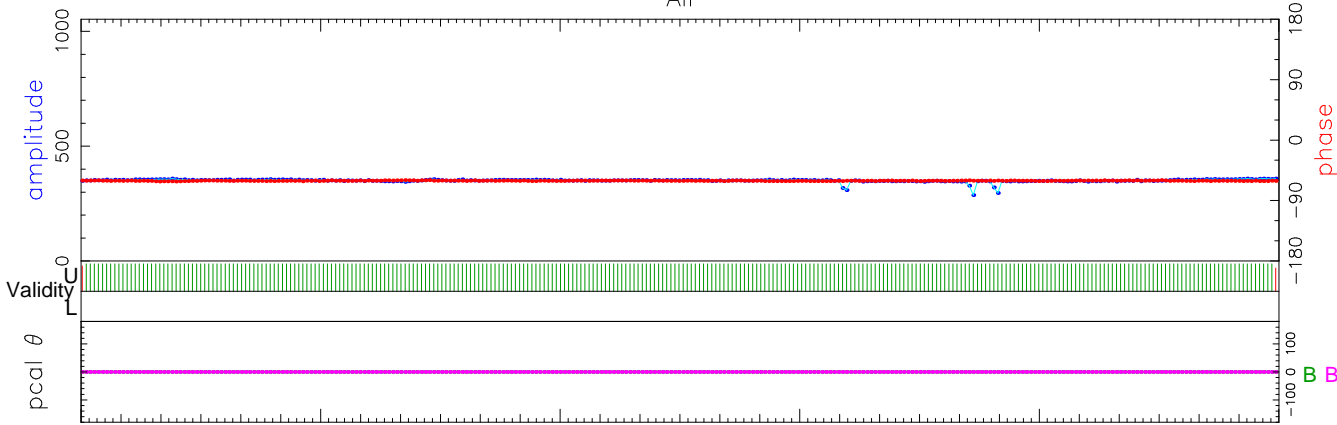
Fringe quality 9

SNR 4156.4  
Int time 299.796  
Amp 351.131  
Phase -60.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.000895  
MBD -0.000007  
Fringe rate (Hz)  
-0.000012  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-60.5  
350.7  
512.9  
U/L 586/0  
B 0  
B 0  
B:B 0:0  
B:B 0:0  
B 1000  
B 1000  
B W04UR  
B W04UL

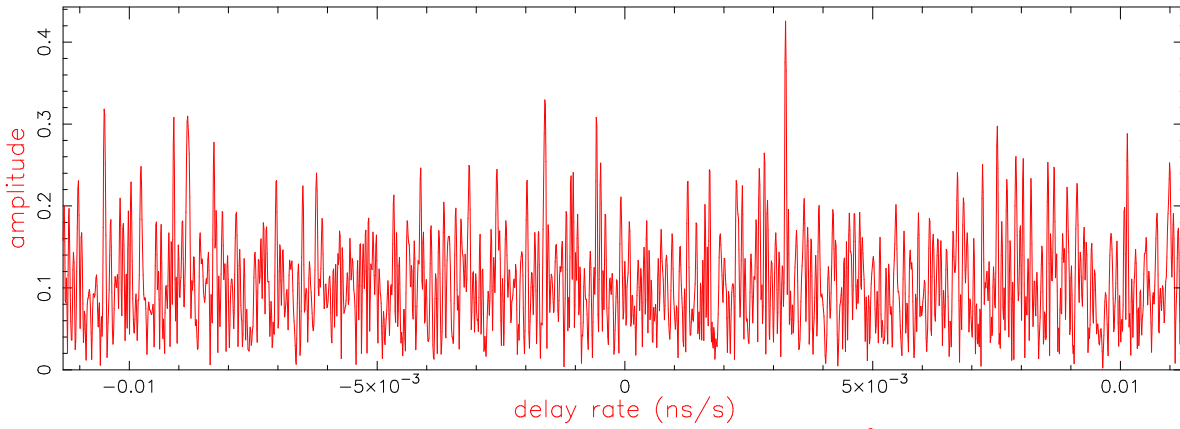
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                  |                      |              |     |         |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.89006918969E-04 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.72227E-06 | +/- | 4.1E-06 |
| Sband delay (usec)      | -8.94500000000E-04 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | -8.94500E-04 | +/- | 4.1E-06 |
| Phase delay (usec)      | -1.95128736010E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -1.95129E-06 | +/- | 8.9E-10 |
| Delay rate (us/s)       | -1.41711523917E-10 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | -1.41712E-10 | +/- | 5.1E-12 |
| Total phase (deg)       | -60.5              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -60.5        | +/- | 0.0     |

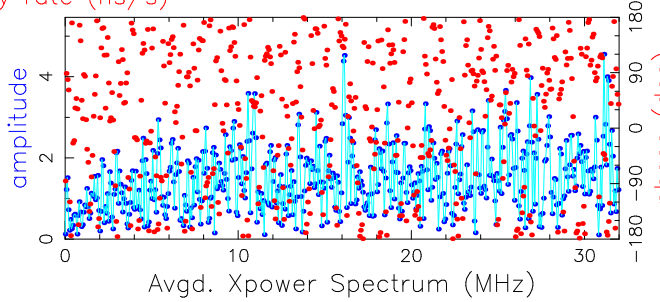
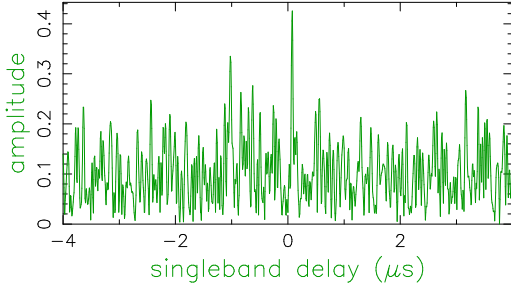
|              |     |        |     |                 |                   |                       |                             |                  |              |                |              |
|--------------|-----|--------|-----|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 0.3 | Theor. | 0.2 | Amplitude       | 351.131 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 2.0 |        | 0.4 | Search (2048X8) | 350.713           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1 |        | 0.0 | Inc. seg. avg.  | 350.723           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |     |        |     | Inc. frq. avg.  | 350.720           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

B: az 247.2 el 37.9 pa 37.6      B: az 247.2 el 37.9 pa 37.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//BB..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//BB.W.48.0QR2SH

Fringe quality 0

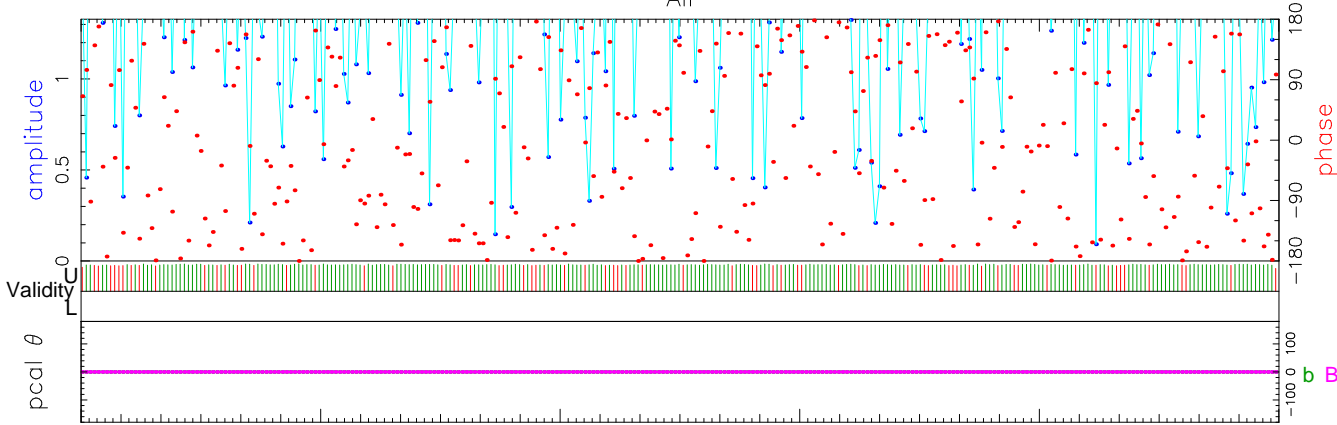


SNR 5.0  
Int time 288.325  
Amp 0.443  
Phase -163.6  
PFD 1.0e+00  
Delays (us)  
SBD 0.076182  
MBD 0.000004  
Fringe rate (Hz)  
0.279458  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-163.6  
0.4  
522.8  
U/L 586/0  
b 5000  
B 0  
b:B 0:0  
b:B 0:0  
b 1000  
B 1000  
b W04UL  
B W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -5.31977034477E+03 | Apriori delay (usec)     | -5.31984652750E+03 | Resid mbdelay (usec) | 4.40752E-06  | +/- 3.5E-03 |
| Sband delay (usec)      | -5.31977034550E+03 | Apriori clock (usec)     | -3.9345272E+00     | Resid sbdelay (usec) | 7.61820E-02  | +/- 3.5E-03 |
| Phase delay (usec)      | -5.31984653277E+03 | Apriori clockrate (us/s) | 4.2699999E-07      | Resid phdelay (usec) | -5.27550E-06 | +/- 7.4E-07 |
| Delay rate (us/s)       | 1.69622957558E+00  | Apriori rate (us/s)      | 1.69622633136E+00  | Resid rate (us/s)    | 3.24423E-06  | +/- 4.3E-09 |
| Total phase (deg)       | -119.9             | Apriori accel (us/s/s)   | 2.74053238535E-05  | Resid phase (deg)    | -163.6       | +/- 23.1    |

|              |       |                 |       |                 |                 |  |                             |
|--------------|-------|-----------------|-------|-----------------|-----------------|--|-----------------------------|
| ph/seg (deg) | 90.5  | Theor.          | 197.3 | Amplitude       | 0.443 +/- 0.089 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |
| amp/seg (%)  | 384.3 | Search (2048X8) | 0.426 | Search (2048X8) | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.271 | Inc. seg. avg.  | 0.271           | Bits/sample: 2x2                       | SampCntNorm: enabled        |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.432 | Inc. frq. avg.  | 0.432           | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000 |

b: az 88.2 el 20.4 pa -44.0 B: az 247.2 el 37.9 pa 37.6 u,v (fr/asec) -10082.326 443.938 simultaneous interpolator

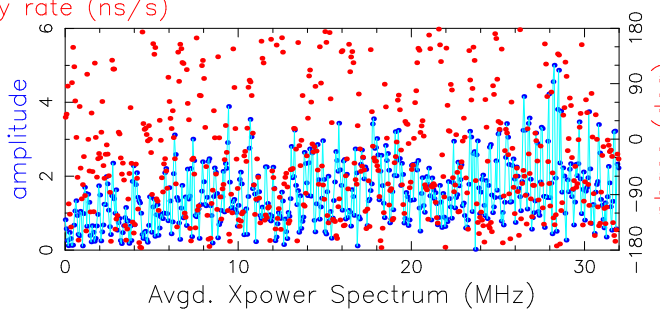
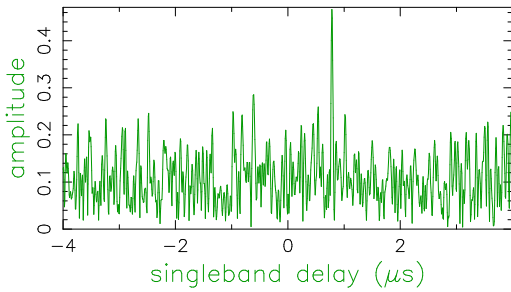
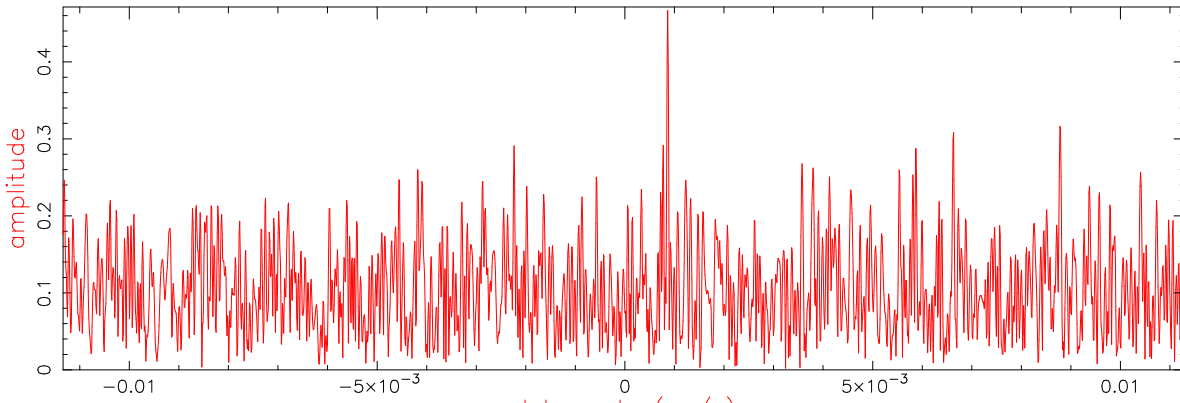
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bB..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bB.W.53.0QR2SH



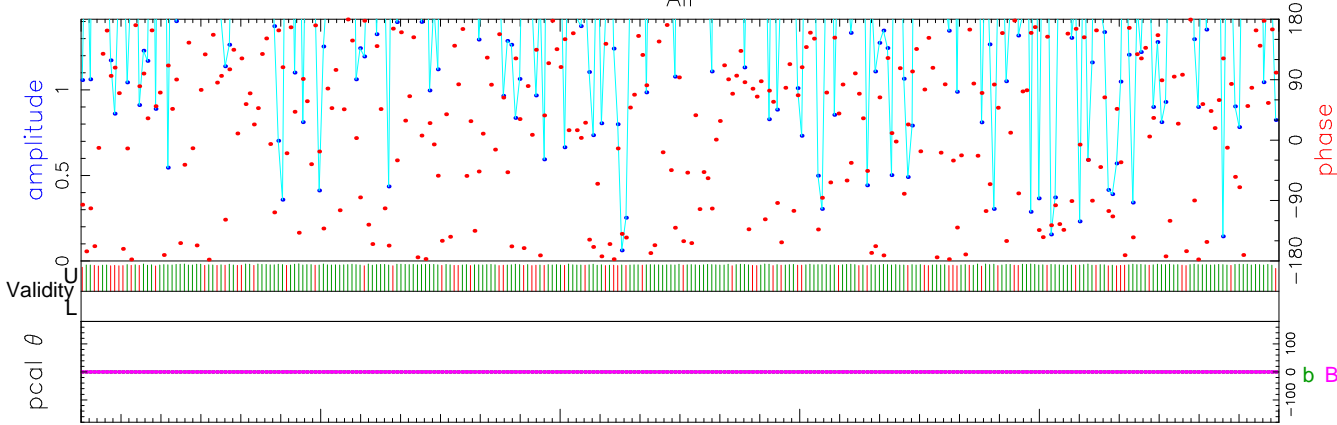
Fringe quality 0

SNR 5.5  
Int time 288.325  
Amp 0.471  
Phase 121.3  
PFD 1.0e+00  
Delays (us)  
SBD 0.783427  
MBD 0.000005  
Fringe rate (Hz)  
0.074364  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
121.3  
0.5  
613.3  
U/L 586/0  
b 5000  
B 0  
b:B 0:0  
b:B 0:0  
b 1000  
B 1000  
b W04UL  
B W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-------------|
| Group delay (usec)(sbd) | -5.31906310027E+03 | Apriori delay (usec)     | -5.31984652750E+03 | Resid mbdelay (usec) | 4.89111E-06 | +/- 3.2E-03 |
| Sband delay (usec)      | -5.31906310100E+03 | Apriori clock (usec)     | -3.9345272E+00     | Resid sbdelay (usec) | 7.83427E-01 | +/- 3.2E-03 |
| Phase delay (usec)      | -5.31984652358E+03 | Apriori clockrate (us/s) | 4.2699999E-07      | Resid phdelay (usec) | 3.91172E-06 | +/- 6.8E-07 |
| Delay rate (us/s)       | 1.69622719465E+00  | Apriori rate (us/s)      | 1.69622633136E+00  | Resid rate (us/s)    | 8.63292E-07 | +/- 3.9E-09 |
| Total phase (deg)       | -195.0             | Apriori accel (us/s/s)   | 2.74053238535E-05  | Resid phase (deg)    | 121.3       | +/- 21.0    |

|              |       |                 |       |                |                 |  |                       |                   |                  |        |       |
|--------------|-------|-----------------|-------|----------------|-----------------|--|-----------------------|-------------------|------------------|--------|-------|
| ph/seg (deg) | 89.7  | Theor.          | 179.7 | Amplitude      | 0.471 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 |                   |                  |        |       |
| amp/seg (%)  | 354.9 | Search (2048X8) | 0.467 | Search         | 0.467           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)        | -4.000            | 4.000            |        |       |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.315           | Bits/sample: 2x2                       | SampCntNorm: enabled  | mb window (us)    | -0.000           | 0.000  |       |
| amp/frq (%)  | 0.7   | Inc. frq. avg.  | 0.460 | Inc. frq. avg. | 0.460           | Sample rate(MSamp/s): 64               | nlags: 512            | t_cohere infinite | dr window (ns/s) | -0.011 | 0.011 |

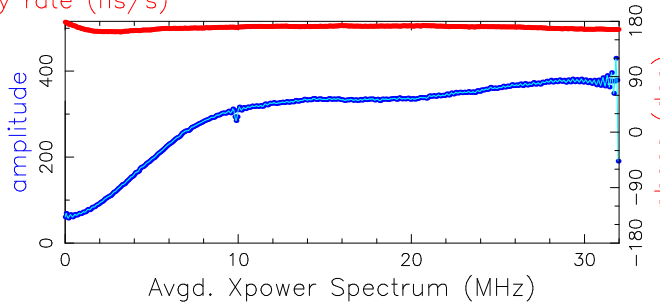
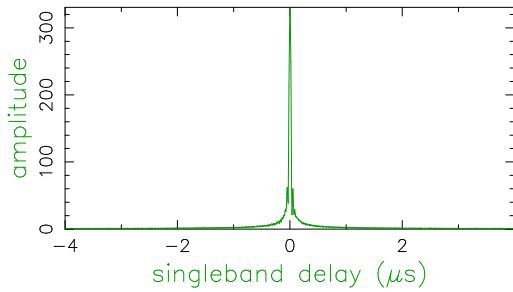
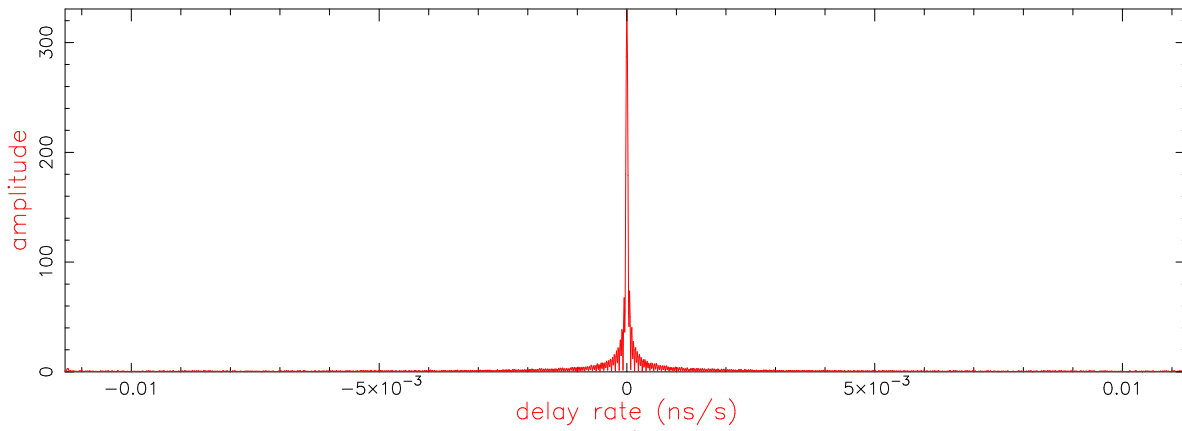
b: az 88.2 el 20.4 pa -44.0      B: az 247.2 el 37.9 pa 37.6      u,v (fr/asec) -10082.326 443.938      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bB..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bB.W.6.0QR2SH

Fringe quality 9

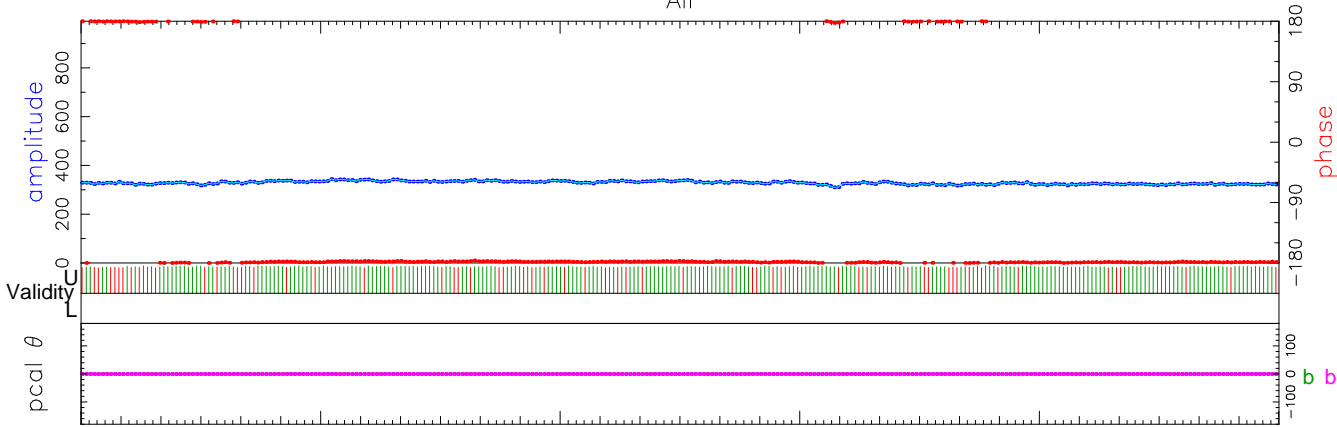
SNR 3842.5  
Int time 288.984  
Amp 330.627  
Phase -178.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.001674  
MBD -0.000006  
Fringe rate (Hz)  
-0.000038  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-178.7  
329.4  
513.2  
U/L 586/0  
b 5000  
b 5000  
b:b 0:0  
b:b 0:0  
b 1000  
b 1000  
b W04UL  
b W04UR

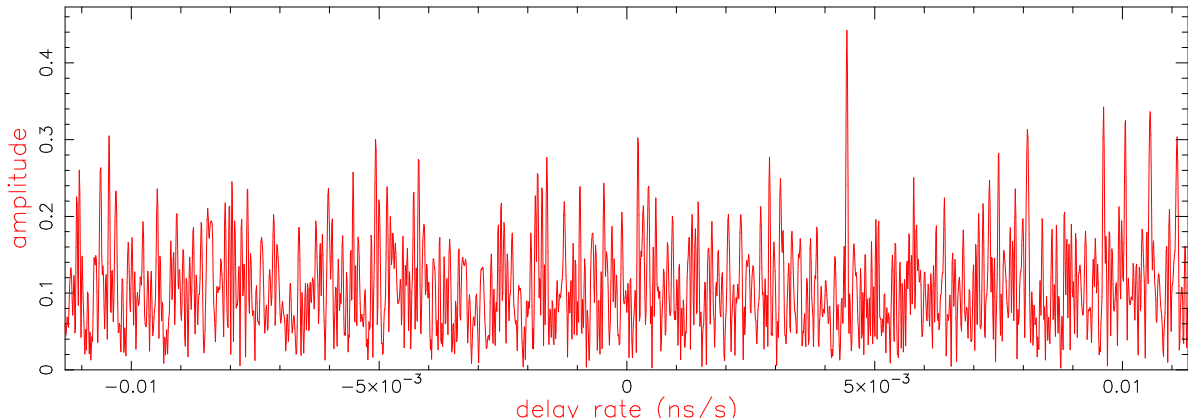
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                  |                      |              |     |         |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.67694720223E-03  | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.35904E-06 | +/- | 4.5E-06 |
| Sband delay (usec)      | 1.67350000000E-03  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 1.67350E-03  | +/- | 4.5E-06 |
| Phase delay (usec)      | -5.76220088189E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -5.76220E-06 | +/- | 9.6E-10 |
| Delay rate (us/s)       | -4.45682742718E-10 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | -4.45683E-10 | +/- | 5.6E-12 |
| Total phase (deg)       | -178.7             | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -178.7       | +/- | 0.0     |

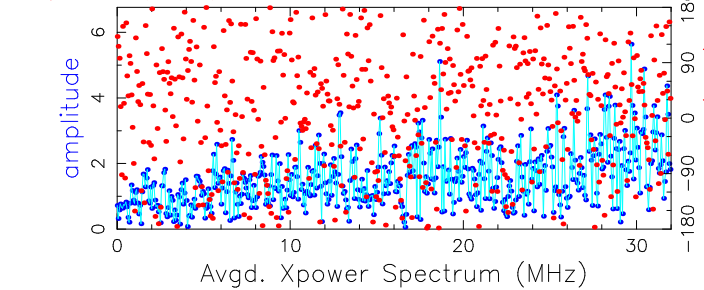
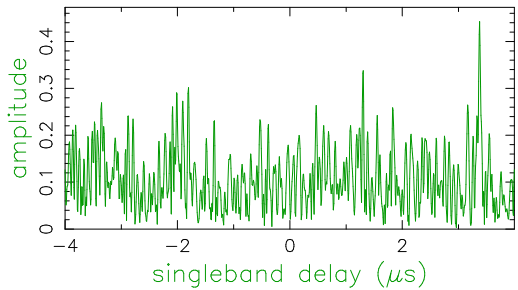
|              |     |     |                 |                   |  |                              |                  |              |
|--------------|-----|-----|-----------------|-------------------|--|------------------------------|------------------|--------------|
| ph/seg (deg) | 1.1 | 0.3 | Amplitude       | 330.627 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)             | 5, 5             |              |
| amp/seg (%)  | 2.0 | 0.4 | Search (2048X8) | 329.287           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)               | -4.000 4.000     |              |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled         | mb window (us)   | -0.000 0.000 |
| amp/frq (%)  | 0.4 | 0.0 | Inc. seg. avg.  | 329.416           | Sample rate(MSamp/s): 64               | dr window (ns/s)             | -0.011 0.011     |              |
|              |     |     | Inc. frq. avg.  | 329.358           | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite | ion window (TEC) | 0.00 0.00    |

b: az 88.2 el 20.4 pa -44.0      b: az 88.2 el 20.4 pa -44.0      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bb..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bb.W.63.0QR2SH

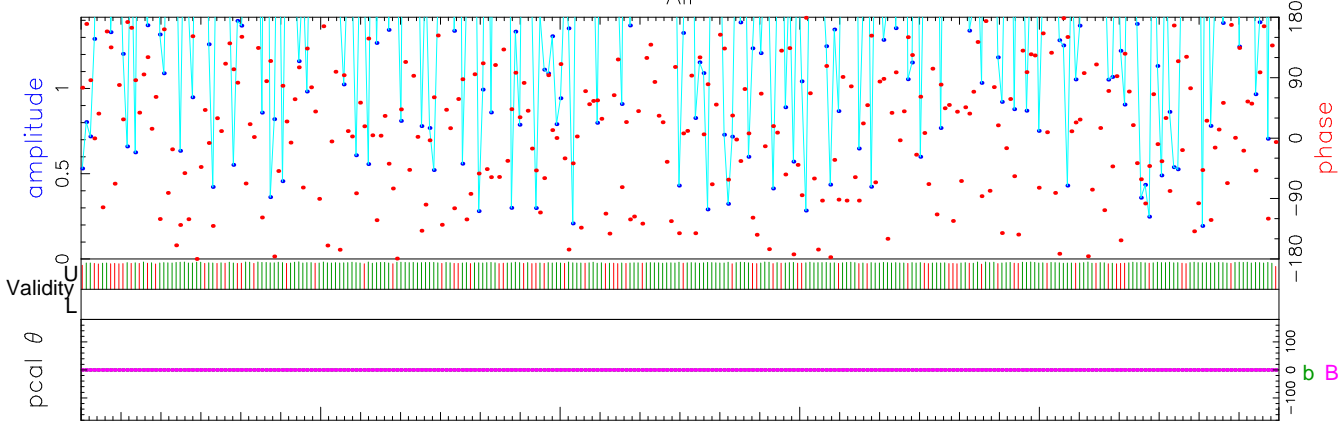


Fringe quality 0  
SNR 5.1  
Int time 288.325  
Amp 0.473  
Phase 39.5  
PFD 1.0e+00  
Delays (us)  
SBD 3.373651  
MBD 0.000005  
Fringe rate (Hz) 0.382479  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



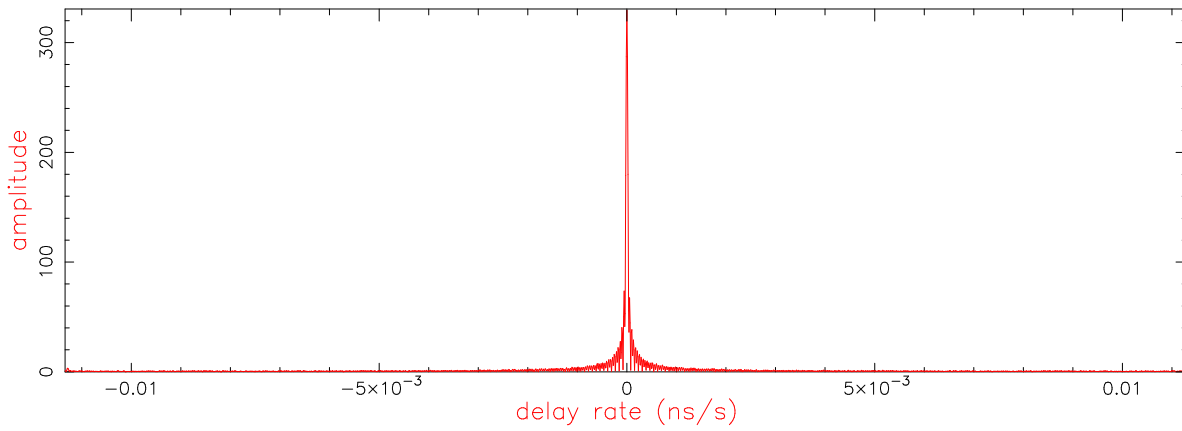
86140.00  
39.5  
0.5  
944.9  
U/L 586/0  
b 5000  
B 0  
b:B 0:0  
b:B 0:0  
b 1000  
B 1000  
b W04UR  
B W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -5.31647287505E+03 | Apriori delay (usec)     | -5.31984652750E+03 | Resid mbdelay (usec) | 4.89807E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -5.31647287700E+03 | Apriori clock (usec)     | -3.9345272E+00     | Resid sbdelay (usec) | 3.37365E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -5.31984652622E+03 | Apriori clockrate (us/s) | 4.2699999E-07      | Resid phdelay (usec) | 1.27243E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.69623077156E+00  | Apriori rate (us/s)      | 1.69622633136E+00  | Resid rate (us/s)    | 4.44020E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -276.8             | Apriori accel (us/s/s)   | 2.74053238535E-05  | Resid phase (deg)    | 39.5        | +/- | 22.3    |

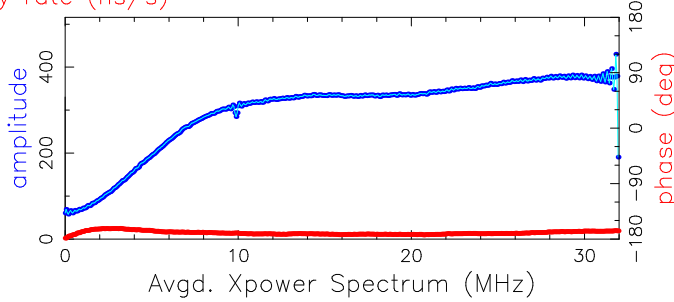
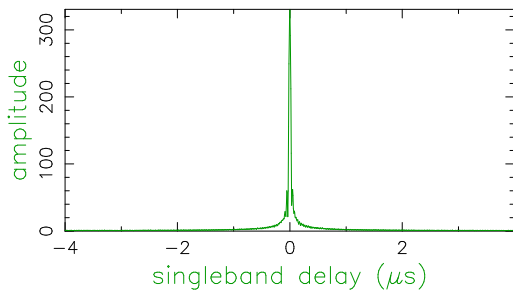
|              |       |                 |       |                 |                 |                        |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 93.2  | Theor.          | 190.4 | Amplitude       | 0.473 +/- 0.092 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 389.1 | Search (2048X8) | 0.442 | Search (2048X8) | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.3   | Inc. seg. avg.  | 0.299 | Inc. seg. avg.  | 0.299           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.463 | Inc. frq. avg.  | 0.463           | Data rate (Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

b: az 88.2 el 20.4 pa -44.0      B: az 247.2 el 37.9 pa 37.6      u,v (fr/asec) -10082.326 443.938      simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bB..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bB.W.67.0QR2SH



Fringe quality 9

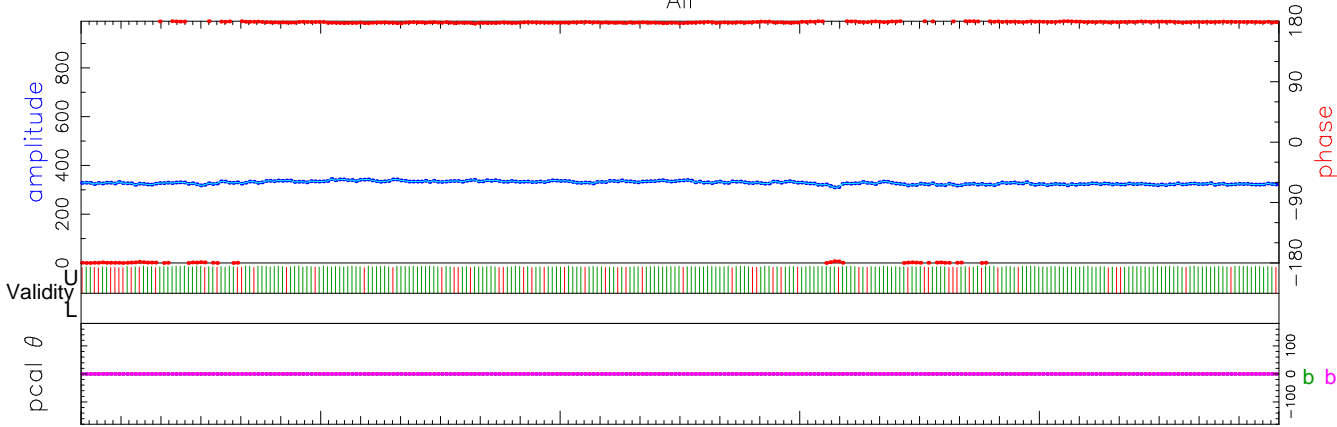
SNR 3842.5  
Int time 288.989  
Amp 330.621  
Phase 178.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.001674  
MBD -0.000007  
Fringe rate (Hz)  
0.000038  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
178.8  
329.4  
512.8  
U/L 586/0  
b 5000  
b 5000  
b:b 0:0  
b:b 0:0  
b 1000  
b 1000  
b W04UR  
b W04UL

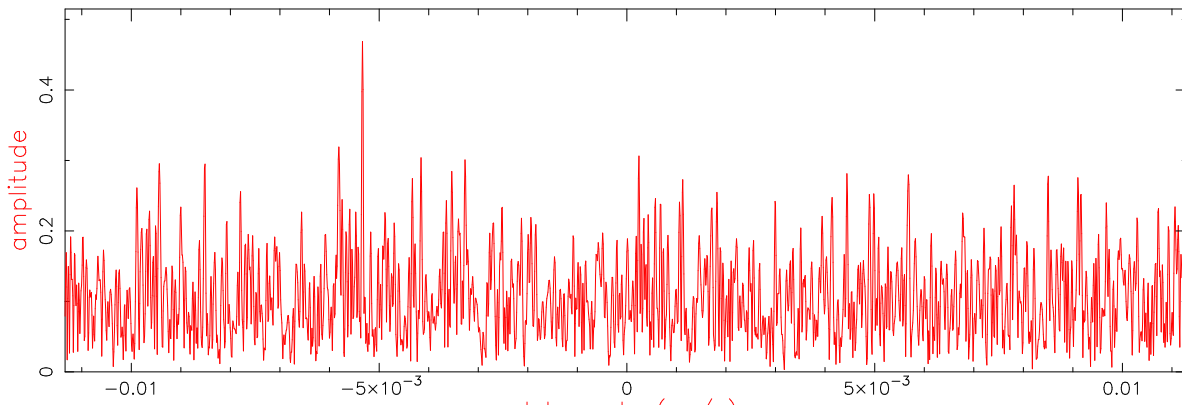
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                   |                      |              |             |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -1.67827490132E-03 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.57766E-06 | +/- 4.5E-06 |
| Sband delay (usec)      | -1.67350000000E-03 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | -1.67350E-03 | +/- 4.5E-06 |
| Phase delay (usec)      | 5.76460379935E-06  | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 5.76460E-06  | +/- 9.6E-10 |
| Delay rate (us/s)       | 4.45682742718E-10  | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 4.45683E-10  | +/- 5.6E-12 |
| Total phase (deg)       | 178.8              | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 178.8        | +/- 0.0     |

|              |     |     |                 |                   |  |                               |
|--------------|-----|-----|-----------------|-------------------|--|-------------------------------|
| ph/seg (deg) | 1.1 | 0.3 | Amplitude       | 330.621 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 2.0 | 0.4 | Search (2048X8) | 329.280           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.4 | 0.0 | Inc. seg. avg.  | 329.410           | Sample rate(MSamp/s): 64               | dr window (ns/s) -0.011 0.011 |
|              |     |     | Inc. frq. avg.  | 329.352           | Data rate(Mb/s): 128                   | ion window (TEC) 0.00 0.00    |

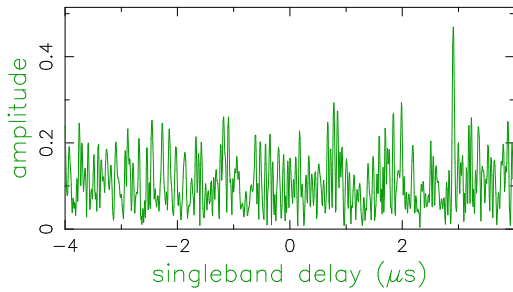
b: az 88.2 el 20.4 pa -44.0      b: az 88.2 el 20.4 pa -44.0      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bb..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bb.W.79.0QR2SH

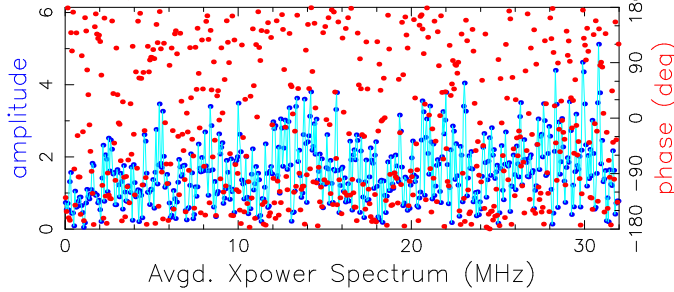


Fringe quality 0

SNR 5.4  
Int time 280.952  
Amp 0.515  
Phase 29.4  
PFD 1.0e+00  
Delays (us)  
SBD 2.907058  
MBD -0.000006  
Fringe rate (Hz)  
-0.459311  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

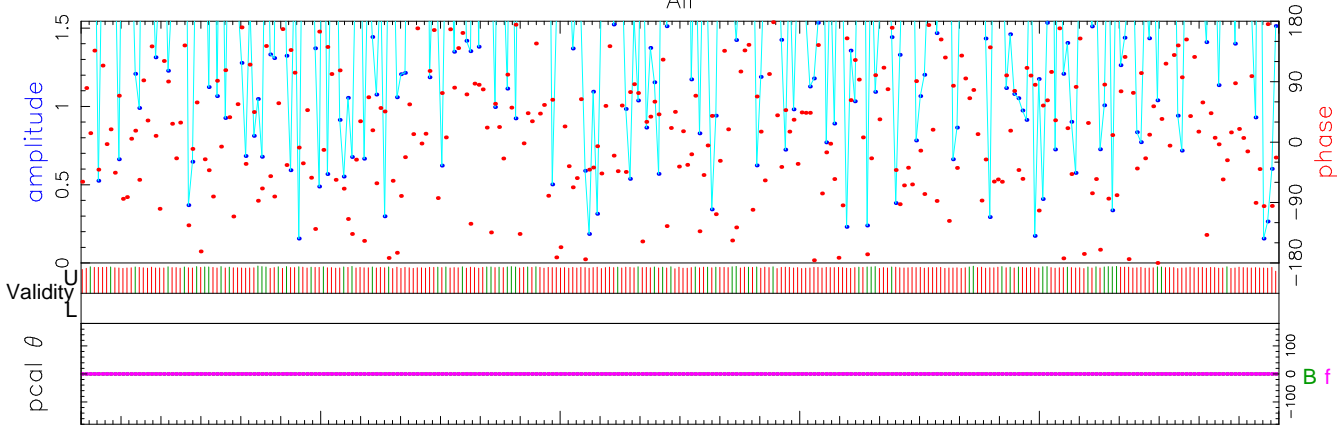


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
29.4  
0.5  
885.1  
U/L 586/0  
B 0  
f 5000  
B:f 0:0  
B:f 0:0  
B 1000  
f 1000  
B W04UR  
f W04UR

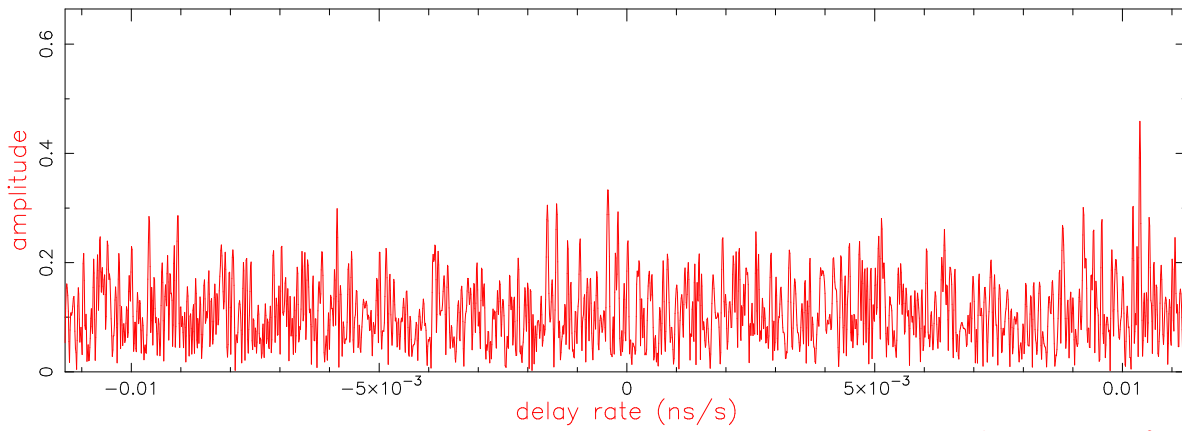
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.31257288820E+03  | Apriori delay (usec)     | 1.30966582474E+03  | Resid mbdelay (usec) | -6.42052E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.31257288274E+03  | Apriori clock (usec)     | 5.0873098E+00      | Resid sbdelay (usec) | 2.90706E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.30966582569E+03  | Apriori clockrate (us/s) | -2.0000000E-07     | Resid phdelay (usec) | 9.49477E-07  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.84713528160E+00 | Apriori rate (us/s)      | -1.84712994945E+00 | Resid rate (us/s)    | -5.33215E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | 80.9               | Apriori accel (us/s/s)   | 1.34234692284E-06  | Resid phase (deg)    | 29.4         | +/- | 21.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 87.6  | Theor.          | 182.4 | Amplitude      | 0.515 +/- 0.096 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 365.7 | Search (2048X8) | 0.458 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.338           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.506 | Inc. frq. avg. | 0.506           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

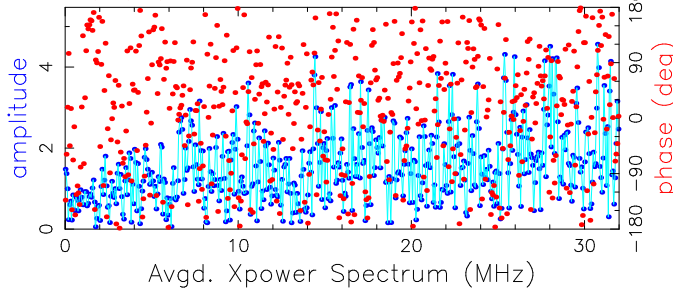
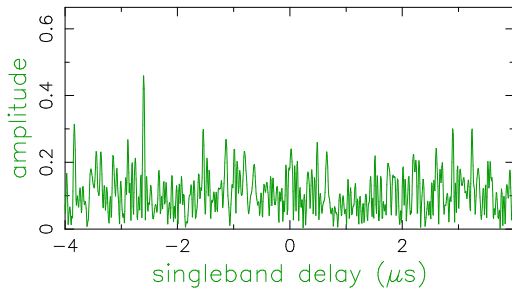
B: az 247.2 el 37.9 pa 37.6 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 11019.716 2208.751 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bf.W.12.0QR2SH



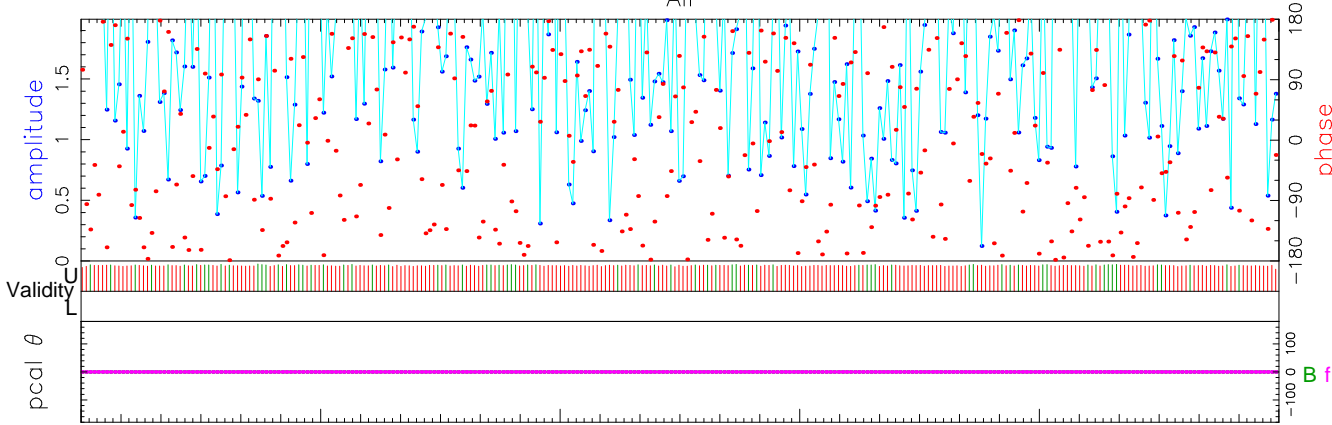
Fringe quality 0

SNR 5.3  
Int time 280.962  
Amp 0.664  
Phase -171.3  
PFD 1.0e+00  
Delays (us)  
SBD -2.601496  
MBD 0.000005  
Fringe rate (Hz)  
0.891785  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171805  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-171.3  
0.7  
180.0  
U/L 586/0  
B 0  
f 5000  
B:f 0:0  
B:f 0:0  
B 1000  
f 1000  
B W04UL  
f W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.30706433211E+03  | Apriori delay (usec)     | 1.30966582474E+03  | Resid mbdelay (usec) | 4.93234E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 1.30706432924E+03  | Apriori clock (usec)     | 5.0873098E+00      | Resid sbdelay (usec) | -2.60150E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 1.30966581922E+03  | Apriori clockrate (us/s) | -2.0000000E-07     | Resid phdelay (usec) | -5.52378E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | -1.84711959672E+00 | Apriori rate (us/s)      | -1.84712994945E+00 | Resid rate (us/s)    | 1.03527E-05  | +/- | 4.1E-09 |
| Total phase (deg)       | -119.8             | Apriori accel (us/s/s)   | 1.34234692284E-06  | Resid phase (deg)    | -171.3       | +/- | 21.8    |

|              |       |                 |       |                       |                             |                  |                |                  |          |                  |      |      |
|--------------|-------|-----------------|-------|-----------------------|-----------------------------|------------------|----------------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 91.7  | Theor.          | 186.5 | Amplitude             | 0.664 +/- 0.126             | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5     |                  |      |      |
| amp/seg (%)  | 385.0 | Search (2048X8) | 0.458 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000         | 4.000            |          |                  |      |      |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled        | mb window (us)   | -0.000   | 0.000            |      |      |
| amp/frq (%)  | 0.0   | Inc. seg. avg.  | 0.440 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011         | 0.011            |          |                  |      |      |
|              |       | Inc. frq. avg.  | 0.653 | Data rate(Mb/s):      | 128                         | nlags:           | 512            | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

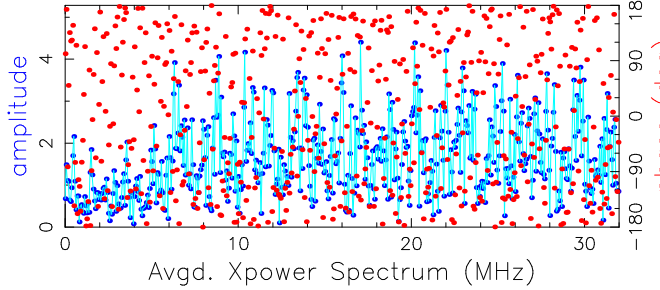
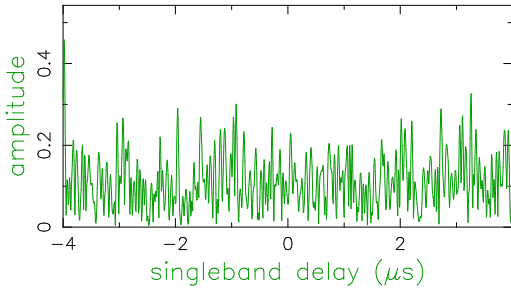
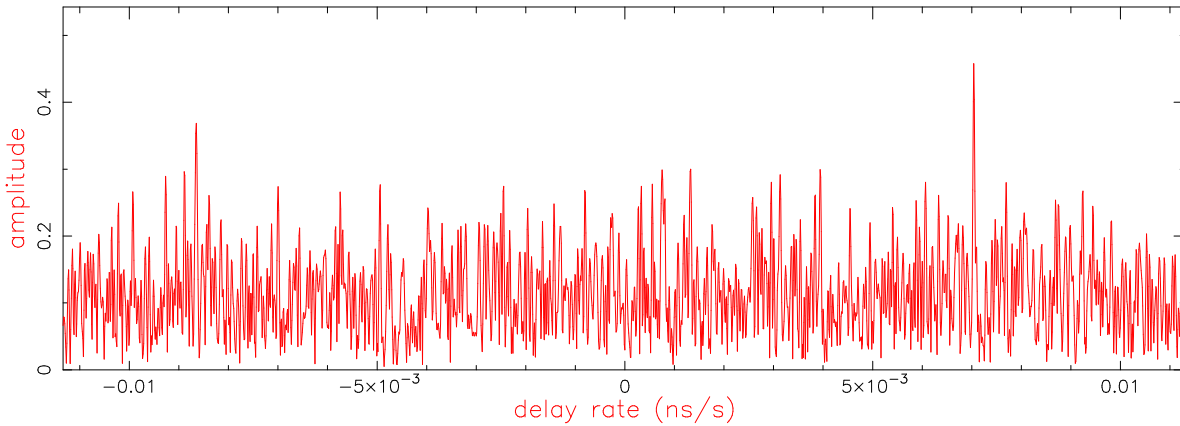
B: az 247.2 el 37.9 pa 37.6 f: az 89.4 el 32.4 pa -63.6 u.v (fr/asec) 11019.716 2208.751 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bf.W.2.0QR2SH

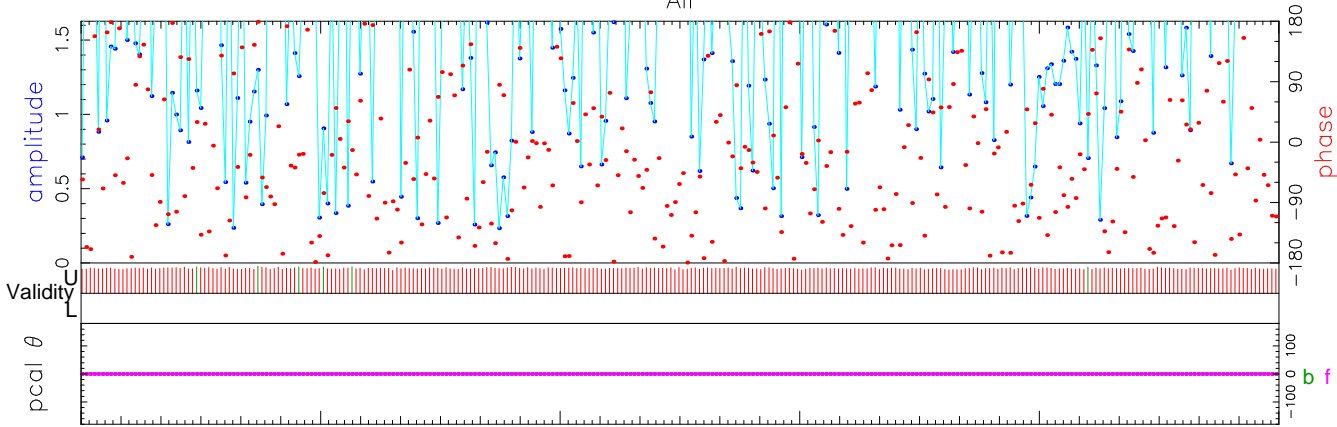
Fringe quality 0

SNR 5.2  
Int time 270.871  
Amp 0.542  
Phase -74.3  
PFD 1.0e+00  
Delays (us)  
SBD -3.982193  
MBD 0.000006  
Fringe rate (Hz)  
0.606218  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-74.3  
0.5  
3.3  
U/L 586/0  
b 5000  
f 5000  
b:f 0:0  
b:f 0:0  
b 1000  
f 1000  
b W04UR  
f W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.01416289980E+03 | Apriori delay (usec)     | -4.01018070276E+03 | Resid mbdelay (usec) | 6.34344E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -4.01416289576E+03 | Apriori clock (usec)     | 1.1527827E+00      | Resid sbdelay (usec) | -3.98219E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -4.01018070515E+03 | Apriori clockrate (us/s) | 2.2699999E-07      | Resid phdelay (usec) | -2.39511E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | -1.50896580496E-01 | Apriori rate (us/s)      | -1.50903618092E-01 | Resid rate (us/s)    | 7.03760E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | -339.0             | Apriori accel (us/s/s)   | 2.87476707763E-05  | Resid phase (deg)    | -74.3        | +/- | 22.1    |

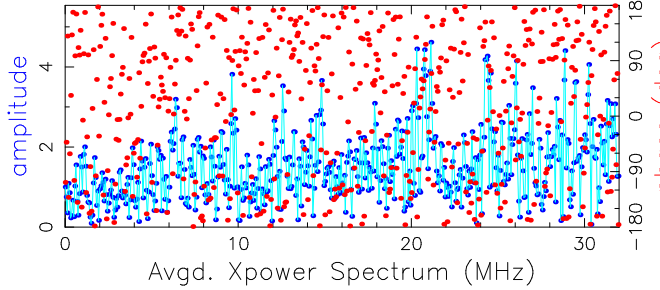
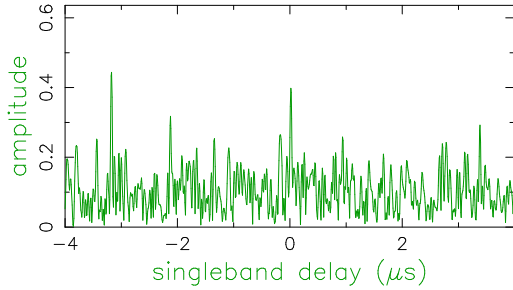
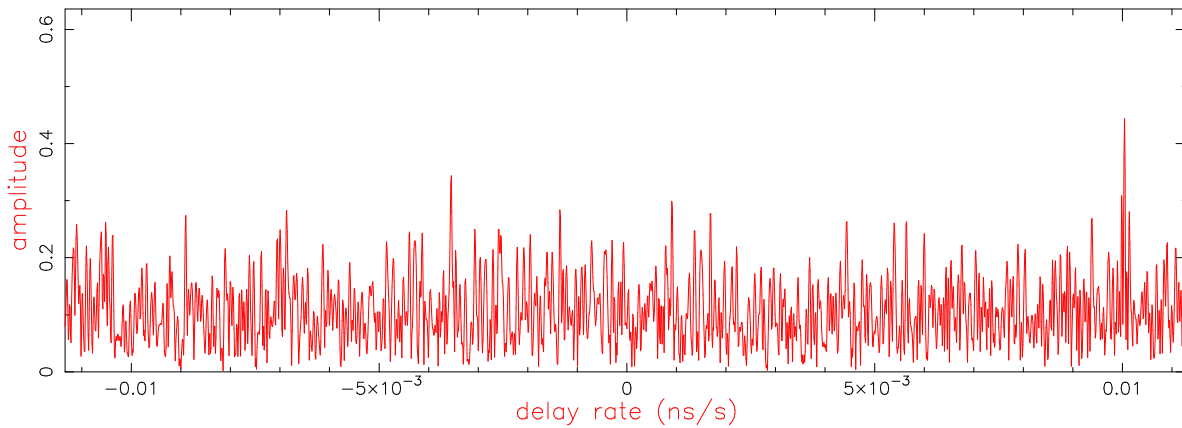
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.2  | Theor.          | 189.3 | Amplitude      | 0.542 +/- 0.105 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 401.9 | Search (2048X8) | 0.452 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.359           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.529 | Inc. frq. avg. | 0.529           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 937.390 2652.689 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bf.W.22.0QR2SH

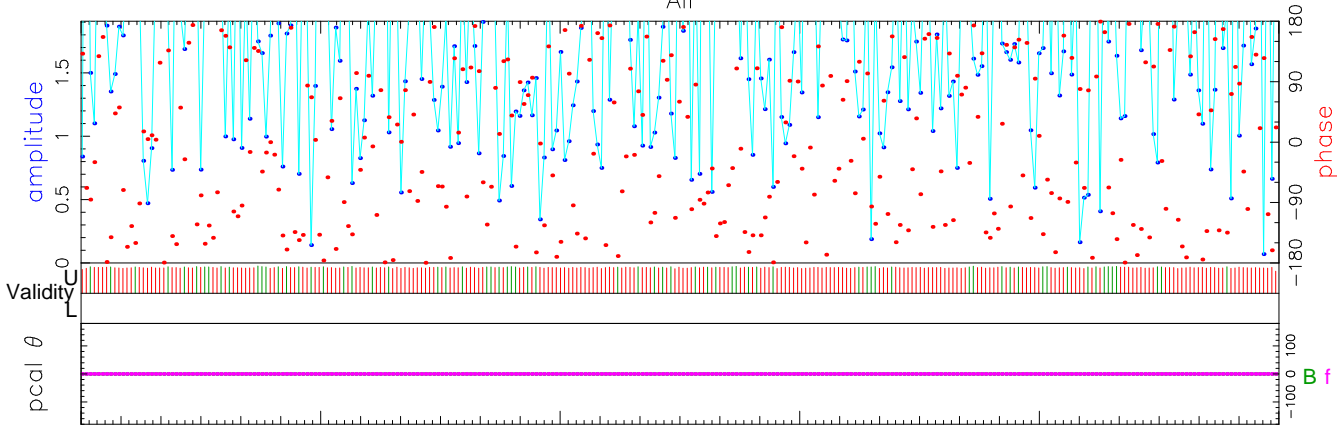
Fringe quality 0

SNR 5.2  
Int time 280.952  
Amp 0.636  
Phase -151.4  
PFD 1.0e+00  
Delays (us)  
SBD -3.174803  
MBD 0.000005  
Fringe rate (Hz)  
0.865293  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-151.4  
0.6  
106.6  
U/L 586/0  
B 0  
f 5000  
B:f 0:0  
B:f 0:0  
B 1000  
f 1000  
B W04UL  
f W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.30649102123E+03  | Apriori delay (usec)     | 1.30966582474E+03  | Resid mbdelay (usec) | 4.94562E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 1.30649102224E+03  | Apriori clock (usec)     | 5.0873098E+00      | Resid sbdelay (usec) | -3.17480E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 1.30966581986E+03  | Apriori clockrate (us/s) | -2.0000000E-07     | Resid phdelay (usec) | -4.88160E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.84711990426E+00 | Apriori rate (us/s)      | -1.84712994945E+00 | Resid rate (us/s)    | 1.00452E-05  | +/- | 4.1E-09 |
| Total phase (deg)       | -99.9              | Apriori accel (us/s/s)   | 1.34234692284E-06  | Resid phase (deg)    | -151.4       | +/- | 22.2    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 91.8  | Theor.          | 190.3 | Amplitude      | 0.636 +/- 0.123 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 387.6 | Search (2048X8) | 0.439 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.413 | Inc. seg. avg. | 0.413           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.3   | Inc. frq. avg.  | 0.616 | Inc. frq. avg. | 0.616           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

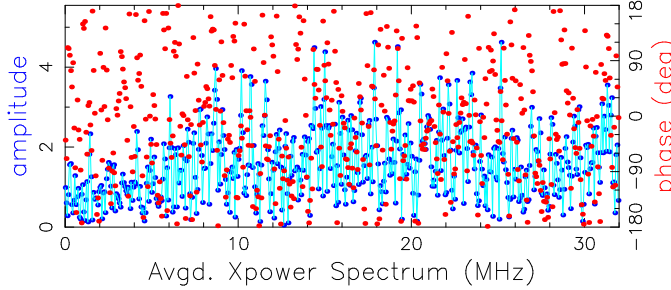
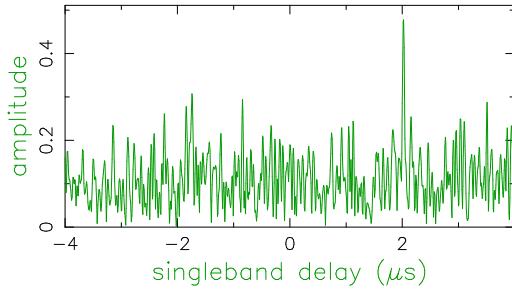
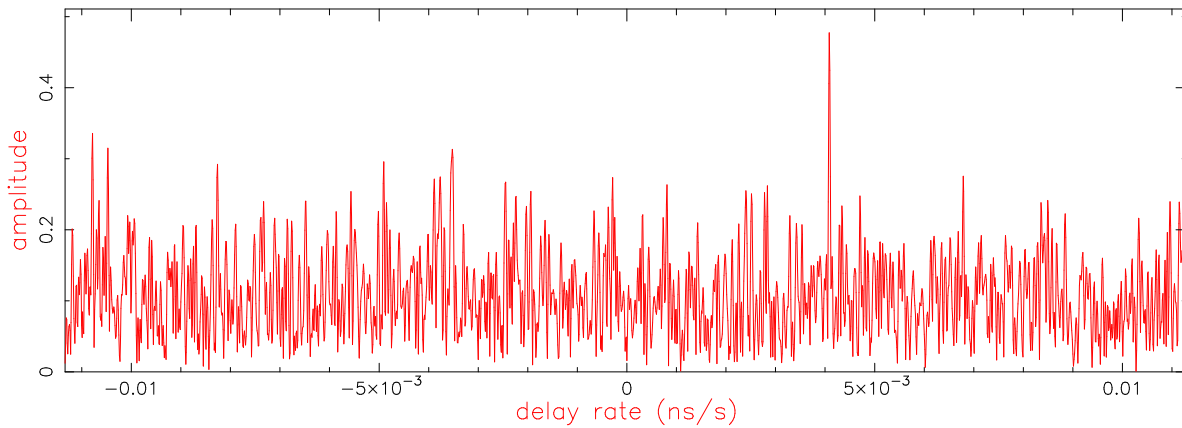
B: az 247.2 el 37.9 pa 37.6 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 11019.716 2208.751 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bf.W.31.0QR2SH



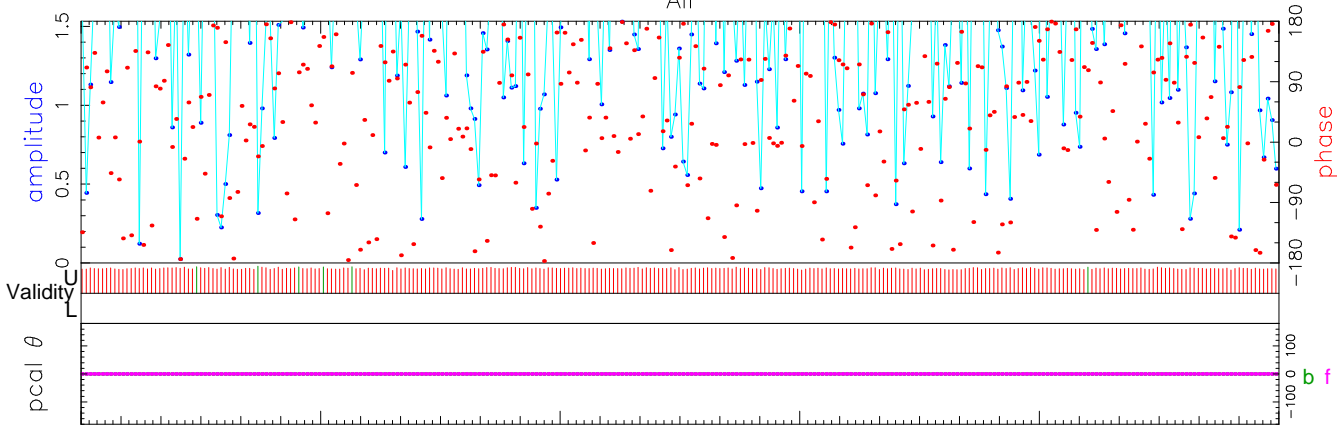
Fringe quality 0

SNR 5.4  
Int time 270.870  
Amp 0.511  
Phase 106.1  
PFD 1.0e+00  
Delays (us)  
SBD 2.020083  
MBD 0.000006  
Fringe rate (Hz)  
0.351435  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
106.1  
0.5  
771.6  
U/L 586/0  
b 5000  
f 5000  
b:f 0:0  
b:f 0:0  
b 1000  
f 1000  
b W04UL  
f W04UR

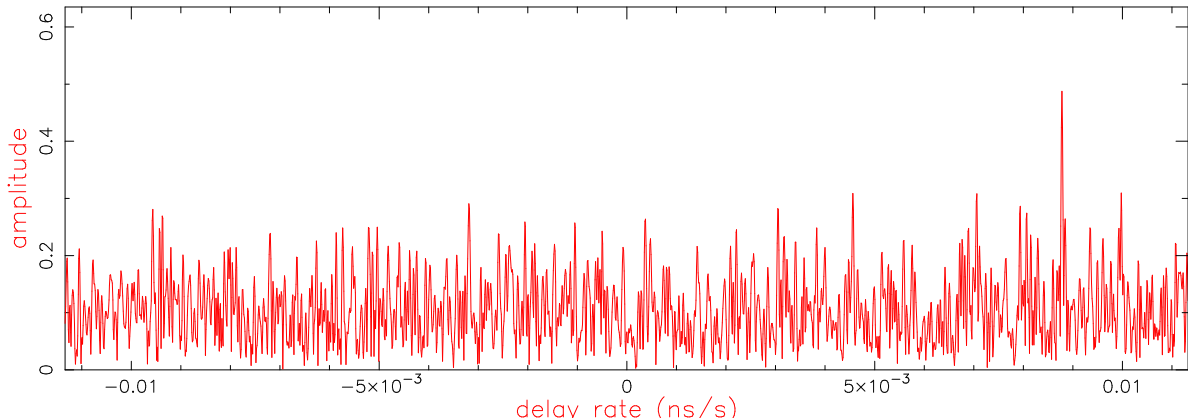
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -4.00816062436E+03 | Apriori delay (usec)     | -4.01018070276E+03 | Resid mbdelay (usec) | 6.42322E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.00816061976E+03 | Apriori clock (usec)     | 1.1527827E+00      | Resid sbdelay (usec) | 2.02008E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.01018069934E+03 | Apriori clockrate (us/s) | 2.2699999E-07      | Resid phdelay (usec) | 3.41984E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -1.50899538284E-01 | Apriori rate (us/s)      | -1.50903618092E-01 | Resid rate (us/s)    | 4.07981E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -158.7             | Apriori accel (us/s/s)   | 2.87476707763E-05  | Resid phase (deg)    | 106.1       | +/- | 21.0    |

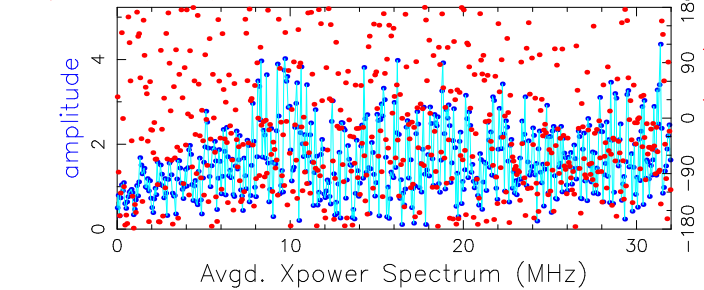
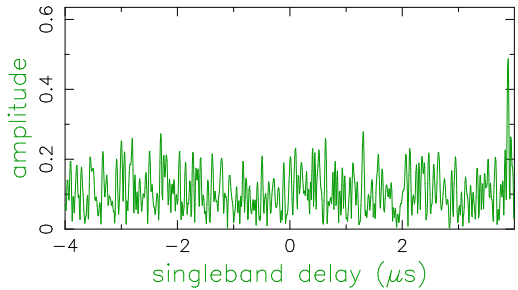
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.4  | Theor.          | 180.0 | Amplitude      | 0.511 +/- 0.094 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 342.9 | Search (2048X8) | 0.467 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.327           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.4   | Inc. frq. avg.  | 0.495 | Inc. frq. avg. | 0.495           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 937.390 2652.689 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/bf.W.50.0QR2SH



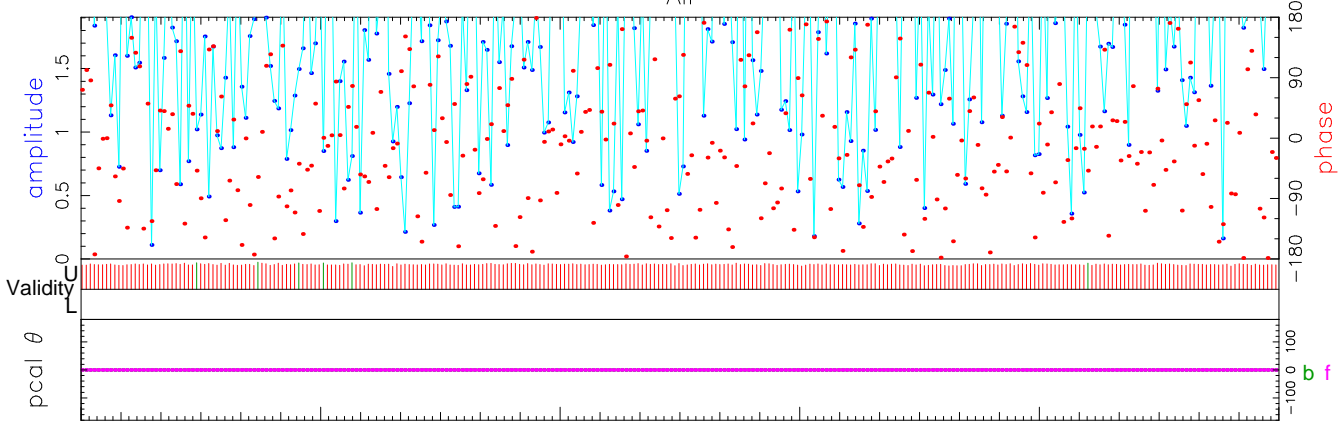
Fringe quality 0  
SNR 5.5  
Int time 270.879  
Amp 0.635  
Phase -28.6  
PFD 9.9e-01  
Delays (us)  
SBD 3.881157  
MBD 0.000005  
Fringe rate (Hz)  
0.756362  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171805  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



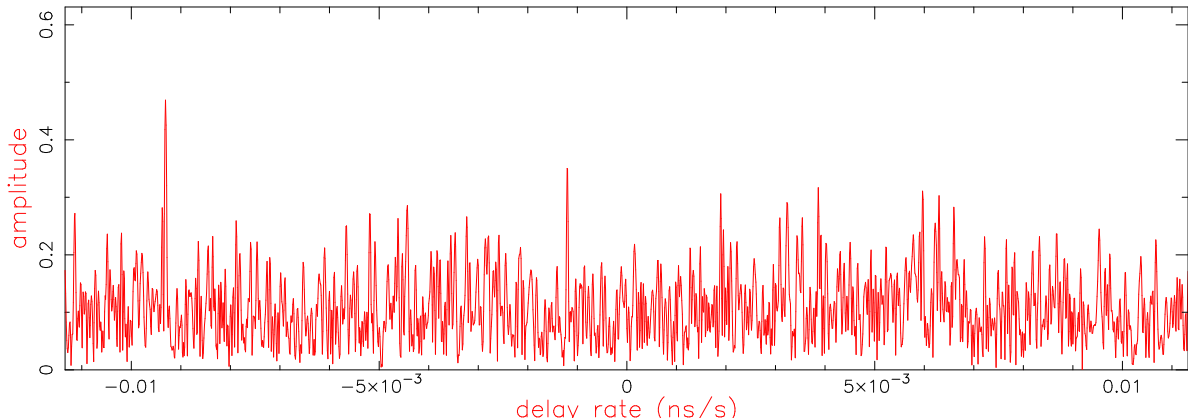
86140.00  
-28.6  
0.6  
1009.8  
U/L 586/0  
b 5000  
f 5000  
b:f 0:0  
b:f 0:0  
b 1000  
f 1000  
b W04UL  
f W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

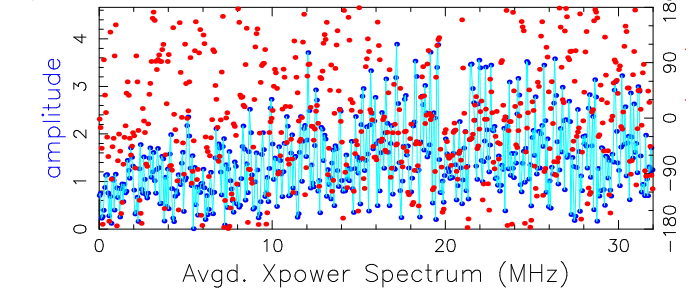
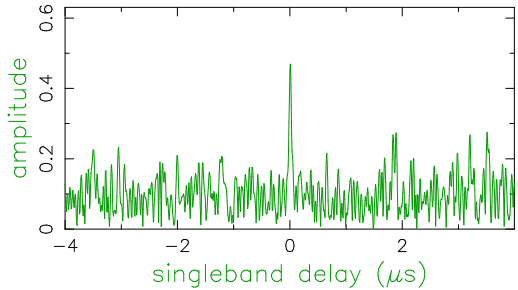
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.00629955087E+03 | Apriori delay (usec)     | -4.01018070276E+03 | Resid mbdelay (usec) | 4.91665E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -4.00629954576E+03 | Apriori clock (usec)     | 1.1527827E+00      | Resid sbdelay (usec) | 3.88116E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -4.01018070368E+03 | Apriori clockrate (us/s) | 2.2699999E-07      | Resid phdelay (usec) | -9.23138E-07 | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.50894837484E-01 | Apriori rate (us/s)      | -1.50903618092E-01 | Resid rate (us/s)    | 8.78061E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -293.4             | Apriori accel (us/s/s)   | 2.87476707763E-05  | Resid phase (deg)    | -28.6        | +/- | 20.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.0  | Theor.          | 178.1 | Amplitude      | 0.635 +/- 0.115 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 350.4 | Search (2048X8) | 0.487 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.426           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.622 | Inc. frq. avg. | 0.622           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 937.390 2652.689 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/bf.W.5.0QR2SH



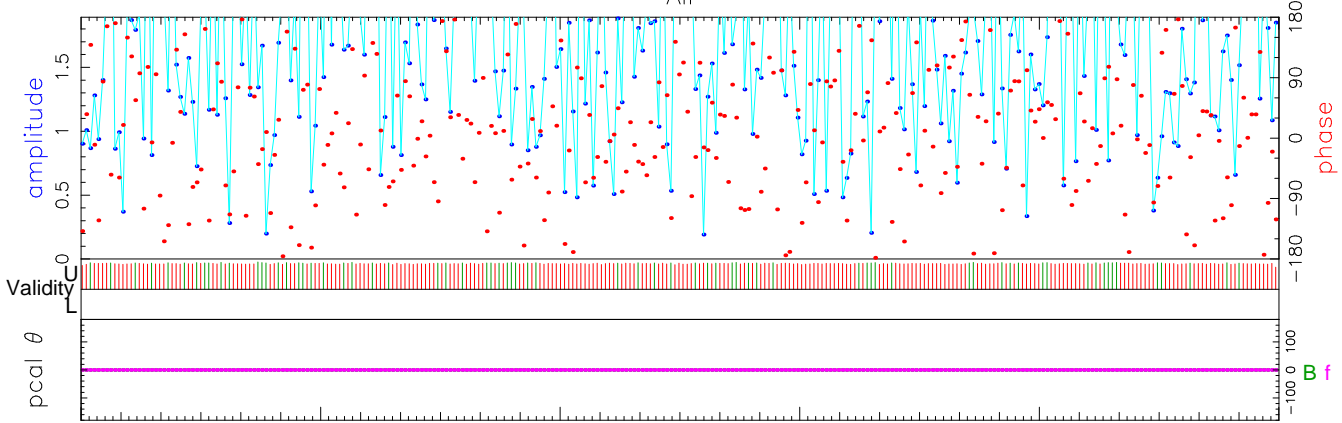
Fringe quality 0  
SNR 5.4  
Int time 280.962  
Amp 0.631  
Phase 25.5  
PFD 1.0e+00  
Delays (us)  
SBD 0.006355  
MBD -0.000005  
Fringe rate (Hz)  
-0.802201  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



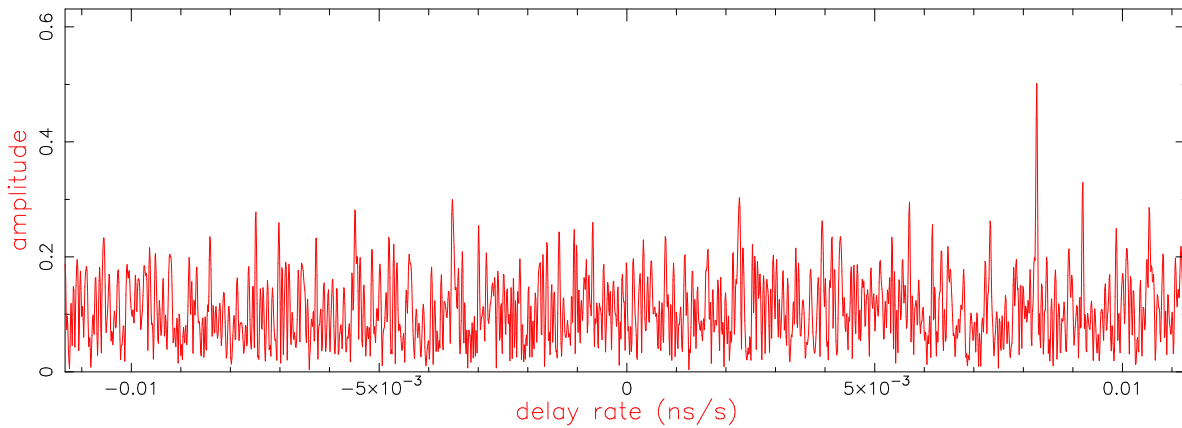
86140.00  
25.5  
0.6  
513.8  
U/L 586/0  
B 0  
f 5000  
B:f 0:0  
B:f 0:0  
B 1000  
f 1000  
B W04UR  
f W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.30967218174E+03  | Apriori delay (usec)     | 1.30966582474E+03  | Resid mbdelay (usec) | -4.73638E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.30967217924E+03  | Apriori clock (usec)     | 5.0873098E+00      | Resid sbdelay (usec) | 6.35450E-03  | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.30966582556E+03  | Apriori clockrate (us/s) | -2.0000000E-07     | Resid phdelay (usec) | 8.22720E-07  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.84713926220E+00 | Apriori rate (us/s)      | -1.84712994945E+00 | Resid rate (us/s)    | -9.31275E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | 77.0               | Apriori accel (us/s/s)   | 1.34234692284E-06  | Resid phase (deg)    | 25.5         | +/- | 21.3    |

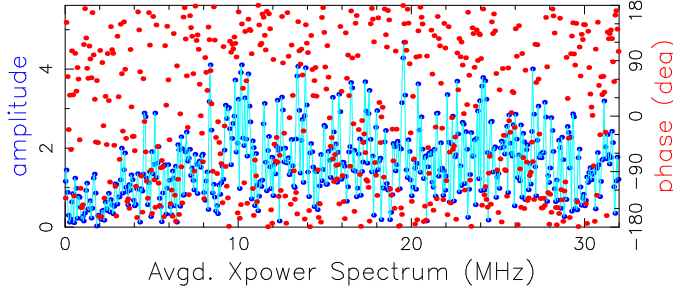
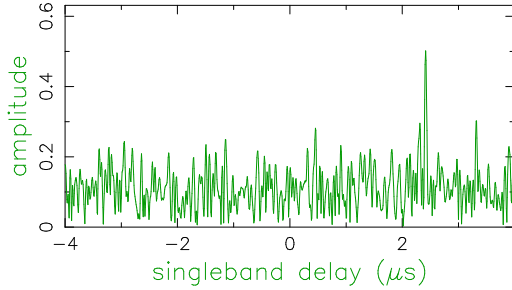
|              |          |              |                           |                 |  |                             |                             |
|--------------|----------|--------------|---------------------------|-----------------|--|-----------------------------|-----------------------------|
| ph/seg (deg) | RMS 90.7 | Theor. 182.1 | Amplitude Search (2048X8) | 0.631 +/- 0.117 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |
| amp/seg (%)  | 351.4    | 317.9        | Interp.                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |
| ph/frq (deg) | 0.0      | 10.6         | Inc. seg. avg.            | 0.407           | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |
| amp/frq (%)  | 0.2      | 18.6         | Inc. frq. avg.            | 0.619           | Sample rate(MSamp/s): 64               | ion window (TEC)            | 0.00 0.00                   |

B: az 247.2 el 37.9 pa 37.6 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 11019.716 2208.751 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bf.W.54.0QR2SH



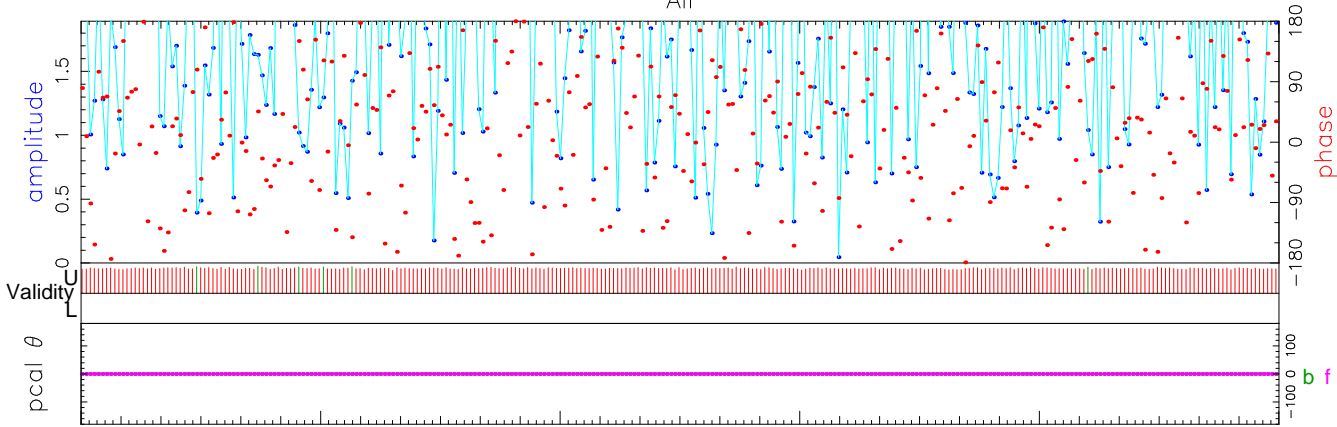
Fringe quality 0

SNR 5.6  
Int time 270.880  
Amp 0.631  
Phase 38.1  
PFD 8.6e-01  
Delays (us)  
SBD 2.414733  
MBD 0.000005  
Fringe rate (Hz)  
0.712336  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
38.1  
0.6  
822.1  
U/L 586/0  
b 5000  
f 5000  
b:f 0:0  
b:f 0:0  
b 1000  
f 1000  
b W04UR  
f W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -4.00776596621E+03 | Apriori delay (usec)     | -4.01018070276E+03 | Resid mbdelay (usec) | 4.71131E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -4.00776596976E+03 | Apriori clock (usec)     | 1.1527827E+00      | Resid sbdelay (usec) | 2.41473E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -4.01018070153E+03 | Apriori clockrate (us/s) | 2.2699999E-07      | Resid phdelay (usec) | 1.22744E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | -1.50895348579E-01 | Apriori rate (us/s)      | -1.50903618092E-01 | Resid rate (us/s)    | 8.26951E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -226.7             | Apriori accel (us/s/s)   | 2.87476707763E-05  | Resid phase (deg)    | 38.1        | +/- | 20.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 92.7  | Theor.          | 173.7 | Amplitude      | 0.631 +/- 0.112 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 346.8 | Search (2048X8) | 0.501 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.432           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.621 | Inc. frq. avg. | 0.621           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

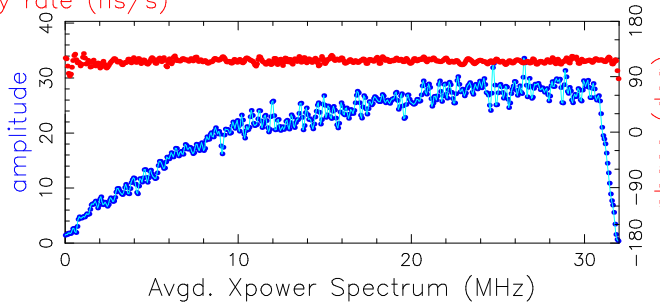
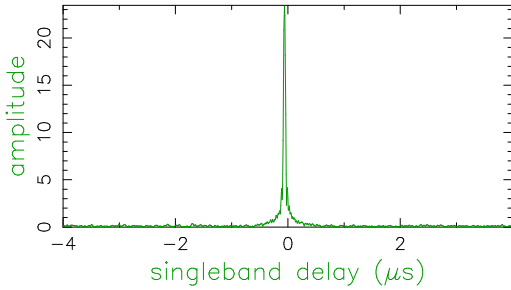
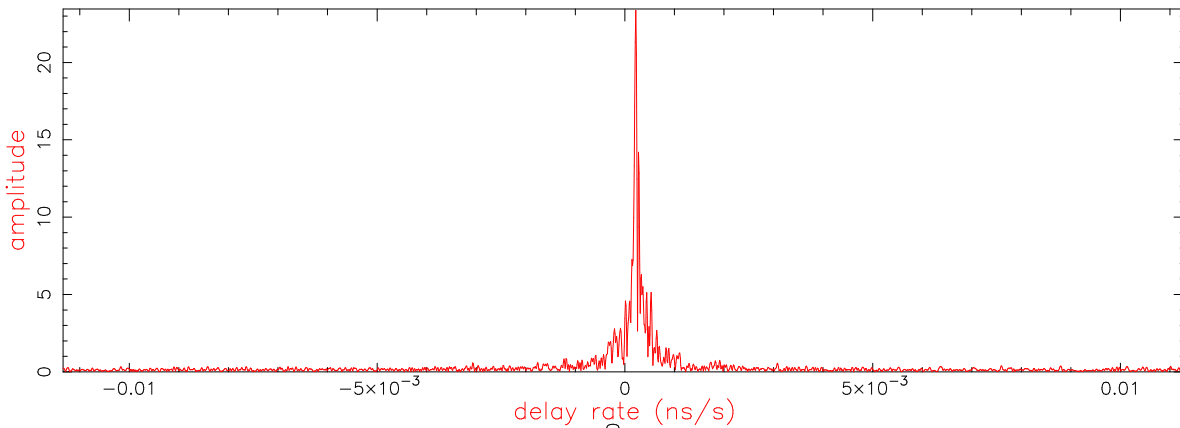
b: az 88.2 el 20.4 pa -44.0 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 937.390 2652.689 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bf..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bf.W.69.0QR2SH

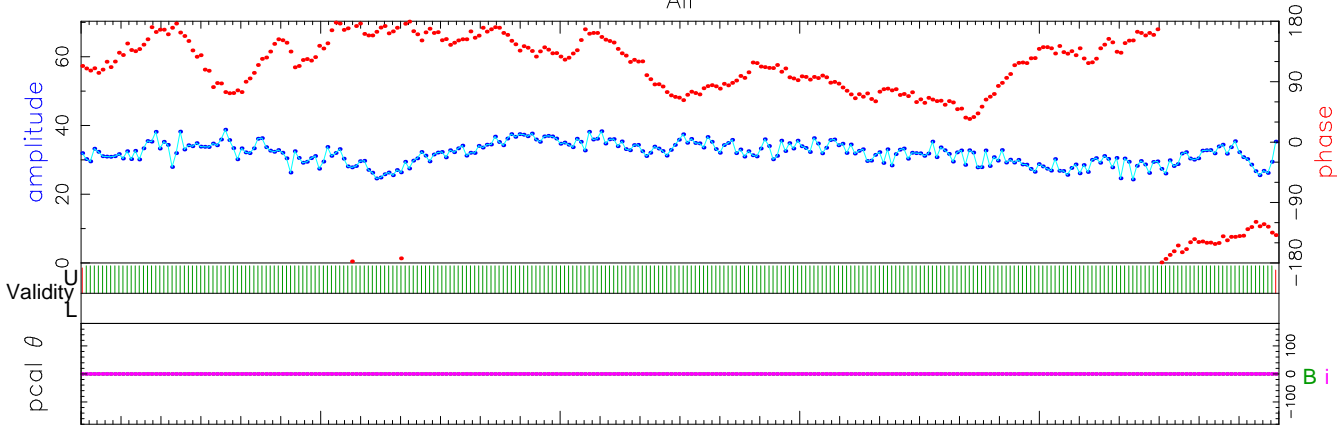
Fringe quality 6

SNR 277.7  
Int time 299.796  
Amp 23.460  
Phase 127.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.060771  
MBD 0.000004  
Fringe rate (Hz)  
0.019198  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
127.2  
23.4  
505.2  
U/L 586/0  
B 0  
i 0  
B:i 0:0  
B:i 0:0  
B 1000  
i 1000  
B W04UR  
i W04UR

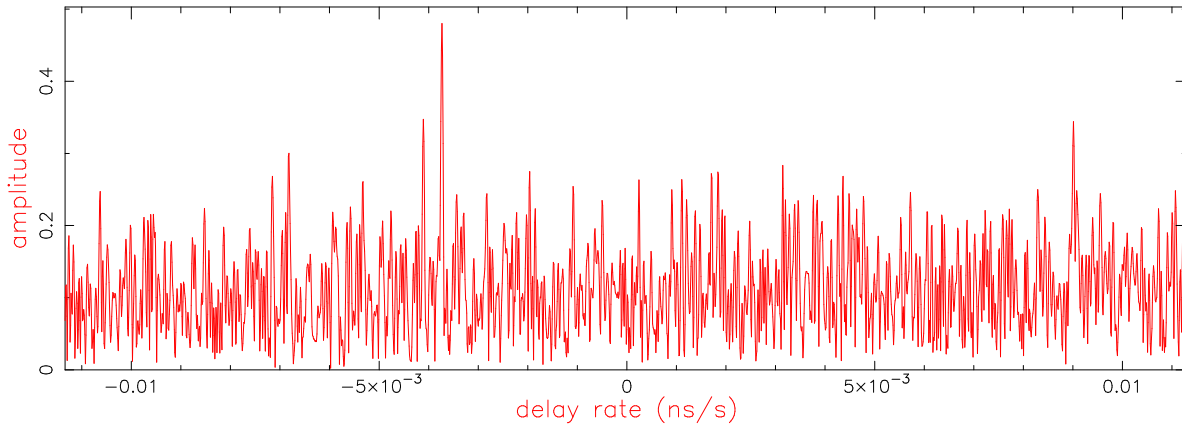
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16780351680E+03 | Apriori delay (usec)     | -3.16774274808E+03 | Resid mbdelay (usec) | 4.44291E-06  | +/- | 6.2E-05 |
| Sband delay (usec)      | -3.16780351858E+03 | Apriori clock (usec)     | 2.0462181E+01      | Resid sbdelay (usec) | -6.07705E-02 | +/- | 6.2E-05 |
| Phase delay (usec)      | -3.16774274398E+03 | Apriori clockrate (us/s) | 5.3000000E-08      | Resid phdelay (usec) | 4.10165E-06  | +/- | 1.3E-08 |
| Delay rate (us/s)       | 3.44394130553E-02  | Apriori rate (us/s)      | 3.44391901913E-02  | Resid rate (us/s)    | 2.22864E-07  | +/- | 7.7E-11 |
| Total phase (deg)       | 12.1               | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | 127.2        | +/- | 0.4     |

|              |      |        |     |                 |                  |                       |                             |                  |              |                |              |                  |           |
|--------------|------|--------|-----|-----------------|------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 45.2 | Theor. | 3.5 | Amplitude       | 23.460 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 38.6 |        | 6.2 | Search (2048X8) | 23.326           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0  |        | 0.2 | Interp.         | 0.000            | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.4  |        | 0.4 | Inc. seg. avg.  | 31.909           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |      |        |     | Inc. frq. avg.  | 23.371           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

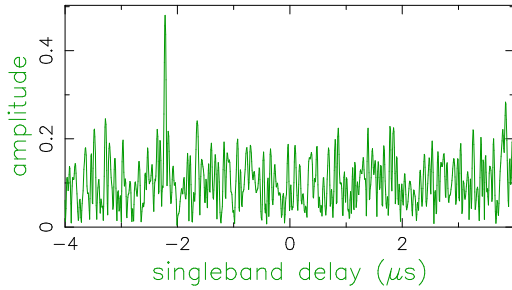
B: az 247.2 el 37.9 pa 37.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bi.W.14.0QR2SH

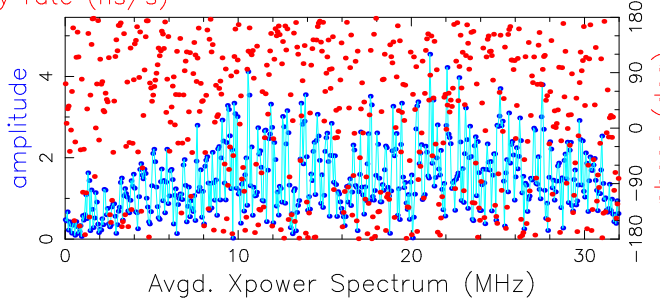


Fringe quality 0

SNR 5.6  
Int time 288.499  
Amp 0.503  
Phase -61.6  
PFD 9.4e-01  
Delays (us)  
SBD -2.219899  
MBD -0.000005  
Fringe rate (Hz)  
-0.321325  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

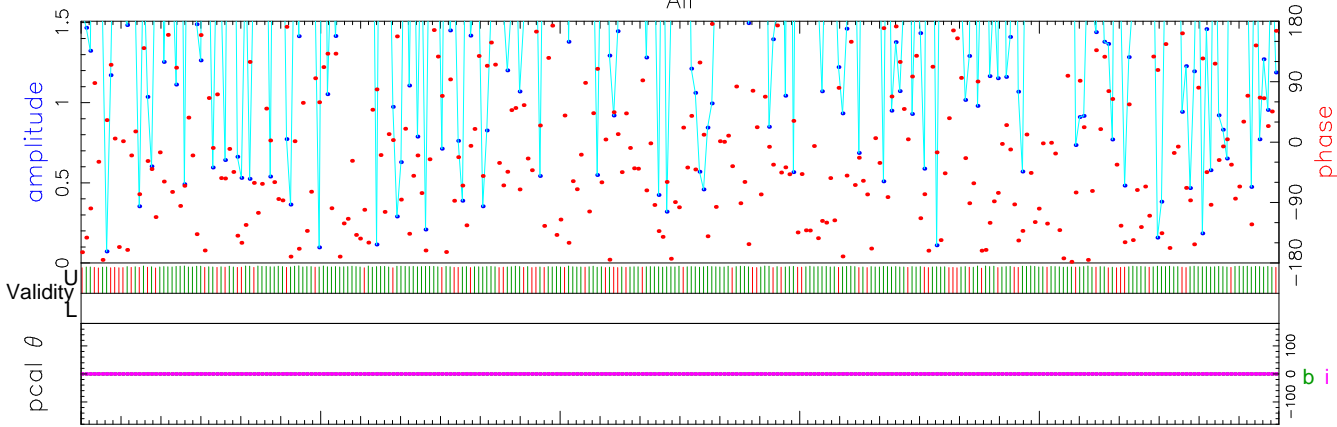


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-61.6  
0.5  
228.9  
U/L 586/0  
b 5000  
i 0  
b:i 0:0  
b:i 0:0  
b 1000  
i 1000  
b W04UR  
i W04UR

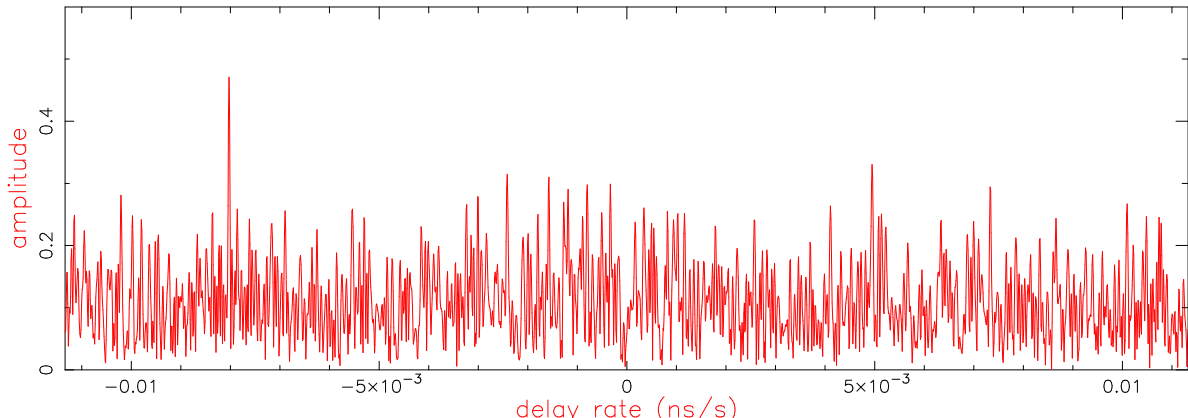
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.48980917886E+03 | Apriori delay (usec)     | -8.48758927558E+03 | Resid mbdelay (usec) | -5.44184E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.48980917458E+03 | Apriori clock (usec)     | 1.6527655E+01      | Resid sbdelay (usec) | -2.21990E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.48758927756E+03 | Apriori clockrate (us/s) | 4.7999999E-07      | Resid phdelay (usec) | -1.98538E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.73066179128E+00  | Apriori rate (us/s)      | 1.73066552155E+00  | Resid rate (us/s)    | -3.73027E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -132.9             | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | -61.6        | +/- | 20.5    |

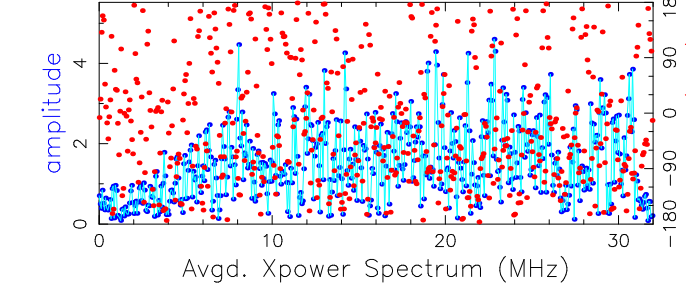
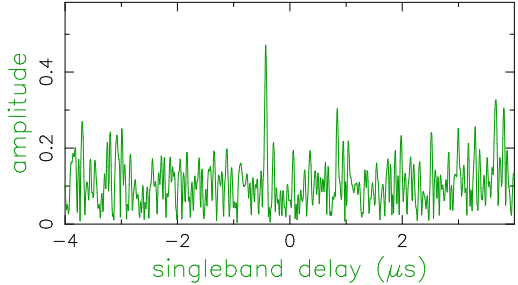
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 92.1  | Theor.          | 175.6 | Amplitude      | 0.503 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 371.8 | Search (2048X8) | 0.480 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.354           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.494 | Inc. frq. avg. | 0.494           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

b: az 88.2 el 20.4 pa -44.0 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bi.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bi.W.18.0QR2SH

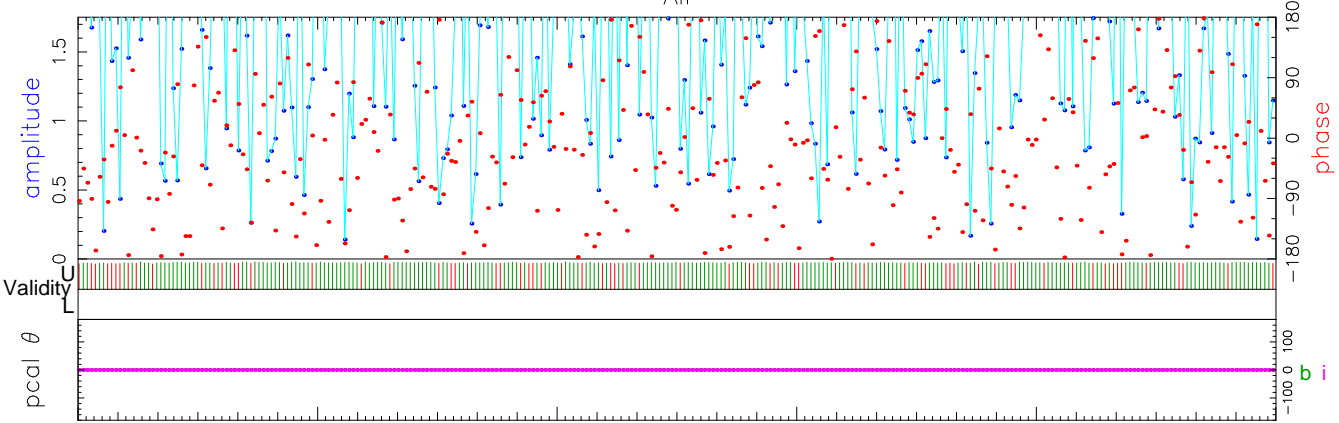


Fringe quality 0  
SNR 5.5  
Int time 288.498  
Amp 0.584  
Phase -36.4  
PFD 1.0e+00  
Delays (us)  
SBD -0.429951  
MBD -0.000007  
Fringe rate (Hz)  
-0.691257  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171805  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-36.4  
0.6  
458.0  
U/L 586/0  
b 5000  
i 0  
b:i 0:0  
b:i 0:0  
b 1000  
i 1000  
b W04UL  
i W04UL

Validity  
pcal  $\theta$

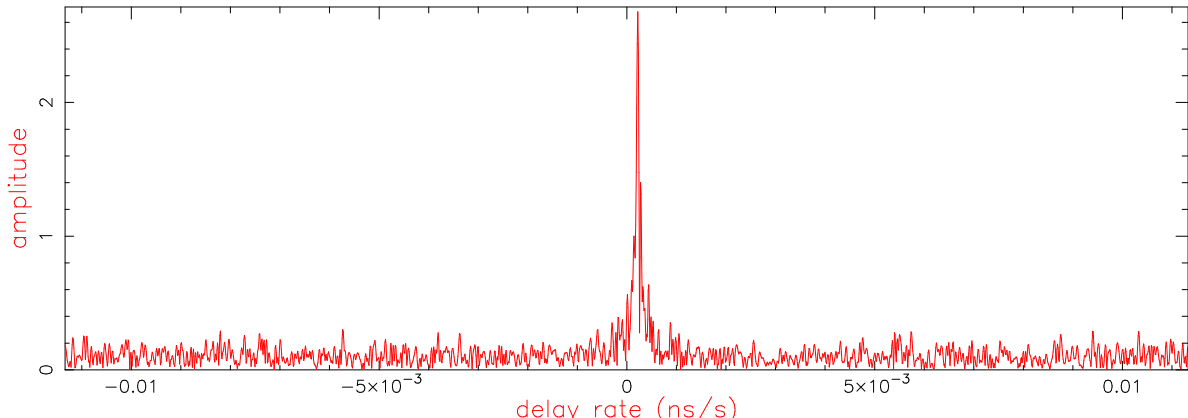
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.48801922183E+03 | Apriori delay (usec)     | -8.48758927558E+03 | Resid mbdelay (usec) | -6.61556E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -8.48801922708E+03 | Apriori clock (usec)     | 1.6527655E+01      | Resid sbdelay (usec) | -4.29951E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | -8.48758927675E+03 | Apriori clockrate (us/s) | 4.7999999E-07      | Resid phdelay (usec) | -1.17382E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.73065749674E+00  | Apriori rate (us/s)      | 1.73066552155E+00  | Resid rate (us/s)    | -8.02481E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -107.8             | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | -36.4        | +/- | 21.0    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.8  | Theor.          | 179.4 | Amplitude      | 0.584 +/- 0.107 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 378.0 | Search (2048X8) | 0.469 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.400           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.574 | Inc. frq. avg. | 0.574           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bi.W.3.0QR2SH



Fringe quality 9

SNR 32.1

Int time 299.796

Amp 2.714

Phase 49.9

PFD 0.0e+00

Delays (us)

SBD -0.065927

MBD 0.000006

Fringe rate (Hz)

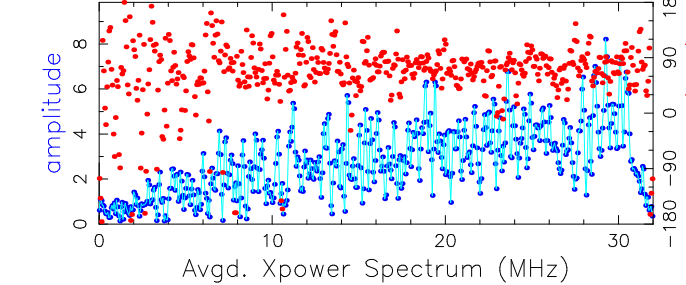
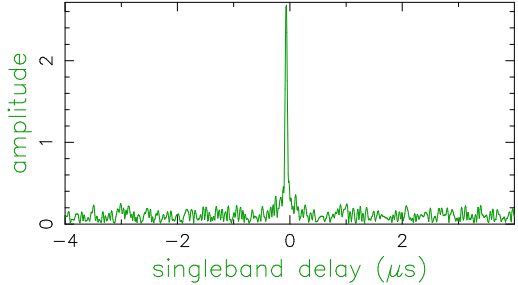
0.019333

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171809

2018:249:082454

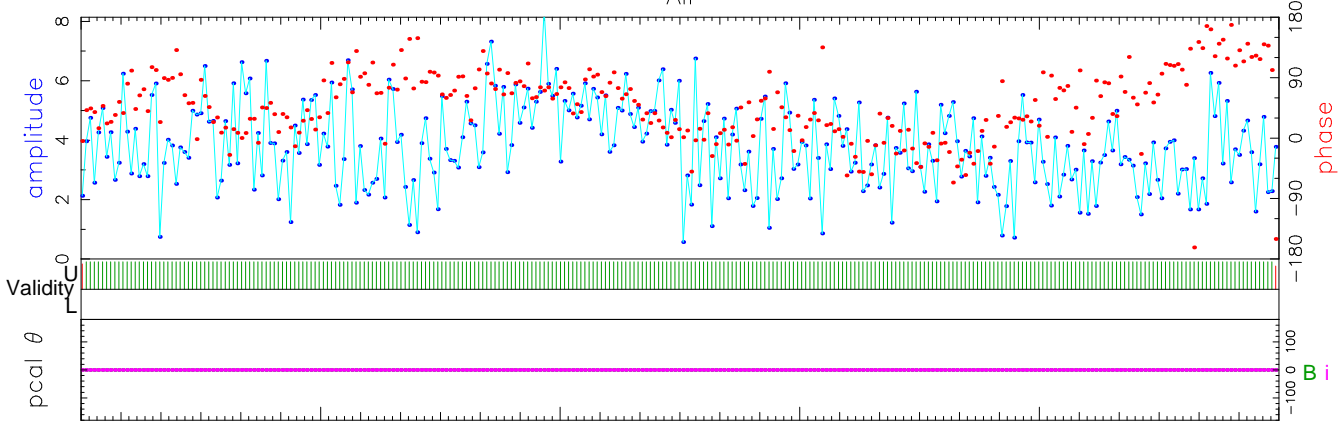
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

49.9

2.7

504.6

U/L 586/0

B 0

i 0

B:i 0:0

B:i 0:0

B 1000

i 1000

B W04UL

i W04UR

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC phase

Mani PC

PC amp

Chan ids

Chan ids

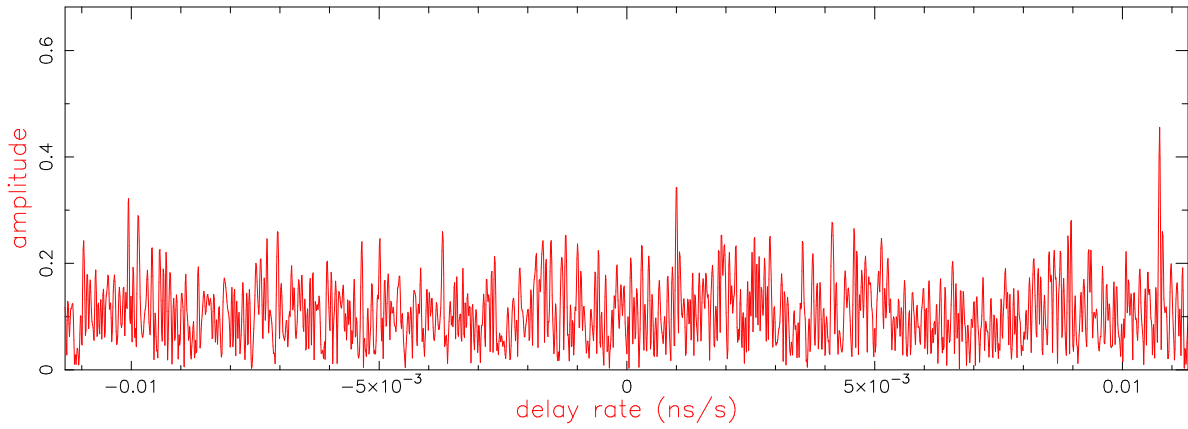
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16780868101E+03 | Apriori delay (usec)     | -3.16774274808E+03 | Resid mbdelay (usec) | 6.23627E-06  | +/- | 5.4E-04 |
| Sband delay (usec)      | -3.16780867558E+03 | Apriori clock (usec)     | 2.0462181E+01      | Resid sbdelay (usec) | -6.59275E-02 | +/- | 5.4E-04 |
| Phase delay (usec)      | -3.16774274647E+03 | Apriori clockrate (us/s) | 5.3000000E-08      | Resid phdelay (usec) | 1.61071E-06  | +/- | 1.2E-07 |
| Delay rate (us/s)       | 3.44394146311E-02  | Apriori rate (us/s)      | 3.44391901913E-02  | Resid rate (us/s)    | 2.24440E-07  | +/- | 6.6E-10 |
| Total phase (deg)       | -65.2              | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | 49.9         | +/- | 3.6     |

|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 49.8 | Theor.          | 30.5  | Amplitude      | 2.714 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 65.8 | Search (2048X8) | 2.657 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Interp.         | 0.000 | Inc. seg. avg. | 3.332           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.3  | Inc. frq. avg.  | 2.677 | Inc. frq. avg. | 2.677           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |

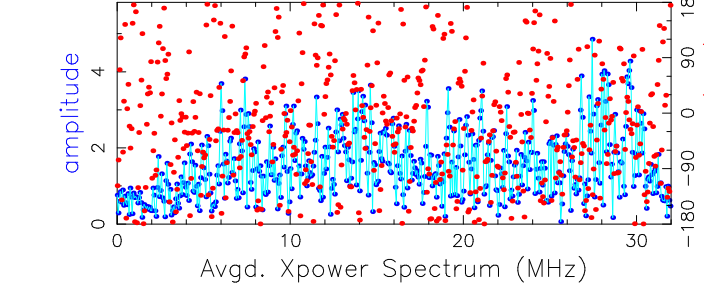
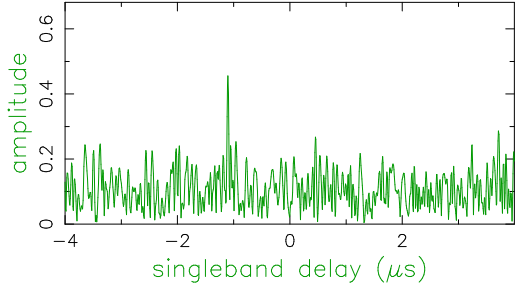
B: az 247.2 el 37.9 pa 37.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bi.W.37.0QR2SH





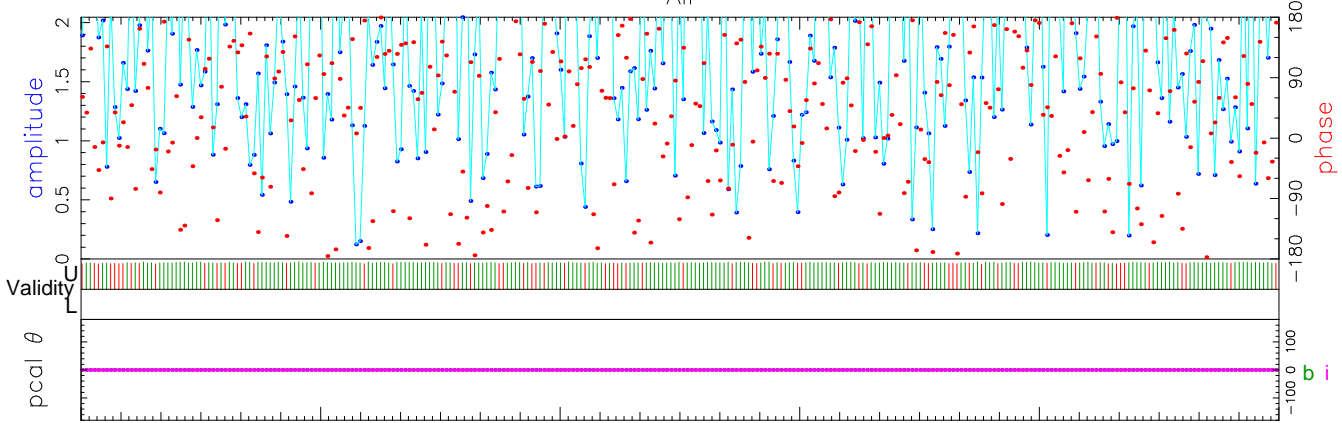
Fringe quality 0  
SNR 5.3  
Int time 288.498  
Amp 0.682  
Phase 93.2  
PFD 1.0e+00  
Delays (us)  
SBD -1.102774  
MBD 0.000006  
Fringe rate (Hz)  
0.925587  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
93.2  
0.7  
371.8  
U/L 586/0  
b 5000  
i 0  
b:i 0:0  
b:i 0:0  
b 1000  
i 1000  
b W04UL  
i W04UR

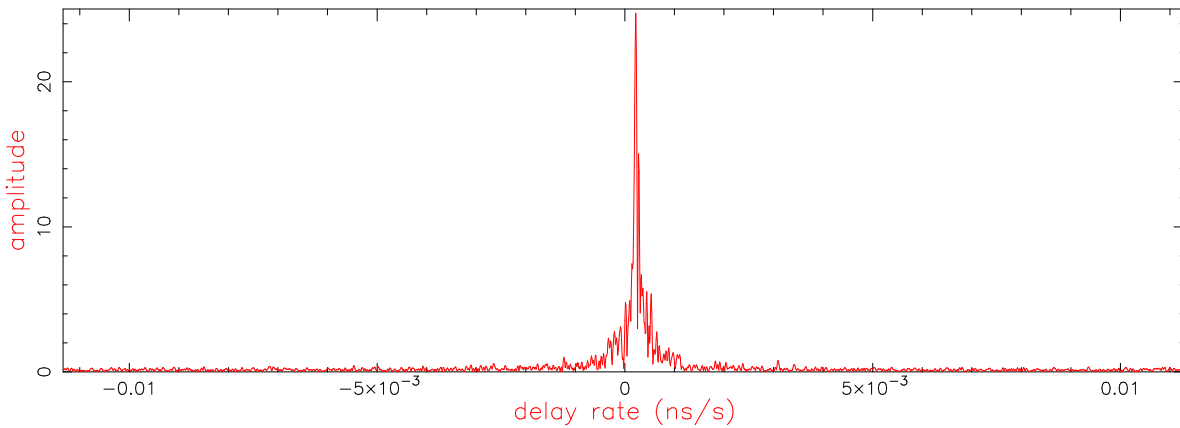
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.48869204390E+03 | Apriori delay (usec)     | -8.48758927558E+03 | Resid mbdelay (usec) | 6.23404E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -8.48869204958E+03 | Apriori clock (usec)     | 1.6527655E+01      | Resid sbdelay (usec) | -1.10277E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -8.48758927257E+03 | Apriori clockrate (us/s) | 4.7999999E-07      | Resid phdelay (usec) | 3.00547E-06  | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.73067626670E+00  | Apriori rate (us/s)      | 1.73066552155E+00  | Resid rate (us/s)    | 1.07451E-05  | +/- | 4.0E-09 |
| Total phase (deg)       | 21.8               | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | 93.2         | +/- | 21.6    |

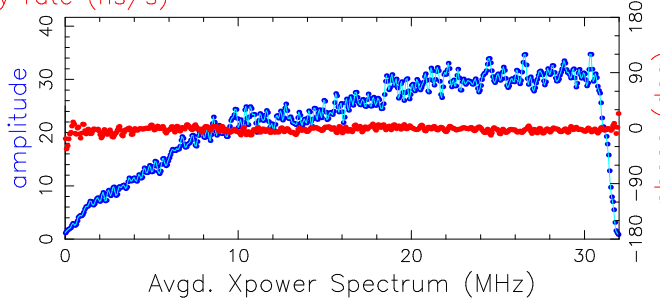
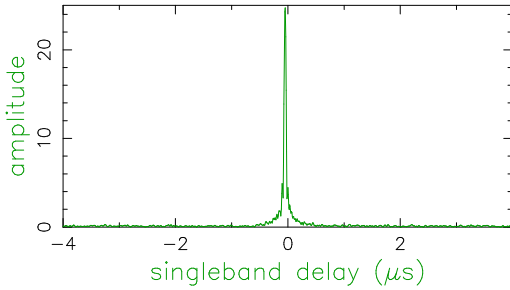
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 92.3  | Theor.          | 185.0 | Amplitude       | 0.682 +/- 0.129 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 368.8 | Search (2048X8) | 0.444 | Search (2048X8) | 0.444           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.2   | Inc. seg. avg.  | 0.450 | Inc. seg. avg.  | 0.450           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.668 | Inc. frq. avg.  | 0.668           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

b: az 88.2 el 20.4 pa -44.0 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bi.W.40.0QR2SH

Fringe quality 6

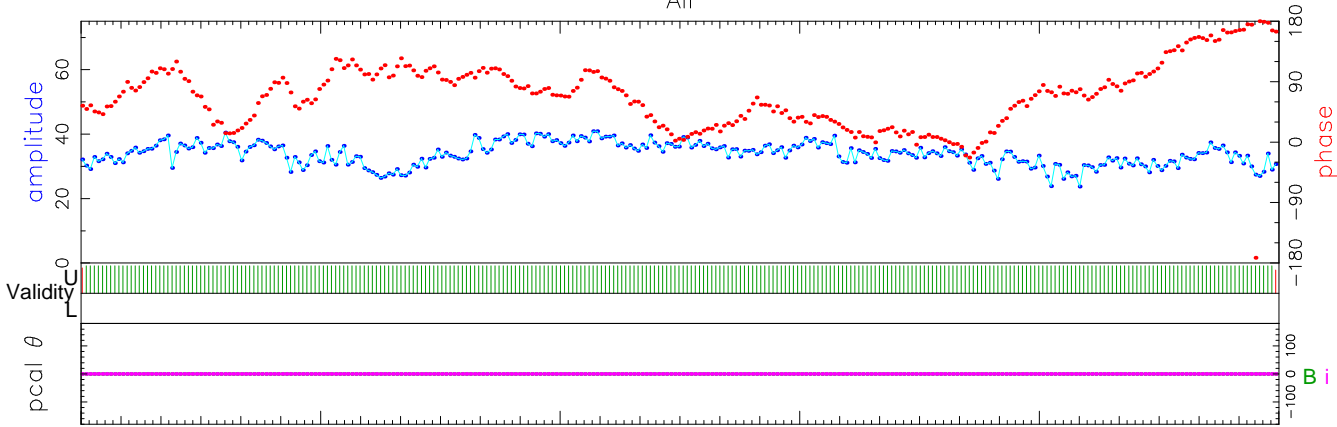


SNR 296.2  
 Int time 299.796  
 Amp 25.023  
 Phase 68.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.049857  
 MBD 0.000004  
 Fringe rate (Hz)  
 0.019152  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171805  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 68.0  
 24.7  
 506.6  
 U/L 586/0  
 B 0  
 i 0  
 B:i 0:0  
 B:i 0:0  
 B 1000  
 i 1000  
 B W04UL  
 i W04UL

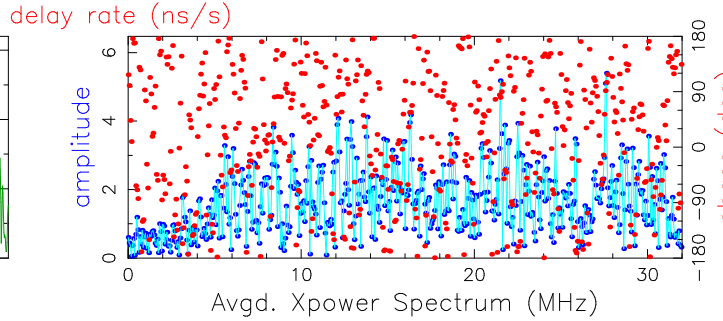
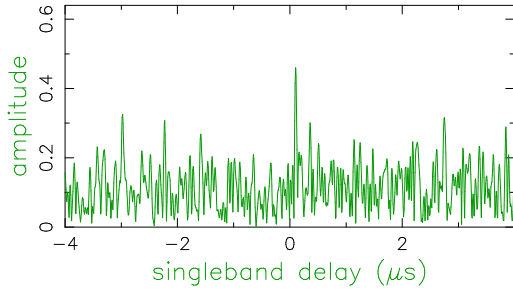
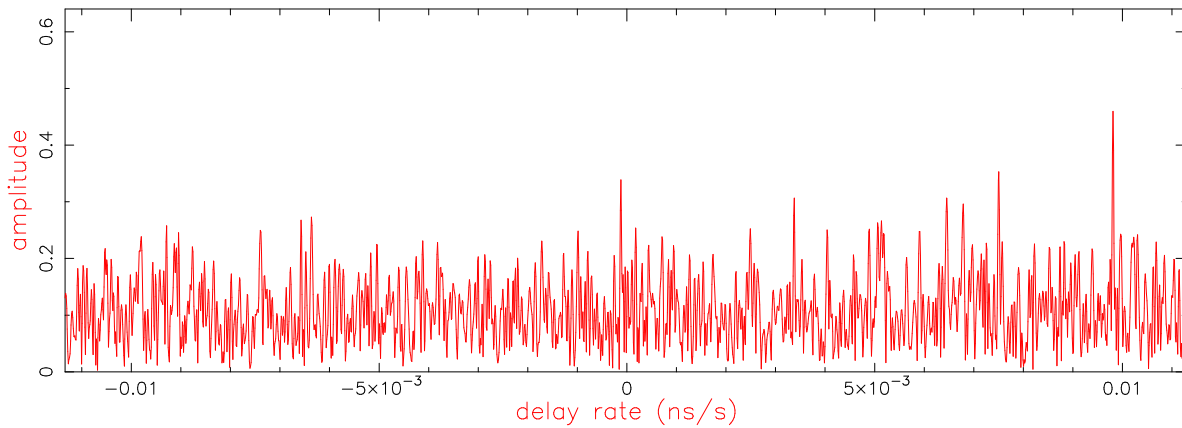
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16779260438E+03 | Apriori delay (usec)     | -3.16774274808E+03 | Resid mbdelay (usec) | 4.39526E-06  | +/- | 5.8E-05 |
| Sband delay (usec)      | -3.16779260508E+03 | Apriori clock (usec)     | 2.0462181E+01      | Resid sbdelay (usec) | -4.98570E-02 | +/- | 5.8E-05 |
| Phase delay (usec)      | -3.16774274589E+03 | Apriori clockrate (us/s) | 5.3000000E-08      | Resid phdelay (usec) | 2.19149E-06  | +/- | 1.2E-08 |
| Delay rate (us/s)       | 3.44394125274E-02  | Apriori rate (us/s)      | 3.44391901913E-02  | Resid rate (us/s)    | 2.22336E-07  | +/- | 7.2E-11 |
| Total phase (deg)       | -47.2              | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | 68.0         | +/- | 0.4     |

|              |      |                |        |                       |        |                       |                  |                 |                   |              |                             |                  |              |
|--------------|------|----------------|--------|-----------------------|--------|-----------------------|------------------|-----------------|-------------------|--------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 45.5 | RMS            | 3.3    | Theor.                | 3.3    | Amplitude             | 25.023 +/- 0.084 | Search (2048X8) | 24.718            | Pcal mode:   | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 38.1 | Interp.        | 0.000  | Inc. seg. avg.        | 33.849 | Inc. frq. avg.        | 24.740           | u,v (fr/asec)   | -176.511 1949.312 | Pcal rate:   | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Inc. seg. avg. | 33.849 | Inc. frq. avg.        | 24.740 | Sample rate(MSamp/s): | 64               | Bits/sample:    | 2x2               | SampCntNorm: | enabled                     | mb window (us)   | -0.000 0.000 |
| amp/frq (%)  | 1.1  | Inc. frq. avg. | 24.740 | Sample rate(MSamp/s): | 64     | Data rate(Mb/s):      | 128              | nlags:          | 512               | t_cohere     | infinite                    | dr window (ns/s) | -0.011 0.011 |
|              |      |                |        |                       |        |                       |                  |                 |                   |              |                             | ion window (TEC) | 0.00 0.00    |

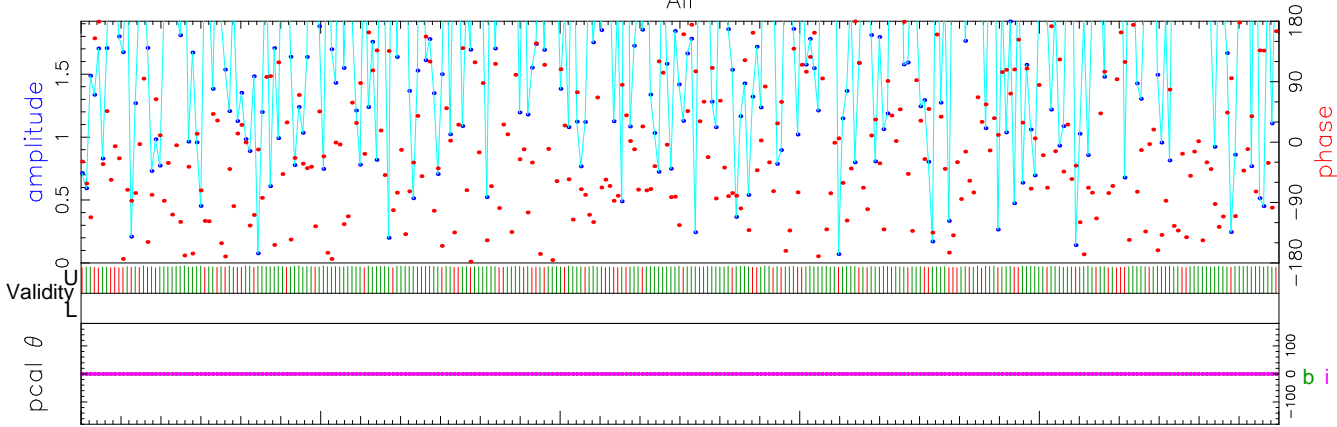
B: az 247.2 el 37.9 pa 37.6 i: az 249.4 el 49.9 pa 50.9 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bi.W.4.0QR2SH



Fringe quality 0  
SNR 5.3  
Int time 288.499  
Amp 0.640  
Phase -48.4  
PFD 1.0e+00  
Delays (us)  
SBD 0.102628  
MBD 0.000006  
Fringe rate (Hz) 0.845301  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-48.4  
0.6  
526.1  
U/L 586/0  
b 5000  
i 0  
b:i 0:0  
b:i 0:0  
b 1000  
i 1000  
b W04UR  
i W04UL

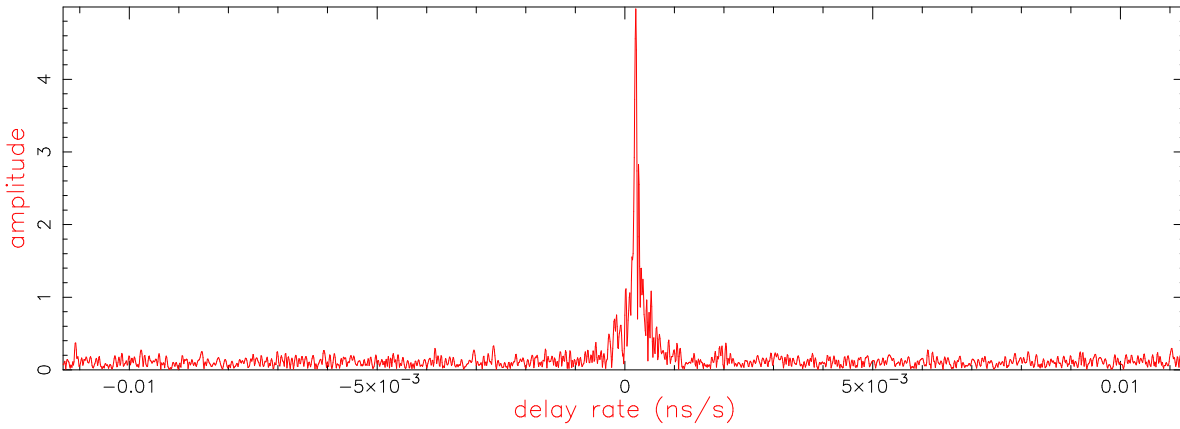
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.48748664570E+03 | Apriori delay (usec)     | -8.48758927558E+03 | Resid mbdelay (usec) | 6.24676E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -8.48748664808E+03 | Apriori clock (usec)     | 1.6527655E+01      | Resid sbdelay (usec) | 1.02628E-01  | +/- | 3.2E-03 |
| Phase delay (usec)      | -8.48758927714E+03 | Apriori clockrate (us/s) | 4.7999999E-07      | Resid phdelay (usec) | -1.56096E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.73067533466E+00  | Apriori rate (us/s)      | 1.73066552155E+00  | Resid rate (us/s)    | 9.81311E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -119.8             | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | -48.4        | +/- | 21.4    |

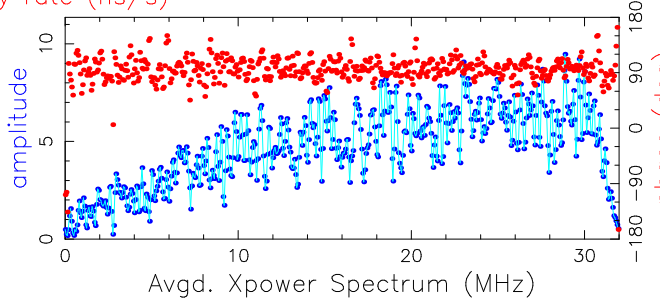
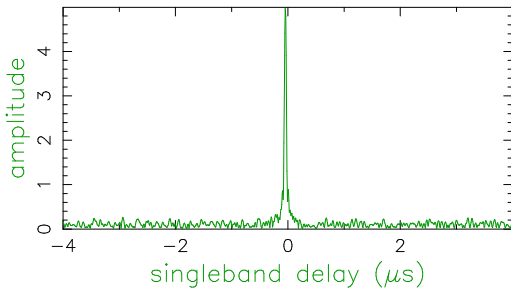
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 91.4  | Theor.          | 183.4 | Amplitude      | 0.640 +/- 0.120 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 388.2 | Search (2048X8) | 0.450 | Search         | 0.450           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.438           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.628 | Inc. frq. avg. | 0.628           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

b: az 88.2 el 20.4 pa -44.0 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bi.W.56.0QR2SH

Fringe quality 9



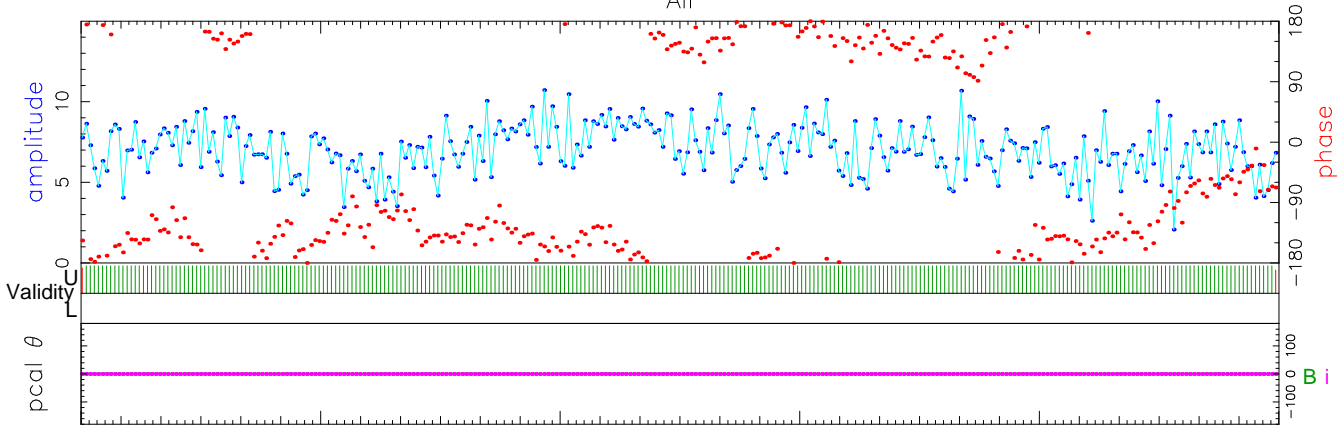
SNR 59.1  
 Int time 299.796  
 Amp 4.996  
 Phase -160.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.044875  
 MBD 0.000004  
 Fringe rate (Hz)  
 0.019098  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171811  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -160.2  
 5.0  
 507.3  
 U/L 586/0  
 B 0  
 i 0  
 B:i 0:0  
 B:i 0:0  
 B 1000  
 i 1000  
 B W04UR  
 i W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16778762406E+03 | Apriori delay (usec)     | -3.16774274808E+03 | Resid mbdelay (usec) | 4.45331E-06  | +/- | 2.9E-04 |
| Sband delay (usec)      | -3.16778762258E+03 | Apriori clock (usec)     | 2.0462181E+01      | Resid sbdelay (usec) | -4.48745E-02 | +/- | 2.9E-04 |
| Phase delay (usec)      | -3.16774275325E+03 | Apriori clockrate (us/s) | 5.3000000E-08      | Resid phdelay (usec) | -5.16701E-06 | +/- | 6.2E-08 |
| Delay rate (us/s)       | 3.44394118947E-02  | Apriori rate (us/s)      | 3.44391901913E-02  | Resid rate (us/s)    | 2.21703E-07  | +/- | 3.6E-10 |
| Total phase (deg)       | -275.4             | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | -160.2       | +/- | 1.9     |

|              |      |     |      |        |      |                 |                 |                       |                             |                  |         |                  |          |       |
|--------------|------|-----|------|--------|------|-----------------|-----------------|-----------------------|-----------------------------|------------------|---------|------------------|----------|-------|
| ph/seg (deg) | 48.2 | RMS | 16.6 | Theor. | 48.2 | Amplitude       | 4.996 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5    | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 51.0 |     | 28.9 |        | 51.0 | Search (2048X8) | 4.970           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) |                  |         | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0  |     | 1.0  |        | 0.0  | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.5  |     | 1.7  |        | 0.5  | Inc. seg. avg.  | 6.736           | Sample rate(MSamp/s): | 64                          |                  |         | ion window (TEC) | 0.00     | 0.00  |
|              |      |     |      |        |      | Inc. frq. avg.  | 4.970           | Data rate(Mb/s):      | 128                         | nlags:           | 512     | t_cohere         | infinite |       |

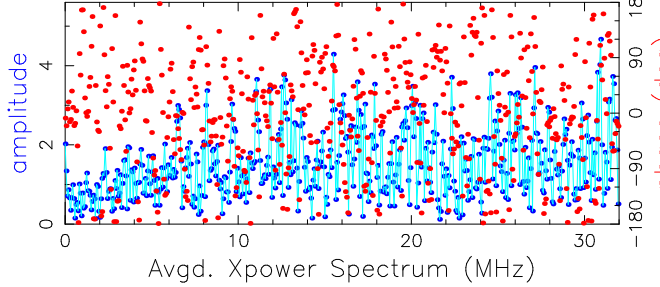
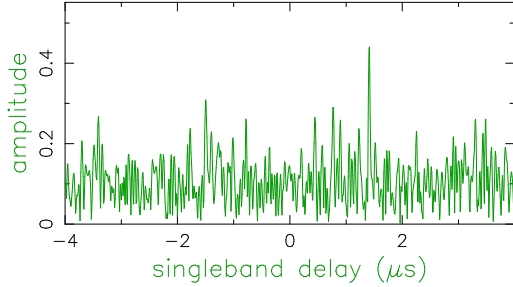
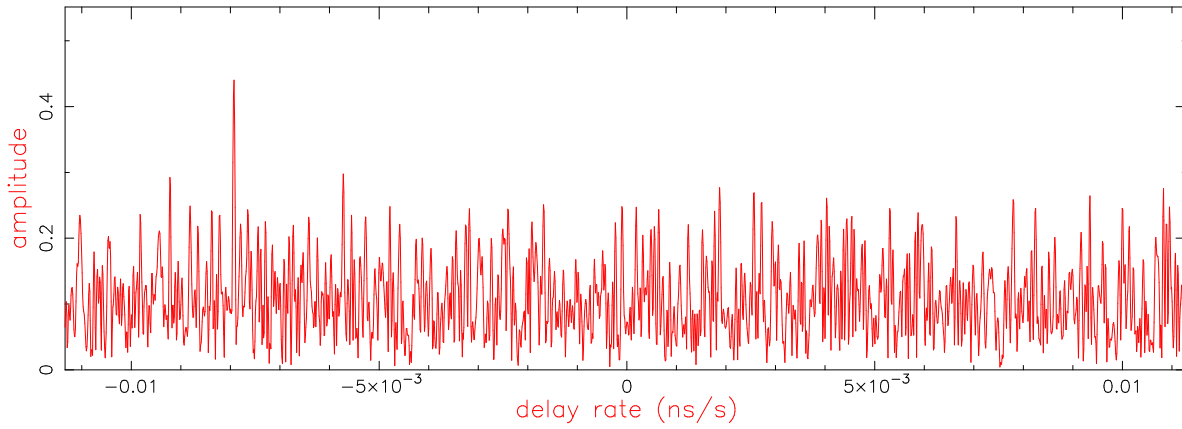
B: az 247.2 el 37.9 pa 37.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bi.W.59.0QR2SH

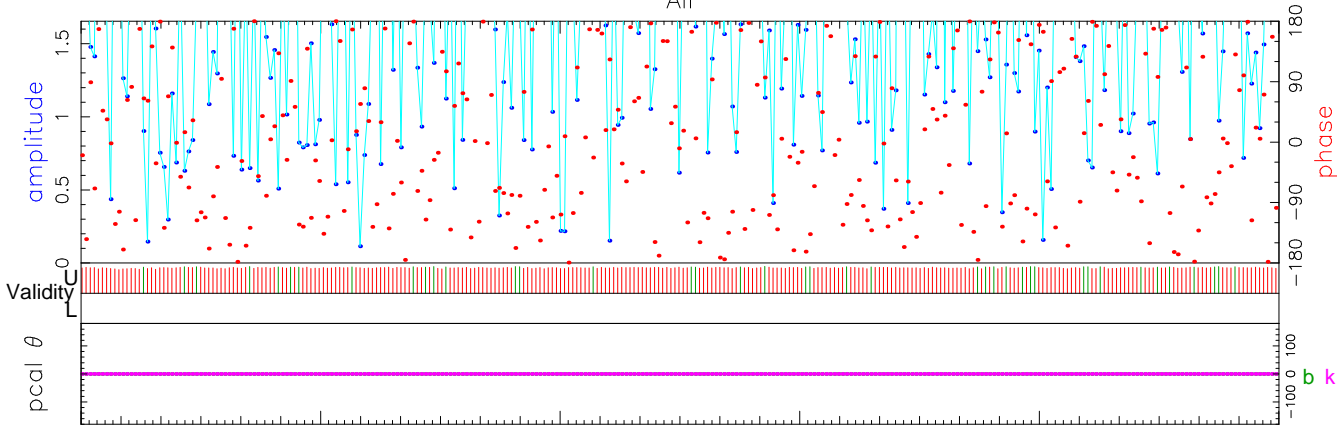
Fringe quality 0

SNR 5.1  
Int time 278.924  
Amp 0.551  
Phase -138.5  
PFD 1.0e+00  
Delays (us)  
SBD 1.410841  
MBD -0.000006  
Fringe rate (Hz)  
-0.682510  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-138.5  
0.5  
693.6  
U/L 586/0  
b 5000  
k 5000  
b:k 0:0  
b:k 0:0  
b 1000  
k 1000  
b W04UL  
k W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.92019260135E+03 | Apriori delay (usec)     | -1.92160343781E+03 | Resid mbdelay (usec) | -6.35514E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | -1.92019259631E+03 | Apriori clock (usec)     | -7.5689182E+00     | Resid sbdelay (usec) | 1.41084E+00  | +/- | 3.4E-03 |
| Phase delay (usec)      | -1.92160344227E+03 | Apriori clockrate (us/s) | 3.1365999E-07      | Resid phdelay (usec) | -4.46521E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | -2.08111528456E-01 | Apriori rate (us/s)      | -2.08103605189E-01 | Resid rate (us/s)    | -7.92327E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -186.3             | Apriori accel (us/s/s)   | 1.69734346702E-05  | Resid phase (deg)    | -138.5       | +/- | 22.4    |

|              |          |              |                           |  |                               |
|--------------|----------|--------------|---------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 95.5 | Theor. 192.1 | Amplitude 0.551 +/- 0.108 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 393.2    | 335.2        | Search (2048X8) 0.442     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 11.2         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 1.5      | 19.6         | Inc. seg. avg. 0.351      | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |          |              | Inc. frq. avg. 0.533      | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |          |              |                           | nlags: 512                             | t_cohere infinite             |
|              |          |              |                           |  | ion window (TEC) 0.00 0.00    |

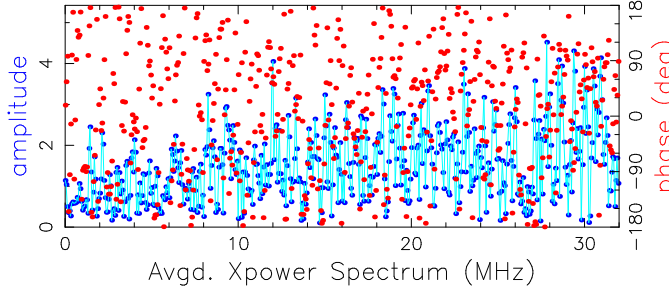
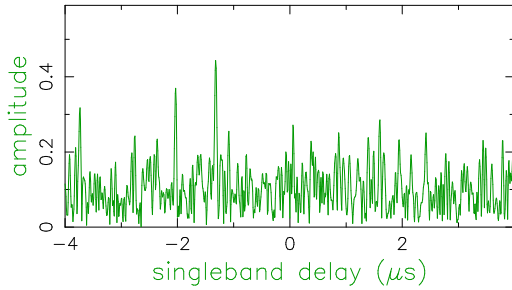
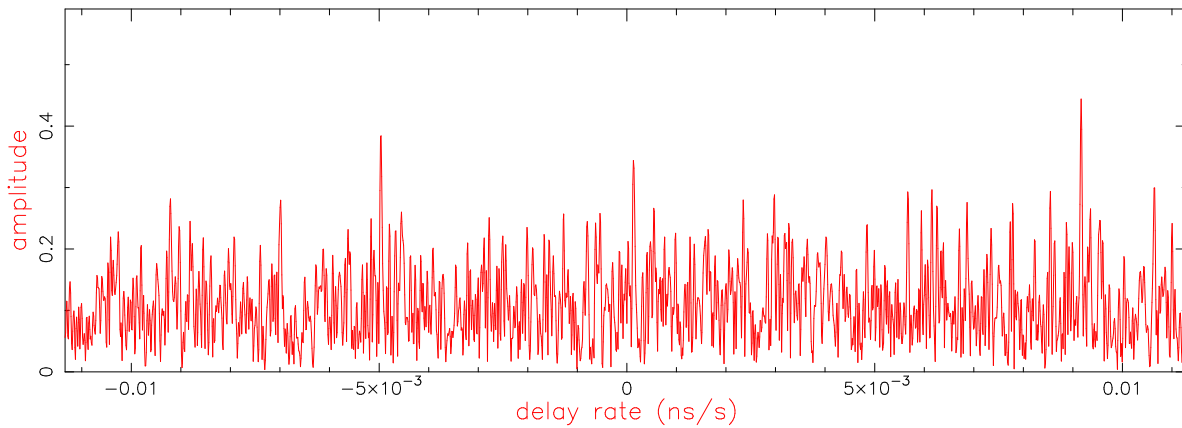
b: az 88.2 el 20.4 pa -44.0 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 1263.606 2213.914 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bk.W.13.0QR2SH

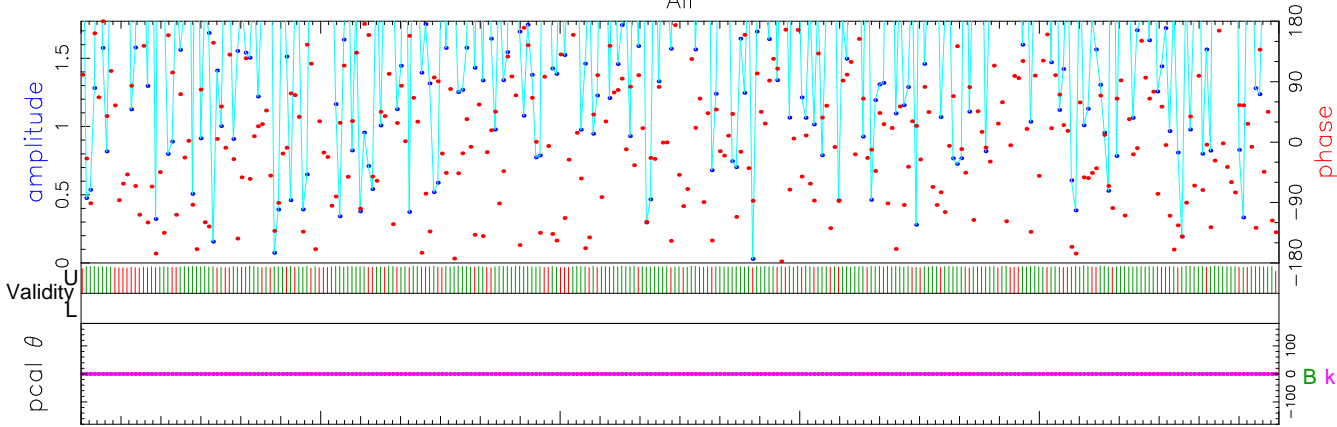
Fringe quality 0

SNR 5.1  
Int time 287.683  
Amp 0.591  
Phase 6.7  
PFD 1.0e+00  
Delays (us)  
SBD -1.319808  
MBD 0.000005  
Fringe rate (Hz)  
0.790087  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
6.7  
0.6  
344.1  
U/L 586/0  
B 0  
k 5000  
B:k 0:0  
B:k 0:0  
B 1000  
k 1000  
B W04UL  
k W04UL

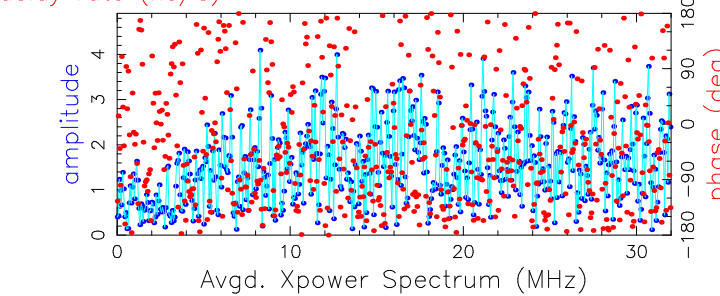
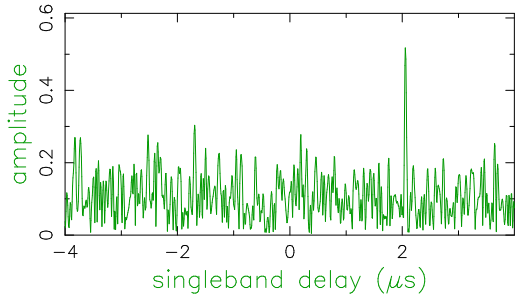
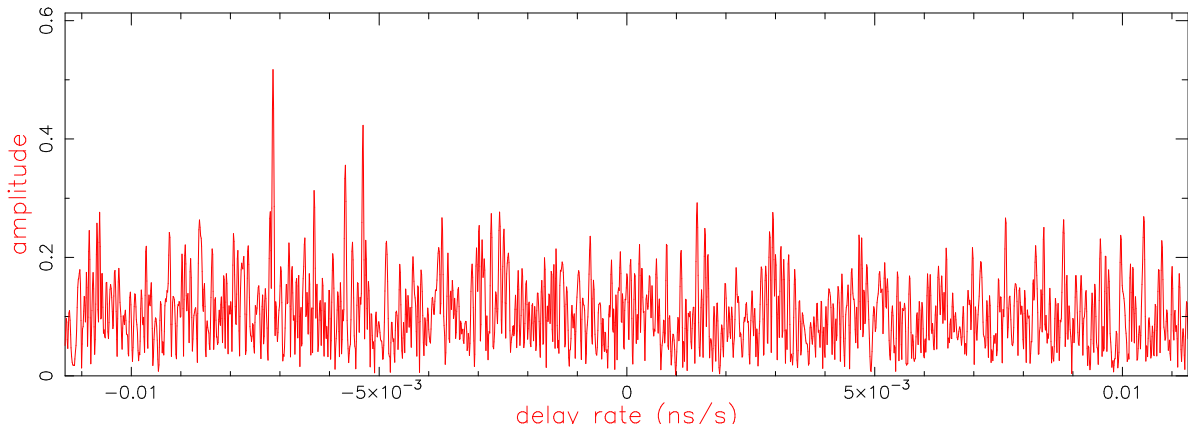
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.39692327812E+03  | Apriori delay (usec)     | 3.39824308969E+03  | Resid mbdelay (usec) | 5.01249E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 3.39692328169E+03  | Apriori clock (usec)     | -3.6343911E+00     | Resid sbdelay (usec) | -1.31981E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 3.39824308990E+03  | Apriori clockrate (us/s) | -1.1334000E-07     | Resid phdelay (usec) | 2.16318E-07  | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.90432076442E+00 | Apriori rate (us/s)      | -1.90432993655E+00 | Resid rate (us/s)    | 9.17213E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 275.1              | Apriori accel (us/s/s)   | -1.04318891833E-05 | Resid phase (deg)    | 6.7          | +/- | 22.3    |

|              |          |              |                           |                       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 90.7 | Theor. 190.5 | Amplitude 0.591 +/- 0.115 | Search (2048X8) 0.433 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 400.9    | 332.5        | Interp. 0.000             | 0.000                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 11.1         | Inc. seg. avg. 0.389      | 0.579                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.0      | 19.4         | Inc. frq. avg. 0.389      | 0.579                 | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

B: az 247.2 el 37.9 pa 37.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 11345.932 1769.976 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bk.W.16.0QR2SH



Fringe quality 0

SNR 5.9

Int time 278.929

Amp 0.613

Phase -132.1

PFD 3.5e-01

Delays (us)

SBD 2.055498

MBD -0.000005

Fringe rate (Hz)

-0.615027

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171809

2018:249:082454

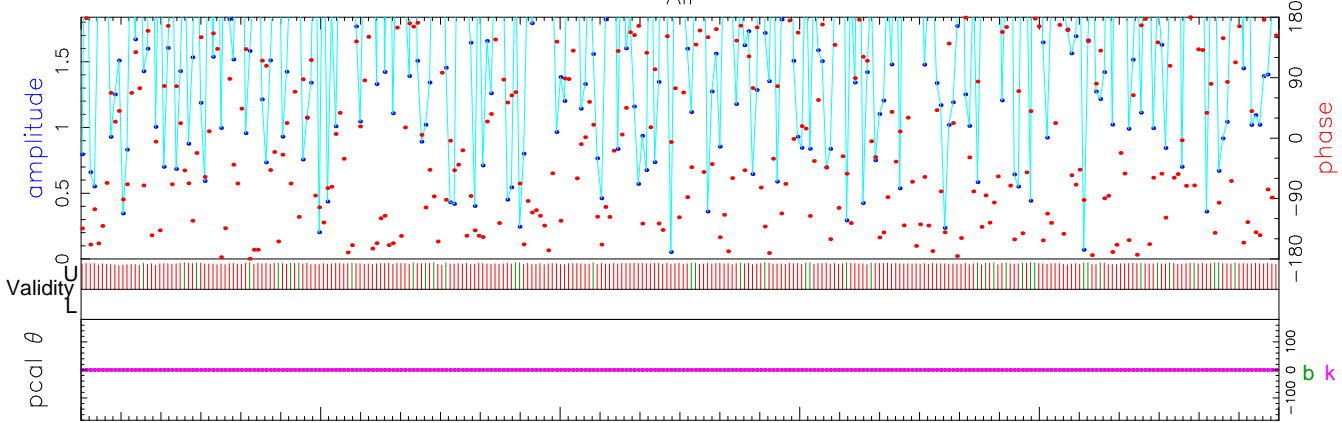
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -132.1    |  | Phase      |
| 0.6       |  | Ampl.      |
| 776.1     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| b 5000    |  | PC freqs   |
| k 5000    |  | PC freqs   |
| b:k 0:0   |  | PC phase   |
| b:k 0:0   |  | Mani PC    |
| b 1000    |  | PC amp     |
| k 1000    |  |            |
| b W04UR   |  | Chan ids   |
| b         |  |            |
| k W04UR   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -1.91954794056E+03 | Apriori delay (usec)     | -1.92160343781E+03 | Resid mbdelay (usec) | -5.42206E-06 | +/- 2.9E-03 |
| Sband delay (usec)      | -1.91954793981E+03 | Apriori clock (usec)     | -7.5689182E+00     | Resid sbdelay (usec) | 2.05550E+00  | +/- 2.9E-03 |
| Phase delay (usec)      | -1.92160344207E+03 | Apriori clockrate (us/s) | 3.1365999E-07      | Resid phdelay (usec) | -4.26093E-06 | +/- 6.3E-07 |
| Delay rate (us/s)       | -2.08110745037E-01 | Apriori rate (us/s)      | -2.08103605189E-01 | Resid rate (us/s)    | -7.13985E-06 | +/- 3.6E-09 |
| Total phase (deg)       | -180.0             | Apriori accel (us/s/s)   | 1.69734346702E-05  | Resid phase (deg)    | -132.1       | +/- 19.4    |

|              |       |        |       |                 |                 |  |                       |                   |        |       |
|--------------|-------|--------|-------|-----------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 90.8  | Theor. | 165.9 | Amplitude       | 0.613 +/- 0.104 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 340.9 |        | 289.6 | Search (2048X8) | 0.517           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0   |        | 9.7   | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.1   |        | 16.9  | Inc. seg. avg.  | 0.441           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |       |        |       | Inc. frq. avg.  | 0.604           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

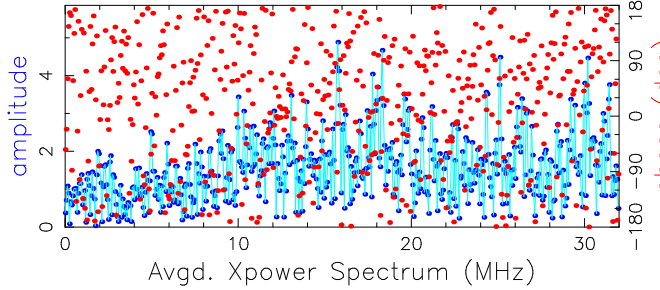
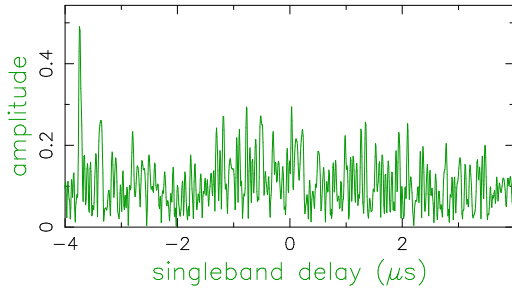
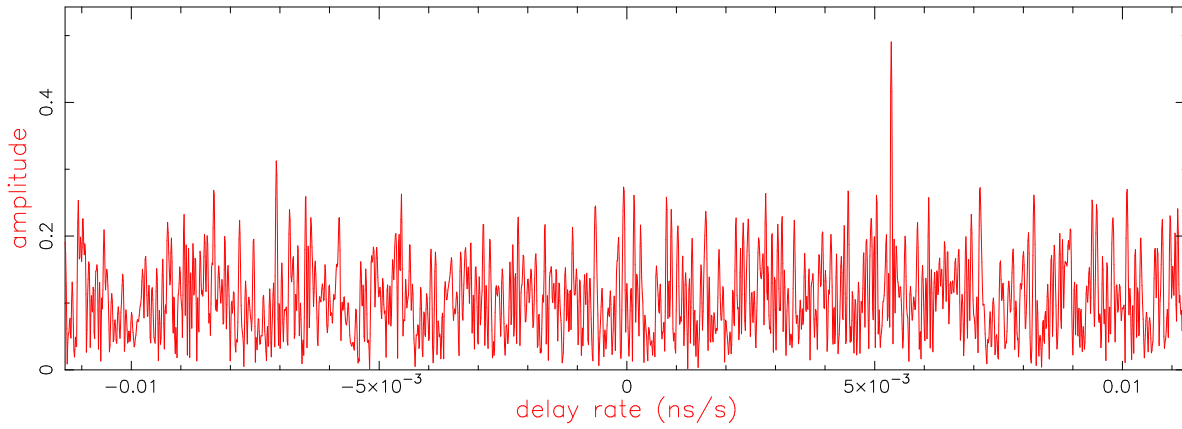
b: az 88.2 el 20.4 pa -44.0 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 1263.606 2213.914 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bk.W.43.0QR2SH

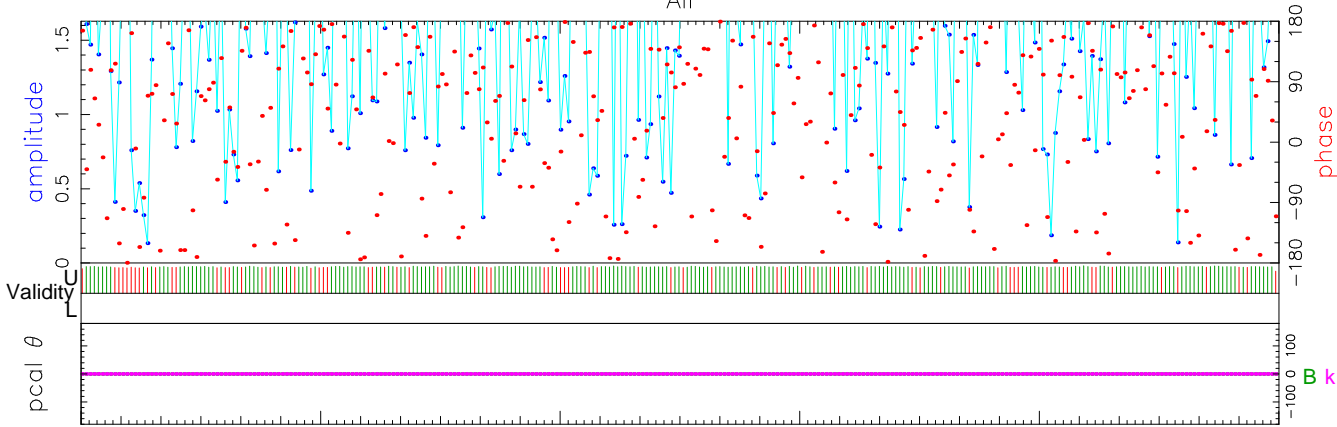
Fringe quality 0

SNR 5.7  
Int time 287.688  
Amp 0.543  
Phase 133.7  
PFD 7.0e-01  
Delays (us)  
SBD -3.739507  
MBD 0.000005  
Fringe rate (Hz)  
0.459339  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
133.7  
0.5  
34.4  
U/L 586/0  
B 0  
k 5000  
B:k 0:0  
B:k 0:0  
B 1000  
k 1000  
B W04UR  
k W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

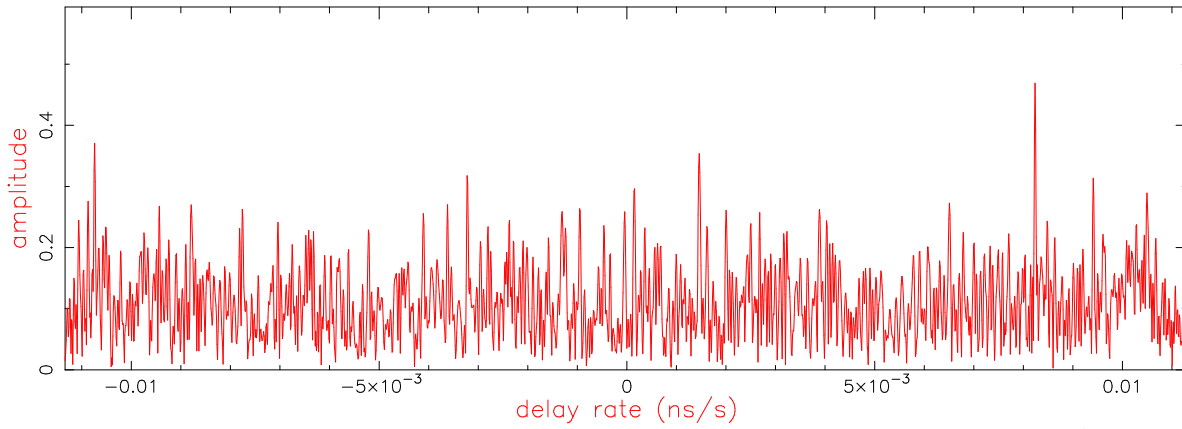
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.39450357754E+03  | Apriori delay (usec)     | 3.39824308969E+03  | Resid mbdelay (usec) | 4.91405E-06  | +/- | 3.0E-03 |
| Sband delay (usec)      | 3.39450358269E+03  | Apriori clock (usec)     | -3.6343911E+00     | Resid sbdelay (usec) | -3.73951E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | 3.39824309400E+03  | Apriori clockrate (us/s) | -1.1334000E-07     | Resid phdelay (usec) | 4.31197E-06  | +/- | 6.4E-07 |
| Delay rate (us/s)       | -1.90432460408E+00 | Apriori rate (us/s)      | -1.90432993655E+00 | Resid rate (us/s)    | 5.33247E-06  | +/- | 3.7E-09 |
| Total phase (deg)       | 42.2               | Apriori accel (us/s/s)   | -1.04318891833E-05 | Resid phase (deg)    | 133.7        | +/- | 20.0    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.7  | Theor.          | 170.9 | Amplitude      | 0.543 +/- 0.095 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 352.3 | Search (2048X8) | 0.481 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.384           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.530 | Inc. frq. avg. | 0.530           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

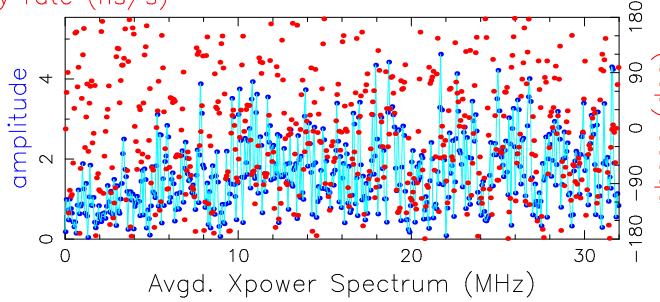
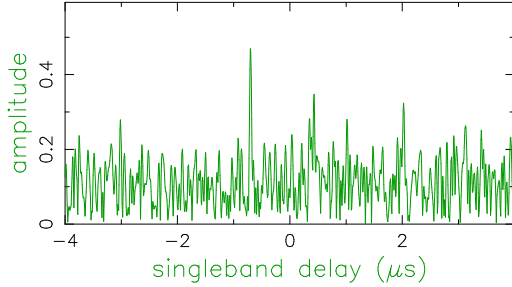
B: az 247.2 el 37.9 pa 37.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 11345.932 1769.976 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bk.W.44.0QR2SH



Fringe quality 0

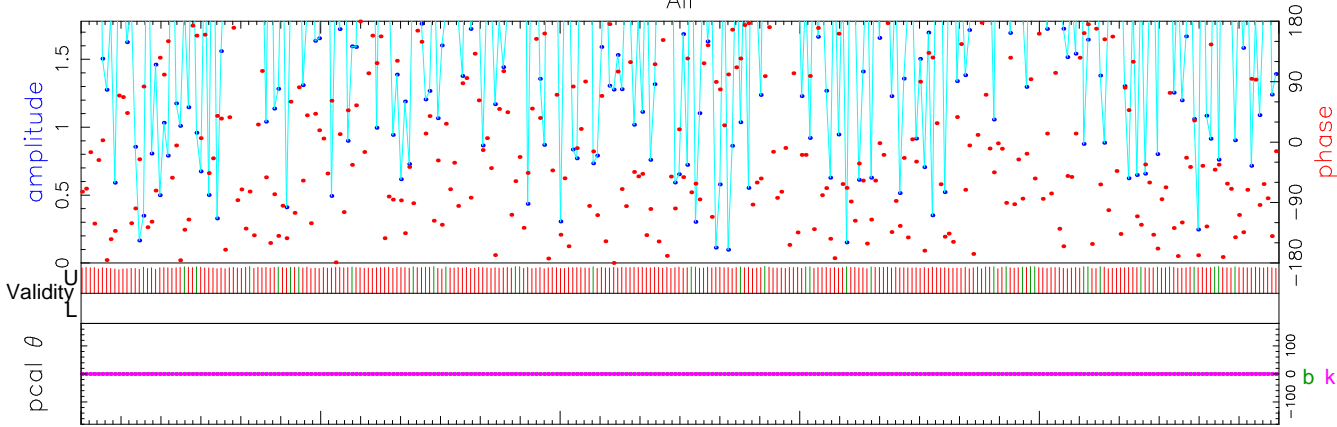


SNR 5.4  
 Int time 278.927  
 Amp 0.594  
 Phase -90.2  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.700456  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.709727  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171811  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 -90.2  
 0.6  
 423.3  
 U/L 586/0  
 b 5000  
 k 5000  
 b:k 0:0  
 b:k 0:0  
 b 1000  
 k 1000  
 b W04UL  
 k W04UR

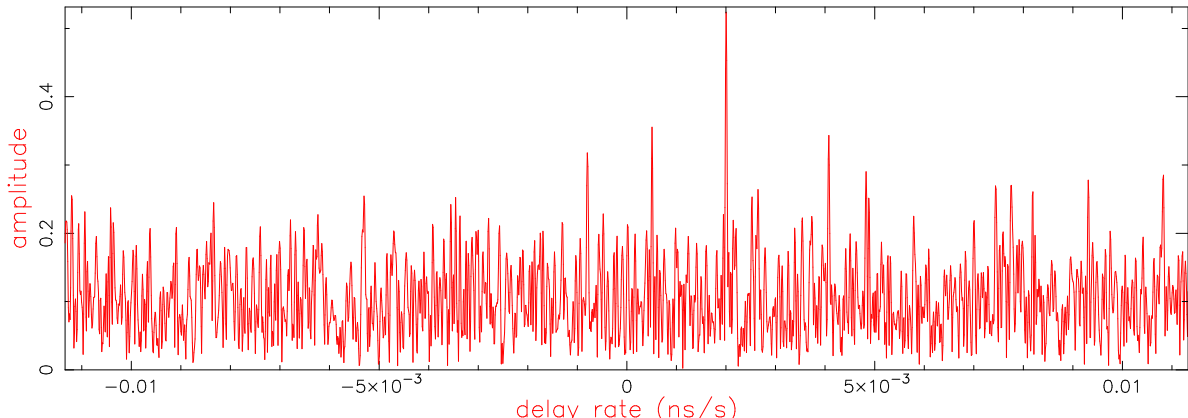
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.92230389727E+03 | Apriori delay (usec)     | -1.92160343781E+03 | Resid mbdelay (usec) | 4.89798E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.92230389381E+03 | Apriori clock (usec)     | -7.5689182E+00     | Resid sbdelay (usec) | -7.00456E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.92160344072E+03 | Apriori clockrate (us/s) | 3.1365999E-07      | Resid phdelay (usec) | -2.90748E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -2.08095365960E-01 | Apriori rate (us/s)      | -2.08103605189E-01 | Resid rate (us/s)    | 8.23923E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -138.0             | Apriori accel (us/s/s)   | 1.69734346702E-05  | Resid phase (deg)    | -90.2        | +/- | 21.2    |

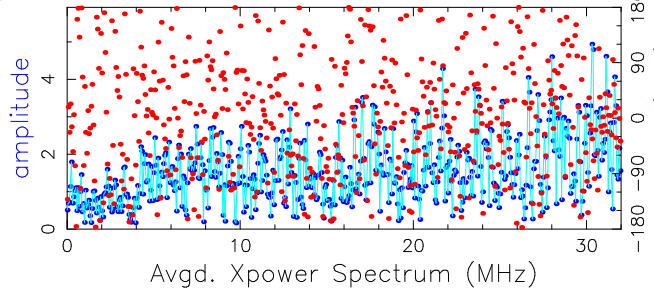
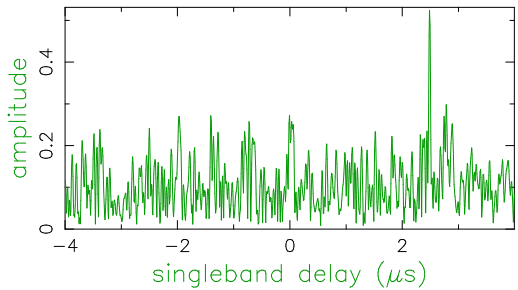
|              |       |                 |       |  |                 |                              |                       |              |
|--------------|-------|-----------------|-------|--|-----------------|------------------------------|-----------------------|--------------|
| ph/seg (deg) | 92.2  | Theor.          | 181.7 | Amplitude                              | 0.594 +/- 0.110 | Pcal mode: MANUAL, MANUAL    | PC period (AP's) 5, 5 |              |
| amp/seg (%)  | 381.9 | Search (2048X8) | 0.465 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                 | sb window (us)               | -4.000 4.000          |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample: 2x2                       |                 | SampCntNorm: enabled         | mb window (us)        | -0.000 0.000 |
| amp/frq (%)  | 0.8   | Inc. seg. avg.  | 0.407 | Sample rate(MSamp/s): 64               |                 | ion window (TEC)             | -0.011 0.011          |              |
|              |       | Inc. frq. avg.  | 0.579 | Data rate(Mb/s): 128                   |                 | nlags: 512 t_cohere infinite | ion window (TEC)      | 0.00 0.00    |

b: az 88.2 el 20.4 pa -44.0 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 1263.606 2213.914 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bk.W.62.0QR2SH



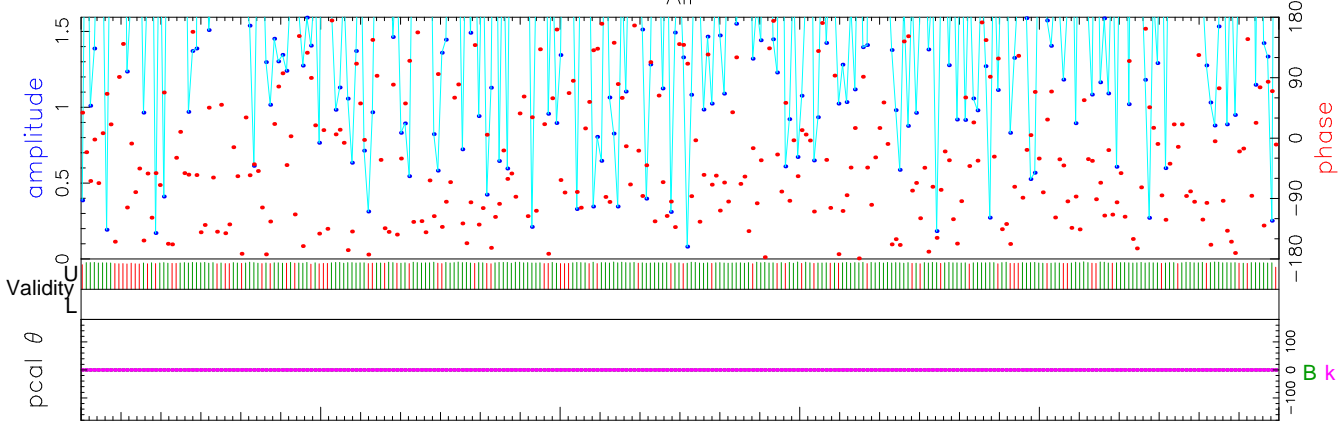
Fringe quality 0  
SNR 6.1  
Int time 287.688  
Amp 0.531  
Phase -76.6  
PFD 1.4e-01  
Delays (us)  
SBD 2.485329  
MBD 0.000005  
Fringe rate (Hz)  
0.172702  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-76.6  
0.5  
831.1  
U/L 586/0  
B 0  
k 5000  
B:k 0:0  
B:k 0:0  
B 1000  
k 1000  
B W04UL  
k W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.40072842045E+03  | Apriori delay (usec)     | 3.39824308969E+03  | Resid mbdelay (usec) | 4.54892E-06  | +/- | 2.8E-03 |
| Sband delay (usec)      | 3.40072841869E+03  | Apriori clock (usec)     | -3.6343911E+00     | Resid sbdelay (usec) | 2.48533E+00  | +/- | 2.8E-03 |
| Phase delay (usec)      | 3.39824308722E+03  | Apriori clockrate (us/s) | -1.1334000E-07     | Resid phdelay (usec) | -2.47013E-06 | +/- | 6.1E-07 |
| Delay rate (us/s)       | -1.90432793165E+00 | Apriori rate (us/s)      | -1.90432993655E+00 | Resid rate (us/s)    | 2.00490E-06  | +/- | 3.5E-09 |
| Total phase (deg)       | 191.8              | Apriori accel (us/s/s)   | -1.04318891833E-05 | Resid phase (deg)    | -76.6        | +/- | 18.8    |

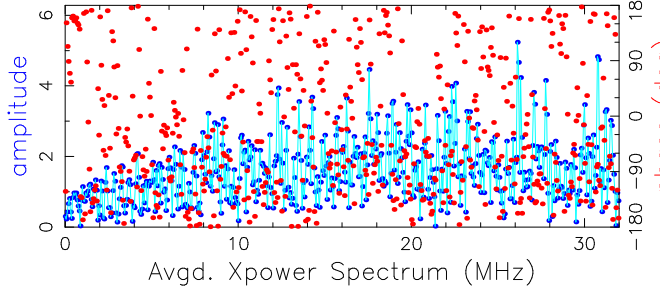
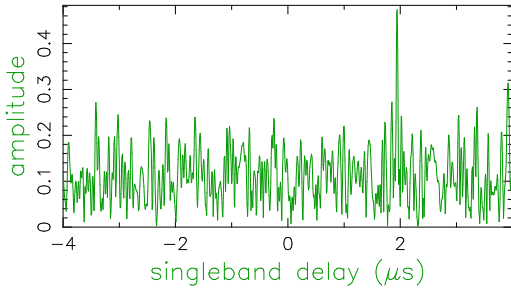
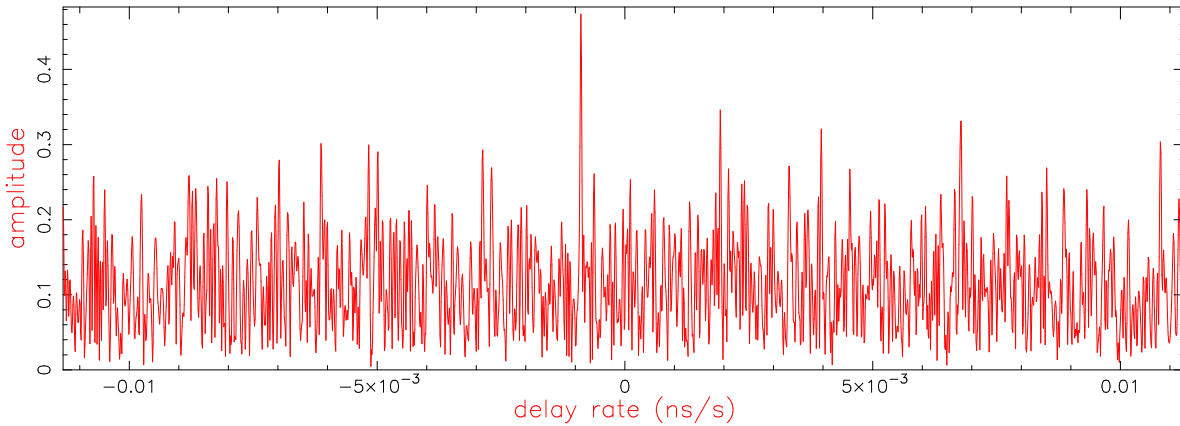
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.7  | Theor.          | 161.2 | Amplitude      | 0.531 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 307.9 | Search (2048X8) | 0.523 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.371           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.524 | Inc. frq. avg. | 0.524           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 11345.932 1769.976 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bk.W.68.0QR2SH

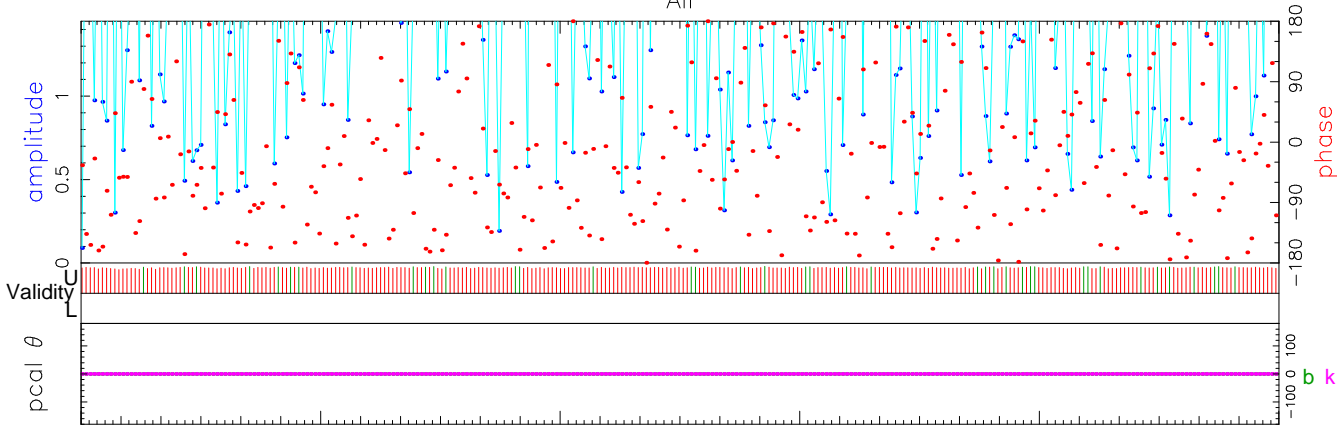
Fringe quality 0

SNR 5.5  
Int time 278.925  
Amp 0.483  
Phase -91.1  
PFD 9.9e-01  
Delays (us)  
SBD 1.942085  
MBD -0.000007  
Fringe rate (Hz)  
-0.076231  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-91.1  
0.5  
761.6  
U/L 586/0  
b 5000  
k 5000  
b:k 0:0  
b:k 0:0  
b 1000  
k 1000  
b W04UR  
k W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp

Chan ids  
Chan ids

|                         |                     |                          |                    |                      |              |     |         |
|-------------------------|---------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.91966135023E+03  | Apriori delay (usec)     | -1.92160343781E+03 | Resid mbdelay (usec) | -6.68632E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.91966135281E+03  | Apriori clock (usec)     | -7.5689182E+00     | Resid sbdelay (usec) | 1.94209E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.92160344075E+03  | Apriori clockrate (us/s) | 3.1365999E-07      | Resid phdelay (usec) | -2.93767E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | -2.081044490160E-01 | Apriori rate (us/s)      | -2.08103605189E-01 | Resid rate (us/s)    | -8.84971E-07 | +/- | 3.9E-09 |
| Total phase (deg)       | -138.9              | Apriori accel (us/s/s)   | 1.69734346702E-05  | Resid phase (deg)    | -91.1        | +/- | 20.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.2  | Theor.          | 178.2 | Amplitude      | 0.483 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 386.1 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.338 | Inc. seg. avg. | 0.338           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.7   | Inc. frq. avg.  | 0.467 | Inc. frq. avg. | 0.467           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

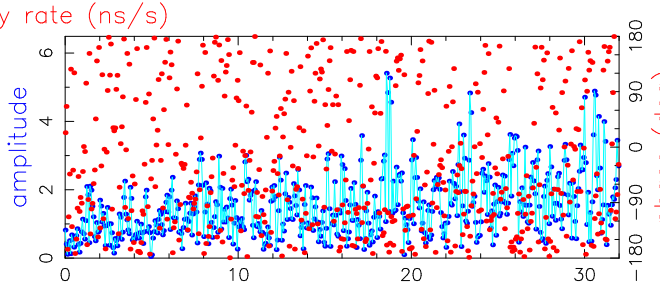
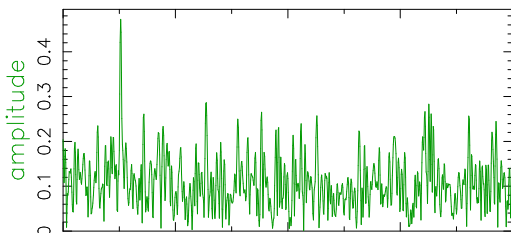
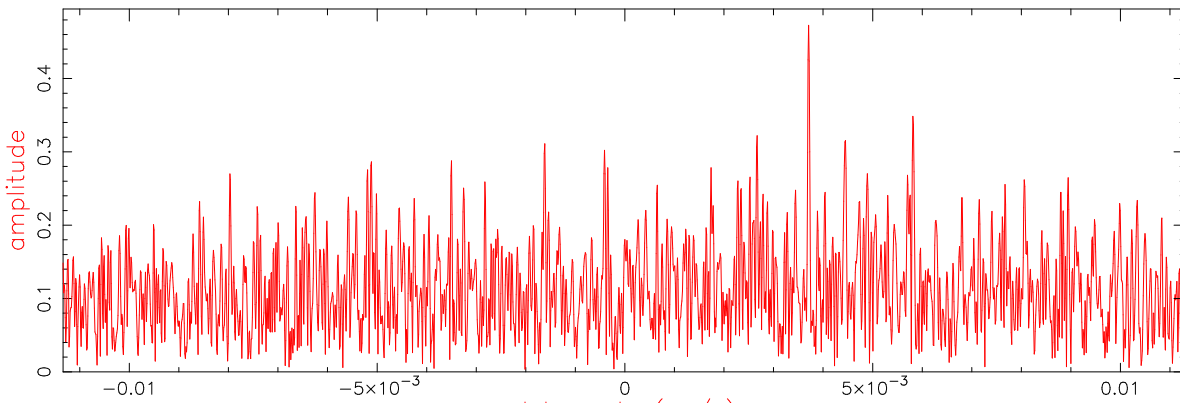
b: az 88.2 el 20.4 pa -44.0 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 1263.606 2213.914 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bk.W.73.0QR2SH

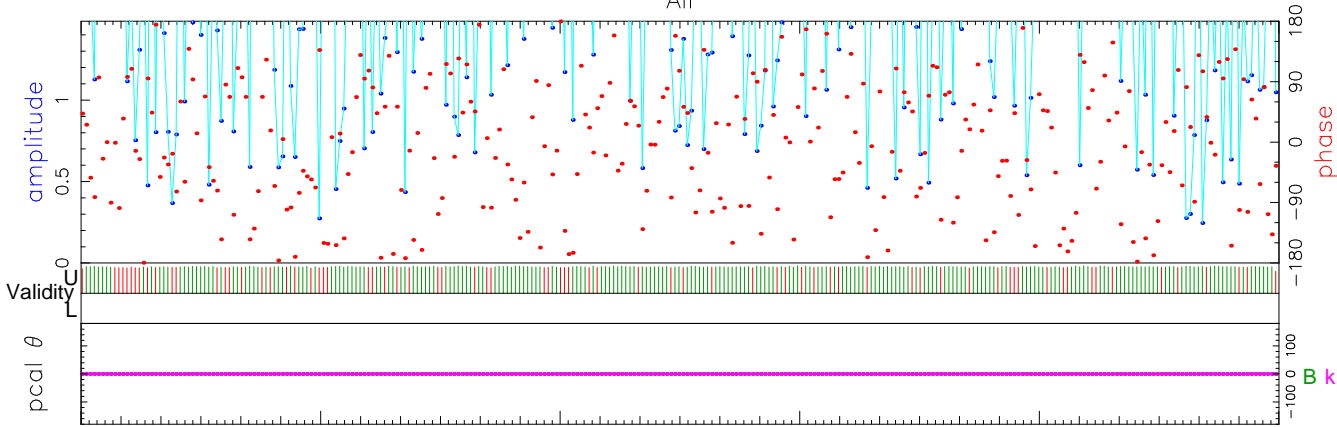
Fringe quality 0

SNR 5.5  
Int time 287.683  
Amp 0.495  
Phase 9.4  
PFD 9.9e-01  
Delays (us)  
SBD -2.975514  
MBD 0.000006  
Fringe rate (Hz)  
0.319233  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



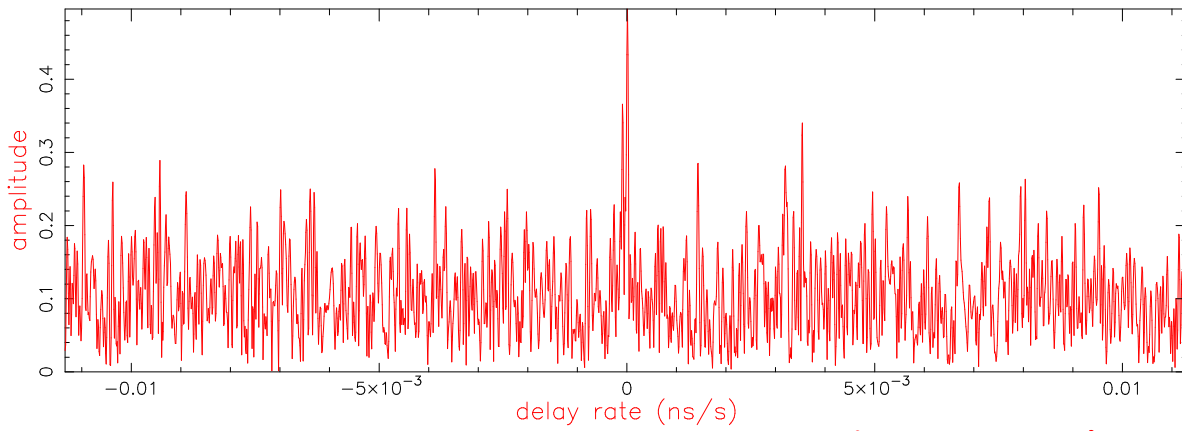
86140.00  
9.4  
0.5  
132.1  
U/L 586/0  
B 0  
k 5000  
B:k 0:0  
B:k 0:0  
B 1000  
k 1000  
B W04UR  
k W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.39526757903E+03  | Apriori delay (usec)     | 3.39824308969E+03  | Resid mbdelay (usec) | 5.94623E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | 3.39526757519E+03  | Apriori clock (usec)     | -3.6343911E+00     | Resid sbdelay (usec) | -2.97551E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 3.39824308999E+03  | Apriori clockrate (us/s) | -1.1334000E-07     | Resid phdelay (usec) | 3.02527E-07  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.90432623057E+00 | Apriori rate (us/s)      | -1.90432993655E+00 | Resid rate (us/s)    | 3.70598E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | 277.8              | Apriori accel (us/s/s)   | -1.04318891833E-05 | Resid phase (deg)    | 9.4          | +/- | 20.9    |

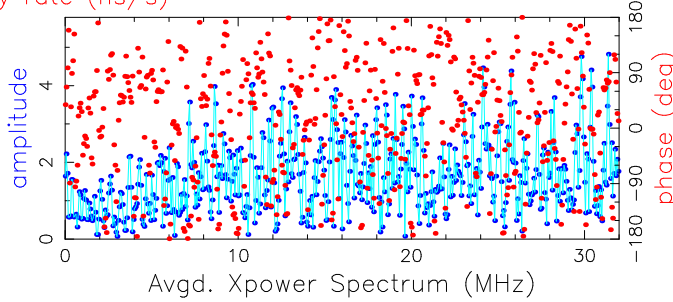
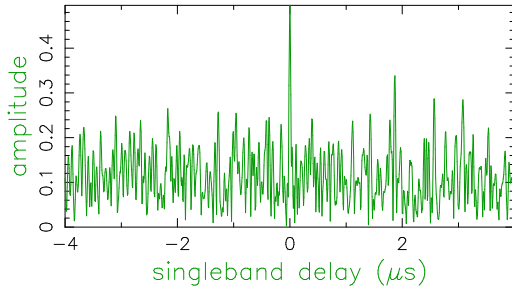
|              |          |              |                           |                 |       |  |                       |                  |        |       |
|--------------|----------|--------------|---------------------------|-----------------|-------|--|-----------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 93.6 | Theor. 178.7 | Amplitude Search (2048X8) | 0.495 +/- 0.090 | 0.469 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 411.1    | 311.8        | Interp.                   | 0.000           | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.4         | Inc. seg. avg.            | 0.370           | 0.370 | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.2      | 18.2         | Inc. frq. avg.            | 0.486           | 0.486 | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00   | 0.00  |

B: az 247.2 el 37.9 pa 37.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 11345.932 1769.976 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bk.W.87.0QR2SH



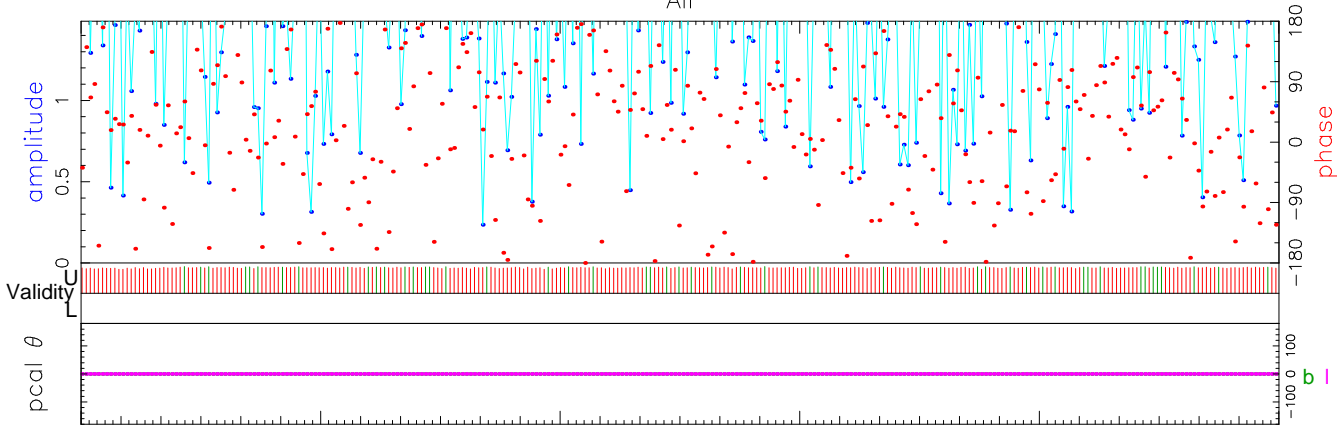
Fringe quality 0

SNR 5.7  
Int time 279.443  
Amp 0.496  
Phase 50.1  
PFD 8.3e-01  
Delays (us)  
SBD -0.000399  
MBD -0.000003  
Fringe rate (Hz)  
0.001425  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
50.1  
0.5  
512.9  
U/L 586/0  
b 5000  
l 5000  
b:l 0:0  
b:l 0:0  
b 1000  
l 1000  
b W04UL  
l W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.37786574020E+03 | Apriori delay (usec)     | -3.37786534263E+03 | Resid mbdelay (usec) | -2.87274E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -3.37786574213E+03 | Apriori clock (usec)     | 2.7742417E+00      | Resid sbdelay (usec) | -3.99500E-04 | +/- | 3.0E-03 |
| Phase delay (usec)      | -3.37786534101E+03 | Apriori clockrate (us/s) | 3.5999998E-07      | Resid phdelay (usec) | 1.61415E-06  | +/- | 6.5E-07 |
| Delay rate (us/s)       | -1.10262513184E-01 | Apriori rate (us/s)      | -1.10262529722E-01 | Resid rate (us/s)    | 1.65377E-08  | +/- | 3.8E-09 |
| Total phase (deg)       | -170.9             | Apriori accel (us/s/s)   | 2.30261254274E-05  | Resid phase (deg)    | 50.1         | +/- | 20.2    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 88.4  | Theor.          | 173.0 | Amplitude      | 0.496 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 332.9 | Search (2048X8) | 0.480 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.336 | Inc. frq. avg. | 0.488           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0   | 17.6            |       |                |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

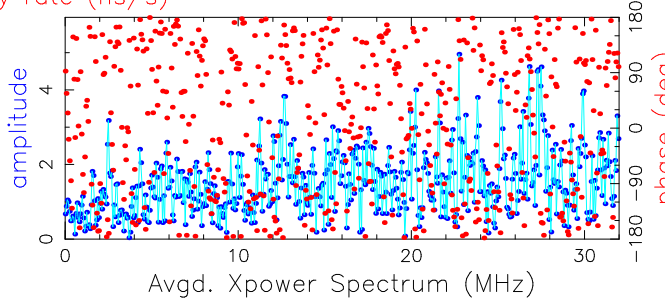
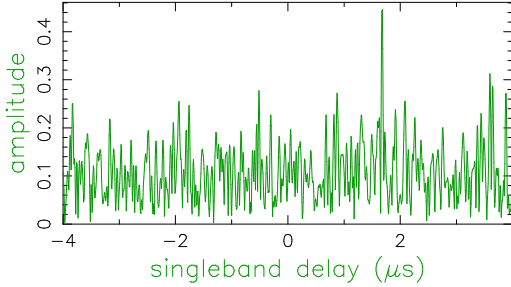
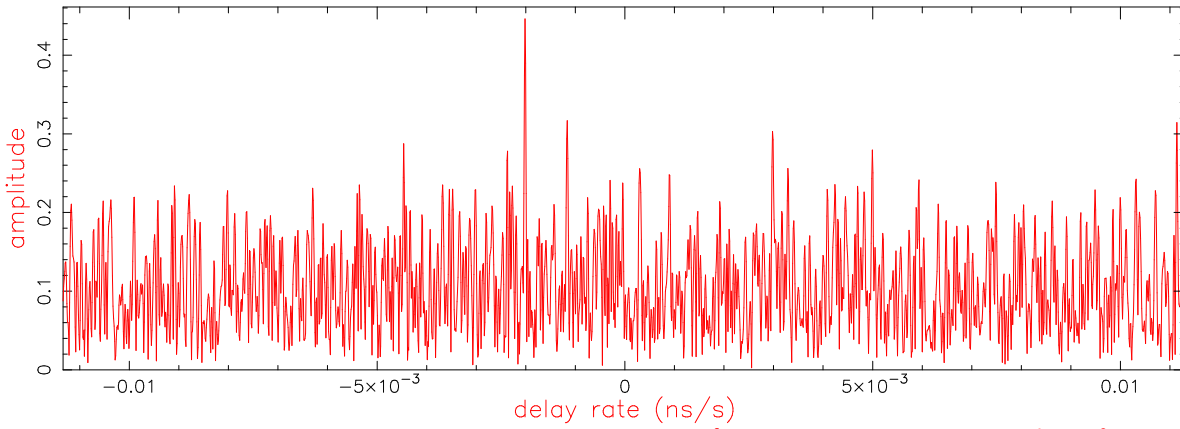
b: az 88.2 el 20.4 pa -44.0 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 687.431 1884.795 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/bl.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/bl.W.15.0QR2SH

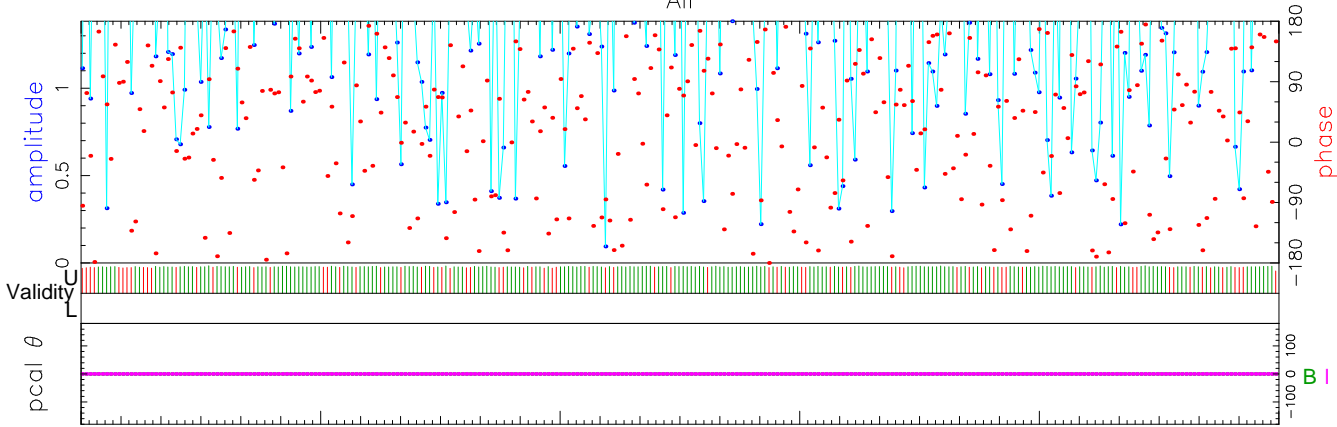
Fringe quality 0

SNR 5.3  
Int time 287.952  
Amp 0.461  
Phase 83.3  
PFD 1.0e+00  
Delays (us)  
SBD 1.676188  
MBD -0.000007  
Fringe rate (Hz)  
-0.173570  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
83.3  
0.5  
727.6  
U/L 586/0  
B 0  
I 5000  
B:I 0:0  
B:I 0:0  
B 1000  
I 1000  
B W04UL  
I W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.94365736824E+03  | Apriori delay (usec)     | 1.94198118487E+03  | Resid mbdelay (usec) | -6.55352E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | 1.94365737337E+03  | Apriori clock (usec)     | 6.7087688E+00      | Resid sbdelay (usec) | 1.67619E+00  | +/- 3.3E-03 |
| Phase delay (usec)      | 1.94198118756E+03  | Apriori clockrate (us/s) | -6.7000001E-08     | Resid phdelay (usec) | 2.68746E-06  | +/- 7.0E-07 |
| Delay rate (us/s)       | -1.80649087605E+00 | Apriori rate (us/s)      | -1.80648886108E+00 | Resid rate (us/s)    | -2.01497E-06 | +/- 4.0E-09 |
| Total phase (deg)       | 178.7              | Apriori accel (us/s/s)   | -4.37919842612E-06 | Resid phase (deg)    | 83.3         | +/- 21.7    |

|              |       |                 |       |                |                 |  |                               |                             |                            |
|--------------|-------|-----------------|-------|----------------|-----------------|--|-------------------------------|-----------------------------|----------------------------|
| ph/seg (deg) | 93.8  | Theor.          | 185.7 | Amplitude      | 0.461 +/- 0.087 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |                             |                            |
| amp/seg (%)  | 386.2 | Search (2048X8) | 0.446 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |                             |                            |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.305           | Bits/sample: 2x2                       | SampCntNorm: enabled          | mb window (us) -0.000 0.000 |                            |
| amp/frq (%)  | 2.0   | Inc. frq. avg.  | 0.444 | Inc. frq. avg. | 0.444           | Sample rate(MSamp/s): 64               | dr window (ns/s) -0.011 0.011 |                             |                            |
|              |       |                 |       |                |                 | Data rate(Mb/s): 128                   | nlags: 512                    | t_cohere infinite           | ion window (TEC) 0.00 0.00 |

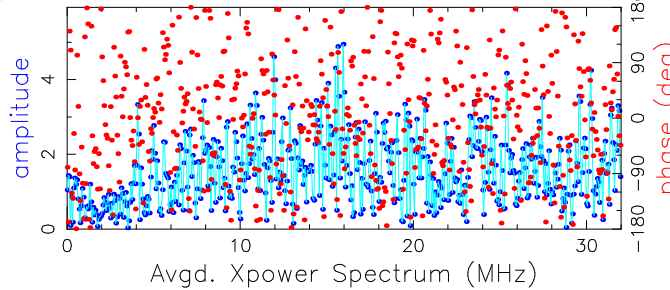
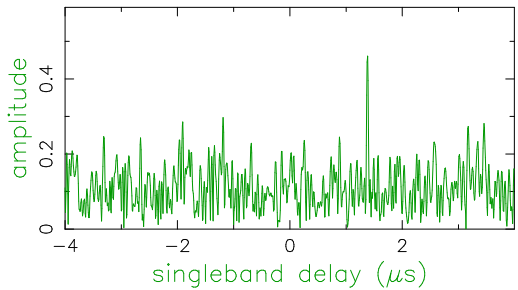
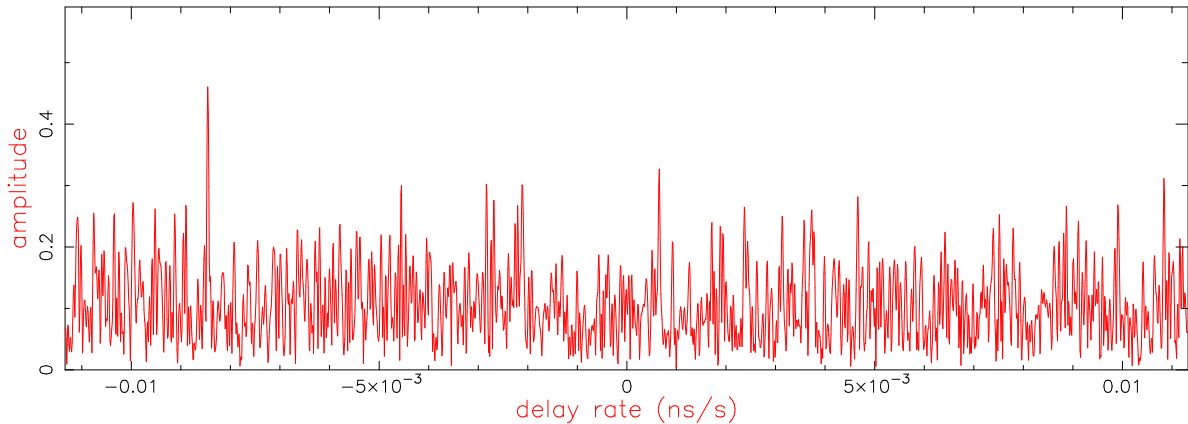
B: az 247.2 el 37.9 pa 37.6 I: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 10769.757 1440.857 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BI..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BI.W.17.0QR2SH

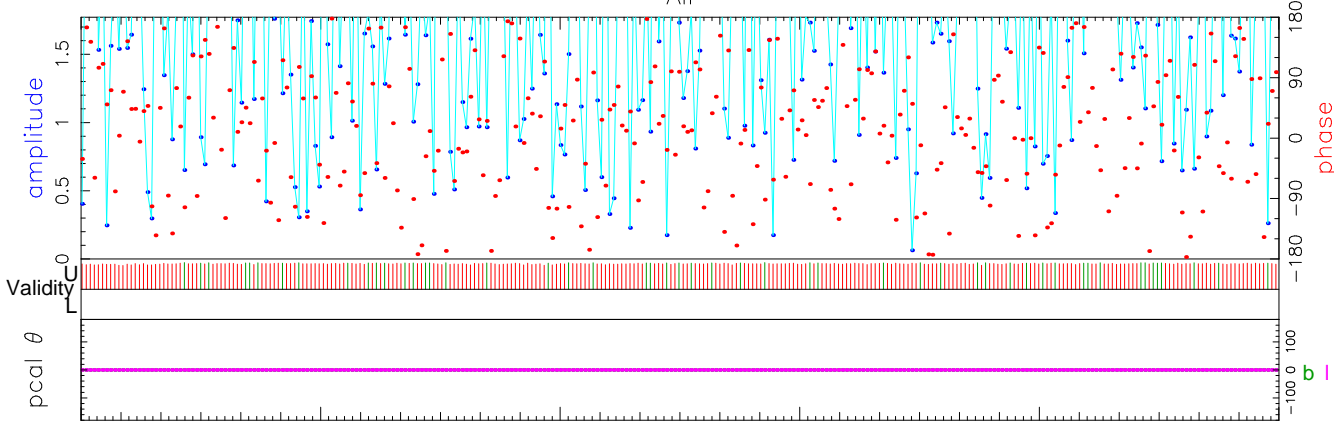
Fringe quality 0

SNR 5.3  
Int time 279.451  
Amp 0.591  
Phase 34.5  
PFD 1.0e+00  
Delays (us)  
SBD 1.380394  
MBD -0.000005  
Fringe rate (Hz)  
-0.728866  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
34.5  
0.6  
689.7  
U/L 586/0  
b 5000  
l 5000  
b:l 0:0  
b:l 0:0  
b 1000  
l 1000  
b W04UR  
l W04UR

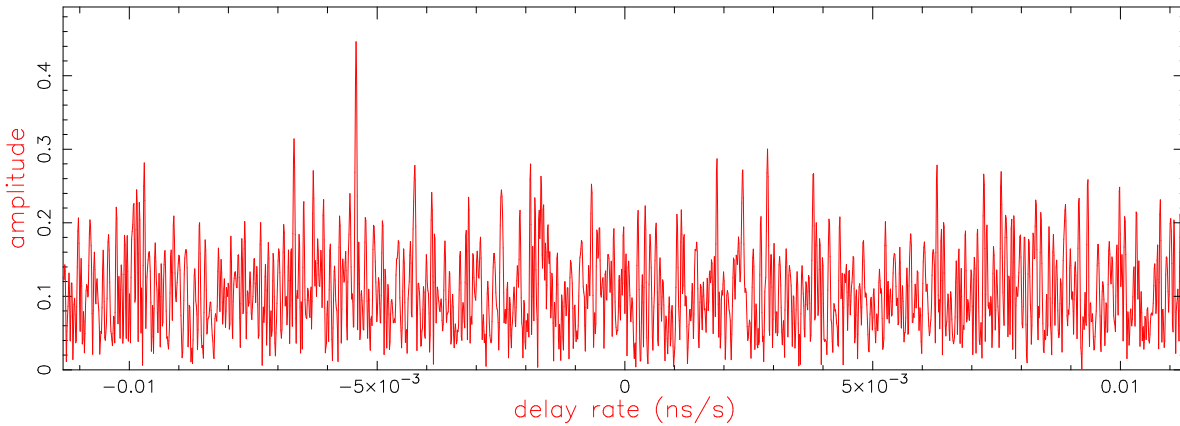
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.37648494365E+03 | Apriori delay (usec)     | -3.37786534263E+03 | Resid mbdelay (usec) | -5.01741E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -3.37648494813E+03 | Apriori clock (usec)     | 2.7742417E+00      | Resid sbdelay (usec) | 1.38039E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -3.37786534151E+03 | Apriori clockrate (us/s) | 3.5999998E-07      | Resid phdelay (usec) | 1.11296E-06  | +/- | 7.0E-07 |
| Delay rate (us/s)       | -1.10270991134E-01 | Apriori rate (us/s)      | -1.10262529722E-01 | Resid rate (us/s)    | -8.46141E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -186.4             | Apriori accel (us/s/s)   | 2.30261254274E-05  | Resid phase (deg)    | 34.5         | +/- | 21.6    |

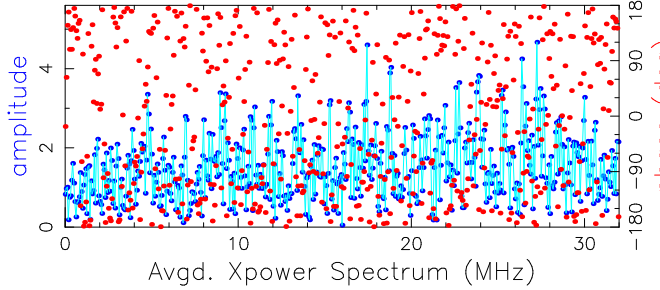
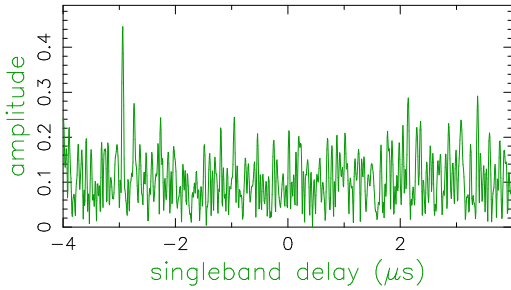
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.1  | Theor.          | 184.8 | Amplitude      | 0.591 +/- 0.111 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 383.6 | Search (2048X8) | 0.459 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.392           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.575 | Inc. frq. avg. | 0.575           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 687.431 1884.795 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/bl.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/bl.W.29.0QR2SH

Fringe quality 0



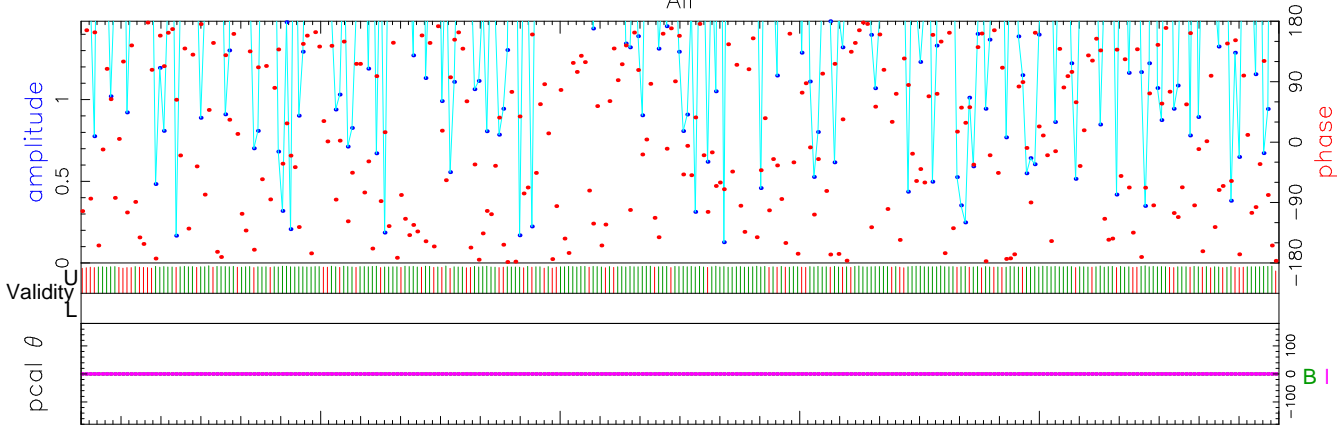
SNR 5.2  
 Int time 287.959  
 Amp 0.493  
 Phase 178.8  
 PFD 1.0e+00  
 Delays (us)  
 SBD -2.939286  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.466883  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171809  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 178.8  
 0.5  
 136.8  
 U/L 586/0  
 B 0  
 I 5000  
 B:I 0:0  
 B:I 0:0  
 B 1000  
 I 1000  
 B W04UR  
 I W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.93904189325E+03  | Apriori delay (usec)     | 1.94198118487E+03  | Resid mbdelay (usec) | -6.73313E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | 1.93904189837E+03  | Apriori clock (usec)     | 6.7087688E+00      | Resid sbdelay (usec) | -2.93929E+00 | +/- 3.3E-03 |
| Phase delay (usec)      | 1.94198119064E+03  | Apriori clockrate (us/s) | -6.7000001E-08     | Resid phdelay (usec) | 5.76635E-06  | +/- 7.1E-07 |
| Delay rate (us/s)       | -1.80649428113E+00 | Apriori rate (us/s)      | -1.80648886108E+00 | Resid rate (us/s)    | -5.42004E-06 | +/- 4.1E-09 |
| Total phase (deg)       | 274.1              | Apriori accel (us/s/s)   | -4.37919842612E-06 | Resid phase (deg)    | 178.8        | +/- 22.0    |

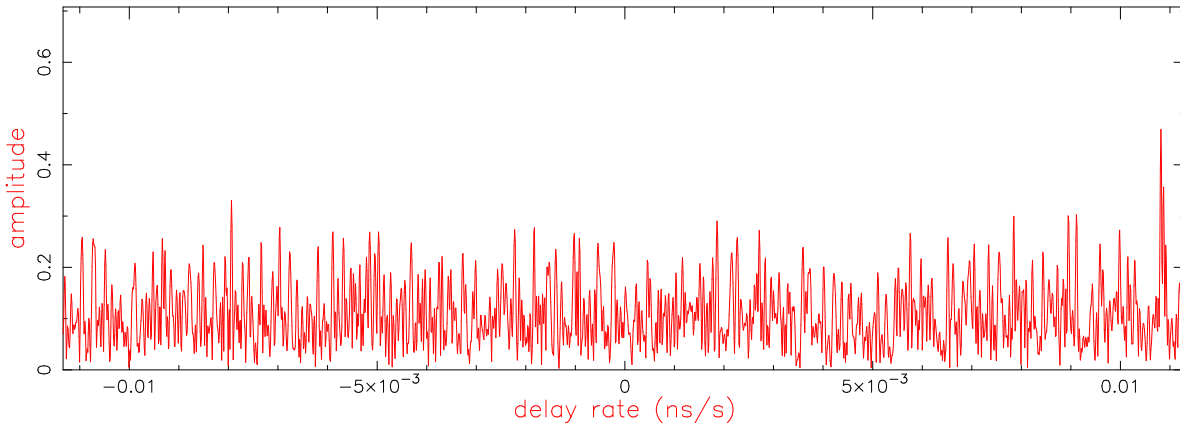
|              |          |              |                           |                 |       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------|-------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 93.9 | Theor. 188.5 | Amplitude 0.493 +/- 0.095 | Search (2048X8) | 0.435 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 385.0    | 329.1        | Interp.                   | 0.000           |       | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 11.0         | Inc. seg. avg.            | 0.324           |       | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.5      | 19.2         | Inc. frq. avg.            | 0.482           |       | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

B: az 247.2 el 37.9 pa 37.6 I: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 10769.757 1440.857 simultaneous interpolator

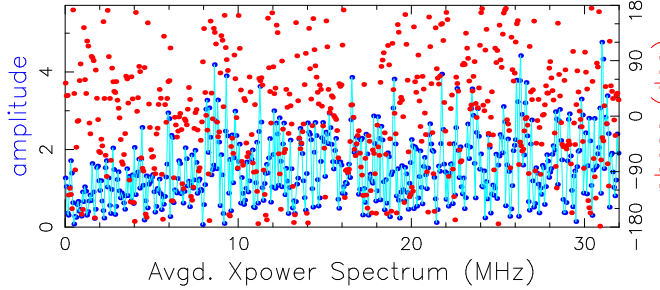
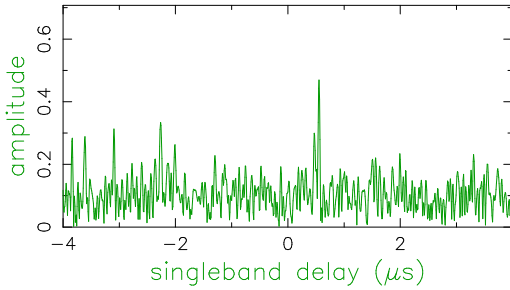
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BI..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BI.W.41.0QR2SH



Fringe quality 0

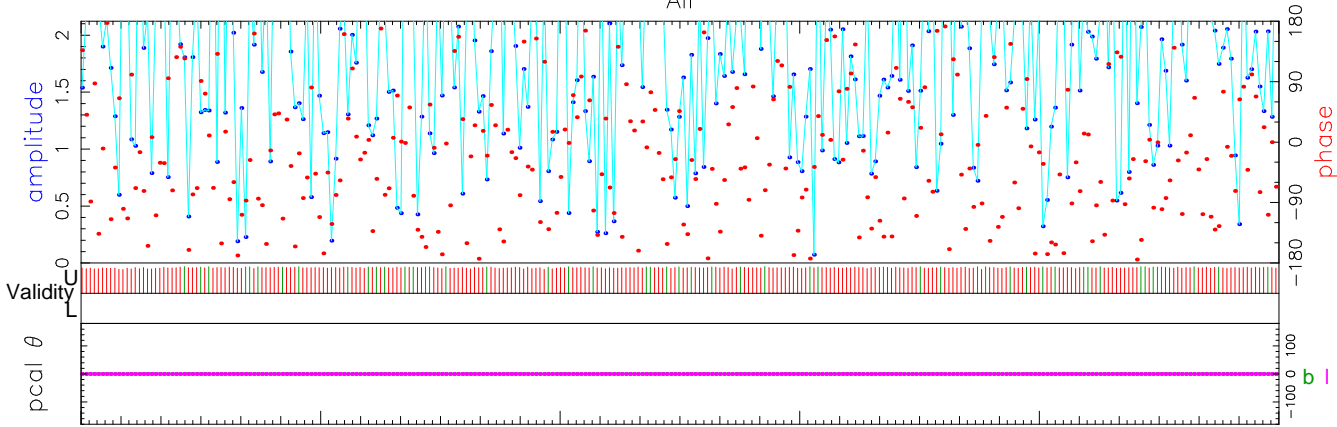


SNR 5.4  
Int time 279.451  
Amp 0.708  
Phase -45.5  
PFD 1.0e+00  
Delays (us)  
SBD 0.553025  
MBD 0.000004  
Fringe rate (Hz)  
0.931489  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-45.5  
0.7  
583.8  
U/L 586/0  
b 5000  
l 5000  
b:l 0:0  
b:l 0:0  
b 1000  
l 1000  
b W04UL  
l W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.37731231980E+03 | Apriori delay (usec)     | -3.37786534263E+03 | Resid mbdelay (usec) | 4.48786E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -3.37731231713E+03 | Apriori clock (usec)     | 2.7742417E+00      | Resid sbdelay (usec) | 5.53025E-01  | +/- | 3.2E-03 |
| Phase delay (usec)      | -3.37786534409E+03 | Apriori clockrate (us/s) | 3.5999998E-07      | Resid phdelay (usec) | -1.46703E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.10251716060E-01 | Apriori rate (us/s)      | -1.10262529722E-01 | Resid rate (us/s)    | 1.08137E-05  | +/- | 4.0E-09 |
| Total phase (deg)       | -266.4             | Apriori accel (us/s/s)   | 2.30261254274E-05  | Resid phase (deg)    | -45.5        | +/- | 21.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.5  | Theor.          | 182.1 | Amplitude      | 0.708 +/- 0.131 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 366.5 | Search (2048X8) | 0.465 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.477           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.693 | Inc. frq. avg. | 0.693           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

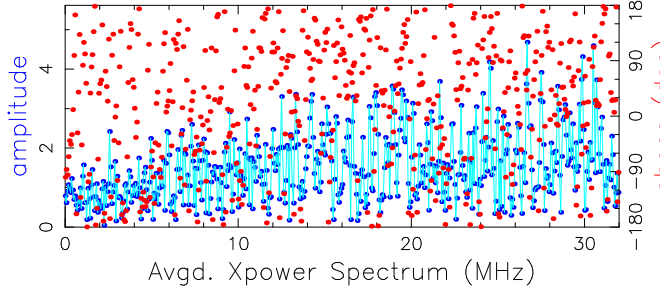
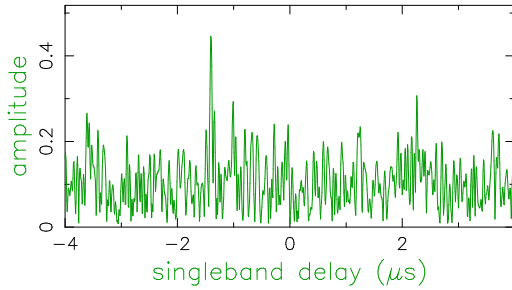
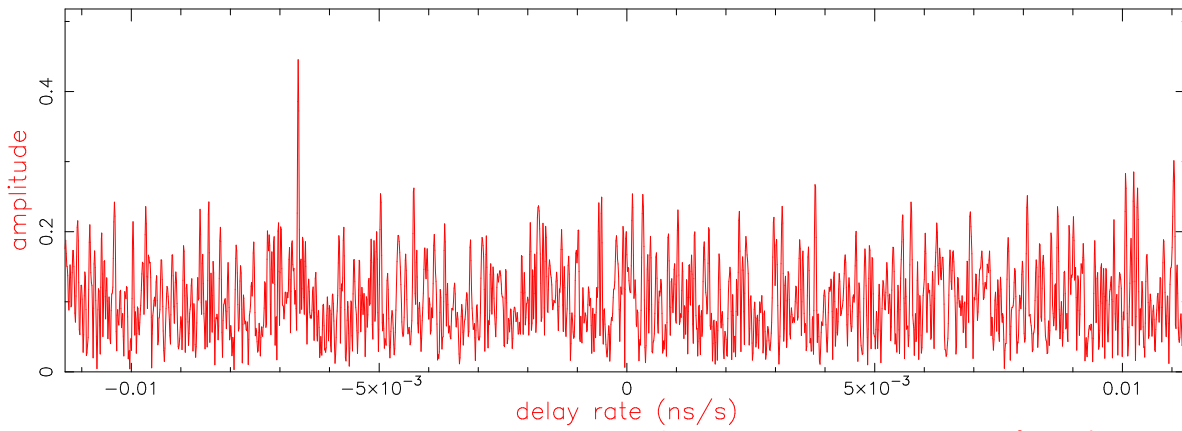
b: az 88.2 el 20.4 pa -44.0 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 687.431 1884.795 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bl.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bl.W.45.0QR2SH

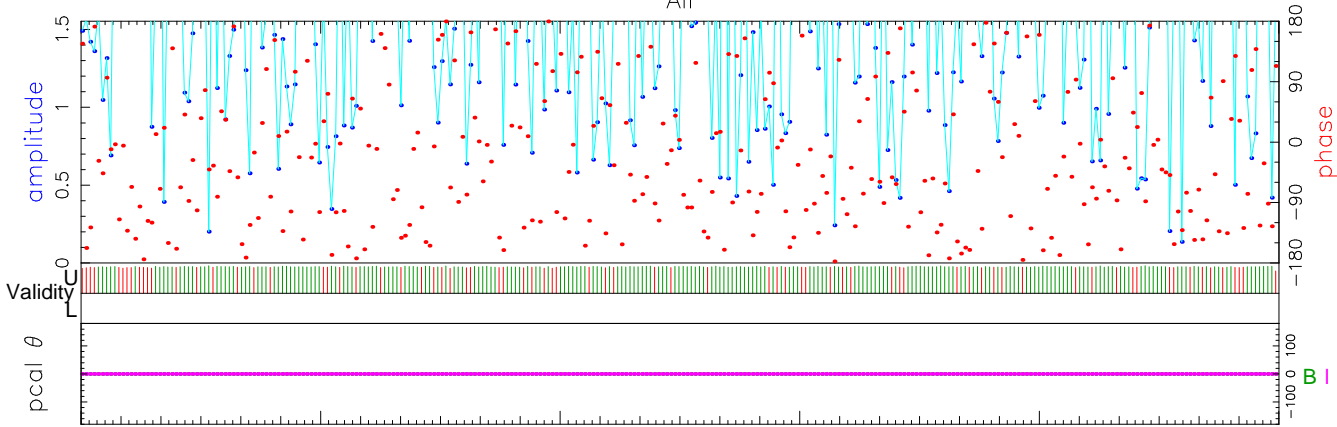
Fringe quality 0

SNR 5.2  
Int time 287.959  
Amp 0.518  
Phase -89.1  
PFD 1.0e+00  
Delays (us)  
SBD -1.403862  
MBD -0.000006  
Fringe rate (Hz)  
-0.571199  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-89.1  
0.5  
333.3  
U/L 586/0  
B 0  
I 5000  
B:I 0:0  
B:I 0:0  
B 1000  
I 1000  
B W04UL  
I W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.94057732431E+03  | Apriori delay (usec)     | 1.94198118487E+03  | Resid mbdelay (usec) | -6.37344E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 1.94057732237E+03  | Apriori clock (usec)     | 6.7087688E+00      | Resid sbdelay (usec) | -1.40386E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 1.94198118200E+03  | Apriori clockrate (us/s) | -6.7000001E-08     | Resid phdelay (usec) | -2.87429E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | -1.80649549213E+00 | Apriori rate (us/s)      | -1.80648886108E+00 | Resid rate (us/s)    | -6.63105E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | 6.2                | Apriori accel (us/s/s)   | -4.37919842612E-06 | Resid phase (deg)    | -89.1        | +/- | 22.0    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.1  | Theor.          | 188.7 | Amplitude       | 0.518 +/- 0.100 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 366.6 | Search (2048X8) | 0.446 | Search (2048X8) | 0.446           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.5   | Inc. seg. avg.  | 0.326 | Inc. seg. avg.  | 0.326           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       | Inc. frq. avg.  | 0.506 | Inc. frq. avg.  | 0.506           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |

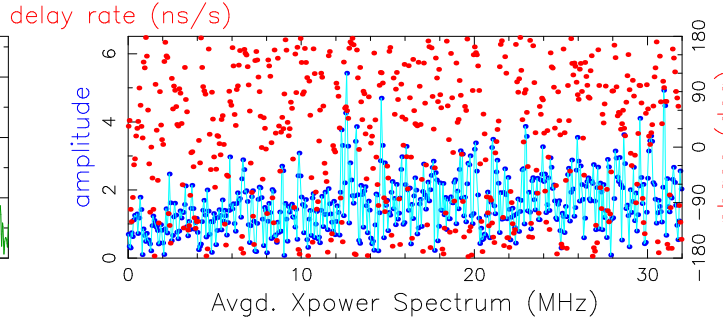
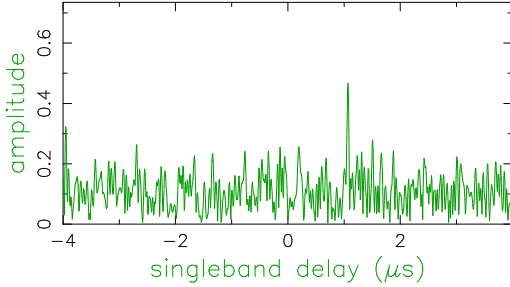
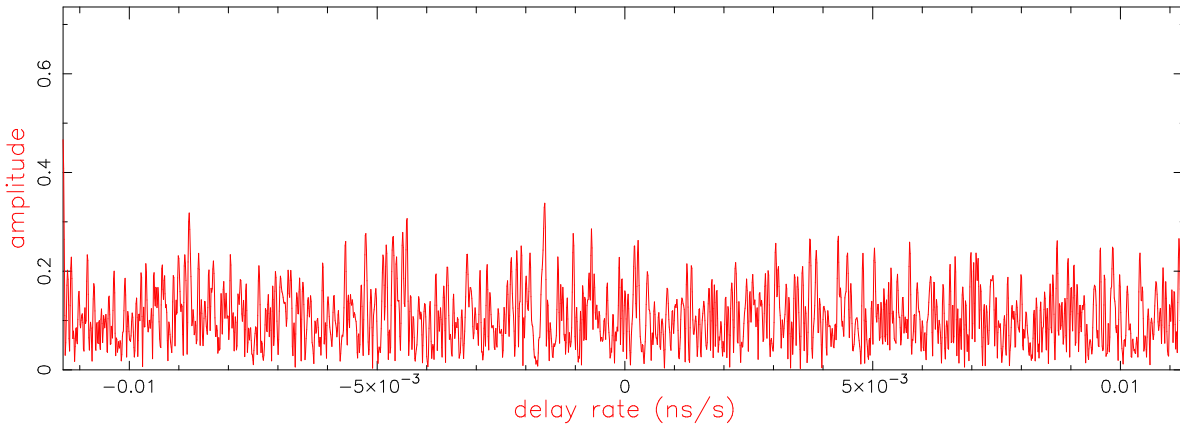
B: az 247.2 el 37.9 pa 37.6 I: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 10769.757 1440.857 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BI..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BI.W.61.0QR2SH

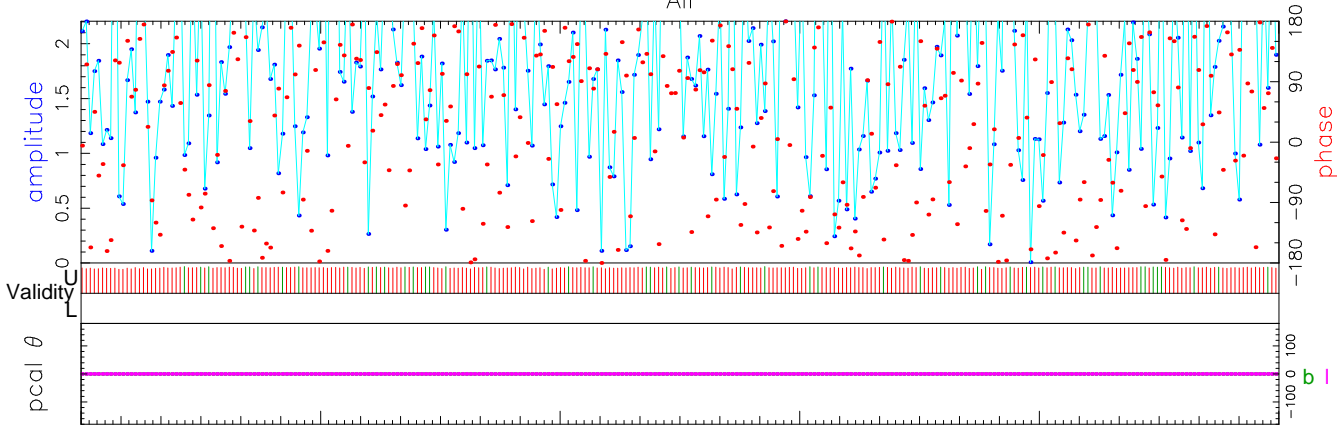
Fringe quality 0

SNR 5.4  
Int time 279.443  
Amp 0.735  
Phase 144.5  
PFD 1.0e+00  
Delays (us)  
SBD 1.068715  
MBD -0.000007  
Fringe rate (Hz)  
-0.976248  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
144.5  
0.7  
649.8  
U/L 586/0  
b 5000  
l 5000  
b:l 0:0  
b:l 0:0  
b 1000  
l 1000  
b W04UR  
l W04UL

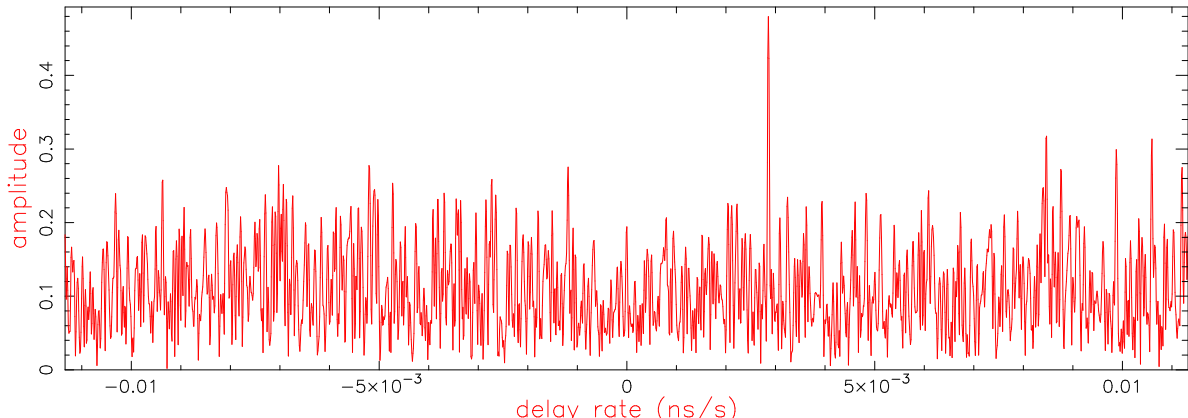
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.37679662390E+03 | Apriori delay (usec)     | -3.37786534263E+03 | Resid mbdelay (usec) | -6.60488E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -3.37679662713E+03 | Apriori clock (usec)     | 2.7742417E+00      | Resid sbdelay (usec) | 1.06872E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -3.37786533797E+03 | Apriori clockrate (us/s) | 3.5999998E-07      | Resid phdelay (usec) | 4.65873E-06  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.10273862994E-01 | Apriori rate (us/s)      | -1.10262529722E-01 | Resid rate (us/s)    | -1.13333E-05 | +/- | 4.0E-09 |
| Total phase (deg)       | -76.5              | Apriori accel (us/s/s)   | 2.30261254274E-05  | Resid phase (deg)    | 144.5        | +/- | 21.4    |

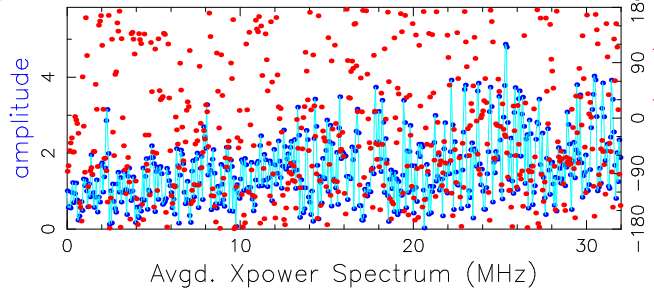
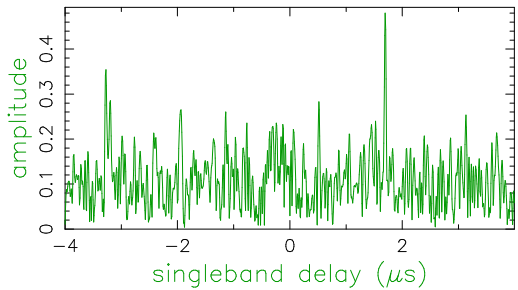
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.1  | Theor.          | 183.2 | Amplitude      | 0.735 +/- 0.137 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 372.8 | Search (2048X8) | 0.459 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.483 | Inc. frq. avg. | 0.720           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.720 |                |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 687.431 1884.795 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bl.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bl.W.64.0QR2SH



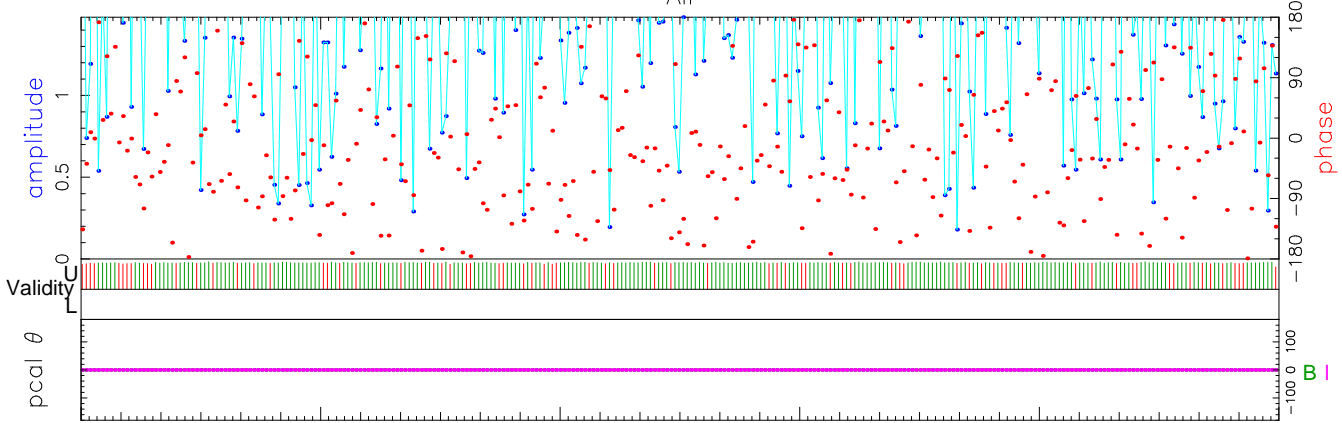
Fringe quality 0  
SNR 5.6  
Int time 287.952  
Amp 0.493  
Phase -30.7  
PFD 9.5e-01  
Delays (us)  
SBD 1.695935  
MBD 0.000005  
Fringe rate (Hz)  
0.245905  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-30.7  
0.5  
730.1  
U/L 586/0  
B 0  
I 5000  
B:I 0:0  
B:I 0:0  
B 1000  
I 1000  
B W04UR  
I W04UL

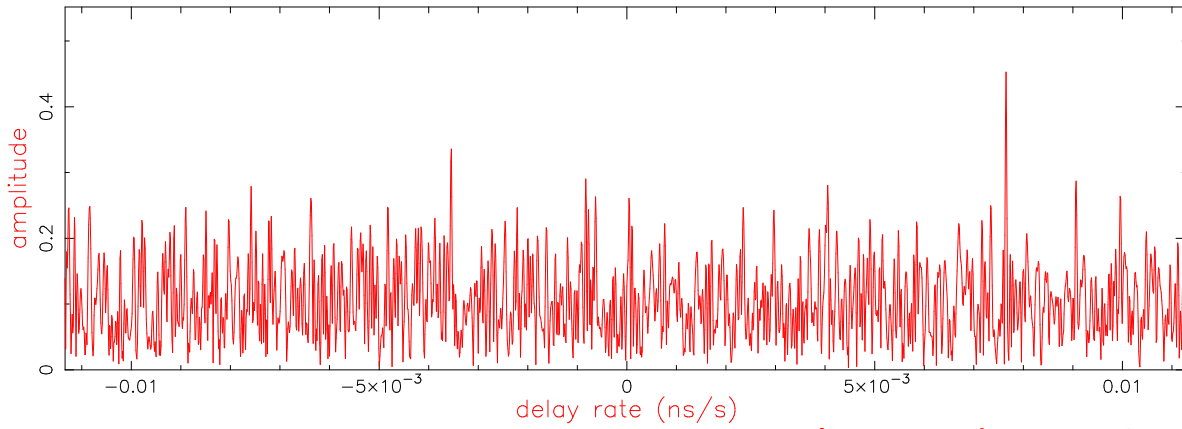
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.94367711470E+03  | Apriori delay (usec)     | 1.94198118487E+03  | Resid mbdelay (usec) | 4.59550E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | 1.94367712037E+03  | Apriori clock (usec)     | 6.7087688E+00      | Resid sbdelay (usec) | 1.69594E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | 1.94198118388E+03  | Apriori clockrate (us/s) | -6.7000001E-08     | Resid phdelay (usec) | -9.89654E-07 | +/- | 6.6E-07 |
| Delay rate (us/s)       | -1.80648600636E+00 | Apriori rate (us/s)      | -1.80648886108E+00 | Resid rate (us/s)    | 2.85472E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | 64.6               | Apriori accel (us/s/s)   | -4.37919842612E-06 | Resid phase (deg)    | -30.7        | +/- | 20.6    |

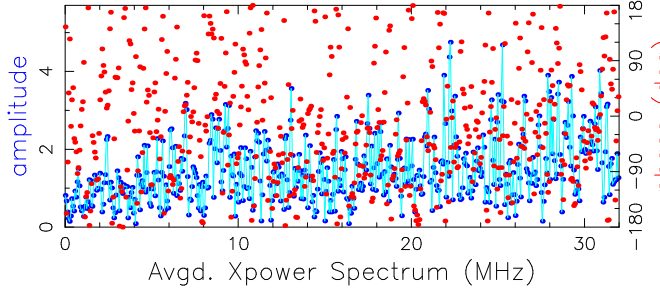
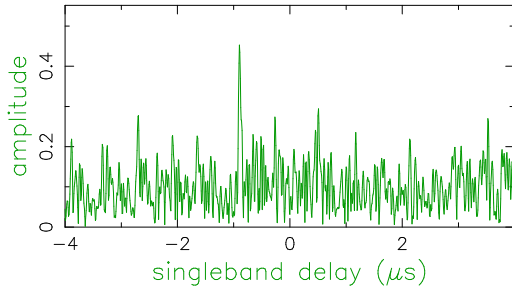
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.6  | Theor.          | 176.1 | Amplitude      | 0.493 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 346.7 | Search (2048X8) | 0.479 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.331 | Inc. seg. avg. | 0.331           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.485 | Inc. frq. avg. | 0.485           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

B: az 247.2 el 37.9 pa 37.6 I: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 10769.757 1440.857 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BI..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BI.W.80.0QR2SH

Fringe quality 0

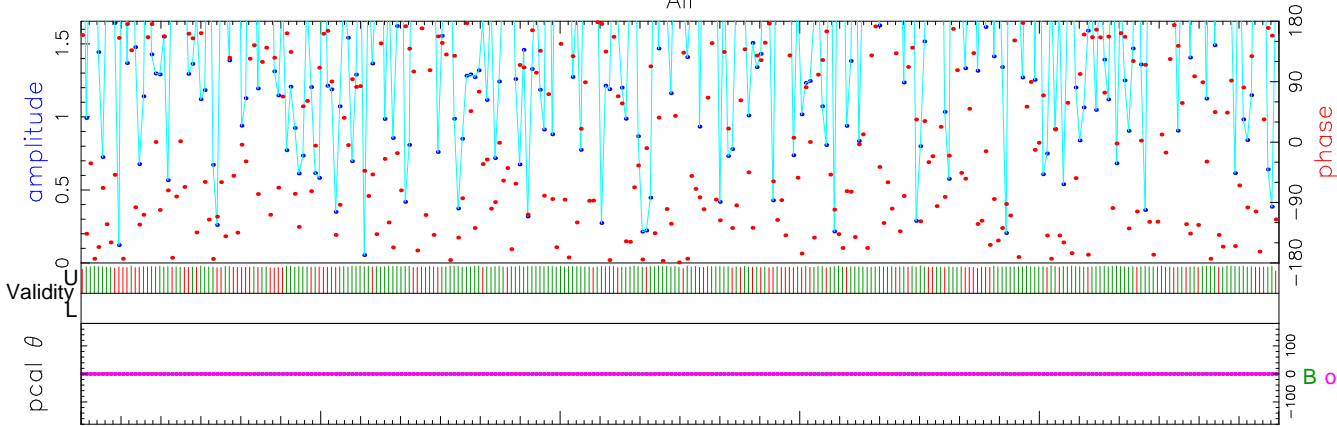


SNR 5.3  
 Int time 287.774  
 Amp 0.552  
 Phase -157.4  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.896811  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.659087  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171807  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
 pcal θ  
 86140.00  
 -157.4  
 0.6  
 398.2  
 U/L 586/0  
 B 0  
 o 5000  
 B:o 0:0  
 B:o 0:0  
 B 1000  
 o 1000  
 B W04UR  
 o W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp

Chan ids  
 Chan ids

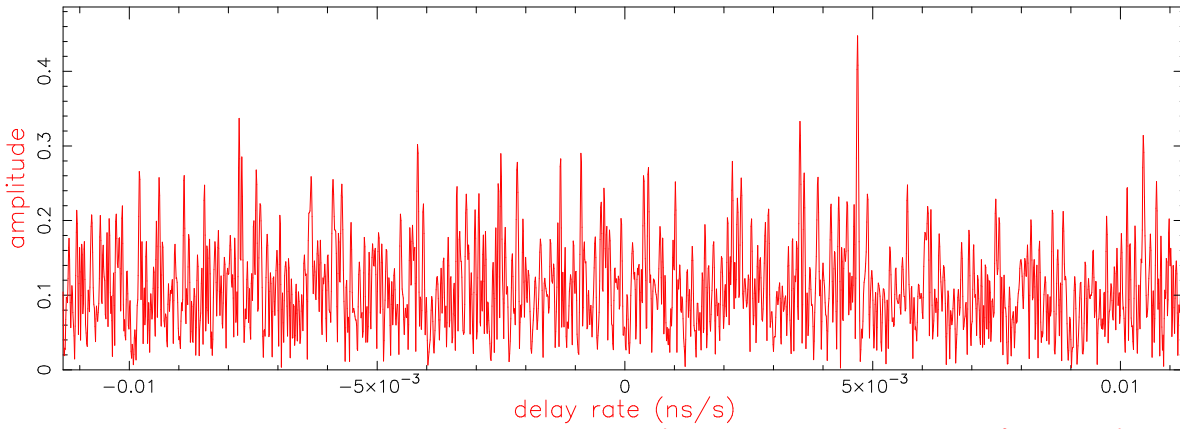
|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 5.13259729666E+03  | Apriori delay (usec)     | 5.13349411094E+03  | Resid mbdelay (usec) | 4.85721E-06  | +/- 3.3E-03 |
| Sband delay (usec)      | 5.13259729994E+03  | Apriori clock (usec)     | -9.4252892E+00     | Resid sbdelay (usec) | -8.96811E-01 | +/- 3.3E-03 |
| Phase delay (usec)      | 5.13349410586E+03  | Apriori clockrate (us/s) | -6.6355997E-07     | Resid phdelay (usec) | -5.07602E-06 | +/- 7.0E-07 |
| Delay rate (us/s)       | -1.87532692347E+00 | Apriori rate (us/s)      | -1.87533457482E+00 | Resid rate (us/s)    | 7.65135E-06  | +/- 4.1E-09 |
| Total phase (deg)       | 100.4              | Apriori accel (us/s/s)   | -2.2077777399E-05  | Resid phase (deg)    | -157.4       | +/- 21.8    |

|              |          |              |                           |                       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 87.9 | Theor. 186.2 | Amplitude 0.552 +/- 0.105 | Search (2048X8) 0.452 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 361.5    | 325.1        | Interp. 0.000             | 0.000                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 10.9         | Inc. seg. avg. 0.348      | 0.540                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.3      | 19.0         | Inc. frq. avg. 0.540      | 0.540                 | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

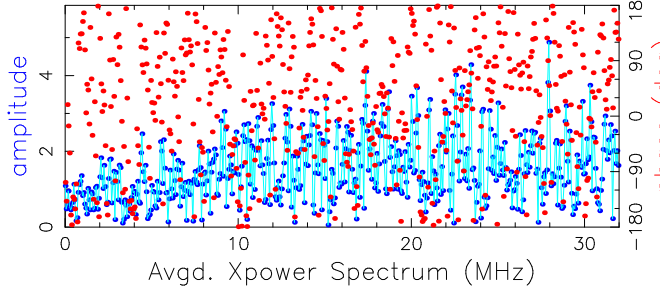
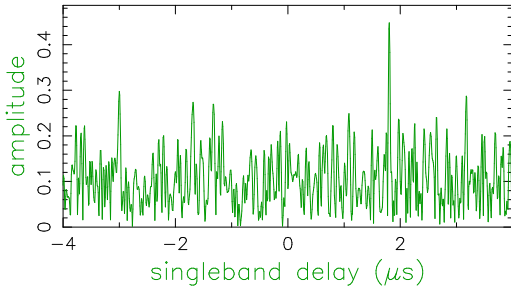
B: az 247.2 el 37.9 pa 37.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 11157.947 860.633 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bo.W.19.0QR2SH

Fringe quality 0



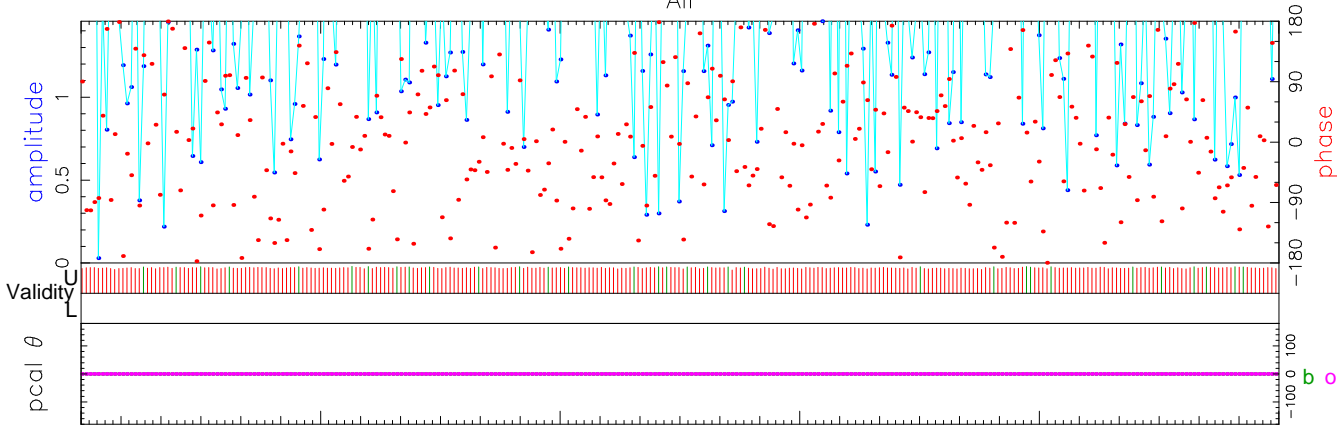
SNR 5.2  
Int time 277.360  
Amp 0.486  
Phase -0.9  
PFD 1.0e+00  
Delays (us)  
SBD 1.802000  
MBD 0.000005  
Fringe rate (Hz)  
0.404193  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-0.9  
0.5  
743.7  
U/L 586/0  
b 5000  
o 5000  
b:o 0:0  
b:o 0:0  
b 1000  
o 1000  
b W04UL  
o W04UL

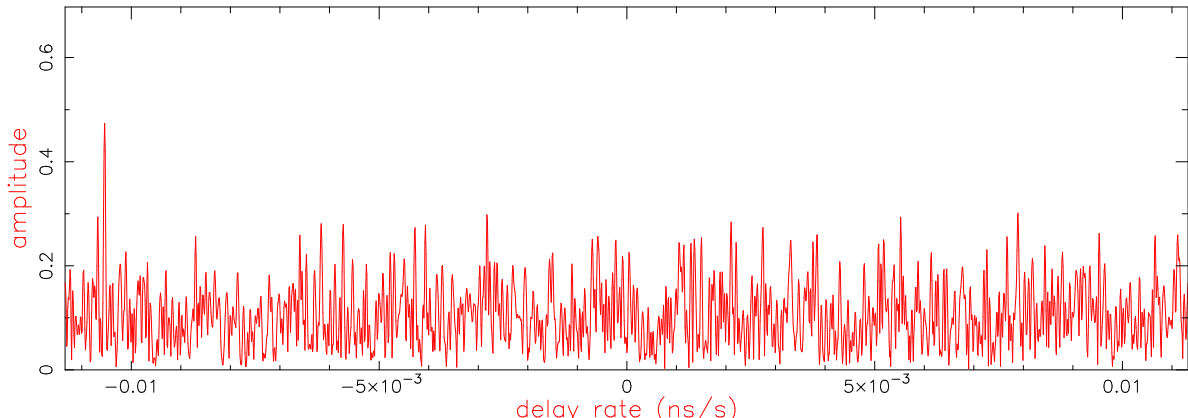
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.84550414861E+02 | Apriori delay (usec)     | -1.86352416560E+02 | Resid mbdelay (usec) | 4.94915E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -1.84550416560E+02 | Apriori clock (usec)     | -1.3359817E+01     | Resid sbdelay (usec) | 1.80200E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | -1.86352416588E+02 | Apriori clockrate (us/s) | -2.3655998E-07     | Resid phdelay (usec) | -2.79983E-08 | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.79103551179E-01 | Apriori rate (us/s)      | -1.79108243462E-01 | Resid rate (us/s)    | 4.69228E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | -59.4              | Apriori accel (us/s/s)   | 5.32754611354E-06  | Resid phase (deg)    | -0.9         | +/- | 22.2    |

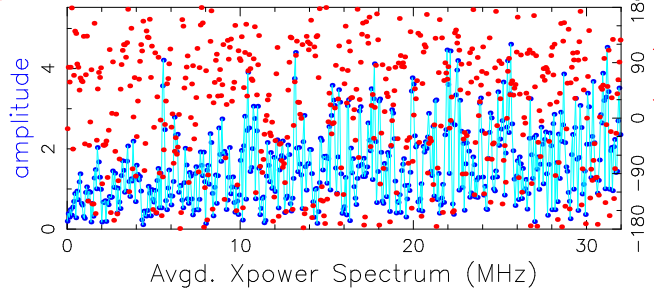
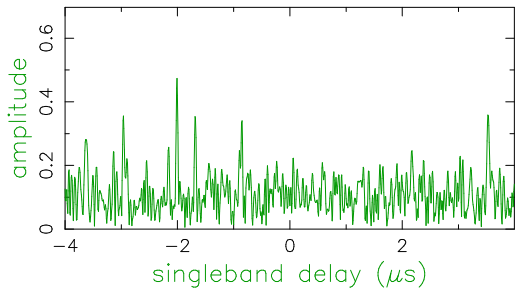
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.7  | Theor.          | 190.3 | Amplitude      | 0.486 +/- 0.094 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 369.0 | Search (2048X8) | 0.447 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.307           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.472 | Inc. frq. avg. | 0.472           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 1075.621 1304.570 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bo.W.26.0QR2SH

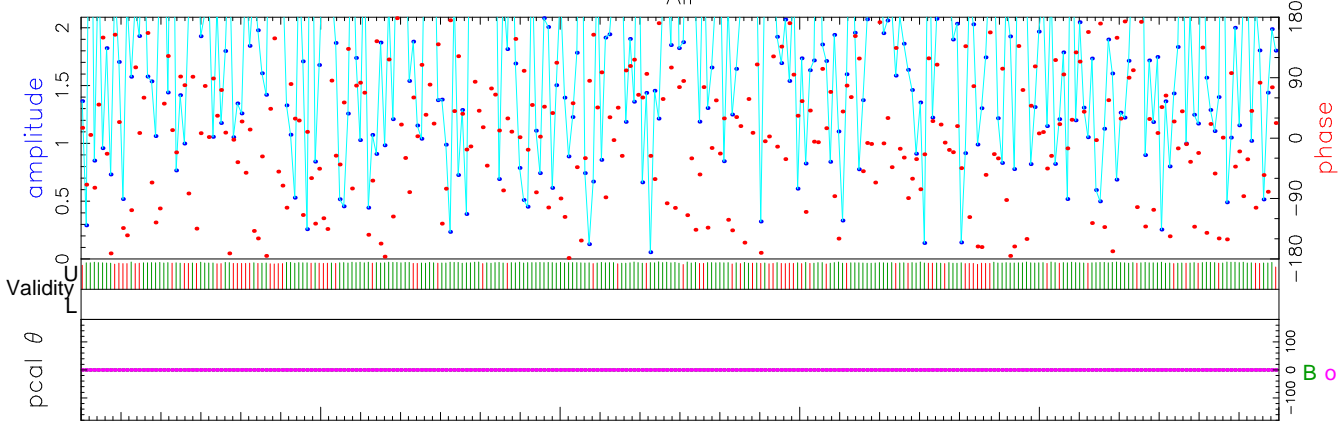


Fringe quality 0  
SNR 5.5  
Int time 287.774  
Amp 0.697  
Phase 16.9  
PFD 9.9e-01  
Delays (us)  
SBD -2.008862  
MBD -0.000005  
Fringe rate (Hz)  
-0.907800  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
16.9  
0.7  
255.9  
U/L 586/0  
B 0  
o 5000  
B:o 0:0  
B:o 0:0  
B 1000  
o 1000  
B W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.13148524841E+03  | Apriori delay (usec)     | 5.13349411094E+03  | Resid mbdelay (usec) | -4.84774E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 5.13148524944E+03  | Apriori clock (usec)     | -9.4252892E+00     | Resid sbdelay (usec) | -2.00886E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 5.13349411148E+03  | Apriori clockrate (us/s) | -6.6355997E-07     | Resid phdelay (usec) | 5.45575E-07  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.87534511348E+00 | Apriori rate (us/s)      | -1.87533457482E+00 | Resid rate (us/s)    | -1.05387E-05 | +/- | 3.9E-09 |
| Total phase (deg)       | 274.7              | Apriori accel (us/s/s)   | -2.20777777399E-05 | Resid phase (deg)    | 16.9         | +/- | 20.8    |

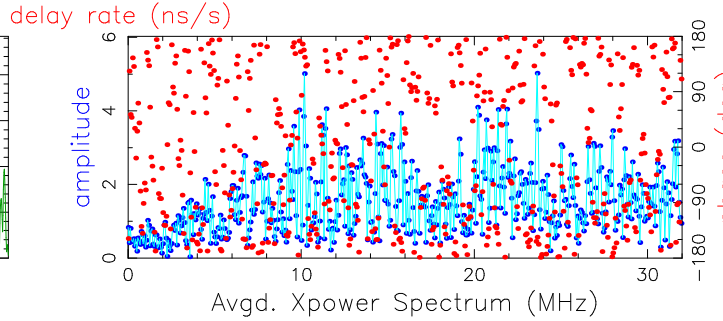
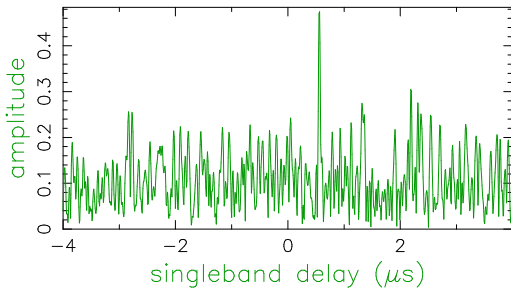
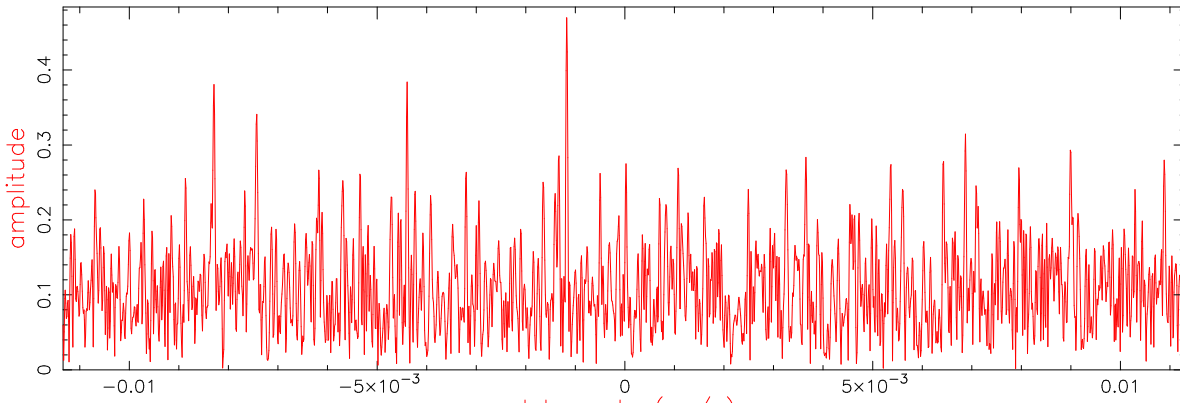
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.4  | Theor.          | 178.2 | Amplitude      | 0.697 +/- 0.127 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 358.6 | Search (2048X8) | 0.473 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.468           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.685 | Inc. frq. avg. | 0.685           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 11157.947 860.633 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bo.W.30.0QR2SH

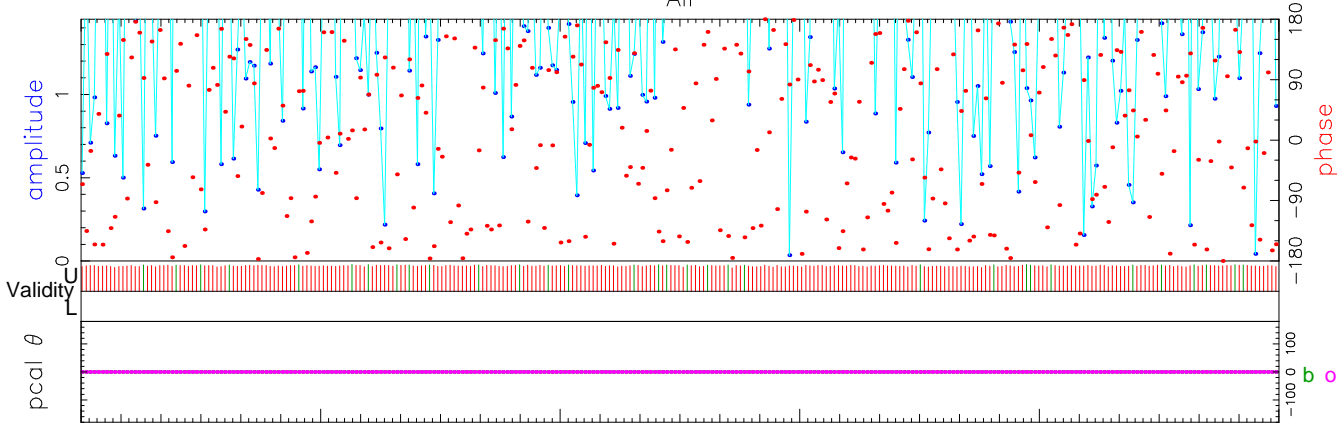
Fringe quality 0

SNR 5.5  
Int time 277.362  
Amp 0.484  
Phase 164.6  
PFD 9.9e-01  
Delays (us)  
SBD 0.559027  
MBD -0.000007  
Fringe rate (Hz)  
-0.101503  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
164.6  
0.5  
584.6  
U/L 586/0  
b 5000  
o 5000  
b:o 0:0  
b:o 0:0  
b 1000  
o 1000  
b W04UR  
o W04UR

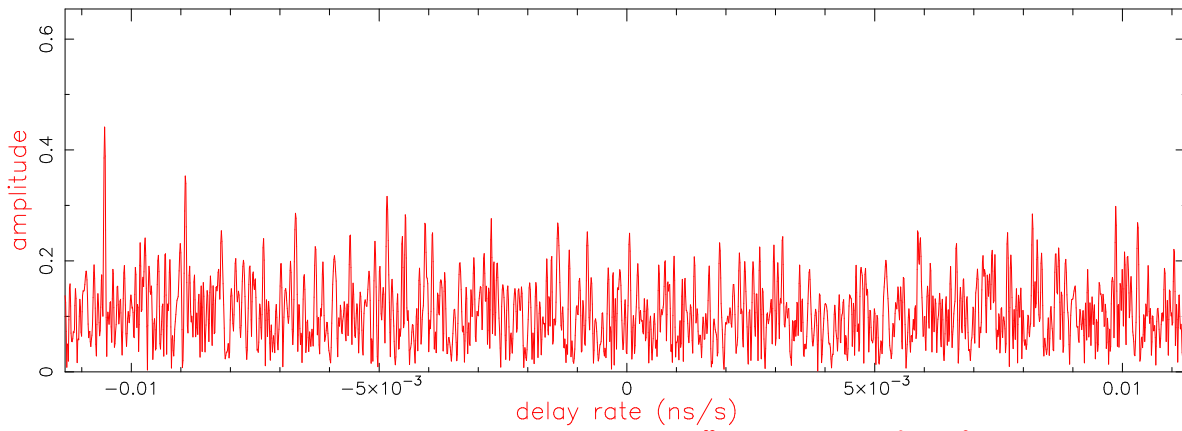
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.85793391905E+02 | Apriori delay (usec)     | -1.86352416560E+02 | Resid mbdelay (usec) | -7.15342E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.85793389060E+02 | Apriori clock (usec)     | -1.3359817E+01     | Resid sbdelay (usec) | 5.59027E-01  | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.86352411253E+02 | Apriori clockrate (us/s) | -2.3655998E-07     | Resid phdelay (usec) | 5.30723E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.79109421807E-01 | Apriori rate (us/s)      | -1.79108243462E-01 | Resid rate (us/s)    | -1.17834E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 106.1              | Apriori accel (us/s/s)   | 5.32754611354E-06  | Resid phase (deg)    | 164.6        | +/- | 20.9    |

|              |          |              |                           |  |                             |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 92.1 | Theor. 178.7 | Amplitude 0.484 +/- 0.088 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                               |
| amp/seg (%)  | 363.1    | 311.9        | Search (2048X8) 0.464     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                               |
| ph/frq (deg) | 0.0      | 10.4         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 2.5      | 18.2         | Inc. seg. avg. 0.327      | Sample rate(MSamp/s): 64               | ion window (TEC) 0.00 0.00  | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.464      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite             |

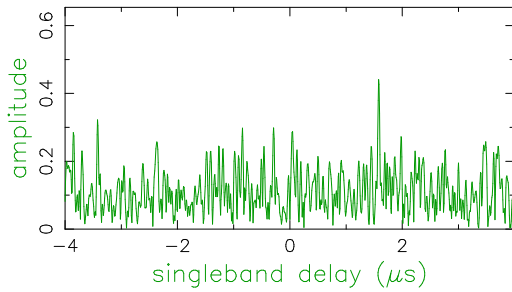
b: az 88.2 el 20.4 pa -44.0 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 1075.621 1304.570 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bo.W.35.0QR2SH



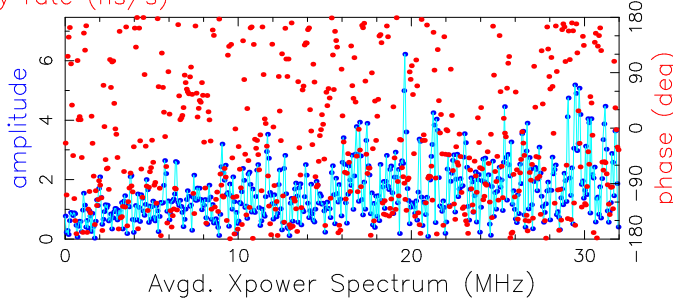


Fringe quality 0

SNR 5.2  
Int time 287.771  
Amp 0.654  
Phase 3.7  
PFD 1.0e+00  
Delays (us)  
SBD 1.580635  
MBD -0.000006  
Fringe rate (Hz)  
-0.907899  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



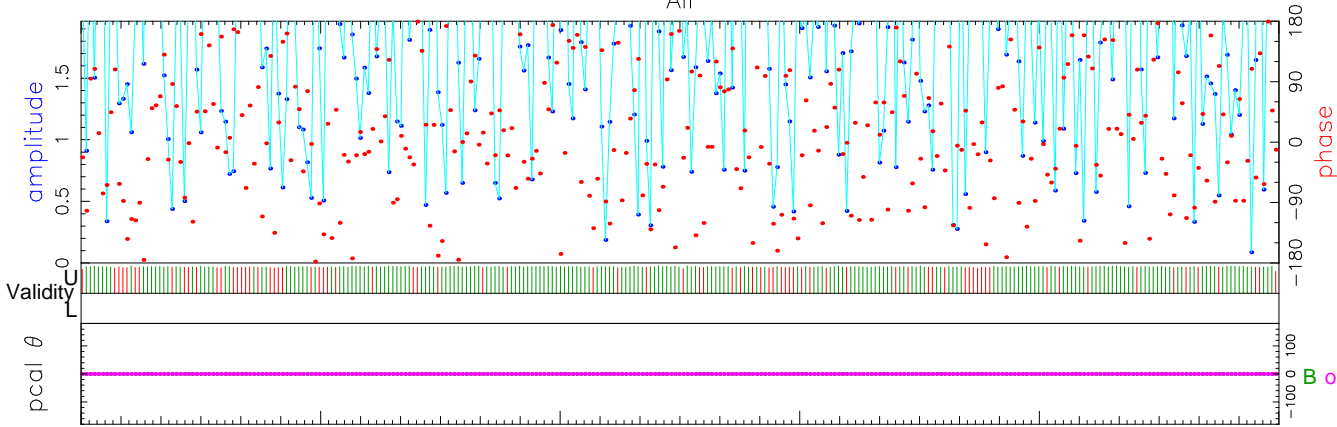
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
3.7  
0.6  
715.3  
U/L 586/0  
B 0  
o 5000  
B:o 0:0  
B:o 0:0  
B 1000  
o 1000  
B W04UR  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.13507474095E+03  | Apriori delay (usec)     | 5.13349411094E+03  | Resid mbdelay (usec) | -6.16243E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 5.13507474594E+03  | Apriori clock (usec)     | -9.4252892E+00     | Resid sbdelay (usec) | 1.58063E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | 5.13349411106E+03  | Apriori clockrate (us/s) | -6.6355997E-07     | Resid phdelay (usec) | 1.19521E-07  | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.87534511463E+00 | Apriori rate (us/s)      | -1.87533457482E+00 | Resid rate (us/s)    | -1.05398E-05 | +/- | 4.1E-09 |
| Total phase (deg)       | 261.5              | Apriori accel (us/s/s)   | -2.20777777399E-05 | Resid phase (deg)    | 3.7          | +/- | 22.2    |

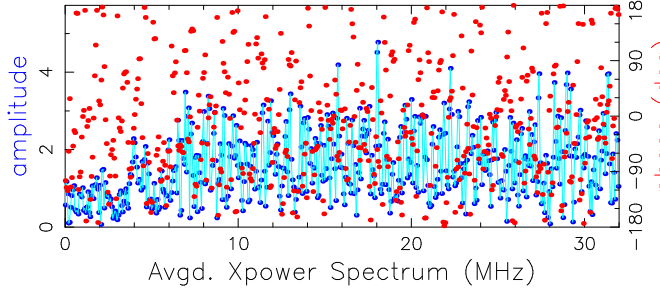
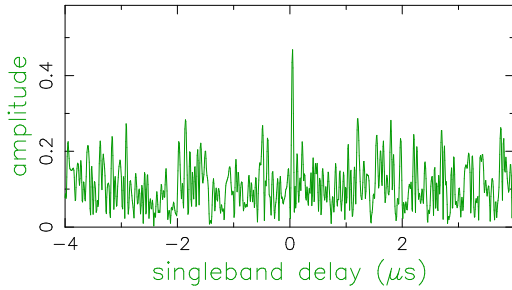
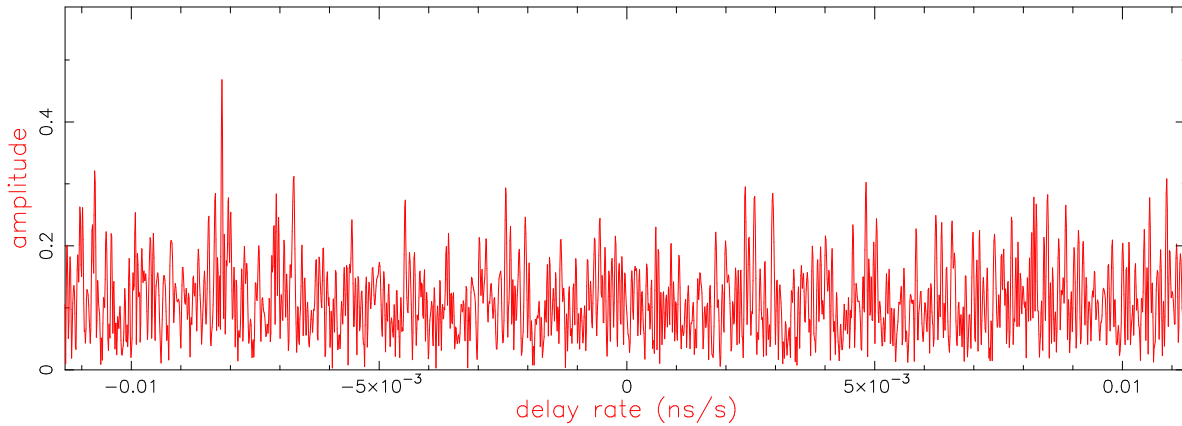
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.2  | Theor.          | 189.9 | Amplitude      | 0.654 +/- 0.127 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 406.7 | Search (2048X8) | 0.441 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.446           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.636 | Inc. frq. avg. | 0.636           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 11157.947 860.633 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bo.W.49.0QR2SH

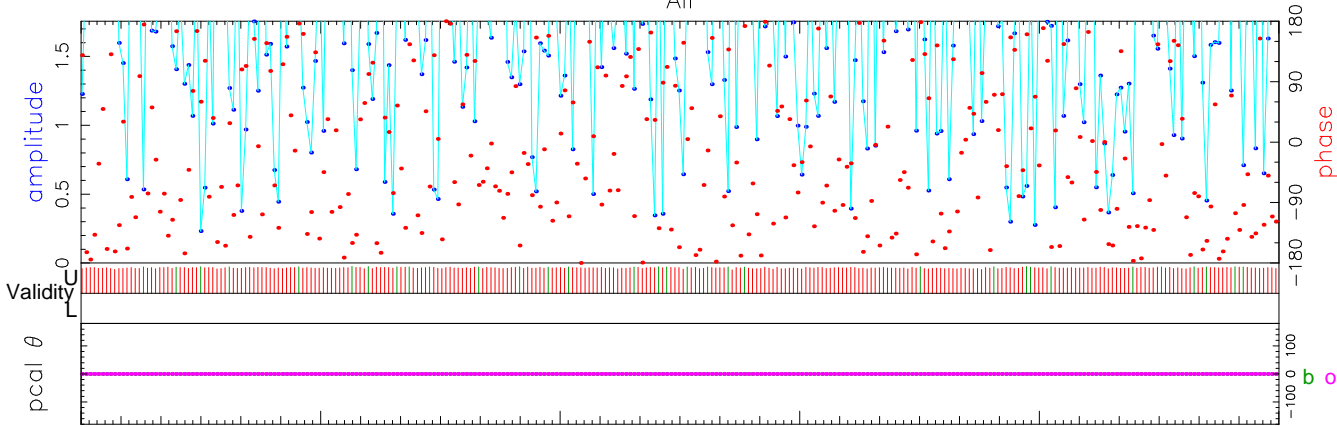
Fringe quality 0

SNR 5.3  
Int time 277.361  
Amp 0.585  
Phase -122.0  
PFD 1.0e+00  
Delays (us)  
SBD 0.046303  
MBD -0.000005  
Fringe rate (Hz)  
-0.703717  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-122.0  
0.6  
518.9  
U/L 586/0  
b 5000  
o 5000  
b:o 0:0  
b:o 0:0  
b 1000  
o 1000  
b W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.86306113531E+02 | Apriori delay (usec)     | -1.86352416560E+02 | Resid mbdelay (usec) | -5.30597E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.86306113560E+02 | Apriori clock (usec)     | -1.3359817E+01     | Resid sbdelay (usec) | 4.63030E-02  | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.86352420495E+02 | Apriori clockrate (us/s) | -2.3655998E-07     | Resid phdelay (usec) | -3.93480E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.79116412919E-01 | Apriori rate (us/s)      | -1.79108243462E-01 | Resid rate (us/s)    | -8.16946E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -180.5             | Apriori accel (us/s/s)   | 5.32754611354E-06  | Resid phase (deg)    | -122.0       | +/- | 21.5    |

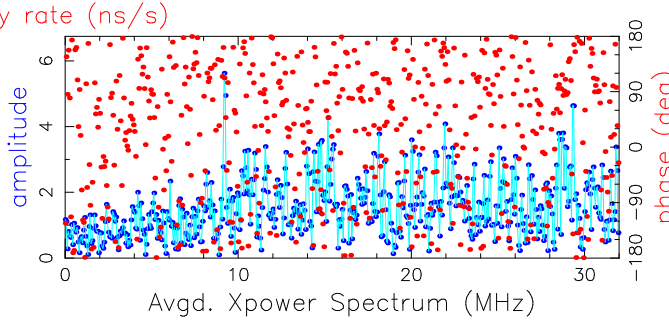
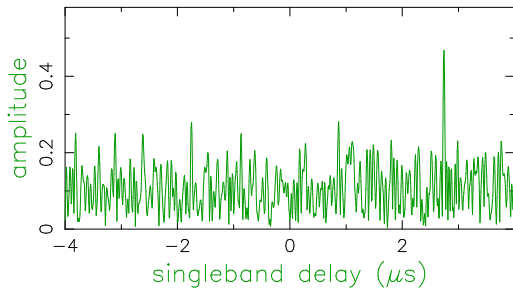
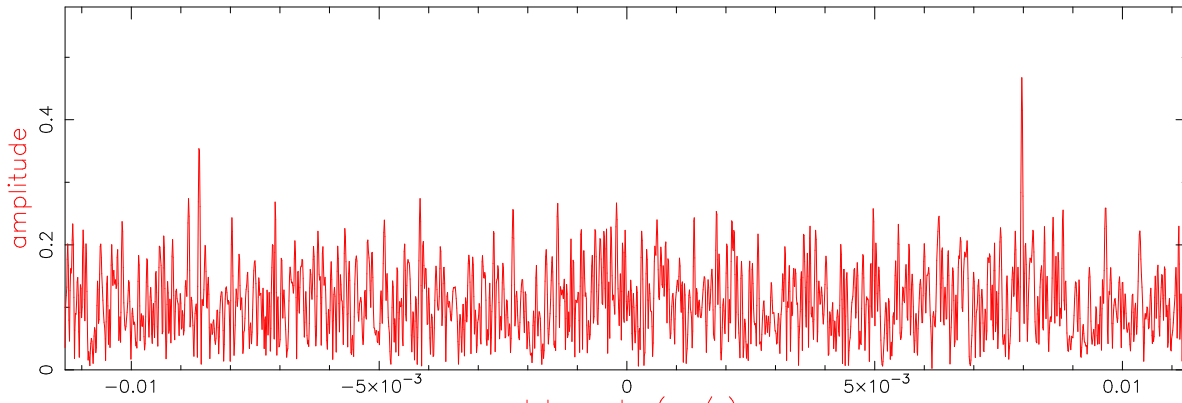
|              |       |                 |       |                |                 |                        |                             |                  |              |                           |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|---------------------------|--------------|
| ph/seg (deg) | 92.7  | Theor.          | 184.0 | Amplitude      | 0.585 +/- 0.110 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                           |              |
| amp/seg (%)  | 381.8 | Search (2048X8) | 0.467 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                           |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.394           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us)            | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.575 | Inc. frq. avg. | 0.575           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                           |              |
|              |       |                 |       |                |                 | Data rate (Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                           |              |
|              |       |                 |       |                |                 | nlags:                 | 512                         | t_cohere         | infinite     | simultaneous interpolator |              |

b: az 88.2 el 20.4 pa -44.0 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 1075.621 1304.570  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bo.W.57.0QR2SH

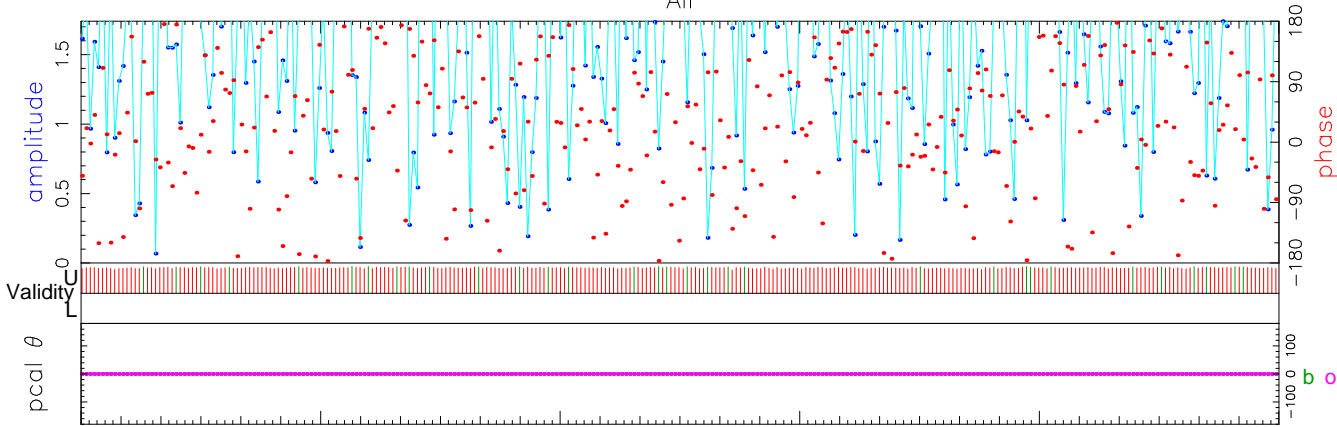
Fringe quality 0

SNR 5.3  
Int time 277.360  
Amp 0.580  
Phase 54.4  
PFD 1.0e+00  
Delays (us)  
SBD 2.740571  
MBD 0.000007  
Fringe rate (Hz)  
0.686904  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



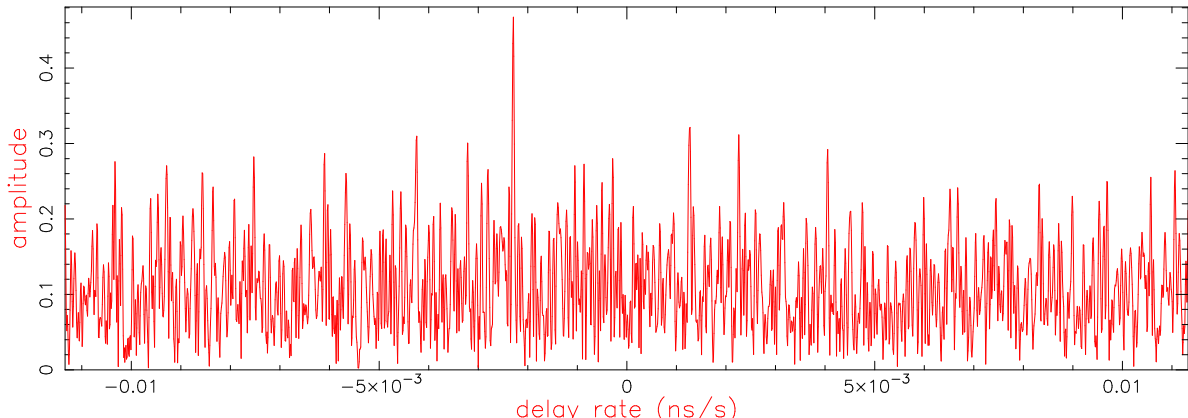
86140.00  
54.4  
0.6  
863.8  
U/L 586/0  
b 5000  
o 5000  
b:o 0:0  
b:o 0:0  
b 1000  
o 1000  
b W04UR  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

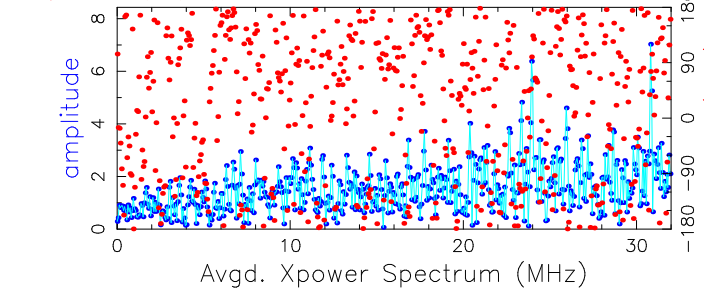
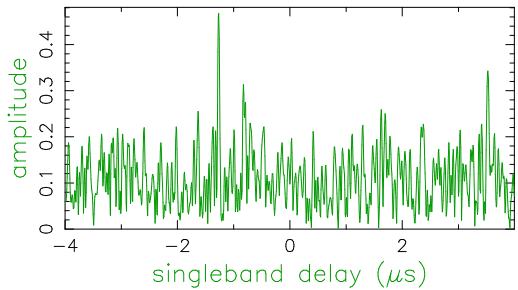
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -1.83611847679E+02 | Apriori delay (usec)     | -1.86352416560E+02 | Resid mbdelay (usec) | 7.00492E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.83611846060E+02 | Apriori clock (usec)     | -1.3359817E+01     | Resid sbdelay (usec) | 2.74057E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.86352414805E+02 | Apriori clockrate (us/s) | -2.3655998E-07     | Resid phdelay (usec) | 1.75514E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.79100269192E-01 | Apriori rate (us/s)      | -1.79108243462E-01 | Resid rate (us/s)    | 7.97427E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -4.1               | Apriori accel (us/s/s)   | 5.32754611354E-06  | Resid phase (deg)    | 54.4        | +/- | 21.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.4  | Theor.          | 183.5 | Amplitude      | 0.580 +/- 0.109 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 364.5 | Search (2048X8) | 0.463 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.376           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.568 | Inc. frq. avg. | 0.568           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 1075.621 1304.570 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bo.W.70.0QR2SH



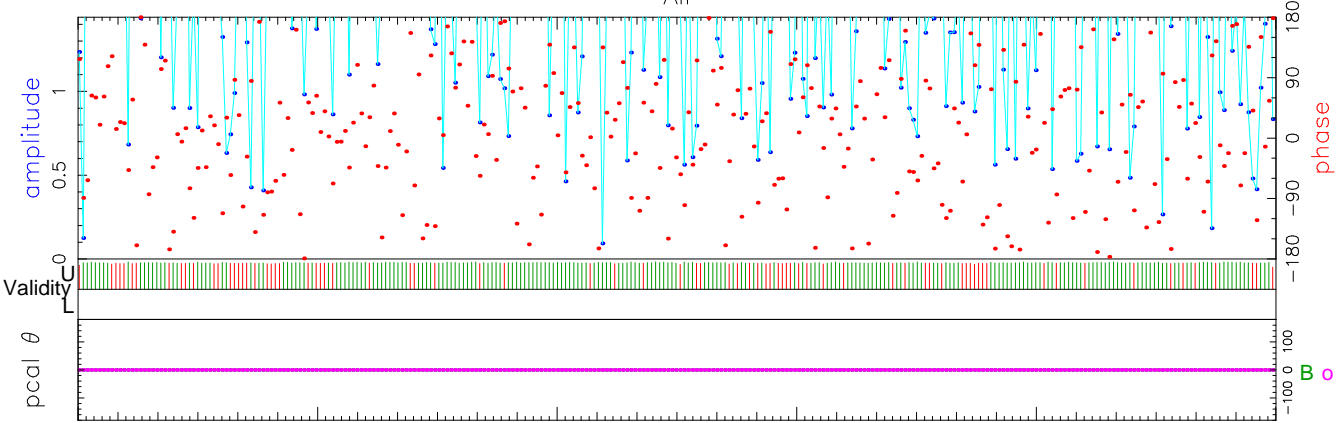
Fringe quality 0  
SNR 5.5  
Int time 287.771  
Amp 0.481  
Phase 14.2  
PFD 9.9e-01  
Delays (us)  
SBD -1.268741  
MBD -0.000007  
Fringe rate (Hz)  
-0.197213  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
14.2  
0.5  
350.6  
U/L 586/0  
B 0  
o 5000  
B:o 0:0  
B:o 0:0  
B 1000  
o 1000  
B W04UL  
o W04UL

86140.00  
14.2  
0.5  
350.6  
U/L 586/0  
B 0  
o 5000  
B:o 0:0  
B:o 0:0  
B 1000  
o 1000  
B W04UL  
o W04UL

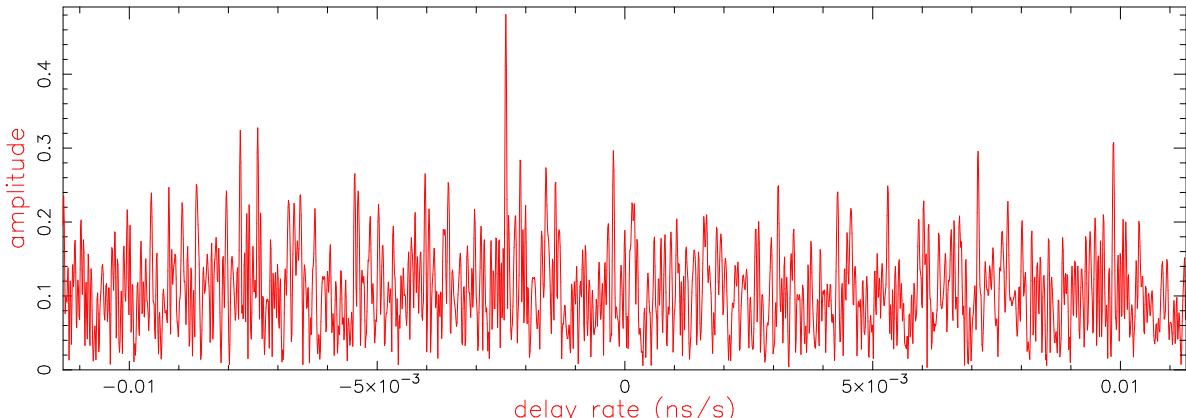
86140.00  
14.2  
0.5  
350.6  
U/L 586/0  
B 0  
o 5000  
B:o 0:0  
B:o 0:0  
B 1000  
o 1000  
B W04UL  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

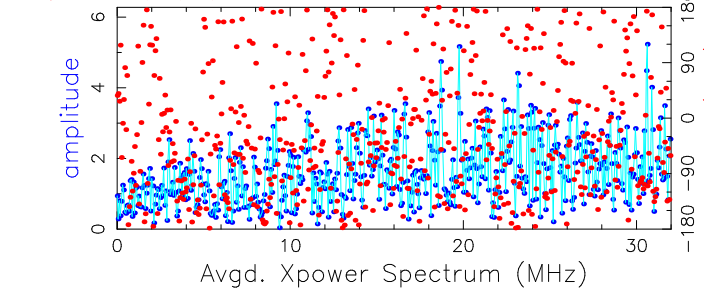
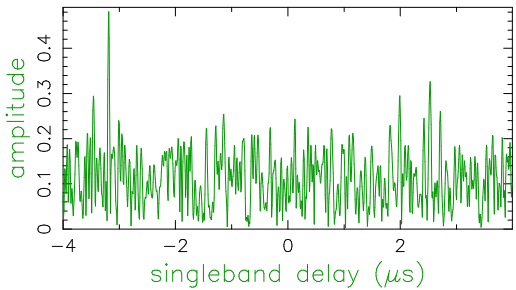
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.13222536715E+03  | Apriori delay (usec)     | 5.13349411094E+03  | Resid mbdelay (usec) | -6.84699E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 5.13222536944E+03  | Apriori clock (usec)     | -9.4252892E+00     | Resid sbdelay (usec) | -1.26874E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 5.13349411140E+03  | Apriori clockrate (us/s) | -6.6355997E-07     | Resid phdelay (usec) | 4.59286E-07  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.87533686426E+00 | Apriori rate (us/s)      | -1.87533457482E+00 | Resid rate (us/s)    | -2.28944E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 272.0              | Apriori accel (us/s/s)   | -2.20777777399E-05 | Resid phase (deg)    | 14.2         | +/- | 20.9    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 91.7  | Theor.          | 178.8 | Amplitude       | 0.481 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 376.7 | Search (2048X8) | 0.467 | Search (2048X8) | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.337 | Inc. seg. avg.  | 0.337           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.468 | Inc. frq. avg.  | 0.468           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                 |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |
|              |       |                 |       |                 |                 | nlags:                | 512                         | t_cohere         | infinite     |

B: az 247.2 el 37.9 pa 37.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 11157.947 860.633 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bo.W.8.0QR2SH



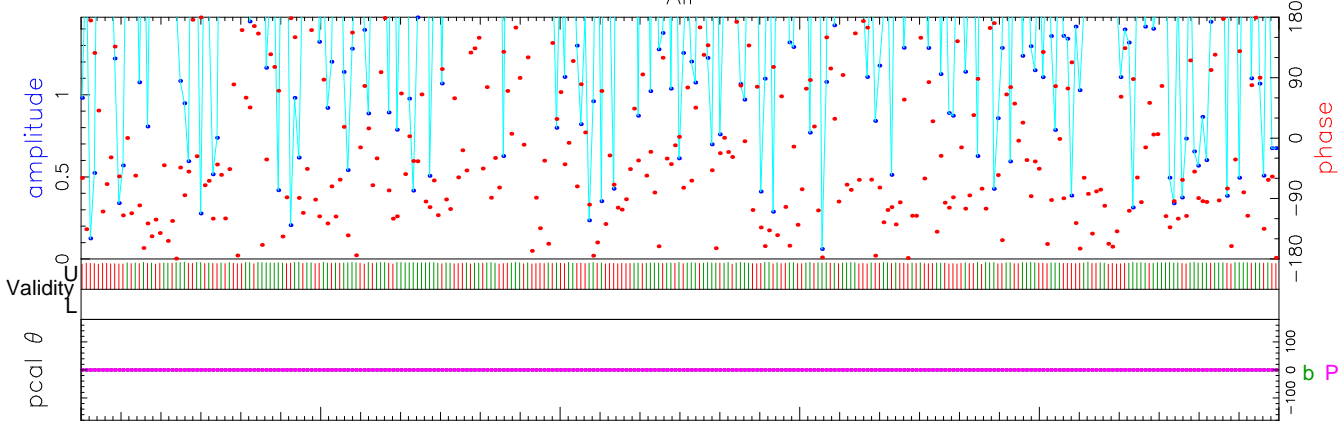
Fringe quality 0  
SNR 5.6  
Int time 285.544  
Amp 0.491  
Phase -93.5  
PFD 9.6e-01  
Delays (us)  
SBD -3.188614  
MBD -0.000006  
Fringe rate (Hz)  
-0.207302  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



Validity  
pca1 θ  
b P  
86140.00  
-93.5  
0.5  
104.9  
U/L 586/0  
b 5000  
P 0  
b:P 0:0  
b:P 0:0  
b 1000  
P 1000  
b W04UL  
p W04UL

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.49126220352E+03 | Apriori delay (usec)     | -4.88807358558E+03 | Resid mbdelay (usec) | -6.37557E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.49126219958E+03 | Apriori clock (usec)     | 1.6043346E+01      | Resid sbdelay (usec) | -3.18861E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.48807358859E+03 | Apriori clockrate (us/s) | 6.8000000E-07      | Resid phdelay (usec) | -3.01662E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.73066331497E+00  | Apriori rate (us/s)      | 1.73066572155E+00  | Resid rate (us/s)    | -2.40657E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -331.8             | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | -93.5        | +/- | 20.6    |

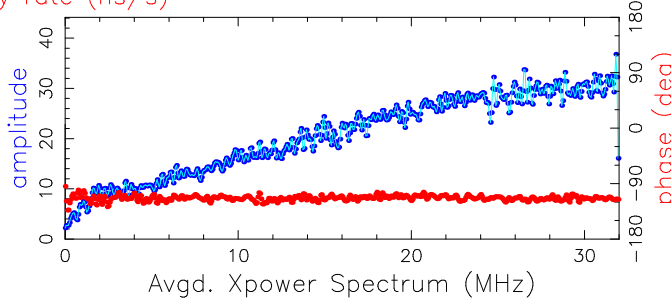
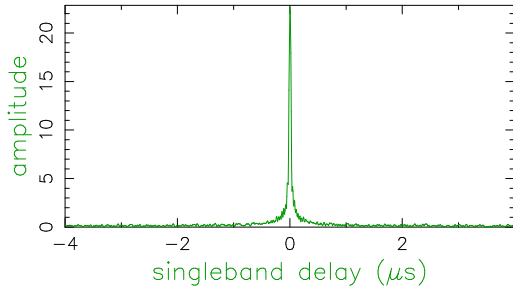
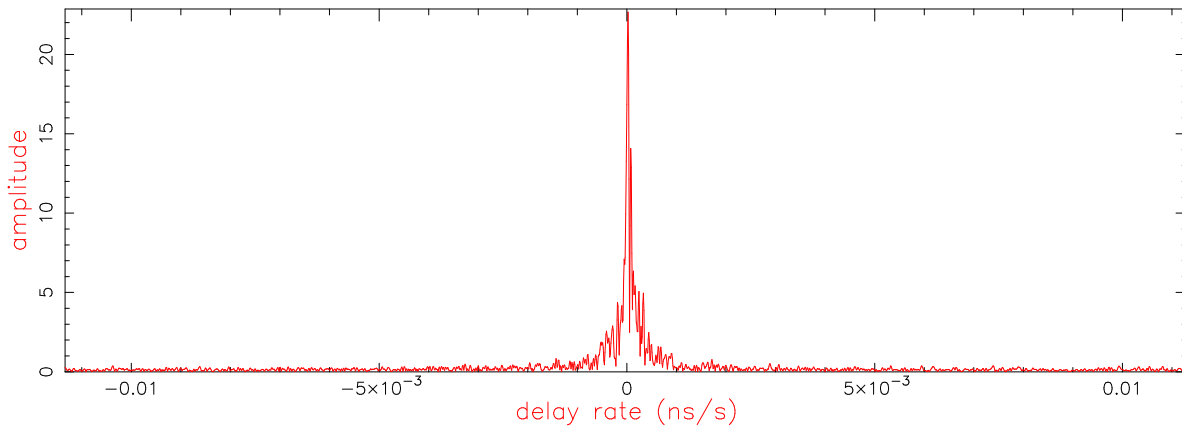
|              |          |              |                           |  |                             |                              |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|------------------------------|-------------------------------|
| ph/seg (deg) | RMS 91.5 | Theor. 176.2 | Amplitude 0.491 +/- 0.088 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                              |                               |
| amp/seg (%)  | 359.7    | 307.6        | Search (2048X8) 0.469     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                              |                               |
| ph/frq (deg) | 0.0      | 10.3         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000  |                               |
| amp/frq (%)  | 0.2      | 18.0         | Inc. seg. avg. 0.335      | Sample rate(MSamp/s): 64               | Data rate(Mb/s): 128        | nlags: 512 t_cohere infinite | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.482      |  |                             | ion window (TEC) 0.00 0.00   |                               |

b: az 88.2 el 20.4 pa -44.0 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bP.W.11.0QR2SH

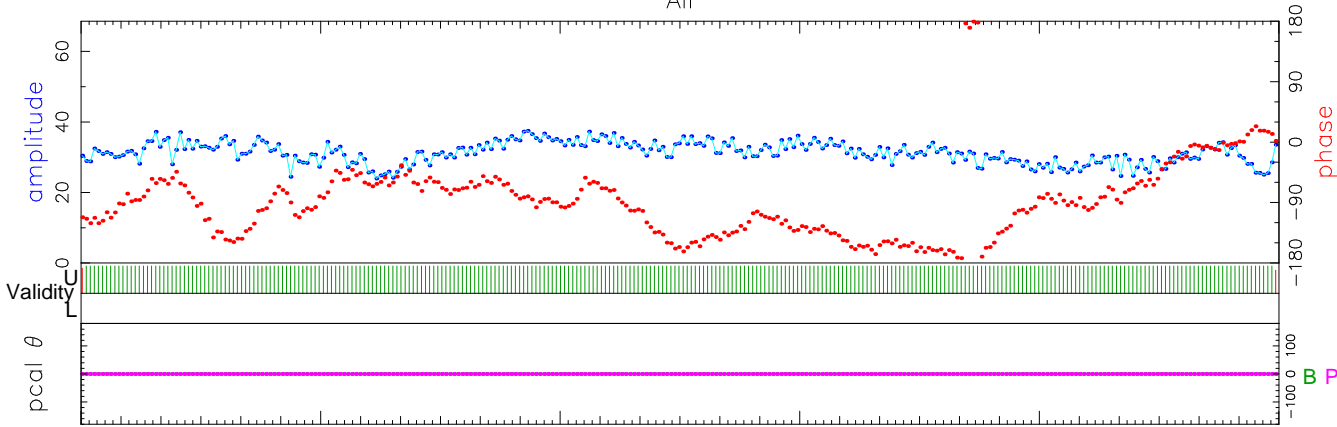
Fringe quality 6

SNR 269.2  
Int time 296.612  
Amp 22.863  
Phase -95.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.002539  
MBD -0.000004  
Fringe rate (Hz)  
0.002005  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-95.7  
22.7  
513.3  
U/L 586/0  
B 0  
P 0  
B:P 0:0  
B:P 0:0  
B 1000  
P 1000  
B W04UR  
P W04UR

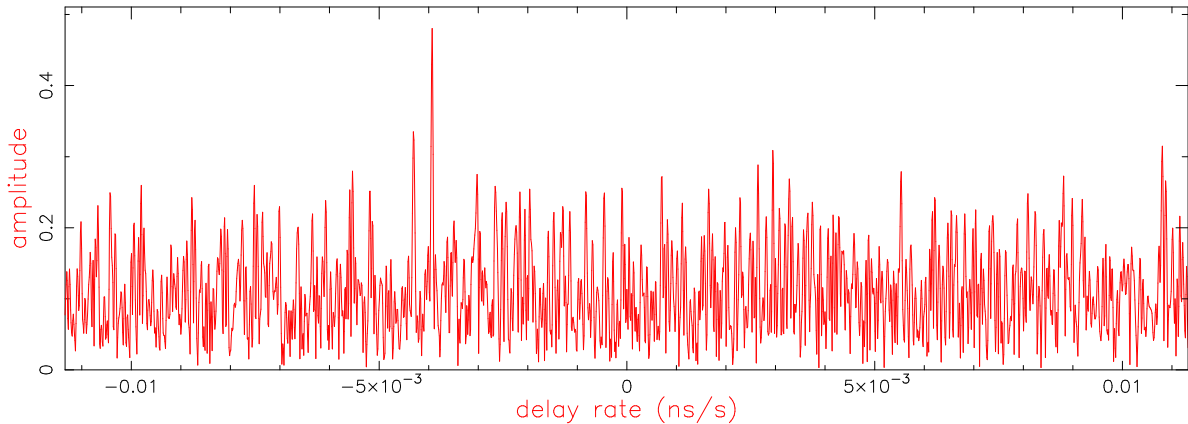
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16822451963E+03 | Apriori delay (usec)     | -3.16822705808E+03 | Resid mbdelay (usec) | -3.92354E-06 | +/- | 6.4E-05 |
| Sband delay (usec)      | -3.16822451858E+03 | Apriori clock (usec)     | 1.9977873E+01      | Resid sbdelay (usec) | 2.53950E-03  | +/- | 6.4E-05 |
| Phase delay (usec)      | -3.16822706117E+03 | Apriori clockrate (us/s) | 2.5300001E-07      | Resid phdelay (usec) | -3.08482E-06 | +/- | 1.4E-08 |
| Delay rate (us/s)       | 3.44394134667E-02  | Apriori rate (us/s)      | 3.44393901913E-02  | Resid rate (us/s)    | 2.32754E-08  | +/- | 7.9E-11 |
| Total phase (deg)       | -17.6              | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | -95.7        | +/- | 0.4     |

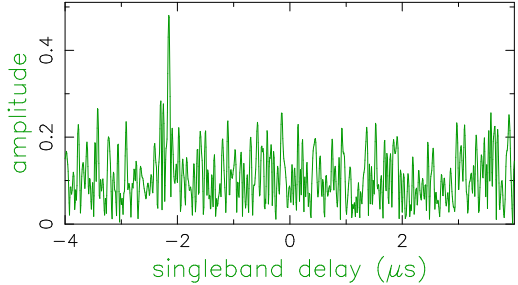
|              |      |     |     |        |                |                  |                 |        |                       |                             |                  |              |                |              |
|--------------|------|-----|-----|--------|----------------|------------------|-----------------|--------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 46.1 | RMS | 3.6 | Theor. | Amplitude      | 22.863 +/- 0.085 | Search (2048X8) | 22.638 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 39.2 |     | 6.4 |        | Interp.        | 0.000            |                 |        | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0  |     | 0.2 |        | Inc. seg. avg. | 31.255           |                 |        | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9  |     | 0.4 |        | Inc. frq. avg. | 22.663           |                 |        | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |      |     |     |        |                |                  |                 |        | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |
|              |      |     |     |        |                |                  |                 |        | nlags:                | 512                         | t_cohere         | infinite     |                |              |

B: az 247.2 el 37.9 pa 37.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator

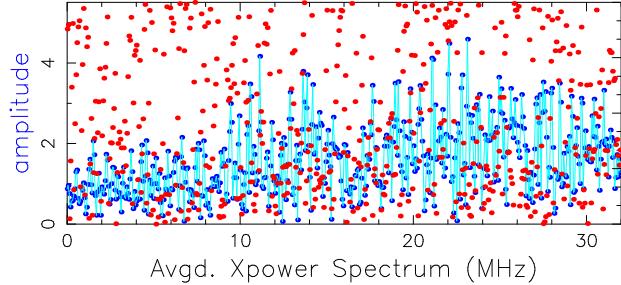
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BP.W.20.0QR2SH



Fringe quality 0  
SNR 5.6  
Int time 285.545  
Amp 0.511  
Phase 70.9  
PFD 9.1e-01  
Delays (us)  
SBD -2.152861  
MBD -0.000006  
Fringe rate (Hz)  
-0.338577  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



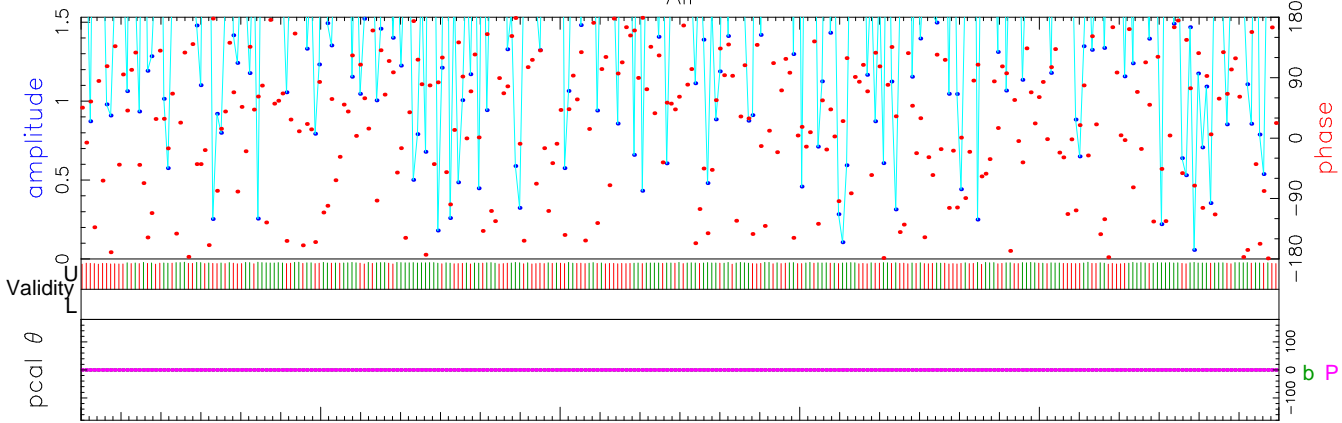
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



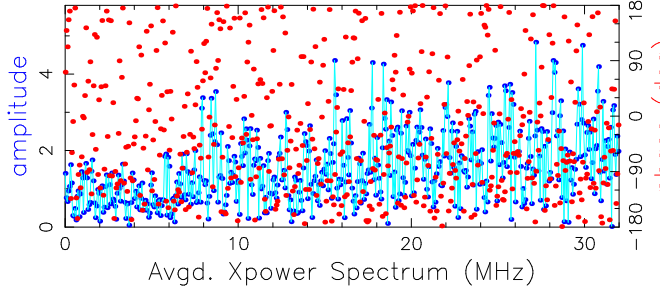
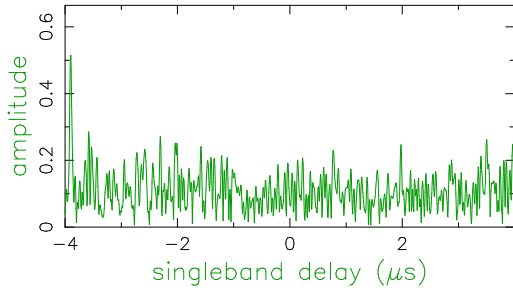
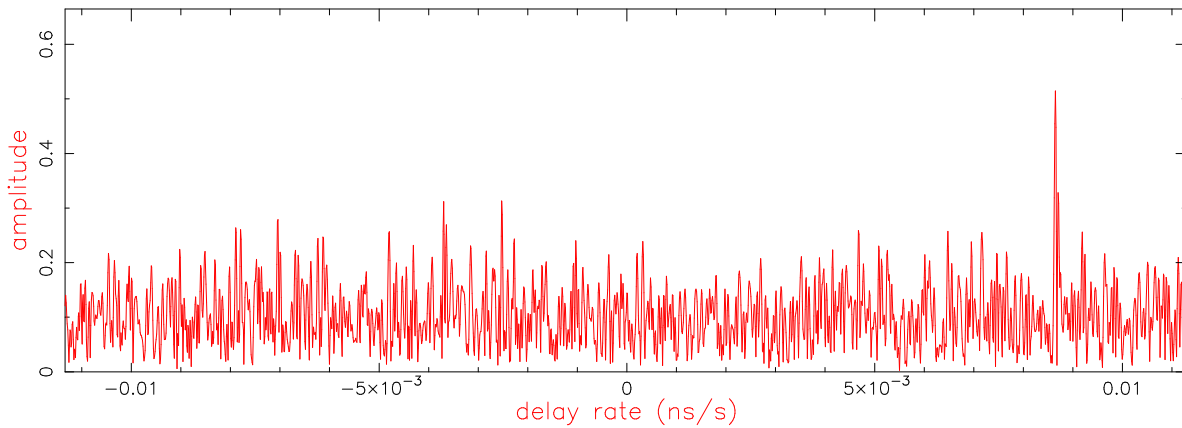
86140.00  
70.9  
0.5  
237.4  
U/L 586/0  
b 5000  
P 0  
b:P 0:0  
b:P 0:0  
b 1000  
P 1000  
b W04UR  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.49022644726E+03 | Apriori delay (usec)     | -4.88807358558E+03 | Resid mbdelay (usec) | -5.86933E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.49022644658E+03 | Apriori clock (usec)     | 1.6043346E+01      | Resid sbdelay (usec) | -2.15286E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.48807358329E+03 | Apriori clockrate (us/s) | 6.8000000E-07      | Resid phdelay (usec) | 2.28629E-06  | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.73066179101E+00  | Apriori rate (us/s)      | 1.73066572155E+00  | Resid rate (us/s)    | -3.93054E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -167.3             | Apriori accel (us/s/s)   | 4.96952002521E-05  | Resid phase (deg)    | 70.9         | +/- | 20.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.2  | Theor.          | 174.8 | Amplitude      | 0.511 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 370.5 | Search (2048X8) | 0.480 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.363           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.497 | Inc. frq. avg. | 0.497           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bP.W.24.0QR2SH



Fringe quality 0

SNR 6.0

Int time 285.678

Amp 0.665

Phase 110.3

PFD 2.7e-01

Delays (us)

SBD -3.900246

MBD 0.000006

Fringe rate (Hz)

0.745275

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171807

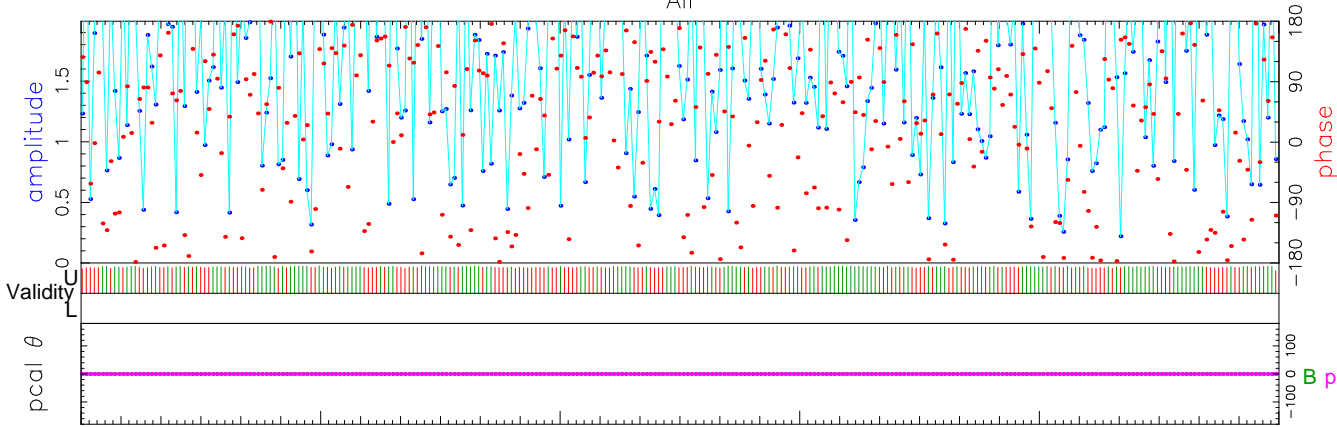
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 110.3     |  | Phase      |
| 0.7       |  | Ampl.      |
| 13.8      |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| B 0       |  | PC freqs   |
| p 5000    |  | PC phase   |
| B:p 0:0   |  | Mani PC    |
| B:p 0:0   |  | PC amp     |
| B 1000    |  |            |
| p 1000    |  |            |
| B W04UR   |  | Chan ids   |
| p W04UR   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 2.40440134276E+03  | Apriori delay (usec)     | 2.40830159254E+03  | Resid mbdelay (usec) | 5.62294E-06  | +/- 2.9E-03 |
| Sband delay (usec)      | 2.40440134654E+03  | Apriori clock (usec)     | -1.1404653E+01     | Resid sbdelay (usec) | -3.90025E+00 | +/- 2.9E-03 |
| Phase delay (usec)      | 2.40830159609E+03  | Apriori clockrate (us/s) | -1.8900001E-07     | Resid phdelay (usec) | 3.55756E-06  | +/- 6.2E-07 |
| Delay rate (us/s)       | -1.84377649299E+00 | Apriori rate (us/s)      | -1.84378514489E+00 | Resid rate (us/s)    | 8.65190E-06  | +/- 3.6E-09 |
| Total phase (deg)       | 175.5              | Apriori accel (us/s/s)   | -6.29159812157E-06 | Resid phase (deg)    | 110.3        | +/- 19.2    |

|              |       |                 |       |                |                 |  |                      |                   |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|--|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 87.7  | Theor.          | 164.3 | Amplitude      | 0.665 +/- 0.111 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |           |
| amp/seg (%)  | 313.4 | Search (2048X8) | 0.500 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000      |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.459           | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.000 0.000     |           |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.653 | Inc. frq. avg. | 0.653           | Sample rate(MSamp/s): 64               | ion window (ns/s)    | -0.011 0.011      |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s): 128                   | nlags: 512           | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

B: az 247.2 el 37.9 pa 37.6      p: az 89.4 el 28.9 pa -59.3      u,v (fr/asec) 10989.888 1574.831      simultaneous interpolator

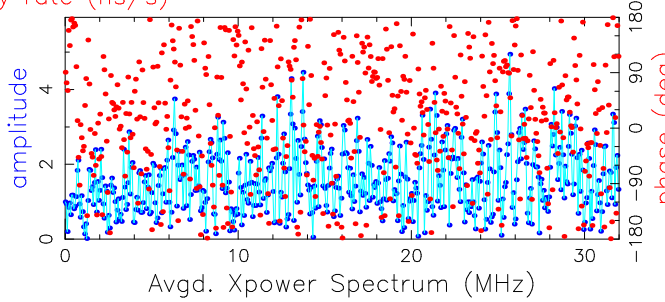
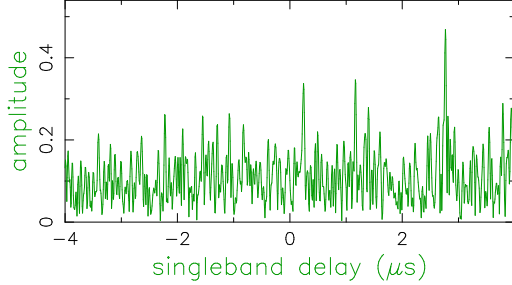
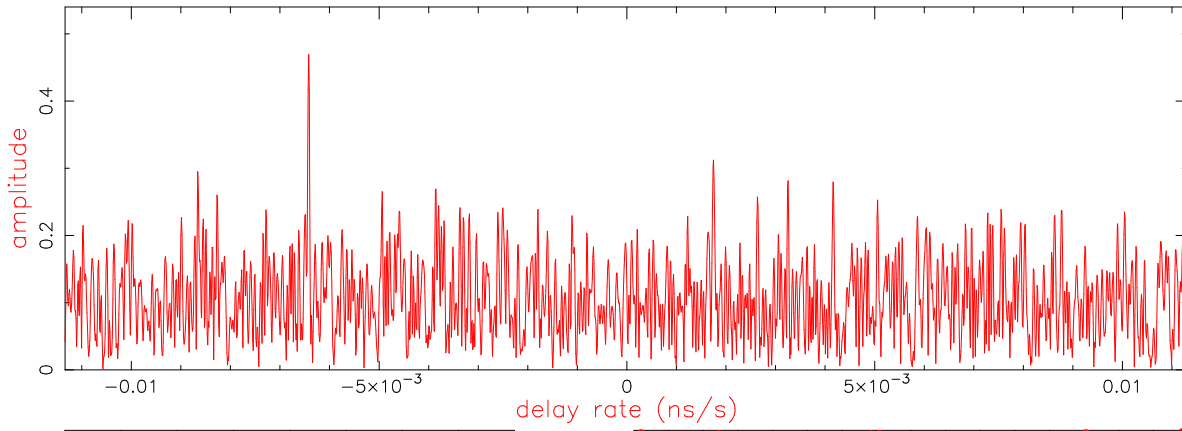
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//Bp..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//Bp.W.27.0QR2SH



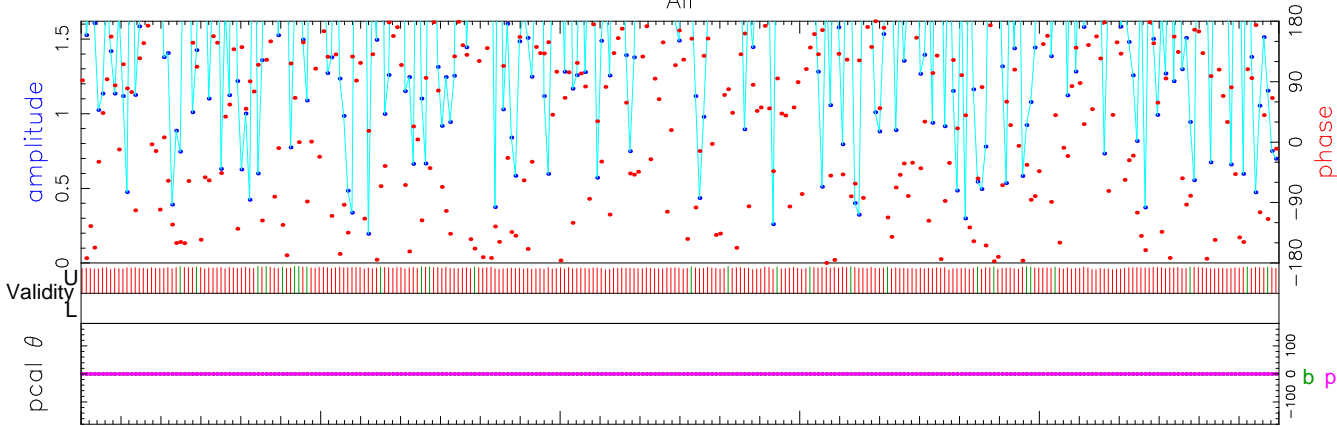
Fringe quality 0

SNR 5.3  
Int time 275.326  
Amp 0.540  
Phase 149.0  
PFD 1.0e+00  
Delays (us)  
SBD 2.767469  
MBD -0.000005  
Fringe rate (Hz)  
-0.553369  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
149.0  
0.5  
867.2  
U/L 586/0  
b 5000  
p 5000  
b:p 0:0  
b:p 0:0  
b 1000  
p 1000  
b W04UL  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.90877746823E+03 | Apriori delay (usec)     | -2.91154493496E+03 | Resid mbdelay (usec) | -4.82545E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -2.90877746596E+03 | Apriori clock (usec)     | -1.5339180E+01     | Resid sbdelay (usec) | 2.76747E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -2.91154493015E+03 | Apriori clockrate (us/s) | 2.3800000E-07      | Resid phdelay (usec) | 4.80575E-06  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.47565237598E-01 | Apriori rate (us/s)      | -1.47558813527E-01 | Resid rate (us/s)    | -6.42407E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -102.1             | Apriori accel (us/s/s)   | 2.11137257319E-05  | Resid phase (deg)    | 149.0        | +/- | 21.4    |

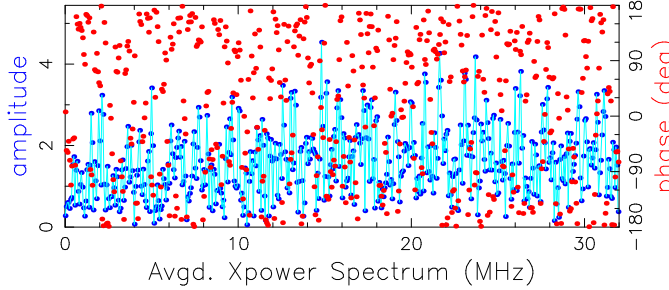
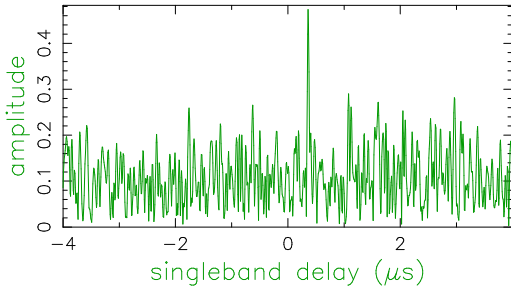
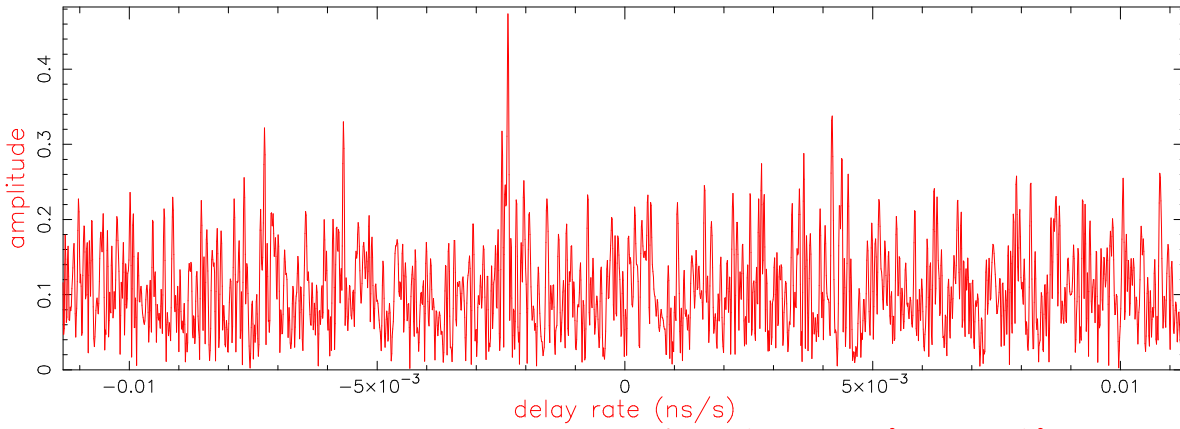
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.4  | Theor.          | 183.4 | Amplitude      | 0.540 +/- 0.101 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 357.0 | Search (2048X8) | 0.465 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.346           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.5   | Inc. frq. avg.  | 0.528 | Inc. frq. avg. | 0.528           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 907.562 2018.769 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bp.W.33.0QR2SH

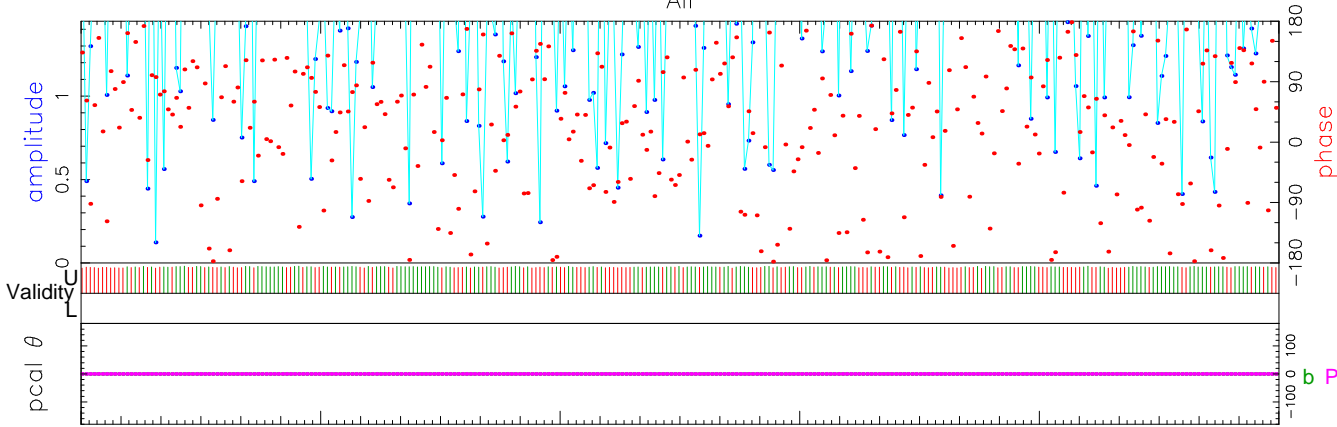
Fringe quality 0

SNR 5.5  
Int time 285.544  
Amp 0.483  
Phase 61.1  
PFD 9.9e-01  
Delays (us)  
SBD 0.360265  
MBD -0.000007  
Fringe rate (Hz)  
-0.203111  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
61.1  
0.5  
559.1  
U/L 586/0  
b 5000  
P 0  
b:P 0:0  
b:P 0:0  
b 1000  
P 1000  
b W04UL  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.48771331862E+03 | Apriori delay (usec)     | -4.8807358558E+03 | Resid mbdelay (usec) | -7.01788E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.48771332008E+03 | Apriori clock (usec)     | 1.6043346E+01     | Resid sbdelay (usec) | 3.60265E-01  | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.48807358361E+03 | Apriori clockrate (us/s) | 6.8000000E-07     | Resid phdelay (usec) | 1.97107E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.73066336364E+00  | Apriori rate (us/s)      | 1.73066572155E+00 | Resid rate (us/s)    | -2.35791E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -177.1             | Apriori accel (us/s/s)   | 4.96952002521E-05 | Resid phase (deg)    | 61.1         | +/- | 20.9    |

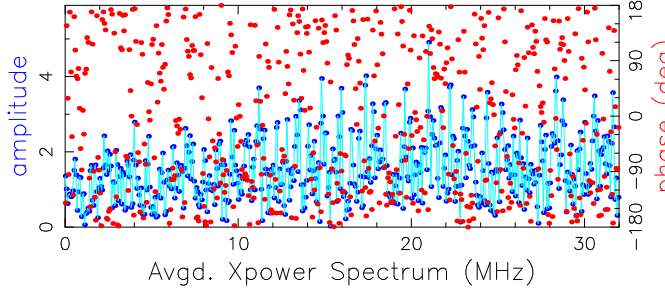
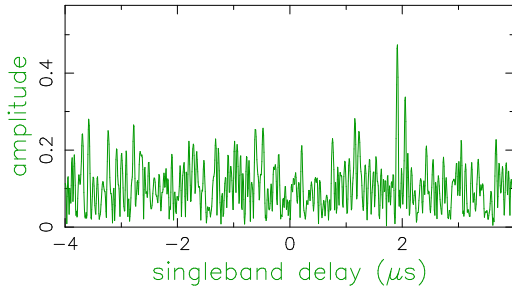
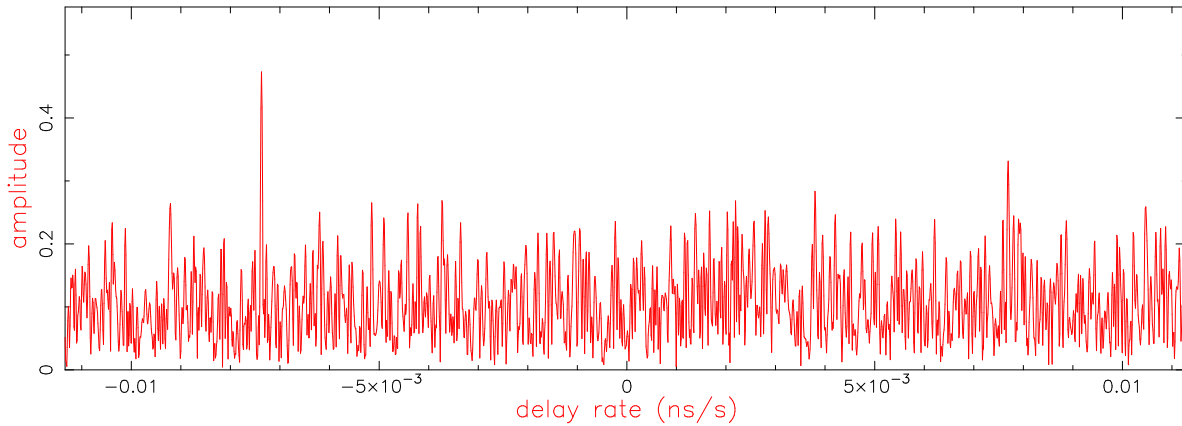
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.4  | Theor.          | 179.0 | Amplitude      | 0.483 +/- 0.088 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 363.3 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.333           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.474 | Inc. frq. avg. | 0.474           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10258.837 2393.250 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bP.W.34.0QR2SH

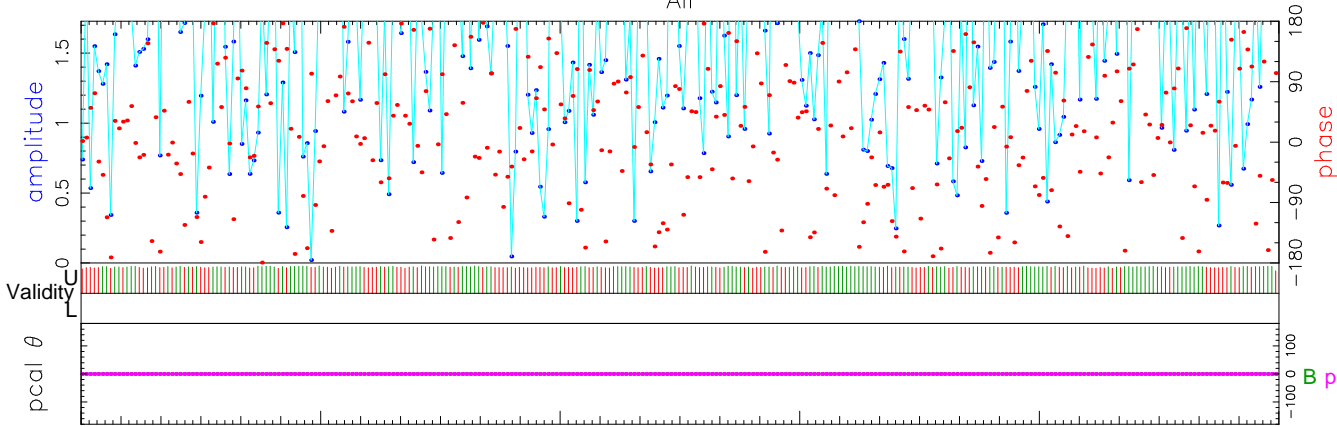
Fringe quality 0

SNR 5.6  
Int time 285.678  
Amp 0.576  
Phase 28.1  
PFD 9.6e-01  
Delays (us)  
SBD 1.910947  
MBD -0.000005  
Fringe rate (Hz)  
-0.635441  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



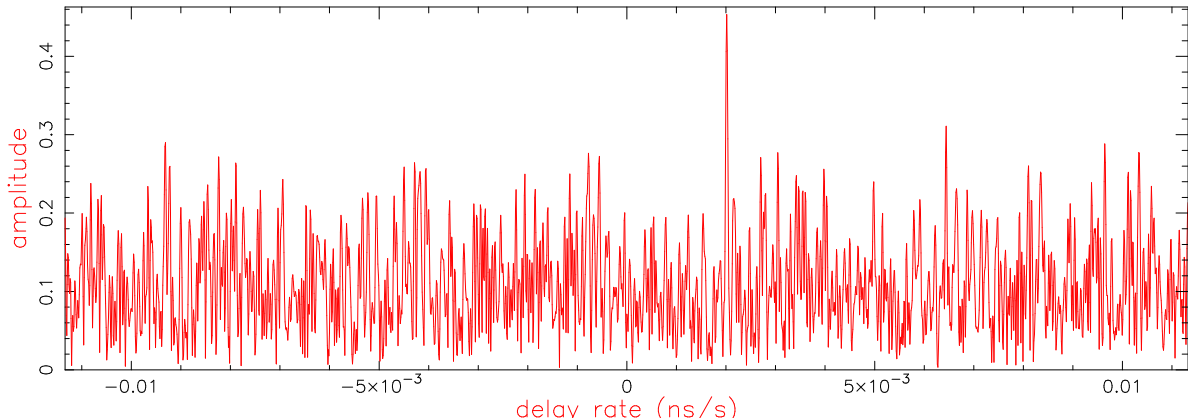
86140.00  
28.1  
0.6  
757.6  
U/L 586/0  
B 0  
p 5000  
B:p 0:0  
B:p 0:0  
B 1000  
p 1000  
B W04UL  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

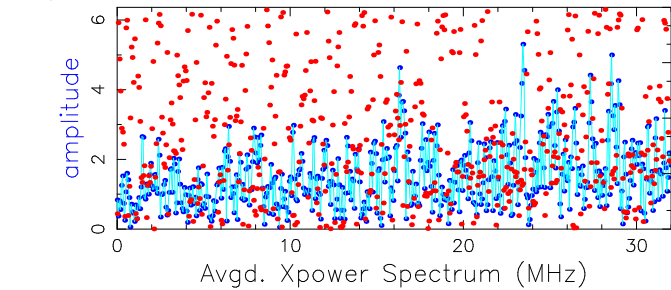
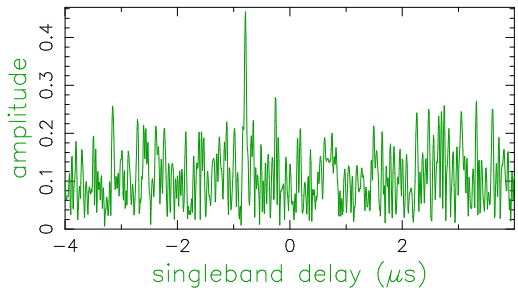
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.41021253500E+03  | Apriori delay (usec)     | 2.40830159254E+03  | Resid mbdelay (usec) | -4.83520E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 2.41021253954E+03  | Apriori clock (usec)     | -1.1404653E+01     | Resid sbdelay (usec) | 1.91095E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | 2.40830159344E+03  | Apriori clockrate (us/s) | -1.8900001E-07     | Resid phdelay (usec) | 9.06520E-07  | +/- | 6.6E-07 |
| Delay rate (us/s)       | -1.84379252172E+00 | Apriori rate (us/s)      | -1.84378514489E+00 | Resid rate (us/s)    | -7.37684E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | 93.3               | Apriori accel (us/s/s)   | -6.29159812157E-06 | Resid phase (deg)    | 28.1         | +/- | 20.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.4  | Theor.          | 176.4 | Amplitude      | 0.576 +/- 0.104 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 327.7 | Search (2048X8) | 0.468 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.373           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.6   | Inc. frq. avg.  | 0.558 | Inc. frq. avg. | 0.558           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10989.888 1574.831 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bp.W.42.0QR2SH



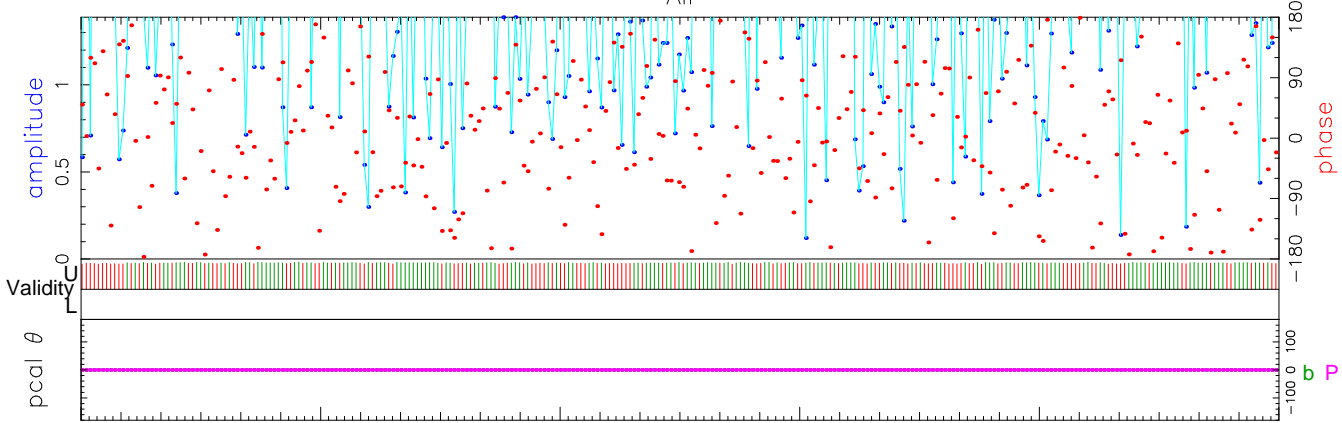
Fringe quality 0  
SNR 5.3  
Int time 285.545  
Amp 0.463  
Phase 22.0  
PFD 1.0e+00  
Delays (us)  
SBD -0.791498  
MBD 0.000005  
Fringe rate (Hz)  
0.173373  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

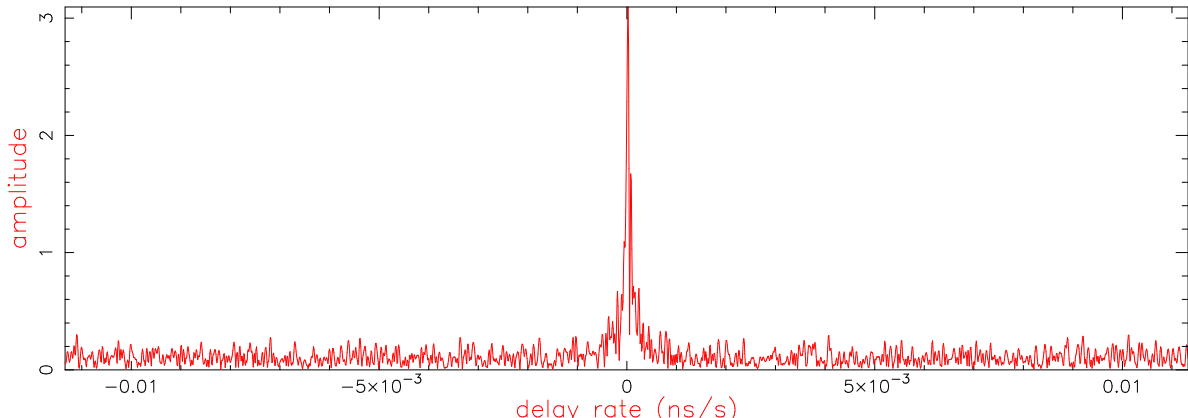
Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00 Freq (MHz)  
22.0 Phase  
0.5 Ampl.  
411.7 Sbd box  
U/L 586/0 APs used  
b 5000 PC freqs  
P 0 PC freqs  
b:P 0:0 PC phase  
b:P 0:0 Mani PC  
b 1000 PC amp  
P 1000  
b W04UR Chan ids  
p W04UL Chan ids

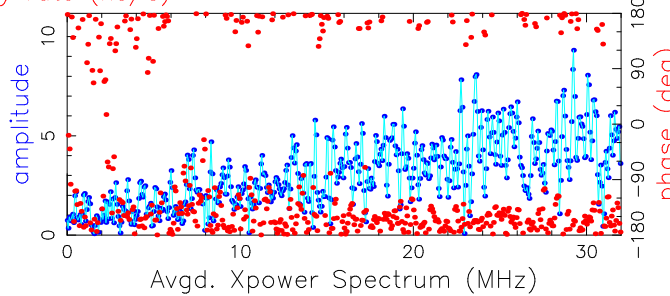
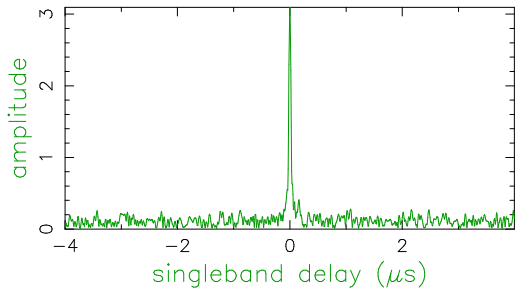
|                             |   |  |                     |                       |                             |                  |              |
|-----------------------------|---|--|---------------------|-----------------------|-----------------------------|------------------|--------------|
| Group delay (usec)(sbd)     | -8.48886508272E+03                                      | Apriori delay (usec)   | -8.48807358558E+03  | Resid mbdelay (usec)  | 5.06153E-06                 | +/-              | 3.3E-03      |
| Sband delay (usec)          | -8.48886508308E+03                                      | Apriori clock (usec)   | 1.6043346E+01       | Resid sbdelay (usec)  | -7.91498E-01                | +/-              | 3.3E-03      |
| Phase delay (usec)          | -8.48807358487E+03                                      | Apriori clockrate (us/s)                                     | 6.8000000E-07       | Resid phdelay (usec)  | 7.10384E-07                 | +/-              | 7.0E-07      |
| Delay rate (us/s)           | 1.73066773424E+00                                       | Apriori rate (us/s)  | 1.73066572155E+00   | Resid rate (us/s)     | 2.01269E-06                 | +/-              | 4.0E-09      |
| Total phase (deg)           | -216.2  | Apriori accel (us/s/s)                                       | 4.96952002521E-05   | Resid phase (deg)     | 22.0                        | +/-              | 21.7         |
| ph/seg (deg)                | RMS 89.5 Theor. 185.7                                   | Amplitude  | 0.463 +/- 0.088     | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)                 | 381.8 324.2   | Search (2048X8)  | 0.451               | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg)                | 0.0 10.9  | Interp.  | 0.000               | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)                 | 0.8 18.9  | Inc. seg. avg.   | 0.301               | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|                             |   | Inc. frq. avg.   | 0.451               | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
| b: az 88.2 el 20.4 pa -44.0 | P: az 249.4 el 49.9 pa 50.8                             | u,v (fr/asec)  | -10258.837 2393.250 | nlags:                | 512                         | t_cohere         | infinite     |
| Control file: cf_1234_gmva  | Input file: /Exps2/f191a/FRINGE/1234/No0007//bP..0QR2SH | Output file: /Exps2/f191a/FRINGE/1234/No0007//bP.W.51.0QR2SH |                     |                       |                             | ion window (TEC) | 0.00 0.00    |



Fringe quality 9

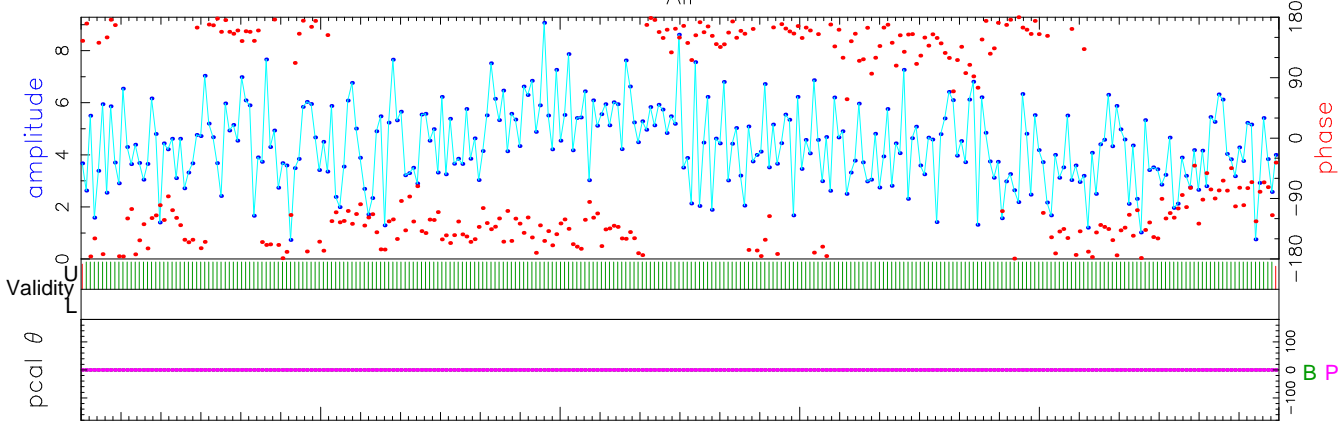
SNR 36.4  
Int time 296.612  
Amp 3.096  
Phase -163.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.000441  
MBD -0.000004  
Fringe rate (Hz) 0.002142  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171810  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



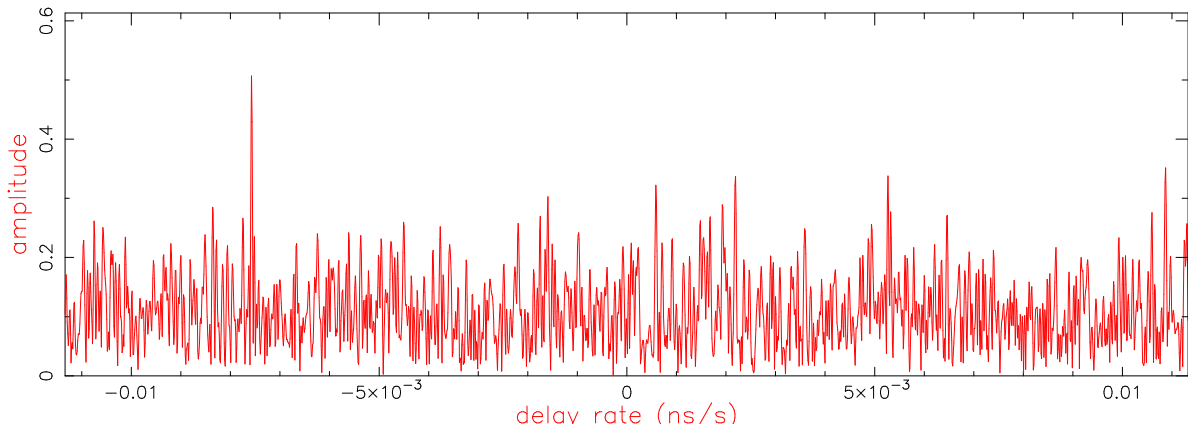
86140.00  
-163.5  
3.1  
512.9  
U/L 586/0  
B 0  
P 0  
B:P 0:0  
B:P 0:0  
B 1000  
P 1000  
B W04UL  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp

Chan ids  
Chan ids

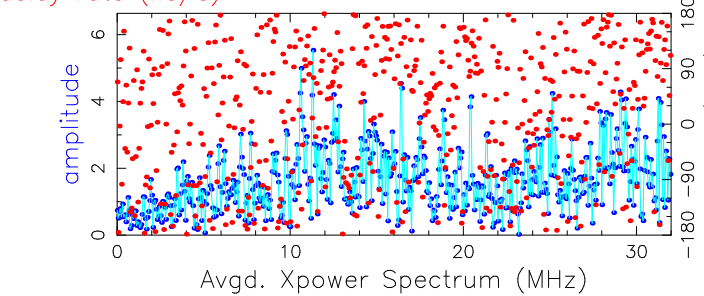
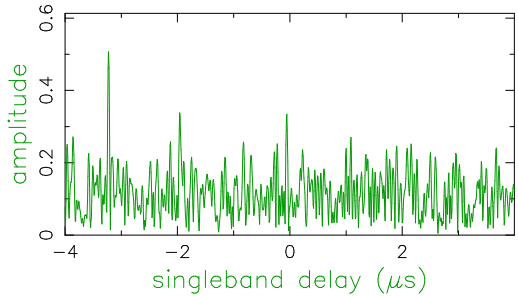
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16822750310E+03 | Apriori delay (usec)     | -3.16822705808E+03 | Resid mbdelay (usec) | -3.87223E-06 | +/- | 4.7E-04 |
| Sband delay (usec)      | -3.16822749908E+03 | Apriori clock (usec)     | 1.9977873E+01      | Resid sbdelay (usec) | -4.41000E-04 | +/- | 4.7E-04 |
| Phase delay (usec)      | -3.16822706335E+03 | Apriori clockrate (us/s) | 2.5300001E-07      | Resid phdelay (usec) | -5.27197E-06 | +/- | 1.0E-07 |
| Delay rate (us/s)       | 3.44394150630E-02  | Apriori rate (us/s)      | 3.44393901913E-02  | Resid rate (us/s)    | 2.48718E-08  | +/- | 5.9E-10 |
| Total phase (deg)       | -85.4              | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | -163.5       | +/- | 3.1     |

|              |      |              |        |                       |          |                           |                 |                 |                   |            |                             |                  |              |
|--------------|------|--------------|--------|-----------------------|----------|---------------------------|-----------------|-----------------|-------------------|------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 48.4 | RMS          | 26.9   | Theor.                | 48.4     | Amplitude                 | 3.096 +/- 0.085 | Search (2048X8) | 3.076             | Pcal mode: | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 64.1 | Interp.      | 0.000  | Inc. seg. avg.        | 3.947    | Inc. frq. avg.            | 3.094           | u,v (fr/asec)   | -176.511 1949.312 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Bits/sample: | 2x2    | Sample rate(MSamp/s): | 64       | Data rate(Mb/s):          | 128             | nlags:          | 512               | t_cohere   | infinite                    | ion window (TEC) | 0.00 0.00    |
| amp/frq (%)  | 0.0  | Manl PC      | PC amp | Chan ids              | Chan ids | simultaneous interpolator |                 |                 |                   |            |                             |                  |              |



Fringe quality 0

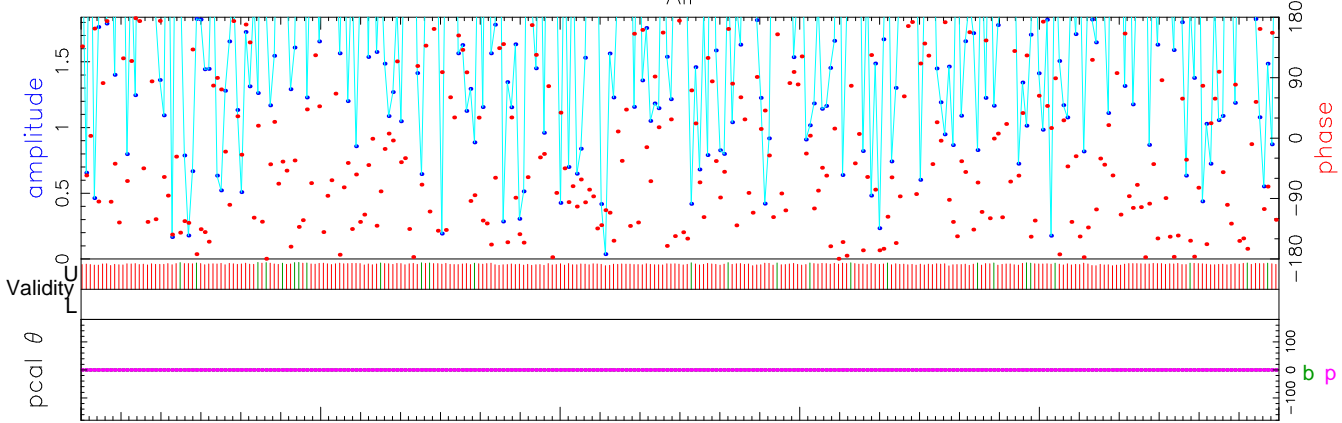
SNR 5.7  
 Int time 275.321  
 Amp 0.613  
 Phase -114.5  
 PFD 6.7e-01  
 Delays (us)  
 SBD -3.226315  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.652072  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171810  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



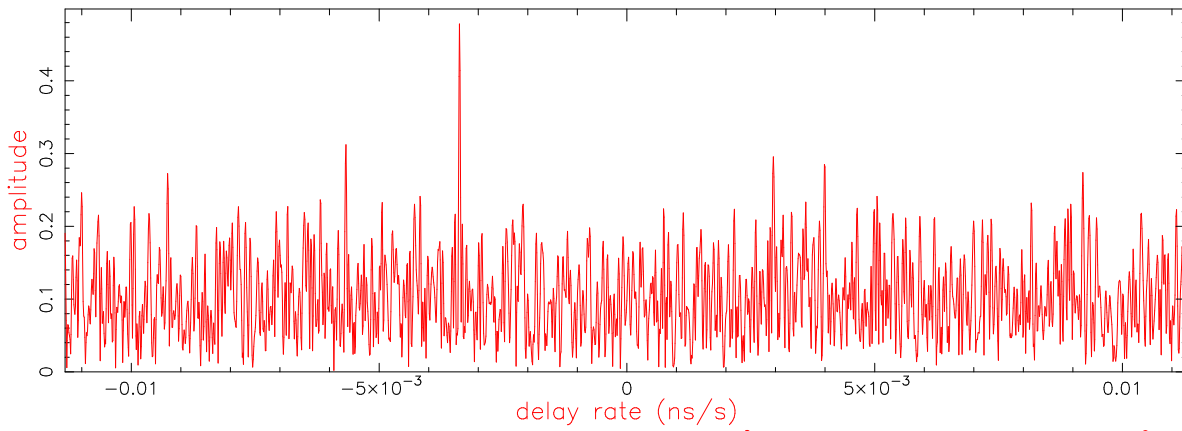
|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -114.5    |  | Phase      |
| 0.6       |  | Ampl.      |
| 100.0     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| b 5000    |  | PC freqs   |
| p 5000    |  | PC freqs   |
| b:p 0:0   |  | PC phase   |
| b:p 0:0   |  | Manl PC    |
| b 1000    |  | PC amp     |
| p 1000    |  |            |
| b W04UR   |  | Chan ids   |
| p W04UR   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.91477124734E+03 | Apriori delay (usec)     | -2.91154493496E+03 | Resid mbdelay (usec) | -6.37140E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -2.91477125046E+03 | Apriori clock (usec)     | -1.5339180E+01     | Resid sbdelay (usec) | -3.22632E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | -2.91154493865E+03 | Apriori clockrate (us/s) | 2.3800000E-07      | Resid phdelay (usec) | -3.69359E-06 | +/- | 6.4E-07 |
| Delay rate (us/s)       | -1.47566383440E-01 | Apriori rate (us/s)      | -1.47558813527E-01 | Resid rate (us/s)    | -7.56991E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -5.6               | Apriori accel (us/s/s)   | 2.11137257319E-05  | Resid phase (deg)    | -114.5       | +/- | 19.9    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.5  | Theor.          | 170.6 | Amplitude      | 0.613 +/- 0.107 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 345.8 | Search (2048X8) | 0.501 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.432 | Inc. frq. avg. | 0.604           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.604 |                |                 | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

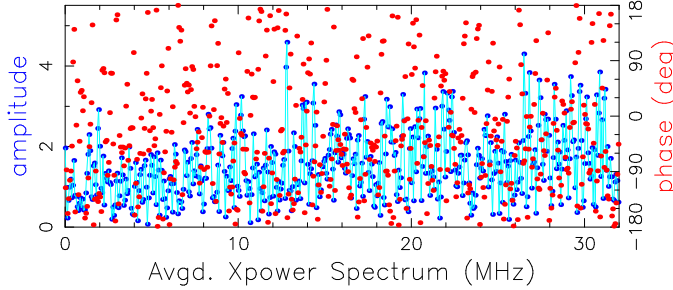
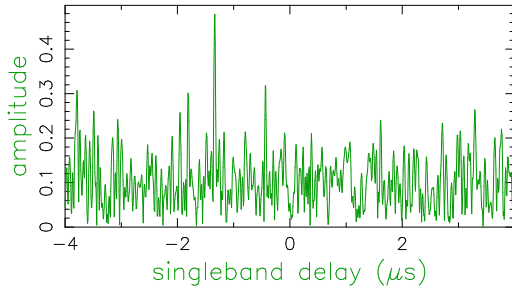
b: az 88.2 el 20.4 pa -44.0      p: az 89.4 el 28.9 pa -59.3      u,v (fr/asec) 907.562 2018.769      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//bp..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//bp.W.55.0QR2SH



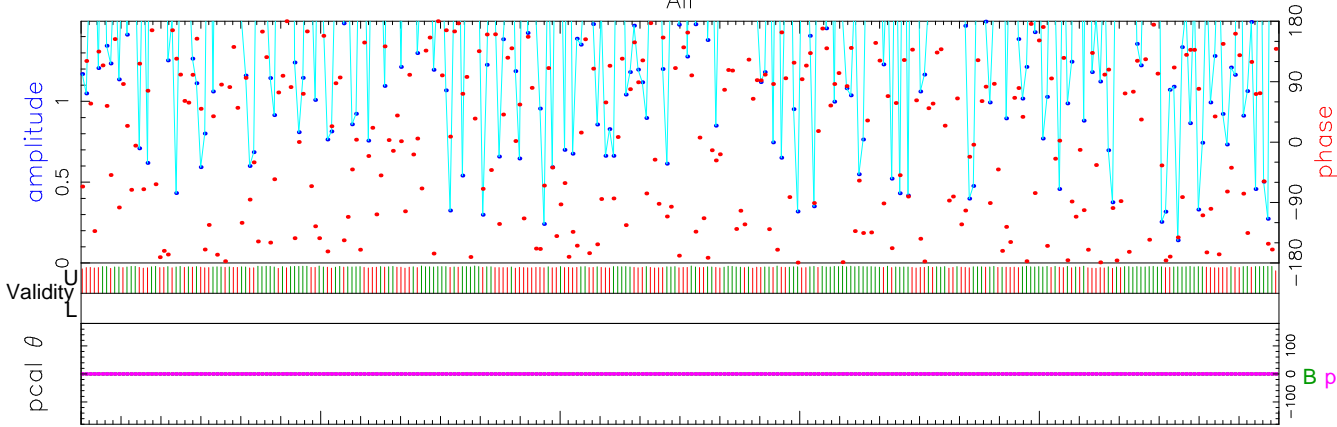
Fringe quality 0

SNR 5.6  
 Int time 285.684  
 Amp 0.499  
 Phase 147.7  
 PFD 9.6e-01  
 Delays (us)  
 SBD -1.337754  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.290672  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171811  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 147.7  
 0.5  
 341.8  
 U/L 586/0  
 B 0  
 p 5000  
 B:p 0:0  
 B:p 0:0  
 B 1000  
 p 1000  
 B W04UR  
 B  
 p W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.40696383434E+03  | Apriori delay (usec)     | 2.40830159254E+03  | Resid mbdelay (usec) | -5.69724E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 2.40696383804E+03  | Apriori clock (usec)     | -1.1404653E+01     | Resid sbdelay (usec) | -1.33775E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 2.40830159730E+03  | Apriori clockrate (us/s) | -1.8900001E-07     | Resid phdelay (usec) | 4.76265E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.84378851929E+00 | Apriori rate (us/s)      | -1.84378514489E+00 | Resid rate (us/s)    | -3.37441E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | 212.9              | Apriori accel (us/s/s)   | -6.29159812157E-06 | Resid phase (deg)    | 147.7        | +/- | 20.6    |

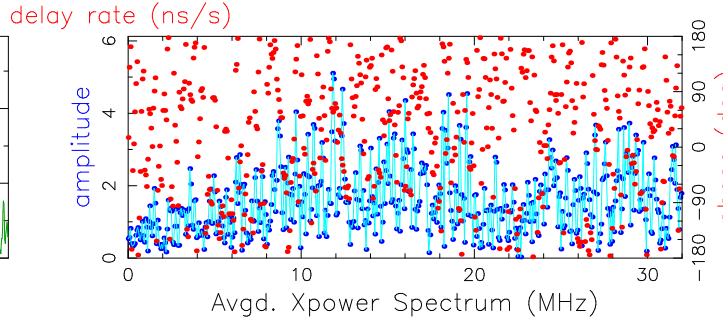
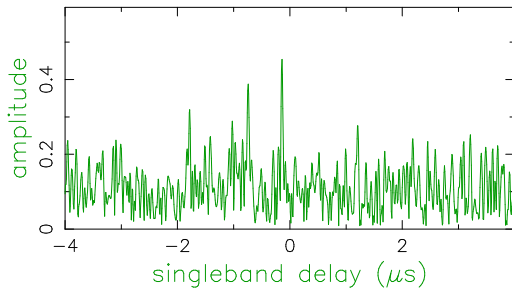
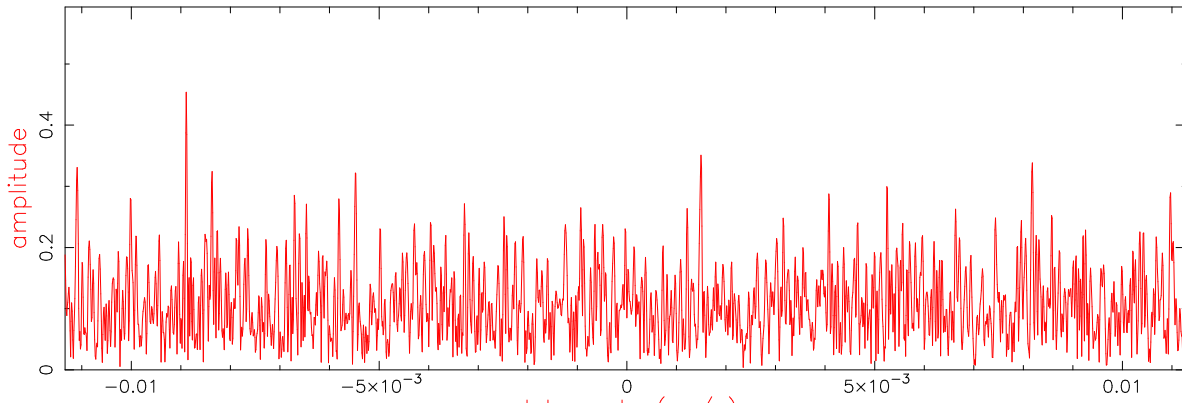
|              |          |              |                           |                       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 90.1 | Theor. 176.6 | Amplitude 0.499 +/- 0.090 | Search (2048X8) 0.474 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 327.2    | 308.1        | Interp. 0.000             | 0.000                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 10.3         | Inc. seg. avg. 0.316      | 0.488                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.5      | 18.0         | Inc. frq. avg. 0.488      |                       | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

B: az 247.2 el 37.9 pa 37.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10989.888 1574.831 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bp.W.60.0QR2SH

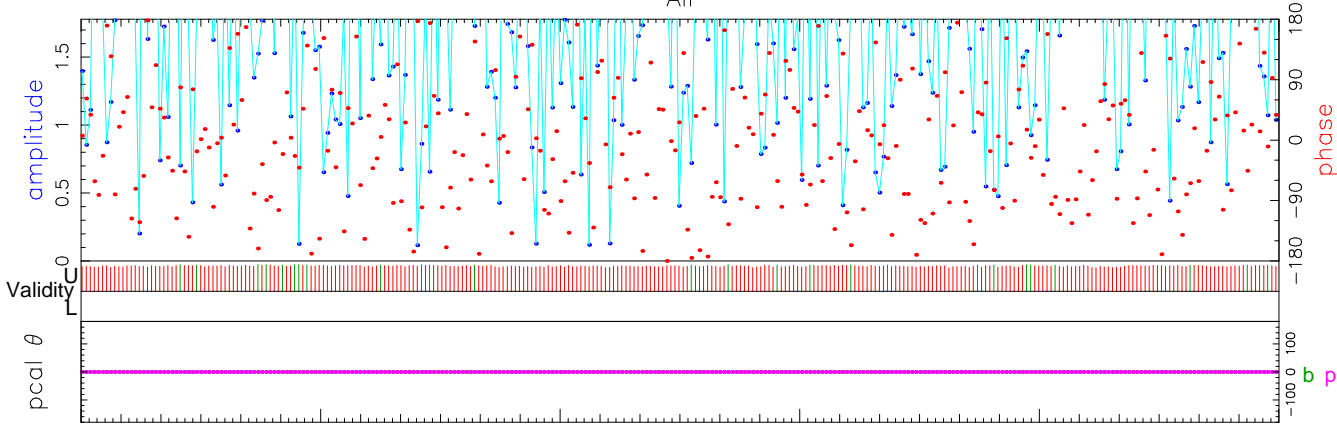
Fringe quality 0

SNR 5.2  
Int time 275.320  
Amp 0.593  
Phase -24.6  
PFD 1.0e+00  
Delays (us)  
SBD -0.141396  
MBD -0.000007  
Fringe rate (Hz)  
-0.765928  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-24.6  
0.6  
494.9  
U/L 586/0  
b 5000  
p 5000  
b:p 0:0  
b:p 0:0  
b 1000  
p 1000  
b W04UL  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

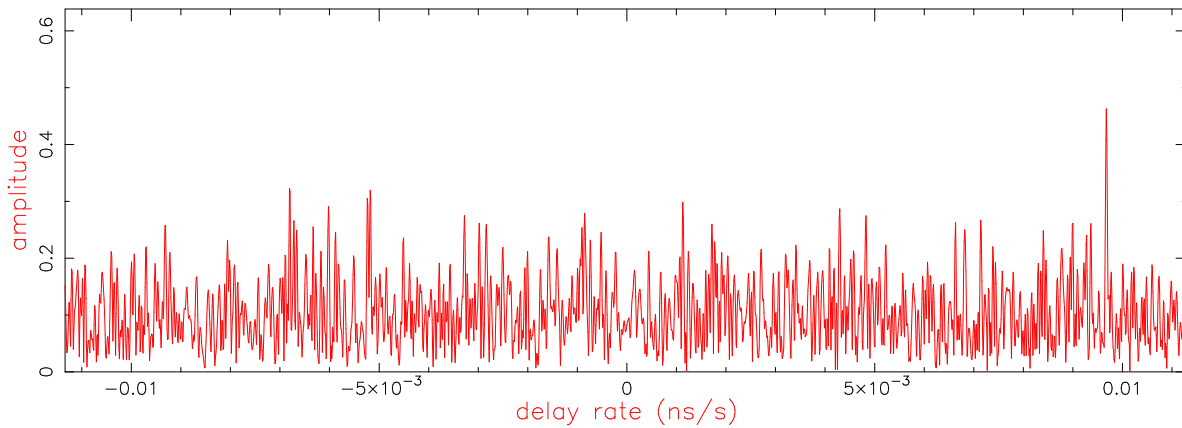
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.91168632825E+03 | Apriori delay (usec)     | -2.91154493496E+03 | Resid mbdelay (usec) | -7.17901E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -2.91168633096E+03 | Apriori clock (usec)     | -1.5339180E+01     | Resid sbdelay (usec) | -1.41396E-01 | +/- | 3.3E-03 |
| Phase delay (usec)      | -2.91154493575E+03 | Apriori clockrate (us/s) | 2.3800000E-07      | Resid phdelay (usec) | -7.94041E-07 | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.47567705193E-01 | Apriori rate (us/s)      | -1.47558813527E-01 | Resid rate (us/s)    | -8.89167E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -275.7             | Apriori accel (us/s/s)   | 2.11137257319E-05  | Resid phase (deg)    | -24.6        | +/- | 22.2    |

|              |       |                 |       |                          |                    |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|--------------------------|--------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.4  | Theor.          | 190.4 | Amplitude                | 0.593 +/- 0.115    | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 388.8 | Search (2048X8) | 0.452 | Apriori clock (usec)     | 0.452              | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Apriori clockrate (us/s) | 0.000              | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. seg. avg.  | 0.385 | Apriori rate (us/s)      | -1.47558813527E-01 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       | Inc. frq. avg.  | 0.582 | Apriori accel (us/s/s)   | 2.11137257319E-05  | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

b: az 88.2 el 20.4 pa -44.0 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 907.562 2018.769 simultaneous interpolator

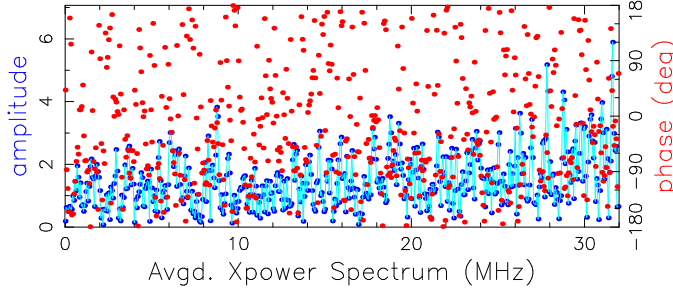
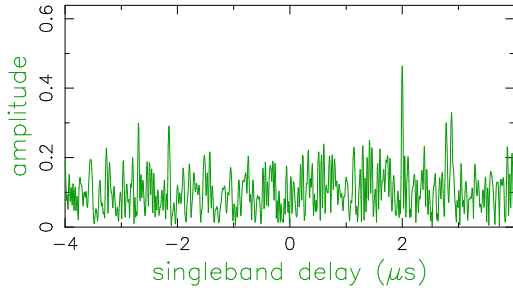
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bp.W.65.0QR2SH





Fringe quality 0

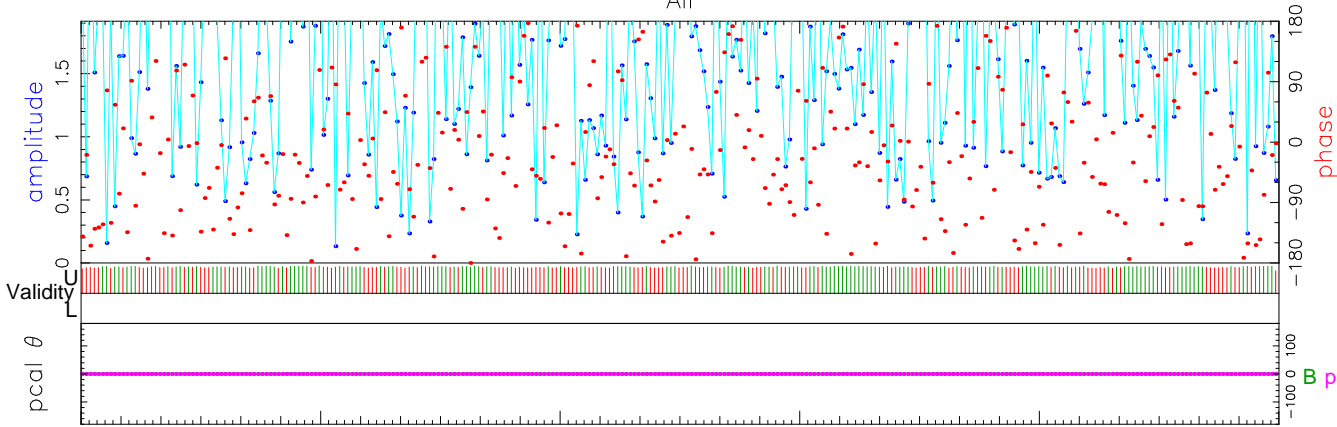
SNR 5.4  
 Int time 285.684  
 Amp 0.639  
 Phase -57.4  
 PFD 1.0e+00  
 Delays (us)  
 SBD 1.999152  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.833930  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171806  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -57.4  
 0.6  
 768.9  
 U/L 586/0  
 B 0  
 p 5000  
 B:p 0:0  
 B:p 0:0  
 B 1000  
 p 1000  
 B W04UL  
 p W04UL

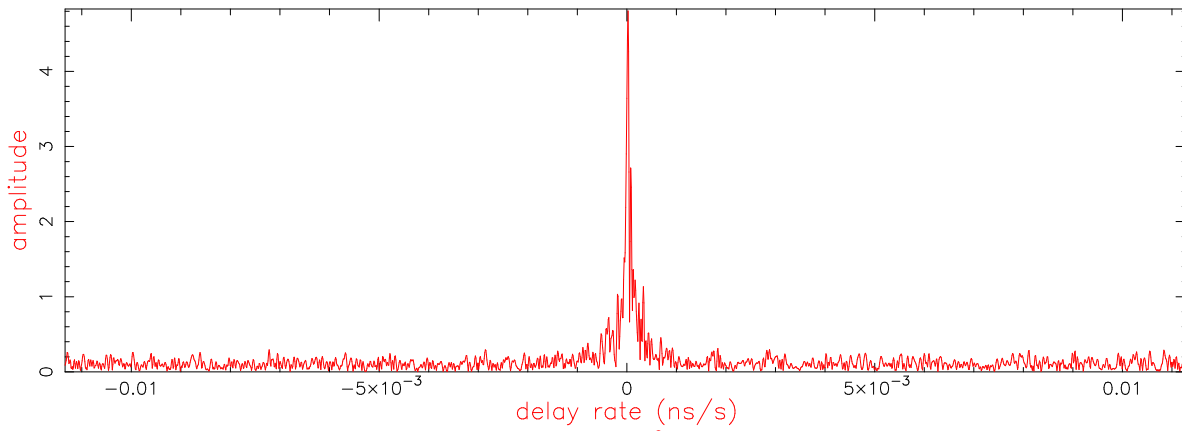
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 2.41030075020E+03  | Apriori delay (usec)     | 2.40830159254E+03  | Resid mbdelay (usec) | 5.11883E-06  | +/- 3.2E-03 |
| Sband delay (usec)      | 2.41030074454E+03  | Apriori clock (usec)     | -1.1404653E+01     | Resid sbdelay (usec) | 1.99915E+00  | +/- 3.2E-03 |
| Phase delay (usec)      | 2.40830159068E+03  | Apriori clockrate (us/s) | -1.8900001E-07     | Resid phdelay (usec) | -1.85235E-06 | +/- 6.9E-07 |
| Delay rate (us/s)       | -1.84377546379E+00 | Apriori rate (us/s)      | -1.84378514489E+00 | Resid rate (us/s)    | 9.68110E-06  | +/- 4.0E-09 |
| Total phase (deg)       | 7.7                | Apriori accel (us/s/s)   | -6.29159812157E-06 | Resid phase (deg)    | -57.4        | +/- 21.4    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 90.0 | Theor. 183.0 | Amplitude 0.639 +/- 0.119 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 345.7    | 319.5        | Search (2048X8) 0.451     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.7         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.1      | 18.7         | Inc. seg. avg. 0.400      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.627      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

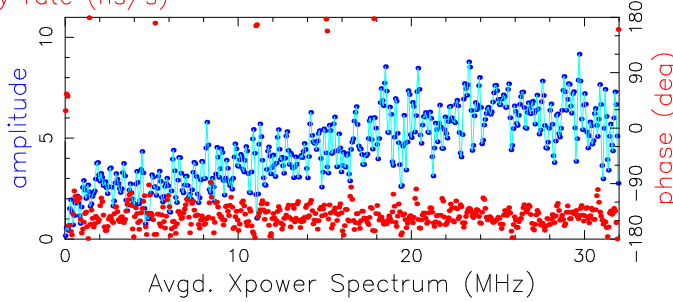
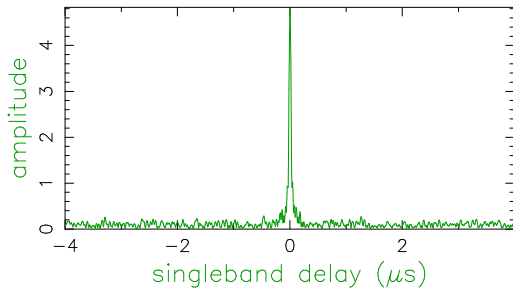
B: az 247.2 el 37.9 pa 37.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10989.888 1574.831 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Bp.W.7.0QR2SH



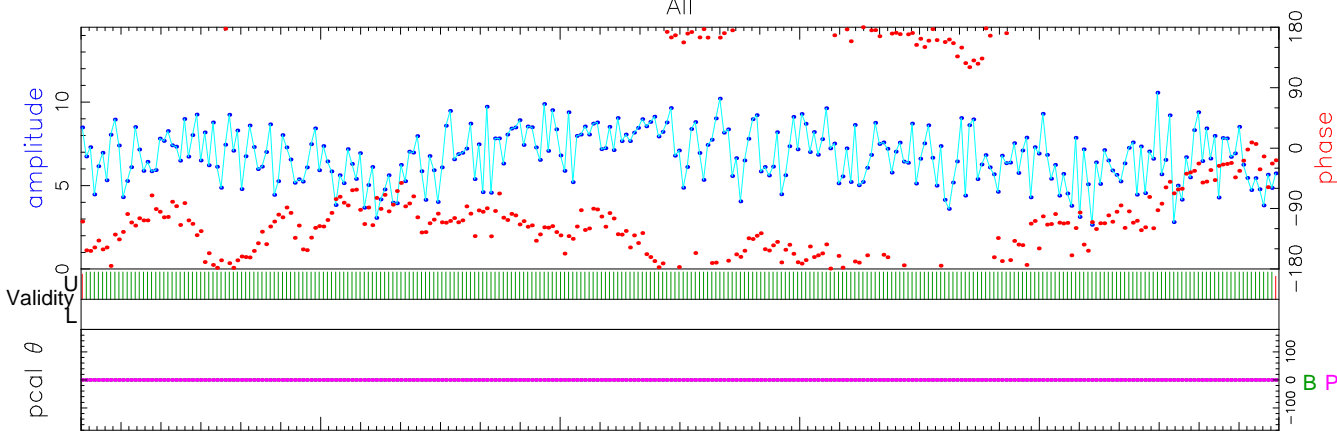
Fringe quality 9

SNR 56.9  
Int time 296.612  
Amp 4.831  
Phase -129.9  
PFD 0.0e+00  
Delays (us)  
SBD 0.001964  
MBD -0.000004  
Fringe rate (Hz)  
0.001945  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
-129.9  
4.8  
513.2  
U/L 586/0  
B 0  
P 0  
B:P 0:0  
B:P 0:0  
B 1000  
P 1000  
B W04UR  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

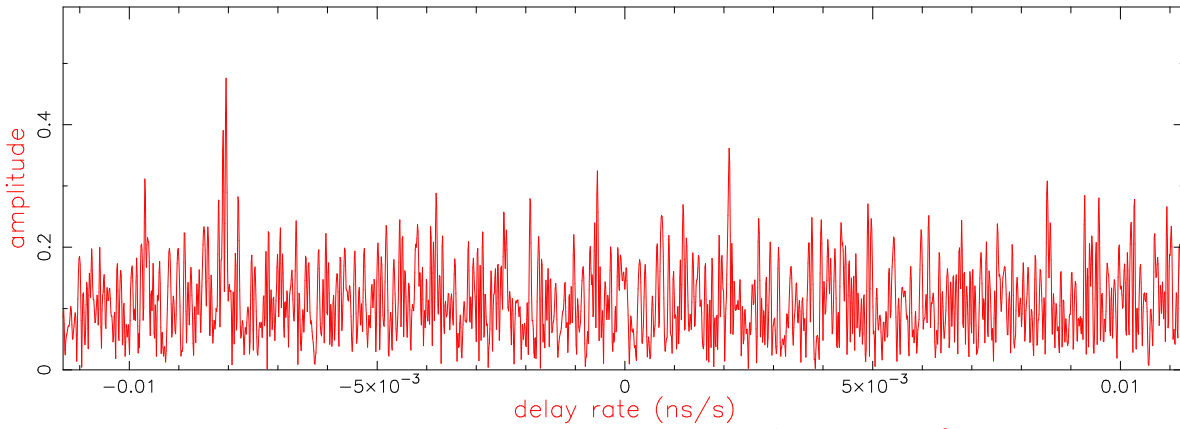
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16822509972E+03 | Apriori delay (usec)     | -3.16822705808E+03 | Resid mbdelay (usec) | -3.56222E-06 | +/- | 3.0E-04 |
| Sband delay (usec)      | -3.16822509408E+03 | Apriori clock (usec)     | 1.9977873E+01      | Resid sbdelay (usec) | 1.96400E-03  | +/- | 3.0E-04 |
| Phase delay (usec)      | -3.16822706227E+03 | Apriori clockrate (us/s) | 2.5300001E-07      | Resid phdelay (usec) | -4.18748E-06 | +/- | 6.5E-08 |
| Delay rate (us/s)       | 3.44394127694E-02  | Apriori rate (us/s)      | 3.44393901913E-02  | Resid rate (us/s)    | 2.25782E-08  | +/- | 3.7E-10 |
| Total phase (deg)       | -51.8              | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | -129.9       | +/- | 2.0     |

|              |      |     |      |                 |       |                |                 |                  |                             |                       |         |                  |          |                  |      |      |
|--------------|------|-----|------|-----------------|-------|----------------|-----------------|------------------|-----------------------------|-----------------------|---------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 48.6 | RMS | 17.2 | Theor.          | 17.2  | Amplitude      | 4.831 +/- 0.085 | Pcal mode:       | MANUAL, MANUAL              | PC period (AP's)      | 5, 5    | sb window (us)   | -4.000   | 4.000            |      |      |
| amp/seg (%)  | 52.0 |     | 30.1 | Search (2048X8) | 4.805 | Interp.        | 0.000           | Pcal rate:       | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm:          | enabled | mb window (us)   | -0.000   | 0.000            |      |      |
| ph/frq (deg) | 0.0  |     | 1.0  | Inc. seg. avg.  | 6.501 | Inc. frq. avg. | 4.805           | Bits/sample:     | 2x2                         | Sample rate(MSamp/s): | 64      | dr window (ns/s) | -0.011   | 0.011            |      |      |
| amp/frq (%)  | 0.5  |     | 1.8  |                 |       |                |                 | Data rate(Mb/s): | 128                         | nlags:                | 512     | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

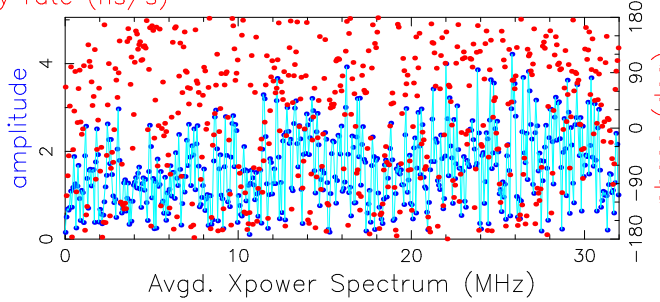
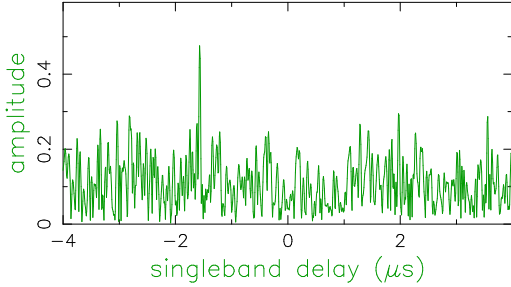
B: az 247.2 el 37.9 pa 37.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BP.W.71.0QR2SH

Fringe quality 0

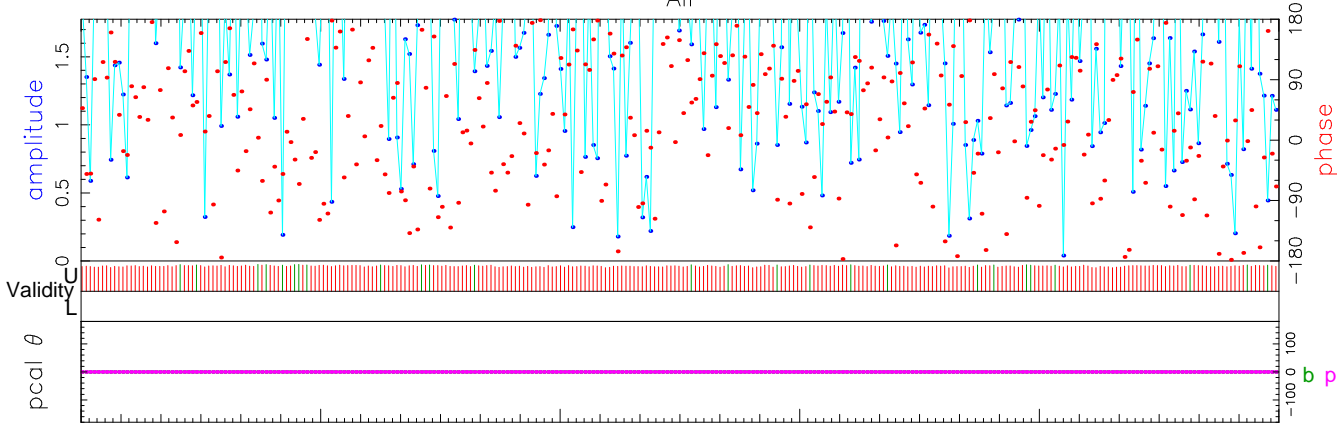


SNR 5.4  
 Int time 275.326  
 Amp 0.592  
 Phase 61.3  
 PFD 1.0e+00  
 Delays (us)  
 SBD -1.569263  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.693249  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171813  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 61.3  
 0.6  
 312.1  
 U/L 586/0  
 b 5000  
 p 5000  
 b:p 0:0  
 b:p 0:0  
 b 1000  
 p 1000  
 b W04UR  
 b  
 p W04UL

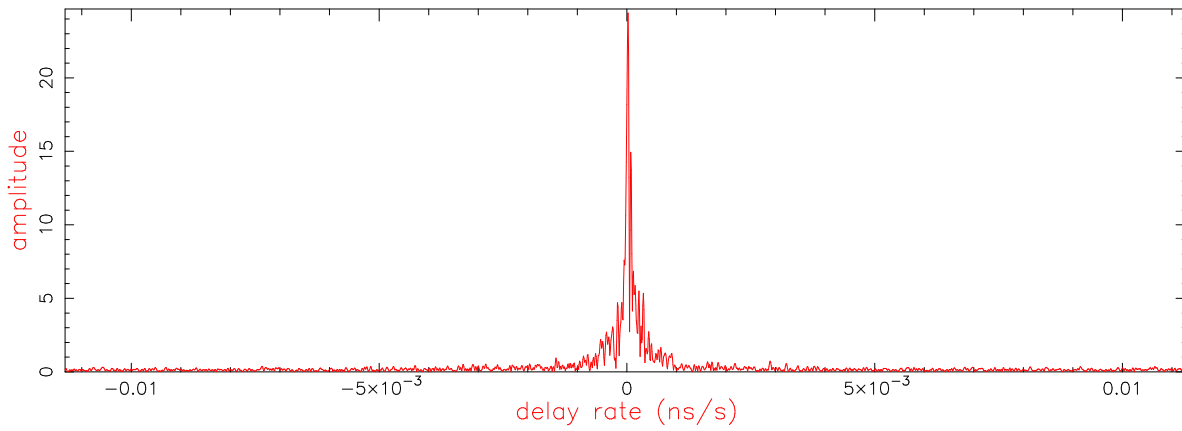
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -2.91311420064E+03 | Apriori delay (usec)     | -2.91154493496E+03 | Resid mbdelay (usec) | -6.33453E-06 | +/- 3.2E-03 |
| Sband delay (usec)      | -2.91311419846E+03 | Apriori clock (usec)     | -1.5339180E+01     | Resid sbdelay (usec) | -1.56926E+00 | +/- 3.2E-03 |
| Phase delay (usec)      | -2.91154493298E+03 | Apriori clockrate (us/s) | 2.3800000E-07      | Resid phdelay (usec) | 1.97569E-06  | +/- 6.8E-07 |
| Delay rate (us/s)       | -1.47566861463E-01 | Apriori rate (us/s)      | -1.47558813527E-01 | Resid rate (us/s)    | -8.04794E-06 | +/- 3.9E-09 |
| Total phase (deg)       | -189.8             | Apriori accel (us/s/s)   | 2.11137257319E-05  | Resid phase (deg)    | 61.3         | +/- 21.2    |

|              |          |              |                           |                       |  |                              |                  |        |       |
|--------------|----------|--------------|---------------------------|-----------------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 90.9 | Theor. 181.3 | Amplitude 0.592 +/- 0.109 | Search (2048X8) 0.476 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 379.6    | 316.5        | Interp. 0.000             | 0.000                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled         | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.6         | Inc. seg. avg. 0.404      | 0.581                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64     | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.2      | 18.5         | Inc. frq. avg. 0.581      |                       | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite | ion window (TEC) | 0.00   | 0.00  |

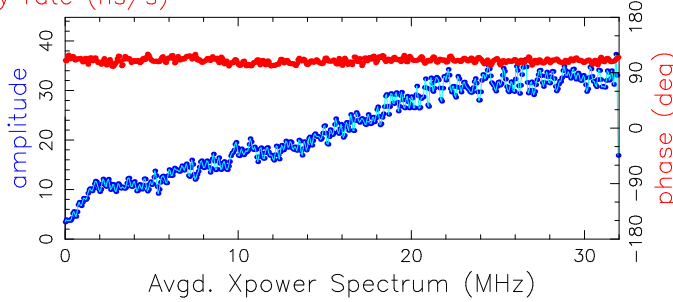
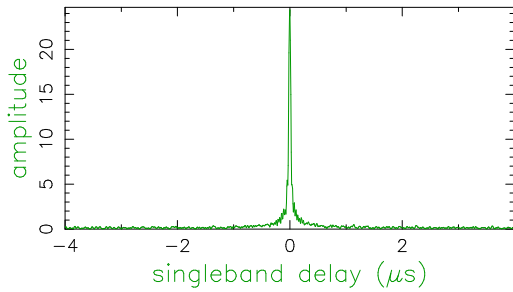
b: az 88.2 el 20.4 pa -44.0 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 907.562 2018.769 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bp.W.83.0QR2SH



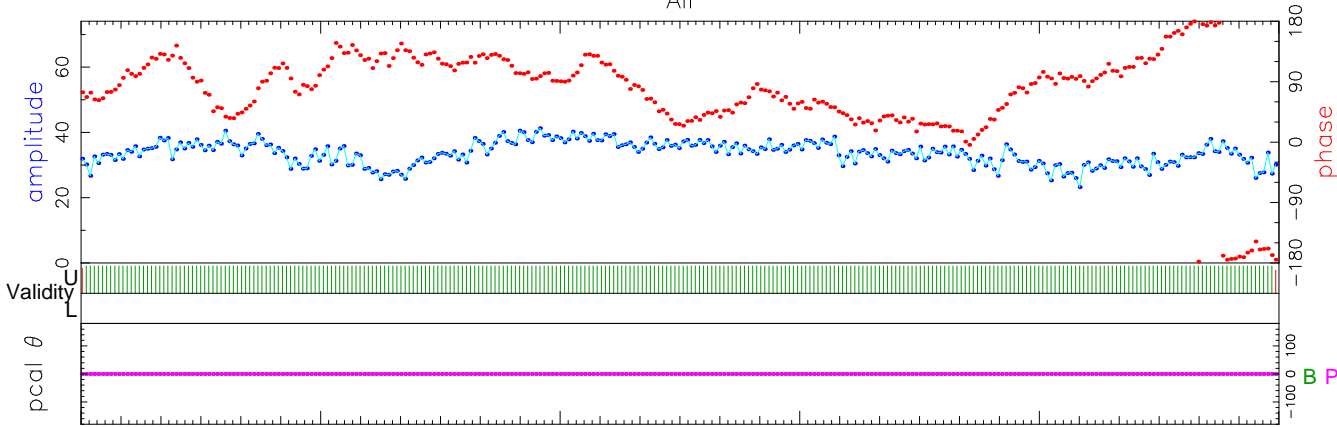
Fringe quality 6

SNR 290.7  
Int time 296.612  
Amp 24.686  
Phase 89.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.002880  
MBD -0.000004  
Fringe rate (Hz)  
0.001973  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171806  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
89.3  
24.4  
512.6  
U/L 586/0  
B 0  
P 0  
B:P 0:0  
B:P 0:0  
B 1000  
P 1000  
B W04UL  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.16822994069E+03 | Apriori delay (usec)     | -3.16822705808E+03 | Resid mbdelay (usec) | -3.57337E-06 | +/- | 5.9E-05 |
| Sband delay (usec)      | -3.16822993858E+03 | Apriori clock (usec)     | 1.9977873E+01      | Resid sbdelay (usec) | -2.88050E-03 | +/- | 5.9E-05 |
| Phase delay (usec)      | -3.16822705520E+03 | Apriori clockrate (us/s) | 2.5300001E-07      | Resid phdelay (usec) | 2.88040E-06  | +/- | 1.3E-08 |
| Delay rate (us/s)       | 3.44394130968E-02  | Apriori rate (us/s)      | 3.44393901913E-02  | Resid rate (us/s)    | 2.29055E-08  | +/- | 7.3E-11 |
| Total phase (deg)       | -192.6             | Apriori accel (us/s/s)   | 2.22898763986E-05  | Resid phase (deg)    | 89.3         | +/- | 0.4     |

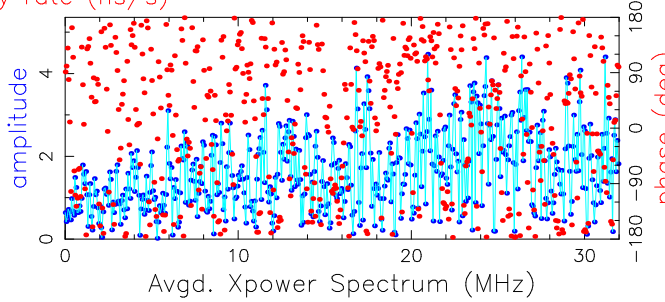
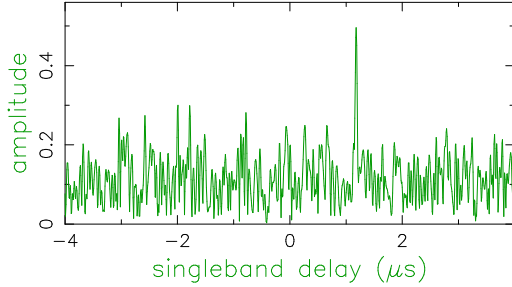
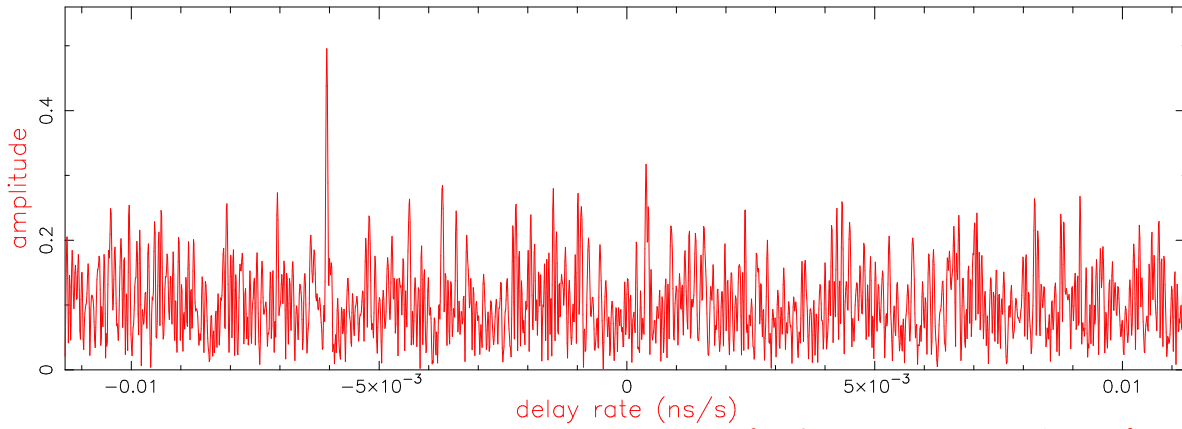
|              |      |     |     |                |        |           |                  |                 |        |                       |                             |                  |              |
|--------------|------|-----|-----|----------------|--------|-----------|------------------|-----------------|--------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 46.0 | RMS | 3.4 | Theor.         | 3.4    | Amplitude | 24.686 +/- 0.085 | Search (2048X8) | 24.394 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 39.0 |     | 5.9 | Interp.        | 0.000  |           |                  |                 |        | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  |     | 0.2 | Inc. seg. avg. | 33.611 |           |                  |                 |        | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.1  |     | 0.3 | Inc. frq. avg. | 24.407 |           |                  |                 |        | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |      |     |     |                |        |           |                  |                 |        | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

B: az 247.2 el 37.9 pa 37.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -176.511 1949.312 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BP.W.9.0QR2SH

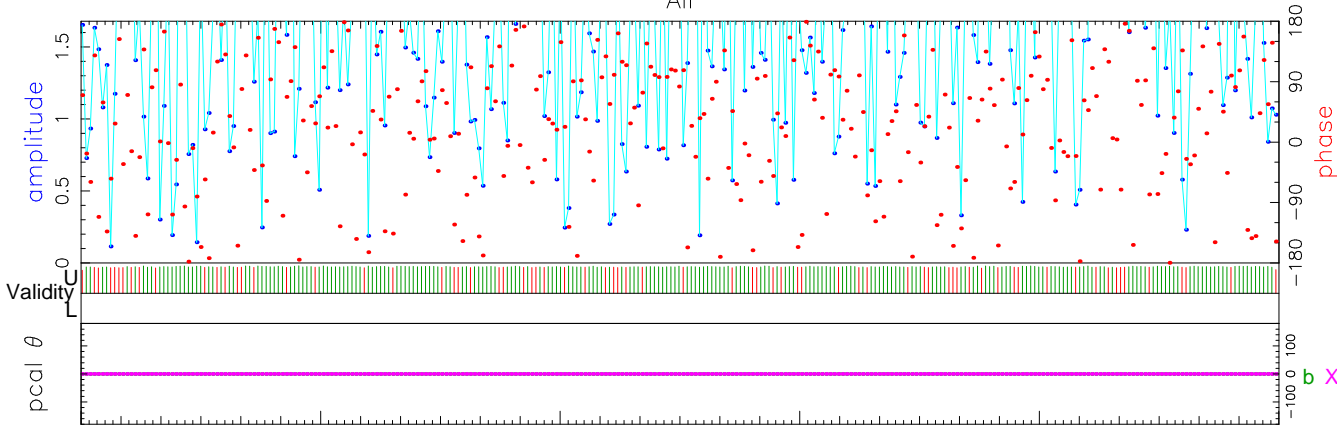
Fringe quality 0

SNR 5.8  
Int time 288.325  
Amp 0.560  
Phase 70.2  
PFD 6.4e-01  
Delays (us)  
SBD 1.178518  
MBD -0.000006  
Fringe rate (Hz)  
-0.521464  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



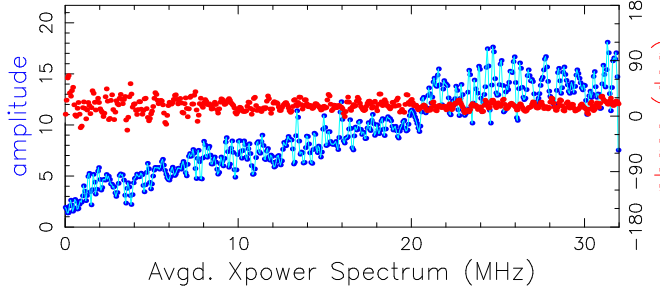
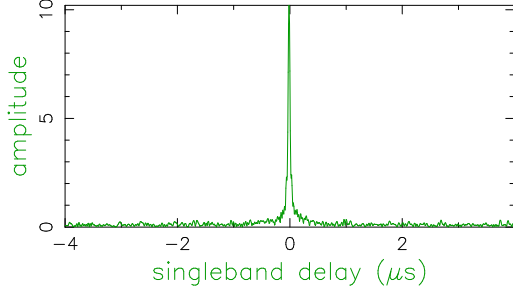
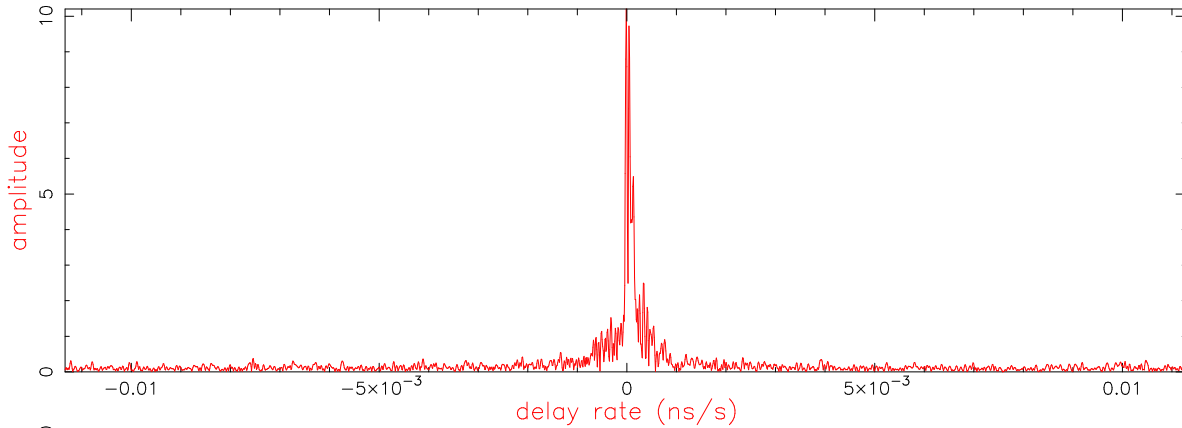
86140.00  
70.2  
0.6  
663.9  
U/L 586/0  
b 5000  
X 0  
b:X 0:0  
b:X 0:0  
b 1000  
X 1000  
b W04UL  
b  
X W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.70170676049E+03 | Apriori delay (usec)     | -3.70288527769E+03 | Resid mbdelay (usec) | -6.13819E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -3.70170675969E+03 | Apriori clock (usec)     | -9.1023703E+00     | Resid sbdelay (usec) | 1.17852E+00  | +/- | 3.0E-03 |
| Phase delay (usec)      | -3.70288527543E+03 | Apriori clockrate (us/s) | -3.9700001E-07     | Resid phdelay (usec) | 2.26524E-06  | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.62844748731E+00  | Apriori rate (us/s)      | 1.62845354098E+00  | Resid rate (us/s)    | -6.05368E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -225.0             | Apriori accel (us/s/s)   | 1.65495705657E-05  | Resid phase (deg)    | 70.2         | +/- | 19.9    |

|              |          |              |                           |                 |  |                           |                       |                   |                  |           |
|--------------|----------|--------------|---------------------------|-----------------|--|---------------------------|-----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | RMS 89.6 | Theor. 170.1 | Amplitude 0.560 +/- 0.097 | Search (2048X8) | 0.493                                  | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |                   |                  |           |
| amp/seg (%)  | 318.7    | 297.0        | Interp.                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)            | -4.000 4.000          |                   |                  |           |
| ph/frq (deg) | 0.0      | 9.9          | Inc. seg. avg.            | 0.374           | Bits/sample: 2x2                       | SampCntNorm: enabled      | mb window (us)        | -0.000 0.000      |                  |           |
| amp/frq (%)  | 0.2      | 17.3         | Inc. frq. avg.            | 0.551           | Sample rate(MSamp/s): 64               | Data rate(Mb/s): 128      | nlags: 512            | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

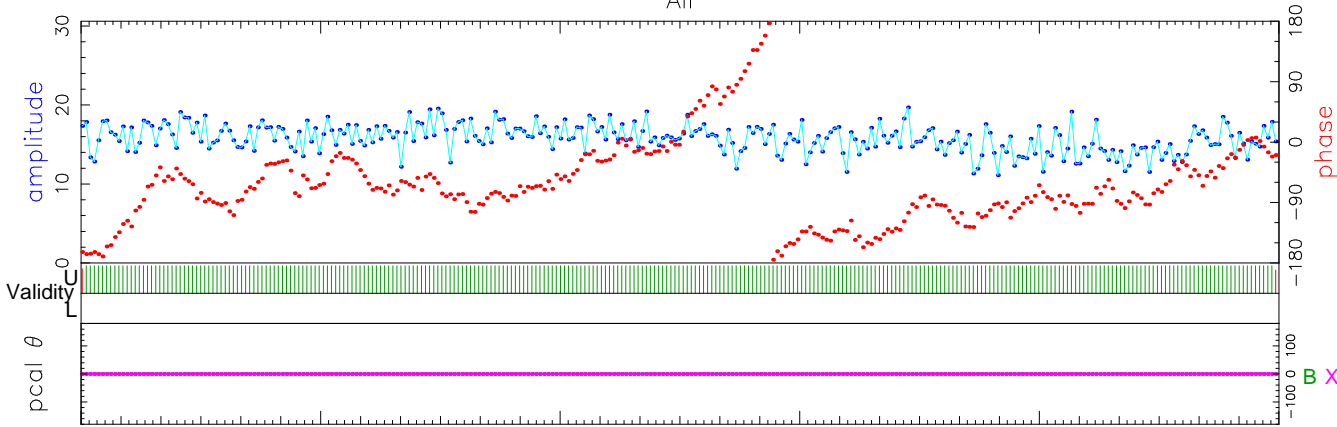
b: az 88.2 el 20.4 pa -44.0 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -9692.132 -407.459 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bX.W.23.0QR2SH



Fringe quality 7  
SNR 120.8  
Int time 299.764  
Amp 10.203  
Phase -72.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.015537  
MBD -0.000007  
Fringe rate (Hz)  
-0.000793  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171808  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-72.2  
10.2  
511.0  
U/L 586/0  
B 0  
X 0  
B:X 0:0  
B:X 0:0  
B 1000  
X 1000  
B W04UL  
X W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

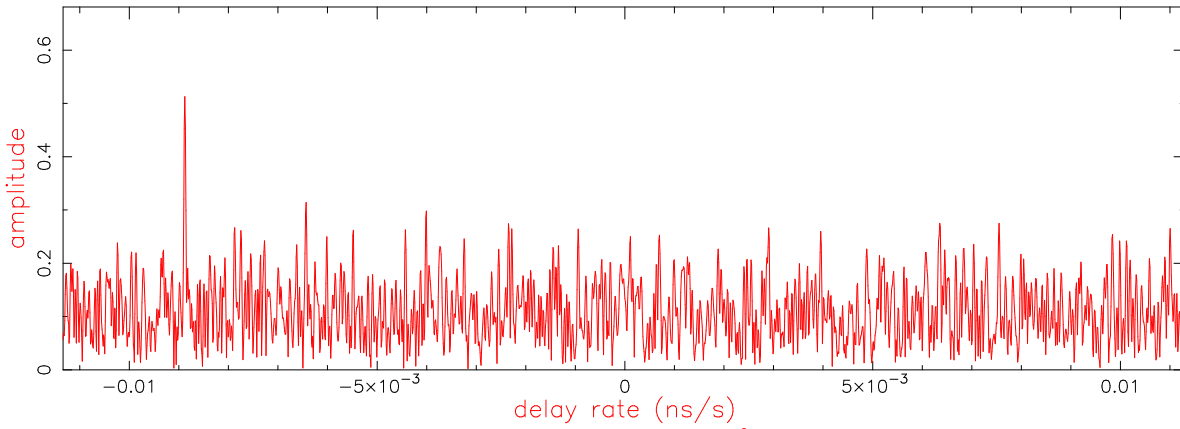
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.61694571021E+03  | Apriori delay (usec)     | 1.61696124981E+03  | Resid mbdelay (usec) | -6.74623E-06 | +/- | 1.4E-04 |
| Sband delay (usec)      | 1.61694571331E+03  | Apriori clock (usec)     | -5.1678429E+00     | Resid sbdelay (usec) | -1.55365E-02 | +/- | 1.4E-04 |
| Phase delay (usec)      | 1.61696124748E+03  | Apriori clockrate (us/s) | -8.2399999E-07     | Resid phdelay (usec) | -2.32922E-06 | +/- | 3.1E-08 |
| Delay rate (us/s)       | -6.77727995850E-02 | Apriori rate (us/s)      | -6.77727903766E-02 | Resid rate (us/s)    | -9.20841E-09 | +/- | 1.8E-10 |
| Total phase (deg)       | -51.3              | Apriori accel (us/s/s)   | -1.08557532878E-05 | Resid phase (deg)    | -72.2        | +/- | 0.9     |

|              |      |     |      |        |                 |                  |                       |                             |                  |              |                |              |                  |           |
|--------------|------|-----|------|--------|-----------------|------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 56.2 | RMS | 8.1  | Theor. | Amplitude       | 10.203 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 57.5 |     | 14.2 |        | Search (2048X8) | 10.159           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0  |     | 0.5  |        | Inc. seg. avg.  | 15.648           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0  |     | 0.8  |        | Inc. frq. avg.  | 10.203           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |      |     |      |        |                 |                  | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

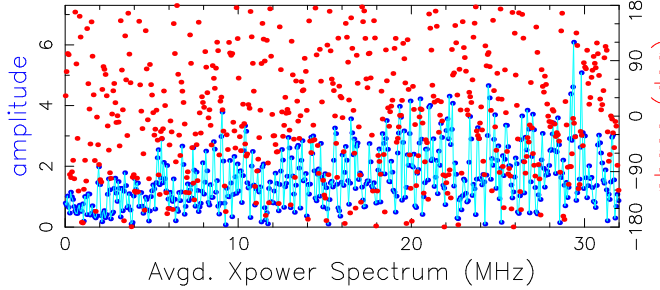
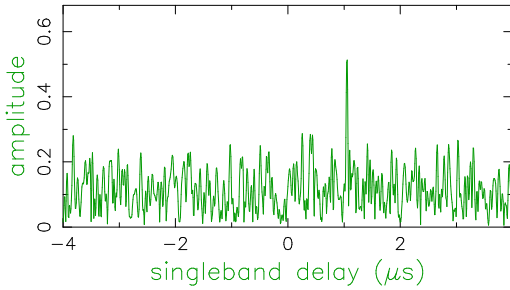
B: az 247.2 el 37.9 pa 37.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 390.194 -851.396 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BX.W.36.0QR2SH

Fringe quality 0

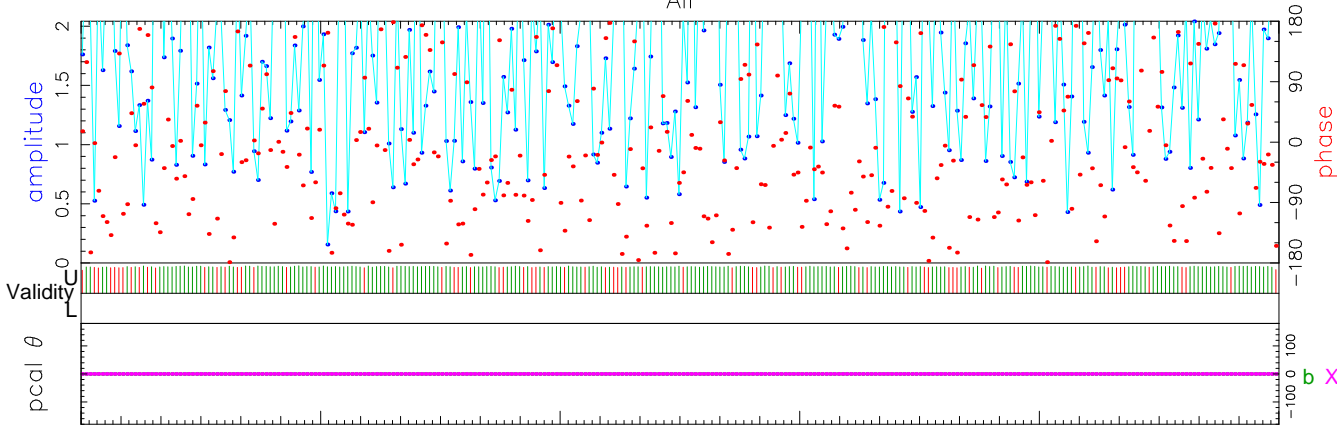


SNR 6.1  
 Int time 288.326  
 Amp 0.681  
 Phase -65.7  
 PFD 1.7e-01  
 Delays (us)  
 SBD 1.051375  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.764904  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171809  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 -65.7  
 0.7  
 647.6  
 U/L 586/0  
 b 5000  
 X 0  
 b:X 0:0  
 b:X 0:0  
 b 1000  
 X 1000  
 b W04UR  
 X W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

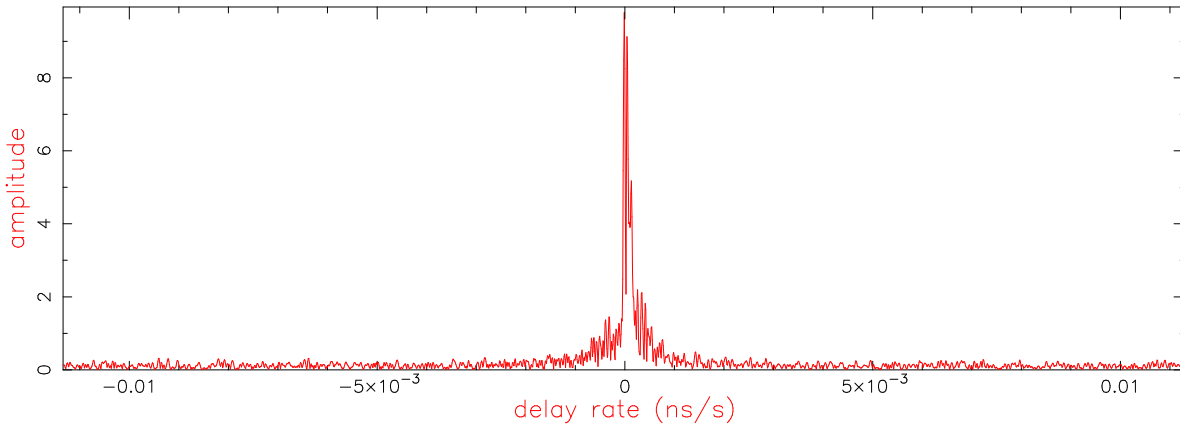
|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -3.70183390340E+03 | Apriori delay (usec)     | -3.70288527769E+03 | Resid mbdelay (usec) | -7.18133E-06 | +/- 2.8E-03 |
| Sband delay (usec)      | -3.70183390319E+03 | Apriori clock (usec)     | -9.1023703E+00     | Resid sbdelay (usec) | 1.05137E+00  | +/- 2.8E-03 |
| Phase delay (usec)      | -3.70288527981E+03 | Apriori clockrate (us/s) | -3.9700001E-07     | Resid phdelay (usec) | -2.11855E-06 | +/- 6.1E-07 |
| Delay rate (us/s)       | 1.62844466120E+00  | Apriori rate (us/s)      | 1.62845354098E+00  | Resid rate (us/s)    | -8.87978E-06 | +/- 3.5E-09 |
| Total phase (deg)       | -1.0               | Apriori accel (us/s/s)   | 1.65495705657E-05  | Resid phase (deg)    | -65.7        | +/- 18.9    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 91.8 | Theor. 161.9 | Amplitude 0.681 +/- 0.112 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 325.6    | 282.7        | Search (2048X8) 0.513     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 9.5          | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 1.7      | 16.5         | Inc. seg. avg. 0.499      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.660      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

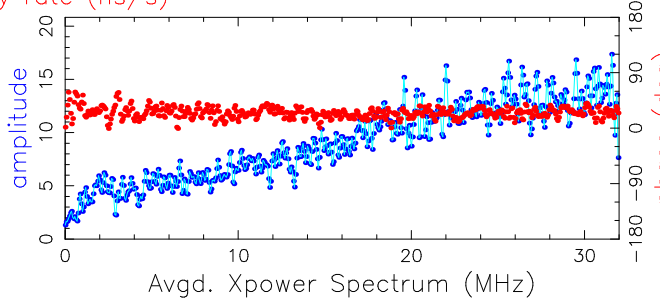
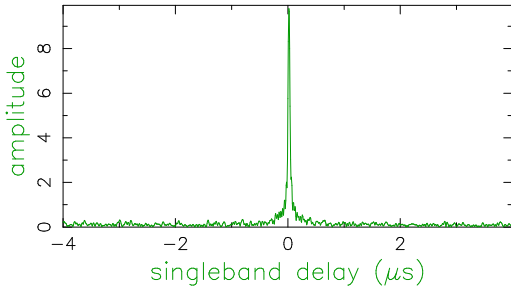
b: az 88.2 el 20.4 pa -44.0 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -9692.132 -407.459 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bX.W.46.0QR2SH

Fringe quality 7

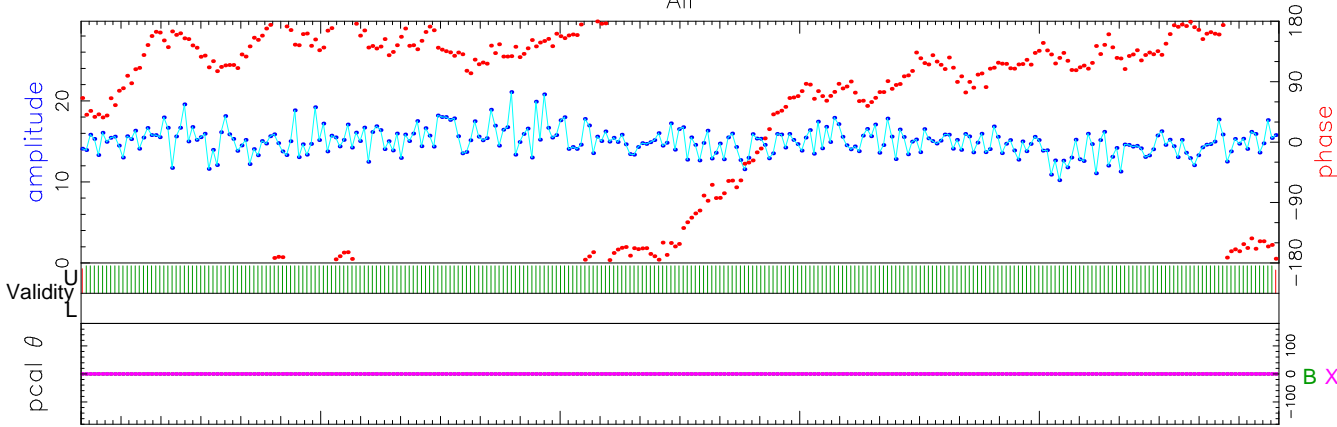


SNR 117.7  
 Int time 299.764  
 Amp 9.941  
 Phase 137.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.018920  
 MBD -0.000005  
 Fringe rate (Hz)  
 -0.000824  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171810  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 137.6  
 9.8  
 515.4  
 U/L 586/0  
 B 0  
 X 0  
 B:X 0:0  
 B:X 0:0  
 B 1000  
 X 1000  
 B W04UR  
 X W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

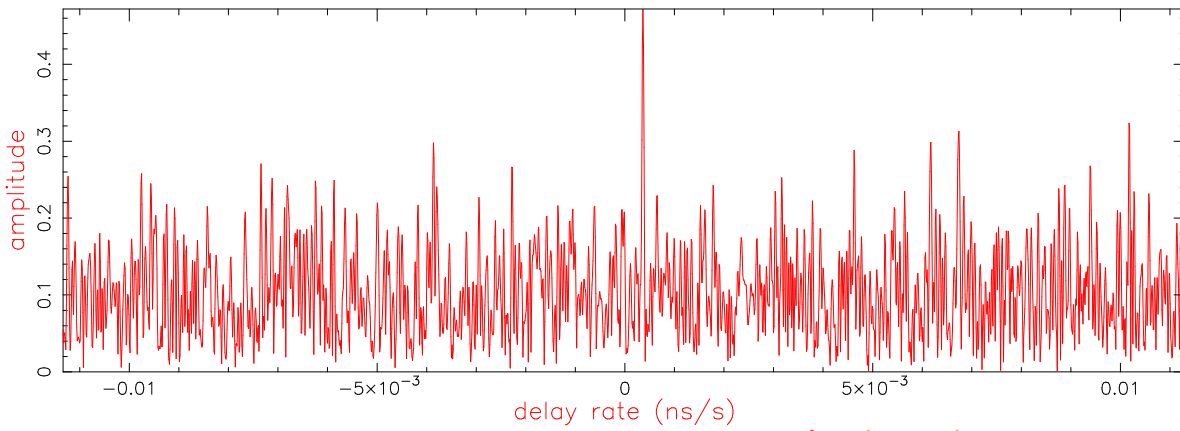
|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.61698016727E+03  | Apriori delay (usec)     | 1.61696124981E+03  | Resid mbdelay (usec) | -5.21597E-06 | +/- 1.5E-04 |
| Sband delay (usec)      | 1.61698016981E+03  | Apriori clock (usec)     | -5.1678429E+00     | Resid sbdelay (usec) | 1.89200E-02  | +/- 1.5E-04 |
| Phase delay (usec)      | 1.61696125424E+03  | Apriori clockrate (us/s) | -8.2399999E-07     | Resid phdelay (usec) | 4.43636E-06  | +/- 3.1E-08 |
| Delay rate (us/s)       | -6.77727999442E-02 | Apriori rate (us/s)      | -6.77727903766E-02 | Resid rate (us/s)    | -9.56765E-09 | +/- 1.8E-10 |
| Total phase (deg)       | 158.5              | Apriori accel (us/s/s)   | -1.08557532878E-05 | Resid phase (deg)    | 137.6        | +/- 1.0     |

|              |      |         |       |                |        |                |                 |                       |                  |                  |                             |                  |                  |           |
|--------------|------|---------|-------|----------------|--------|----------------|-----------------|-----------------------|------------------|------------------|-----------------------------|------------------|------------------|-----------|
| ph/seg (deg) | 56.5 | RMS     | 56.5  | Theor.         | 8.3    | Amplitude      | 9.941 +/- 0.084 | Search (2048X8)       | 9.764            | Pcal mode:       | MANUAL, MANUAL              | PC period (AP's) | 5, 5             |           |
| amp/seg (%)  | 53.7 | Interp. | 0.000 | Inc. seg. avg. | 14.867 | Inc. frq. avg. | 9.791           | u,v (fr/asec)         | 390.194 -851.396 | Pcal rate:       | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000     |           |
| ph/frq (deg) | 0.0  | 0.5     | 0.8   | 0.000          | 0.000  | 0.000          | 0.000           | Bits/sample:          | 2x2              | SampCntNorm:     | enabled                     | mb window (us)   | -0.000 0.000     |           |
| amp/frq (%)  | 1.5  | 0.8     | 0.8   | 0.000          | 0.000  | 0.000          | 0.000           | Sample rate(MSamp/s): | 64               | Data rate(Mb/s): | 128                         | dr window (ns/s) | -0.011 0.011     |           |
|              |      |         |       |                |        |                |                 |                       |                  |                  |                             |                  | ion window (TEC) | 0.00 0.00 |

B: az 247.2 el 37.9 pa 37.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 390.194 -851.396 simultaneous interpolator

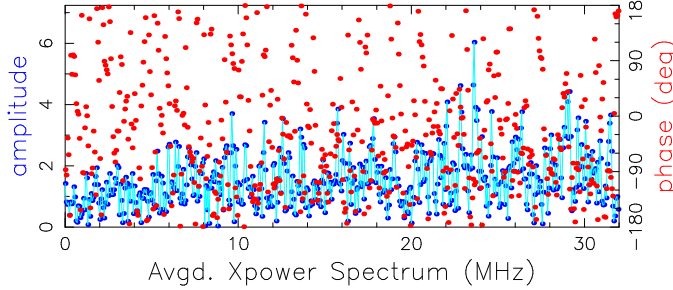
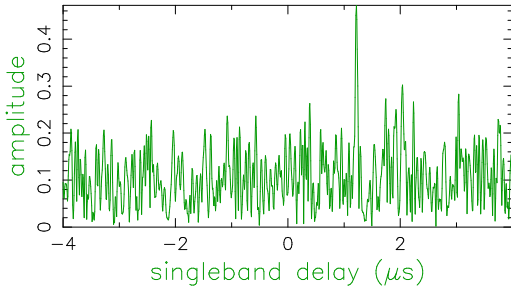
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BX.W.47.0QR2SH





Fringe quality 0

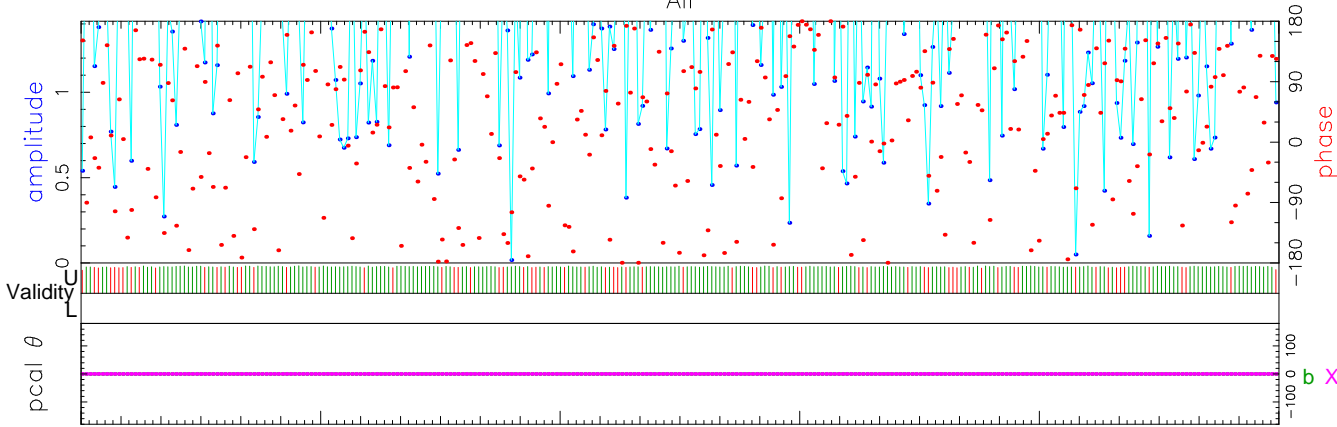
SNR 5.5  
Int time 288.325  
Amp 0.472  
Phase 106.1  
PFD 9.9e-01  
Delays (us)  
SBD 1.217852  
MBD 0.000004  
Fringe rate (Hz)  
0.031519  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



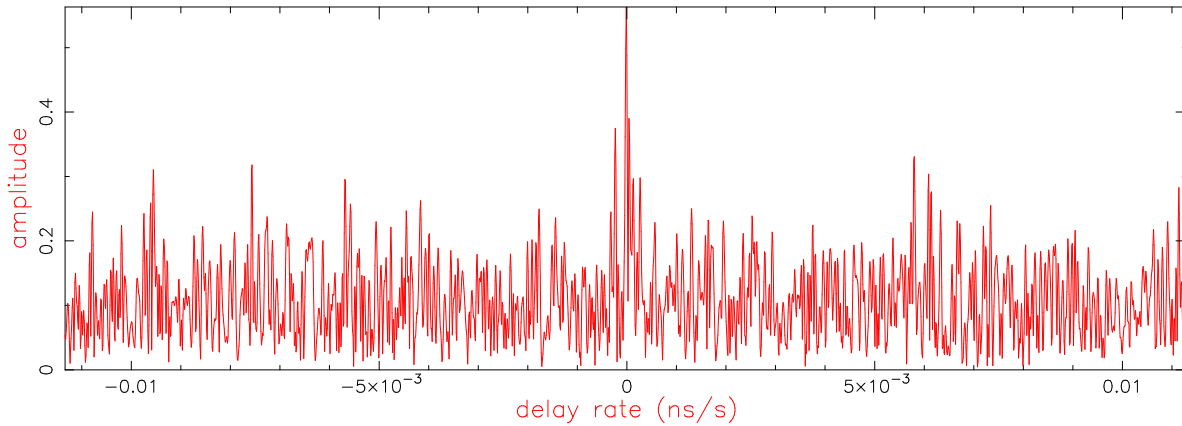
86140.00  
106.1  
0.5  
668.9  
U/L 586/0  
b 5000  
X 0  
b:X 0:0  
b:X 0:0  
b 1000  
X 1000  
b W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -3.70166743018E+03 | Apriori delay (usec)     | -3.70288527769E+03 | Resid mbdelay (usec) | 4.46603E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -3.70166742519E+03 | Apriori clock (usec)     | -9.1023703E+00     | Resid sbdelay (usec) | 1.21785E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -3.70288527427E+03 | Apriori clockrate (us/s) | -3.9700001E-07     | Resid phdelay (usec) | 3.42111E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.62845390689E+00  | Apriori rate (us/s)      | 1.62845354098E+00  | Resid rate (us/s)    | 3.65906E-07 | +/- | 3.9E-09 |
| Total phase (deg)       | -189.2             | Apriori accel (us/s/s)   | 1.65495705657E-05  | Resid phase (deg)    | 106.1       | +/- | 20.9    |

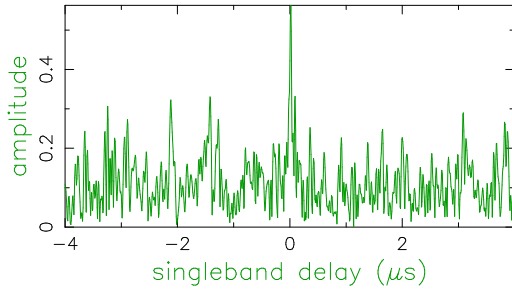
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.8  | Theor.          | 179.0 | Amplitude      | 0.472 +/- 0.086 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 354.3 | Search (2048X8) | 0.471 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.315           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.464 | Inc. frq. avg. | 0.464           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -9692.132 -407.459 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bX.W.66.0QR2SH

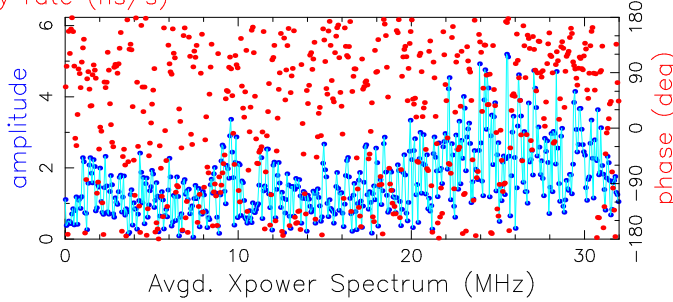


Fringe quality 0

SNR 6.7  
Int time 299.764  
Amp 0.563  
Phase -163.7  
PFD 3.8e-03  
Delays (us)  
SBD 0.014810  
MBD -0.000007  
Fringe rate (Hz)  
-0.000885  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

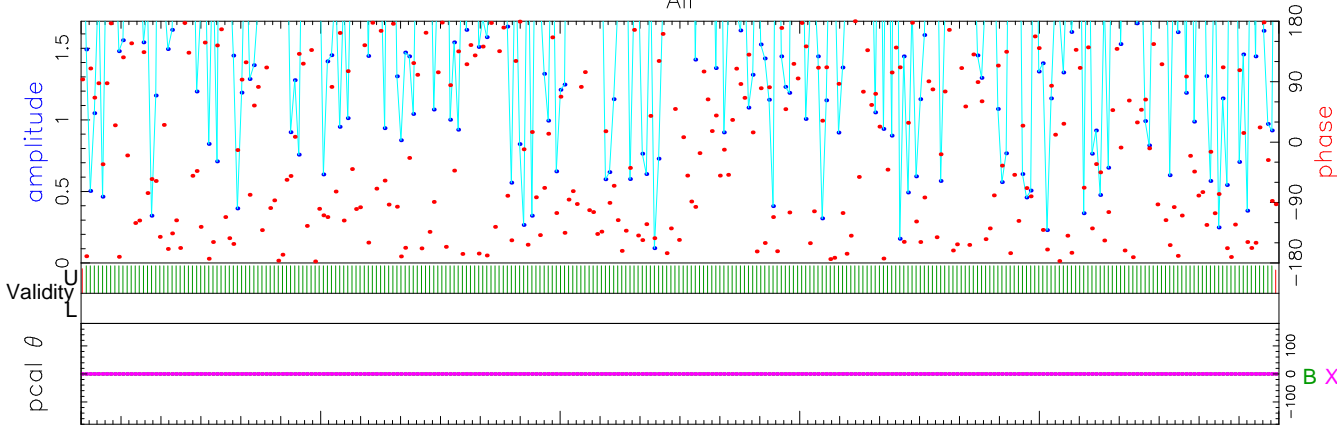


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-163.7  
0.6  
514.9  
U/L 586/0  
B 0  
X 0  
B:X 0:0  
B:X 0:0  
B 1000  
X 1000  
B W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.61697605617E+03  | Apriori delay (usec)     | 1.61696124981E+03  | Resid mbdelay (usec) | -6.73397E-06 | +/- | 2.6E-03 |
| Sband delay (usec)      | 1.61697606031E+03  | Apriori clock (usec)     | -5.1678429E+00     | Resid sbdelay (usec) | 1.48105E-02  | +/- | 2.6E-03 |
| Phase delay (usec)      | 1.61696124453E+03  | Apriori clockrate (us/s) | -8.2399999E-07     | Resid phdelay (usec) | -5.27806E-06 | +/- | 5.5E-07 |
| Delay rate (us/s)       | -6.77728006507E-02 | Apriori rate (us/s)      | -6.77727903766E-02 | Resid rate (us/s)    | -1.02741E-08 | +/- | 3.2E-09 |
| Total phase (deg)       | -142.7             | Apriori accel (us/s/s)   | -1.08557532878E-05 | Resid phase (deg)    | -163.7       | +/- | 17.2    |

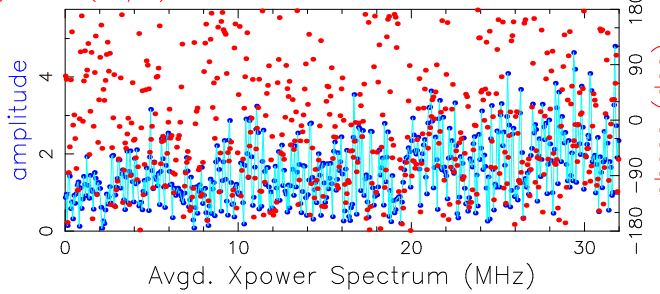
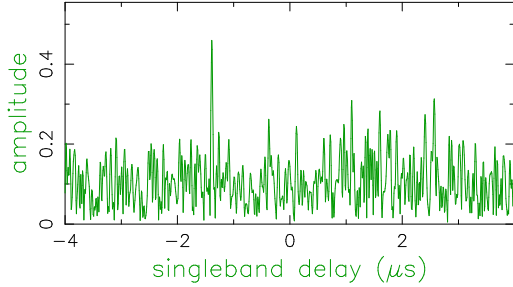
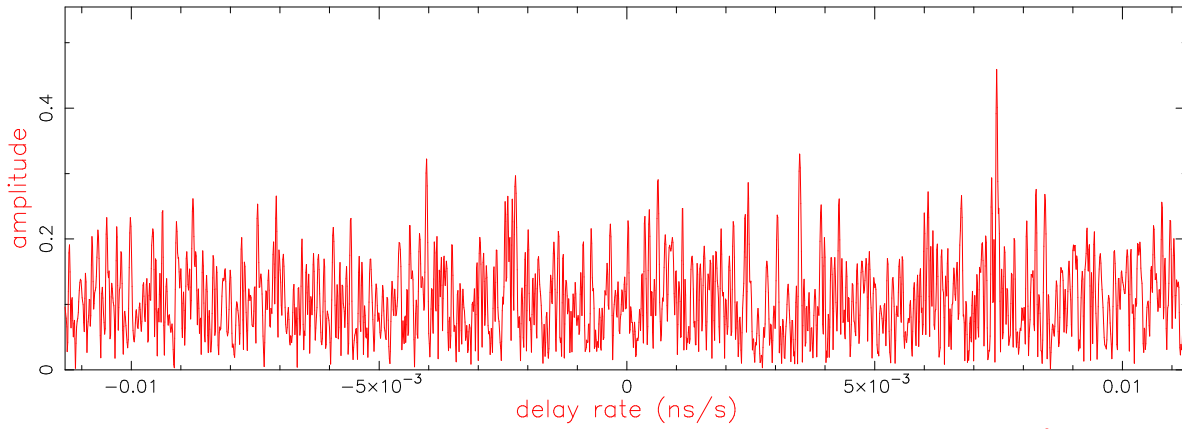
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.5  | Theor.          | 147.2 | Amplitude      | 0.563 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 311.1 | Search (2048X8) | 0.562 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.458           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.556 | Inc. frq. avg. | 0.556           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 390.194 -851.396 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BX.W.78.0QR2SH

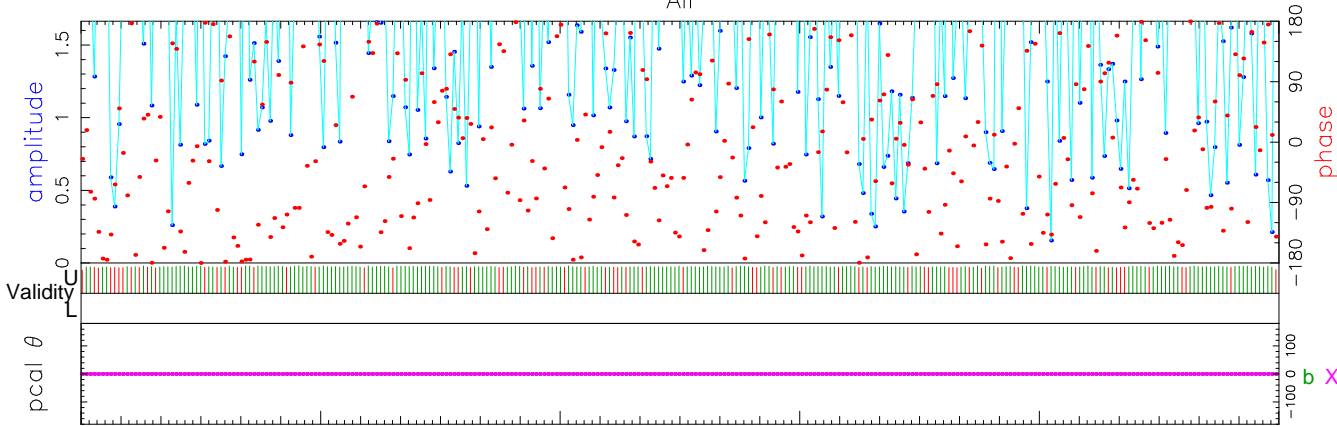
Fringe quality 0

SNR 5.4  
Int time 288.326  
Amp 0.555  
Phase -120.0  
PFD 1.0e+00  
Delays (us)  
SBD -1.389019  
MBD 0.000004  
Fringe rate (Hz)  
0.642504  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



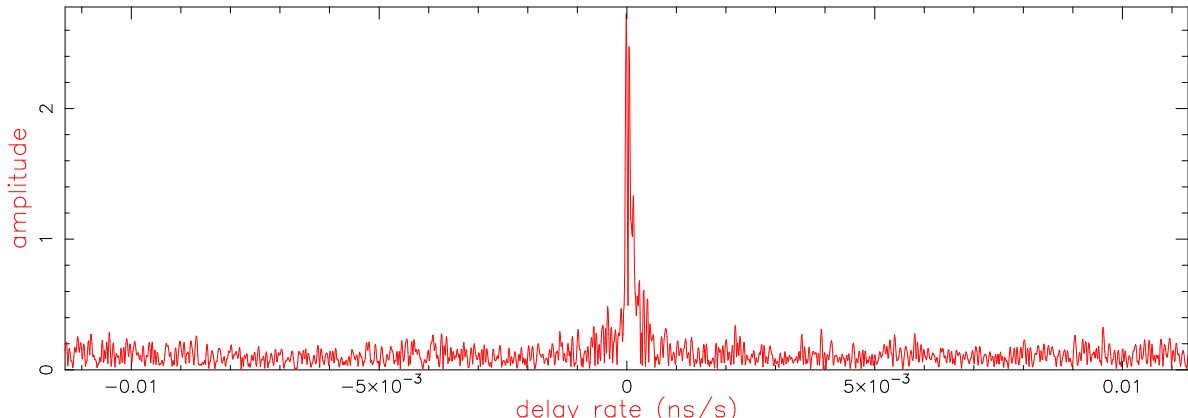
86140.00  
-120.0  
0.6  
335.2  
U/L 586/0  
b 5000  
X 0  
b:X 0:0  
b:X 0:0  
b 1000  
X 1000  
b W04UR  
X W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.70427429109E+03 | Apriori delay (usec)     | -3.70288527769E+03 | Resid mbdelay (usec) | 4.48173E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -3.70427429619E+03 | Apriori clock (usec)     | -9.1023703E+00     | Resid sbdelay (usec) | -1.38902E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -3.70288528156E+03 | Apriori clockrate (us/s) | -3.9700001E-07     | Resid phdelay (usec) | -3.86972E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.62846099981E+00  | Apriori rate (us/s)      | 1.62845354098E+00  | Resid rate (us/s)    | 7.45883E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -55.3              | Apriori accel (us/s/s)   | 1.65495705657E-05  | Resid phase (deg)    | -120.0       | +/- | 21.4    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.7  | Theor.          | 183.2 | Amplitude      | 0.555 +/- 0.104 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 383.2 | Search (2048X8) | 0.454 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.375           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.543 | Inc. frq. avg. | 0.543           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -9692.132 -407.459 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bX...0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bX.W.81.0QR2SH



Fringe quality 9

SNR 32.9

Int time 299.764

Amp 2.778

Phase 40.9

PFD 0.0e+00

Delays (us)

SBD -0.011934

MBD -0.000005

Fringe rate (Hz)

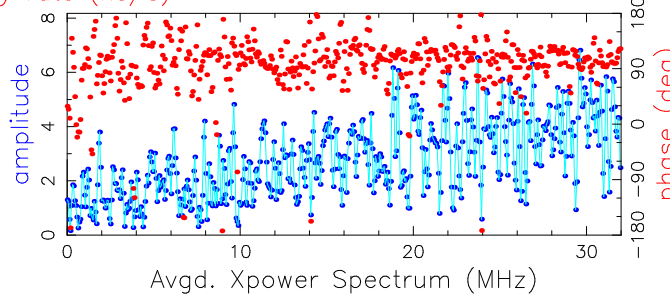
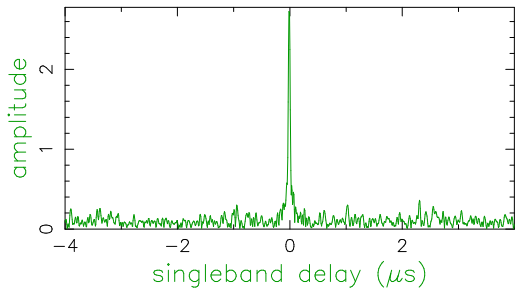
-0.000845

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171814

2018:249:082454

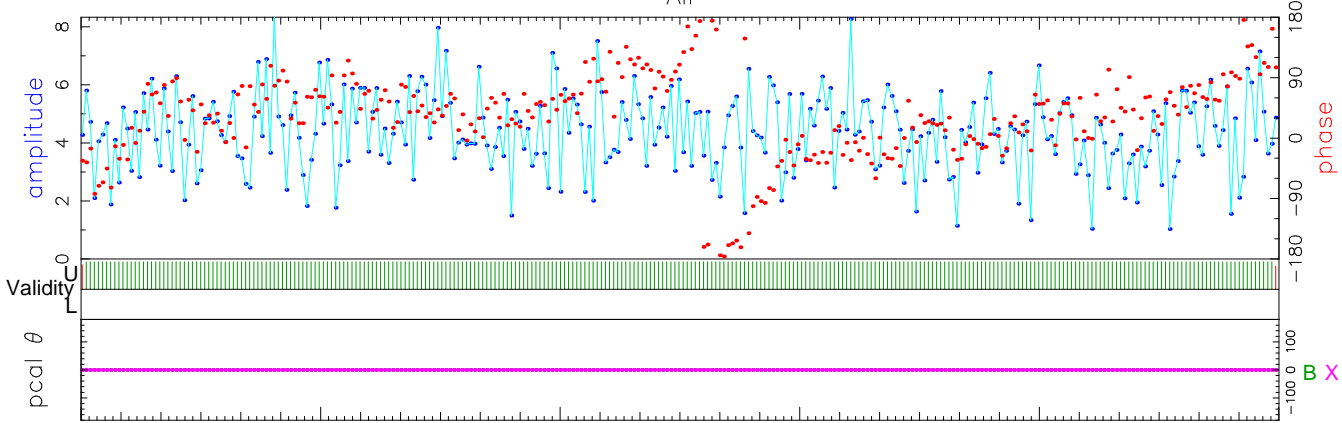
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

40.9

2.7

511.5

U/L 586/0

B 0

X 0

B:X 0:0

B:X 0:0

B 1000

X 1000

B W04UR

X W04UL

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC phase

Manl PC

PC amp

Chan ids

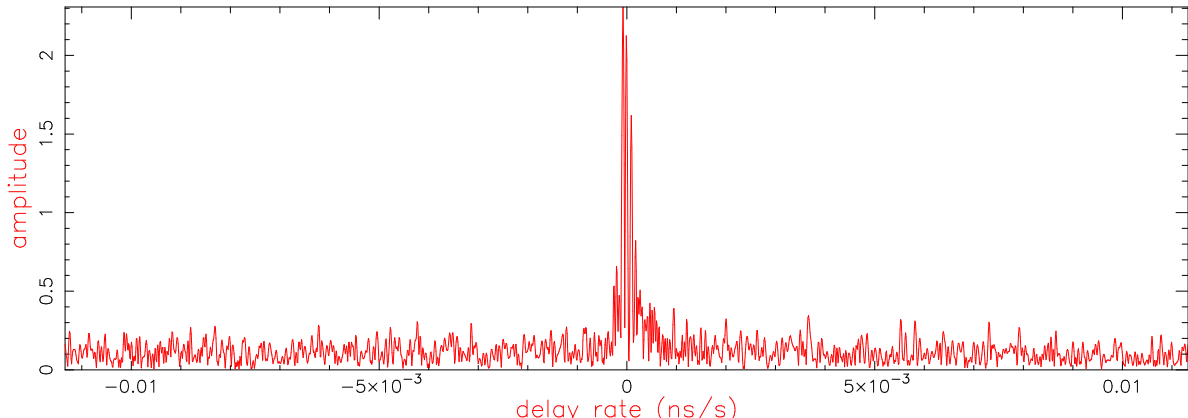
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.61694931080E+03  | Apriori delay (usec)     | 1.61696124981E+03  | Resid mbdelay (usec) | -4.94544E-06 | +/- | 5.2E-04 |
| Sband delay (usec)      | 1.61694931581E+03  | Apriori clock (usec)     | -5.1678429E+00     | Resid sbdelay (usec) | -1.19340E-02 | +/- | 5.2E-04 |
| Phase delay (usec)      | 1.61696125113E+03  | Apriori clockrate (us/s) | -8.2399999E-07     | Resid phdelay (usec) | 1.32035E-06  | +/- | 1.1E-07 |
| Delay rate (us/s)       | -6.77728001887E-02 | Apriori rate (us/s)      | -6.77727903766E-02 | Resid rate (us/s)    | -9.81211E-09 | +/- | 6.5E-10 |
| Total phase (deg)       | 61.9               | Apriori accel (us/s/s)   | -1.08557532878E-05 | Resid phase (deg)    | 40.9         | +/- | 3.5     |

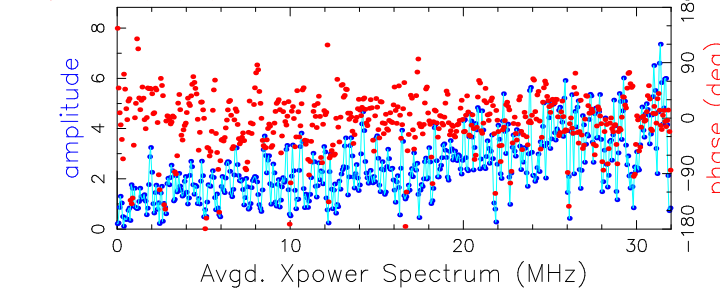
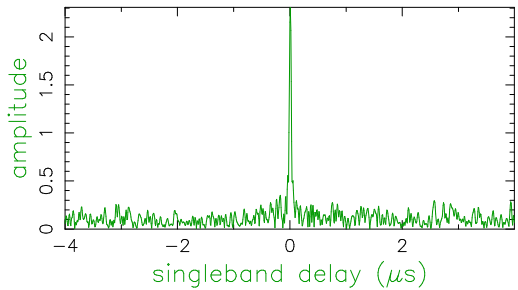
|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 58.6 | Theor.          | 29.8  | Amplitude      | 2.778 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 75.5 | Search (2048X8) | 2.717 | Search         | 2.717           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Interp.         | 0.000 | Inc. seg. avg. | 3.858           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.9  | Inc. frq. avg.  | 2.723 | Inc. frq. avg. | 2.723           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |

B: az 247.2 el 37.9 pa 37.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 390.194 -851.396 simultaneous interpolator

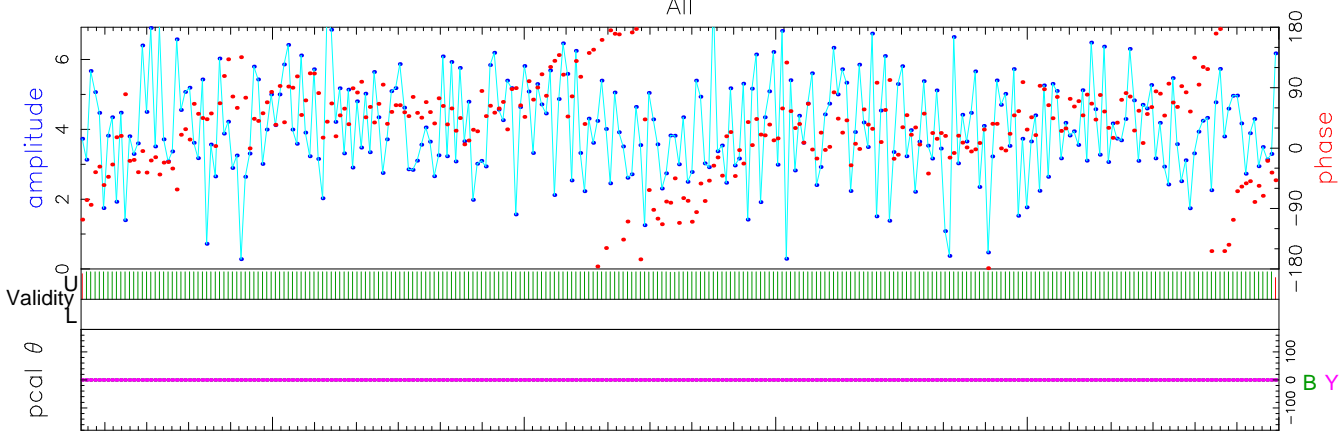
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BX.W.89.0QR2SH



Fringe quality 9  
 SNR 26.7  
 Int time 285.318  
 Amp 2.308  
 Phase 38.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.006905  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.006336  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171816  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

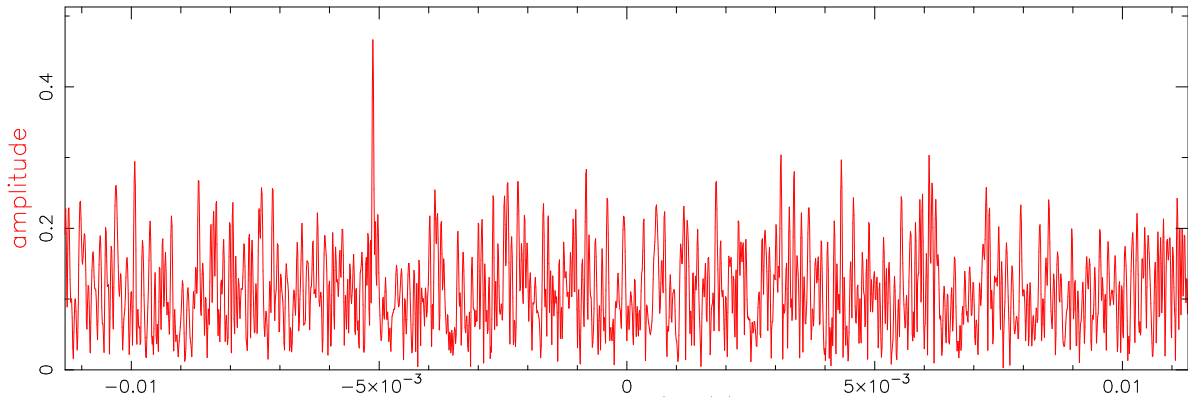


86140.00 Freq (MHz)  
 38.4 Phase  
 2.3 Ampl.  
 513.9 Sbd box  
 U/L 558/0 APs used  
 B 0 PC freqs  
 Y 0 PC freqs  
 B:Y 0:0 PC phase  
 B:Y 0:0 Manl PC  
 B 1000 PC amp  
 Y 1000  
 B W04UR Chan ids  
 Y W04UL Chan ids

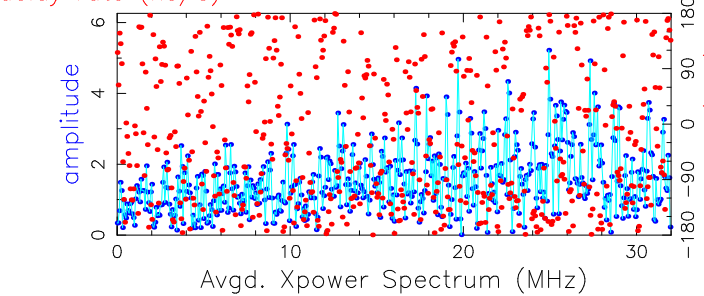
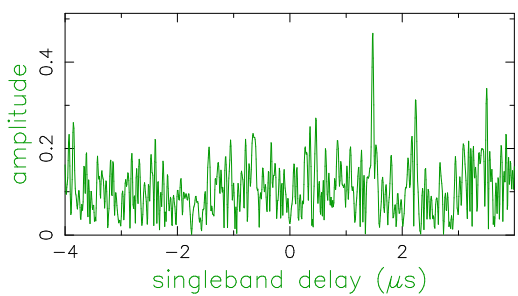
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.80467265662E+03 | Apriori delay (usec)     | -2.80467955760E+03 | Resid mbdelay (usec) | -6.38245E-06 | +/- | 6.5E-04 |
| Sband delay (usec)      | -2.80467265260E+03 | Apriori clock (usec)     | 1.2879183E+01      | Resid sbdelay (usec) | 6.90500E-03  | +/- | 6.5E-04 |
| Phase delay (usec)      | -2.80467955636E+03 | Apriori clockrate (us/s) | -2.3700001E-07     | Resid phdelay (usec) | 1.23896E-06  | +/- | 1.4E-07 |
| Delay rate (us/s)       | 2.87582911071E-03  | Apriori rate (us/s)      | 2.87590266608E-03  | Resid rate (us/s)    | -7.35554E-08 | +/- | 8.4E-10 |
| Total phase (deg)       | 5.5                | Apriori accel (us/s/s)   | 1.88398071791E-05  | Resid phase (deg)    | 38.4         | +/- | 4.3     |

|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 65.1 | Theor.          | 35.9  | Amplitude      | 2.308 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 96.9 | Search (2048X8) | 2.274 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Interp.         | 0.000 | Inc. seg. avg. | 3.390           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.1  | Inc. frq. avg.  | 2.304 | Inc. frq. avg. | 2.304           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |      |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

B: az 247.2 el 37.9 pa 37.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 7.171 1470.823 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BY.W.103.0QR2SH



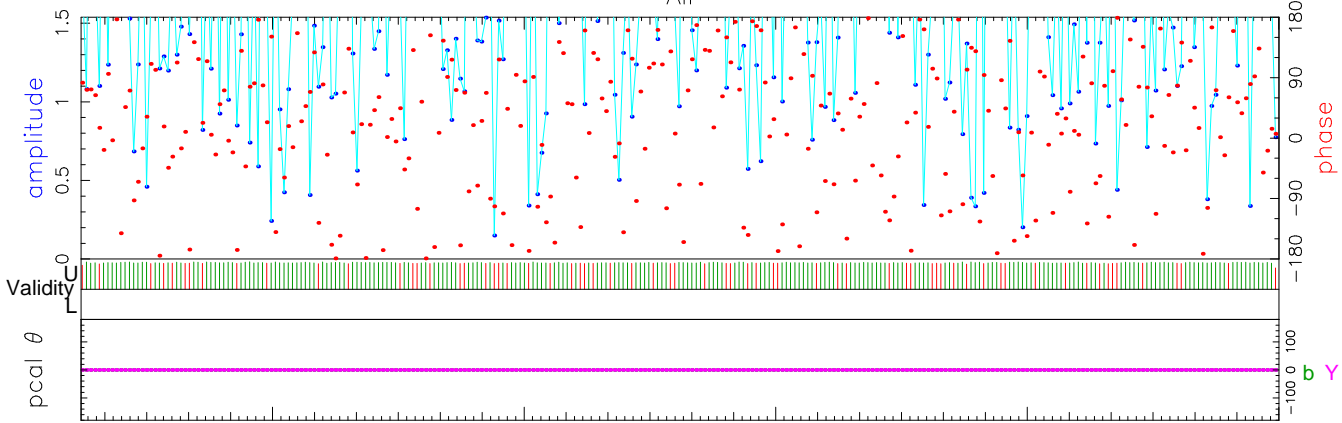
Fringe quality 0  
SNR 5.3  
Int time 274.630  
Amp 0.513  
Phase 71.6  
PFD 1.0e+00  
Delays (us)  
SBD 1.473832  
MBD -0.000007  
Fringe rate (Hz)  
-0.441744  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171807  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
71.6  
0.5  
701.6  
U/L 558/0  
b 5000  
Y 0  
b:Y 0:0  
b:Y 0:0  
b 1000  
Y 1000  
b W04UL  
Y W04UL

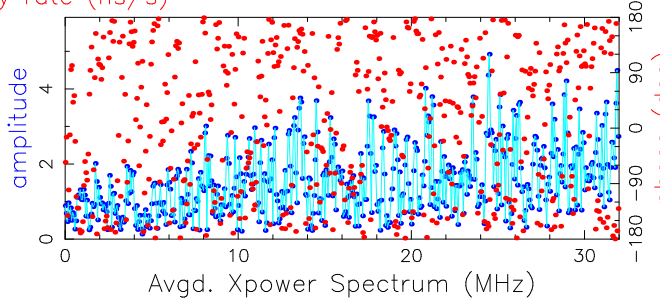
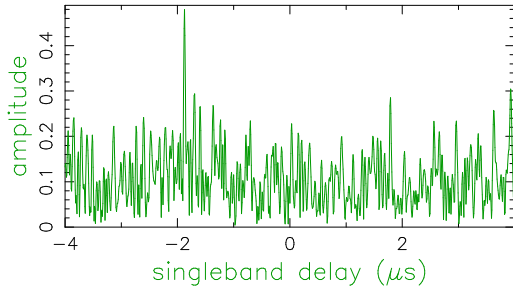
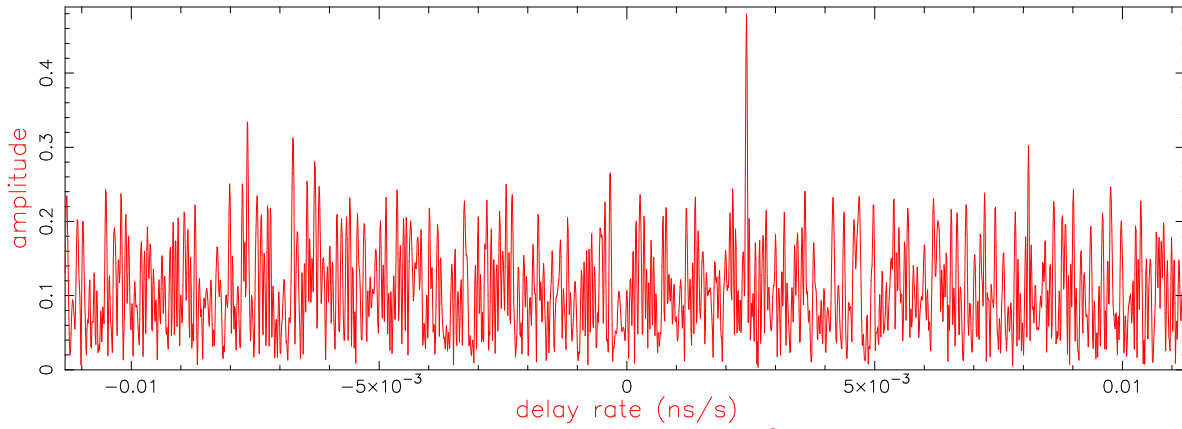
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                             |                    |                             |                    |                       |                             |                  |                           |
|-----------------------------|--------------------|-----------------------------|--------------------|-----------------------|-----------------------------|------------------|---------------------------|
| Group delay (usec)(sbd)     | -8.12305225851E+03 | Apriori delay (usec)        | -8.12452608509E+03 | Resid mbdelay (usec)  | -6.70731E-06                | +/-              | 3.2E-03                   |
| Sband delay (usec)          | -8.12305225309E+03 | Apriori clock (usec)        | 8.9446554E+00      | Resid sbdelay (usec)  | 1.47383E+00                 | +/-              | 3.2E-03                   |
| Phase delay (usec)          | -8.12452608278E+03 | Apriori clockrate (us/s)    | 1.8999998E-07      | Resid phdelay (usec)  | 2.30848E-06                 | +/-              | 6.9E-07                   |
| Delay rate (us/s)           | 1.69909710581E+00  | Apriori rate (us/s)         | 1.69910223402E+00  | Resid rate (us/s)     | -5.12822E-06                | +/-              | 4.2E-09                   |
| Total phase (deg)           | -277.6             | Apriori accel (us/s/s)      | 4.62451310326E-05  | Resid phase (deg)     | 71.6                        | +/-              | 21.5                      |
| ph/seg (deg)                | 91.6               | Theor. Amplitude            | 0.513 +/- 0.096    | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5                      |
| amp/seg (%)                 | 367.7              | Search (2048X8)             | 0.466              | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000              |
| ph/frq (deg)                | 0.0                | Interp.                     | 0.000              | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled                   |
| amp/frq (%)                 | 0.9                | Inc. seg. avg.              | 0.348              | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000              |
|                             |                    | Inc. frq. avg.              | 0.499              | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011              |
|                             |                    |                             |                    | nlags:                | 512                         | t_cohere         | infinite                  |
|                             |                    |                             |                    |                       |                             | ion window (TEC) | 0.00 0.00                 |
| b: az 88.2 el 20.4 pa -44.0 |                    | Y: az 246.0 el 48.3 pa 46.5 |                    | u,v (fr/asec)         | -10075.155 1914.760         |                  | simultaneous interpolator |

Fringe quality 0

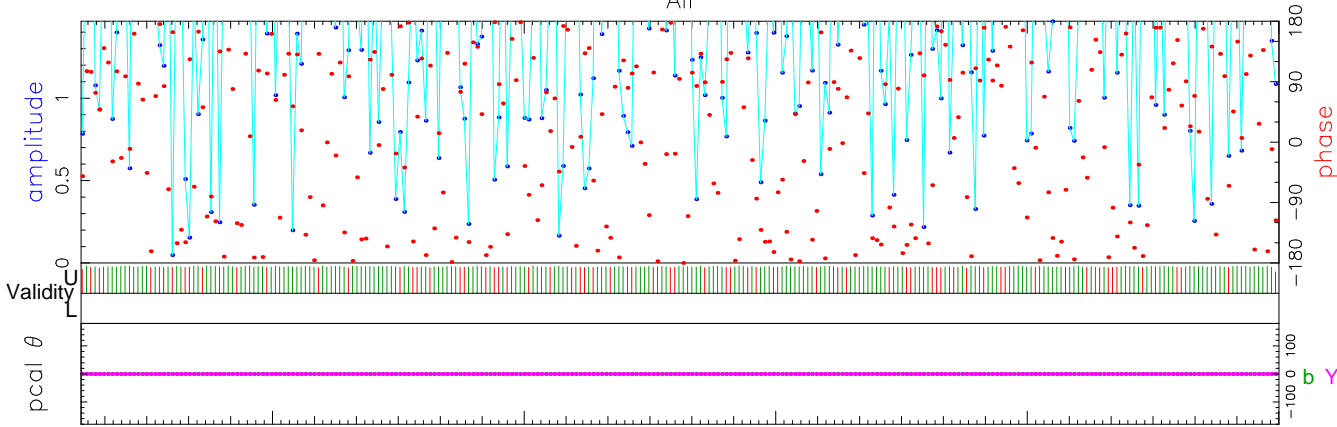
SNR 5.4  
Int time 274.629  
Amp 0.489  
Phase 155.5  
PFD 1.0e+00  
Delays (us)  
SBD -1.875700  
MBD 0.000006  
Fringe rate (Hz)  
0.207754  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171809  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
155.5  
0.5  
272.9  
U/L 558/0  
b 5000  
Y 0  
b:Y 0:0  
b:Y 0:0  
b 1000  
Y 1000  
b W04UR  
Y W04UR

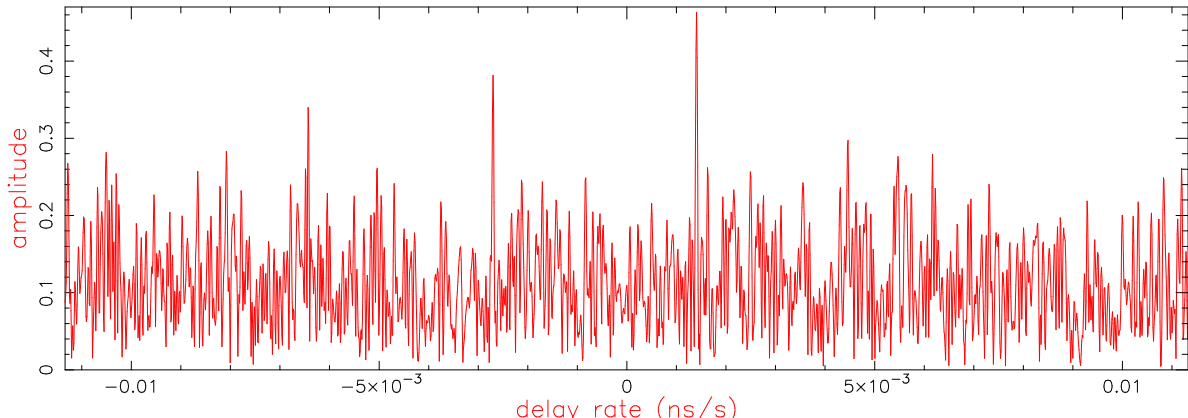
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.12640178094E+03 | Apriori delay (usec)     | -8.12452608509E+03 | Resid mbdelay (usec) | 6.49696E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -8.12640178459E+03 | Apriori clock (usec)     | 8.9446554E+00      | Resid sbdelay (usec) | -1.87570E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -8.12452608008E+03 | Apriori clockrate (us/s) | 1.8999998E-07      | Resid phdelay (usec) | 5.01474E-06  | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.69910464584E+00  | Apriori rate (us/s)      | 1.69910223402E+00  | Resid rate (us/s)    | 2.41181E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | -193.7             | Apriori accel (us/s/s)   | 4.62451310326E-05  | Resid phase (deg)    | 155.5        | +/- | 21.1    |

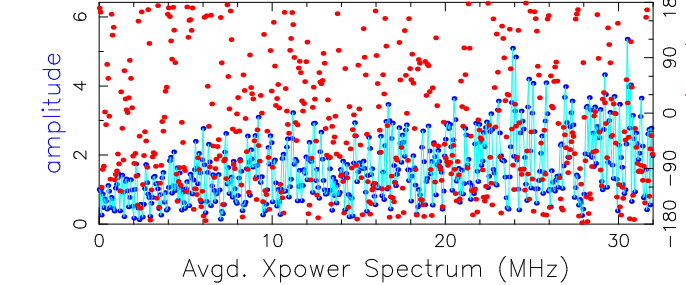
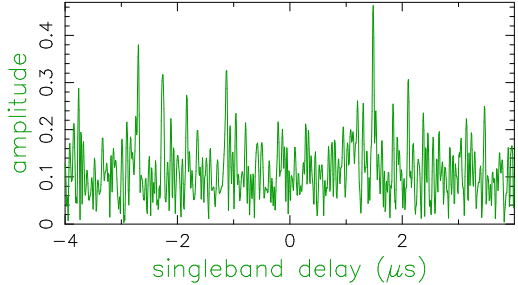
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.4  | Theor.          | 176.0 | Amplitude      | 0.489 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 329.3 | Search (2048X8) | 0.478 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.314           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.481 | Inc. frq. avg. | 0.481           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10075.155 1914.760 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bY.W.39.0QR2SH



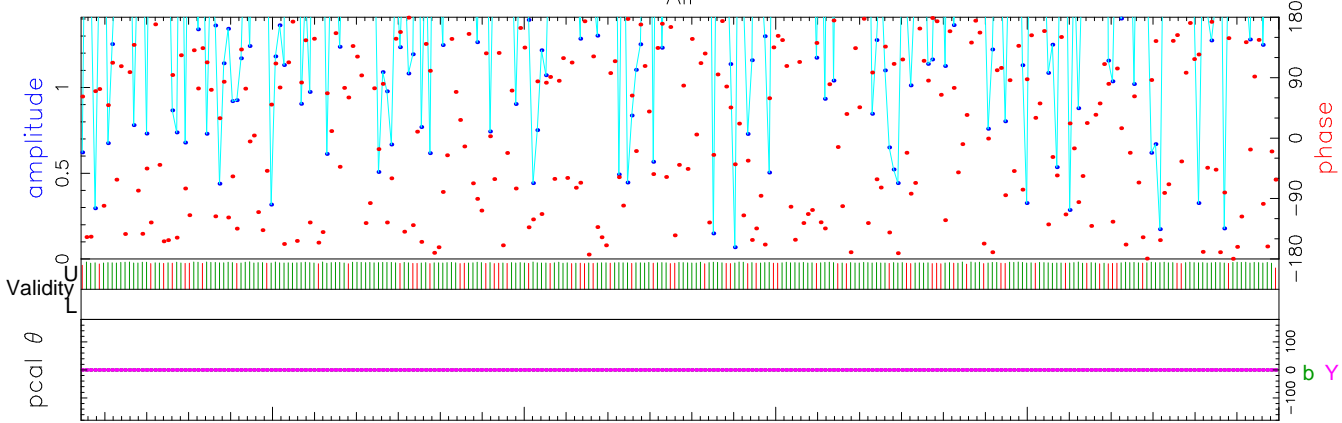
Fringe quality 0  
SNR 5.3  
Int time 274.630  
Amp 0.470  
Phase 167.8  
PFD 1.0e+00  
Delays (us)  
SBD 1.482028  
MBD 0.000005  
Fringe rate (Hz) 0.120918  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171811  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
167.8  
0.5  
702.7  
U/L 558/0  
b 5000  
Y 0  
b:Y 0:0  
b:Y 0:0  
b 1000  
Y 1000  
b W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -8.12304406249E+03 | Apriori delay (usec)     | -8.12452608509E+03 | Resid mbdelay (usec) | 4.96095E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -8.12304405759E+03 | Apriori clock (usec)     | 8.9446554E+00      | Resid sbdelay (usec) | 1.48203E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -8.12452607968E+03 | Apriori clockrate (us/s) | 1.8999998E-07      | Resid phdelay (usec) | 5.41256E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.69910363776E+00  | Apriori rate (us/s)      | 1.69910223402E+00  | Resid rate (us/s)    | 1.40374E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -181.3             | Apriori accel (us/s/s)   | 4.62451310326E-05  | Resid phase (deg)    | 167.8       | +/- | 21.7    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.9  | Theor.          | 180.8 | Amplitude      | 0.470 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 375.7 | Search (2048X8) | 0.460 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.323           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.458 | Inc. frq. avg. | 0.458           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

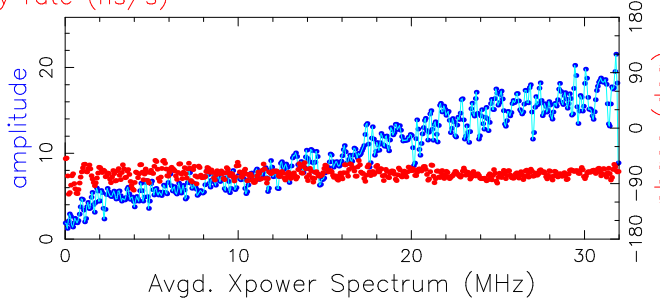
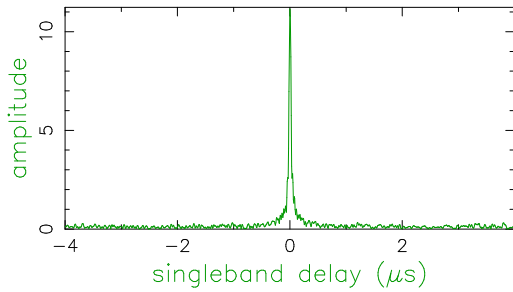
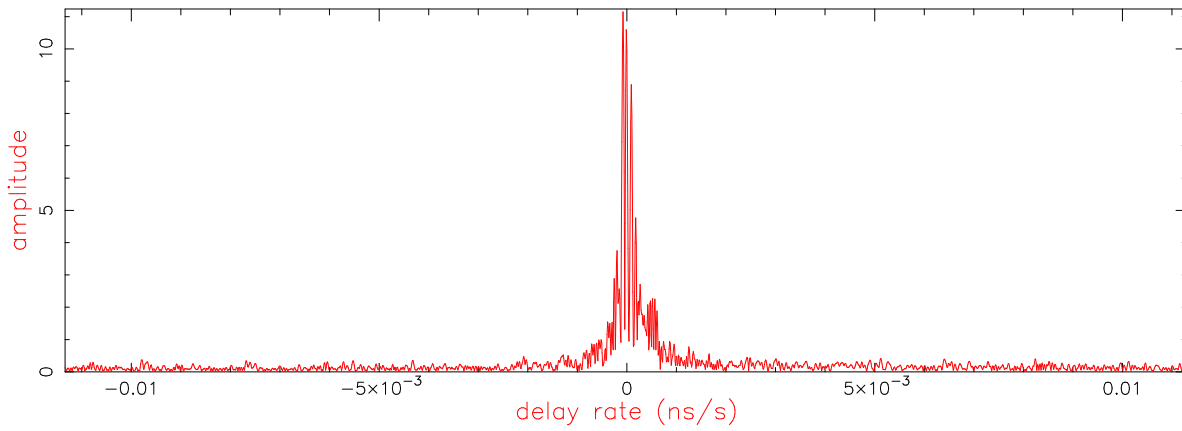
b: az 88.2 el 20.4 pa -44.0 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10075.155 1914.760 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bY.W.58.0QR2SH



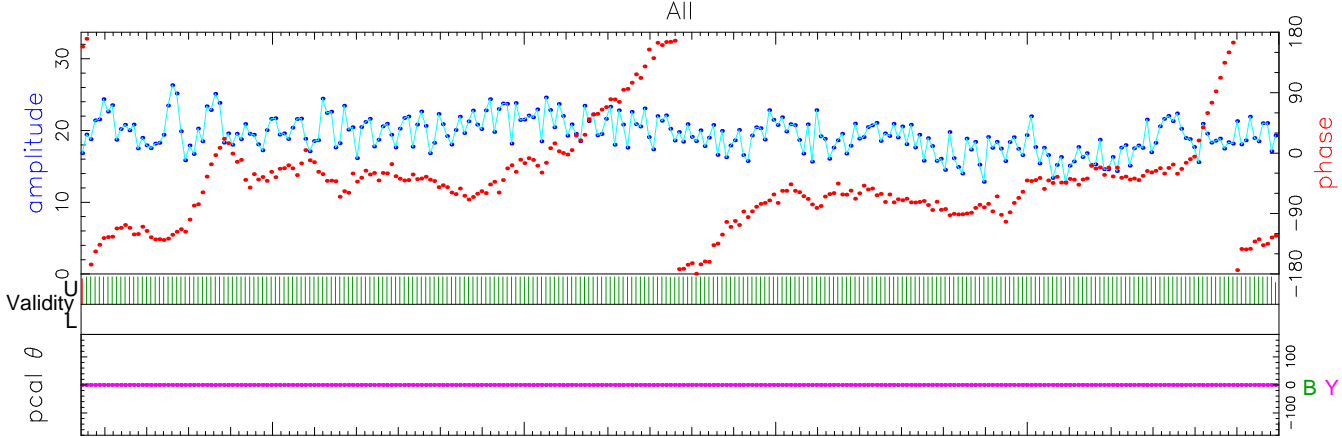
Fringe quality 7

SNR 129.7  
Int time 285.318  
Amp 11.236  
Phase -56.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.002422  
MBD -0.000007  
Fringe rate (Hz)  
-0.006430  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



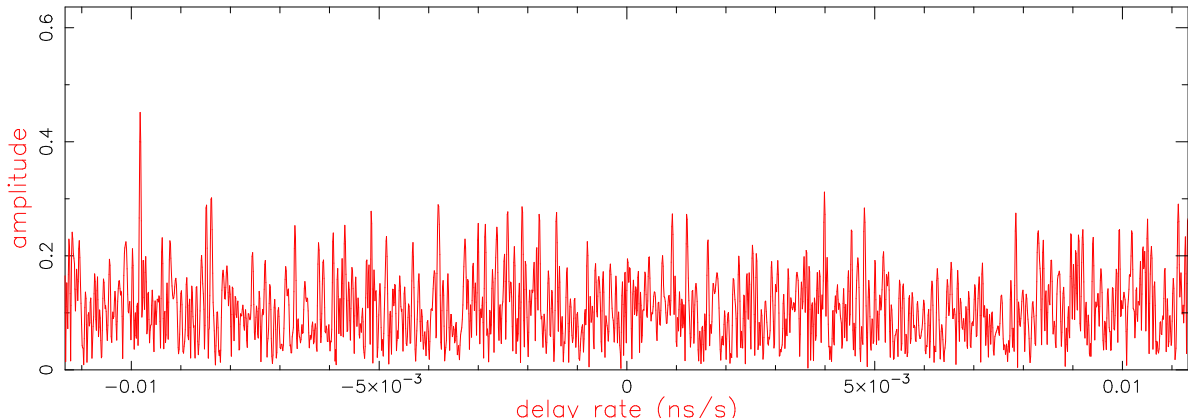
86140.00  
-56.2  
11.1  
513.3  
U/L 558/0  
B 0  
Y 0  
B:Y 0:0  
B:Y 0:0  
B 1000  
Y 1000  
B W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

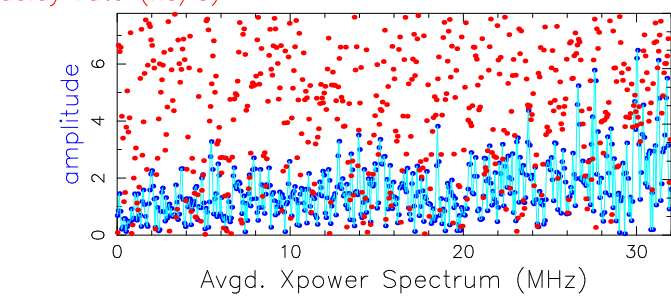
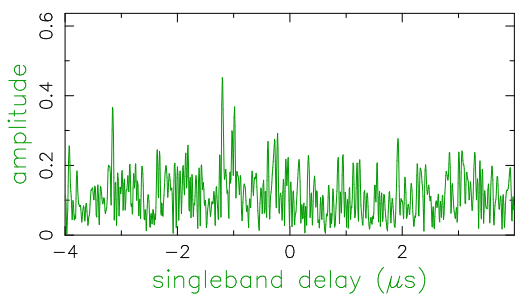
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.80467713834E+03 | Apriori delay (usec)     | -2.80467955760E+03 | Resid mbdelay (usec) | -7.02577E-06 | +/- | 1.3E-04 |
| Sband delay (usec)      | -2.80467713560E+03 | Apriori clock (usec)     | 1.2879183E+01      | Resid sbdelay (usec) | 2.42200E-03  | +/- | 1.3E-04 |
| Phase delay (usec)      | -2.80467955941E+03 | Apriori clockrate (us/s) | -2.3700001E-07     | Resid phdelay (usec) | -1.81256E-06 | +/- | 2.8E-08 |
| Delay rate (us/s)       | 2.87582801953E-03  | Apriori rate (us/s)      | 2.87590266608E-03  | Resid rate (us/s)    | -7.46465E-08 | +/- | 1.7E-10 |
| Total phase (deg)       | -89.1              | Apriori accel (us/s/s)   | 1.88398071791E-05  | Resid phase (deg)    | -56.2        | +/- | 0.9     |

|              |      |                 |        |                |                  |                       |                             |                  |              |                |              |
|--------------|------|-----------------|--------|----------------|------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 63.1 | Theor.          | 7.4    | Amplitude      | 11.236 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 76.1 | Search (2048X8) | 11.062 | Search         | 11.062           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0  | Interp.         | 0.000  | Inc. seg. avg. | 19.269           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.8  | Inc. frq. avg.  | 11.144 | Inc. frq. avg. | 11.144           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

B: az 247.2 el 37.9 pa 37.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 7.171 1470.823 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BY...0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BY.W.72.0QR2SH

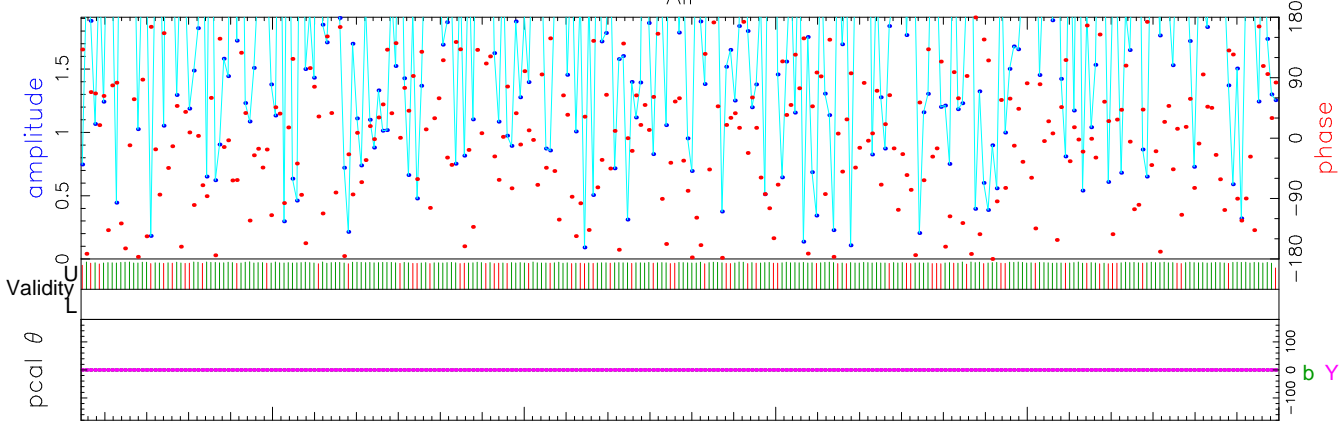


Fringe quality 0  
SNR 5.2  
Int time 274.629  
Amp 0.636  
Phase 1.7  
PFD 1.0e+00  
Delays (us)  
SBD -1.200299  
MBD -0.000007  
Fringe rate (Hz)  
-0.846090  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



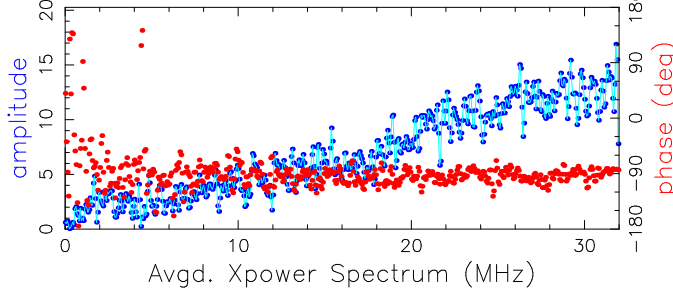
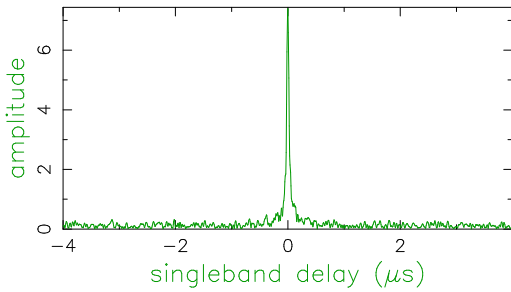
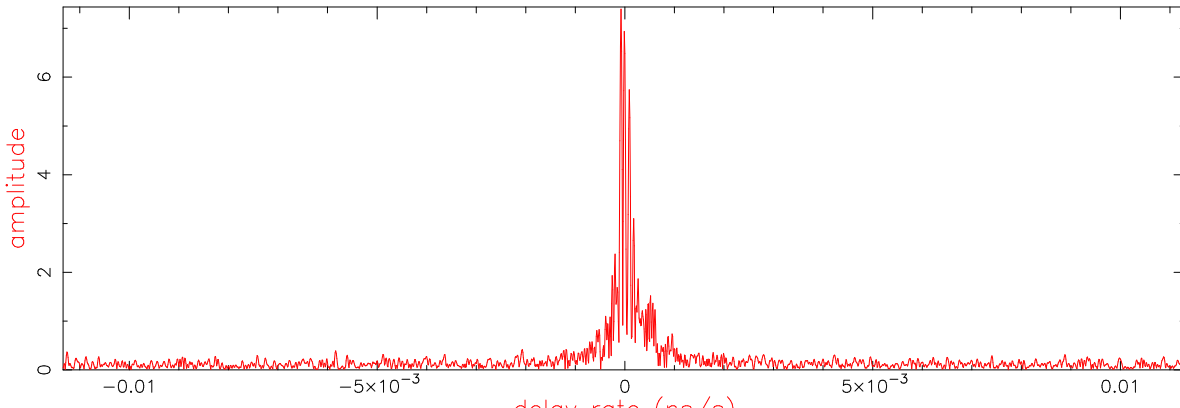
86140.00  
1.7  
0.6  
359.4  
U/L 558/0  
b 5000  
Y 0  
b:Y 0:0  
b:Y 0:0  
b 1000  
Y 1000  
b W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                             |   |  |                     |                       |                             |                  |              |
|-----------------------------|---|--|---------------------|-----------------------|-----------------------------|------------------|--------------|
| Group delay (usec)(sbd)     | -8.12572638192E+03                                      | Apriori delay (usec)   | -8.12452608509E+03  | Resid mbdelay (usec)  | -6.60460E-06                | +/-              | 3.3E-03      |
| Sband delay (usec)          | -8.12572638359E+03                                      | Apriori clock (usec)   | 8.9446554E+00       | Resid sbdelay (usec)  | -1.20030E+00                | +/-              | 3.3E-03      |
| Phase delay (usec)          | -8.12452608504E+03                                      | Apriori clockrate (us/s)                                     | 1.8999998E-07       | Resid phdelay (usec)  | 5.33136E-08                 | +/-              | 7.1E-07      |
| Delay rate (us/s)           | 1.69909241176E+00                                       | Apriori rate (us/s)  | 1.69910223402E+00   | Resid rate (us/s)     | -9.82227E-06                | +/-              | 4.3E-09      |
| Total phase (deg)           | -347.5  | Apriori accel (us/s/s)                                       | 4.62451310326E-05   | Resid phase (deg)     | 1.7                         | +/-              | 22.1         |
| ph/seg (deg)                | RMS 92.7 Theor. 184.7                                   | Amplitude  | 0.636 +/- 0.123     | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)                 | 379.7 322.3   | Search (2048X8)  | 0.450               | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg)                | 0.0 11.1  | Interp.  | 0.000               | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)                 | 1.3 19.3  | Inc. seg. avg.   | 0.421               | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|                             |   | Inc. frq. avg.   | 0.617               | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
| b: az 88.2 el 20.4 pa -44.0 | Y: az 246.0 el 48.3 pa 46.5                             | u,v (fr/asec)  | -10075.155 1914.760 | nlags:                | 512                         | t_cohere         | infinite     |
| Control file: cf_1234_gmva  | Input file: /Exps2/f191a/FRINGE/1234/No0007//bY..0QR2SH | Output file: /Exps2/f191a/FRINGE/1234/No0007//bY.W.76.0QR2SH |                     |                       |                             | ion window (TEC) | 0.00 0.00    |

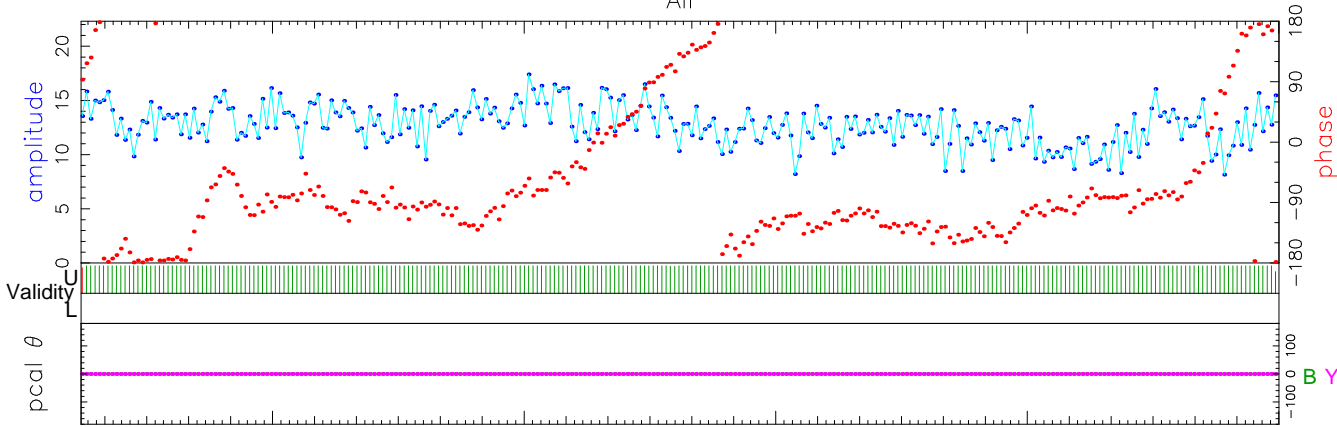
Fringe quality 7

SNR 85.9  
 Int time 285.318  
 Amp 7.439  
 Phase -109.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.002208  
 MBD -0.000005  
 Fringe rate (Hz)  
 -0.006392  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171813  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -109.9  
 7.4  
 512.7  
 U/L 558/0  
 B 0  
 Y 0  
 B:Y 0:0  
 B:Y 0:0  
 B 1000  
 Y 1000  
 B W04UR  
 Y W04UR

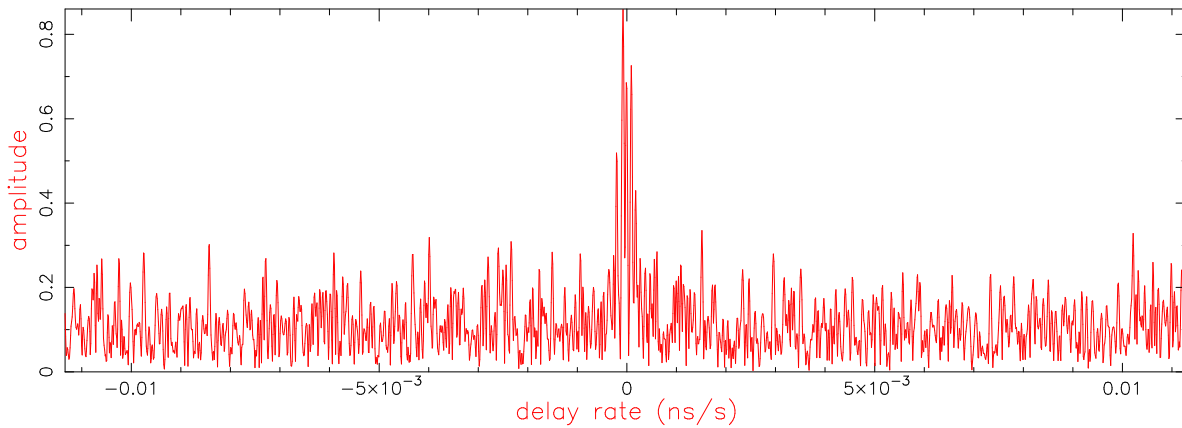
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.80468176850E+03 | Apriori delay (usec)     | -2.80467955760E+03 | Resid mbdelay (usec) | -5.19536E-06 | +/- | 2.0E-04 |
| Sband delay (usec)      | -2.80468176610E+03 | Apriori clock (usec)     | 1.2879183E+01      | Resid sbdelay (usec) | -2.20850E-03 | +/- | 2.0E-04 |
| Phase delay (usec)      | -2.80467956114E+03 | Apriori clockrate (us/s) | -2.3700001E-07     | Resid phdelay (usec) | -3.54545E-06 | +/- | 4.3E-08 |
| Delay rate (us/s)       | 2.87582846096E-03  | Apriori rate (us/s)      | 2.87590266608E-03  | Resid rate (us/s)    | -7.42051E-08 | +/- | 2.6E-10 |
| Total phase (deg)       | -142.9             | Apriori accel (us/s/s)   | 1.88398071791E-05  | Resid phase (deg)    | -109.9       | +/- | 1.3     |

|              |      |     |      |                |        |                 |                 |                  |                             |                       |         |                  |          |                  |      |      |
|--------------|------|-----|------|----------------|--------|-----------------|-----------------|------------------|-----------------------------|-----------------------|---------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 62.7 | RMS | 11.1 | Theor.         | 11.1   | Amplitude       | 7.439 +/- 0.087 | Pcal mode:       | MANUAL, MANUAL              | PC period (AP's)      | 5, 5    | sb window (us)   | -4.000   | 4.000            |      |      |
| amp/seg (%)  | 75.9 |     | 19.4 | Interp.        | 0.000  | Search (2048X8) | 7.323           | Pcal rate:       | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm:          | enabled | mb window (us)   | -0.000   | 0.000            |      |      |
| ph/frq (deg) | 0.0  |     | 0.7  | Inc. seg. avg. | 12.548 | Inc. seg. avg.  | 12.548          | Bits/sample:     | 2x2                         | Sample rate(MSamp/s): | 64      | dr window (ns/s) | -0.011   | 0.011            |      |      |
| amp/frq (%)  | 0.6  |     | 1.2  | Inc. frq. avg. | 7.395  | Inc. frq. avg.  | 7.395           | Data rate(Mb/s): | 128                         | nlags:                | 512     | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

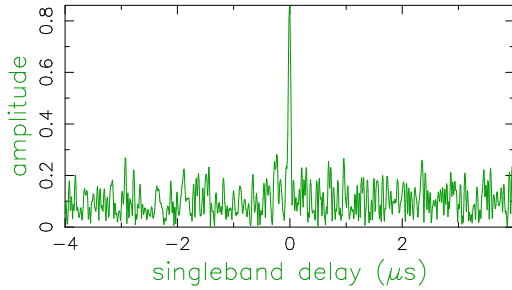
B: az 247.2 el 37.9 pa 37.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 7.171 1470.823 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BY.W.82.0QR2SH

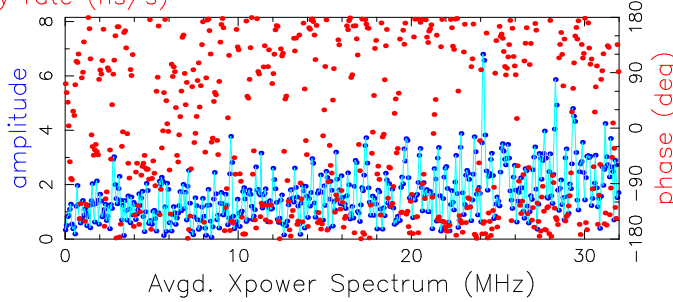


Fringe quality 9

SNR 9.9  
Int time 285.318  
Amp 0.860  
Phase 150.3  
PFD 6.3e-15  
Delays (us)  
SBD -0.006431  
MBD -0.000006  
Fringe rate (Hz)  
-0.006328  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

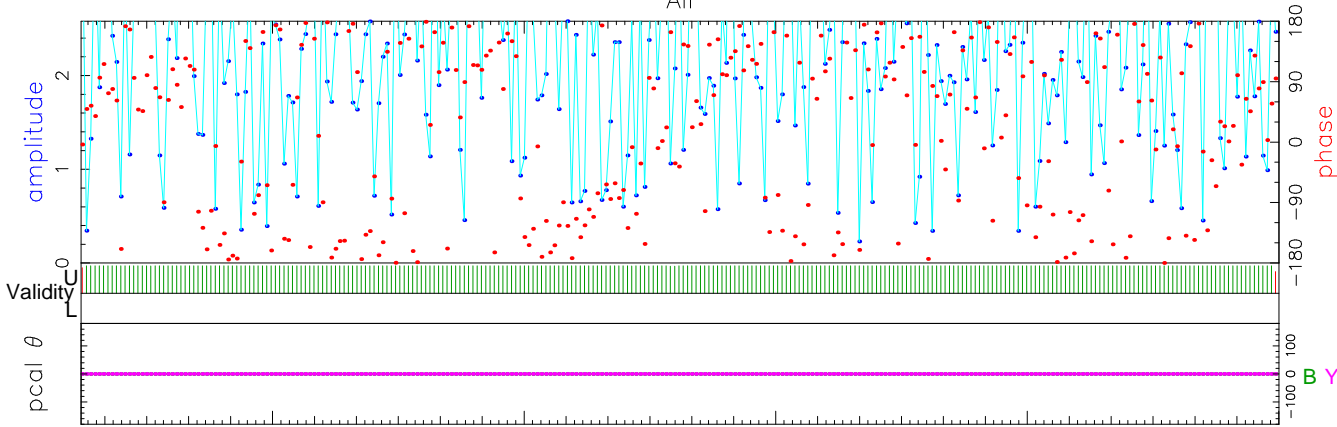


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
150.3  
0.9  
512.2  
U/L 558/0  
B 0  
Y 0  
B:Y 0:0  
B:Y 0:0  
B 1000  
Y 1000  
B W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

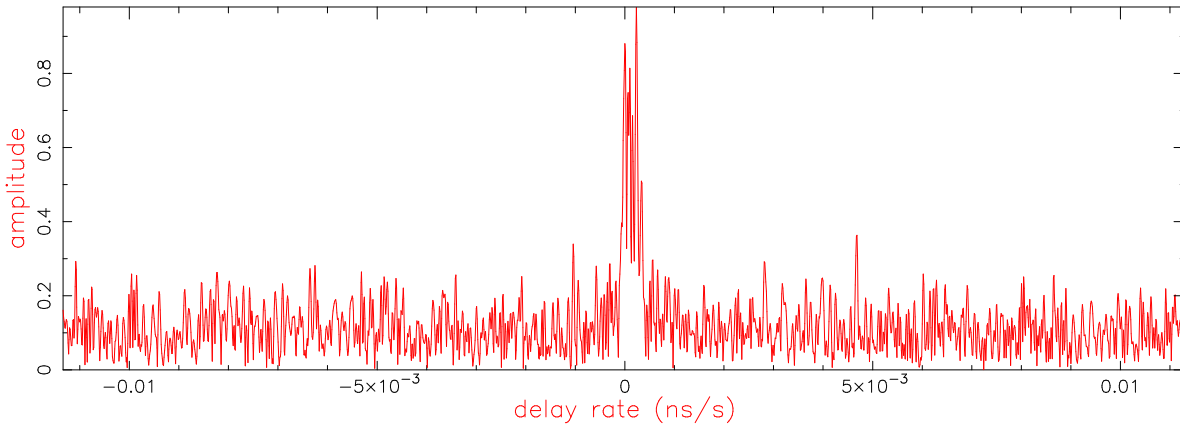
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.80468598326E+03 | Apriori delay (usec)     | -2.80467955760E+03 | Resid mbdelay (usec) | -5.87657E-06 | +/- | 1.7E-03 |
| Sband delay (usec)      | -2.80468598860E+03 | Apriori clock (usec)     | 1.2879183E+01      | Resid sbdelay (usec) | -6.43100E-03 | +/- | 1.7E-03 |
| Phase delay (usec)      | -2.80467955275E+03 | Apriori clockrate (us/s) | -2.3700001E-07     | Resid phdelay (usec) | 4.84790E-06  | +/- | 3.7E-07 |
| Delay rate (us/s)       | 2.87582919999E-03  | Apriori rate (us/s)      | 2.87590266608E-03  | Resid rate (us/s)    | -7.34661E-08 | +/- | 2.3E-09 |
| Total phase (deg)       | 117.4              | Apriori accel (us/s/s)   | 1.88398071791E-05  | Resid phase (deg)    | 150.3        | +/- | 11.5    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 83.9  | Theor.          | 96.3  | Amplitude      | 0.860 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 210.9 | Search (2048X8) | 0.850 | Search         | 0.850           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.954           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.855 | Inc. frq. avg. | 0.855           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

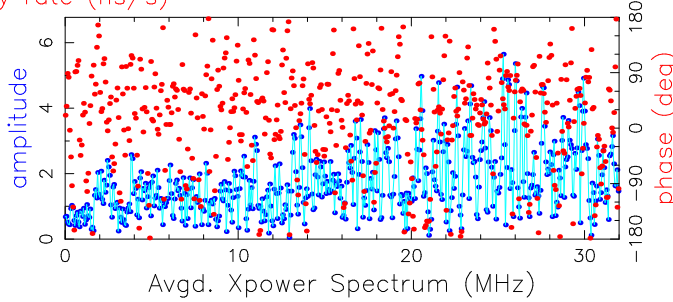
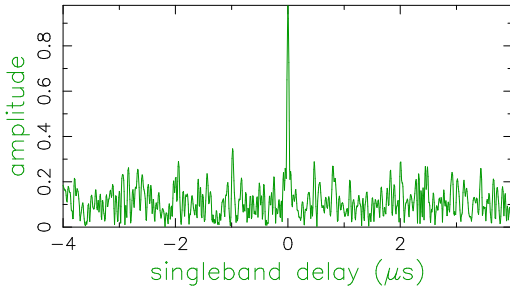
B: az 247.2 el 37.9 pa 37.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 7.171 1470.823 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BY.W.90.0QR2SH

Fringe quality 9



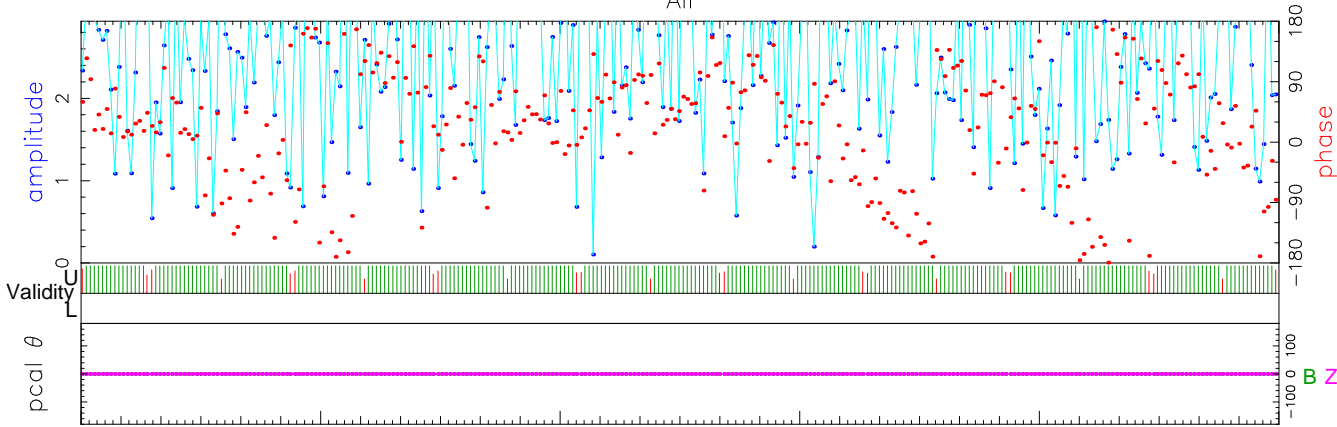
SNR 11.4  
 Int time 291.742  
 Amp 0.979  
 Phase 45.4  
 PFD 7.0e-22  
 Delays (us)  
 SBD 0.001051  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.019605  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171815  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 45.4  
 1.0  
 513.1  
 U/L 586/0  
 B 0  
 Z 0  
 B:Z 0:0  
 B:Z 0:0  
 B 1000  
 Z 1000  
 B W04UL  
 Z W04UR

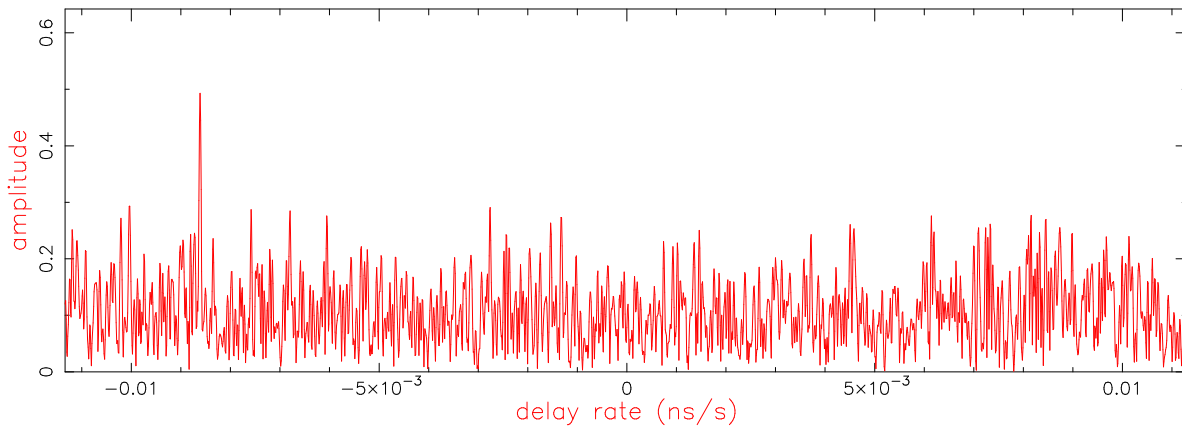
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |             |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-------------|
| Group delay (usec)(sbd) | 3.92082009538E+03  | Apriori delay (usec)     | 3.92081904539E+03  | Resid mbdelay (usec) | 5.17957E-06 | +/- 1.5E-03 |
| Sband delay (usec)      | 3.92082009689E+03  | Apriori clock (usec)     | 1.9753950E+01      | Resid sbdelay (usec) | 1.05150E-03 | +/- 1.5E-03 |
| Phase delay (usec)      | 3.92081904686E+03  | Apriori clockrate (us/s) | -5.9400000E-07     | Resid phdelay (usec) | 1.46469E-06 | +/- 3.2E-07 |
| Delay rate (us/s)       | -4.21074873321E-02 | Apriori rate (us/s)      | -4.21077149300E-02 | Resid rate (us/s)    | 2.27598E-07 | +/- 1.9E-09 |
| Total phase (deg)       | 250.6              | Apriori accel (us/s/s)   | -2.37817958873E-05 | Resid phase (deg)    | 45.4        | +/- 10.0    |

|              |       |                 |       |                |                 |  |                      |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|--|----------------------|----------------|--------------|
| ph/seg (deg) | 82.4  | Theor.          | 85.8  | Amplitude      | 0.979 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5           |              |
| amp/seg (%)  | 214.3 | Search (2048X8) | 0.958 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000   |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 1.271 | Inc. seg. avg. | 1.271           | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.974 | Inc. frq. avg. | 0.974           | Sample rate(MSamp/s): 64               | ion window (TEC)     | 0.00 0.00      |              |

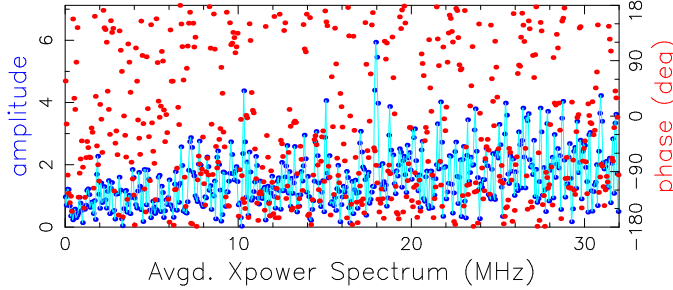
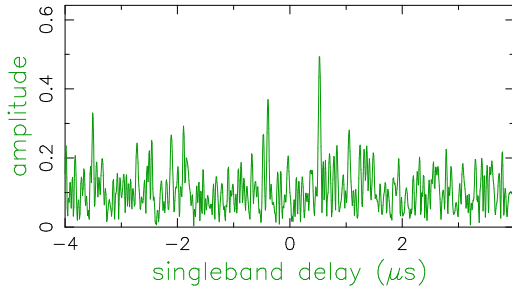
B: az 247.2 el 37.9 pa 37.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) 220.706 -1364.214 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BZ.W.101.0QR2SH



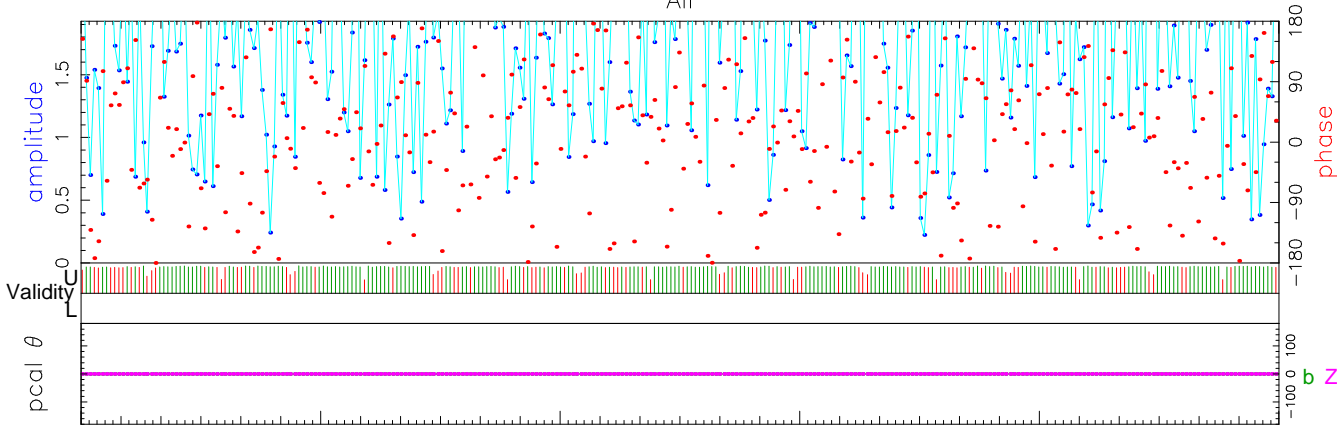
Fringe quality 0

SNR 5.7  
Int time 280.771  
Amp 0.642  
Phase 33.8  
PFD 7.1e-01  
Delays (us)  
SBD 0.527163  
MBD -0.000005  
Fringe rate (Hz)  
-0.742274  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
33.8  
0.6  
580.5  
U/L 586/0  
b 5000  
Z 0  
b:Z 0:0  
b:Z 0:0  
b 1000  
Z 1000  
b W04UR  
Z W04UL

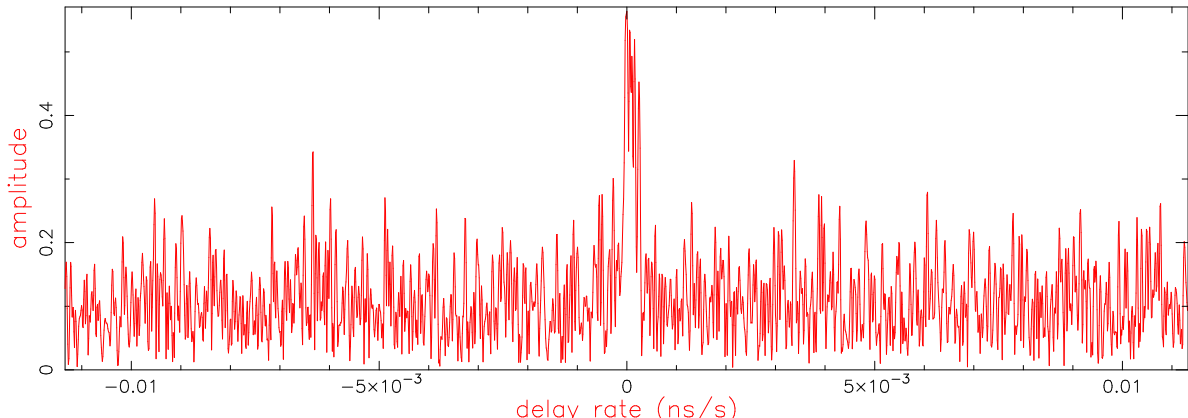
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.39850032228E+03 | Apriori delay (usec)     | -1.39902748210E+03 | Resid mbdelay (usec) | -5.25702E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -1.39850031910E+03 | Apriori clock (usec)     | 1.5819423E+01      | Resid sbdelay (usec) | 5.27163E-01  | +/- | 3.0E-03 |
| Phase delay (usec)      | -1.39902748101E+03 | Apriori clockrate (us/s) | -1.6700001E-07     | Resid phdelay (usec) | 1.08966E-06  | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.65410999936E+00  | Apriori rate (us/s)      | 1.65411861643E+00  | Resid rate (us/s)    | -8.61707E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -77.3              | Apriori accel (us/s/s)   | 3.62352796621E-06  | Resid phase (deg)    | 33.8         | +/- | 20.0    |

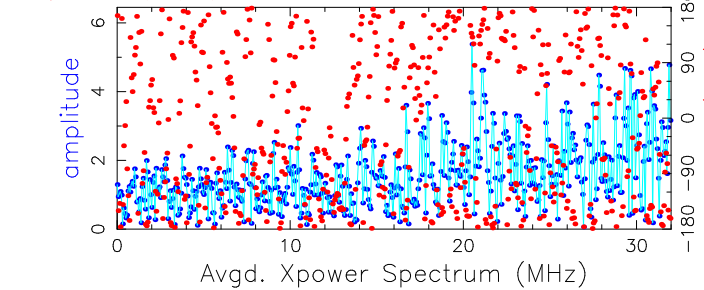
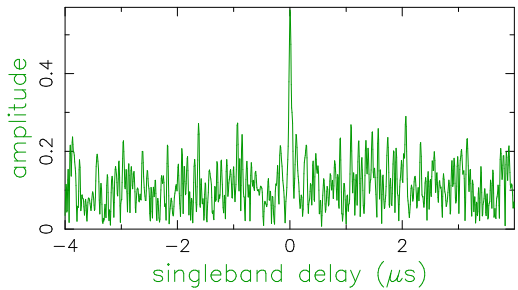
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.8  | Theor.          | 171.2 | Amplitude      | 0.642 +/- 0.112 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 346.9 | Search (2048X8) | 0.488 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.455           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.4   | Inc. frq. avg.  | 0.624 | Inc. frq. avg. | 0.624           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -9861.620 -920.276 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bZ.W.110.0QR2SH

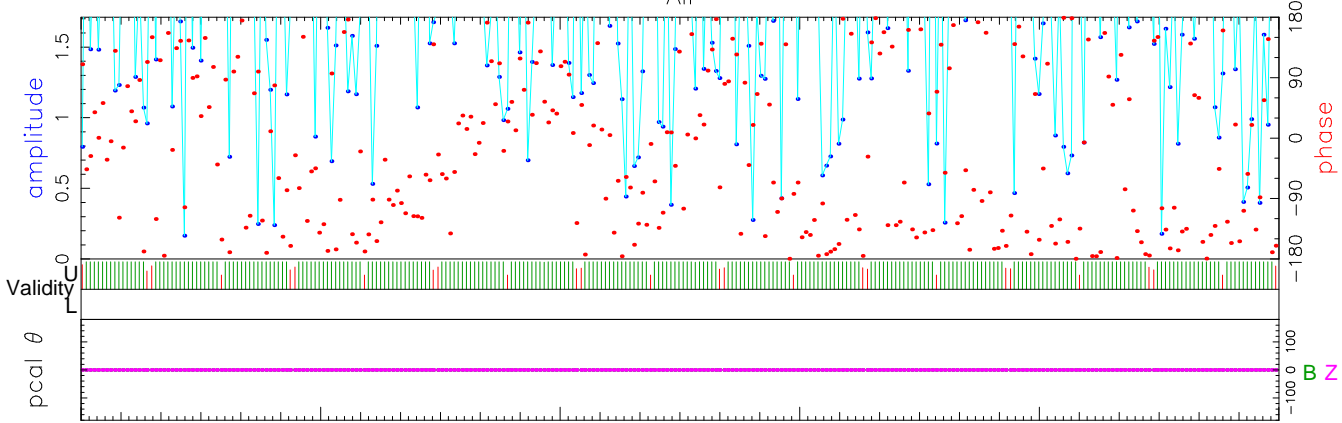


Fringe quality 0  
SNR 6.7  
Int time 291.742  
Amp 0.571  
Phase -161.2  
PFD 3.8e-03  
Delays (us)  
SBD 0.003177  
MBD -0.000007  
Fringe rate (Hz)  
-0.000153  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-161.2  
0.6  
513.4  
U/L 586/0  
B 0  
Z 0  
B:Z 0:0  
B:Z 0:0  
B 1000  
Z 1000  
B W04UR  
Z W04UL

Validity  
pcal θ

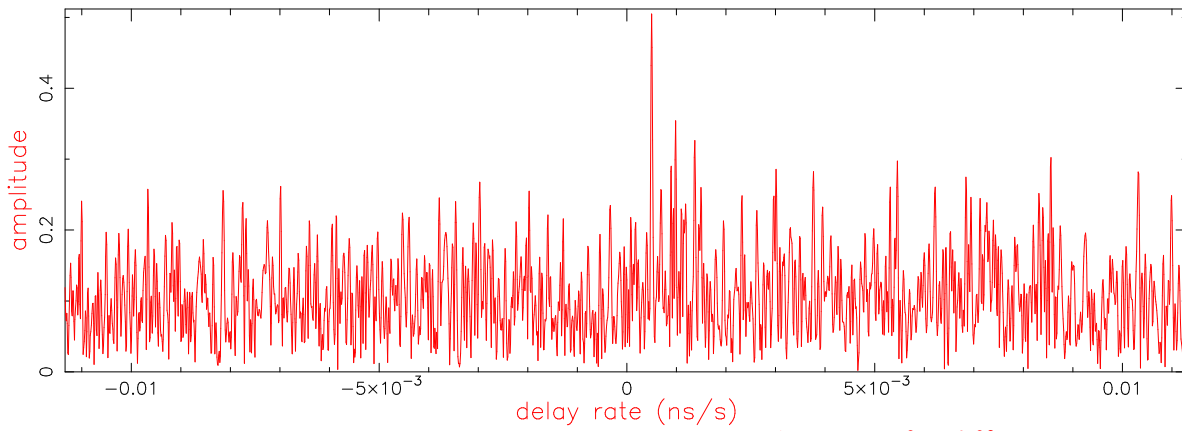
86140.00  
-161.2  
0.6  
513.4  
U/L 586/0  
B 0  
Z 0  
B:Z 0:0  
B:Z 0:0  
B 1000  
Z 1000  
B W04UR  
Z W04UL

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.92082221922E+03  | Apriori delay (usec)     | 3.92081904539E+03  | Resid mbdelay (usec) | -7.03682E-06 | +/- | 2.6E-03 |
| Sband delay (usec)      | 3.92082222239E+03  | Apriori clock (usec)     | 1.9753950E+01      | Resid sbdelay (usec) | 3.17700E-03  | +/- | 2.6E-03 |
| Phase delay (usec)      | 3.92081904019E+03  | Apriori clockrate (us/s) | -5.9400000E-07     | Resid phdelay (usec) | -5.19720E-06 | +/- | 5.5E-07 |
| Delay rate (us/s)       | -4.21077167114E-02 | Apriori rate (us/s)      | -4.21077149300E-02 | Resid rate (us/s)    | -1.78131E-09 | +/- | 3.2E-09 |
| Total phase (deg)       | 44.1               | Apriori accel (us/s/s)   | -2.37817958873E-05 | Resid phase (deg)    | -161.2       | +/- | 17.2    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.3  | Theor.          | 147.2 | Amplitude      | 0.571 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 339.1 | Search (2048X8) | 0.563 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.506           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.2   | Inc. frq. avg.  | 0.557 | Inc. frq. avg. | 0.557           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

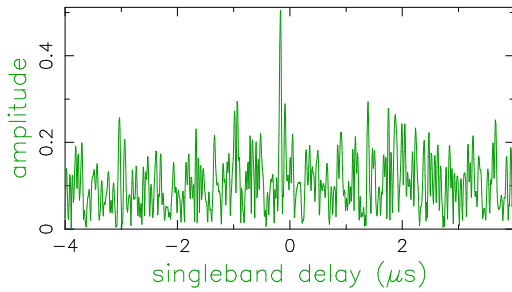
B: az 247.2 el 37.9 pa 37.6      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) 220.706 -1364.214      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//BZ..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//BZ.W.111.0QR2SH

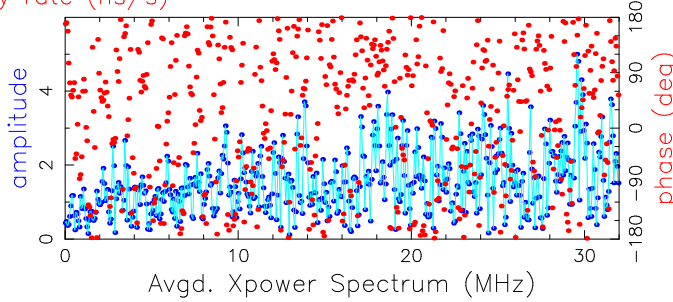


Fringe quality 0

SNR 5.9  
Int time 280.770  
Amp 0.512  
Phase -134.1  
PFD 4.4e-01  
Delays (us)  
SBD -0.167106  
MBD 0.000005  
Fringe rate (Hz)  
0.043341  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

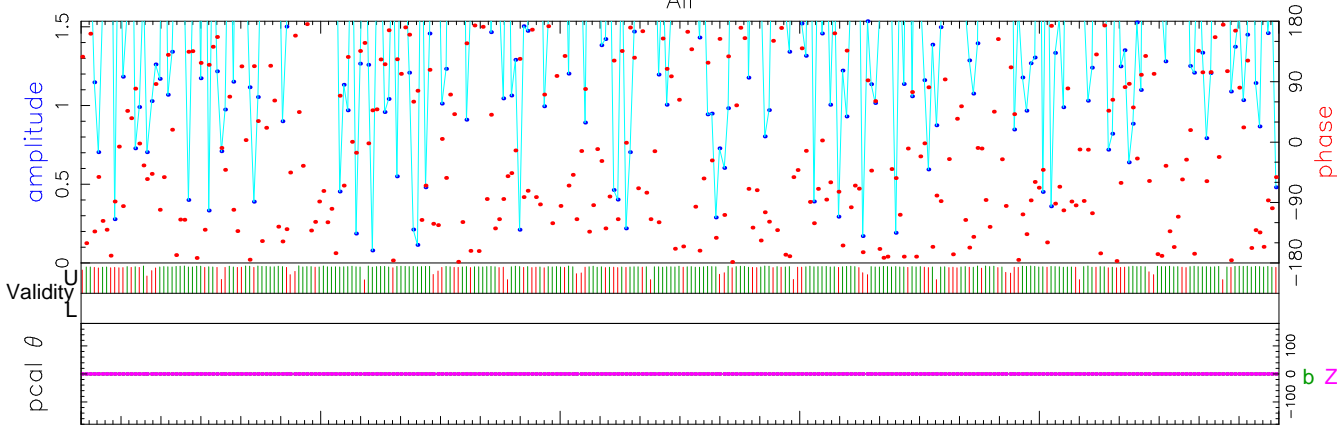


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171812  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-134.1  
0.5  
491.6  
U/L 586/0  
b 5000  
Z 0  
b:Z 0:0  
b:Z 0:0  
b 1000  
Z 1000  
b W04UL  
Z W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.39919458893E+03 | Apriori delay (usec)     | -1.39902748210E+03 | Resid mbdelay (usec) | 4.85071E-06  | +/- | 2.9E-03 |
| Sband delay (usec)      | -1.39919458810E+03 | Apriori clock (usec)     | 1.5819423E+01      | Resid sbdelay (usec) | -1.67106E-01 | +/- | 2.9E-03 |
| Phase delay (usec)      | -1.39902748643E+03 | Apriori clockrate (us/s) | -1.6700001E-07     | Resid phdelay (usec) | -4.32482E-06 | +/- | 6.3E-07 |
| Delay rate (us/s)       | 1.65411911957E+00  | Apriori rate (us/s)      | 1.65411861643E+00  | Resid rate (us/s)    | 5.03141E-07  | +/- | 3.6E-09 |
| Total phase (deg)       | -245.2             | Apriori accel (us/s/s)   | 3.62352796621E-06  | Resid phase (deg)    | -134.1       | +/- | 19.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 167.4 | Amplitude      | 0.512 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 330.5 | Search (2048X8) | 0.493 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.354           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.3   | Inc. frq. avg.  | 0.498 | Inc. frq. avg. | 0.498           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

b: az 88.2 el 20.4 pa -44.0 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -9861.620 -920.276 simultaneous interpolator

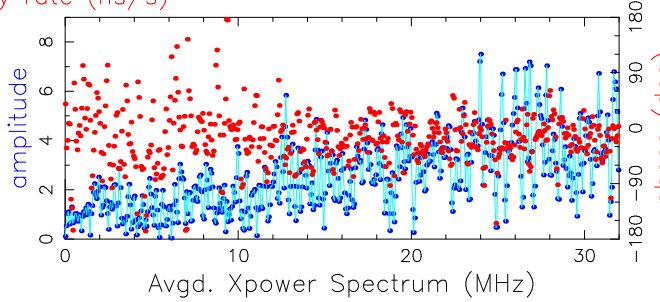
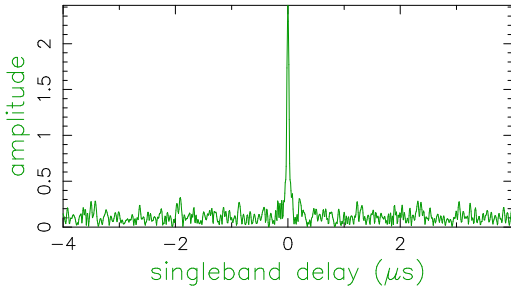
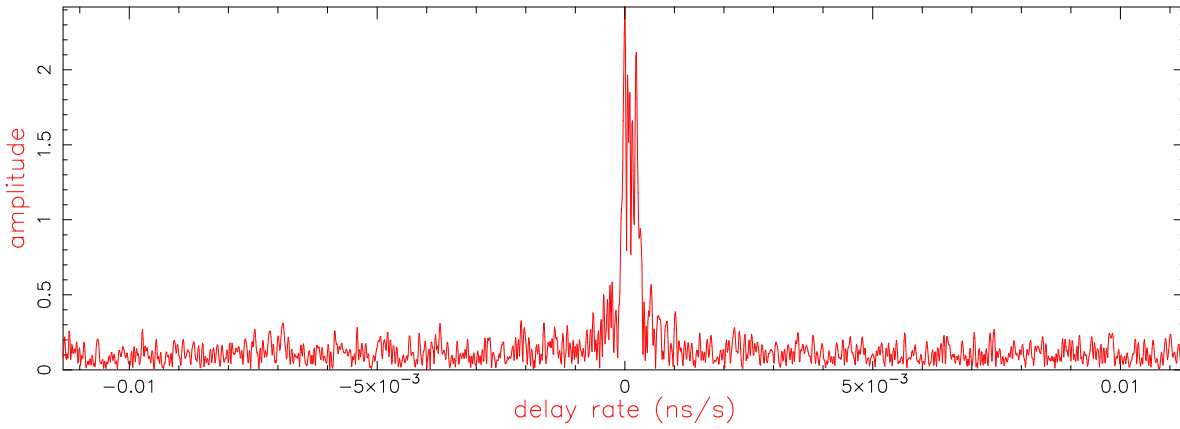
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bZ.W.75.0QR2SH



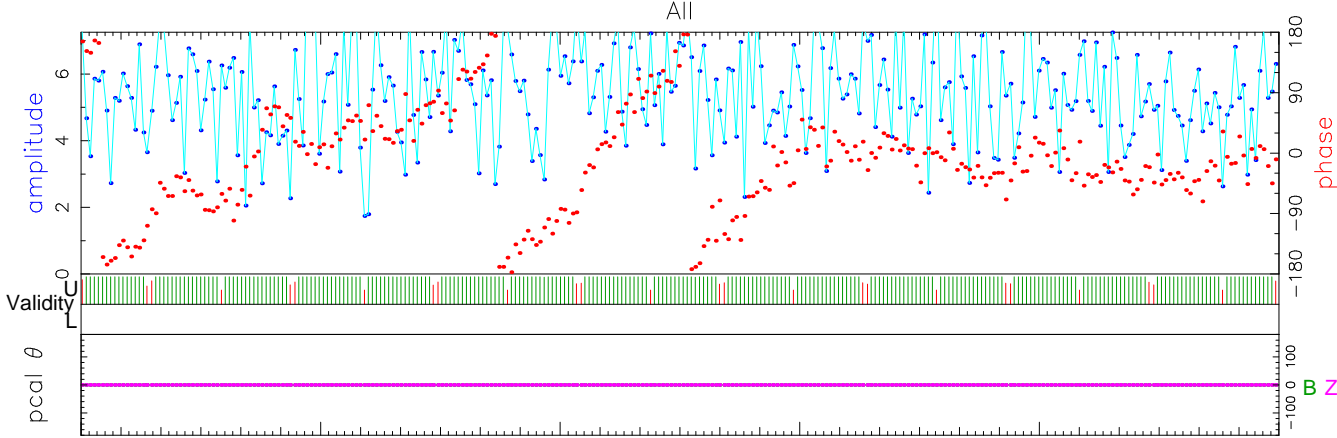
Fringe quality 9

SNR 28.2  
Int time 291.742  
Amp 2.419  
Phase -14.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000181  
MBD -0.000007  
Fringe rate (Hz)  
-0.000161  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
-14.0  
2.4  
513.0  
U/L 586/0  
B 0  
Z 0  
B:Z 0:0  
B:Z 0:0  
B 1000  
Z 1000  
B W04UL  
Z W04UL

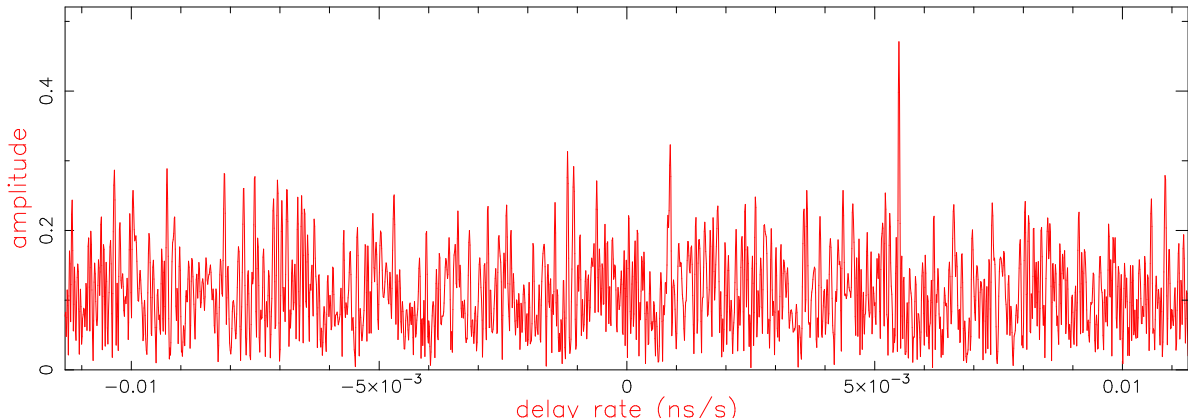
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.92081922390E+03  | Apriori delay (usec)     | 3.92081904539E+03  | Resid mbdelay (usec) | -7.23771E-06 | +/- | 6.1E-04 |
| Sband delay (usec)      | 3.92081922639E+03  | Apriori clock (usec)     | 1.9753950E+01      | Resid sbdelay (usec) | 1.81000E-04  | +/- | 6.1E-04 |
| Phase delay (usec)      | 3.92081904494E+03  | Apriori clockrate (us/s) | -5.9400000E-07     | Resid phdelay (usec) | -4.50009E-07 | +/- | 1.3E-07 |
| Delay rate (us/s)       | -4.21077168049E-02 | Apriori rate (us/s)      | -4.21077149300E-02 | Resid rate (us/s)    | -1.87484E-09 | +/- | 7.6E-10 |
| Total phase (deg)       | 191.3              | Apriori accel (us/s/s)   | -2.37817958873E-05 | Resid phase (deg)    | -14.0        | +/- | 4.1     |

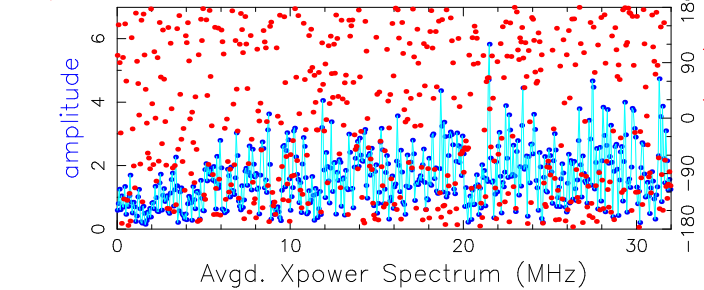
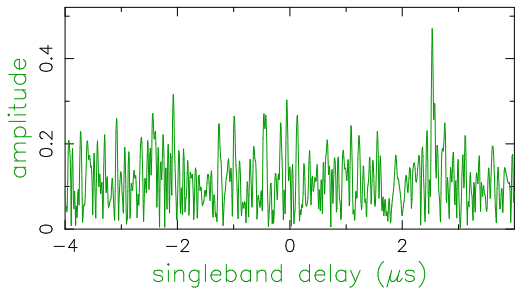
|              |       |        |      |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|--------|------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 74.2  | Theor. | 34.7 | Amplitude       | 2.419 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 139.0 |        | 60.6 | Search (2048X8) | 2.412           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   |        | 2.0  | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0   |        | 3.5  | Inc. seg. avg.  | 4.612           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |        |      | Inc. frq. avg.  | 2.417           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

B: az 247.2 el 37.9 pa 37.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) 220.706 -1364.214 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BZ.W.84.0QR2SH

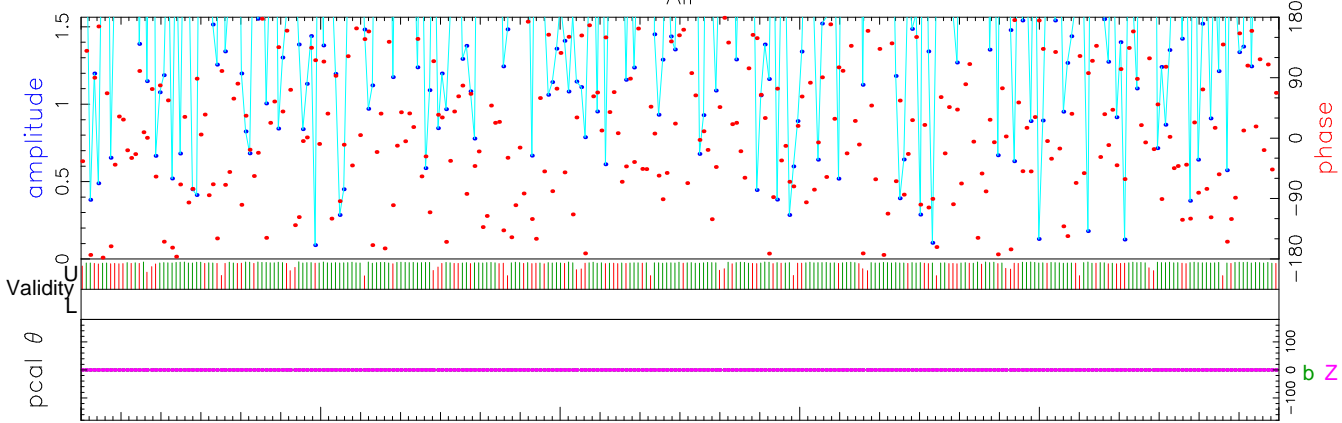


Fringe quality 0  
SNR 5.4  
Int time 280.771  
Amp 0.521  
Phase 16.5  
PFD 1.0e+00  
Delays (us)  
SBD 2.532583  
MBD 0.000004  
Fringe rate (Hz) 0.472913  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
16.5  
0.5  
837.2  
U/L 586/0  
b 5000  
Z 0  
b:Z 0:0  
b:Z 0:0  
b 1000  
Z 1000  
b W04UR  
Z W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-------------|
| Group delay (usec)(sbd) | -1.39649490276E+03 | Apriori delay (usec)     | -1.39902748210E+03 | Resid mbdelay (usec) | 4.46840E-06 | +/- 3.2E-03 |
| Sband delay (usec)      | -1.39649489860E+03 | Apriori clock (usec)     | 1.5819423E+01      | Resid sbdelay (usec) | 2.53258E+00 | +/- 3.2E-03 |
| Phase delay (usec)      | -1.39902748157E+03 | Apriori clockrate (us/s) | -1.6700001E-07     | Resid phdelay (usec) | 5.33349E-07 | +/- 6.8E-07 |
| Delay rate (us/s)       | 1.65412410648E+00  | Apriori rate (us/s)      | 1.65411861643E+00  | Resid rate (us/s)    | 5.49005E-06 | +/- 3.9E-09 |
| Total phase (deg)       | -94.5              | Apriori accel (us/s/s)   | 3.62352796621E-06  | Resid phase (deg)    | 16.5        | +/- 21.2    |

|              |       |        |       |                 |       |  |                       |                  |        |       |
|--------------|-------|--------|-------|-----------------|-------|--|-----------------------|------------------|--------|-------|
| ph/seg (deg) | 93.2  | Theor. | 181.4 | Search (2048X8) | 0.470 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 373.9 |        | 316.6 | Interp.         | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0   |        | 10.6  | Inc. seg. avg.  | 0.351 | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.3   |        | 18.5  | Inc. frq. avg.  | 0.511 | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00   | 0.00  |

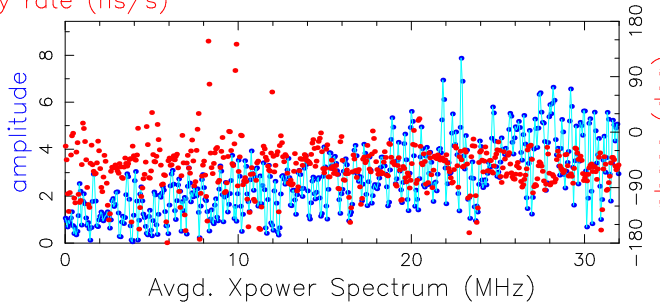
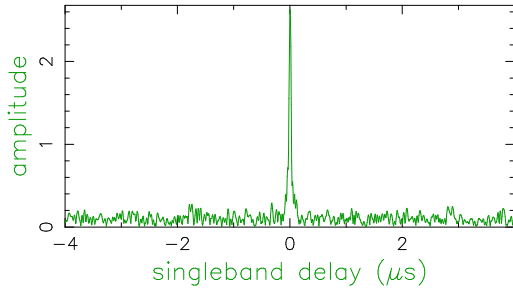
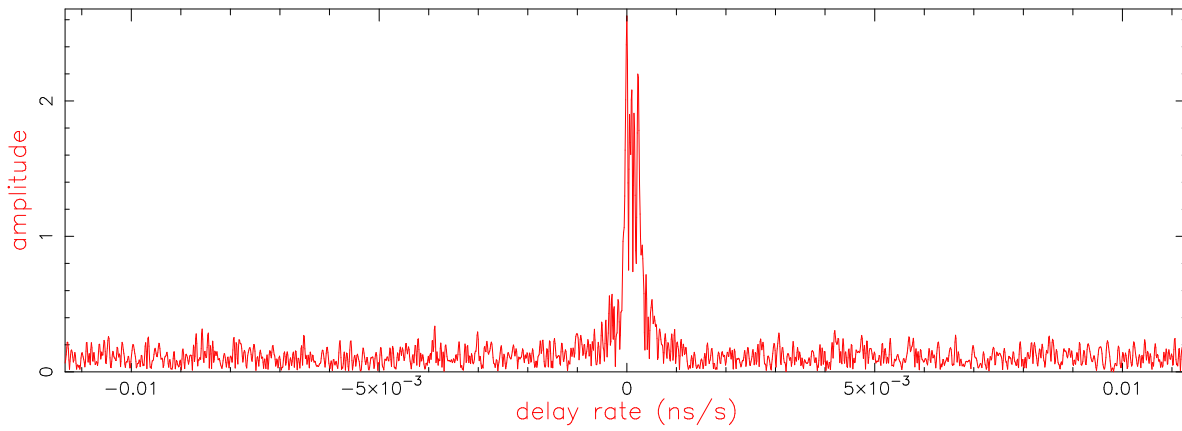
b: az 88.2 el 20.4 pa -44.0 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -9861.620 -920.276 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bZ.W.86.0QR2SH

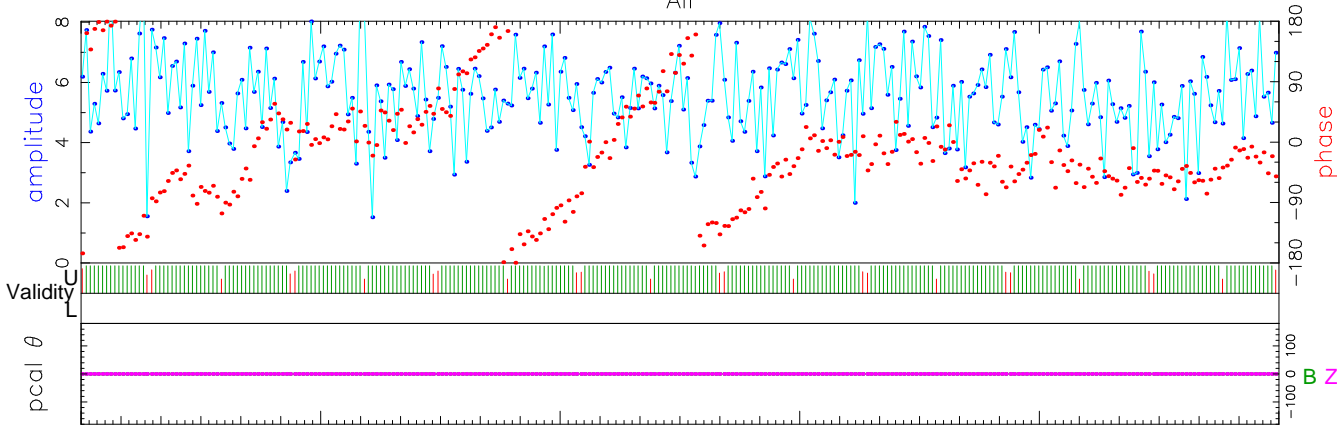
Fringe quality 9

SNR 31.3  
Int time 291.742  
Amp 2.679  
Phase -30.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.003729  
MBD -0.000007  
Fringe rate (Hz)  
-0.000056  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-30.7  
2.6  
513.5  
U/L 586/0  
B 0  
Z 0  
B:Z 0:0  
B:Z 0:0  
B 1000  
Z 1000  
B W04UR  
Z W04UR

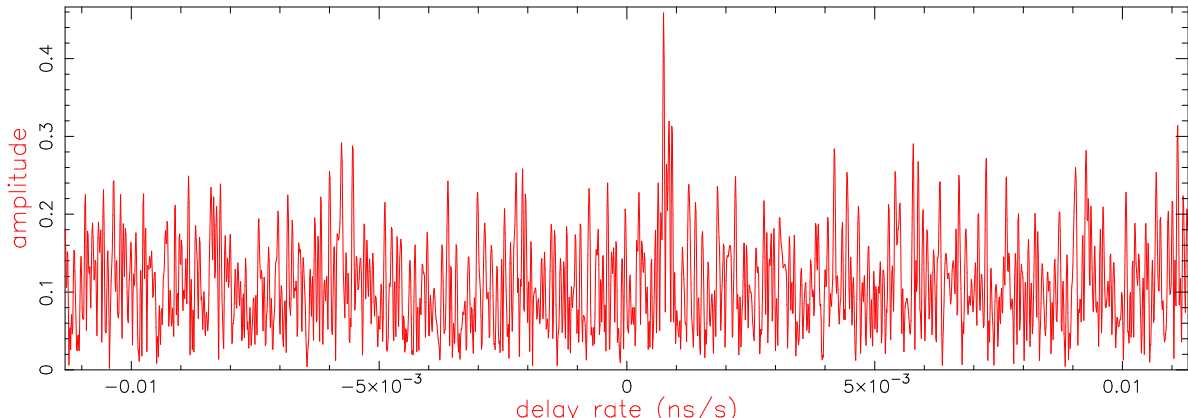
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.92082277670E+03  | Apriori delay (usec)     | 3.92081904539E+03  | Resid mbdelay (usec) | -6.79285E-06 | +/- | 5.5E-04 |
| Sband delay (usec)      | 3.92082277389E+03  | Apriori clock (usec)     | 1.9753950E+01      | Resid sbdelay (usec) | 3.72850E-03  | +/- | 5.5E-04 |
| Phase delay (usec)      | 3.92081904440E+03  | Apriori clockrate (us/s) | -5.9400000E-07     | Resid phdelay (usec) | -9.88940E-07 | +/- | 1.2E-07 |
| Delay rate (us/s)       | -4.21077155770E-02 | Apriori rate (us/s)      | -4.21077149300E-02 | Resid rate (us/s)    | -6.46913E-10 | +/- | 6.8E-10 |
| Total phase (deg)       | 174.6              | Apriori accel (us/s/s)   | -2.37817958873E-05 | Resid phase (deg)    | -30.7        | +/- | 3.7     |

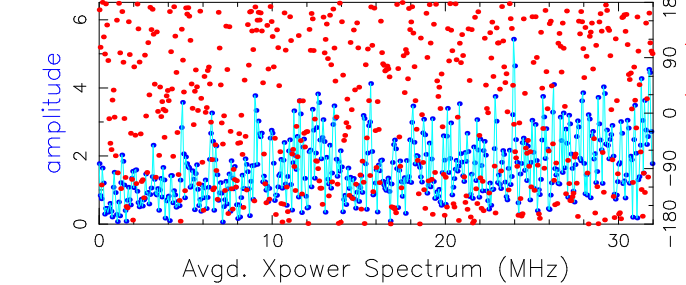
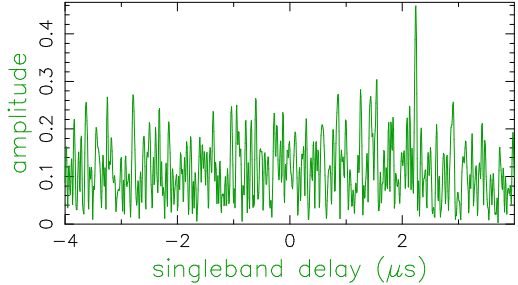
|              |       |                 |       |                |                 |                        |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 72.2  | Theor.          | 31.4  | Amplitude      | 2.679 +/- 0.086 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 119.4 | Search (2048X8) | 2.626 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 4.842           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.9   | Inc. frq. avg.  | 2.626 | Inc. frq. avg. | 2.626           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | Data rate (Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

B: az 247.2 el 37.9 pa 37.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) 220.706 -1364.214 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//BZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//BZ.W.91.0QR2SH



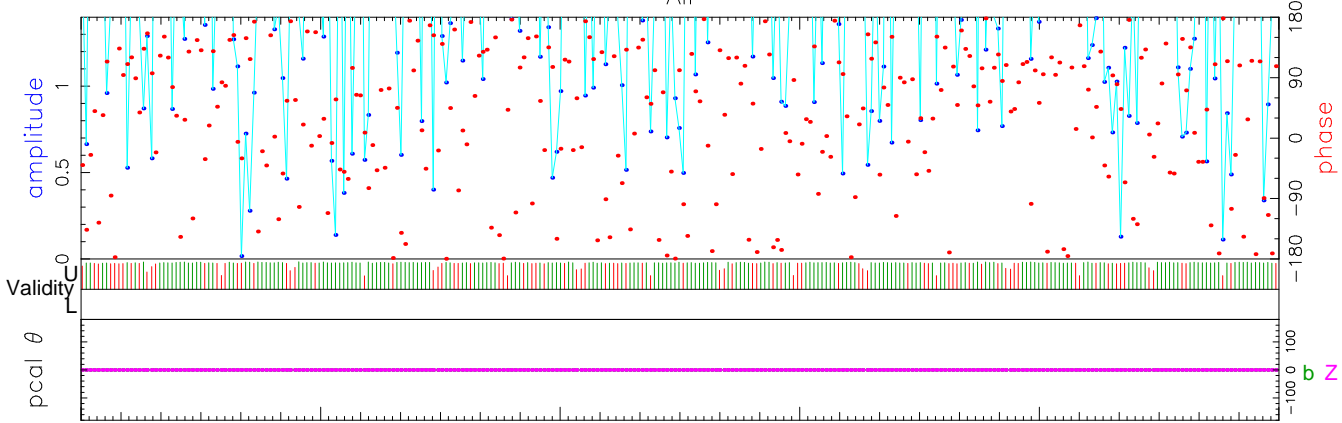
Fringe quality 0  
SNR 5.3  
Int time 280.770  
Amp 0.466  
Phase 100.8  
PFD 1.0e+00  
Delays (us)  
SBD 2.238801  
MBD 0.000007  
Fringe rate (Hz)  
0.063796  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
100.8  
0.5  
799.6  
U/L 586/0  
b 5000  
Z 0  
b:Z 0:0  
b:Z 0:0  
b 1000  
Z 1000  
b W04UL  
Z W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -1.39678867800E+03 | Apriori delay (usec)     | -1.39902748210E+03 | Resid mbdelay (usec) | 6.79313E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.39678868110E+03 | Apriori clock (usec)     | 1.5819423E+01      | Resid sbdelay (usec) | 2.23880E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.39902747885E+03 | Apriori clockrate (us/s) | -1.6700001E-07     | Resid phdelay (usec) | 3.25005E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.65411935703E+00  | Apriori rate (us/s)      | 1.65411861643E+00  | Resid rate (us/s)    | 7.40604E-07 | +/- | 4.0E-09 |
| Total phase (deg)       | -10.3              | Apriori accel (us/s/s)   | 3.62352796621E-06  | Resid phase (deg)    | 100.8       | +/- | 21.5    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 87.6  | Theor.          | 183.9 | Amplitude      | 0.466 +/- 0.087 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 370.8 | Search (2048X8) | 0.459 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.309           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.5   | Inc. frq. avg.  | 0.452 | Inc. frq. avg. | 0.452           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

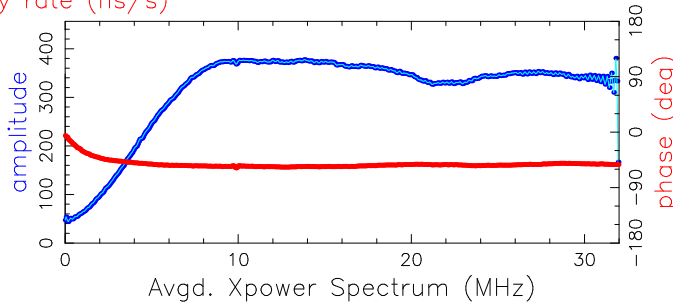
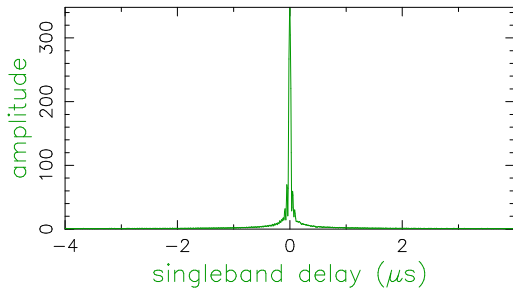
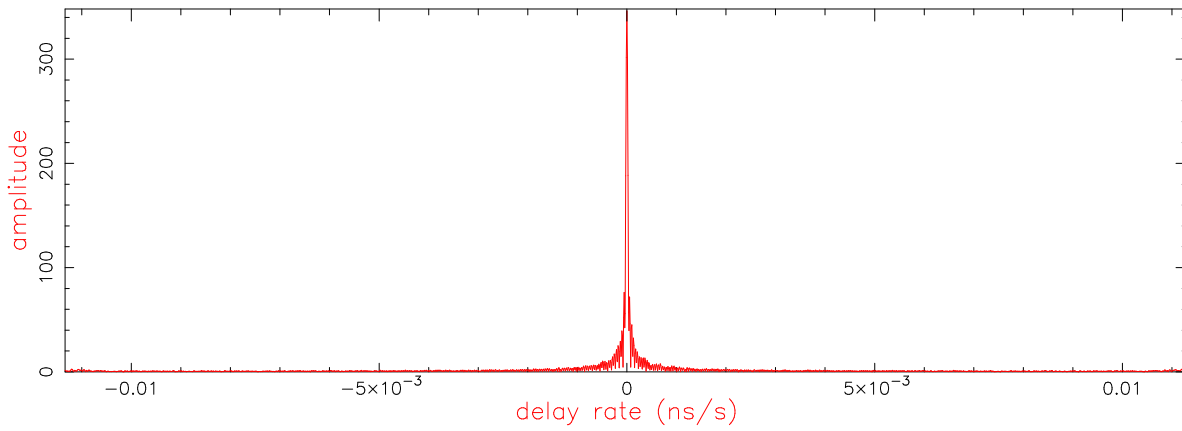
b: az 88.2 el 20.4 pa -44.0 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -9861.620 -920.276 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//bZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//bZ.W.93.0QR2SH

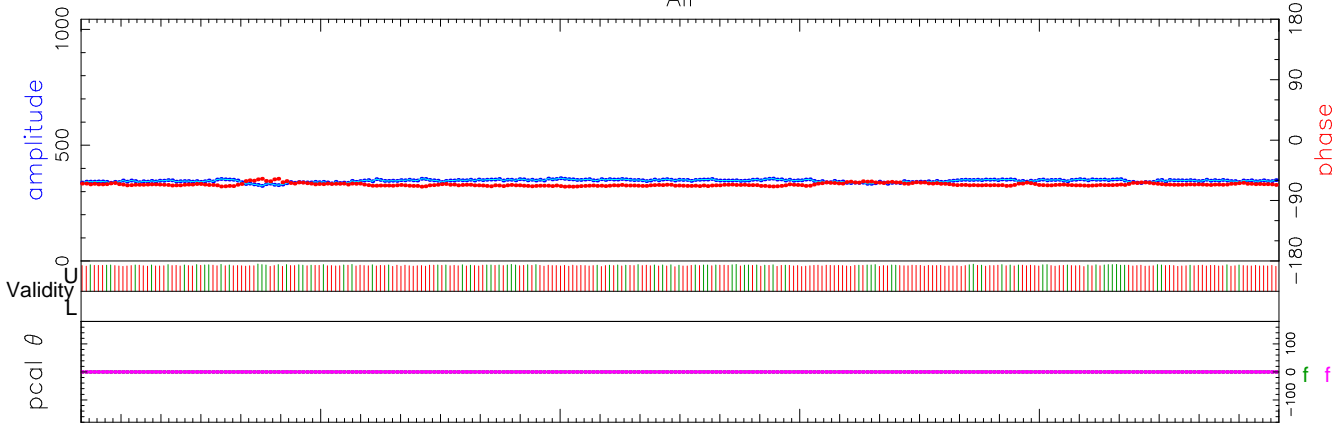
Fringe quality 9

SNR 3996.2  
Int time 281.908  
Amp 348.139  
Phase -66.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.002027  
MBD -0.000005  
Fringe rate (Hz)  
-0.000003  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



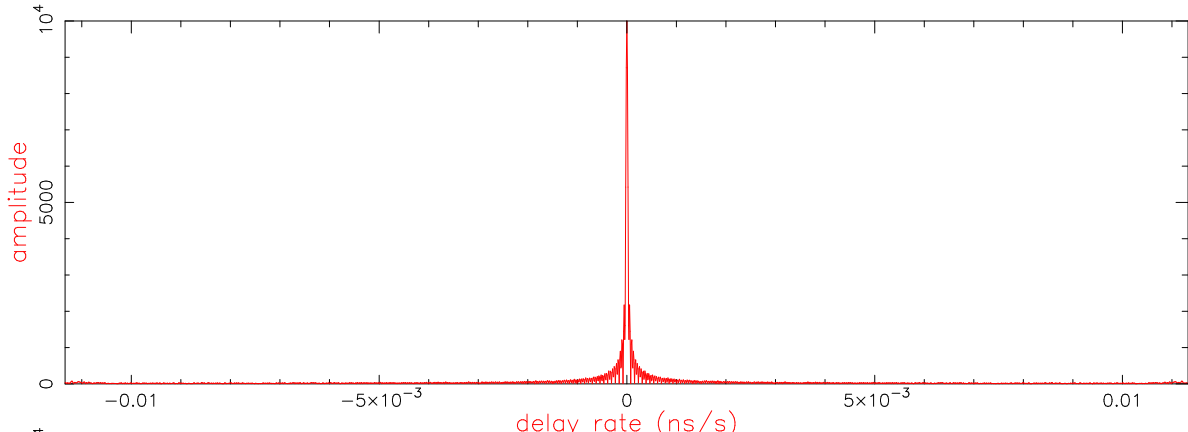
86140.00  
-66.1  
346.2  
512.7  
U/L 586/0  
f 5000  
f 5000  
f:f 0:0  
f:f 0:0  
f 1000  
f 1000  
f W04UR  
f W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                  |                      |              |     |         |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.02494998839E-03 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -4.98249E-06 | +/- | 4.3E-06 |
| Sband delay (usec)      | -2.02750000000E-03 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | -2.02750E-03 | +/- | 4.3E-06 |
| Phase delay (usec)      | -2.13130345391E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -2.13130E-06 | +/- | 9.2E-10 |
| Delay rate (us/s)       | -2.97594200225E-11 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | -2.97594E-11 | +/- | 5.3E-12 |
| Total phase (deg)       | -66.1              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -66.1        | +/- | 0.0     |

|              |     |     |                 |         |  |                       |                  |        |       |
|--------------|-----|-----|-----------------|---------|--|-----------------------|------------------|--------|-------|
| ph/seg (deg) | 2.0 | 0.2 | Search (2048X8) | 346.211 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 1.7 | 0.4 | Interp.         | 0.000   | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0 | Inc. seg. avg.  | 346.424 | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.6 | 0.0 | Inc. frq. avg.  | 346.211 | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00   | 0.00  |

f: az 89.4 el 32.4 pa -63.6 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ff..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ff.W.116.0QR2SH



Fringe quality 9

SNR 114787.5

Int time 281.912

Amp 10000.001

Phase 0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD -0.000007

Fringe rate (Hz)

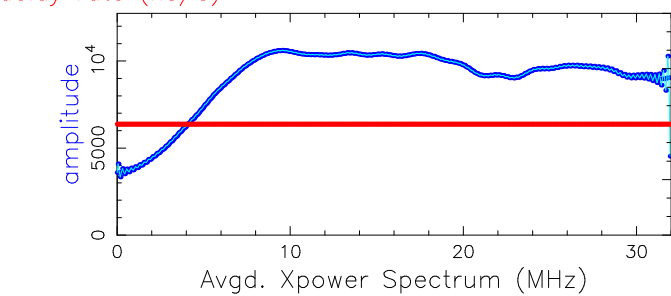
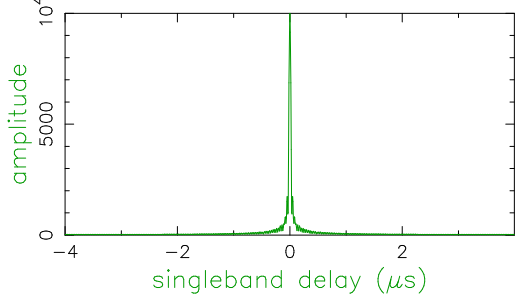
0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171812

2018:249:082454

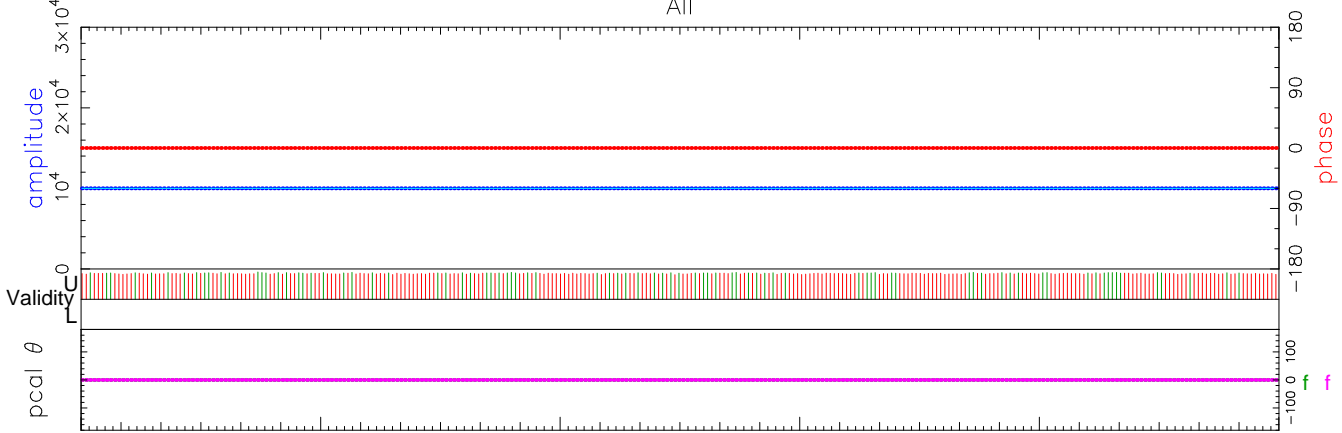
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



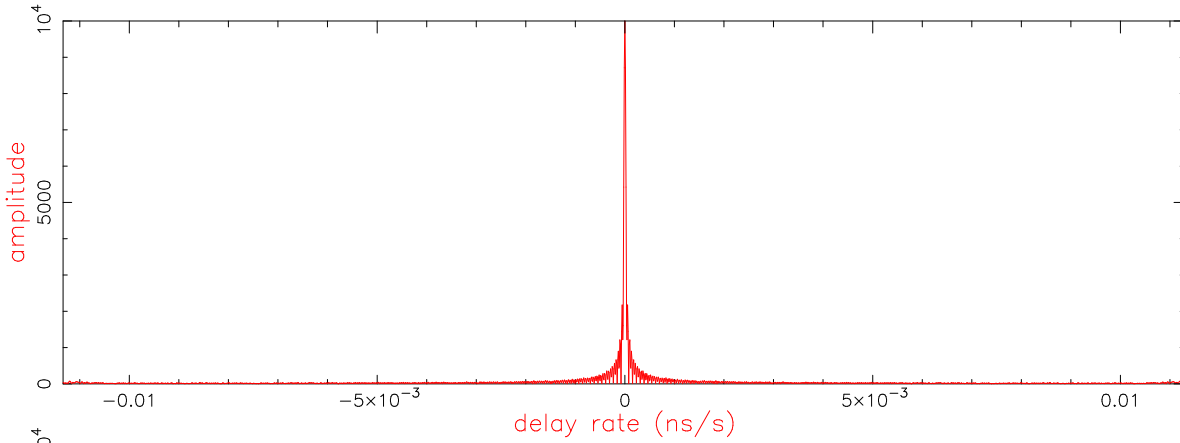
|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 0.0       |  | Phase      |
| 10000.0   |  | Ampl.      |
| 513.0     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| f 5000    |  | PC freqs   |
| f 5000    |  | PC freqs   |
| f:f 0:0   |  | PC phase   |
| f:f 0:0   |  | Manl PC    |
| f 1000    |  | PC amp     |
| f 1000    |  |            |
| f W04UL   |  | Chan ids   |
| f W04UL   |  | Chan ids   |

|                         |                   |                          |                   |                      |              |     |         |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.46946830741E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.13954E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.32612775171E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.32613E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.9E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |                 |           |                |                     |                       |                             |                  |              |
|--------------|-----|-----------------|-----------|----------------|---------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 0.0 | Theor.          | 0.0       | Amplitude      | 10000.001 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 0.0 | Search (2048X8) | 10000.001 | Interp.        | 0.000               | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 | Inc. seg. avg.  | 10000.000 | Inc. frq. avg. | 10000.002           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0 | Inc. frq. avg.  | 10000.002 |                |                     | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |     |                 |           |                |                     | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |     |                 |           |                |                     | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

f: az 89.4 el 32.4 pa -63.6      f: az 89.4 el 32.4 pa -63.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

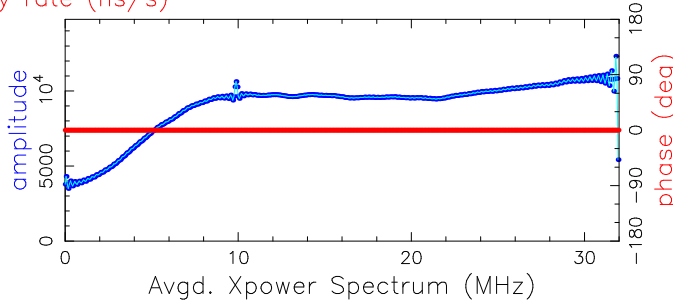
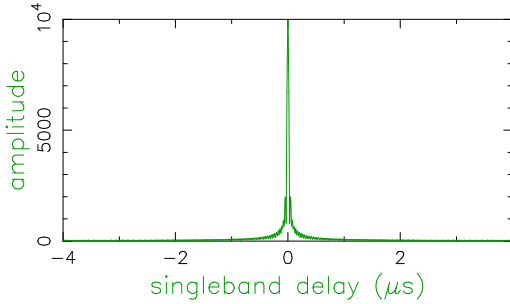
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//ff..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//ff.W.74.0QR2SH



Fringe quality 9

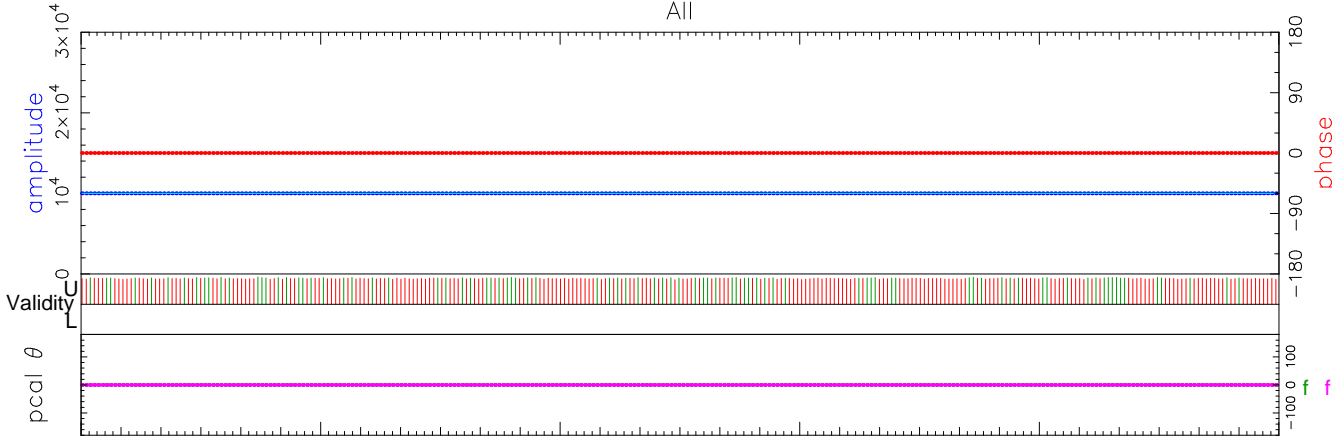
SNR 114786.7  
 Int time 281.908  
 Amp 10000.006  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171813  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 586/0 | APs used   |
| f 5000    | PC freqs   |
| f 5000    | PC freqs   |
| f:f 0:0   | PC phase   |
| f:f 0:0   | Mani PC    |
| f 1000    | PC amp     |
| f 1000    |            |
| f W04UR   | Chan ids   |
| f W04UR   | Chan ids   |

|                         |                   |                          |                   |                      |              |     |         |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.35340724402E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.25560E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34768541382E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.34769E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.9E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |                 |           |                |                     |                       |                             |                  |              |
|--------------|-----|-----------------|-----------|----------------|---------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 0.0 | Theor.          | 0.0       | Amplitude      | 10000.006 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 0.0 | Search (2048X8) | 10000.006 | Interp.        | 0.000               | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 | Inc. seg. avg.  | 10000.000 | Inc. frq. avg. | 10000.006           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0 | Inc. frq. avg.  | 10000.006 |                |                     | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |     |                 |           |                |                     | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |     |                 |           |                |                     |                       |                             | ion window (TEC) | 0.00 0.00    |

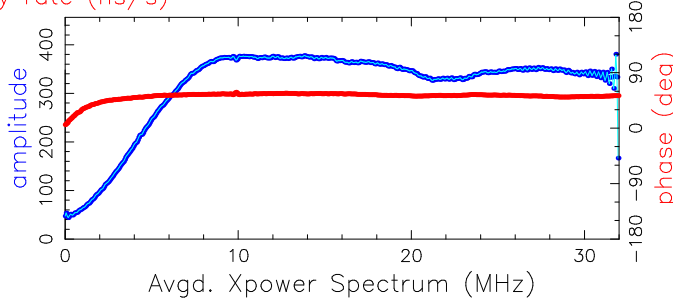
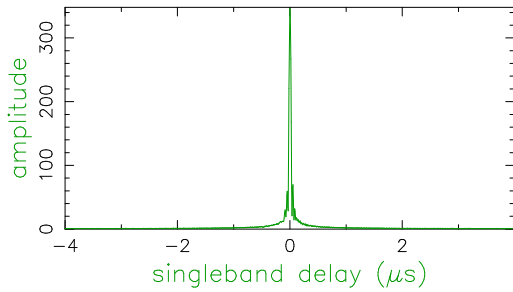
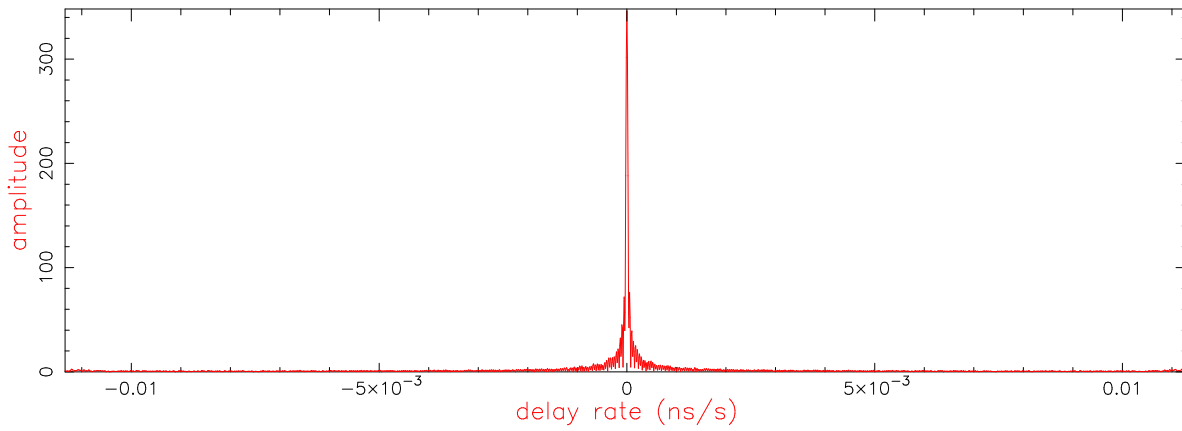
f: az 89.4 el 32.4 pa -63.6      f: az 89.4 el 32.4 pa -63.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//ff..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//ff.W.85.0QR2SH

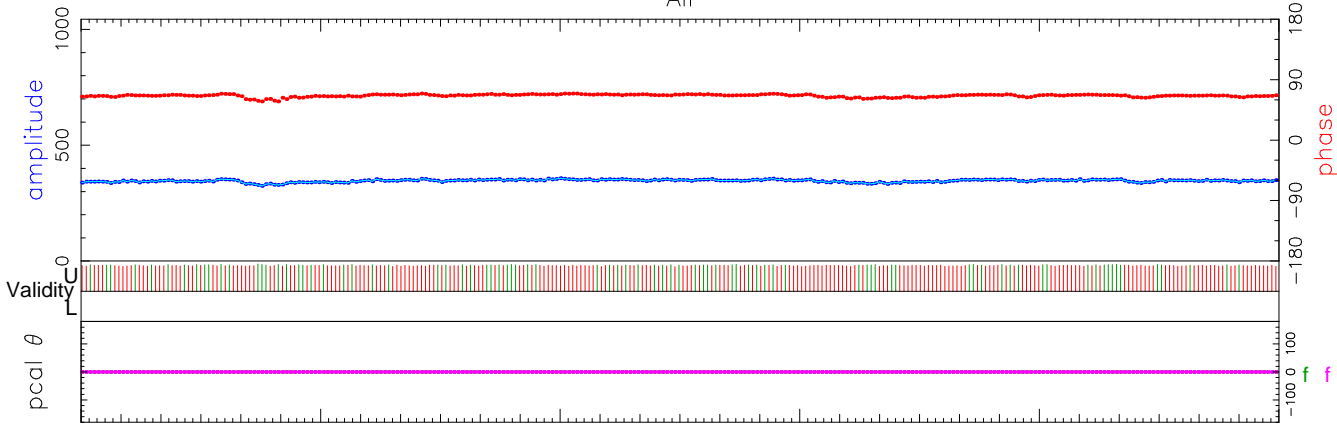
Fringe quality 9

SNR 3996.1  
Int time 281.912  
Amp 348.134  
Phase 66.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.002027  
MBD -0.000007  
Fringe rate (Hz)  
0.000003  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00 Freq (MHz)  
66.2 Phase  
346.2 Ampl.  
513.3 Sbd box  
U/L 586/0 APs used  
f 5000 PC freqs  
f 5000 PC freqs  
f:f 0:0 PC phase  
f:f 0:0 Manl PC  
f 1000 PC amp  
f 1000  
f W04UL Chan ids  
f W04UR Chan ids

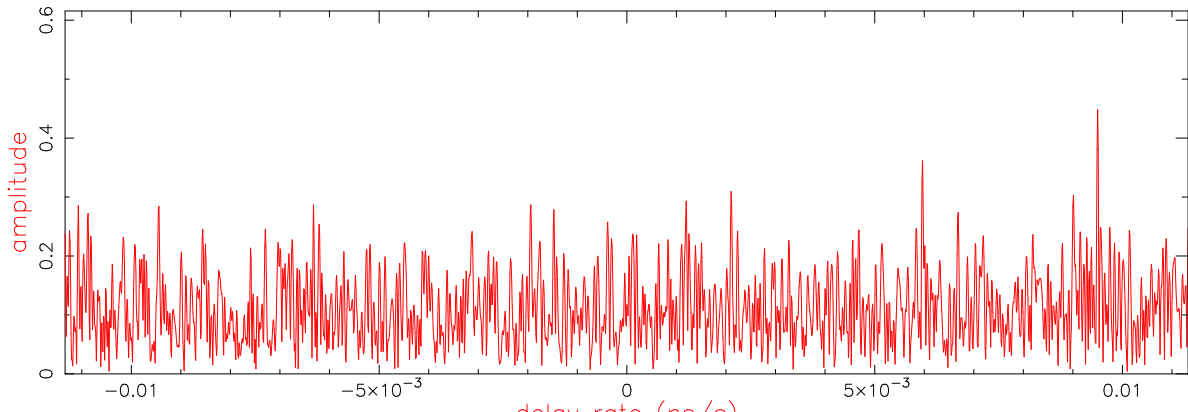
|                         |                   |                          |                   |                      |              |     |         |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.02484299977E-03 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.73350E-06 | +/- | 4.3E-06 |
| Sband delay (usec)      | 2.02750000000E-03 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 2.02750E-03  | +/- | 4.3E-06 |
| Phase delay (usec)      | 2.13347963159E-06 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 2.13348E-06  | +/- | 9.2E-10 |
| Delay rate (us/s)       | 2.97594200225E-11 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 2.97594E-11  | +/- | 5.3E-12 |
| Total phase (deg)       | 66.2              | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 66.2         | +/- | 0.0     |

|              |     |        |     |                 |                   |                       |                             |                  |              |                |              |                  |           |
|--------------|-----|--------|-----|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 2.0 | Theor. | 0.2 | Amplitude       | 348.134 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 1.7 |        | 0.4 | Search (2048X8) | 346.206           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.6 |        | 0.0 | Inc. seg. avg.  | 346.419           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |     |        |     | Inc. frq. avg.  | 346.206           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

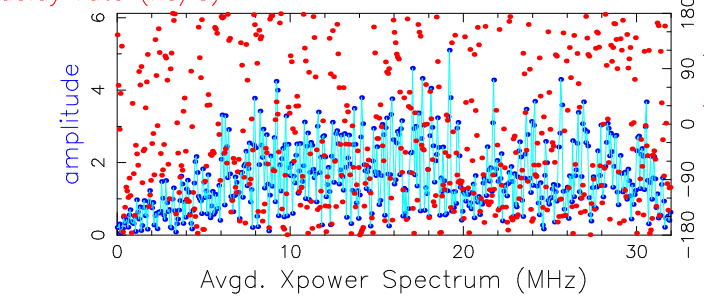
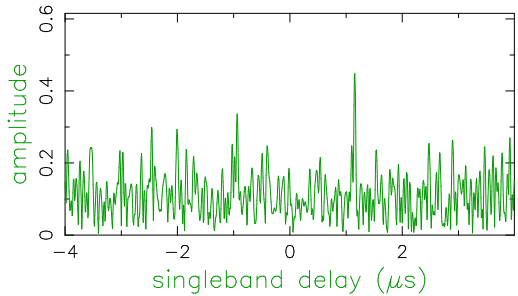
f: az 89.4 el 32.4 pa -63.6 f: az 89.4 el 32.4 pa -63.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ff..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ff.W.92.0QR2SH





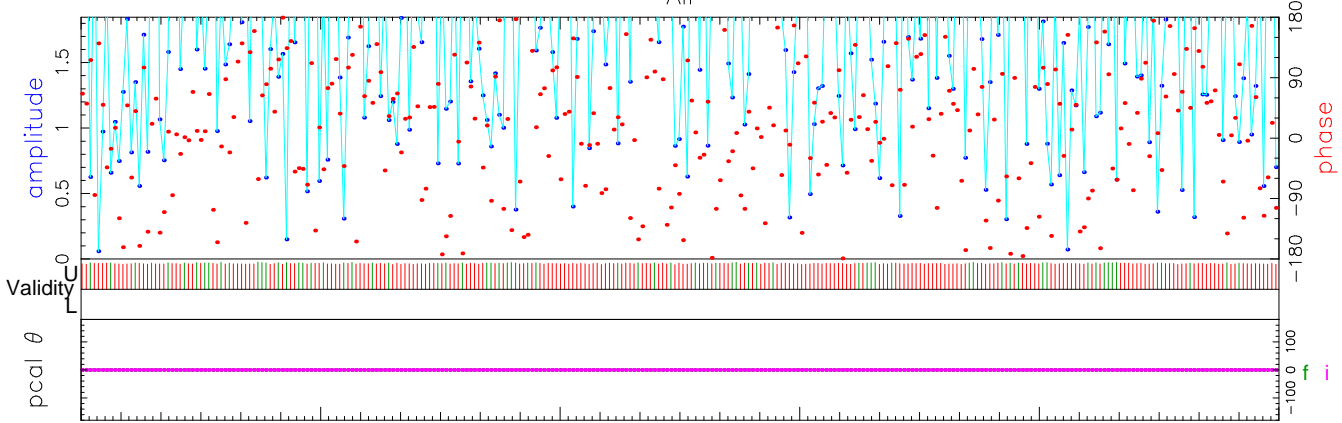
Fringe quality 0  
SNR 5.2  
Int time 281.128  
Amp 0.616  
Phase 38.6  
PFD 1.0e+00  
Delays (us)  
SBD 1.153476  
MBD 0.000005  
Fringe rate (Hz)  
0.818539  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



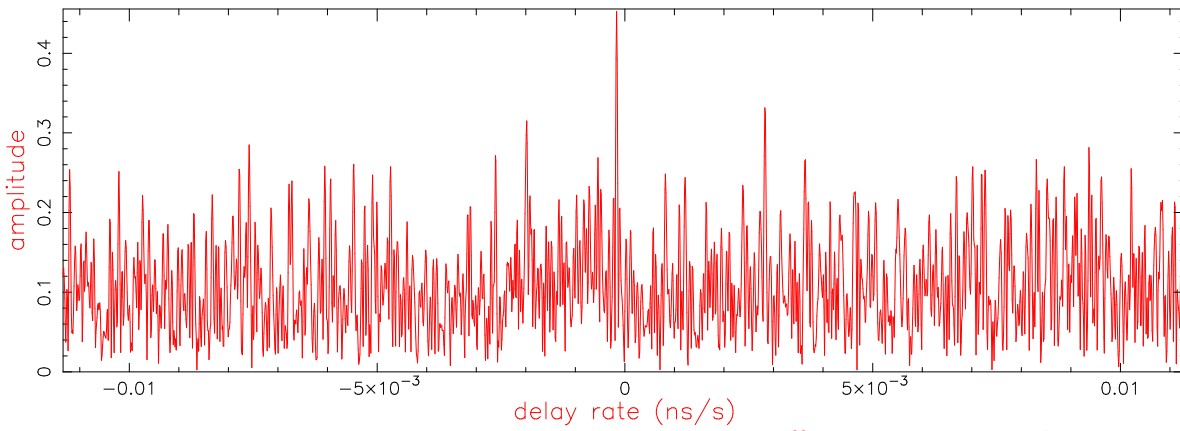
86140.00  
38.6  
0.6  
660.7  
U/L 586/0  
f 5000  
i 0  
f:i 0:0  
f:i 0:0  
f 1000  
i 1000  
f W04UL  
i W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

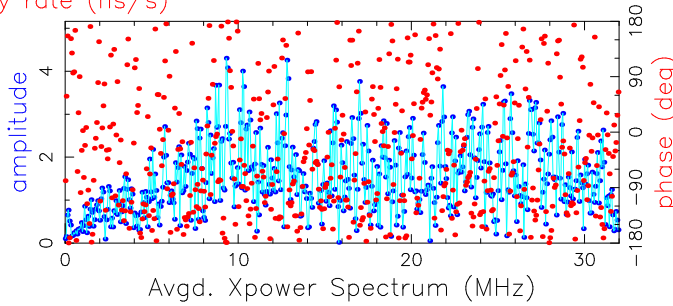
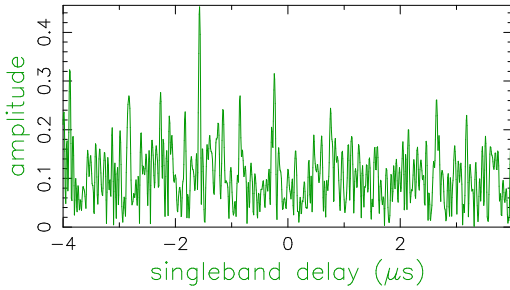
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -4.47625509628E+03 | Apriori delay (usec)     | -4.47740857282E+03 | Resid mbdelay (usec) | 5.44890E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -4.47625509732E+03 | Apriori clock (usec)     | 1.5374871E+01      | Resid sbdelay (usec) | 1.15348E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -4.47740857158E+03 | Apriori clockrate (us/s) | 2.5299999E-07      | Resid phdelay (usec) | 1.24531E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | 1.88157864206E+00  | Apriori rate (us/s)      | 1.88156913964E+00  | Resid rate (us/s)    | 9.50242E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -128.0             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | 38.6        | +/- | 22.1    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 91.8  | Theor.          | 189.0 | Amplitude       | 0.616 +/- 0.119 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 407.3 | Search (2048X8) | 0.441 | Search (2048X8) | 0.441           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 1.0   | Inc. seg. avg.  | 0.418 | Inc. seg. avg.  | 0.418           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.598 | Inc. frq. avg.  | 0.598           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

f: az 89.4 el 32.4 pa -63.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fi.W.100.0QR2SH



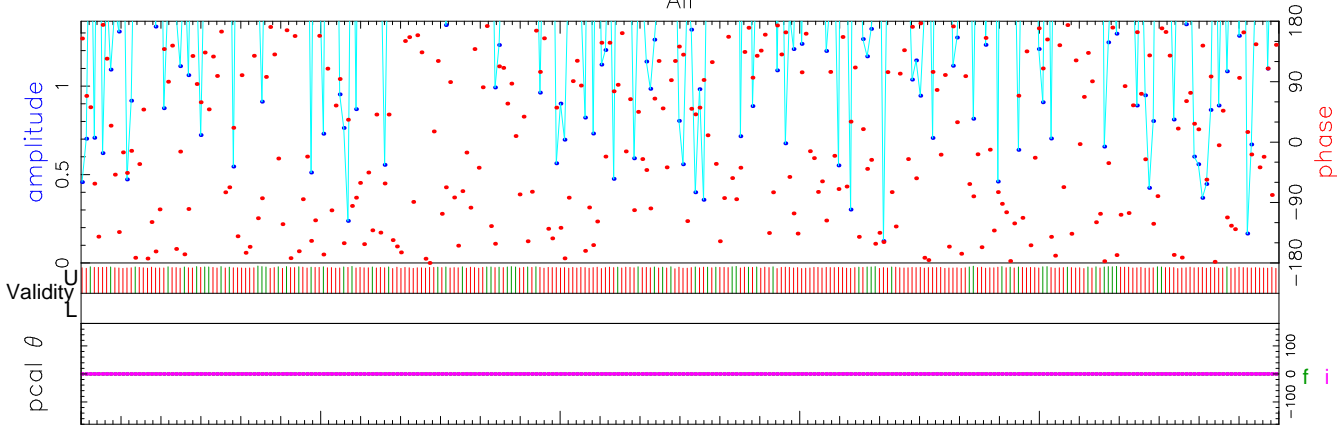
Fringe quality 0  
SNR 5.2  
Int time 281.119  
Amp 0.456  
Phase -166.2  
PFD 1.0e+00  
Delays (us)  
SBD -1.572597  
MBD -0.000006  
Fringe rate (Hz)  
-0.014509  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-166.2  
0.5  
311.7  
U/L 586/0  
f 5000  
i 0  
f:i 0:0  
f:i 0:0  
f 1000  
i 1000  
f W04UR  
i W04UL

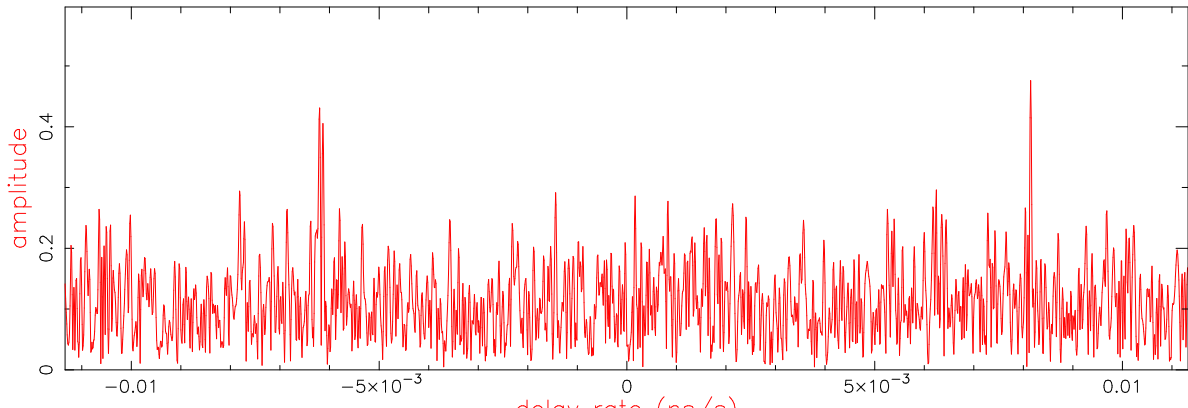
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.47898117018E+03 | Apriori delay (usec)     | -4.47740857282E+03 | Resid mbdelay (usec) | -6.23051E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -4.47898116982E+03 | Apriori clock (usec)     | 1.5374871E+01      | Resid sbdelay (usec) | -1.57260E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -4.47740857818E+03 | Apriori clockrate (us/s) | 2.5299999E-07      | Resid phdelay (usec) | -5.35981E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | 1.88156897121E+00  | Apriori rate (us/s)      | 1.88156913964E+00  | Resid rate (us/s)    | -1.68432E-07 | +/- | 4.1E-09 |
| Total phase (deg)       | -332.8             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | -166.2       | +/- | 21.9    |

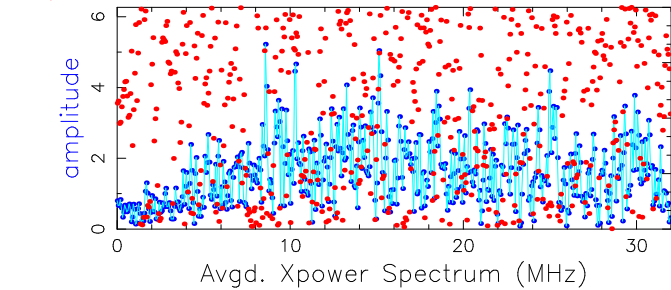
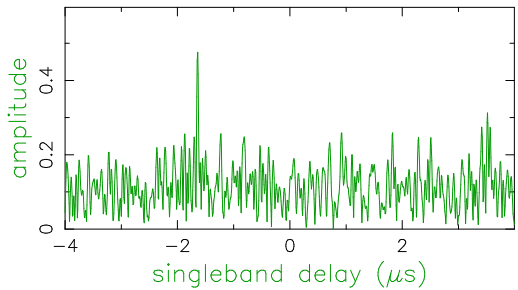
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.9  | Theor.          | 187.8 | Amplitude      | 0.456 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 376.6 | Search (2048X8) | 0.449 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.297           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.7   | Inc. frq. avg.  | 0.444 | Inc. frq. avg. | 0.444           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fi.W.114.0QR2SH

Fringe quality 0

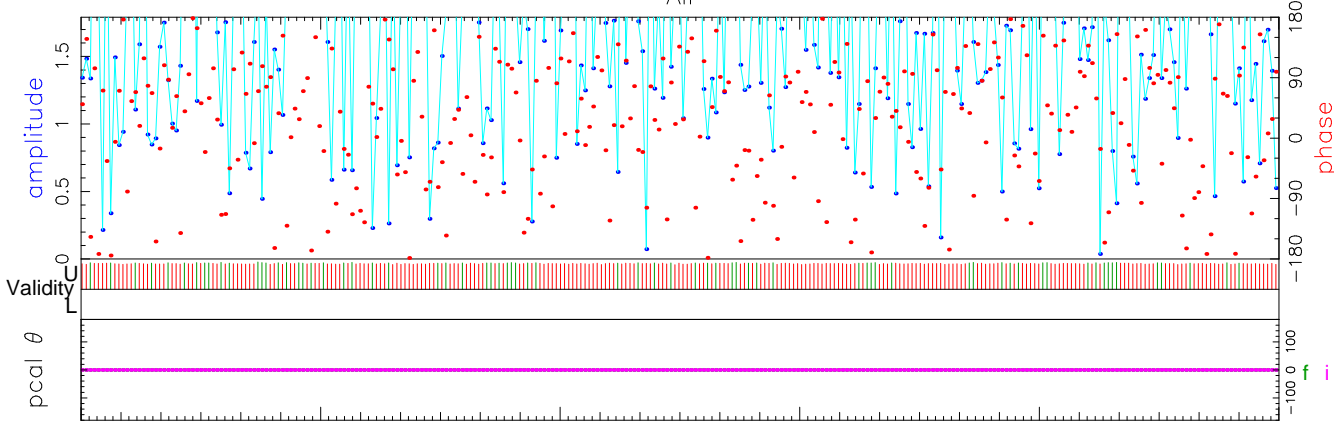


SNR 5.5  
Int time 281.128  
Amp 0.597  
Phase 61.9  
PFD 9.9e-01  
Delays (us)  
SBD -1.642330  
MBD 0.000005  
Fringe rate (Hz)  
0.701647  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171813  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
61.9  
0.6  
302.8  
U/L 586/0  
f 5000  
i 0  
f:i 0:0  
f:i 0:0  
f 1000  
i 1000  
f W04UL  
i W04UL

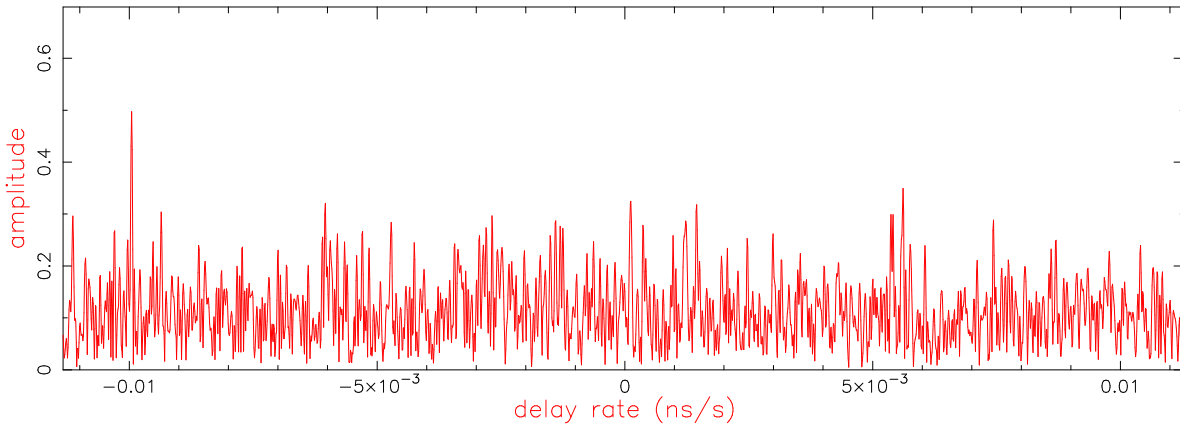
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.47905090546E+03 | Apriori delay (usec)     | -4.47740857282E+03 | Resid mbdelay (usec) | 5.42020E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -4.47905090282E+03 | Apriori clock (usec)     | 1.5374871E+01      | Resid sbdelay (usec) | -1.64233E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -4.47740857082E+03 | Apriori clockrate (us/s) | 2.5299999E-07      | Resid phdelay (usec) | 1.99741E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.88157728506E+00  | Apriori rate (us/s)      | 1.88156913964E+00  | Resid rate (us/s)    | 8.14542E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -104.7             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | 61.9         | +/- | 20.9    |

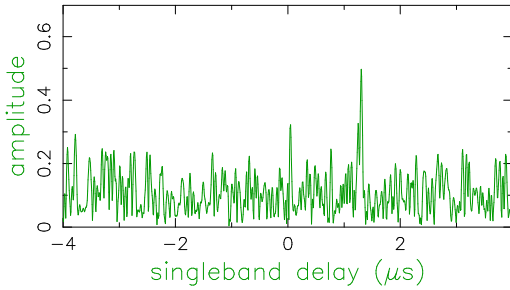
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.1  | Theor.          | 179.0 | Amplitude      | 0.597 +/- 0.109 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 354.0 | Search (2048X8) | 0.471 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.396 | Inc. seg. avg. | 0.396           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.585 | Inc. frq. avg. | 0.585           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

f: az 89.4 el 32.4 pa -63.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fi.W.77.0QR2SH

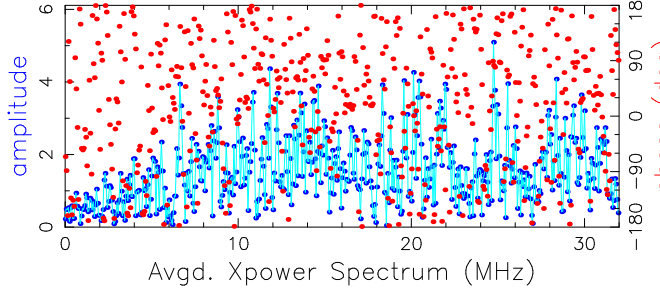
Fringe quality 0



SNR 5.7  
Int time 281.119  
Amp 0.699  
Phase 26.7  
PFD 7.7e-01  
Delays (us)  
SBD 1.305637  
MBD -0.000006  
Fringe rate (Hz)  
-0.857105  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



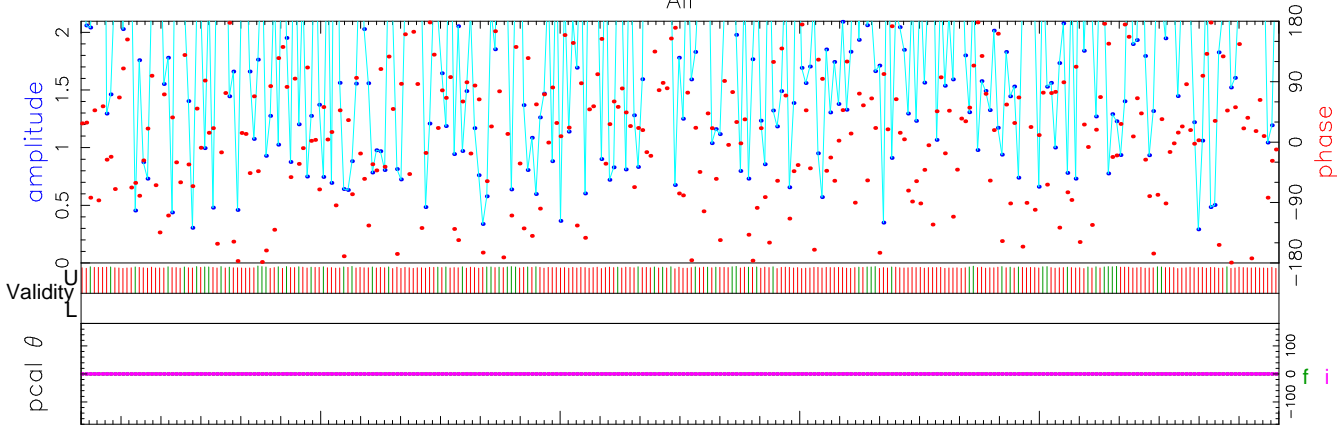
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171814  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
26.7  
0.7  
680.1  
U/L 586/0  
f 5000  
i 0  
f:i 0:0  
f:i 0:0  
f 1000  
i 1000  
f W04UR  
i W04UR

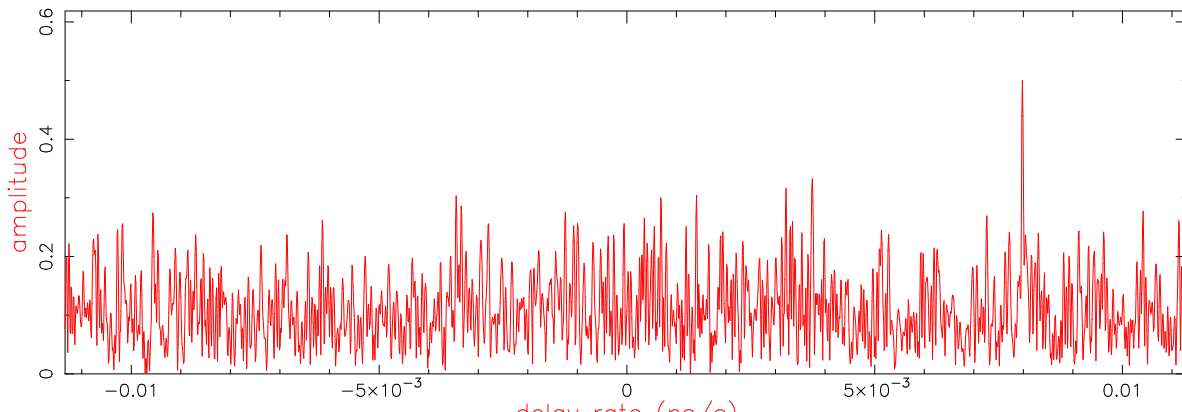
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.47610293646E+03 | Apriori delay (usec)     | -4.47740857282E+03 | Resid mbdelay (usec) | -5.61922E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -4.47610293532E+03 | Apriori clock (usec)     | 1.5374871E+01      | Resid sbdelay (usec) | 1.30564E+00  | +/- | 3.0E-03 |
| Phase delay (usec)      | -4.47740857196E+03 | Apriori clockrate (us/s) | 2.5299999E-07      | Resid phdelay (usec) | 8.61950E-07  | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.88155918951E+00  | Apriori rate (us/s)      | 1.88156913964E+00  | Resid rate (us/s)    | -9.95014E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -139.9             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | 26.7         | +/- | 20.1    |

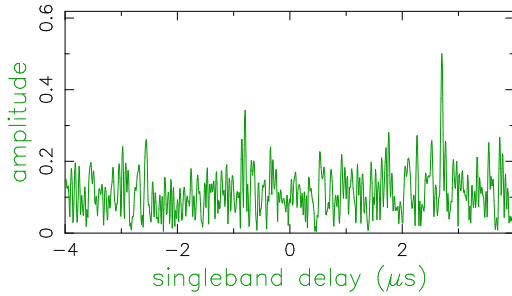
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 90.1  | Theor.          | 172.0 | Amplitude       | 0.699 +/- 0.123 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 351.9 | Search (2048X8) | 0.492 | Search (2048X8) | 0.492           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.1   | Inc. seg. avg.  | 0.495 | Inc. seg. avg.  | 0.495           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.688 | Inc. frq. avg.  | 0.688           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

f: az 89.4 el 32.4 pa -63.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator

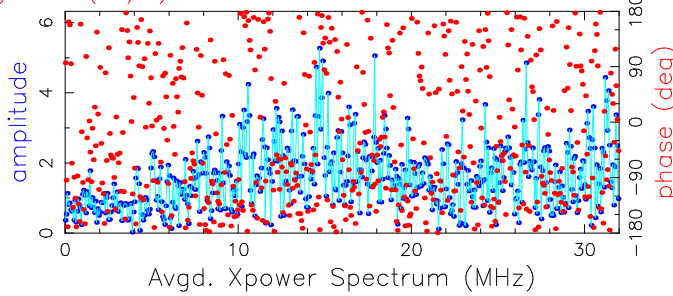
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fi.W.88.0QR2SH



Fringe quality 0  
SNR 5.6  
Int time 270.134  
Amp 0.619  
Phase -47.4  
PFD 9.0e-01  
Delays (us)  
SBD 2.703480  
MBD 0.000004  
Fringe rate (Hz)  
0.687644  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



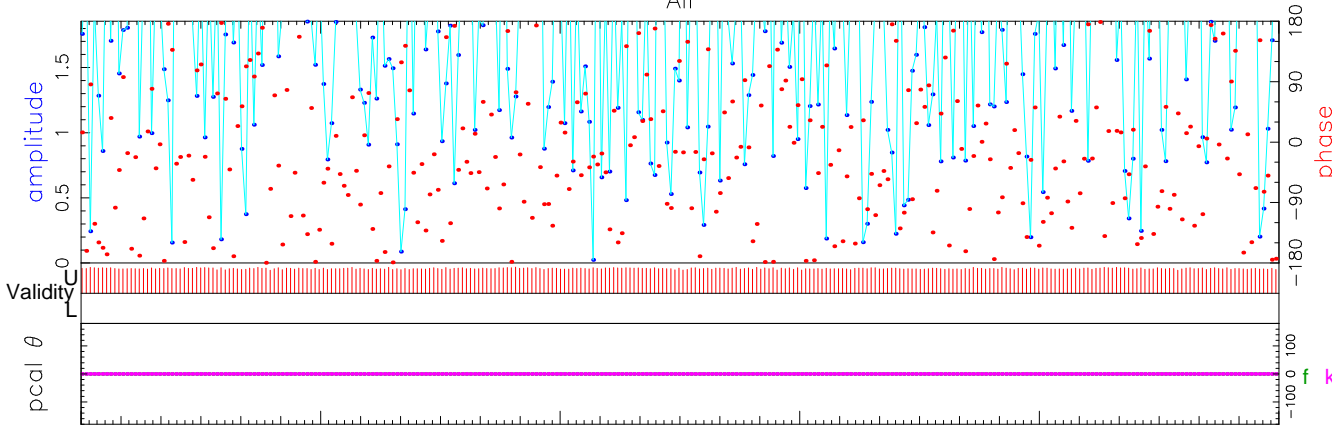
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-47.4  
0.6  
859.0  
U/L 586/0  
f 5000  
k 5000  
f:k 0:0  
f:k 0:0  
f 1000  
k 1000  
f W04UL  
k W04UL

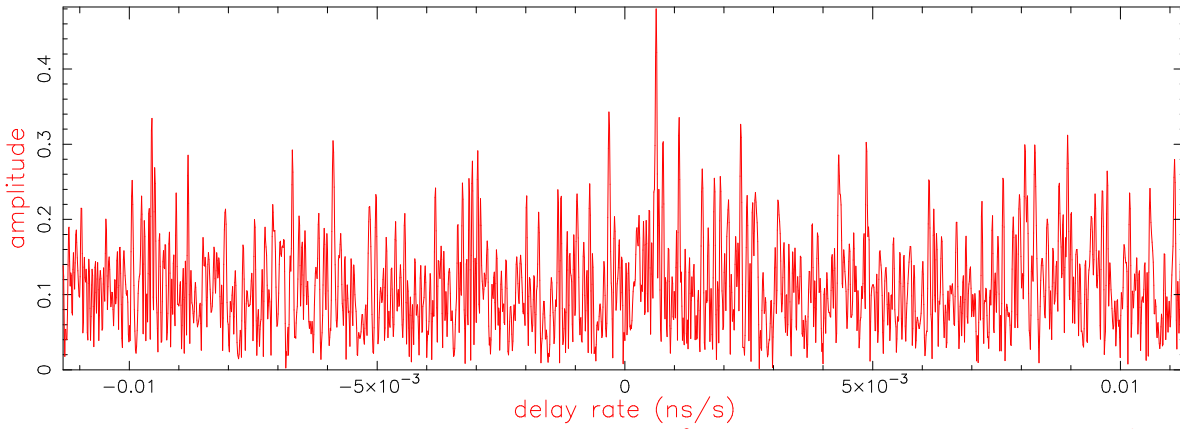
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.09128074040E+03  | Apriori delay (usec)     | 2.08857726495E+03  | Resid mbdelay (usec) | 4.35647E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | 2.09128074545E+03  | Apriori clock (usec)     | -8.7217007E+00     | Resid sbdelay (usec) | 2.70348E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | 2.08857726342E+03  | Apriori clockrate (us/s) | 8.6659995E-08      | Resid phdelay (usec) | -1.52761E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | -5.71920042316E-02 | Apriori rate (us/s)      | -5.71999870976E-02 | Resid rate (us/s)    | 7.98287E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | 169.6              | Apriori accel (us/s/s)   | -1.17742361062E-05 | Resid phase (deg)    | -47.4        | +/- | 20.4    |

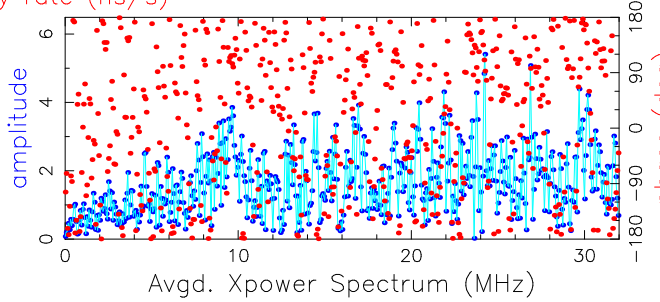
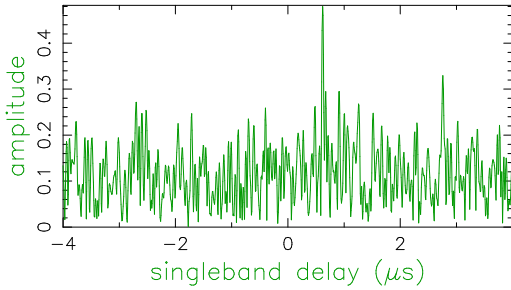
|              |          |              |                           |  |                             |                             |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 91.4 | Theor. 174.6 | Amplitude 0.619 +/- 0.110 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |                               |
| amp/seg (%)  | 350.8    | 304.7        | Search (2048X8) 0.500     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |                               |
| ph/frq (deg) | 0.0      | 10.2         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |                               |
| amp/frq (%)  | 0.0      | 17.8         | Inc. seg. avg. 0.422      | Sample rate(MSamp/s): 64               | nlags: 512                  | t_cohere infinite           | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.609      | Data rate(Mb/s): 128                   |                             | ion window (TEC) 0.00 0.00  |                               |

f: az 89.4 el 32.4 pa -63.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 326.216 -438.775 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fk.W.104.0QR2SH

Fringe quality 0

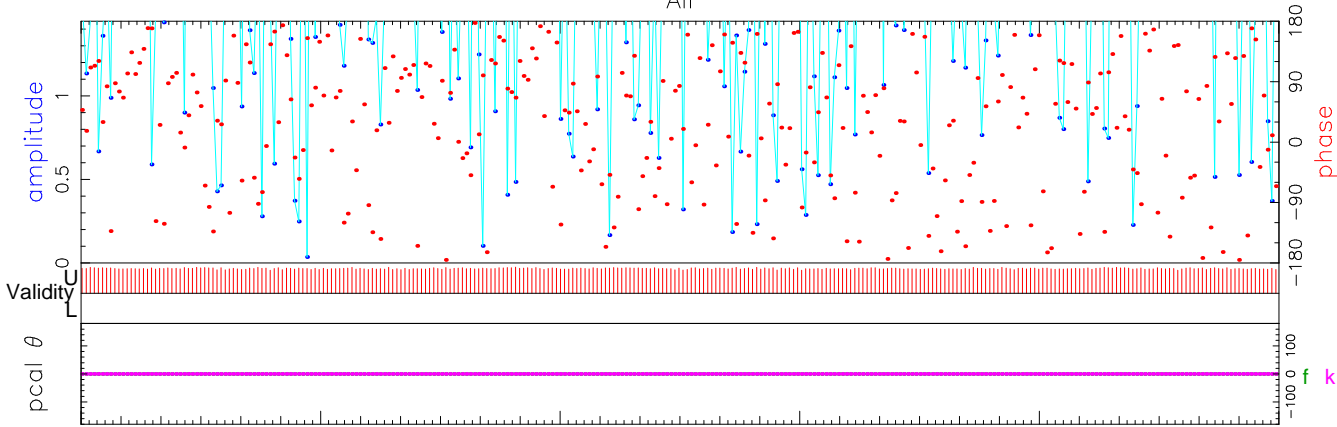


SNR 5.4  
 Int time 270.120  
 Amp 0.482  
 Phase 89.6  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.618994  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.054387  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171818  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 89.6  
 0.5  
 592.2  
 U/L 586/0  
 f 5000  
 k 5000  
 f:k 0:0  
 f:k 0:0  
 f 1000  
 k 1000  
 f W04UR  
 k W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | 2.08919626216E+03  | Apriori delay (usec)     | 2.08857726495E+03  | Resid mbdelay (usec) | 4.87495E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 2.08919625895E+03  | Apriori clock (usec)     | -8.7217007E+00     | Resid sbdelay (usec) | 6.18994E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | 2.08857726784E+03  | Apriori clockrate (us/s) | 8.6659995E-08      | Resid phdelay (usec) | 2.89038E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -5.71993557210E-02 | Apriori rate (us/s)      | -5.71999870976E-02 | Resid rate (us/s)    | 6.31377E-07 | +/- | 3.9E-09 |
| Total phase (deg)       | 306.6              | Apriori accel (us/s/s)   | -1.17742361062E-05 | Resid phase (deg)    | 89.6        | +/- | 21.2    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 92.5 | Theor. 181.2 | Amplitude 0.482 +/- 0.089 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 375.5    | 316.2        | Search (2048X8) 0.480     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.6         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.4      | 18.5         | Inc. seg. avg. 0.333      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.472      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

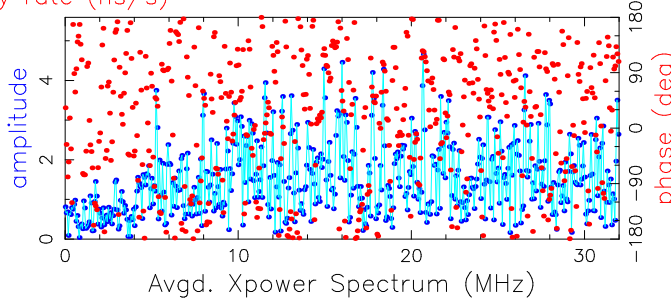
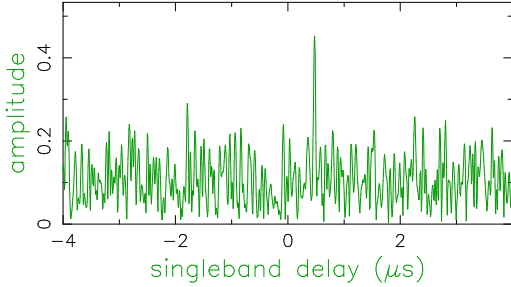
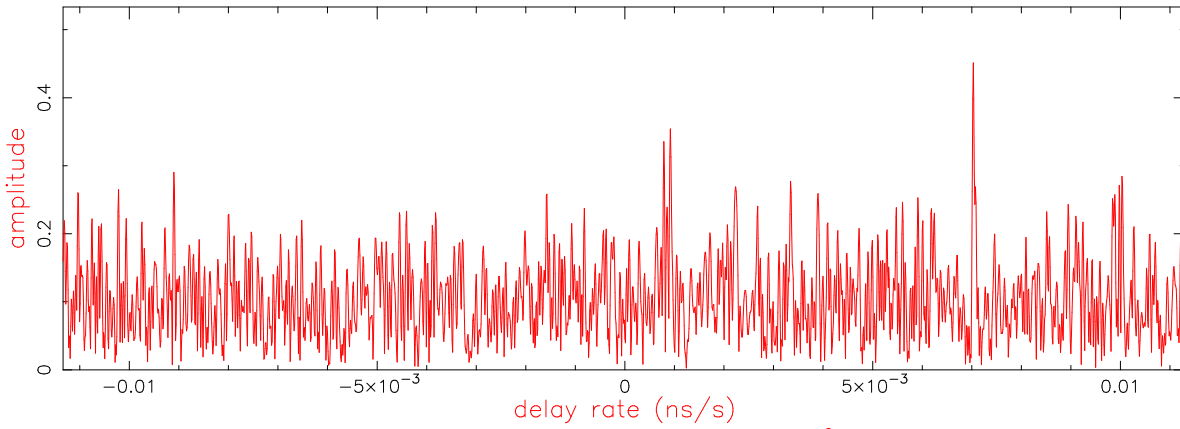
f: az 89.4 el 32.4 pa -63.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 326.216 -438.775 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fk.W.128.0QR2SH

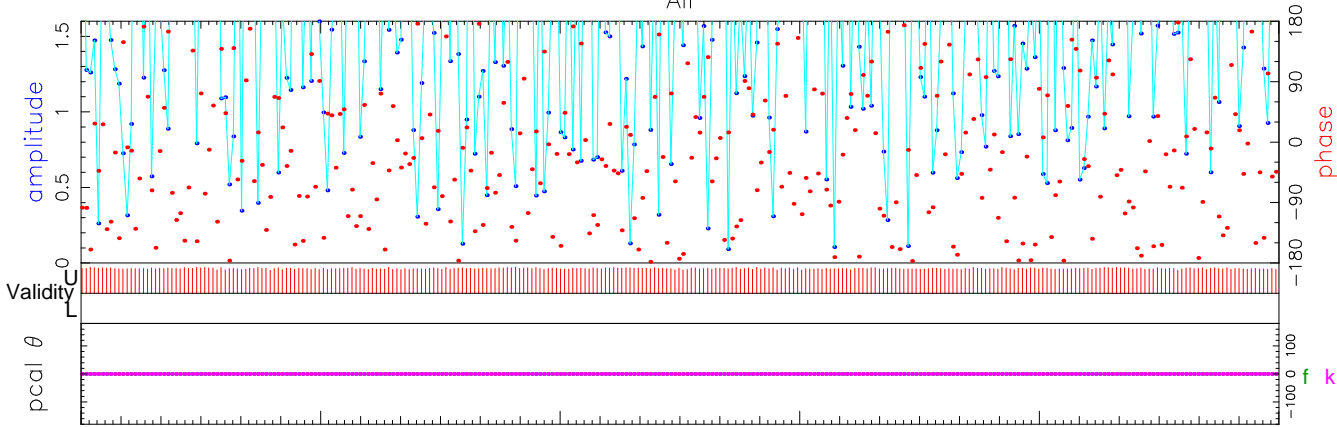
Fringe quality 0

SNR 5.1  
Int time 270.136  
Amp 0.533  
Phase -63.0  
PFD 1.0e+00  
Delays (us)  
SBD 0.474730  
MBD 0.000006  
Fringe rate (Hz)  
0.605479  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-63.0  
0.5  
573.8  
U/L 586/0  
f 5000  
k 5000  
f:k 0:0  
f:k 0:0  
f 1000  
k 1000  
f W04UL  
k W04UR

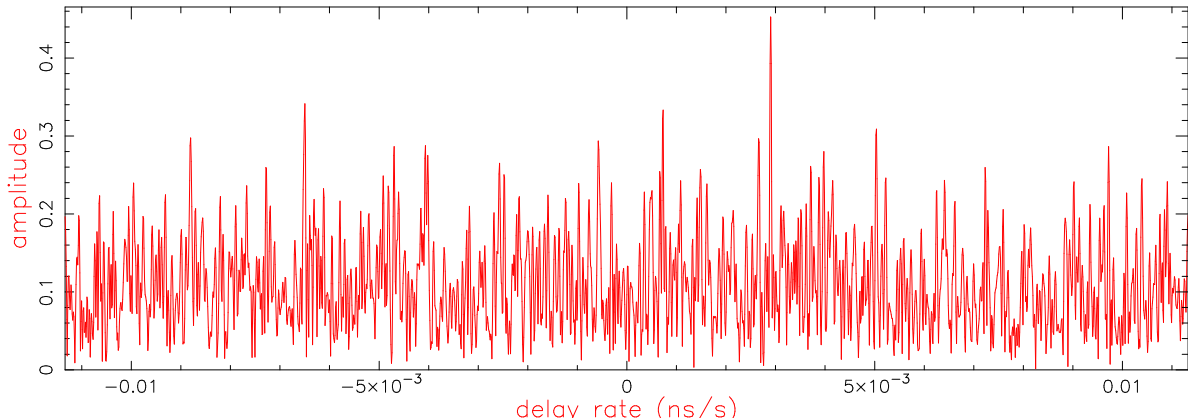
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.08905199793E+03  | Apriori delay (usec)     | 2.08857726495E+03  | Resid mbdelay (usec) | 5.79475E-06  | +/- | 3.4E-03 |
| Sband delay (usec)      | 2.08905199545E+03  | Apriori clock (usec)     | -8.7217007E+00     | Resid sbdelay (usec) | 4.74730E-01  | +/- | 3.4E-03 |
| Phase delay (usec)      | 2.08857726292E+03  | Apriori clockrate (us/s) | 8.6659995E-08      | Resid phdelay (usec) | -2.03190E-06 | +/- | 7.3E-07 |
| Delay rate (us/s)       | -5.71929580827E-02 | Apriori rate (us/s)      | -5.71999870976E-02 | Resid rate (us/s)    | 7.02901E-06  | +/- | 4.2E-09 |
| Total phase (deg)       | 153.9              | Apriori accel (us/s/s)   | -1.17742361062E-05 | Resid phase (deg)    | -63.0        | +/- | 22.5    |

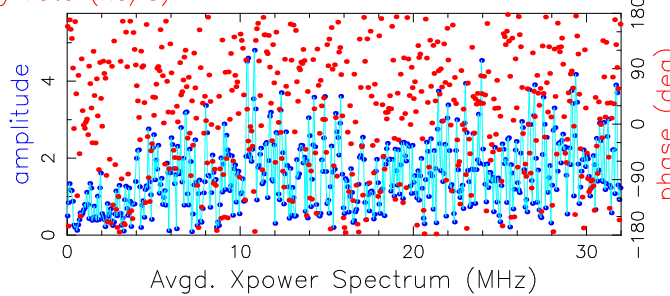
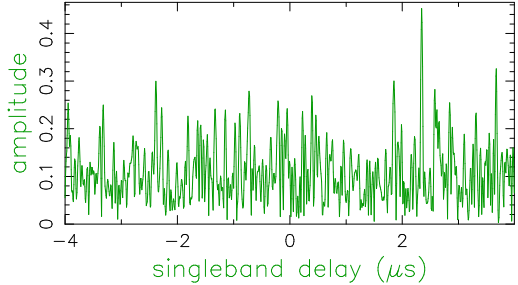
|              |          |              |                           |                 |  |                              |                  |        |       |
|--------------|----------|--------------|---------------------------|-----------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 91.6 | Theor. 192.7 | Amplitude Search (2048X8) | 0.533 +/- 0.105 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 371.7    | 336.3        | Interp.                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled         | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 11.3         | Inc. seg. avg.            | 0.319           | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64     | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.4      | 19.6         | Inc. frq. avg.            | 0.521           | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite | ion window (TEC) | 0.00   | 0.00  |

f: az 89.4 el 32.4 pa -63.6 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 326.216 -438.775 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fk.W.141.0QR2SH



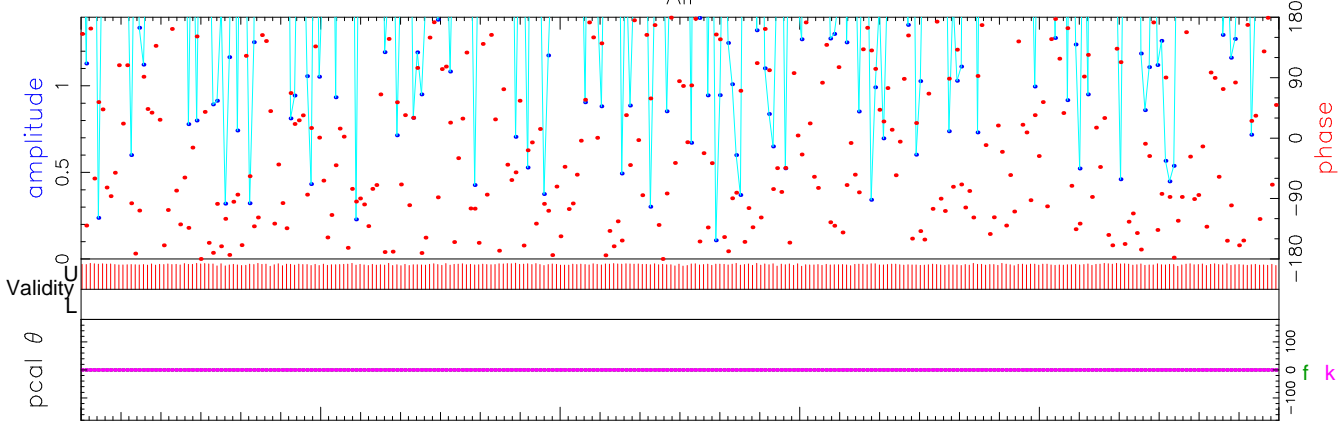
Fringe quality 0  
SNR 5.1  
Int time 270.118  
Amp 0.466  
Phase -115.6  
PFD 1.0e+00  
Delays (us)  
SBD 2.344519  
MBD 0.000005  
Fringe rate (Hz)  
0.249987  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All

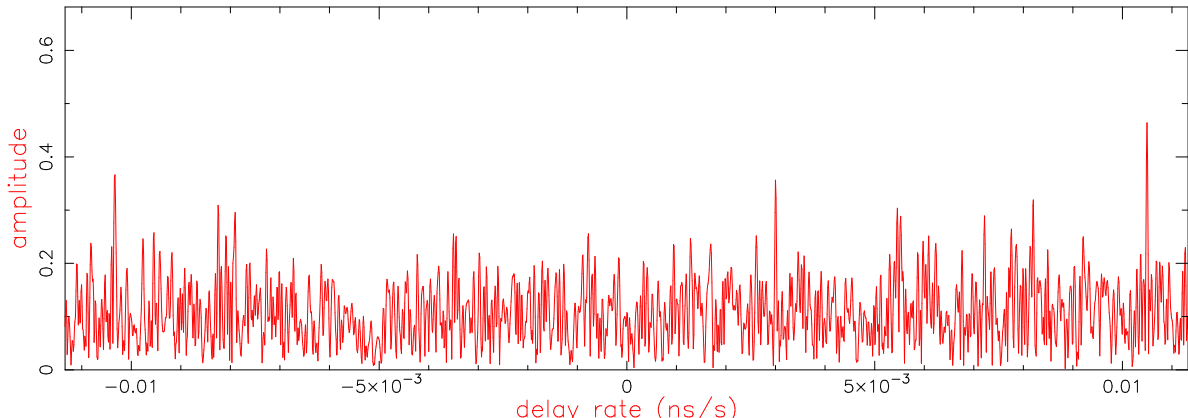


86140.00  
-115.6  
0.5  
813.1  
U/L 586/0  
f 5000  
k 5000  
f:k 0:0  
f:k 0:0  
f 1000  
k 1000  
f W04UR  
k W04UL

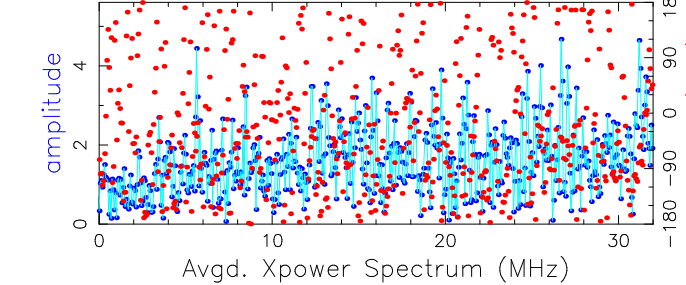
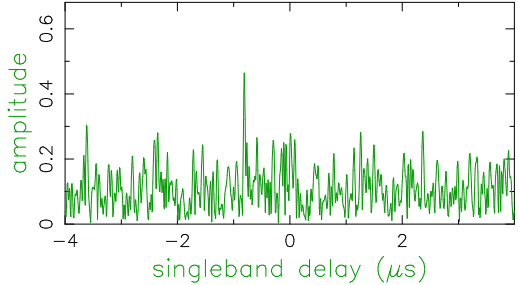
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                             |                    |                          |                    |   |   |   |         |   |  |  |  |                           |  |  |  |
|-----------------------------|--------------------|--------------------------|--------------------|---|---|---|---------|---|--|--|--|---------------------------|--|--|--|
| Group delay (usec)(sbd)     | 2.09092177927E+03  | Apriori delay (usec)     | 2.08857726495E+03  | Resid mbdelay (usec)                                    | 5.38658E-06   | +/-   | 3.4E-03 |   |  |  |  |                           |  |  |  |
| Sband delay (usec)          | 2.09092178395E+03  | Apriori clock (usec)     | -8.7217007E+00     | Resid sbdelay (usec)                                    | 2.34452E+00   | +/-   | 3.4E-03 |   |  |  |  |                           |  |  |  |
| Phase delay (usec)          | 2.08857726122E+03  | Apriori clockrate (us/s) | 8.6659995E-08      | Resid phdelay (usec)                                    | -3.72868E-06  | +/-   | 7.3E-07 |   |  |  |  |                           |  |  |  |
| Delay rate (us/s)           | -5.71970849908E-02 | Apriori rate (us/s)      | -5.71999870976E-02 | Resid rate (us/s)                                       | 2.90211E-06   | +/-   | 4.2E-09 |   |  |  |  |                           |  |  |  |
| Total phase (deg)           | 101.3              | Apriori accel (us/s/s)   | -1.17742361062E-05 | Resid phase (deg)                                       | -115.6  | +/-   | 22.5    |   |  |  |  |                           |  |  |  |
| RMS                         | 92.7               | Theor.                   | 192.7              | Amplitude   | 0.466 +/- 0.091   | Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5 |         |   |  |  |  |                           |  |  |  |
| ph/seg (deg)                | 92.7               | Search (2048X8)          | 0.452              | Pcal rate: 0.000E+00, 0.000E+00 (us/s)                  | sb window (us) -4.000 4.000                             |   |         |   |  |  |  |                           |  |  |  |
| amp/seg (%)                 | 400.3              | Interp.                  | 0.000              | Bits/sample: 2x2  | SampCntNorm: enabled mb window (us) -0.000 0.000        |   |         |   |  |  |  |                           |  |  |  |
| ph/frq (deg)                | 0.0                | Inc. seg. avg.           | 0.305              | Sample rate(MSamp/s): 64                                | dr window (ns/s) -0.011 0.011                           |   |         |   |  |  |  |                           |  |  |  |
| amp/frq (%)                 | 0.1                | Inc. frq. avg.           | 0.456              | Data rate(Mb/s): 128                                    | nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00 |   |         |   |  |  |  |                           |  |  |  |
| f: az 89.4 el 32.4 pa -63.6 |                    |                          |                    | k: az 86.3 el 25.9 pa -61.9                             |   |   |         | u,v (fr/asec) 326.216 -438.775                                |  |  |  | simultaneous interpolator |  |  |  |
| Control file: cf_1234_gmva  |                    |                          |                    | Input file: /Exps2/f191a/FRINGE/1234/No0007//fk..0QR2SH |   |   |         | Output file: /Exps2/f191a/FRINGE/1234/No0007//fk.W.151.0QR2SH |  |  |  |                           |  |  |  |



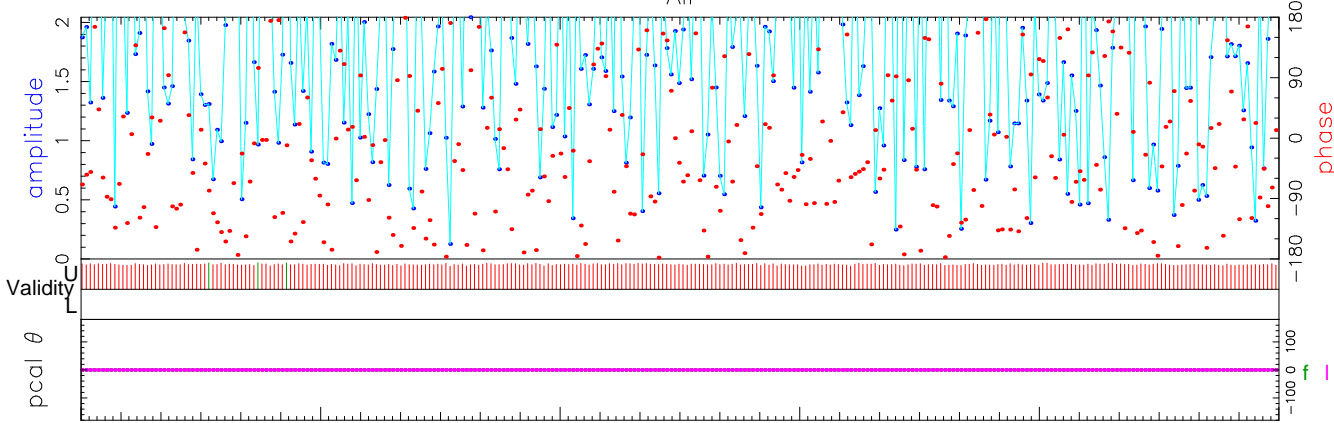


Fringe quality 0  
SNR 5.2  
Int time 270.397  
Amp 0.682  
Phase -76.2  
PFD 1.0e+00  
Delays (us)  
SBD -0.811256  
MBD 0.000004  
Fringe rate (Hz)  
0.904481  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-76.2  
0.7  
409.1  
U/L 586/0  
f 5000  
l 5000  
f:l 0:0  
f:l 0:0  
f 1000  
l 1000  
f W04UL  
l W04UL

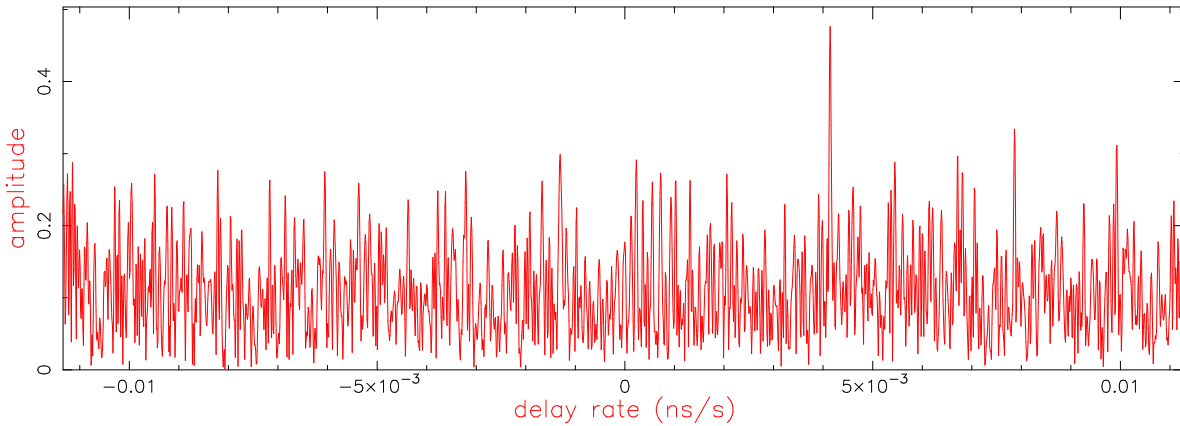
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 6.31504103879E+02 | Apriori delay (usec)     | 6.32315360132E+02  | Resid mbdelay (usec) | 4.48554E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 6.31504104632E+02 | Apriori clock (usec)     | 1.6214590E+00      | Resid sbdelay (usec) | -8.11256E-01 | +/- | 3.3E-03 |
| Phase delay (usec)      | 6.32315357675E+02 | Apriori clockrate (us/s) | 1.3300000E-07      | Resid phdelay (usec) | -2.45669E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | 4.06515884923E-02 | Apriori rate (us/s)      | 4.06410883698E-02  | Resid rate (us/s)    | 1.05001E-05  | +/- | 4.1E-09 |
| Total phase (deg)       | -32.4             | Apriori accel (us/s/s)   | -5.72154534897E-06 | Resid phase (deg)    | -76.2        | +/- | 21.9    |

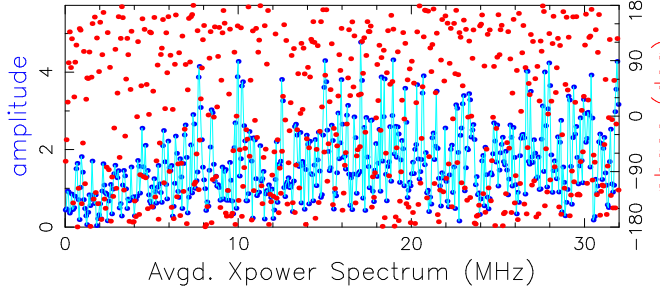
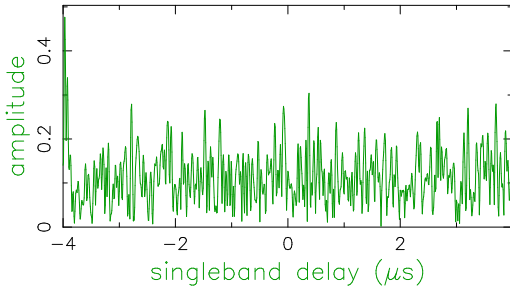
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.5  | Theor.          | 187.5 | Amplitude      | 0.682 +/- 0.130 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 372.5 | Search (2048X8) | 0.451 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.438           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.668 | Inc. frq. avg. | 0.668           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -249.959 -767.894 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fl.W.117.0QR2SH

Fringe quality 0

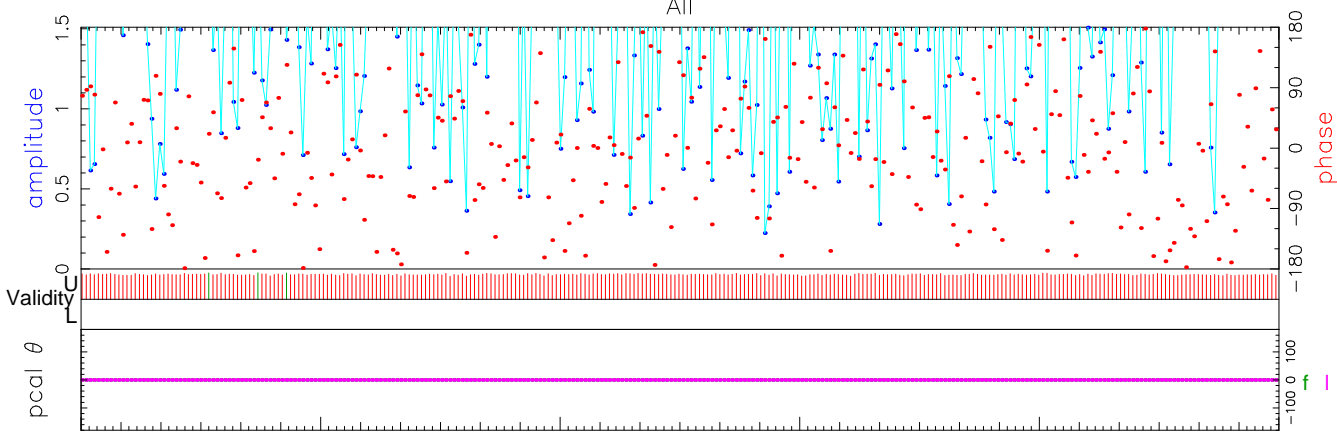


SNR 5.4  
Int time 270.389  
Amp 0.504  
Phase -5.7  
PFD 1.0e+00  
Delays (us)  
SBD -3.968830  
MBD 0.000005  
Fringe rate (Hz)  
0.356801  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
-5.7  
0.5  
5.0  
U/L 586/0  
f 5000  
l 5000  
f:l 0:0  
f:l 0:0  
f 1000  
l 1000  
f W04UR  
l W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 6.28346535165E+02 | Apriori delay (usec)     | 6.32315360132E+02  | Resid mbdelay (usec) | 4.84569E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 6.28346530132E+02 | Apriori clock (usec)     | 1.6214590E+00      | Resid sbdelay (usec) | -3.96883E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 6.32315359949E+02 | Apriori clockrate (us/s) | 1.3300000E-07      | Resid phdelay (usec) | -1.82641E-07 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 4.06452304751E-02 | Apriori rate (us/s)      | 4.06410883698E-02  | Resid rate (us/s)    | 4.14211E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | 38.2              | Apriori accel (us/s/s)   | -5.72154534897E-06 | Resid phase (deg)    | -5.7         | +/- | 21.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.9  | Theor.          | 183.2 | Amplitude      | 0.504 +/- 0.094 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 380.5 | Search (2048X8) | 0.475 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.338           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.495 | Inc. frq. avg. | 0.495           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

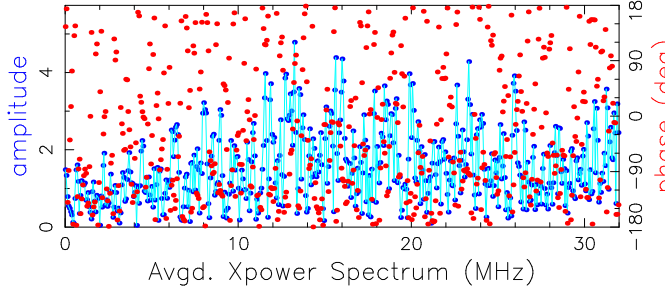
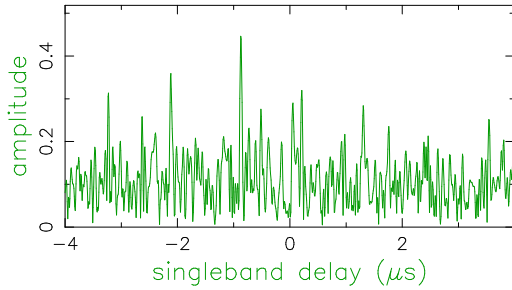
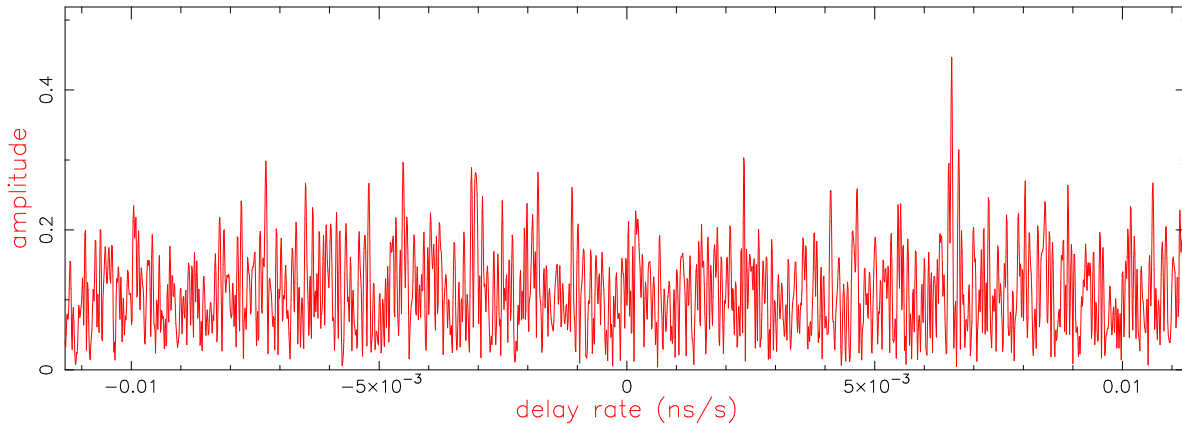
f: az 89.4 el 32.4 pa -63.6 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -249.959 -767.894 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fl.W.135.0QR2SH

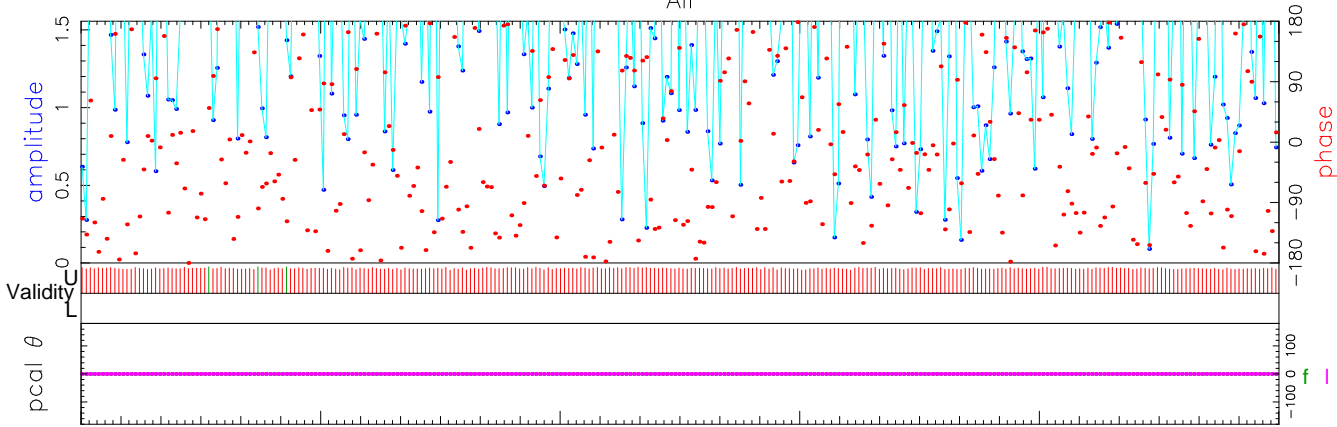
Fringe quality 0

SNR 5.1  
Int time 270.405  
Amp 0.519  
Phase -105.0  
PFD 1.0e+00  
Delays (us)  
SBD -0.872096  
MBD 0.000004  
Fringe rate (Hz)  
0.564409  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



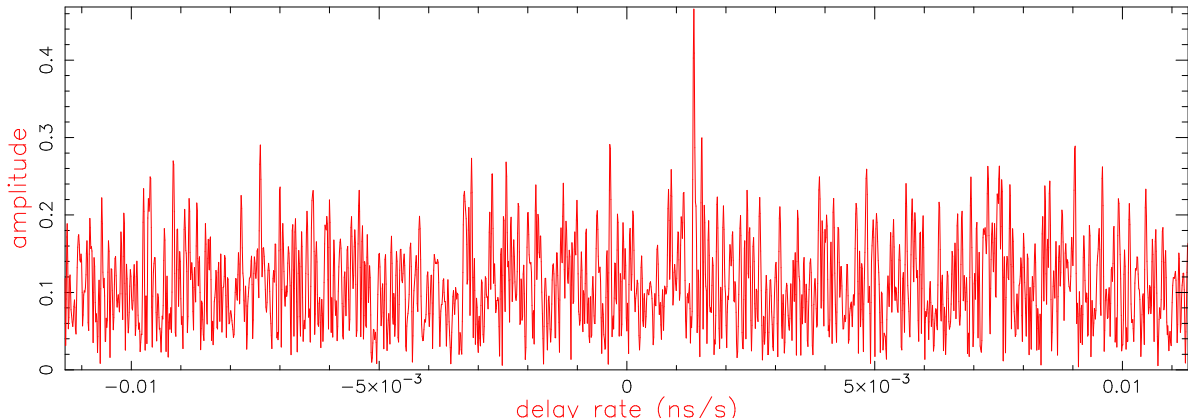
86140.00  
-105.0  
0.5  
401.4  
U/L 586/0  
f 5000  
l 5000  
f:l 0:0  
f:l 0:0  
f 1000  
l 1000  
f W04UL  
l W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

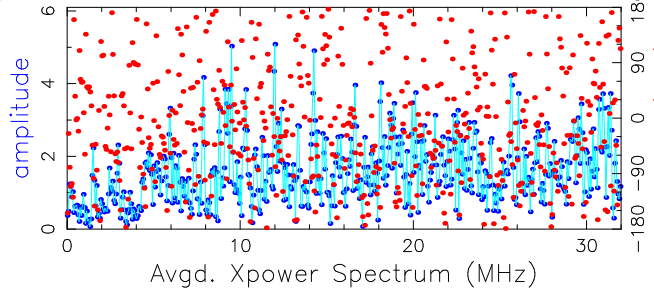
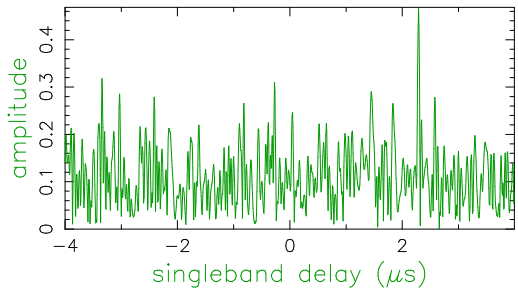
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 6.31443260938E+02 | Apriori delay (usec)     | 6.32315360132E+02  | Resid mbdelay (usec) | 4.35893E-06  | +/- | 3.4E-03 |
| Sband delay (usec)      | 6.31443264132E+02 | Apriori clock (usec)     | 1.6214590E+00      | Resid sbdelay (usec) | -8.72096E-01 | +/- | 3.4E-03 |
| Phase delay (usec)      | 6.32315356745E+02 | Apriori clockrate (us/s) | 1.3300000E-07      | Resid phdelay (usec) | -3.38625E-06 | +/- | 7.3E-07 |
| Delay rate (us/s)       | 4.06476406012E-02 | Apriori rate (us/s)      | 4.06410883698E-02  | Resid rate (us/s)    | 6.55223E-06  | +/- | 4.2E-09 |
| Total phase (deg)       | -61.2             | Apriori accel (us/s/s)   | -5.72154534897E-06 | Resid phase (deg)    | -105.0       | +/- | 22.6    |

|              |       |                 |       |                 |                 |                        |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 90.4  | Theor.          | 193.7 | Amplitude       | 0.519 +/- 0.102 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 386.0 | Search (2048X8) | 0.444 | Search (2048X8) | 0.444           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.9   | Inc. seg. avg.  | 0.321 | Inc. seg. avg.  | 0.321           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.504 | Inc. frq. avg.  | 0.504           | Data rate (Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

f: az 89.4 el 32.4 pa -63.6 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -249.959 -767.894 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fl.W.150.0QR2SH

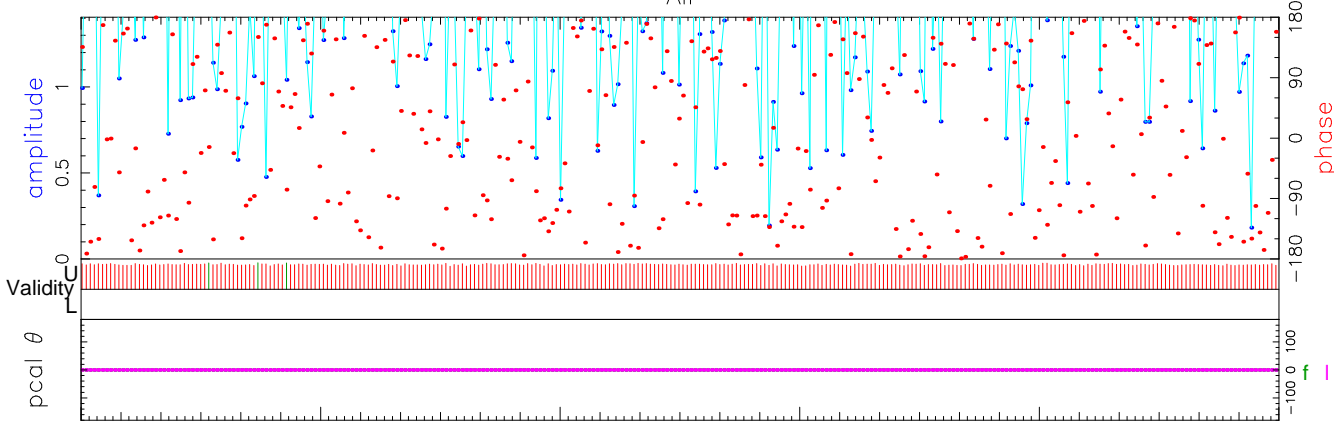


Fringe quality 0  
SNR 5.2  
Int time 270.381  
Amp 0.469  
Phase -165.7  
PFD 1.0e+00  
Delays (us)  
SBD 2.289393  
MBD 0.000007  
Fringe rate (Hz)  
0.116368  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00 Freq (MHz)  
-165.7 Phase  
0.5 Ampl.  
806.0 Sbd box  
U/L 586/0 APs used  
f 5000 PC freqs  
l 5000 PC freqs  
f:l 0:0 PC phase  
f:l 0:0 Manl PC  
f 1000 PC amp  
l 1000  
f W04UR Chan ids  
l W04UL Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 6.34604756633E+02 | Apriori delay (usec)     | 6.32315360132E+02  | Resid mbdelay (usec) | 7.13499E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 6.34604753132E+02 | Apriori clock (usec)     | 1.6214590E+00      | Resid sbdelay (usec) | 2.28939E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | 6.32315354789E+02 | Apriori clockrate (us/s) | 1.3300000E-07      | Resid phdelay (usec) | -5.34299E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | 4.06424392860E-02 | Apriori rate (us/s)      | 4.06410883698E-02  | Resid rate (us/s)    | 1.35092E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | -121.9            | Apriori accel (us/s/s)   | -5.72154534897E-06 | Resid phase (deg)    | -165.7       | +/- | 21.9    |

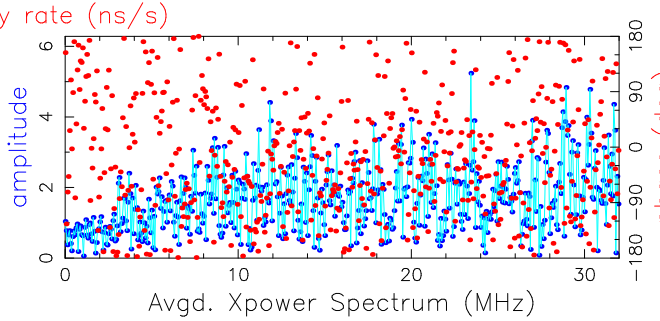
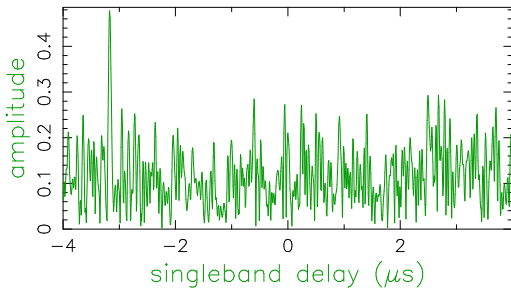
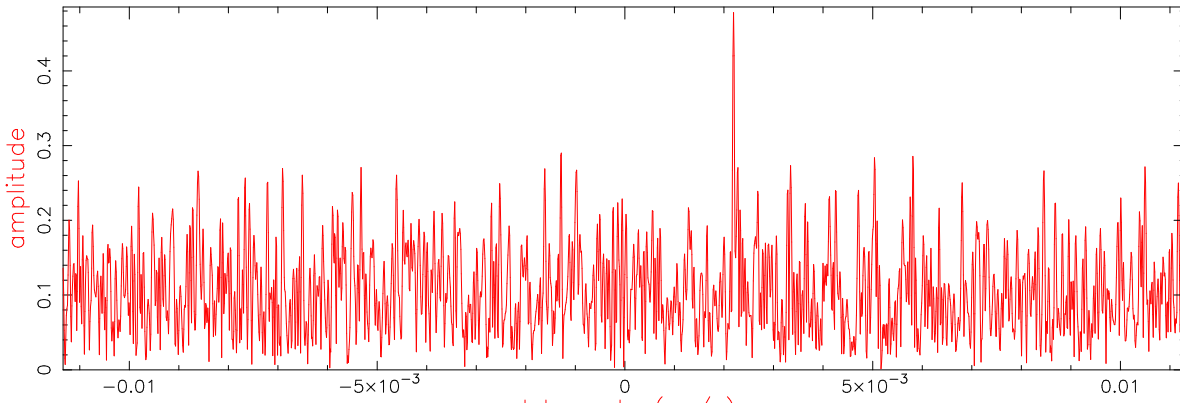
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 89.8  | Theor.          | 187.3 | Amplitude       | 0.469 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 377.2 | Search (2048X8) | 0.466 | Search (2048X8) | 0.466           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0   | Inc. seg. avg.  | 0.306 | Inc. seg. avg.  | 0.306           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.460 | Inc. frq. avg.  | 0.460           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

f: az 89.4 el 32.4 pa -63.6 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -249.959 -767.894 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fl.W.169.0QR2SH

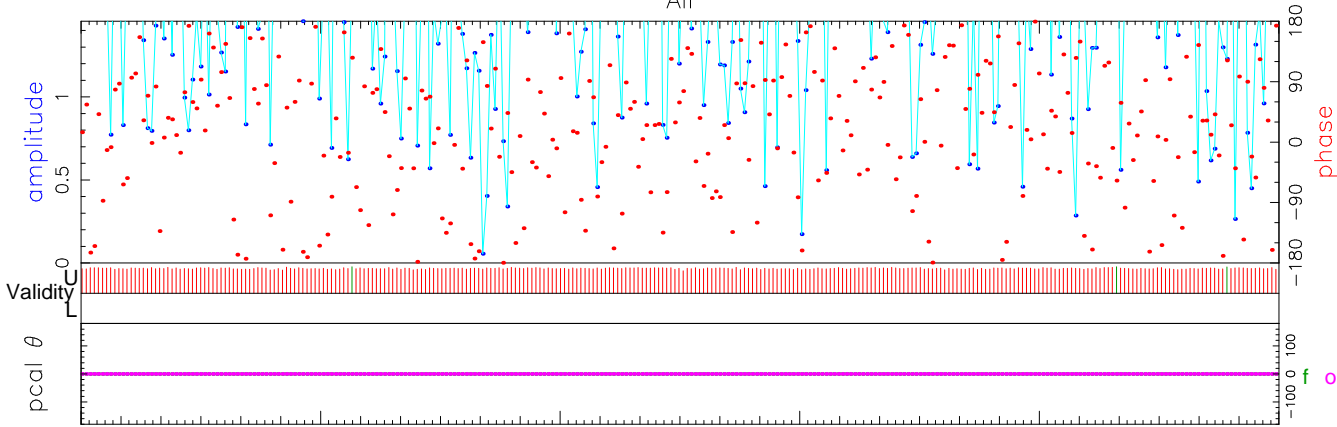
Fringe quality 0

SNR 5.4  
Int time 271.208  
Amp 0.485  
Phase 58.0  
PFD 1.0e+00  
Delays (us)  
SBD -3.171454  
MBD 0.000004  
Fringe rate (Hz)  
0.189083  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



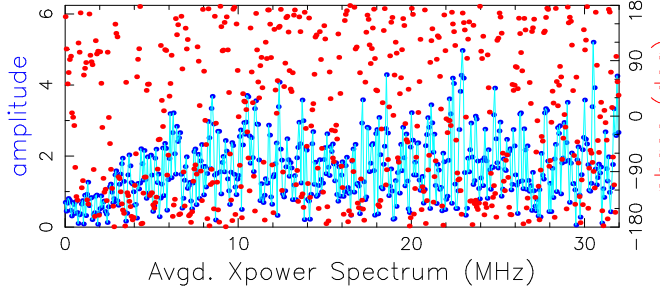
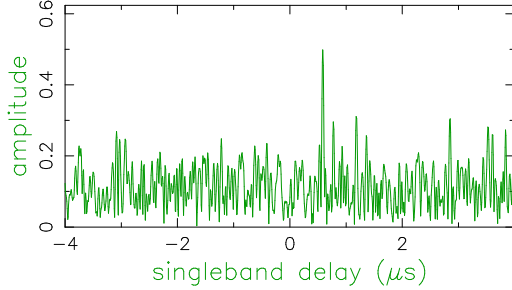
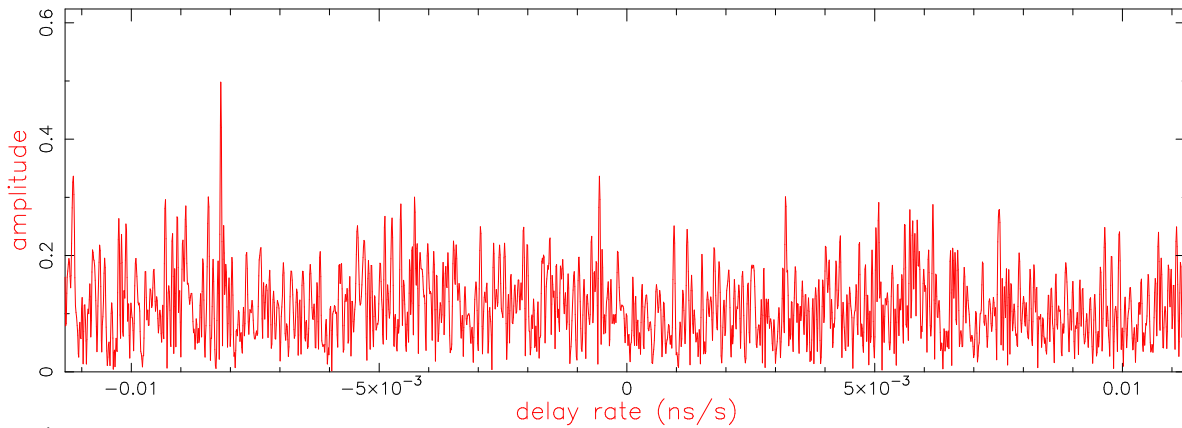
86140.00  
58.0  
0.5  
107.1  
U/L 586/0  
f 5000  
o 5000  
f:o 0:0  
f:o 0:0  
f 1000  
o 1000  
f W04UL  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.82065683723E+03  | Apriori delay (usec)     | 3.82382828620E+03  | Resid mbdelay (usec) | 4.48154E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.82065683220E+03  | Apriori clock (usec)     | -1.4512599E+01     | Resid sbdelay (usec) | -3.17145E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.82382828807E+03  | Apriori clockrate (us/s) | -4.6355996E-07     | Resid phdelay (usec) | 1.86919E-06  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -2.82024302993E-02 | Apriori rate (us/s)      | -2.82046253704E-02 | Resid rate (us/s)    | 2.19507E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | 264.2              | Apriori accel (us/s/s)   | -2.34201246628E-05 | Resid phase (deg)    | 58.0         | +/- | 21.3    |

|              |          |              |                           |                 |                          |  |                               |
|--------------|----------|--------------|---------------------------|-----------------|--------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 90.1 | Theor. 182.2 | Amplitude 0.485 +/- 0.090 | Search (2048X8) | 0.474                    | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 349.0    | 318.1        | Interp. 0.000             | Inc. seg. avg.  | 0.313                    | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 10.6         | Inc. seg. avg.            | 0.477           | Bits/sample: 2x2         | SampCntNorm: enabled                   | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 0.0      | 18.6         | Inc. frq. avg.            | 0.477           | Sample rate(MSamp/s): 64 | ion window (TEC)                       | dr window (ns/s) -0.011 0.011 |

f: az 89.4 el 32.4 pa -63.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 138.231 -1348.119 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fo.W.102.0QR2SH



Fringe quality 0

SNR 5.6

Int time 271.201

Amp 0.624

Phase -40.8

PFD 9.2e-01

Delays (us)

SBD 0.585458

MBD -0.000006

Fringe rate (Hz)

-0.705525

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171817

2018:249:082454

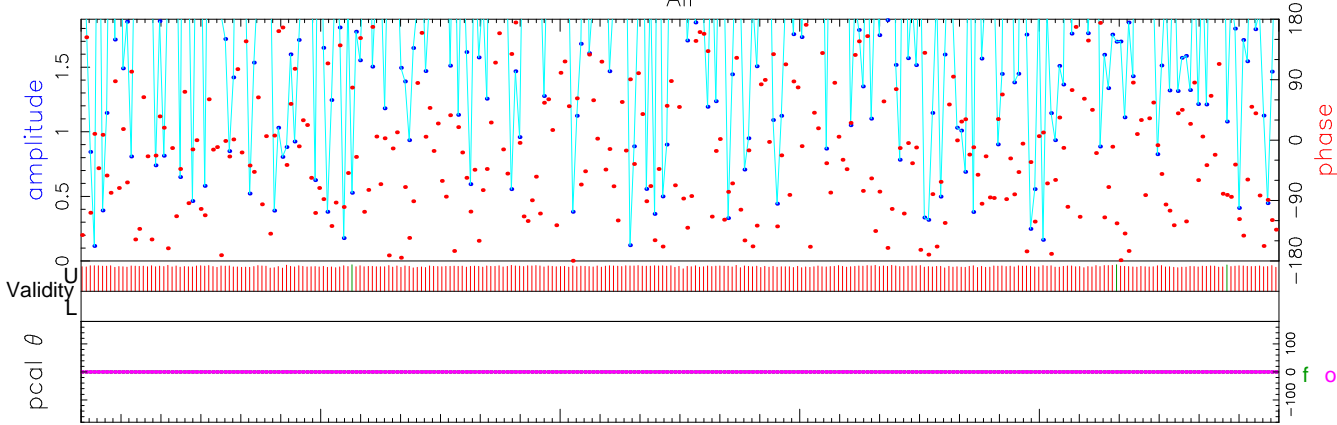
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

-40.8

0.6

587.9

U/L 586/0

f 5000

o 5000

f:o 0:0

f:o 0:0

f 1000

o 1000

f W04UR

o W04UR

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC phase

Manl PC

PC amp

Chan ids

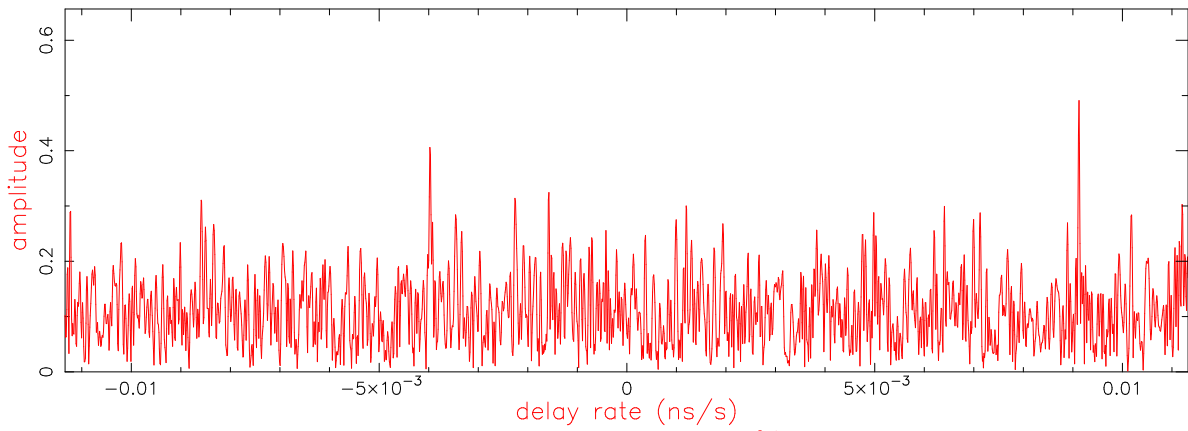
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.82441374531E+03  | Apriori delay (usec)     | 3.82382828620E+03  | Resid mbdelay (usec) | -6.40799E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 3.82441374420E+03  | Apriori clock (usec)     | -1.4512599E+01     | Resid sbdelay (usec) | 5.85458E-01  | +/- | 3.1E-03 |
| Phase delay (usec)      | 3.82382828488E+03  | Apriori clockrate (us/s) | -4.6355996E-07     | Resid phdelay (usec) | -1.31565E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | -2.82128158182E-02 | Apriori rate (us/s)      | -2.82046253704E-02 | Resid rate (us/s)    | -8.19045E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | 165.5              | Apriori accel (us/s/s)   | -2.34201246628E-05 | Resid phase (deg)    | -40.8        | +/- | 20.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 88.2  | Theor.          | 174.8 | Amplitude      | 0.624 +/- 0.111 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 370.0 | Search (2048X8) | 0.495 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.448           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.614 | Inc. frq. avg. | 0.614           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |
|              |       |                 |       |                |                 | nlags:                | 512                         | t_cohere         | infinite     |

f: az 89.4 el 32.4 pa -63.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 138.231 -1348.119 simultaneous interpolator

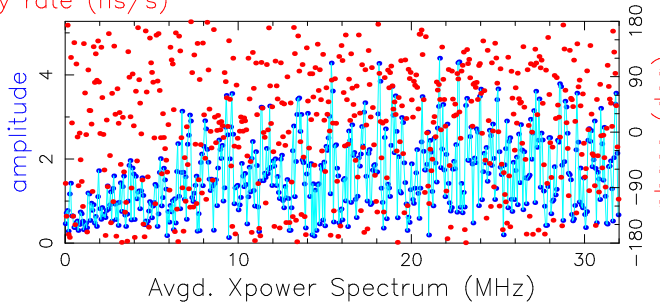
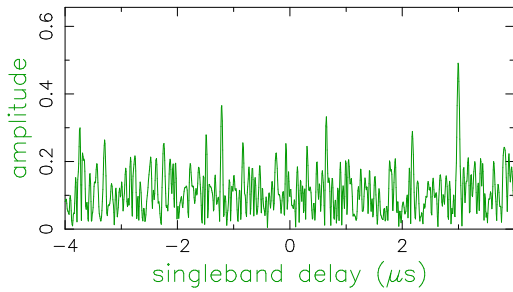
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fo.W.115.0QR2SH



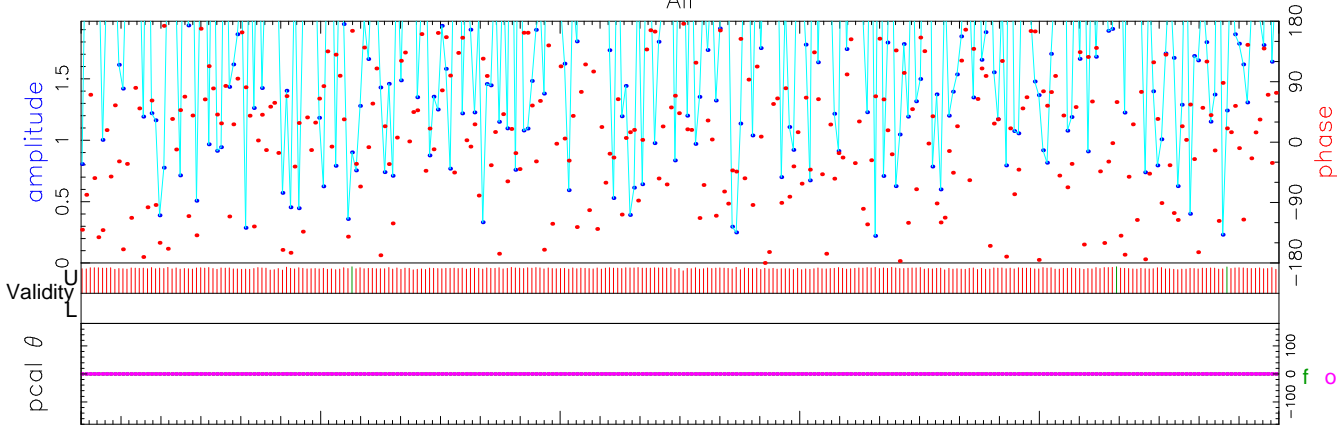
Fringe quality 0

SNR 5.6  
 Int time 271.210  
 Amp 0.657  
 Phase 32.0  
 PFD 9.5e-01  
 Delays (us)  
 SBD 2.995349  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.785929  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171818  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



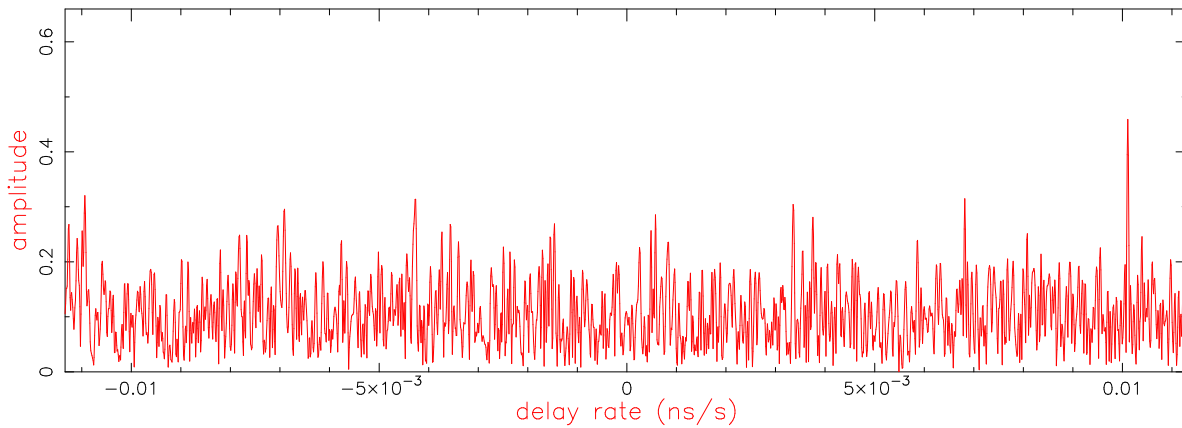
86140.00  
 32.0  
 0.7  
 896.4  
 U/L 586/0  
 f 5000  
 o 5000  
 f:o 0:0  
 f:o 0:0  
 f 1000  
 o 1000  
 f W04UL  
 o W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | 3.82682363585E+03  | Apriori delay (usec)     | 3.82382828620E+03  | Resid mbdelay (usec) | 4.86278E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 3.82682363520E+03  | Apriori clock (usec)     | -1.4512599E+01     | Resid sbdelay (usec) | 2.99535E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 3.82382828723E+03  | Apriori clockrate (us/s) | -4.6355996E-07     | Resid phdelay (usec) | 1.03314E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | -2.81955015113E-02 | Apriori rate (us/s)      | -2.82046253704E-02 | Resid rate (us/s)    | 9.12386E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | 238.3              | Apriori accel (us/s/s)   | -2.34201246628E-05 | Resid phase (deg)    | 32.0        | +/- | 20.6    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 91.8 | Theor. 175.9 | Amplitude 0.657 +/- 0.118 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 370.4    | 307.1        | Search (2048X8) 0.491     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.3         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.8      | 17.9         | Inc. seg. avg. 0.468      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.641      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

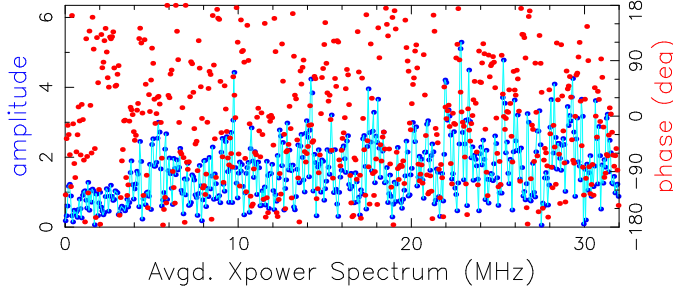
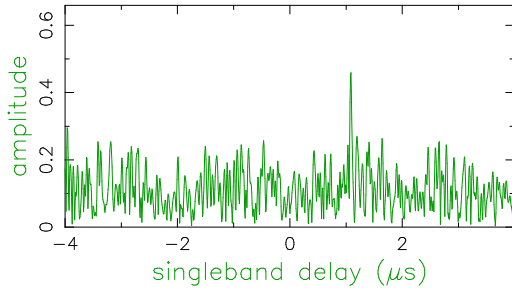
f: az 89.4 el 32.4 pa -63.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 138.231 -1348.119 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fo.W.126.0QR2SH



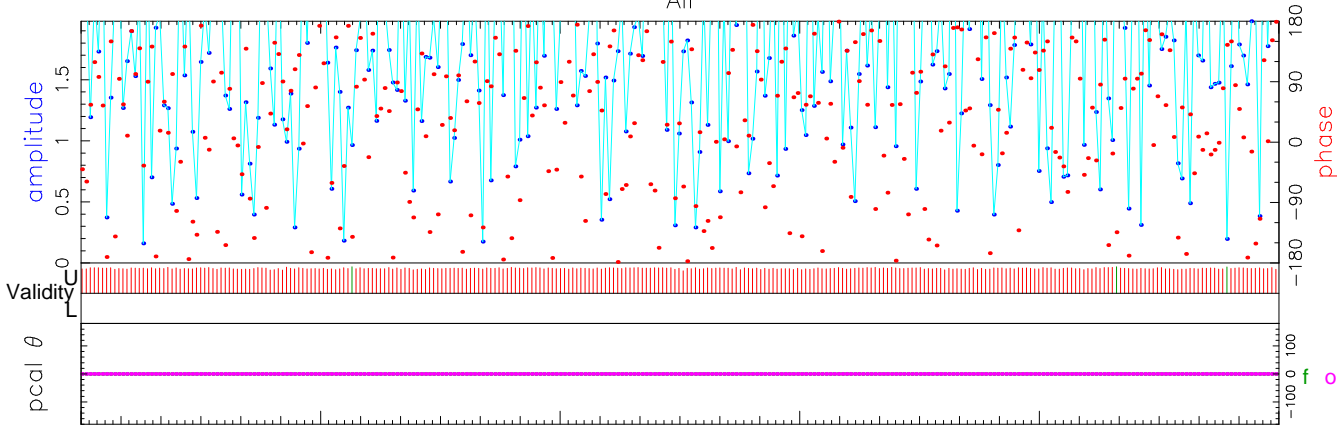
Fringe quality 0

SNR 5.2  
Int time 271.199  
Amp 0.660  
Phase 95.3  
PFD 1.0e+00  
Delays (us)  
SBD 1.082854  
MBD 0.000007  
Fringe rate (Hz)  
0.870369  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 95.3      |  | Phase      |
| 0.7       |  | Ampl.      |
| 651.6     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| f 5000    |  | PC freqs   |
| o 5000    |  | PC freqs   |
| f:o 0:0   |  | PC phase   |
| f:o 0:0   |  | Manl PC    |
| f 1000    |  | PC amp     |
| o 1000    |  |            |
| f W04UR   |  | Chan ids   |
| o W04UL   |  | Chan ids   |

|                         |                    |                          |                    |                      |             |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-------------|
| Group delay (usec)(sbd) | 3.82491113483E+03  | Apriori delay (usec)     | 3.82382828620E+03  | Resid mbdelay (usec) | 6.74400E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | 3.82491113970E+03  | Apriori clock (usec)     | -1.4512599E+01     | Resid sbdelay (usec) | 1.08285E+00 | +/- 3.3E-03 |
| Phase delay (usec)      | 3.82382828927E+03  | Apriori clockrate (us/s) | -4.6355996E-07     | Resid phdelay (usec) | 3.07187E-06 | +/- 7.1E-07 |
| Delay rate (us/s)       | -2.81945212509E-02 | Apriori rate (us/s)      | -2.82046253704E-02 | Resid rate (us/s)    | 1.01041E-05 | +/- 4.1E-09 |
| Total phase (deg)       | 301.5              | Apriori accel (us/s/s)   | -2.34201246628E-05 | Resid phase (deg)    | 95.3        | +/- 21.9    |

|              |       |        |       |                 |                 |  |                       |                   |        |       |
|--------------|-------|--------|-------|-----------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 89.9  | Theor. | 187.6 | Amplitude       | 0.660 +/- 0.126 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 370.2 |        | 327.4 | Search (2048X8) | 0.450           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0   |        | 11.0  | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 1.2   |        | 19.1  | Inc. seg. avg.  | 0.425           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |       |        |       | Inc. frq. avg.  | 0.640           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

f: az 89.4 el 32.4 pa -63.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 138.231 -1348.119 simultaneous interpolator

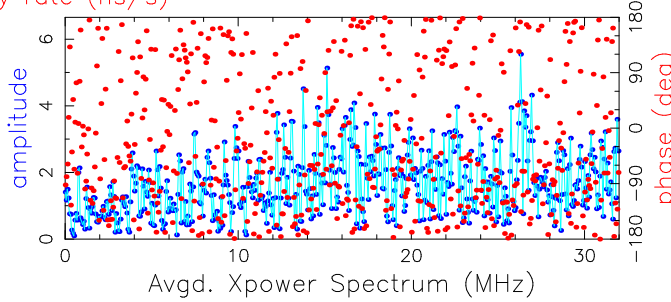
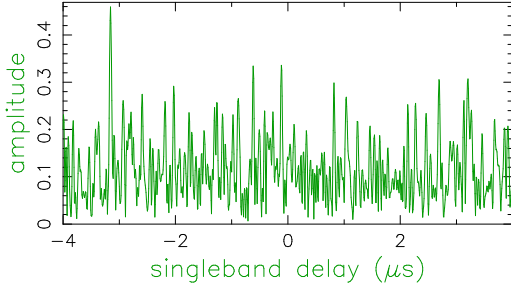
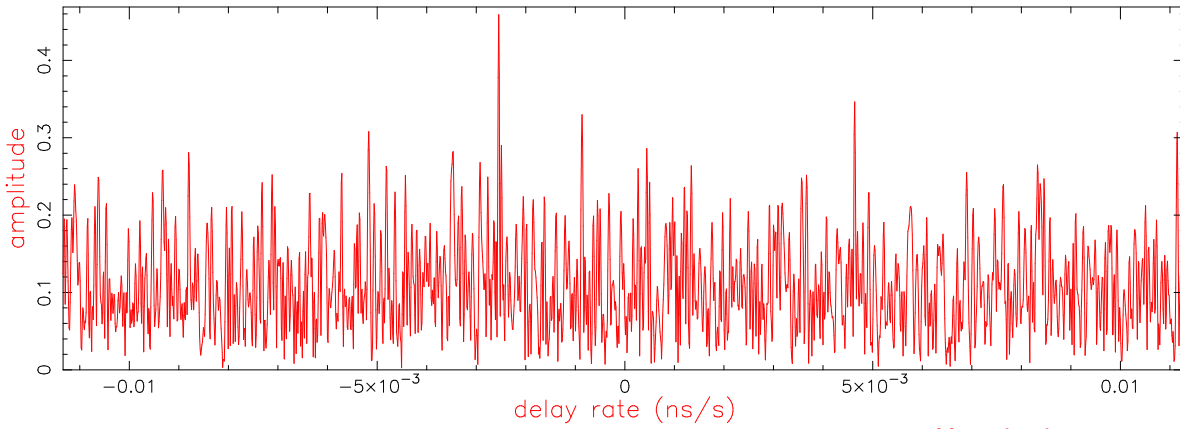
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fo.W.136.0QR2SH



Fringe quality 0

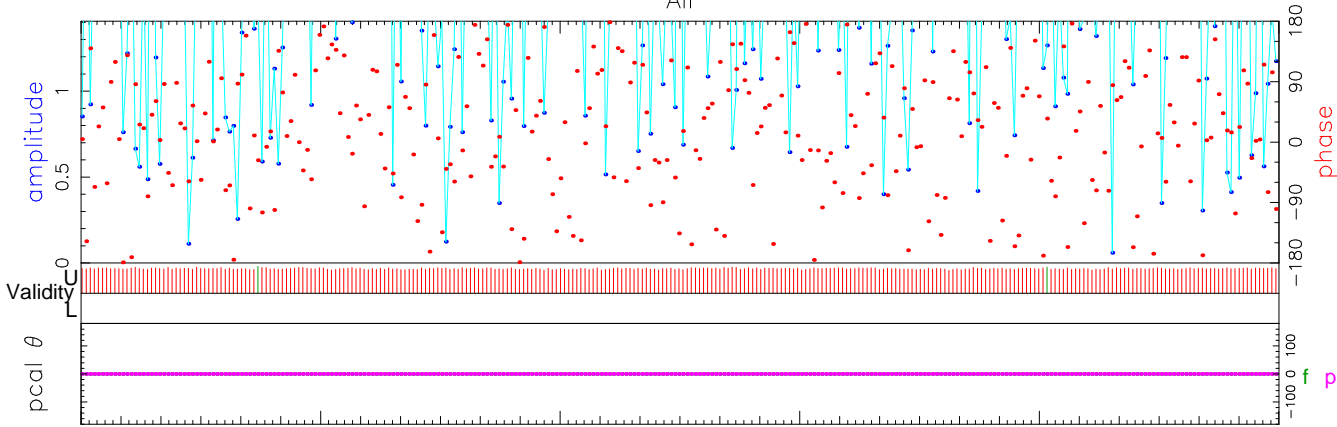
SNR 5.1  
Int time 268.810  
Amp 0.469  
Phase 52.6  
PFD 1.0e+00  
Delays (us)  
SBD -3.156719  
MBD -0.000007  
Fringe rate (Hz)  
-0.219756  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
52.6  
0.5  
109.0  
U/L 586/0  
f 5000  
p 5000  
f:p 0:0  
f:p 0:0  
f 1000  
p 1000  
f W04UL  
p W04UL

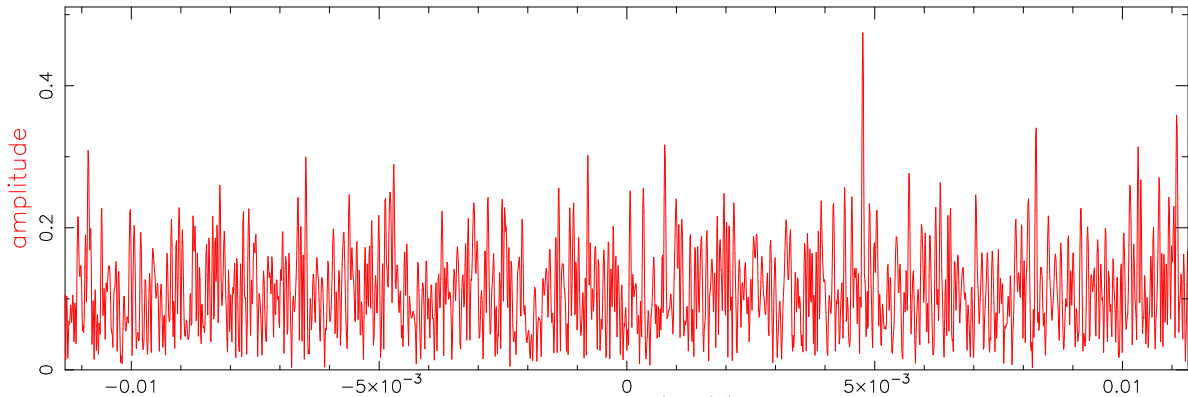
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.09547905078E+03 | Apriori delay (usec)     | 1.09863576780E+03  | Resid mbdelay (usec) | -7.01319E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 1.09547904880E+03 | Apriori clock (usec)     | -1.6491962E+01     | Resid sbdelay (usec) | -3.15672E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 1.09863576949E+03 | Apriori clockrate (us/s) | 1.0999990E-08      | Resid phdelay (usec) | 1.69778E-06  | +/- | 7.2E-07 |
| Delay rate (us/s)       | 3.34225341660E-03 | Apriori rate (us/s)      | 3.34480456484E-03  | Resid rate (us/s)    | -2.55115E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | 66.3              | Apriori accel (us/s/s)   | -7.63394504442E-06 | Resid phase (deg)    | 52.6         | +/- | 22.3    |

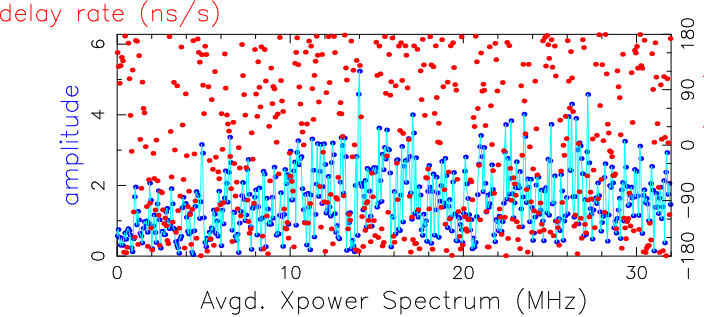
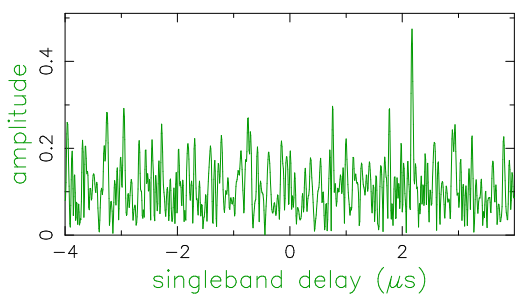
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.2  | Theor.          | 190.5 | Amplitude      | 0.469 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 392.1 | Search (2048X8) | 0.445 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.304           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.460 | Inc. frq. avg. | 0.460           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -29.828 -633.921 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fp.W.105.0QR2SH

Fringe quality 0



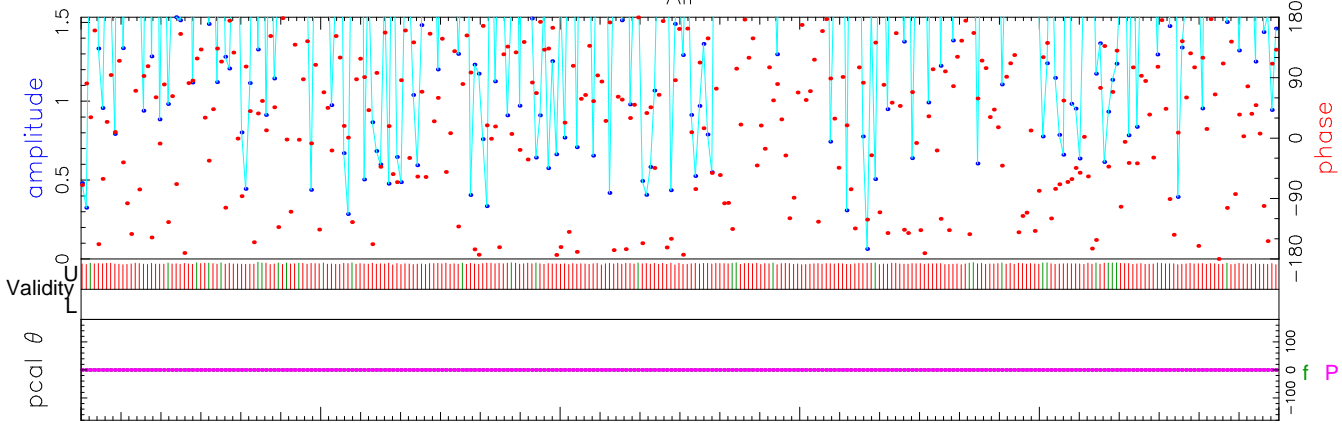
SNR 5.4  
Int time 278.323  
Amp 0.511  
Phase 102.9  
PFD 1.0e+00  
Delays (us)  
SBD 2.172021  
MBD 0.000005  
Fringe rate (Hz)  
0.409944  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



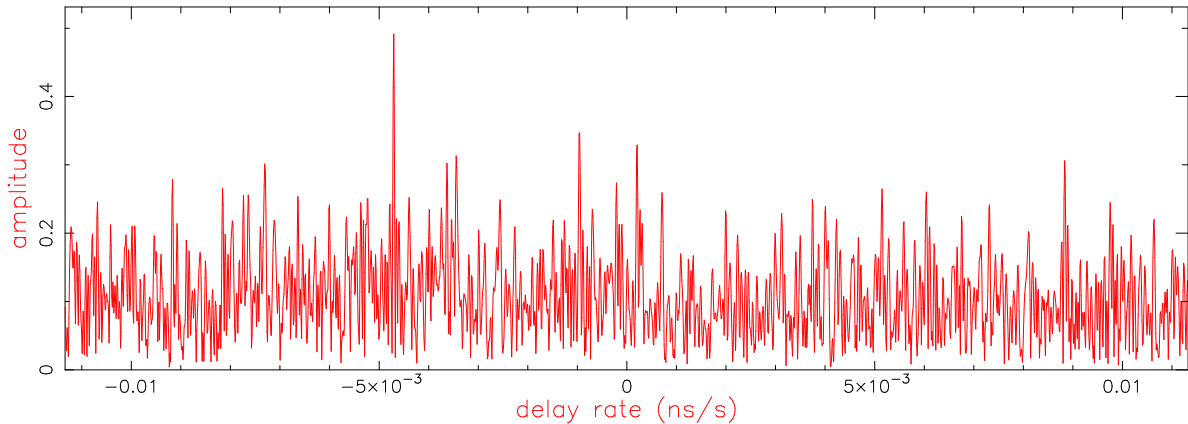
86140.00  
102.9  
0.5  
791.0  
U/L 586/0  
f 5000  
P 0  
f:P 0:0  
f:P 0:0  
f 1000  
P 1000  
f W04UL  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

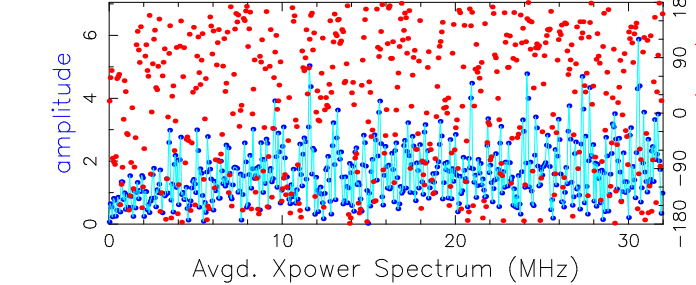
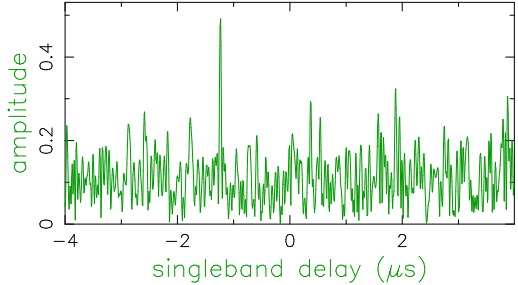
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -4.47572086679E+03 | Apriori delay (usec)     | -4.47789288282E+03 | Resid mbdelay (usec) | 5.35380E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.47572086132E+03 | Apriori clock (usec)     | 1.4890563E+01      | Resid sbdelay (usec) | 2.17202E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.47789287950E+03 | Apriori clockrate (us/s) | 4.5300000E-07      | Resid phdelay (usec) | 3.31875E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.88157409868E+00  | Apriori rate (us/s)      | 1.88156933964E+00  | Resid rate (us/s)    | 4.75904E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -230.5             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | 102.9       | +/- | 21.2    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.3  | Theor.          | 181.1 | Amplitude      | 0.511 +/- 0.094 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 376.5 | Search (2048X8) | 0.473 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.347           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.502 | Inc. frq. avg. | 0.502           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fP.W.112.0QR2SH

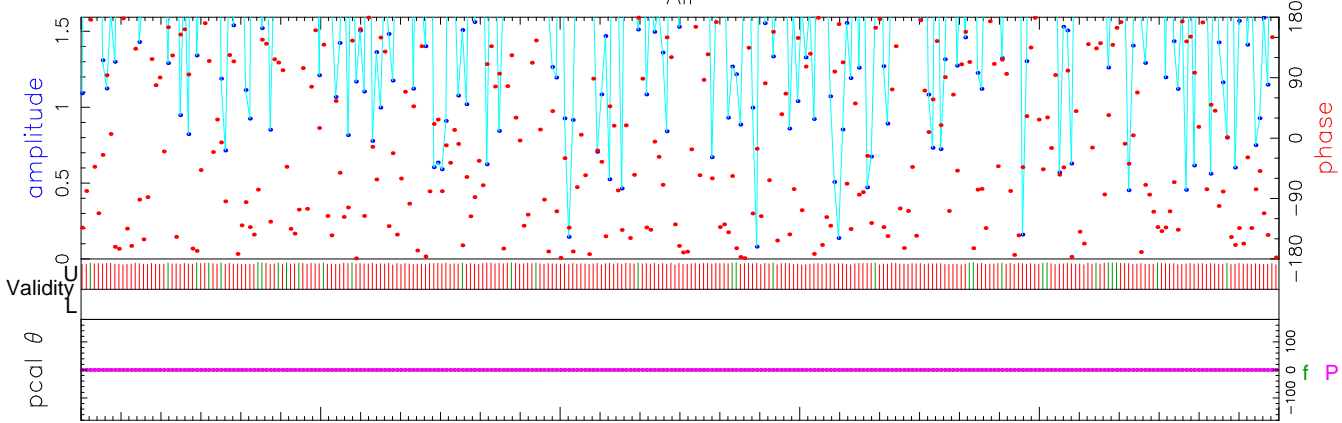


Fringe quality 0  
SNR 5.6  
Int time 278.314  
Amp 0.531  
Phase -158.7  
PFD 8.8e-01  
Delays (us)  
SBD -1.236442  
MBD -0.000005  
Fringe rate (Hz)  
-0.405194  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-158.7  
0.5  
354.7  
U/L 586/0  
f 5000  
P 0  
f:P 0:0  
f:P 0:0  
f 1000  
P 1000  
f W04UR  
P W04UR

Validity  
pcal theta

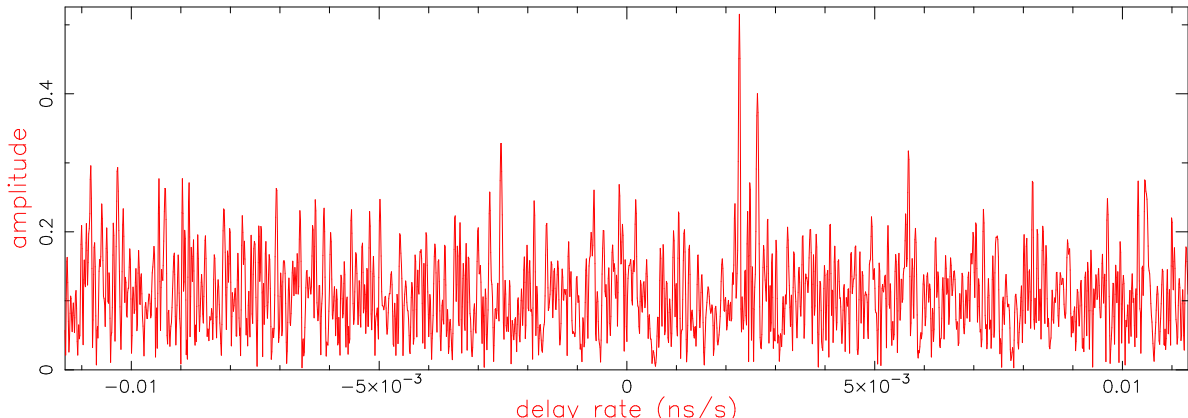
86140.00  
-158.7  
0.5  
354.7  
U/L 586/0  
f 5000  
P 0  
f:P 0:0  
f:P 0:0  
f 1000  
P 1000  
f W04UR  
P W04UR

Chan ids  
Chan ids

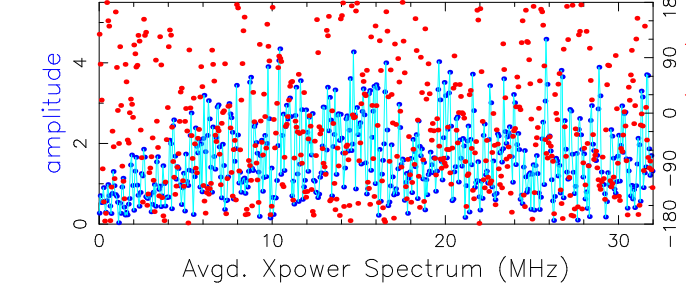
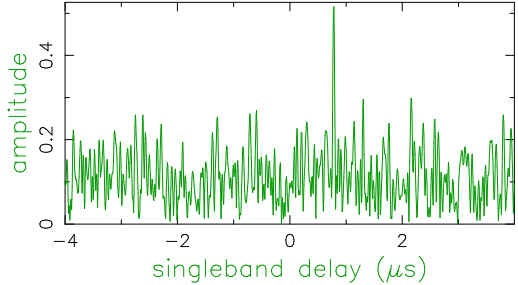
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.47912932826E+03 | Apriori delay (usec)     | -4.47789288282E+03 | Resid mbdelay (usec) | -4.76192E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -4.47912932482E+03 | Apriori clock (usec)     | 1.4890563E+01      | Resid sbdelay (usec) | -1.23644E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -4.47789288794E+03 | Apriori clockrate (us/s) | 4.5300000E-07      | Resid phdelay (usec) | -5.11807E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.88156463574E+00  | Apriori rate (us/s)      | 1.88156933964E+00  | Resid rate (us/s)    | -4.70391E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -132.1             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | -158.7       | +/- | 20.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.4  | Theor.          | 174.0 | Amplitude      | 0.531 +/- 0.094 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 370.4 | Search (2048X8) | 0.490 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.385           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.520 | Inc. frq. avg. | 0.520           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fP.W.125.0QR2SH

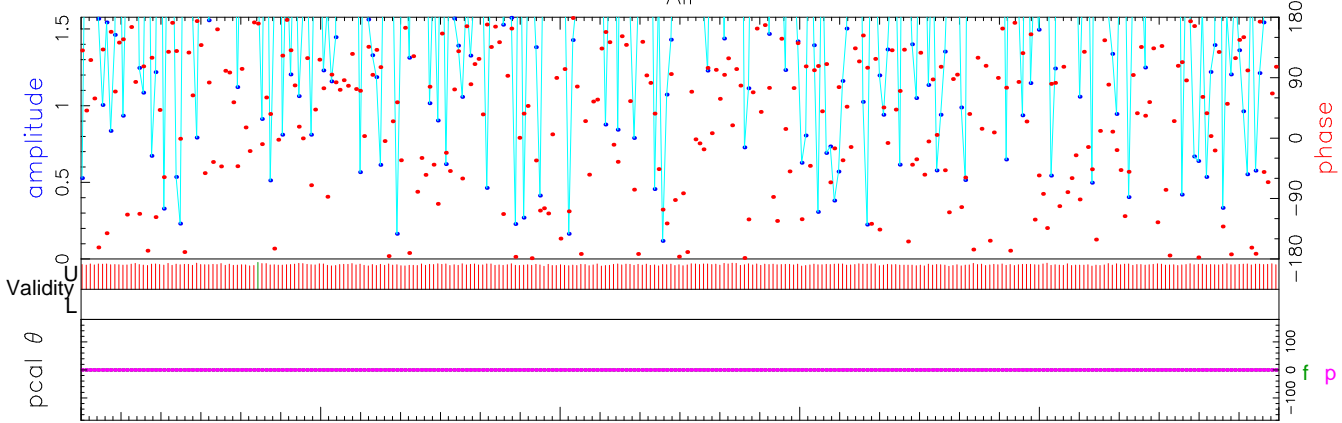


Fringe quality 0  
SNR 5.8  
Int time 268.793  
Amp 0.526  
Phase 95.4  
PFD 5.7e-01  
Delays (us)  
SBD 0.779597  
MBD 0.000005  
Fringe rate (Hz)  
0.195242  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

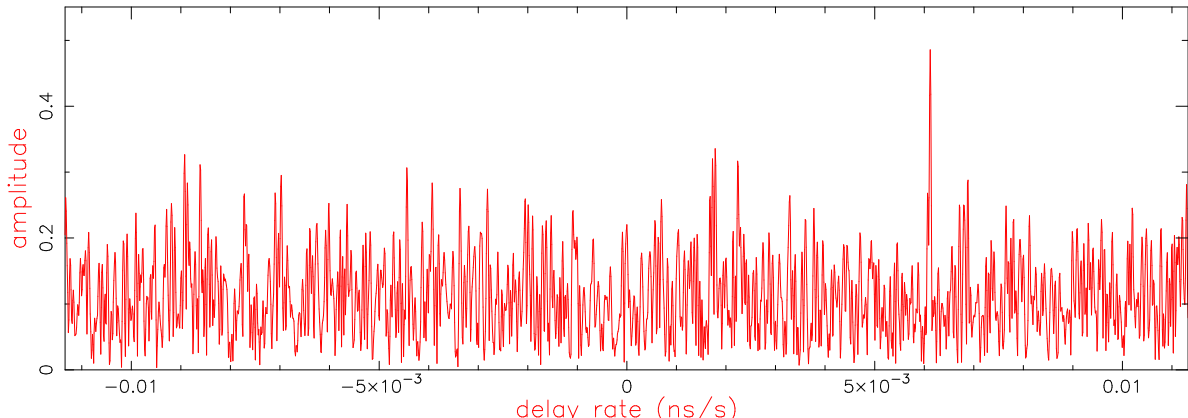


86140.00 Freq (MHz)  
95.4 Phase  
0.5 Ampl.  
612.8 Sbd box  
U/L 586/0 APs used  
f 5000 PC freqs  
p 5000 PC freqs  
f:p 0:0 PC phase  
f:p 0:0 Mani PC  
f 1000 PC amp  
p 1000  
f W04UR Chan ids  
p W04UR Chan ids

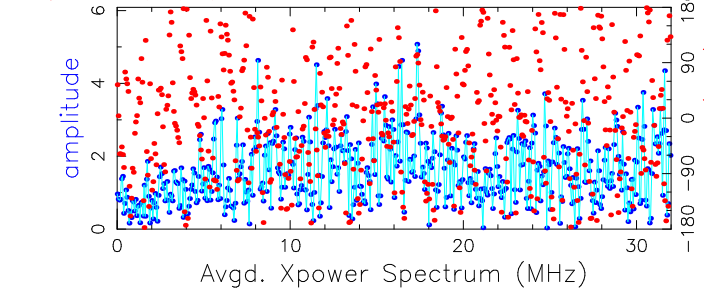
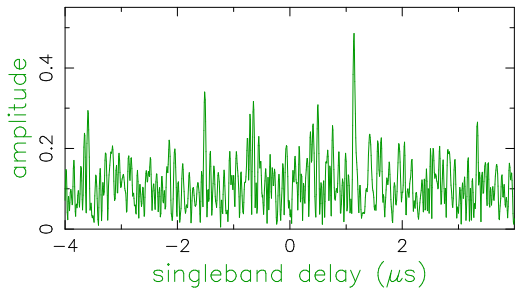
|                         |                   |                          |                    |                      |             |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | 1.09941536419E+03 | Apriori delay (usec)     | 1.09863576780E+03  | Resid mbdelay (usec) | 5.03209E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | 1.09941536430E+03 | Apriori clock (usec)     | -1.6491962E+01     | Resid sbdelay (usec) | 7.79597E-01 | +/- | 3.0E-03 |
| Phase delay (usec)      | 1.09863577087E+03 | Apriori clockrate (us/s) | 1.0999990E-08      | Resid phdelay (usec) | 3.07489E-06 | +/- | 6.4E-07 |
| Delay rate (us/s)       | 3.34707112943E-03 | Apriori rate (us/s)      | 3.34480456484E-03  | Resid rate (us/s)    | 2.26656E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | 109.0             | Apriori accel (us/s/s)   | -7.63394504442E-06 | Resid phase (deg)    | 95.4        | +/- | 19.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.5  | Theor.          | 169.2 | Amplitude      | 0.526 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 343.0 | Search (2048X8) | 0.511 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.370           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.516 | Inc. frq. avg. | 0.516           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -29.828 -633.921 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fp.W.129.0QR2SH



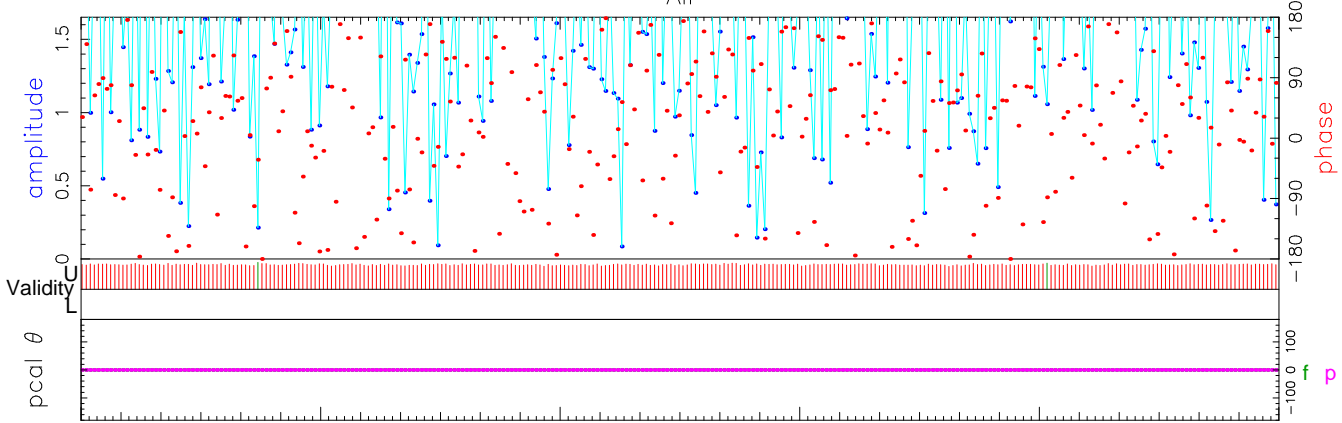
Fringe quality 0  
SNR 5.5  
Int time 268.804  
Amp 0.551  
Phase 71.4  
PFD 1.0e+00  
Delays (us)  
SBD 1.138953  
MBD 0.000006  
Fringe rate (Hz) 0.526973  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



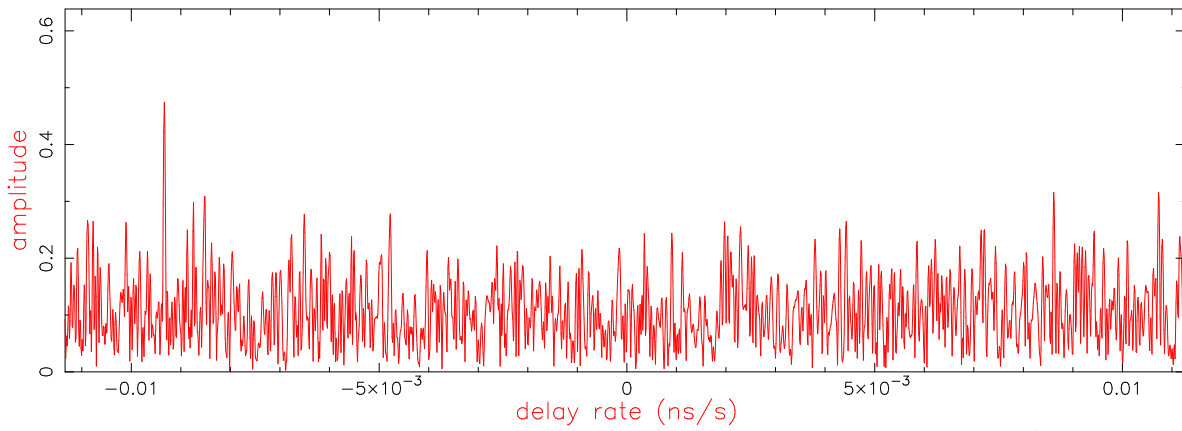
86140.00  
71.4  
0.5  
658.8  
U/L 586/0  
f 5000  
p 5000  
f:p 0:0  
f:p 0:0  
f 1000  
p 1000  
f W04UL  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |             |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | 1.09977472223E+03 | Apriori delay (usec)     | 1.09863576780E+03  | Resid mbdelay (usec) | 6.21128E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.09977472130E+03 | Apriori clock (usec)     | -1.6491962E+01     | Resid sbdelay (usec) | 1.13895E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.09863577010E+03 | Apriori clockrate (us/s) | 1.0999990E-08      | Resid phdelay (usec) | 2.30257E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 3.35092219819E-03 | Apriori rate (us/s)      | 3.34480456484E-03  | Resid rate (us/s)    | 6.11763E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 85.1              | Apriori accel (us/s/s)   | -7.63394504442E-06 | Resid phase (deg)    | 71.4        | +/- | 21.0    |

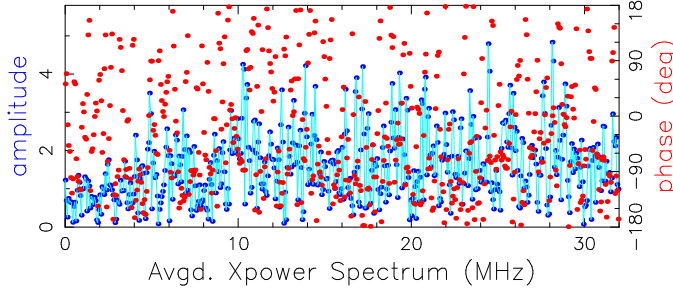
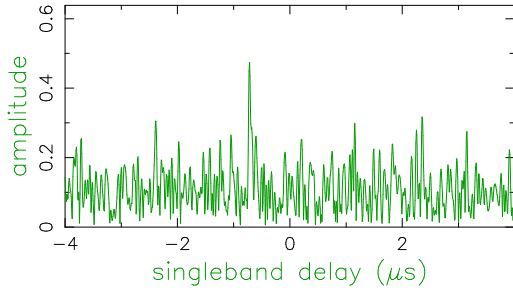
|              |          |              |                           |                 |  |                             |                               |
|--------------|----------|--------------|---------------------------|-----------------|--|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 90.5 | Theor. 179.7 | Amplitude Search (2048X8) | 0.551 +/- 0.101 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                               |
| amp/seg (%)  | 366.6    | 313.5        | Interp.                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                               |
| ph/frq (deg) | 0.0      | 10.5         | Inc. seg. avg.            | 0.369           | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 0.3      | 18.3         | Inc. frq. avg.            | 0.540           | Sample rate(MSamp/s): 64               | ion window (TEC)            | dr window (ns/s) -0.011 0.011 |

f: az 89.4 el 32.4 pa -63.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -29.828 -633.921 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fp.W.143.0QR2SH



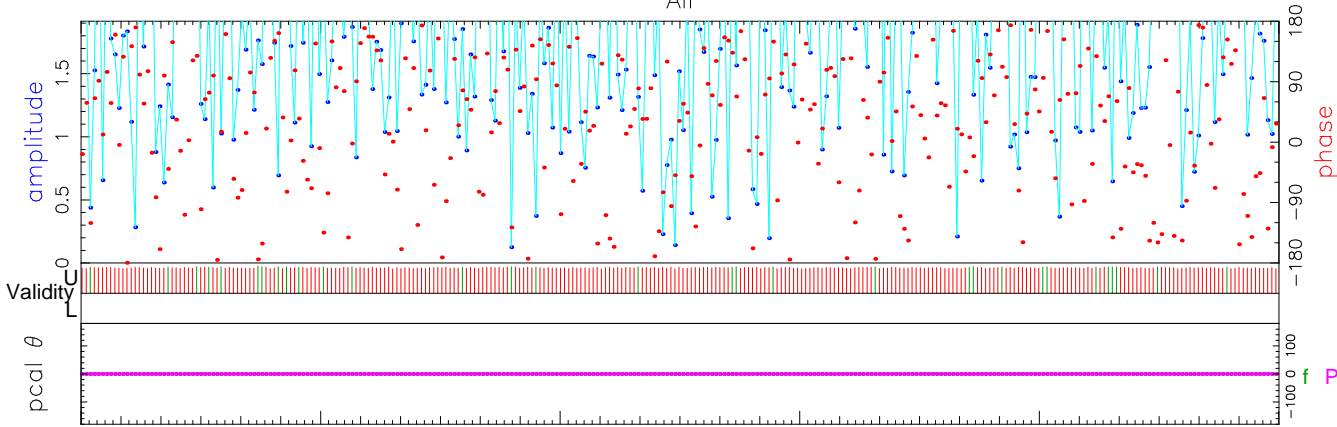
Fringe quality 0

SNR 5.4  
 Int time 278.323  
 Amp 0.639  
 Phase 90.8  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.719748  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.803625  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171820  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



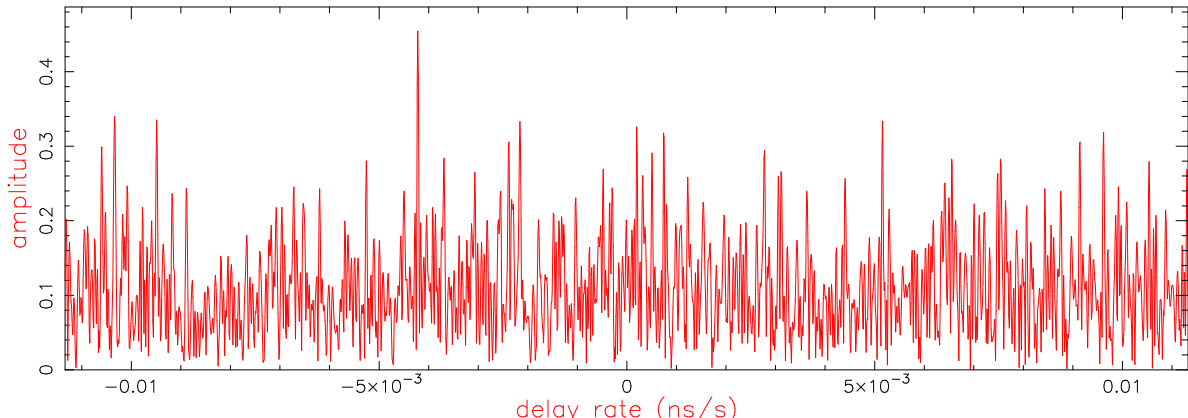
86140.00  
 90.8  
 0.6  
 420.9  
 U/L 586/0  
 f 5000  
 P 0  
 f:P 0:0  
 f:P 0:0  
 f 1000  
 P 1000  
 f W04UL  
 P W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

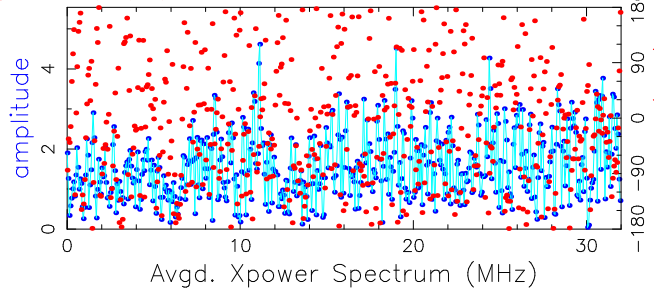
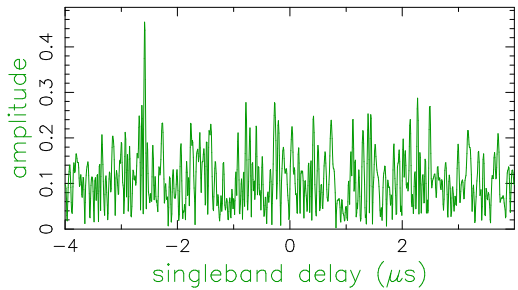
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.47861262538E+03 | Apriori delay (usec)     | -4.47789288282E+03 | Resid mbdelay (usec) | -7.24853E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.47861263082E+03 | Apriori clock (usec)     | 1.4890563E+01      | Resid sbdelay (usec) | -7.19748E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.47789287989E+03 | Apriori clockrate (us/s) | 4.5300000E-07      | Resid phdelay (usec) | 2.92743E-06  | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.88156001036E+00  | Apriori rate (us/s)      | 1.88156933964E+00  | Resid rate (us/s)    | -9.32929E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -242.7             | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | 90.8         | +/- | 21.1    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 90.5 | Theor. 181.0 | Amplitude 0.639 +/- 0.118 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 362.8    | 315.9        | Search (2048X8) 0.469     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.6         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.1      | 18.5         | Inc. seg. avg. 0.433      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.627      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

f: az 89.4 el 32.4 pa -63.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fP.W.148.0QR2SH



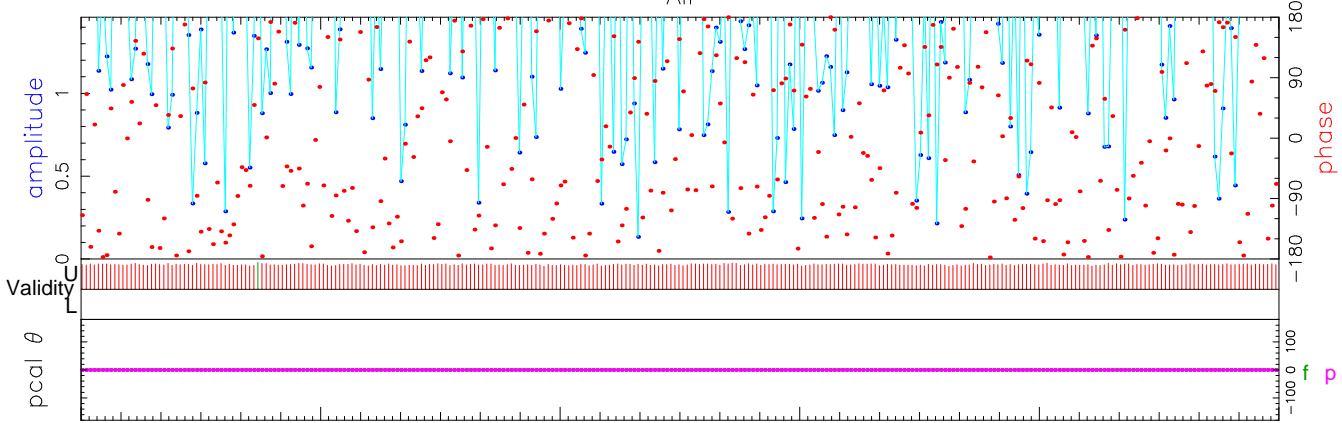
Fringe quality 0  
SNR 5.2  
Int time 268.799  
Amp 0.487  
Phase -145.0  
PFD 1.0e+00  
Delays (us)  
SBD -2.583448  
MBD -0.000007  
Fringe rate (Hz)  
-0.363426  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

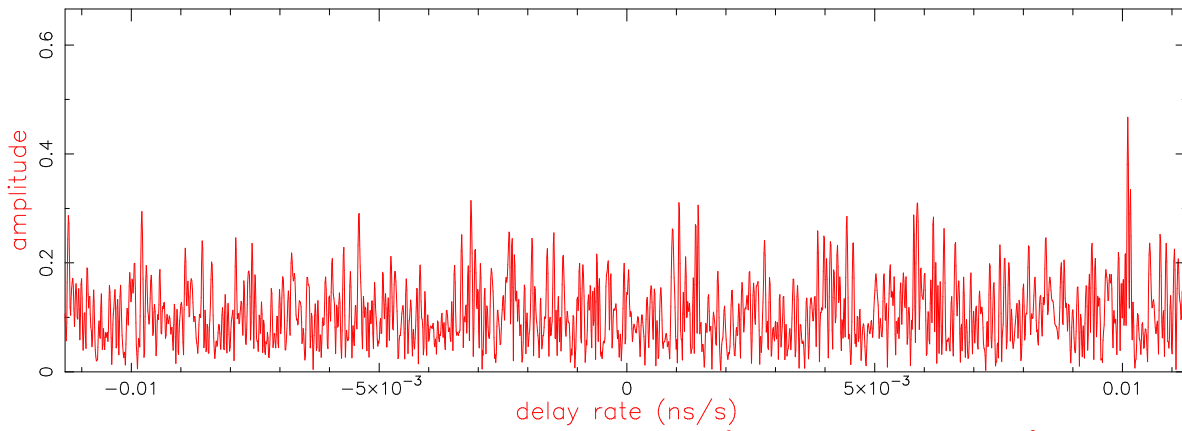
All



86140.00  
-145.0  
0.5  
182.3  
U/L 586/0  
f 5000  
p 5000  
f:p 0:0  
f:p 0:0  
f 1000  
p 1000  
f W04UR  
p W04UL

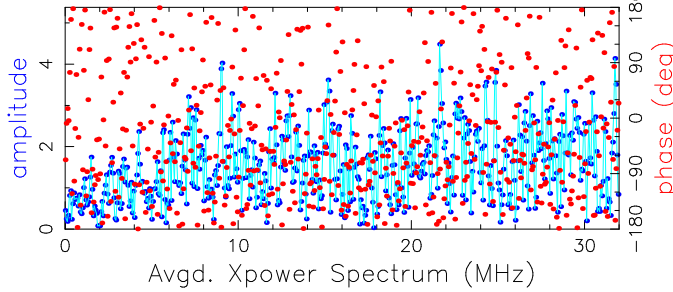
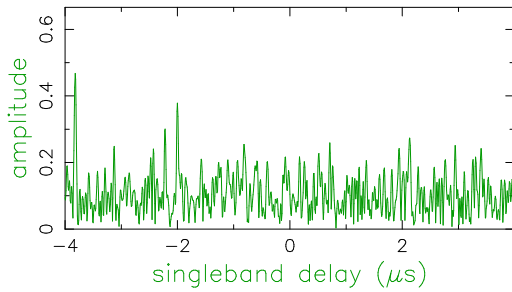
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                             |                       |                          |   |                       |  |                  |              |
|-----------------------------|-----------------------|--------------------------|---|-----------------------|--|------------------|--------------|
| Group delay (usec)(sbd)     | 1.09605231525E+03     | Apriori delay (usec)     | 1.09863576780E+03                           | Resid mbdelay (usec)  | -6.99327E-06                                     | +/-              | 3.3E-03      |
| Sband delay (usec)          | 1.09605231930E+03     | Apriori clock (usec)     | -1.6491962E+01                              | Resid sbdelay (usec)  | -2.58345E+00                                     | +/-              | 3.3E-03      |
| Phase delay (usec)          | 1.09863576312E+03     | Apriori clockrate (us/s) | 1.0999990E-08                               | Resid phdelay (usec)  | -4.67433E-06                                     | +/-              | 7.2E-07      |
| Delay rate (us/s)           | 3.3405855345E-03      | Apriori rate (us/s)      | 3.34480456484E-03                           | Resid rate (us/s)     | -4.21901E-06                                     | +/-              | 4.1E-09      |
| Total phase (deg)           | -131.3                | Apriori accel (us/s/s)   | -7.63394504442E-06                          | Resid phase (deg)     | -145.0   | +/-              | 22.2         |
| ph/seg (deg)                | RMS 91.3 Theor. 190.4 | Amplitude                | 0.487 +/- 0.095                             | Pcal mode:            | MANUAL, MANUAL                                   | PC period (AP's) | 5, 5         |
| amp/seg (%)                 | 393.3 332.3           | Search (2048X8)          | 0.454                                       | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s)                      | sb window (us)   | -4.000 4.000 |
| ph/frq (deg)                | 0.0 11.1              | Interp.                  | 0.000                                       | Bits/sample:          | 2x2  | SampCntNorm:     | enabled      |
| amp/frq (%)                 | 1.1 19.4              | Inc. seg. avg.           | 0.313                                       | Sample rate(MSamp/s): | 64   | mb window (us)   | -0.000 0.000 |
|                             |                       | Inc. frq. avg.           | 0.472                                       | Data rate(Mb/s):      | 128  | dr window (ns/s) | -0.011 0.011 |
| f: az 89.4 el 32.4 pa -63.6 |                       |                          |   | nlags:                | 512  | t_cohere         | infinite     |
| p: az 89.4 el 28.9 pa -59.3 |                       |                          |   |                       |  | ion window (TEC) | 0.00 0.00    |
| u,v (fr/asec)               | -29.828 -633.921      |                          |   |                       |  |                  |              |
| simultaneous interpolator   |                       |                          |   |                       |  |                  |              |
| Control file:               | cf_1234_gmva          | Input file:              | /Exps2/f191a/FRINGE/1234/No0007//fp..0QR2SH | Output file:          | /Exps2/f191a/FRINGE/1234/No0007//fp.W.157.0QR2SH |                  |              |



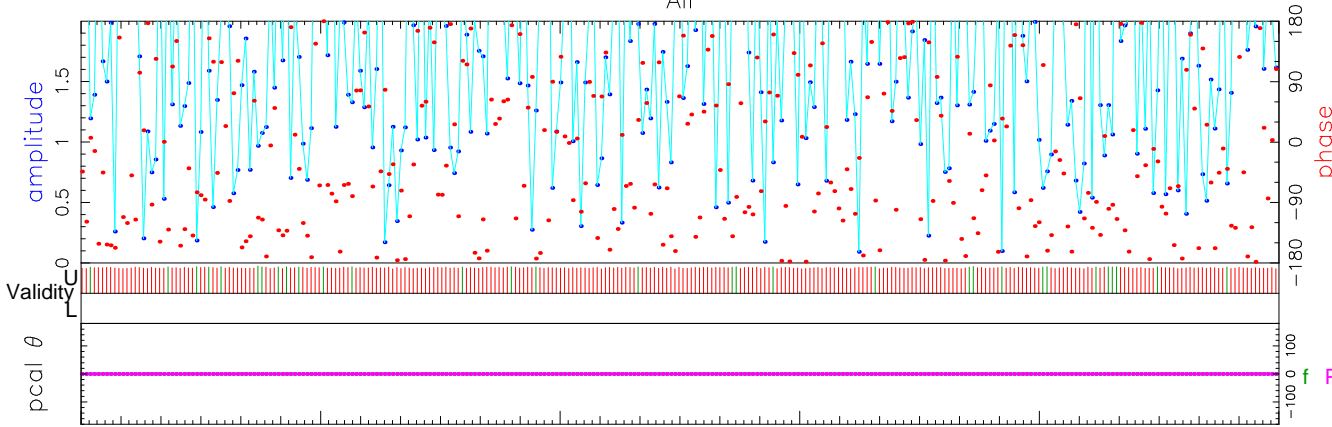
Fringe quality 0

SNR 5.3  
Int time 278.314  
Amp 0.666  
Phase -120.1  
PFD 1.0e+00  
Delays (us)  
SBD -3.818681  
MBD 0.000006  
Fringe rate (Hz)  
0.870645  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-120.1  
0.7  
24.2  
U/L 586/0  
f 5000  
P 0  
f:P 0:0  
f:P 0:0  
f 1000  
P 1000  
f W04UR  
P W04UL

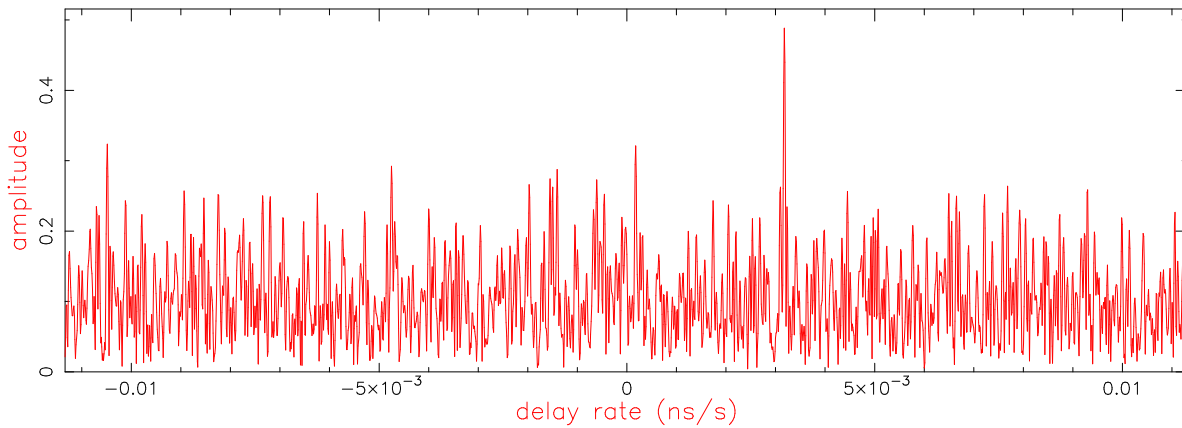
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.48171156698E+03 | Apriori delay (usec)     | -4.47789288282E+03 | Resid mbdelay (usec) | 6.34864E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.48171156332E+03 | Apriori clock (usec)     | 1.4890563E+01      | Resid sbdelay (usec) | -3.81868E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.47789288669E+03 | Apriori clockrate (us/s) | 4.5300000E-07      | Resid phdelay (usec) | -3.87166E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.88157944696E+00  | Apriori rate (us/s)      | 1.88156933964E+00  | Resid rate (us/s)    | 1.01073E-05  | +/- | 4.0E-09 |
| Total phase (deg)       | -93.5              | Apriori accel (us/s/s)   | 2.09475294758E-05  | Resid phase (deg)    | -120.1       | +/- | 21.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.0  | Theor.          | 183.4 | Amplitude      | 0.666 +/- 0.125 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 362.6 | Search (2048X8) | 0.467 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.428           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.653 | Inc. frq. avg. | 0.653           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

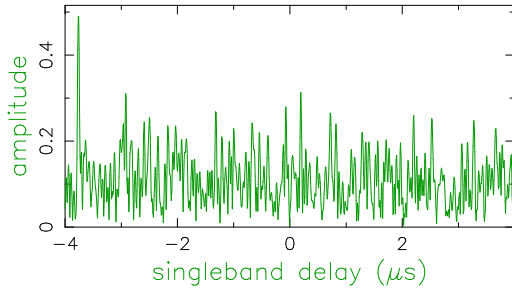
f: az 89.4 el 32.4 pa -63.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11196.227 -259.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fP.W.160.0QR2SH



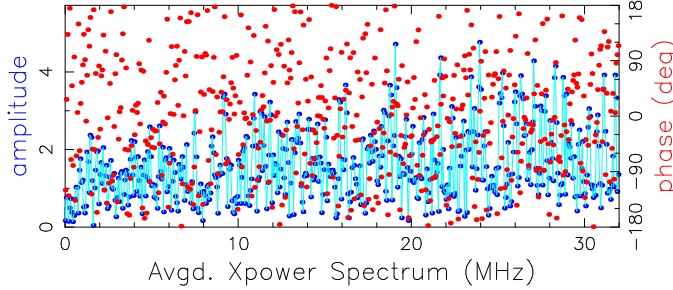


Fringe quality 0

SNR 5.7  
Int time 280.962  
Amp 0.516  
Phase -70.5  
PFD 7.3e-01  
Delays (us)  
SBD -3.761862  
MBD 0.000004  
Fringe rate (Hz)  
0.273531  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

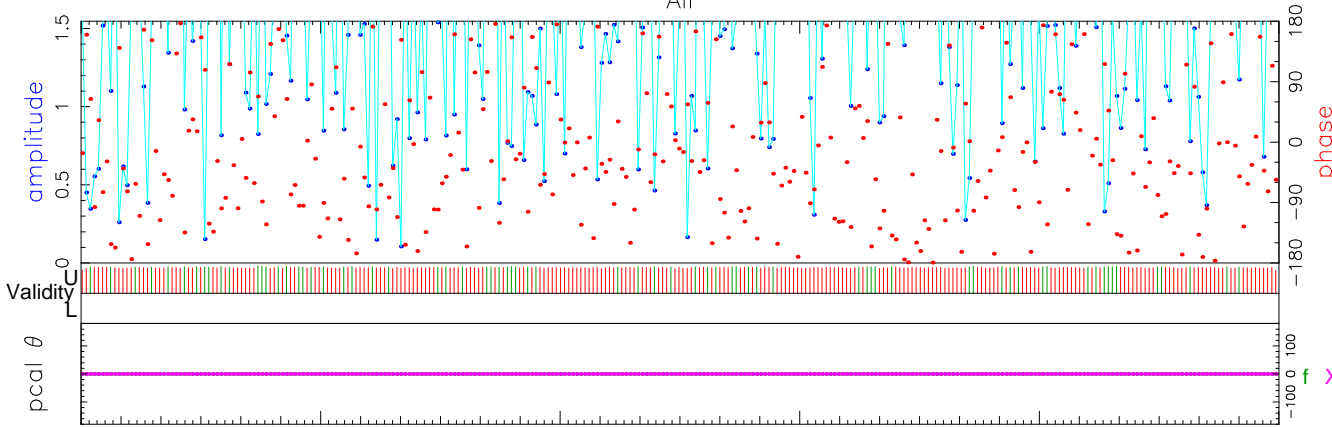


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-70.5  
0.5  
31.5  
U/L 586/0  
f 5000  
X 0  
f:X 0:0  
f:X 0:0  
f 1000  
X 1000  
f W04UL  
X W04UL

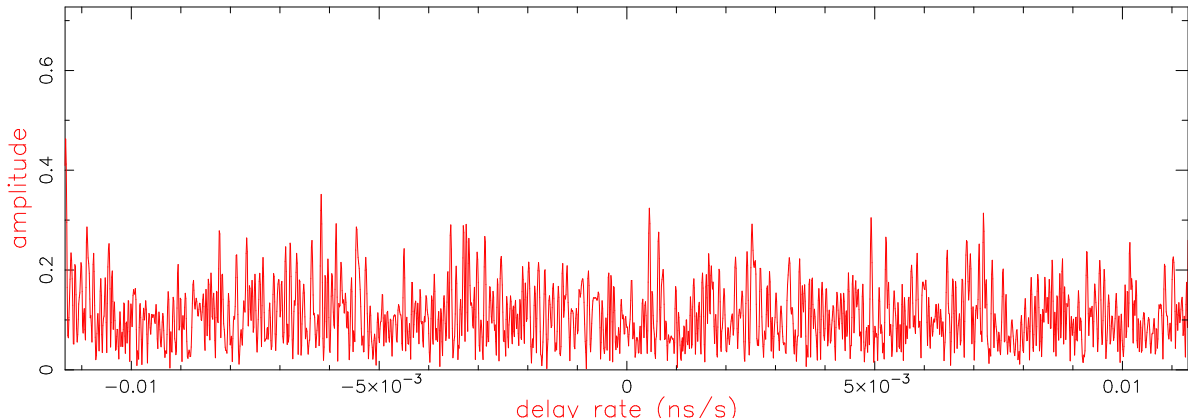
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.03533565130E+02 | Apriori delay (usec)     | 3.07295425066E+02  | Resid mbdelay (usec) | 4.47044E-06  | +/- | 3.0E-03 |
| Sband delay (usec)      | 3.03533563066E+02 | Apriori clock (usec)     | -1.0255153E+01     | Resid sbdelay (usec) | -3.76186E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | 3.07295422794E+02 | Apriori clockrate (us/s) | -6.2399998E-07     | Resid phdelay (usec) | -2.27237E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.77936033450E+00 | Apriori rate (us/s)      | 1.77935715907E+00  | Resid rate (us/s)    | 3.17543E-06  | +/- | 3.7E-09 |
| Total phase (deg)       | 259.0             | Apriori accel (us/s/s)   | -1.21981002106E-05 | Resid phase (deg)    | -70.5        | +/- | 20.0    |

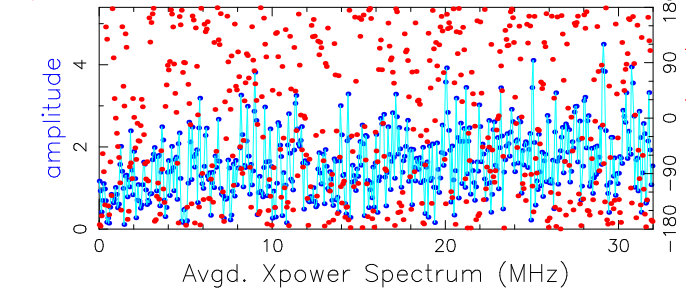
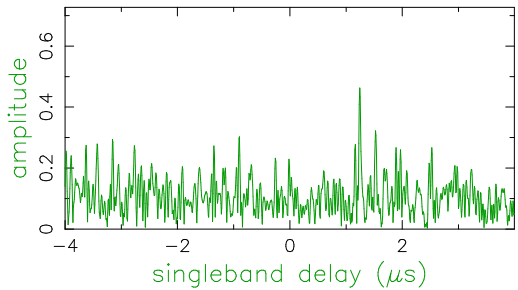
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.4  | Theor.          | 171.4 | Amplitude      | 0.516 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 329.0 | Search (2048X8) | 0.490 | Search         | 0.490           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.346           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 2.1   | Inc. frq. avg.  | 0.497 | Inc. frq. avg. | 0.497           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10629.522 -3060.148 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fX.W.106.0QR2SH

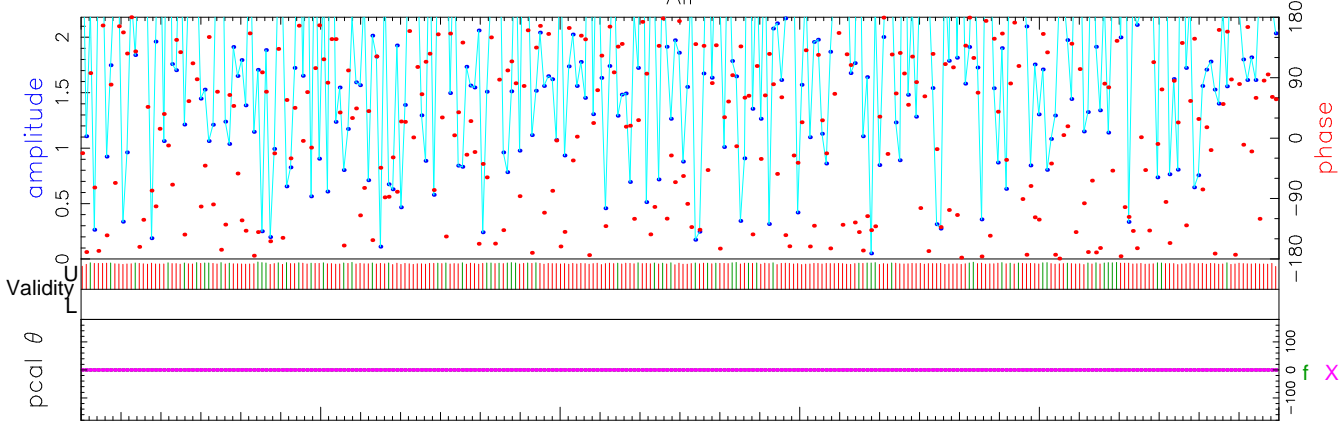


Fringe quality 0  
SNR 5.3  
Int time 280.952  
Amp 0.727  
Phase 142.1  
PFD 1.0e+00  
Delays (us)  
SBD 1.243137  
MBD -0.000006  
Fringe rate (Hz)  
-0.975488  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
142.1  
0.7  
672.1  
U/L 586/0  
f 5000  
X 0  
f:X 0:0  
f:X 0:0  
f 1000  
X 1000  
f W04UR  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.08538558500E+02 | Apriori delay (usec)     | 3.07295425066E+02  | Resid mbdelay (usec) | -5.64226E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.08538561566E+02 | Apriori clock (usec)     | -1.0255153E+01     | Resid sbdelay (usec) | 1.24314E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.07295429649E+02 | Apriori clockrate (us/s) | -6.2399998E-07     | Resid phdelay (usec) | 4.58308E-06  | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.77934583462E+00 | Apriori rate (us/s)      | 1.77935715907E+00  | Resid rate (us/s)    | -1.13244E-05 | +/- | 4.0E-09 |
| Total phase (deg)       | 111.6             | Apriori accel (us/s/s)   | -1.21981002106E-05 | Resid phase (deg)    | 142.1        | +/- | 21.6    |

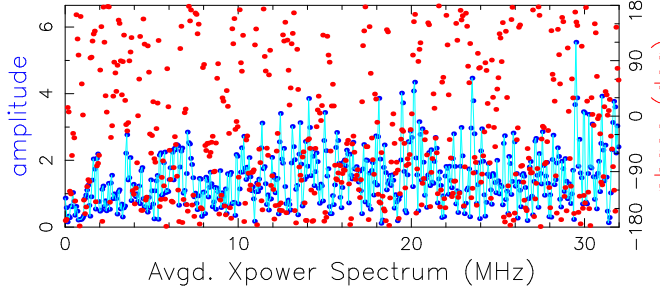
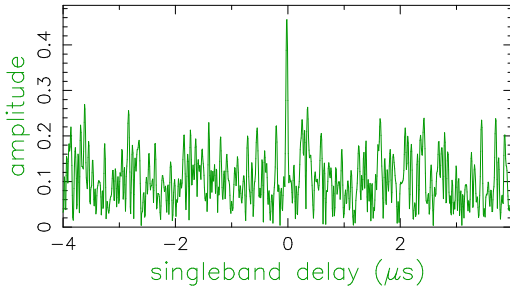
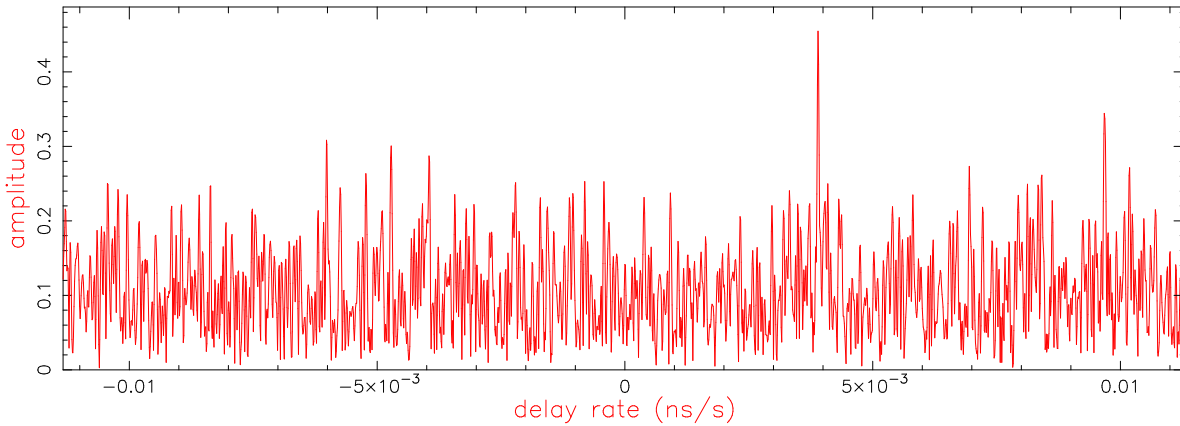
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.3  | Theor.          | 184.7 | Amplitude      | 0.727 +/- 0.137 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 387.4 | Search (2048X8) | 0.462 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.493           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.714 | Inc. frq. avg. | 0.714           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 X: az 247.6 el 32.5 pa 31.4 u.v (fr/asec) -10629.522 -3060.148 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/fX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/fX.W.131.0QR2SH

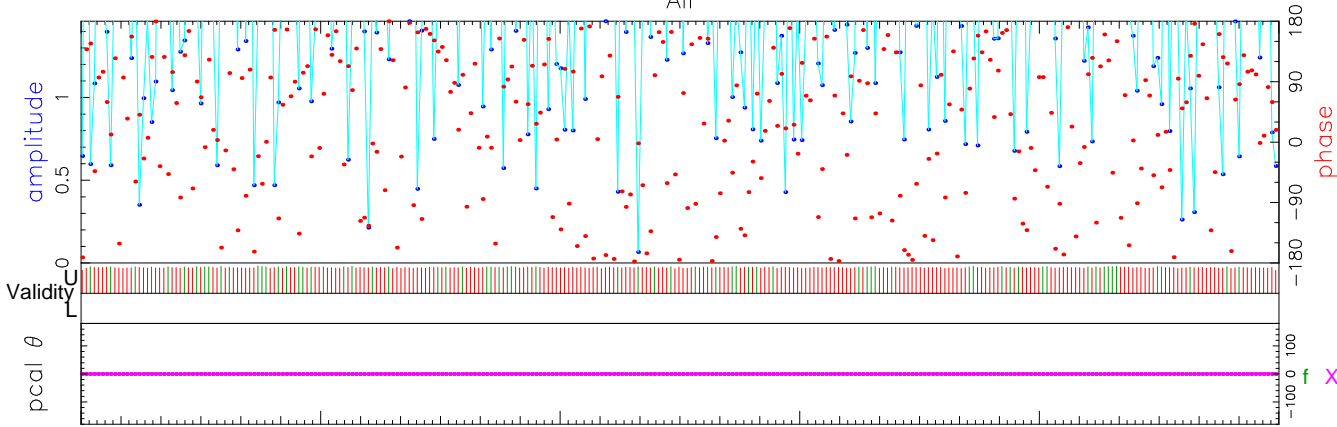
Fringe quality 0

SNR 5.3  
Int time 280.962  
Amp 0.487  
Phase 126.7  
PFD 1.0e+00  
Delays (us)  
SBD -0.019436  
MBD 0.000005  
Fringe rate (Hz)  
0.335658  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



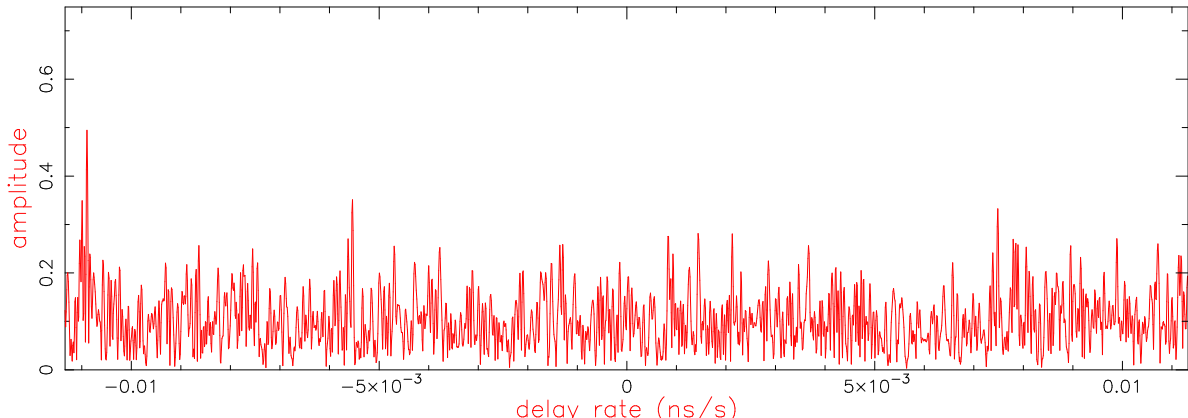
86140.00  
126.7  
0.5  
510.5  
U/L 586/0  
f 5000  
X 0  
f:X 0:0  
f:X 0:0  
f 1000  
X 1000  
f W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

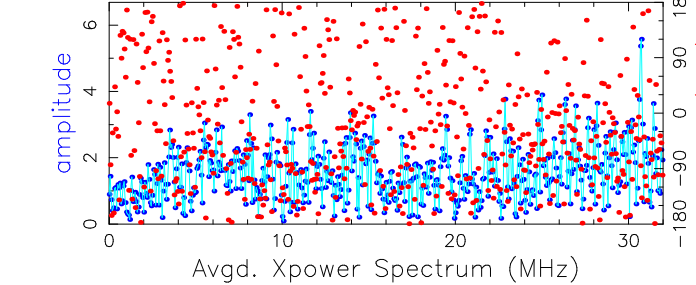
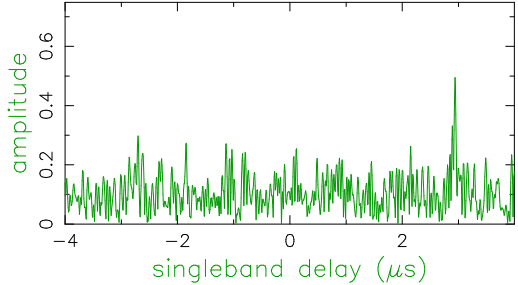
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.07275984493E+02 | Apriori delay (usec)     | 3.07295425066E+02  | Resid mbdelay (usec) | 4.51595E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.07275989566E+02 | Apriori clock (usec)     | -1.0255153E+01     | Resid sbdelay (usec) | -1.94355E-02 | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.07295429153E+02 | Apriori clockrate (us/s) | -6.2399998E-07     | Resid phdelay (usec) | 4.08613E-06  | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.77936105573E+00 | Apriori rate (us/s)      | 1.77935715907E+00  | Resid rate (us/s)    | 3.89666E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | 96.2              | Apriori accel (us/s/s)   | -1.21981002106E-05 | Resid phase (deg)    | 126.7        | +/- | 21.6    |

|              |          |              |                           |                 |                          |  |                               |
|--------------|----------|--------------|---------------------------|-----------------|--------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 93.4 | Theor. 184.5 | Amplitude 0.487 +/- 0.092 | Search (2048X8) | 0.455                    | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 368.8    | 322.0        | Interp. 0.000             | Inc. seg. avg.  | 0.323                    | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 10.8         | Inc. frq. avg.            | 0.469           | Bits/sample: 2x2         | SampCntNorm: enabled                   | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 2.0      | 18.8         |                           |                 | Sample rate(MSamp/s): 64 | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |

f: az 89.4 el 32.4 pa -63.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10629.522 -3060.148 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fX.W.152.0QR2SH

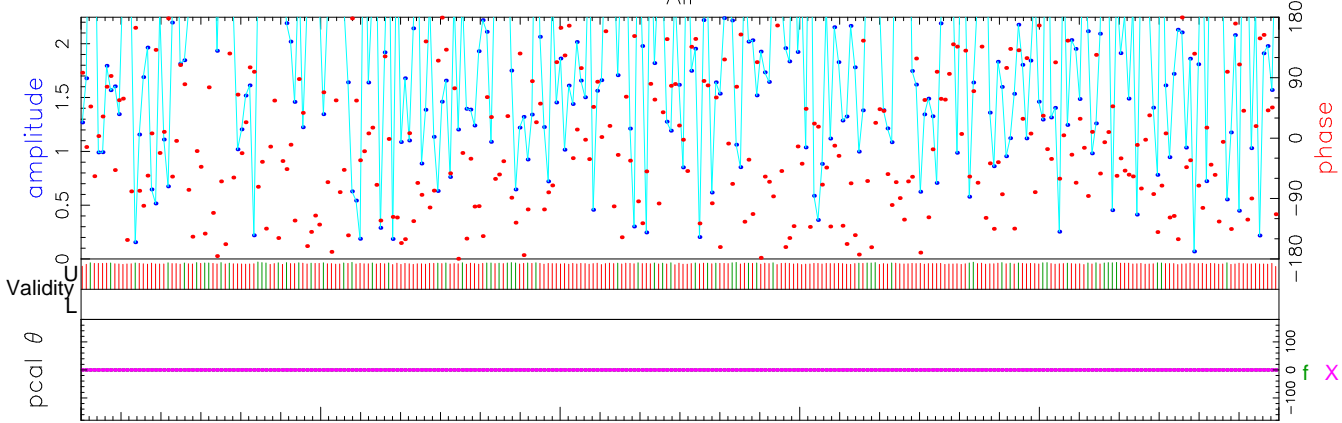


Fringe quality 0  
SNR 5.7  
Int time 280.952  
Amp 0.749  
Phase -49.6  
PFD 8.1e-01  
Delays (us)  
SBD 2.938692  
MBD -0.000007  
Fringe rate (Hz)  
-0.938051  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

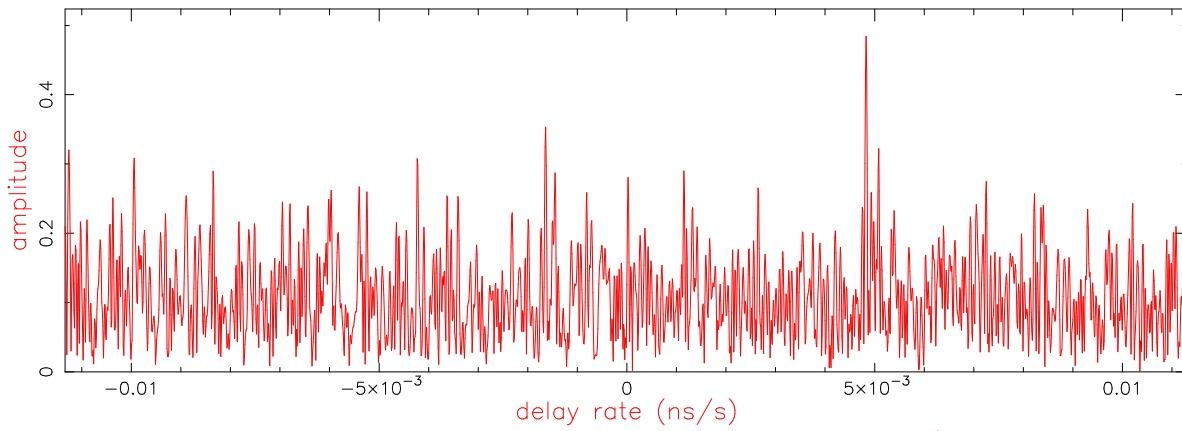
Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-49.6  
0.7  
889.2  
U/L 586/0  
f 5000  
X 0  
f:X 0:0  
f:X 0:0  
f 1000  
X 1000  
f W04UR  
X W04UL

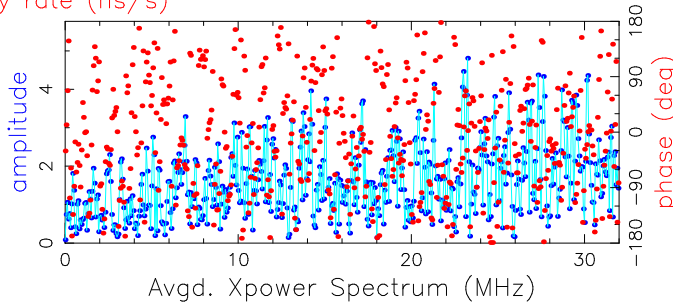
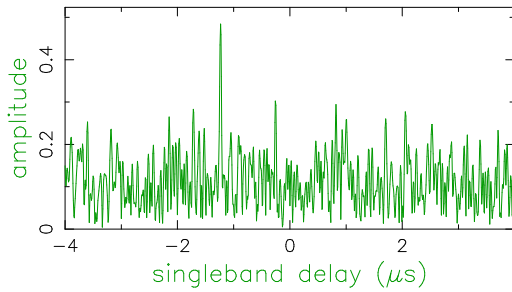
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|  |                             |                          |                           |  |                       |                   |                            |
|--|-----------------------------|--------------------------|---------------------------|--|-----------------------|-------------------|----------------------------|
| Group delay (usec)(sbd)  | 3.10234111239E+02           | Apriori delay (usec)     | 3.07295425066E+02         | Resid mbdelay (usec)                   | -6.65335E-06          | +/-               | 3.0E-03                    |
| Sband delay (usec)   | 3.10234116566E+02           | Apriori clock (usec)     | -1.0255153E+01            | Resid sbdelay (usec)                   | 2.93869E+00           | +/-               | 3.0E-03                    |
| Phase delay (usec)   | 3.07295423468E+02           | Apriori clockrate (us/s) | -6.2399998E-07            | Resid phdelay (usec)                   | -1.59830E-06          | +/-               | 6.5E-07                    |
| Delay rate (us/s)  | 1.77934626923E+00           | Apriori rate (us/s)      | 1.77935715907E+00         | Resid rate (us/s)                      | -1.08898E-05          | +/-               | 3.8E-09                    |
| Total phase (deg)  | 279.9                       | Apriori accel (us/s/s)   | -1.21981002106E-05        | Resid phase (deg)                      | -49.6                 | +/-               | 20.2                       |
| ph/seg (deg)   | RMS 93.7                    | Theor. 172.7             | Amplitude 0.749 +/- 0.132 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 4.000               |
| amp/seg (%)  | 355.1                       | 301.5                    | Search (2048X8) 0.483     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled  | mb window (us)    | -0.000 0.000               |
| ph/frq (deg)   | 0.0                         | 10.1                     | Inc. seg. avg. 0.535      | Bits/sample: 2x2                       | ion window (TEC)      | dr window (ns/s)  | -0.011 0.011               |
| amp/frq (%)  | 0.2                         | 17.6                     | Inc. frq. avg. 0.736      | Sample rate(MSamp/s): 64               | nlags: 512            | t_cohere infinite | ion window (TEC) 0.00 0.00 |
| f: az 89.4 el 32.4 pa -63.6  | X: az 247.6 el 32.5 pa 31.4 | u,v (fr/asec)            | -10629.522 -3060.148      | simultaneous interpolator              |                       |                   |                            |
| Control file: cf_1234_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fX.W.170.0QR2SH |                             |                          |                           |  |                       |                   |                            |



Fringe quality 0

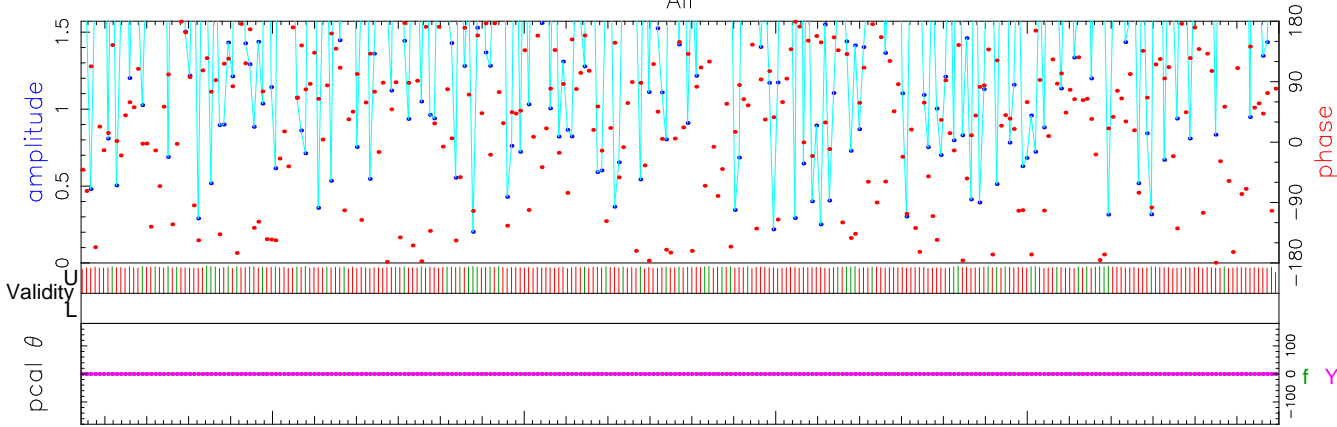
SNR 5.4  
Int time 267.417  
Amp 0.524  
Phase 88.1  
PFD 1.0e+00  
Delays (us)  
SBD -1.232980  
MBD 0.000005  
Fringe rate (Hz)  
0.416189  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



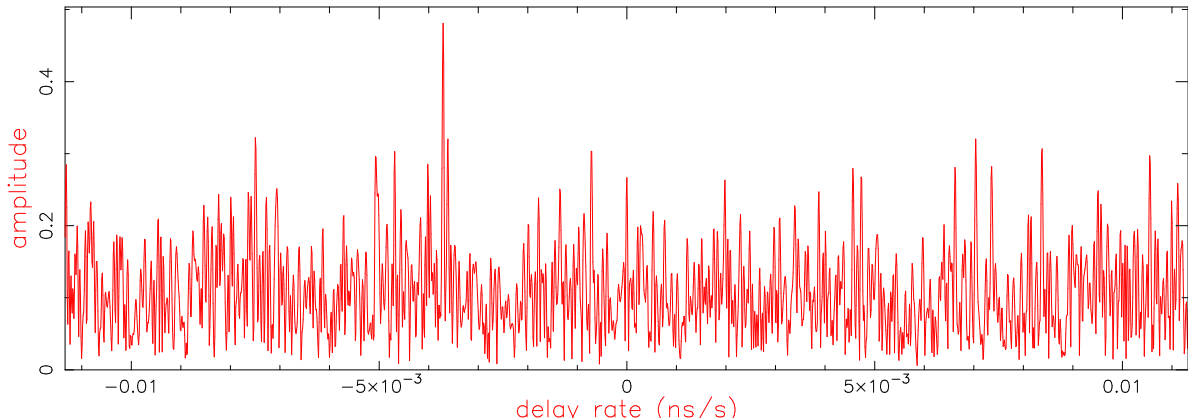
86140.00  
88.1  
0.5  
355.2  
U/L 558/0  
f 5000  
Y 0  
f:Y 0:0  
f:Y 0:0  
f 1000  
Y 1000  
f W04UR  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

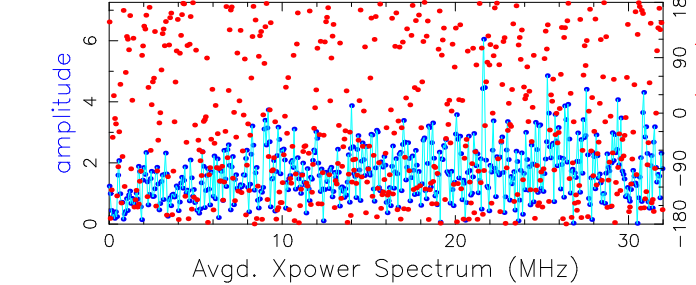
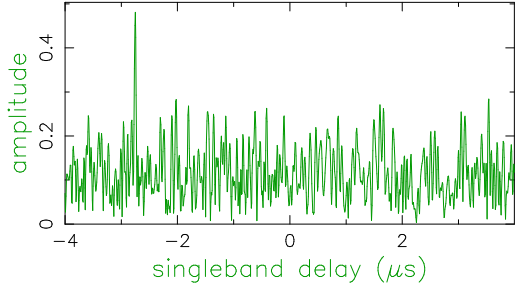
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.11557835837E+03 | Apriori delay (usec)     | -4.11434538234E+03 | Resid mbdelay (usec) | 5.16294E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.11557836284E+03 | Apriori clock (usec)     | 7.7918730E+00      | Resid sbdelay (usec) | -1.23298E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.11434537950E+03 | Apriori clockrate (us/s) | -3.7000012E-08     | Resid phdelay (usec) | 2.84089E-06  | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.85001068366E+00  | Apriori rate (us/s)      | 1.85000585212E+00  | Resid rate (us/s)    | 4.83154E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 3.7                | Apriori accel (us/s/s)   | 1.74974602562E-05  | Resid phase (deg)    | 88.1         | +/- | 21.1    |

|              |          |              |                           |  |                              |                             |
|--------------|----------|--------------|---------------------------|--|------------------------------|-----------------------------|
| ph/seg (deg) | RMS 87.6 | Theor. 176.3 | Amplitude 0.524 +/- 0.096 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        |                             |
| amp/seg (%)  | 342.8    | 307.7        | Search (2048X8) 0.475     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000  |                             |
| ph/frq (deg) | 0.0      | 10.6         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled         | mb window (us) -0.000 0.000 |
| amp/frq (%)  | 0.3      | 18.4         | Inc. seg. avg. 0.344      | Sample rate(MSamp/s): 64               | ion window (TEC) 0.00 0.00   |                             |
|              |          |              | Inc. frq. avg. 0.514      | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite |                             |

f: az 89.4 el 32.4 pa -63.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11012.545 -737.929 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fY.W.123.0QR2SH



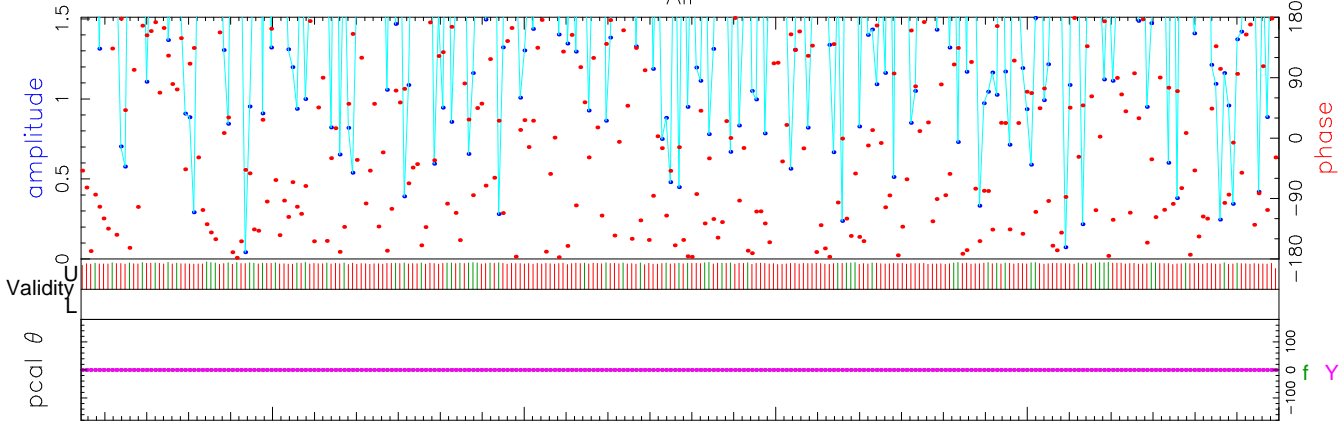
Fringe quality 0  
SNR 5.4  
Int time 267.421  
Amp 0.504  
Phase -148.6  
PFD 1.0e+00  
Delays (us)  
SBD -2.751119  
MBD -0.000005  
Fringe rate (Hz)  
-0.319063  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-148.6  
0.5  
160.8  
U/L 558/0  
f 5000  
Y 0  
f:Y 0:0  
f:Y 0:0  
f 1000  
Y 1000  
f W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.11709650188E+03 | Apriori delay (usec)     | -4.11434538234E+03 | Resid mbdelay (usec) | -5.08354E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.11709650134E+03 | Apriori clock (usec)     | 7.7918730E+00      | Resid sbdelay (usec) | -2.75112E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.11434538713E+03 | Apriori clockrate (us/s) | -3.7000012E-08     | Resid phdelay (usec) | -4.79160E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.85000214812E+00  | Apriori rate (us/s)      | 1.85000585212E+00  | Resid rate (us/s)    | -3.70400E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -233.0             | Apriori accel (us/s/s)   | 1.74974602562E-05  | Resid phase (deg)    | -148.6       | +/- | 21.3    |

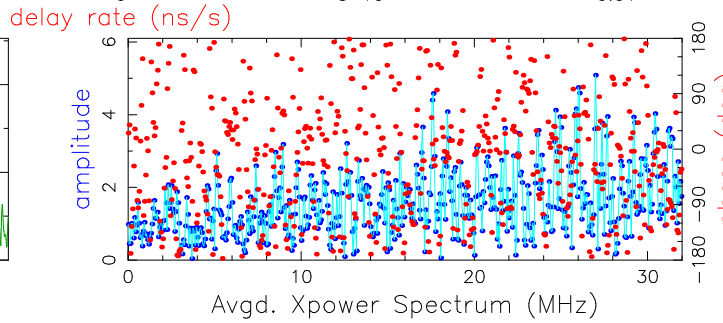
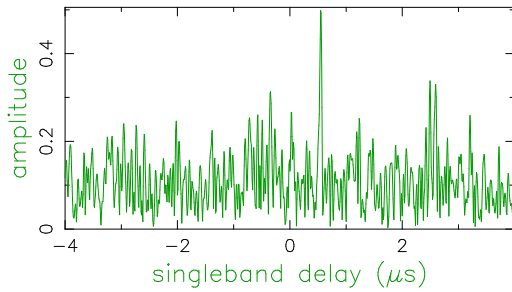
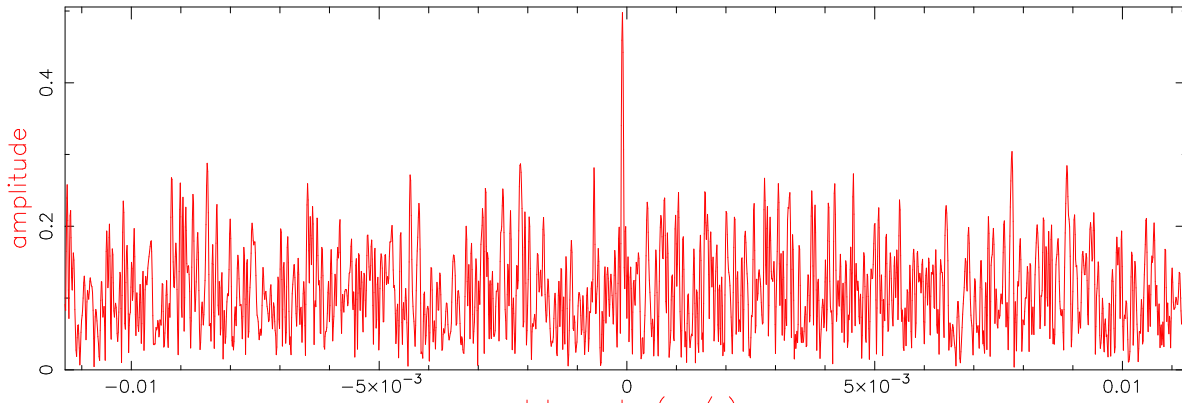
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.3  | Theor.          | 177.7 | Amplitude      | 0.504 +/- 0.093 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 357.3 | Search (2048X8) | 0.468 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.340           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.494 | Inc. frq. avg. | 0.494           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11012.545 -737.929 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fY.W.133.0QR2SH

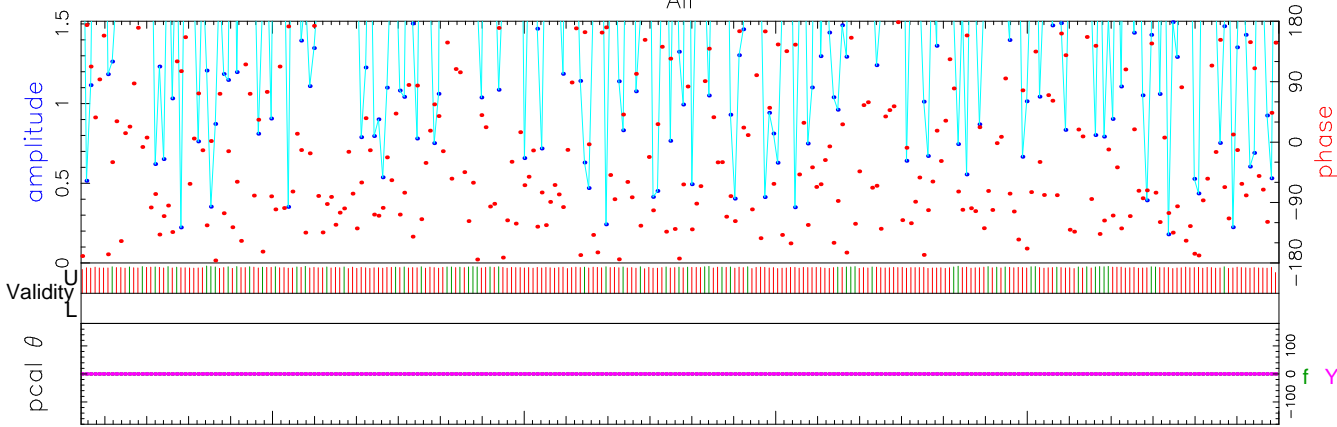
Fringe quality 0

SNR 5.7  
Int time 267.417  
Amp 0.506  
Phase -81.7  
PFD 8.6e-01  
Delays (us)  
SBD 0.550320  
MBD -0.000007  
Fringe rate (Hz)  
-0.007223  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-81.7  
0.5  
583.4  
U/L 558/0  
f 5000  
Y 0  
f:Y 0:0  
f:Y 0:0  
f 1000  
Y 1000  
f W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.11379506401E+03 | Apriori delay (usec)     | -4.11434538234E+03 | Resid mbdelay (usec) | -6.72431E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -4.11379506234E+03 | Apriori clock (usec)     | 7.7918730E+00      | Resid sbdelay (usec) | 5.50320E-01  | +/- | 3.0E-03 |
| Phase delay (usec)      | -4.11434538497E+03 | Apriori clockrate (us/s) | -3.7000012E-08     | Resid phdelay (usec) | -2.63469E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.85000576826E+00  | Apriori rate (us/s)      | 1.85000585212E+00  | Resid rate (us/s)    | -8.38543E-08 | +/- | 4.0E-09 |
| Total phase (deg)       | -166.1             | Apriori accel (us/s/s)   | 1.74974602562E-05  | Resid phase (deg)    | -81.7        | +/- | 20.3    |

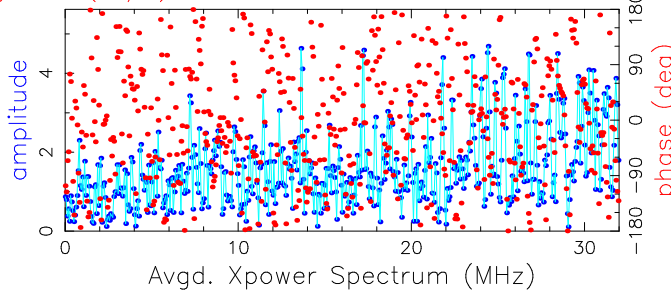
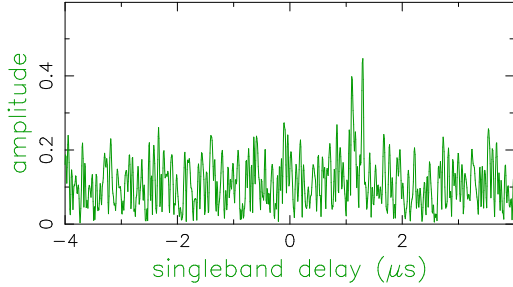
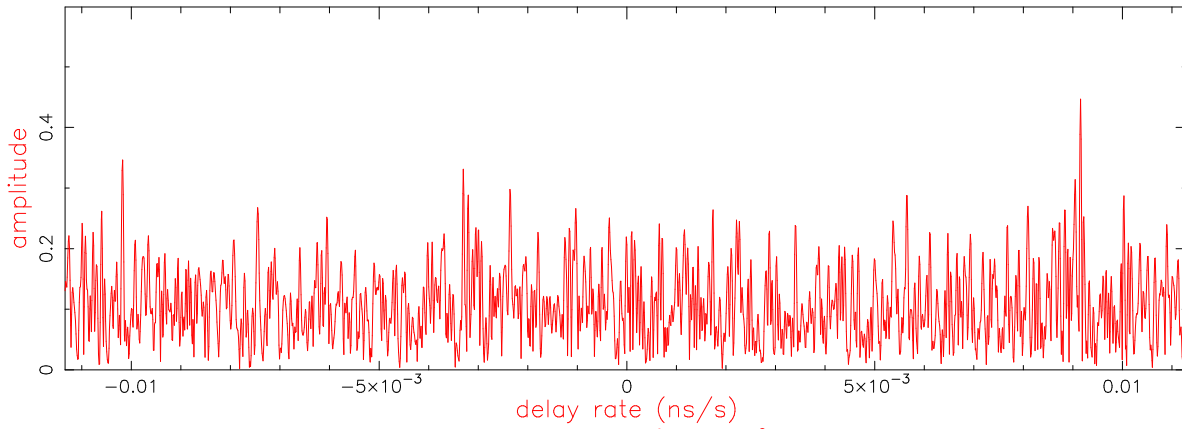
|              |       |                 |       |                       |                             |                  |                |                  |          |                  |      |      |
|--------------|-------|-----------------|-------|-----------------------|-----------------------------|------------------|----------------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 88.4  | Theor.          | 169.3 | Amplitude             | 0.506 +/- 0.089             | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5     |                  |      |      |
| amp/seg (%)  | 325.3 | Search (2048X8) | 0.493 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000         | 4.000            |          |                  |      |      |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled        | mb window (us)   | -0.000   | 0.000            |      |      |
| amp/frq (%)  | 1.5   | Inc. seg. avg.  | 0.344 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011         | 0.011            |          |                  |      |      |
|              |       | Inc. frq. avg.  | 0.490 | Data rate(Mb/s):      | 128                         | nlags:           | 512            | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

f: az 89.4 el 32.4 pa -63.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11012.545 -737.929 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fY.W.147.0QR2SH

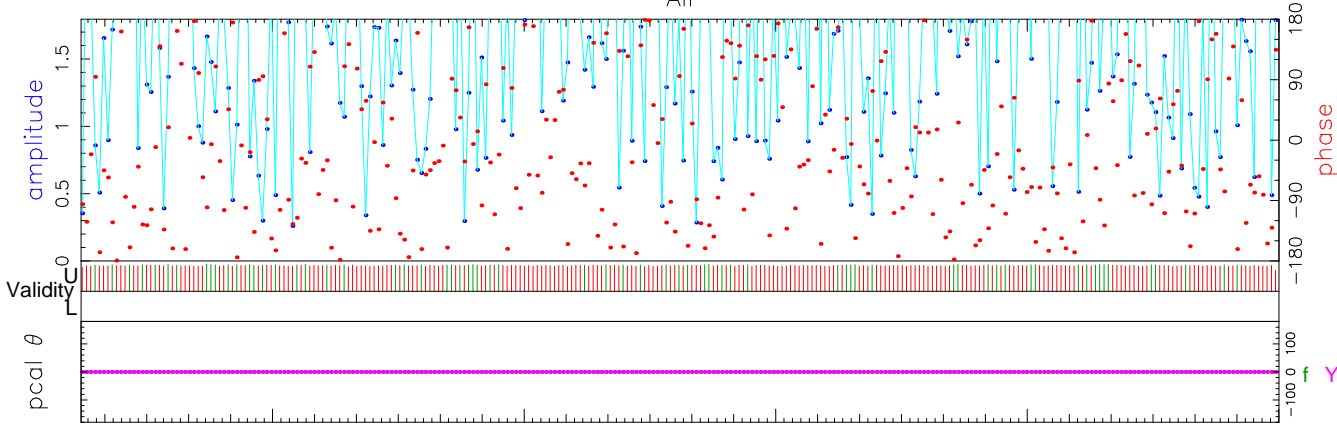
Fringe quality 0

SNR 5.0  
Int time 267.421  
Amp 0.599  
Phase -107.0  
PFD 1.0e+00  
Delays (us)  
SBD 1.294271  
MBD 0.000007  
Fringe rate (Hz)  
0.788831  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-107.0  
0.6  
678.7  
U/L 558/0  
f 5000  
Y 0  
f:Y 0:0  
f:Y 0:0  
f 1000  
Y 1000  
f W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

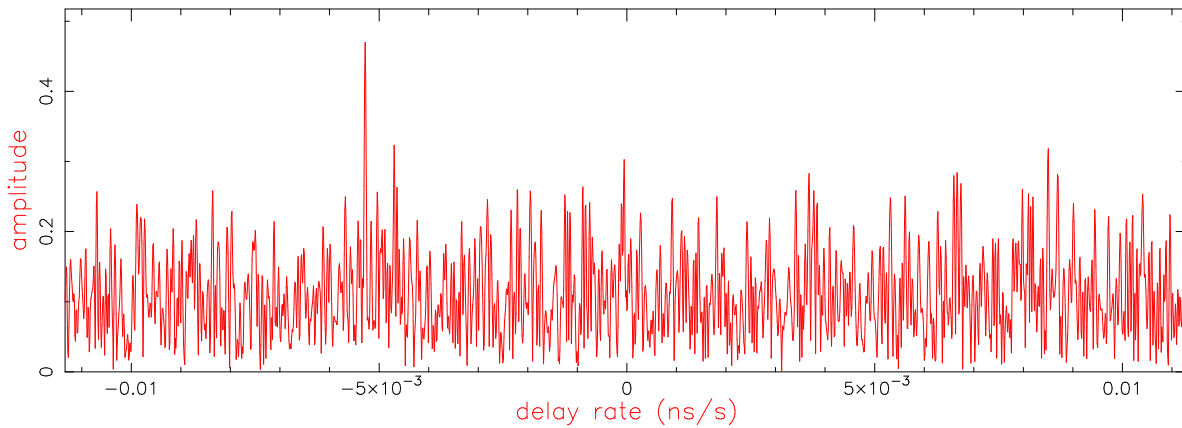
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.11305111057E+03 | Apriori delay (usec)     | -4.11434538234E+03 | Resid mbdelay (usec) | 6.61899E-06  | +/- | 3.4E-03 |
| Sband delay (usec)      | -4.11305111084E+03 | Apriori clock (usec)     | 7.7918730E+00      | Resid sbdelay (usec) | 1.29427E+00  | +/- | 3.4E-03 |
| Phase delay (usec)      | -4.11434538579E+03 | Apriori clockrate (us/s) | -3.7000012E-08     | Resid phdelay (usec) | -3.44901E-06 | +/- | 7.3E-07 |
| Delay rate (us/s)       | 1.85001500966E+00  | Apriori rate (us/s)      | 1.85000585212E+00  | Resid rate (us/s)    | 9.15755E-06  | +/- | 4.4E-09 |
| Total phase (deg)       | -191.4             | Apriori accel (us/s/s)   | 1.74974602562E-05  | Resid phase (deg)    | -107.0       | +/- | 22.8    |

|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 91.5 | Theor. 190.0 | Amplitude 0.599 +/- 0.119 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 380.1    | 331.6        | Search (2048X8) 0.446     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 11.4         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.9      | 19.9         | Inc. seg. avg. 0.378      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.582      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

f: az 89.4 el 32.4 pa -63.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11012.545 -737.929 simultaneous interpolator

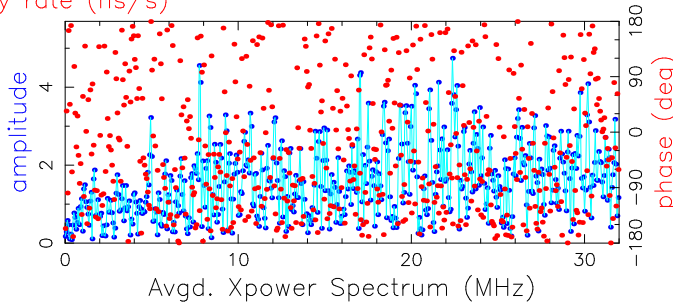
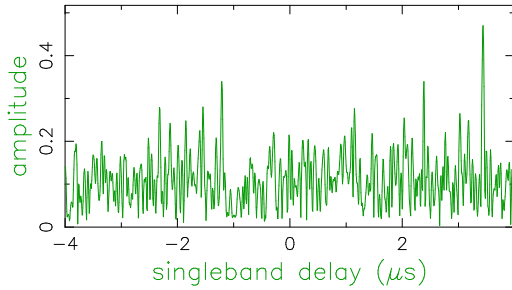
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fY.W.99.0QR2SH





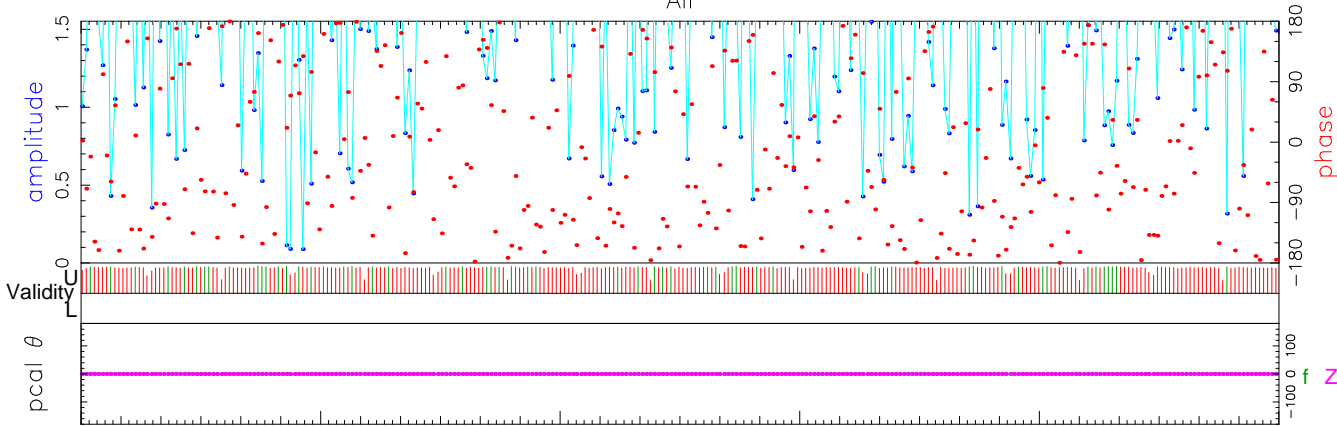
Fringe quality 0

SNR 5.3  
 Int time 273.593  
 Amp 0.518  
 Phase -128.1  
 PFD 1.0e+00  
 Delays (us)  
 SBD 3.435133  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.454979  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171816  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 -128.1  
 0.5  
 952.7  
 U/L 586/0  
 f 5000  
 Z 0  
 f:Z 0:0  
 f:Z 0:0  
 f 1000  
 Z 1000  
 f W04UR  
 Z W04UR

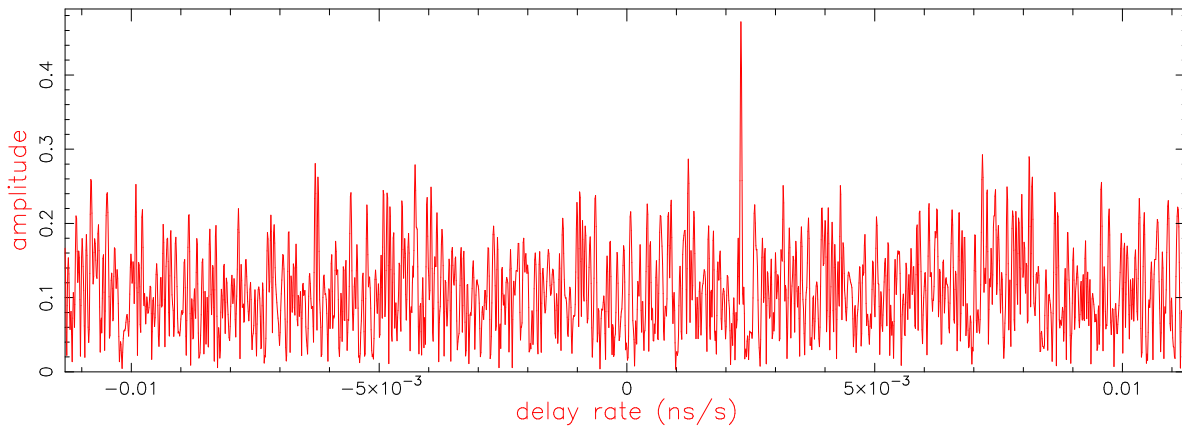
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                   |                          |                    |                      |              |             |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 2.61458835398E+03 | Apriori delay (usec)     | 2.61115322065E+03  | Resid mbdelay (usec) | -7.14377E-06 | +/- 3.2E-03 |
| Sband delay (usec)      | 2.61458835415E+03 | Apriori clock (usec)     | 1.4666640E+01      | Resid sbdelay (usec) | 3.43513E+00  | +/- 3.2E-03 |
| Phase delay (usec)      | 2.61115321652E+03 | Apriori clockrate (us/s) | -3.9399999E-07     | Resid phdelay (usec) | -4.12949E-06 | +/- 6.9E-07 |
| Delay rate (us/s)       | 1.80501695267E+00 | Apriori rate (us/s)      | 1.80502223452E+00  | Resid rate (us/s)    | -5.28185E-06 | +/- 4.0E-09 |
| Total phase (deg)       | 25.7              | Apriori accel (us/s/s)   | -2.51241428101E-05 | Resid phase (deg)    | -128.1       | +/- 21.4    |

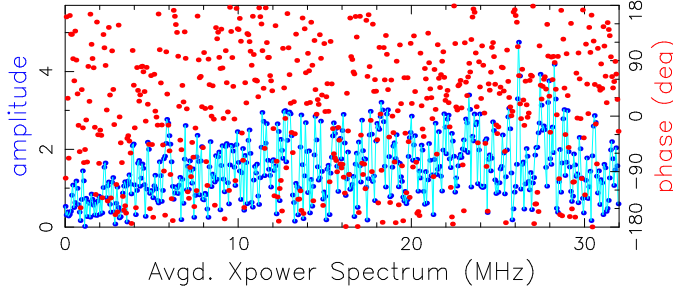
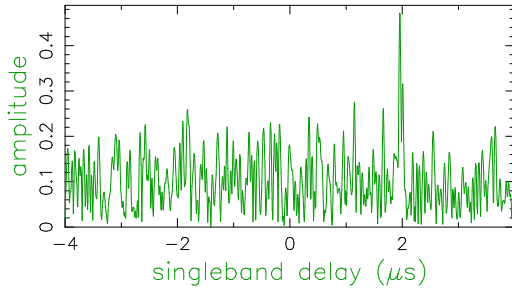
|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 90.9 | Theor. 183.5 | Amplitude 0.518 +/- 0.097 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 375.0    | 320.3        | Search (2048X8) 0.469     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 10.7         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.6      | 18.7         | Inc. seg. avg. 0.348      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.506      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

f: az 89.4 el 32.4 pa -63.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10799.010 -3572.966 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fZ.W.108.0QR2SH

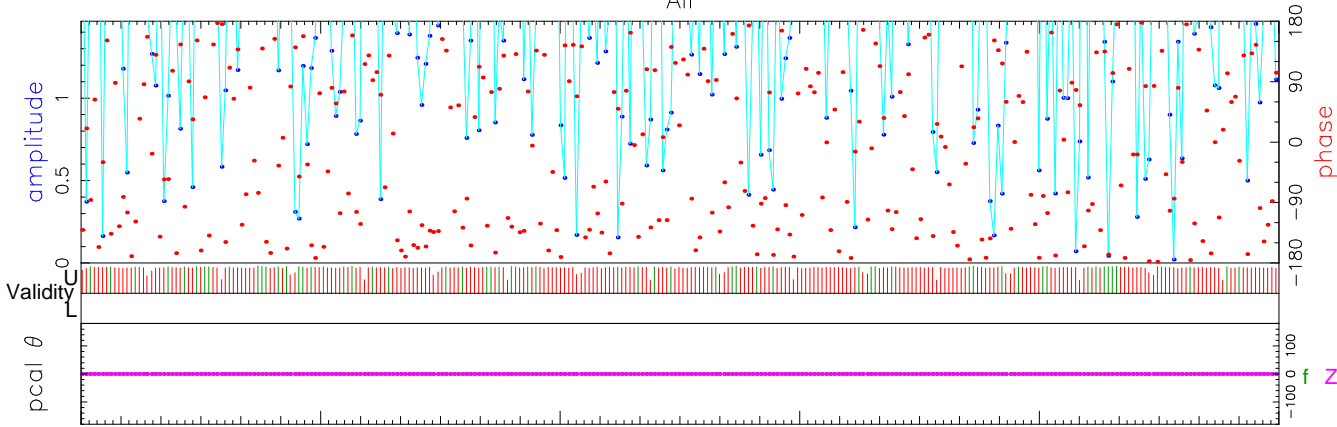


Fringe quality 0  
SNR 5.4  
Int time 273.603  
Amp 0.489  
Phase -178.5  
PFD 1.0e+00  
Delays (us)  
SBD 1.956766  
MBD 0.000006  
Fringe rate (Hz)  
0.198802  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



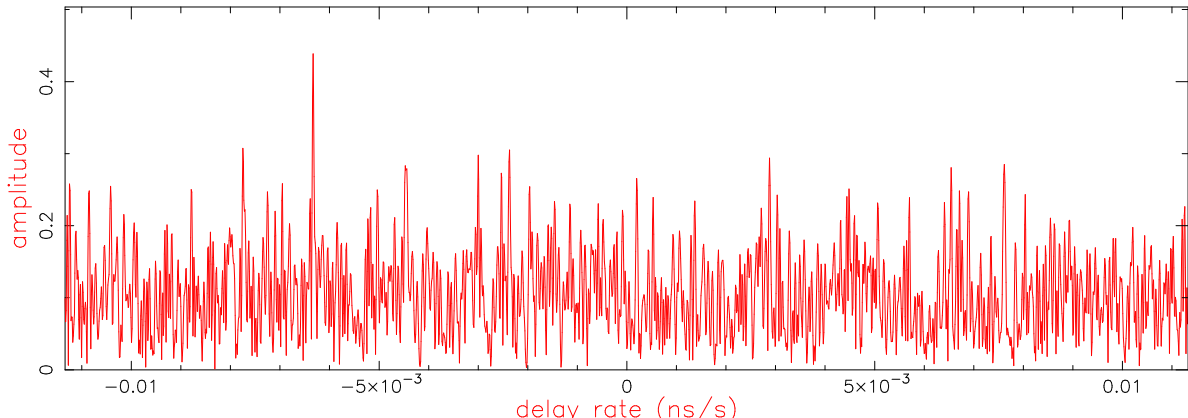
86140.00  
-178.5  
0.5  
763.5  
U/L 586/0  
f 5000  
Z 0  
f:Z 0:0  
f:Z 0:0  
f 1000  
Z 1000  
f W04UL  
Z W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

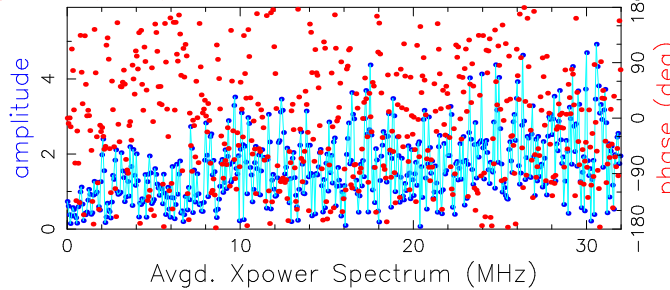
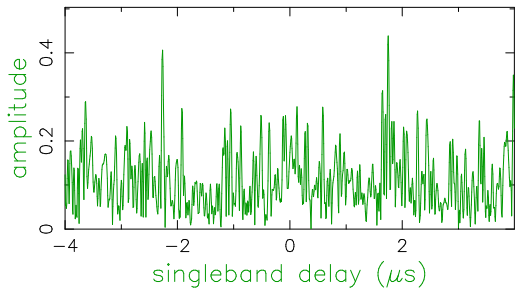
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.61310998310E+03 | Apriori delay (usec)     | 2.61115322065E+03  | Resid mbdelay (usec) | 6.00269E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 2.61310998715E+03 | Apriori clock (usec)     | 1.4666640E+01      | Resid sbdelay (usec) | 1.95677E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | 2.61115321490E+03 | Apriori clockrate (us/s) | -3.9399999E-07     | Resid phdelay (usec) | -5.75474E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.80502454241E+00 | Apriori rate (us/s)      | 1.80502223452E+00  | Resid rate (us/s)    | 2.30789E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -24.7             | Apriori accel (us/s/s)   | -2.51241428101E-05 | Resid phase (deg)    | -178.5       | +/- | 21.1    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.3  | Theor.          | 180.4 | Amplitude      | 0.489 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 362.2 | Search (2048X8) | 0.460 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.321           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.9   | Inc. frq. avg.  | 0.472 | Inc. frq. avg. | 0.472           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10799.010 -3572.966 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fZ.W.122.0QR2SH



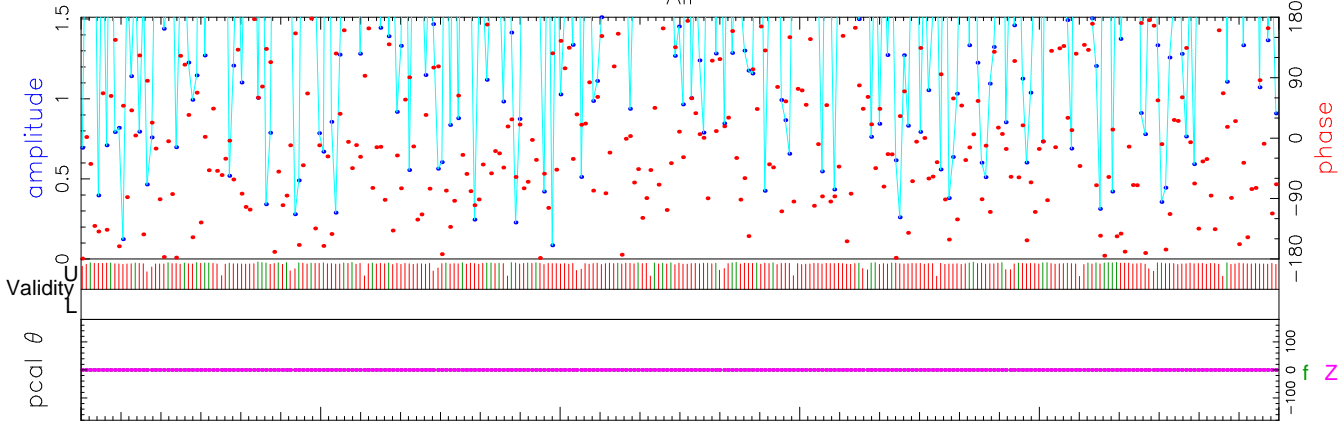
Fringe quality 0  
SNR 5.0  
Int time 273.593  
Amp 0.504  
Phase -44.9  
PFD 1.0e+00  
Delays (us)  
SBD 1.747944  
MBD -0.000006  
Fringe rate (Hz)  
-0.545379  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-44.9  
0.5  
736.8  
U/L 586/0  
f 5000  
Z 0  
f:Z 0:0  
f:Z 0:0  
f 1000  
Z 1000  
f W04UR  
Z W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.61290115952E+03 | Apriori delay (usec)     | 2.61115322065E+03  | Resid mbdelay (usec) | -6.33555E-06 | +/- | 3.5E-03 |
| Sband delay (usec)      | 2.61290116415E+03 | Apriori clock (usec)     | 1.4666640E+01      | Resid sbdelay (usec) | 1.74794E+00  | +/- | 3.5E-03 |
| Phase delay (usec)      | 2.61115321920E+03 | Apriori clockrate (us/s) | -3.9399999E-07     | Resid phdelay (usec) | -1.44837E-06 | +/- | 7.4E-07 |
| Delay rate (us/s)       | 1.80501590321E+00 | Apriori rate (us/s)      | 1.80502223452E+00  | Resid rate (us/s)    | -6.33131E-06 | +/- | 4.3E-09 |
| Total phase (deg)       | 108.8             | Apriori accel (us/s/s)   | -2.51241428101E-05 | Resid phase (deg)    | -44.9        | +/- | 23.0    |

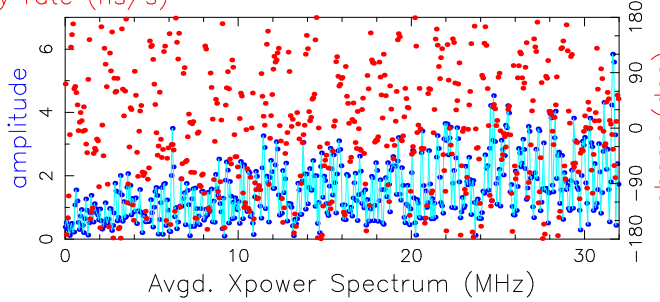
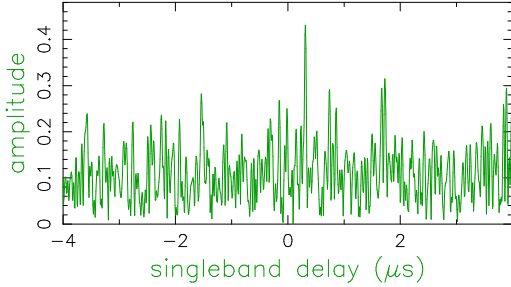
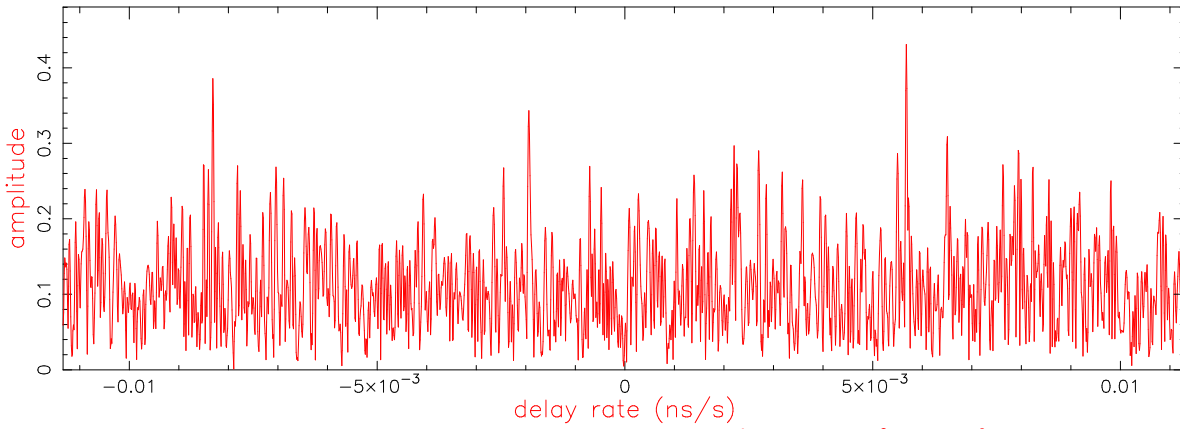
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 94.0  | Theor.          | 196.5 | Amplitude      | 0.504 +/- 0.101 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 388.3 | Search (2048X8) | 0.438 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.304           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.490 | Inc. frq. avg. | 0.490           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

f: az 89.4 el 32.4 pa -63.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10799.010 -3572.966 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fZ.W.132.0QR2SH

Fringe quality 0

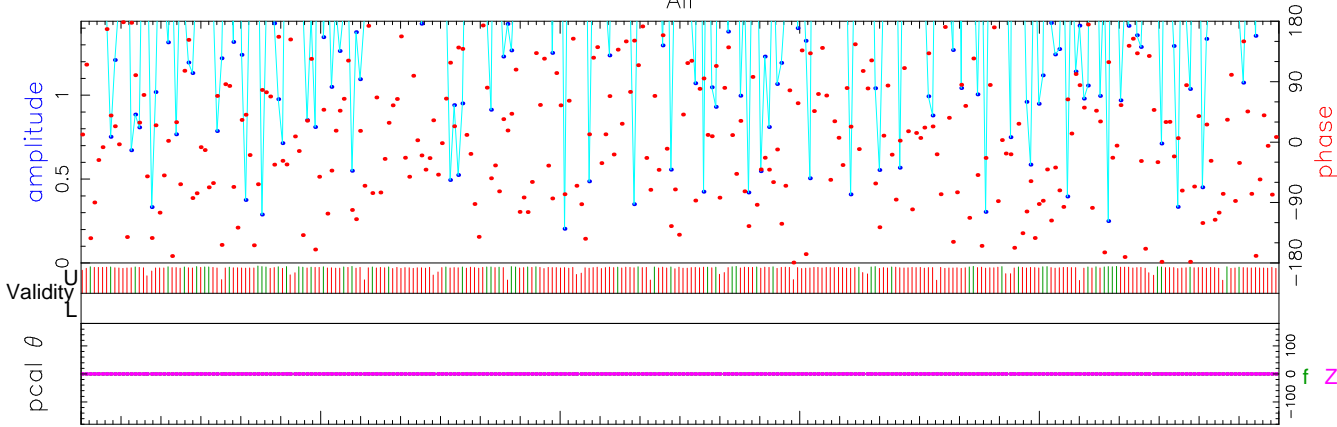
SNR 4.9  
Int time 273.603  
Amp 0.481  
Phase -5.0  
PFD 1.0e+00  
Delays (us)  
SBD 0.310872  
MBD 0.000005  
Fringe rate (Hz)  
0.489177  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-5.0  
0.5  
552.8  
U/L 586/0  
f 5000  
Z 0  
f:Z 0:0  
f:Z 0:0  
f 1000  
Z 1000  
f W04UL  
Z W04UL

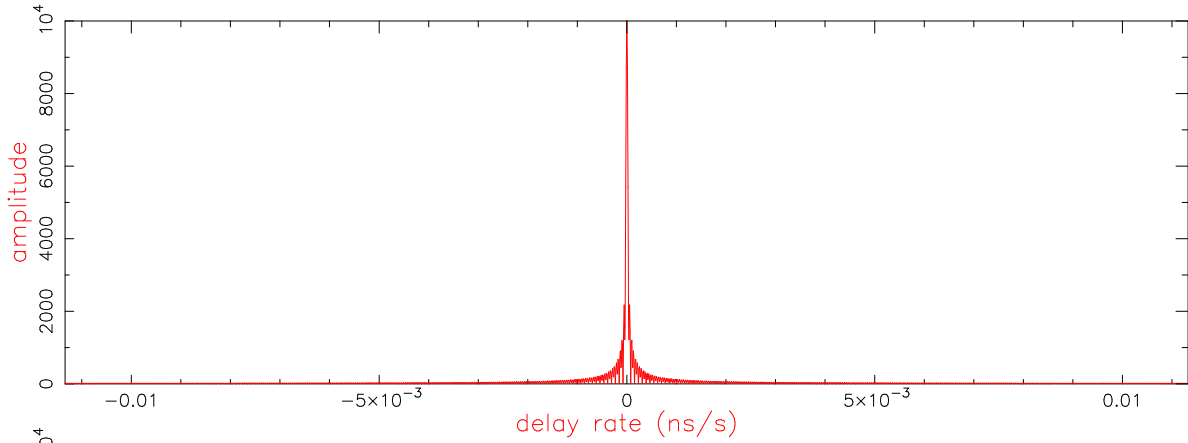
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.61146409211E+03 | Apriori delay (usec)     | 2.61115322065E+03  | Resid mbdelay (usec) | 5.42624E-06  | +/- | 3.5E-03 |
| Sband delay (usec)      | 2.61146409265E+03 | Apriori clock (usec)     | 1.4666640E+01      | Resid sbdelay (usec) | 3.10872E-01  | +/- | 3.5E-03 |
| Phase delay (usec)      | 2.61115322049E+03 | Apriori clockrate (us/s) | -3.9399999E-07     | Resid phdelay (usec) | -1.61852E-07 | +/- | 7.6E-07 |
| Delay rate (us/s)       | 1.80502791338E+00 | Apriori rate (us/s)      | 1.80502223452E+00  | Resid rate (us/s)    | 5.67886E-06  | +/- | 4.4E-09 |
| Total phase (deg)       | 148.7             | Apriori accel (us/s/s)   | -2.51241428101E-05 | Resid phase (deg)    | -5.0         | +/- | 23.4    |

|              |          |              |                           |                 |                          |  |                               |
|--------------|----------|--------------|---------------------------|-----------------|--------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 91.5 | Theor. 200.5 | Amplitude 0.481 +/- 0.098 | Search (2048X8) | 0.431                    | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 411.7    | 350.0        | Interp. 0.000             | Inc. seg. avg.  | 0.301                    | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 11.7         | Inc. seg. avg.            | 0.301           | Bits/sample: 2x2         | SampCntNorm: enabled                   | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 0.4      | 20.4         | Inc. frq. avg.            | 0.469           | Sample rate(MSamp/s): 64 | ion window (TEC)                       | dr window (ns/s) -0.011 0.011 |

f: az 89.4 el 32.4 pa -63.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10799.010 -3572.966 simultaneous interpolator

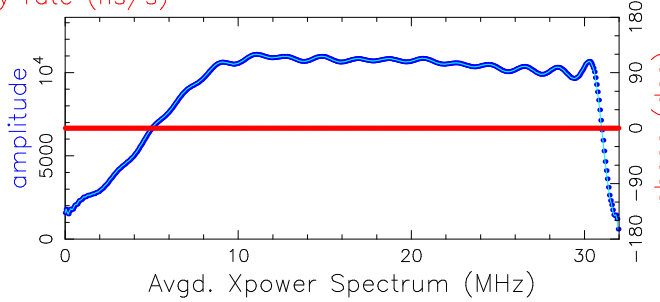
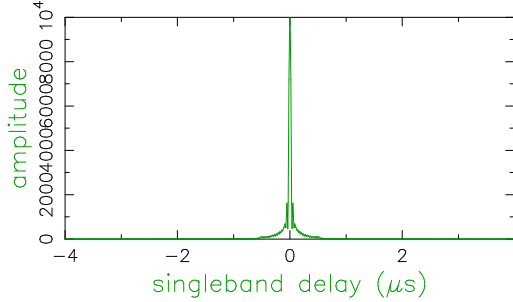
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//fZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//fZ.W.95.0QR2SH



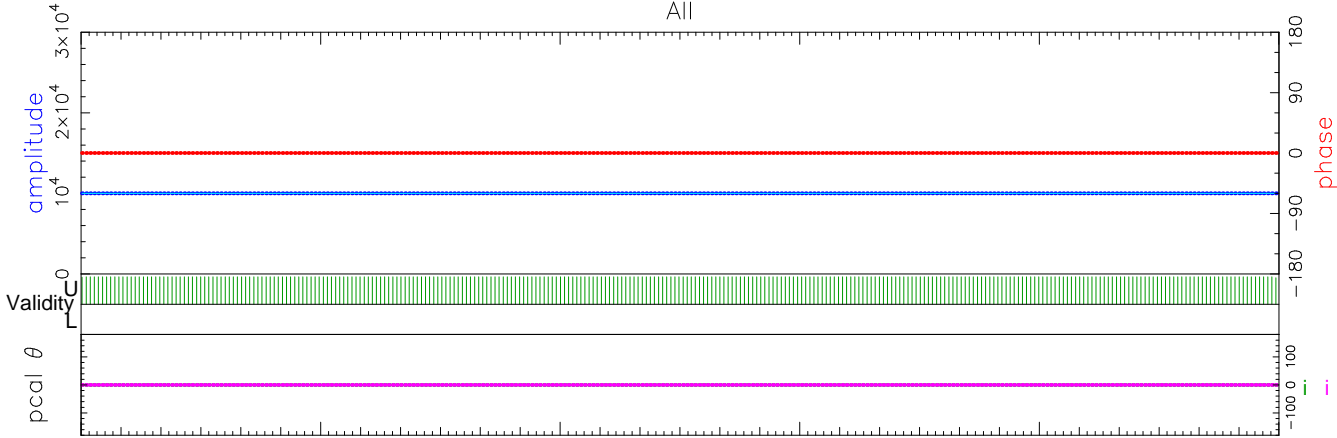
Fringe quality 9

SNR 118408.2  
 Int time 299.977  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171816  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



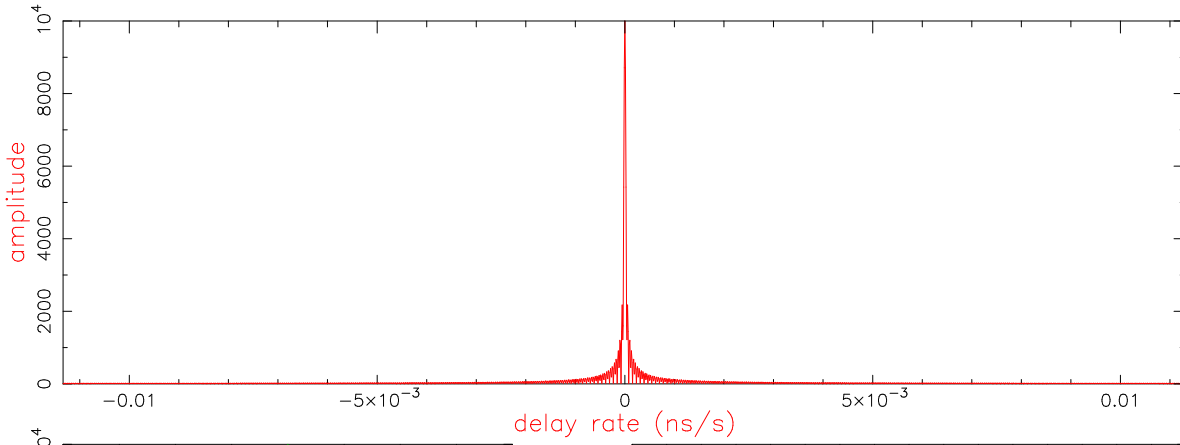
|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 586/0 | APs used   |
| i 0       | PC freqs   |
| i 0       | PC freqs   |
| ii 0:0    | PC phase   |
| ii 0:0    | Manl PC    |
| i 1000    | PC amp     |
| i 1000    |            |
| i W04UR   | Chan ids   |
| i W04UR   | Chan ids   |

|                         |                   |                          |                   |                      |              |             |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.46946830741E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.13954E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.32612775171E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.32613E-09  | +/- 3.1E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |        |     |                 |                     |  |                       |                  |          |       |
|--------------|-----|--------|-----|-----------------|---------------------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.000 +/- 0.084 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |        | 0.0 | Search (2048X8) | 10000.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000               | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 10000.000           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

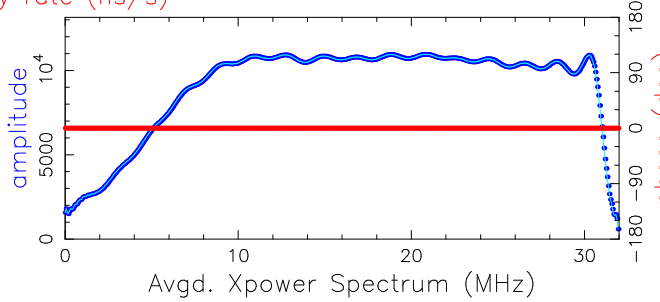
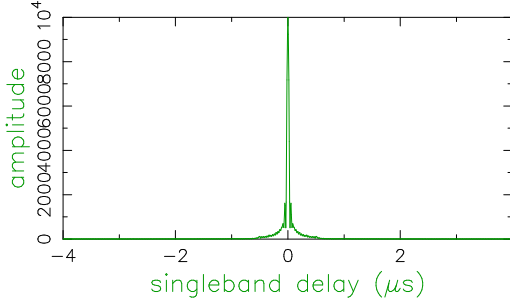
i: az 249.4 el 49.9 pa 50.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ii...0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ii.W.109.0QR2SH



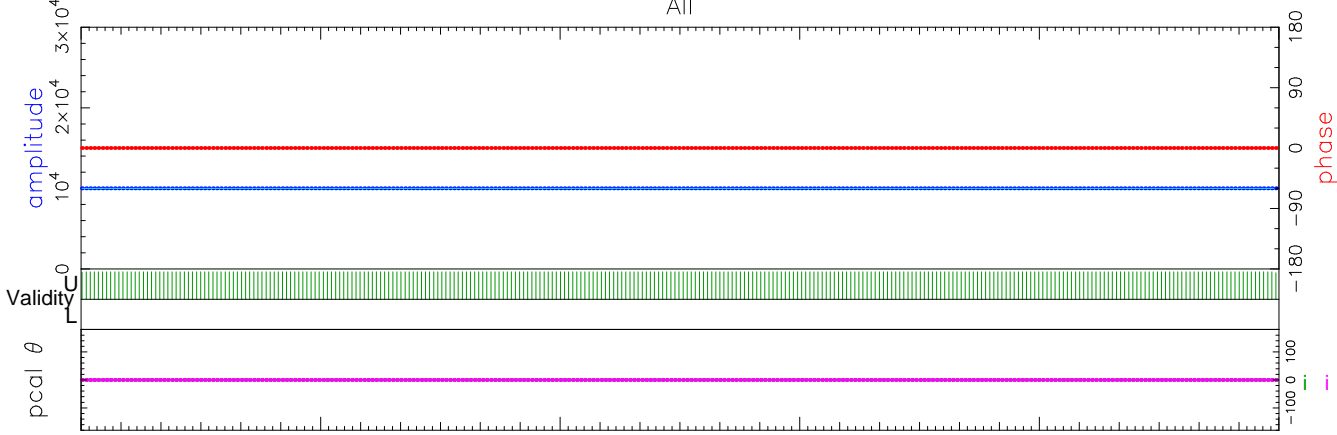
Fringe quality 9

SNR 118408.2  
 Int time 299.977  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171815  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 0.0  
 10000.0  
 513.0  
 U/L 586/0  
 i 0  
 i 0  
 i:i 0:0  
 i:i 0:0  
 i 1000  
 i 1000  
 i W04UL  
 i W04UL

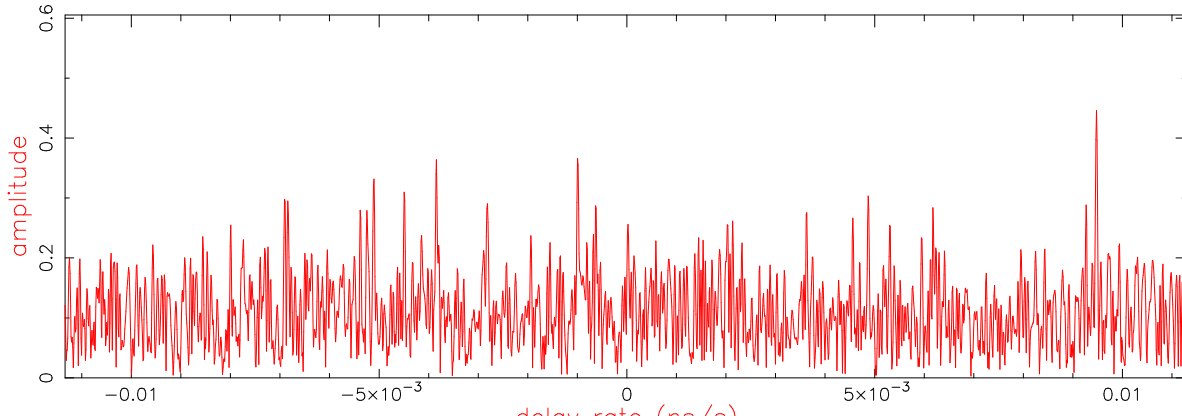
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.87485488739E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.73415E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.25082957107E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.25083E-09  | +/- 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

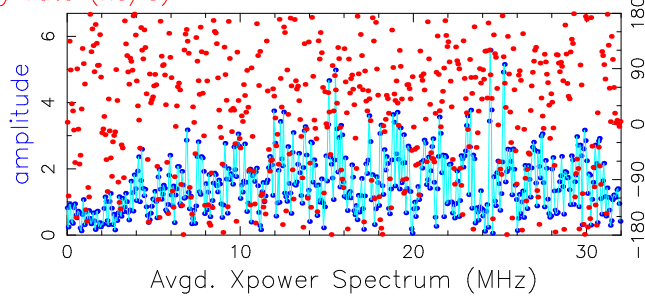
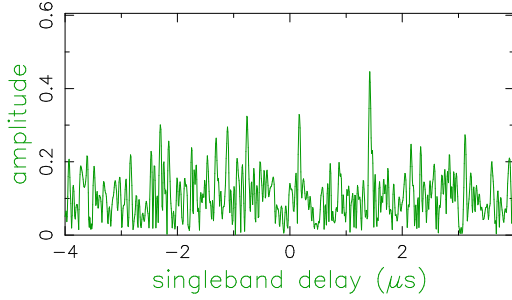
|              |     |        |     |                 |                     |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|---------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.000 +/- 0.084 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 0.0 | 0.0    | 0.0 | Search (2048X8) | 10000.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0    | 0.0 | Interp.         | 0.000               | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.0 | 0.0    | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 10000.000           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

i: az 249.4 el 49.9 pa 50.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ii..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ii.W.96.0QR2SH

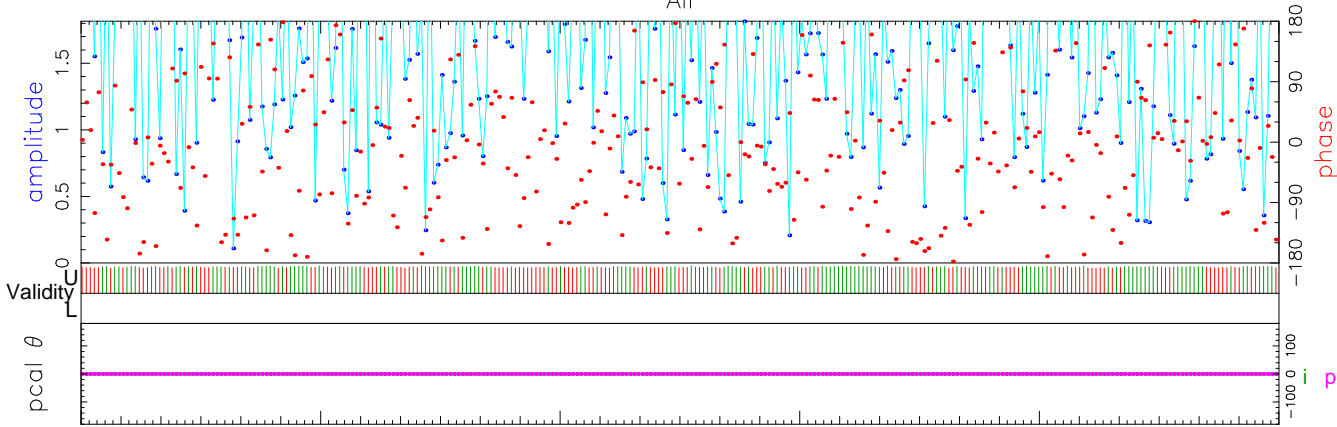


Fringe quality 0  
SNR 5.2  
Int time 285.854  
Amp 0.605  
Phase -21.1  
PFD 1.0e+00  
Delays (us)  
SBD 1.421603  
MBD 0.000005  
Fringe rate (Hz)  
0.815969  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171816  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

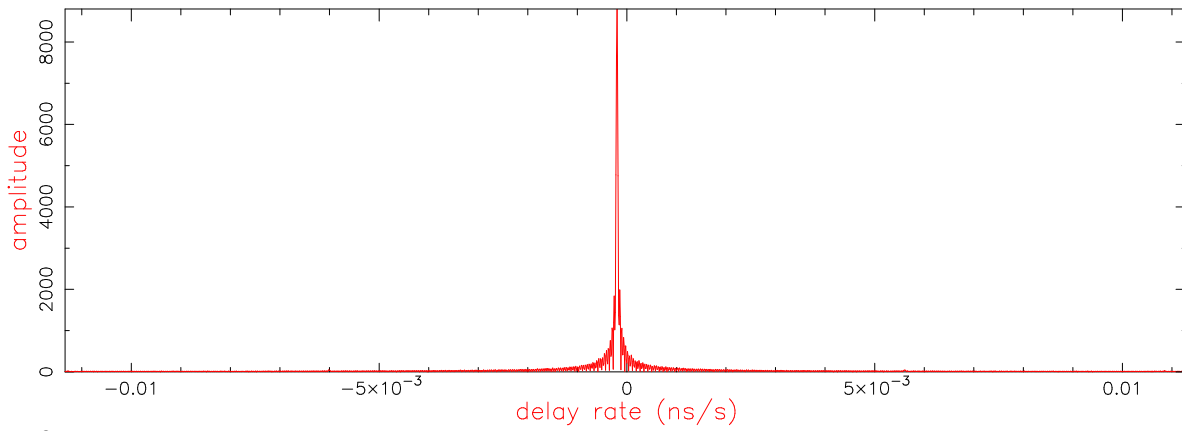


86140.00 Freq (MHz)  
-21.1 Phase  
0.6 Ampl.  
695.0 Sbd box  
U/L 586/0 APs used  
i 0 PC freqs  
p 5000 PC freqs  
i:p 0:0 PC phase  
i:p 0:0 Manl PC  
i 1000 PC amp  
p 1000  
i W04UR Chan ids  
p W04UR Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.57746593870E+03  | Apriori delay (usec)     | 5.57604434062E+03  | Resid mbdelay (usec) | 5.32473E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 5.57746594362E+03  | Apriori clock (usec)     | -3.1866833E+01     | Resid sbdelay (usec) | 1.42160E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | 5.57604433994E+03  | Apriori clockrate (us/s) | -2.4200000E-07     | Resid phdelay (usec) | -6.80779E-07 | +/- | 7.2E-07 |
| Delay rate (us/s)       | -1.87821486249E+00 | Apriori rate (us/s)      | -1.87822433508E+00 | Resid rate (us/s)    | 9.47259E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 159.2              | Apriori accel (us/s/s)   | -2.85814745202E-05 | Resid phase (deg)    | -21.1        | +/- | 22.2    |

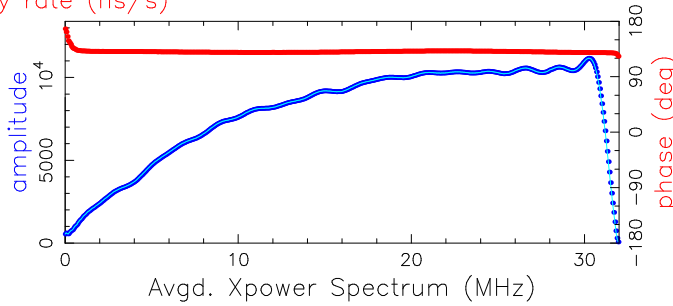
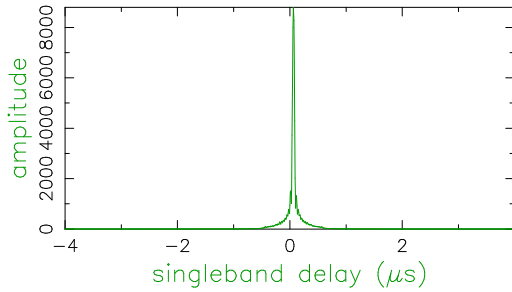
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 90.8  | Theor.          | 190.3 | Amplitude      | 0.605 +/- 0.117 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 374.9 | Search (2048X8) | 0.438 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.378 | Inc. frq. avg. | 0.594           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.594 |                |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

i: az 249.4 el 49.9 pa 50.9 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 11166.399 -374.481 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ip..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ip.W.107.0QR2SH



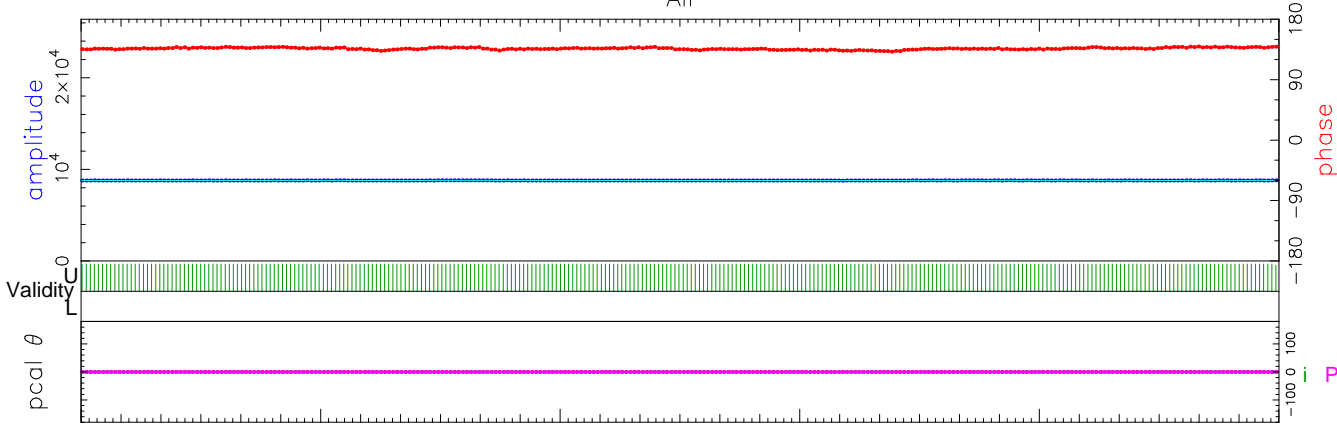
Fringe quality 9

SNR 103633.0  
 Int time 296.792  
 Amp 8800.145  
 Phase 136.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.063344  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.017175  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171817  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 136.2  
 8792.3  
 521.1  
 U/L 586/0  
 i 0  
 P 0  
 i:P 0:0  
 i:P 0:0  
 i 1000  
 P 1000  
 i W04UR  
 P W04UR

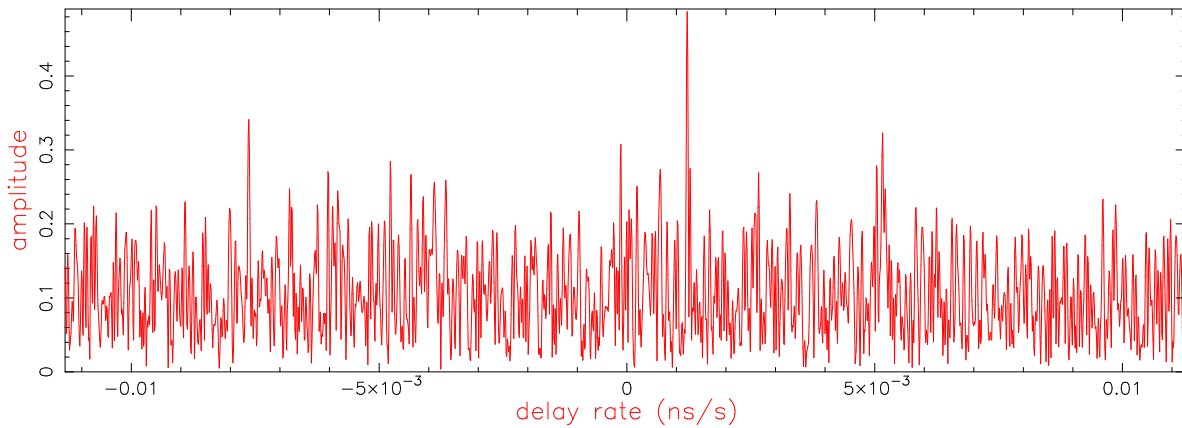
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.20965915301E-01 | Apriori delay (usec)     | -4.84310000000E-01 | Resid mbdelay (usec) | -6.27518E-06 | +/- | 1.7E-07 |
| Sband delay (usec)      | -4.20966500000E-01 | Apriori clock (usec)     | -4.8430824E-01     | Resid sbdelay (usec) | 6.33435E-02  | +/- | 1.7E-07 |
| Phase delay (usec)      | -4.84305608370E-01 | Apriori clockrate (us/s) | 2.0000001E-07      | Resid phdelay (usec) | 4.39163E-06  | +/- | 3.6E-11 |
| Delay rate (us/s)       | 6.17554294299E-10  | Apriori rate (us/s)      | 1.99999999984E-07  | Resid rate (us/s)    | -1.99382E-07 | +/- | 2.1E-13 |
| Total phase (deg)       | -30.6              | Apriori accel (us/s/s)   | 0.00000000000E+00  | Resid phase (deg)    | 136.2        | +/- | 0.0     |

|              |     |     |                 |                    |  |                              |                |              |
|--------------|-----|-----|-----------------|--------------------|--|------------------------------|----------------|--------------|
| ph/seg (deg) | 1.5 | 0.0 | Amplitude       | 8800.145 +/- 0.085 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)             | 5, 5           |              |
| amp/seg (%)  | 0.1 | 0.0 | Search (2048X8) | 8791.090           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)               | -4.000 4.000   |              |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled         | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1 | 0.0 | Inc. seg. avg.  | 8795.486           | Sample rate(MSamp/s): 64               | ion window (TEC)             | -0.011 0.011   |              |
|              |     |     | Inc. frq. avg.  | 8792.307           | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite | 0.00 0.00      |              |

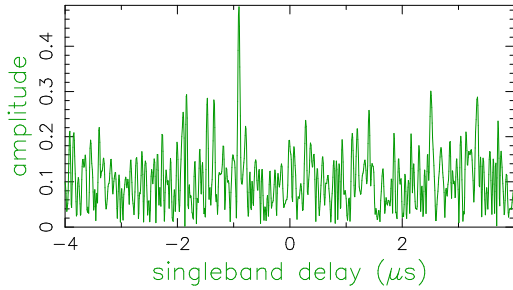
i: az 249.4 el 49.9 pa 50.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iP.W.121.0QR2SH



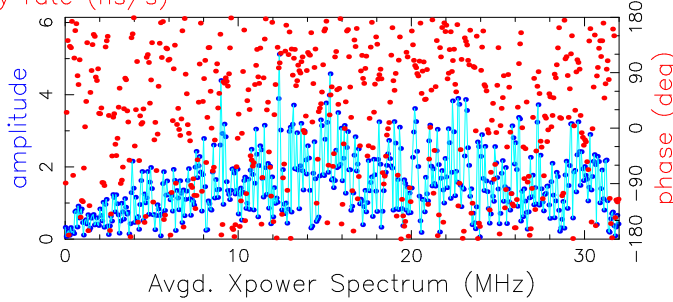


Fringe quality 0

SNR 5.6  
Int time 285.854  
Amp 0.491  
Phase -84.2  
PFD 8.7e-01  
Delays (us)  
SBD -0.907820  
MBD 0.000006  
Fringe rate (Hz)  
0.105195  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

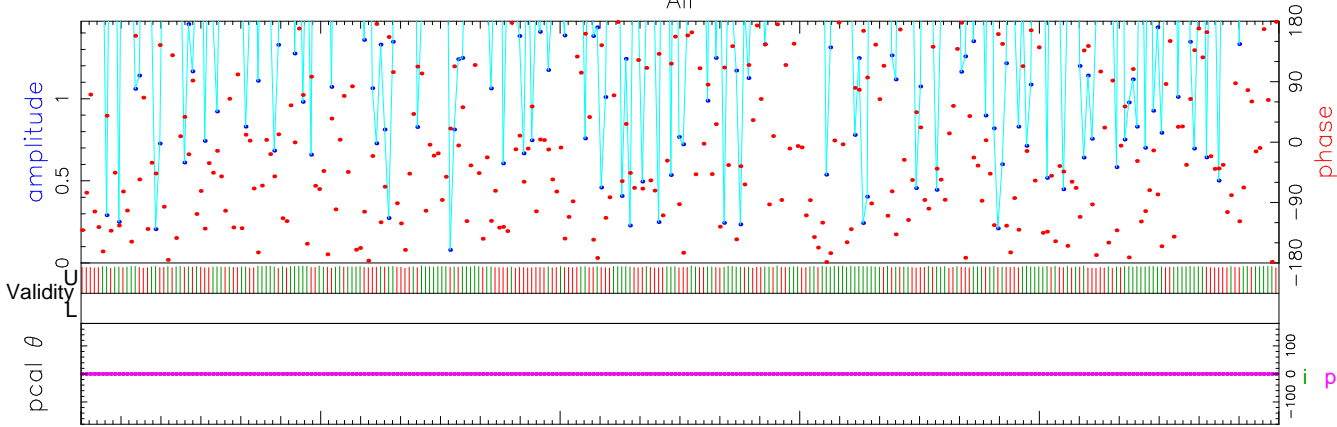


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-84.2  
0.5  
396.8  
U/L 586/0  
i 0  
p 5000  
i:p 0:0  
i:p 0:0  
i 1000  
p 1000  
i W04UL  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.57513652213E+03  | Apriori delay (usec)     | 5.57604434062E+03  | Resid mbdelay (usec) | 5.98635E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | 5.57513652112E+03  | Apriori clock (usec)     | -3.1866833E+01     | Resid sbdelay (usec) | -9.07820E-01 | +/- | 3.1E-03 |
| Phase delay (usec)      | 5.57604433790E+03  | Apriori clockrate (us/s) | -2.4200000E-07     | Resid phdelay (usec) | -2.71516E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | -1.87822311387E+00 | Apriori rate (us/s)      | -1.87822433508E+00 | Resid rate (us/s)    | 1.22121E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | 96.1               | Apriori accel (us/s/s)   | -2.85814745202E-05 | Resid phase (deg)    | -84.2        | +/- | 20.3    |

|              |          |              |                           |                 |  |                           |                       |                   |                  |           |
|--------------|----------|--------------|---------------------------|-----------------|--|---------------------------|-----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | RMS 92.5 | Theor. 173.8 | Amplitude 0.491 +/- 0.087 | Search (2048X8) | 0.480                                  | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |                   |                  |           |
| amp/seg (%)  | 351.1    | 303.3        | Interp.                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)            | -4.000 4.000          |                   |                  |           |
| ph/frq (deg) | 0.0      | 10.2         | Inc. seg. avg.            | 0.339           | Bits/sample: 2x2                       | SampCntNorm: enabled      | mb window (us)        | -0.000 0.000      |                  |           |
| amp/frq (%)  | 0.3      | 17.7         | Inc. frq. avg.            | 0.482           | Sample rate(MSamp/s): 64               | Data rate(Mb/s): 128      | nlags: 512            | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

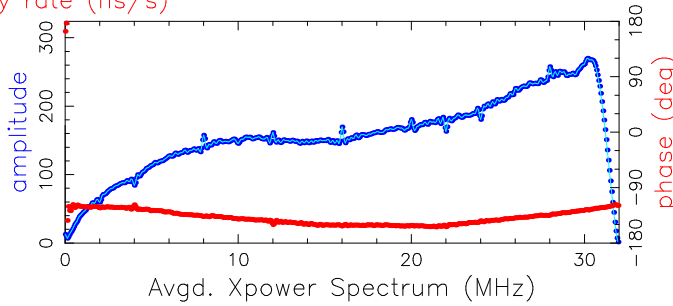
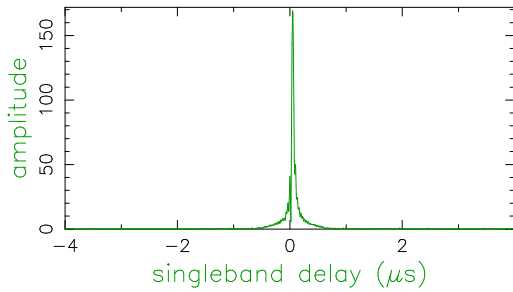
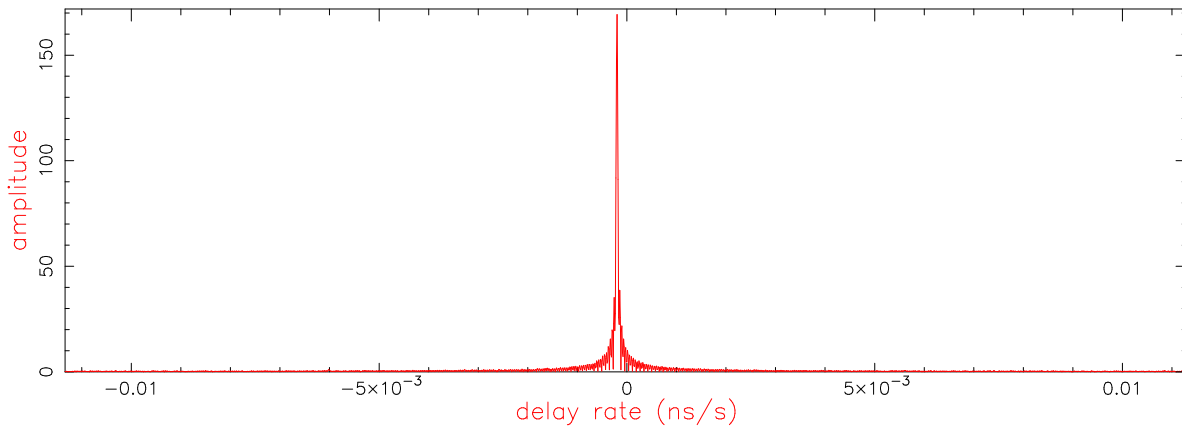
i: az 249.4 el 49.9 pa 50.9 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 11166.399 -374.481 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ip..0.QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ip.W.127.0QR2SH

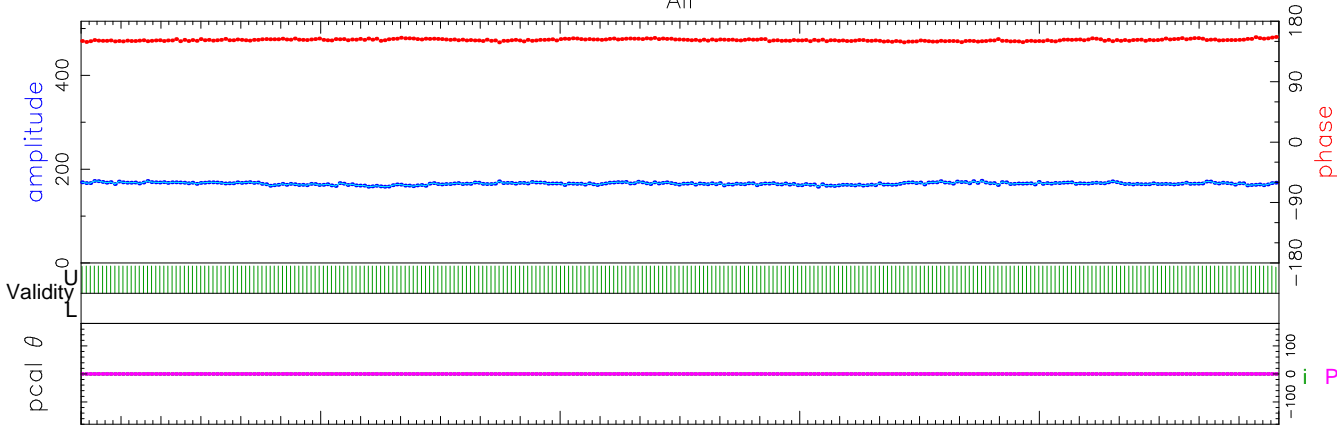
Fringe quality 9

SNR 2024.1  
Int time 296.792  
Amp 171.882  
Phase 152.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.050154  
MBD -0.000007  
Fringe rate (Hz)  
-0.017181  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

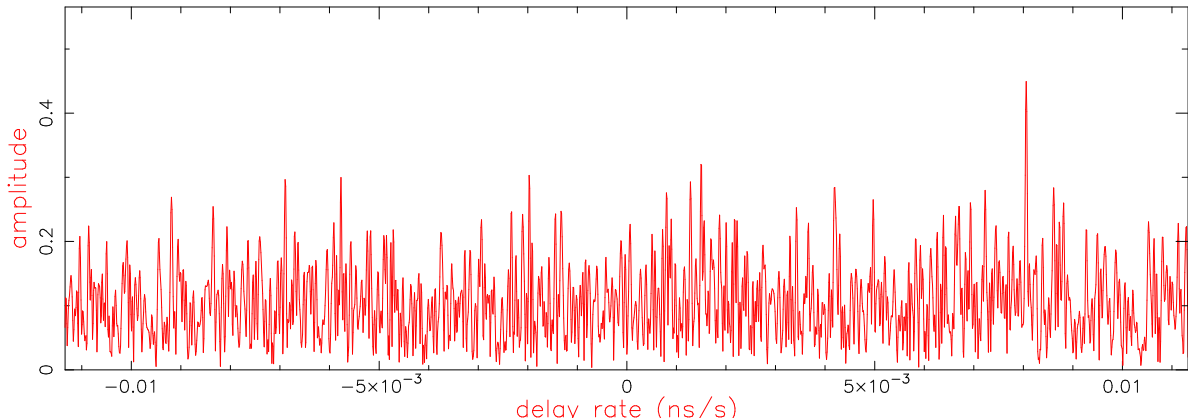


86140.00 Freq (MHz)  
152.0 Phase  
169.3 Ampl.  
519.4 Sbd box  
U/L 586/0 APs used  
i 0 PC freqs  
P 0 PC freqs  
i:P 0:0 PC phase  
i:P 0:0 Mani PC  
i 1000 PC amp  
P 1000  
i W04UL Chan ids  
P W04UR Chan ids

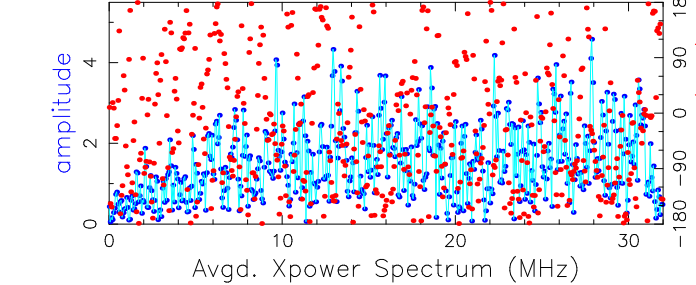
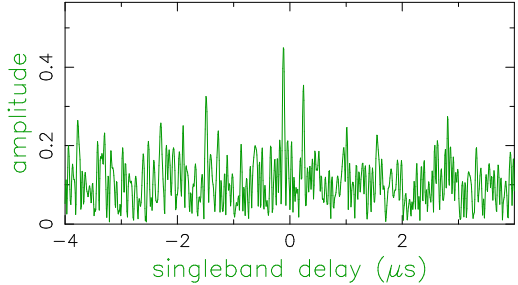
Group delay (usec)(sbd) -4.34154714906E-01 Apriori delay (usec) -4.84310000000E-01 Resid mbdelay (usec) -7.24103E-06 +/- 8.5E-06  
Sband delay (usec) -4.34156000000E-01 Apriori clock (usec) -4.8430824E-01 Resid sbdelay (usec) 5.01540E-02 +/- 8.5E-06  
Phase delay (usec) -4.84305099313E-01 Apriori clockrate (us/s) 2.0000001E-07 Resid phdelay (usec) 4.90069E-06 +/- 1.8E-09  
Delay rate (us/s) 5.48824205199E-10 Apriori rate (us/s) 1.99999999984E-07 Resid rate (us/s) -1.99451E-07 +/- 1.1E-11  
Total phase (deg) -14.9 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) 152.0 +/- 0.1

RMS Theor. Amplitude 171.882 +/- 0.085 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
ph/seg (deg) 1.4 0.5 Search (2048X8) 169.233 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000  
amp/seg (%) 2.1 0.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000  
ph/frq (deg) 0.0 0.0 Inc. seg. avg. 169.307 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
amp/frq (%) 1.5 0.0 Inc. frq. avg. 169.260 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite ion window (TEC) 0.00 0.00

i: az 249.4 el 49.9 pa 50.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iP.W.134.0QR2SH

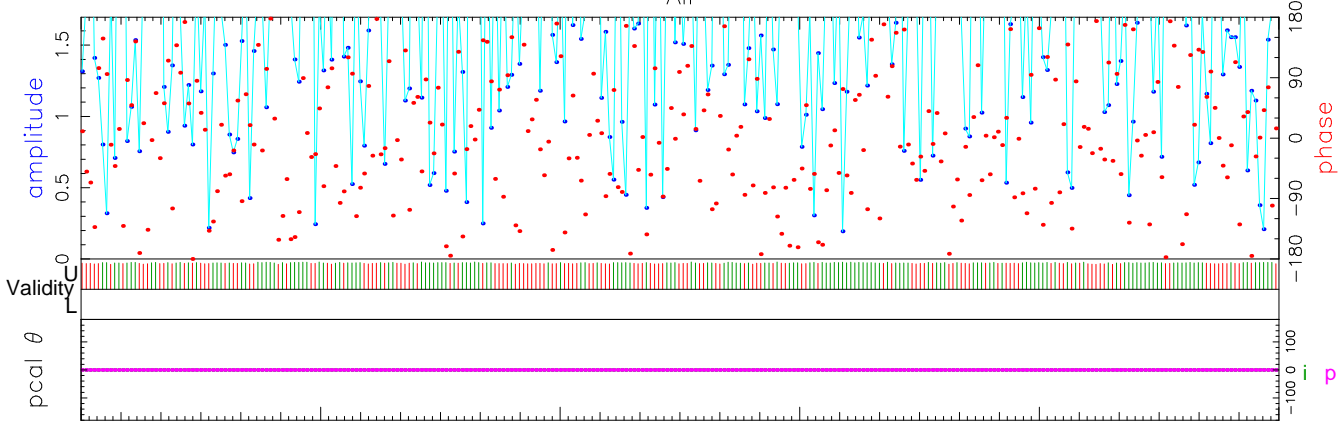


Fringe quality 0  
SNR 5.3  
Int time 285.860  
Amp 0.565  
Phase -11.6  
PFD 1.0e+00  
Delays (us)  
SBD -0.113796  
MBD 0.000007  
Fringe rate (Hz)  
0.694512  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-11.6  
0.6  
498.4  
U/L 586/0  
i 0  
p 5000  
i:p 0:0  
i:p 0:0  
i 1000  
p 1000  
i W04UR  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.57593054426E+03  | Apriori delay (usec)     | 5.57604434062E+03  | Resid mbdelay (usec) | 6.75765E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 5.57593054462E+03  | Apriori clock (usec)     | -3.1866833E+01     | Resid sbdelay (usec) | -1.13796E-01 | +/- | 3.3E-03 |
| Phase delay (usec)      | 5.57604434024E+03  | Apriori clockrate (us/s) | -2.4200000E-07     | Resid phdelay (usec) | -3.74699E-07 | +/- | 7.0E-07 |
| Delay rate (us/s)       | -1.87821627248E+00 | Apriori rate (us/s)      | -1.87822433508E+00 | Resid rate (us/s)    | 8.06259E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 168.7              | Apriori accel (us/s/s)   | -2.85814745202E-05 | Resid phase (deg)    | -11.6        | +/- | 21.8    |

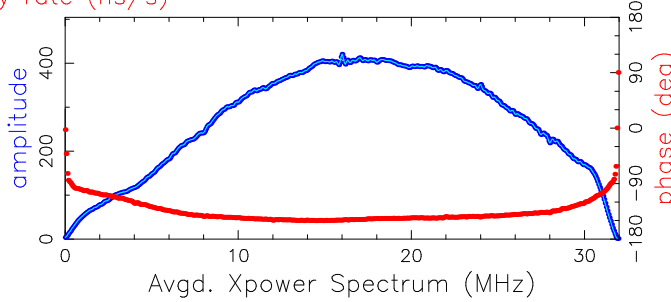
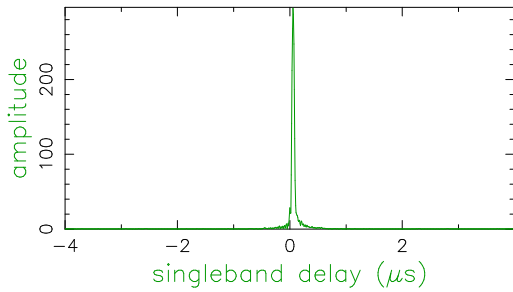
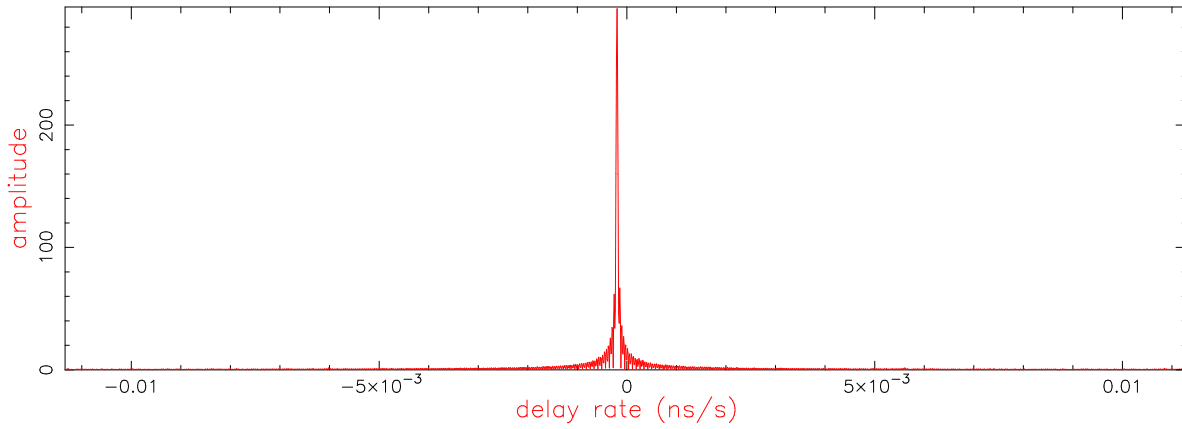
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.7  | Theor.          | 186.5 | Amplitude       | 0.565 +/- 0.108 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 383.1 | Search (2048X8) | 0.446 | Search (2048X8) | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg.  | 0.371           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.2   | Inc. frq. avg.  | 0.549 | Inc. frq. avg.  | 0.549           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

i: az 249.4 el 49.9 pa 50.9 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 11166.399 -374.481 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ip..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ip.W.155.0QR2SH

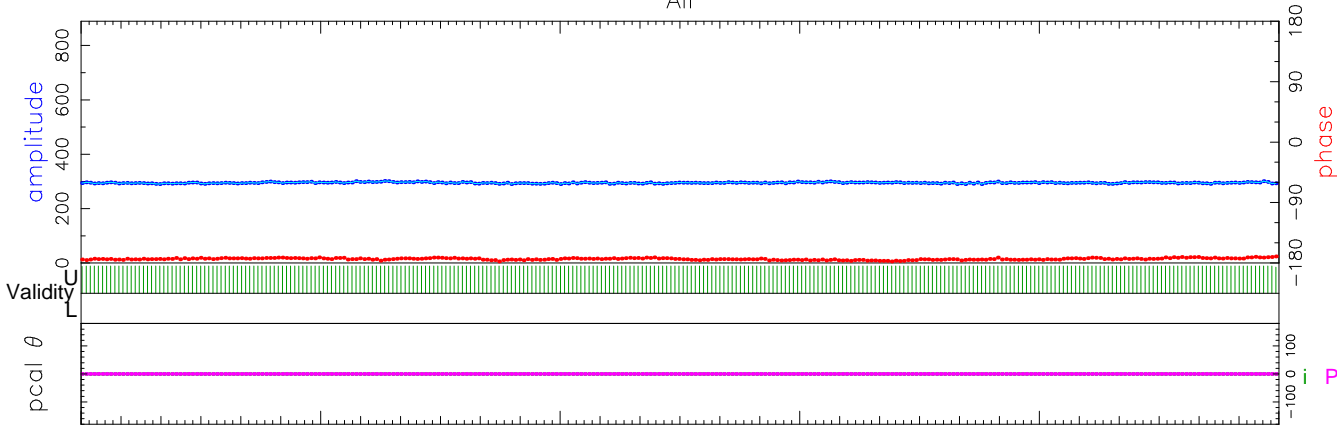
Fringe quality 9

SNR 3491.8  
 Int time 296.792  
 Amp 296.513  
 Phase -173.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.056836  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.017177  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171822  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All

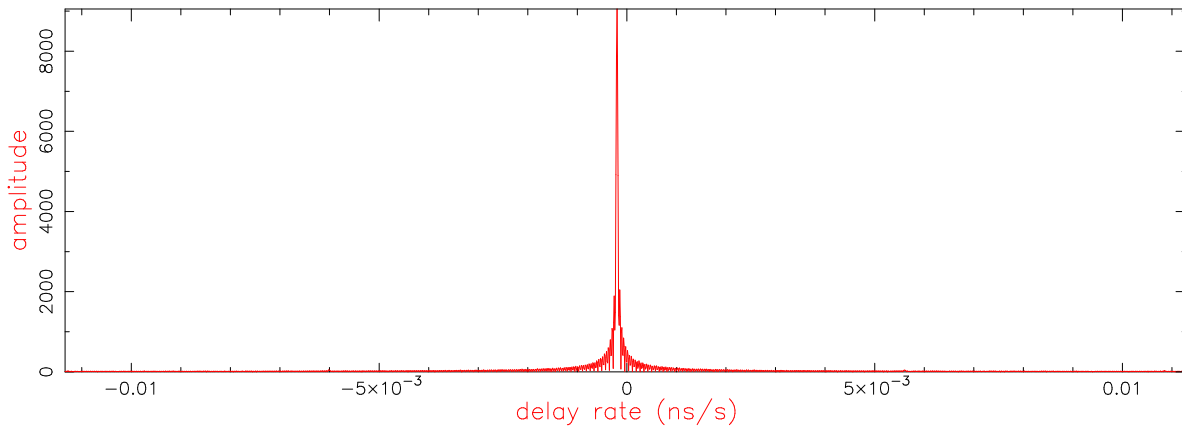


|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -173.9    |  | Phase      |
| 295.2     |  | Ampl.      |
| 520.3     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| i 0       |  | PC freqs   |
| P 0       |  | PC freqs   |
| i:P 0:0   |  | PC phase   |
| i:P 0:0   |  | Mani PC    |
| i 1000    |  | PC amp     |
| P 1000    |  |            |
| i W04UR   |  | Chan ids   |
| P W04UL   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -4.27478571813E-01 | Apriori delay (usec)     | -4.84310000000E-01 | Resid mbdelay (usec) | -6.27787E-06 | +/- 4.9E-06 |
| Sband delay (usec)      | -4.27474000000E-01 | Apriori clock (usec)     | -4.8430824E-01     | Resid sbdelay (usec) | 5.68360E-02  | +/- 4.9E-06 |
| Phase delay (usec)      | -4.84315608392E-01 | Apriori clockrate (us/s) | 2.0000001E-07      | Resid phdelay (usec) | -5.60839E-06 | +/- 1.1E-09 |
| Delay rate (us/s)       | 5.87794874276E-10  | Apriori rate (us/s)      | 1.99999999984E-07  | Resid rate (us/s)    | -1.99412E-07 | +/- 6.1E-12 |
| Total phase (deg)       | -340.7             | Apriori accel (us/s/s)   | 0.00000000000E+00  | Resid phase (deg)    | -173.9       | +/- 0.0     |

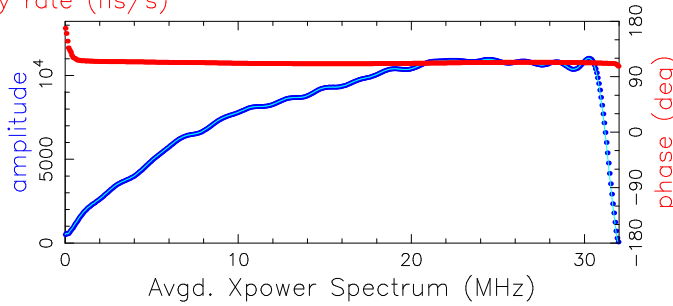
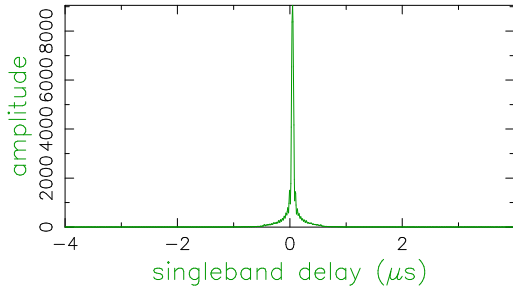
|              |     |     |     |        |                 |                   |  |                       |                   |        |       |
|--------------|-----|-----|-----|--------|-----------------|-------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 1.3 | 0.3 | RMS | Theor. | Amplitude       | 296.513 +/- 0.085 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 0.8 | 0.5 |     |        | Search (2048X8) | 295.111           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0 |     |        | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.5 | 0.0 |     |        | Inc. seg. avg.  | 295.232           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |     |     |        | Inc. frq. avg.  | 295.154           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

i: az 249.4 el 49.9 pa 50.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iP.W.166.0QR2SH



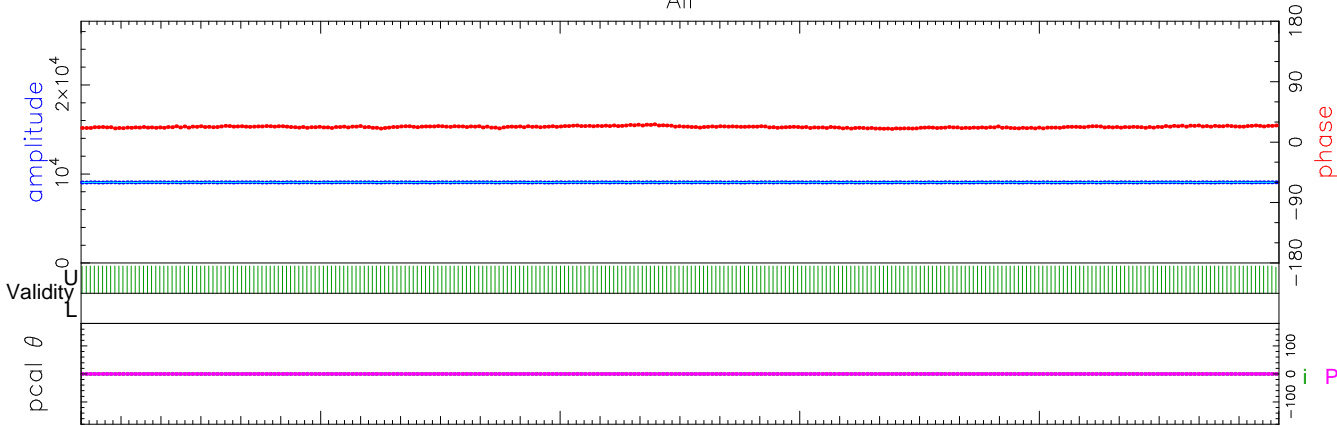
Fringe quality 9

SNR 106630.2  
 Int time 296.792  
 Amp 9054.659  
 Phase 22.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.046886  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.017178  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171815  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 22.5      | Phase      |
| 9054.7    | Ampl.      |
| 519.0     | Sbd box    |
| U/L 586/0 | APs used   |
| i 0       | PC freqs   |
| P 0       | PC freqs   |
| i:P 0:0   | PC phase   |
| i:P 0:0   | Mani PC    |
| i 1000    | PC amp     |
| P 1000    |            |
| i W04UL   | Chan ids   |
| P W04UL   | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -4.37427977246E-01 | Apriori delay (usec)     | -4.84310000000E-01 | Resid mbdelay (usec) | -6.76294E-06 | +/- 1.6E-07 |
| Sband delay (usec)      | -4.37423500000E-01 | Apriori clock (usec)     | -4.8430824E-01     | Resid sbdelay (usec) | 4.68865E-02  | +/- 1.6E-07 |
| Phase delay (usec)      | -4.84309273067E-01 | Apriori clockrate (us/s) | 2.0000001E-07      | Resid phdelay (usec) | 7.26933E-07  | +/- 3.5E-11 |
| Delay rate (us/s)       | 5.82834970939E-10  | Apriori rate (us/s)      | 1.9999999984E-07   | Resid rate (us/s)    | -1.99417E-07 | +/- 2.0E-13 |
| Total phase (deg)       | -144.3             | Apriori accel (us/s/s)   | 0.00000000000E+00  | Resid phase (deg)    | 22.5         | +/- 0.0     |

|              |     |     |                 |                    |  |                       |                   |        |       |
|--------------|-----|-----|-----------------|--------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 1.2 | 0.0 | Amplitude       | 9054.659 +/- 0.085 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 0.0 | 0.0 | Search (2048X8) | 9053.323           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.0 | 0.0 | Inc. seg. avg.  | 9056.753           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |     | Inc. frq. avg.  | 9054.657           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

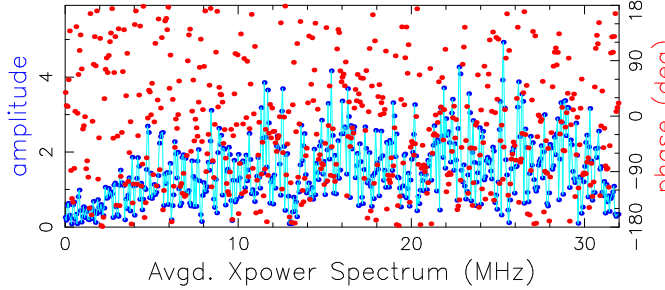
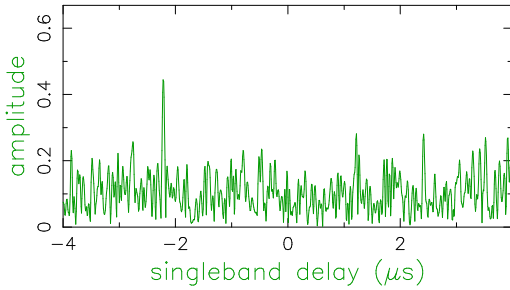
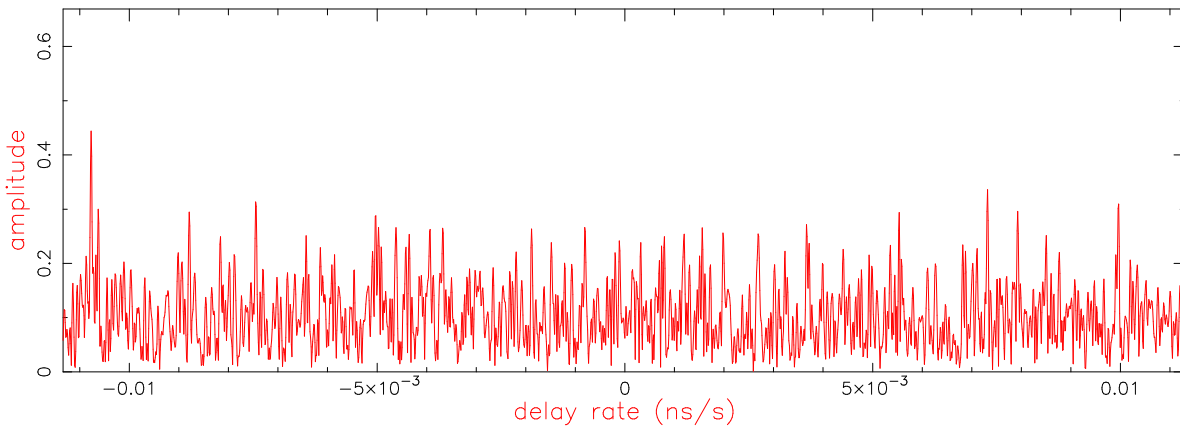
i: az 249.4 el 49.9 pa 50.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iP.W.94.0QR2SH

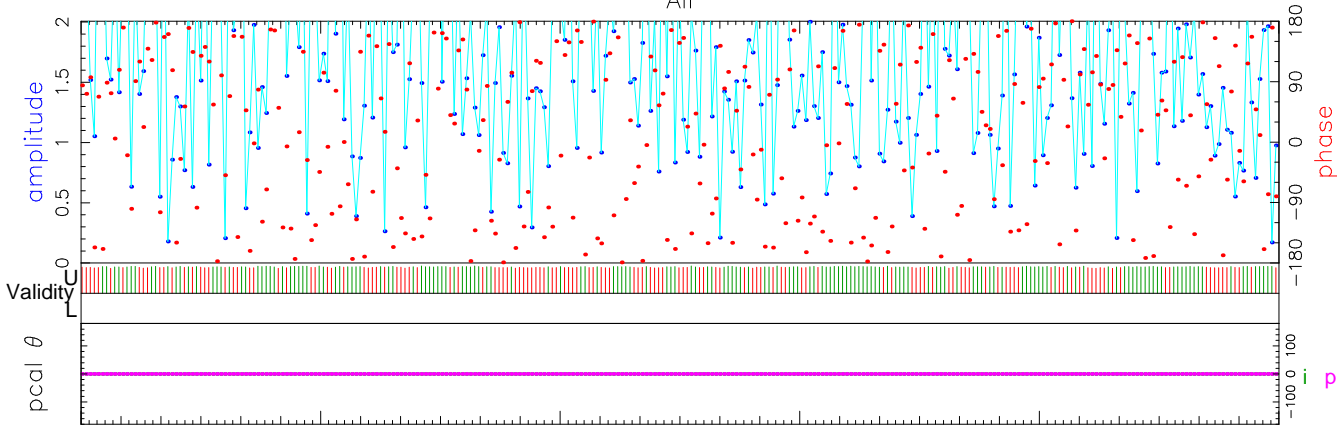
Fringe quality 0

SNR 5.2  
Int time 285.860  
Amp 0.669  
Phase 158.2  
PFD 1.0e+00  
Delays (us)  
SBD -2.215812  
MBD -0.000007  
Fringe rate (Hz)  
-0.927791  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
158.2  
0.7  
229.4  
U/L 586/0  
i 0  
p 5000  
i:p 0:0  
ip 0:0  
i 1000  
p 1000  
i W04UL  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 5.57382853361E+03  | Apriori delay (usec)     | 5.57604434062E+03  | Resid mbdelay (usec) | -7.14530E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | 5.57382852862E+03  | Apriori clock (usec)     | -3.1866833E+01     | Resid sbdelay (usec) | -2.21581E+00 | +/- 3.3E-03 |
| Phase delay (usec)      | 5.57604434572E+03  | Apriori clockrate (us/s) | -2.4200000E-07     | Resid phdelay (usec) | 5.10053E-06  | +/- 7.2E-07 |
| Delay rate (us/s)       | -1.87823510581E+00 | Apriori rate (us/s)      | -1.87822433508E+00 | Resid rate (us/s)    | -1.07707E-05 | +/- 4.1E-09 |
| Total phase (deg)       | 338.5              | Apriori accel (us/s/s)   | -2.85814745202E-05 | Resid phase (deg)    | 158.2        | +/- 22.2    |

|              |          |              |                           |  |                               |
|--------------|----------|--------------|---------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 90.9 | Theor. 189.8 | Amplitude 0.669 +/- 0.130 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 379.5    | 331.3        | Search (2048X8) 0.442     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 11.1         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.7      | 19.4         | Inc. seg. avg. 0.422      | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |          |              | Inc. frq. avg. 0.652      | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |          |              |                           | nlags: 512                             | t_cohere infinite             |
|              |          |              |                           |  | ion window (TEC) 0.00 0.00    |

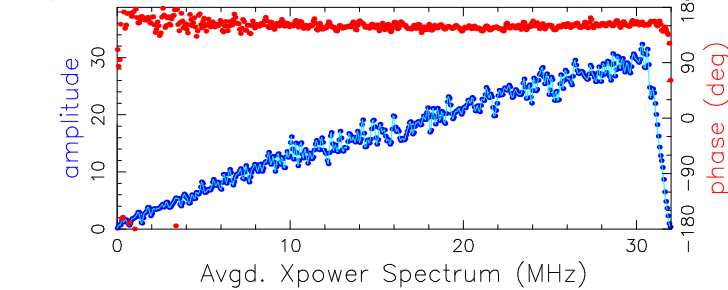
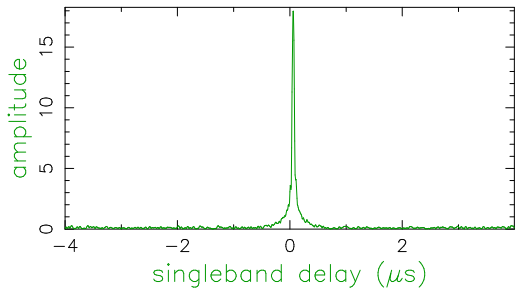
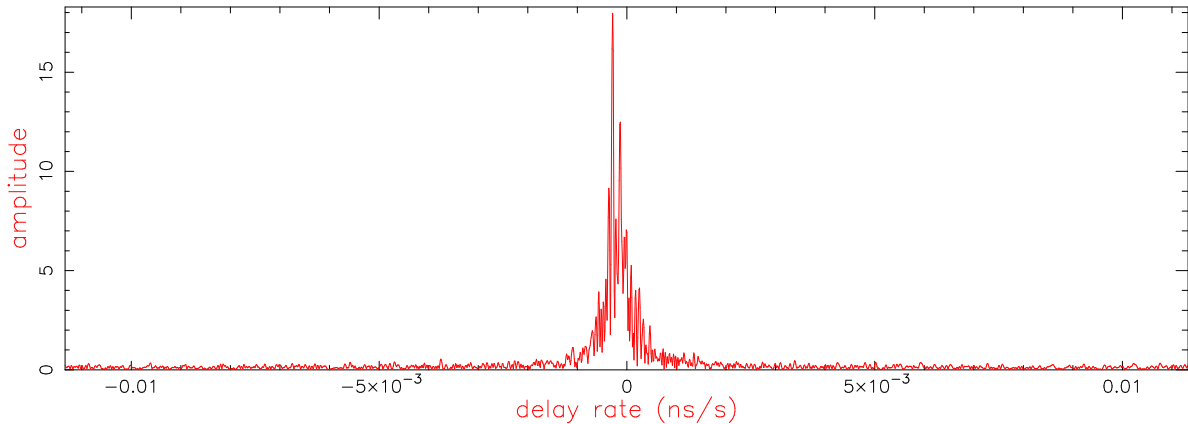
i: az 249.4 el 49.9 pa 50.9 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 11166.399 -374.481 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/ip..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/ip.V.97.0QR2SH

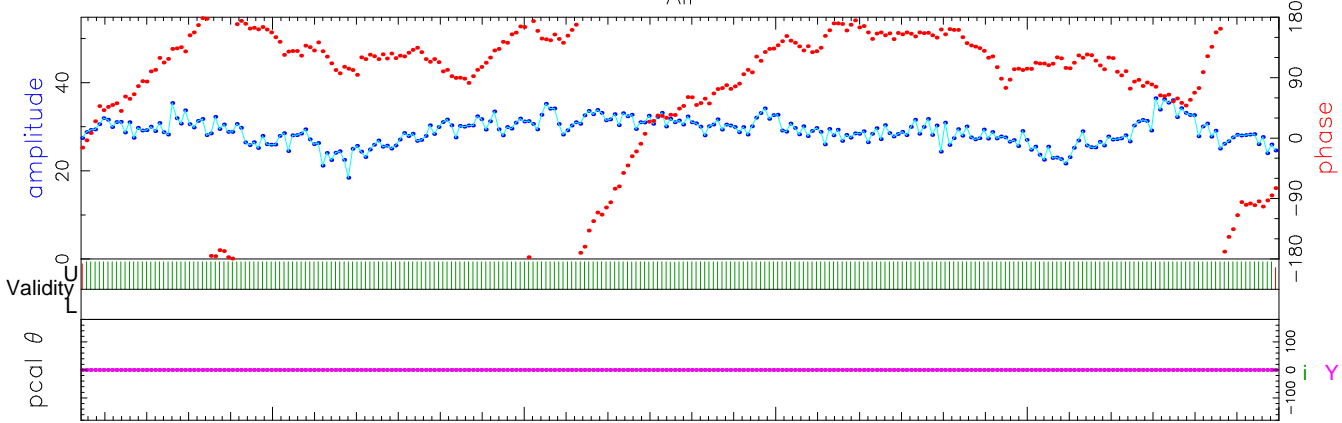
Fringe quality 5

SNR 211.1  
Int time 285.318  
Amp 18.286  
Phase 122.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.058639  
MBD -0.000007  
Fringe rate (Hz)  
-0.025011  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00 Freq (MHz)  
122.1 Phase  
18.0 Ampl.  
520.5 Sbd box  
U/L 558/0 APs used  
i 0 PC freqs  
Y 0 PC freqs  
i:Y 0:0 PC phase  
i:Y 0:0 Mani PC  
i 1000 PC amp  
Y 1000  
i W04UR Chan ids  
Y W04UR Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63121832540E+02  | Apriori delay (usec)     | 3.63063190485E+02  | Resid mbdelay (usec) | -6.65642E-06 | +/- | 8.2E-05 |
| Sband delay (usec)      | 3.63121829485E+02  | Apriori clock (usec)     | -7.5829983E+00     | Resid sbdelay (usec) | 5.86390E-02  | +/- | 8.2E-05 |
| Phase delay (usec)      | 3.63063194424E+02  | Apriori clockrate (us/s) | -2.9000001E-07     | Resid phdelay (usec) | 3.93874E-06  | +/- | 1.8E-08 |
| Delay rate (us/s)       | -3.15635778758E-02 | Apriori rate (us/s)      | -3.15632875252E-02 | Resid rate (us/s)    | -2.90351E-07 | +/- | 1.1E-10 |
| Total phase (deg)       | 204.4              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | 122.1        | +/- | 0.5     |

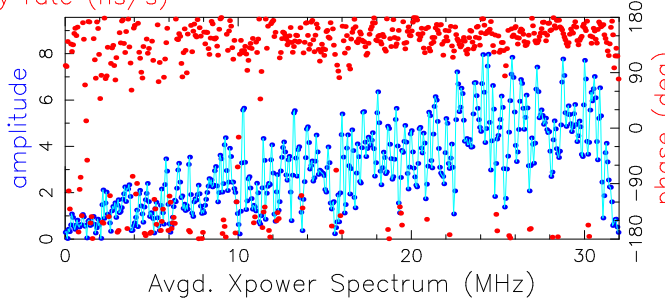
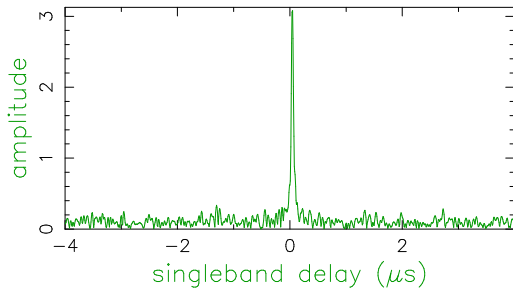
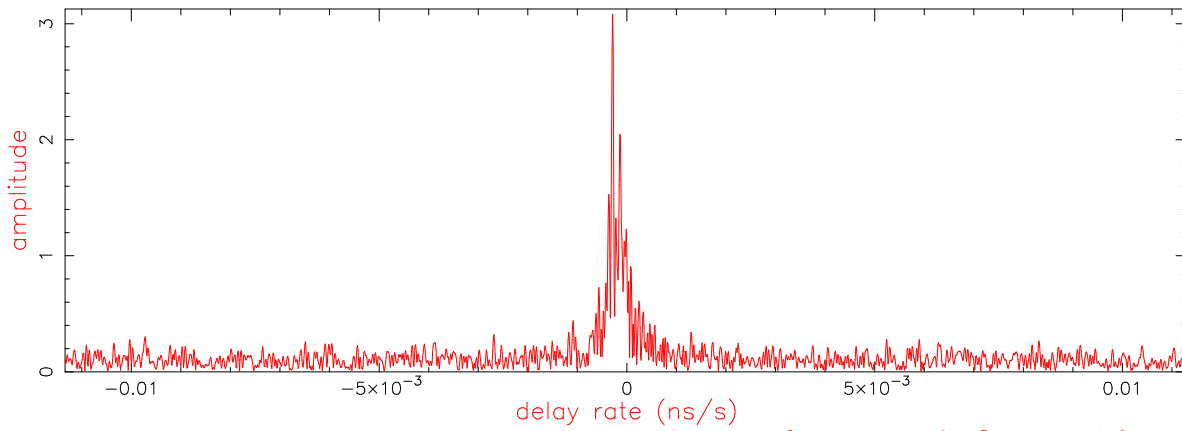
|              |      |                 |        |                |           |                  |                       |                             |                  |              |                |              |                  |           |
|--------------|------|-----------------|--------|----------------|-----------|------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 57.9 | RMS             | 4.5    | Theor.         | Amplitude | 18.286 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 60.6 | Search (2048X8) | 17.870 | Interp.        | 0.000     |                  | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 28.893 | Inc. frq. avg. | 17.972    |                  | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 1.7  | 0.3             | 0.5    |                |           |                  | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |      |                 |        |                |           |                  | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

i: az 249.4 el 49.9 pa 50.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iY.W.113.0QR2SH

Fringe quality 9

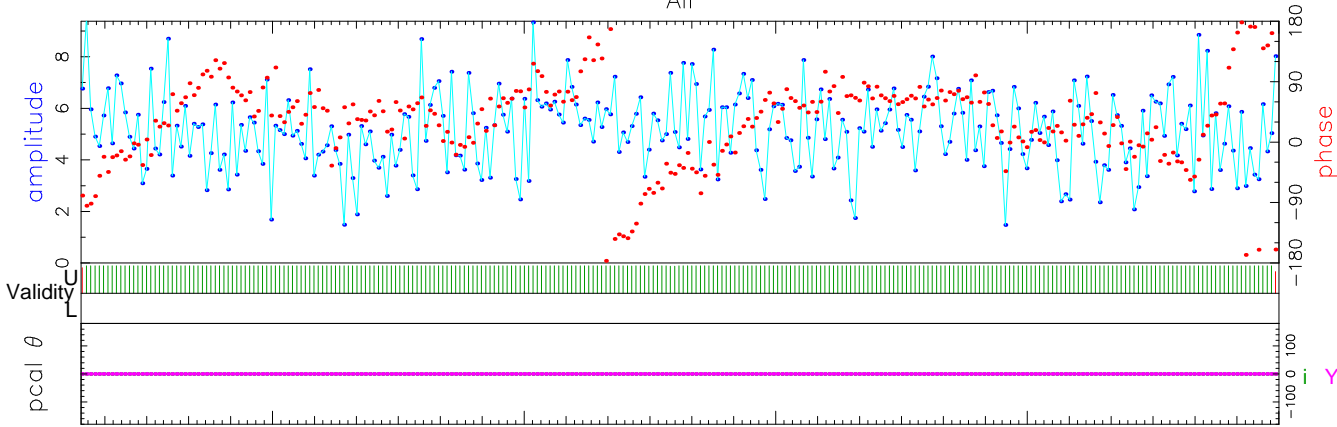
SNR 36.1  
Int time 285.318  
Amp 3.127  
Phase 37.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.043356  
MBD -0.000007  
Fringe rate (Hz)  
-0.024870  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



Validity  
pcal  $\theta$   
86140.00  
37.0  
3.1  
518.6  
U/L 558/0  
i 0  
Y 0  
i:Y 0:0  
i:Y 0:0  
i 1000  
Y 1000  
i W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63106542940E+02  | Apriori delay (usec)     | 3.63063190485E+02  | Resid mbdelay (usec) | -7.19192E-06 | +/- | 4.8E-04 |
| Sband delay (usec)      | 3.63106546485E+02  | Apriori clock (usec)     | -7.5829983E+00     | Resid sbdelay (usec) | 4.33560E-02  | +/- | 4.8E-04 |
| Phase delay (usec)      | 3.63063191679E+02  | Apriori clockrate (us/s) | -2.9000001E-07     | Resid phdelay (usec) | 1.19390E-06  | +/- | 1.0E-07 |
| Delay rate (us/s)       | -3.15635762433E-02 | Apriori rate (us/s)      | -3.15632875252E-02 | Resid rate (us/s)    | -2.88718E-07 | +/- | 6.2E-10 |
| Total phase (deg)       | 119.2              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | 37.0         | +/- | 3.2     |

|              |      |        |      |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|------|--------|------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 60.2 | Theor. | 26.5 | Amplitude       | 3.127 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 80.4 |        | 46.3 | Search (2048X8) | 3.079           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0  |        | 1.6  | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 1.4  |        | 2.8  | Inc. seg. avg.  | 4.657           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |      |        |      | Inc. frq. avg.  | 3.081           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

i: az 249.4 el 49.9 pa 50.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator

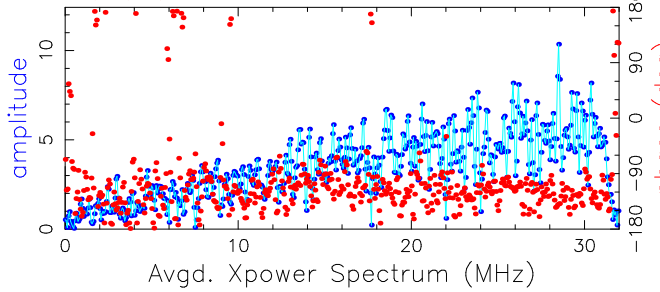
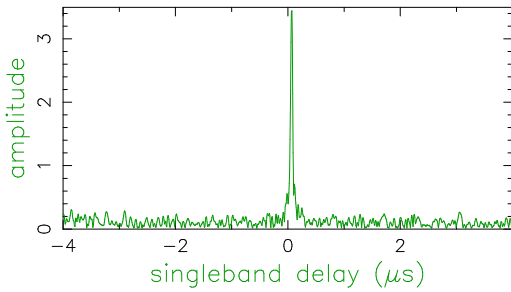
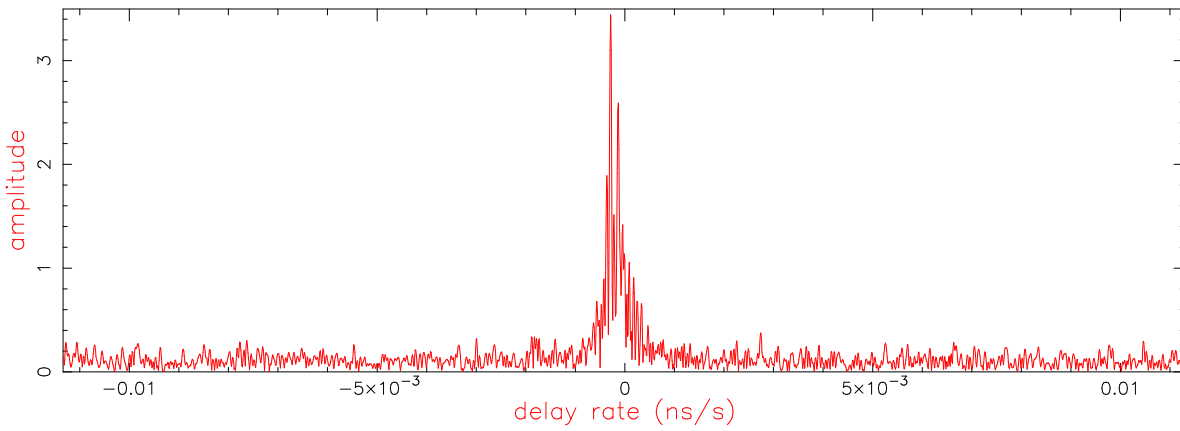
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iY.W.124.0QR2SH



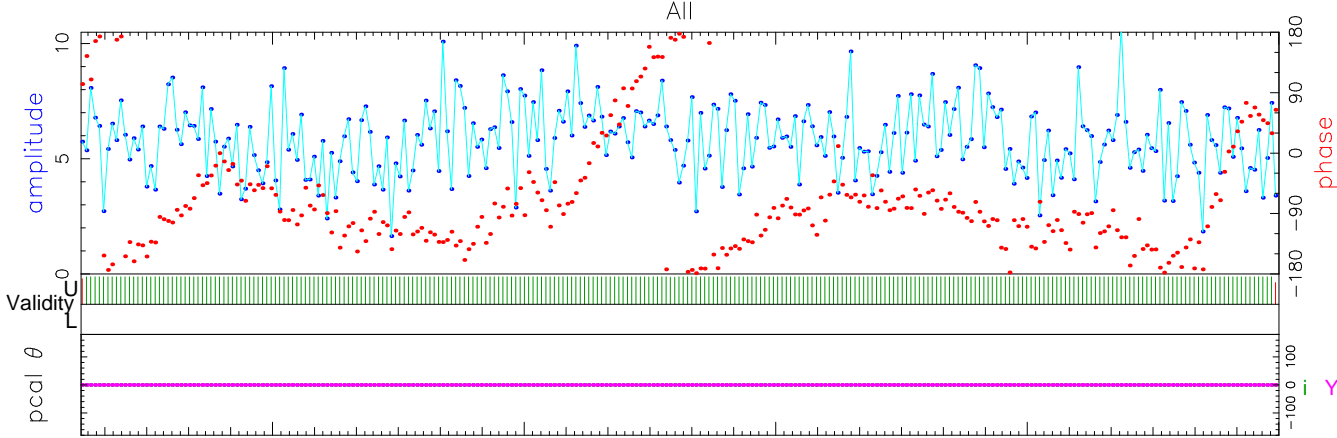
Fringe quality 9

SNR 40.4  
Int time 285.318  
Amp 3.498  
Phase -100.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.066687  
MBD -0.000007  
Fringe rate (Hz)  
-0.025040  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
-100.8  
3.4  
521.5  
U/L 558/0  
i 0  
Y 0  
i:Y 0:0  
i:Y 0:0  
i 1000  
Y 1000  
i W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63129877089E+02  | Apriori delay (usec)     | 3.63063190485E+02  | Resid mbdelay (usec) | -7.15008E-06 | +/- | 4.3E-04 |
| Sband delay (usec)      | 3.63129876985E+02  | Apriori clock (usec)     | -7.5829983E+00     | Resid sbdelay (usec) | 6.66865E-02  | +/- | 4.3E-04 |
| Phase delay (usec)      | 3.63063187235E+02  | Apriori clockrate (us/s) | -2.9000001E-07     | Resid phdelay (usec) | -3.24995E-06 | +/- | 9.1E-08 |
| Delay rate (us/s)       | -3.15635782145E-02 | Apriori rate (us/s)      | -3.15632875252E-02 | Resid rate (us/s)    | -2.90689E-07 | +/- | 5.5E-10 |
| Total phase (deg)       | -18.6              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | -100.8       | +/- | 2.8     |

|              |      |                 |       |                |           |                 |                       |                             |                  |              |                |              |
|--------------|------|-----------------|-------|----------------|-----------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 62.4 | RMS             | 23.7  | Theor.         | Amplitude | 3.498 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 79.8 | Search (2048X8) | 3.421 | Inc. seg. avg. | 5.369     |                 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0  | Interp.         | 0.000 | Inc. frq. avg. | 3.442     |                 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.6  | Inc. frq. avg.  | 3.442 |                |           |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |      |                 |       |                |           |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |
|              |      |                 |       |                |           |                 | nlags:                | 512                         | t_cohere         | infinite     |                |              |

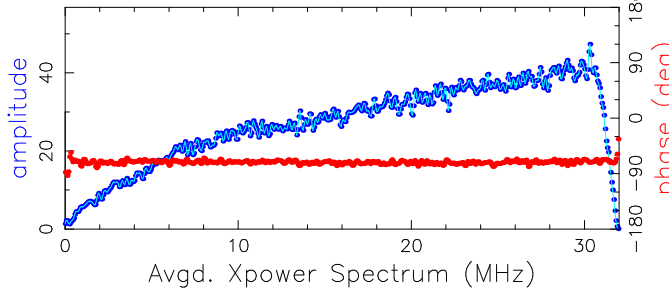
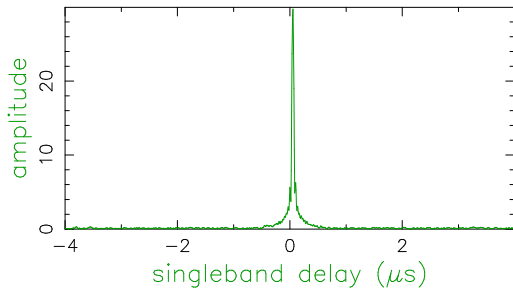
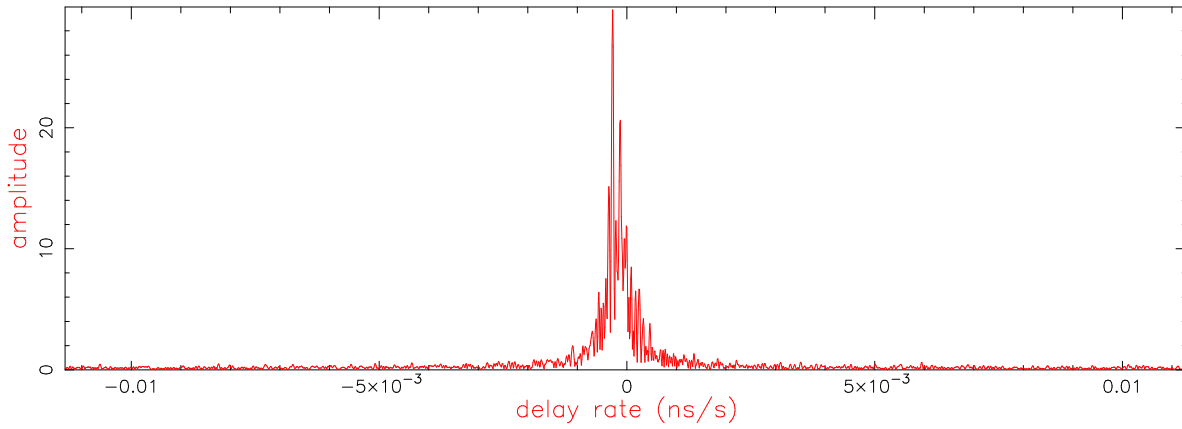
i: az 249.4 el 49.9 pa 50.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iY.W.137.0QR2SH

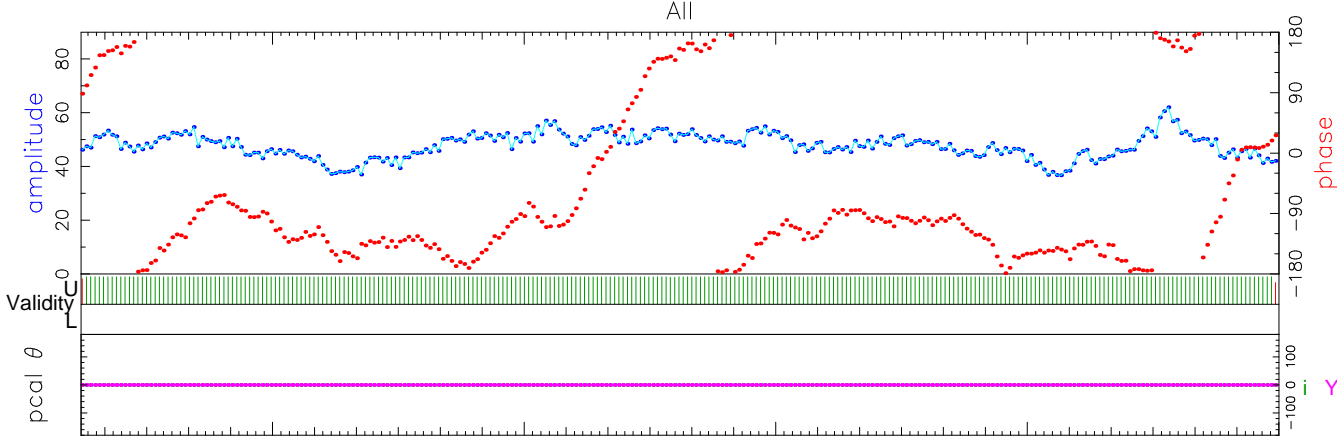
Fringe quality 5

SNR 346.1  
Int time 285.318  
Amp 29.975  
Phase -133.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.052251  
MBD -0.000007  
Fringe rate (Hz)  
-0.025025  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171815  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
-133.2  
29.7  
519.7  
U/L 558/0  
i 0  
Y 0  
i:Y 0:0  
i:Y 0:0  
i 1000  
Y 1000  
i W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 3.63115436082E+02  | Apriori delay (usec)     | 3.63063190485E+02  | Resid mbdelay (usec) | -6.55064E-06 | +/- 5.0E-05 |
| Sband delay (usec)      | 3.63115440985E+02  | Apriori clock (usec)     | -7.5829983E+00     | Resid sbdelay (usec) | 5.22505E-02  | +/- 5.0E-05 |
| Phase delay (usec)      | 3.63063186190E+02  | Apriori clockrate (us/s) | -2.9000001E-07     | Resid phdelay (usec) | -4.29456E-06 | +/- 1.1E-08 |
| Delay rate (us/s)       | -3.15635780430E-02 | Apriori rate (us/s)      | -3.15632875252E-02 | Resid rate (us/s)    | -2.90518E-07 | +/- 6.5E-11 |
| Total phase (deg)       | -51.0              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | -133.2       | +/- 0.3     |

|              |      |     |                 |                  |  |                               |
|--------------|------|-----|-----------------|------------------|--|-------------------------------|
| ph/seg (deg) | 58.2 | 2.8 | Amplitude       | 29.975 +/- 0.087 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 61.6 | 4.8 | Search (2048X8) | 29.557           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0  | 0.2 | Interp.         | 0.000            | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.8  | 0.3 | Inc. seg. avg.  | 47.830           | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |      |     | Inc. frq. avg.  | 29.745           | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |      |     |                 |                  | nlags: 512                             | t_cohere infinite             |
|              |      |     |                 |                  |  | ion window (TEC) 0.00 0.00    |

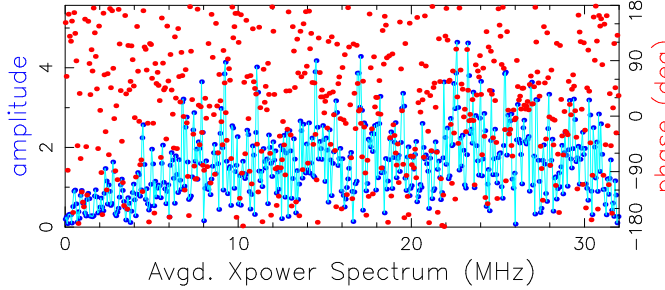
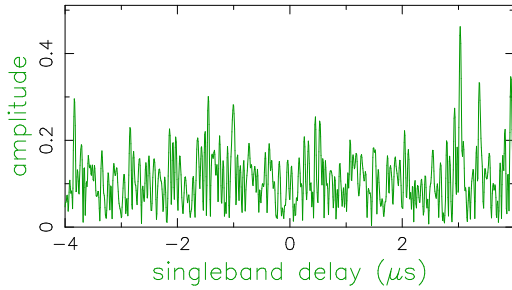
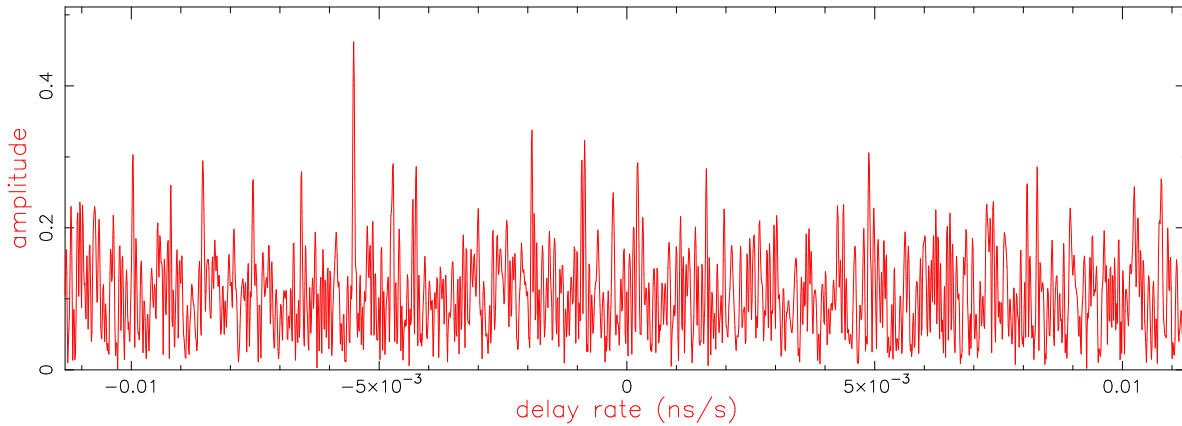
i: az 249.4 el 49.9 pa 50.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//iY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//iY.W.98.0QR2SH

Fringe quality 0

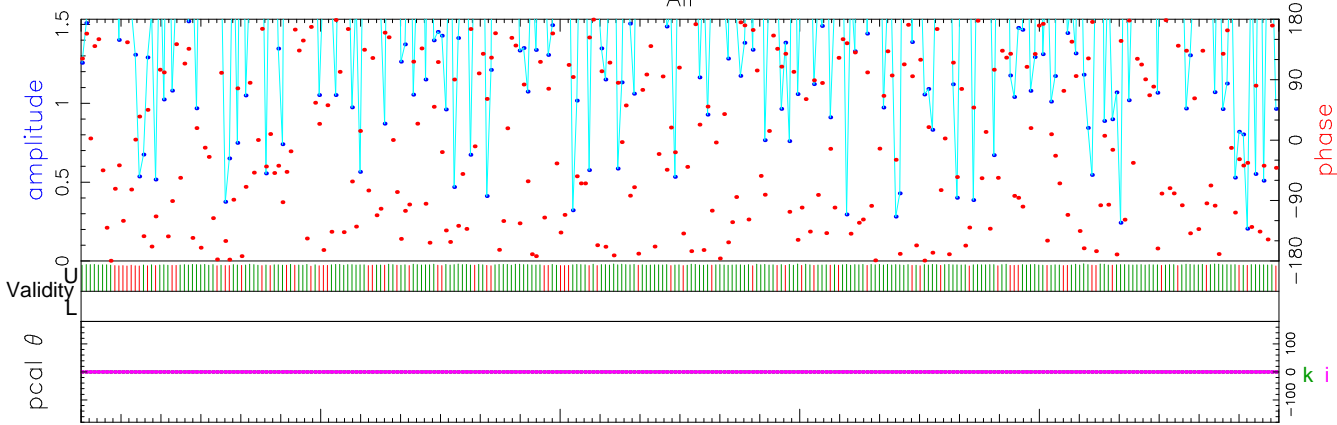
SNR 5.4  
Int time 287.861  
Amp 0.511  
Phase -163.4  
PFD 1.0e+00  
Delays (us)  
SBD 3.029850  
MBD -0.000007  
Fringe rate (Hz)  
-0.474905  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-163.4  
0.5  
900.8  
U/L 586/0  
k 5000  
i 0  
k:i 0:0  
k:i 0:0  
k 1000  
i 1000  
k W04UL  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.56295598608E+03 | Apriori delay (usec)     | -6.56598583777E+03 | Resid mbdelay (usec) | -6.68215E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -6.56295598777E+03 | Apriori clock (usec)     | 2.4096573E+01      | Resid sbdelay (usec) | 3.02985E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -6.56598584304E+03 | Apriori clockrate (us/s) | 1.6634000E-07      | Resid phdelay (usec) | -5.26796E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.93876361356E+00  | Apriori rate (us/s)      | 1.93876912674E+00  | Resid rate (us/s)    | -5.51318E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -186.9             | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | -163.4       | +/- | 21.3    |

|              |          |              |                           |  |                             |                             |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 90.6 | Theor. 182.7 | Amplitude 0.511 +/- 0.095 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |                               |
| amp/seg (%)  | 376.8    | 318.8        | Search (2048X8) 0.462     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |                               |
| ph/frq (deg) | 0.0      | 10.7         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |                               |
| amp/frq (%)  | 0.2      | 18.6         | Inc. seg. avg. 0.350      | Sample rate(MSamp/s): 64               | nlags: 512                  | t_cohere infinite           | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.501      | Data rate(Mb/s): 128                   |                             | ion window (TEC) 0.00 0.00  |                               |

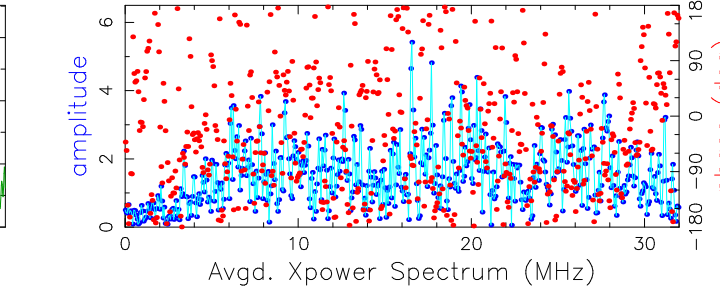
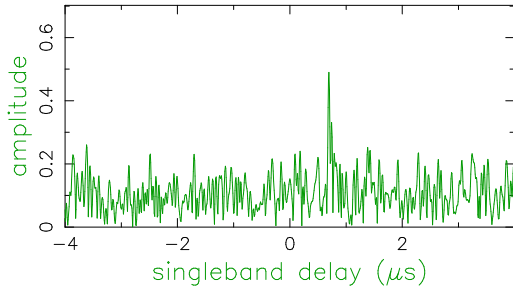
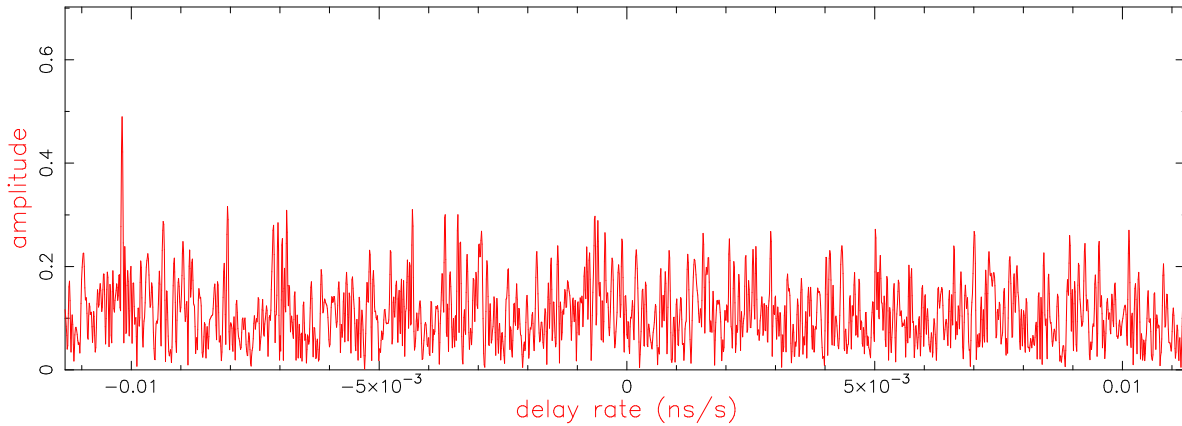
k: az 86.3 el 25.9 pa -61.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ki..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ki.W.119.0QR2SH

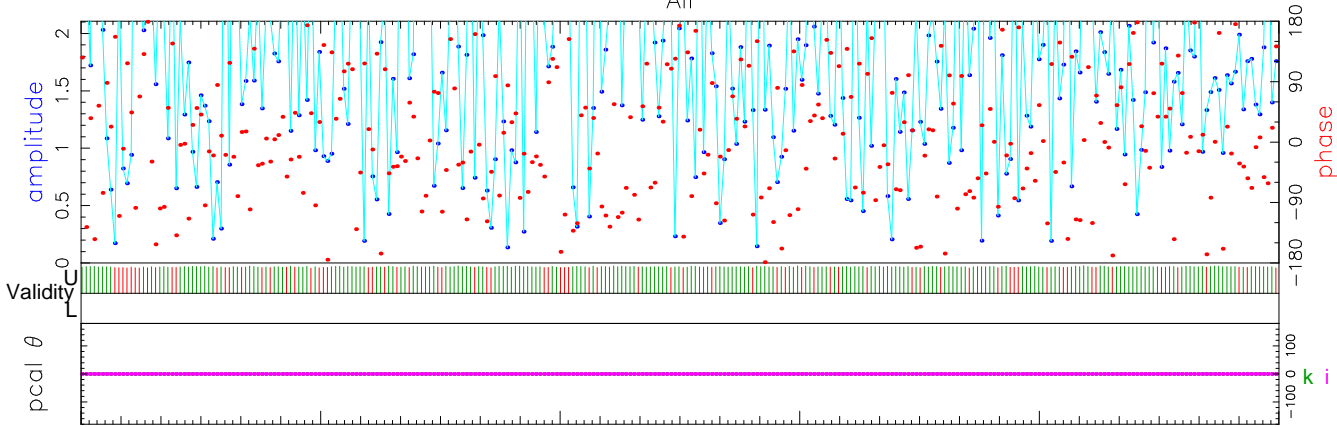
Fringe quality 0

SNR 5.7  
Int time 287.867  
Amp 0.702  
Phase -25.7  
PFD 7.7e-01  
Delays (us)  
SBD 0.693677  
MBD -0.000007  
Fringe rate (Hz)  
-0.877233  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
pcal θ  
86140.00  
-25.7  
0.7  
601.8  
U/L 586/0  
k 5000  
i 0  
k:i 0:0  
k:i 0:0  
k 1000  
i 1000  
k W04UR  
i W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

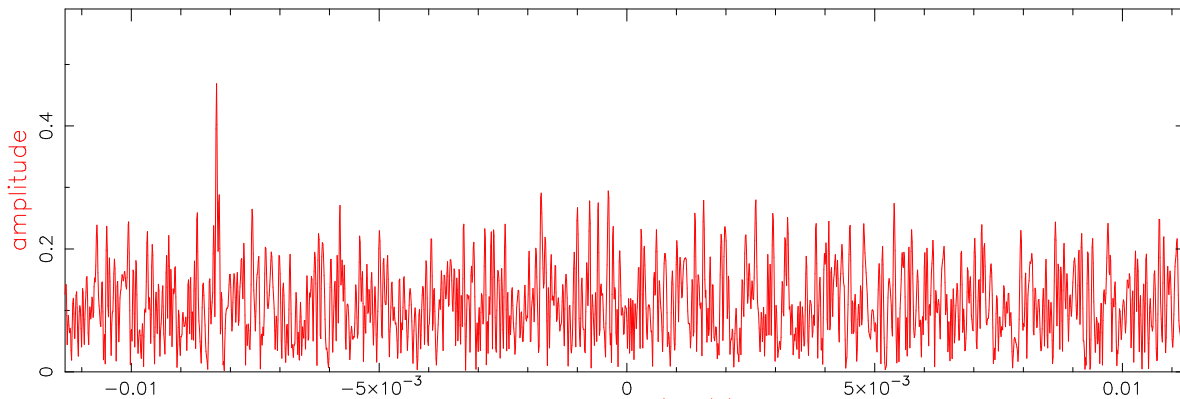
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.56529216021E+03 | Apriori delay (usec)     | -6.56598583777E+03 | Resid mbdelay (usec) | -7.13954E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -6.56529216027E+03 | Apriori clock (usec)     | 2.4096573E+01      | Resid sbdelay (usec) | 6.93677E-01  | +/- | 3.0E-03 |
| Phase delay (usec)      | -6.56598583860E+03 | Apriori clockrate (us/s) | 1.6634000E-07      | Resid phdelay (usec) | -8.27294E-07 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.93875894293E+00  | Apriori rate (us/s)      | 1.93876912674E+00  | Resid rate (us/s)    | -1.01838E-05 | +/- | 3.7E-09 |
| Total phase (deg)       | -49.2              | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | -25.7        | +/- | 20.1    |

|              |       |                 |       |                       |                             |                  |                |                  |          |                  |      |      |
|--------------|-------|-----------------|-------|-----------------------|-----------------------------|------------------|----------------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 92.1  | Theor.          | 172.1 | Amplitude             | 0.702 +/- 0.123             | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5     |                  |      |      |
| amp/seg (%)  | 344.4 | Search (2048X8) | 0.488 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000         | 4.000            |          |                  |      |      |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled        | mb window (us)   | -0.000   | 0.000            |      |      |
| amp/frq (%)  | 0.4   | Inc. seg. avg.  | 0.481 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011         | 0.011            |          |                  |      |      |
|              |       | Inc. frq. avg.  | 0.689 | Data rate(Mb/s):      | 128                         | nlags:           | 512            | t_cohere         | infinite | ion window (TEC) | 0.00 | 0.00 |

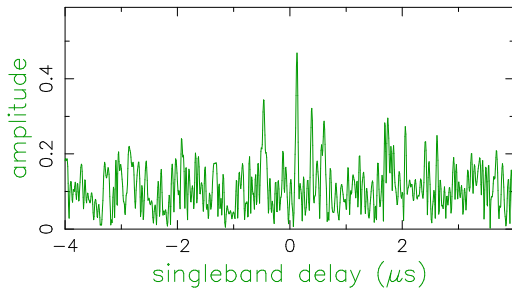
k: az 86.3 el 25.9 pa -61.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ki..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ki.W.138.0QR2SH

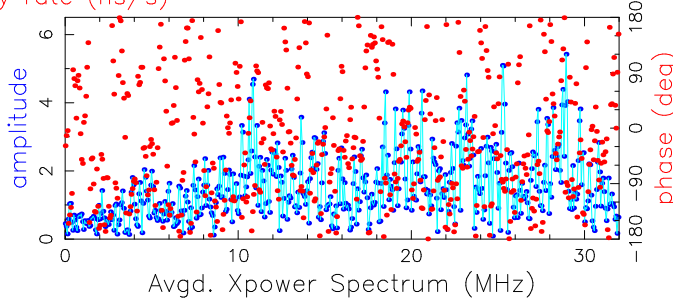
Fringe quality 0



SNR 5.4  
Int time 287.861  
Amp 0.590  
Phase -58.4  
PFD 1.0e+00  
Delays (us)  
SBD 0.125770  
MBD -0.000006  
Fringe rate (Hz)  
-0.713430  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



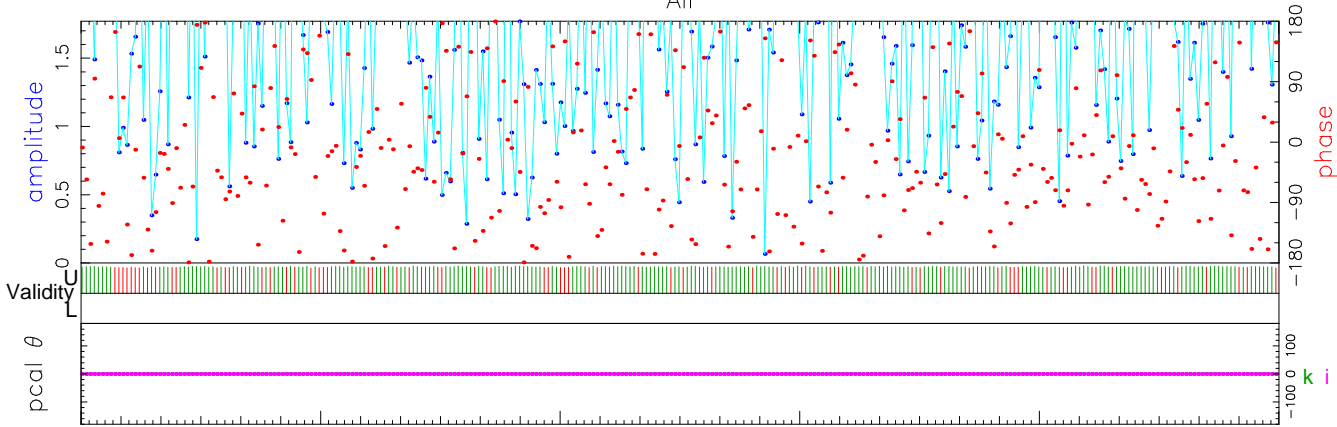
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-58.4  
0.6  
529.1  
U/L 586/0  
k 5000  
i 0  
k:i 0:0  
k:i 0:0  
k 1000  
i 1000  
k W04UL  
i W04UR

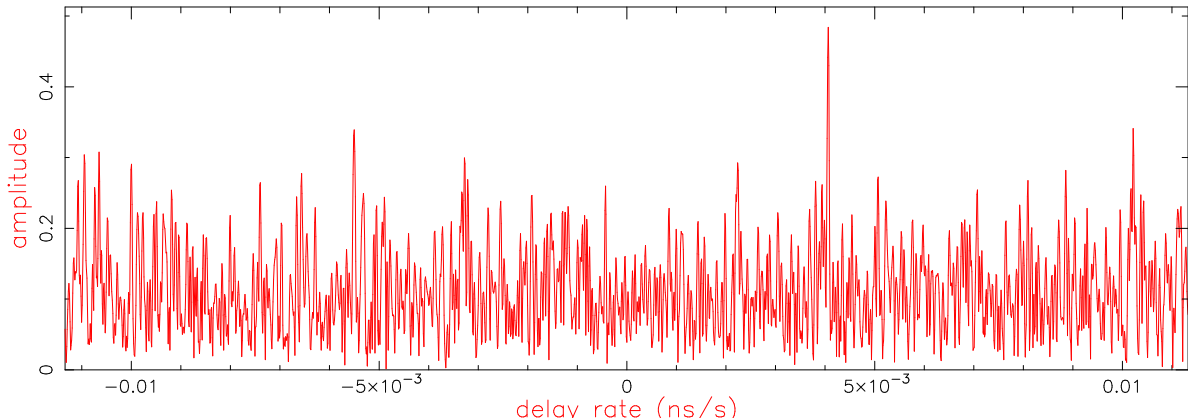
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.56586007192E+03 | Apriori delay (usec)     | -6.56598583777E+03 | Resid mbdelay (usec) | -6.15454E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -6.56586006777E+03 | Apriori clock (usec)     | 2.4096573E+01      | Resid sbdelay (usec) | 1.25770E-01  | +/- | 3.2E-03 |
| Phase delay (usec)      | -6.56598583965E+03 | Apriori clockrate (us/s) | 1.6634000E-07      | Resid phdelay (usec) | -1.88483E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.93876084452E+00  | Apriori rate (us/s)      | 1.93876912674E+00  | Resid rate (us/s)    | -8.28222E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -82.0              | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | -58.4        | +/- | 21.1    |

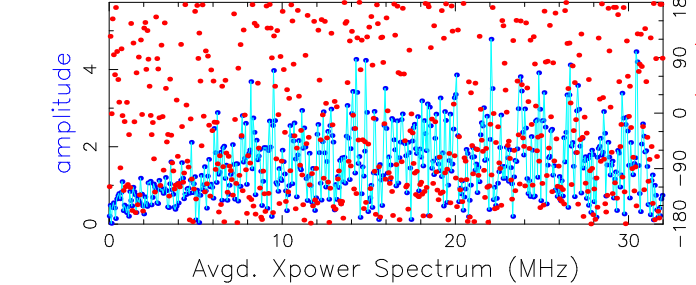
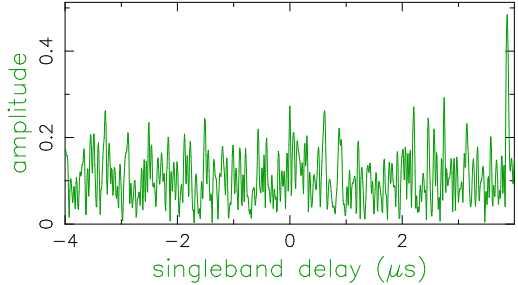
|              |          |              |                           |                       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 90.6 | Theor. 180.3 | Amplitude 0.590 +/- 0.109 | Search (2048X8) 0.468 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 364.3    | 314.6        | Interp. 0.000             | 0.000                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 10.5         | Inc. seg. avg. 0.396      | 0.580                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.1      | 18.4         | Inc. frq. avg. 0.580      |                       | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

k: az 86.3 el 25.9 pa -61.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ki.0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ki.W.156.0QR2SH



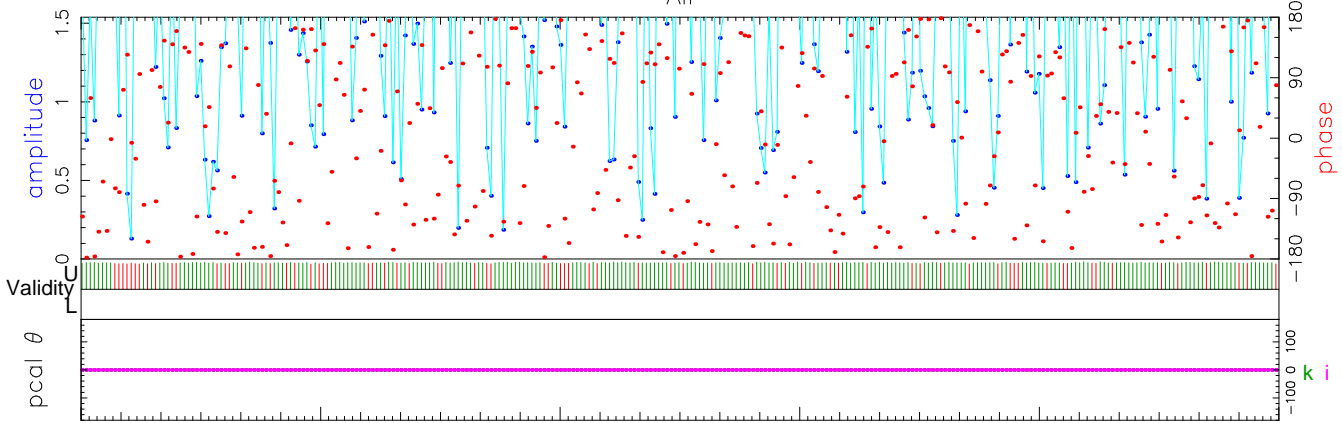
Fringe quality 0  
SNR 5.6  
Int time 287.867  
Amp 0.513  
Phase 172.8  
PFD 8.8e-01  
Delays (us)  
SBD 3.864844  
MBD 0.000005  
Fringe rate (Hz)  
0.349790  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



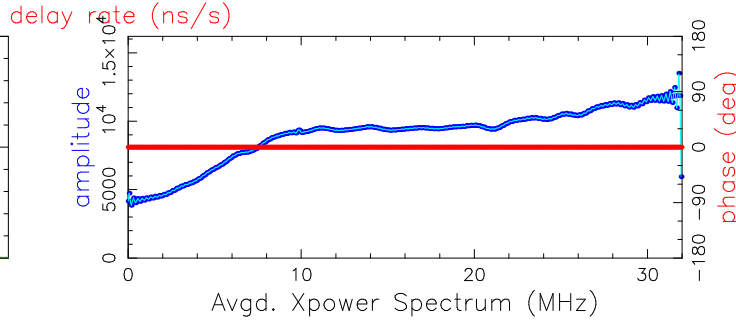
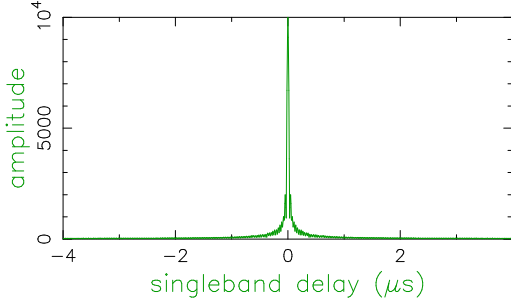
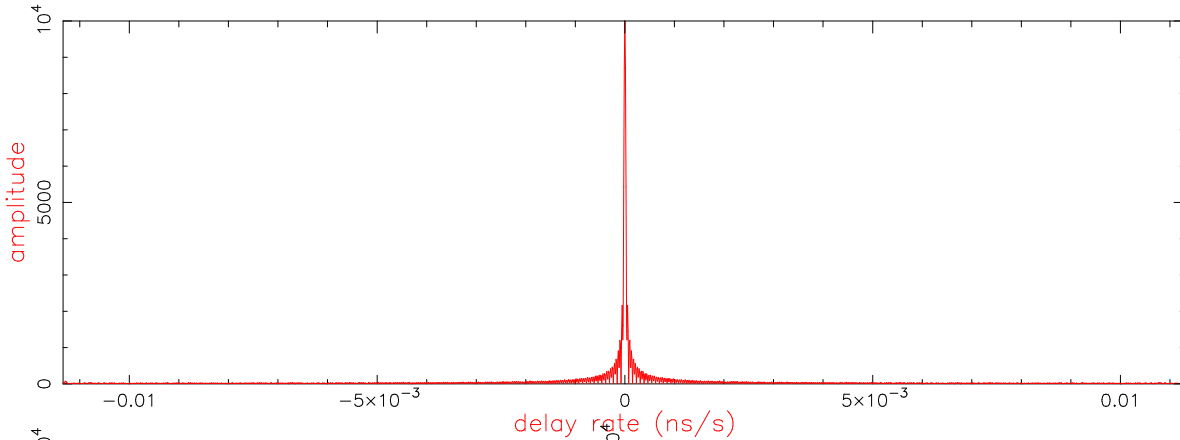
86140.00  
172.8  
0.5  
1007.7  
U/L 586/0  
k 5000  
i 0  
k:i 0:0  
k:i 0:0  
k 1000  
i 1000  
k W04UR  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -6.56212099650E+03 | Apriori delay (usec)     | -6.56598583777E+03 | Resid mbdelay (usec) | 4.96030E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -6.56212099377E+03 | Apriori clock (usec)     | 2.4096573E+01      | Resid sbdelay (usec) | 3.86484E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -6.56598583220E+03 | Apriori clockrate (us/s) | 1.6634000E-07      | Resid phdelay (usec) | 5.57111E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.93877318745E+00  | Apriori rate (us/s)      | 1.93876912674E+00  | Resid rate (us/s)    | 4.06072E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | 149.2              | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | 172.8       | +/- | 20.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.9  | Theor.          | 173.9 | Amplitude      | 0.513 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 361.9 | Search (2048X8) | 0.481 | Search         | 0.481           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.357           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.503 | Inc. frq. avg. | 0.503           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

k: az 86.3 el 25.9 pa -61.9 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ki..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ki.W.173.0QR2SH



Fringe quality 9

SNR 116092.6

Int time 288.359

Amp 10000.004

Phase 0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD -0.000007

Fringe rate (Hz)

0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171817

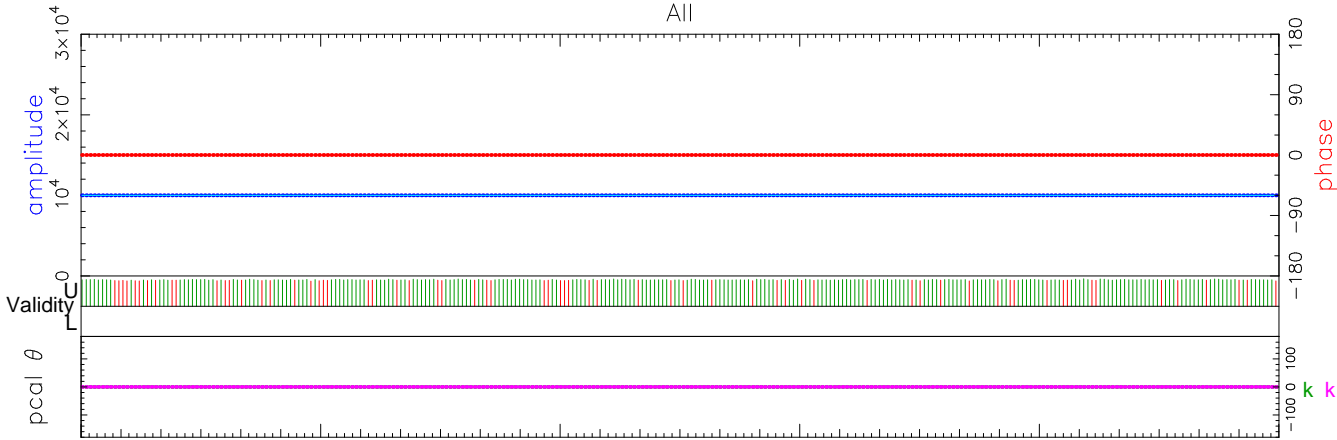
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             |     |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |         |                        |                  |                   |         |         |     |
|-------------------------|-------------------|----------------------|------------------|----------------------|--------------|--------|---------|--------------------|------------------|----------------------|---------------|----------------------|-------------|-----|---------|--------------------|-------------------|--------------------------|---------------|----------------------|-------------|--------|---------|-------------------|------------------|---------------------|------------------|-------------------|-------------|-----------|---------|-------------------|---------|------------------------|------------------|-------------------|---------|---------|-----|
| 86140.00                | 0.0               | 10000.0              | 513.0            | U/L 586/0            | k 5000       | k 5000 | k:k 0:0 | k:k 0:0            | k 1000           | k 1000               | k W04UL       | k W04UL              | 86140.00    | 0.0 | 10000.0 | 513.0              | U/L 586/0         | k 5000                   | k 5000        | k:k 0:0              | k:k 0:0     | k 1000 | k 1000  | k W04UL           | k W04UL          | 86140.00            | 0.0              | 10000.0           | 513.0       | U/L 586/0 | k 5000  | k 5000            | k:k 0:0 | k:k 0:0                | k 1000           | k 1000            | k W04UL | k W04UL |     |
| Group delay (usec)(sbd) | 4.36498723009E-06 | Apriori delay (usec) | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24402E-06 | +/-    | 1.5E-07 | Sband delay (usec) | 0.0000000000E+00 | Apriori clock (usec) | 0.0000000E+00 | Resid sbdelay (usec) | 0.00000E+00 | +/- | 1.5E-07 | Phase delay (usec) | 1.34553449929E-09 | Apriori clockrate (us/s) | 0.0000000E+00 | Resid phdelay (usec) | 1.34553E-09 | +/-    | 3.2E-11 | Delay rate (us/s) | 0.0000000000E+00 | Apriori rate (us/s) | 0.0000000000E+00 | Resid rate (us/s) | 0.00000E+00 | +/-       | 1.8E-13 | Total phase (deg) | 0.0     | Apriori accel (us/s/s) | 0.0000000000E+00 | Resid phase (deg) | 0.0     | +/-     | 0.0 |

ph/seg (deg) 0.0 0.0 Search (2048X8) 10000.004 10000.004 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 0.0 0.0 Interp. 0.000 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000

ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 10000.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000

amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.004 10000.004 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite dr window (ns/s) -0.011 0.011

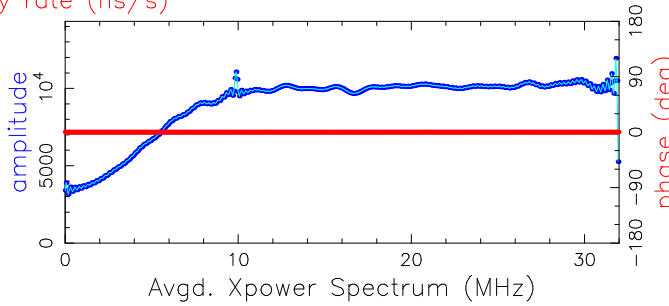
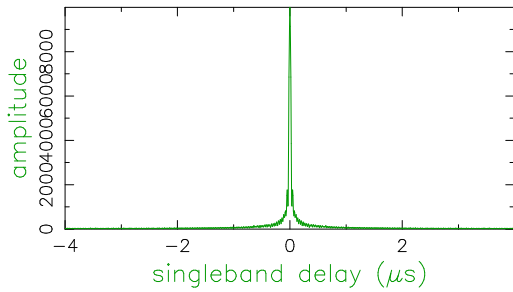
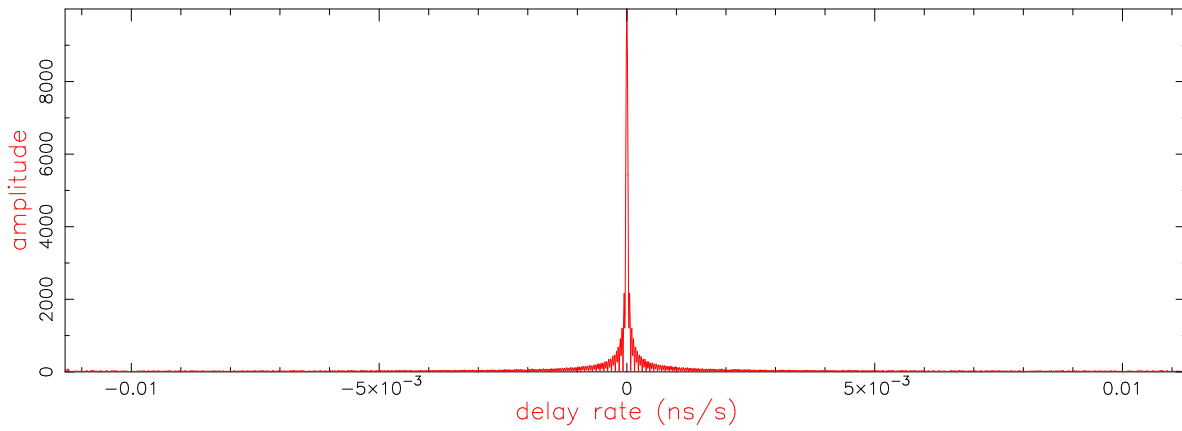
k: az 86.3 el 25.9 pa -61.9 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kk.W.118.0QR2SH

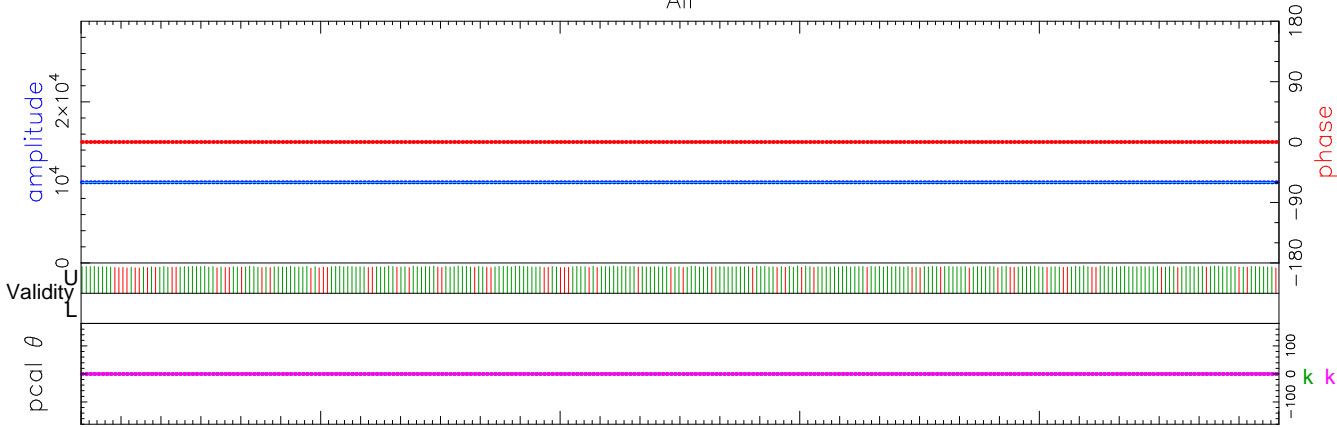
Fringe quality 9

SNR 116094.3  
Int time 288.368  
Amp 9999.999  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00 Freq (MHz)  
0.0 Phase  
10000.0 Ampl.  
513.0 Sbd box  
U/L 586/0 APs used  
k 5000 PC freqs  
k 5000 PC freqs  
k:k 0:0 PC phase  
k:k 0:0 Mani PC  
k 1000 PC amp  
k 1000  
k W04UR Chan ids  
k W04UR Chan ids

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.35338402600E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25562E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34768972643E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34769E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

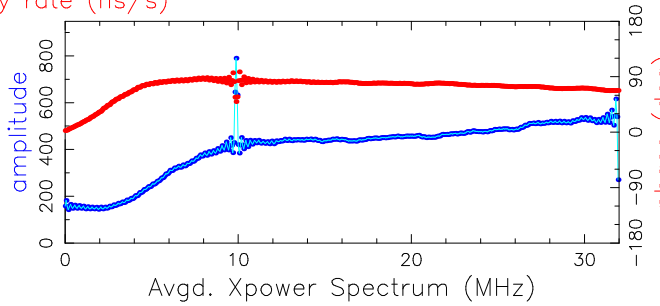
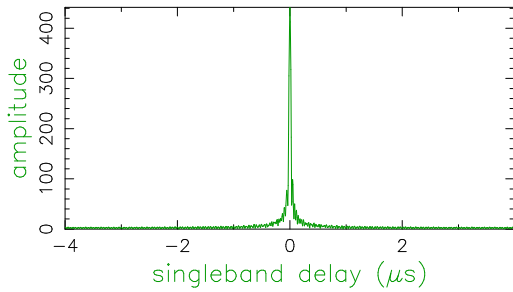
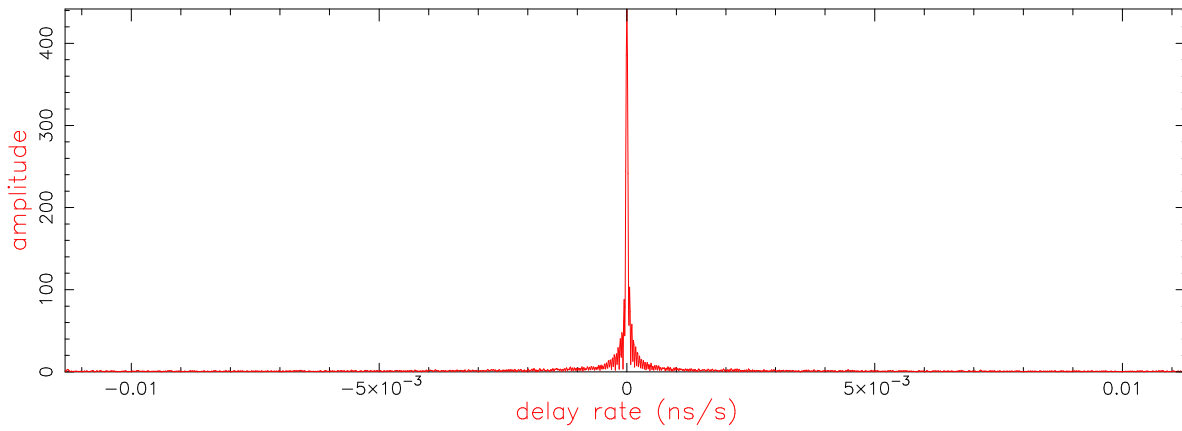
|              |     |     |     |                 |             |                   |                    |                        |                             |                  |              |                |              |                  |              |
|--------------|-----|-----|-----|-----------------|-------------|-------------------|--------------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|--------------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor.          | 0.0         | Amplitude         | 9999.999 +/- 0.086 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |              |
| amp/seg (%)  | 0.0 | 0.0 | 0.0 | Search (2048X8) | 9999.999    | Interp.           | 0.000              | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |              |
| ph/frq (deg) | 0.0 | 0.0 | 0.0 | Inc. seg. avg.  | 10000.000   | Inc. frq. avg.    | 9999.999           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |              |
| amp/frq (%)  | 0.0 | 0.0 | 0.0 | u,v (fr/asec)   | 0.000 0.000 | Data rate (Mb/s): | 128                | Sample rate (MSamp/s): | 64                          | nlags:           | 512          | t_cohere       | infinite     | dr window (ns/s) | -0.011 0.011 |



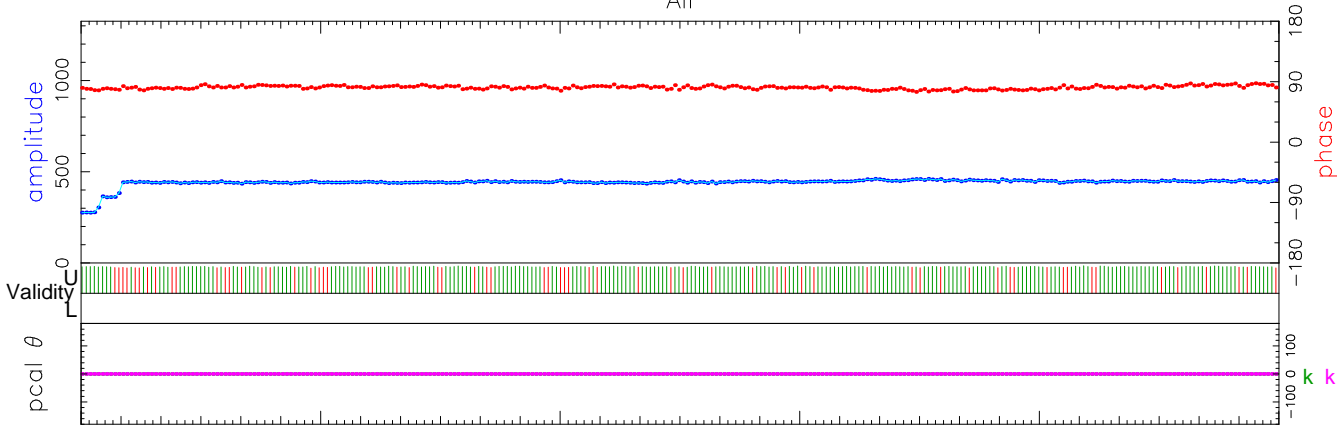
Fringe quality 9

SNR 5129.3  
Int time 288.359  
Amp 441.828  
Phase 81.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.000799  
MBD -0.000006  
Fringe rate (Hz)  
-0.000041  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

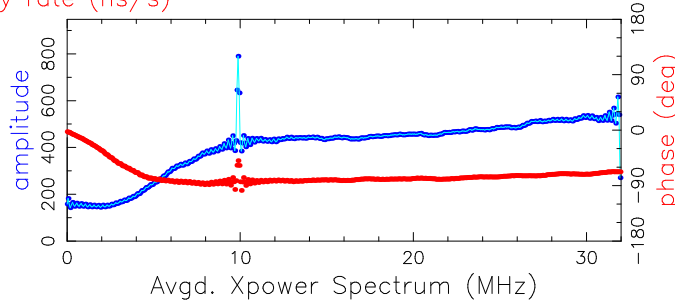
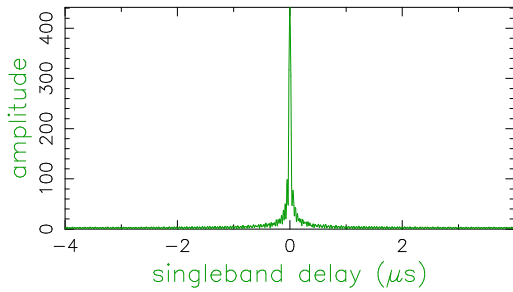
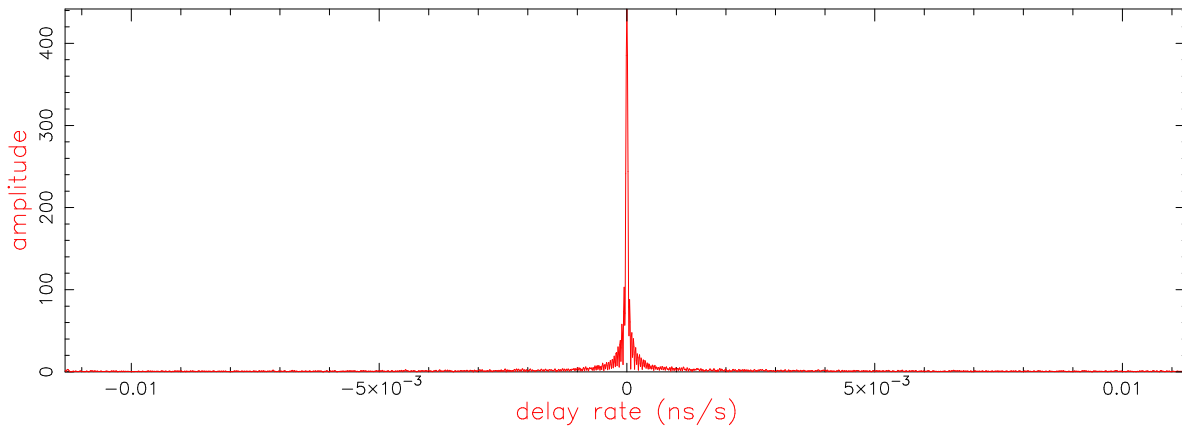


86140.00 Freq (MHz)  
81.4 Phase  
441.4 Ampl.  
513.1 Sbd box  
U/L 586/0 APs used  
k 5000 PC freqs  
k 5000 PC freqs  
k:k 0:0 PC phase  
k:k 0:0 Mani PC  
k 1000 PC amp  
k 1000  
k W04UL Chan ids  
k W04UR Chan ids

Group delay (usec)(sbd) 7.94753099605E-04 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) -6.26849E-06 +/- 3.4E-06  
Sband delay (usec) 7.98500000000E-04 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 7.98500E-04 +/- 3.4E-06  
Phase delay (usec) 2.62332708985E-06 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 2.62333E-06 +/- 7.2E-10  
Delay rate (us/s) -4.76859277980E-10 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) -4.76859E-10 +/- 4.2E-12  
Total phase (deg) 81.4 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) 81.4 +/- 0.0

RMS Theor. Amplitude 441.828 +/- 0.086 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
ph/seg (deg) 2.6 0.2 Search (2048X8) 441.339 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000  
amp/seg (%) 5.5 0.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000  
ph/frq (deg) 0.0 0.0 Inc. seg. avg. 441.888 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
amp/frq (%) 0.1 0.0 Inc. frq. avg. 441.448 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite ion window (TEC) 0.00 0.00

k: az 86.3 el 25.9 pa -61.9 k: az 86.3 el 25.9 pa -61.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kk..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kk.W.164.0QR2SH



Fringe quality 9

SNR 5129.2

Int time 288.368

Amp 441.814

Phase -81.3

PFD 0.0e+00

Delays (us)

SBD -0.000799

MBD -0.000007

Fringe rate (Hz)

0.000041

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171824

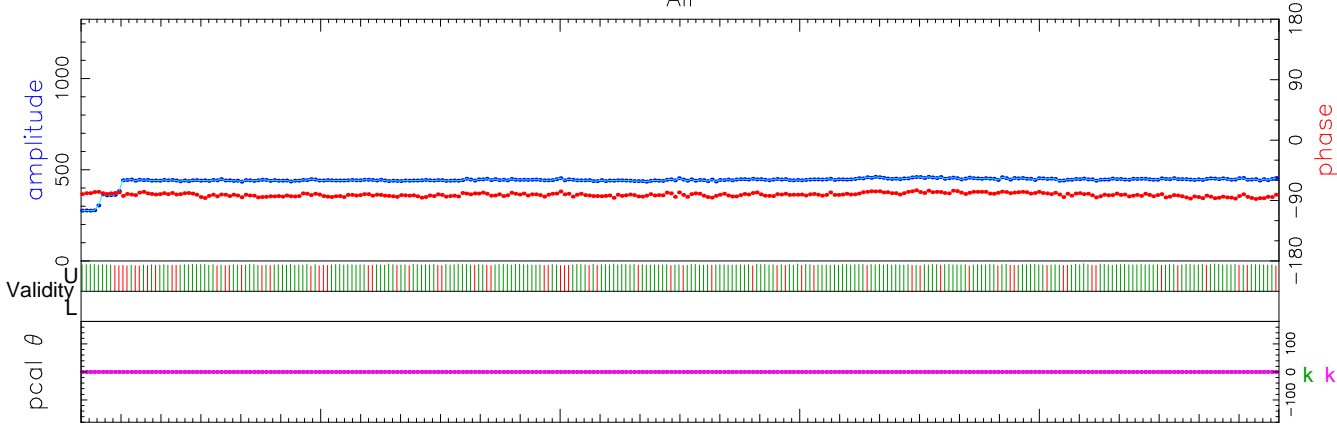
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -81.3     |  | Phase      |
| 441.4     |  | Ampl.      |
| 512.9     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| k 5000    |  | PC freqs   |
| k 5000    |  | PC freqs   |
| k:k 0:0   |  | PC phase   |
| k:k 0:0   |  | Mani PC    |
| k 1000    |  | PC amp     |
| k 1000    |  |            |
| k W04UR   |  | Chan ids   |
| k         |  |            |
| k W04UL   |  | Chan ids   |

|                         |                    |                          |                  |                      |              |     |         |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.96386347806E-04 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.97376E-06 | +/- | 3.4E-06 |
| Sband delay (usec)      | -7.98500000000E-04 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | -7.98500E-04 | +/- | 3.4E-06 |
| Phase delay (usec)      | -2.62086741840E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -2.62087E-06 | +/- | 7.2E-10 |
| Delay rate (us/s)       | 4.76859277980E-10  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 4.76859E-10  | +/- | 4.2E-12 |
| Total phase (deg)       | -81.3              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -81.3        | +/- | 0.0     |

|              |     |     |                 |                   |  |                      |                   |                  |           |
|--------------|-----|-----|-----------------|-------------------|--|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 2.6 | 0.2 | Amplitude       | 441.814 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |           |
| amp/seg (%)  | 5.5 | 0.3 | Search (2048X8) | 441.326           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000      |                  |           |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.000 0.000     |           |
| amp/frq (%)  | 0.1 | 0.0 | Inc. seg. avg.  | 441.875           | Sample rate(MSamp/s): 64               |                      | dr window (ns/s)  | -0.011 0.011     |           |
|              |     |     | Inc. frq. avg.  | 441.434           | Data rate(Mb/s): 128                   | nlags: 512           | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

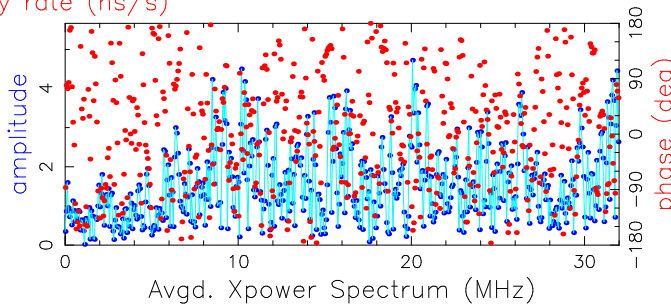
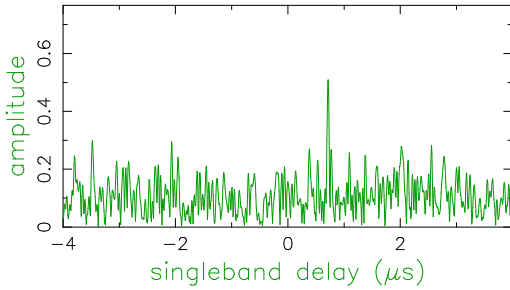
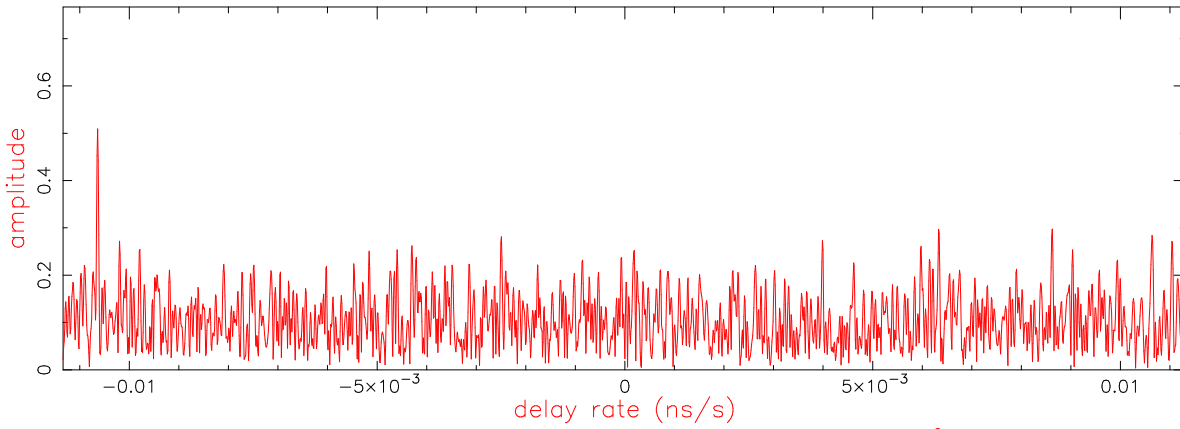
k: az 86.3 el 25.9 pa -61.9      k: az 86.3 el 25.9 pa -61.9      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kk..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kk.W.180.0QR2SH

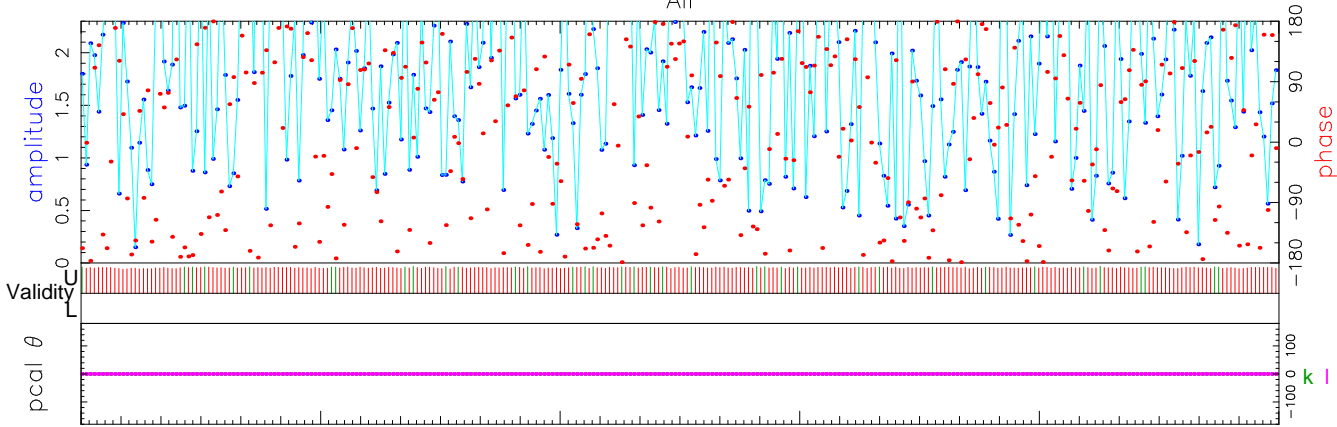
Fringe quality 0

SNR 5.9  
Int time 279.111  
Amp 0.767  
Phase 162.1  
PFD 3.5e-01  
Delays (us)  
SBD 0.715172  
MBD -0.000005  
Fringe rate (Hz)  
-0.916287  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171817  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
162.1  
0.8  
604.5  
U/L 586/0  
k 5000  
l 5000  
k:l 0:0  
k:l 0:0  
k 1000  
l 1000  
k W04UL  
l W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -1.45554673696E+03 | Apriori delay (usec)     | -1.45626190482E+03 | Resid mbdelay (usec) | -5.11679E-06 | +/- 2.9E-03 |
| Sband delay (usec)      | -1.45554673332E+03 | Apriori clock (usec)     | 1.0343160E+01      | Resid sbdelay (usec) | 7.15172E-01  | +/- 2.9E-03 |
| Phase delay (usec)      | -1.45626189959E+03 | Apriori clockrate (us/s) | 4.6340000E-08      | Resid phdelay (usec) | 5.22844E-06  | +/- 6.2E-07 |
| Delay rate (us/s)       | 9.78304382809E-02  | Apriori rate (us/s)      | 9.78410754674E-02  | Resid rate (us/s)    | -1.06372E-05 | +/- 3.6E-09 |
| Total phase (deg)       | -11.0              | Apriori accel (us/s/s)   | 6.05269075719E-06  | Resid phase (deg)    | 162.1        | +/- 19.4    |

|              |          |              |                           |  |                               |
|--------------|----------|--------------|---------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 90.7 | Theor. 165.8 | Amplitude 0.767 +/- 0.130 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 325.4    | 289.4        | Search (2048X8) 0.508     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 9.7          | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 1.7      | 16.9         | Inc. seg. avg. 0.542      | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |          |              | Inc. frq. avg. 0.743      | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |          |              |                           | nlags: 512                             | t_cohere infinite             |
|              |          |              |                           |  | ion window (TEC) 0.00 0.00    |

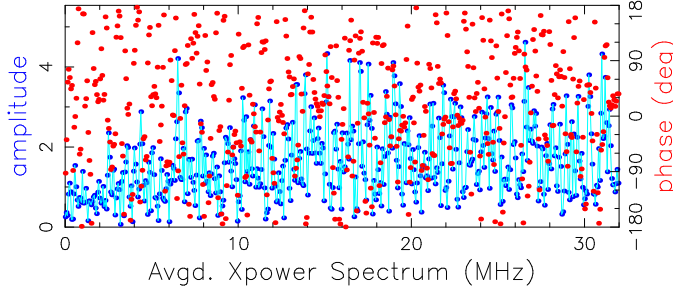
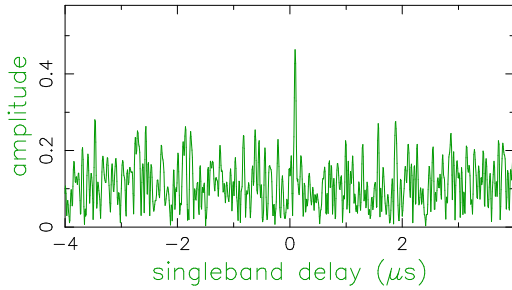
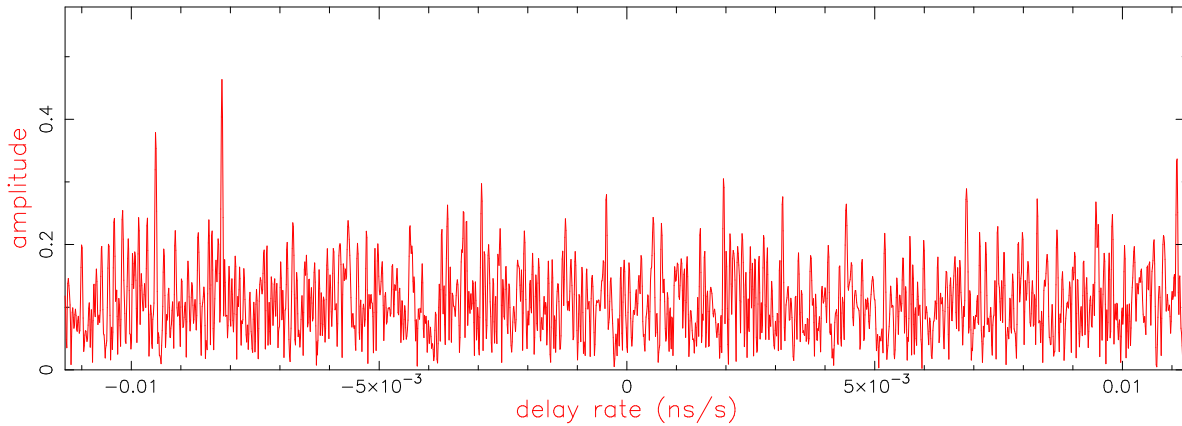
k: az 86.3 el 25.9 pa -61.9 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -576.175 -329.119 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kl.W.120.0QR2SH

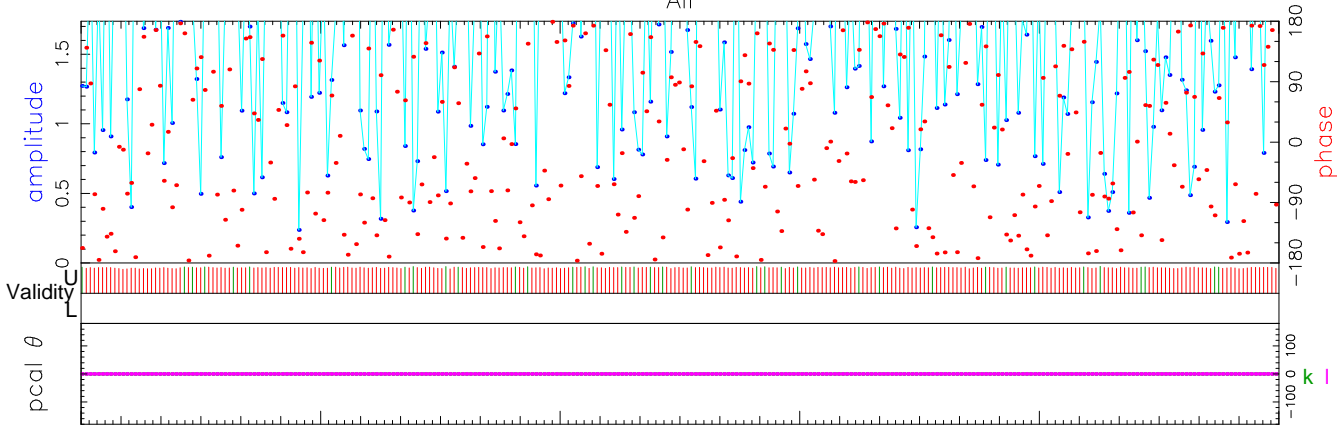
Fringe quality 0

SNR 5.3  
Int time 279.119  
Amp 0.579  
Phase -145.5  
PFD 1.0e+00  
Delays (us)  
SBD 0.093866  
MBD -0.000007  
Fringe rate (Hz)  
-0.703674  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171818  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-145.5  
0.6  
525.0  
U/L 586/0  
k 5000  
l 5000  
k:l 0:0  
k:l 0:0  
k 1000  
l 1000  
k W04UR  
l W04UR

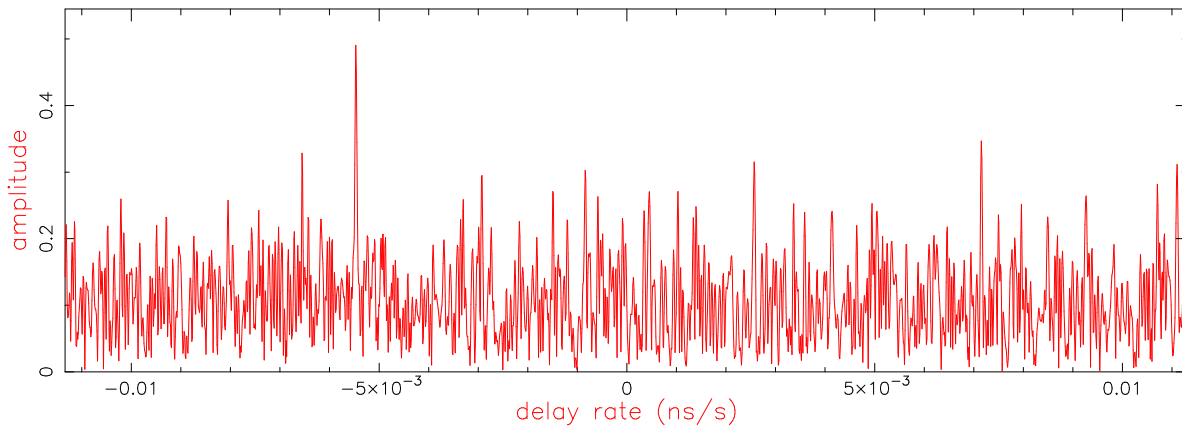
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.45616804140E+03 | Apriori delay (usec)     | -1.45626190482E+03 | Resid mbdelay (usec) | -7.02707E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -1.45616803882E+03 | Apriori clock (usec)     | 1.0343160E+01      | Resid sbdelay (usec) | 9.38660E-02  | +/- | 3.3E-03 |
| Phase delay (usec)      | -1.45626190951E+03 | Apriori clockrate (us/s) | 4.6340000E-08      | Resid phdelay (usec) | -4.69307E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 9.78329065052E-02  | Apriori rate (us/s)      | 9.78410754674E-02  | Resid rate (us/s)    | -8.16896E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -318.7             | Apriori accel (us/s/s)   | 6.05269075719E-06  | Resid phase (deg)    | -145.5       | +/- | 21.7    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 185.3 | Amplitude       | 0.579 +/- 0.109 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 383.4 | Search (2048X8) | 0.462 | Search (2048X8) | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.387 | Inc. seg. avg.  | 0.387           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.569 | Inc. frq. avg.  | 0.569           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

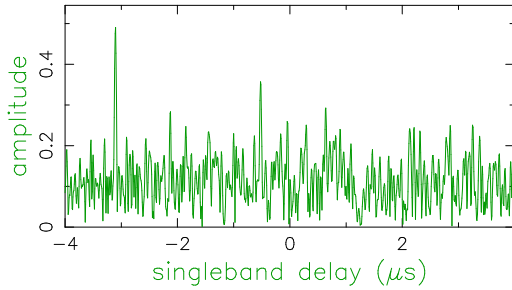
k: az 86.3 el 25.9 pa -61.9 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -576.175 -329.119 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kl.W.130.0QR2SH

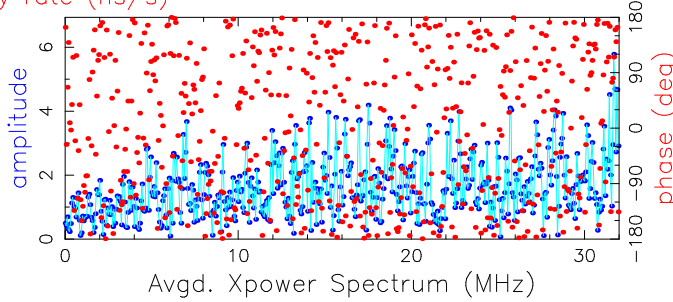


Fringe quality 0

SNR 5.6  
Int time 279.114  
Amp 0.545  
Phase -83.8  
PFD 8.6e-01  
Delays (us)  
SBD -3.103902  
MBD -0.000007  
Fringe rate (Hz)  
-0.471441  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

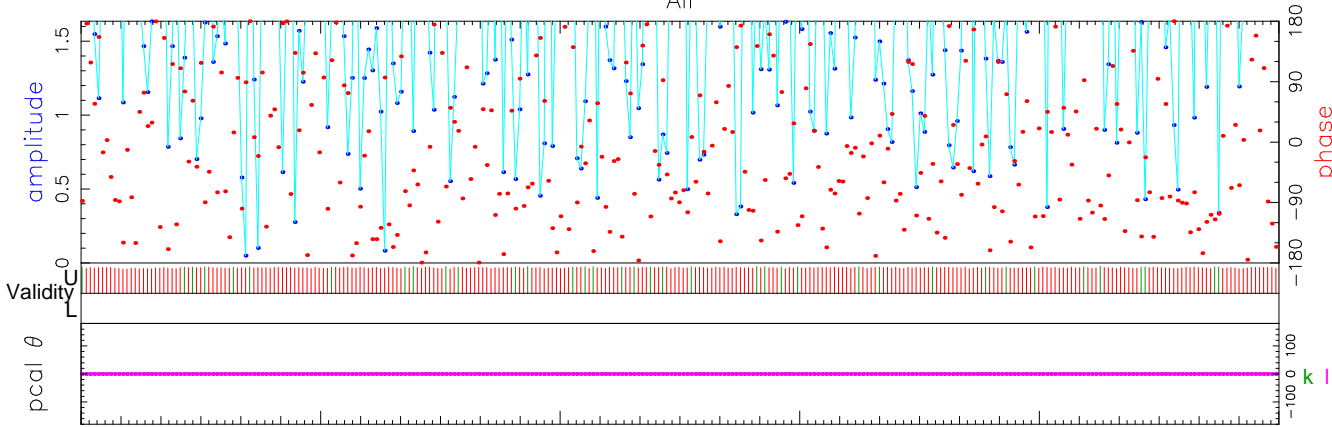


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-83.8  
0.5  
115.7  
U/L 586/0  
k 5000  
l 5000  
k:l 0:0  
k:l 0:0  
k 1000  
l 1000  
k W04UL  
l W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

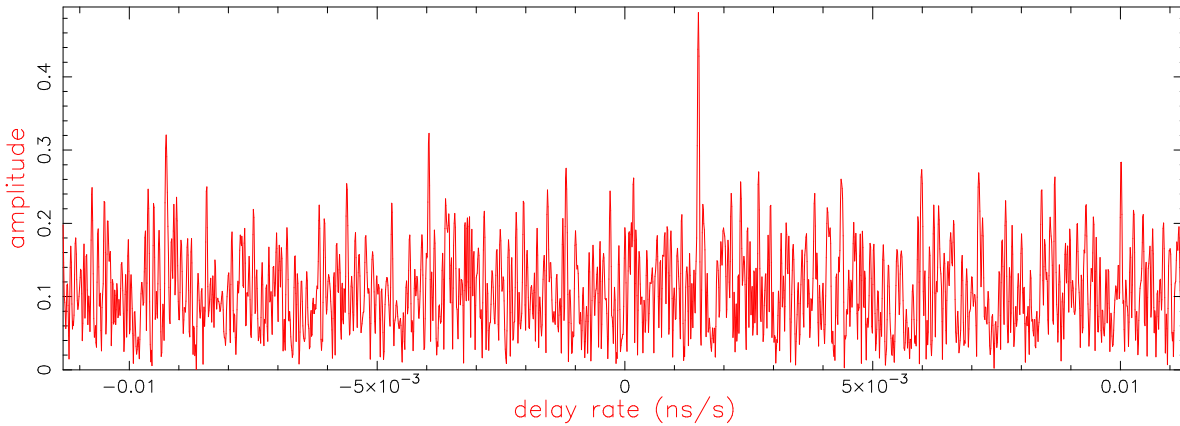
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.45936580104E+03 | Apriori delay (usec)     | -1.45626190482E+03 | Resid mbdelay (usec) | -7.20729E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.45936580682E+03 | Apriori clock (usec)     | 1.0343160E+01      | Resid sbdelay (usec) | -3.10390E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.45626190752E+03 | Apriori clockrate (us/s) | 4.6340000E-08      | Resid phdelay (usec) | -2.70102E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 9.78356025025E-02  | Apriori rate (us/s)      | 9.78410754674E-02  | Resid rate (us/s)    | -5.47296E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -256.9             | Apriori accel (us/s/s)   | 6.05269075719E-06  | Resid phase (deg)    | -83.8        | +/- | 20.3    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.2  | Theor.          | 173.7 | Amplitude      | 0.545 +/- 0.097 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 365.5 | Search (2048X8) | 0.487 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.387           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.7   | Inc. frq. avg.  | 0.533 | Inc. frq. avg. | 0.533           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

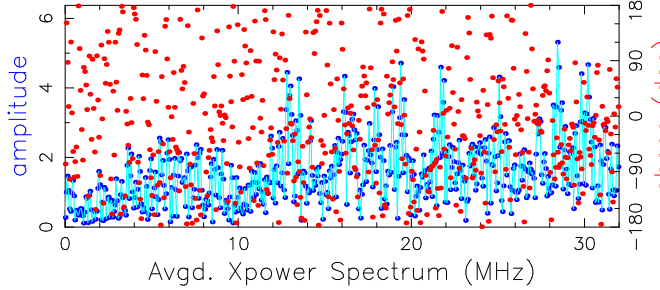
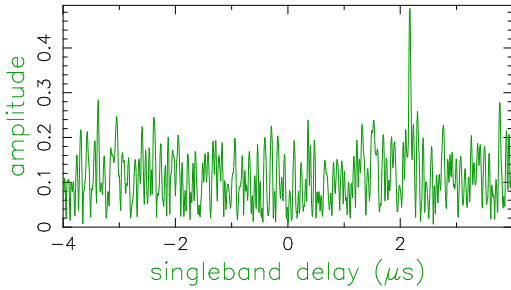
k: az 86.3 el 25.9 pa -61.9 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -576.175 -329.119 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kl.W.142.0QR2SH

Fringe quality 0



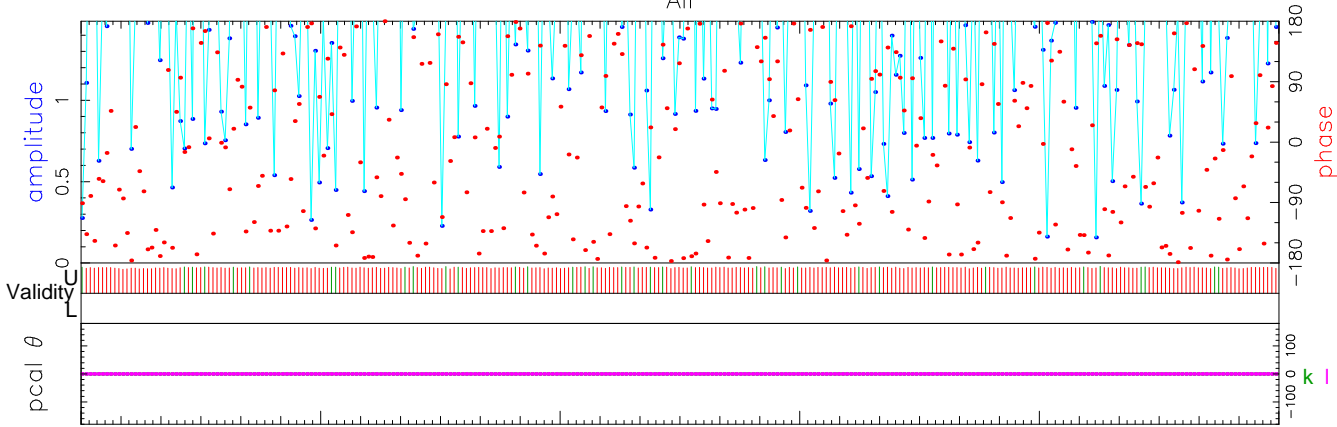
SNR 5.6  
Int time 279.117  
Amp 0.495  
Phase -147.5  
PFD 9.0e-01  
Delays (us)  
SBD 2.169163  
MBD 0.000007  
Fringe rate (Hz)  
0.127670  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-147.5  
0.5  
790.7  
U/L 586/0  
k 5000  
l 5000  
k:l 0:0  
k:l 0:0  
k 1000  
l 1000  
k W04UR  
l W04UL

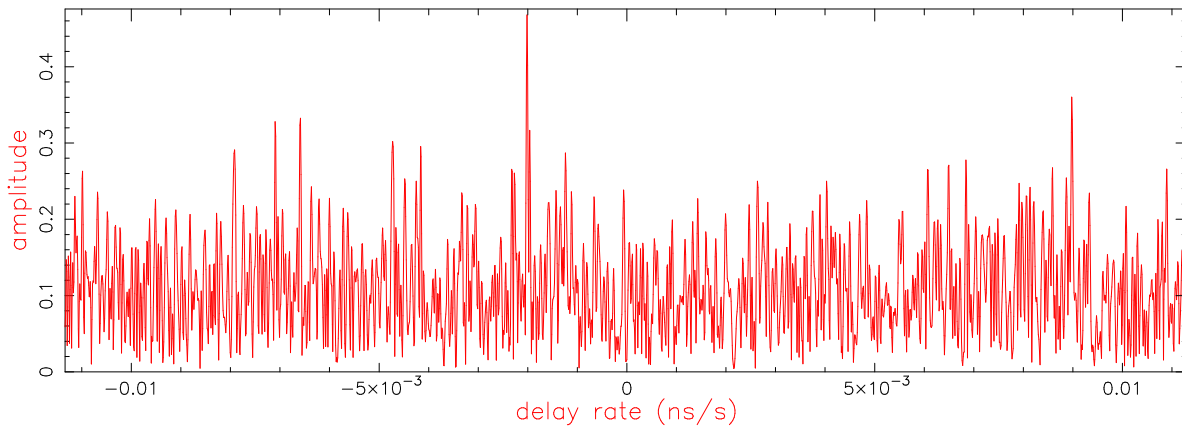
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.45409274301E+03 | Apriori delay (usec)     | -1.45626190482E+03 | Resid mbdelay (usec) | 6.94479E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.45409274232E+03 | Apriori clock (usec)     | 1.0343160E+01      | Resid sbdelay (usec) | 2.16916E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.45626190957E+03 | Apriori clockrate (us/s) | 4.6340000E-08      | Resid phdelay (usec) | -4.75782E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 9.78425575928E-02  | Apriori rate (us/s)      | 9.78410754674E-02  | Resid rate (us/s)    | 1.48213E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | -320.7             | Apriori accel (us/s/s)   | 6.05269075719E-06  | Resid phase (deg)    | -147.5       | +/- | 20.4    |

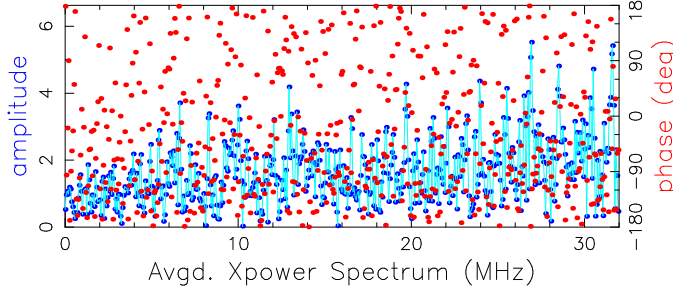
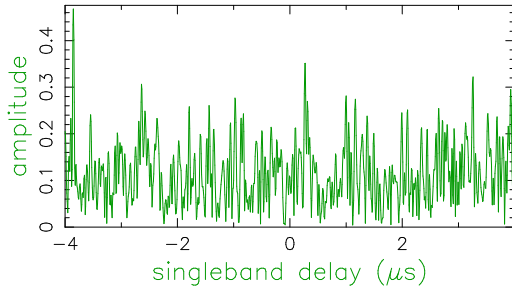
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 89.4  | Theor.          | 174.6 | Amplitude       | 0.495 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 345.3 | Search (2048X8) | 0.486 | Search (2048X8) | 0.486           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.9   | Inc. seg. avg.  | 0.337 | Inc. seg. avg.  | 0.337           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.484 | Inc. frq. avg.  | 0.484           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

k: az 86.3 el 25.9 pa -61.9 l: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) -576.175 -329.119 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kl..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kl.W.158.0QR2SH



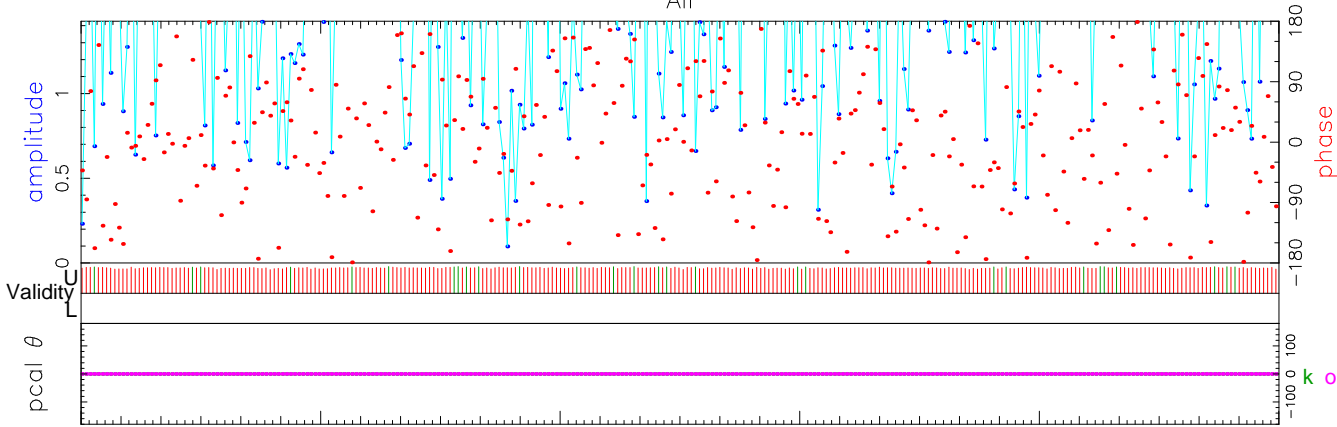
Fringe quality 0  
SNR 5.3  
Int time 276.986  
Amp 0.476  
Phase 16.1  
PFD 1.0e+00  
Delays (us)  
SBD -3.852917  
MBD -0.000006  
Fringe rate (Hz)  
-0.173737  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
16.1  
0.5  
19.8  
U/L 586/0  
k 5000  
o 5000  
k:o 0:0  
k:o 0:0  
k 1000  
o 1000  
k W04UL  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

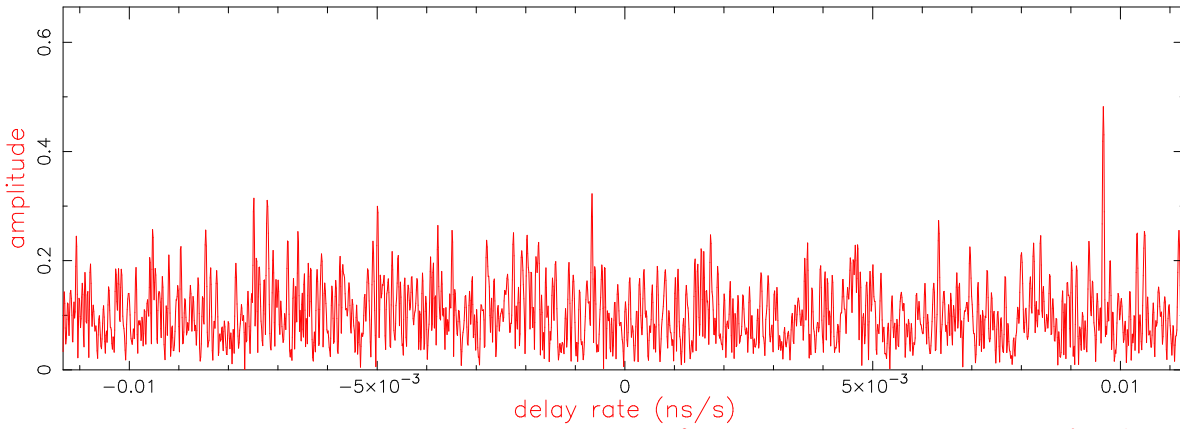
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.73139810097E+03 | Apriori delay (usec)     | 1.73525102125E+03  | Resid mbdelay (usec) | -6.41885E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.73139810375E+03 | Apriori clock (usec)     | -5.7908983E+00     | Resid sbdelay (usec) | -3.85292E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.73525102177E+03 | Apriori clockrate (us/s) | -5.5021997E-07     | Resid phdelay (usec) | 5.17656E-07  | +/- | 6.9E-07 |
| Delay rate (us/s)       | 2.89933448115E-02 | Apriori rate (us/s)      | 2.89953617271E-02  | Resid rate (us/s)    | -2.01692E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | 5.4               | Apriori accel (us/s/s)   | -1.16458885566E-05 | Resid phase (deg)    | 16.1         | +/- | 21.4    |

|              |          |              |   |  |                               |
|--------------|----------|--------------|---|--|-------------------------------|
| ph/seg (deg) | RMS 92.4 | Theor. 183.6 | Amplitude Search (2048X8) 0.476 +/- 0.089 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 367.1    | 320.4        | Interp. 0.000                             | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 10.7         | Inc. seg. avg. 0.314                      | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.3      | 18.7         | Inc. frq. avg. 0.466                      | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |          |              |   | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |          |              |   | nlags: 512                             | t_cohere infinite             |
|              |          |              |   | ion window (TEC) 0.00 0.00             |                               |

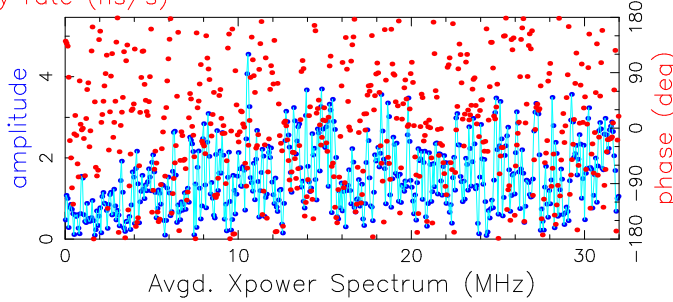
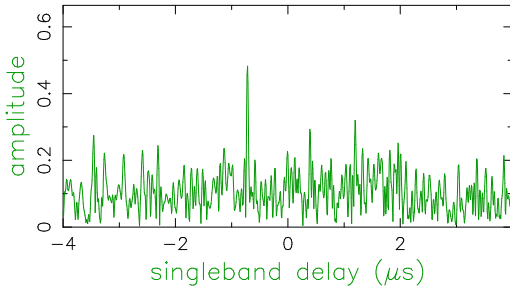
k: az 86.3 el 25.9 pa -61.9 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) -187.984 -909.343 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/ko..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/ko.W.144.0QR2SH

Fringe quality 0

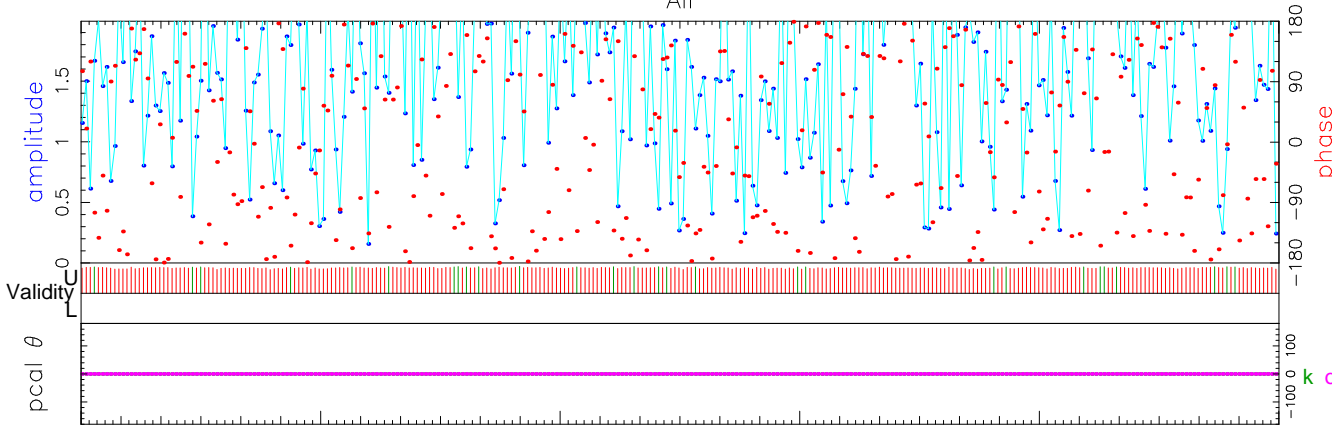


SNR 5.5  
Int time 276.992  
Amp 0.665  
Phase 172.3  
PFD 9.9e-01  
Delays (us)  
SBD -0.720147  
MBD 0.000006  
Fringe rate (Hz)  
0.831847  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
172.3  
0.7  
420.8  
U/L 586/0  
k 5000  
o 5000  
k:o 0:0  
k:o 0:0  
k 1000  
o 1000  
k W04UR  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

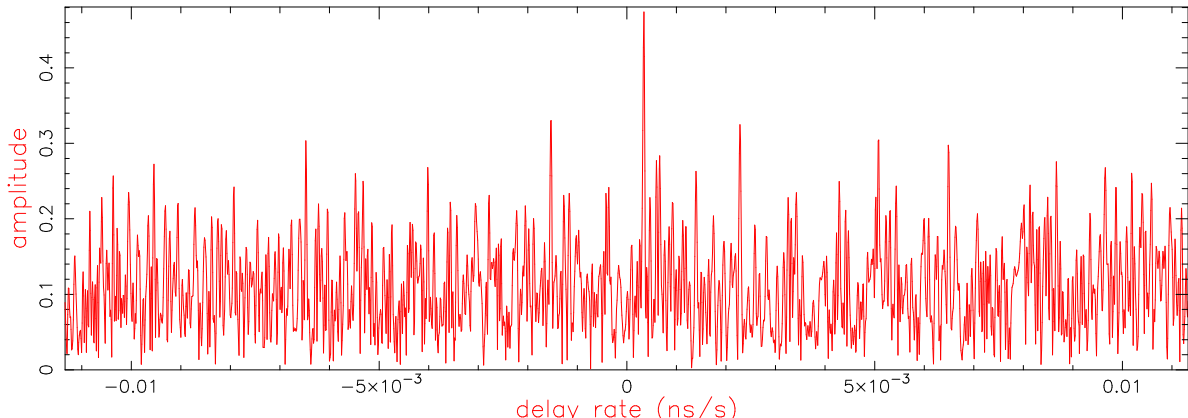
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.73453087401E+03 | Apriori delay (usec)     | 1.73525102125E+03  | Resid mbdelay (usec) | 6.00372E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | 1.73453087375E+03 | Apriori clock (usec)     | -5.7908983E+00     | Resid sbdelay (usec) | -7.20147E-01 | +/- | 3.1E-03 |
| Phase delay (usec)      | 1.73525102680E+03 | Apriori clockrate (us/s) | -5.5021997E-07     | Resid phdelay (usec) | 5.55607E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 2.90050186483E-02 | Apriori rate (us/s)      | 2.89953617271E-02  | Resid rate (us/s)    | 9.65692E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | 161.6             | Apriori accel (us/s/s)   | -1.16458885566E-05 | Resid phase (deg)    | 172.3        | +/- | 20.8    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.2  | Theor.          | 178.3 | Amplitude       | 0.665 +/- 0.121 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 320.8 | Search (2048X8) | 0.477 | Search (2048X8) | 0.477           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3   | Inc. seg. avg.  | 0.412 | Inc. seg. avg.  | 0.412           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       | Inc. frq. avg.  | 0.652 | Inc. frq. avg.  | 0.652           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

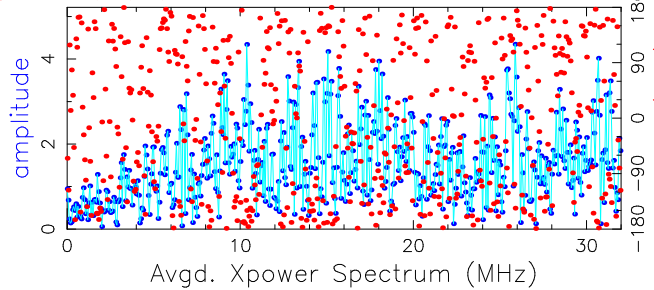
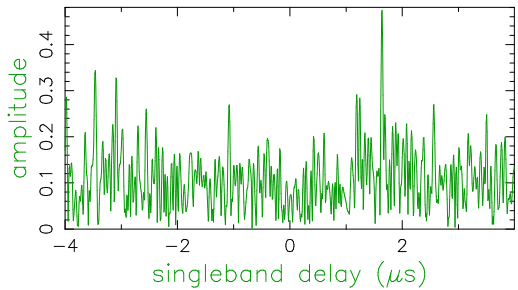
k: az 86.3 el 25.9 pa -61.9 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) -187.984 -909.343 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ko..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ko.W.171.0QR2SH





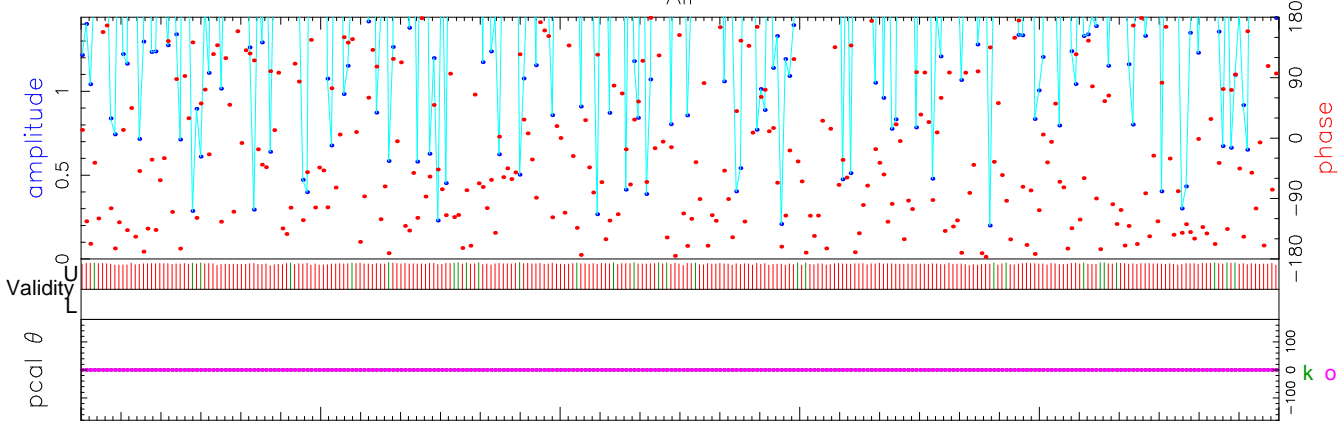
Fringe quality 0  
SNR 5.5  
Int time 276.988  
Amp 0.481  
Phase -106.7  
PFD 1.0e+00  
Delays (us)  
SBD 1.637423  
MBD 0.000005  
Fringe rate (Hz) 0.029870  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-106.7  
0.5  
722.6  
U/L 586/0  
k 5000  
o 5000  
k:o 0:0  
k:o 0:0  
k 1000  
o 1000  
k W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

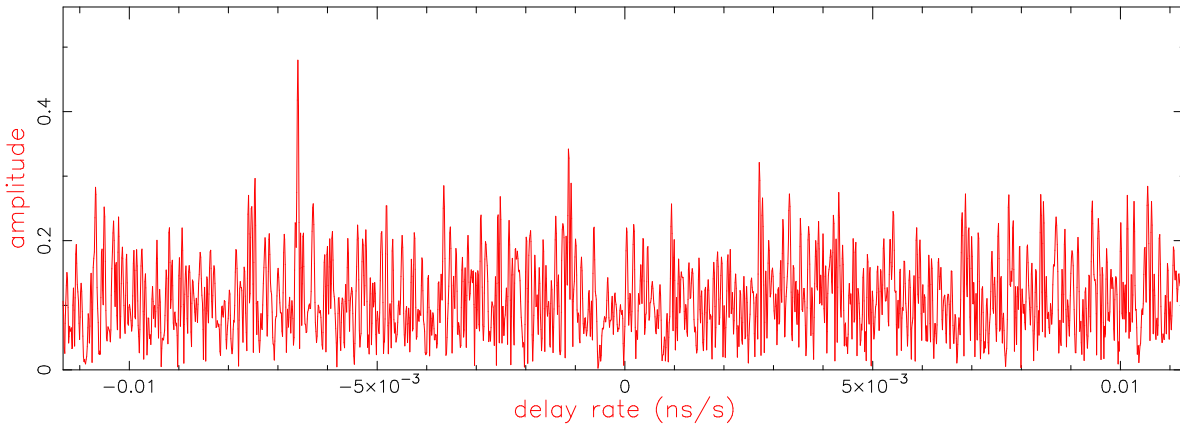
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.73688844190E+03 | Apriori delay (usec)     | 1.73525102125E+03  | Resid mbdelay (usec) | 4.81607E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.73688844425E+03 | Apriori clock (usec)     | -5.7908983E+00     | Resid sbdelay (usec) | 1.63742E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.73525101781E+03 | Apriori clockrate (us/s) | -5.5021997E-07     | Resid phdelay (usec) | -3.44110E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 2.89957084917E-02 | Apriori rate (us/s)      | 2.89953617271E-02  | Resid rate (us/s)    | 3.46765E-07  | +/- | 3.9E-09 |
| Total phase (deg)       | 242.6             | Apriori accel (us/s/s)   | -1.16458885566E-05 | Resid phase (deg)    | -106.7       | +/- | 21.0    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.9  | Theor.          | 179.4 | Amplitude      | 0.481 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 363.7 | Search (2048X8) | 0.469 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.323           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.4   | Inc. frq. avg.  | 0.466 | Inc. frq. avg. | 0.466           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

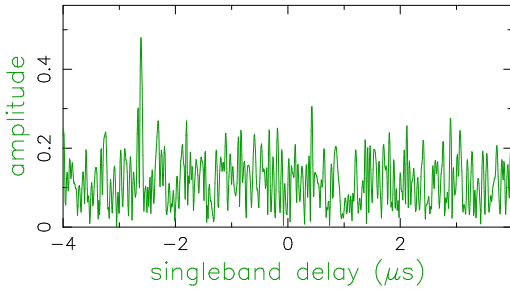
k: az 86.3 el 25.9 pa -61.9 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) -187.984 -909.343 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/ko..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/ko.W.188.0QR2SH

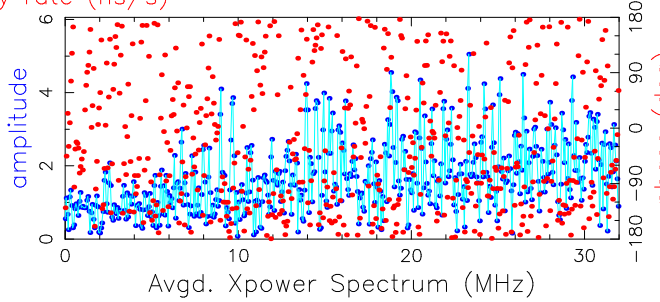
Fringe quality 0



SNR 5.5  
Int time 276.990  
Amp 0.562  
Phase -49.6  
PFD 9.7e-01  
Delays (us)  
SBD -2.613615  
MBD -0.000006  
Fringe rate (Hz)  
-0.568654  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



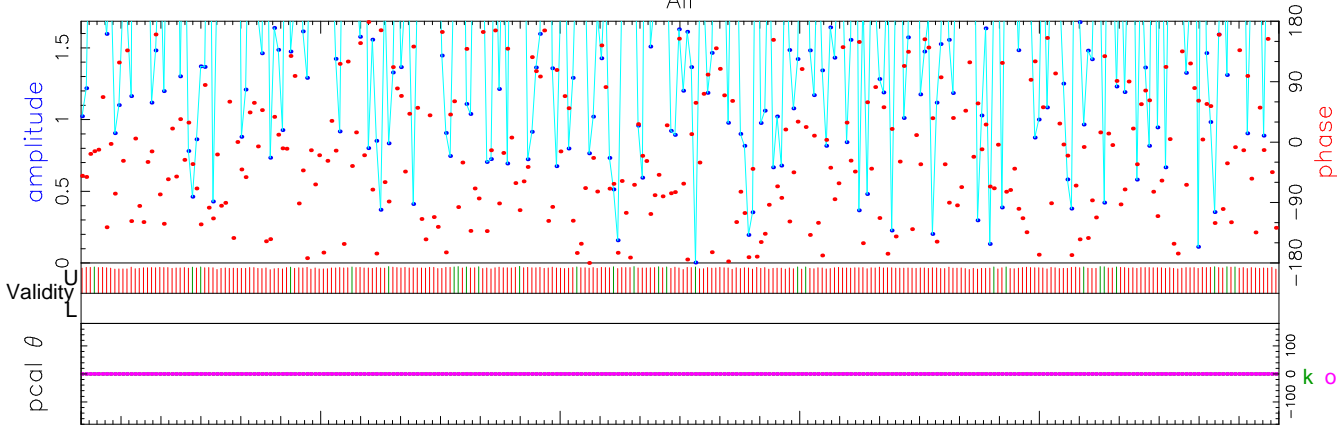
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-49.6  
0.6  
178.5  
U/L 586/0  
k 5000  
o 5000  
k:o 0:0  
k:o 0:0  
k 1000  
o 1000  
k W04UR  
k  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

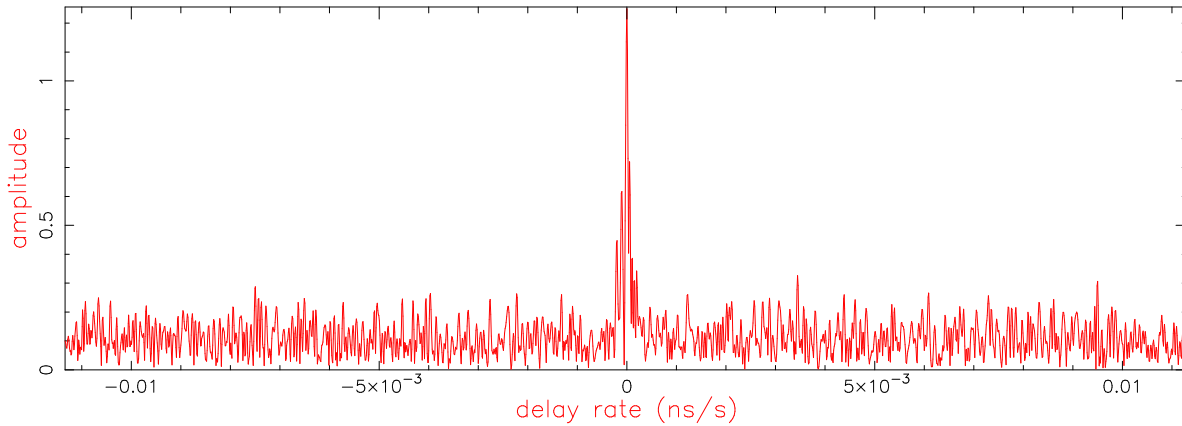
|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.73263740906E+03 | Apriori delay (usec)     | 1.73525102125E+03  | Resid mbdelay (usec) | -6.43548E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 1.73263740675E+03 | Apriori clock (usec)     | -5.7908983E+00     | Resid sbdelay (usec) | -2.61361E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | 1.73525101965E+03 | Apriori clockrate (us/s) | -5.5021997E-07     | Resid phdelay (usec) | -1.59831E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 2.89887602233E-02 | Apriori rate (us/s)      | 2.89953617271E-02  | Resid rate (us/s)    | -6.60150E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 299.8             | Apriori accel (us/s/s)   | -1.16458885566E-05 | Resid phase (deg)    | -49.6        | +/- | 20.7    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 92.8  | Theor.          | 177.0 | Amplitude      | 0.562 +/- 0.101 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 356.5 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.378           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.5   | Inc. frq. avg.  | 0.545 | Inc. frq. avg. | 0.545           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

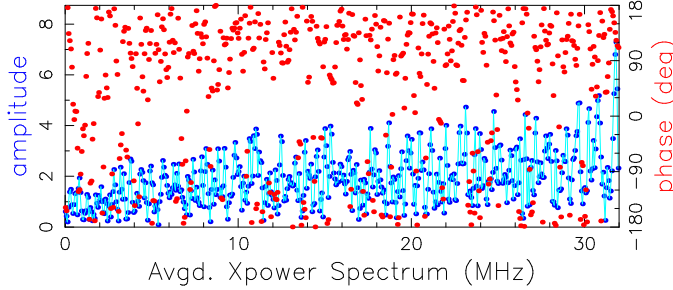
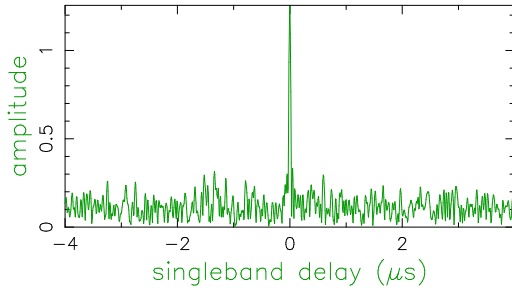
k: az 86.3 el 25.9 pa -61.9 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) -187.984 -909.343 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ko..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ko.W.204.0QR2SH

Fringe quality 9

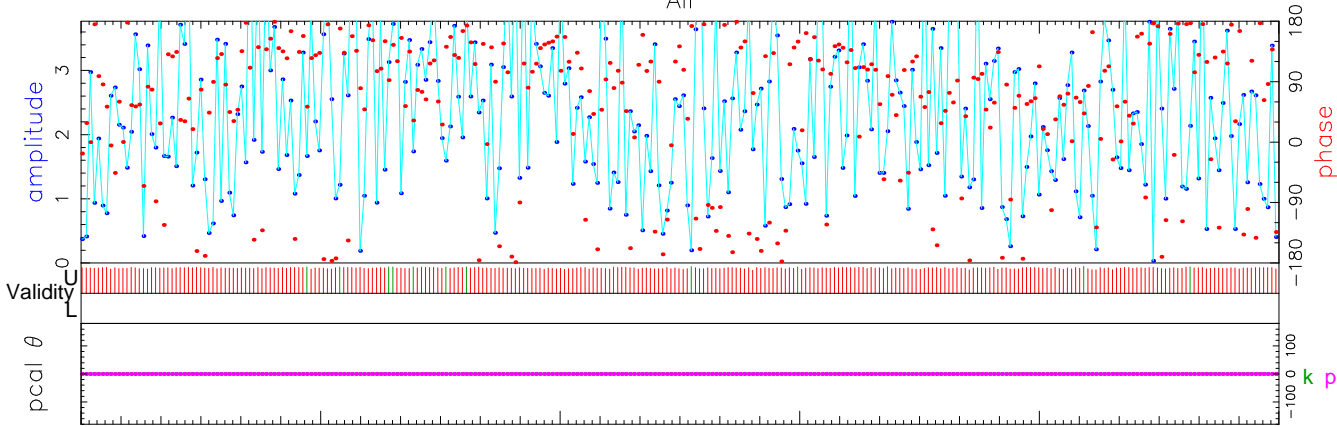


SNR 14.2  
Int time 275.238  
Amp 1.256  
Phase 120.6  
PFD 1.5e-37  
Delays (us)  
SBD -0.001762  
MBD -0.000005  
Fringe rate (Hz)  
-0.000448  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



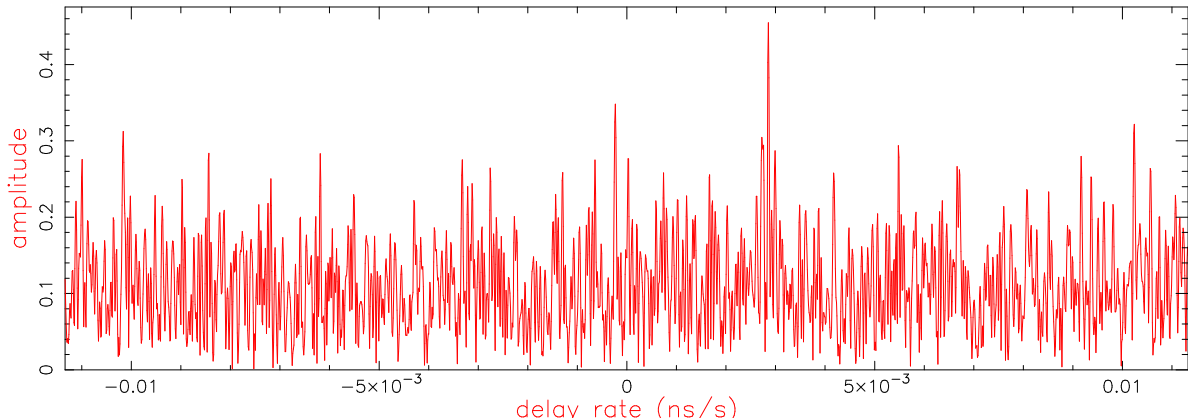
|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 120.6     |  | Phase      |
| 1.3       |  | Ampl.      |
| 512.8     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| k 5000    |  | PC freqs   |
| p 5000    |  | PC freqs   |
| k:p 0:0   |  | PC phase   |
| k:p 0:0   |  | Manl PC    |
| k 1000    |  | PC amp     |
| p 1000    |  |            |
| k W04UL   |  | Chan ids   |
|           |  |            |
| p W04UL   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -9.89943254992E+02 | Apriori delay (usec)     | -9.89941497151E+02 | Resid mbdelay (usec) | -4.88043E-06 | +/- 1.2E-03 |
| Sband delay (usec)      | -9.89943259151E+02 | Apriori clock (usec)     | -7.7702618E+00     | Resid sbdelay (usec) | -1.76200E-03 | +/- 1.2E-03 |
| Phase delay (usec)      | -9.89941493263E+02 | Apriori clockrate (us/s) | -7.5660005E-08     | Resid phdelay (usec) | 3.88801E-06  | +/- 2.6E-07 |
| Delay rate (us/s)       | 6.05447864602E-02  | Apriori rate (us/s)      | 6.05447916624E-02  | Resid rate (us/s)    | -5.20223E-09 | +/- 1.5E-09 |
| Total phase (deg)       | -82.7              | Apriori accel (us/s/s)   | 4.14029106174E-06  | Resid phase (deg)    | 120.6        | +/- 8.0     |

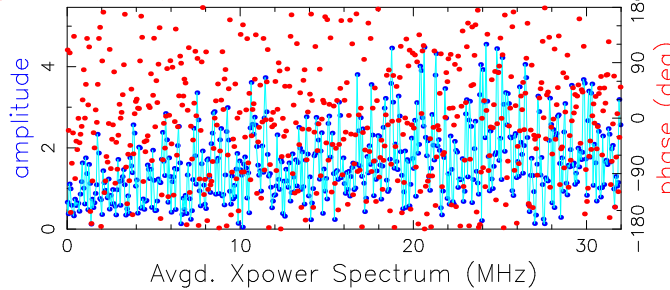
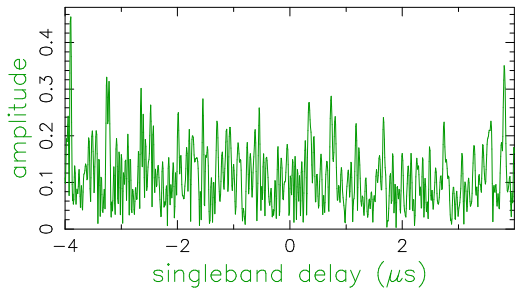
|              |          |             |                           |  |                       |                   |        |       |
|--------------|----------|-------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 71.1 | Theor. 68.9 | Amplitude 1.256 +/- 0.088 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 134.4    | 120.2       | Search (2048X8) 1.218     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 4.0         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.5      | 7.0         | Inc. seg. avg. 1.380      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |             | Inc. frq. avg. 1.247      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

k: az 86.3 el 25.9 pa -61.9      p: az 89.4 el 28.9 pa -59.3      u,v (fr/asec) -356.044 -195.145      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kp..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kp.W.139.0QR2SH

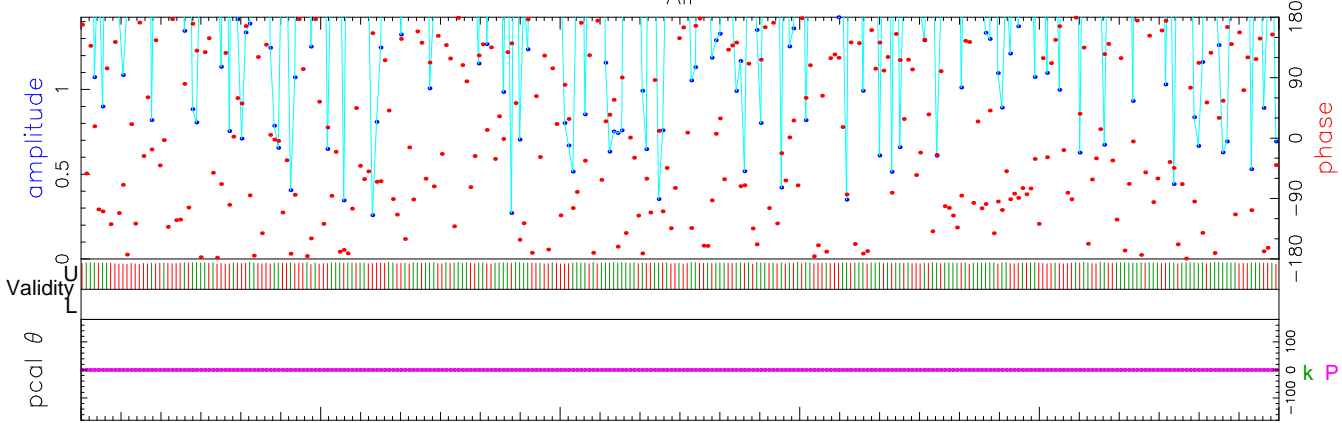


Fringe quality 0  
SNR 5.3  
Int time 284.921  
Amp 0.475  
Phase -160.9  
PFD 1.0e+00  
Delays (us)  
SBD -3.901607  
MBD 0.000006  
Fringe rate (Hz)  
0.245825  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171819  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-160.9  
0.5  
13.6  
U/L 586/0  
k 5000  
P 0  
k:P 0:0  
k:P 0:0  
k 1000  
P 1000  
k W04UL  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -6.57037175585E+03 | Apriori delay (usec)     | -6.56647014777E+03 | Resid mbdelay (usec) | 5.57232E-06  | +/- 3.2E-03 |
| Sband delay (usec)      | -6.57037175427E+03 | Apriori clock (usec)     | 2.3612265E+01      | Resid sbdelay (usec) | -3.90161E+00 | +/- 3.2E-03 |
| Phase delay (usec)      | -6.56647015296E+03 | Apriori clockrate (us/s) | 3.6634001E-07      | Resid phdelay (usec) | -5.18966E-06 | +/- 6.9E-07 |
| Delay rate (us/s)       | 1.93877218052E+00  | Apriori rate (us/s)      | 1.93876932674E+00  | Resid rate (us/s)    | 2.85378E-06  | +/- 4.0E-09 |
| Total phase (deg)       | -351.3             | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | -160.9       | +/- 21.4    |

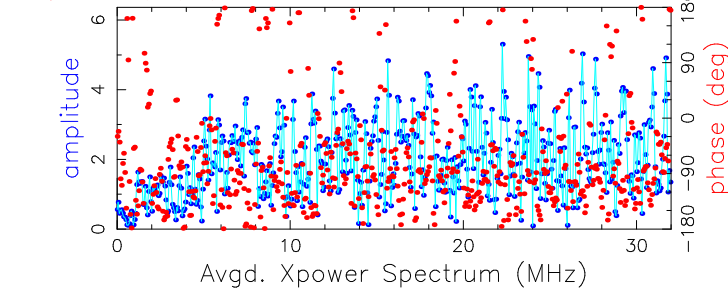
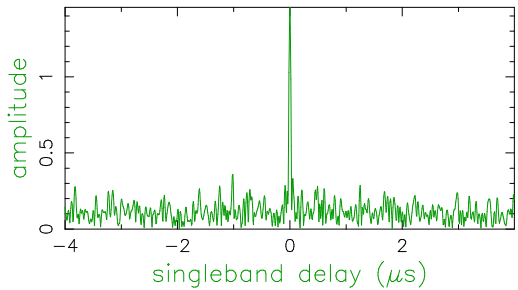
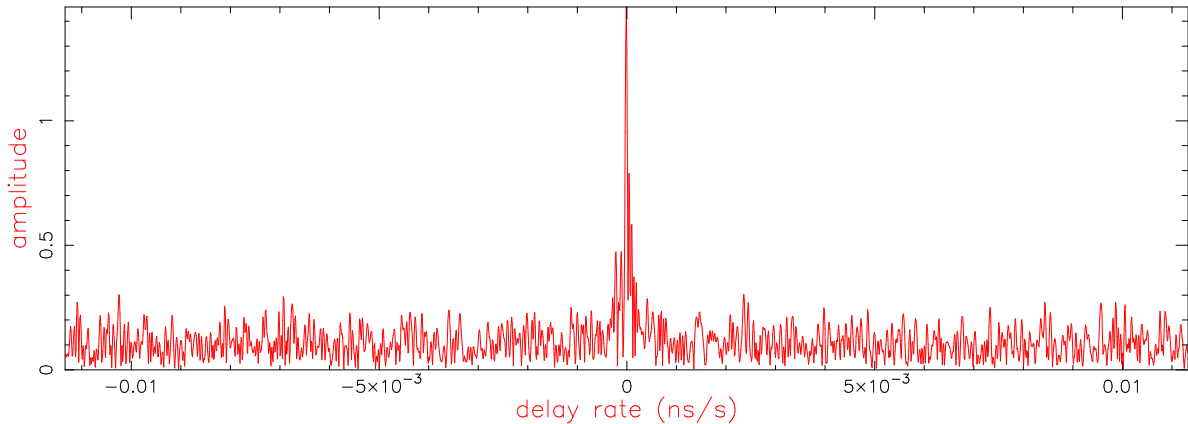
|              |       |                 |       |                |                 |  |                       |                |        |       |
|--------------|-------|-----------------|-------|----------------|-----------------|--|-----------------------|----------------|--------|-------|
| ph/seg (deg) | 92.4  | Theor.          | 183.5 | Amplitude      | 0.475 +/- 0.089 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 |                |        |       |
| amp/seg (%)  | 402.5 | Search (2048X8) | 0.448 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)        | -4.000         | 4.000  |       |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.341 | Interp.        | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | mb window (us) | -0.000 | 0.000 |
| amp/frq (%)  | 1.8   | Inc. frq. avg.  | 0.459 | Inc. seg. avg. | 0.341           | Sample rate(MSamp/s): 64               | ion window (TEC)      | -0.011         | 0.011  |       |

k: az 86.3 el 25.9 pa -61.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kP.W.140.0QR2SH

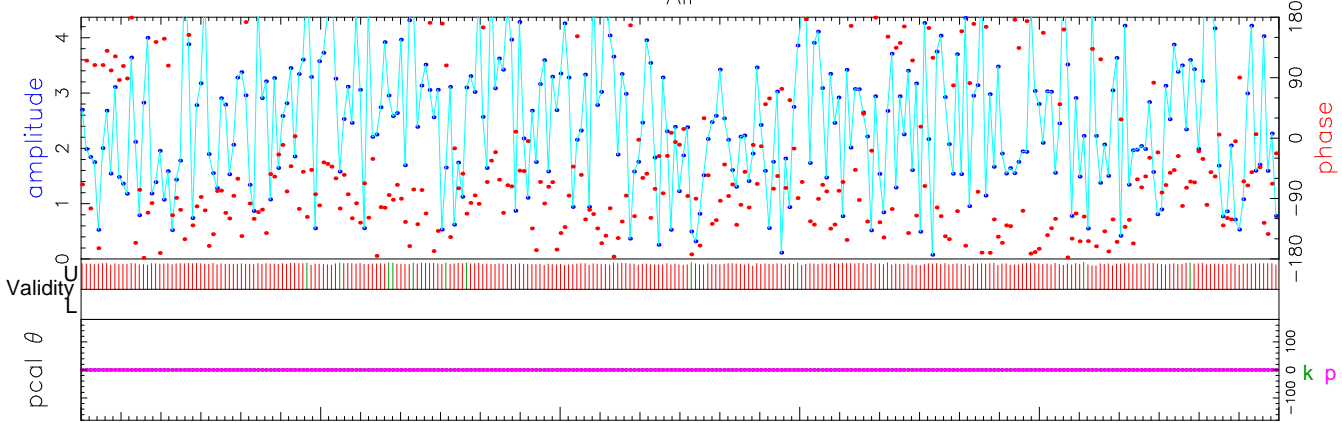
Fringe quality 9

SNR 16.5  
Int time 275.237  
Amp 1.457  
Phase -105.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.000327  
MBD -0.000007  
Fringe rate (Hz)  
-0.000502  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

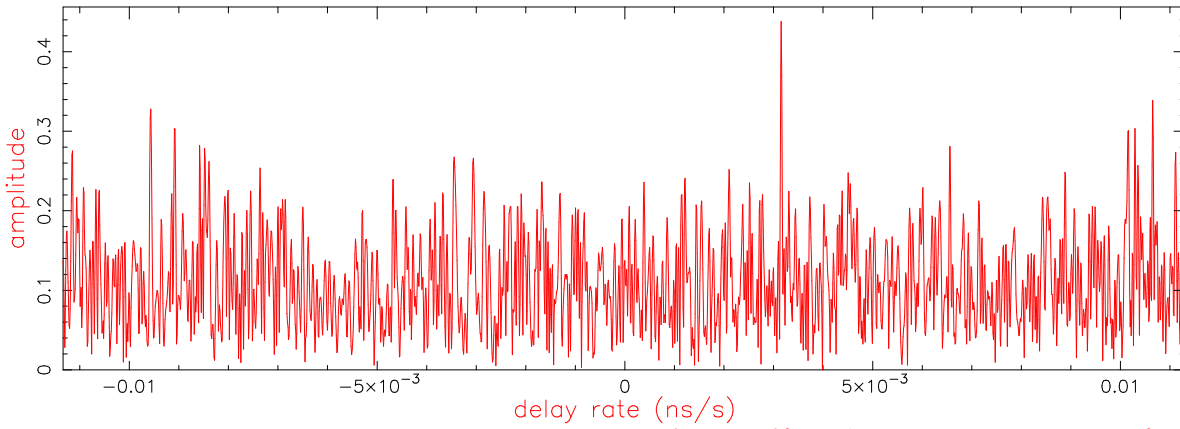


86140.00  
-105.5  
1.5  
513.0  
U/L 586/0  
k 5000  
p 5000  
k:p 0:0  
kp 0:0  
k 1000  
p 1000  
k W04UR  
p W04UR

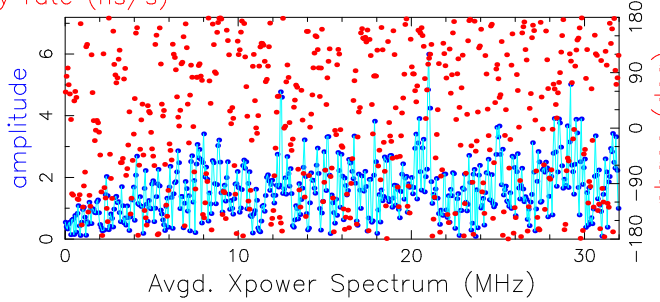
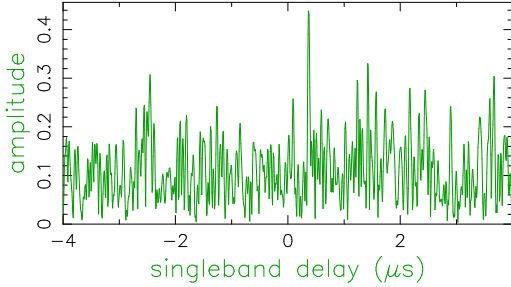
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                       |                             |                  |              |
|-------------------------|--------------------|--------------------------|--------------------|-----------------------|-----------------------------|------------------|--------------|
| Group delay (usec)(sbd) | -9.89941829343E+02 | Apriori delay (usec)     | -9.89941497151E+02 | Resid mbdelay (usec)  | -7.13959E-06                | +/-              | 1.0E-03      |
| Sband delay (usec)      | -9.89941824151E+02 | Apriori clock (usec)     | -7.7702618E+00     | Resid sbdelay (usec)  | -3.27000E-04                | +/-              | 1.0E-03      |
| Phase delay (usec)      | -9.89941500554E+02 | Apriori clockrate (us/s) | -7.5660005E-08     | Resid phdelay (usec)  | -3.40311E-06                | +/-              | 2.2E-07      |
| Delay rate (us/s)       | 6.05447858388E-02  | Apriori rate (us/s)      | 6.05447916624E-02  | Resid rate (us/s)     | -5.82363E-09                | +/-              | 1.3E-09      |
| Total phase (deg)       | -308.8             | Apriori accel (us/s/s)   | 4.14029106174E-06  | Resid phase (deg)     | -105.5                      | +/-              | 6.9          |
| ph/seg (deg)            | 69.2               | Theor. Amplitude         | 1.457 +/- 0.088    | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)             | 110.1              | Search (2048X8)          | 1.421              | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg)            | 0.0                | Interp.                  | 0.000              | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)             | 0.0                | Inc. seg. avg.           | 1.632              | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|                         |                    | Inc. frq. avg.           | 1.454              | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|                         |                    |                          |                    | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |
|                         |                    |                          |                    |                       |                             |                  |              |

Fringe quality 0



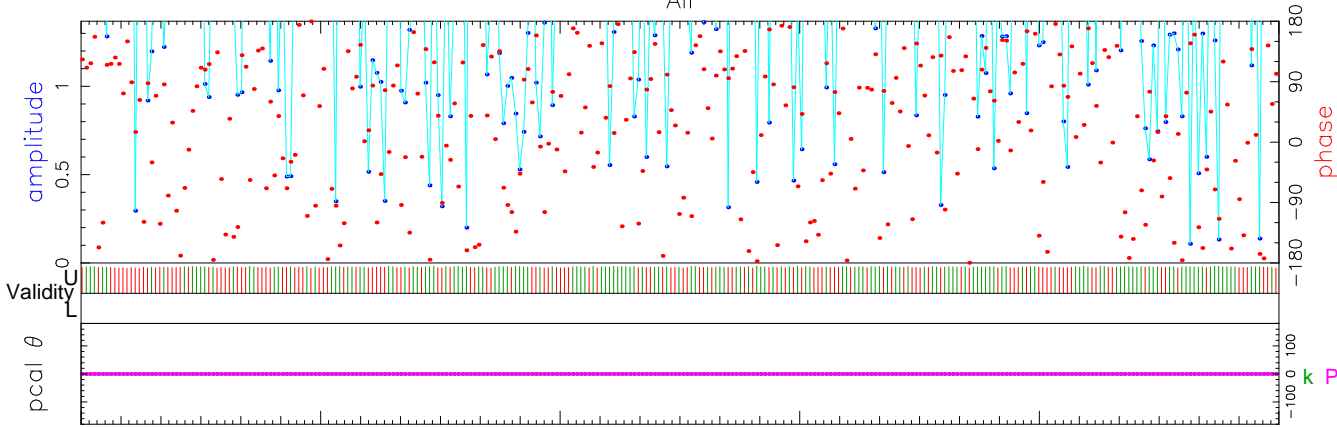
SNR 5.1  
Int time 284.926  
Amp 0.456  
Phase 107.7  
PFD 1.0e+00  
Delays (us)  
SBD 0.370021  
MBD 0.000005  
Fringe rate (Hz)  
0.271977  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
107.7  
0.5  
560.4  
U/L 586/0  
k 5000  
P 0  
k:P 0:0  
k:P 0:0  
k 1000  
P 1000  
k W04UR  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -6.56610012921E+03 | Apriori delay (usec)     | -6.56647014777E+03 | Resid mbdelay (usec) | 4.62573E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | -6.56610012677E+03 | Apriori clock (usec)     | 2.3612265E+01      | Resid sbdelay (usec) | 3.70021E-01 | +/- | 3.4E-03 |
| Phase delay (usec)      | -6.56647014430E+03 | Apriori clockrate (us/s) | 3.6634001E-07      | Resid phdelay (usec) | 3.47383E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.93877248412E+00  | Apriori rate (us/s)      | 1.93876932674E+00  | Resid rate (us/s)    | 3.15738E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -82.7              | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | 107.7       | +/- | 22.5    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 92.4  | Theor.          | 192.3 | Amplitude      | 0.456 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 398.0 | Search (2048X8) | 0.437 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.299           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.8   | Inc. frq. avg.  | 0.444 | Inc. frq. avg. | 0.444           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

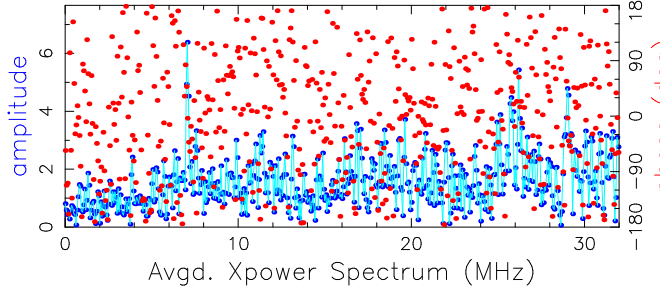
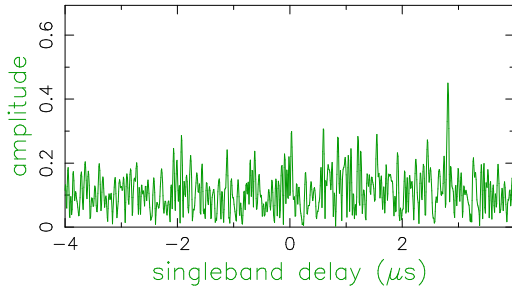
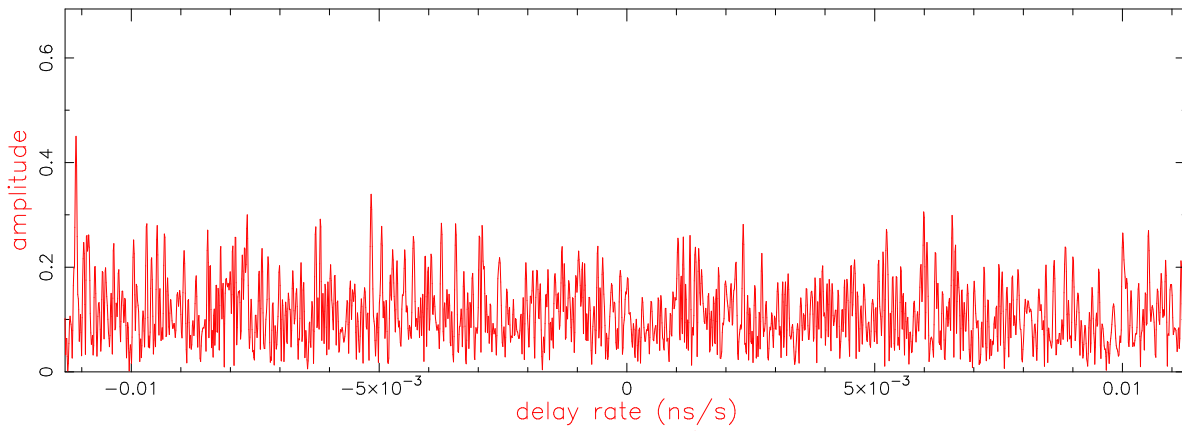
k: az 86.3 el 25.9 pa -61.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kP.W.161.0QR2SH

Fringe quality 0

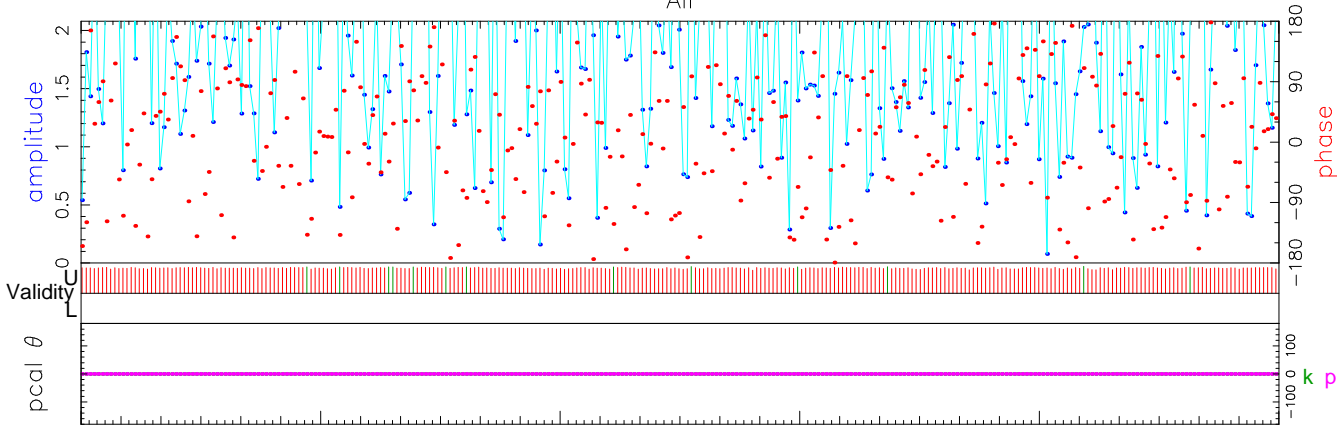
SNR 5.1  
Int time 275.231  
Amp 0.693  
Phase 21.6  
PFD 1.0e+00  
Delays (us)  
SBD 2.812735  
MBD -0.000007  
Fringe rate (Hz)  
-0.957471  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
21.6  
0.7  
873.0  
U/L 586/0  
k 5000  
p 5000  
k:p 0:0  
k:p 0:0  
k 1000  
p 1000  
k W04UL  
p W04UR

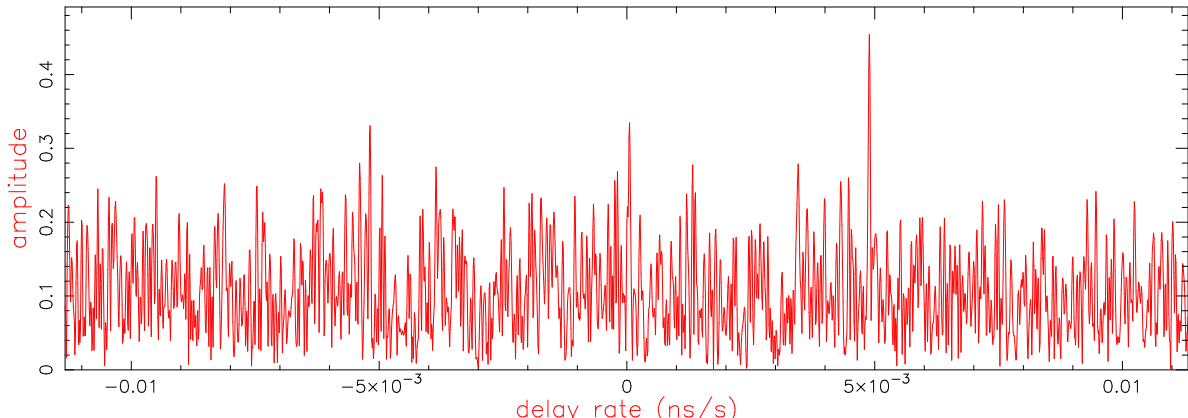
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -9.87128757526E+02 | Apriori delay (usec)     | -9.89941497151E+02 | Resid mbdelay (usec) | -7.06645E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | -9.87128762651E+02 | Apriori clock (usec)     | -7.7702618E+00     | Resid sbdelay (usec) | 2.81273E+00  | +/- | 3.4E-03 |
| Phase delay (usec)      | -9.89941496455E+02 | Apriori clockrate (us/s) | -7.5660005E-08     | Resid phdelay (usec) | 6.96381E-07  | +/- | 7.2E-07 |
| Delay rate (us/s)       | 6.05336763738E-02  | Apriori rate (us/s)      | 6.05447916624E-02  | Resid rate (us/s)    | -1.11153E-05 | +/- | 4.2E-09 |
| Total phase (deg)       | -181.7             | Apriori accel (us/s/s)   | 4.14029106174E-06  | Resid phase (deg)    | 21.6         | +/- | 22.4    |

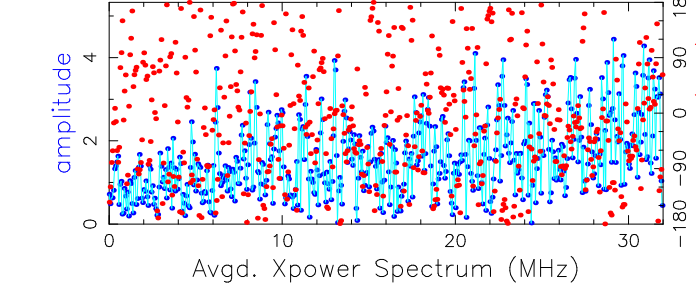
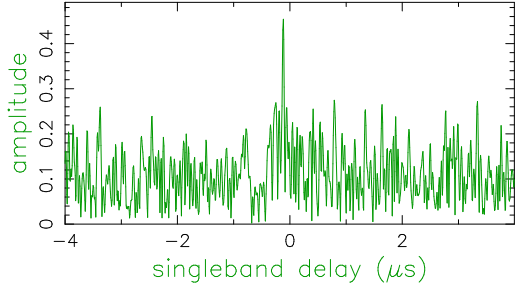
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 192.1 | Amplitude      | 0.693 +/- 0.136 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 413.6 | Search (2048X8) | 0.450 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.468           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.680 | Inc. frq. avg. | 0.680           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

k: az 86.3 el 25.9 pa -61.9 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -356.044 -195.145 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kp.W.167.0QR2SH



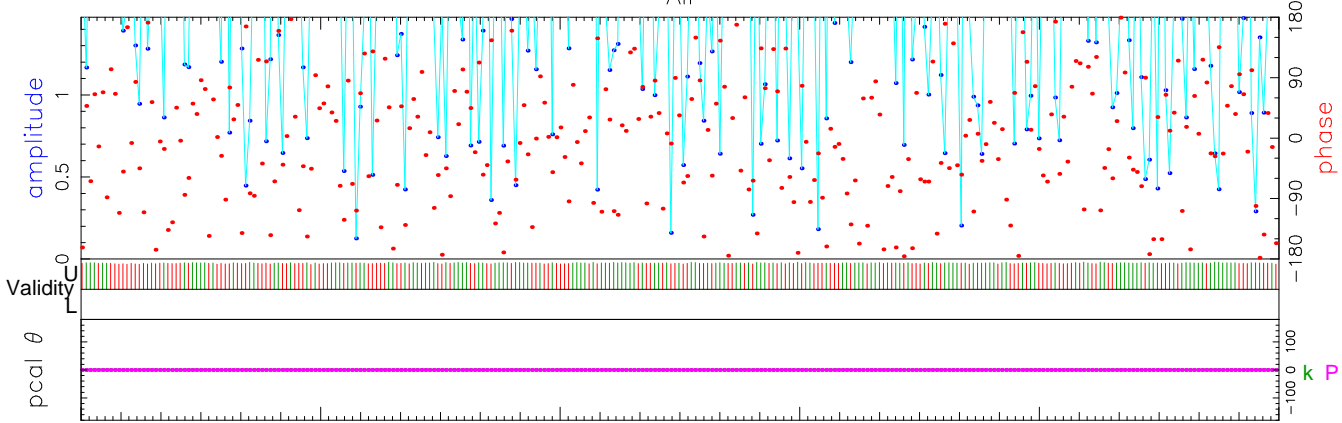
Fringe quality 0  
SNR 5.2  
Int time 284.921  
Amp 0.491  
Phase 0.3  
PFD 1.0e+00  
Delays (us)  
SBD -0.118296  
MBD 0.000005  
Fringe rate (Hz)  
0.421269  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
0.3  
0.5  
497.8  
U/L 586/0  
k 5000  
P 0  
k:P 0:0  
k:P 0:0  
k 1000  
P 1000  
k W04UL  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.56658843868E+03 | Apriori delay (usec)     | -6.56647014777E+03 | Resid mbdelay (usec) | 4.88479E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -6.56658844377E+03 | Apriori clock (usec)     | 2.3612265E+01      | Resid sbdelay (usec) | -1.18296E-01 | +/- | 3.3E-03 |
| Phase delay (usec)      | -6.56647014776E+03 | Apriori clockrate (us/s) | 3.6634001E-07      | Resid phdelay (usec) | 0.90925E-09  | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.93877421726E+00  | Apriori rate (us/s)      | 1.93876932674E+00  | Resid rate (us/s)    | 4.89052E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | -190.1             | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | 0.3          | +/- | 21.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 186.9 | Amplitude      | 0.491 +/- 0.094 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 372.9 | Search (2048X8) | 0.450 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.319           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.482 | Inc. frq. avg. | 0.482           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

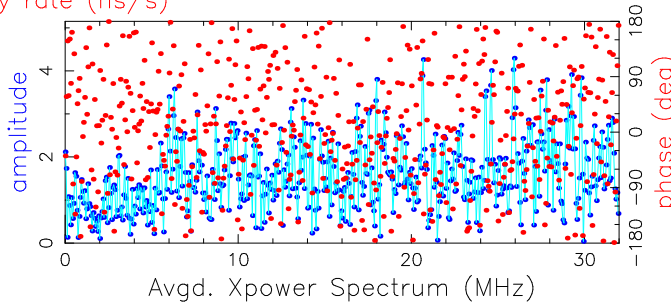
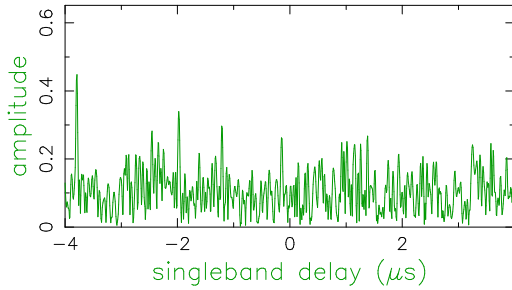
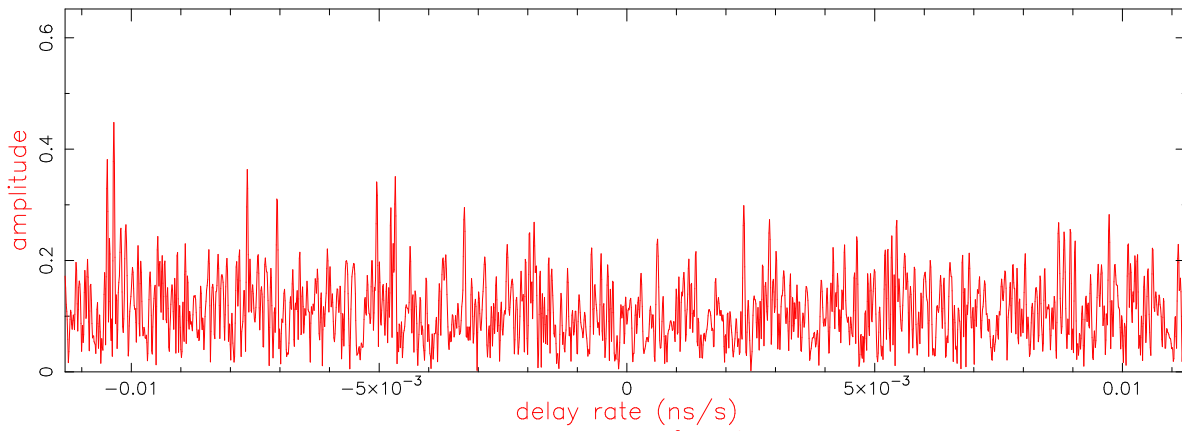
k: az 86.3 el 25.9 pa -61.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kP.W.176.0QR2SH



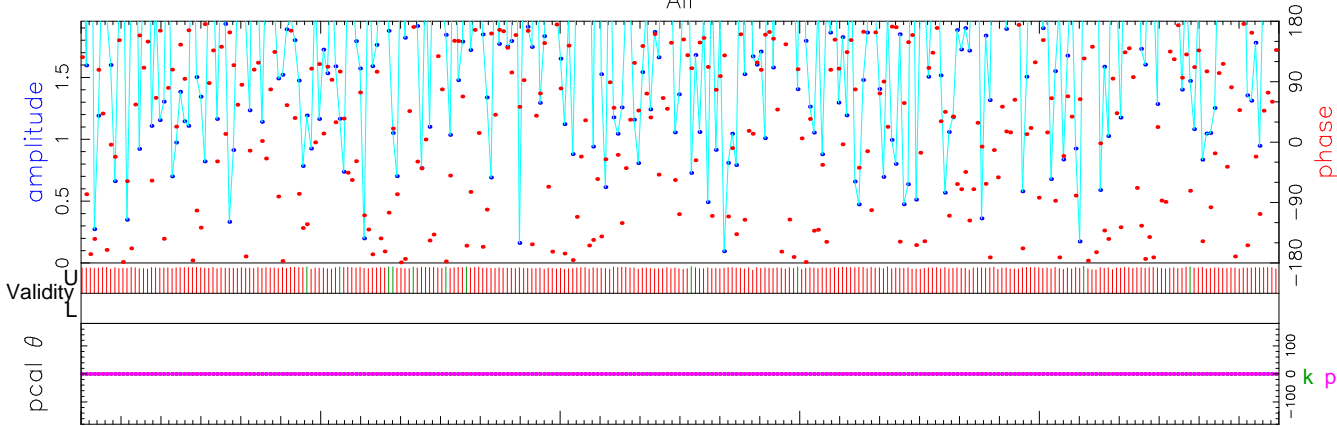
Fringe quality 0

SNR 5.1  
Int time 275.243  
Amp 0.652  
Phase 136.2  
PFD 1.0e+00  
Delays (us)  
SBD -3.791044  
MBD -0.000007  
Fringe rate (Hz)  
-0.891590  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
136.2  
0.6  
27.7  
U/L 586/0  
k 5000  
p 5000  
k:p 0:0  
kp 0:0  
k 1000  
p 1000  
k W04UR  
p W04UL

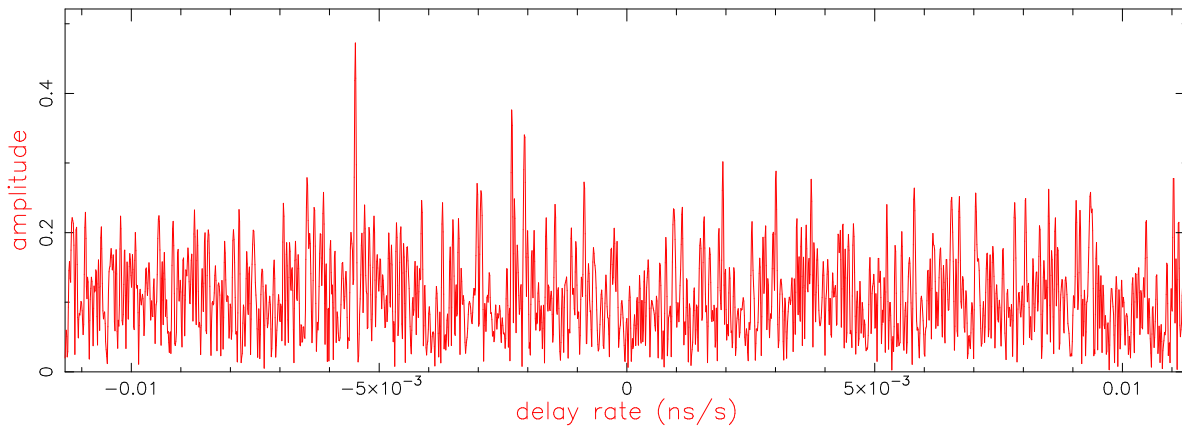
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -9.93732541533E+02 | Apriori delay (usec)     | -9.89941497151E+02 | Resid mbdelay (usec) | -6.53652E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | -9.93732540651E+02 | Apriori clock (usec)     | -7.7702618E+00     | Resid sbdelay (usec) | -3.79104E+00 | +/- | 3.4E-03 |
| Phase delay (usec)      | -9.89941492760E+02 | Apriori clockrate (us/s) | -7.5660005E-08     | Resid phdelay (usec) | 4.39110E-06  | +/- | 7.2E-07 |
| Delay rate (us/s)       | 6.05344411902E-02  | Apriori rate (us/s)      | 6.05447916624E-02  | Resid rate (us/s)    | -1.03505E-05 | +/- | 4.2E-09 |
| Total phase (deg)       | -67.1              | Apriori accel (us/s/s)   | 4.14029106174E-06  | Resid phase (deg)    | 136.2        | +/- | 22.4    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.2  | Theor.          | 192.1 | Amplitude      | 0.652 +/- 0.128 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 400.9 | Search (2048X8) | 0.447 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.429           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.5   | Inc. frq. avg.  | 0.636 | Inc. frq. avg. | 0.636           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

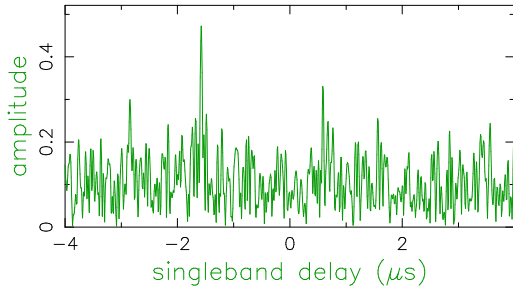
k: az 86.3 el 25.9 pa -61.9      p: az 89.4 el 28.9 pa -59.3      u,v (fr/asec) -356.044 -195.145      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kp..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kp.W.177.0QR2SH

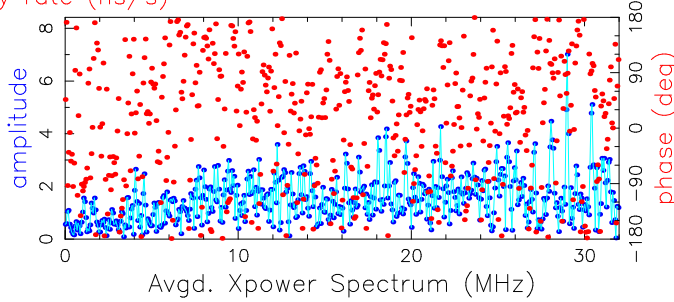


Fringe quality 0

SNR 5.5  
Int time 284.926  
Amp 0.521  
Phase -15.4  
PFD 1.0e+00  
Delays (us)  
SBD -1.577469  
MBD -0.000007  
Fringe rate (Hz)  
-0.472476  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

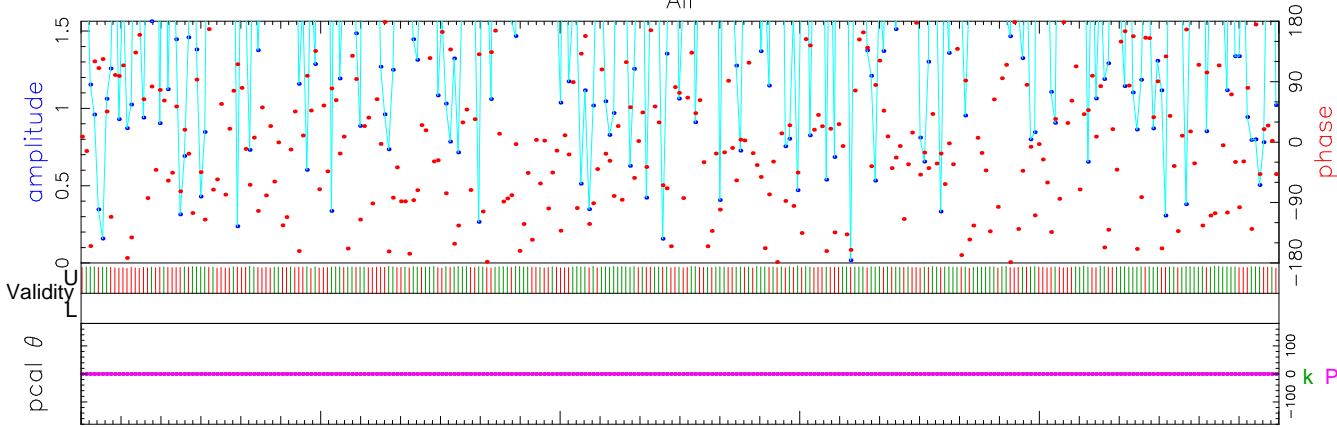


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-15.4  
0.5  
311.1  
U/L 586/0  
k 5000  
P 0  
k:P 0:0  
k:P 0:0  
k 1000  
P 1000  
k W04UR  
P W04UL

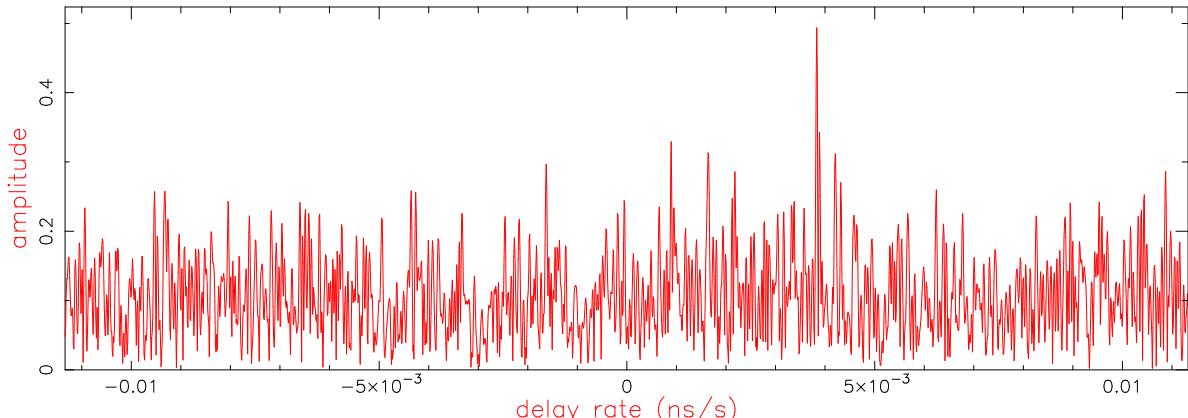
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.56804762136E+03 | Apriori delay (usec)     | -6.56647014777E+03 | Resid mbdelay (usec) | -6.68029E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -6.56804761627E+03 | Apriori clock (usec)     | 2.3612265E+01      | Resid sbdelay (usec) | -1.57747E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -6.56647014827E+03 | Apriori clockrate (us/s) | 3.6634001E-07      | Resid phdelay (usec) | -4.98004E-07 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.93876384176E+00  | Apriori rate (us/s)      | 1.93876932674E+00  | Resid rate (us/s)    | -5.48497E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -205.8             | Apriori accel (us/s/s)   | 3.27217655819E-05  | Resid phase (deg)    | -15.4        | +/- | 21.0    |

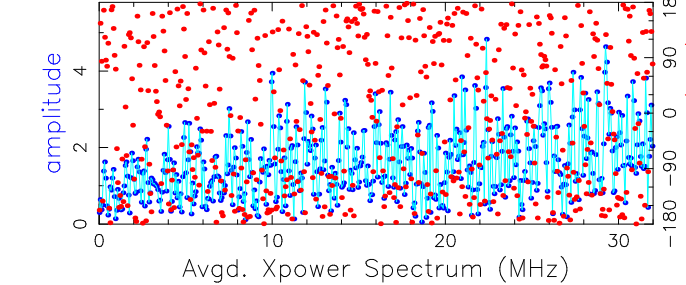
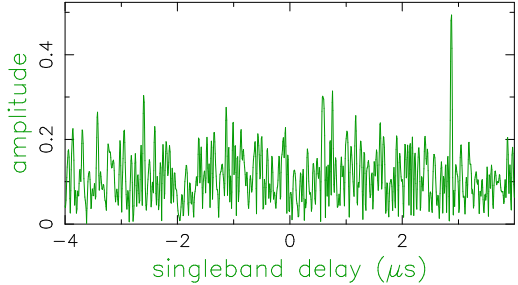
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 93.5  | Theor.          | 179.9 | Amplitude      | 0.521 +/- 0.096 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 386.8 | Search (2048X8) | 0.463 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.366 | Inc. seg. avg. | 0.366           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.512 | Inc. frq. avg. | 0.512           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

k: az 86.3 el 25.9 pa -61.9 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11522.443 179.336 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kP.W.194.0QR2SH



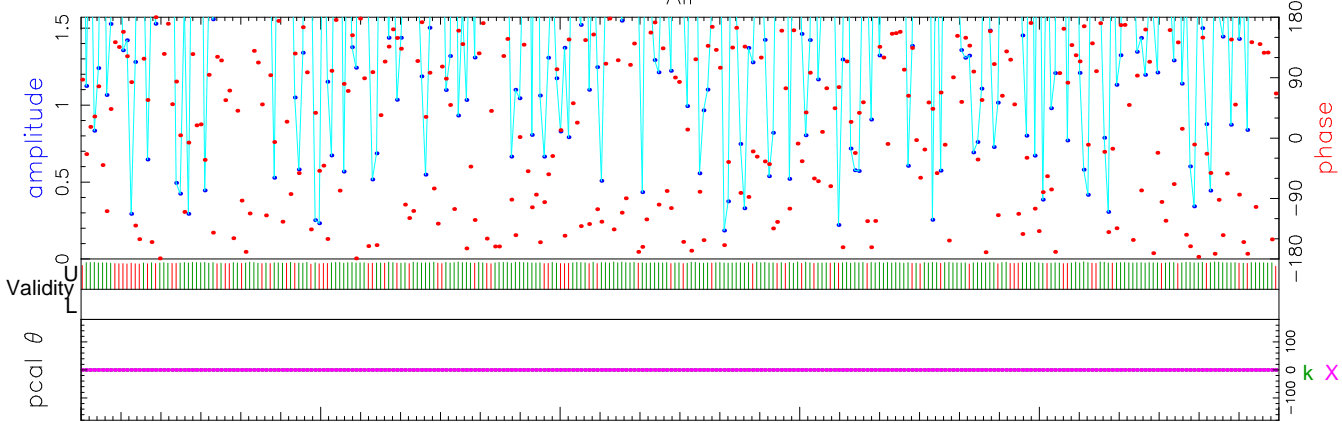
Fringe quality 0  
SNR 5.8  
Int time 287.683  
Amp 0.524  
Phase 153.6  
PFD 5.8e-01  
Delays (us)  
SBD 2.872226  
MBD 0.000007  
Fringe rate (Hz)  
0.329914  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
153.6  
0.5  
880.6  
U/L 586/0  
k 5000  
X 0  
k:X 0:0  
k:X 0:0  
k 1000  
X 1000  
k W04UL  
X W04UL

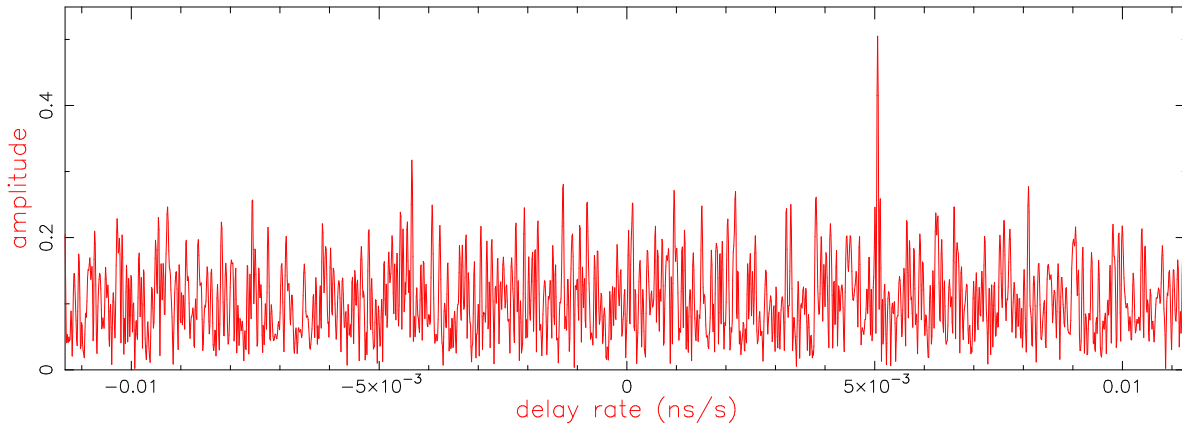
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -1.77840961358E+03 | Apriori delay (usec)     | -1.78128183988E+03 | Resid mbdelay (usec) | 6.66181E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -1.77840961438E+03 | Apriori clock (usec)     | -1.5334518E+00     | Resid sbdelay (usec) | 2.87223E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | -1.78128183493E+03 | Apriori clockrate (us/s) | -7.1065999E-07     | Resid phdelay (usec) | 4.95414E-06 | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.83656097615E+00  | Apriori rate (us/s)      | 1.83655714617E+00  | Resid rate (us/s)    | 3.82998E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -93.8              | Apriori accel (us/s/s)   | -4.23864104482E-07 | Resid phase (deg)    | 153.6       | +/- | 19.8    |

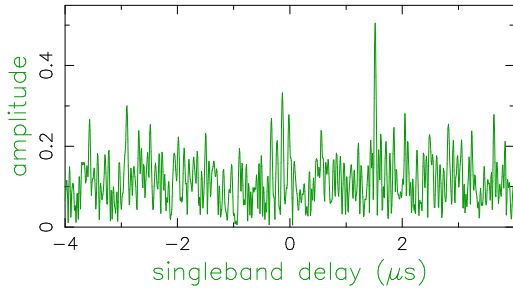
|              |       |                 |       |                |                 |                        |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 91.6  | Theor.          | 169.3 | Amplitude      | 0.524 +/- 0.090 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 345.9 | Search (2048X8) | 0.494 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.368 | Inc. seg. avg. | 0.368           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.2   | Inc. frq. avg.  | 0.510 | Inc. frq. avg. | 0.510           | Sample rate (MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

k: az 86.3 el 25.9 pa -61.9 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10955.738 -2621.372 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kX.W.146.0QR2SH

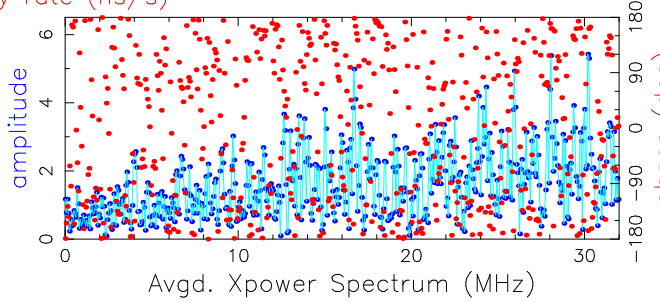
Fringe quality 0



SNR 5.9  
Int time 287.689  
Amp 0.549  
Phase -103.8  
PFD 4.5e-01  
Delays (us)  
SBD 1.516282  
MBD 0.000006  
Fringe rate (Hz)  
0.436218  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



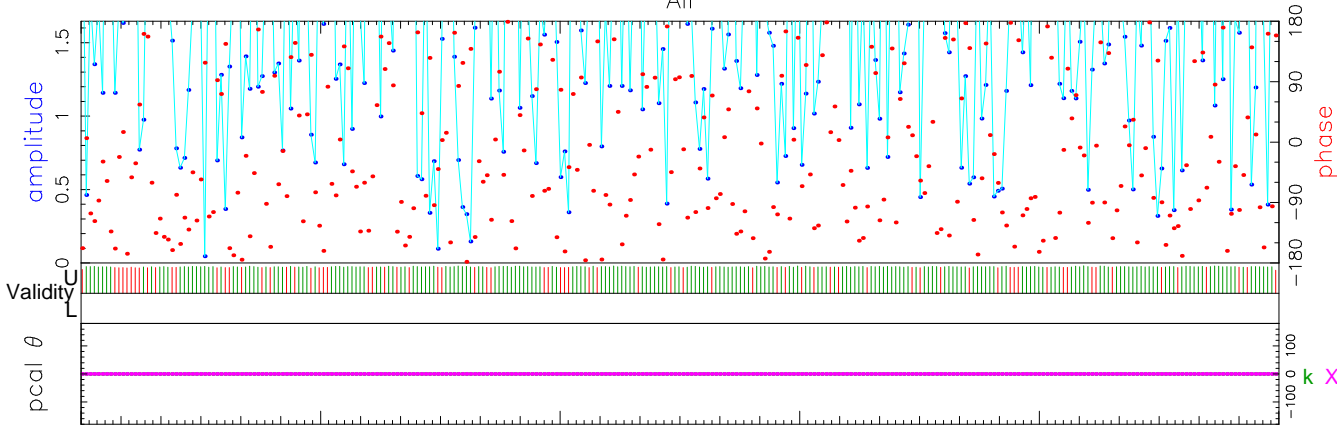
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

-103.8

0.5

707.1

U/L 586/0

k 5000

X 0

k:X 0:0

k:X 0:0

k 1000

X 1000

k W04UR

X W04UR

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC freqs

PC phase

Mani PC

PC amp

Chan ids

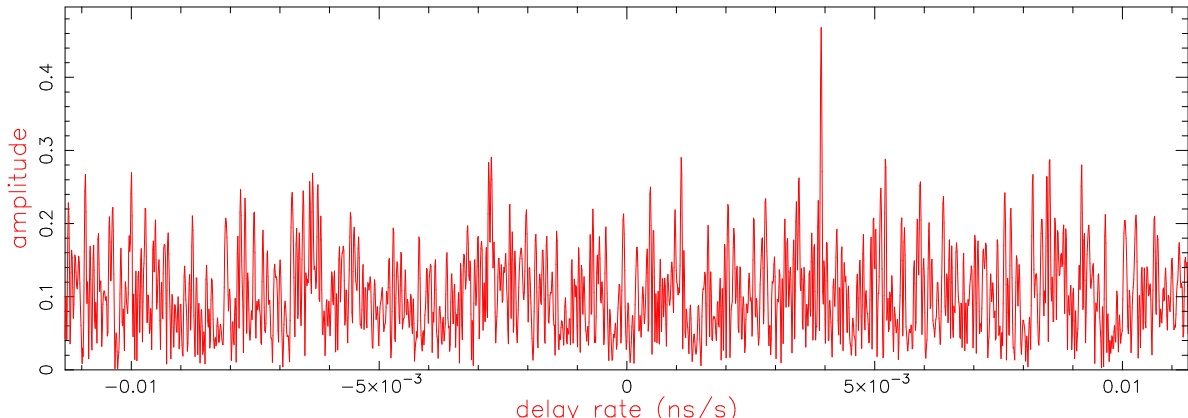
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.77976555783E+03 | Apriori delay (usec)     | -1.78128183988E+03 | Resid mbdelay (usec) | 6.22419E-06  | +/- | 2.9E-03 |
| Sband delay (usec)      | -1.77976555788E+03 | Apriori clock (usec)     | -1.5334518E+00     | Resid sbdelay (usec) | 1.51628E+00  | +/- | 2.9E-03 |
| Phase delay (usec)      | -1.78128184323E+03 | Apriori clockrate (us/s) | -7.1065999E-07     | Resid phdelay (usec) | -3.34688E-06 | +/- | 6.3E-07 |
| Delay rate (us/s)       | 1.83656221023E+00  | Apriori rate (us/s)      | 1.83655714617E+00  | Resid rate (us/s)    | 5.06406E-06  | +/- | 3.6E-09 |
| Total phase (deg)       | -351.3             | Apriori accel (us/s/s)   | -4.23864104482E-07 | Resid phase (deg)    | -103.8       | +/- | 19.6    |

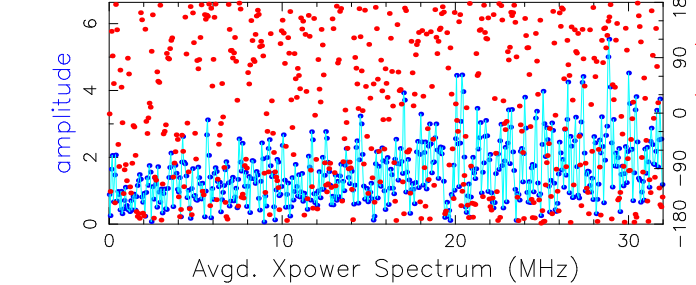
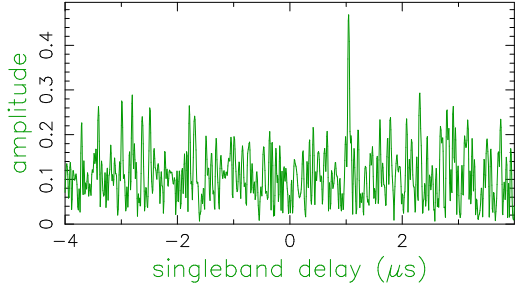
|              |          |              |                           |                 |       |  |                       |                  |          |       |
|--------------|----------|--------------|---------------------------|-----------------|-------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | RMS 89.7 | Theor. 167.5 | Amplitude 0.549 +/- 0.094 | Search (2048X8) | 0.489 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 329.0    | 292.3        | Interp.                   | 0.000           |       | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0      | 9.8          | Inc. seg. avg.            | 0.379           |       | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.1      | 17.1         | Inc. frq. avg.            | 0.541           |       | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |          |              |                           |                 |       | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

k: az 86.3 el 25.9 pa -61.9 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10955.738 -2621.372 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kX.W.163.0QR2SH



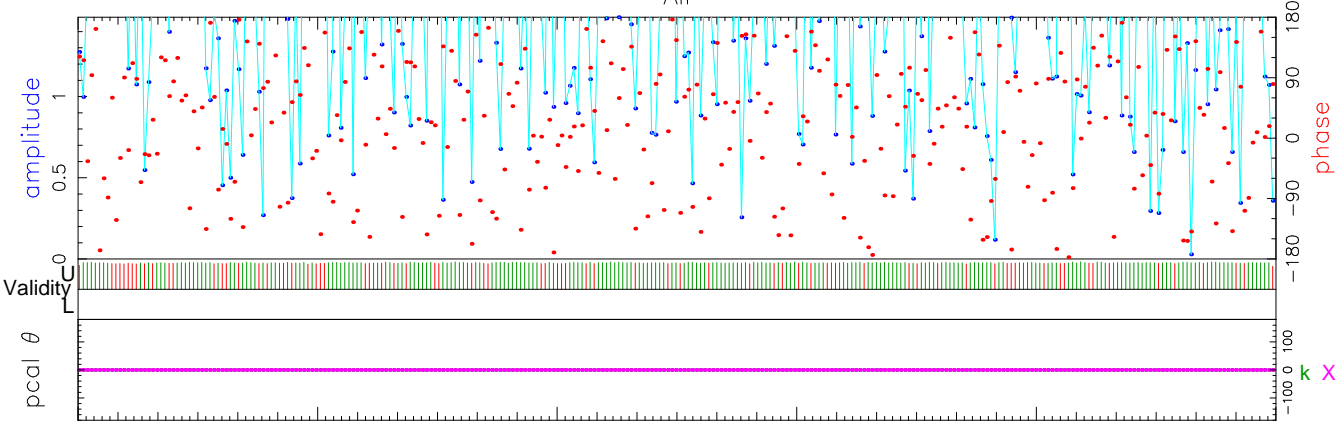
Fringe quality 0  
SNR 5.5  
Int time 287.683  
Amp 0.496  
Phase 58.8  
PFD 9.9e-01  
Delays (us)  
SBD 1.044335  
MBD 0.000006  
Fringe rate (Hz) 0.337197  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
58.8  
0.5  
646.7  
U/L 586/0  
k 5000  
X 0  
k:X 0:0  
k:X 0:0  
k 1000  
X 1000  
k W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -1.78023749897E+03 | Apriori delay (usec)     | -1.78128183988E+03 | Resid mbdelay (usec) | 6.10838E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.78023750438E+03 | Apriori clock (usec)     | -1.5334518E+00     | Resid sbdelay (usec) | 1.04434E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.78128183799E+03 | Apriori clockrate (us/s) | -7.1065999E-07     | Resid phdelay (usec) | 1.89650E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.83656106069E+00  | Apriori rate (us/s)      | 1.83655714617E+00  | Resid rate (us/s)    | 3.91452E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -188.7             | Apriori accel (us/s/s)   | -4.23864104482E-07 | Resid phase (deg)    | 58.8        | +/- | 20.9    |

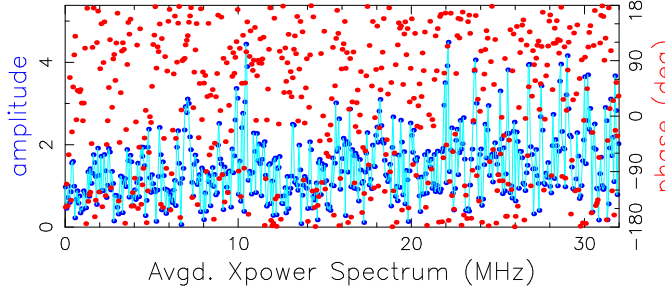
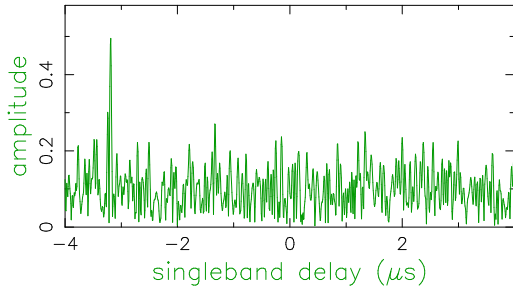
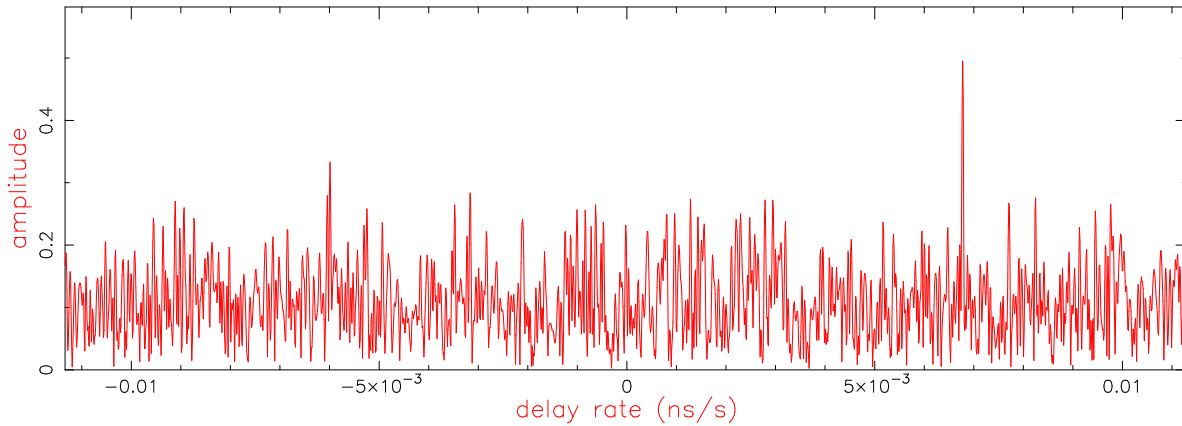
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 93.3  | Theor.          | 179.1 | Amplitude      | 0.496 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 358.6 | Search (2048X8) | 0.460 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.328 | Inc. seg. avg. | 0.328           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.484 | Inc. frq. avg. | 0.484           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

k: az 86.3 el 25.9 pa -61.9 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10955.738 -2621.372 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kX.W.184.0QR2SH

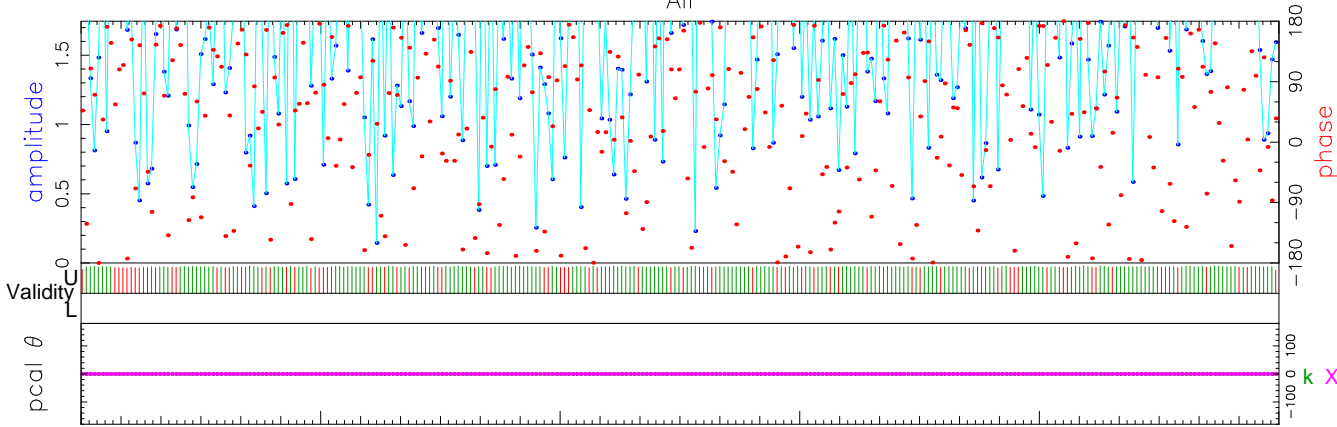
Fringe quality 0

SNR 5.8  
Int time 287.689  
Amp 0.582  
Phase 113.5  
PFD 5.7e-01  
Delays (us)  
SBD -3.190068  
MBD 0.000004  
Fringe rate (Hz)  
0.583875  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
113.5  
0.6  
104.7  
U/L 586/0  
k 5000  
X 0  
k:X 0:0  
k:X 0:0  
k 1000  
X 1000  
k W04UR  
X W04UL

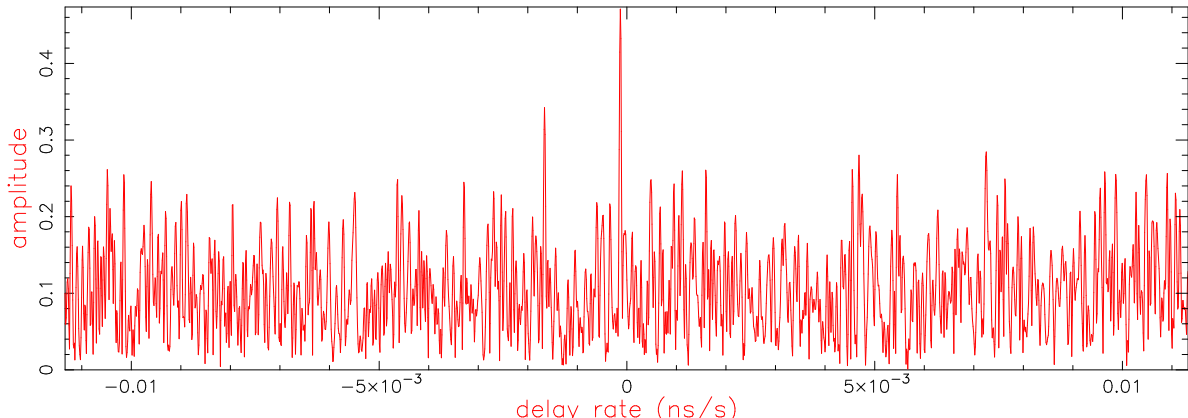
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.78447190980E+03 | Apriori delay (usec)     | -1.78128183988E+03 | Resid mbdelay (usec) | 4.38300E-06  | +/- | 3.0E-03 |
| Sband delay (usec)      | -1.78447190838E+03 | Apriori clock (usec)     | -1.5334518E+00     | Resid sbdelay (usec) | -3.19007E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | -1.78128183622E+03 | Apriori clockrate (us/s) | -7.1065999E-07     | Resid phdelay (usec) | 3.65942E-06  | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.83656392439E+00  | Apriori rate (us/s)      | 1.83655714617E+00  | Resid rate (us/s)    | 6.77822E-06  | +/- | 3.7E-09 |
| Total phase (deg)       | -134.0             | Apriori accel (us/s/s)   | -4.23864104482E-07 | Resid phase (deg)    | 113.5        | +/- | 19.8    |

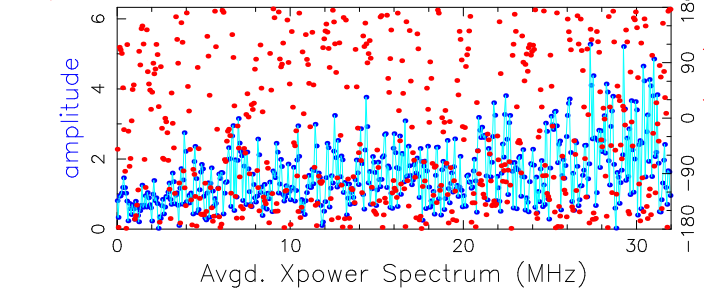
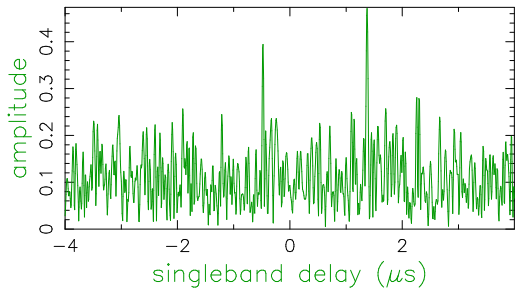
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.3  | Theor.          | 169.1 | Amplitude      | 0.582 +/- 0.100 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 349.7 | Search (2048X8) | 0.490 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.422           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.0   | Inc. frq. avg.  | 0.568 | Inc. frq. avg. | 0.568           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

k: az 86.3 el 25.9 pa -61.9 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10955.738 -2621.372 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kX.W.201.0QR2SH



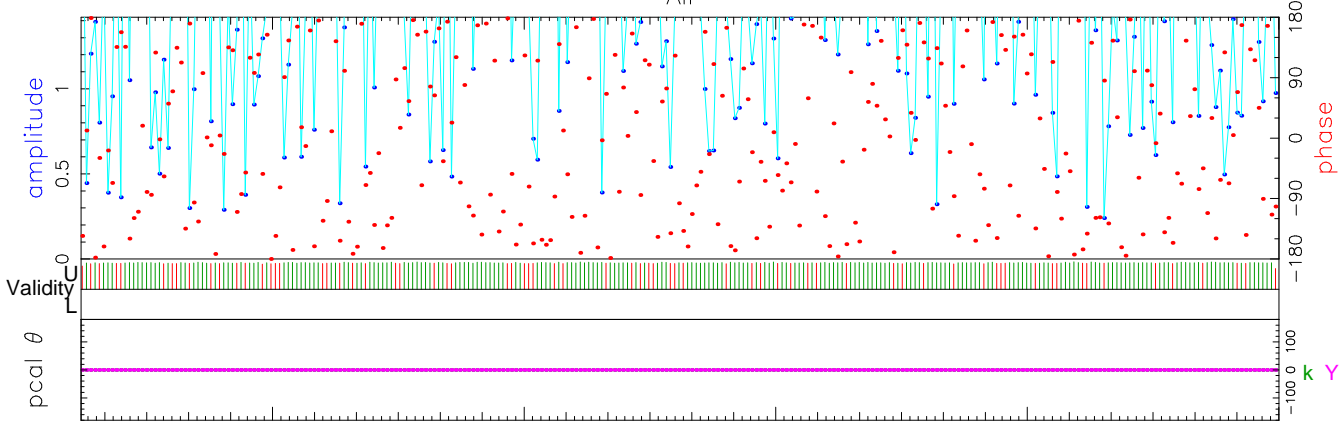
Fringe quality 0  
SNR 5.4  
Int time 273.921  
Amp 0.474  
Phase -162.4  
PFD 1.0e+00  
Delays (us)  
SBD 1.372805  
MBD -0.000007  
Fringe rate (Hz)  
-0.011407  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-162.4  
0.5  
688.7  
U/L 558/0  
k 5000  
Y 0  
k:Y 0:0  
k:Y 0:0  
k 1000  
Y 1000  
k W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.20154984254E+03 | Apriori delay (usec)     | -6.20292264728E+03 | Resid mbdelay (usec) | -6.96239E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -6.20154984278E+03 | Apriori clock (usec)     | 1.6513575E+01      | Resid sbdelay (usec) | 1.37280E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -6.20292265252E+03 | Apriori clockrate (us/s) | -1.2366001E-07     | Resid phdelay (usec) | -5.23537E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.90720570679E+00  | Apriori rate (us/s)      | 1.90720583921E+00  | Resid rate (us/s)    | -1.32426E-07 | +/- | 4.2E-09 |
| Total phase (deg)       | -103.7             | Apriori accel (us/s/s)   | 2.92716963624E-05  | Resid phase (deg)    | -162.4       | +/- | 21.4    |

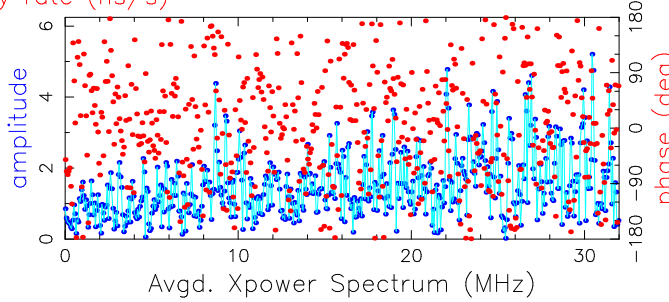
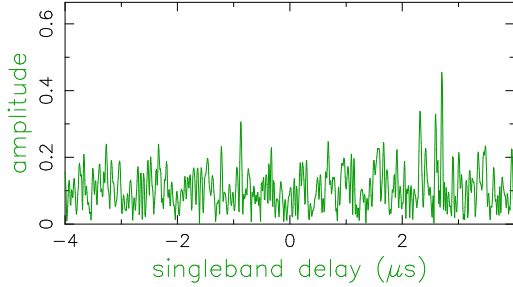
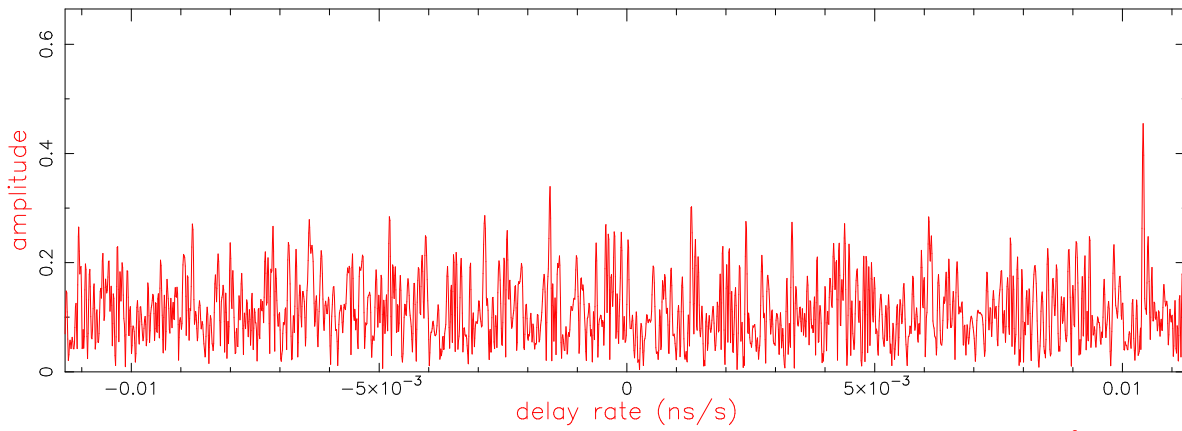
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 178.6 | Amplitude      | 0.474 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 342.5 | Search (2048X8) | 0.470 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.309           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.463 | Inc. frq. avg. | 0.463           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

k: az 86.3 el 25.9 pa -61.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11338.761 -299.154 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kY.W.145.0QR2SH

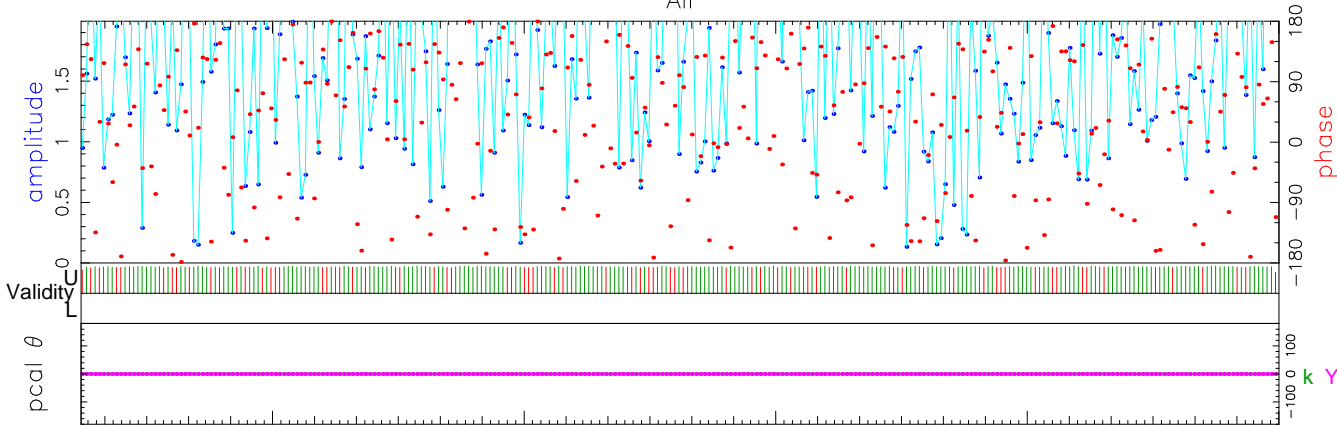
Fringe quality 0

SNR 5.2  
Int time 273.925  
Amp 0.665  
Phase 113.0  
PFD 1.0e+00  
Delays (us)  
SBD 2.704654  
MBD 0.000006  
Fringe rate (Hz)  
0.897598  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
113.0  
0.7  
859.2  
U/L 558/0  
k 5000  
Y 0  
k:Y 0:0  
k:Y 0:0  
k 1000  
Y 1000  
k W04UR  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

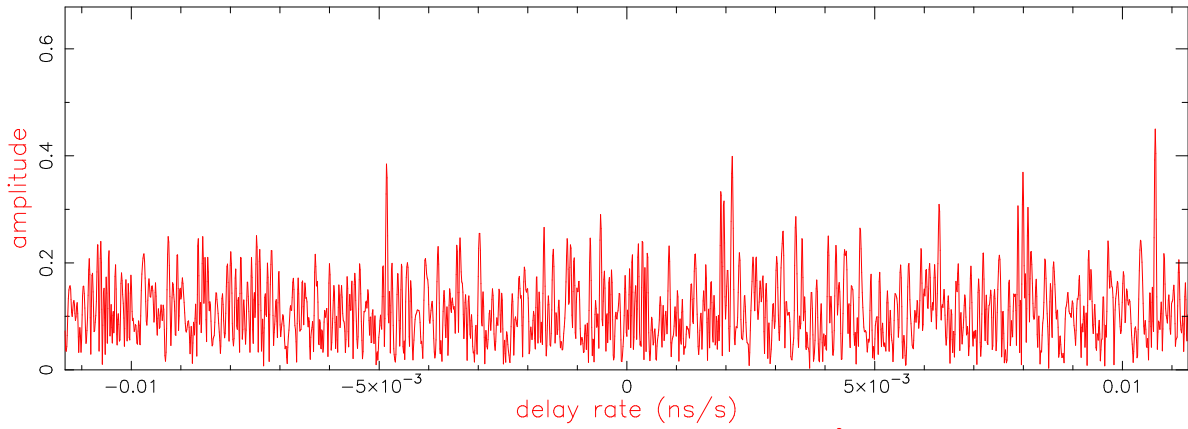
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -6.20021799792E+03 | Apriori delay (usec)     | -6.20292264728E+03 | Resid mbdelay (usec) | 5.75853E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -6.20021799328E+03 | Apriori clock (usec)     | 1.6513575E+01      | Resid sbdelay (usec) | 2.70465E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -6.20292264364E+03 | Apriori clockrate (us/s) | -1.2366001E-07     | Resid phdelay (usec) | 3.64442E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.90721625943E+00  | Apriori rate (us/s)      | 1.90720583921E+00  | Resid rate (us/s)    | 1.04202E-05 | +/- | 4.3E-09 |
| Total phase (deg)       | -188.3             | Apriori accel (us/s/s)   | 2.92716963624E-05  | Resid phase (deg)    | 113.0       | +/- | 22.2    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.4  | Theor.          | 185.2 | Amplitude      | 0.665 +/- 0.129 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 368.3 | Search (2048X8) | 0.453 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.431 | Inc. frq. avg. | 0.650           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.650 |                |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |
|              |       |                 |       |                |                 | nlags:                | 512                         | t_cohere         | infinite     |                |              |

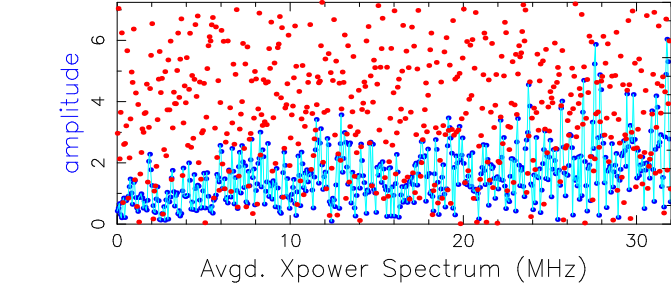
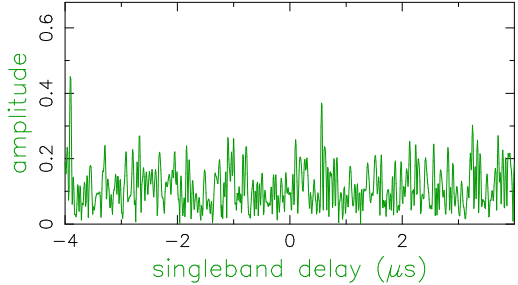
k: az 86.3 el 25.9 pa -61.9 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11338.761 -299.154 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kY.W.174.0QR2SH





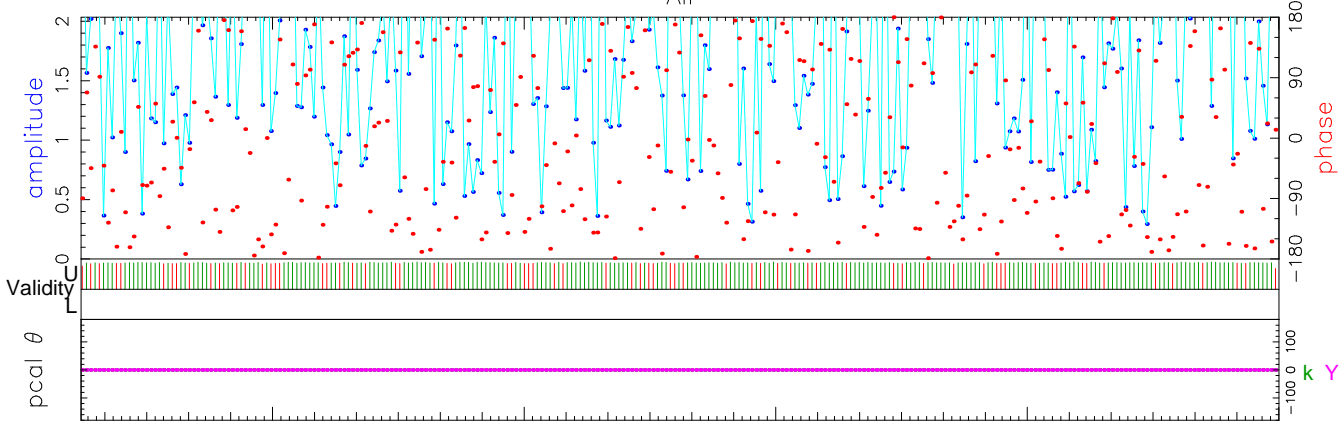
Fringe quality 0  
SNR 5.2  
Int time 273.921  
Amp 0.678  
Phase -148.5  
PFD 1.0e+00  
Delays (us)  
SBD -3.903056  
MBD 0.000006  
Fringe rate (Hz)  
0.918685  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-148.5  
0.7  
13.4  
U/L 558/0  
k 5000  
Y 0  
k:Y 0:0  
k:Y 0:0  
k 1000  
Y 1000  
k W04UL  
Y W04UR

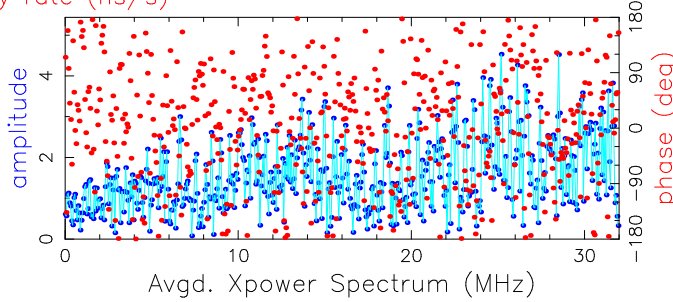
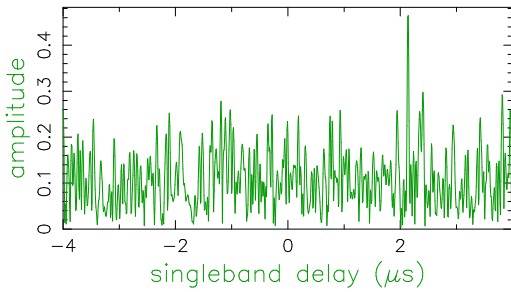
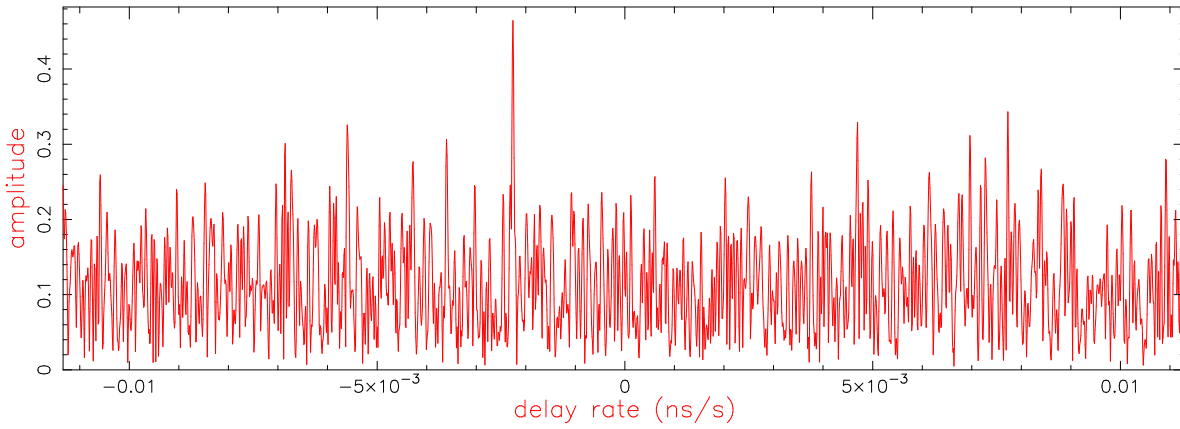
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                             |                       |   |                    |   |                             |                  |                           |
|-----------------------------|-----------------------|---|--------------------|---|-----------------------------|------------------|---------------------------|
| Group delay (usec)(sbd)     | -6.20682570618E+03    | Apriori delay (usec)                                    | -6.20292264728E+03 | Resid mbdelay (usec)  | 5.87880E-06                 | +/-              | 3.3E-03                   |
| Sband delay (usec)          | -6.20682570328E+03    | Apriori clock (usec)                                    | 1.6513575E+01      | Resid sbdelay (usec)  | -3.90306E+00                | +/-              | 3.3E-03                   |
| Phase delay (usec)          | -6.20292265207E+03    | Apriori clockrate (us/s)                                | -1.2366001E-07     | Resid phdelay (usec)  | -4.78791E-06                | +/-              | 7.1E-07                   |
| Delay rate (us/s)           | 1.90721650423E+00     | Apriori rate (us/s)                                     | 1.90720583921E+00  | Resid rate (us/s)   | 1.06650E-05                 | +/-              | 4.3E-09                   |
| Total phase (deg)           | -89.8                 | Apriori accel (us/s/s)                                  | 2.92716963624E-05  | Resid phase (deg)   | -148.5                      | +/-              | 22.2                      |
| ph/seg (deg)                | RMS 91.0 Theor. 185.1 | Amplitude   | 0.678 +/- 0.131    | Pcal mode:  | MANUAL, MANUAL              | PC period (AP's) | 5, 5                      |
| amp/seg (%)                 | 383.9 323.0           | Search (2048X8)   | 0.443              | Pcal rate:  | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000              |
| ph/frq (deg)                | 0.0 11.1              | Interp.   | 0.000              | Bits/sample:  | 2x2                         | SampCntNorm:     | enabled                   |
| amp/frq (%)                 | 1.5 19.3              | Inc. seg. avg.  | 0.453              | Sample rate(MSamp/s):   | 64                          | mb window (us)   | -0.000 0.000              |
|                             |                       | Inc. frq. avg.  | 0.656              | Data rate(Mb/s):  | 128                         | dr window (ns/s) | -0.011 0.011              |
|                             |                       |   |                    | nlags:  | 512                         | ion window (TEC) | 0.00 0.00                 |
| k: az 86.3 el 25.9 pa -61.9 |                       | Y: az 246.0 el 48.3 pa 46.5                             |                    | u,v (fr/asec)   | -11338.761 -299.154         |                  | simultaneous interpolator |
| Control file: cf_1234_gmva  |                       | Input file: /Exps2/f191a/FRINGE/1234/No0007//kY..0QR2SH |                    | Output file: /Exps2/f191a/FRINGE/1234/No0007//kY.W.190.0QR2SH |                             |                  |                           |

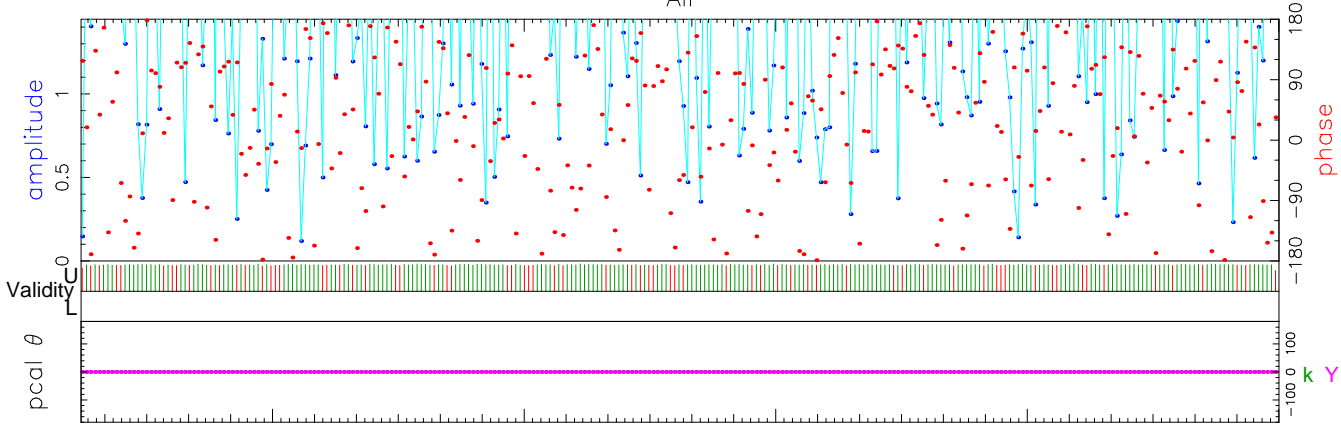
Fringe quality 0

SNR 5.4  
Int time 273.925  
Amp 0.483  
Phase 88.2  
PFD 1.0e+00  
Delays (us)  
SBD 2.136949  
MBD -0.000006  
Fringe rate (Hz)  
-0.195023  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



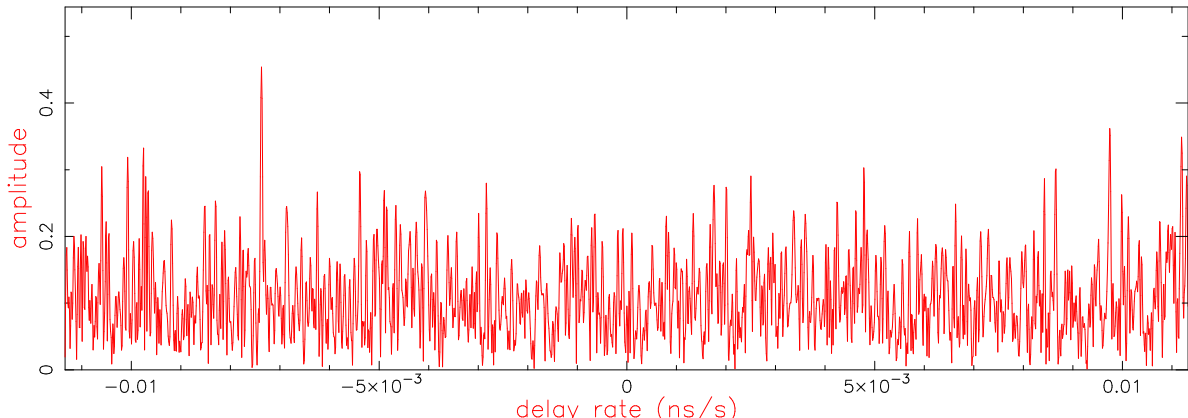
86140.00  
88.2  
0.5  
786.5  
U/L 558/0  
k 5000  
Y 0  
k:Y 0:0  
k:Y 0:0  
k 1000  
Y 1000  
k W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.20078570209E+03 | Apriori delay (usec)     | -6.20292264728E+03 | Resid mbdelay (usec) | -6.28270E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -6.20078569828E+03 | Apriori clock (usec)     | 1.6513575E+01      | Resid sbdelay (usec) | 2.13695E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -6.20292264444E+03 | Apriori clockrate (us/s) | -1.2366001E-07     | Resid phdelay (usec) | 2.84536E-06  | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.90720357519E+00  | Apriori rate (us/s)      | 1.90720583921E+00  | Resid rate (us/s)    | -2.26402E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -213.1             | Apriori accel (us/s/s)   | 2.92716963624E-05  | Resid phase (deg)    | 88.2         | +/- | 21.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 91.5  | Theor.          | 178.2 | Amplitude      | 0.483 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 380.3 | Search (2048X8) | 0.455 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.332           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 2.2   | Inc. frq. avg.  | 0.464 | Inc. frq. avg. | 0.464           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

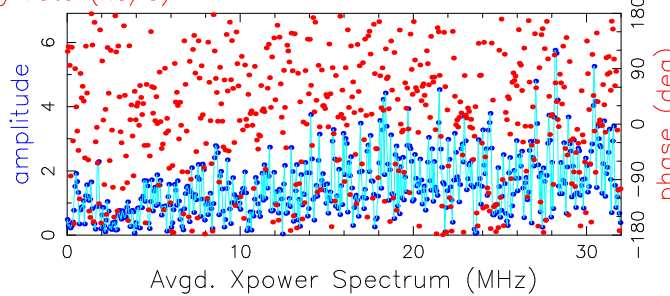
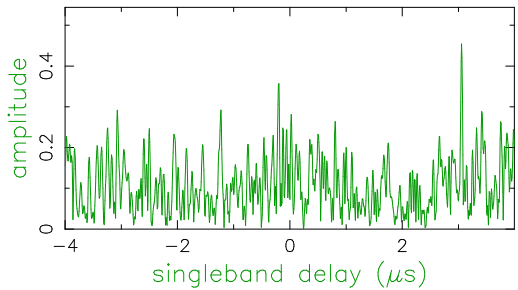
k: az 86.3 el 25.9 pa -61.9      Y: az 246.0 el 48.3 pa 46.5      u,v (fr/asec) -11338.761 -299.154      simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kY..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kY.W.199.0QR2SH



Fringe quality 0

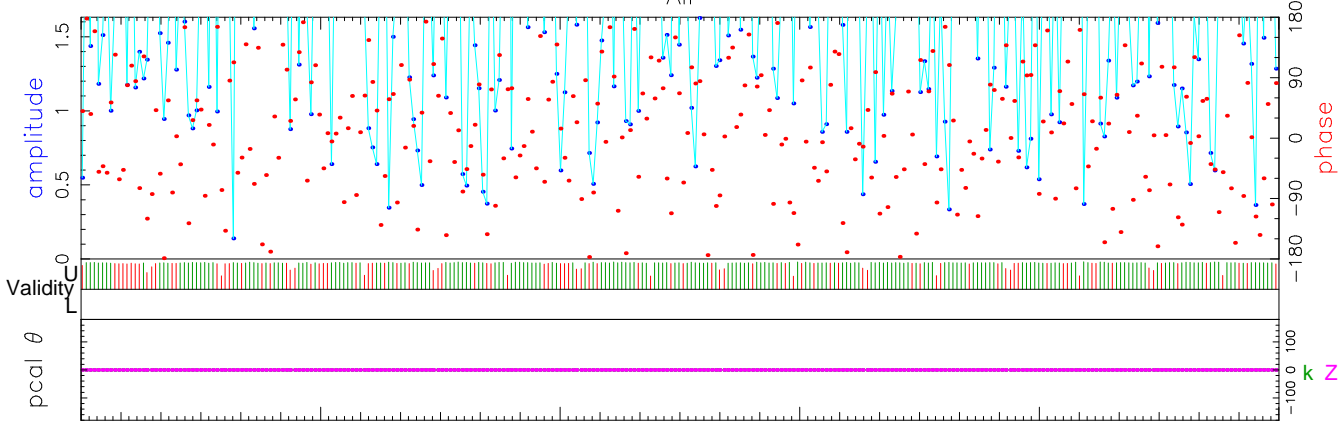
SNR 5.2  
Int time 280.020  
Amp 0.544  
Phase 10.6  
PFD 1.0e+00  
Delays (us)  
SBD 3.055233  
MBD -0.000005  
Fringe rate (Hz)  
-0.635613  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171820  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
10.6  
0.5  
904.1  
U/L 586/0  
k 5000  
Z 0  
k:Z 0:0  
k:Z 0:0  
k 1000  
Z 1000  
k W04UL  
Z W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.25631186496E+02 | Apriori delay (usec)     | 5.22575955705E+02  | Resid mbdelay (usec) | -4.87170E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 5.25631188205E+02 | Apriori clock (usec)     | 2.3388342E+01      | Resid sbdelay (usec) | 3.05523E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | 5.22575956047E+02 | Apriori clockrate (us/s) | -4.8066000E-07     | Resid phdelay (usec) | 3.42547E-07  | +/- | 7.1E-07 |
| Delay rate (us/s)       | 1.86221484278E+00 | Apriori rate (us/s)      | 1.86222222162E+00  | Resid rate (us/s)    | -7.37884E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | 307.4             | Apriori accel (us/s/s)   | -1.33499067039E-05 | Resid phase (deg)    | 10.6         | +/- | 22.1    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 89.0  | Theor.          | 188.8 | Amplitude      | 0.544 +/- 0.105 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 411.8 | Search (2048X8) | 0.442 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.375 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.534 | Inc. seg. avg. | 0.375           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       | Inc. frq. avg. | 0.534           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

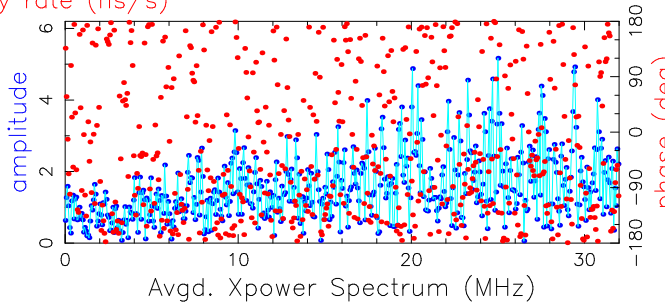
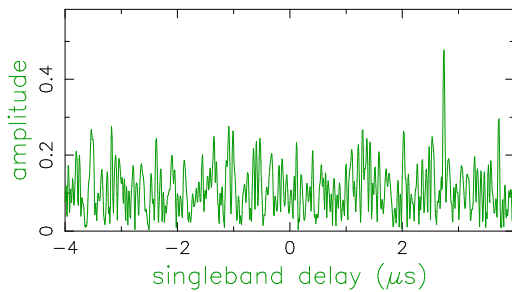
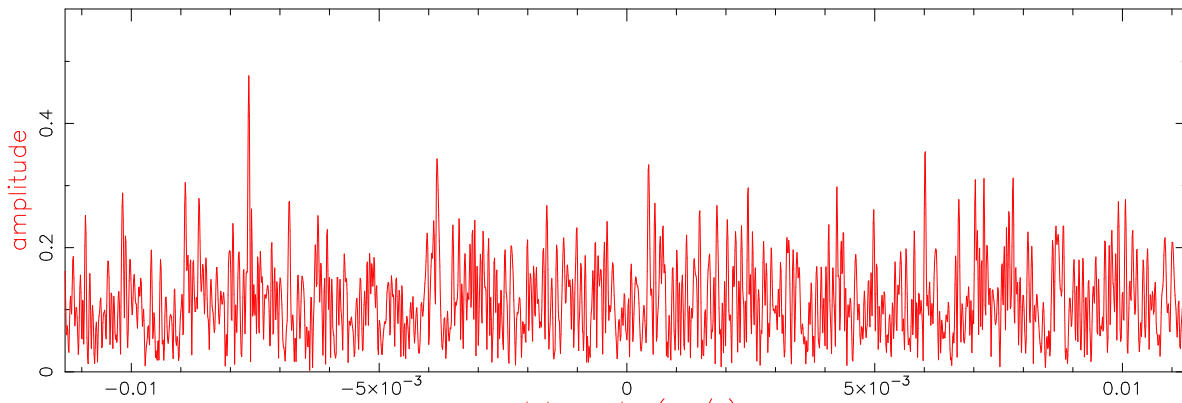
k: az 86.3 el 25.9 pa -61.9      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) -11125.226 -3134.190      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kZ..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kZ.W.149.0QR2SH

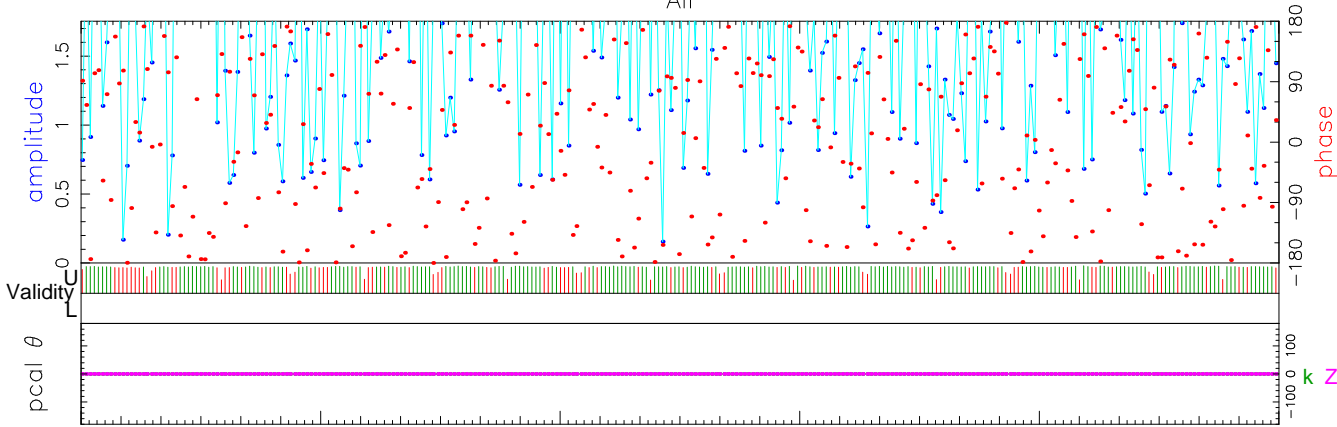
Fringe quality 0

SNR 5.5  
Int time 280.024  
Amp 0.584  
Phase 165.2  
PFD 9.9e-01  
Delays (us)  
SBD 2.739535  
MBD -0.000006  
Fringe rate (Hz)  
-0.657408  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171821  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
165.2  
0.6  
863.7  
U/L 586/0  
k 5000  
Z 0  
k:Z 0:0  
k:Z 0:0  
k 1000  
Z 1000  
k W04UR  
Z W04UR

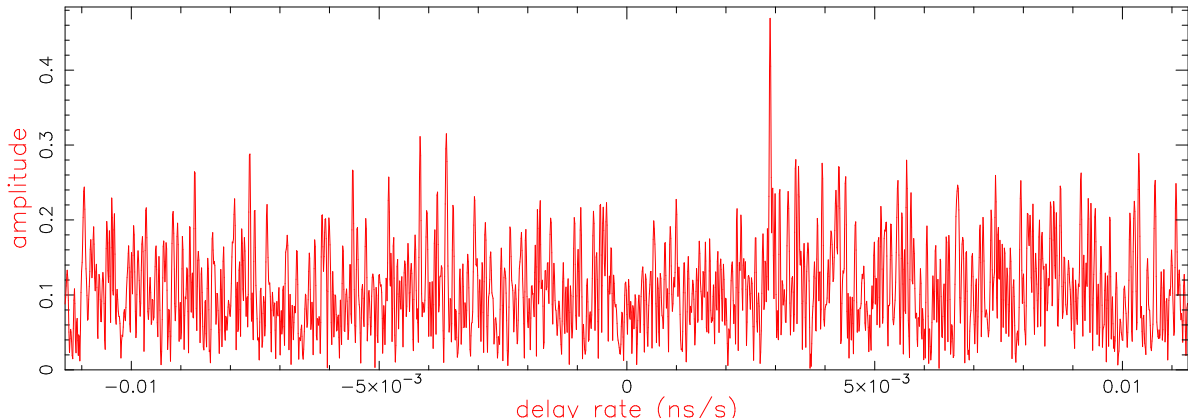
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.25315489901E+02 | Apriori delay (usec)     | 5.22575955705E+02  | Resid mbdelay (usec) | -6.08674E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 5.25315490705E+02 | Apriori clock (usec)     | 2.3388342E+01      | Resid sbdelay (usec) | 2.73954E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | 5.22575961032E+02 | Apriori clockrate (us/s) | -4.8066000E-07     | Resid phdelay (usec) | 5.32755E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.86221458977E+00 | Apriori rate (us/s)      | 1.86222222162E+00  | Resid rate (us/s)    | -7.63185E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 102.0             | Apriori accel (us/s/s)   | -1.33499067039E-05 | Resid phase (deg)    | 165.2        | +/- | 20.8    |

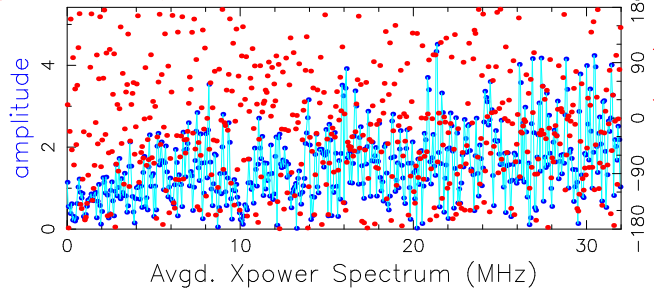
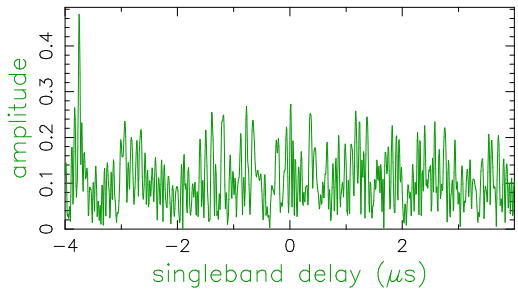
|              |       |                 |       |                 |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 93.2  | Theor.          | 178.1 | Amplitude       | 0.584 +/- 0.106 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 373.7 | Search (2048X8) | 0.470 | Search (2048X8) | 0.470           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.411 | Inc. seg. avg.  | 0.411           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.570 | Inc. frq. avg.  | 0.570           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

k: az 86.3 el 25.9 pa -61.9      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) -11125.226 -3134.190      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//kZ..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//kZ.W.159.0QR2SH

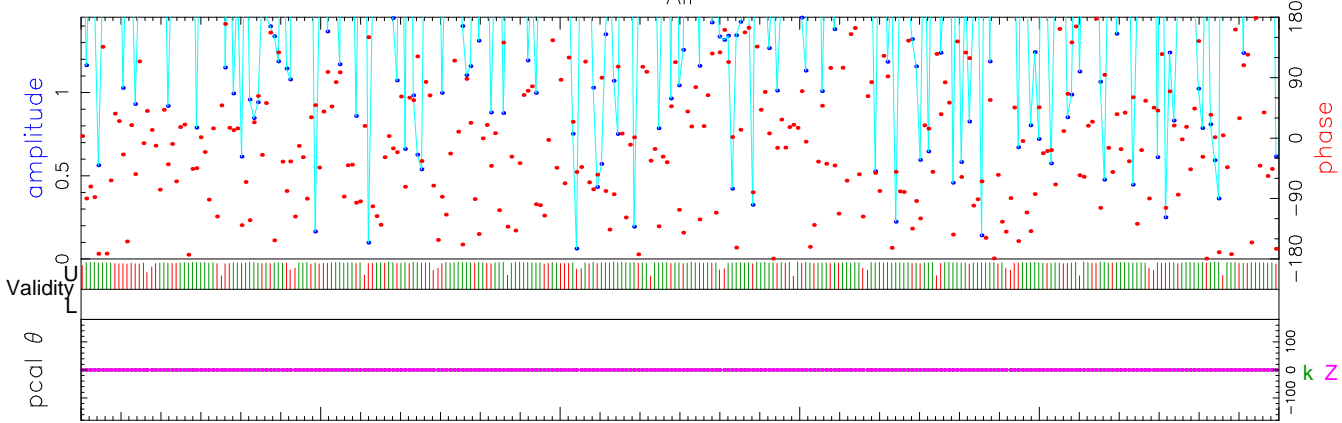


Fringe quality 0  
SNR 5.4  
Int time 280.020  
Amp 0.484  
Phase -16.7  
PFD 1.0e+00  
Delays (us)  
SBD -3.748230  
MBD 0.000004  
Fringe rate (Hz) 0.248748  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-16.7  
0.5  
33.2  
U/L 586/0  
k 5000  
Z 0  
k:Z 0:0  
k:Z 0:0  
k 1000  
Z 1000  
k W04UL  
Z W04UR

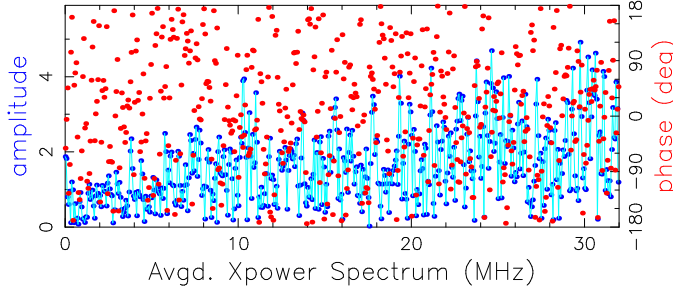
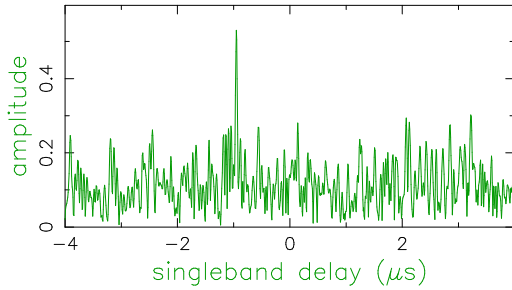
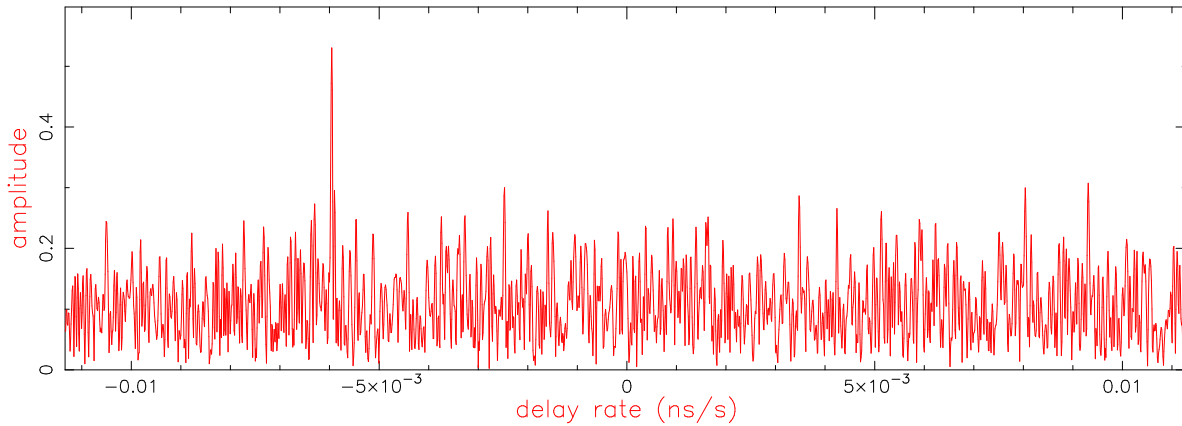
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|  |                   |                             |                           |  |                          |                           |              |
|--|-------------------|-----------------------------|---------------------------|--|--------------------------|---------------------------|--------------|
| Group delay (usec)(sbd)  | 5.18827724754E+02 | Apriori delay (usec)        | 5.22575955705E+02         | Resid mbdelay (usec)                   | 4.47987E-06              | +/-                       | 3.2E-03      |
| Sband delay (usec)   | 5.18827725705E+02 | Apriori clock (usec)        | 2.3388342E+01             | Resid sbdelay (usec)                   | -3.74823E+00             | +/-                       | 3.2E-03      |
| Phase delay (usec)   | 5.22575955165E+02 | Apriori clockrate (us/s)    | -4.8066000E-07            | Resid phdelay (usec)                   | -5.39621E-07             | +/-                       | 6.9E-07      |
| Delay rate (us/s)  | 1.86222510933E+00 | Apriori rate (us/s)         | 1.86222222162E+00         | Resid rate (us/s)                      | 2.88771E-06              | +/-                       | 4.0E-09      |
| Total phase (deg)  | 280.0             | Apriori accel (us/s/s)      | -1.33499067039E-05        | Resid phase (deg)                      | -16.7                    | +/-                       | 21.2         |
| ph/seg (deg)   | RMS 90.1          | Theor. 181.8                | Amplitude 0.484 +/- 0.090 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)            | -4.000 4.000 |
| amp/seg (%)  | 381.5             | 317.3                       | Search (2048X8) 0.468     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)            | -0.000 0.000 |
| ph/frq (deg)   | 0.0               | 10.6                        | Interp. 0.000             | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)          | -0.011 0.011 |
| amp/frq (%)  | 0.5               | 18.5                        | Inc. seg. avg. 0.332      | Data rate(Mb/s): 128                   | nlags: 512               | ion window (TEC)          | 0.00 0.00    |
| k: az 86.3 el 25.9 pa -61.9  |                   | Z: az 257.8 el 25.5 pa 30.4 |                           | u,v (fr/asec) -11125.226 -3134.190     |                          | simultaneous interpolator |              |
| Control file: cf_1234_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kZ.W.168.0QR2SH |                   |                             |                           |  |                          |                           |              |

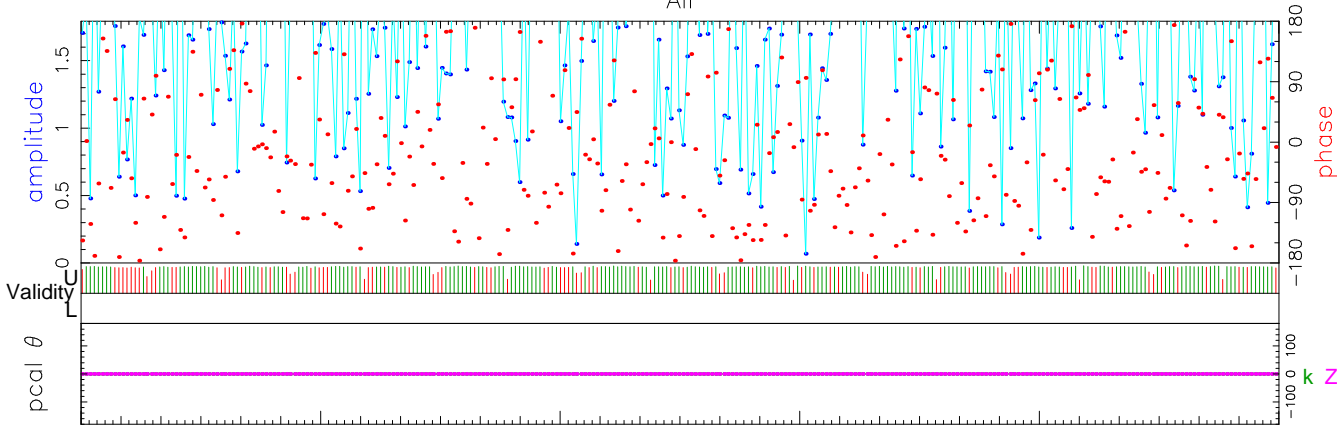
Fringe quality 0

SNR 6.1  
Int time 280.024  
Amp 0.598  
Phase -58.2  
PFD 1.4e-01  
Delays (us)  
SBD -0.951541  
MBD -0.000006  
Fringe rate (Hz)  
-0.513030  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-58.2  
0.6  
391.2  
U/L 586/0  
k 5000  
Z 0  
k:Z 0:0  
k:Z 0:0  
k 1000  
Z 1000  
k W04UR  
Z W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.21624417506E+02 | Apriori delay (usec)     | 5.22575955705E+02  | Resid mbdelay (usec) | -5.80933E-06 | +/- | 2.8E-03 |
| Sband delay (usec)      | 5.21624414705E+02 | Apriori clock (usec)     | 2.3388342E+01      | Resid sbdelay (usec) | -9.51541E-01 | +/- | 2.8E-03 |
| Phase delay (usec)      | 5.22575953827E+02 | Apriori clockrate (us/s) | -4.8066000E-07     | Resid phdelay (usec) | -1.87761E-06 | +/- | 6.1E-07 |
| Delay rate (us/s)       | 1.86221626585E+00 | Apriori rate (us/s)      | 1.8622222162E+00   | Resid rate (us/s)    | -5.95577E-06 | +/- | 3.5E-09 |
| Total phase (deg)       | 238.6             | Apriori accel (us/s/s)   | -1.33499067039E-05 | Resid phase (deg)    | -58.2        | +/- | 18.8    |

|              |        |                 |                 |                       |                             |                  |              |
|--------------|--------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| RMS          | Theor. | Amplitude       | 0.598 +/- 0.098 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| ph/seg (deg) | 89.6   | Search (2048X8) | 0.530           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| amp/seg (%)  | 315.1  | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| ph/frq (deg) | 0.0    | Inc. seg. avg.  | 0.435           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
| amp/frq (%)  | 0.3    | Inc. frq. avg.  | 0.588           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |

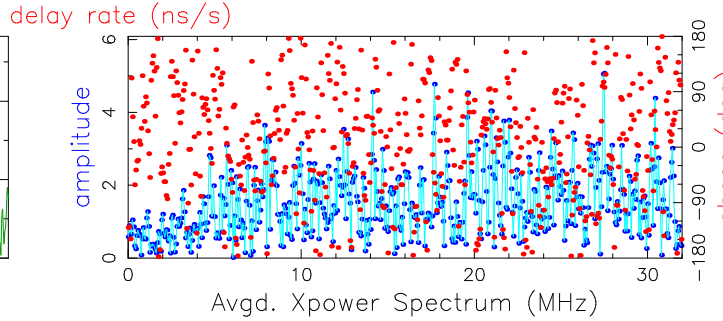
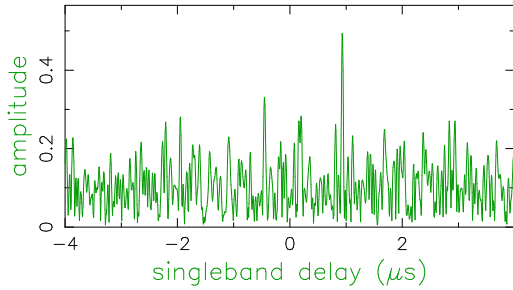
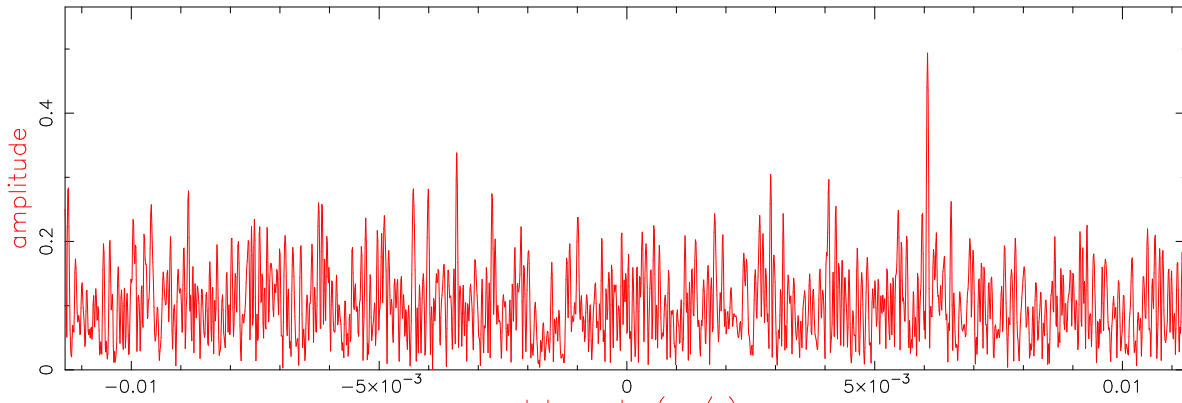
k: az 86.3 el 25.9 pa -61.9 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -11125.226 -3134.190 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//kZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//kZ.W.178.0QR2SH

Fringe quality 0

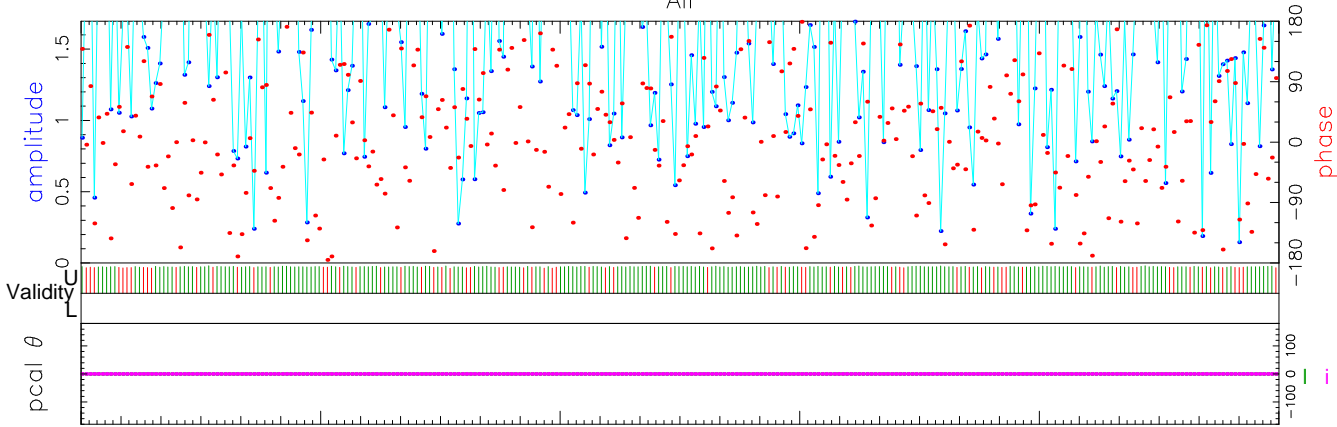
SNR 5.8  
Int time 288.134  
Amp 0.565  
Phase 0.1  
PFD 5.3e-01  
Delays (us)  
SBD 0.932957  
MBD 0.000005  
Fringe rate (Hz)  
0.522557  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171823  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
0.1  
0.6  
632.4  
U/L 586/0  
| 5000  
i 0  
l:i 0:0  
l:i 0:0  
| 1000  
i 1000  
| W04UL  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
  
Chan ids

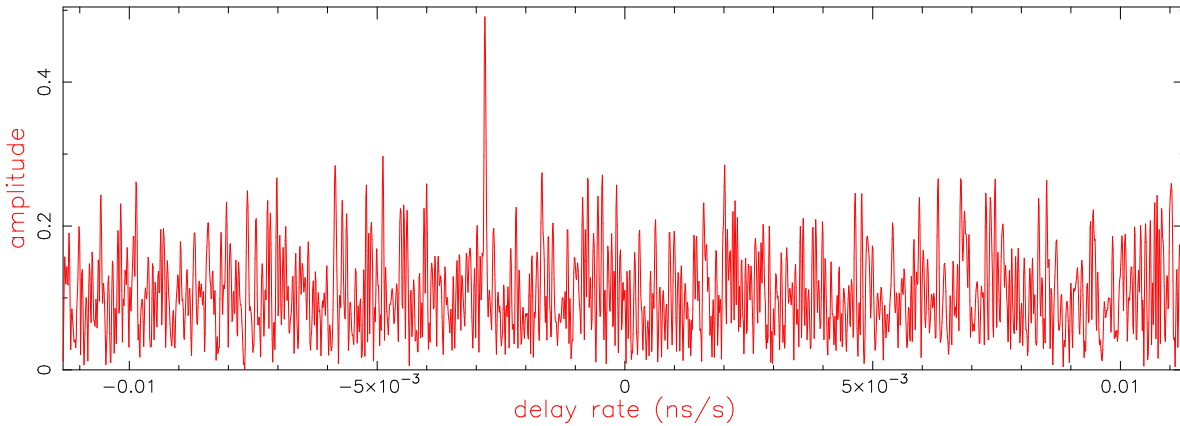
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -5.10879098169E+03 | Apriori delay (usec)     | -5.10972393295E+03 | Resid mbdelay (usec) | 4.89361E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -5.10879097595E+03 | Apriori clock (usec)     | 1.3753412E+01      | Resid sbdelay (usec) | 9.32957E-01 | +/- | 3.0E-03 |
| Phase delay (usec)      | -5.10972393295E+03 | Apriori clockrate (us/s) | 1.2000000E-07      | Resid phdelay (usec) | 2.93574E-09 | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.84093411764E+00  | Apriori rate (us/s)      | 1.84092805127E+00  | Resid rate (us/s)    | 6.06637E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -210.3             | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | 0.1         | +/- | 19.7    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.0  | Theor.          | 168.6 | Amplitude      | 0.565 +/- 0.097 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 314.8 | Search (2048X8) | 0.493 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.384 | Inc. seg. avg. | 0.384           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.5   | Inc. frq. avg.  | 0.549 | Inc. frq. avg. | 0.549           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

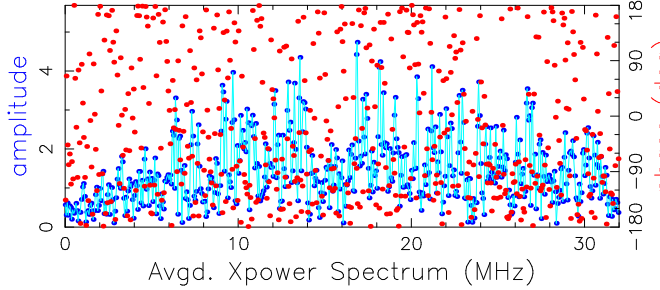
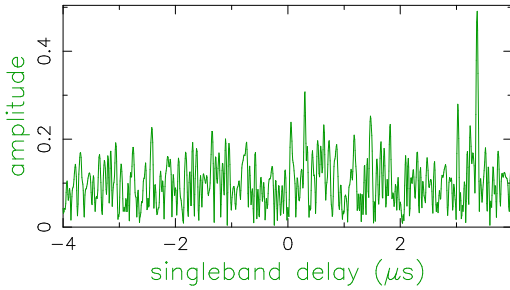
l: az 91.3 el 30.4 pa -57.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//li..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//li.W.179.0QR2SH

Fringe quality 0

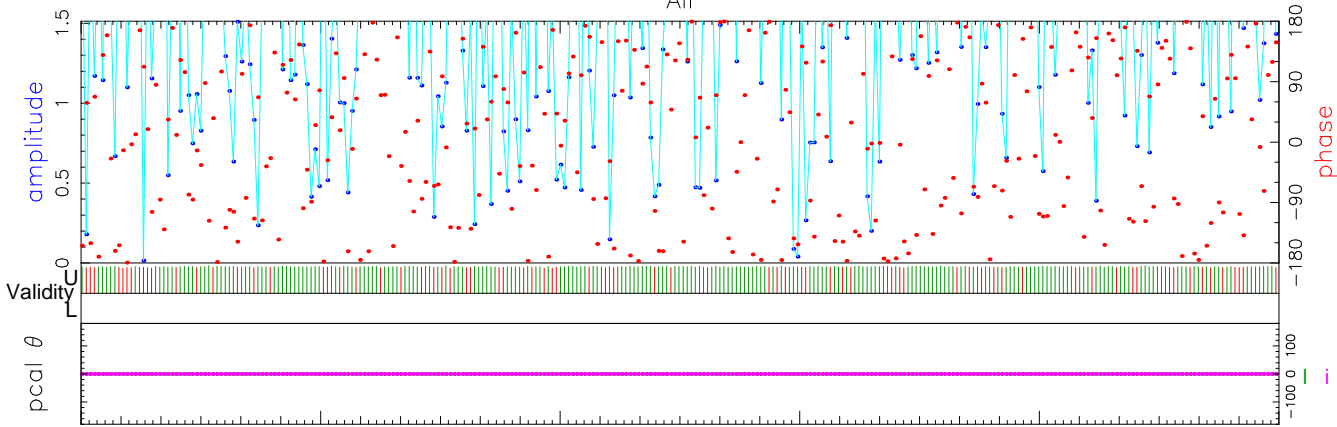


SNR 5.7  
Int time 288.141  
Amp 0.504  
Phase 176.8  
PFD 7.6e-01  
Delays (us)  
SBD 3.366066  
MBD -0.000005  
Fringe rate (Hz)  
-0.243481  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
176.8  
0.5  
943.9  
U/L 586/0  
i 5000  
i 0  
l:i 0:0  
l:i 0:0  
i 1000  
i 1000  
i W04UR  
i W04UR

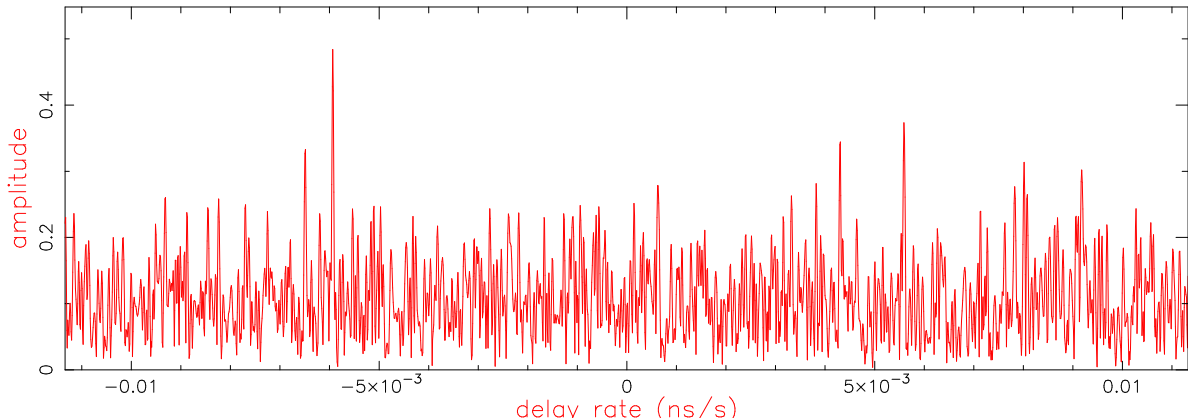
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.10635787120E+03 | Apriori delay (usec)     | -5.10972393295E+03 | Resid mbdelay (usec) | -5.11679E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | -5.10635786695E+03 | Apriori clock (usec)     | 1.3753412E+01      | Resid sbdelay (usec) | 3.36607E+00  | +/- | 3.0E-03 |
| Phase delay (usec)      | -5.10972392725E+03 | Apriori clockrate (us/s) | 1.2000000E-07      | Resid phdelay (usec) | 5.70062E-06  | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.84092522470E+00  | Apriori rate (us/s)      | 1.84092805127E+00  | Resid rate (us/s)    | -2.82657E-06 | +/- | 3.7E-09 |
| Total phase (deg)       | -33.7              | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | 176.8        | +/- | 20.1    |

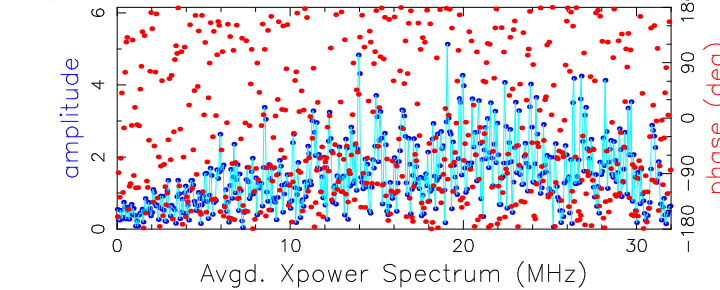
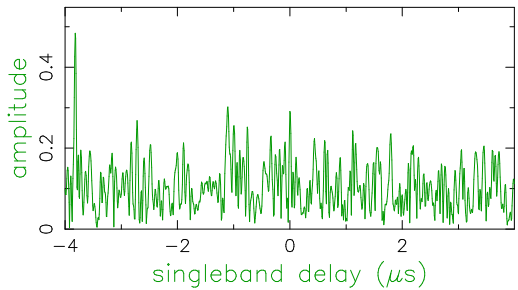
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 92.3  | Theor.          | 171.9 | Amplitude       | 0.504 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 336.2 | Search (2048X8) | 0.485 | Search (2048X8) | 0.485           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.1   | Inc. seg. avg.  | 0.341 | Inc. seg. avg.  | 0.341           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.496 | Inc. frq. avg.  | 0.496           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

l: az 91.3 el 30.4 pa -57.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//li..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//li.W.192.0QR2SH

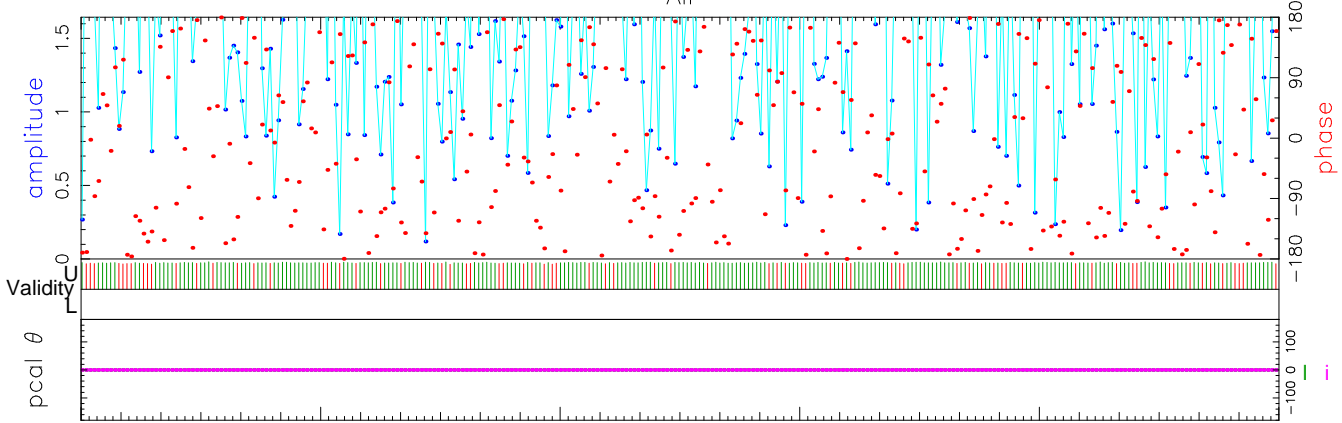




Fringe quality 0  
SNR 5.7  
Int time 288.134  
Amp 0.548  
Phase -160.3  
PFD 8.3e-01  
Delays (us)  
SBD -3.817684  
MBD -0.000007  
Fringe rate (Hz)  
-0.511392  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



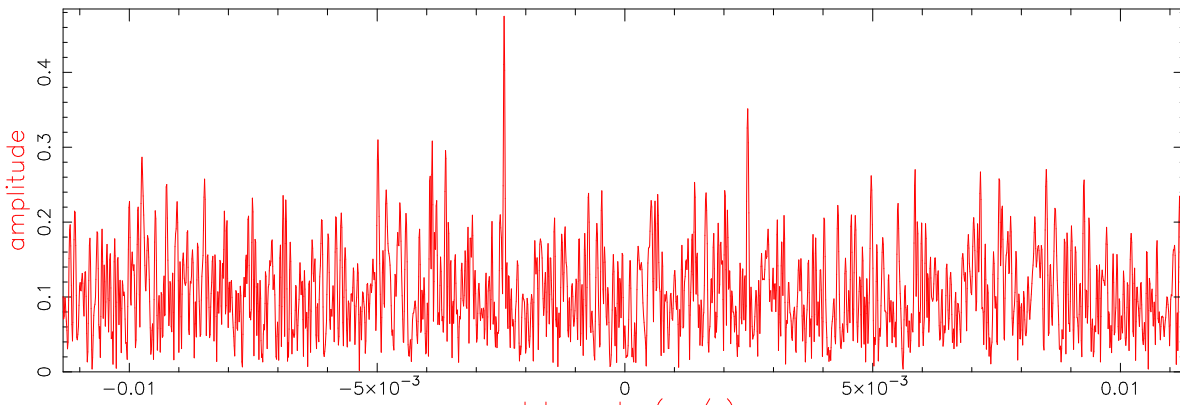
Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
pcal  $\theta$   
86140.00  
-160.3  
0.5  
24.3  
U/L 586/0  
i 5000  
i 0  
li 0:0  
li 0:0  
i 1000  
i 1000  
i W04UL  
i W04UR

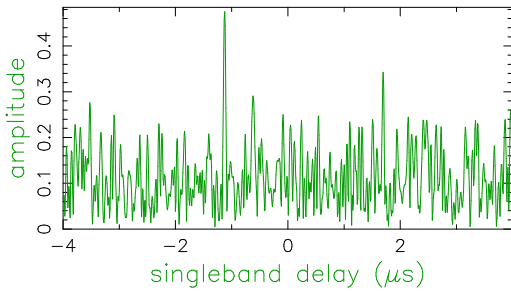
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                             |                    |                          |                    |  |                             |                  |              |   |  |                           |  |
|-----------------------------|--------------------|--------------------------|--------------------|--|-----------------------------|------------------|--------------|---|--|---------------------------|--|
| Group delay (usec)(sbd)     | -5.11354162050E+03 | Apriori delay (usec)     | -5.10972393295E+03 | Resid mbdelay (usec)                                     | -7.02577E-06                | +/-              | 3.0E-03      |   |  |                           |  |
| Sband delay (usec)          | -5.11354161695E+03 | Apriori clock (usec)     | 1.3753412E+01      | Resid sbdelay (usec)                                     | -3.81768E+00                | +/-              | 3.0E-03      |   |  |                           |  |
| Phase delay (usec)          | -5.10972393812E+03 | Apriori clockrate (us/s) | 1.2000000E-07      | Resid phdelay (usec)                                     | -5.16929E-06                | +/-              | 6.5E-07      |   |  |                           |  |
| Delay rate (us/s)           | 1.84092211452E+00  | Apriori rate (us/s)      | 1.84092805127E+00  | Resid rate (us/s)  | -5.93675E-06                | +/-              | 3.8E-09      |   |  |                           |  |
| Total phase (deg)           | -10.7              | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)  | -160.3                      | +/-              | 20.2         |   |  |                           |  |
| ph/seg (deg)                | 91.6               | Theor. Amplitude         | 0.548 +/- 0.097    | Pcal mode:   | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |   |  |                           |  |
| amp/seg (%)                 | 348.0              | Search (2048X8)          | 0.480              | Pcal rate:   | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |   |  |                           |  |
| ph/frq (deg)                | 0.0                | Interp.                  | 0.000              | Bits/sample:   | 2x2                         | SampCntNorm:     | enabled      |   |  |                           |  |
| amp/frq (%)                 | 0.9                | Inc. seg. avg.           | 0.379              | Sample rate(MSamp/s):                                    | 64                          | mb window (us)   | -0.000 0.000 |   |  |                           |  |
|                             |                    | Inc. frq. avg.           | 0.535              | Data rate(Mb/s):   | 128                         | dr window (ns/s) | -0.011 0.011 |   |  |                           |  |
|                             |                    |                          |                    | nlags:   | 512                         | ion window (TEC) | 0.00 0.00    |   |  |                           |  |
| i: az 91.3 el 30.4 pa -57.6 |                    |                          |                    | i: az 249.4 el 49.9 pa 50.9                              |                             |                  |              | u,v (fr/asec) -10946.268 508.455                              |  | simultaneous interpolator |  |
| Control file: cf_1234_gmva  |                    |                          |                    | Input file: /Exps2/f191a/FRINGE/1234/No0007//li...0QR2SH |                             |                  |              | Output file: /Exps2/f191a/FRINGE/1234/No0007//li.W.202.0QR2SH |  |                           |  |

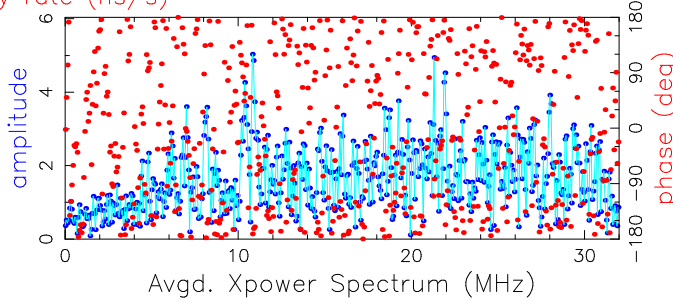


Fringe quality 0

SNR 5.5  
Int time 288.141  
Amp 0.485  
Phase 166.2  
PFD 9.8e-01  
Delays (us)  
SBD -1.126084  
MBD -0.000007  
Fringe rate (Hz)  
-0.209920  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



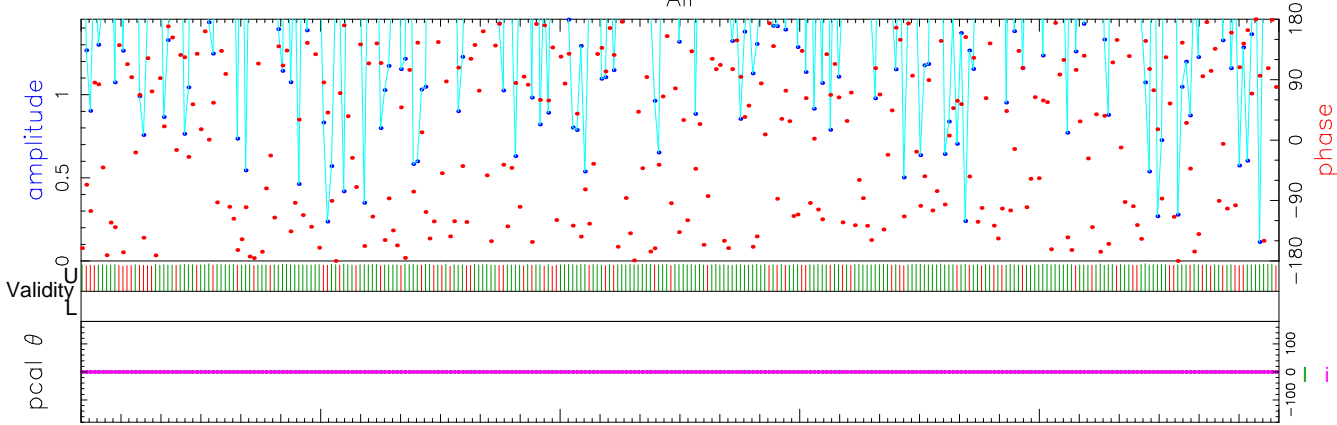
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



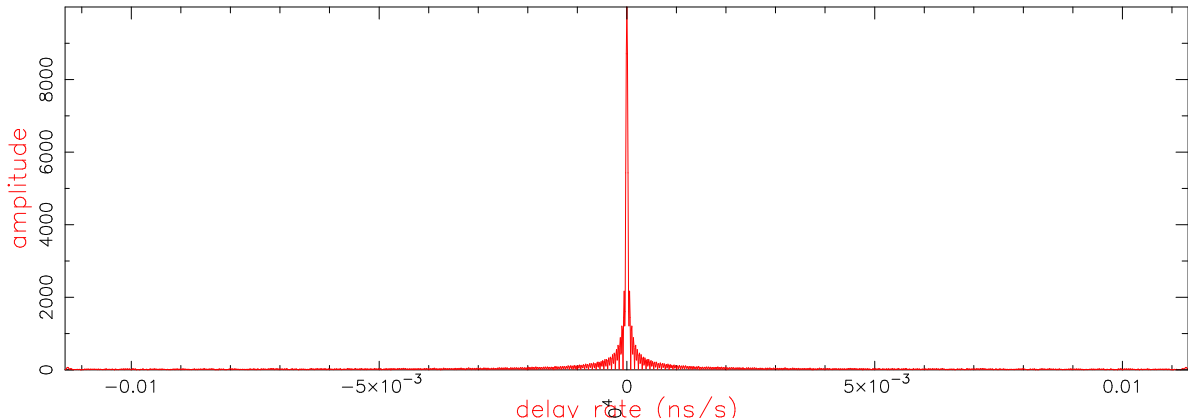
86140.00  
166.2  
0.5  
368.9  
U/L 586/0  
i 5000  
i 0  
li 0:0  
li 0:0  
i 1000  
i 1000  
W04UR  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.11085001349E+03 | Apriori delay (usec)     | -5.10972393295E+03 | Resid mbdelay (usec) | -6.70778E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.11085001695E+03 | Apriori clock (usec)     | 1.3753412E+01      | Resid sbdelay (usec) | -1.12608E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.10972392759E+03 | Apriori clockrate (us/s) | 1.2000000E-07      | Resid phdelay (usec) | 5.35920E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.84092561431E+00  | Apriori rate (us/s)      | 1.84092805127E+00  | Resid rate (us/s)    | -2.43696E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -44.2              | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | 166.2        | +/- | 20.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.4  | Theor.          | 177.7 | Amplitude      | 0.485 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 353.4 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.331 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.476 | Inc. seg. avg. | 0.331           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

l: az 91.3 el 30.4 pa -57.6 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//li..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//li.W.216.0QR2SH



Fringe quality 9

SNR 116145.2

Int time 288.621

Amp 9999.995

Phase 0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD -0.000007

Fringe rate (Hz)

0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

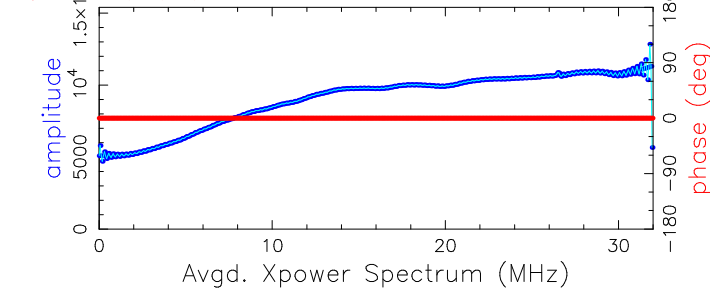
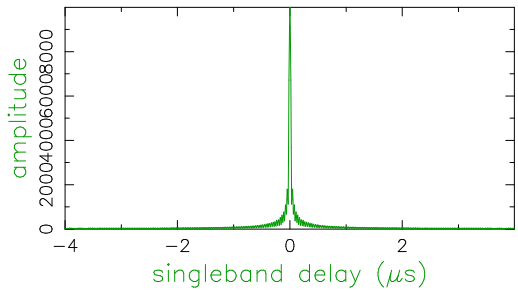
2019:212:171822

2018:249:082454

RA & Dec (J2000)

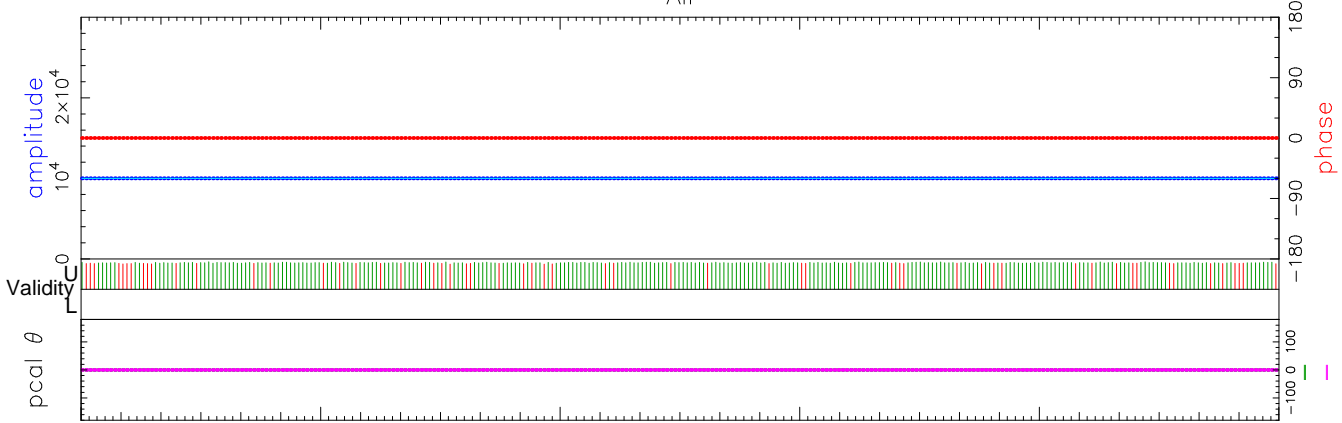
22h53m57.7479s

+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



|          |     |         |       |     |       |      |      |     |     |      |      |       |       |
|----------|-----|---------|-------|-----|-------|------|------|-----|-----|------|------|-------|-------|
| 86140.00 | 0.0 | 10000.0 | 513.0 | U/L | 586/0 | 5000 | 5000 | 0:0 | 0:0 | 1000 | 1000 | W04UL | W04UL |
|          |     |         |       |     |       |      |      |     |     |      |      |       |       |

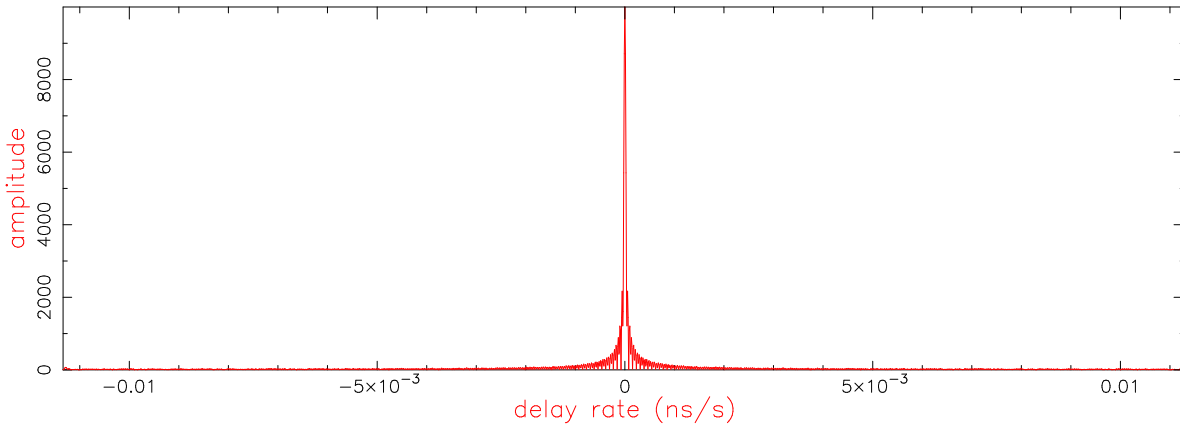
|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.58072904574E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.02828E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.30546172183E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.30546E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |     |        |     |                 |                    |                       |                             |                  |         |                |          |       |
|--------------|-----|-----|-----|--------|-----|-----------------|--------------------|-----------------------|-----------------------------|------------------|---------|----------------|----------|-------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor. | 0.0 | Amplitude       | 9999.995 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5    | sb window (us) | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |     | 0.0 |        | 0.0 | Search (2048X8) | 9999.995           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm:     | enabled | mb window (us) | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |     | 0.0 |        | 0.0 | Interp.         | 0.000              | Bits/sample:          | 2x2                         | ion window (TEC) | 0.00    | 0.00           |          |       |
| amp/frq (%)  | 0.0 |     | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000          | Sample rate(MSamp/s): | 64                          | nlags:           | 512     | t_cohere       | infinite |       |
|              |     |     | 0.0 |        | 0.0 | Inc. frq. avg.  | 9999.995           | Data rate(Mb/s):      | 128                         |                  |         |                |          |       |

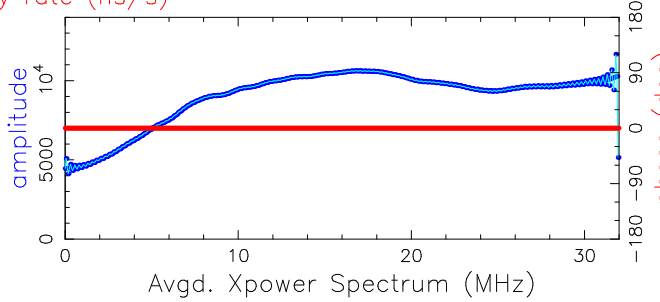
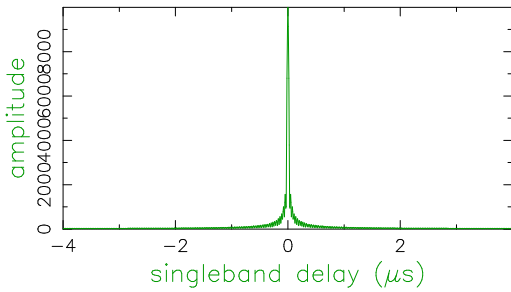
l: az 91.3 el 30.4 pa -57.6      l: az 91.3 el 30.4 pa -57.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007///II..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007///II.W.162.0QR2SH

Fringe quality 9

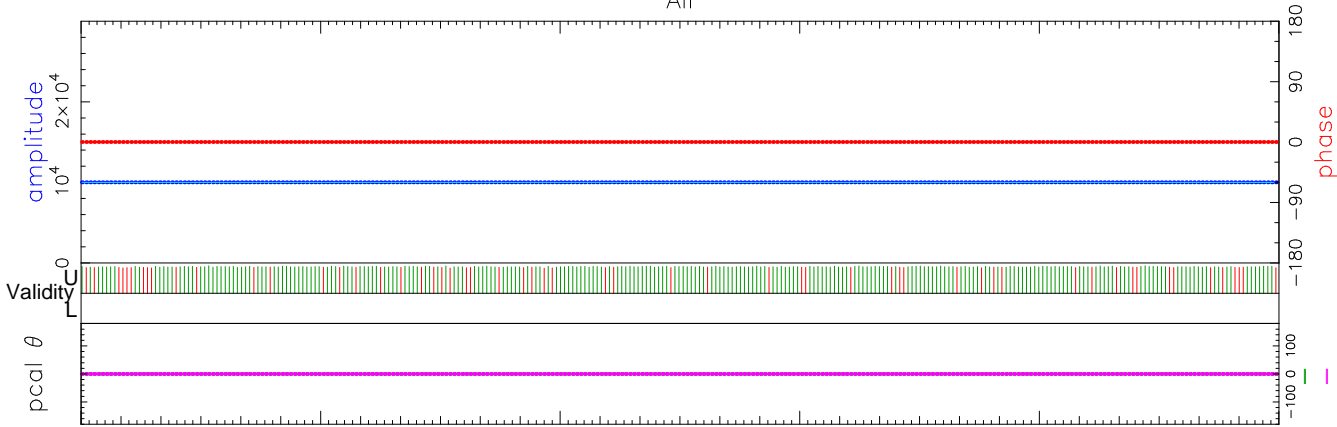


SNR 116146.3  
 Int time 288.626  
 Amp 9999.993  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171823  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 586/0 | APs used   |
| 5000      | PC freqs   |
| 5000      | PC freqs   |
| :  0:0    | PC phase   |
| :  0:0    | Mani PC    |
| 1000      | PC amp     |
| 1000      |            |
| W04UR     | Chan ids   |
|           |            |
| W04UR     | Chan ids   |

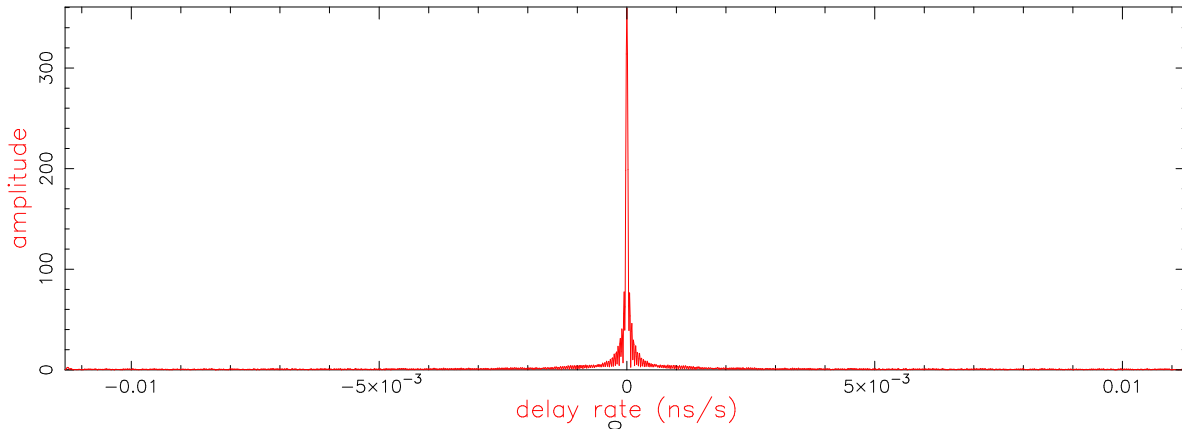
|                         |                   |                          |                   |                      |              |             |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.35339273276E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.25562E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34768810920E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.34769E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |        |     |                 |                    |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|--------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 9999.993 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 0.0 | 0.0    | 0.0 | Search (2048X8) | 9999.993           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0    | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.0 | 0.0    | 0.0 | Inc. seg. avg.  | 10000.000          | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 9999.993           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

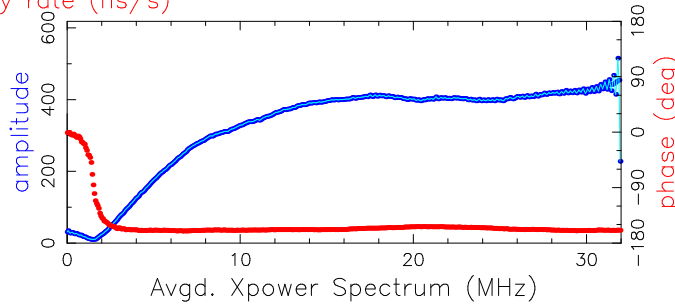
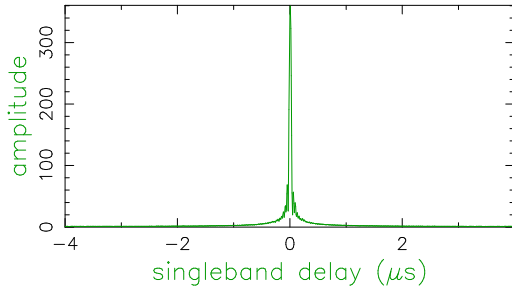
l: az 91.3 el 30.4 pa -57.6      l: az 91.3 el 30.4 pa -57.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//II..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//II.W.172.0QR2SH

Fringe quality 9

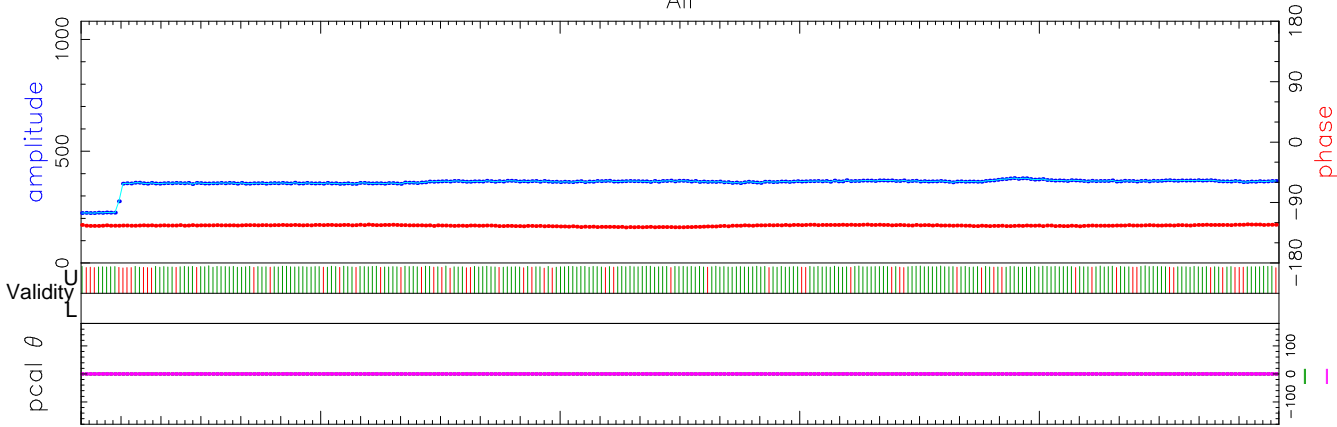


SNR 4188.6  
 Int time 288.621  
 Amp 360.637  
 Phase -124.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.006060  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.000047  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171824  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -124.3    |  | Phase      |
| 359.3     |  | Ampl.      |
| 513.8     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| 5000      |  | PC freqs   |
| 5000      |  | PC freqs   |
| 0:0       |  | PC phase   |
| 0:0       |  | Mani PC    |
| 1000      |  | PC amp     |
| 1000      |  |            |
| W04UL     |  | Chan ids   |
|           |  |            |
| W04UR     |  | Chan ids   |

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 6.06509589041E-03  | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.41560E-06 | +/- | 4.1E-06 |
| Sband delay (usec)      | 6.06000000000E-03  | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 6.06000E-03  | +/- | 4.1E-06 |
| Phase delay (usec)      | -4.00673176207E-06 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | -4.00673E-06 | +/- | 8.8E-10 |
| Delay rate (us/s)       | -5.39920906123E-10 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | -5.39921E-10 | +/- | 5.1E-12 |
| Total phase (deg)       | -124.3             | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | -124.3       | +/- | 0.0     |

|              |     |     |                 |         |           |                   |  |                      |                   |                  |           |
|--------------|-----|-----|-----------------|---------|-----------|-------------------|--|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 1.0 | 0.2 | RMS             | Theor.  | Amplitude | 360.637 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |           |
| amp/seg (%)  | 6.9 | 0.4 | Search (2048X8) | 359.226 | 0.000     |                   | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000      |                  |           |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000   |           |                   | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.000 0.000     |           |
| amp/frq (%)  | 0.4 | 0.0 | Inc. seg. avg.  | 359.375 |           |                   | Sample rate(MSamp/s): 64               |                      | dr window (ns/s)  | -0.011 0.011     |           |
|              |     |     | Inc. frq. avg.  | 359.326 |           |                   | Data rate(Mb/s): 128                   | nlags: 512           | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

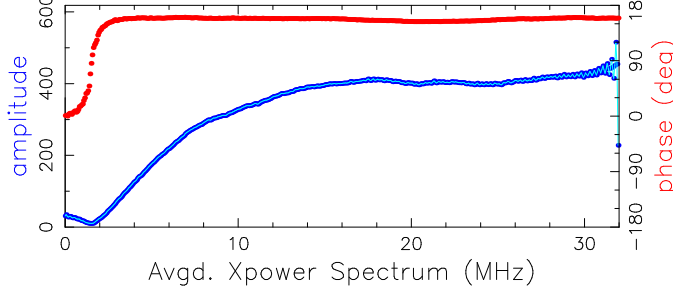
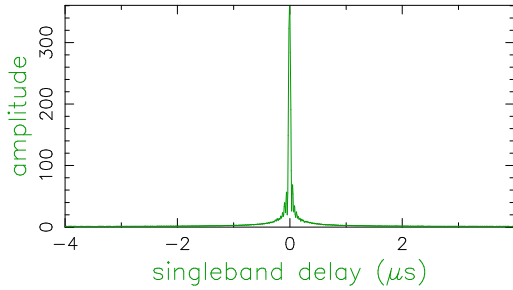
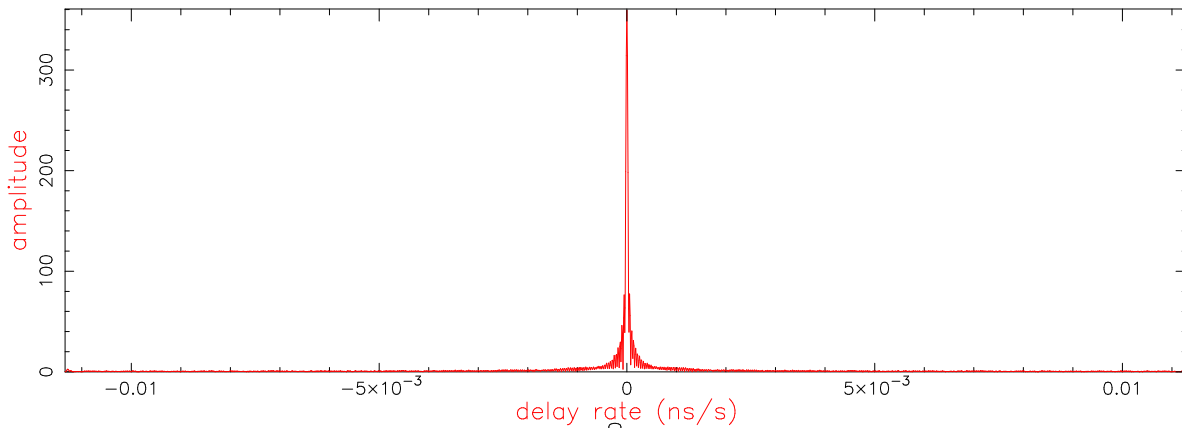
l: az 91.3 el 30.4 pa -57.6      l: az 91.3 el 30.4 pa -57.6      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//II..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//II.W.181.0QR2SH

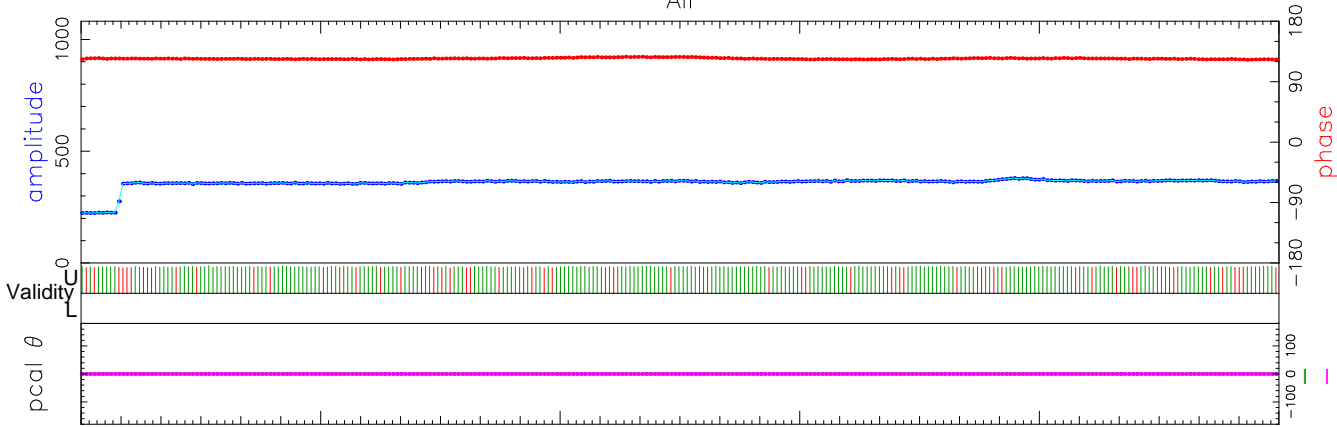
Fringe quality 9

SNR 4188.6  
Int time 288.626  
Amp 360.630  
Phase 124.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.006060  
MBD -0.000006  
Fringe rate (Hz)  
0.000047  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



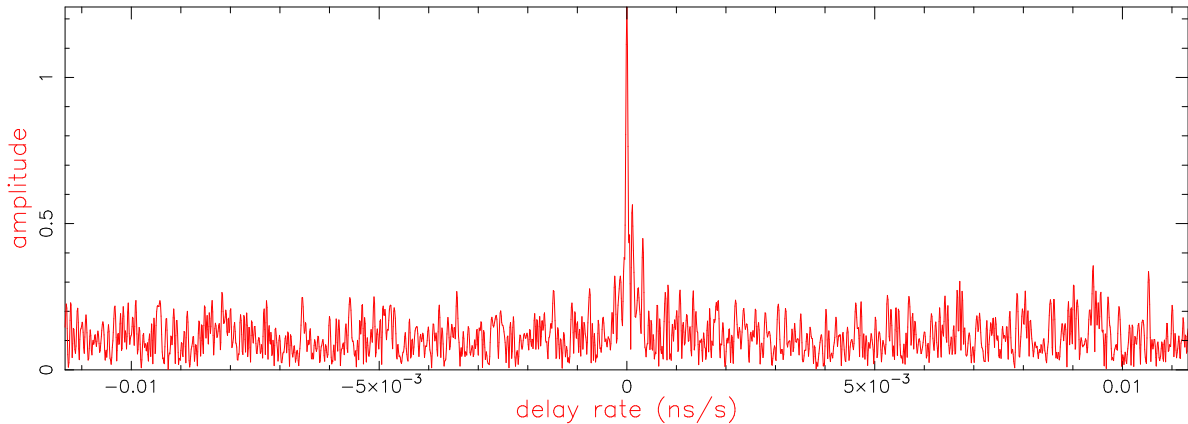
86140.00 Freq (MHz)  
124.3 Phase  
359.3 Ampl.  
512.2 Sbd box  
U/L 586/0 APs used  
5000 PC freqs  
5000 PC freqs  
I:I 0:0 PC phase  
I:I 0:0 ManI PC  
1000 PC amp  
1000  
W04UR Chan ids  
W04UL Chan ids

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.05463125145E-03 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.33778E-06 | +/- | 4.1E-06 |
| Sband delay (usec)      | -6.06000000000E-03 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | -6.06000E-03 | +/- | 4.1E-06 |
| Phase delay (usec)      | 4.00910062728E-06  | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 4.00910E-06  | +/- | 8.8E-10 |
| Delay rate (us/s)       | 5.39920906123E-10  | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 5.39921E-10  | +/- | 5.1E-12 |
| Total phase (deg)       | 124.3              | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 124.3        | +/- | 0.0     |

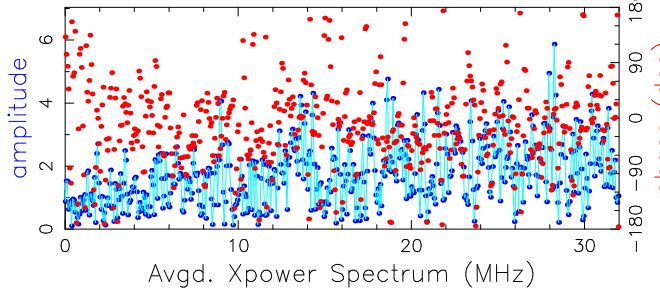
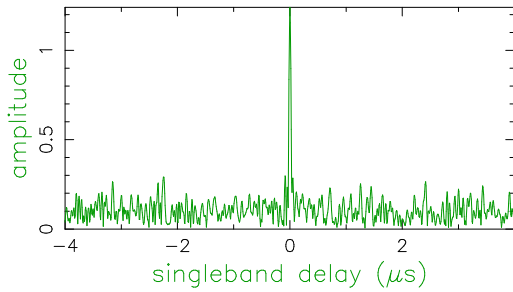
|              |     |     |     |        |                 |                   |                       |                             |                  |              |                |              |
|--------------|-----|-----|-----|--------|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 1.0 | RMS | 0.2 | Theor. | Amplitude       | 360.630 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 6.9 |     | 0.4 |        | Search (2048X8) | 359.219           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0 |     | 0.0 |        | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4 |     | 0.0 |        | Inc. seg. avg.  | 359.368           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |     |     |     |        | Inc. frq. avg.  | 359.318           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

I: az 91.3 el 30.4 pa -57.6 I: az 91.3 el 30.4 pa -57.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//II..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//II.W.193.0QR2SH

Fringe quality 9

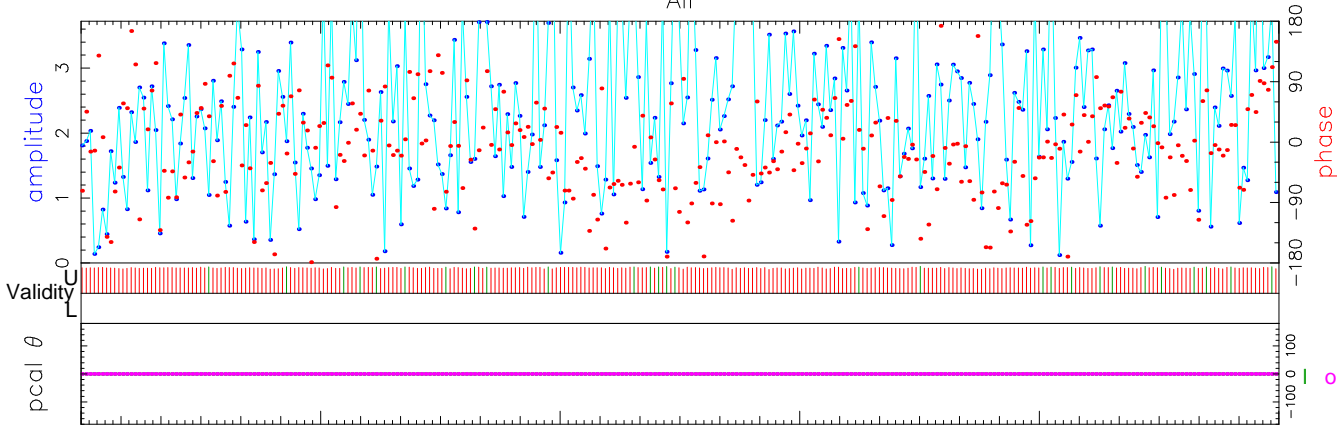


SNR 14.1  
Int time 277.066  
Amp 1.241  
Phase -9.1  
PFD 8.4e-37  
Delays (us)  
SBD 0.000507  
MBD -0.000007  
Fringe rate (Hz)  
0.000379  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171822  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-9.1  
1.2  
513.1  
U/L 586/0  
l 5000  
o 5000  
l:0 0:0  
l:0 0:0  
l 1000  
o 1000  
l W04UL  
o W04UL

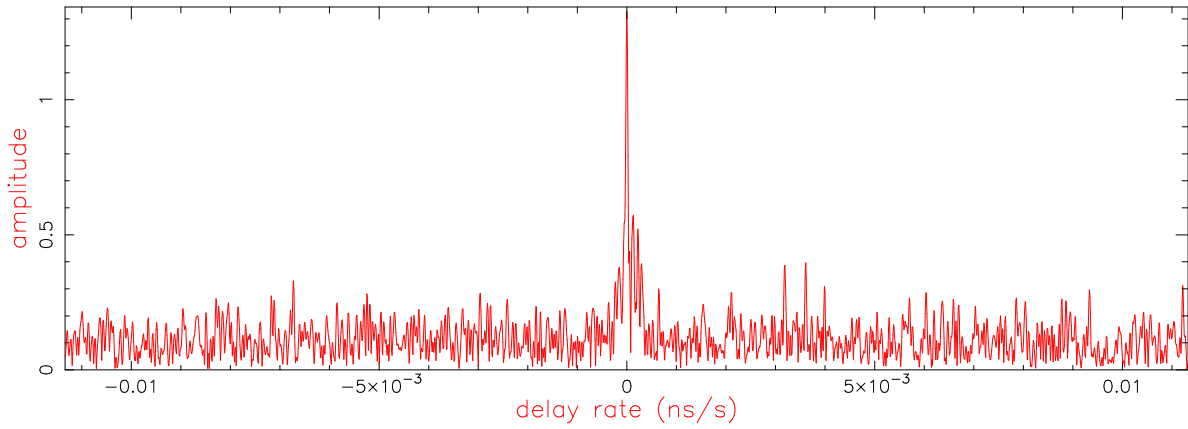
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 3.19151343025E+03  | Apriori delay (usec)     | 3.19151292607E+03  | Resid mbdelay (usec) | -6.61268E-06 | +/- 1.2E-03 |
| Sband delay (usec)      | 3.19151343257E+03  | Apriori clock (usec)     | -1.6134058E+01     | Resid sbdelay (usec) | 5.06500E-04  | +/- 1.2E-03 |
| Phase delay (usec)      | 3.19151292577E+03  | Apriori clockrate (us/s) | -5.9655997E-07     | Resid phdelay (usec) | -2.92803E-07 | +/- 2.6E-07 |
| Delay rate (us/s)       | -6.88457093380E-02 | Apriori rate (us/s)      | -6.88457137403E-02 | Resid rate (us/s)    | 4.40227E-09  | +/- 1.5E-09 |
| Total phase (deg)       | 153.4              | Apriori accel (us/s/s)   | -1.76985793138E-05 | Resid phase (deg)    | -9.1         | +/- 8.1     |

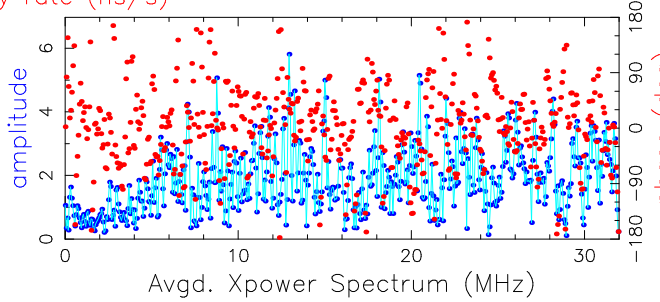
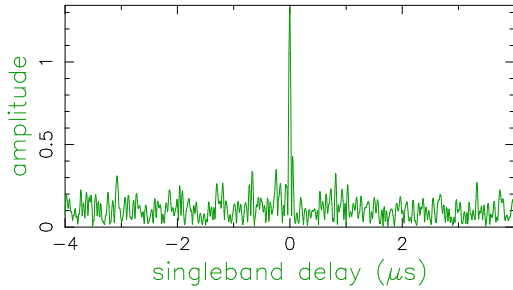
|              |          |             |                           |  |                               |
|--------------|----------|-------------|---------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 70.4 | Theor. 69.5 | Amplitude 1.241 +/- 0.088 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 137.4    | 121.2       | Search (2048X8) 1.220     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 4.1         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.0      | 7.1         | Inc. seg. avg. 1.377      | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000   |
|              |          |             | Inc. frq. avg. 1.237      | Data rate(Mb/s): 128                   | dr window (ns/s) -0.011 0.011 |
|              |          |             |                           | nlags: 512                             | t_cohere infinite             |
|              |          |             |                           |  | ion window (TEC) 0.00 0.00    |

l: az 91.3 el 30.4 pa -57.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 388.191 -580.225 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lo.W.165.0QR2SH

Fringe quality 9



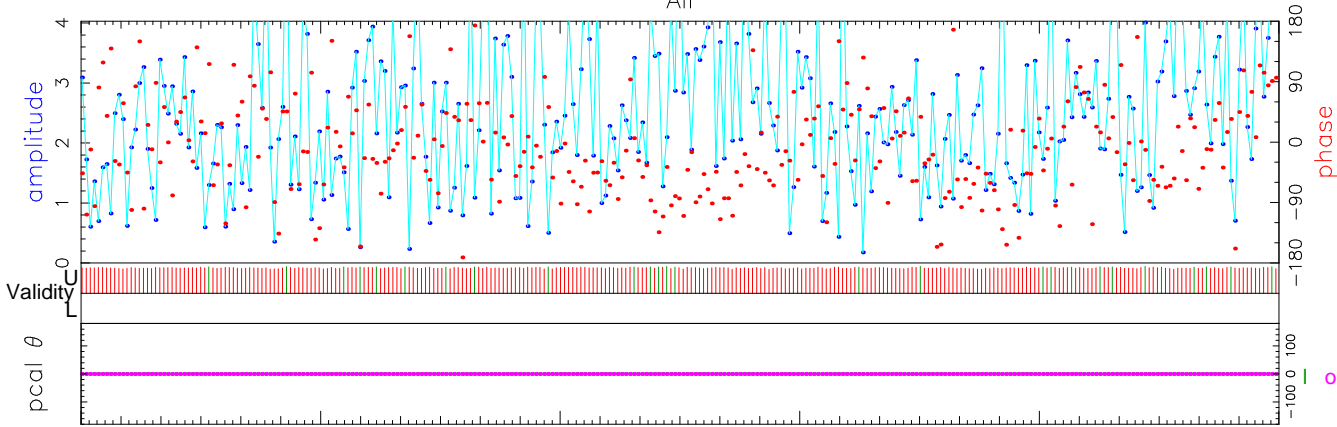
SNR 15.3  
 Int time 277.077  
 Amp 1.344  
 Phase -12.9  
 PFD 2.8e-44  
 Delays (us)  
 SBD -0.002913  
 MBD -0.000005  
 Fringe rate (Hz)  
 0.000286  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171823  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -12.9  
 1.3  
 512.6  
 U/L 586/0  
 l 5000  
 o 5000  
 l:o 0:0  
 l:o 0:0  
 l 1000  
 o 1000  
 l W04UR  
 o W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

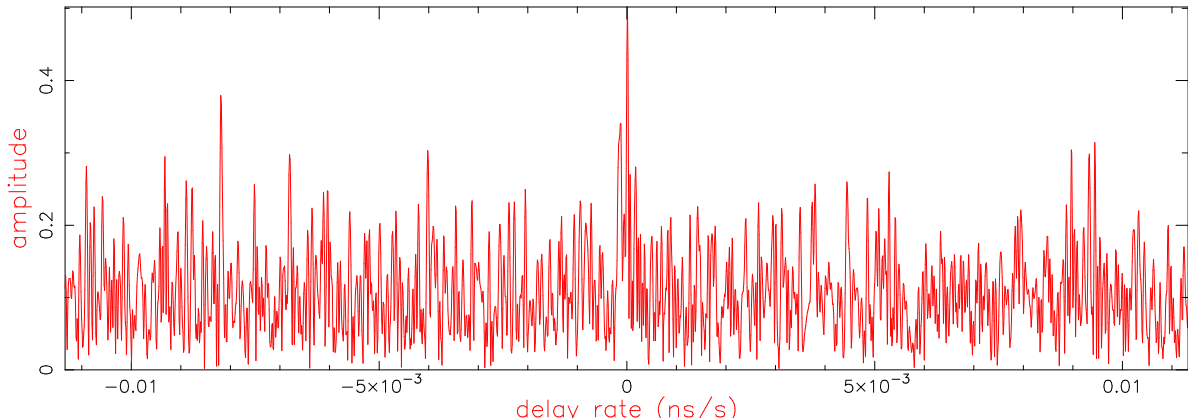
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.19151000705E+03  | Apriori delay (usec)     | 3.19151292607E+03  | Resid mbdelay (usec) | -5.15700E-06 | +/- | 1.1E-03 |
| Sband delay (usec)      | 3.19151001257E+03  | Apriori clock (usec)     | -1.6134058E+01     | Resid sbdelay (usec) | -2.91350E-03 | +/- | 1.1E-03 |
| Phase delay (usec)      | 3.19151292565E+03  | Apriori clockrate (us/s) | -5.9655997E-07     | Resid phdelay (usec) | -4.15706E-07 | +/- | 2.4E-07 |
| Delay rate (us/s)       | -6.88457104214E-02 | Apriori rate (us/s)      | -6.88457137403E-02 | Resid rate (us/s)    | 3.31888E-09  | +/- | 1.4E-09 |
| Total phase (deg)       | 149.6              | Apriori accel (us/s/s)   | -1.76985793138E-05 | Resid phase (deg)    | -12.9        | +/- | 7.5     |

|              |          |             |                           |                       |  |                       |                   |        |       |
|--------------|----------|-------------|---------------------------|-----------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 70.5 | Theor. 64.1 | Amplitude 1.344 +/- 0.088 | Search (2048X8) 1.315 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 132.5    | 111.9       | Interp. 0.000             |                       | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 3.7         | Inc. seg. avg. 1.557      |                       | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 1.2      | 6.5         | Inc. frq. avg. 1.324      |                       | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |             |                           |                       | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

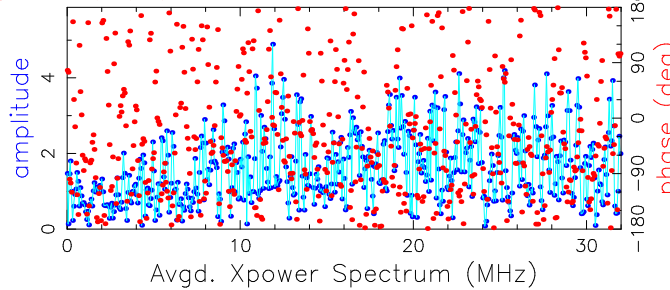
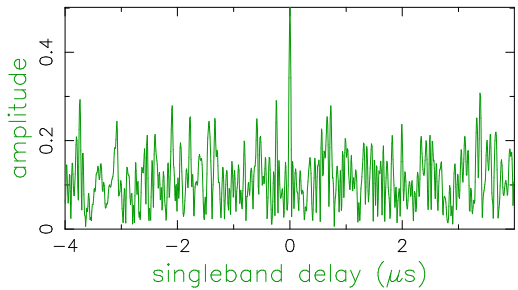
l: az 91.3 el 30.4 pa -57.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 388.191 -580.225 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lo.W.175.0QR2SH



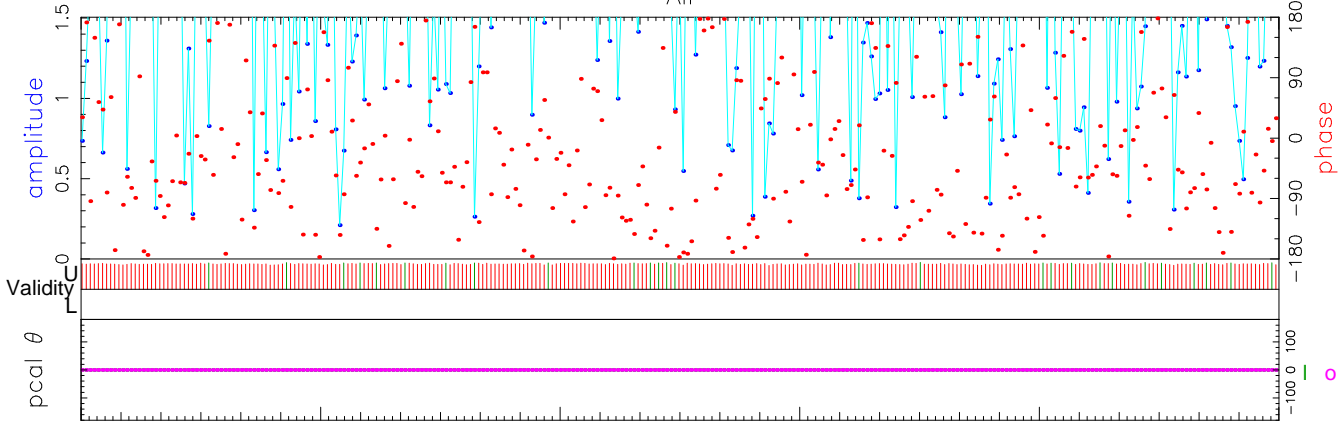


Fringe quality 0  
SNR 5.7  
Int time 277.068  
Amp 0.502  
Phase -72.4  
PFD 7.5e-01  
Delays (us)  
SBD 0.000372  
MBD -0.000006  
Fringe rate (Hz) 0.001217  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

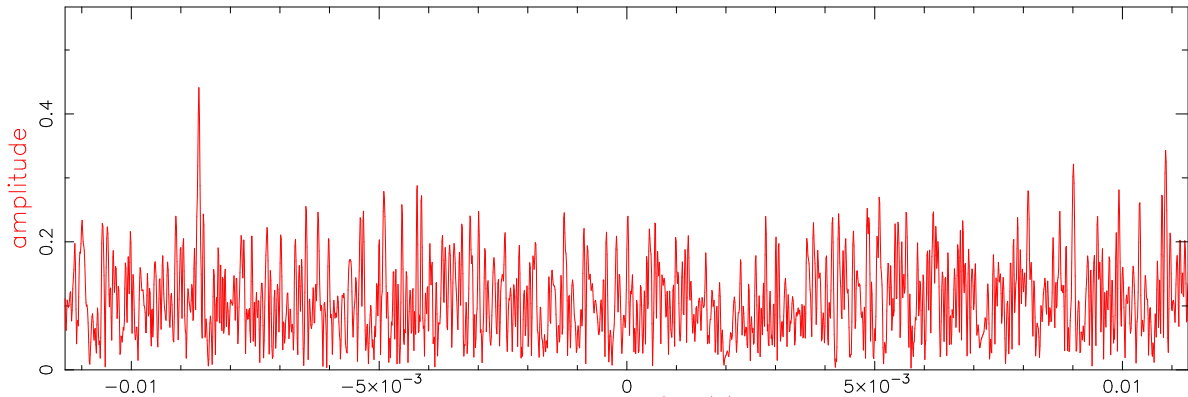
All



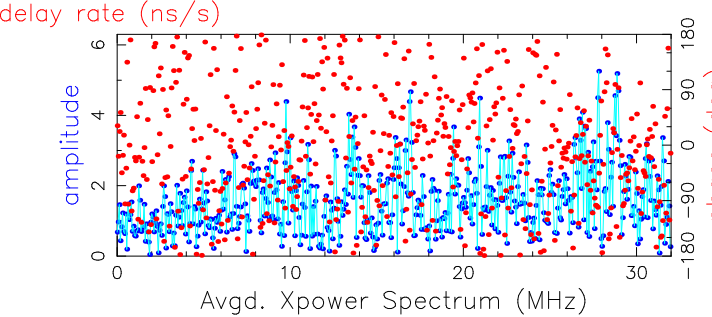
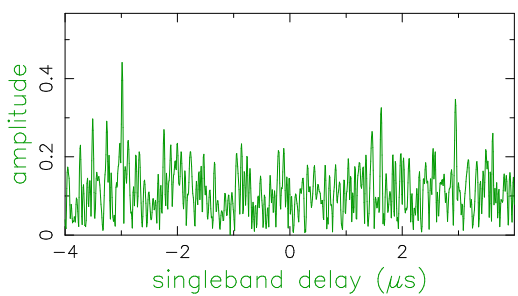
86140.00  
-72.4  
0.5  
513.0  
U/L 586/0  
l 5000  
o 5000  
l:0 0:0  
l:0 0:0  
l 1000  
o 1000  
l W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|   |                    |                          |                           |  |                       |                   |              |                                |  |
|---|--------------------|--------------------------|---------------------------|--|-----------------------|-------------------|--------------|--------------------------------|--|
| Group delay (usec)(sbd)                                       | 3.19151329196E+03  | Apriori delay (usec)     | 3.19151292607E+03         | Resid mbdelay (usec)                   | -5.59407E-06          | +/-               | 3.0E-03      |                                |  |
| Sband delay (usec)  | 3.19151329757E+03  | Apriori clock (usec)     | -1.6134058E+01            | Resid sbdelay (usec)                   | 3.71500E-04           | +/-               | 3.0E-03      |                                |  |
| Phase delay (usec)  | 3.19151292373E+03  | Apriori clockrate (us/s) | -5.9655997E-07            | Resid phdelay (usec)                   | -2.33439E-06          | +/-               | 6.5E-07      |                                |  |
| Delay rate (us/s)   | -6.88456996166E-02 | Apriori rate (us/s)      | -6.88457137403E-02        | Resid rate (us/s)                      | 1.41237E-08           | +/-               | 3.7E-09      |                                |  |
| Total phase (deg)   | 90.1               | Apriori accel (us/s/s)   | -1.76985793138E-05        | Resid phase (deg)                      | -72.4                 | +/-               | 20.1         |                                |  |
| ph/seg (deg)  | RMS 87.3           | Theor. 171.7             | Amplitude 0.502 +/- 0.088 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 4.000 |                                |  |
| amp/seg (%)   | 342.8              | 299.7                    | Search (2048X8) 0.497     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled  | mb window (us)    | -0.000 0.000 |                                |  |
| ph/frq (deg)  | 0.0                | 10.0                     | Interp. 0.000             | Bits/sample: 2x2                       | ion window (TEC)      | -0.011 0.011      |              |                                |  |
| amp/frq (%)   | 0.0                | 17.5                     | Inc. seg. avg. 0.354      | Sample rate(MSamp/s): 64               | nlags: 512            | t_cohere infinite |              |                                |  |
|   |                    |                          | Inc. frq. avg. 0.494      | Data rate(Mb/s): 128                   |                       |                   |              |                                |  |
| l: az 91.3 el 30.4 pa -57.6                                   |                    |                          |                           | o: az 85.0 el 20.8 pa -55.7            |                       |                   |              | u,v (fr/asec) 388.191 -580.225 |  |
| Control file: cf_1234_gmva                                    |                    |                          |                           |  |                       |                   |              |                                |  |
| Input file: /Exps2/f191a/FRINGE/1234/No0007//lo..0QR2SH       |                    |                          |                           |  |                       |                   |              |                                |  |
| Output file: /Exps2/f191a/FRINGE/1234/No0007//lo.W.185.0QR2SH |                    |                          |                           |  |                       |                   |              |                                |  |



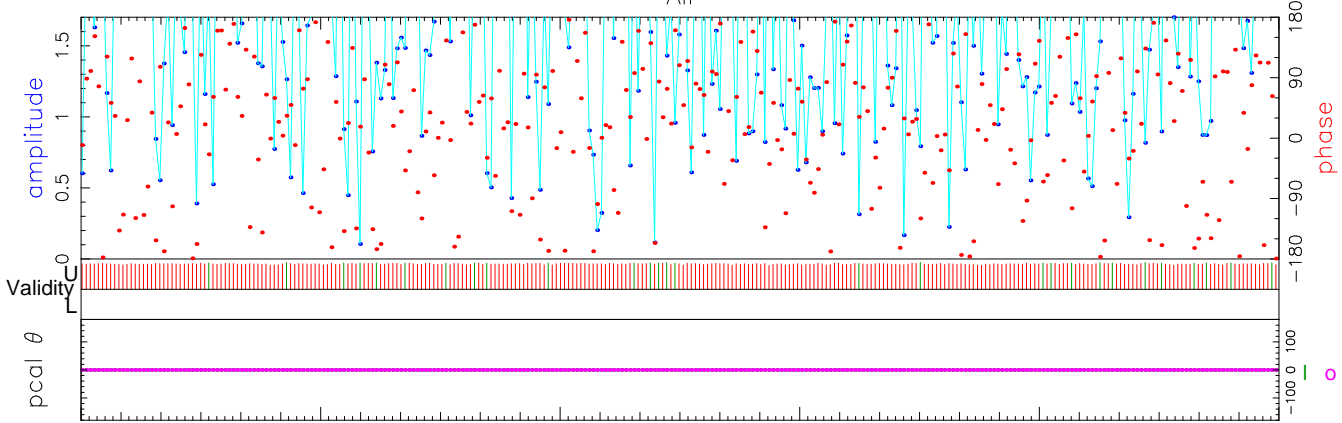
Fringe quality 0  
SNR 5.0  
Int time 277.074  
Amp 0.567  
Phase 71.3  
PFD 1.0e+00  
Delays (us)  
SBD -2.984288  
MBD -0.000007  
Fringe rate (Hz)  
-0.744001  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
71.3  
0.6  
131.0  
U/L 586/0  
l 5000  
o 5000  
l:o 0:0  
l:o 0:0  
l 1000  
o 1000  
l W04UR  
o W04UL

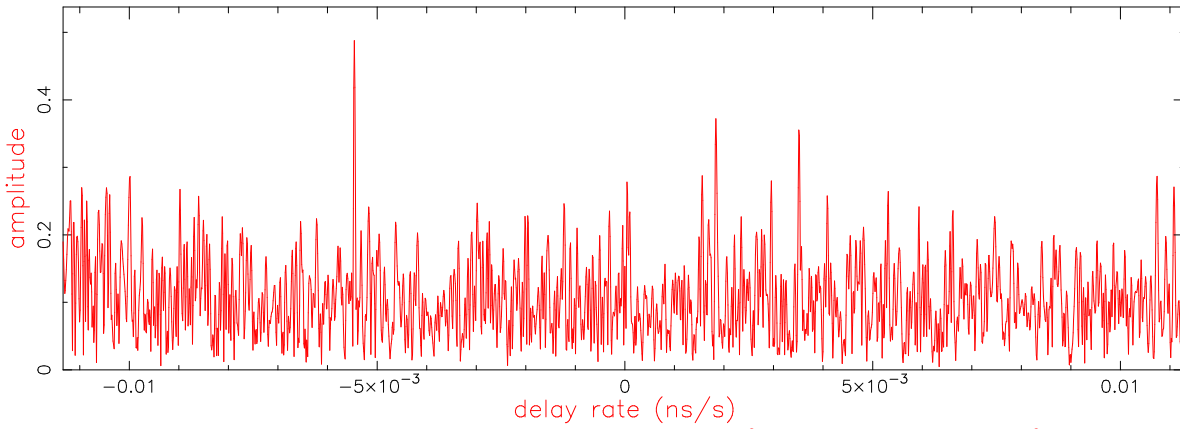
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.18852863744E+03  | Apriori delay (usec)     | 3.19151292607E+03  | Resid mbdelay (usec) | -7.22730E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | 3.18852863757E+03  | Apriori clock (usec)     | -1.6134058E+01     | Resid sbdelay (usec) | -2.98429E+00 | +/- | 3.4E-03 |
| Phase delay (usec)      | 3.19151292837E+03  | Apriori clockrate (us/s) | -5.9655997E-07     | Resid phdelay (usec) | 2.30084E-06  | +/- | 7.4E-07 |
| Delay rate (us/s)       | -6.88543508522E-02 | Apriori rate (us/s)      | -6.88457137403E-02 | Resid rate (us/s)    | -8.63711E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | 233.8              | Apriori accel (us/s/s)   | -1.76985793138E-05 | Resid phase (deg)    | 71.3         | +/- | 22.8    |

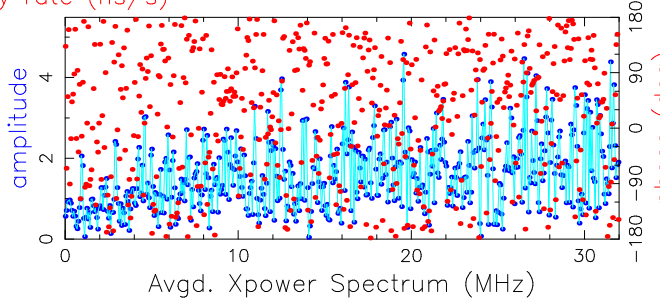
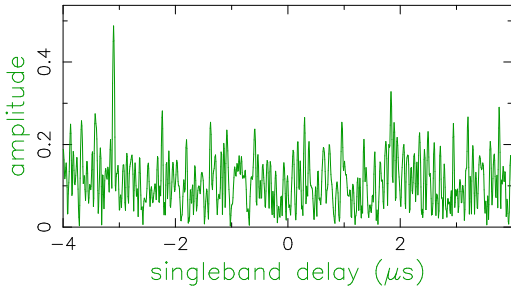
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.2  | Theor.          | 195.4 | Amplitude      | 0.567 +/- 0.113 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 402.1 | Search (2048X8) | 0.440 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.361           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.556 | Inc. frq. avg. | 0.556           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

l: az 91.3 el 30.4 pa -57.6 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 388.191 -580.225 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lo.W.198.0QR2SH

Fringe quality 0



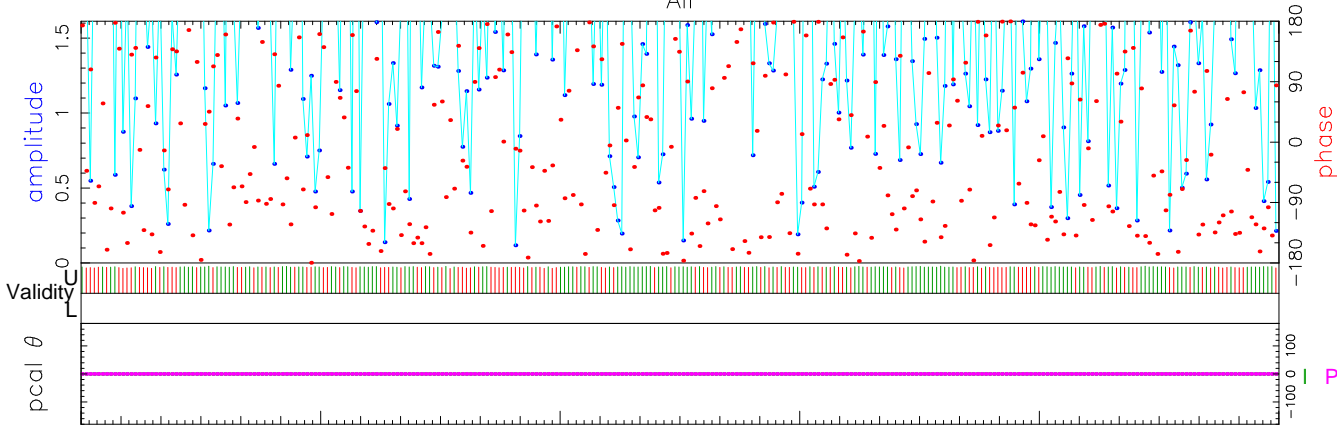
SNR 5.6  
 Int time 285.200  
 Amp 0.538  
 Phase -131.4  
 PFD 8.8e-01  
 Delays (us)  
 SBD -3.101487  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.469852  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171824  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



Validity  
 pcal  
 86140.00  
 -131.4  
 0.5  
 116.0  
 U/L 586/0  
 I 5000  
 P 0  
 I:P 0:0  
 I:P 0:0  
 I 1000  
 P 1000  
 I W04UL  
 P W04UL

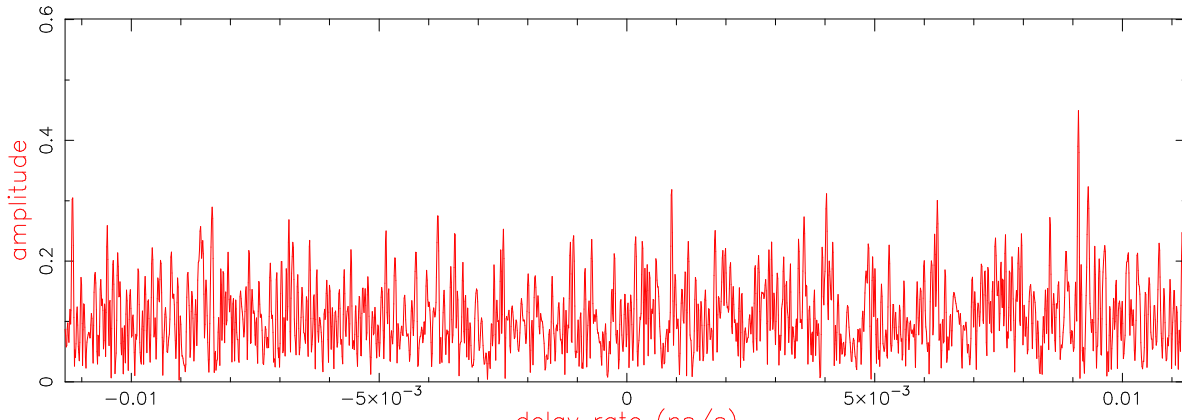
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.11330973508E+03 | Apriori delay (usec)     | -5.11020824295E+03 | Resid mbdelay (usec) | -6.17534E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.11330973045E+03 | Apriori clock (usec)     | 1.3269104E+01      | Resid sbdelay (usec) | -3.10149E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.11020824719E+03 | Apriori clockrate (us/s) | 3.2000002E-07      | Resid phdelay (usec) | -4.23623E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.84092279676E+00  | Apriori rate (us/s)      | 1.84092825127E+00  | Resid rate (us/s)    | -5.45451E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -148.6             | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | -131.4       | +/- | 20.3    |

|              |       |                 |       |                |                 |  |                          |                   |                  |       |      |
|--------------|-------|-----------------|-------|----------------|-----------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | 90.1  | Theor.          | 174.1 | Amplitude      | 0.538 +/- 0.095 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 346.8 | Search (2048X8) | 0.480 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.358 | Inc. seg. avg. | 0.358           | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.529 | Inc. frq. avg. | 0.529           | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

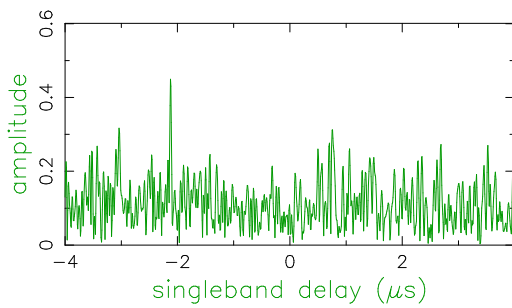
I: az 91.3 el 30.4 pa -57.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IP.W.182.0QR2SH

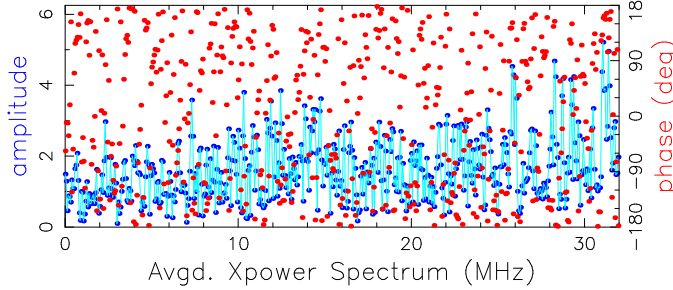


Fringe quality 0

SNR 5.1  
Int time 275.432  
Amp 0.601  
Phase 168.5  
PFD 1.0e+00  
Delays (us)  
SBD -2.122699  
MBD 0.000006  
Fringe rate (Hz)  
0.785313  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

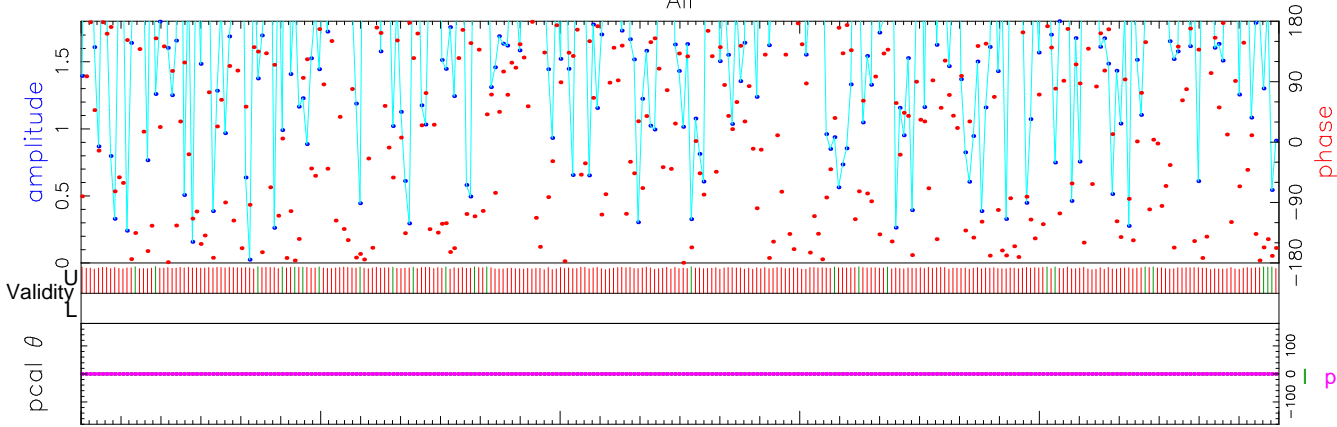


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
168.5  
0.6  
241.3  
U/L 586/0  
l 5000  
p 5000  
l:p 0:0  
l:p 0:0  
l 1000  
p 1000  
l W04UL  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.64197706120E+02  | Apriori delay (usec)     | 4.66320407665E+02  | Resid mbdelay (usec) | 5.67569E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 4.64197708665E+02  | Apriori clock (usec)     | -1.8113422E+01     | Resid sbdelay (usec) | -2.12270E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 4.66320413100E+02  | Apriori clockrate (us/s) | -1.2200001E-07     | Resid phdelay (usec) | 5.43412E-06  | +/- | 7.2E-07 |
| Delay rate (us/s)       | -3.72871670988E-02 | Apriori rate (us/s)      | -3.72962838050E-02 | Resid rate (us/s)    | 9.11671E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 138.4              | Apriori accel (us/s/s)   | -1.91239969545E-06 | Resid phase (deg)    | 168.5        | +/- | 22.3    |

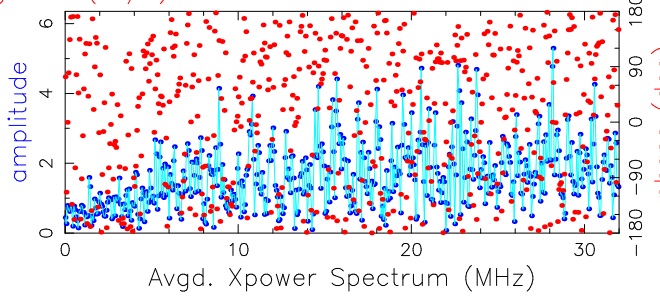
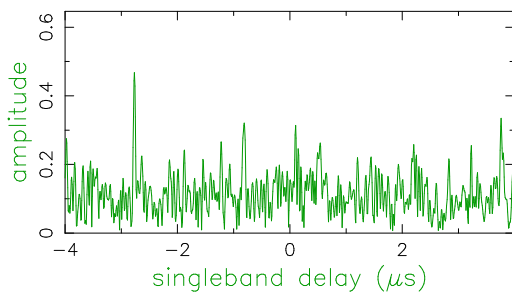
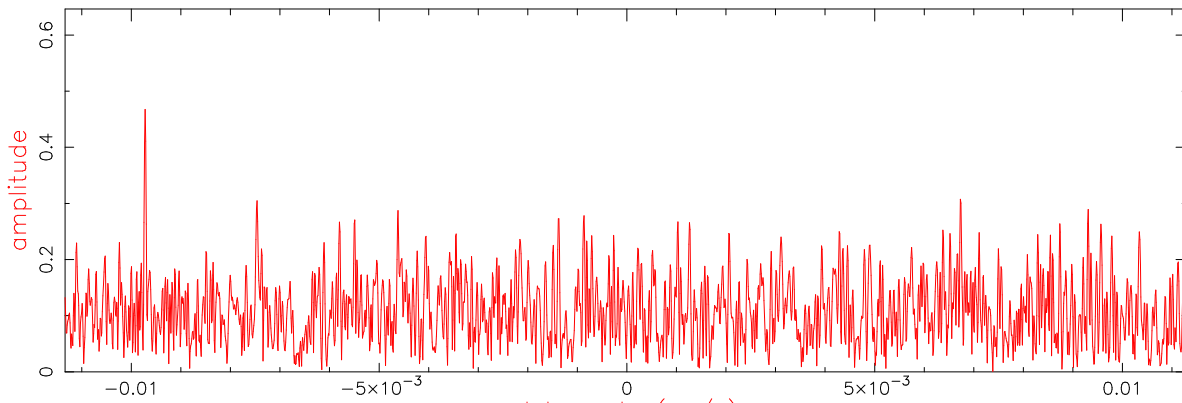
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 89.4  | Theor.          | 190.6 | Amplitude       | 0.601 +/- 0.117 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 406.5 | Search (2048X8) | 0.437 | Search (2048X8) | 0.437           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.9   | Inc. seg. avg.  | 0.399 | Inc. seg. avg.  | 0.399           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.585 | Inc. frq. avg.  | 0.585           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

l: az 91.3 el 30.4 pa -57.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 220.131 133.973 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lp.W.183.0QR2SH

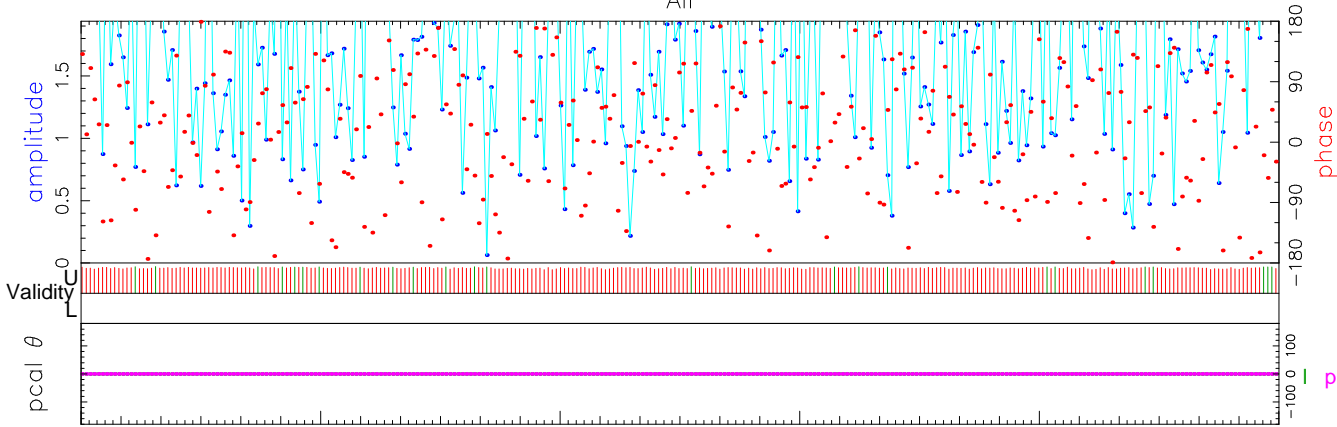
Fringe quality 0

SNR 5.3  
Int time 275.434  
Amp 0.646  
Phase 21.6  
PFD 1.0e+00  
Delays (us)  
SBD -2.766577  
MBD -0.000006  
Fringe rate (Hz)  
-0.837163  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
21.6  
0.6  
158.9  
U/L 586/0  
l 5000  
p 5000  
l:p 0:0  
l:p 0:0  
l 1000  
p 1000  
l W04UR  
p W04UR

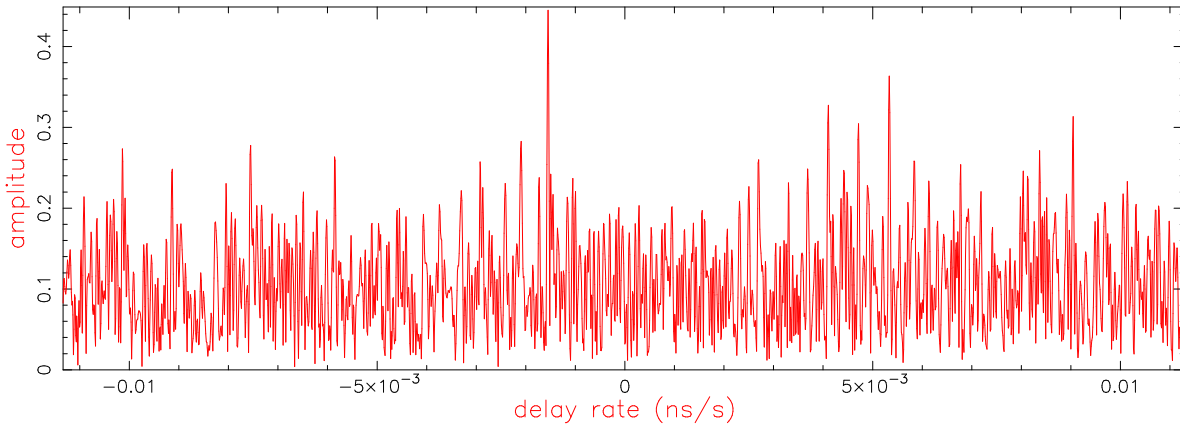
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.63553835627E+02  | Apriori delay (usec)     | 4.66320407665E+02  | Resid mbdelay (usec) | -5.98300E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 4.63553830165E+02  | Apriori clock (usec)     | -1.8113422E+01     | Resid sbdelay (usec) | -2.76658E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 4.66320408362E+02  | Apriori clockrate (us/s) | -1.2200001E-07     | Resid phdelay (usec) | 6.96447E-07  | +/- | 7.0E-07 |
| Delay rate (us/s)       | -3.73060024337E-02 | Apriori rate (us/s)      | -3.72962838050E-02 | Resid rate (us/s)    | -9.71863E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | 351.5              | Apriori accel (us/s/s)   | -1.91239969545E-06 | Resid phase (deg)    | 21.6         | +/- | 21.6    |

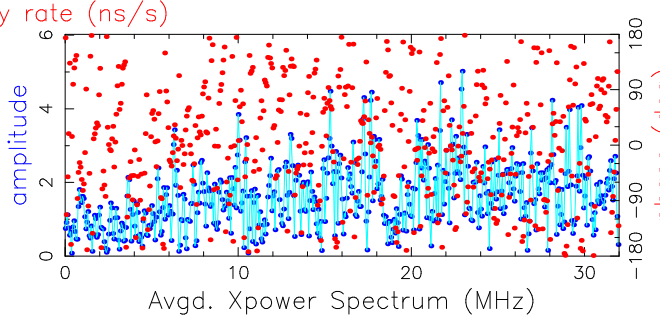
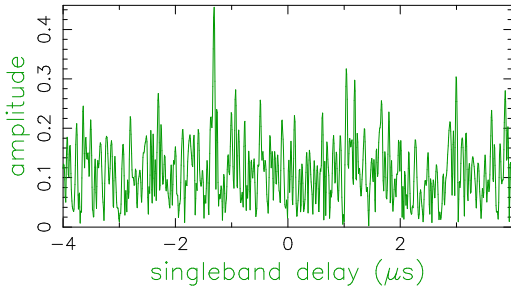
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.8  | Theor.          | 184.7 | Amplitude      | 0.646 +/- 0.122 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 361.4 | Search (2048X8) | 0.465 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.418           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.635 | Inc. frq. avg. | 0.635           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

l: az 91.3 el 30.4 pa -57.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 220.131 133.973 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lp.W.197.0QR2SH

Fringe quality 0

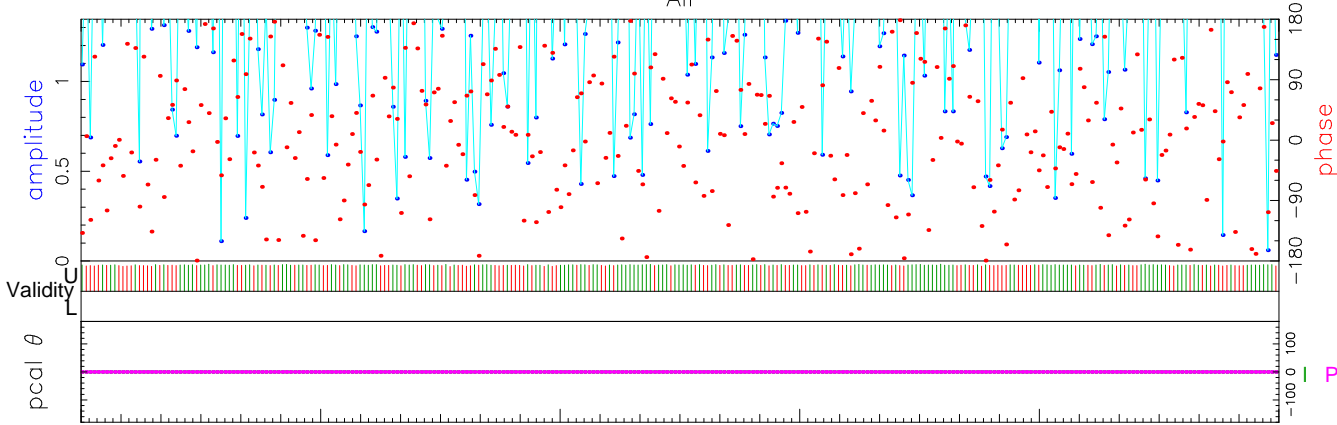


SNR 5.1  
Int time 285.208  
Amp 0.449  
Phase 12.4  
PFD 1.0e+00  
Delays (us)  
SBD -1.313589  
MBD -0.000007  
Fringe rate (Hz)  
-0.133867  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
12.4  
0.4  
344.8  
U/L 586/0  
I 5000  
P 0  
I:P 0:0  
I:P 0:0  
I 1000  
P 1000  
I W04UR  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.11152183225E+03 | Apriori delay (usec)     | -5.11020824295E+03 | Resid mbdelay (usec) | -6.75598E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -5.11152183245E+03 | Apriori clock (usec)     | 1.3269104E+01      | Resid sbdelay (usec) | -1.31359E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -5.11020824255E+03 | Apriori clockrate (us/s) | 3.2000002E-07      | Resid phdelay (usec) | 4.00165E-07  | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.84092669720E+00  | Apriori rate (us/s)      | 1.84092825127E+00  | Resid rate (us/s)    | -1.55407E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -4.8               | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | 12.4         | +/- | 22.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 92.5  | Theor.          | 190.7 | Amplitude      | 0.449 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 380.2 | Search (2048X8) | 0.435 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.283           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.440 | Inc. frq. avg. | 0.440           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

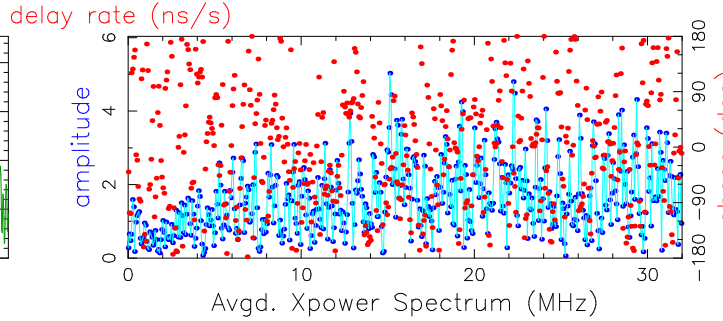
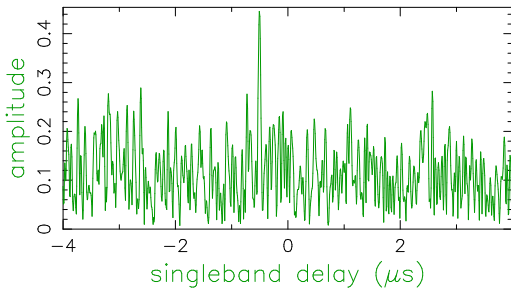
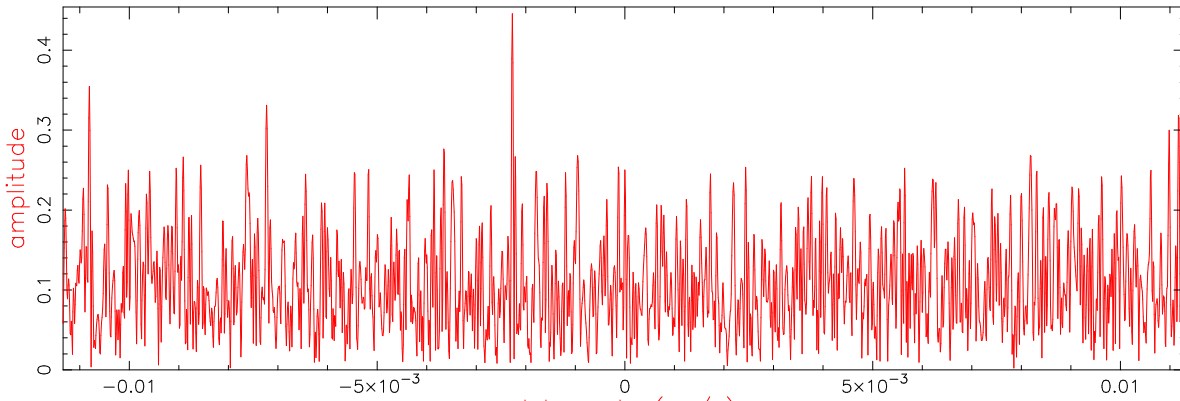
I: az 91.3 el 30.4 pa -57.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IP.W.203.0QR2SH

Fringe quality 0

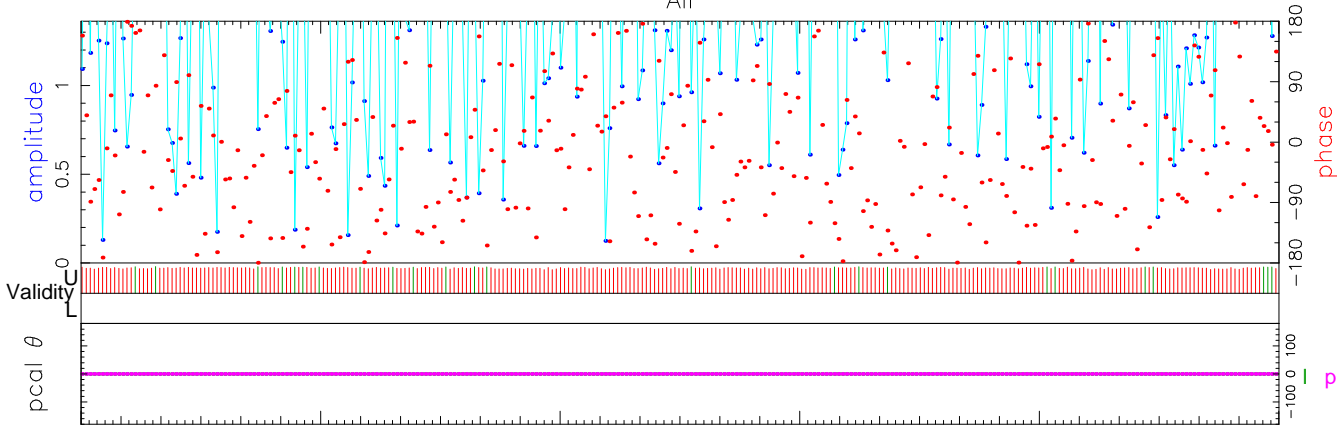
SNR 5.1  
Int time 275.426  
Amp 0.454  
Phase -40.0  
PFD 1.0e+00  
Delays (us)  
SBD -0.506034  
MBD -0.000007  
Fringe rate (Hz)  
-0.195503  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-40.0  
0.5  
448.2  
U/L 586/0  
l 5000  
p 5000  
l:p 0:0  
l:p 0:0  
l 1000  
p 1000  
l W04UL  
p W04UR

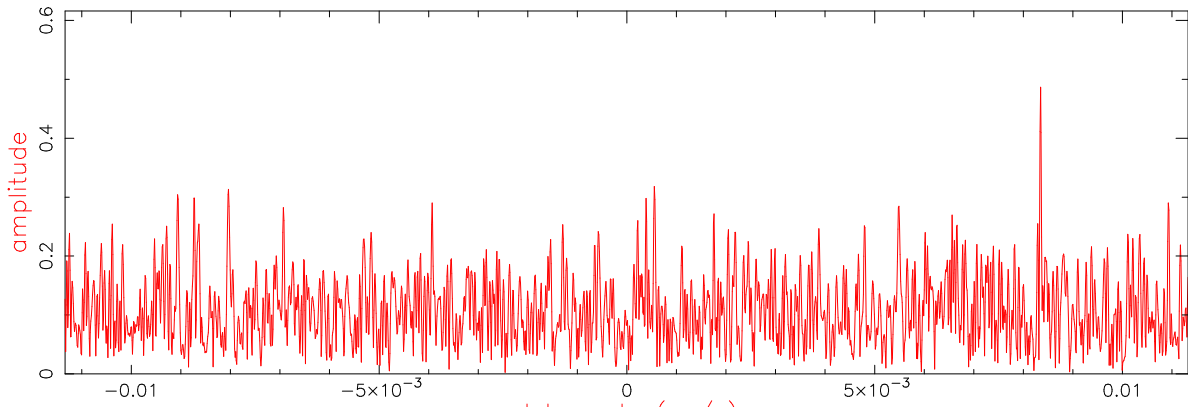
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.65814375848E+02  | Apriori delay (usec)     | 4.66320407665E+02  | Resid mbdelay (usec) | -6.74186E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | 4.65814373665E+02  | Apriori clock (usec)     | -1.8113422E+01     | Resid sbdelay (usec) | -5.06034E-01 | +/- | 3.4E-03 |
| Phase delay (usec)      | 4.66320406375E+02  | Apriori clockrate (us/s) | -1.2200001E-07     | Resid phdelay (usec) | -1.29062E-06 | +/- | 7.3E-07 |
| Delay rate (us/s)       | -3.72985534057E-02 | Apriori rate (us/s)      | -3.72962838050E-02 | Resid rate (us/s)    | -2.26960E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | 289.8              | Apriori accel (us/s/s)   | -1.91239969545E-06 | Resid phase (deg)    | -40.0        | +/- | 22.6    |

|              |          |              |                           |                       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 91.9 | Theor. 193.5 | Amplitude 0.454 +/- 0.090 | Search (2048X8) 0.446 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 384.5    | 337.7        | Interp. 0.000             | 0.444                 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 11.3         | Inc. seg. avg. 0.279      | 0.444                 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.2      | 19.7         | Inc. frq. avg. 0.444      | 0.444                 | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

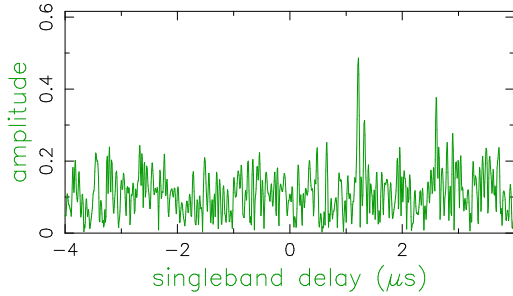
l: az 91.3 el 30.4 pa -57.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 220.131 133.973 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lp.W.212.0QR2SH

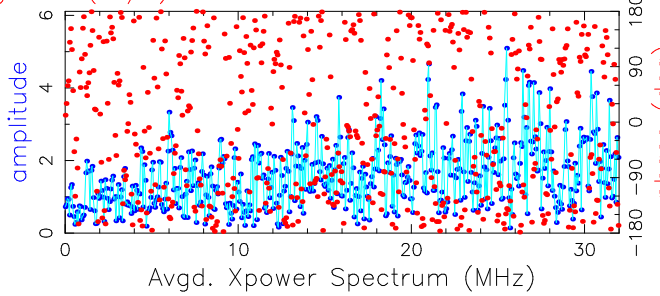


Fringe quality 0

SNR 5.6  
Int time 285.200  
Amp 0.616  
Phase 6.9  
PFD 8.9e-01  
Delays (us)  
SBD 1.217454  
MBD 0.000007  
Fringe rate (Hz)  
0.719518  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



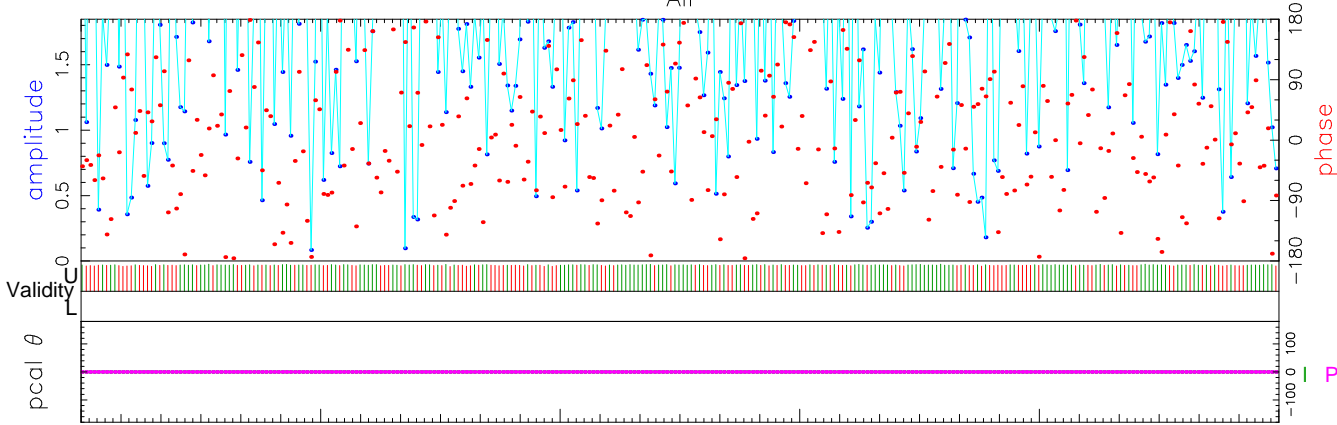
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
6.9  
0.6  
668.8  
U/L 586/0  
I 5000  
P 0  
I:P 0:0  
I:P 0:0  
I 1000  
P 1000  
I W04UL  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

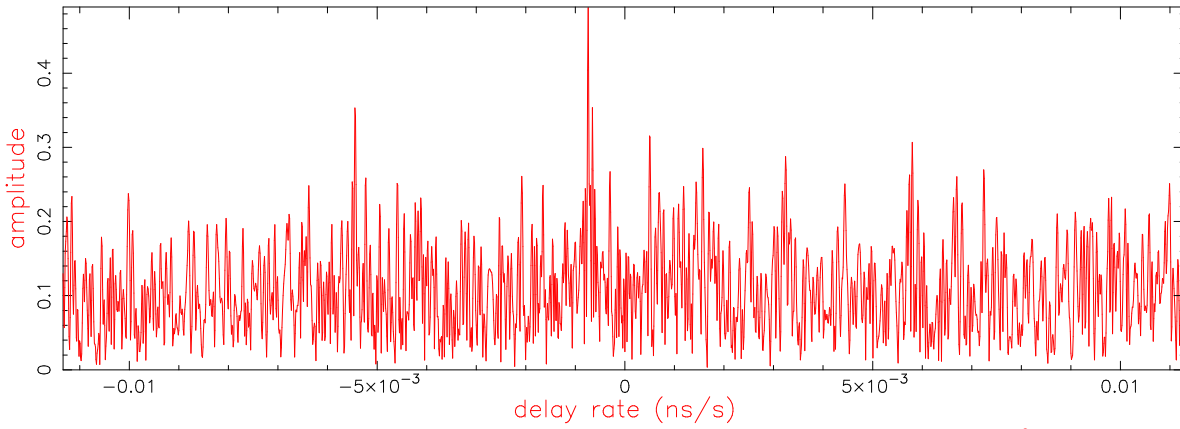
|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -5.10899078799E+03 | Apriori delay (usec)     | -5.11020824295E+03 | Resid mbdelay (usec) | 6.62661E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.10899078895E+03 | Apriori clock (usec)     | 1.3269104E+01      | Resid sbdelay (usec) | 1.21745E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.11020824273E+03 | Apriori clockrate (us/s) | 3.2000002E-07      | Resid phdelay (usec) | 2.23241E-07 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.84093660416E+00  | Apriori rate (us/s)      | 1.84092825127E+00  | Resid rate (us/s)    | 8.35289E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -10.3              | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | 6.9         | +/- | 20.4    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 91.0  | Theor.          | 174.3 | Amplitude       | 0.616 +/- 0.109 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 364.4 | Search (2048X8) | 0.470 | Search (2048X8) | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.443           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.2   | Inc. seg. avg.  | 0.605 | Inc. seg. avg.  | 0.605           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |       | Inc. frq. avg.  | 0.605 | Inc. frq. avg.  | 0.605           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

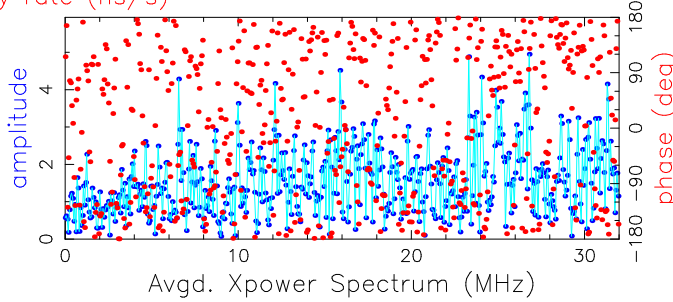
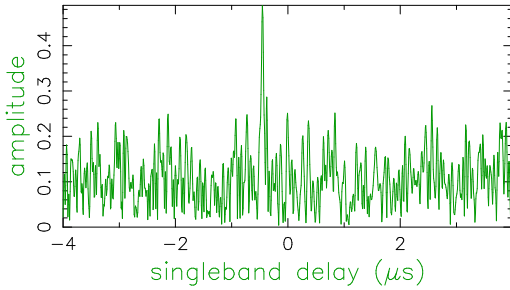
I: az 91.3 el 30.4 pa -57.6 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -10946.268 508.455 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IP.W.222.0QR2SH



Fringe quality 0



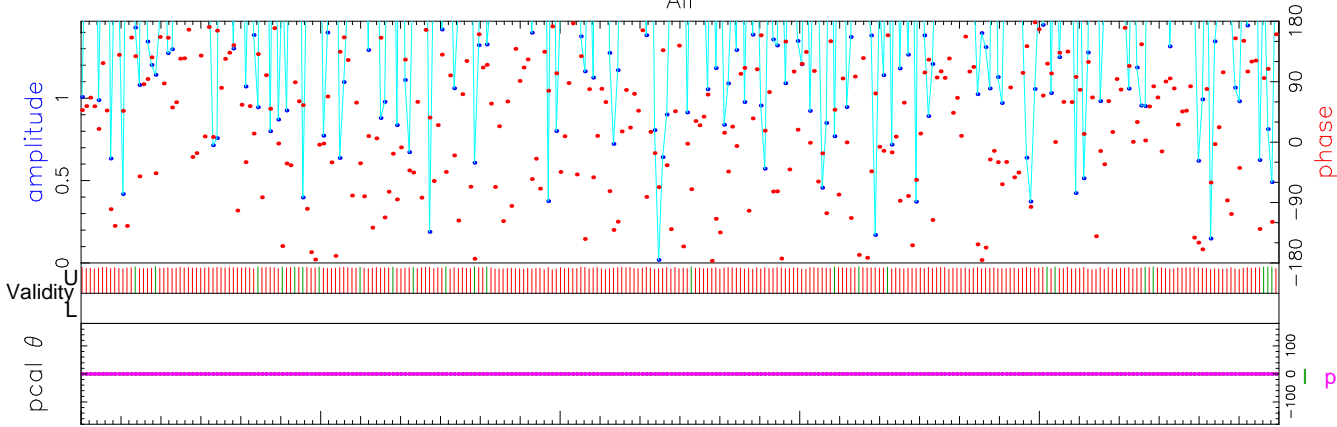
SNR 5.5  
 Int time 275.439  
 Amp 0.489  
 Phase 69.7  
 PFD 9.7e-01  
 Delays (us)  
 SBD -0.452514  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.064072  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171828  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 69.7  
 0.5  
 455.1  
 U/L 586/0  
 l 5000  
 p 5000  
 l:p 0:0  
 l:p 0:0  
 l 1000  
 p 1000  
 l W04UR  
 p W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp

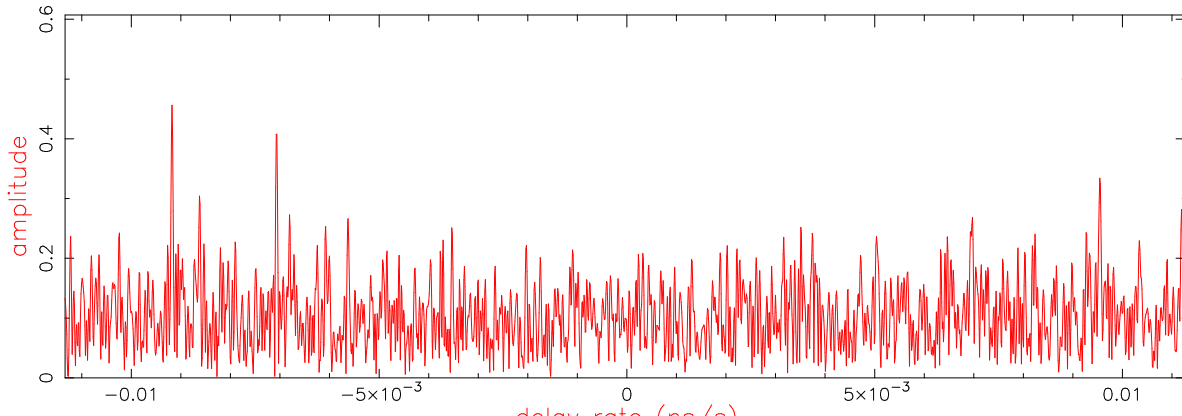
Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.65867893857E+02  | Apriori delay (usec)     | 4.66320407665E+02  | Resid mbdelay (usec) | -6.26246E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 4.65867893665E+02  | Apriori clock (usec)     | -1.8113422E+01     | Resid sbdelay (usec) | -4.52514E-01 | +/- | 3.1E-03 |
| Phase delay (usec)      | 4.66320409913E+02  | Apriori clockrate (us/s) | -1.2200001E-07     | Resid phdelay (usec) | 2.24706E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | -3.72970276169E-02 | Apriori rate (us/s)      | -3.72962838050E-02 | Resid rate (us/s)    | -7.43812E-07 | +/- | 3.8E-09 |
| Total phase (deg)       | 39.6               | Apriori accel (us/s/s)   | -1.91239969545E-06 | Resid phase (deg)    | 69.7         | +/- | 20.7    |

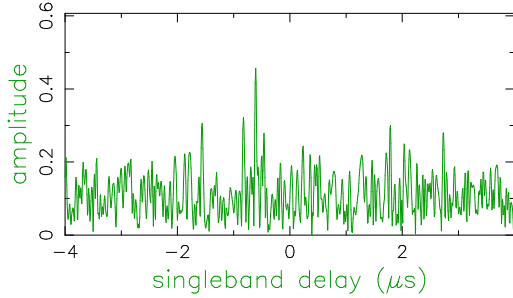
|              |          |              |                           |                 |       |  |                       |                  |          |       |
|--------------|----------|--------------|---------------------------|-----------------|-------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | RMS 90.5 | Theor. 177.0 | Amplitude 0.489 +/- 0.088 | Search (2048X8) | 0.485 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 367.2    | 308.9        | Interp.                   | 0.000           |       | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0      | 10.3         | Inc. seg. avg.            | 0.339           |       | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0      | 18.0         | Inc. frq. avg.            | 0.481           |       | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |          |              |                           |                 |       | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

l: az 91.3 el 30.4 pa -57.6 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 220.131 133.973 simultaneous interpolator

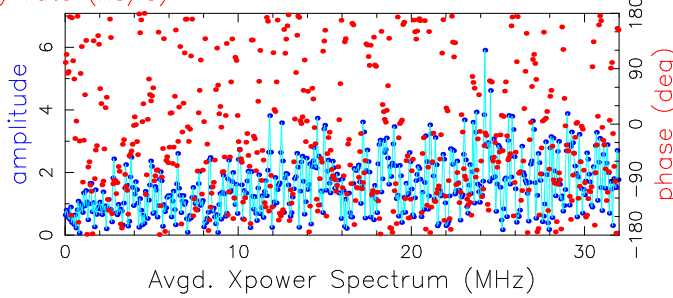
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//lp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//lp.W.224.0QR2SH



Fringe quality 0  
SNR 5.3  
Int time 285.208  
Amp 0.607  
Phase -6.3  
PFD 1.0e+00  
Delays (us)  
SBD -0.609539  
MBD -0.000007  
Fringe rate (Hz)  
-0.790666  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

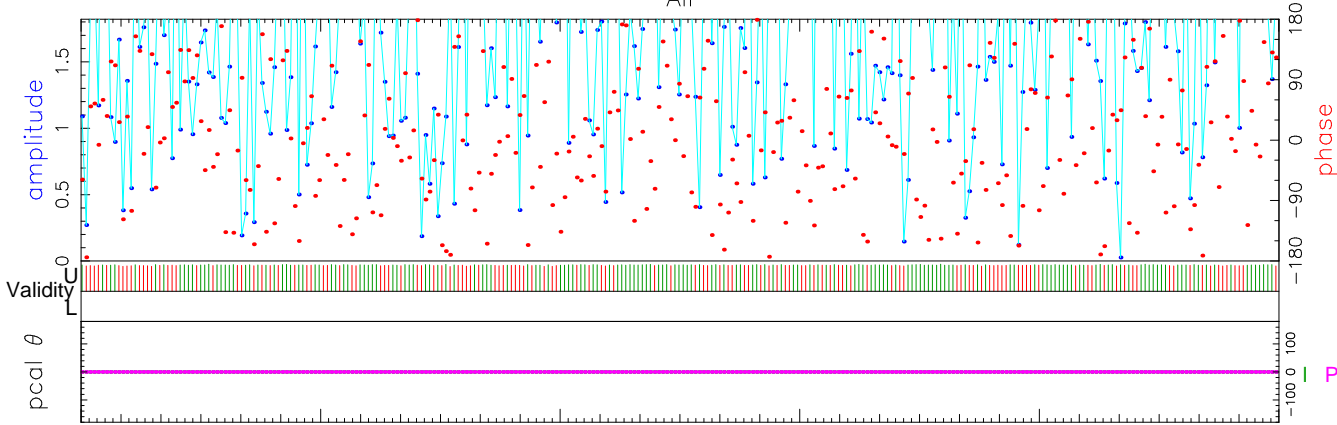


delay rate (ns/s)



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



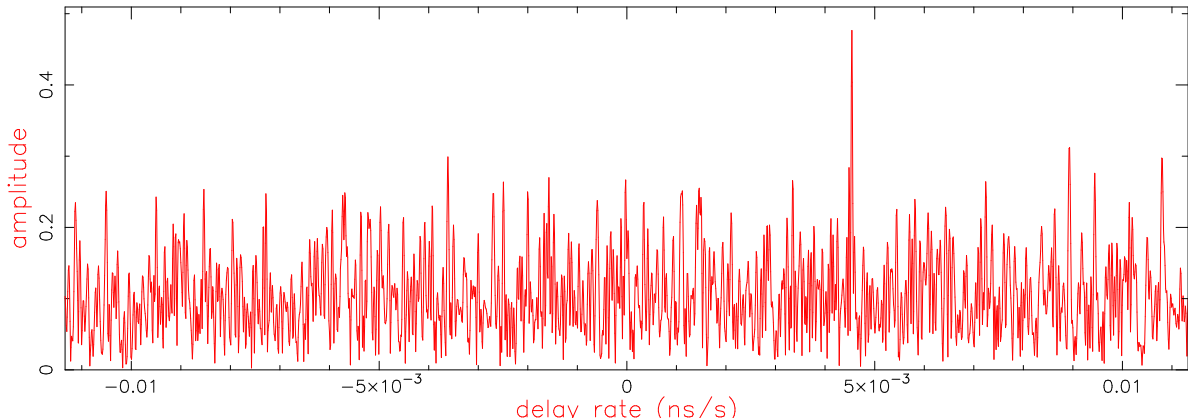
86140.00  
-6.3  
0.6  
435.0  
U/L 586/0  
I 5000  
P 0  
I:P 0:0  
I:P 0:0  
I 1000  
P 1000  
I W04UR  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

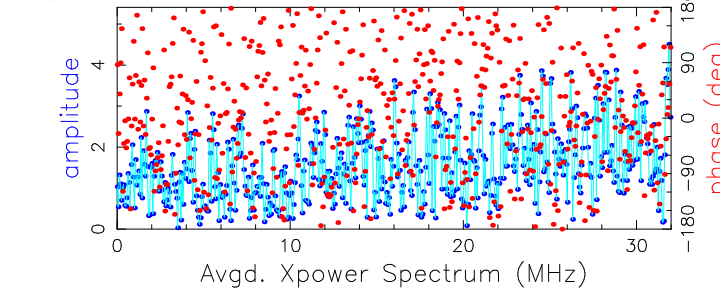
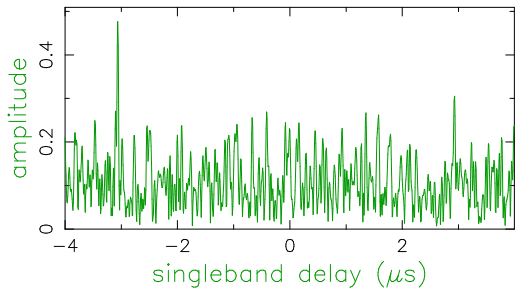
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.11081778098E+03 | Apriori delay (usec)     | -5.11020824295E+03 | Resid mbdelay (usec) | -7.02828E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -5.11081778195E+03 | Apriori clock (usec)     | 1.3269104E+01      | Resid sbdelay (usec) | -6.09539E-01 | +/- | 3.3E-03 |
| Phase delay (usec)      | -5.11020824316E+03 | Apriori clockrate (us/s) | 3.2000002E-07      | Resid phdelay (usec) | -2.03883E-07 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.84091907242E+00  | Apriori rate (us/s)      | 1.84092825127E+00  | Resid rate (us/s)    | -9.17885E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -23.6              | Apriori accel (us/s/s)   | 2.66690748247E-05  | Resid phase (deg)    | -6.3         | +/- | 21.8    |

|                             |       |                             |       |                |                    |                       |                             |                  |              |                |              |                  |           |
|-----------------------------|-------|-----------------------------|-------|----------------|--------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg)                | 93.2  | Theor.                      | 186.2 | Amplitude      | 0.607 +/- 0.115    | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)                 | 380.8 | Search (2048X8)             | 0.456 | Search         | 0.000              | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg)                | 0.0   | Interp.                     | 0.000 | Inc. seg. avg. | 0.400              | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)                 | 0.0   | Inc. frq. avg.              | 0.596 | Inc. frq. avg. | 0.596              | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
| I: az 91.3 el 30.4 pa -57.6 |       | P: az 249.4 el 49.9 pa 50.8 |       | u,v (fr/asec)  | -10946.268 508.455 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IP.W.253.0QR2SH simultaneous interpolator



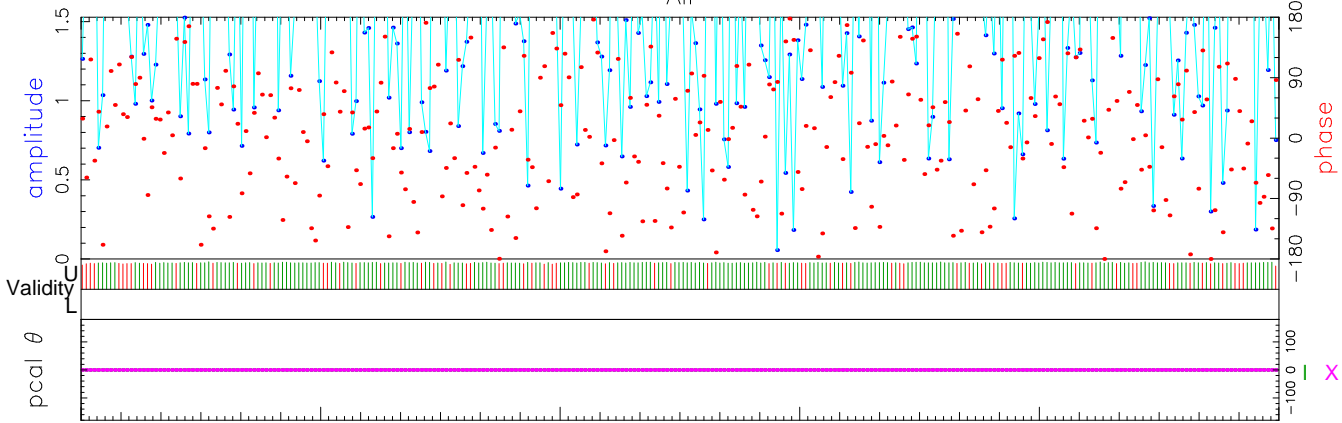
Fringe quality 0  
SNR 5.5  
Int time 287.952  
Amp 0.509  
Phase 21.0  
PFD 9.8e-01  
Delays (us)  
SBD -3.062555  
MBD 0.000005  
Fringe rate (Hz)  
0.391217  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
21.0  
0.5  
121.0  
U/L 586/0  
I 5000  
X 0  
I:X 0:0  
I:X 0:0  
I 1000  
X 1000  
I W04UL  
X W04UL

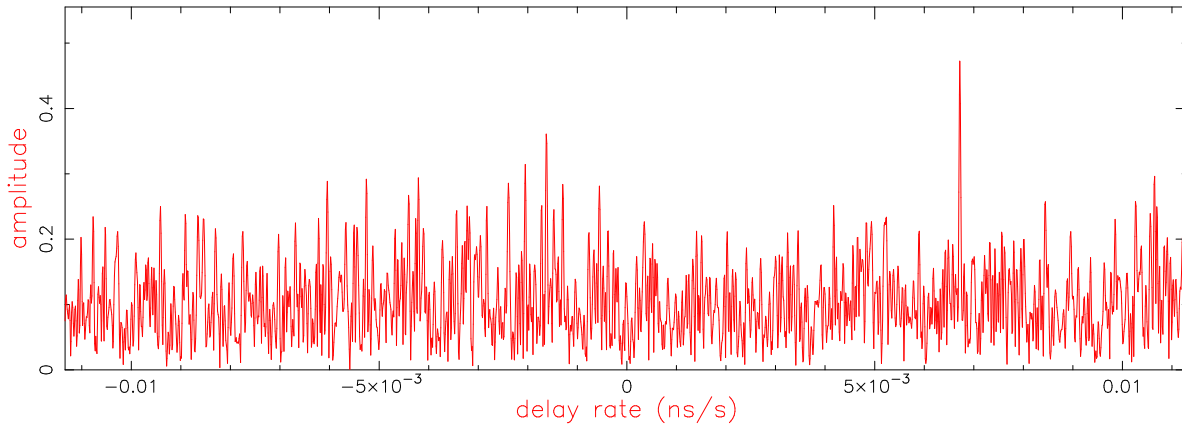
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.28082491511E+02 | Apriori delay (usec)     | -3.25019935065E+02 | Resid mbdelay (usec) | 4.50170E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -3.28082490065E+02 | Apriori clock (usec)     | -1.1876612E+01     | Resid sbdelay (usec) | -3.06256E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -3.25019934388E+02 | Apriori clockrate (us/s) | -7.5699999E-07     | Resid phdelay (usec) | 6.77308E-07  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.73872061234E+00  | Apriori rate (us/s)      | 1.73871607070E+00  | Resid rate (us/s)    | 4.54164E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -53.3              | Apriori accel (us/s/s)   | -6.47655486167E-06 | Resid phase (deg)    | 21.0         | +/- | 20.7    |

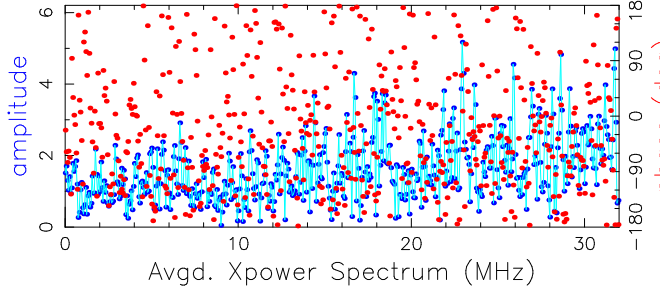
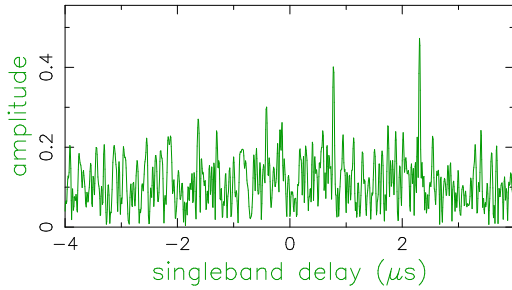
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.2  | Theor.          | 177.5 | Amplitude      | 0.509 +/- 0.092 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 347.4 | Search (2048X8) | 0.472 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.337           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.501 | Inc. frq. avg. | 0.501           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

I: az 91.3 el 30.4 pa -57.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10379.563 -2292.254 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IX.W.187.0QR2SH

Fringe quality 0



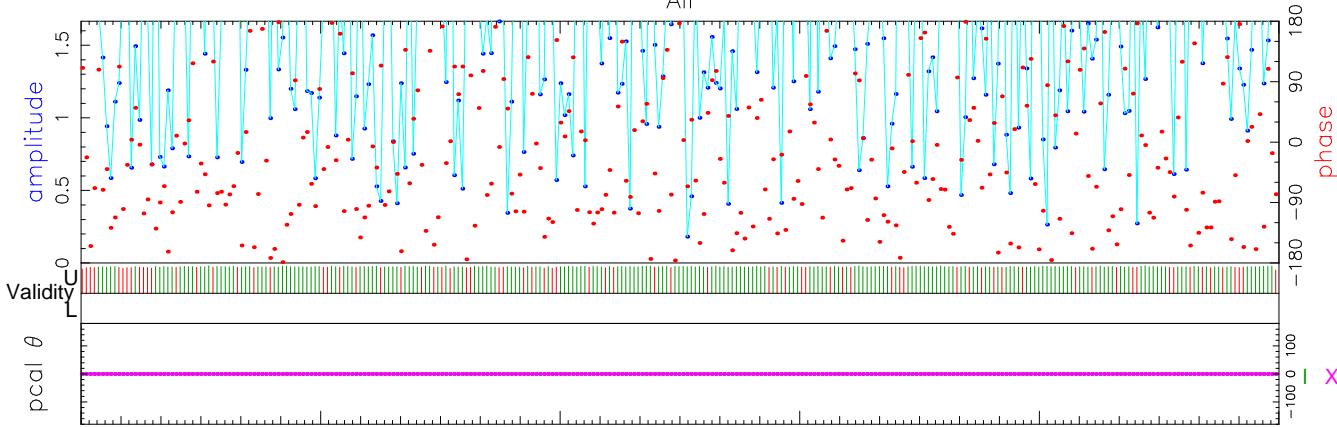
SNR 5.6  
Int time 287.960  
Amp 0.555  
Phase -81.7  
PFD 9.7e-01  
Delays (us)  
SBD 2.307271  
MBD 0.000005  
Fringe rate (Hz)  
0.578432  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

-81.7

0.5

808.3

U/L 586/0

I 5000

X 0

I:X 0:0

I:X 0:0

I 1000

X 1000

I W04UR

X W04UR

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC freqs

PC phase

Manl PC

PC amp

Chan ids

Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.22712662471E+02 | Apriori delay (usec)     | -3.25019935065E+02 | Resid mbdelay (usec) | 5.35491E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -3.22712664065E+02 | Apriori clock (usec)     | -1.1876612E+01     | Resid sbdelay (usec) | 2.30727E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -3.25019937701E+02 | Apriori clockrate (us/s) | -7.5699999E-07     | Resid phdelay (usec) | -2.63570E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.73872278573E+00  | Apriori rate (us/s)      | 1.73871607070E+00  | Resid rate (us/s)    | 6.71503E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | -156.1             | Apriori accel (us/s/s)   | -6.47655486167E-06 | Resid phase (deg)    | -81.7        | +/- | 20.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 176.6 | Amplitude      | 0.555 +/- 0.100 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 335.8 | Search (2048X8) | 0.460 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.363           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.3   | Inc. frq. avg.  | 0.540 | Inc. frq. avg. | 0.540           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

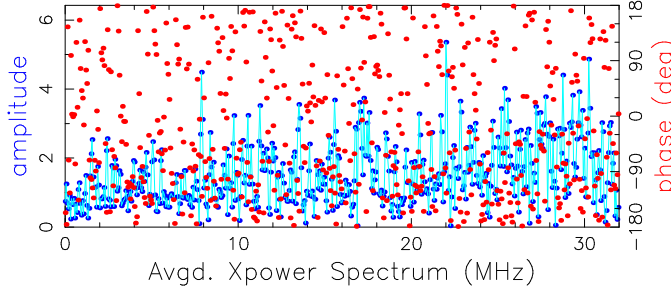
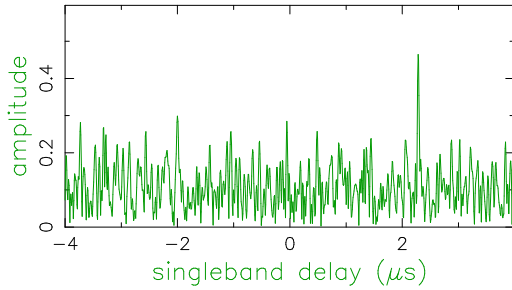
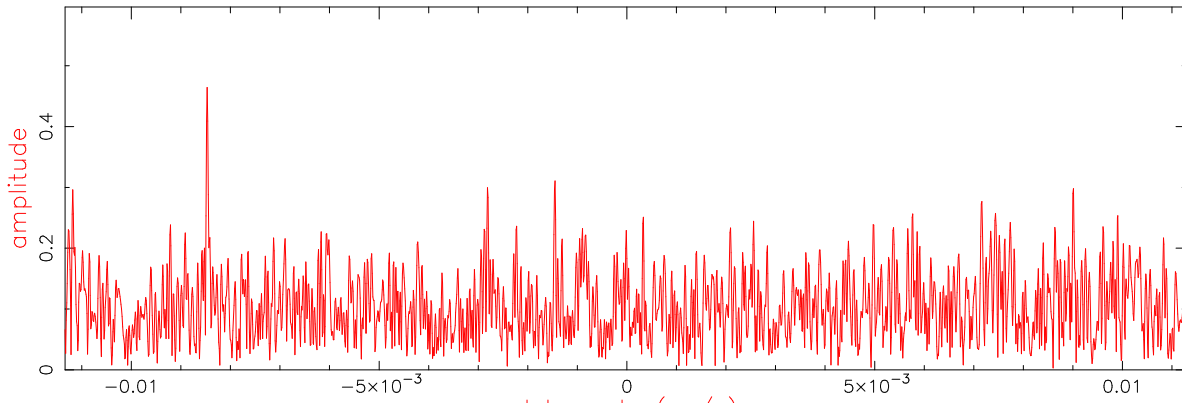
I: az 91.3 el 30.4 pa -57.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10379.563 -2292.254 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IX.W.205.0QR2SH

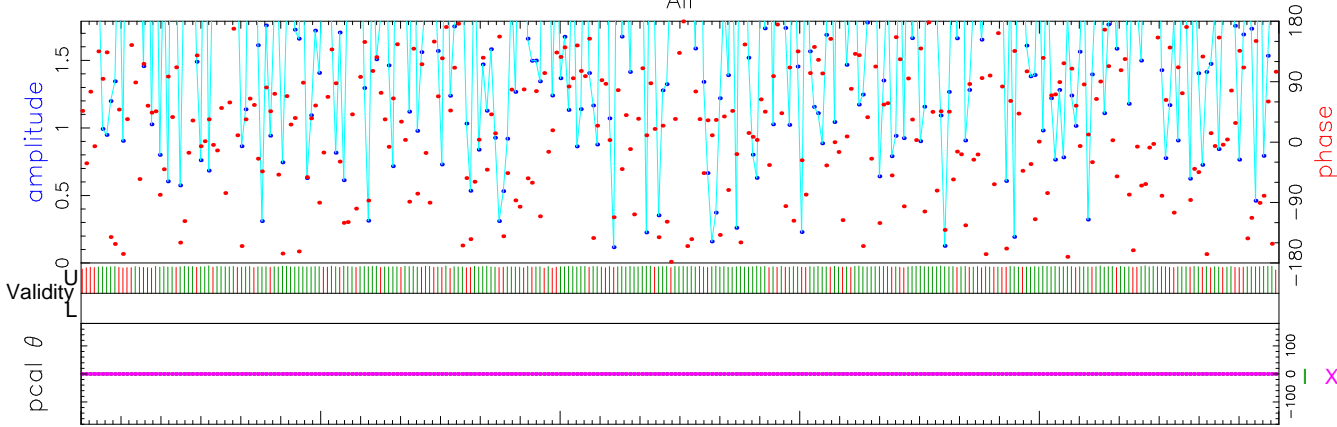
Fringe quality 0

SNR 5.4  
Int time 287.952  
Amp 0.597  
Phase 55.6  
PFD 1.0e+00  
Delays (us)  
SBD 2.283648  
MBD -0.000007  
Fringe rate (Hz)  
-0.729832  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
55.6  
0.6  
805.3  
U/L 586/0  
I 5000  
X 0  
I:X 0:0  
I:X 0:0  
I 1000  
X 1000  
I W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.22736287565E+02 | Apriori delay (usec)     | -3.25019935065E+02 | Resid mbdelay (usec) | -7.01528E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -3.22736286565E+02 | Apriori clock (usec)     | -1.1876612E+01     | Resid sbdelay (usec) | 2.28365E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -3.25019933273E+02 | Apriori clockrate (us/s) | -7.5699999E-07     | Resid phdelay (usec) | 1.79246E-06  | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.73870759808E+00  | Apriori rate (us/s)      | 1.73871607070E+00  | Resid rate (us/s)    | -8.47263E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -18.8              | Apriori accel (us/s/s)   | -6.47655486167E-06 | Resid phase (deg)    | 55.6         | +/- | 21.1    |

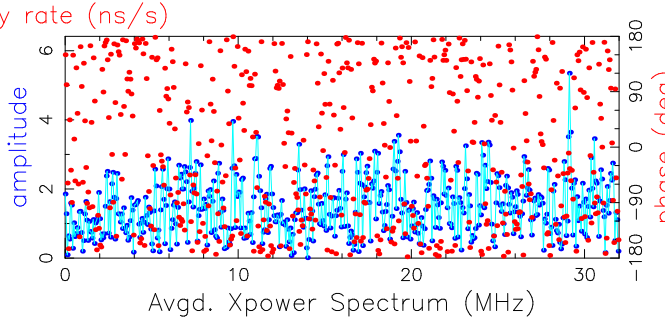
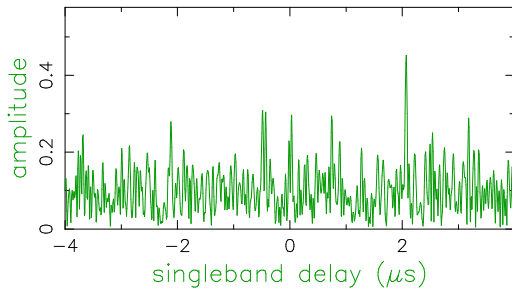
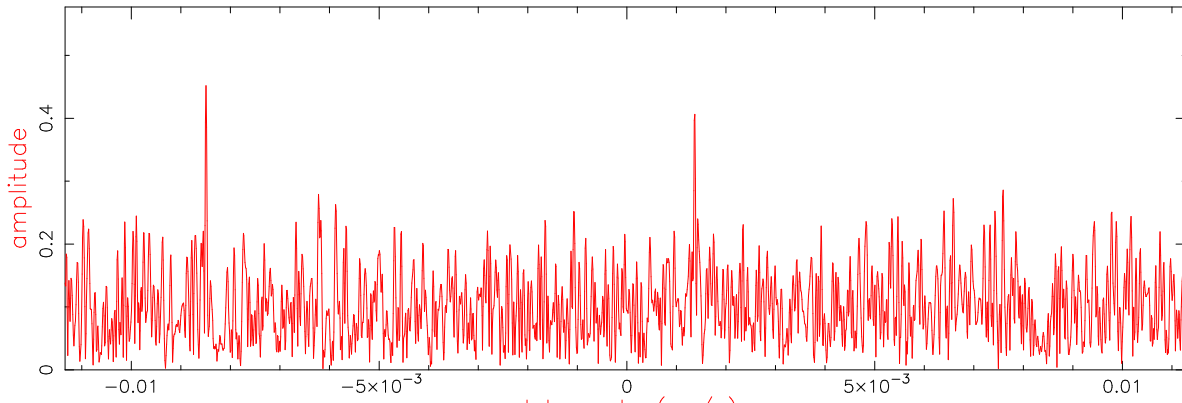
|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.6  | Theor.          | 180.3 | Amplitude       | 0.597 +/- 0.110 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 349.2 | Search (2048X8) | 0.459 | Search (2048X8) | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg.  | 0.392           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. frq. avg.  | 0.581 | Inc. frq. avg.  | 0.581           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

I: az 91.3 el 30.4 pa -57.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10379.563 -2292.254 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IX.W.220.0QR2SH

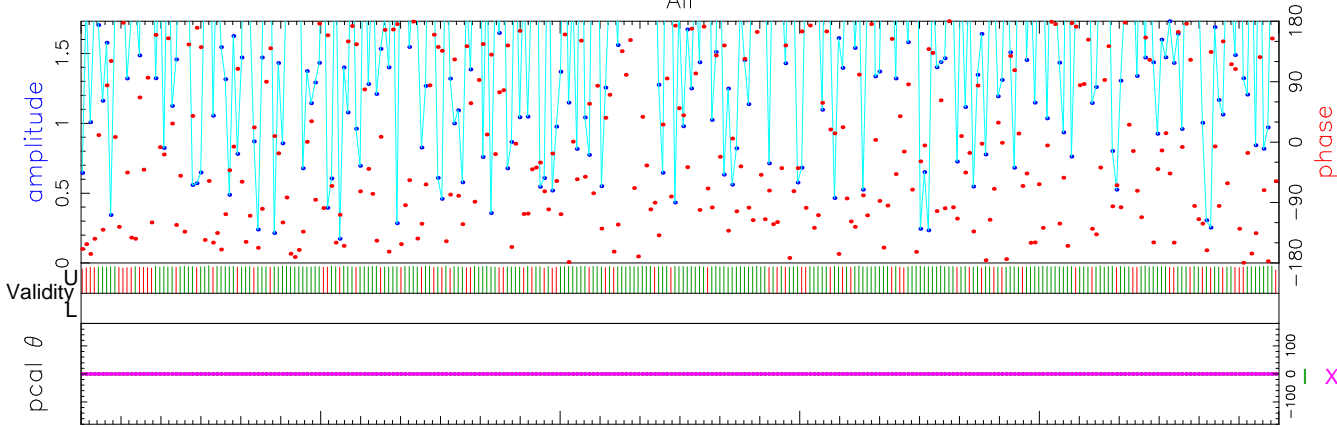
Fringe quality 0

SNR 5.3  
Int time 287.960  
Amp 0.577  
Phase -132.9  
PFD 1.0e+00  
Delays (us)  
SBD 2.069056  
MBD -0.000005  
Fringe rate (Hz)  
-0.731614  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



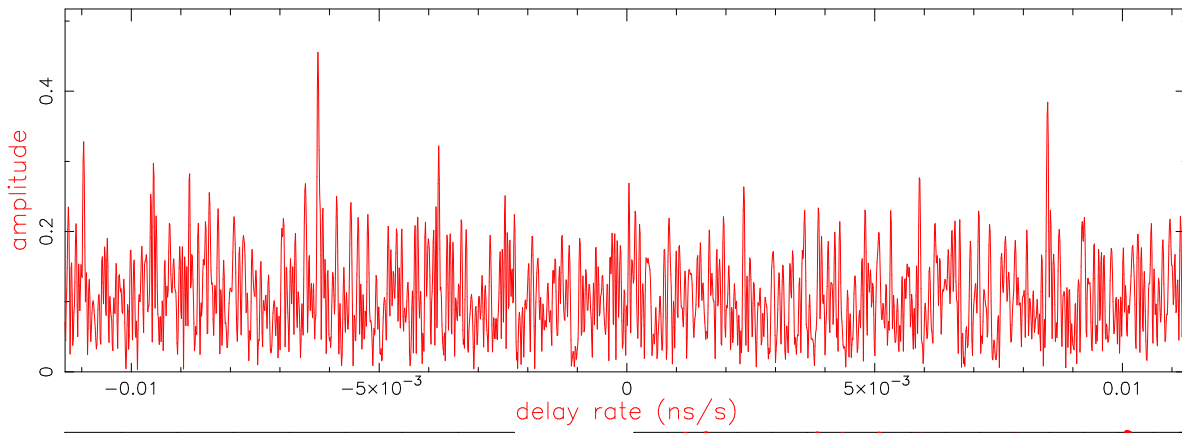
86140.00  
-132.9  
0.6  
777.8  
U/L 586/0  
I 5000  
X 0  
I:X 0:0  
I:X 0:0  
I 1000  
X 1000  
I W04UR  
X W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -3.22950877997E+02 | Apriori delay (usec)     | -3.25019935065E+02 | Resid mbdelay (usec) | -4.92361E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | -3.22950879065E+02 | Apriori clock (usec)     | -1.1876612E+01     | Resid sbdelay (usec) | 2.06906E+00  | +/- 3.3E-03 |
| Phase delay (usec)      | -3.25019939351E+02 | Apriori clockrate (us/s) | -7.5699999E-07     | Resid phdelay (usec) | -4.28594E-06 | +/- 7.0E-07 |
| Delay rate (us/s)       | 1.73870757740E+00  | Apriori rate (us/s)      | 1.73871607070E+00  | Resid rate (us/s)    | -8.49331E-06 | +/- 4.1E-09 |
| Total phase (deg)       | -207.3             | Apriori accel (us/s/s)   | -6.47655486167E-06 | Resid phase (deg)    | -132.9       | +/- 21.8    |

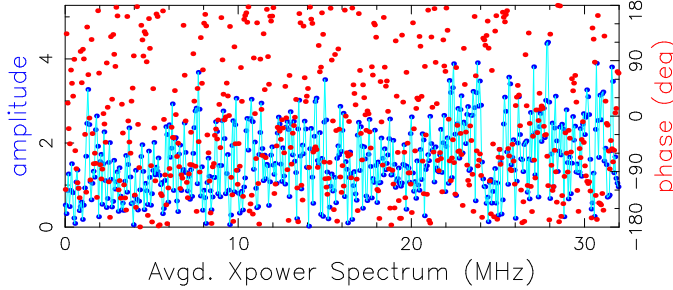
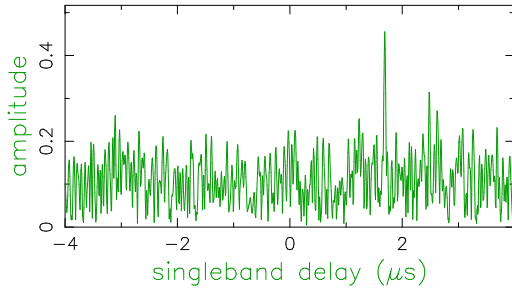
|              |       |                 |       |                 |                 |  |                      |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|--|----------------------|----------------|--------------|
| ph/seg (deg) | 87.2  | Theor.          | 186.7 | Amplitude       | 0.577 +/- 0.110 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5           |              |
| amp/seg (%)  | 350.1 | Search (2048X8) | 0.449 | Search (2048X8) | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000   |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg.  | 0.355           | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.566 | Inc. frq. avg.  | 0.566           | Sample rate(MSamp/s): 64               | dr window (ns/s)     | -0.011 0.011   |              |
|              |       |                 |       |                 |                 | Data rate(Mb/s): 128                   | ion window (TEC)     | 0.00 0.00      |              |
|              |       |                 |       |                 |                 | nlags: 512                             | t_cohere infinite    |                |              |

I: az 91.3 el 30.4 pa -57.6 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) -10379.563 -2292.254 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IX.W.235.0QR2SH



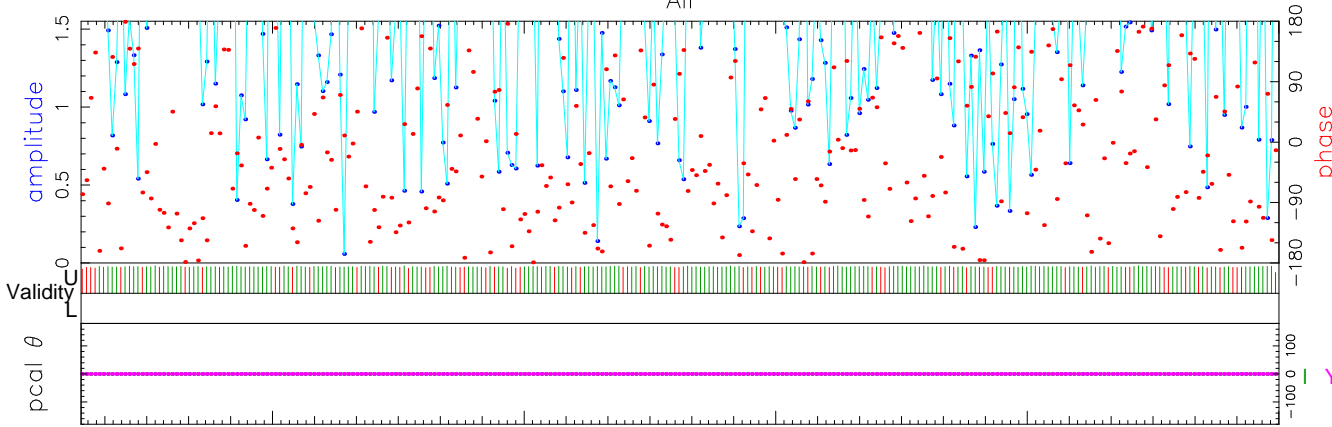
Fringe quality 0

SNR 5.2  
Int time 274.193  
Amp 0.517  
Phase -82.8  
PFD 1.0e+00  
Delays (us)  
SBD 1.687678  
MBD -0.000005  
Fringe rate (Hz)  
-0.536548  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-82.8  
0.5  
729.0  
U/L 558/0  
I 5000  
Y 0  
I:Y 0:0  
I:Y 0:0  
I 1000  
Y 1000  
I W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.74497306449E+03 | Apriori delay (usec)     | -4.74666074247E+03 | Resid mbdelay (usec) | -4.86241E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | -4.74497306447E+03 | Apriori clock (usec)     | 6.1704140E+00      | Resid sbdelay (usec) | 1.68768E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | -4.74666074514E+03 | Apriori clockrate (us/s) | -1.7000000E-07     | Resid phdelay (usec) | -2.67151E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.80935853496E+00  | Apriori rate (us/s)      | 1.80936476375E+00  | Resid rate (us/s)    | -6.22879E-06 | +/- | 4.3E-09 |
| Total phase (deg)       | -211.1             | Apriori accel (us/s/s)   | 2.32190056052E-05  | Resid phase (deg)    | -82.8        | +/- | 22.2    |

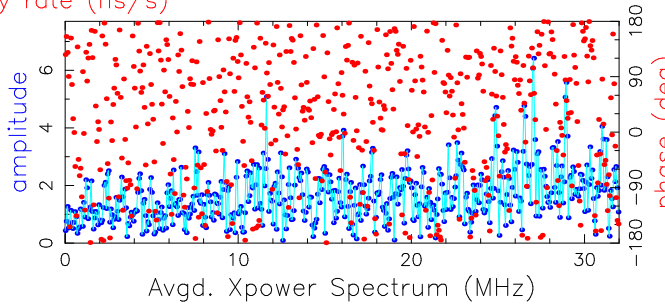
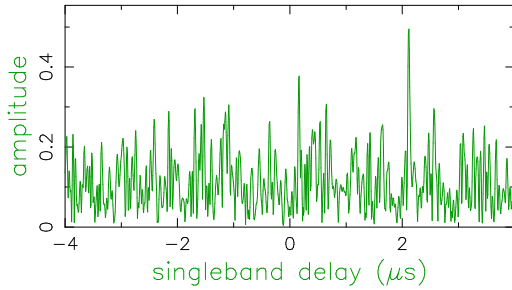
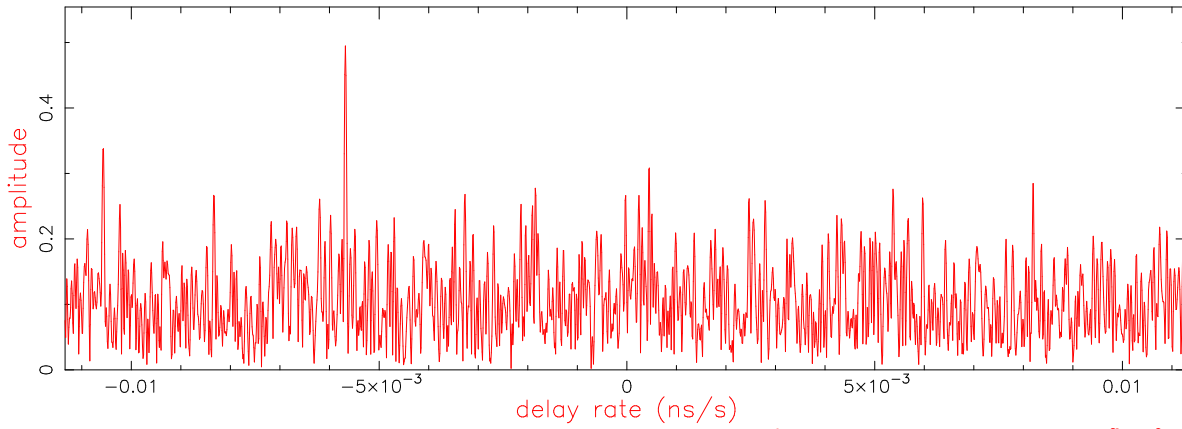
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.2  | Theor.          | 185.7 | Amplitude      | 0.517 +/- 0.100 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 384.0 | Search (2048X8) | 0.448 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.344           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.508 | Inc. frq. avg. | 0.508           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

I: az 91.3 el 30.4 pa -57.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10762.586 29.965 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IY.W.186.0QR2SH

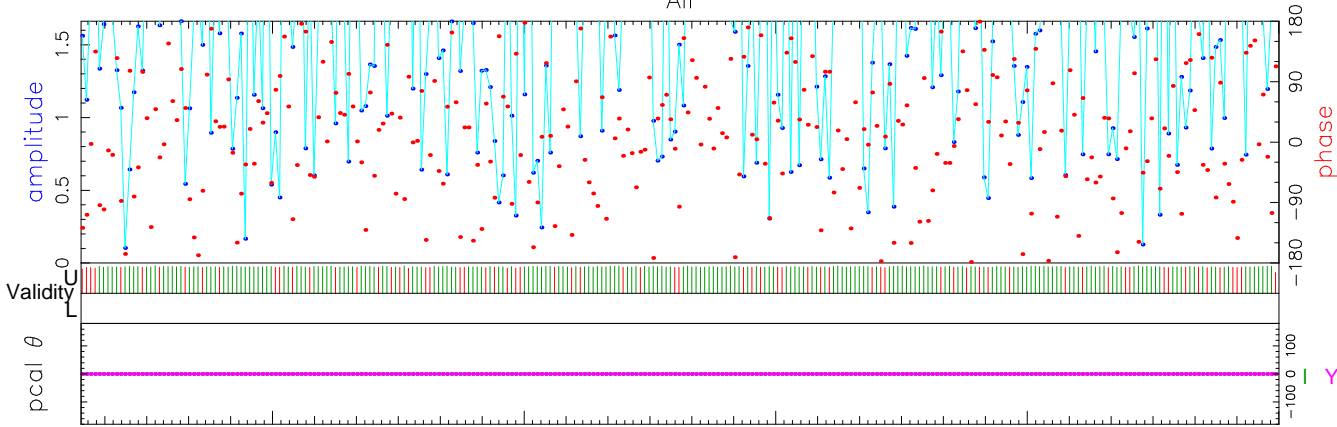
Fringe quality 0

SNR 5.6  
Int time 274.201  
Amp 0.554  
Phase 23.3  
PFD 8.7e-01  
Delays (us)  
SBD 2.114463  
MBD -0.000007  
Fringe rate (Hz)  
-0.489016  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
23.3  
0.5  
783.7  
U/L 558/0  
I 5000  
Y 0  
I:Y 0:0  
I:Y 0:0  
I 1000  
Y 1000  
I W04UR  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.74454628469E+03 | Apriori delay (usec)     | -4.74666074247E+03 | Resid mbdelay (usec) | -7.04453E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -4.74454627997E+03 | Apriori clock (usec)     | 6.1704140E+00      | Resid sbdelay (usec) | 2.11446E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -4.74666074172E+03 | Apriori clockrate (us/s) | -1.7000000E-07     | Resid phdelay (usec) | 7.50715E-07  | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.80935908676E+00  | Apriori rate (us/s)      | 1.80936476375E+00  | Resid rate (us/s)    | -5.67699E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -104.9             | Apriori accel (us/s/s)   | 2.32190056052E-05  | Resid phase (deg)    | 23.3         | +/- | 20.3    |

|              |       |                 |       |                        |                             |                  |                |                  |        |       |
|--------------|-------|-----------------|-------|------------------------|-----------------------------|------------------|----------------|------------------|--------|-------|
| ph/seg (deg) | 89.1  | Theor.          | 169.5 | Amplitude              | 0.554 +/- 0.098             | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5   |       |
| amp/seg (%)  | 323.5 | Search (2048X8) | 0.492 | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000         | 4.000            |        |       |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled        | mb window (us)   | -0.000 | 0.000 |
| amp/frq (%)  | 0.9   | Inc. seg. avg.  | 0.375 | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011         | 0.011            |        |       |
|              |       | Inc. frq. avg.  | 0.541 | Data rate (Mb/s):      | 128                         | ion window (TEC) | 0.00           | 0.00             |        |       |

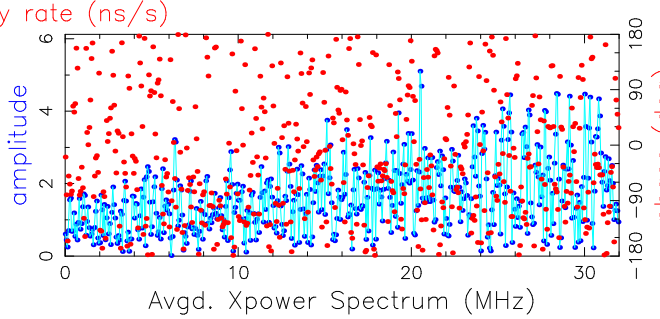
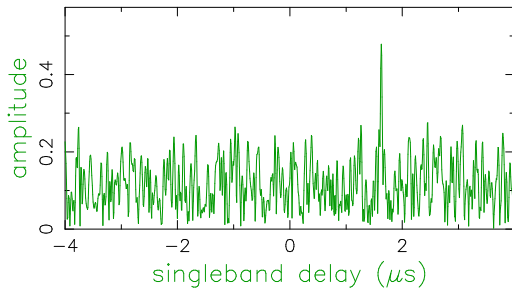
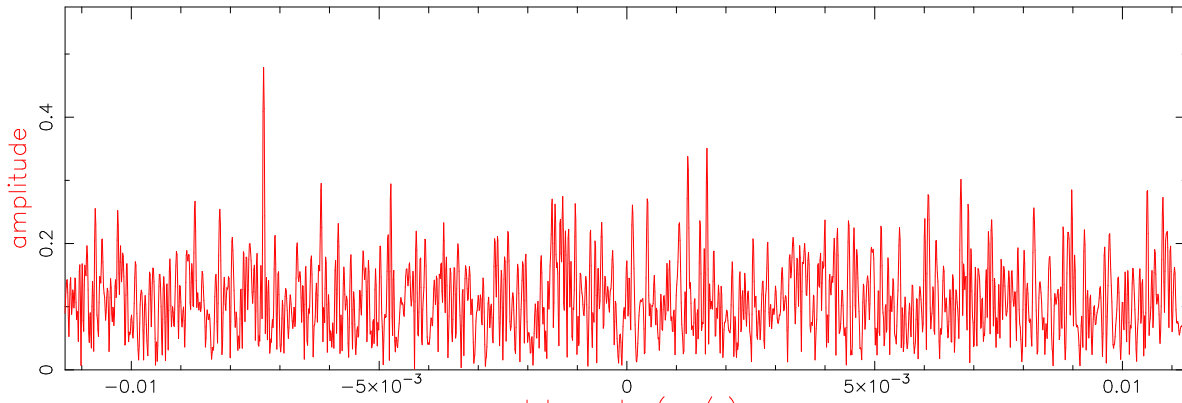
I: az 91.3 el 30.4 pa -57.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10762.586 29.965 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IY.W.196.0QR2SH



Fringe quality 0

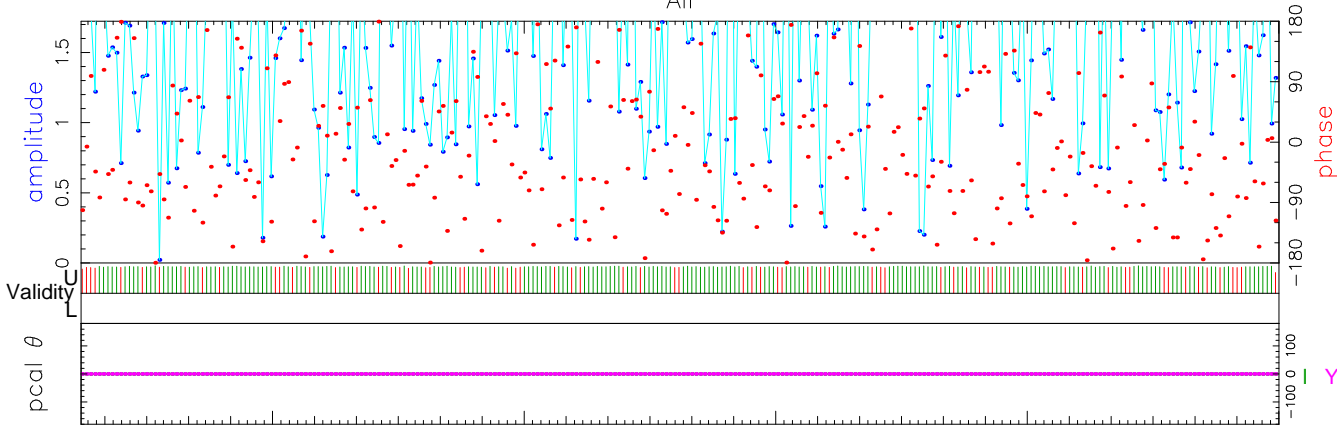
SNR 5.4  
Int time 274.193  
Amp 0.574  
Phase -58.1  
PFD 1.0e+00  
Delays (us)  
SBD 1.626556  
MBD -0.000005  
Fringe rate (Hz)  
-0.631185  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-58.1  
0.6  
721.2  
U/L 558/0  
I 5000  
Y 0  
I:Y 0:0  
I:Y 0:0  
I 1000  
Y 1000  
I W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.74503418607E+03 | Apriori delay (usec)     | -4.74666074247E+03 | Resid mbdelay (usec) | -5.01509E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.74503418647E+03 | Apriori clock (usec)     | 6.1704140E+00      | Resid sbdelay (usec) | 1.62656E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.74666074434E+03 | Apriori clockrate (us/s) | -1.7000000E-07     | Resid phdelay (usec) | -1.87439E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.80935743632E+00  | Apriori rate (us/s)      | 1.80936476375E+00  | Resid rate (us/s)    | -7.32743E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -186.3             | Apriori accel (us/s/s)   | 2.32190056052E-05  | Resid phase (deg)    | -58.1        | +/- | 21.1    |

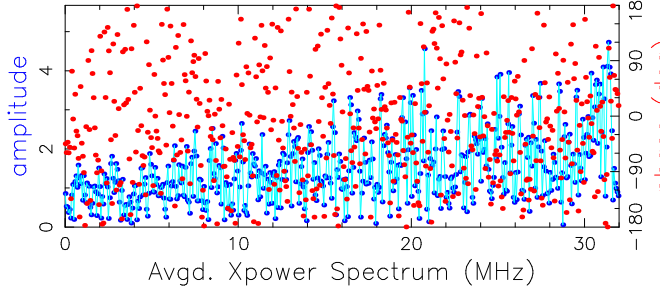
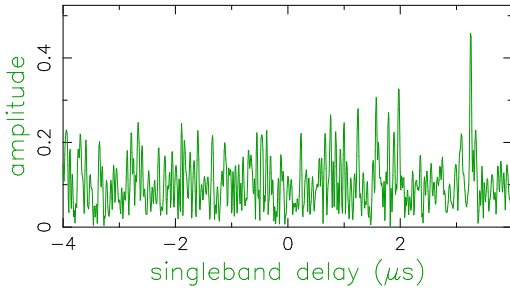
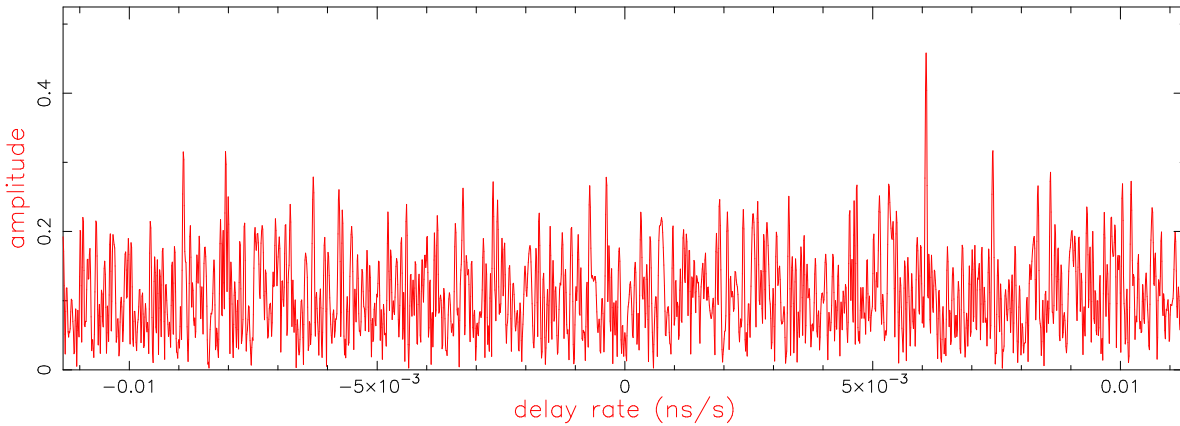
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.2  | Theor.          | 175.9 | Amplitude      | 0.574 +/- 0.106 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 347.8 | Search (2048X8) | 0.477 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.385           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.4   | Inc. frq. avg.  | 0.563 | Inc. frq. avg. | 0.563           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

I: az 91.3 el 30.4 pa -57.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10762.586 29.965 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/IY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/IY.W.206.0QR2SH

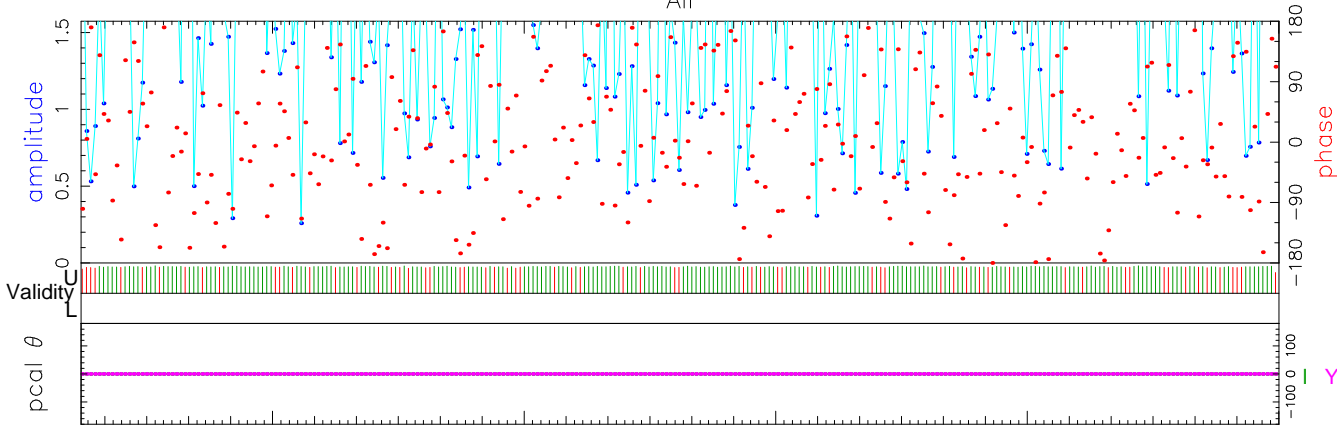
Fringe quality 0

SNR 5.3  
Int time 274.201  
Amp 0.525  
Phase -3.1  
PFD 1.0e+00  
Delays (us)  
SBD 3.253183  
MBD 0.000005  
Fringe rate (Hz)  
0.523640  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-3.1  
0.5  
929.4  
U/L 558/0  
I 5000  
Y 0  
I:Y 0:0  
I:Y 0:0  
I 1000  
Y 1000  
I W04UR  
Y W04UL

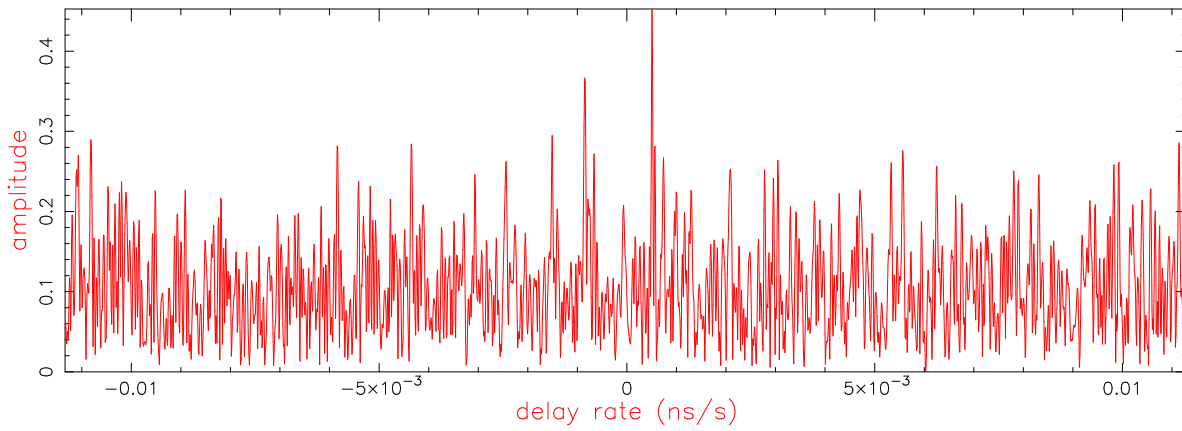
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.74340755707E+03 | Apriori delay (usec)     | -4.74666074247E+03 | Resid mbdelay (usec) | 4.53086E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -4.74340755947E+03 | Apriori clock (usec)     | 6.1704140E+00      | Resid sbdelay (usec) | 3.25318E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | -4.74666074257E+03 | Apriori clockrate (us/s) | -1.7000000E-07     | Resid phdelay (usec) | -9.96698E-08 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.80937084269E+00  | Apriori rate (us/s)      | 1.80936476375E+00  | Resid rate (us/s)    | 6.07894E-06  | +/- | 4.3E-09 |
| Total phase (deg)       | -131.3             | Apriori accel (us/s/s)   | 2.32190056052E-05  | Resid phase (deg)    | -3.1         | +/- | 21.8    |

|              |          |              |                           |  |                             |                             |                            |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-----------------------------|----------------------------|
| ph/seg (deg) | RMS 91.5 | Theor. 181.9 | Amplitude 0.525 +/- 0.100 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |                            |
| amp/seg (%)  | 356.4    | 317.5        | Search (2048X8) 0.458     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |                            |
| ph/frq (deg) | 0.0      | 10.9         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |                            |
| amp/frq (%)  | 1.5      | 19.0         | Inc. seg. avg. 0.345      | Sample rate(MSamp/s): 64               | ion window (ns/s)           | -0.011 0.011                |                            |
|              |          |              | Inc. frq. avg. 0.508      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite           | ion window (TEC) 0.00 0.00 |

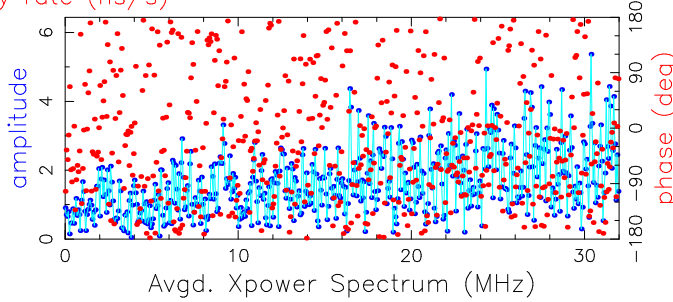
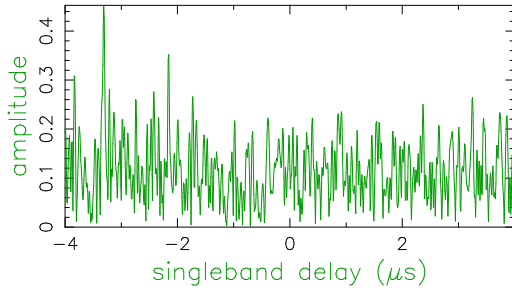
I: az 91.3 el 30.4 pa -57.6 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10762.586 29.965 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IY.W.217.0QR2SH



Fringe quality 0

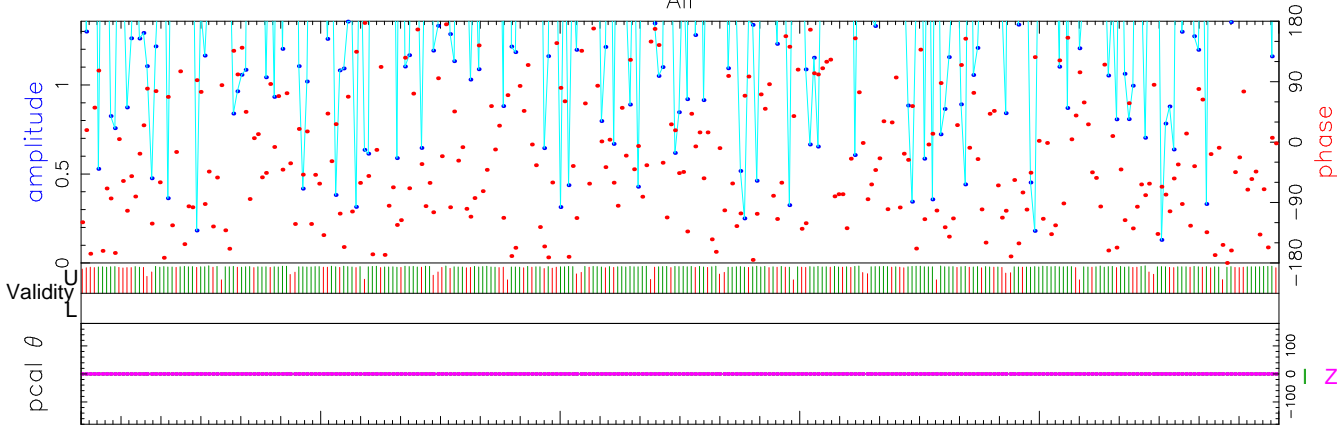
SNR 5.2  
 Int time 280.331  
 Amp 0.453  
 Phase -57.0  
 PFD 1.0e+00  
 Delays (us)  
 SBD -3.311529  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.043910  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171825  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -57.0  
 0.5  
 89.1  
 U/L 586/0  
 I 5000  
 Z 0  
 I:Z 0:0  
 I:Z 0:0  
 I 1000  
 Z 1000  
 I W04UL  
 Z W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

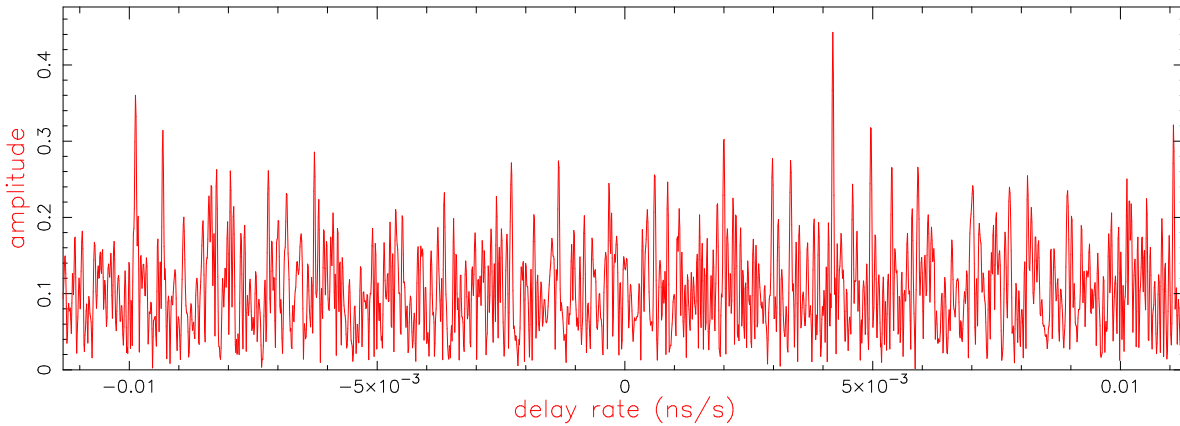
|                         |                   |                          |                    |                      |              |             |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.97552632599E+03 | Apriori delay (usec)     | 1.97883786052E+03  | Resid mbdelay (usec) | 4.82591E-06  | +/- 3.3E-03 |
| Sband delay (usec)      | 1.97552633102E+03 | Apriori clock (usec)     | 1.3045181E+01      | Resid sbdelay (usec) | -3.31153E+00 | +/- 3.3E-03 |
| Phase delay (usec)      | 1.97883785868E+03 | Apriori clockrate (us/s) | -5.2699999E-07     | Resid phdelay (usec) | -1.83766E-06 | +/- 7.1E-07 |
| Delay rate (us/s)       | 1.76438165590E+00 | Apriori rate (us/s)      | 1.76438114615E+00  | Resid rate (us/s)    | 5.09753E-07  | +/- 4.1E-09 |
| Total phase (deg)       | 52.9              | Apriori accel (us/s/s)   | -1.94025974611E-05 | Resid phase (deg)    | -57.0        | +/- 22.1    |

|              |          |              |                           |                 |       |  |                          |                   |                  |       |      |
|--------------|----------|--------------|---------------------------|-----------------|-------|--|--------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 90.8 | Theor. 189.4 | Amplitude Search (2048X8) | 0.453 +/- 0.087 | 0.452 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5    | sb window (us)    | -4.000           | 4.000 |      |
| amp/seg (%)  | 376.3    | 330.6        | Interp.                   | 0.000           | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled     | mb window (us)    | -0.000           | 0.000 |      |
| ph/frq (deg) | 0.0      | 11.1         | Inc. seg. avg.            | 0.283           | 0.283 | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64 | dr window (ns/s)  | -0.011           | 0.011 |      |
| amp/frq (%)  | 0.1      | 19.3         | Inc. frq. avg.            | 0.444           | 0.444 | Data rate(Mb/s): 128                   | nlags: 512               | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

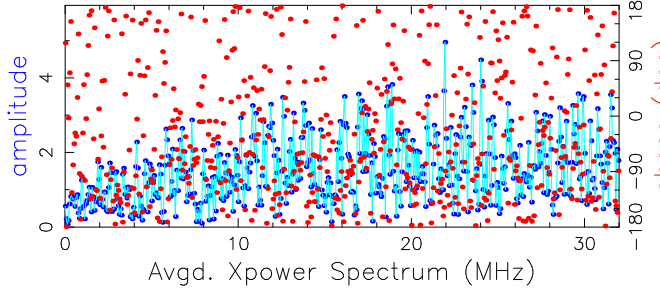
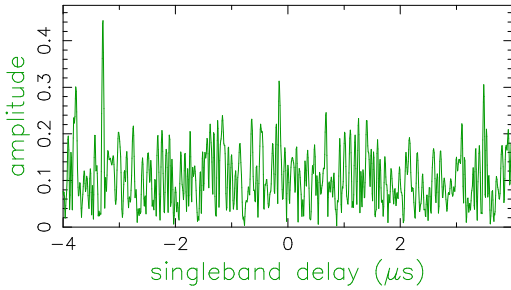
I: az 91.3 el 30.4 pa -57.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10549.051 -2805.072 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IZ.W.191.0QR2SH

Fringe quality 0



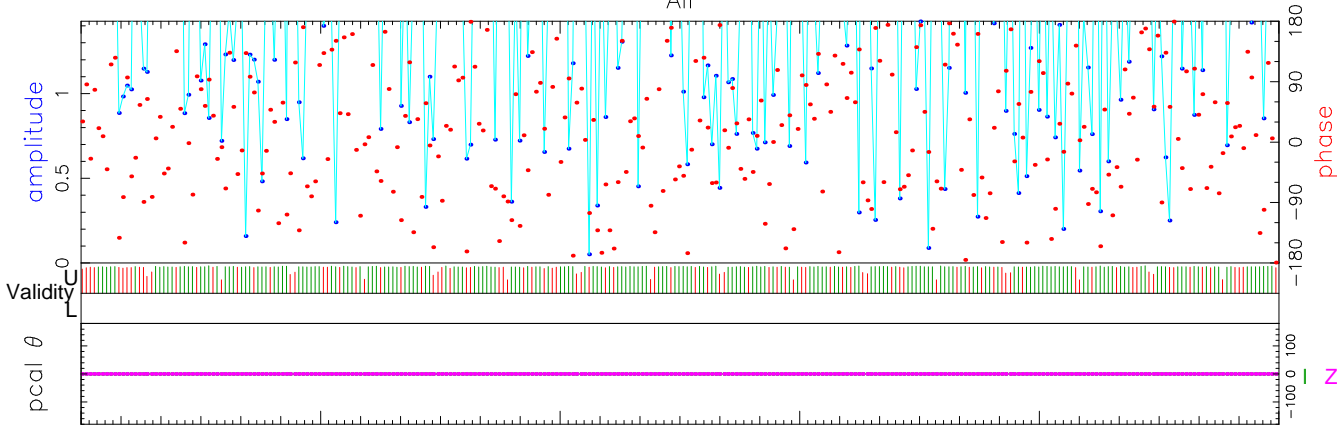
SNR 5.1  
Int time 280.339  
Amp 0.476  
Phase 17.3  
PFD 1.0e+00  
Delays (us)  
SBD -3.292383  
MBD 0.000006  
Fringe rate (Hz)  
0.361228  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
17.3  
0.5  
91.6  
U/L 586/0  
I 5000  
Z 0  
I:Z 0:0  
I:Z 0:0  
I 1000  
Z 1000  
I W04UR  
Z W04UR

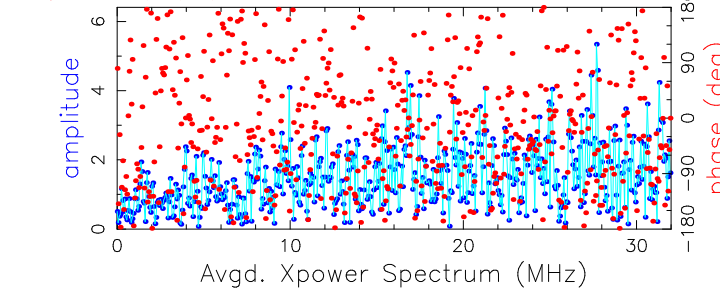
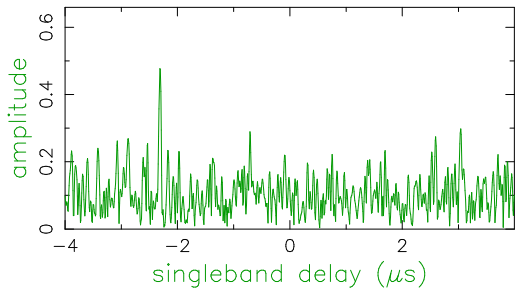
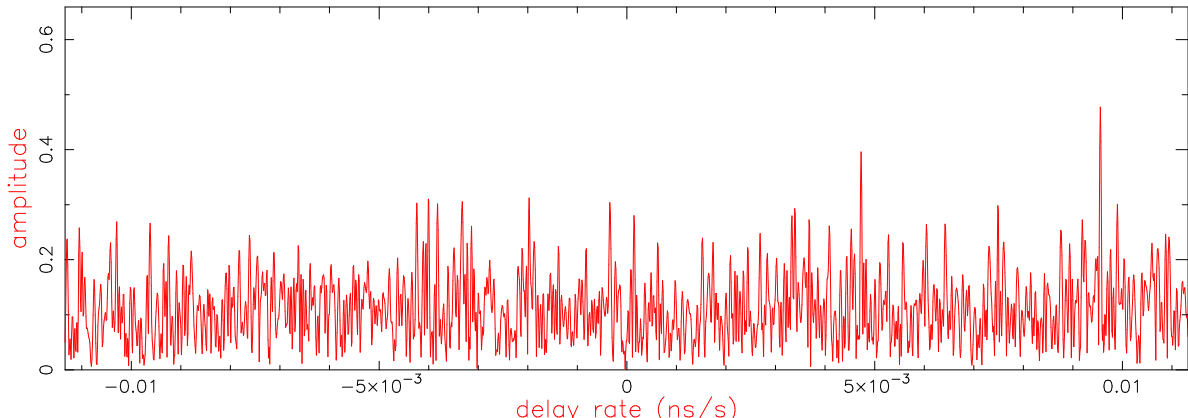
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.97554548220E+03 | Apriori delay (usec)     | 1.97883786052E+03  | Resid mbdelay (usec) | 6.16949E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | 1.97554547702E+03 | Apriori clock (usec)     | 1.3045181E+01      | Resid sbdelay (usec) | -3.29238E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 1.97883786108E+03 | Apriori clockrate (us/s) | -5.2699999E-07     | Resid phdelay (usec) | 5.58137E-07  | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.76438533966E+00 | Apriori rate (us/s)      | 1.76438114615E+00  | Resid rate (us/s)    | 4.19350E-06  | +/- | 4.1E-09 |
| Total phase (deg)       | 127.2             | Apriori accel (us/s/s)   | -1.94025974611E-05 | Resid phase (deg)    | 17.3         | +/- | 22.3    |

|              |          |              |                           |  |                             |                             |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-----------------------------|
| ph/seg (deg) | RMS 92.0 | Theor. 190.6 | Amplitude 0.476 +/- 0.092 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |
| amp/seg (%)  | 380.8    | 332.6        | Search (2048X8) 0.441     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |
| ph/frq (deg) | 0.0      | 11.1         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |
| amp/frq (%)  | 1.5      | 19.4         | Inc. seg. avg. 0.299      | Sample rate(MSamp/s): 64               | ion window (TEC)            | -0.011 0.011                |
|              |          |              | Inc. frq. avg. 0.460      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite           |

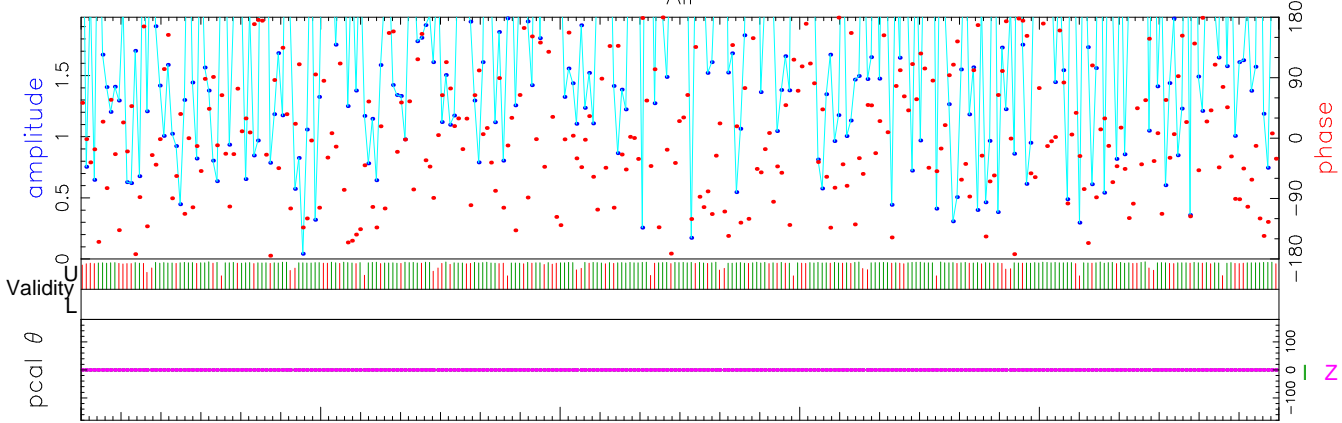
I: az 91.3 el 30.4 pa -57.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10549.051 -2805.072 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IZ.W.200.0QR2SH



Fringe quality 0  
SNR 5.5  
Int time 280.331  
Amp 0.659  
Phase -4.6  
PFD 9.8e-01  
Delays (us)  
SBD -2.308956  
MBD 0.000005  
Fringe rate (Hz)  
0.822782  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
pcal θ  
86140.00  
-4.6  
0.7  
217.4  
U/L 586/0  
I 5000  
Z 0  
I:Z 0:0  
I:Z 0:0  
I 1000  
Z 1000  
I W04UL  
Z W04UR

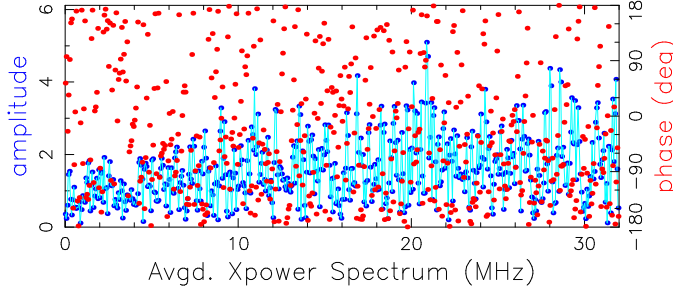
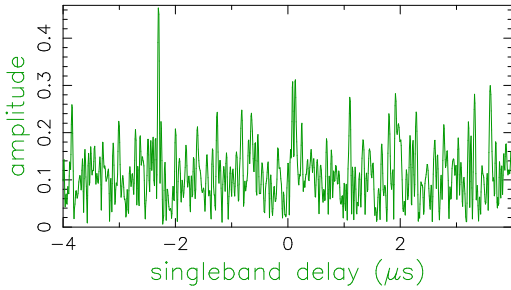
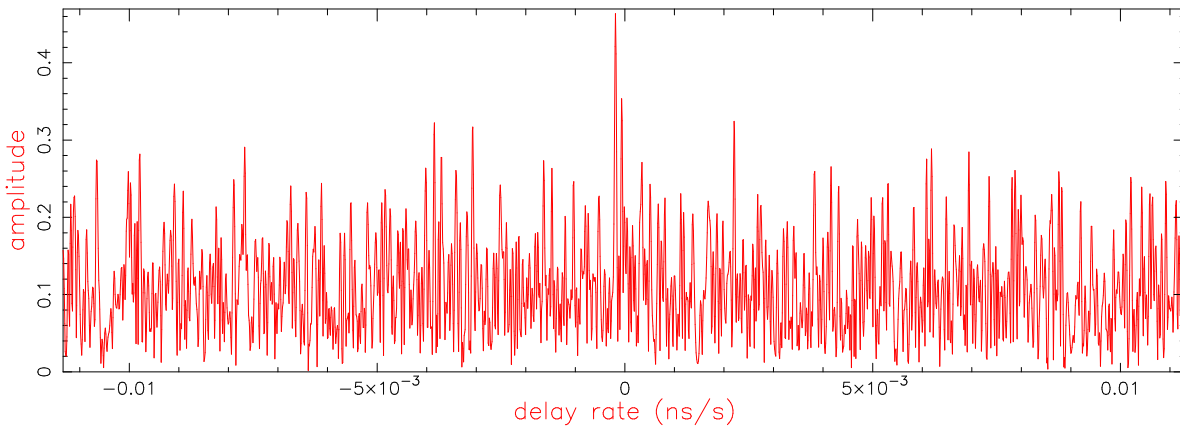
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                             |   |                          |                      |                       |                             |                  |   |
|-----------------------------|---|--------------------------|----------------------|-----------------------|-----------------------------|------------------|---|
| Group delay (usec)(sbd)     | 1.97652890328E+03                                       | Apriori delay (usec)     | 1.97883786052E+03    | Resid mbdelay (usec)  | 4.90875E-06                 | +/-              | 3.1E-03   |
| Sband delay (usec)          | 1.97652890402E+03                                       | Apriori clock (usec)     | 1.3045181E+01        | Resid sbdelay (usec)  | -2.30896E+00                | +/-              | 3.1E-03   |
| Phase delay (usec)          | 1.97883786037E+03                                       | Apriori clockrate (us/s) | -5.2699999E-07       | Resid phdelay (usec)  | -1.48851E-07                | +/-              | 6.7E-07   |
| Delay rate (us/s)           | 1.76439069783E+00                                       | Apriori rate (us/s)      | 1.76438114615E+00    | Resid rate (us/s)     | 9.55168E-06                 | +/-              | 3.9E-09   |
| Total phase (deg)           | 105.3   | Apriori accel (us/s/s)   | -1.94025974611E-05   | Resid phase (deg)     | -4.6                        | +/-              | 20.7  |
| ph/seg (deg)                | RMS 92.1 Theor. 177.4                                   | Amplitude                | 0.659 +/- 0.119      | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5  |
| amp/seg (%)                 | 378.7 309.6   | Search (2048X8)          | 0.474                | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000  |
| ph/frq (deg)                | 0.0 10.4  | Interp.                  | 0.000                | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled   |
| amp/frq (%)                 | 1.2 18.1  | Inc. seg. avg.           | 0.463                | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000  |
| I: az 91.3 el 30.4 pa -57.6 | Z: az 257.8 el 25.5 pa 30.4                             | Inc. frq. avg.           | 0.641                | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011  |
| Control file: cf_1234_gmva  | Input file: /Exps2/f191a/FRINGE/1234/No0007//IZ..0QR2SH | u,v (fr/asec)            | -10549.051 -2805.072 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00   |
|                             |   |                          |                      |                       |                             |                  | simultaneous interpolator                                     |
|                             |   |                          |                      |                       |                             |                  | Output file: /Exps2/f191a/FRINGE/1234/No0007//IZ.W.215.0QR2SH |

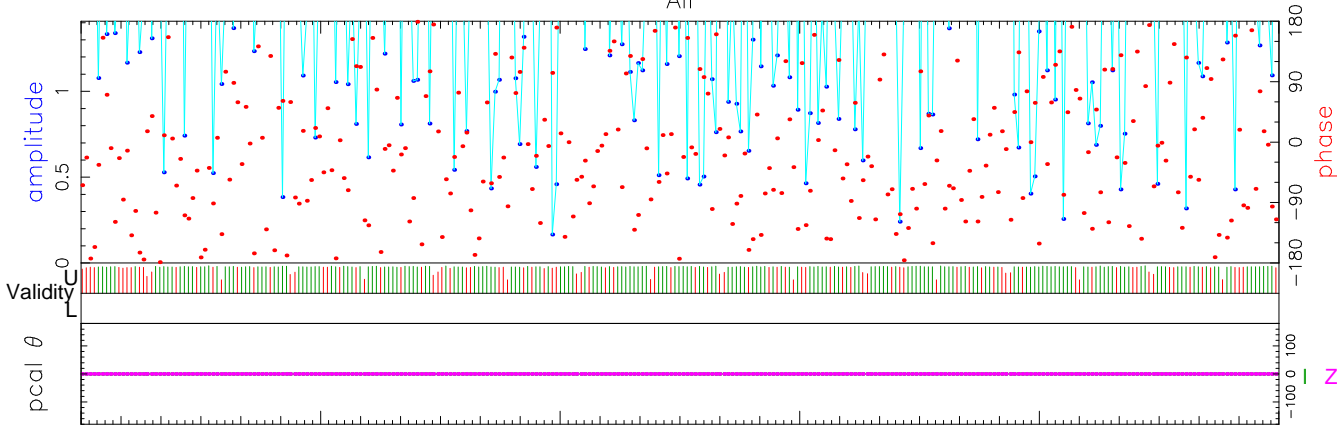
Fringe quality 0

SNR 5.4  
Int time 280.339  
Amp 0.470  
Phase -43.7  
PFD 1.0e+00  
Delays (us)  
SBD -2.301883  
MBD -0.000007  
Fringe rate (Hz)  
-0.016072  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-43.7  
0.5  
218.3  
U/L 586/0  
I 5000  
Z 0  
I:Z 0:0  
I:Z 0:0  
I 1000  
Z 1000  
I W04UR  
Z W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
ManI PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.97653597271E+03 | Apriori delay (usec)     | 1.97883786052E+03  | Resid mbdelay (usec) | -7.15500E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 1.97653597752E+03 | Apriori clock (usec)     | 1.3045181E+01      | Resid sbdelay (usec) | -2.30188E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | 1.97883785911E+03 | Apriori clockrate (us/s) | -5.2699999E-07     | Resid phdelay (usec) | -1.41065E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 1.76438095957E+00 | Apriori rate (us/s)      | 1.76438114615E+00  | Resid rate (us/s)    | -1.86580E-07 | +/- | 4.0E-09 |
| Total phase (deg)       | 66.2              | Apriori accel (us/s/s)   | -1.94025974611E-05 | Resid phase (deg)    | -43.7        | +/- | 21.3    |

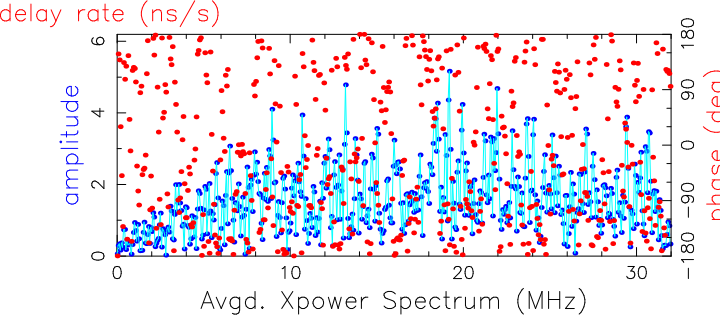
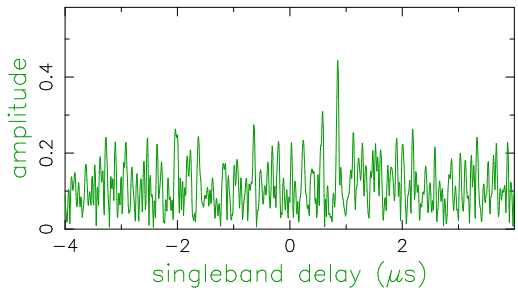
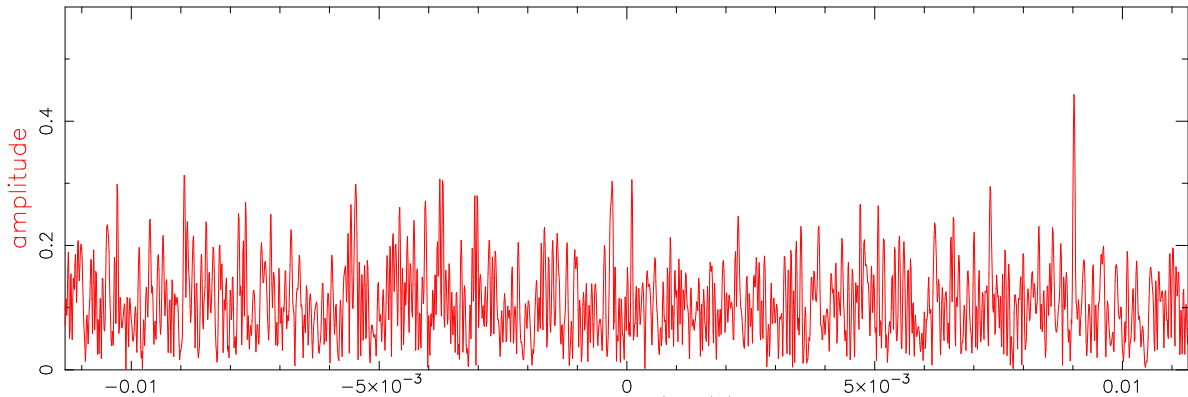
|              |          |              |                           |  |                             |                              |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|------------------------------|-------------------------------|
| ph/seg (deg) | RMS 93.4 | Theor. 182.4 | Amplitude 0.470 +/- 0.087 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                              |                               |
| amp/seg (%)  | 391.4    | 318.4        | Search (2048X8) 0.463     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                              |                               |
| ph/frq (deg) | 0.0      | 10.7         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000  |                               |
| amp/frq (%)  | 1.2      | 18.6         | Inc. seg. avg. 0.330      | Sample rate(MSamp/s): 64               | Data rate(Mb/s): 128        | nlags: 512 t_cohere infinite | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.456      |  |                             |                              | ion window (TEC) 0.00 0.00    |

I: az 91.3 el 30.4 pa -57.6 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) -10549.051 -2805.072 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//IZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//IZ.W.230.0QR2SH

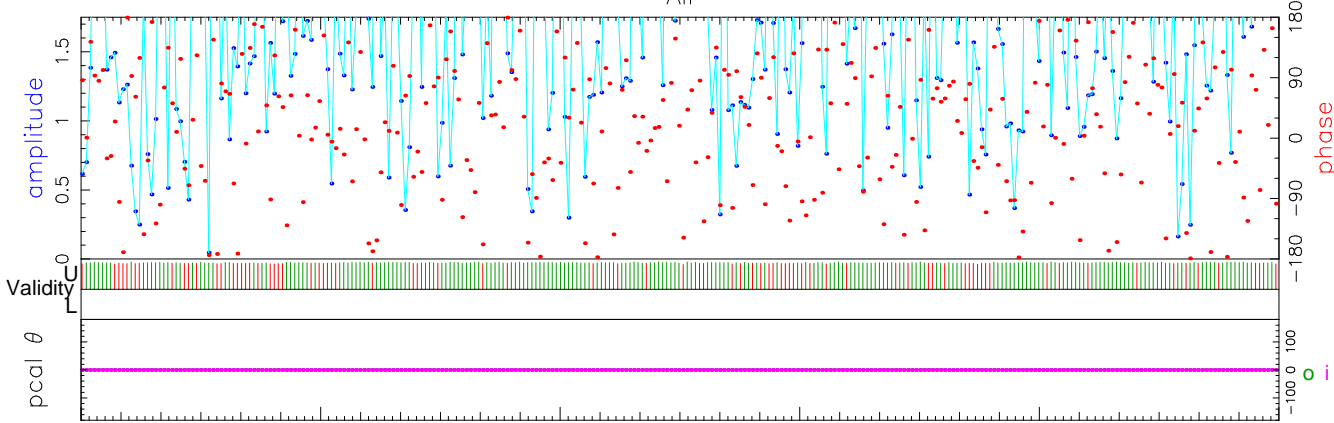
Fringe quality 0

SNR 5.1  
Int time 287.953  
Amp 0.584  
Phase 52.5  
PFD 1.0e+00  
Delays (us)  
SBD 0.851197  
MBD 0.000004  
Fringe rate (Hz)  
0.777558  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171824  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
pcal θ  
86140.00  
52.5  
0.6  
621.9  
U/L 586/0  
o 5000  
i 0  
oi 0:0  
oi 0:0  
o 1000  
i 1000  
o W04UL  
i W04UL

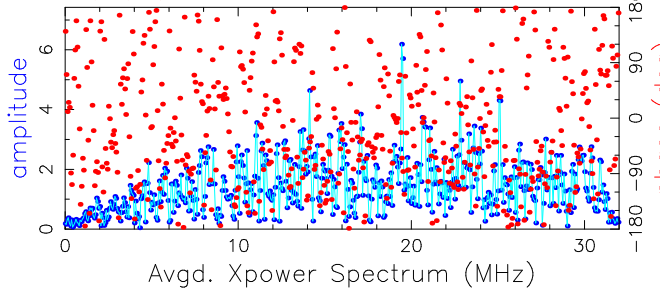
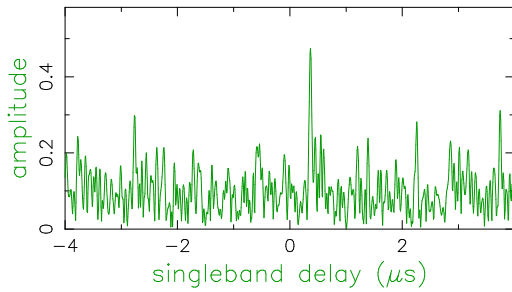
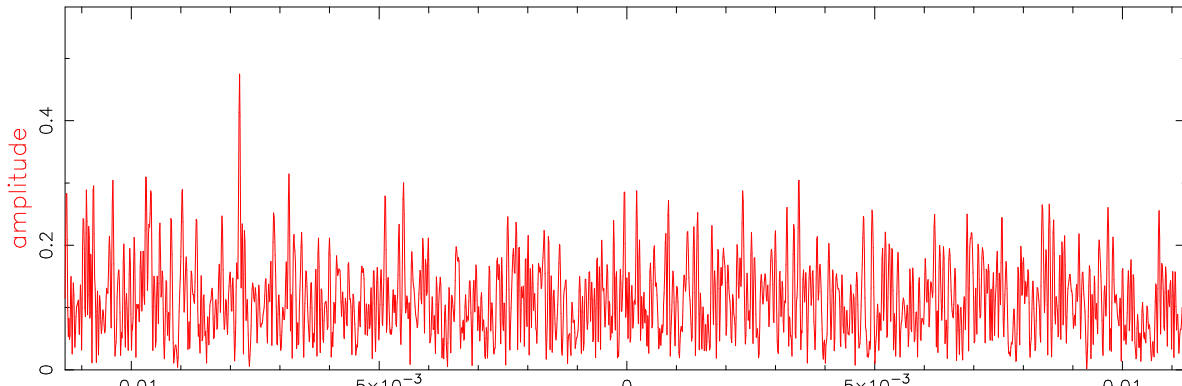
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |  |                      |                   |                  |       |      |
|-------------------------|--------------------|--------------------------|--------------------|--|----------------------|-------------------|------------------|-------|------|
| Group delay (usec)(sbd) | -8.30038565894E+03 | Apriori delay (usec)     | -8.30123685902E+03 | Resid mbdelay (usec)                   | 4.35461E-06          | +/-               | 3.4E-03          |       |      |
| Sband delay (usec)      | -8.30038566202E+03 | Apriori clock (usec)     | 2.9887470E+01      | Resid sbdelay (usec)                   | 8.51197E-01          | +/-               | 3.4E-03          |       |      |
| Phase delay (usec)      | -8.30123685733E+03 | Apriori clockrate (us/s) | 7.1655995E-07      | Resid phdelay (usec)                   | 1.69276E-06          | +/-               | 7.2E-07          |       |      |
| Delay rate (us/s)       | 1.90978279169E+00  | Apriori rate (us/s)      | 1.90977376501E+00  | Resid rate (us/s)                      | 9.02667E-06          | +/-               | 4.2E-09          |       |      |
| Total phase (deg)       | 39.6               | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)                      | 52.5                 | +/-               | 22.3             |       |      |
| ph/seg (deg)            | 91.4               | Theor. Amplitude         | 0.584 +/- 0.114    | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |       |      |
| amp/seg (%)             | 394.1              | Search (2048X8)          | 0.437              | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000            | 4.000            |       |      |
| ph/frq (deg)            | 0.0                | Interp.                  | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.000           | 0.000 |      |
| amp/frq (%)             | 0.0                | Inc. seg. avg.           | 0.381              | Sample rate(MSamp/s): 64               | dr window (ns/s)     | -0.011            | 0.011            |       |      |
|                         |                    | Inc. frq. avg.           | 0.573              | Data rate(Mb/s): 128                   | nlags: 512           | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

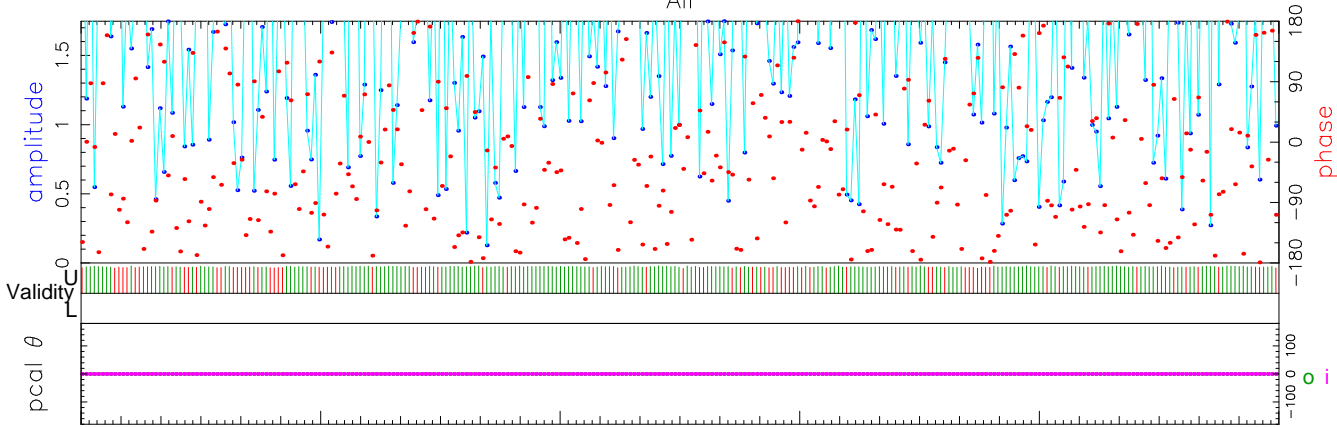
Fringe quality 0

SNR 5.5  
Int time 287.955  
Amp 0.583  
Phase -93.6  
PFD 9.9e-01  
Delays (us)  
SBD 0.365968  
MBD -0.000005  
Fringe rate (Hz)  
-0.673770  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-93.6  
0.6  
559.8  
U/L 586/0  
o 5000  
i 0  
oi 0:0  
oi 0:0  
o 1000  
i 1000  
o W04UR  
i W04UR

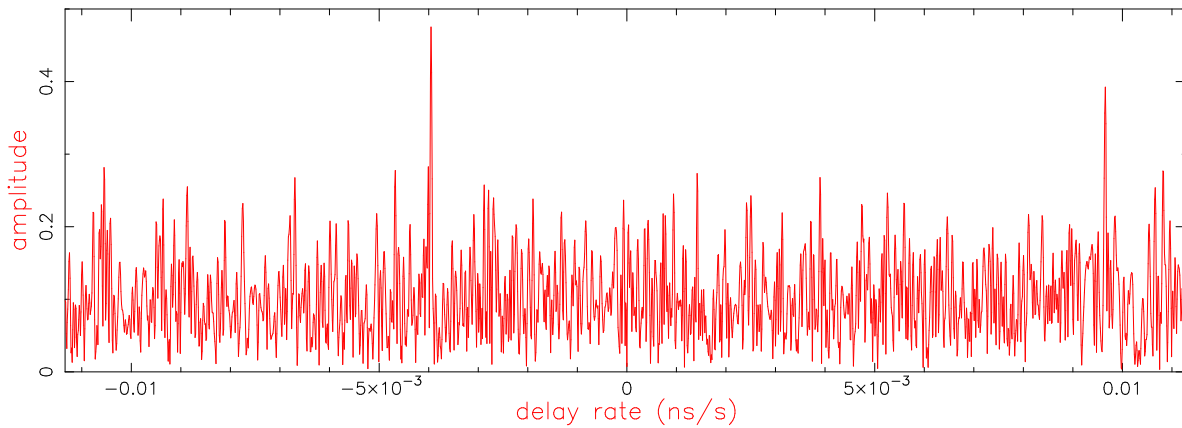
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.30087089029E+03 | Apriori delay (usec)     | -8.30123685902E+03 | Resid mbdelay (usec) | -5.26343E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.30087089102E+03 | Apriori clock (usec)     | 2.9887470E+01      | Resid sbdelay (usec) | 3.65968E-01  | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.30123686204E+03 | Apriori clockrate (us/s) | 7.1655995E-07      | Resid phdelay (usec) | -3.01957E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.90976594321E+00  | Apriori rate (us/s)      | 1.90977376501E+00  | Resid rate (us/s)    | -7.82180E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -106.5             | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | -93.6        | +/- | 20.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.4  | Theor.          | 178.0 | Amplitude      | 0.583 +/- 0.106 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 377.8 | Search (2048X8) | 0.459 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.401 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.572 | Inc. seg. avg. | 0.401           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       |                 |       | Inc. frq. avg. | 0.572           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

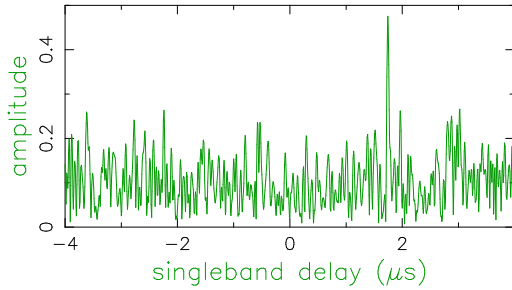
o: az 85.0 el 20.8 pa -55.7 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oi.W.214.0QR2SH



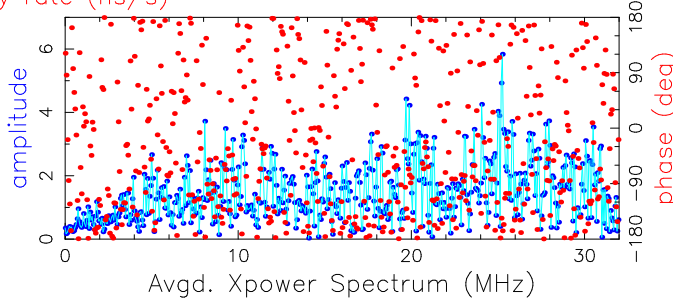


Fringe quality 0

SNR 5.5  
Int time 287.953  
Amp 0.500  
Phase -171.5  
PFD 9.8e-01  
Delays (us)  
SBD 1.742936  
MBD -0.000006  
Fringe rate (Hz)  
-0.340595  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



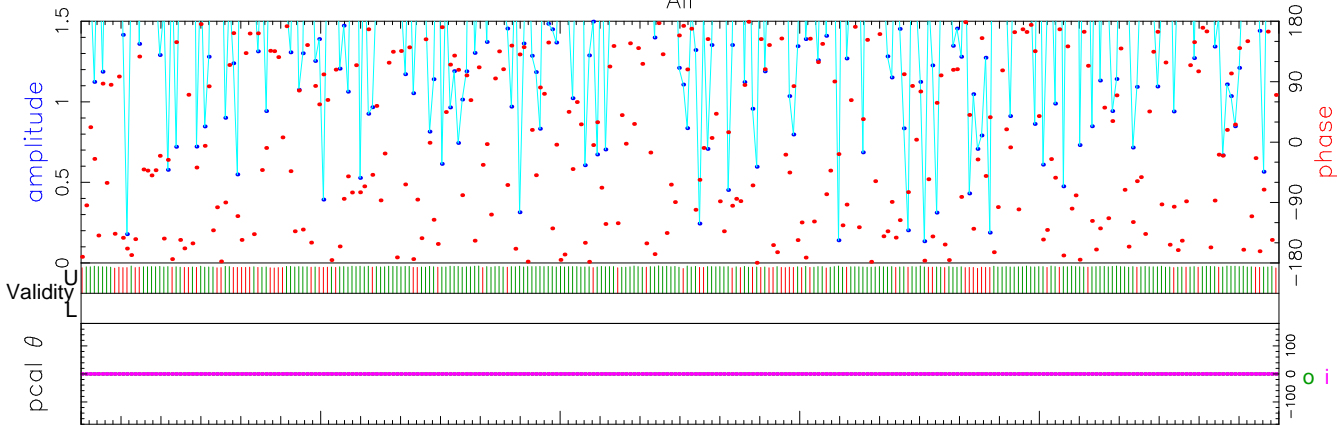
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-171.5  
0.5  
736.1  
U/L 586/0  
o 5000  
i 0  
oi 0:0  
oi 0:0  
o 1000  
i 1000  
o W04UL  
i W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

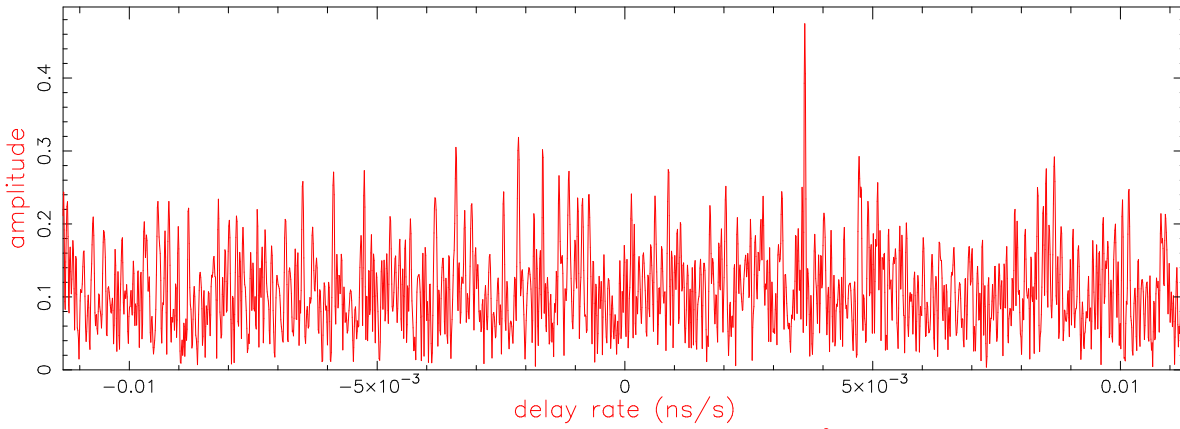
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.29949392286E+03 | Apriori delay (usec)     | -8.30123685902E+03 | Resid mbdelay (usec) | -5.56016E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.29949392252E+03 | Apriori clock (usec)     | 2.9887470E+01      | Resid sbdelay (usec) | 1.74294E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.30123686455E+03 | Apriori clockrate (us/s) | 7.1655995E-07      | Resid phdelay (usec) | -5.53004E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.90976981104E+00  | Apriori rate (us/s)      | 1.90977376501E+00  | Resid rate (us/s)    | -3.95397E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -184.4             | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | -171.5       | +/- | 20.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 89.9  | Theor.          | 177.8 | Amplitude      | 0.500 +/- 0.091 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 328.5 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.322 | Inc. seg. avg. | 0.322           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.492 | Inc. frq. avg. | 0.492           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

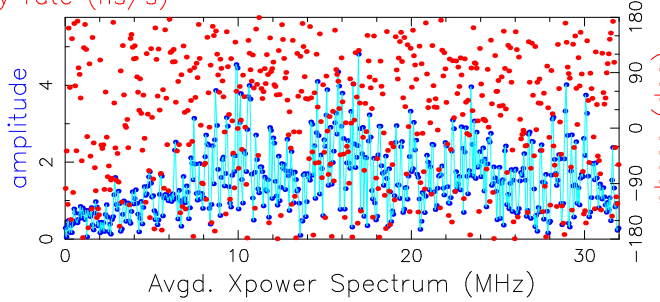
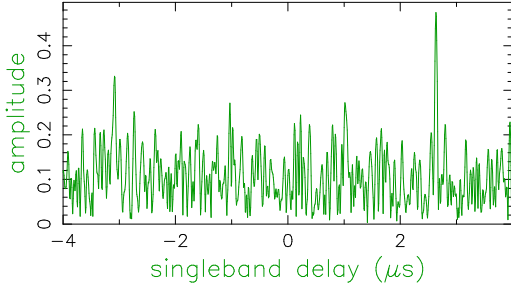
o: az 85.0 el 20.8 pa -55.7 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oi.W.225.0QR2SH

Fringe quality 0

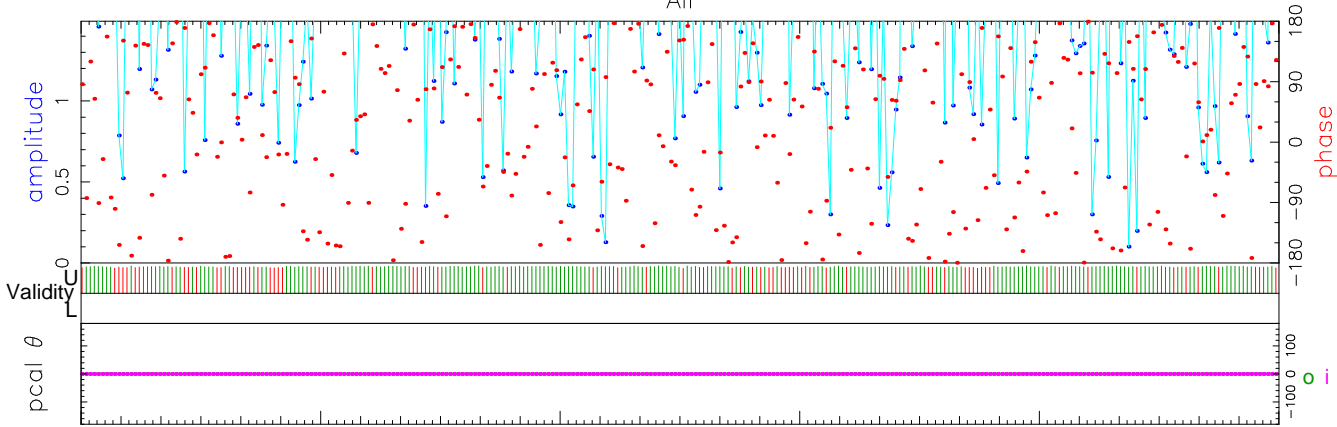


SNR 5.5  
Int time 287.955  
Amp 0.498  
Phase 143.0  
PFD 9.8e-01  
Delays (us)  
SBD 2.635283  
MBD 0.000005  
Fringe rate (Hz)  
0.312554  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



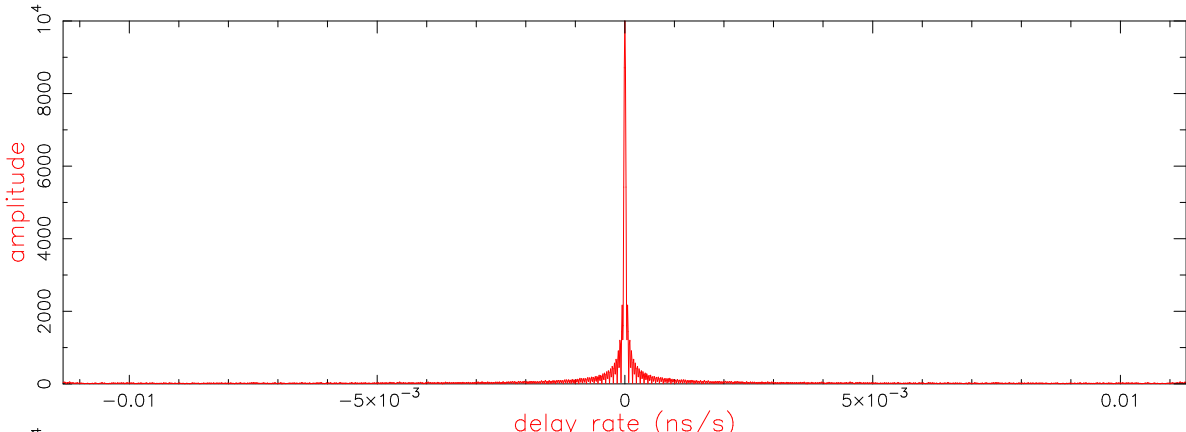
86140.00  
143.0  
0.5  
850.3  
U/L 586/0  
o 5000  
i 0  
oi 0:0  
oi 0:0  
o 1000  
i 1000  
o W04UR  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -8.29860157410E+03 | Apriori delay (usec)     | -8.30123685902E+03 | Resid mbdelay (usec) | 5.14363E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.29860157602E+03 | Apriori clock (usec)     | 2.9887470E+01      | Resid sbdelay (usec) | 2.63528E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.30123685441E+03 | Apriori clockrate (us/s) | 7.1655995E-07      | Resid phdelay (usec) | 4.61178E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.90977739345E+00  | Apriori rate (us/s)      | 1.90977376501E+00  | Resid rate (us/s)    | 3.62844E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 130.1              | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | 143.0       | +/- | 20.7    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.1  | Theor.          | 177.3 | Amplitude      | 0.498 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 373.5 | Search (2048X8) | 0.470 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.348           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.5   | Inc. frq. avg.  | 0.487 | Inc. frq. avg. | 0.487           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

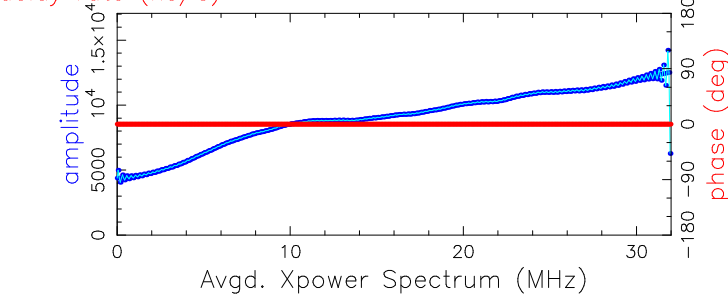
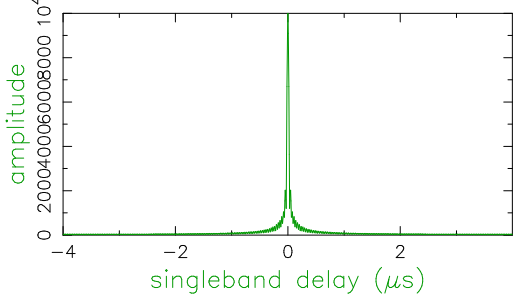
o: az 85.0 el 20.8 pa -55.7 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oi.W.242.0QR2SH



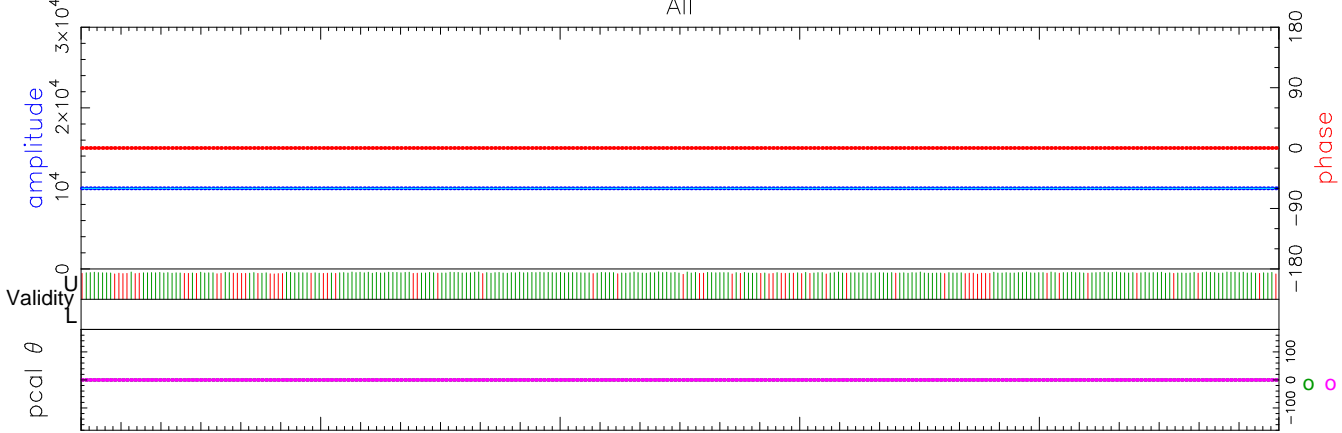
Fringe quality 9

SNR 116111.1  
Int time 288.451  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171825  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

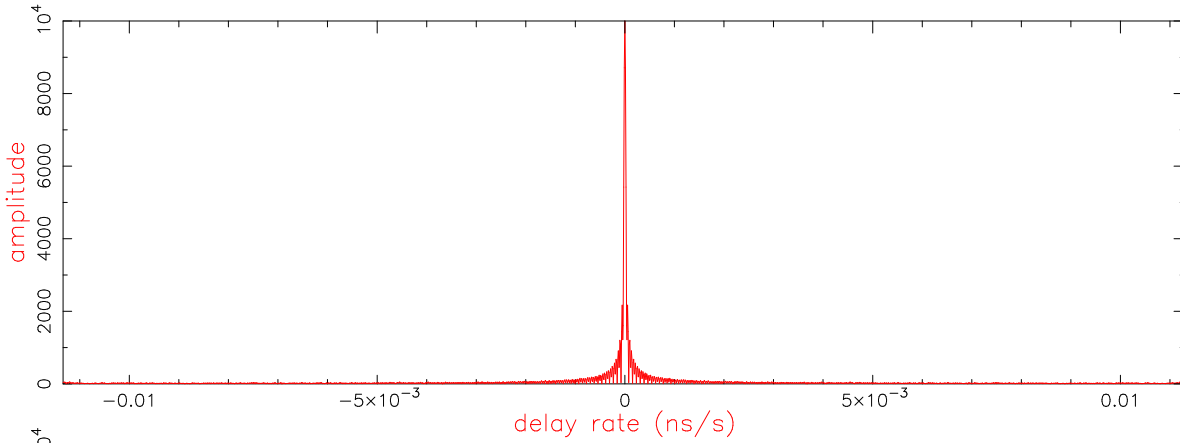


Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

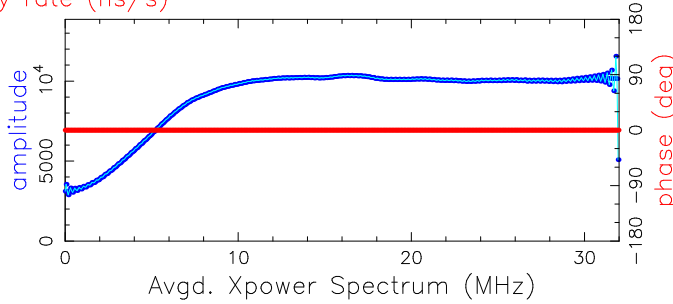
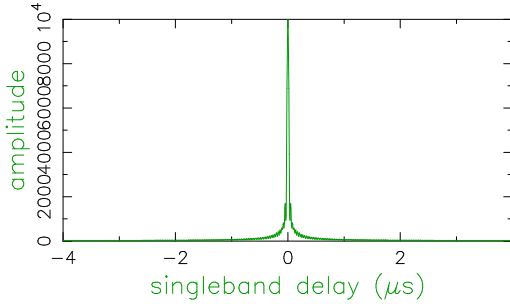


|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             |            |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|-------------------------|-------------------|----------------------|------------------|----------------------|--------------|--------|---------|--------------------|------------------|----------------------|---------------|----------------------|-------------|------------|---------|--------------------|-------------------|--------------------------|---------------|----------------------|-------------|--------|---------|-------------------|------------------|---------------------|------------------|-------------------|-------------|-----------|---------|-------------------|--------|------------------------|------------------|-------------------|---------|---------|-----|
| 86140.00                | 0.0               | 10000.0              | 513.0            | U/L 586/0            | o 5000       | o 5000 | o: 0:0  | o: 0:0             | o 1000           | o 1000               | o W04UL       | o W04UL              | 86140.00    | 0.0        | 10000.0 | 513.0              | U/L 586/0         | o 5000                   | o 5000        | o: 0:0               | o: 0:0      | o 1000 | o 1000  | o W04UL           | o W04UL          | 86140.00            | 0.0              | 10000.0           | 513.0       | U/L 586/0 | o 5000  | o 5000            | o: 0:0 | o: 0:0                 | o 1000           | o 1000            | o W04UL | o W04UL |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Freq (MHz) |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Phase      |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Ampl.      |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Sbd box    |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | APs used   |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | PC freqs   |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | PC phase   |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Mani PC    |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | PC amp     |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Chan ids   |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
|                         |                   |                      |                  |                      |              |        |         |                    |                  |                      |               |                      |             | Chan ids   |         |                    |                   |                          |               |                      |             |        |         |                   |                  |                     |                  |                   |             |           |         |                   |        |                        |                  |                   |         |         |     |
| Group delay (usec)(sbd) | 4.35481773857E-06 | Apriori delay (usec) | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25419E-06 | +/-    | 1.5E-07 | Sband delay (usec) | 0.0000000000E+00 | Apriori clock (usec) | 0.0000000E+00 | Resid sbdelay (usec) | 0.00000E+00 | +/-        | 1.5E-07 | Phase delay (usec) | 1.34742342273E-09 | Apriori clockrate (us/s) | 0.0000000E+00 | Resid phdelay (usec) | 1.34742E-09 | +/-    | 3.2E-11 | Delay rate (us/s) | 0.0000000000E+00 | Apriori rate (us/s) | 0.0000000000E+00 | Resid rate (us/s) | 0.00000E+00 | +/-       | 1.8E-13 | Total phase (deg) | 0.0    | Apriori accel (us/s/s) | 0.0000000000E+00 | Resid phase (deg) | 0.0     | +/-     | 0.0 |

ph/seg (deg) 0.0 0.0 Theor. Amplitude 10000.000 +/- 0.086 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (2048X8) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000  
 ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000  
 amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MSamp/s): 64 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 o: az 85.0 el 20.8 pa -55.7 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oo.W.195.0QR2SH

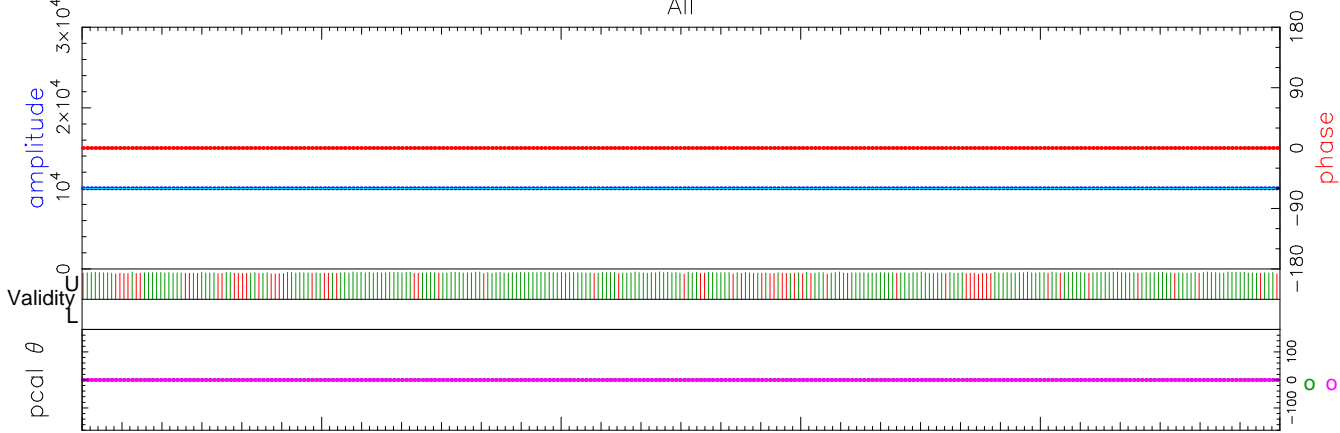


Fringe quality 9  
SNR 116110.5  
Int time 288.448  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

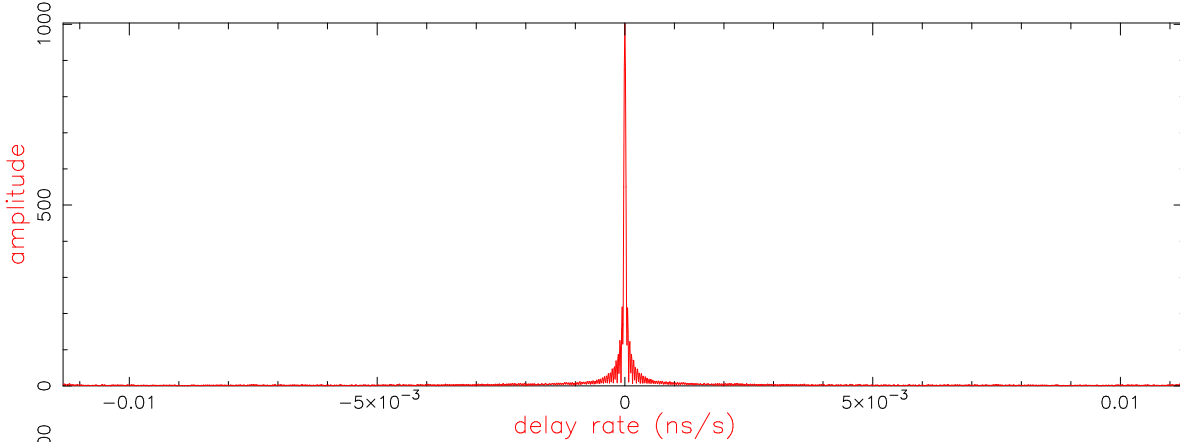


|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 586/0 | APs used   |
| o 5000    | PC freqs   |
| o 5000    | PC freqs   |
| o: 0:0    | PC phase   |
| o: 0:0    | Mani PC    |
| o 1000    | PC amp     |
| o 1000    |            |
| o W04UR   | Chan ids   |
| o W04UR   | Chan ids   |

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.36498723009E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24402E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34553449929E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34553E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

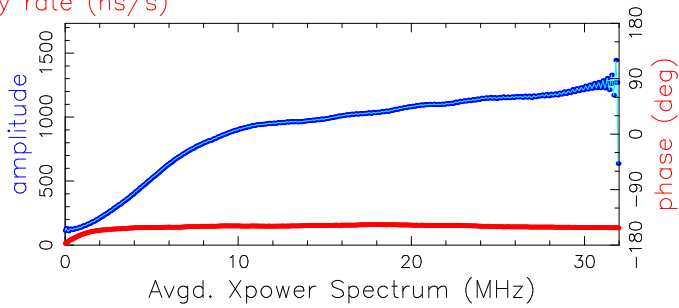
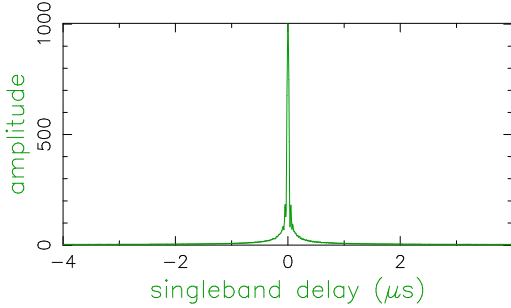
Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000  
 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000  
 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite ion window (TEC) 0.00 0.00

o: az 85.0 el 20.8 pa -55.7 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oo.W.209.0QR2SH



Fringe quality 9

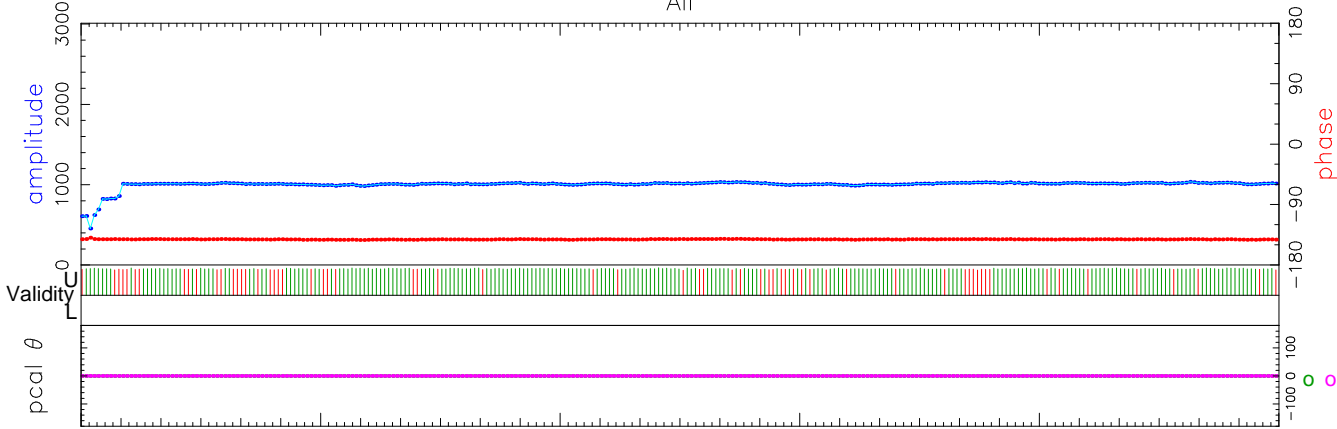
SNR 11656.0  
 Int time 288.451  
 Amp 1003.864  
 Phase -141.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001145  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171829  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -141.8  
 1002.1  
 513.1  
 U/L 586/0  
 o 5000  
 o 5000  
 o: 0:0  
 o: 0:0  
 o 1000  
 o 1000  
 o W04UL  
 o W04UR

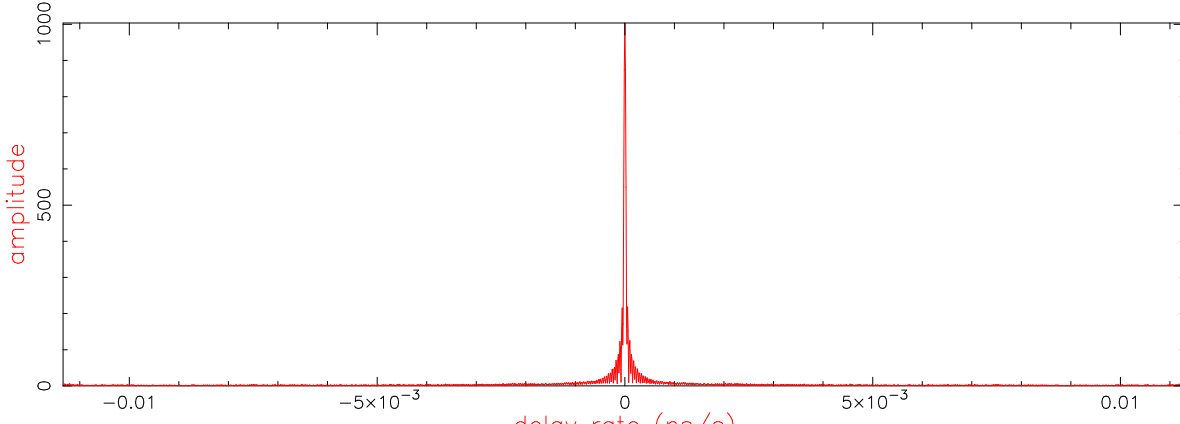
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                  |                      |              |             |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.14260413281E-03  | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.68772E-06 | +/- 1.5E-06 |
| Sband delay (usec)      | 1.14500000000E-03  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 1.14500E-03  | +/- 1.5E-06 |
| Phase delay (usec)      | -4.57201713327E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -4.57202E-06 | +/- 3.2E-10 |
| Delay rate (us/s)       | 9.91980667418E-12  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 9.91981E-12  | +/- 1.8E-12 |
| Total phase (deg)       | -141.8             | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -141.8       | +/- 0.0     |

|              |     |        |     |                 |                    |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|--------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.3 | Theor. | 0.1 | Amplitude       | 1003.864 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 6.0 |        | 0.1 | Search (2048X8) | 1002.134           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.2 |        | 0.0 | Inc. seg. avg.  | 1002.149           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 1002.134           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

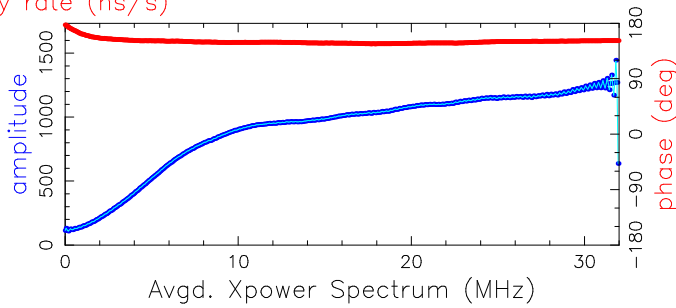
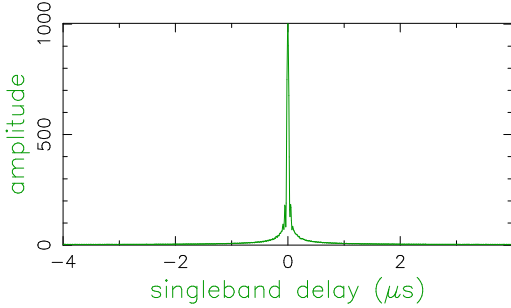
o: az 85.0 el 20.8 pa -55.7      o: az 85.0 el 20.8 pa -55.7      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//oo..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//oo.W.228.0QR2SH



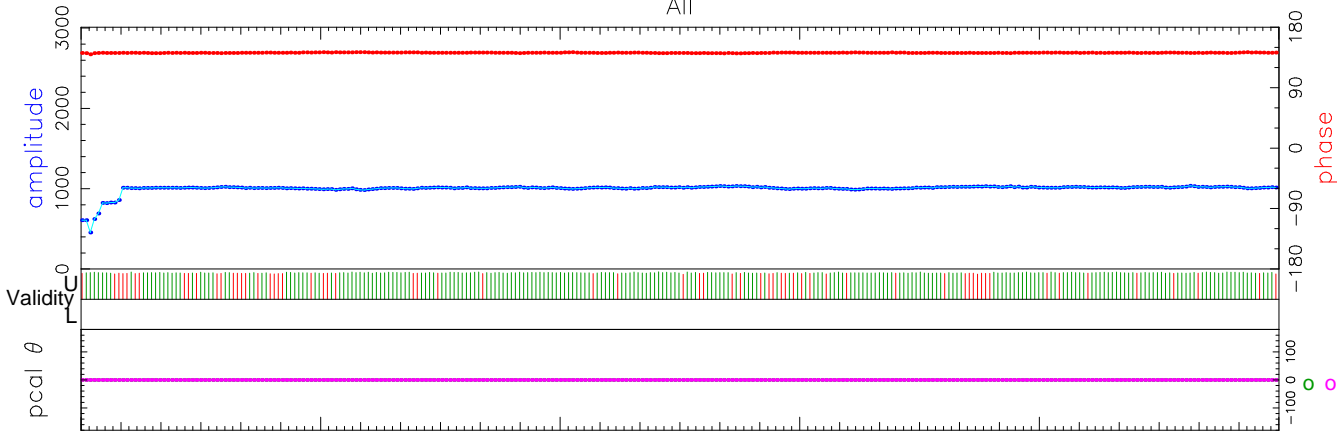
Fringe quality 9

SNR 11656.0  
 Int time 288.448  
 Amp 1003.875  
 Phase 141.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001145  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171830  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
 141.9  
 1002.1  
 512.9  
 U/L 586/0  
 o 5000  
 o 5000  
 o: 0:0  
 o: 0:0  
 o 1000  
 o 1000  
 o W04UR  
 o W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                  |                      |              |             |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -1.14368813559E-03 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.00529E-06 | +/- 1.5E-06 |
| Sband delay (usec)      | -1.14500000000E-03 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | -1.14500E-03 | +/- 1.5E-06 |
| Phase delay (usec)      | 4.57437478605E-06  | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 4.57437E-06  | +/- 3.2E-10 |
| Delay rate (us/s)       | -9.91980667418E-12 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | -9.91981E-12 | +/- 1.8E-12 |
| Total phase (deg)       | 141.9              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 141.9        | +/- 0.0     |

|              |     |        |     |                 |                    |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|--------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.3 | Theor. | 0.1 | Amplitude       | 1003.875 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 6.0 |        | 0.1 | Search (2048X8) | 1002.145           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000              | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.2 |        | 0.0 | Inc. seg. avg.  | 1002.160           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 1002.145           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

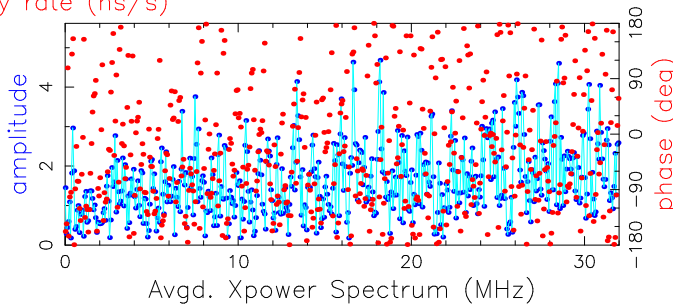
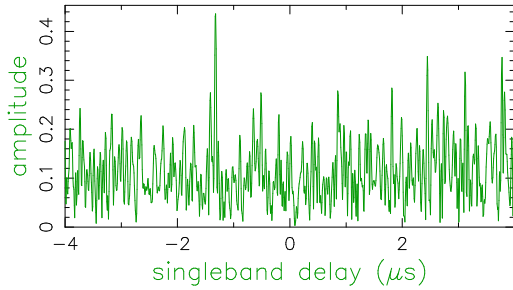
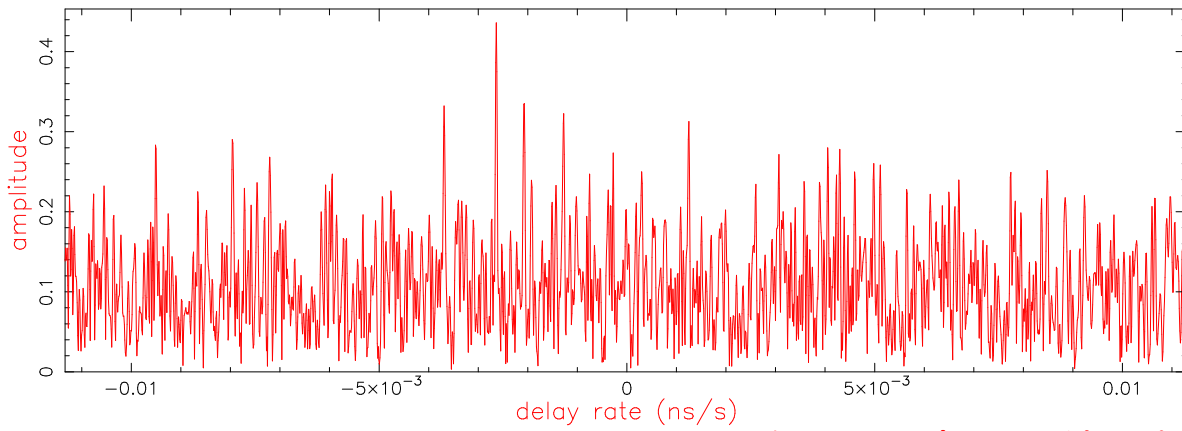
o: az 85.0 el 20.8 pa -55.7 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oo.W.240.0QR2SH

Fringe quality 0

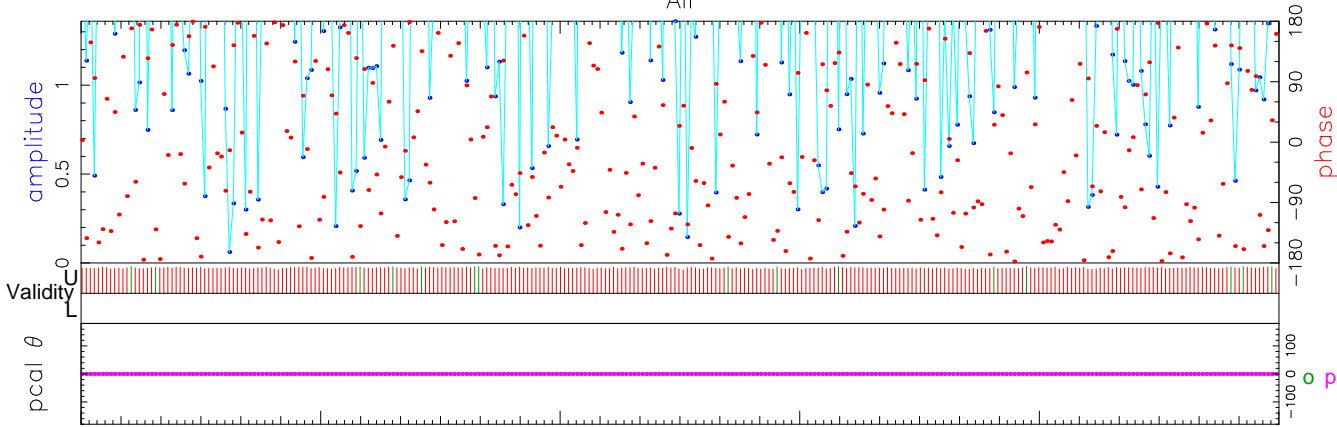
SNR 5.0  
Int time 275.474  
Amp 0.453  
Phase -140.2  
PFD 1.0e+00  
Delays (us)  
SBD -1.323612  
MBD -0.000006  
Fringe rate (Hz)  
-0.226756  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-140.2  
0.4  
343.6  
U/L 586/0  
o 5000  
p 5000  
o:p 0:0  
o:p 0:0  
o 1000  
p 1000  
o W04UL  
p W04UL

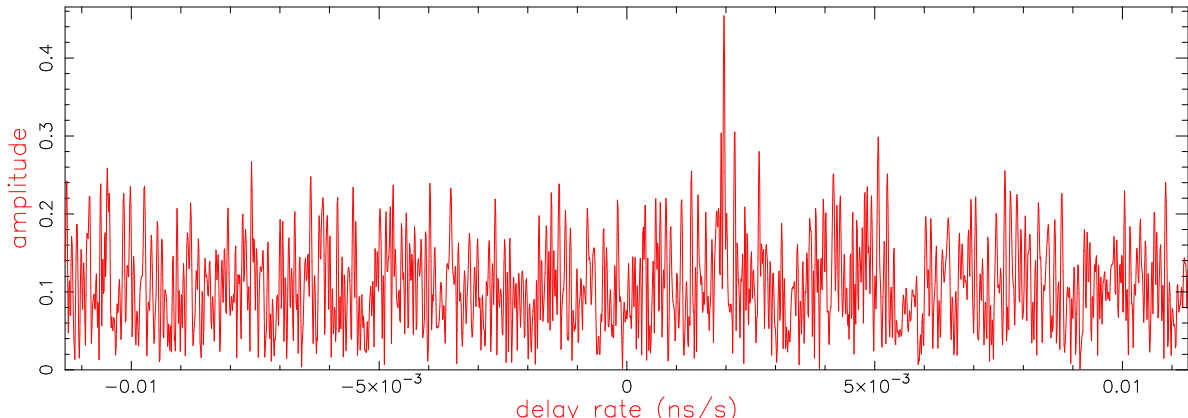
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.72651612579E+03 | Apriori delay (usec)     | -2.72519251840E+03 | Resid mbdelay (usec) | -6.27676E-06 | +/- | 3.4E-03 |
| Sband delay (usec)      | -2.72651613040E+03 | Apriori clock (usec)     | -1.9793634E+00     | Resid sbdelay (usec) | -1.32361E+00 | +/- | 3.4E-03 |
| Phase delay (usec)      | -2.72519252292E+03 | Apriori clockrate (us/s) | 4.7455995E-07      | Resid phdelay (usec) | -4.52243E-06 | +/- | 7.3E-07 |
| Delay rate (us/s)       | 3.15467975219E-02  | Apriori rate (us/s)      | 3.15494299353E-02  | Resid rate (us/s)    | -2.63241E-06 | +/- | 4.2E-09 |
| Total phase (deg)       | -332.8             | Apriori accel (us/s/s)   | 1.57861796184E-05  | Resid phase (deg)    | -140.2       | +/- | 22.8    |

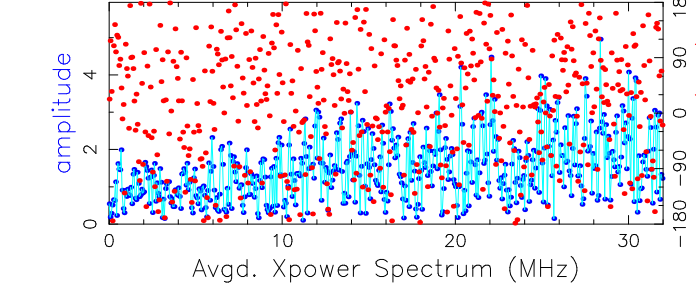
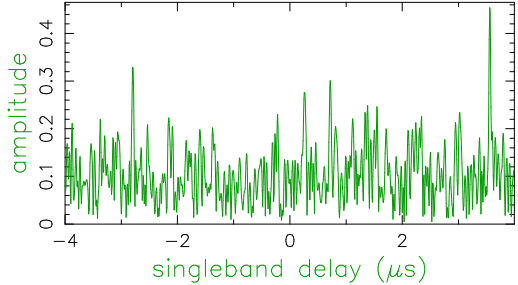
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.0  | Theor.          | 195.0 | Amplitude      | 0.453 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 407.3 | Search (2048X8) | 0.435 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.287           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.6   | Inc. frq. avg.  | 0.437 | Inc. frq. avg. | 0.437           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -168.059 714.198 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//op..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//op.W.208.0QR2SH



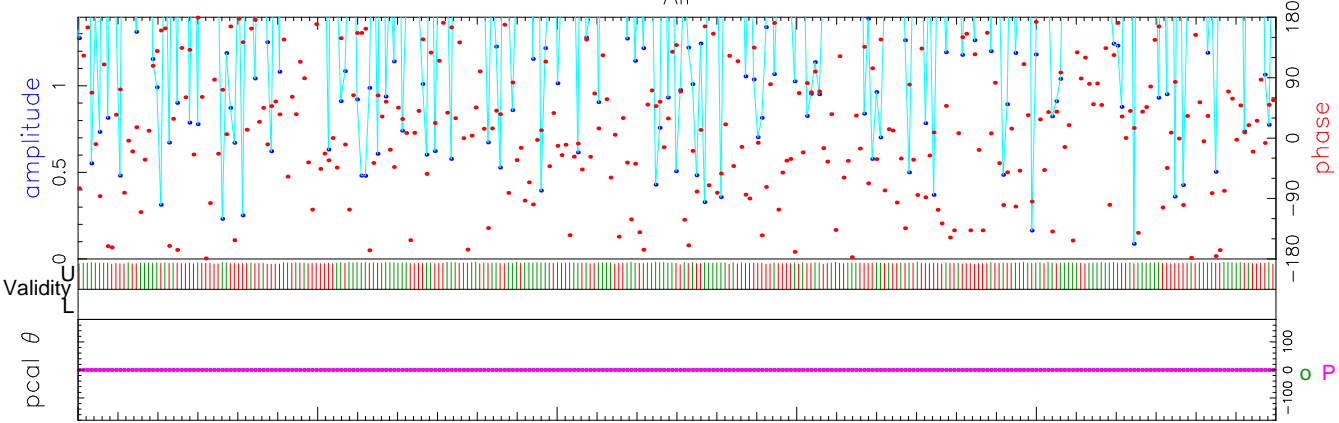
Fringe quality 0  
SNR 5.3  
Int time 285.012  
Amp 0.465  
Phase 29.2  
PFD 1.0e+00  
Delays (us)  
SBD 3.557601  
MBD 0.000007  
Fringe rate (Hz)  
0.168622  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
29.2  
0.5  
968.4  
U/L 586/0  
o 5000  
P 0  
o:P 0:0  
o:P 0:0  
o 1000  
P 1000  
o W04UL  
P W04UL

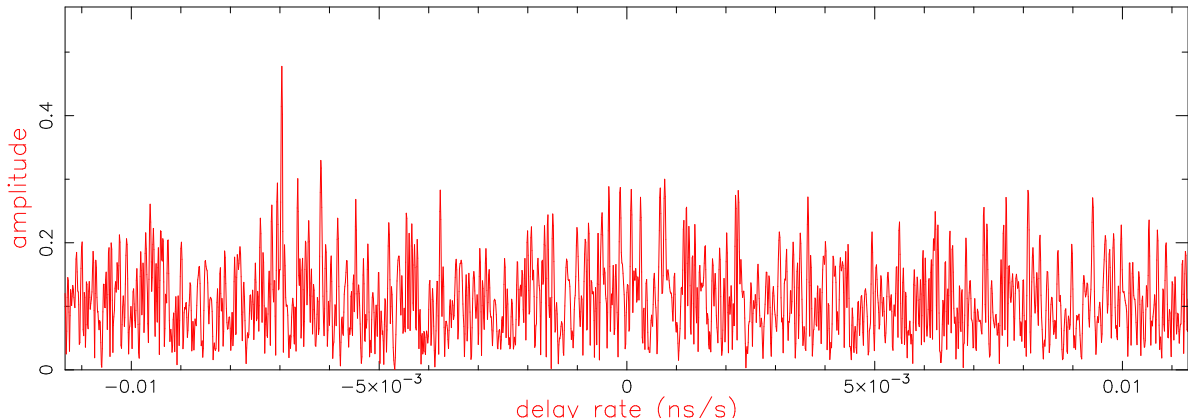
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -8.29816356998E+03 | Apriori delay (usec)     | -8.30172116902E+03 | Resid mbdelay (usec) | 6.74214E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -8.29816356752E+03 | Apriori clock (usec)     | 2.9403162E+01      | Resid sbdelay (usec) | 3.55760E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -8.30172116808E+03 | Apriori clockrate (us/s) | 9.1656001E-07      | Resid phdelay (usec) | 9.42367E-07 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.90977592255E+00  | Apriori rate (us/s)      | 1.90977396501E+00  | Resid rate (us/s)    | 1.95754E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -150.5             | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | 29.2        | +/- | 21.6    |

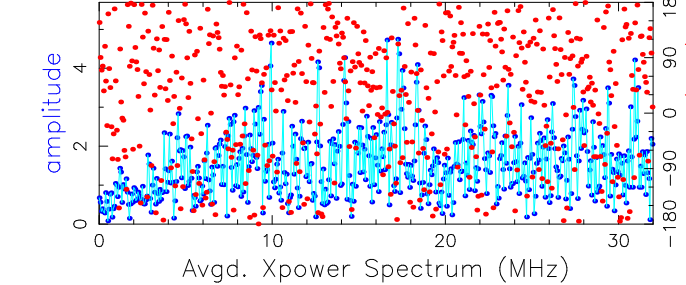
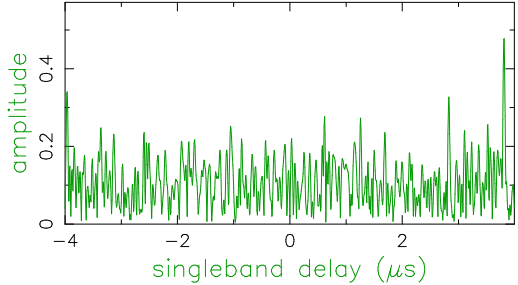
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.0  | Theor.          | 184.8 | Amplitude      | 0.465 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 382.3 | Search (2048X8) | 0.451 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.308 | Inc. seg. avg. | 0.308           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.2   | Inc. frq. avg.  | 0.452 | Inc. frq. avg. | 0.452           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oP.W.211.0QR2SH





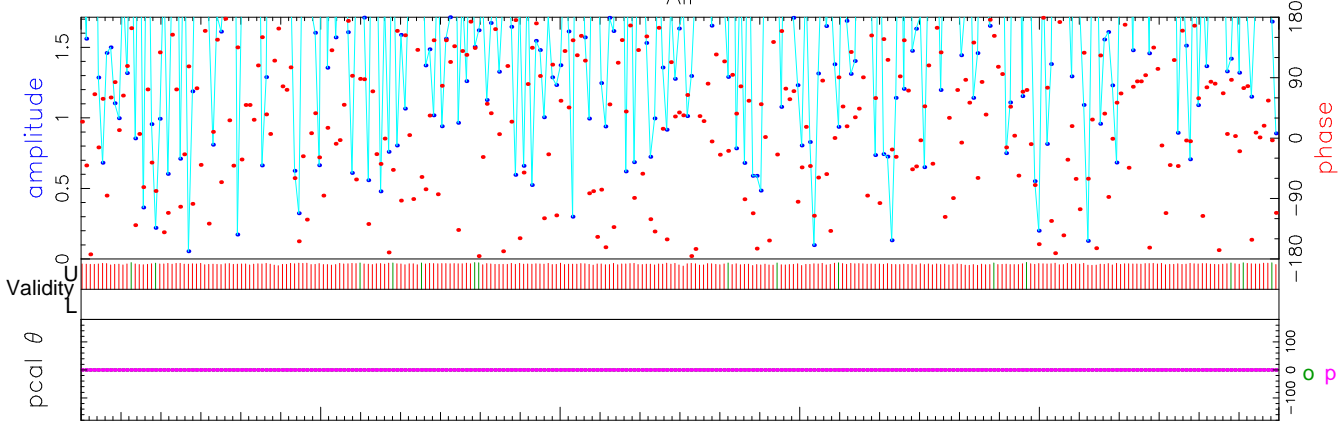
Fringe quality 0  
SNR 5.5  
Int time 275.469  
Amp 0.571  
Phase 70.2  
PFD 9.8e-01  
Delays (us)  
SBD 3.808835  
MBD -0.000007  
Fringe rate (Hz)  
-0.599538  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
70.2  
0.6  
1000.5  
U/L 586/0  
o 5000  
p 5000  
o:p 0:0  
o:p 0:0  
o 1000  
p 1000  
o W04UR  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.72138367909E+03 | Apriori delay (usec)     | -2.72519251840E+03 | Resid mbdelay (usec) | -6.75171E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -2.72138368390E+03 | Apriori clock (usec)     | -1.9793634E+00     | Resid sbdelay (usec) | 3.80883E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -2.72519251614E+03 | Apriori clockrate (us/s) | 4.7455995E-07      | Resid phdelay (usec) | 2.26468E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 3.15424698907E-02  | Apriori rate (us/s)      | 3.15494299353E-02  | Resid rate (us/s)    | -6.96004E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -122.4             | Apriori accel (us/s/s)   | 1.57861796184E-05  | Resid phase (deg)    | 70.2         | +/- | 20.8    |

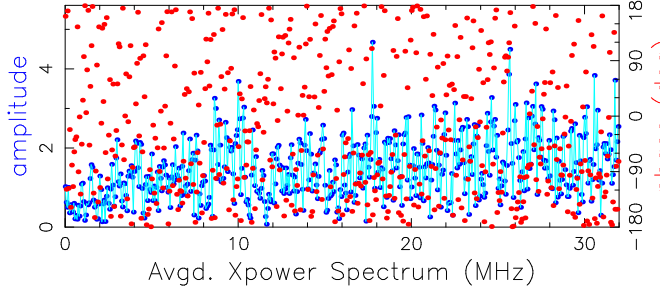
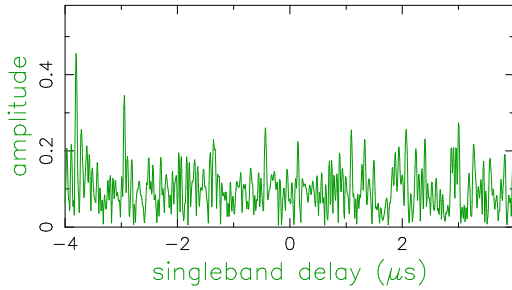
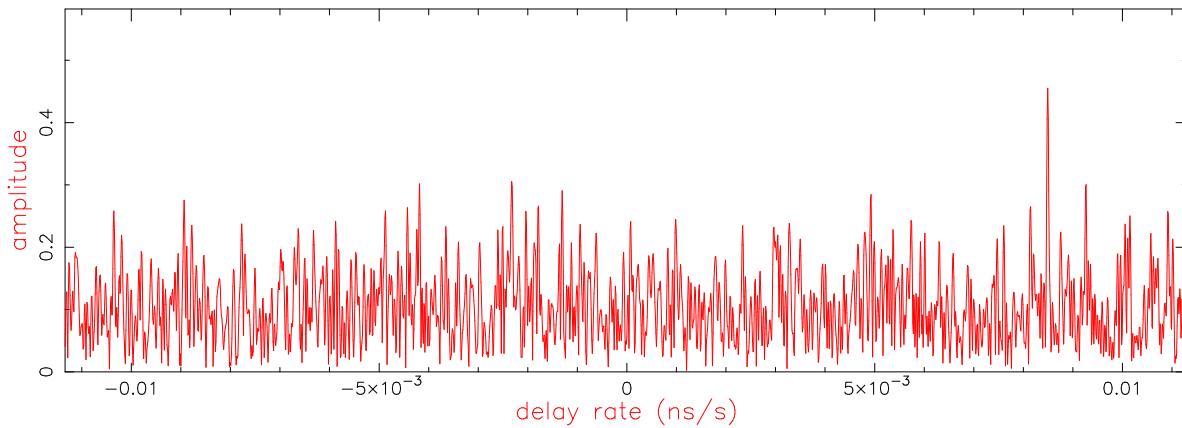
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.7  | Theor.          | 177.6 | Amplitude      | 0.571 +/- 0.103 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 360.9 | Search (2048X8) | 0.471 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.386 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.9   | Inc. frq. avg.  | 0.552 | Inc. seg. avg. | 0.386           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -168.059 714.198 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//op..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//op.W.218.0QR2SH

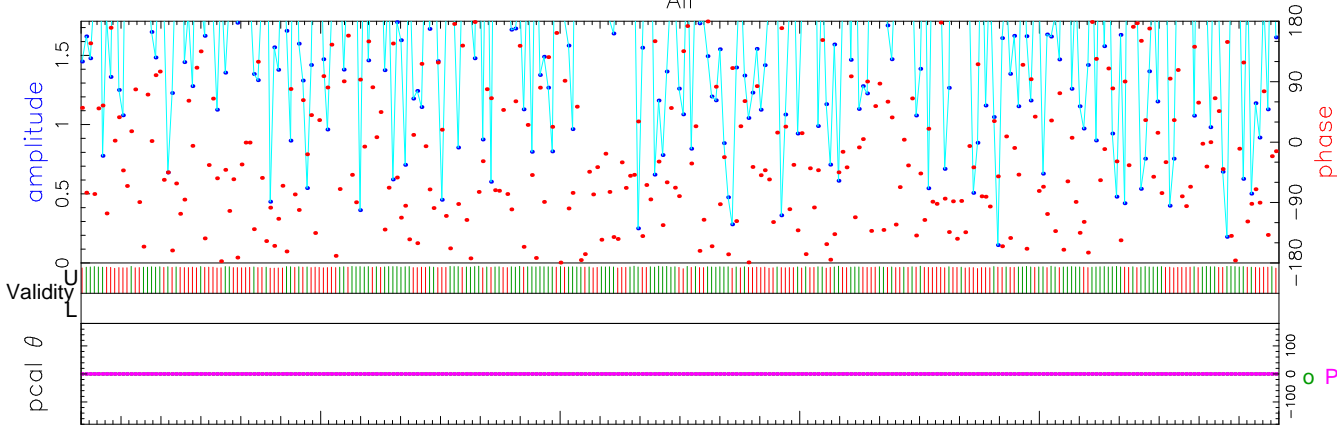
Fringe quality 0

SNR 5.3  
Int time 285.014  
Amp 0.582  
Phase -74.9  
PFD 1.0e+00  
Delays (us)  
SBD -3.802858  
MBD 0.000004  
Fringe rate (Hz)  
0.731040  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



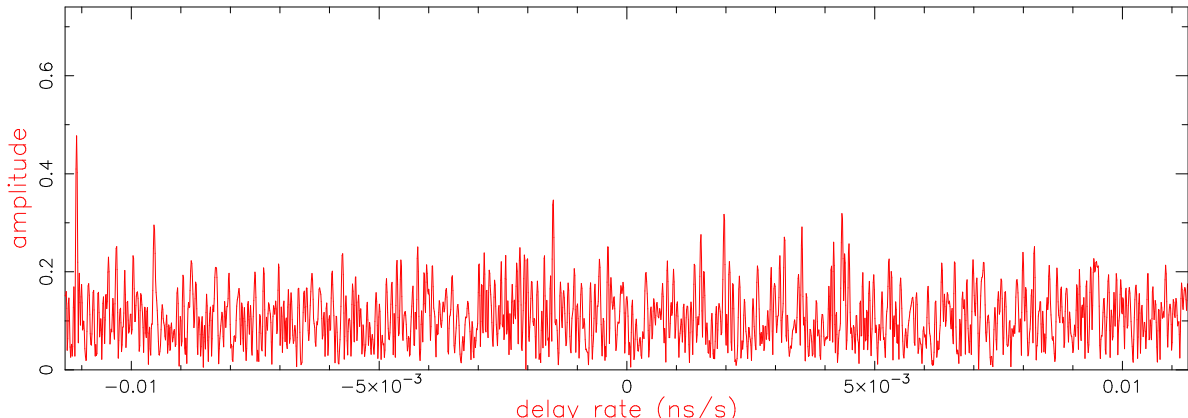
86140.00  
-74.9  
0.6  
26.2  
U/L 586/0  
o 5000  
P 0  
o:P 0:0  
o:P 0:0  
o 1000  
P 1000  
o W04UR  
P W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
Chan ids

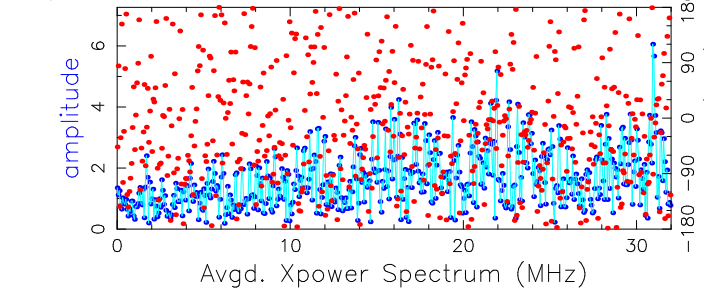
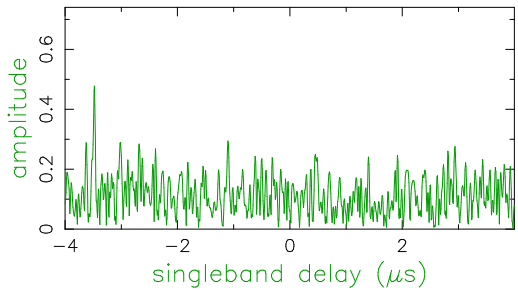
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.30552403197E+03 | Apriori delay (usec)     | -8.30172116902E+03 | Resid mbdelay (usec) | 4.47323E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -8.30552402702E+03 | Apriori clock (usec)     | 2.9403162E+01      | Resid sbdelay (usec) | -3.80286E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | -8.30172117143E+03 | Apriori clockrate (us/s) | 9.1656001E-07      | Resid phdelay (usec) | -2.41400E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.90978245166E+00  | Apriori rate (us/s)      | 1.90977396501E+00  | Resid rate (us/s)    | 8.48665E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -254.6             | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | -74.9        | +/- | 21.7    |

|              |          |              |                           |  |                             |                             |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-----------------------------|
| ph/seg (deg) | RMS 91.8 | Theor. 185.9 | Amplitude 0.582 +/- 0.110 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                             |
| amp/seg (%)  | 356.9    | 324.4        | Search (2048X8) 0.444     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                             |
| ph/frq (deg) | 0.0      | 10.9         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000 |
| amp/frq (%)  | 0.5      | 19.0         | Inc. seg. avg. 0.374      | Sample rate(MSamp/s): 64               | ion window (TEC)            | -0.011 0.011                |
|              |          |              | Inc. frq. avg. 0.569      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite           |

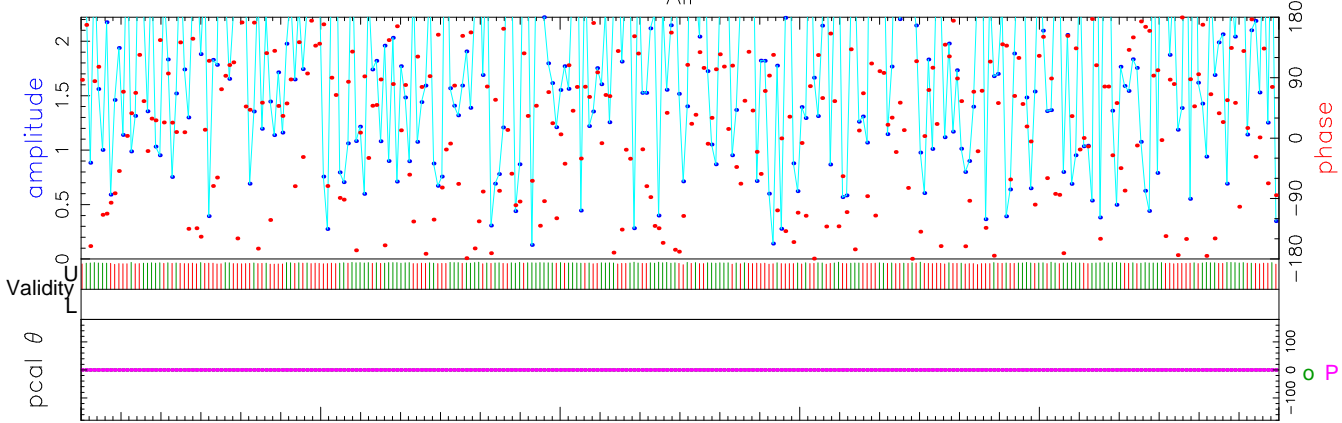
o: az 85.0 el 20.8 pa -55.7 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oP.W.221.0QR2SH



Fringe quality 0  
SNR 5.5  
Int time 285.012  
Amp 0.740  
Phase 88.7  
PFD 9.7e-01  
Delays (us)  
SBD -3.478848  
MBD -0.000005  
Fringe rate (Hz)  
-0.956725  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

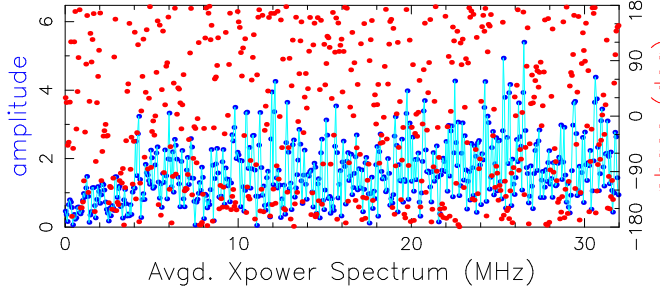
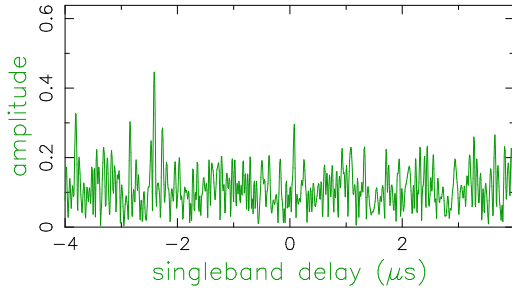
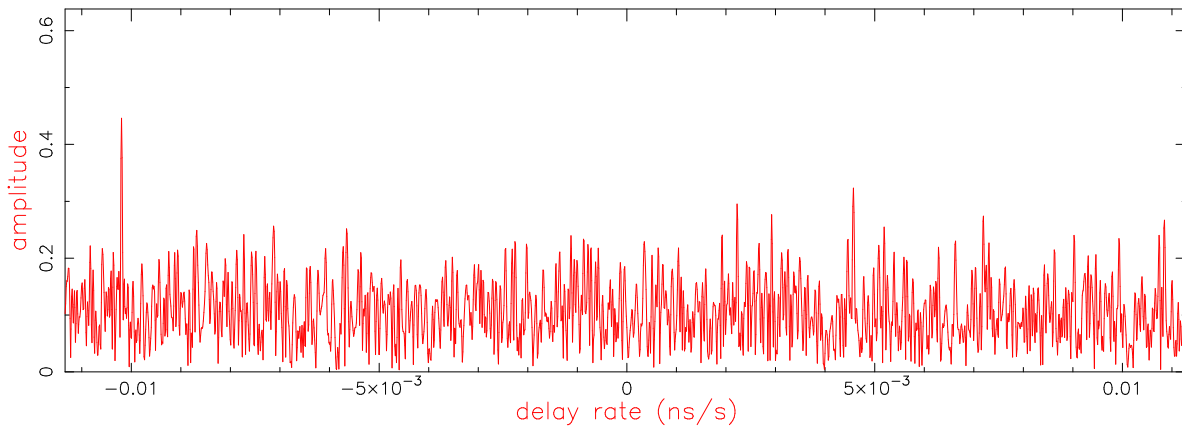


86140.00 Freq (MHz)  
88.7 Phase  
0.7 Ampl.  
67.7 Sbd box  
U/L 586/0 APs used  
o 5000 PC freqs  
P 0 PC freqs  
o:P 0:0 PC phase  
o:P 0:0 Mani PC  
o 1000 PC amp  
P 1000  
o W04UL Chan ids  
P W04UR Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.30520001127E+03 | Apriori delay (usec)     | -8.30172116902E+03 | Resid mbdelay (usec) | -5.47518E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.30520001652E+03 | Apriori clock (usec)     | 2.9403162E+01      | Resid sbdelay (usec) | -3.47885E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.30172116616E+03 | Apriori clockrate (us/s) | 9.1656001E-07      | Resid phdelay (usec) | 2.86069E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.90976285838E+00  | Apriori rate (us/s)      | 1.90977396501E+00  | Resid rate (us/s)    | -1.11066E-05 | +/- | 3.8E-09 |
| Total phase (deg)       | -91.0              | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | 88.7         | +/- | 20.6    |

|              |       |                 |       |                       |                             |                  |                |                  |        |       |
|--------------|-------|-----------------|-------|-----------------------|-----------------------------|------------------|----------------|------------------|--------|-------|
| ph/seg (deg) | 93.1  | Theor.          | 176.7 | Amplitude             | 0.740 +/- 0.133             | Pcal mode:       | MANUAL, MANUAL | PC period (AP's) | 5, 5   |       |
| amp/seg (%)  | 349.0 | Search (2048X8) | 0.474 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000         | 4.000            |        |       |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled        | mb window (us)   | -0.000 | 0.000 |
| amp/frq (%)  | 0.7   | Inc. seg. avg.  | 0.499 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011         | 0.011            |        |       |
|              |       | Inc. frq. avg.  | 0.723 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00           | 0.00             |        |       |

o: az 85.0 el 20.8 pa -55.7 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oP.W.233.0QR2SH



Fringe quality 0

SNR 5.1

Int time 275.466

Amp 0.638

Phase -29.5

PFD 1.0e+00

Delays (us)

SBD -2.413677

MBD -0.000007

Fringe rate (Hz)

-0.878526

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171830

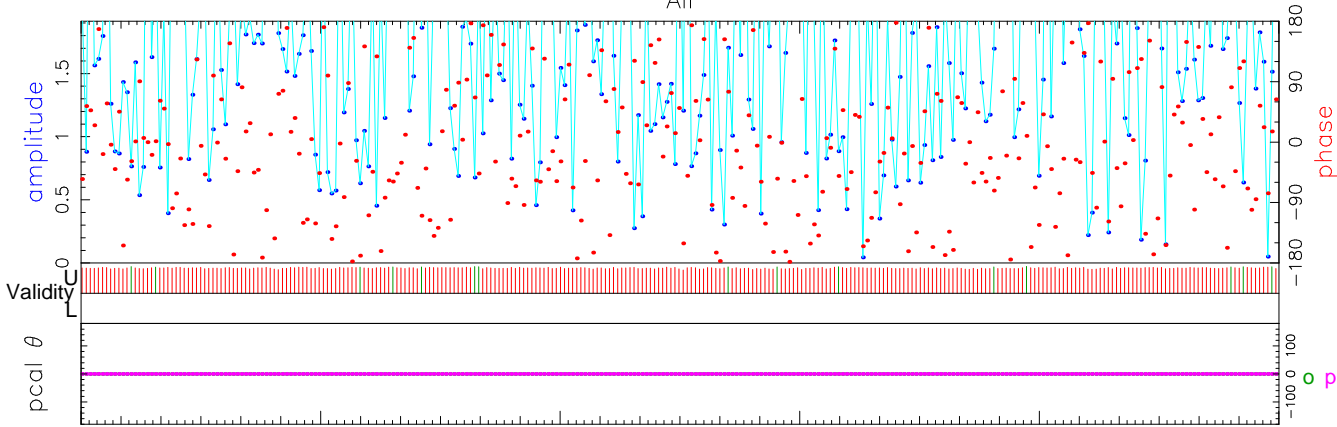
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -29.5     |  | Phase      |
| 0.6       |  | Ampl.      |
| 204.1     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| o 5000    |  | PC freqs   |
| p 5000    |  | PC freqs   |
| o:p 0:0   |  | PC phase   |
| o:p 0:0   |  | Manl PC    |
| o 1000    |  | PC amp     |
| p 1000    |  |            |
| o W04UL   |  | Chan ids   |
| p W04UR   |  | Chan ids   |

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -2.72760620104E+03 | Apriori delay (usec)     | -2.72519251840E+03 | Resid mbdelay (usec) | -7.23269E-06 | +/- 3.4E-03 |
| Sband delay (usec)      | -2.72760619590E+03 | Apriori clock (usec)     | -1.9793634E+00     | Resid sbdelay (usec) | -2.41368E+00 | +/- 3.4E-03 |
| Phase delay (usec)      | -2.72519251935E+03 | Apriori clockrate (us/s) | 4.7455995E-07      | Resid phdelay (usec) | -9.51267E-07 | +/- 7.3E-07 |
| Delay rate (us/s)       | 3.15392311220E-02  | Apriori rate (us/s)      | 3.15494299353E-02  | Resid rate (us/s)    | -1.01988E-05 | +/- 4.2E-09 |
| Total phase (deg)       | -222.1             | Apriori accel (us/s/s)   | 1.57861796184E-05  | Resid phase (deg)    | -29.5        | +/- 22.6    |

|              |       |        |       |                 |                 |  |                       |                   |        |       |
|--------------|-------|--------|-------|-----------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 92.7  | Theor. | 193.8 | Amplitude       | 0.638 +/- 0.126 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 382.6 |        | 338.2 | Search (2048X8) | 0.443           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0   |        | 11.3  | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.0   |        | 19.8  | Inc. seg. avg.  | 0.391           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |       |        |       | Inc. frq. avg.  | 0.626           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

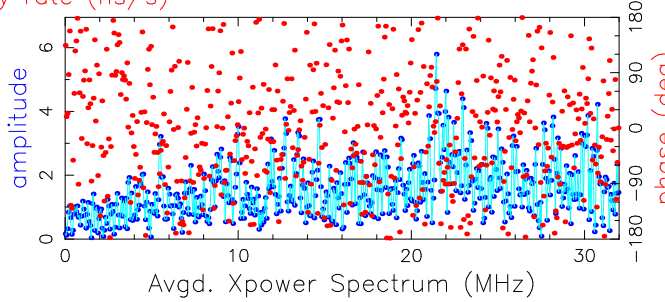
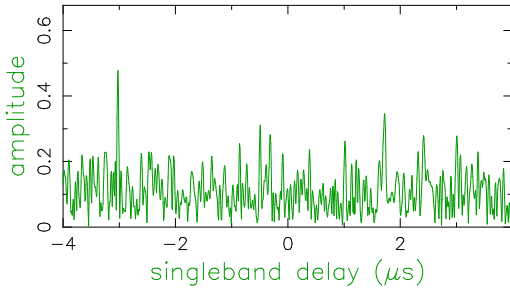
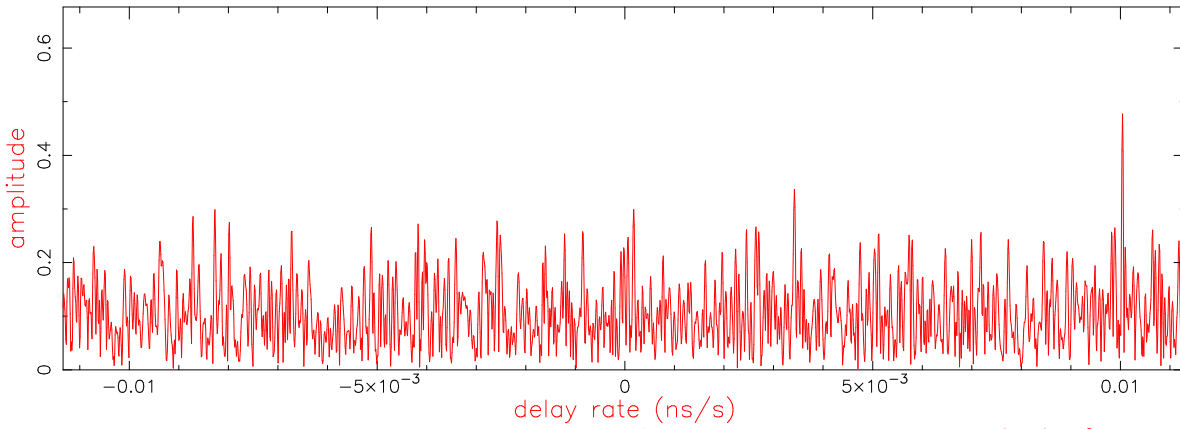
o: az 85.0 el 20.8 pa -55.7      p: az 89.4 el 28.9 pa -59.3      u,v (fr/asec) -168.059 714.198      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//op..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//op.W.241.0QR2SH

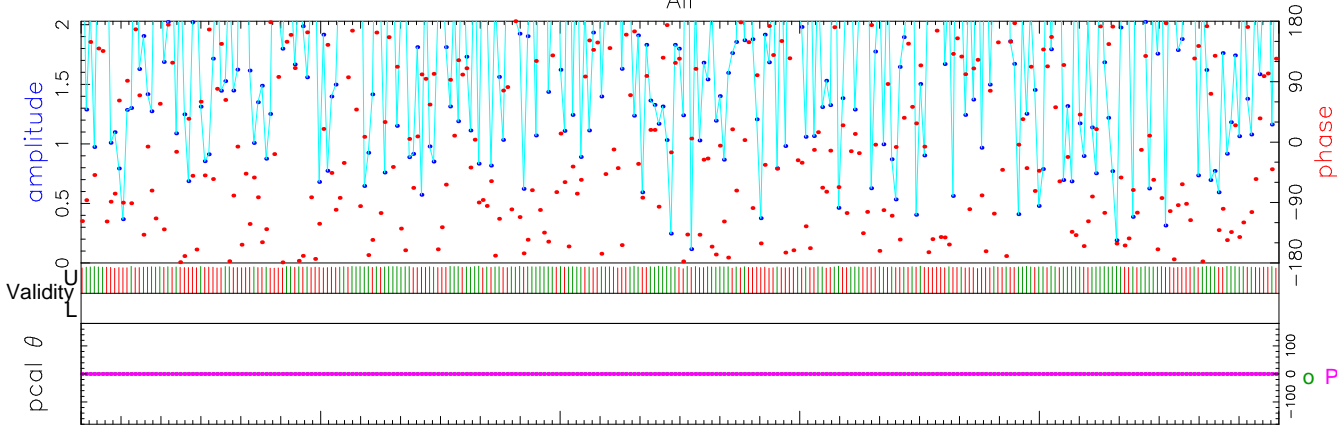
Fringe quality 0

SNR 5.5  
Int time 285.014  
Amp 0.677  
Phase -150.9  
PFD 9.8e-01  
Delays (us)  
SBD -3.024776  
MBD 0.000004  
Fringe rate (Hz)  
0.865032  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-150.9  
0.7  
125.8  
U/L 586/0  
o 5000  
P 0  
o:P 0:0  
o:P 0:0  
o 1000  
P 1000  
o W04UR  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -8.30474594988E+03 | Apriori delay (usec)     | -8.30172116902E+03 | Resid mbdelay (usec) | 4.37019E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -8.30474594452E+03 | Apriori clock (usec)     | 2.9403162E+01      | Resid sbdelay (usec) | -3.02478E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -8.30172117388E+03 | Apriori clockrate (us/s) | 9.1656001E-07      | Resid phdelay (usec) | -4.86450E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.90978400718E+00  | Apriori rate (us/s)      | 1.90977396501E+00  | Resid rate (us/s)    | 1.00422E-05  | +/- | 3.9E-09 |
| Total phase (deg)       | -330.6             | Apriori accel (us/s/s)   | 4.43676541386E-05  | Resid phase (deg)    | -150.9       | +/- | 20.7    |

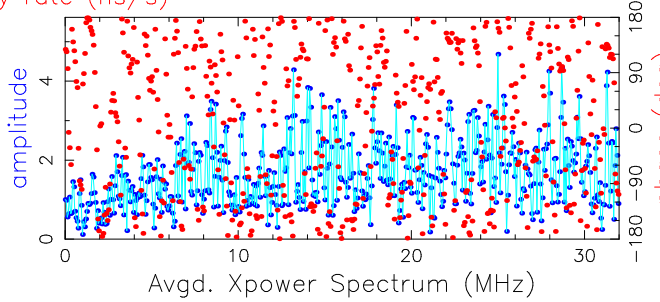
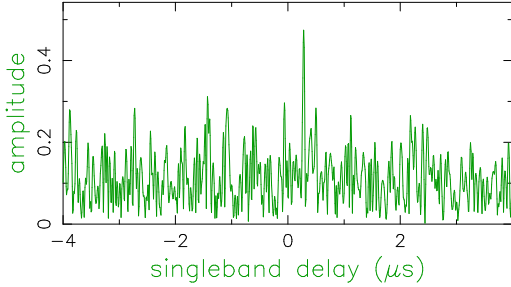
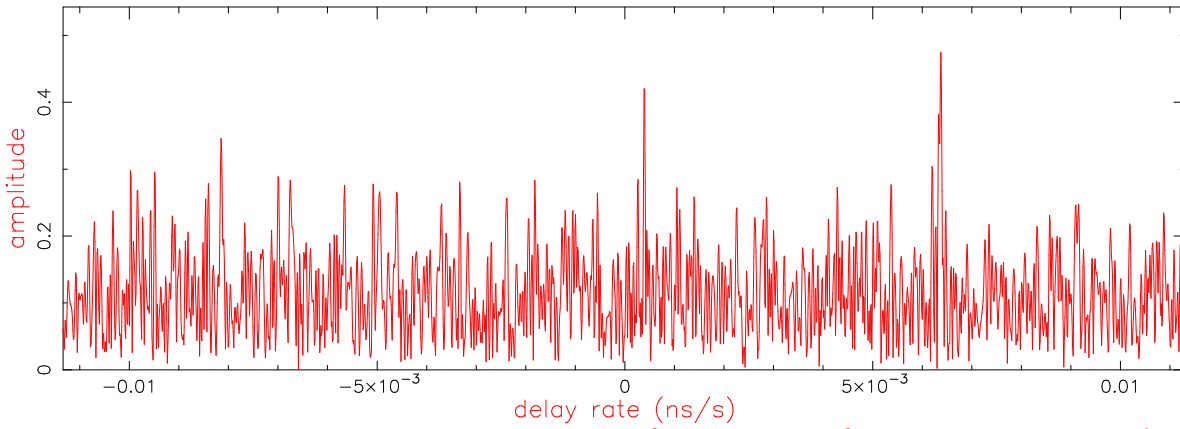
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 91.3  | Theor.          | 177.6 | Amplitude      | 0.677 +/- 0.123 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 366.4 | Search (2048X8) | 0.477 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.470 | Inc. seg. avg. | 0.470           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.664 | Inc. frq. avg. | 0.664           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

o: az 85.0 el 20.8 pa -55.7 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11334.459 1088.680 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oP.W.252.0QR2SH

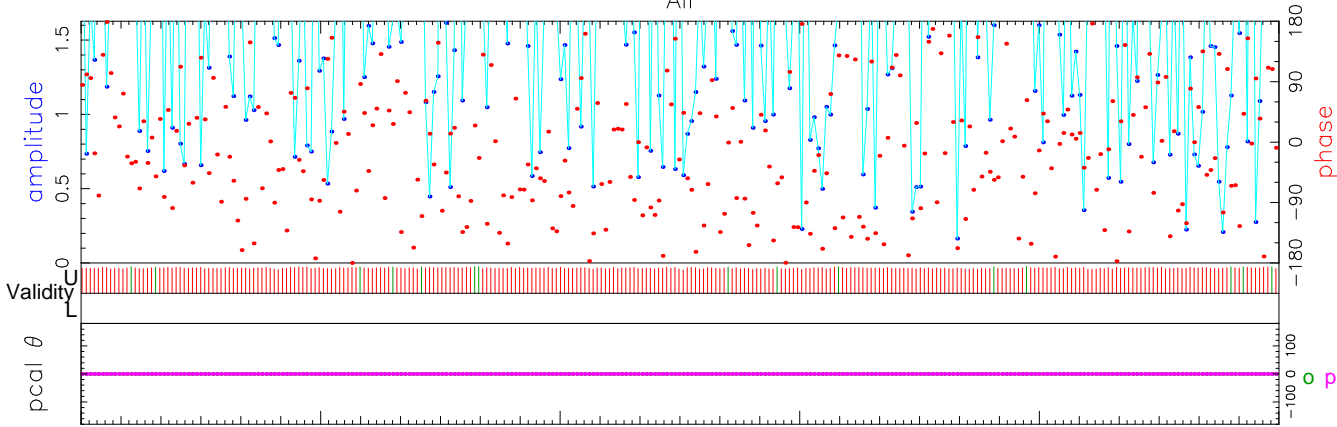
Fringe quality 0

SNR 5.4  
Int time 275.477  
Amp 0.543  
Phase -32.0  
PFD 1.0e+00  
Delays (us)  
SBD 0.280704  
MBD 0.000005  
Fringe rate (Hz)  
0.549350  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



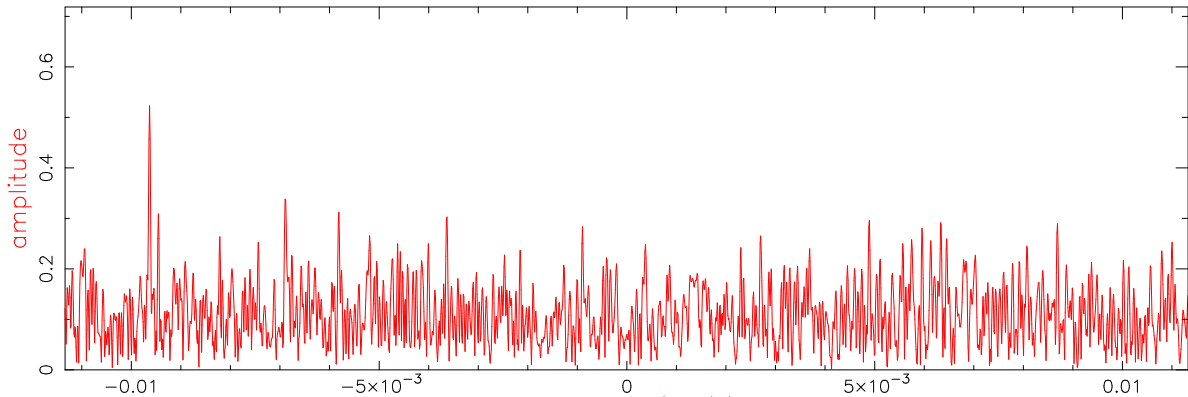
86140.00  
-32.0  
0.5  
548.9  
U/L 586/0  
o 5000  
p 5000  
o:p 0:0  
o:p 0:0  
o 1000  
p 1000  
o W04UR  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

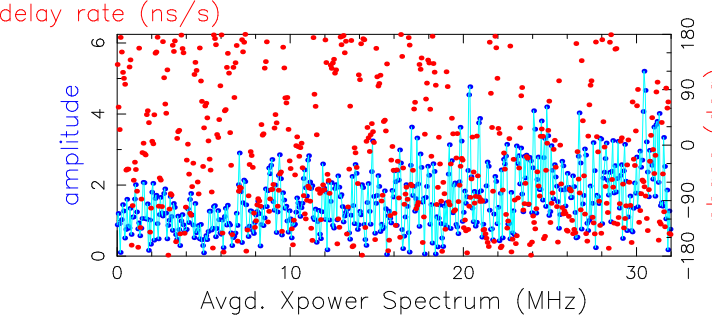
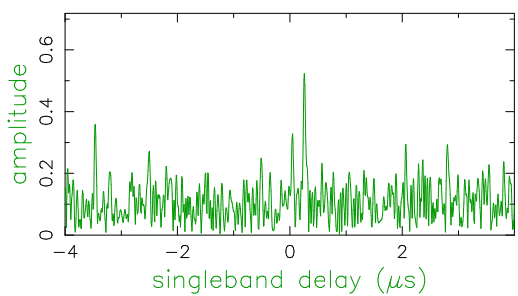
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.72491181932E+03 | Apriori delay (usec)     | -2.72519251840E+03 | Resid mbdelay (usec) | 4.86297E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -2.72491181390E+03 | Apriori clock (usec)     | -1.9793634E+00     | Resid sbdelay (usec) | 2.80704E-01  | +/- | 3.2E-03 |
| Phase delay (usec)      | -2.72519251943E+03 | Apriori clockrate (us/s) | 4.7455995E-07      | Resid phdelay (usec) | -1.03352E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 3.15558073422E-02  | Apriori rate (us/s)      | 3.15494299353E-02  | Resid rate (us/s)    | 6.37741E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -224.6             | Apriori accel (us/s/s)   | 1.57861796184E-05  | Resid phase (deg)    | -32.0        | +/- | 21.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.9  | Theor.          | 182.1 | Amplitude      | 0.543 +/- 0.101 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 387.2 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.370           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.533 | Inc. frq. avg. | 0.533           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) -168.059 714.198 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//op..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//op.W.286.0QR2SH

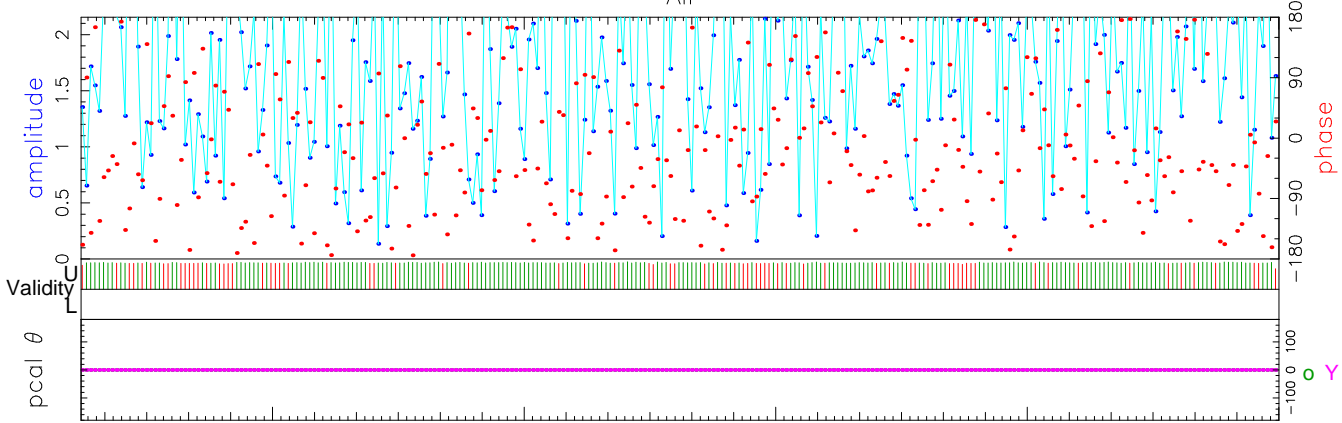


Fringe quality 0  
SNR 5.9  
Int time 273.957  
Amp 0.719  
Phase -57.5  
PFD 3.3e-01  
Delays (us)  
SBD 0.256496  
MBD -0.000007  
Fringe rate (Hz)  
-0.829455  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171827  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-57.5  
0.7  
545.9  
U/L 558/0  
o 5000  
Y 0  
o:Y 0:0  
o:Y 0:0  
o 1000  
Y 1000  
o W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.93791717450E+03 | Apriori delay (usec)     | -7.93817366853E+03 | Resid mbdelay (usec) | -7.01556E-06 | +/- | 2.9E-03 |
| Sband delay (usec)      | -7.93791717253E+03 | Apriori clock (usec)     | 2.2304472E+01      | Resid sbdelay (usec) | 2.56496E-01  | +/- | 2.9E-03 |
| Phase delay (usec)      | -7.93817367039E+03 | Apriori clockrate (us/s) | 4.2655996E-07      | Resid phdelay (usec) | -1.85563E-06 | +/- | 6.2E-07 |
| Delay rate (us/s)       | 1.87820084834E+00  | Apriori rate (us/s)      | 1.87821047749E+00  | Resid rate (us/s)    | -9.62915E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -348.2             | Apriori accel (us/s/s)   | 4.09175849190E-05  | Resid phase (deg)    | -57.5        | +/- | 19.3    |

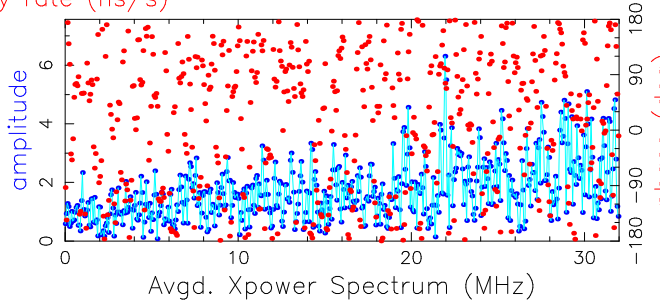
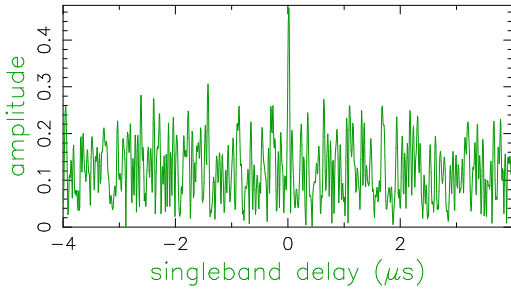
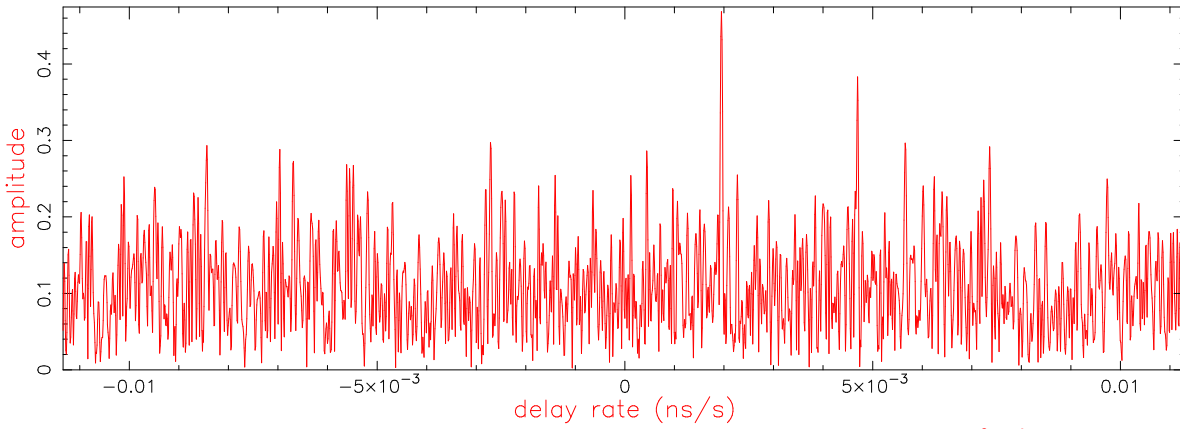
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.2  | Theor.          | 161.5 | Amplitude      | 0.719 +/- 0.121 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 311.7 | Search (2048X8) | 0.518 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.507           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.707 | Inc. frq. avg. | 0.707           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11150.777 610.190 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oY.W.210.0QR2SH

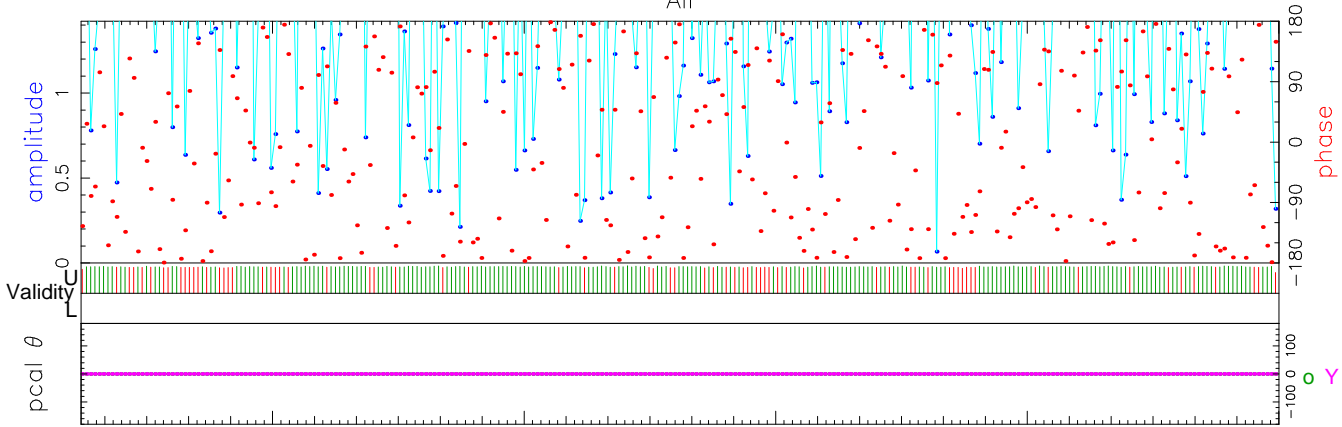
Fringe quality 0

SNR 5.3  
Int time 273.960  
Amp 0.475  
Phase -170.5  
PFD 1.0e+00  
Delays (us)  
SBD 0.015051  
MBD 0.000005  
Fringe rate (Hz)  
0.168201  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-170.5  
0.5  
514.9  
U/L 558/0  
o 5000  
Y 0  
o:Y 0:0  
o:Y 0:0  
o 1000  
Y 1000  
o W04UR  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.93815861871E+03 | Apriori delay (usec)     | -7.93817366853E+03 | Resid mbdelay (usec) | 4.55268E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -7.93815861703E+03 | Apriori clock (usec)     | 2.2304472E+01      | Resid sbdelay (usec) | 1.50515E-02  | +/- | 3.2E-03 |
| Phase delay (usec)      | -7.93817367403E+03 | Apriori clockrate (us/s) | 4.2655996E-07      | Resid phdelay (usec) | -5.49865E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.87821243013E+00  | Apriori rate (us/s)      | 1.87821047749E+00  | Resid rate (us/s)    | 1.95265E-06  | +/- | 4.2E-09 |
| Total phase (deg)       | -101.2             | Apriori accel (us/s/s)   | 4.09175849190E-05  | Resid phase (deg)    | -170.5       | +/- | 21.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.3  | Theor.          | 180.4 | Amplitude      | 0.475 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 378.5 | Search (2048X8) | 0.465 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.325           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.466 | Inc. frq. avg. | 0.466           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

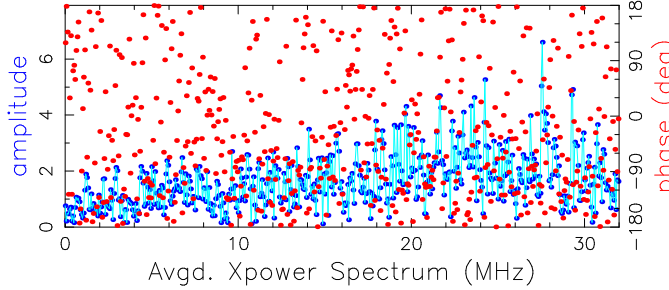
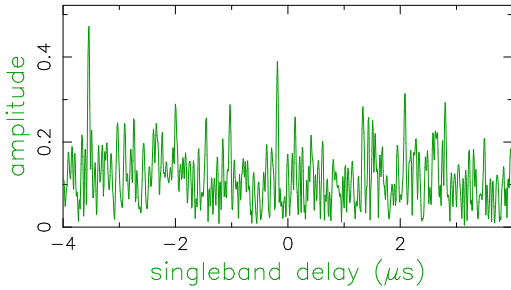
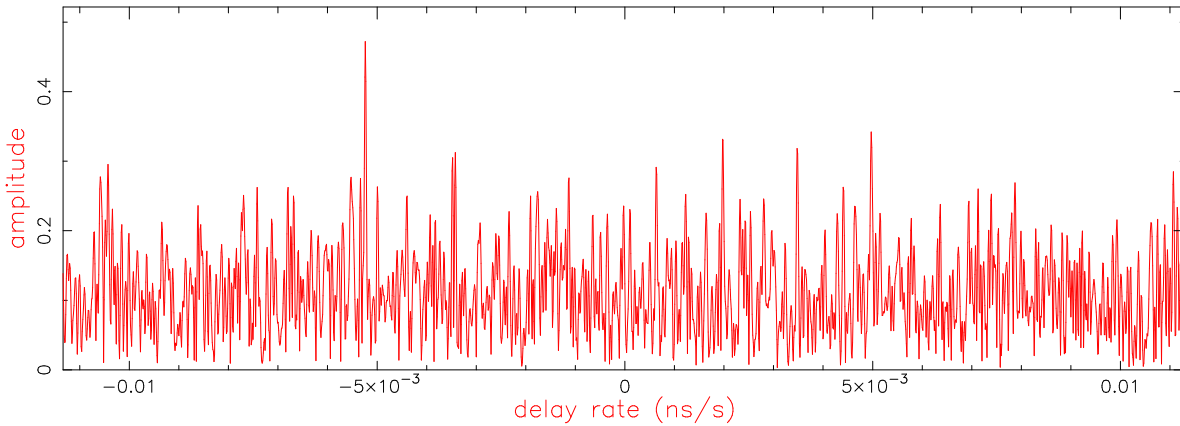
o: az 85.0 el 20.8 pa -55.7 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11150.777 610.190 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oY.W.229.0QR2SH



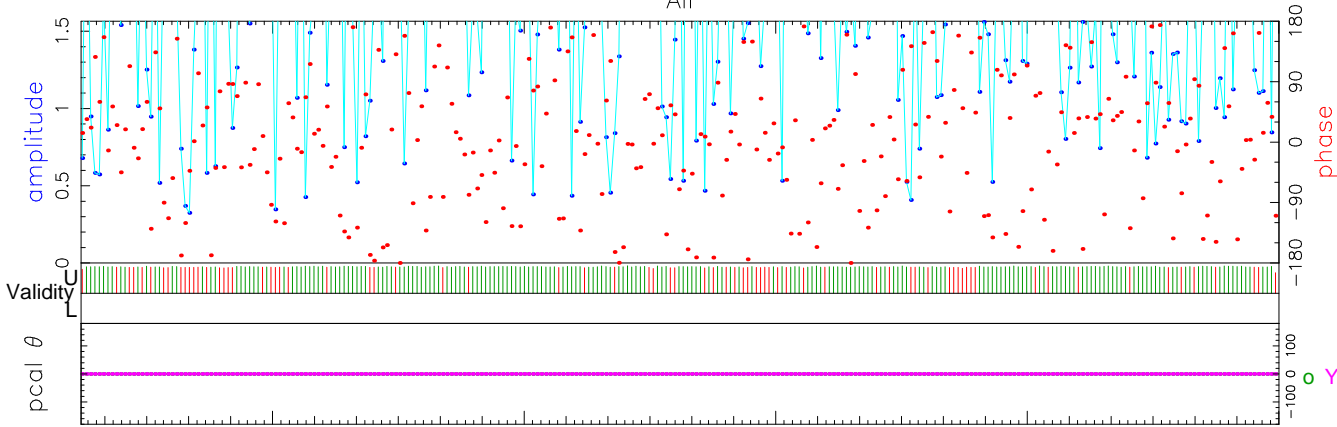
Fringe quality 0

SNR 5.4  
Int time 273.957  
Amp 0.522  
Phase 4.3  
PFD 1.0e+00  
Delays (us)  
SBD -3.542118  
MBD -0.000007  
Fringe rate (Hz)  
-0.451210  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
4.3  
0.5  
59.6  
U/L 558/0  
o 5000  
Y 0  
o:Y 0:0  
o:Y 0:0  
o 1000  
Y 1000  
o W04UL  
Y W04UR

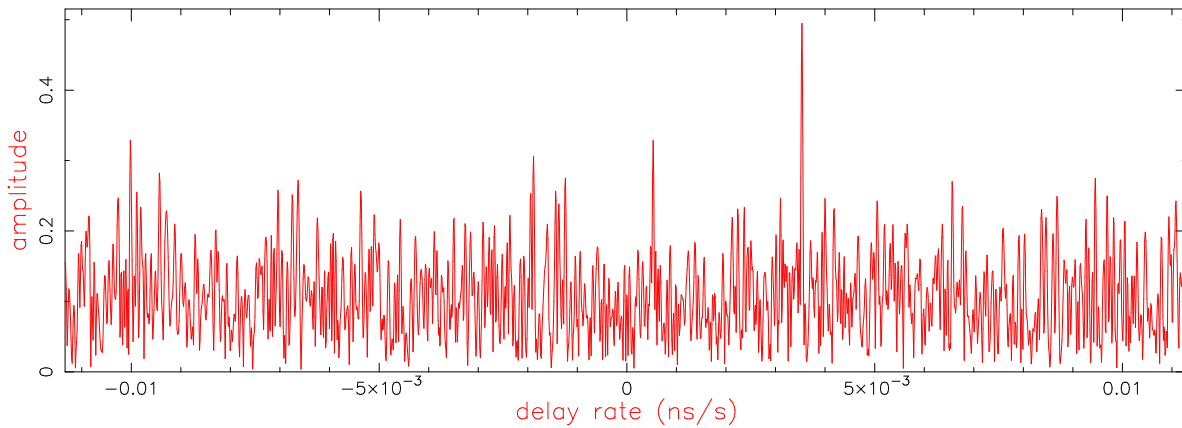
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.94171578110E+03 | Apriori delay (usec)     | -7.93817366853E+03 | Resid mbdelay (usec) | -6.69775E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -7.94171578653E+03 | Apriori clock (usec)     | 2.2304472E+01      | Resid sbdelay (usec) | -3.54212E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -7.93817366839E+03 | Apriori clockrate (us/s) | 4.2655996E-07      | Resid phdelay (usec) | 1.39221E-07  | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.87820523938E+00  | Apriori rate (us/s)      | 1.87821047749E+00  | Resid rate (us/s)    | -5.23811E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -286.4             | Apriori accel (us/s/s)   | 4.09175849190E-05  | Resid phase (deg)    | 4.3          | +/- | 21.2    |

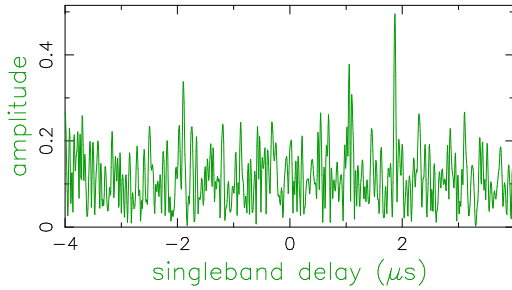
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.2  | Theor.          | 177.2 | Amplitude      | 0.522 +/- 0.097 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 378.1 | Search (2048X8) | 0.471 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.374           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.507 | Inc. frq. avg. | 0.507           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

o: az 85.0 el 20.8 pa -55.7 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11150.777 610.190 simultaneous interpolator

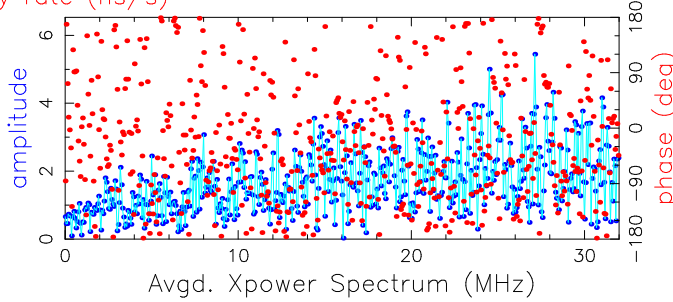
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oY.W.245.0QR2SH



Fringe quality 0  
SNR 5.6  
Int time 273.960  
Amp 0.515  
Phase -93.7  
PFD 9.3e-01  
Delays (us)  
SBD 1.867427  
MBD 0.000005  
Fringe rate (Hz)  
0.304233  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

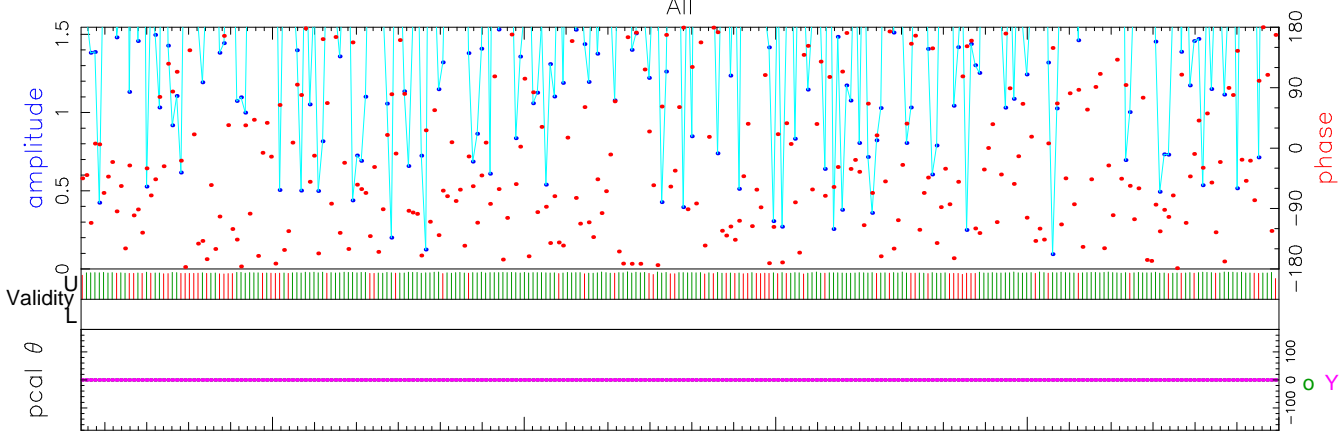


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



All

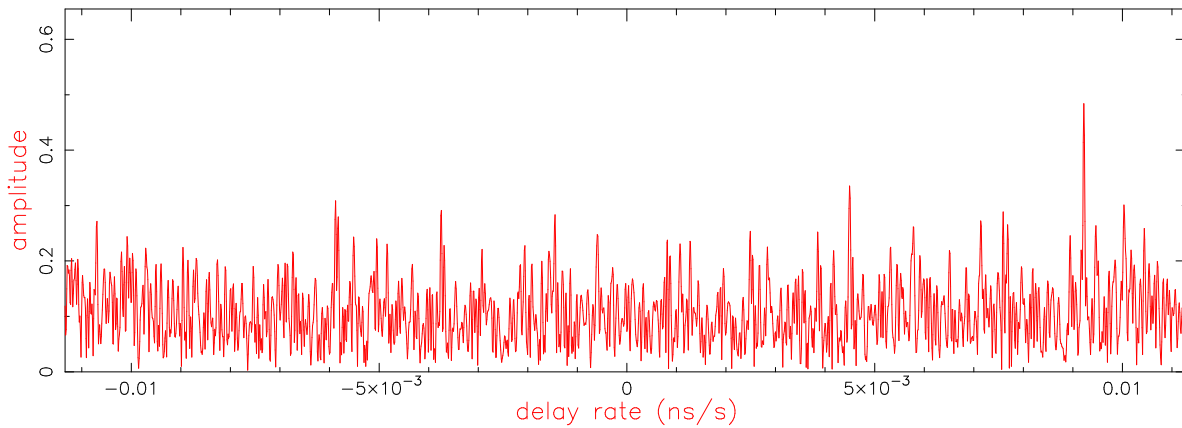
86140.00  
-93.7  
0.5  
752.0  
U/L 558/0  
o 5000  
Y 0  
o:Y 0:0  
o:Y 0:0  
o 1000  
Y 1000  
o W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.93630623820E+03 | Apriori delay (usec)     | -7.93817366853E+03 | Resid mbdelay (usec) | 5.21031E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -7.93630624153E+03 | Apriori clock (usec)     | 2.2304472E+01      | Resid sbdelay (usec) | 1.86743E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -7.93817367155E+03 | Apriori clockrate (us/s) | 4.2655996E-07      | Resid phdelay (usec) | -3.02112E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.87821400934E+00  | Apriori rate (us/s)      | 1.87821047749E+00  | Resid rate (us/s)    | 3.53185E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -24.4              | Apriori accel (us/s/s)   | 4.09175849190E-05  | Resid phase (deg)    | -93.7        | +/- | 20.5    |

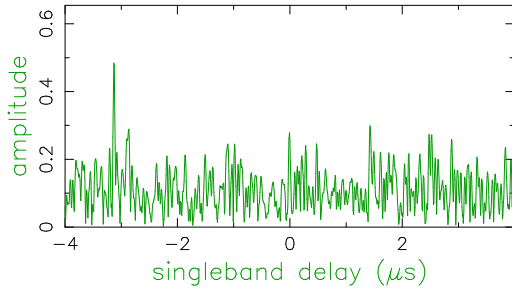
|              |       |                 |       |                        |                   |                        |                             |                  |              |
|--------------|-------|-----------------|-------|------------------------|-------------------|------------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.0  | Theor.          | 170.9 | Amplitude              | 0.515 +/- 0.092   | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 334.9 | Search (2048X8) | 0.495 | Apriori clock (usec)   | 2.2304472E+01     | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Apriori rate (us/s)    | 4.2655996E-07     | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. seg. avg.  | 0.352 | Apriori accel (us/s/s) | 4.09175849190E-05 | Sample rate (MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       | Inc. frq. avg.  | 0.507 |                        |                   | Data rate (Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |

o: az 85.0 el 20.8 pa -55.7 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -11150.777 610.190 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//oY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//oY.W.276.0QR2SH

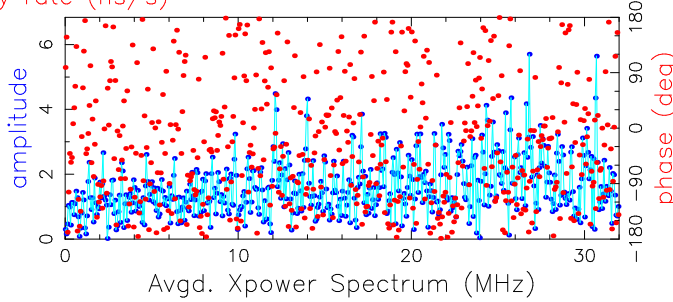


Fringe quality 0

SNR 5.6  
Int time 282.949  
Amp 0.655  
Phase -94.7  
PFD 8.7e-01  
Delays (us)  
SBD -3.129833  
MBD 0.000005  
Fringe rate (Hz)  
0.794176  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



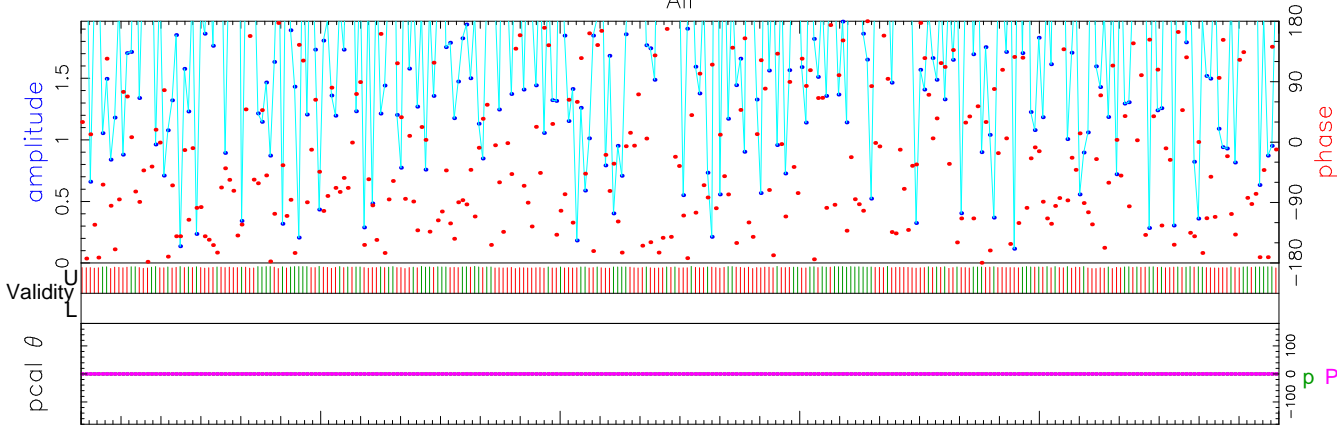
delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171826  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-94.7  
0.6  
112.4  
U/L 586/0  
p 5000  
P 0  
p:P 0:0  
p:P 0:0  
p 1000  
P 1000  
p W04UL  
P W04UL

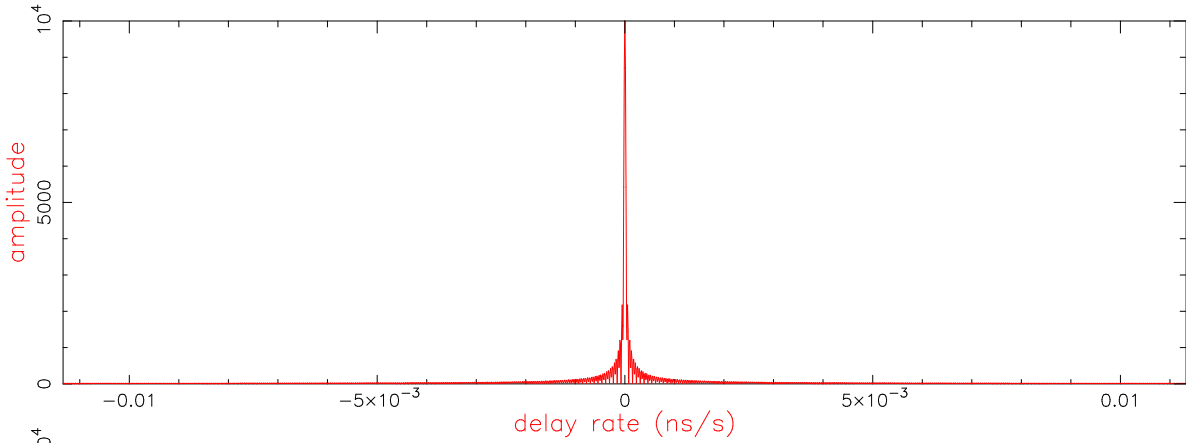
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.57965848085E+03 | Apriori delay (usec)     | -5.57652865062E+03 | Resid mbdelay (usec) | 4.91971E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.57965848312E+03 | Apriori clock (usec)     | 3.1382526E+01      | Resid sbdelay (usec) | -3.12983E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.57652865367E+03 | Apriori clockrate (us/s) | 4.4200001E-07      | Resid phdelay (usec) | -3.05236E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | 1.87823375468E+00  | Apriori rate (us/s)      | 1.87822453508E+00  | Resid rate (us/s)    | 9.21960E-06  | +/- | 3.8E-09 |
| Total phase (deg)       | -81.8              | Apriori accel (us/s/s)   | 2.85814745202E-05  | Resid phase (deg)    | -94.7        | +/- | 20.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.9  | Theor.          | 173.8 | Amplitude      | 0.655 +/- 0.116 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 357.6 | Search (2048X8) | 0.482 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.460           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.4   | Inc. frq. avg.  | 0.636 | Inc. frq. avg. | 0.636           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

p: az 89.4 el 28.9 pa -59.3 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11166.399 374.481 simultaneous interpolator

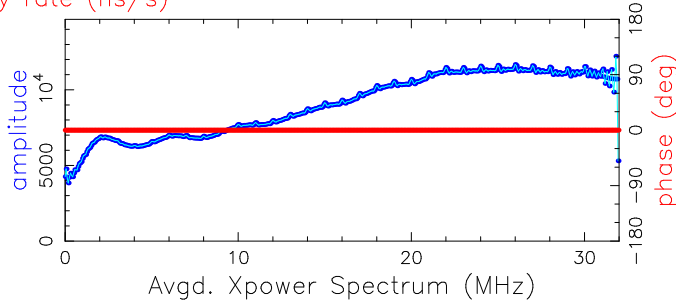
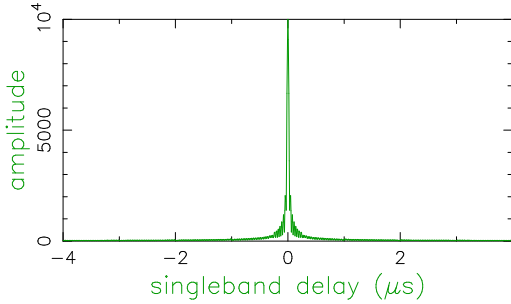
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pP.W.205.0QR2SH



Fringe quality 9

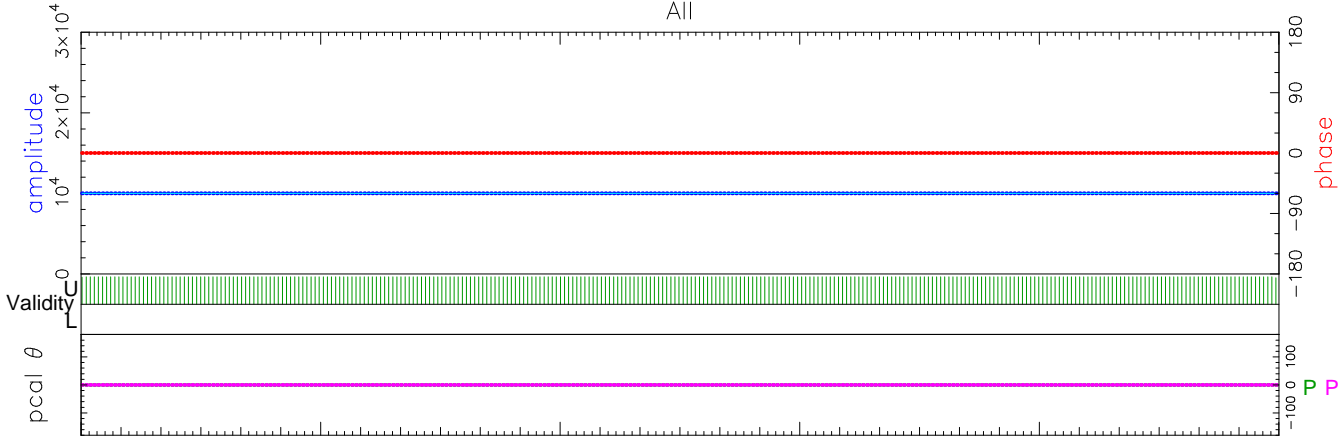
SNR 118345.4  
 Int time 299.659  
 Amp 10000.004  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171826  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



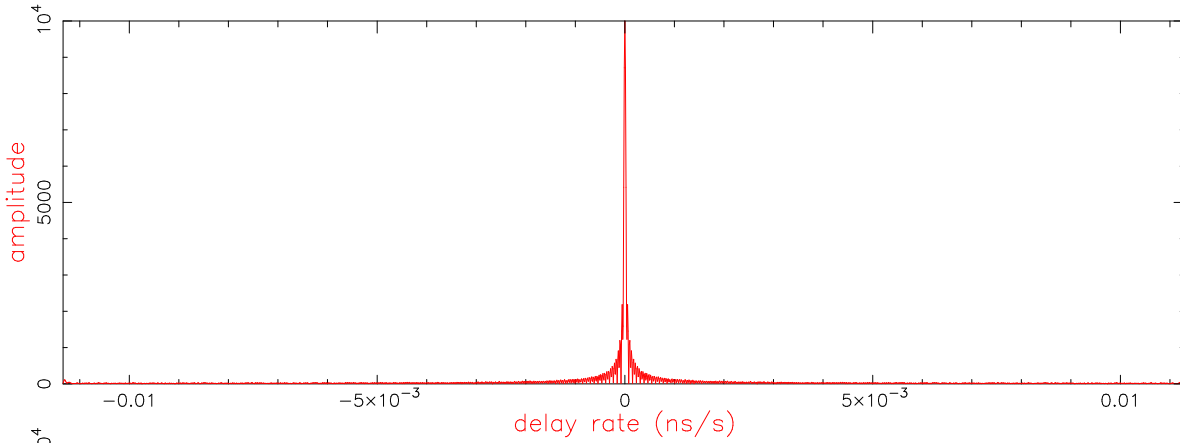
|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 0.0       |  | Phase      |
| 10000.0   |  | Ampl.      |
| 513.0     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| P 0       |  | PC freqs   |
| P 0       |  | PC freqs   |
| P:P 0:0   |  | PC phase   |
| P:P 0:0   |  | Mani PC    |
| P 1000    |  | PC amp     |
| P 1000    |  |            |
| P W04UL   |  | Chan ids   |
| P W04UL   |  | Chan ids   |

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.38240074298E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.22661E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34230004136E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34230E-09  | +/- | 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |     |        |     |                 |                     |                       |                             |                  |         |                  |          |       |
|--------------|-----|-----|-----|--------|-----|-----------------|---------------------|-----------------------|-----------------------------|------------------|---------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor. | 0.0 | Amplitude       | 10000.004 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5    | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |     | 0.0 |        | 0.0 | Search (2048X8) | 10000.003           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) |                  |         | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |     | 0.0 |        | 0.0 | Interp.         | 0.000               | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 |     | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): | 64                          |                  |         | ion window (TEC) | 0.00     | 0.00  |
|              |     |     |     |        |     | Inc. frq. avg.  | 10000.003           | Data rate(Mb/s):      | 128                         | nlags:           | 512     | t_cohere         | infinite |       |

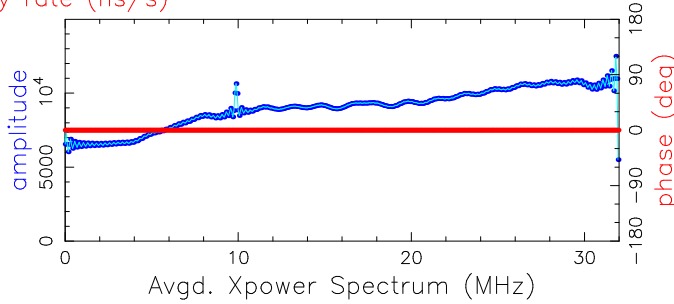
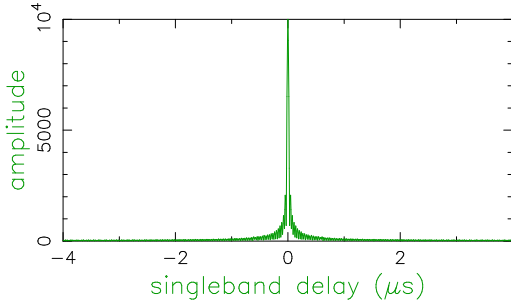
P: az 249.4 el 49.9 pa 50.8 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PP.W.207.0QR2SH



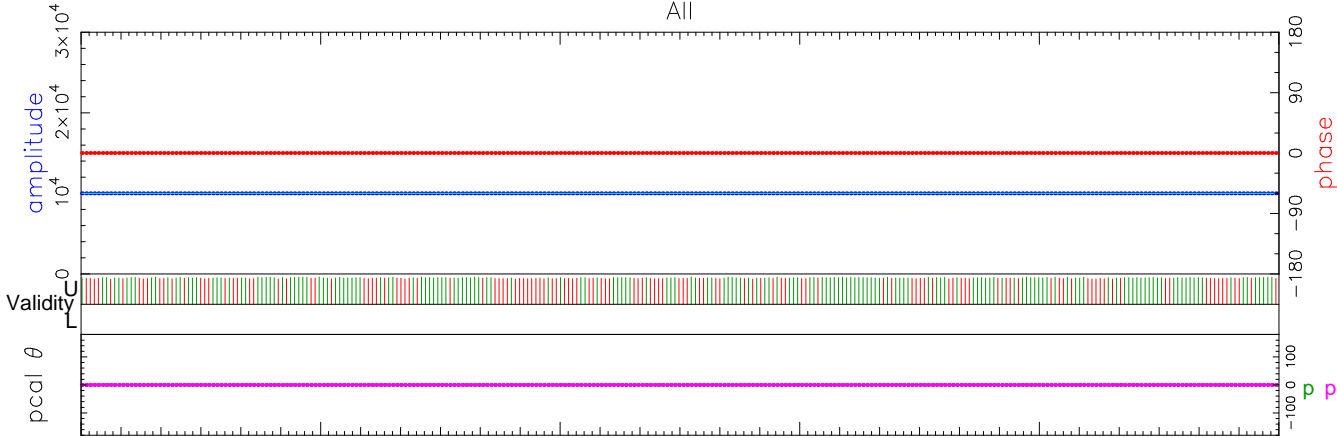
Fringe quality 9

SNR 115705.1  
 Int time 286.437  
 Amp 10000.002  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171827  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
 0.0  
 10000.0  
 513.0  
 U/L 586/0  
 p 5000  
 p 5000  
 p:p 0:0  
 p:p 0:0  
 p 1000  
 p 1000  
 p W04UL  
 p W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.35346528906E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25554E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34767463229E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34767E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |        |     |                 |                     |                       |                             |                  |              |
|--------------|-----|--------|-----|-----------------|---------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.002 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 0.0 |        | 0.0 | Search (2048X8) | 10000.002           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000               | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |     |        |     | Inc. frq. avg.  | 10000.002           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

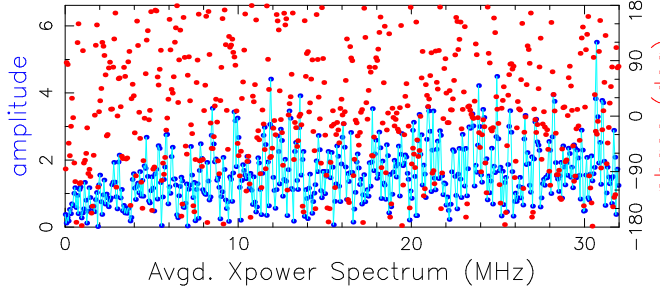
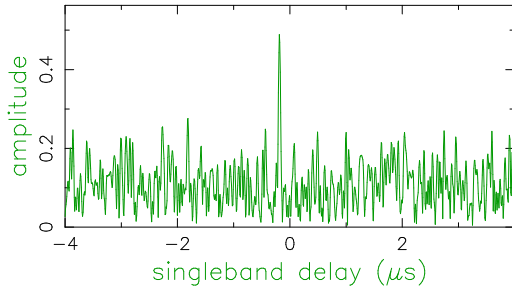
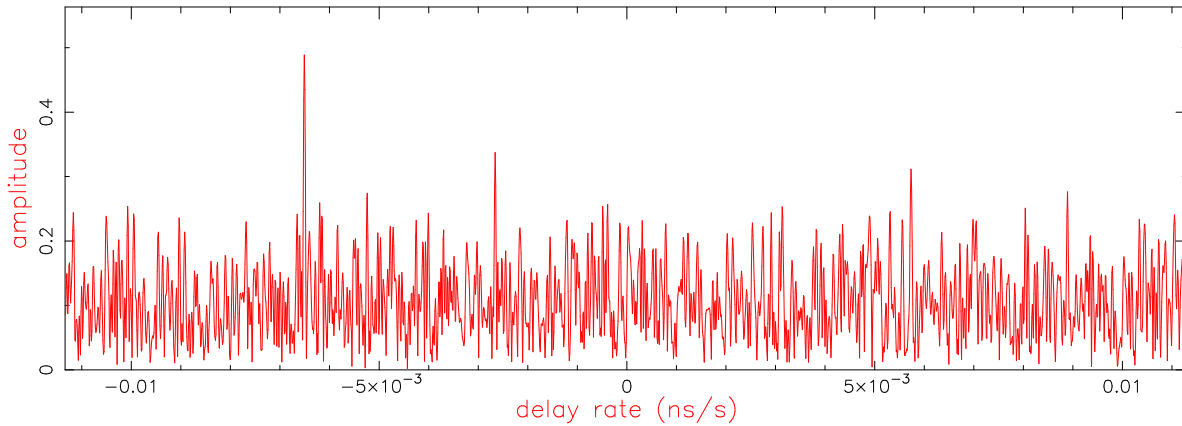
p: az 89.4 el 28.9 pa -59.3 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pp.W.213.0QR2SH

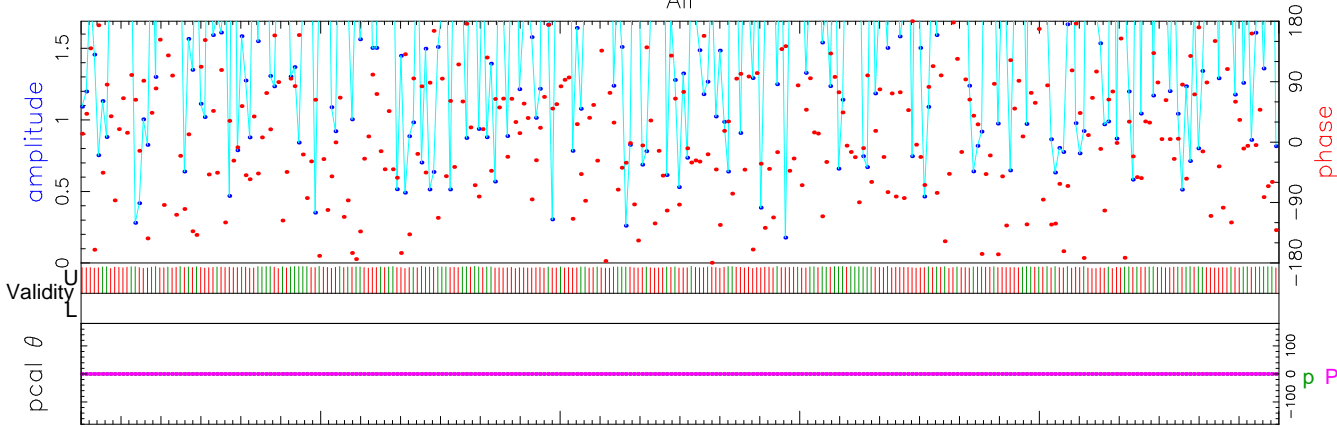
Fringe quality 0

SNR 5.6  
Int time 282.943  
Amp 0.563  
Phase 13.8  
PFD 8.8e-01  
Delays (us)  
SBD -0.185992  
MBD -0.000006  
Fringe rate (Hz)  
-0.560345  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
13.8  
0.6  
489.2  
U/L 586/0  
p 5000  
P 0  
p:P 0:0  
p:P 0:0  
p 1000  
P 1000  
p W04UR  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.57671464485E+03 | Apriori delay (usec)     | -5.57652865062E+03 | Resid mbdelay (usec) | -6.30183E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.57671464262E+03 | Apriori clock (usec)     | 3.1382526E+01      | Resid sbdelay (usec) | -1.85992E-01 | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.57652865017E+03 | Apriori clockrate (us/s) | 4.4200001E-07      | Resid phdelay (usec) | 4.44165E-07  | +/- | 6.6E-07 |
| Delay rate (us/s)       | 1.87821803002E+00  | Apriori rate (us/s)      | 1.87822453508E+00  | Resid rate (us/s)    | -6.50505E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -333.4             | Apriori accel (us/s/s)   | 2.85814745202E-05  | Resid phase (deg)    | 13.8         | +/- | 20.3    |

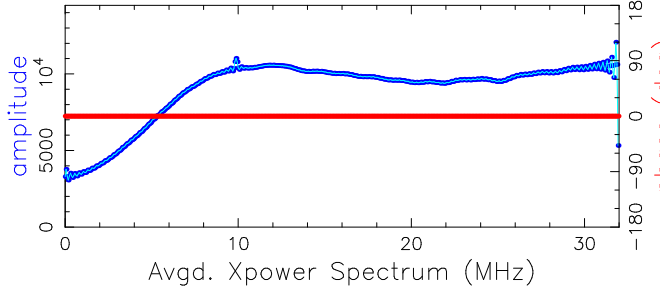
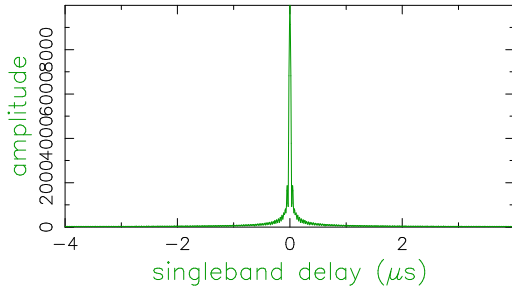
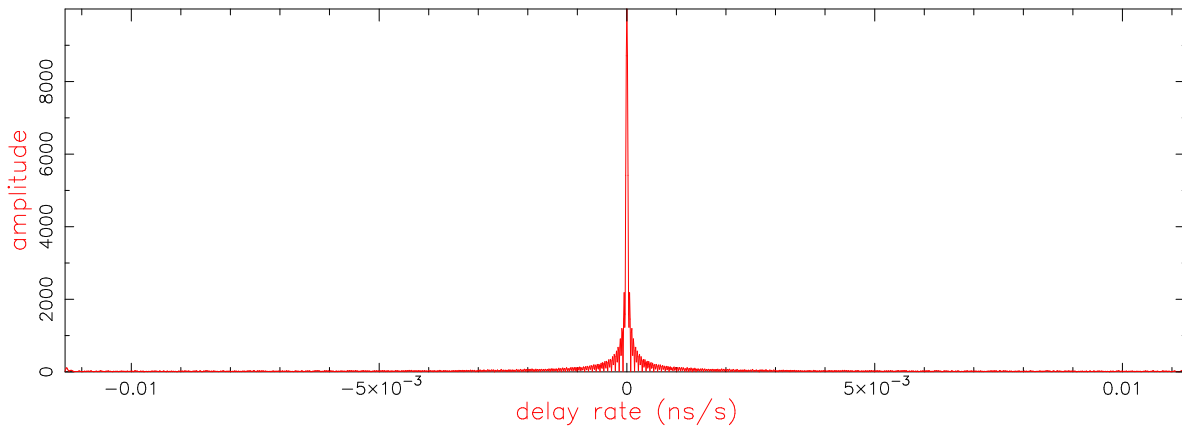
|              |       |                 |       |                |                 |                        |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 88.1  | Theor.          | 174.0 | Amplitude      | 0.563 +/- 0.100 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 337.1 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.377 | Inc. seg. avg. | 0.377           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.553 | Inc. frq. avg. | 0.553           | Sample rate (MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

p: az 89.4 el 28.9 pa -59.3 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11166.399 374.481 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pP.W.219.0QR2SH

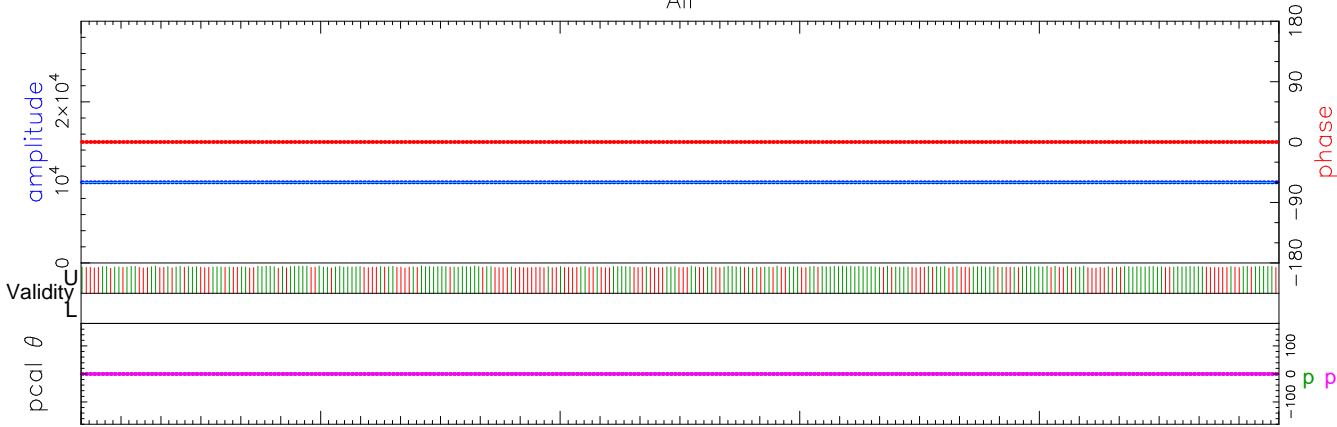
Fringe quality 9

SNR 115703.5  
Int time 286.429  
Amp 9999.999  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



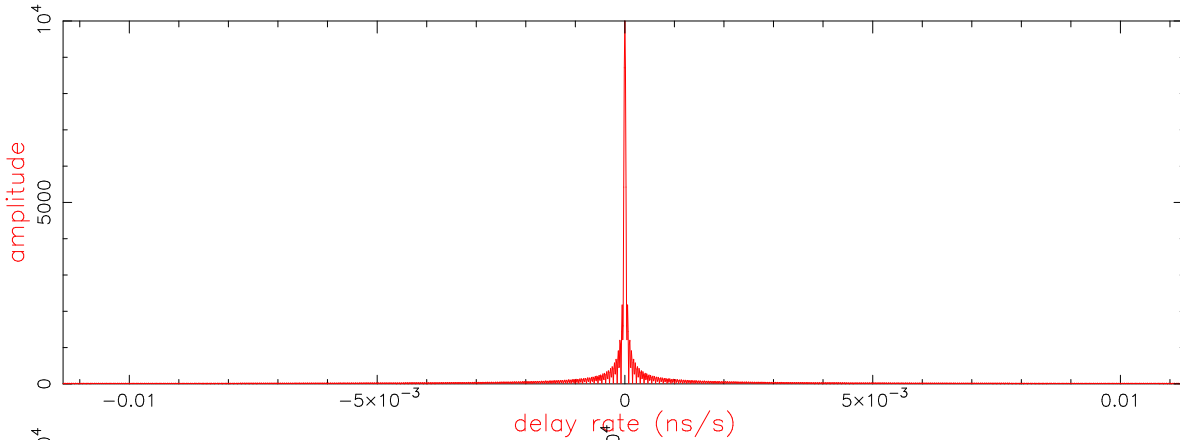
86140.00 Freq (MHz)  
0.0 Phase  
10000.0 Ampl.  
513.0 Sbd box  
U/L 586/0 APs used  
p 5000 PC freqs  
p 5000 PC freqs  
p:p 0:0 PC phase  
p:p 0:0 Mani PC  
p 1000 PC amp  
p 1000  
p W04UR Chan ids  
p W04UR Chan ids

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.61458091479E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.99443E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.29917393562E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.29917E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |     |        |     |                 |                    |                       |                             |                  |              |                |              |                  |           |
|--------------|-----|-----|-----|--------|-----|-----------------|--------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor. | 0.0 | Amplitude       | 9999.999 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 0.0 |     | 0.0 |        | 0.0 | Search (2048X8) | 10000.000          | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0 |     | 0.0 |        | 0.0 | Interp.         | 0.000              | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.0 |     | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000          | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |     |     |     |        |     | Inc. frq. avg.  | 10000.000          | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

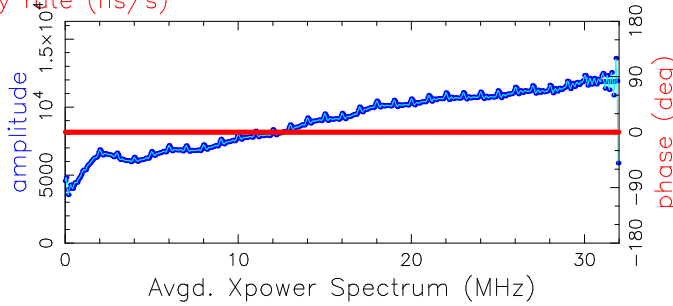
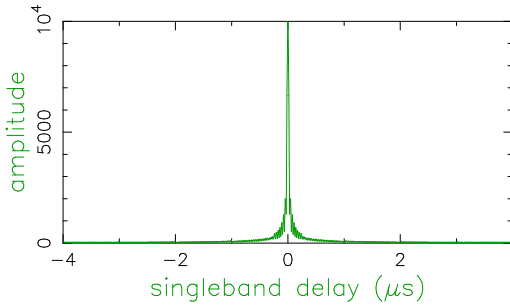
p: az 89.4 el 28.9 pa -59.3 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/pp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/pp.W.223.0QR2SH



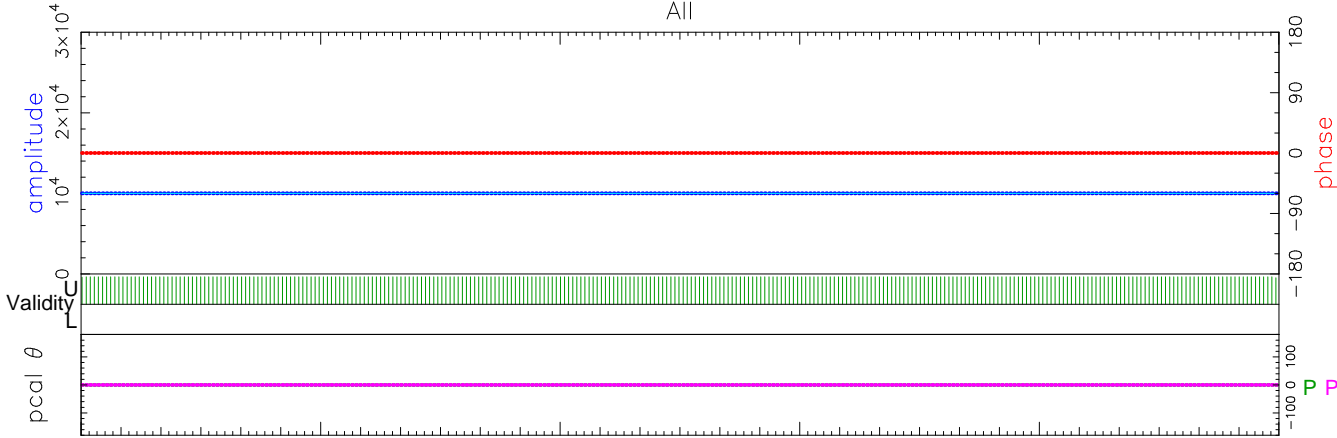
Fringe quality 9

SNR 118345.4  
 Int time 299.659  
 Amp 10000.004  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171829  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
 0.0  
 10000.0  
 513.0  
 U/L 586/0  
 P 0  
 P 0  
 P:P 0:0  
 P:P 0:0  
 P 1000  
 P 1000  
 P W04UR  
 P W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

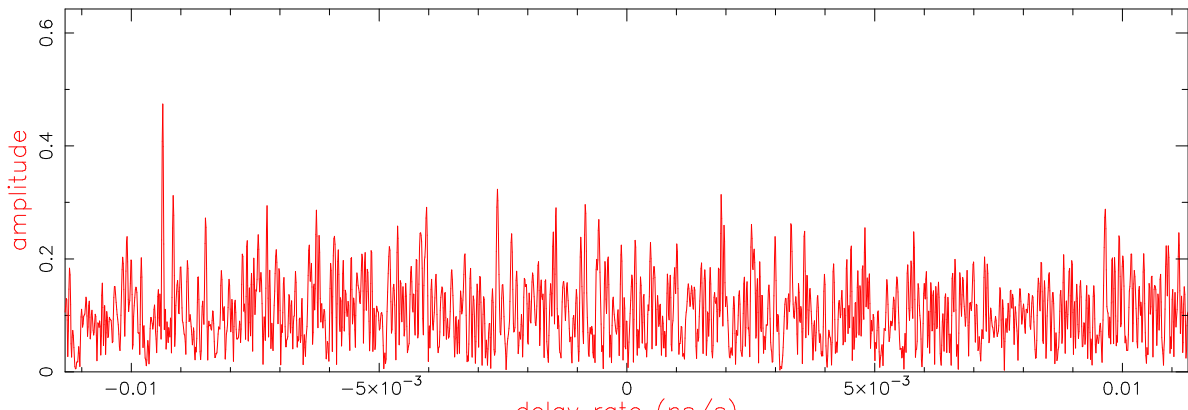
|                         |                   |                          |                   |                      |              |     |         |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.35918272580E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.24983E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34661265194E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.34661E-09  | +/- | 3.1E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |        |     |                 |                     |                       |                             |                  |                  |           |
|--------------|-----|--------|-----|-----------------|---------------------|-----------------------|-----------------------------|------------------|------------------|-----------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.004 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5             |           |
| amp/seg (%)  | 0.0 | 0.0    | 0.0 | Search (2048X8) | 10000.003           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000     |           |
| ph/frq (deg) | 0.0 | 0.0    | 0.0 | Inc. seg. avg.  | 10000.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled          |           |
| amp/frq (%)  | 0.0 | 0.0    | 0.0 | Inc. frq. avg.  | 10000.003           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011     |           |
|              |     |        |     |                 |                     |                       | Data rate(Mb/s):            | 128              | ion window (TEC) | 0.00 0.00 |
|              |     |        |     |                 |                     |                       | nlags:                      | 512              | t_cohere         | infinite  |

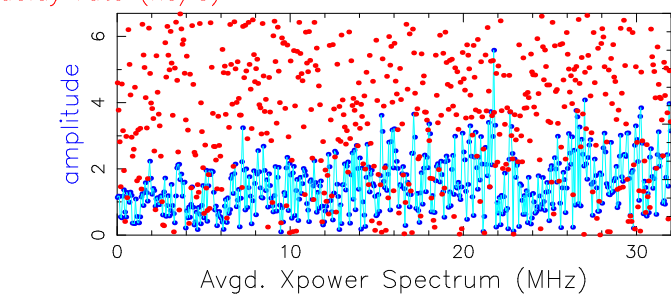
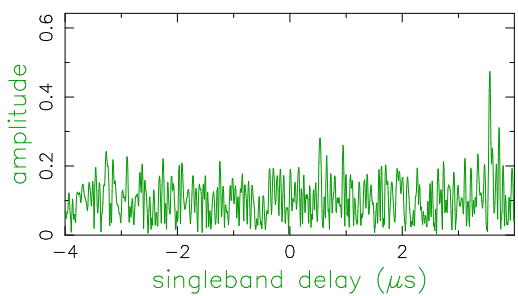
P: az 249.4 el 49.9 pa 50.8 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PP.W.232.0QR2SH





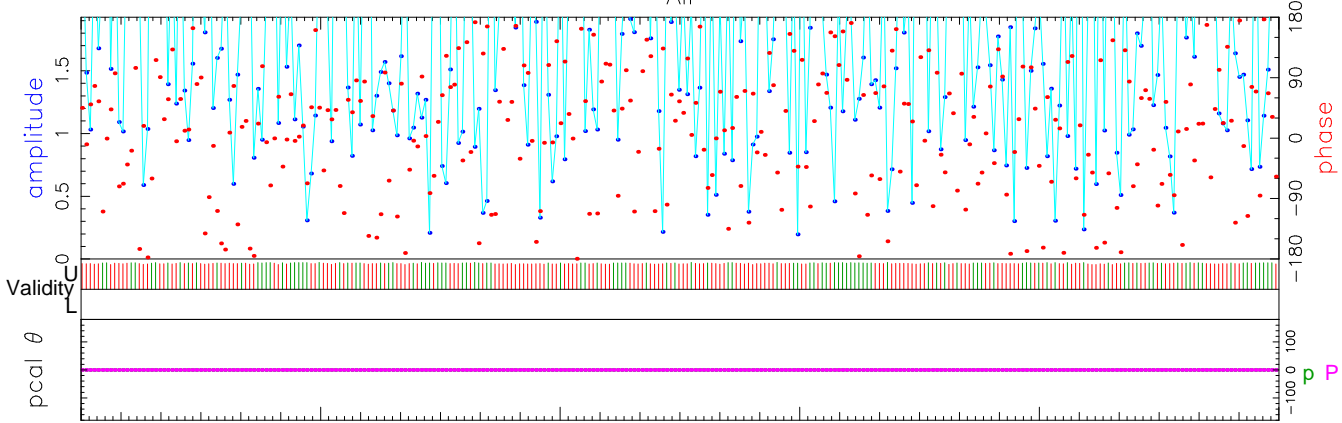
Fringe quality 0  
SNR 5.5  
Int time 282.949  
Amp 0.643  
Phase 37.4  
PFD 9.9e-01  
Delays (us)  
SBD 3.556788  
MBD -0.000007  
Fringe rate (Hz)  
-0.806841  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
37.4  
0.6  
968.3  
U/L 586/0  
p 5000  
P 0  
p:P 0:0  
p:P 0:0  
p 1000  
P 1000  
p W04UL  
P W04UR

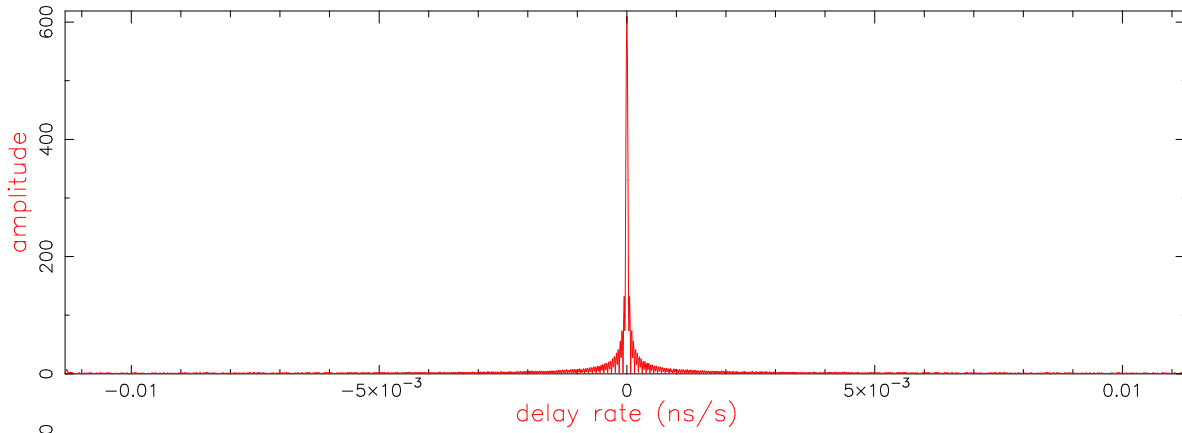
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.57297186637E+03 | Apriori delay (usec)     | -5.57652865062E+03 | Resid mbdelay (usec) | -7.02559E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -5.57297186212E+03 | Apriori clock (usec)     | 3.1382526E+01      | Resid sbdelay (usec) | 3.55679E+00  | +/- | 3.1E-03 |
| Phase delay (usec)      | -5.57652864941E+03 | Apriori clockrate (us/s) | 4.4200001E-07      | Resid phdelay (usec) | 1.20529E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 1.87821516845E+00  | Apriori rate (us/s)      | 1.87822453508E+00  | Resid rate (us/s)    | -9.36662E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | -309.7             | Apriori accel (us/s/s)   | 2.85814745202E-05  | Resid phase (deg)    | 37.4         | +/- | 20.9    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.5  | Theor.          | 178.9 | Amplitude      | 0.643 +/- 0.117 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 358.0 | Search (2048X8) | 0.474 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.429           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.628 | Inc. frq. avg. | 0.628           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

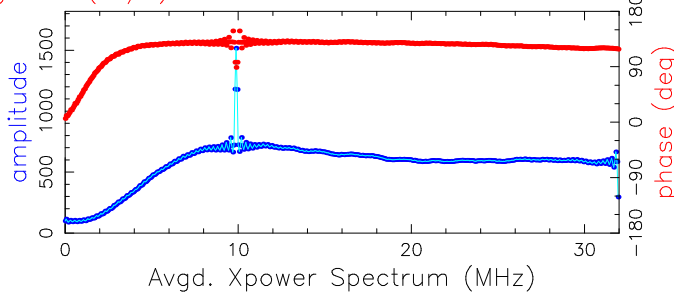
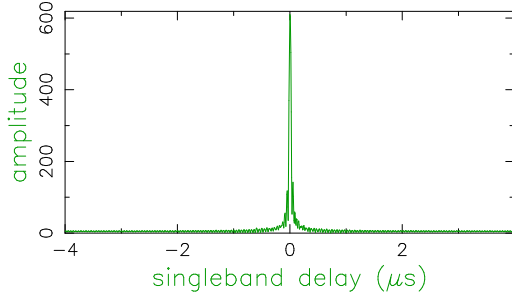
p: az 89.4 el 28.9 pa -59.3 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11166.399 374.481 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pP.W.239.0QR2SH



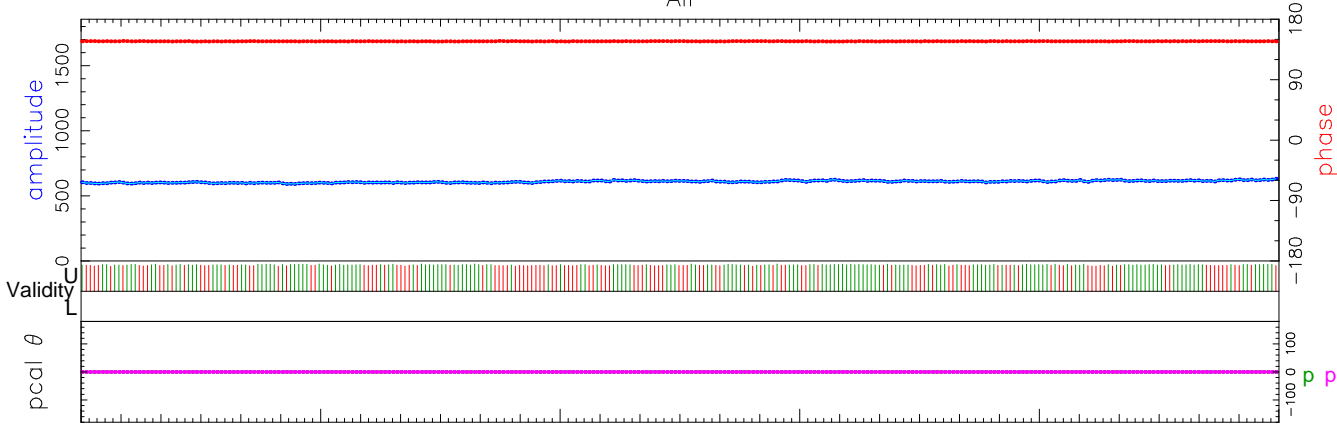
Fringe quality 9

SNR 7162.6  
Int time 286.437  
Amp 619.041  
Phase 147.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.003418  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All

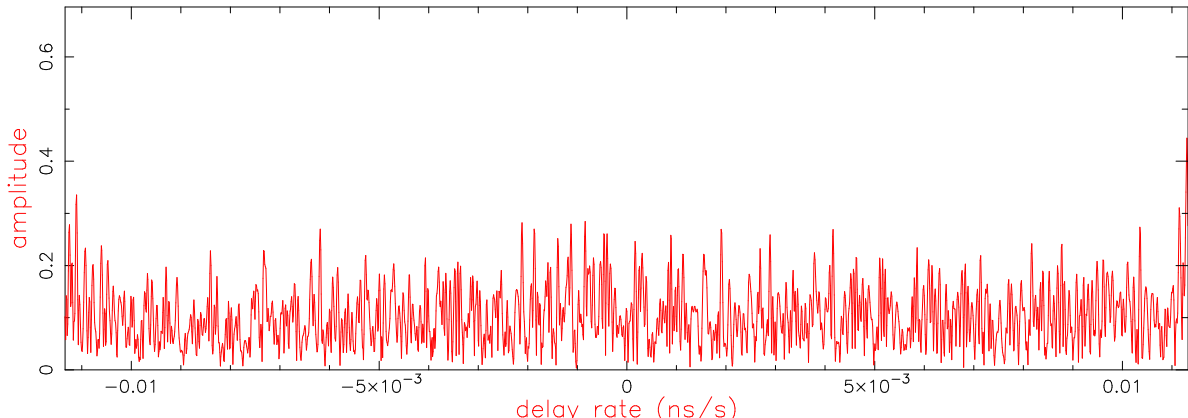


|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 147.0     |  | Phase      |
| 609.7     |  | Ampl.      |
| 513.4     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| p 5000    |  | PC freqs   |
| p 5000    |  | PC freqs   |
| p:p 0:0   |  | PC phase   |
| p:p 0:0   |  | Mani PC    |
| p 1000    |  | PC amp     |
| p 1000    |  |            |
| p W04UL   |  | Chan ids   |
| p         |  | Chan ids   |
| p W04UR   |  |            |

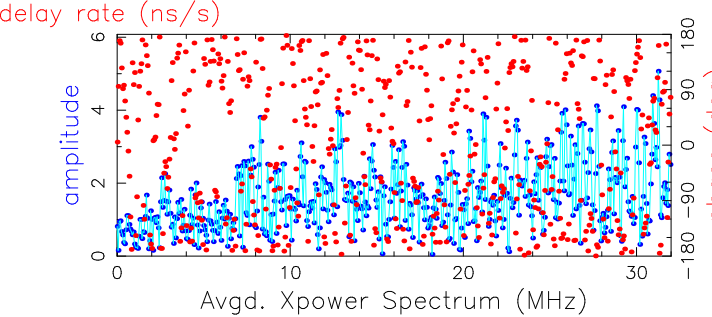
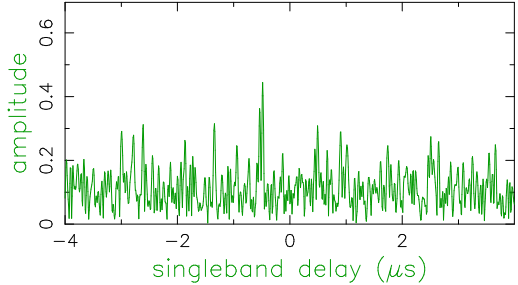
|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 3.41741483631E-03 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24270E-06 | +/- 2.4E-06 |
| Sband delay (usec)      | 3.41750000000E-03 | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 3.41750E-03  | +/- 2.4E-06 |
| Phase delay (usec)      | 4.74180811374E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 4.74181E-06  | +/- 5.2E-10 |
| Delay rate (us/s)       | 7.08557619584E-13 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 7.08558E-13  | +/- 3.0E-12 |
| Total phase (deg)       | 147.0             | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 147.0        | +/- 0.0     |

|              |     |     |                 |                   |  |                       |                   |        |       |
|--------------|-----|-----|-----------------|-------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.2 | 0.1 | Amplitude       | 619.041 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 2.0 | 0.2 | Search (2048X8) | 609.694           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 1.5 | 0.0 | Inc. seg. avg.  | 609.694           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |     | Inc. frq. avg.  | 609.694           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

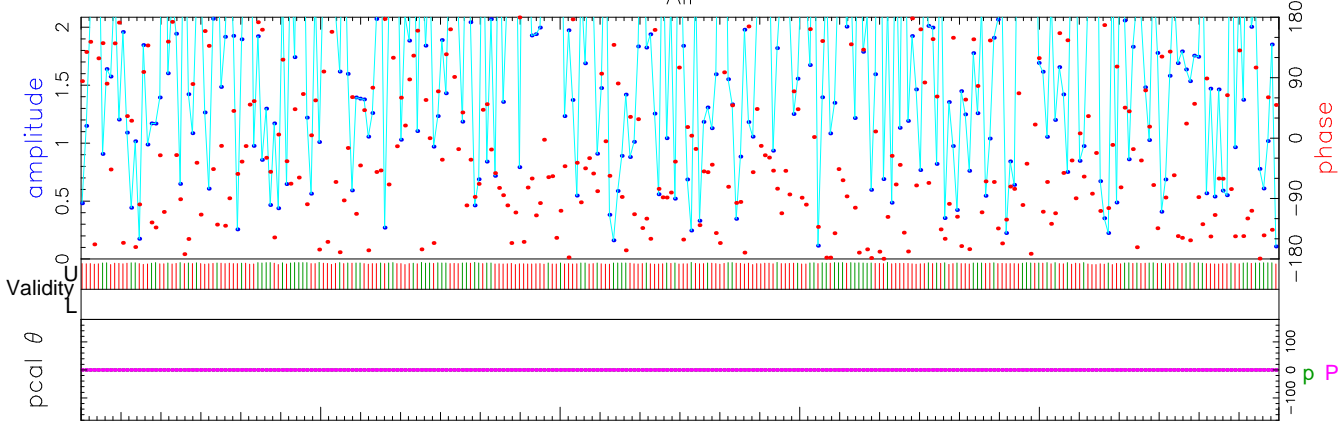
p: az 89.4 el 28.9 pa -59.3 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/pp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/pp.W.243.0QR2SH



Fringe quality 0  
SNR 5.1  
Int time 282.943  
Amp 0.696  
Phase -95.7  
PFD 1.0e+00  
Delays (us)  
SBD -0.484454  
MBD 0.000004  
Fringe rate (Hz) 0.973822  
Ion TEC 0.000  
Ref freq (MHz) 86140.000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-95.7  
0.7  
451.0  
U/L 586/0  
p 5000  
P 0  
p:P 0:0  
p:P 0:0  
p 1000  
P 1000  
p W04UR  
P W04UL

Validity  
pcal  $\theta$   
p P

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.57701310171E+03 | Apriori delay (usec)     | -5.57652865062E+03 | Resid mbdelay (usec) | 4.44602E-06  | +/- | 3.4E-03 |
| Sband delay (usec)      | -5.57701310462E+03 | Apriori clock (usec)     | 3.1382526E+01      | Resid sbdelay (usec) | -4.84454E-01 | +/- | 3.4E-03 |
| Phase delay (usec)      | -5.57652865371E+03 | Apriori clockrate (us/s) | 4.4200001E-07      | Resid phdelay (usec) | -3.08728E-06 | +/- | 7.2E-07 |
| Delay rate (us/s)       | 1.87823584018E+00  | Apriori rate (us/s)      | 1.87822453508E+00  | Resid rate (us/s)    | 1.13051E-05  | +/- | 4.2E-09 |
| Total phase (deg)       | -82.9              | Apriori accel (us/s/s)   | 2.85814745202E-05  | Resid phase (deg)    | -95.7        | +/- | 22.4    |

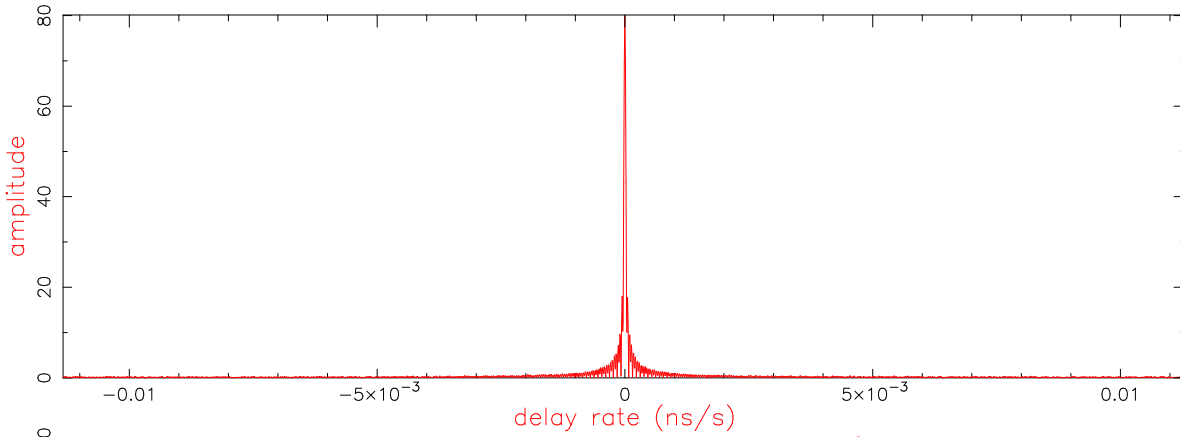
RMS Theor. Amplitude 0.696 +/- 0.136  
ph/seg (deg) 90.2 192.0 Search (2048X8) 0.444  
amp/seg (%) 383.9 335.1 Interp. 0.000  
ph/frq (deg) 0.0 11.2 Inc. seg. avg. 0.427  
amp/frq (%) 0.0 19.6 Inc. frq. avg. 0.683

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
Bits/sample: 2x2 SampCntNorm: enabled  
Sample rate(MSamp/s): 64  
Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite

sb window (us) -4.000 4.000  
mb window (us) -0.000 0.000  
dr window (ns/s) -0.011 0.011  
ion window (TEC) 0.00 0.00

p: az 89.4 el 28.9 pa -59.3 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -11166.399 374.481 simultaneous interpolator

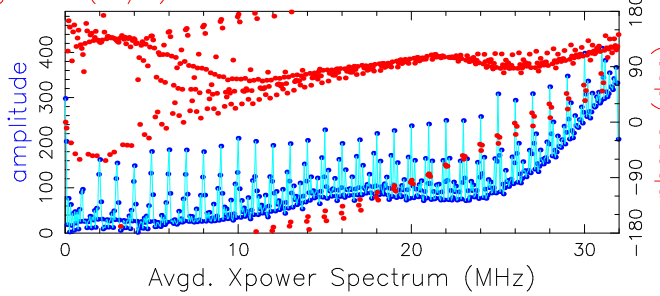
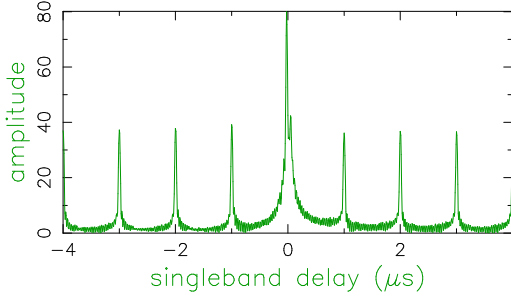
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pP.W.254.0QR2SH



Fringe quality 9

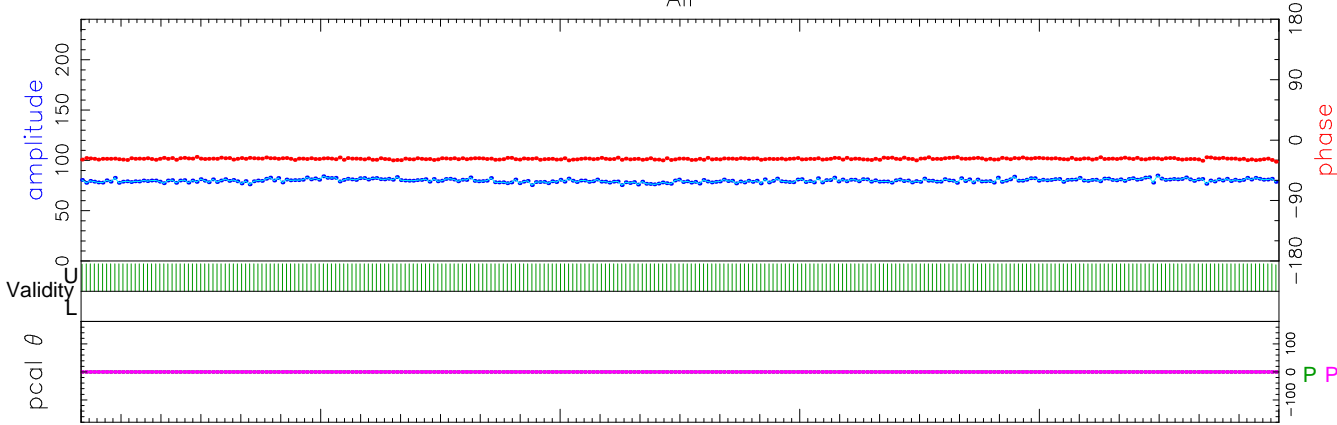
SNR 948.3  
 Int time 299.659  
 Amp 80.130  
 Phase -27.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.022225  
 MBD -0.000006  
 Fringe rate (Hz)  
 0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171832  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -27.8  
 80.0  
 510.2  
 U/L 586/0  
 P 0  
 P 0  
 P:P 0:0  
 P:P 0:0  
 P 1000  
 P 1000  
 P W04UL  
 P W04UR

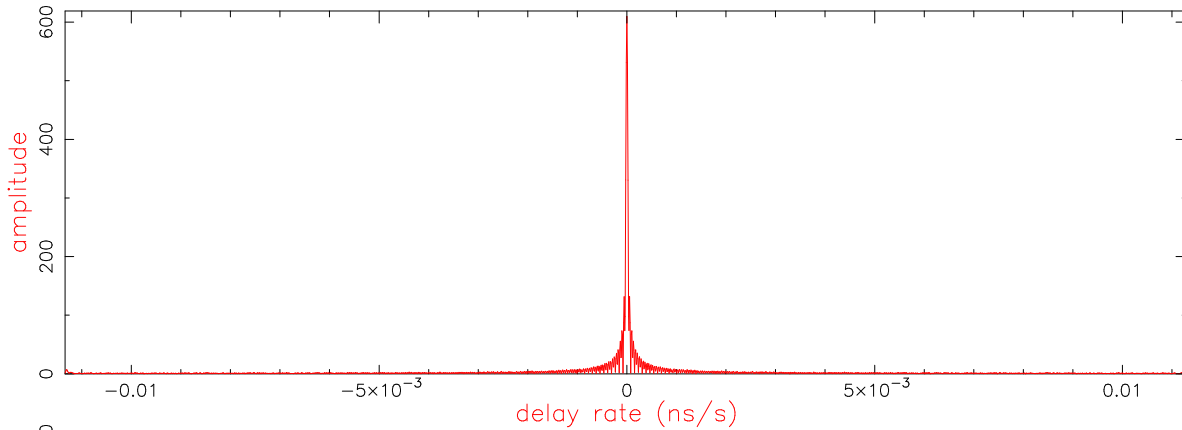
Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.22256744834E-02 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.03204E-06 | +/- | 1.8E-05 |
| Sband delay (usec)      | -2.22250000000E-02 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | -2.22250E-02 | +/- | 1.8E-05 |
| Phase delay (usec)      | -8.97557164378E-07 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | -8.97557E-07 | +/- | 3.9E-09 |
| Delay rate (us/s)       | 1.06283642938E-11  | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 1.06284E-11  | +/- | 2.2E-11 |
| Total phase (deg)       | -27.8              | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | -27.8        | +/- | 0.1     |

|              |     |                 |        |                |                  |                       |                             |                  |              |
|--------------|-----|-----------------|--------|----------------|------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 1.0 | Theor.          | 1.0    | Amplitude      | 80.130 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 2.1 | Search (2048X8) | 79.965 | Search         | 79.965           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 | Inc. seg. avg.  | 79.964 | Interp.        | 0.000            | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.2 | Inc. frq. avg.  | 79.965 | Inc. seg. avg. | 79.964           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |     |                 |        | Inc. frq. avg. | 79.965           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

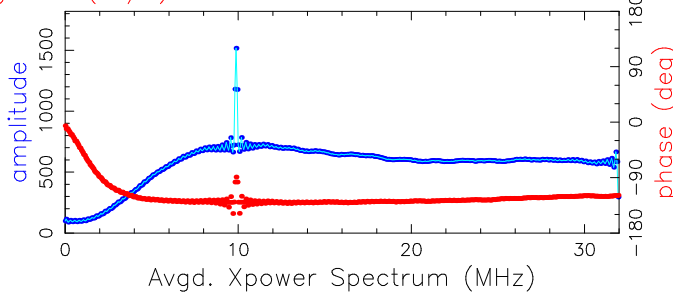
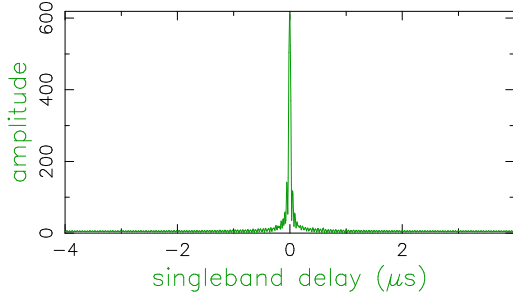
P: az 249.4 el 49.9 pa 50.8 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PP.W.257.0QR2SH



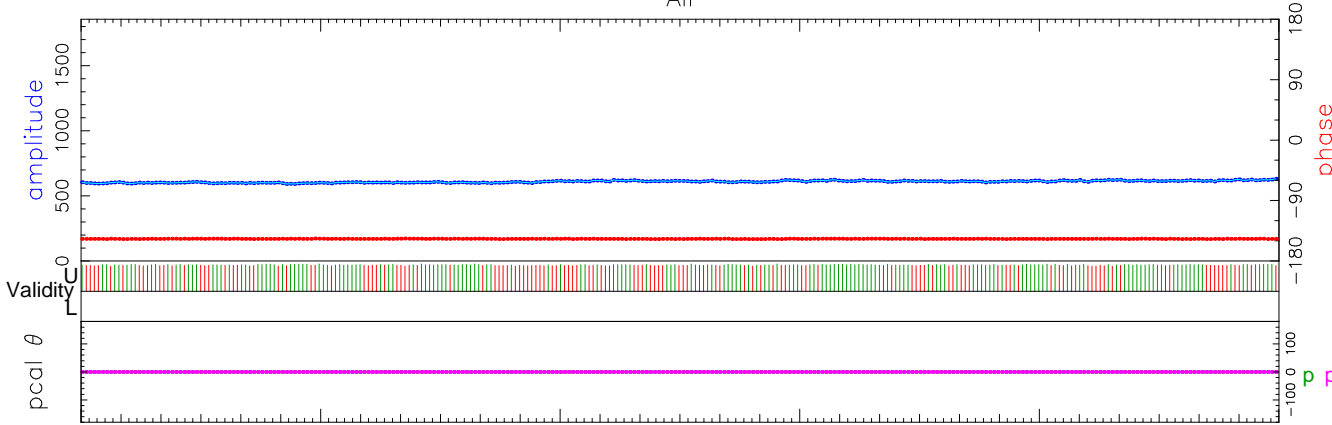
Fringe quality 9

SNR 7162.7  
 Int time 286.429  
 Amp 619.058  
 Phase -147.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.003418  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171832  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



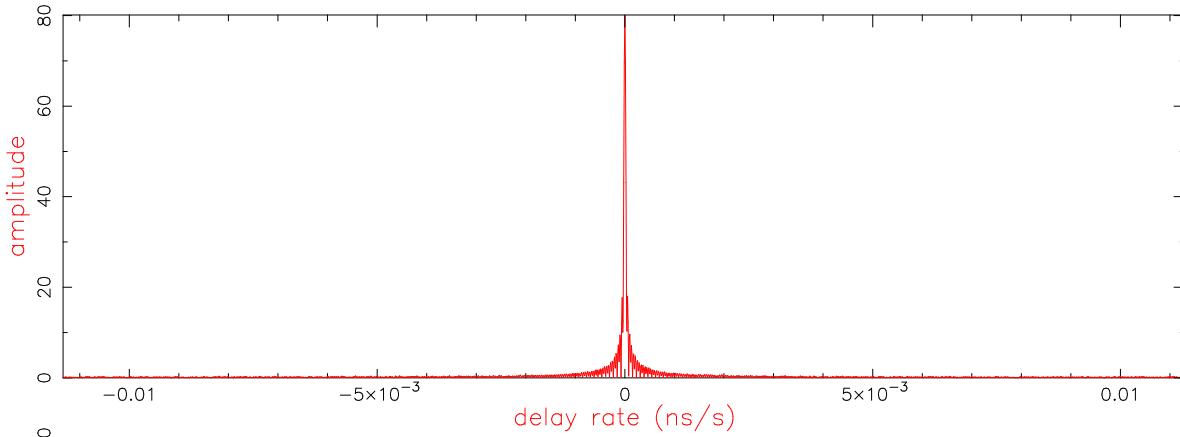
|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| -147.0    |  | Phase      |
| 609.7     |  | Ampl.      |
| 512.6     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| p 5000    |  | PC freqs   |
| p 5000    |  | PC freqs   |
| p:p 0:0   |  | PC phase   |
| p:p 0:0   |  | Mani PC    |
| p 1000    |  | PC amp     |
| p 1000    |  |            |
| p W04UR   |  | Chan ids   |
| p         |  |            |
| p W04UL   |  | Chan ids   |

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -3.41949254702E-03 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.44402E-06 | +/- | 2.4E-06 |
| Sband delay (usec)      | -3.41750000000E-03 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | -3.41750E-03 | +/- | 2.4E-06 |
| Phase delay (usec)      | -4.73926588642E-06 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | -4.73927E-06 | +/- | 5.2E-10 |
| Delay rate (us/s)       | -7.08557619584E-13 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | -7.08558E-13 | +/- | 3.0E-12 |
| Total phase (deg)       | -147.0             | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | -147.0       | +/- | 0.0     |

|              |     |     |                 |                   |                       |                             |                  |              |
|--------------|-----|-----|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 0.2 | 0.1 | Amplitude       | 619.058 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 2.0 | 0.2 | Search (2048X8) | 609.711           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.5 | 0.0 | Inc. seg. avg.  | 609.711           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |     |     | Inc. frq. avg.  | 609.711           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |     |     |                 |                   |                       |                             | ion window (TEC) | 0.00 0.00    |

p: az 89.4 el 28.9 pa -59.3 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

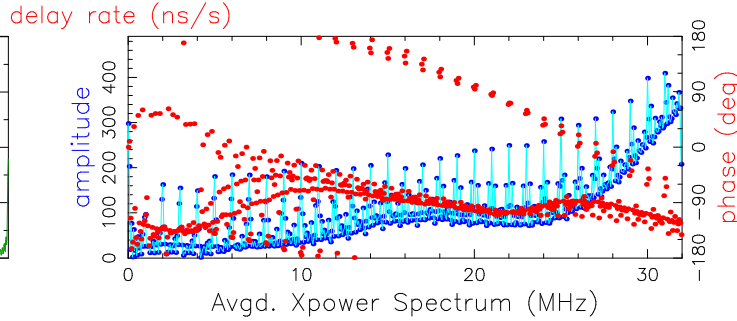
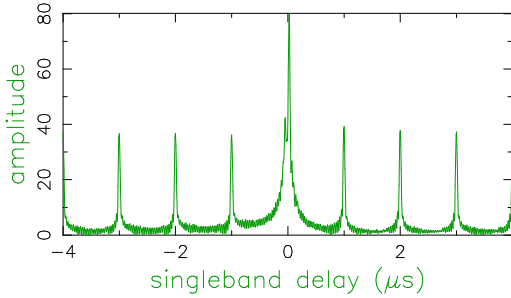
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pp.W.259.0QR2SH



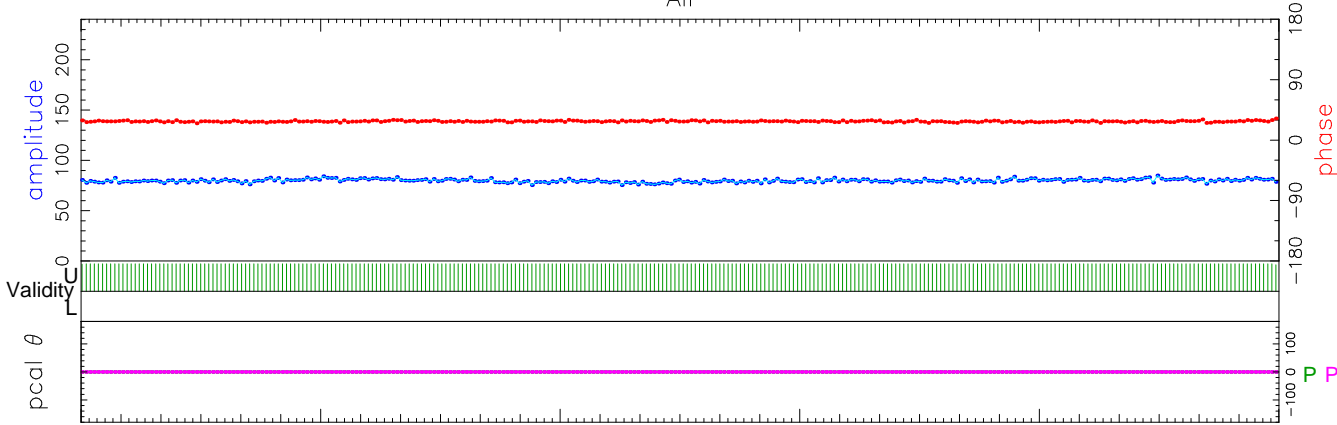
Fringe quality 9

SNR 948.3  
 Int time 299.659  
 Amp 80.130  
 Phase 27.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.022225  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171833  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 27.9      |  | Phase      |
| 80.0      |  | Ampl.      |
| 515.8     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| P 0       |  | PC freqs   |
| P 0       |  | PC freqs   |
| P:P 0:0   |  | PC phase   |
| P:P 0:0   |  | Mani PC    |
| P 1000    |  | PC amp     |
| P 1000    |  |            |
| P W04UR   |  | Chan ids   |
| P W04UL   |  | Chan ids   |

|                         |                    |                          |                   |                      |              |             |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 2.22245397725E-02  | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -6.71168E-06 | +/- 1.8E-05 |
| Sband delay (usec)      | 2.22250000000E-02  | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 2.22250E-02  | +/- 1.8E-05 |
| Phase delay (usec)      | 8.99924235706E-07  | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 8.99924E-07  | +/- 3.9E-09 |
| Delay rate (us/s)       | -1.06283642938E-11 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | -1.06284E-11 | +/- 2.2E-11 |
| Total phase (deg)       | 27.9               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 27.9         | +/- 0.1     |

|              |     |        |     |                 |                  |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 1.0 | Theor. | 1.0 | Amplitude       | 80.130 +/- 0.084 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 2.1 |        | 1.8 | Search (2048X8) | 79.965           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.1 | Interp.         | 0.000            | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.2 |        | 0.1 | Inc. seg. avg.  | 79.964           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 79.965           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

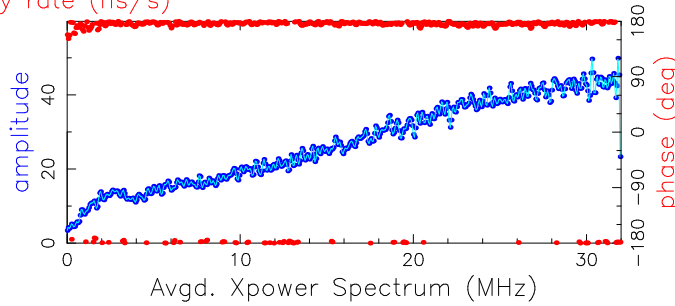
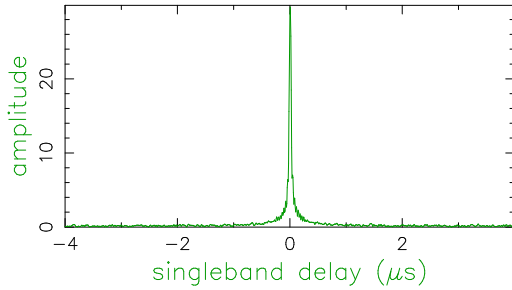
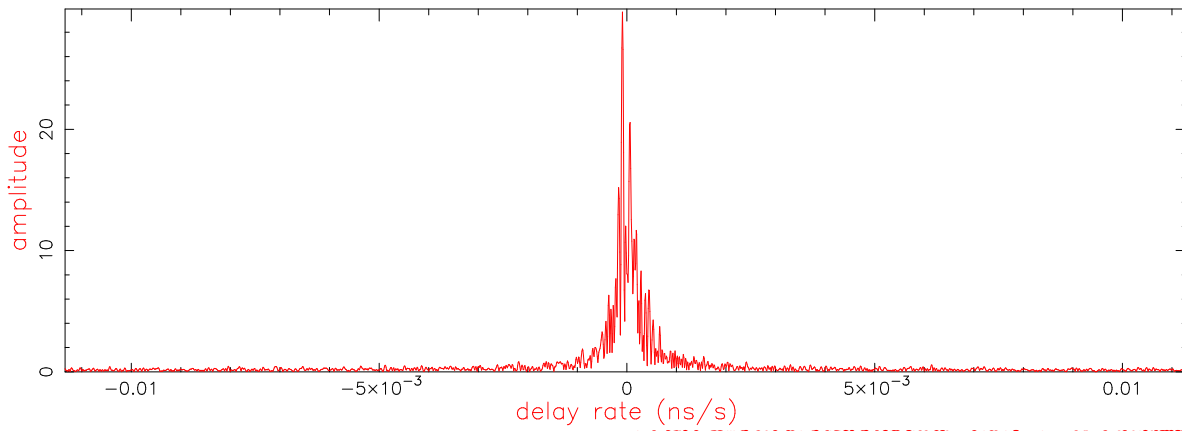
P: az 249.4 el 49.9 pa 50.8 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PP.W.267.0QR2SH

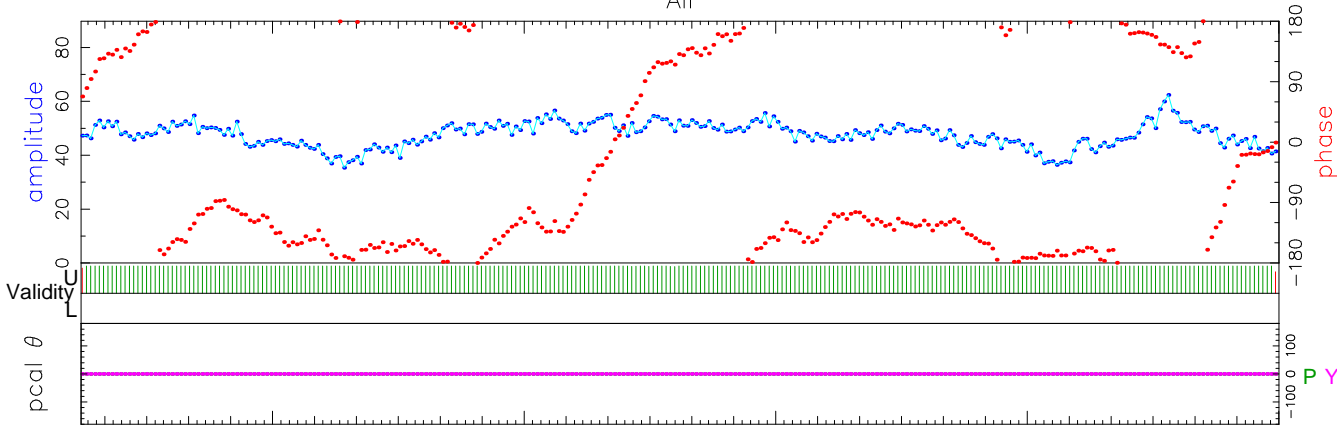
Fringe quality 5

SNR 343.7  
Int time 282.288  
Amp 29.922  
Phase -155.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.005350  
MBD -0.000005  
Fringe rate (Hz)  
-0.007826  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171828  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-155.8  
29.7  
513.7  
U/L 558/0  
P 0  
Y 0  
P:Y 0:0  
P:Y 0:0  
P 1000  
Y 1000  
P W04UL  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 3.63552847168E+02  | Apriori delay (usec)     | 3.63547500485E+02  | Resid mbdelay (usec) | -5.06970E-06 | +/- 5.0E-05 |
| Sband delay (usec)      | 3.63552850985E+02  | Apriori clock (usec)     | -7.0986900E+00     | Resid sbdelay (usec) | 5.35050E-03  | +/- 5.0E-05 |
| Phase delay (usec)      | 3.63547495460E+02  | Apriori clockrate (us/s) | -4.9000002E-07     | Resid phdelay (usec) | -5.02464E-06 | +/- 1.1E-08 |
| Delay rate (us/s)       | -3.15635783757E-02 | Apriori rate (us/s)      | -3.15634875252E-02 | Resid rate (us/s)    | -9.08505E-08 | +/- 6.5E-11 |
| Total phase (deg)       | 93.2               | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | -155.8       | +/- 0.3     |

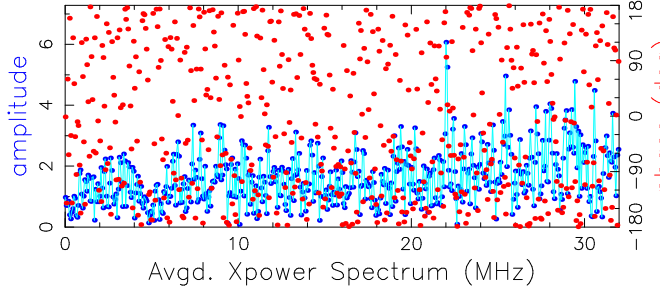
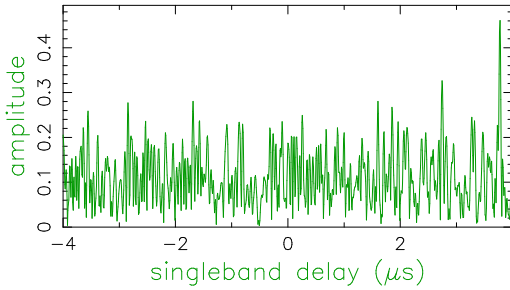
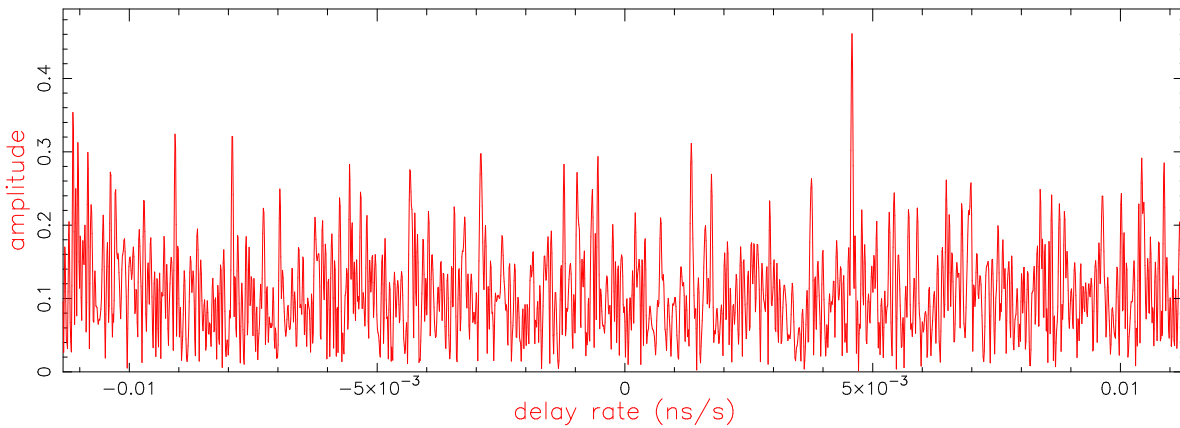
|              |      |     |     |                |        |                       |                  |                 |        |              |                             |                  |              |                  |              |
|--------------|------|-----|-----|----------------|--------|-----------------------|------------------|-----------------|--------|--------------|-----------------------------|------------------|--------------|------------------|--------------|
| ph/seg (deg) | 57.8 | RMS | 2.8 | Theor.         | 2.8    | Amplitude             | 29.922 +/- 0.087 | Search (2048X8) | 29.539 | Pcal mode:   | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                  |              |
| amp/seg (%)  | 61.5 |     | 4.9 | Interp.        | 0.000  | Inc. seg. avg.        | 47.696           | Inc. frq. avg.  | 29.672 | Pcal rate:   | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                  |              |
| ph/frq (deg) | 0.0  |     | 0.2 | Inc. seg. avg. | 47.696 | Sample rate(MSamp/s): | 64               | Inc. frq. avg.  | 29.672 | Bits/sample: | 2x2                         | SampCntNorm:     | enabled      | mb window (us)   | -0.000 0.000 |
| amp/frq (%)  | 0.8  |     | 0.3 | Inc. frq. avg. | 29.672 | Data rate(Mb/s):      | 128              |                 |        | nlags:       | 512                         | t_cohere         | infinite     | dr window (ns/s) | -0.011 0.011 |

P: az 249.4 el 49.9 pa 50.8 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PY.W.226.0QR2SH

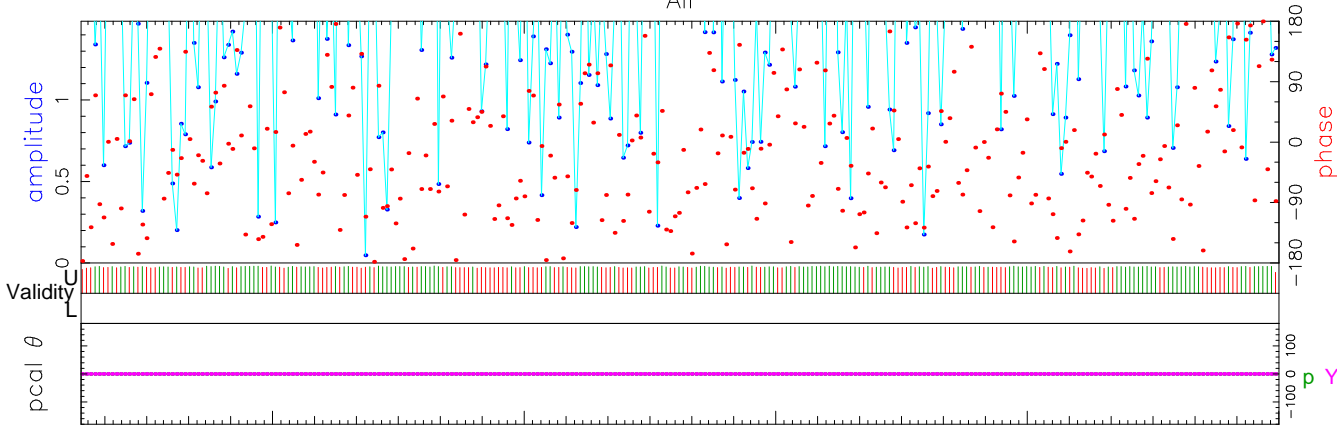
Fringe quality 0

SNR 5.2  
Int time 271.915  
Amp 0.495  
Phase -47.4  
PFD 1.0e+00  
Delays (us)  
SBD 3.772018  
MBD 0.000006  
Fringe rate (Hz)  
0.394402  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-47.4  
0.5  
995.8  
U/L 558/0  
p 5000  
Y 0  
p:Y 0:0  
p:Y 0:0  
p 1000  
Y 1000  
p W04UL  
Y W04UL

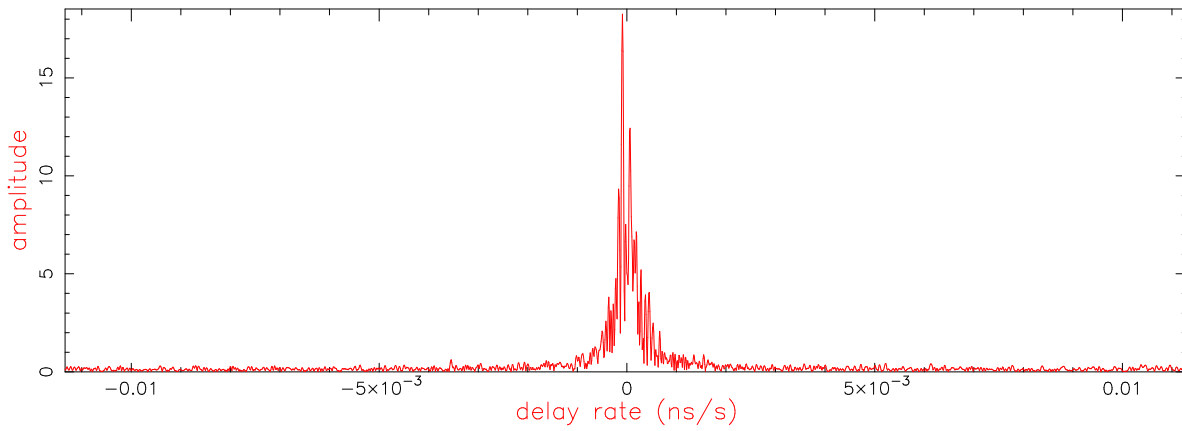
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.20920913338E+03 | Apriori delay (usec)     | -5.21298115013E+03 | Resid mbdelay (usec) | 6.07383E-06  | +/- | 3.3E-03 |
| Sband delay (usec)      | -5.20920913163E+03 | Apriori clock (usec)     | 2.4283836E+01      | Resid sbdelay (usec) | 3.77202E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | -5.21298115166E+03 | Apriori clockrate (us/s) | -4.8000002E-08     | Resid phdelay (usec) | -1.52788E-06 | +/- | 7.1E-07 |
| Delay rate (us/s)       | 1.84666562617E+00  | Apriori rate (us/s)      | 1.84666104755E+00  | Resid rate (us/s)    | 4.57862E-06  | +/- | 4.3E-09 |
| Total phase (deg)       | -145.5             | Apriori accel (us/s/s)   | 2.51314053007E-05  | Resid phase (deg)    | -47.4        | +/- | 22.0    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 87.2  | Theor.          | 183.7 | Amplitude      | 0.495 +/- 0.095 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 358.2 | Search (2048X8) | 0.451 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.322           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.484 | Inc. frq. avg. | 0.484           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

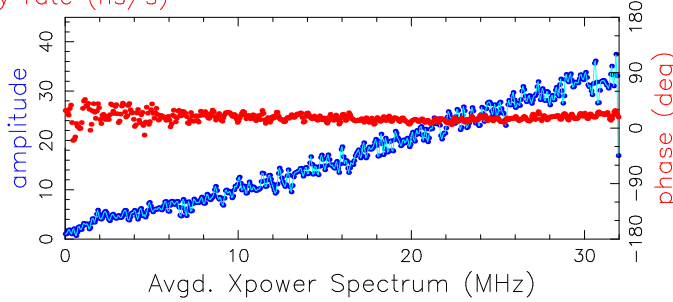
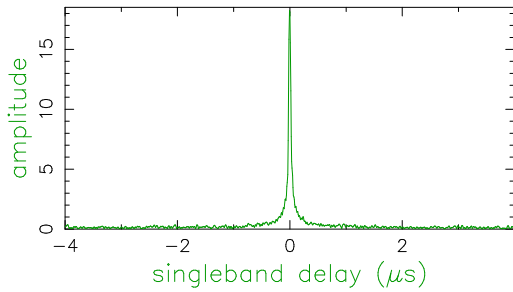
p: az 89.4 el 28.9 pa -59.3 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10982.717 -104.008 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pY.W.234.0QR2SH





Fringe quality 5

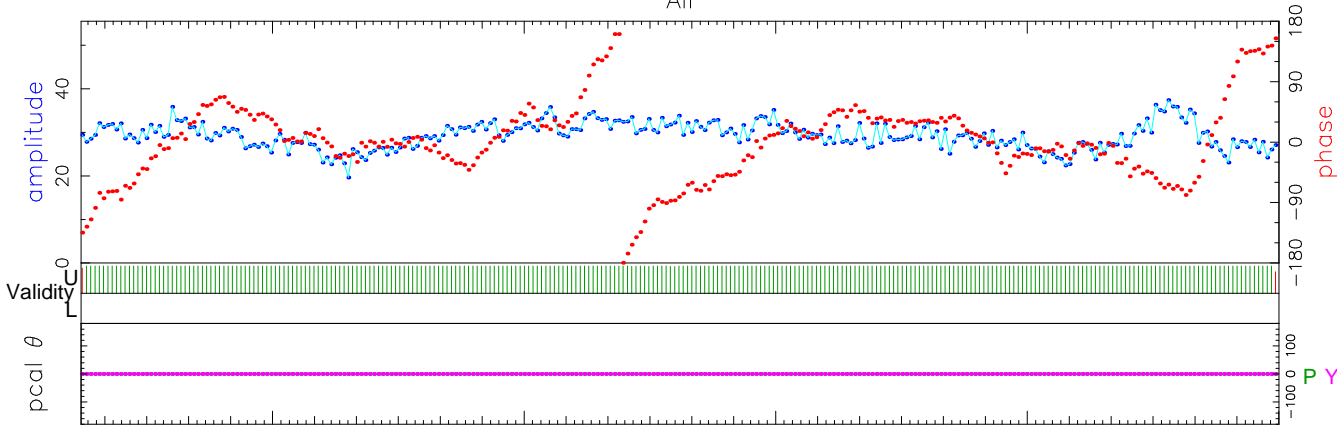
SNR 212.7  
 Int time 282.288  
 Amp 18.515  
 Phase -1.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.004300  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.007827  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171829  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 -1.5  
 18.2  
 512.4  
 U/L 558/0  
 P 0  
 Y 0  
 P:Y 0:0  
 P:Y 0:0  
 P 1000  
 Y 1000  
 P W04UR  
 Y W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63543197932E+02  | Apriori delay (usec)     | 3.63547500485E+02  | Resid mbdelay (usec) | -7.21978E-06 | +/- | 8.1E-05 |
| Sband delay (usec)      | 3.63543200485E+02  | Apriori clock (usec)     | -7.0986900E+00     | Resid sbdelay (usec) | -4.30000E-03 | +/- | 8.1E-05 |
| Phase delay (usec)      | 3.63547500437E+02  | Apriori clockrate (us/s) | -4.9000002E-07     | Resid phdelay (usec) | -4.81927E-08 | +/- | 1.7E-08 |
| Delay rate (us/s)       | -3.15635783892E-02 | Apriori rate (us/s)      | -3.15634875252E-02 | Resid rate (us/s)    | -9.08640E-08 | +/- | 1.1E-10 |
| Total phase (deg)       | 247.5              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | -1.5         | +/- | 0.5     |

|              |      |        |     |                 |                  |                       |                             |                  |              |
|--------------|------|--------|-----|-----------------|------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 57.5 | Theor. | 4.5 | Amplitude       | 18.515 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 60.4 |        | 7.9 | Search (2048X8) | 18.163           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  |        | 0.3 | Interp.         | 0.000            | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.5  |        | 0.5 | Inc. seg. avg.  | 29.212           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |      |        |     | Inc. frq. avg.  | 18.245           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |      |        |     |                 |                  | nlags:                | 512                         | t_cohere         | infinite     |
|              |      |        |     |                 |                  |                       |                             | ion window (TEC) | 0.00 0.00    |

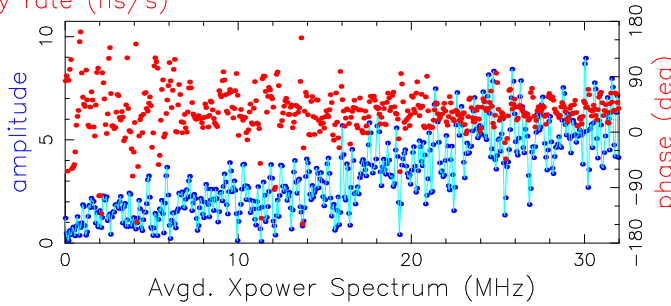
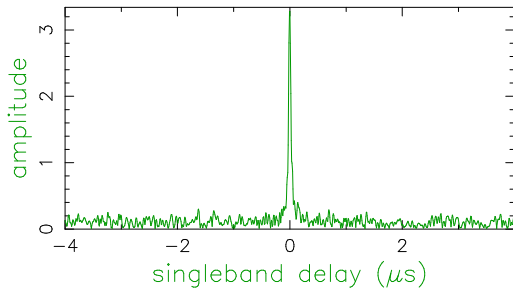
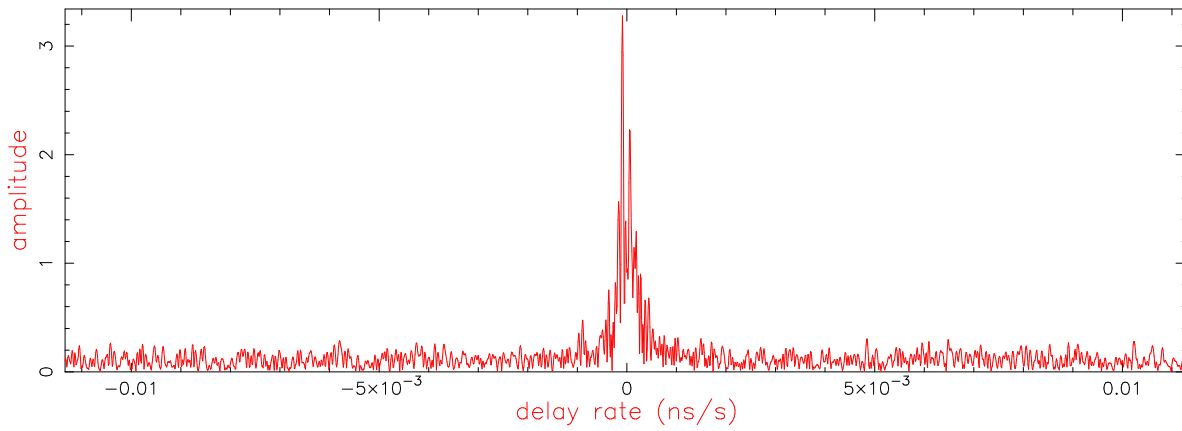
P: az 249.4 el 49.9 pa 50.8 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PY.W.236.0QR2SH

Fringe quality 9

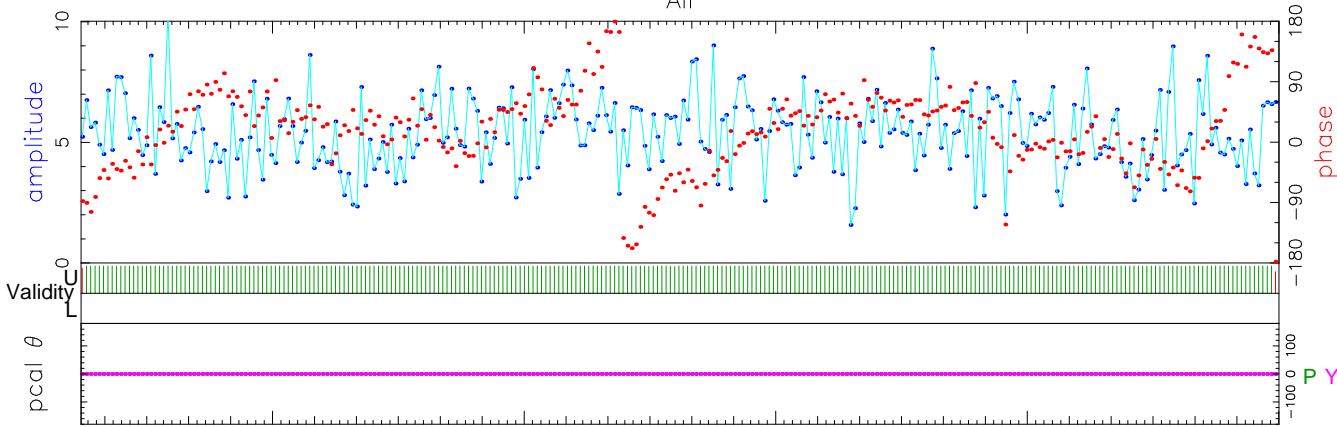
SNR 38.4  
Int time 282.288  
Amp 3.342  
Phase 19.6  
PFD 0.0e+00  
Delays (us)  
SBD -0.003952  
MBD -0.000007  
Fringe rate (Hz)  
-0.007656  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
19.6  
3.3  
512.5  
U/L 558/0  
P 0  
Y 0  
P:Y 0:0  
P:Y 0:0  
P 1000  
Y 1000  
P W04UL  
Y W04UR

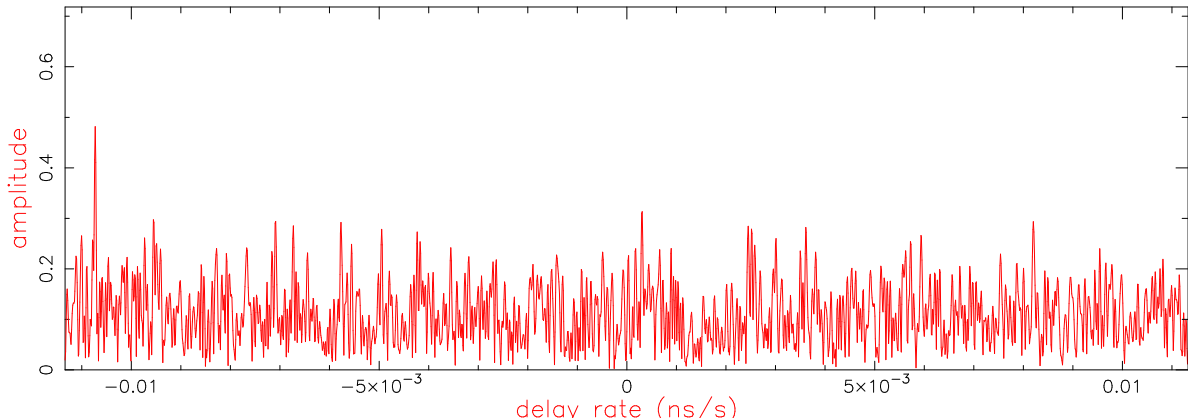
Freq (MHz)  
Phase  
Amp.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63543546458E+02  | Apriori delay (usec)     | 3.63547500485E+02  | Resid mbdelay (usec) | -6.96345E-06 | +/- | 4.5E-04 |
| Sband delay (usec)      | 3.63543548485E+02  | Apriori clock (usec)     | -7.0986900E+00     | Resid sbdelay (usec) | -3.95200E-03 | +/- | 4.5E-04 |
| Phase delay (usec)      | 3.63547501115E+02  | Apriori clockrate (us/s) | -4.9000002E-07     | Resid phdelay (usec) | 6.30651E-07  | +/- | 9.6E-08 |
| Delay rate (us/s)       | -3.15635764066E-02 | Apriori rate (us/s)      | -3.15634875252E-02 | Resid rate (us/s)    | -8.88815E-08 | +/- | 5.8E-10 |
| Total phase (deg)       | 268.6              | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | 19.6         | +/- | 3.0     |

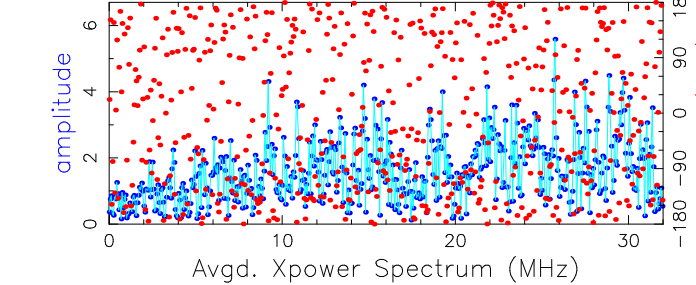
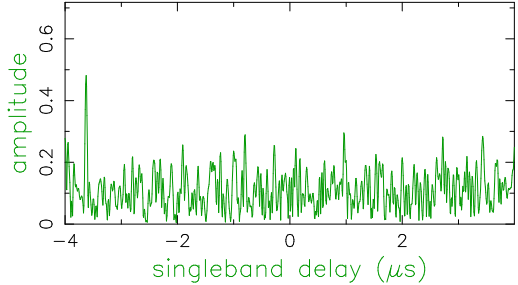
|              |      |        |      |                 |                 |                       |                             |                  |              |                |              |                  |           |
|--------------|------|--------|------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 59.6 | Theor. | 24.9 | Amplitude       | 3.342 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 76.1 |        | 43.5 | Search (2048X8) | 3.279           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0  |        | 1.5  | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 1.9  |        | 2.6  | Inc. seg. avg.  | 4.932           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |      |        |      | Inc. frq. avg.  | 3.278           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

P: az 249.4 el 49.9 pa 50.8 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PY.W.247.0QR2SH

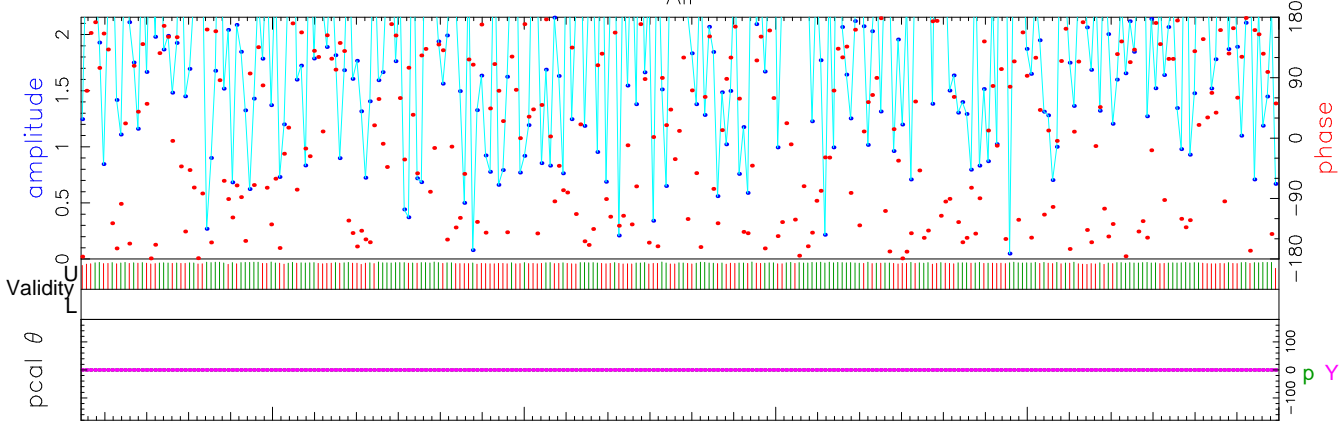


Fringe quality 0  
SNR 5.4  
Int time 271.909  
Amp 0.718  
Phase 177.6  
PFD 1.0e+00  
Delays (us)  
SBD -3.625454  
MBD -0.000007  
Fringe rate (Hz)  
-0.924153  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



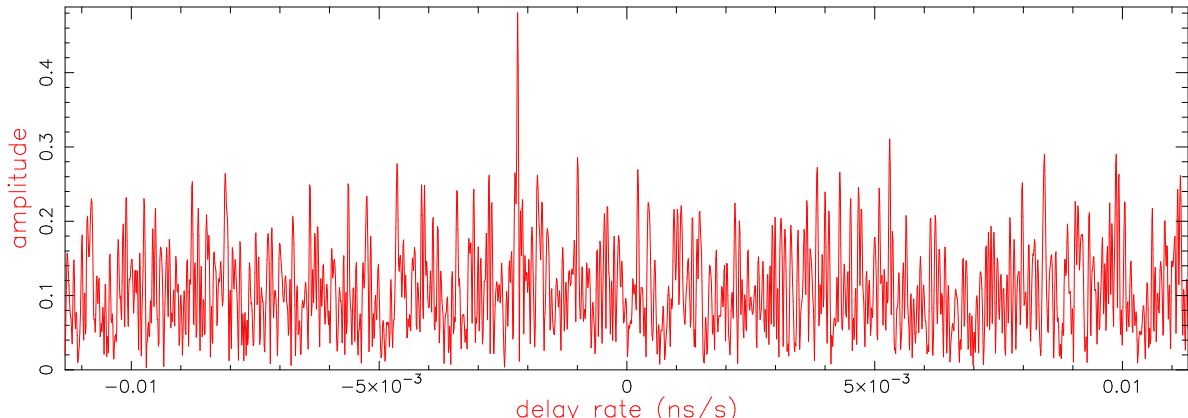
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00 Freq (MHz)  
177.6 Phase  
0.7 Ampl.  
48.9 Sbd box  
U/L 558/0 APs used  
p 5000 PC freqs  
Y 0 PC phase  
p:Y 0:0 Mani PC  
p:Y 0:0 PC amp  
p 1000 Chan ids  
Y 1000 Chan ids  
p W04UR  
Y W04UR

|  |                             |                          |                     |                           |                 |                       |                             |                  |              |                |              |                  |           |
|--|-----------------------------|--------------------------|---------------------|---------------------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| Group delay (usec)(sbd)  | -5.21660660403E+03          | Apriori delay (usec)     | -5.21298115013E+03  | Resid mbdelay (usec)      | -6.94497E-06    | +/-                   | 3.2E-03                     |                  |              |                |              |                  |           |
| Sband delay (usec)   | -5.21660660463E+03          | Apriori clock (usec)     | 2.4283836E+01       | Resid sbdelay (usec)      | -3.62545E+00    | +/-                   | 3.2E-03                     |                  |              |                |              |                  |           |
| Phase delay (usec)   | -5.21298114441E+03          | Apriori clockrate (us/s) | -4.8000002E-08      | Resid phdelay (usec)      | 5.72610E-06     | +/-                   | 6.8E-07                     |                  |              |                |              |                  |           |
| Delay rate (us/s)  | 1.84665031905E+00           | Apriori rate (us/s)      | 1.84666104755E+00   | Resid rate (us/s)         | -1.07285E-05    | +/-                   | 4.1E-09                     |                  |              |                |              |                  |           |
| Total phase (deg)  | 79.5                        | Apriori accel (us/s/s)   | 2.51314053007E-05   | Resid phase (deg)         | 177.6           | +/-                   | 21.1                        |                  |              |                |              |                  |           |
| RMS  | 91.0                        | Theor.                   | 176.3               | Amplitude                 | 0.718 +/- 0.132 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| ph/seg (deg)   | 367.7                       | Search (2048X8)          | 0.481               | Search                    | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| amp/seg (%)  | 0.0                         | Interp.                  | 0.000               | Inc. seg. avg.            | 0.518           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| ph/frq (deg)   | 0.0                         | Inc. frq. avg.           | 0.706               | Inc. frq. avg.            | 0.706           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
| amp/frq (%)  | 0.0                         |                          |                     |                           |                 | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |
| p: az 89.4 el 28.9 pa -59.3  | Y: az 246.0 el 48.3 pa 46.5 | u,v (fr/asec)            | -10982.717 -104.008 | simultaneous interpolator |                 |                       |                             |                  |              |                |              |                  |           |
| Control file: cf_1234_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pY.W.251.0QR2SH |                             |                          |                     |                           |                 |                       |                             |                  |              |                |              |                  |           |



Fringe quality 0

SNR 5.4

Int time 271.915

Amp 0.488

Phase -119.6

PFD 1.0e+00

Delays (us)

SBD 3.360134

MBD -0.000007

Fringe rate (Hz)

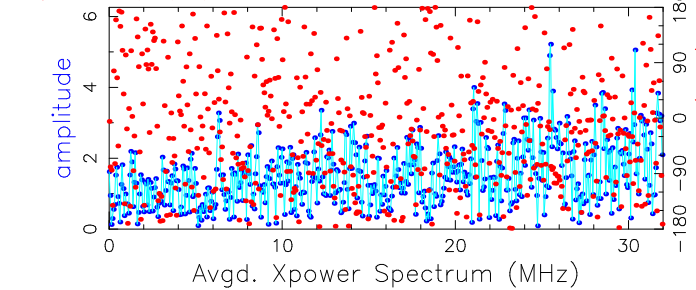
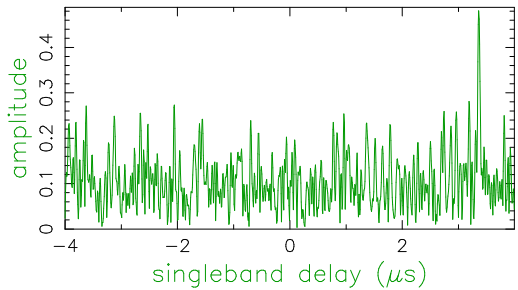
-0.189513

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125514.34

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171832

2018:249:082454

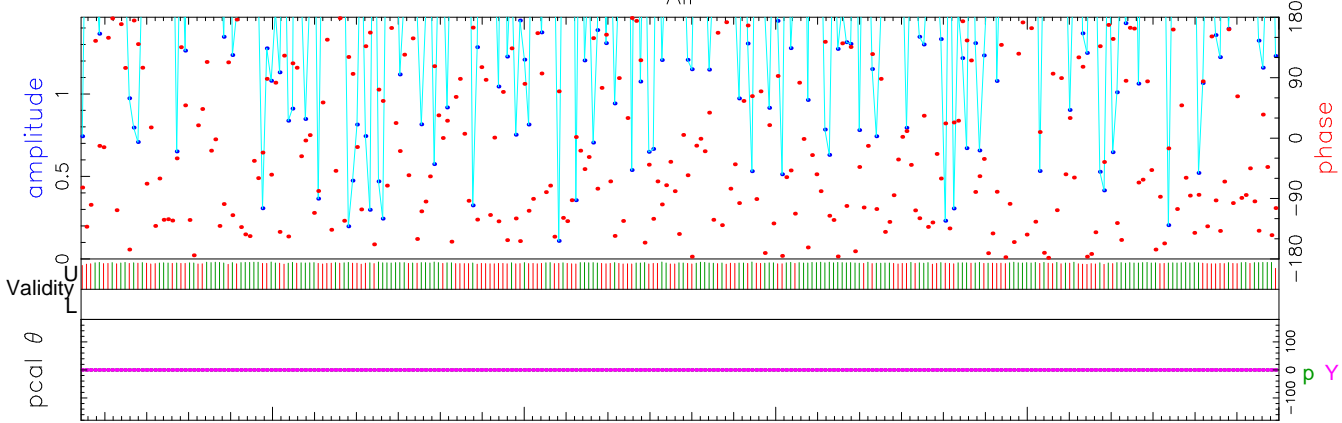
RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00

-119.6

0.5

943.1

U/L 558/0

p 5000

Y 0

p:Y 0:0

p:Y 0:0

p 1000

Y 1000

p W04UL

Y W04UR

Freq (MHz)

Phase

Ampl.

Sbd box

APs used

PC freqs

PC freqs

PC phase

Manl PC

PC amp

Chan ids

Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.20962101063E+03 | Apriori delay (usec)     | -5.21298115013E+03 | Resid mbdelay (usec) | -6.76657E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -5.20962101613E+03 | Apriori clock (usec)     | 2.4283836E+01      | Resid sbdelay (usec) | 3.36013E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -5.21298115399E+03 | Apriori clockrate (us/s) | -4.8000002E-08     | Resid phdelay (usec) | -3.85789E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 1.84665884749E+00  | Apriori rate (us/s)      | 1.84666104755E+00  | Resid rate (us/s)    | -2.20006E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | -217.7             | Apriori accel (us/s/s)   | 2.51314053007E-05  | Resid phase (deg)    | -119.6       | +/- | 21.1    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 90.1  | Theor.          | 176.6 | Amplitude      | 0.488 +/- 0.090 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 347.7 | Search (2048X8) | 0.476 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.331           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.480 | Inc. frq. avg. | 0.480           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

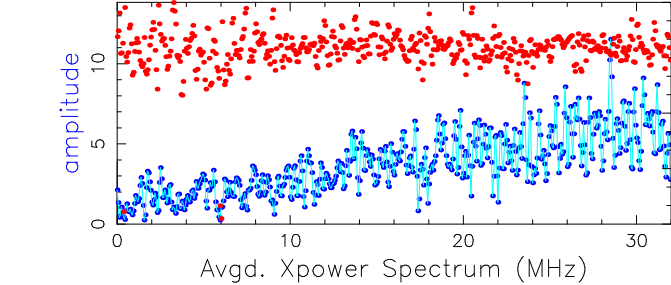
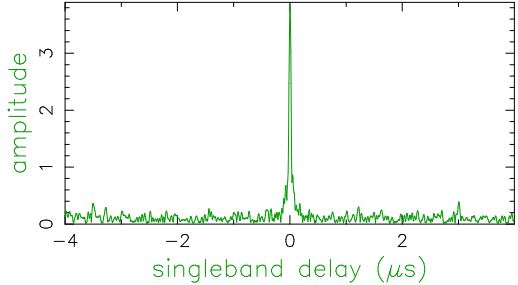
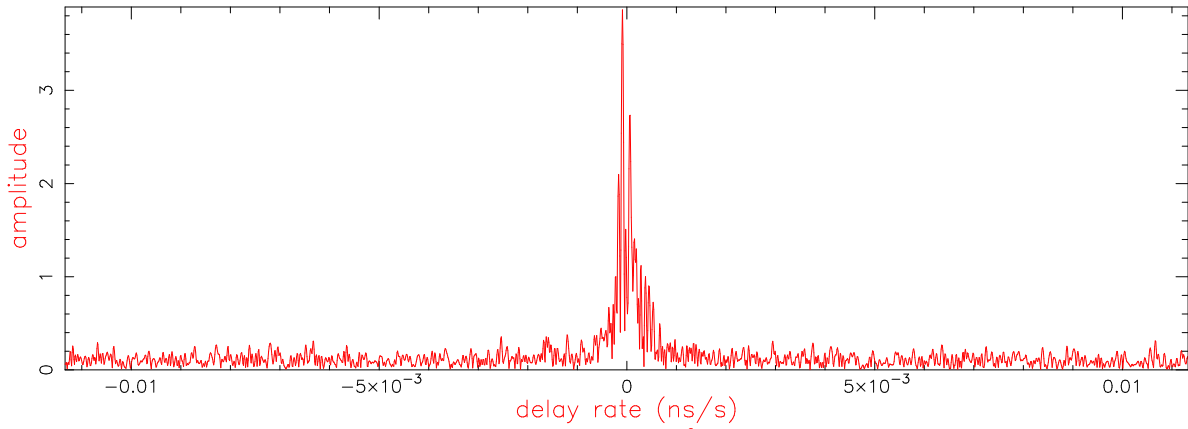
p: az 89.4 el 28.9 pa -59.3 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10982.717 -104.008 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pY.W.260.0QR2SH

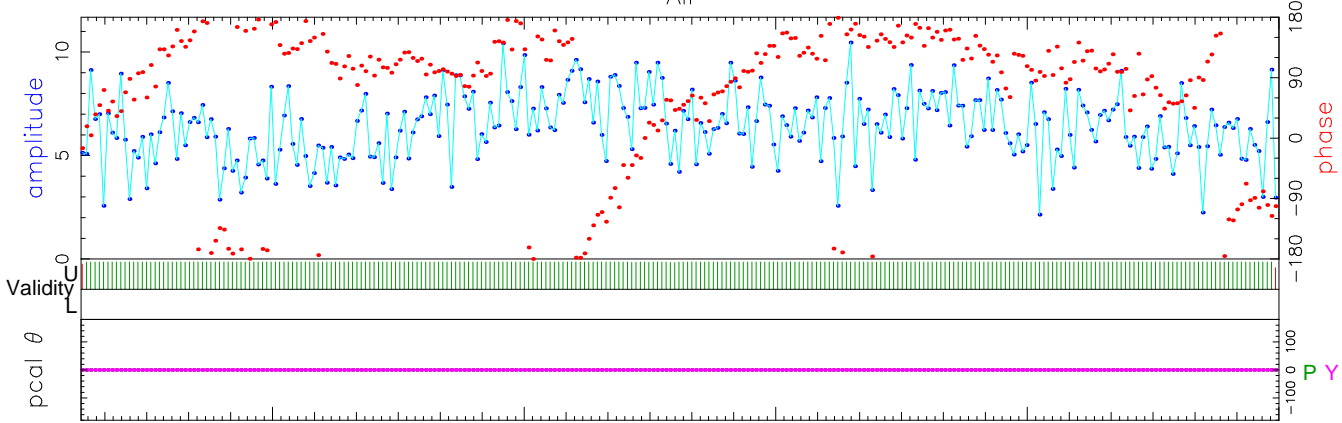
Fringe quality 9

SNR 44.7  
 Int time 282.288  
 Amp 3.896  
 Phase 122.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.002387  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.007791  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171833  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



Validity

pcal θ

86140.00  
 122.8  
 3.9  
 513.3  
 U/L 558/0  
 P 0  
 Y 0  
 P:Y 0:0  
 P:Y 0:0  
 P 1000  
 Y 1000  
 P W04UR  
 Y W04UL

Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.63549885264E+02  | Apriori delay (usec)     | 3.63547500485E+02  | Resid mbdelay (usec) | -6.67611E-06 | +/- | 3.9E-04 |
| Sband delay (usec)      | 3.63549887485E+02  | Apriori clock (usec)     | -7.0986900E+00     | Resid sbdelay (usec) | 2.38700E-03  | +/- | 3.9E-04 |
| Phase delay (usec)      | 3.63547504445E+02  | Apriori clockrate (us/s) | -4.9000002E-07     | Resid phdelay (usec) | 3.96060E-06  | +/- | 8.3E-08 |
| Delay rate (us/s)       | -3.15635779718E-02 | Apriori rate (us/s)      | -3.15634875252E-02 | Resid rate (us/s)    | -9.04467E-08 | +/- | 5.0E-10 |
| Total phase (deg)       | 11.9               | Apriori accel (us/s/s)   | -3.45006921952E-06 | Resid phase (deg)    | 122.8        | +/- | 2.6     |

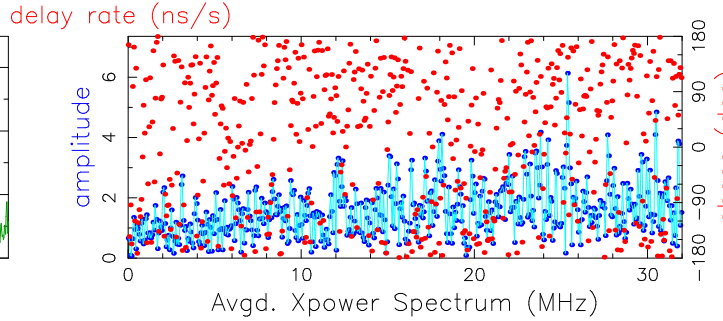
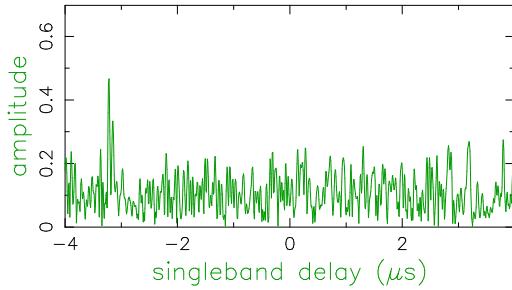
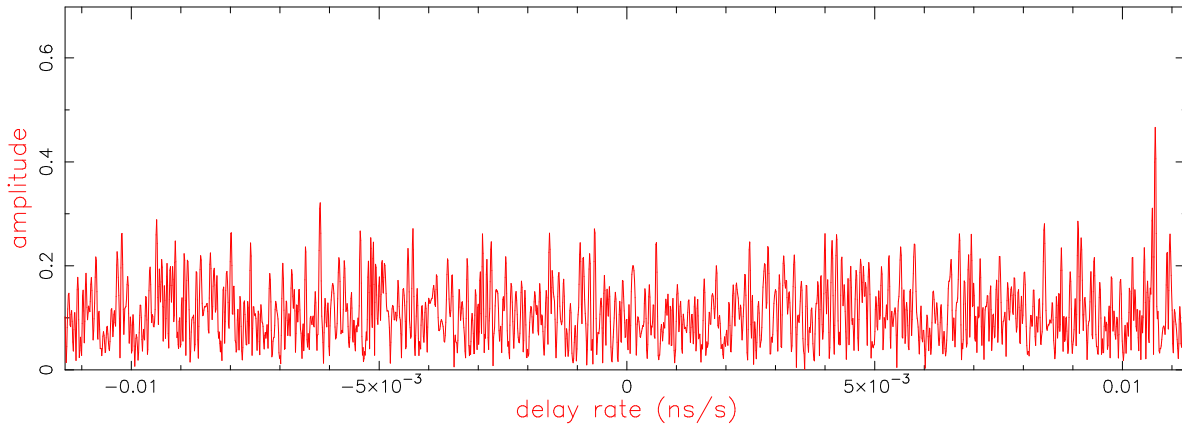
|              |      |                 |       |                |                  |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 60.2 | Theor.          | 21.4  | Amplitude      | 3.896 +/- 0.087  | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 76.6 | Search (2048X8) | 3.855 | Interp.        | 0.000            | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 5.988 | Inc. frq. avg. | 3.865            | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.8  | Inc. frq. avg.  | 3.865 | u,v (fr/asec)  | 183.682 -478.490 | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |      |                 |       |                |                  | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                  | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

P: az 249.4 el 49.9 pa 50.8 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 183.682 -478.490 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//PY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//PY.W.270.0QR2SH

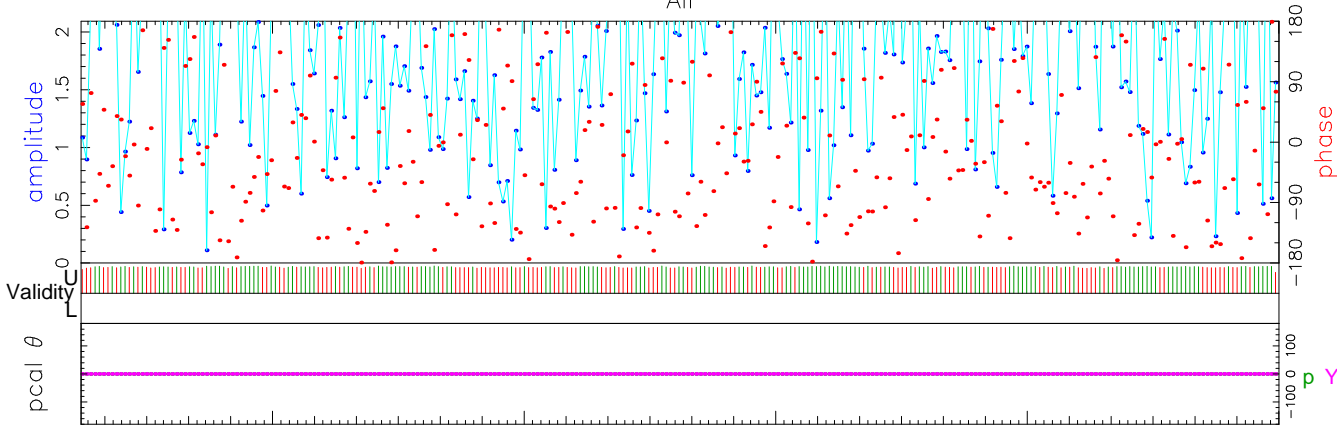
Fringe quality 0

SNR 5.3  
Int time 271.909  
Amp 0.698  
Phase -71.2  
PFD 1.0e+00  
Delays (us)  
SBD -3.221330  
MBD 0.000006  
Fringe rate (Hz)  
0.917920  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-71.2  
0.7  
100.7  
U/L 558/0  
p 5000  
Y 0  
p:Y 0:0  
p:Y 0:0  
p 1000  
Y 1000  
p W04UR  
Y W04UL

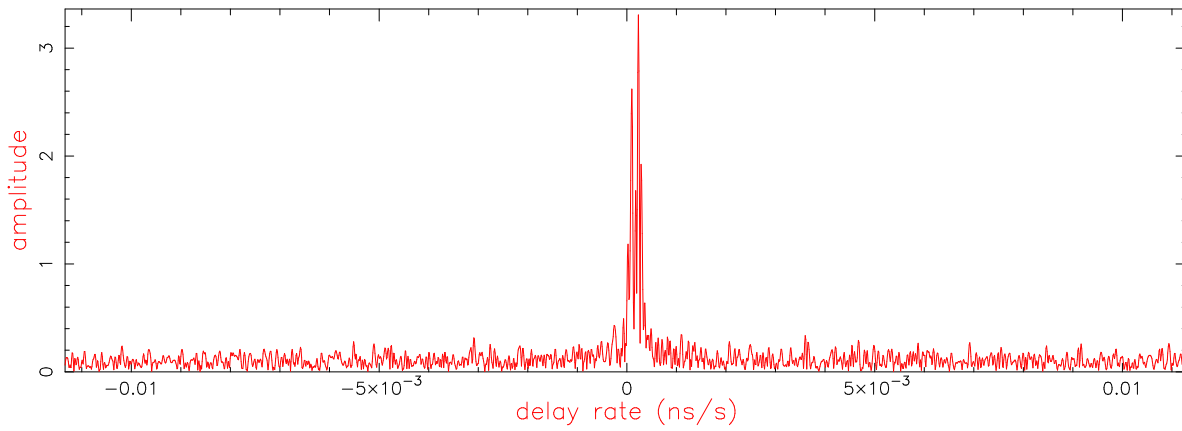
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.21620248158E+03 | Apriori delay (usec)     | -5.21298115013E+03 | Resid mbdelay (usec) | 5.90908E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -5.21620248063E+03 | Apriori clock (usec)     | 2.4283836E+01      | Resid sbdelay (usec) | -3.22133E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -5.21298115243E+03 | Apriori clockrate (us/s) | -4.8000002E-08     | Resid phdelay (usec) | -2.29530E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | 1.84667170369E+00  | Apriori rate (us/s)      | 1.84666104755E+00  | Resid rate (us/s)    | 1.06561E-05  | +/- | 4.2E-09 |
| Total phase (deg)       | -169.3             | Apriori accel (us/s/s)   | 2.51314053007E-05  | Resid phase (deg)    | -71.2        | +/- | 21.6    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.7  | Theor.          | 180.4 | Amplitude       | 0.698 +/- 0.132 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 367.6 | Search (2048X8) | 0.451 | Search (2048X8) | 0.451           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.9   | Inc. seg. avg.  | 0.478 | Inc. seg. avg.  | 0.478           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       | Inc. frq. avg.  | 0.679 | Inc. frq. avg.  | 0.679           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

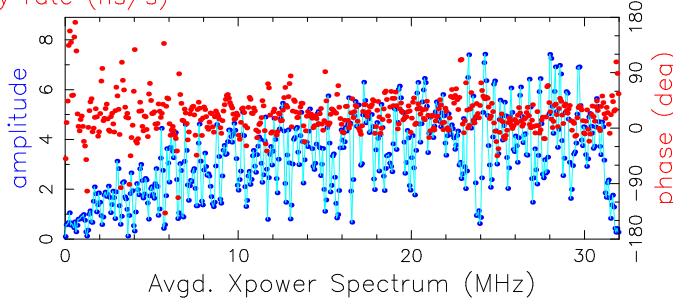
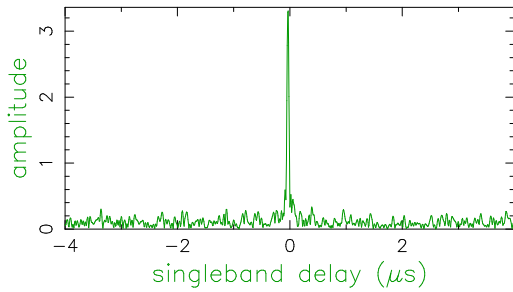
p: az 89.4 el 28.9 pa -59.3 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -10982.717 -104.008 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//pY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//pY.W.277.0QR2SH



Fringe quality 9

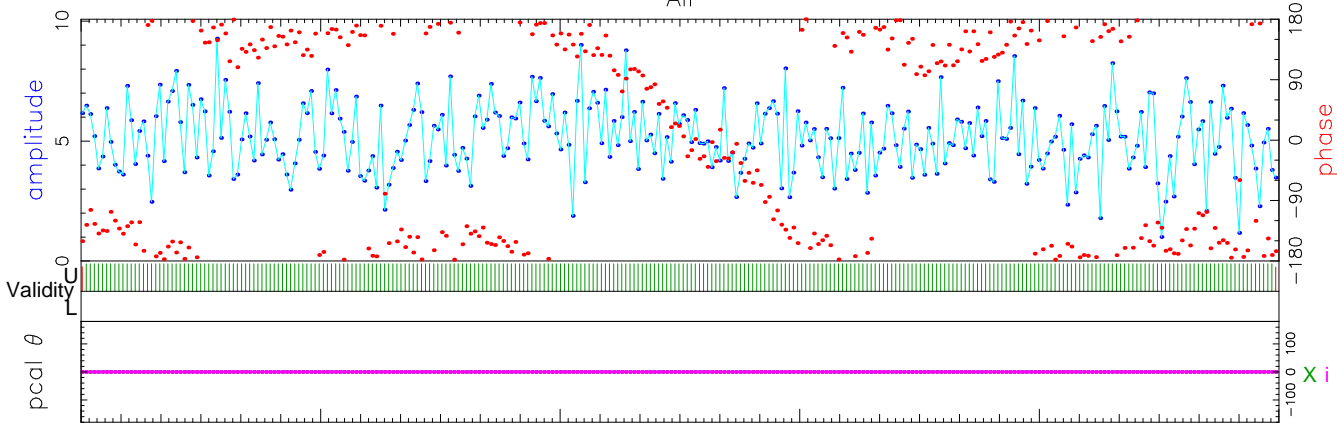
SNR 39.8  
Int time 299.796  
Amp 3.362  
Phase 176.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.034862  
MBD 0.000005  
Fringe rate (Hz)  
0.020284  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171829  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
176.7  
3.3  
508.5  
U/L 586/0  
X 0  
i 0  
X:i 0:0  
X:i 0:0  
X 1000  
i 1000  
X W04UL  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78473885474E+03 | Apriori delay (usec)     | -4.78470399789E+03 | Resid mbdelay (usec) | 5.00116E-06  | +/- | 4.3E-04 |
| Sband delay (usec)      | -4.78473885989E+03 | Apriori clock (usec)     | 2.5630024E+01      | Resid sbdelay (usec) | -3.48620E-02 | +/- | 4.3E-04 |
| Phase delay (usec)      | -4.78470399219E+03 | Apriori clockrate (us/s) | 8.7699997E-07      | Resid phdelay (usec) | 5.69851E-06  | +/- | 9.3E-08 |
| Delay rate (us/s)       | 1.02212216046E-01  | Apriori rate (us/s)      | 1.02211980568E-01  | Resid rate (us/s)    | 2.35478E-07  | +/- | 5.4E-10 |
| Total phase (deg)       | 40.6               | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 176.7        | +/- | 2.9     |

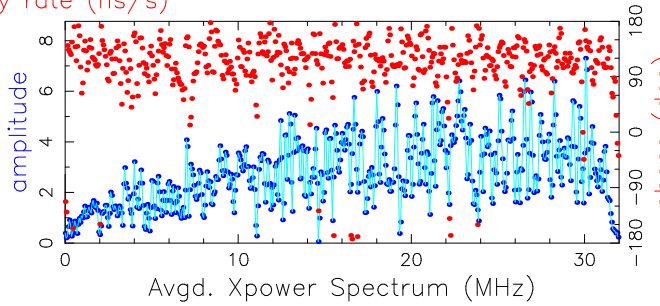
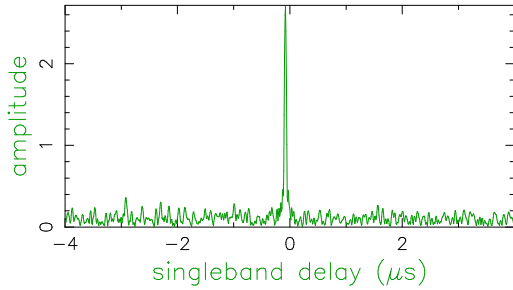
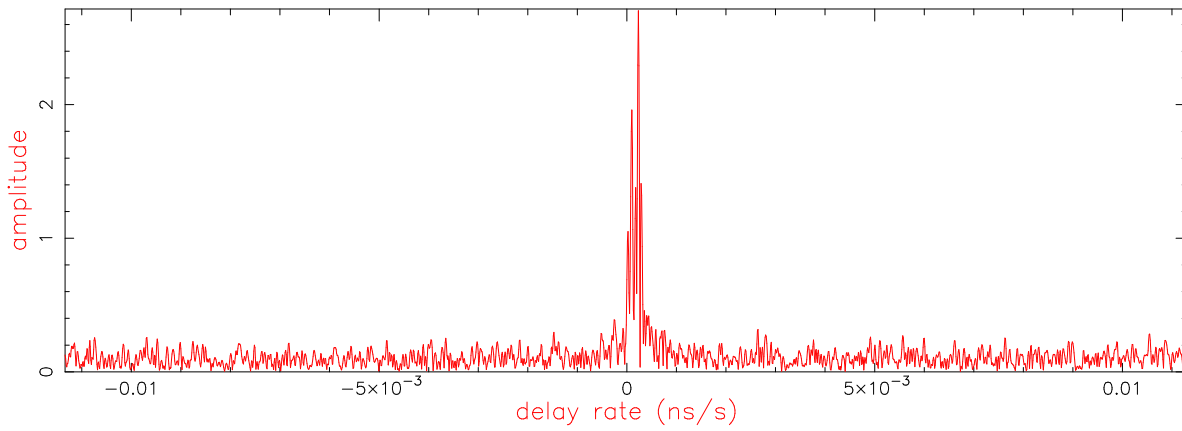
|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 59.4 | Theor.          | 24.6  | Amplitude      | 3.362 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 68.1 | Search (2048X8) | 3.263 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 4.716 | Inc. seg. avg. | 4.716           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.6  | Inc. frq. avg.  | 3.306 | Inc. frq. avg. | 3.306           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |
|              |      |                 |       |                |                 | nlags:                | 512                         | t_cohere         | infinite     |

X: az 247.6 el 32.5 pa 31.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xi.W.231.0QR2SH

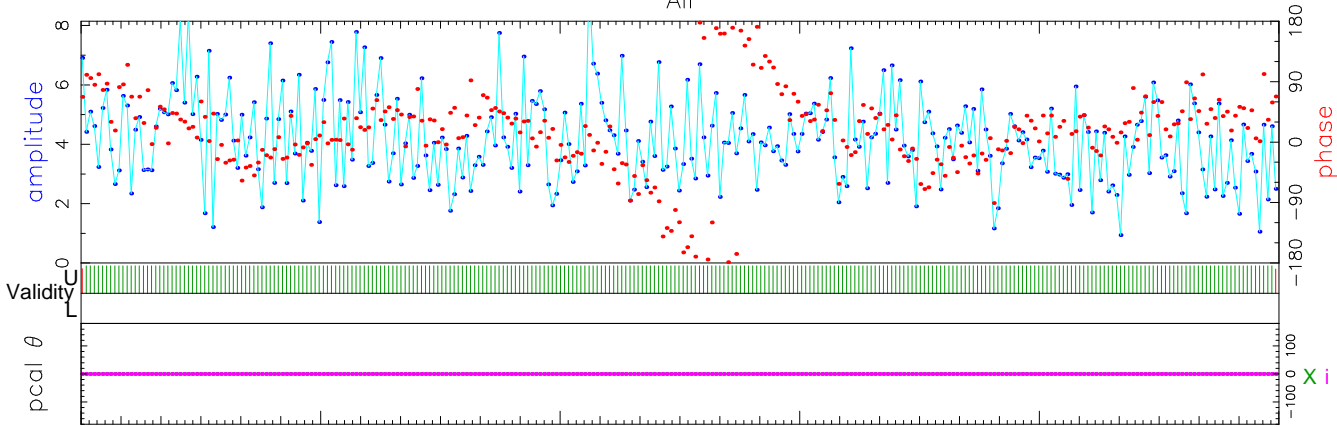
Fringe quality 9

SNR 32.1  
 Int time 299.796  
 Amp 2.716  
 Phase 19.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.079960  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.020317  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171830  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 19.0  
 2.7  
 502.8  
 U/L 586/0  
 X 0  
 i 0  
 X:i 0:0  
 X:i 0:0  
 X 1000  
 i 1000  
 X W04UR  
 i W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

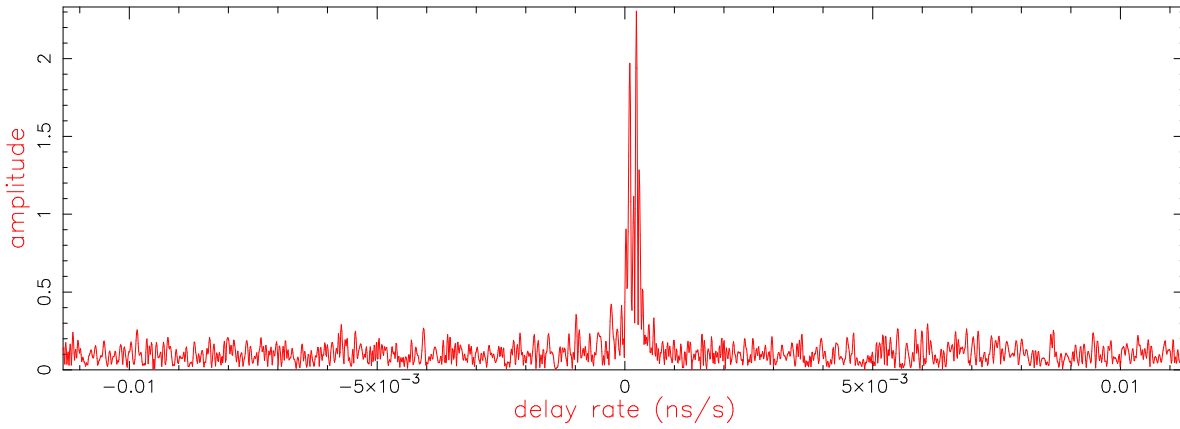
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78478395574E+03 | Apriori delay (usec)     | -4.78470399789E+03 | Resid mbdelay (usec) | 4.99382E-06  | +/- | 5.4E-04 |
| Sband delay (usec)      | -4.78478395789E+03 | Apriori clock (usec)     | 2.5630024E+01      | Resid sbdelay (usec) | -7.99600E-02 | +/- | 5.4E-04 |
| Phase delay (usec)      | -4.78470399727E+03 | Apriori clockrate (us/s) | 8.7699997E-07      | Resid phdelay (usec) | 6.13438E-07  | +/- | 1.1E-07 |
| Delay rate (us/s)       | 1.02212216423E-01  | Apriori rate (us/s)      | 1.02211980568E-01  | Resid rate (us/s)    | 2.35855E-07  | +/- | 6.6E-10 |
| Total phase (deg)       | -117.1             | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 19.0         | +/- | 3.6     |

|              |      |                 |       |                |                   |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 58.3 | Theor.          | 30.5  | Amplitude      | 2.716 +/- 0.084   | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 75.6 | Search (2048X8) | 2.665 | Interp.        | 0.000             | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 3.650 | Inc. frq. avg. | 2.703             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.4  | Inc. frq. avg.  | 2.703 | u,v (fr/asec)  | -566.705 2800.708 | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |      |                 |       |                |                   | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                   | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

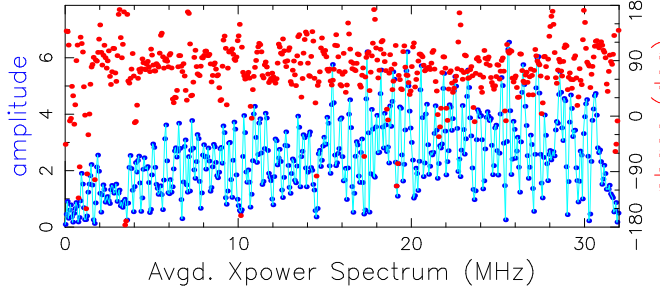
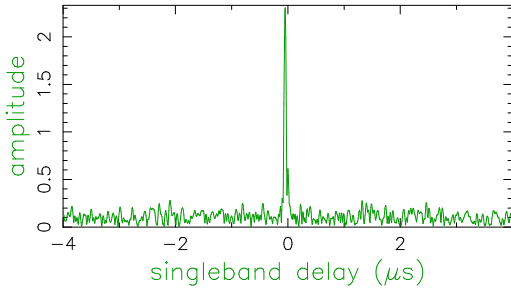
X: az 247.6 el 32.5 pa 31.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xi.W.244.0QR2SH



Fringe quality 9



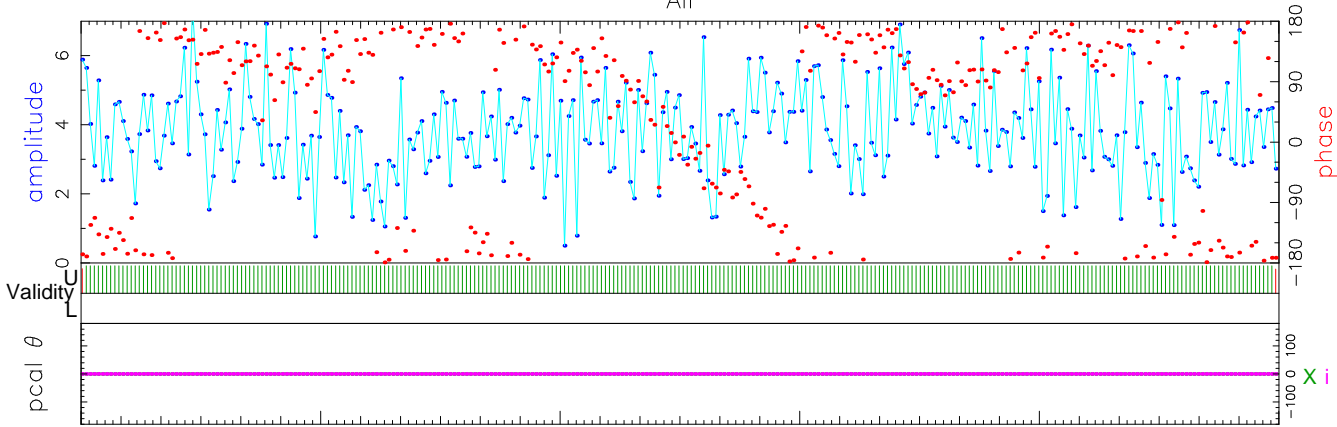
SNR 27.6  
 Int time 299.796  
 Amp 2.332  
 Phase 151.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.049863  
 MBD 0.000005  
 Fringe rate (Hz)  
 0.020126  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171831  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 151.6  
 2.3  
 506.6  
 U/L 586/0  
 X 0  
 i 0  
 Xi 0:0  
 Xi 0:0  
 X 1000  
 i 1000  
 X W04UL  
 i W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp

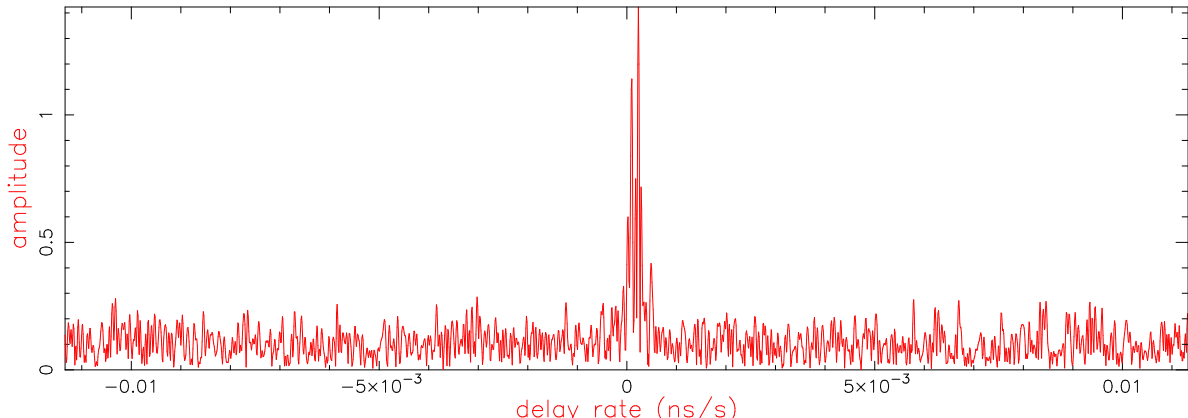
Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78475386525E+03 | Apriori delay (usec)     | -4.78470399789E+03 | Resid mbdelay (usec) | 4.94014E-06  | +/- | 6.2E-04 |
| Sband delay (usec)      | -4.78475386089E+03 | Apriori clock (usec)     | 2.5630024E+01      | Resid sbdelay (usec) | -4.98630E-02 | +/- | 6.2E-04 |
| Phase delay (usec)      | -4.78470399300E+03 | Apriori clockrate (us/s) | 8.7699997E-07      | Resid phdelay (usec) | 4.88849E-06  | +/- | 1.3E-07 |
| Delay rate (us/s)       | 1.02212214209E-01  | Apriori rate (us/s)      | 1.02211980568E-01  | Resid rate (us/s)    | 2.33641E-07  | +/- | 7.7E-10 |
| Total phase (deg)       | 15.5               | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 151.6        | +/- | 4.2     |

|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 62.1 | Theor.          | 35.5  | Amplitude      | 2.332 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 85.9 | Search (2048X8) | 2.300 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Interp.         | 0.000 | Inc. seg. avg. | 3.219           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.2  | Inc. frq. avg.  | 2.303 | Inc. frq. avg. | 2.303           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |      |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |
|              |      |                 |       |                |                 | t_cohere:             | infinite                    |                  |              |

X: az 247.6 el 32.5 pa 31.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator

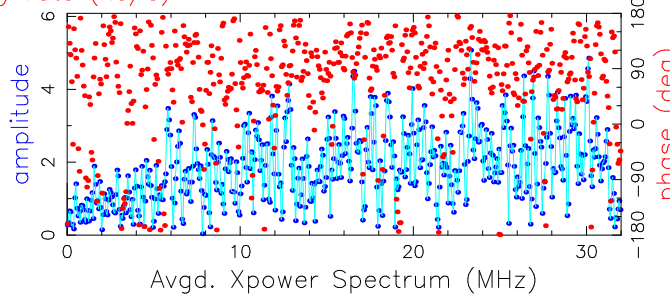
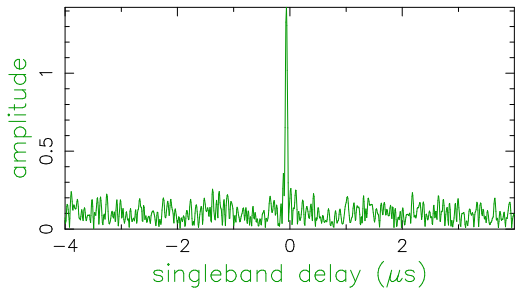
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xi.W.256.0QR2SH



Fringe quality 9

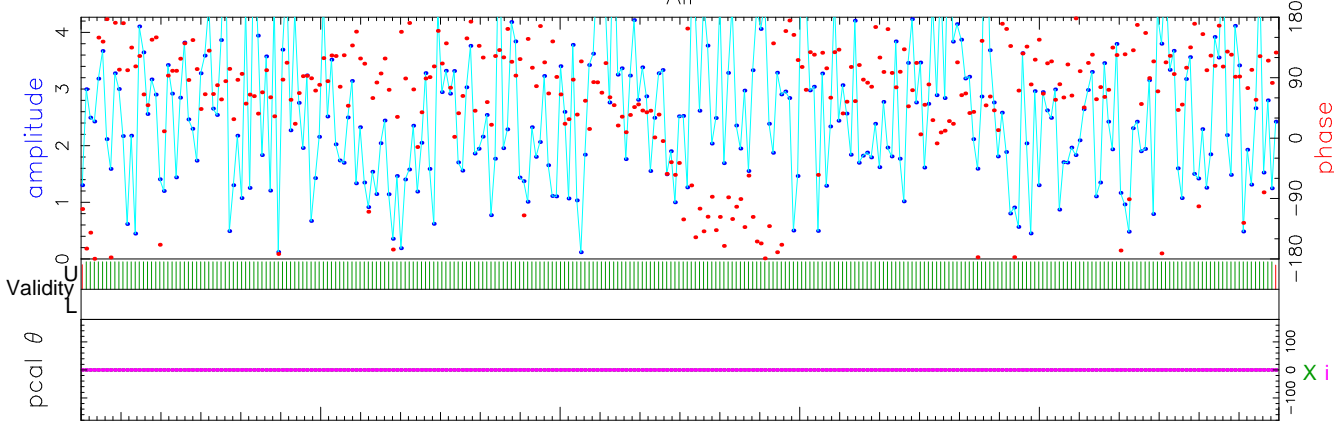
SNR 16.8  
Int time 299.796  
Amp 1.423  
Phase 96.6  
PFD 0.0e+00  
Delays (us)  
SBD -0.062972  
MBD 0.000004  
Fringe rate (Hz)  
0.020136  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
96.6  
1.4  
504.9  
U/L 586/0  
X 0  
i 0  
X:i 0:0  
X:i 0:0  
X 1000  
i 1000  
X W04UR  
i W04UL

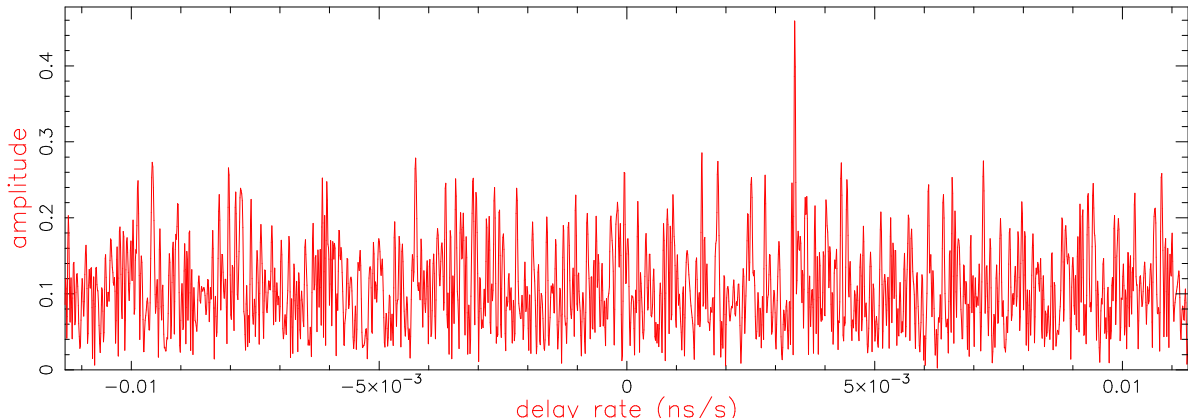
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp

Chan ids  
Chan ids

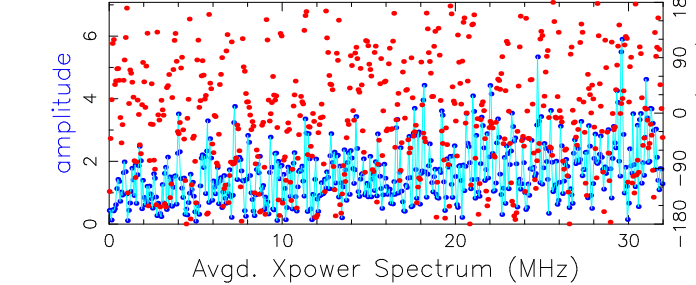
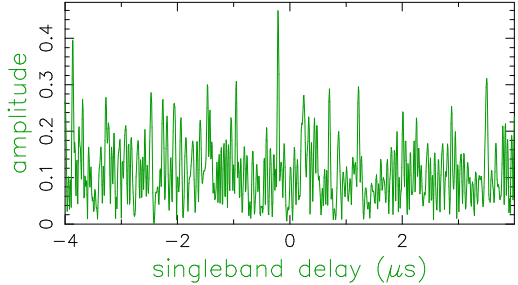
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78476697238E+03 | Apriori delay (usec)     | -4.78470399789E+03 | Resid mbdelay (usec) | 4.38166E-06  | +/- | 1.0E-03 |
| Sband delay (usec)      | -4.78476696939E+03 | Apriori clock (usec)     | 2.5630024E+01      | Resid sbdelay (usec) | -6.29715E-02 | +/- | 1.0E-03 |
| Phase delay (usec)      | -4.78470399477E+03 | Apriori clockrate (us/s) | 8.7699997E-07      | Resid phdelay (usec) | 3.11438E-06  | +/- | 2.2E-07 |
| Delay rate (us/s)       | 1.02212214328E-01  | Apriori rate (us/s)      | 1.02211980568E-01  | Resid rate (us/s)    | 2.33760E-07  | +/- | 1.3E-09 |
| Total phase (deg)       | -39.5              | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 96.6         | +/- | 6.8     |

|              |          |             |                           |  |                               |
|--------------|----------|-------------|---------------------------|--|-------------------------------|
| ph/seg (deg) | RMS 66.7 | Theor. 58.2 | Amplitude 1.423 +/- 0.084 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
| amp/seg (%)  | 121.7    | 101.6       | Search (2048X8) 1.420     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000   |
| ph/frq (deg) | 0.0      | 3.4         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled          |
| amp/frq (%)  | 0.0      | 5.9         | Inc. seg. avg. 1.712      | Sample rate(MSamp/s): 64               | dr window (ns/s) -0.011 0.011 |
|              |          |             | Inc. frq. avg. 1.420      | Data rate(Mb/s): 128                   | ion window (TEC) 0.00 0.00    |



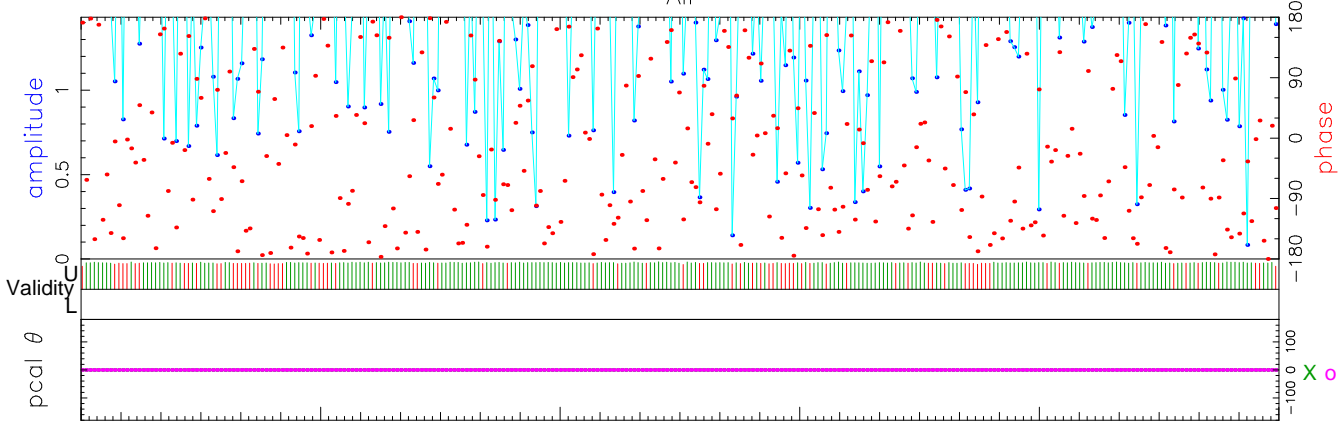
Fringe quality 0  
SNR 5.3  
Int time 287.772  
Amp 0.477  
Phase -131.8  
PFD 1.0e+00  
Delays (us)  
SBD -0.209754  
MBD 0.000005  
Fringe rate (Hz)  
0.292299  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-131.8  
0.5  
486.2  
U/L 586/0  
X 0  
o 5000  
X:o 0:0  
X:o 0:0  
X 1000  
o 1000  
X W04UL  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.51632310247E+03  | Apriori delay (usec)     | 3.51653286113E+03  | Resid mbdelay (usec) | 4.51265E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.51632310663E+03  | Apriori clock (usec)     | -4.2574463E+00     | Resid sbdelay (usec) | -2.09754E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.51653285688E+03  | Apriori clockrate (us/s) | 1.6044002E-07      | Resid phdelay (usec) | -4.24865E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.80755839115E+00 | Apriori rate (us/s)      | -1.80756178444E+00 | Resid rate (us/s)    | 3.39330E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | 105.0              | Apriori accel (us/s/s)   | -1.12220244521E-05 | Resid phase (deg)    | -131.8       | +/- | 21.5    |

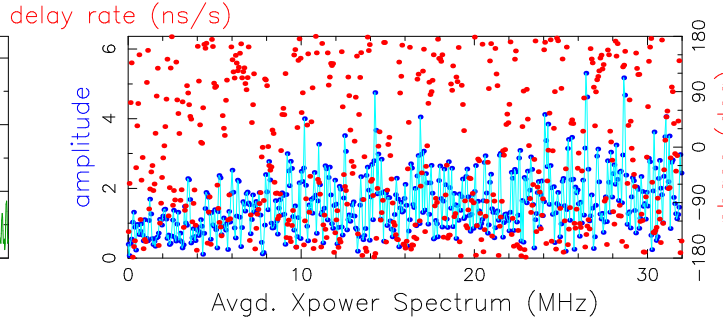
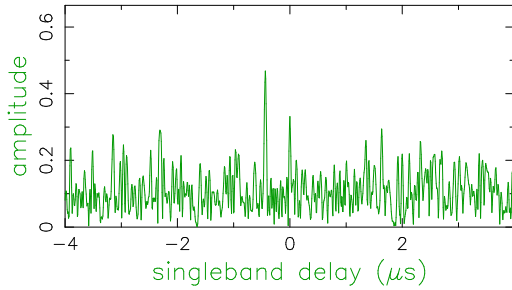
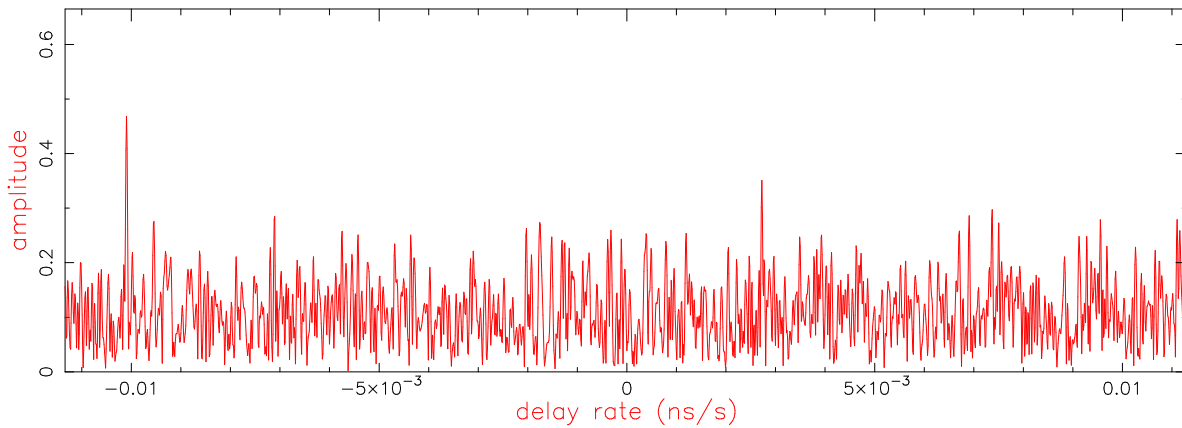
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.2  | Theor.          | 183.8 | Amplitude      | 0.477 +/- 0.089 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 364.3 | Search (2048X8) | 0.444 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.316           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.468 | Inc. frq. avg. | 0.468           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10767.754 1712.029 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xo.W.250.0QR2SH

Fringe quality 0

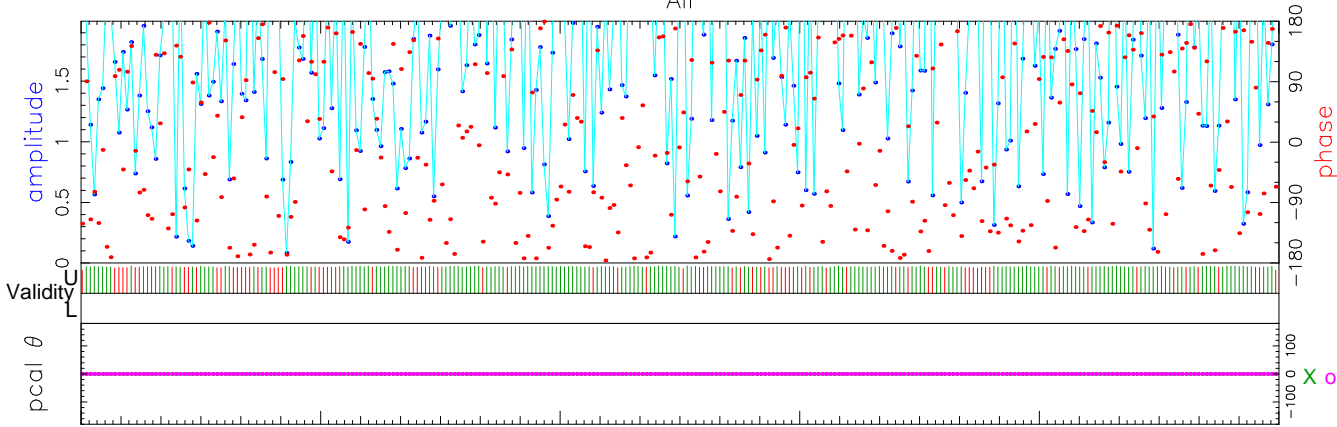
SNR 5.4  
Int time 287.774  
Amp 0.665  
Phase -150.8  
PFD 1.0e+00  
Delays (us)  
SBD -0.436801  
MBD -0.000006  
Fringe rate (Hz)  
-0.869699  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171832  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-150.8  
0.7  
457.1  
U/L 586/0  
X 0  
o 5000  
X:o 0:0  
X:o 0:0  
X 1000  
o 1000  
X W04UR  
o W04UR

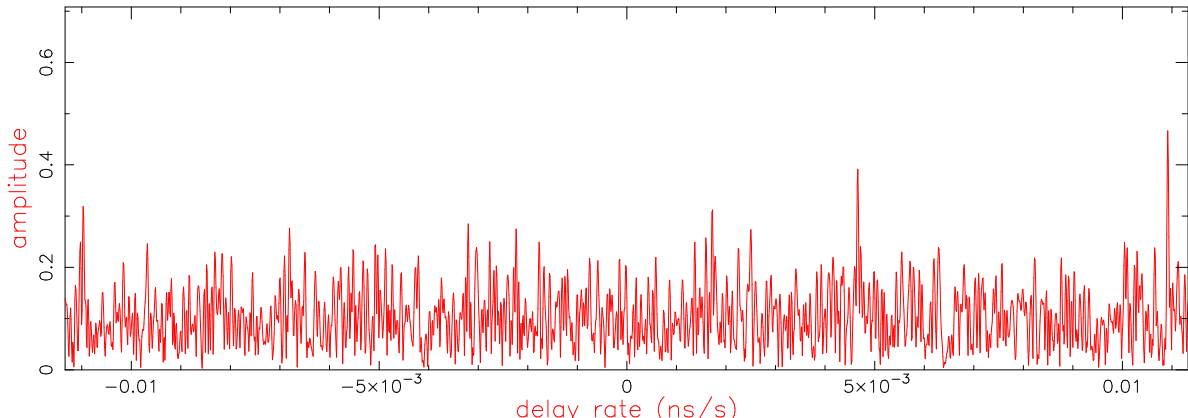
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.51609606604E+03  | Apriori delay (usec)     | 3.51653286113E+03  | Resid mbdelay (usec) | -6.14200E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.51609606063E+03  | Apriori clock (usec)     | -4.2574463E+00     | Resid sbdelay (usec) | -4.36801E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.51653285627E+03  | Apriori clockrate (us/s) | 1.6044002E-07      | Resid phdelay (usec) | -4.86243E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -1.80757188078E+00 | Apriori rate (us/s)      | -1.80756178444E+00 | Resid rate (us/s)    | -1.00963E-05 | +/- | 3.9E-09 |
| Total phase (deg)       | 86.0               | Apriori accel (us/s/s)   | -1.12220244521E-05 | Resid phase (deg)    | -150.8       | +/- | 21.1    |

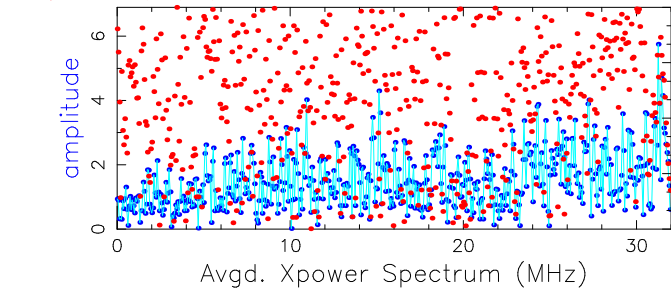
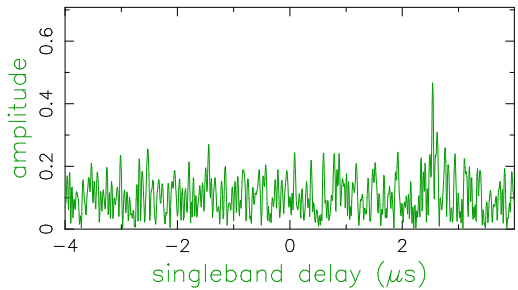
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.6  | Theor.          | 180.6 | Amplitude      | 0.665 +/- 0.122 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 372.8 | Search (2048X8) | 0.468 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.451 | Inc. seg. avg. | 0.451           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.654 | Inc. frq. avg. | 0.654           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10767.754 1712.029 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xo.W.261.0QR2SH

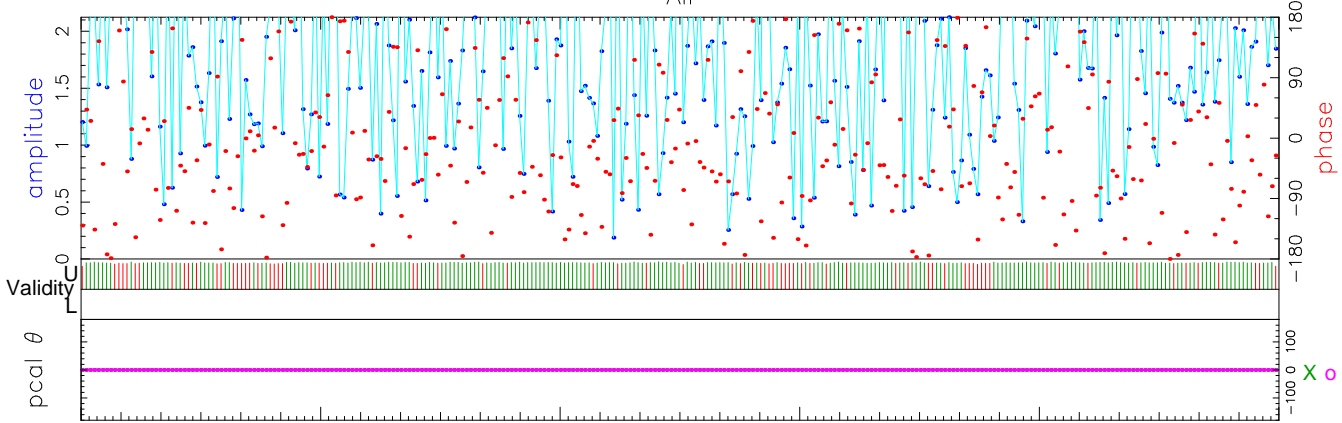


Fringe quality 0  
SNR 5.4  
Int time 287.774  
Amp 0.708  
Phase -48.6  
PFD 1.0e+00  
Delays (us)  
SBD 2.540035  
MBD 0.000004  
Fringe rate (Hz)  
0.940677  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-48.6  
0.7  
838.1  
U/L 586/0  
X 0  
o 5000  
X:o 0:0  
X:o 0:0  
X 1000  
o 1000  
X W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.51907289346E+03  | Apriori delay (usec)     | 3.51653286113E+03  | Resid mbdelay (usec) | 4.47179E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.51907289613E+03  | Apriori clock (usec)     | -4.2574463E+00     | Resid sbdelay (usec) | 2.54004E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.51653285956E+03  | Apriori clockrate (us/s) | 1.6044002E-07      | Resid phdelay (usec) | -1.56592E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -1.80755086411E+00 | Apriori rate (us/s)      | -1.80756178444E+00 | Resid rate (us/s)    | 1.09203E-05  | +/- | 3.9E-09 |
| Total phase (deg)       | 188.2              | Apriori accel (us/s/s)   | -1.12220244521E-05 | Resid phase (deg)    | -48.6        | +/- | 21.1    |

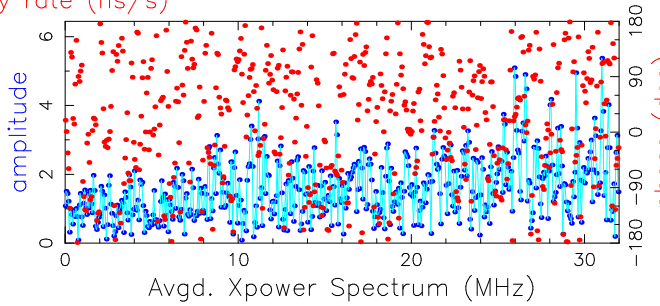
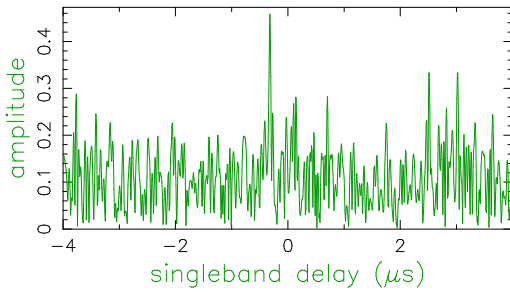
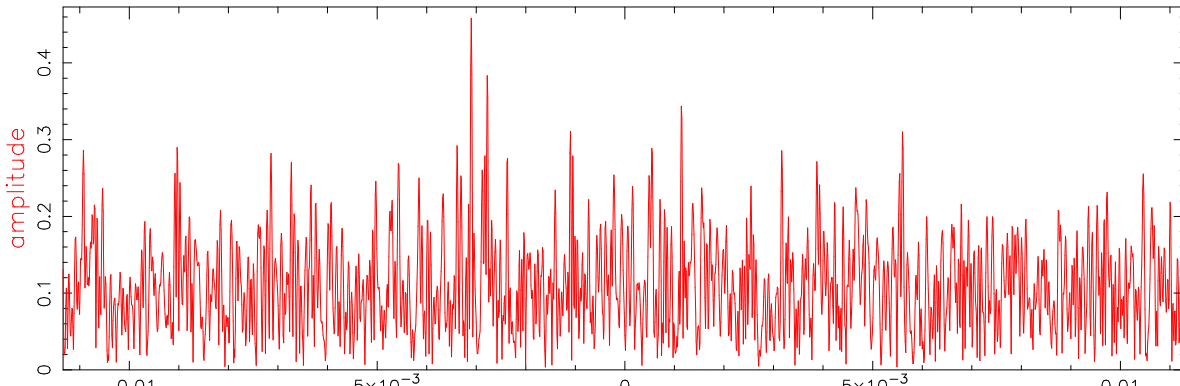
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.2  | Theor.          | 181.0 | Amplitude      | 0.708 +/- 0.131 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 347.7 | Search (2048X8) | 0.457 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.462           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.695 | Inc. frq. avg. | 0.695           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10767.754 1712.029 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xo.W.271.0QR2SH

Fringe quality 0

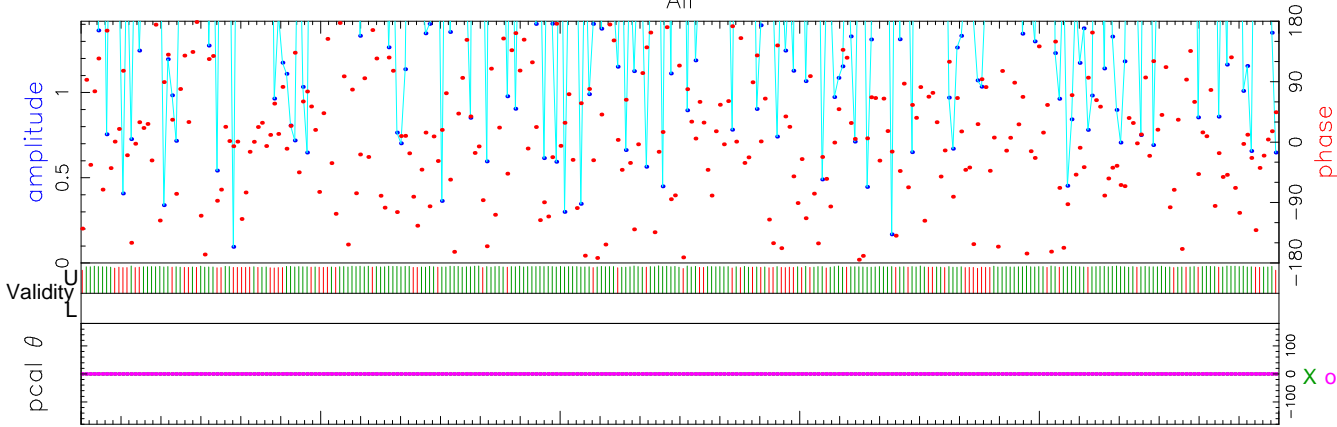
SNR 5.3  
Int time 287.772  
Amp 0.473  
Phase 9.5  
PFD 1.0e+00  
Delays (us)  
SBD -0.319461  
MBD -0.000007  
Fringe rate (Hz)  
-0.267159  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
9.5  
0.5  
472.1  
U/L 586/0  
X 0  
o 5000  
X:o 0:0  
X:o 0:0  
X 1000  
o 1000  
X W04UR  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
  
Chan ids  
Chan ids

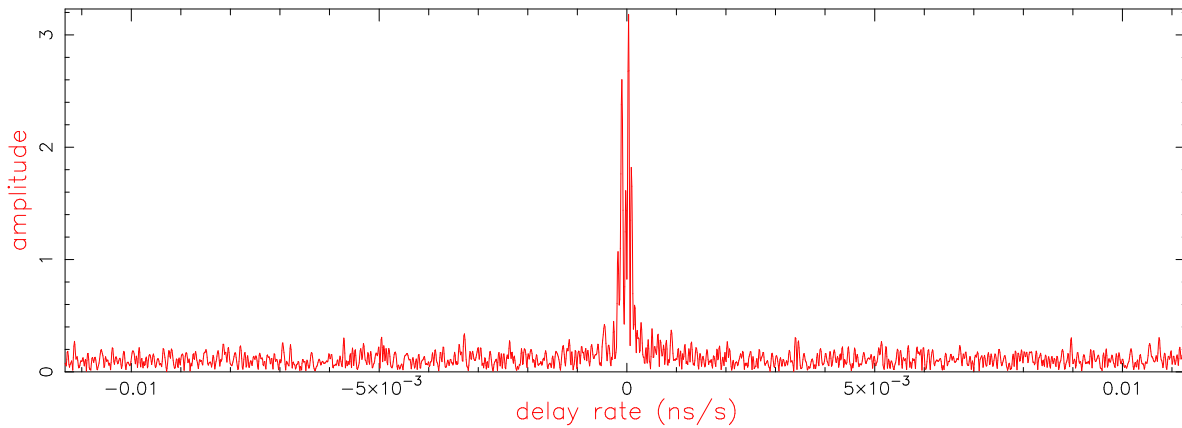
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 3.51621339719E+03  | Apriori delay (usec)     | 3.51653286113E+03  | Resid mbdelay (usec) | -7.24100E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | 3.51621340013E+03  | Apriori clock (usec)     | -4.2574463E+00     | Resid sbdelay (usec) | -3.19461E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | 3.51653286144E+03  | Apriori clockrate (us/s) | 1.6044002E-07      | Resid phdelay (usec) | 3.06535E-07  | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.80756488590E+00 | Apriori rate (us/s)      | -1.80756178444E+00 | Resid rate (us/s)    | -3.10146E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | 246.3              | Apriori accel (us/s/s)   | -1.12220244521E-05 | Resid phase (deg)    | 9.5          | +/- | 21.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 88.4  | Theor.          | 184.4 | Amplitude      | 0.473 +/- 0.089 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 398.8 | Search (2048X8) | 0.456 | Search         | 0.456           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.333           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.464 | Inc. frq. avg. | 0.464           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

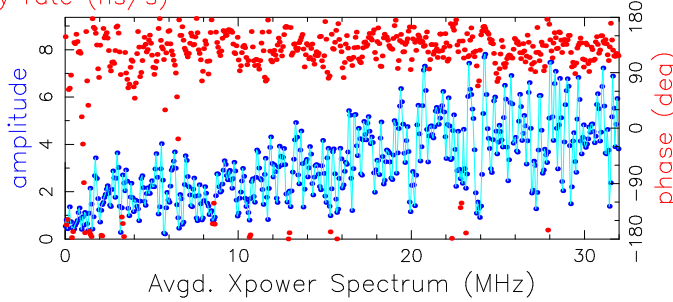
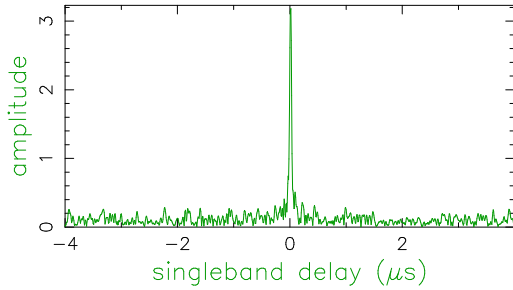
X: az 247.6 el 32.5 pa 31.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10767.754 1712.029 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xo.W.287.0QR2SH

Fringe quality 9

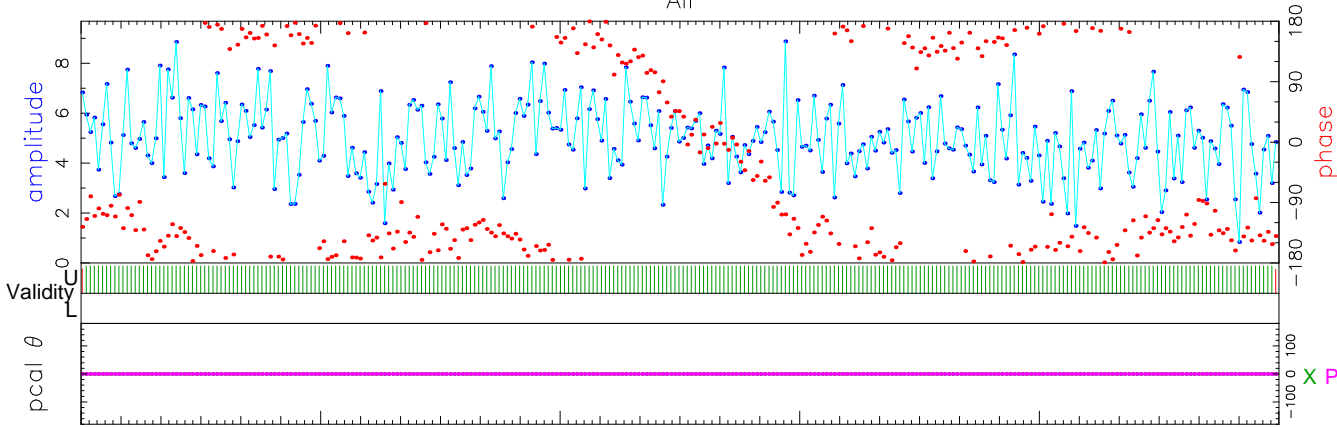


SNR 38.0  
 Int time 296.612  
 Amp 3.230  
 Phase -162.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.012295  
 MBD -0.000002  
 Fringe rate (Hz)  
 0.003106  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171828  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 -162.1  
 3.2  
 514.6  
 U/L 586/0  
 X 0  
 P 0  
 X:P 0:0  
 X:P 0:0  
 X 1000  
 P 1000  
 X W04UL  
 P W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

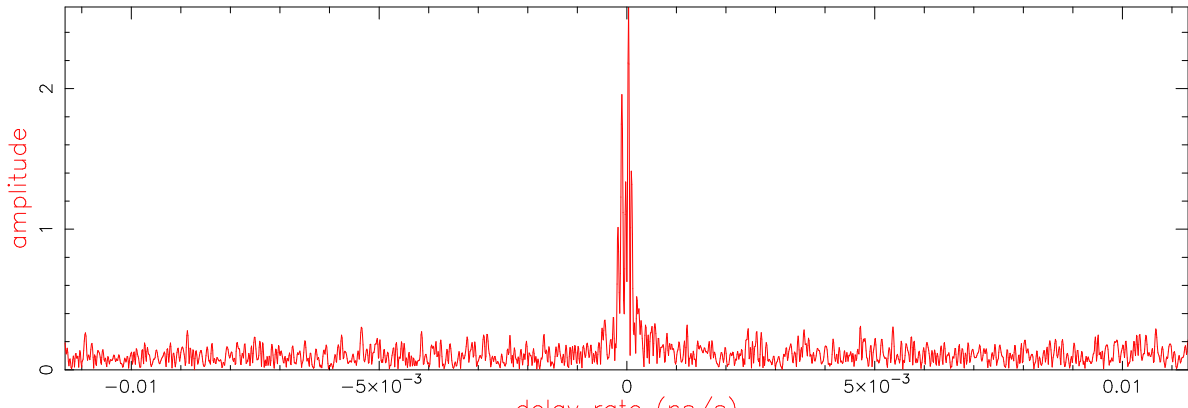
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78517601553E+03 | Apriori delay (usec)     | -4.78518830789E+03 | Resid mbdelay (usec) | -1.58508E-06 | +/- | 4.5E-04 |
| Sband delay (usec)      | -4.78517601289E+03 | Apriori clock (usec)     | 2.5145716E+01      | Resid sbdelay (usec) | 1.22950E-02  | +/- | 4.5E-04 |
| Phase delay (usec)      | -4.78518831311E+03 | Apriori clockrate (us/s) | 1.0770000E-06      | Resid phdelay (usec) | -5.22623E-06 | +/- | 9.7E-08 |
| Delay rate (us/s)       | 1.02212216630E-01  | Apriori rate (us/s)      | 1.02212180568E-01  | Resid rate (us/s)    | 3.60620E-08  | +/- | 5.6E-10 |
| Total phase (deg)       | -105.0             | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | -162.1       | +/- | 3.0     |

|              |      |                 |       |                |                 |                       |                             |                  |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 59.2 | Theor.          | 25.8  | Amplitude      | 3.230 +/- 0.085 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 70.7 | Search (2048X8) | 3.145 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 4.546 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.5  | Inc. frq. avg.  | 3.181 | Inc. frq. avg. | 3.181           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |      |                 |       |                |                 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

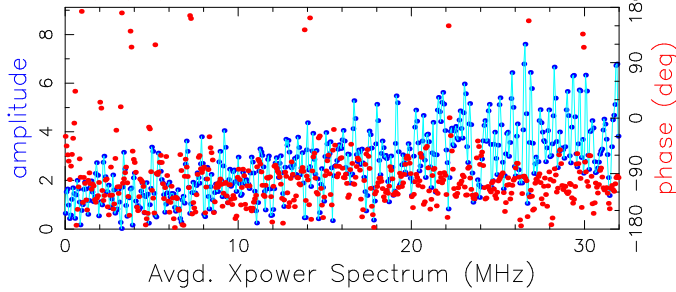
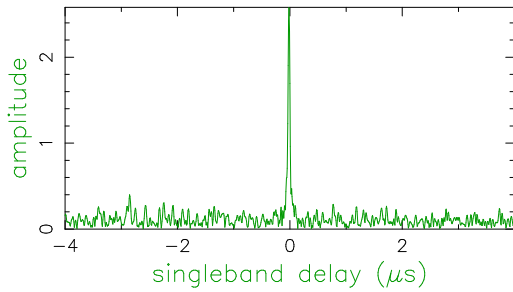
X: az 247.6 el 32.5 pa 31.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XP.W.227.0QR2SH

Fringe quality 9



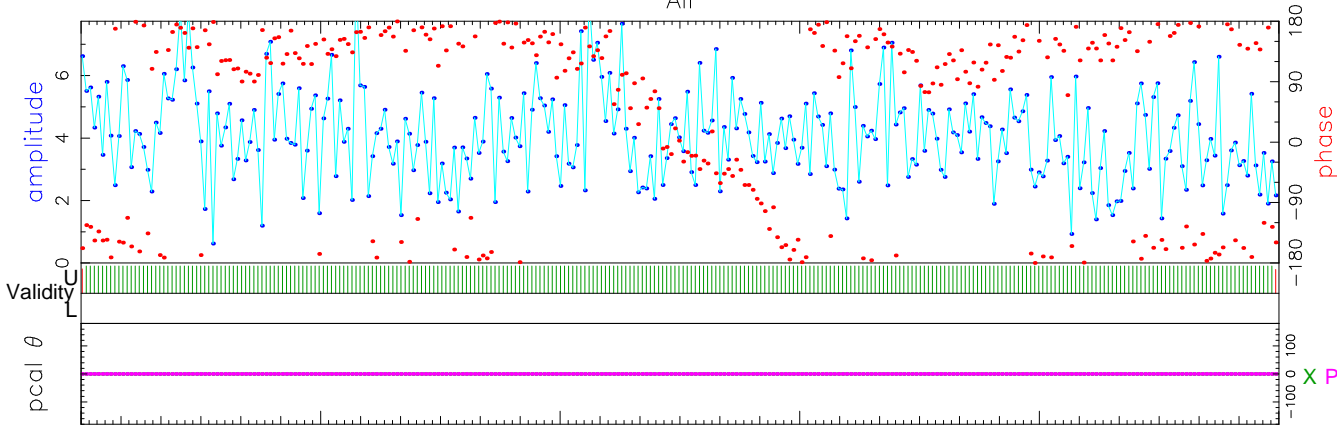
SNR 30.4  
 Int time 296.612  
 Amp 2.581  
 Phase 156.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.016727  
 MBD -0.000001  
 Fringe rate (Hz)  
 0.003091  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171829  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 156.4  
 2.6  
 510.9  
 U/L 586/0  
 X 0  
 P 0  
 X:P 0:0  
 X:P 0:0  
 X 1000  
 P 1000  
 X W04UR  
 P W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -4.78520503773E+03 | Apriori delay (usec)     | -4.78518830789E+03 | Resid mbdelay (usec) | -1.25957E-06 | +/- 5.7E-04 |
| Sband delay (usec)      | -4.78520503539E+03 | Apriori clock (usec)     | 2.5145716E+01      | Resid sbdelay (usec) | -1.67275E-02 | +/- 5.7E-04 |
| Phase delay (usec)      | -4.78518830284E+03 | Apriori clockrate (us/s) | 1.0770000E-06      | Resid phdelay (usec) | 5.04495E-06  | +/- 1.2E-07 |
| Delay rate (us/s)       | 1.02212216450E-01  | Apriori rate (us/s)      | 1.02212180568E-01  | Resid rate (us/s)    | 3.58821E-08  | +/- 7.0E-10 |
| Total phase (deg)       | -146.5             | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 156.4        | +/- 3.8     |

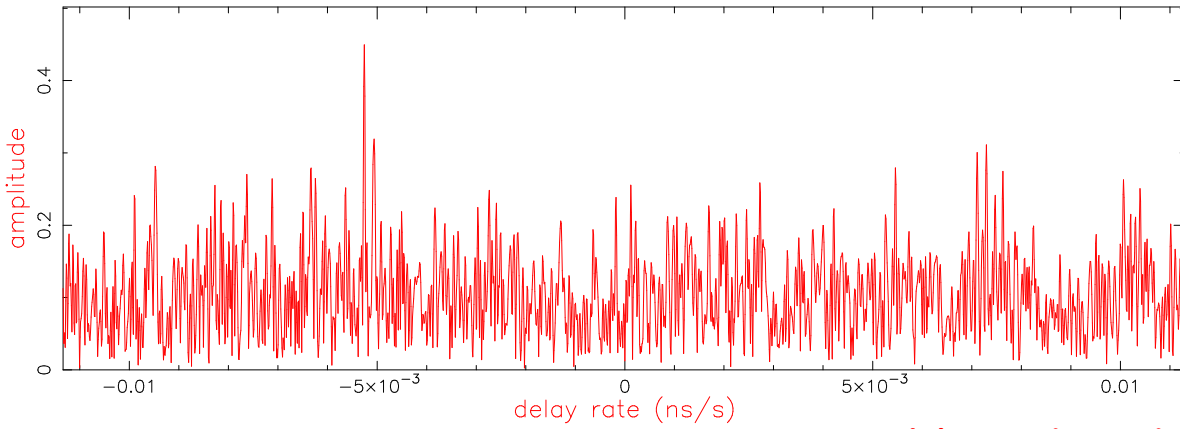
|              |      |        |      |                 |                 |  |                       |                   |        |       |
|--------------|------|--------|------|-----------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 61.0 | Theor. | 32.3 | Amplitude       | 2.581 +/- 0.085 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 81.0 |        | 56.3 | Search (2048X8) | 2.552           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0  |        | 1.9  | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.2  |        | 3.3  | Inc. seg. avg.  | 3.529           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |      |        |      | Inc. frq. avg.  | 2.575           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

X: az 247.6 el 32.5 pa 31.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator

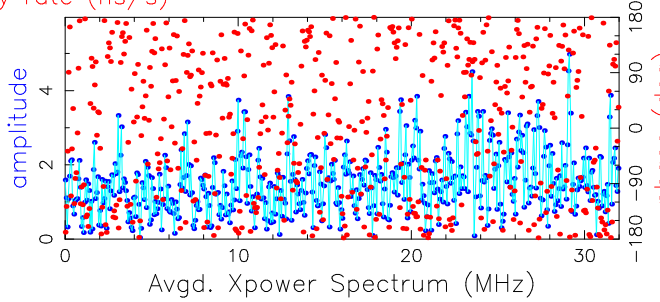
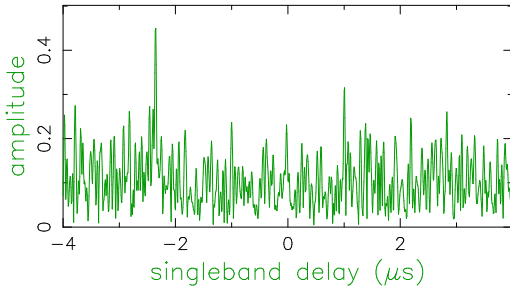
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XP.W.237.0QR2SH



Fringe quality 0



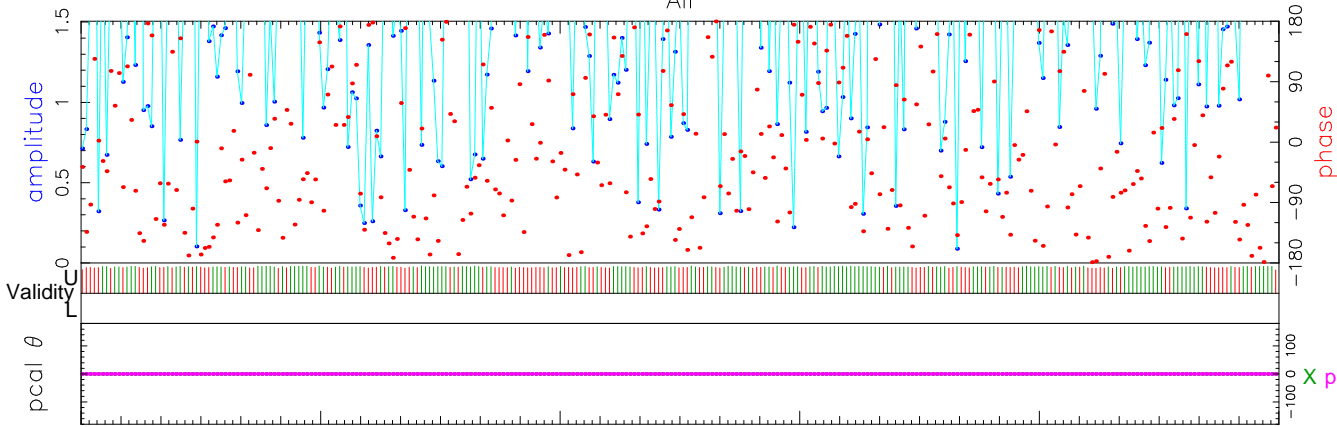
SNR 5.3  
Int time 285.684  
Amp 0.502  
Phase -90.1  
PFD 1.0e+00  
Delays (us)  
SBD -2.354976  
MBD -0.000005  
Fringe rate (Hz)  
-0.453266  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-90.1  
0.5  
211.6  
U/L 586/0  
X 0  
p 5000  
X:p 0:0  
X:p 0:0  
X 1000  
p 1000  
X W04UL  
p W04UL

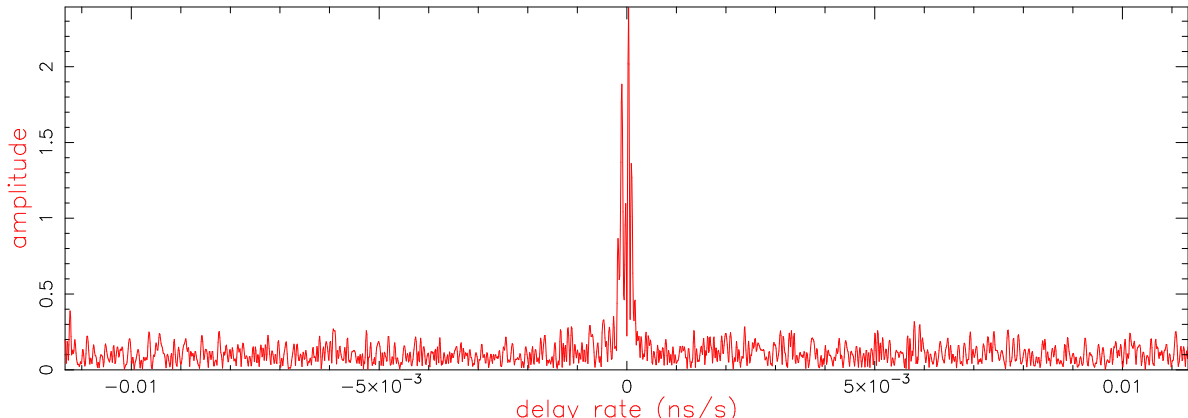
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 7.88985369073E+02  | Apriori delay (usec)     | 7.91340342731E+02  | Resid mbdelay (usec) | -5.00200E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 7.88985366731E+02  | Apriori clock (usec)     | -6.2368097E+00     | Resid sbdelay (usec) | -2.35498E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 7.91340339826E+02  | Apriori clockrate (us/s) | 6.3499997E-07      | Resid phdelay (usec) | -2.90467E-06 | +/- | 7.0E-07 |
| Delay rate (us/s)       | -1.77601761647E+00 | Apriori rate (us/s)      | -1.77601235451E+00 | Resid rate (us/s)    | -5.26196E-06 | +/- | 4.0E-09 |
| Total phase (deg)       | -45.9              | Apriori accel (us/s/s)   | 4.56415516622E-06  | Resid phase (deg)    | -90.1        | +/- | 21.6    |

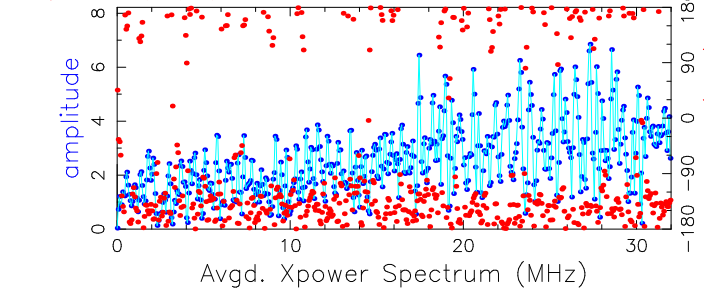
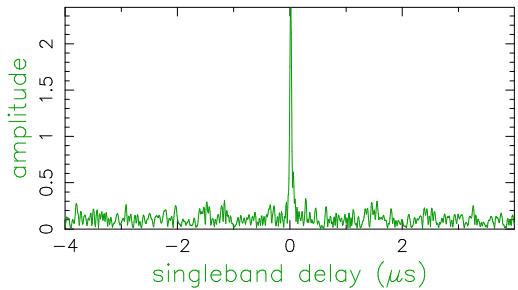
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor.          | 185.1 | Amplitude      | 0.502 +/- 0.095 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 372.3 | Search (2048X8) | 0.442 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.326           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 2.0   | Inc. frq. avg.  | 0.483 | Inc. frq. avg. | 0.483           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10599.694 2426.227 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xp.W.238.0QR2SH

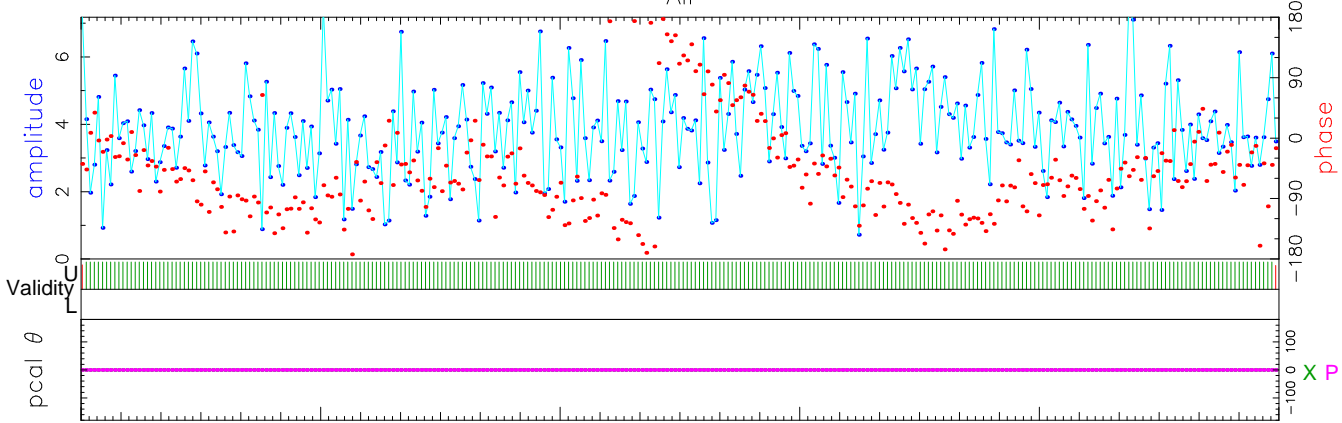


Fringe quality 9  
SNR 28.2  
Int time 296.612  
Amp 2.394  
Phase -70.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.014457  
MBD -0.000001  
Fringe rate (Hz)  
0.002985  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171830  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-70.7  
2.4  
514.9  
U/L 586/0  
X 0  
P 0  
X:P 0:0  
X:P 0:0  
X 1000  
P 1000  
X W04UL  
P W04UR

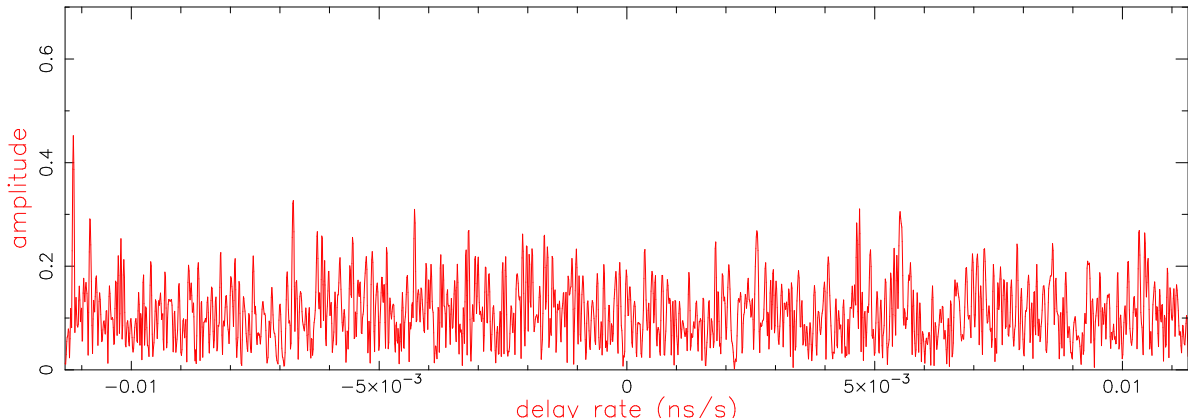
Freq (MHz)  
Phase  
Amp.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78517385586E+03 | Apriori delay (usec)     | -4.78518830789E+03 | Resid mbdelay (usec) | -1.18945E-06 | +/- | 6.1E-04 |
| Sband delay (usec)      | -4.78517385089E+03 | Apriori clock (usec)     | 2.5145716E+01      | Resid sbdelay (usec) | 1.44570E-02  | +/- | 6.1E-04 |
| Phase delay (usec)      | -4.78518831017E+03 | Apriori clockrate (us/s) | 1.0770000E-06      | Resid phdelay (usec) | -2.27937E-06 | +/- | 1.3E-07 |
| Delay rate (us/s)       | 1.02212215223E-01  | Apriori rate (us/s)      | 1.02212180568E-01  | Resid rate (us/s)    | 3.46548E-08  | +/- | 7.6E-10 |
| Total phase (deg)       | -13.6              | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | -70.7        | +/- | 4.1     |

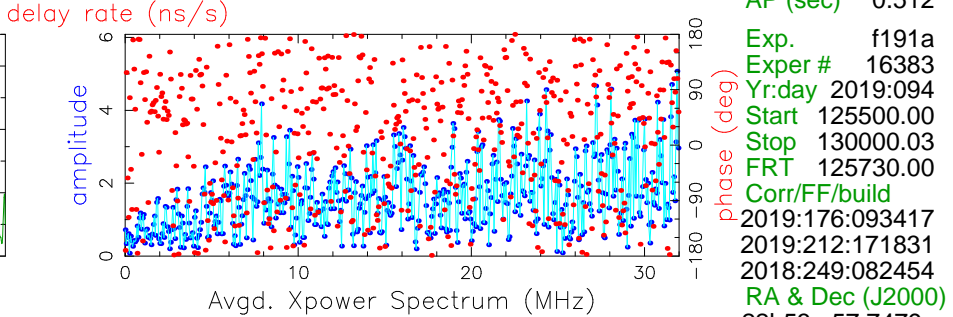
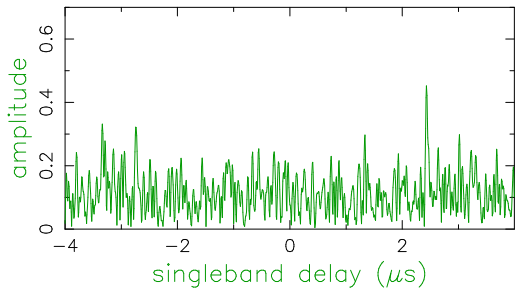
|              |      |     |      |        |      |                |                 |                 |       |                       |                             |                  |              |                |              |
|--------------|------|-----|------|--------|------|----------------|-----------------|-----------------|-------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 61.6 | RMS | 34.8 | Theor. | 34.8 | Amplitude      | 2.394 +/- 0.085 | Search (2048X8) | 2.383 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 84.4 |     |      |        |      | Interp.        | 0.000           |                 |       | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0  |     |      |        |      | Inc. seg. avg. | 3.269           |                 |       | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2  |     |      |        |      | Inc. frq. avg. | 2.388           |                 |       | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XP.W.246.0QR2SH

Fringe quality 0

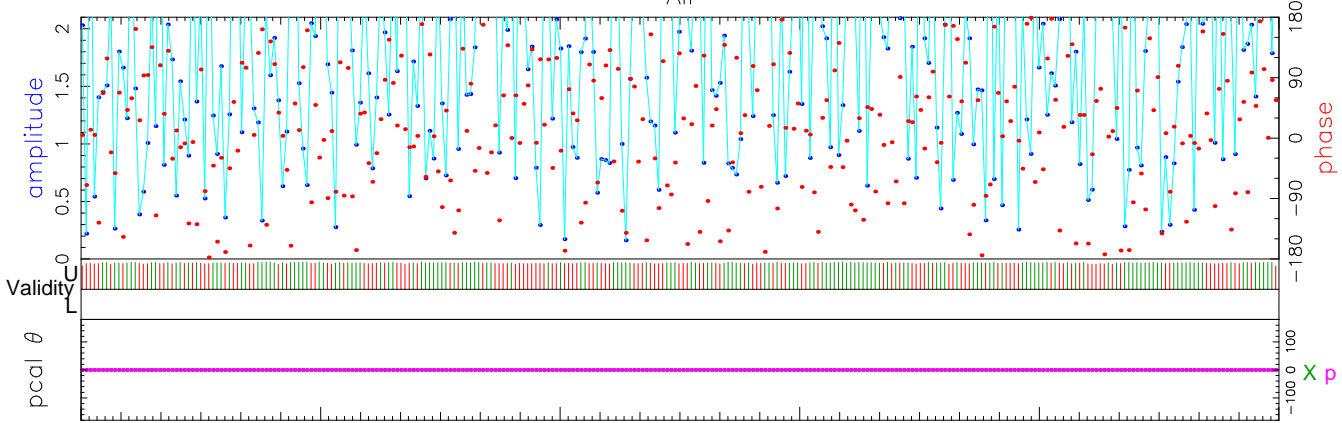


SNR 5.2  
 Int time 285.678  
 Amp 0.700  
 Phase 35.0  
 PFD 1.0e+00  
 Delays (us)  
 SBD 2.429888  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.962631  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171831  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
 35.0  
 0.7  
 824.0  
 U/L 586/0  
 X 0  
 p 5000  
 X:p 0:0  
 X:p 0:0  
 X 1000  
 p 1000  
 X W04UR  
 p W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 7.93770229223E+02  | Apriori delay (usec)     | 7.91340342731E+02  | Resid mbdelay (usec) | -6.70490E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 7.93770231231E+02  | Apriori clock (usec)     | -6.2368097E+00     | Resid sbdelay (usec) | 2.42989E+00  | +/- | 3.3E-03 |
| Phase delay (usec)      | 7.91340343860E+02  | Apriori clockrate (us/s) | 6.3499997E-07      | Resid phdelay (usec) | 1.12911E-06  | +/- | 7.1E-07 |
| Delay rate (us/s)       | -1.77602352970E+00 | Apriori rate (us/s)      | -1.77601235451E+00 | Resid rate (us/s)    | -1.11752E-05 | +/- | 4.1E-09 |
| Total phase (deg)       | 79.2               | Apriori accel (us/s/s)   | 4.56415516622E-06  | Resid phase (deg)    | 35.0         | +/- | 21.9    |

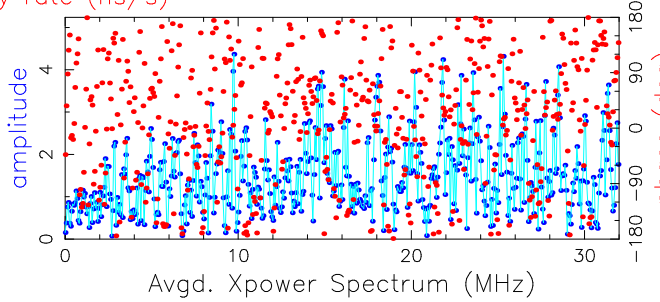
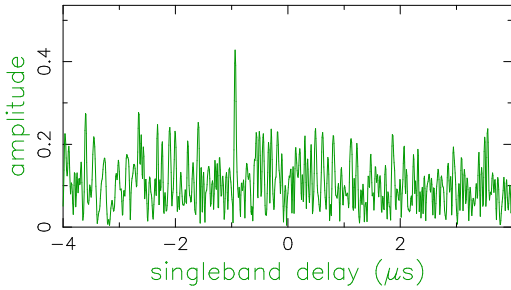
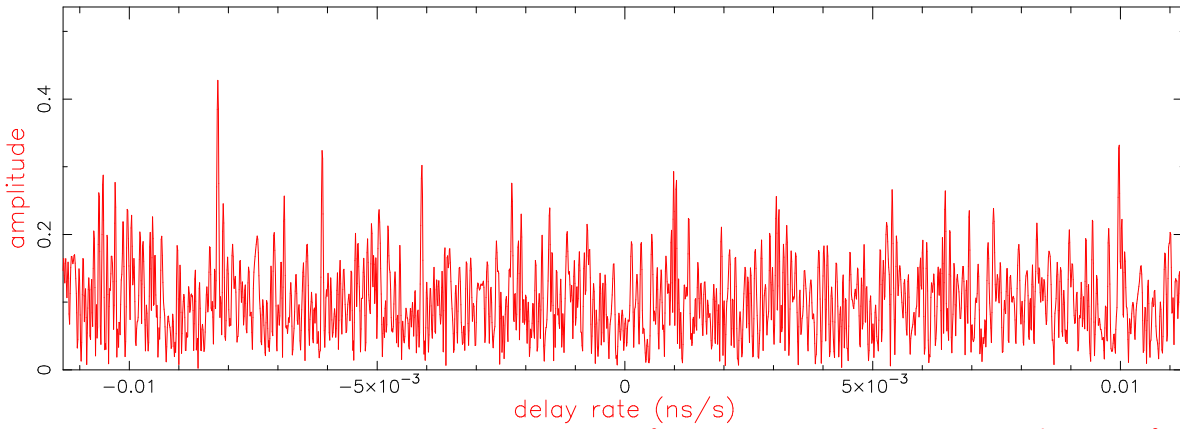
|              |          |              |                           |  |                       |                   |        |       |
|--------------|----------|--------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 92.1 | Theor. 187.7 | Amplitude 0.700 +/- 0.134 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 396.9    | 327.5        | Search (2048X8) 0.442     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 11.0         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.0      | 19.1         | Inc. seg. avg. 0.462      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |              | Inc. frq. avg. 0.688      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

X: az 247.6 el 32.5 pa 31.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10599.694 2426.227 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xp.W.248.0QR2SH

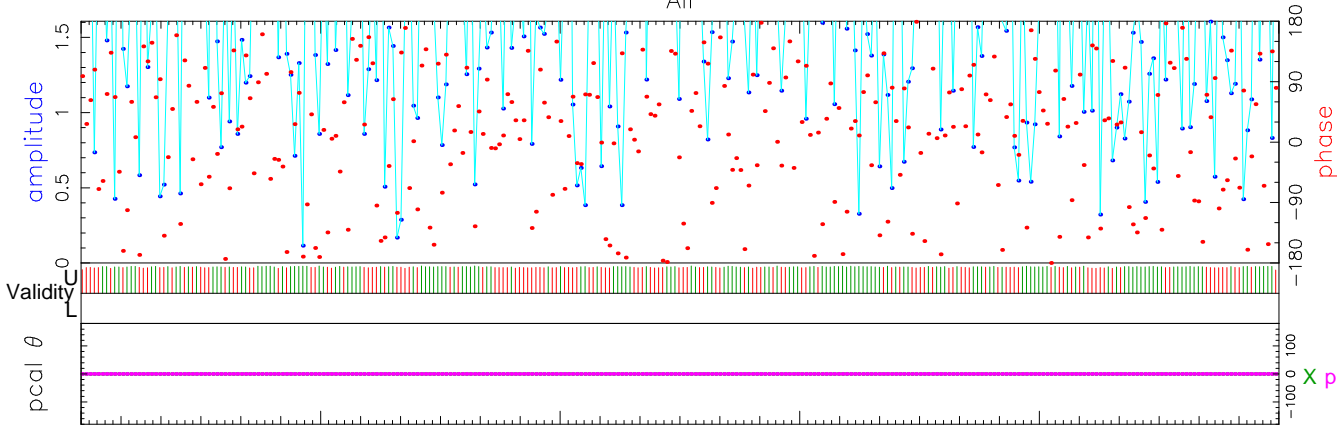
Fringe quality 0

SNR 4.9  
Int time 285.678  
Amp 0.536  
Phase 54.5  
PFD 1.0e+00  
Delays (us)  
SBD -0.937850  
MBD -0.000007  
Fringe rate (Hz)  
-0.707414  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171832  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



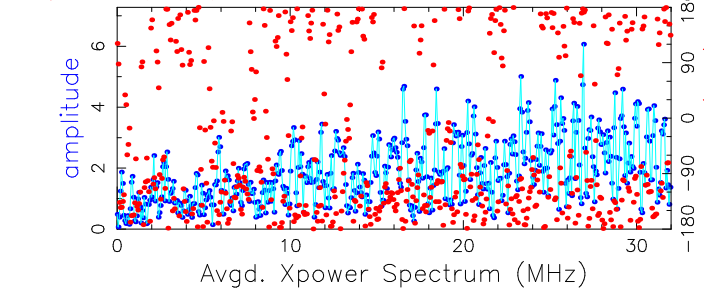
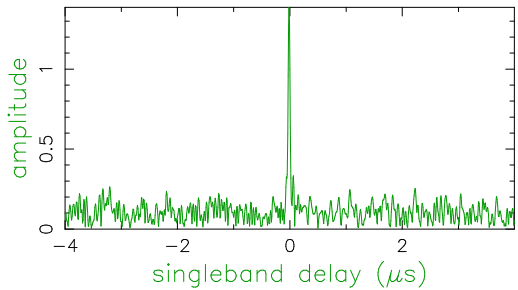
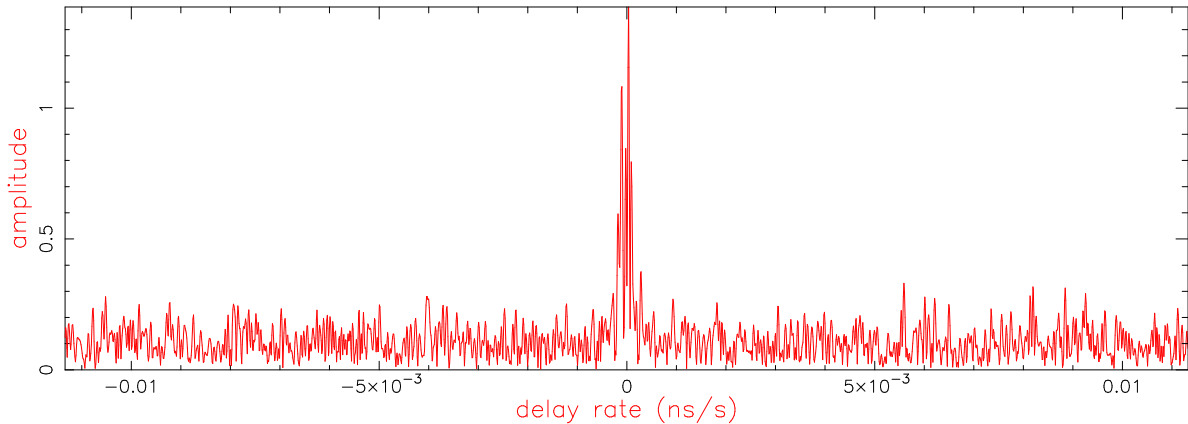
86140.00  
54.5  
0.5  
393.0  
U/L 586/0  
X 0  
p 5000  
X:p 0:0  
X:p 0:0  
X 1000  
p 1000  
X W04UL  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 7.90402490206E+02  | Apriori delay (usec)     | 7.91340342731E+02  | Resid mbdelay (usec) | -7.15691E-06 | +/- | 3.5E-03 |
| Sband delay (usec)      | 7.90402493231E+02  | Apriori clock (usec)     | -6.2368097E+00     | Resid sbdelay (usec) | -9.37850E-01 | +/- | 3.5E-03 |
| Phase delay (usec)      | 7.91340344489E+02  | Apriori clockrate (us/s) | 6.3499997E-07      | Resid phdelay (usec) | 1.75821E-06  | +/- | 7.5E-07 |
| Delay rate (us/s)       | -1.77602056689E+00 | Apriori rate (us/s)      | -1.77601235451E+00 | Resid rate (us/s)    | -8.21238E-06 | +/- | 4.3E-09 |
| Total phase (deg)       | 98.7               | Apriori accel (us/s/s)   | 4.56415516622E-06  | Resid phase (deg)    | 54.5         | +/- | 23.2    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 92.6  | Theor.          | 198.5 | Amplitude      | 0.536 +/- 0.108 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 385.0 | Search (2048X8) | 0.425 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.325           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.525 | Inc. frq. avg. | 0.525           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10599.694 2426.227 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xp.W.258.0QR2SH



Fringe quality 9

SNR 16.3

Int time 296.612

Amp 1.387

Phase 122.1

PFD 0.0e+00

Delays (us)

SBD -0.015193

MBD -0.000002

Fringe rate (Hz) 0.002943

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

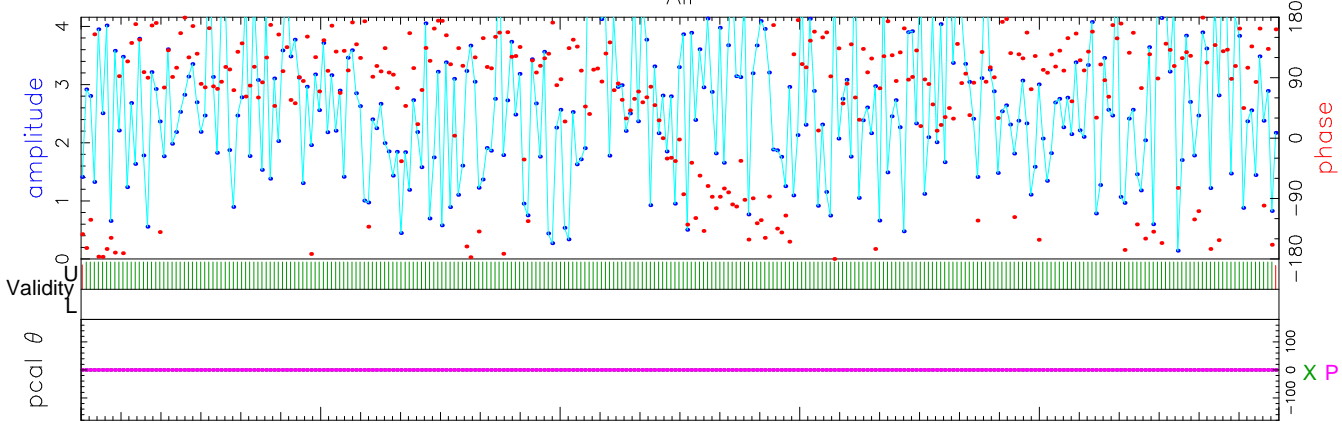
Corr/FF/build 2019:176:093417

2019:212:171832

2018:249:082454

RA & Dec (J2000) 22h53m57.7479s +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



|          |       |     |       |           |     |     |         |         |        |        |         |         |            |       |       |         |          |          |          |         |        |          |          |
|----------|-------|-----|-------|-----------|-----|-----|---------|---------|--------|--------|---------|---------|------------|-------|-------|---------|----------|----------|----------|---------|--------|----------|----------|
| 86140.00 | 122.1 | 1.4 | 511.1 | U/L 586/0 | X 0 | P 0 | X:P 0:0 | X:P 0:0 | X 1000 | P 1000 | X W04UR | P W04UL | Freq (MHz) | Phase | Ampl. | Sbd box | APs used | PC freqs | PC phase | Manl PC | PC amp | Chan ids | Chan ids |
|----------|-------|-----|-------|-----------|-----|-----|---------|---------|--------|--------|---------|---------|------------|-------|-------|---------|----------|----------|----------|---------|--------|----------|----------|

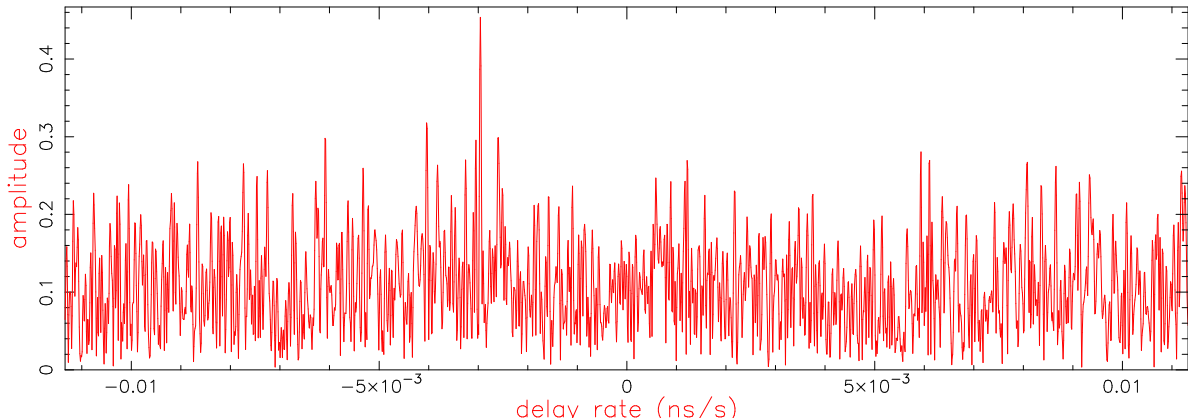
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.78520350633E+03 | Apriori delay (usec)     | -4.78518830789E+03 | Resid mbdelay (usec) | -2.25464E-06 | +/- | 1.1E-03 |
| Sband delay (usec)      | -4.78520350139E+03 | Apriori clock (usec)     | 2.5145716E+01      | Resid sbdelay (usec) | -1.51935E-02 | +/- | 1.1E-03 |
| Phase delay (usec)      | -4.78518830395E+03 | Apriori clockrate (us/s) | 1.0770000E-06      | Resid phdelay (usec) | 3.93805E-06  | +/- | 2.3E-07 |
| Delay rate (us/s)       | 1.02212214730E-01  | Apriori rate (us/s)      | 1.02212180568E-01  | Resid rate (us/s)    | 3.41617E-08  | +/- | 1.3E-09 |
| Total phase (deg)       | -180.8             | Apriori accel (us/s/s)   | 3.31456296864E-05  | Resid phase (deg)    | 122.1        | +/- | 7.0     |

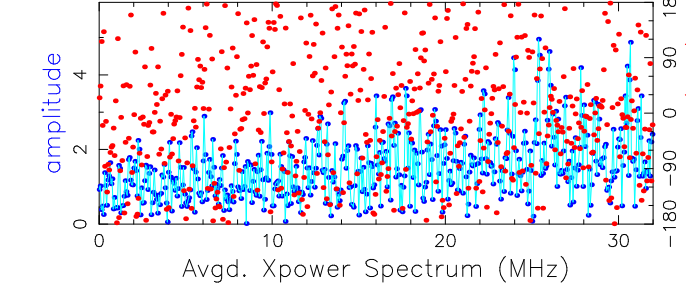
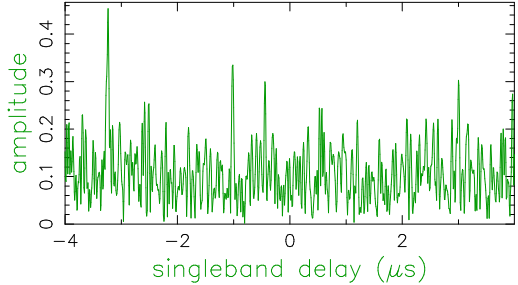
|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 67.8  | Theor.          | 60.1  | Amplitude      | 1.387 +/- 0.085 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 127.6 | Search (2048X8) | 1.384 | Search         | 1.384           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 1.712           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 1.384 | Inc. frq. avg. | 1.384           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |

X: az 247.6 el 32.5 pa 31.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -566.705 2800.708 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XP.W.265.0QR2SH

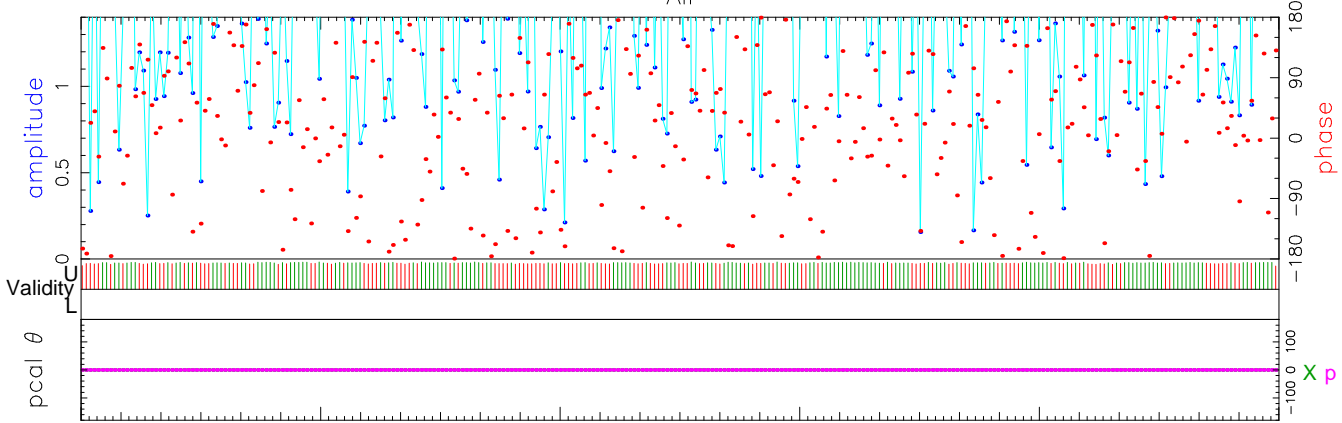


Fringe quality 0  
SNR 5.2  
Int time 285.684  
Amp 0.467  
Phase 72.4  
PFD 1.0e+00  
Delays (us)  
SBD -3.235178  
MBD -0.000007  
Fringe rate (Hz)  
-0.254753  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



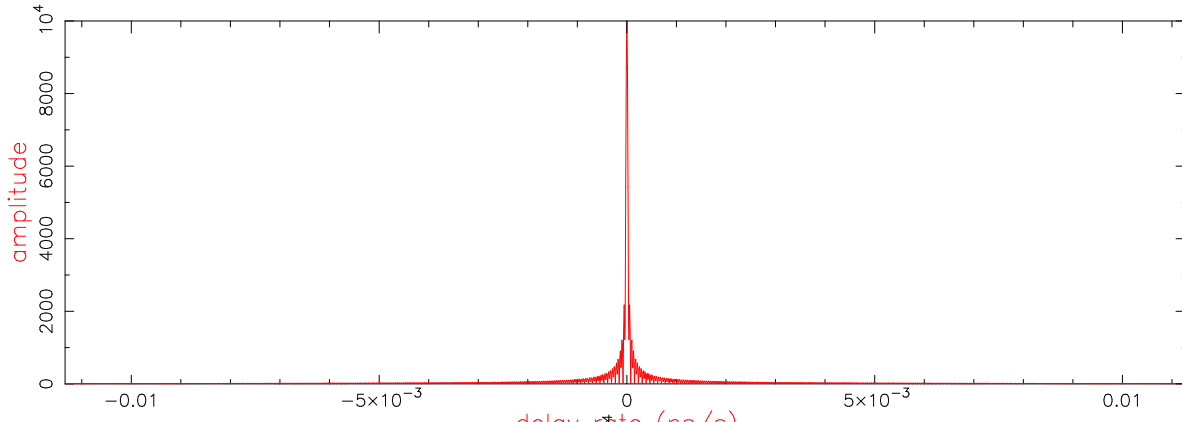
86140.00  
72.4  
0.5  
98.9  
U/L 586/0  
X 0  
p 5000  
X:p 0:0  
X:p 0:0  
X 1000  
p 1000  
X W04UR  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

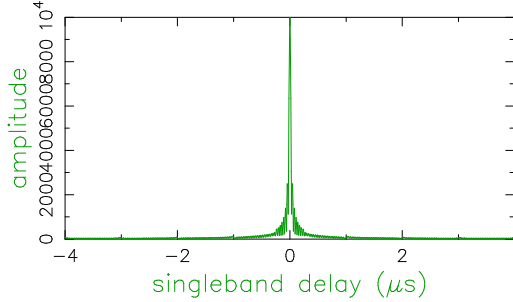
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 7.88105160602E+02  | Apriori delay (usec)     | 7.91340342731E+02  | Resid mbdelay (usec) | -6.83297E-06 | +/- | 3.3E-03 |
| Sband delay (usec)      | 7.88105164731E+02  | Apriori clock (usec)     | -6.2368097E+00     | Resid sbdelay (usec) | -3.23518E+00 | +/- | 3.3E-03 |
| Phase delay (usec)      | 7.91340345065E+02  | Apriori clockrate (us/s) | 6.3499997E-07      | Resid phdelay (usec) | 2.33471E-06  | +/- | 7.0E-07 |
| Delay rate (us/s)       | -1.77601531194E+00 | Apriori rate (us/s)      | -1.77601235451E+00 | Resid rate (us/s)    | -2.95743E-06 | +/- | 4.1E-09 |
| Total phase (deg)       | 116.6              | Apriori accel (us/s/s)   | 4.56415516622E-06  | Resid phase (deg)    | 72.4         | +/- | 21.8    |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.5  | Theor.          | 187.0 | Amplitude      | 0.467 +/- 0.089 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 402.3 | Search (2048X8) | 0.453 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.311           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.458 | Inc. frq. avg. | 0.458           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

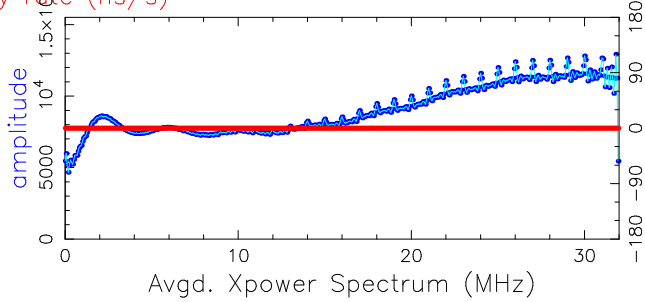
X: az 247.6 el 32.5 pa 31.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10599.694 2426.227 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Xp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Xp.W.275.0QR2SH



Fringe quality 9  
SNR 118372.4  
Int time 299.796  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171832  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

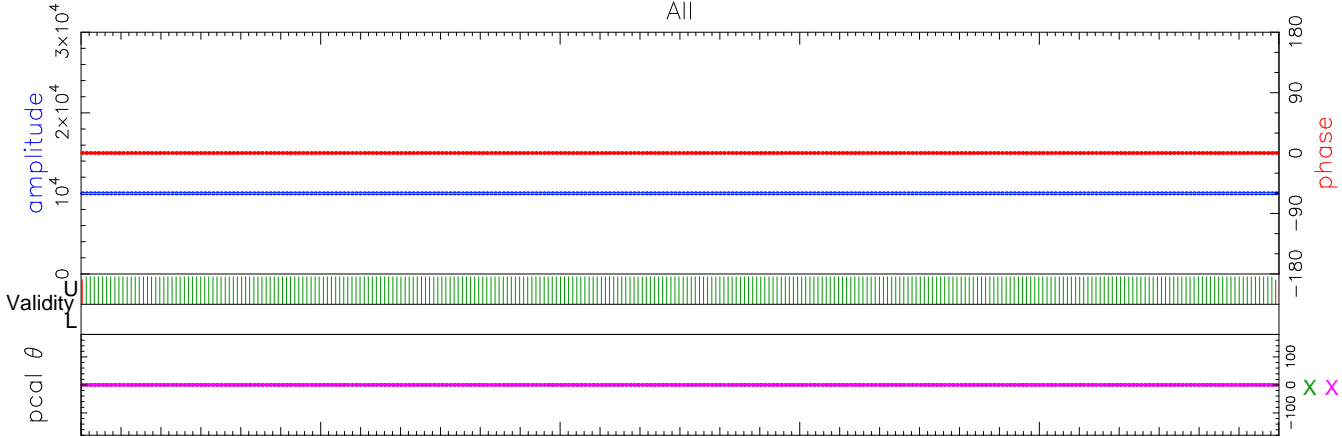


delay rate (ns/s)



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



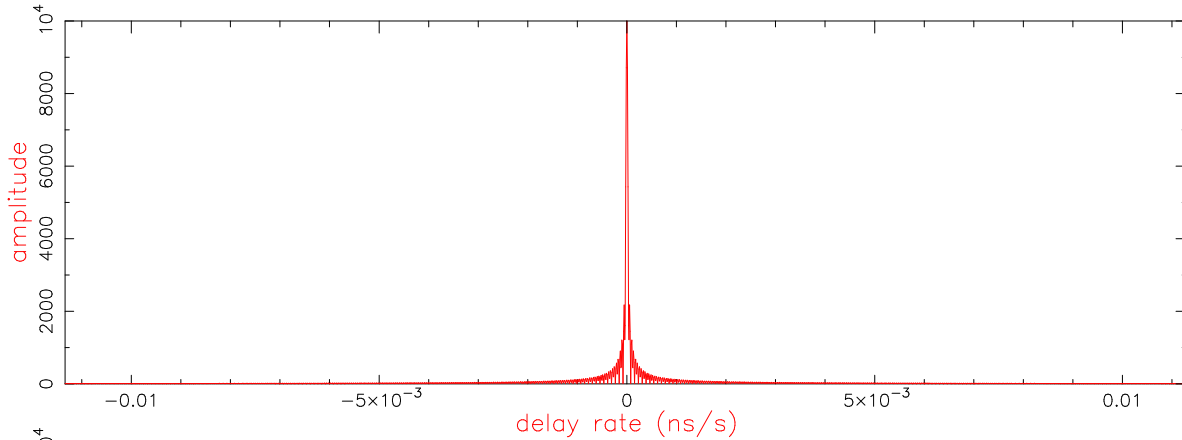
86140.00  
0.0  
10000.0  
513.0  
U/L 586/0  
X 0  
X 0  
X:X 0:0  
X:X 0:0  
X 1000  
X 1000  
X W04UL  
X W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.61458091479E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.99443E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.29917393562E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.29917E-09  | +/- | 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |     |     |        |     |                 |                     |                       |                             |                  |         |                  |        |       |
|--------------|-----|-----|-----|--------|-----|-----------------|---------------------|-----------------------|-----------------------------|------------------|---------|------------------|--------|-------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor. | 0.0 | Amplitude       | 10000.000 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5    | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 0.0 |     | 0.0 |        | 0.0 | Search (2048X8) | 10000.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) |                  |         | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |     | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 0.0 |     | 0.0 |        | 0.0 | Inc. frq. avg.  | 10000.000           | Sample rate(MSamp/s): | 64                          | Data rate(Mb/s): | 128     | ion window (TEC) | 0.00   | 0.00  |

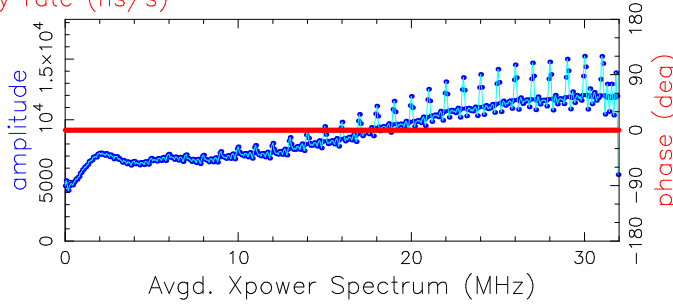
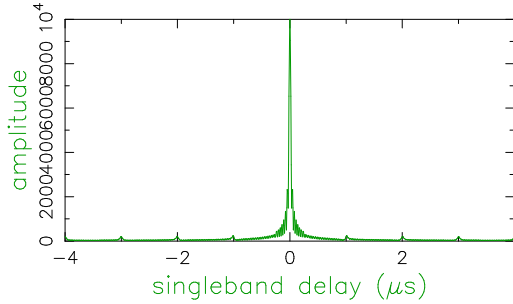
X: az 247.6 el 32.5 pa 31.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XX.W.263.0QR2SH



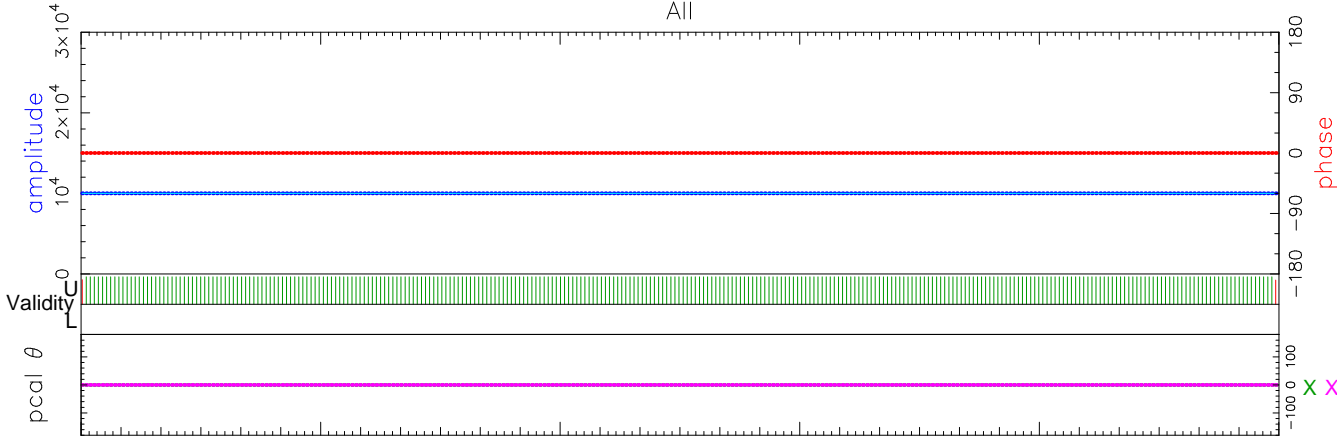
Fringe quality 9

SNR 118372.4  
Int time 299.796  
Amp 10000.000  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 0.0       |  | Phase      |
| 10000.0   |  | Ampl.      |
| 513.0     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| X 0       |  | PC freqs   |
| X 0       |  | PC freqs   |
| X:X 0:0   |  | PC phase   |
| X:X 0:0   |  | Mani PC    |
| X 1000    |  | PC amp     |
| X 1000    |  |            |
| X W04UR   |  | Chan ids   |
| X W04UR   |  | Chan ids   |

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.35453912236E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25447E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34747517405E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34748E-09  | +/- 3.1E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |     |     |        |     |                 |                     |                       |                             |                  |         |                  |          |       |
|--------------|-----|-----|-----|--------|-----|-----------------|---------------------|-----------------------|-----------------------------|------------------|---------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | RMS | 0.0 | Theor. | 0.0 | Amplitude       | 10000.000 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5    | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |     | 0.0 |        | 0.0 | Search (2048X8) | 10000.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) |                  |         | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |     | 0.0 |        | 0.0 | Interp.         | 0.000               | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 |     | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): | 64                          |                  |         | ion window (TEC) | 0.00     | 0.00  |
|              |     |     |     |        |     | Inc. frq. avg.  | 10000.000           | Data rate(Mb/s):      | 128                         | nlags:           | 512     | t_cohere         | infinite |       |

X: az 247.6 el 32.5 pa 31.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

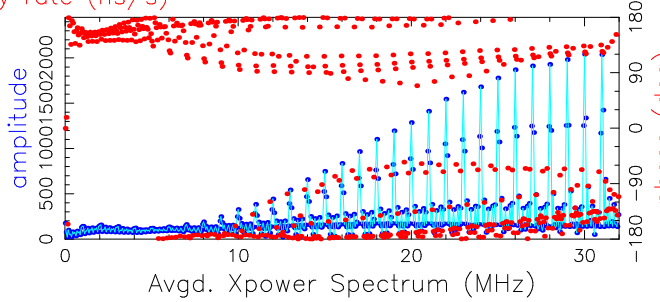
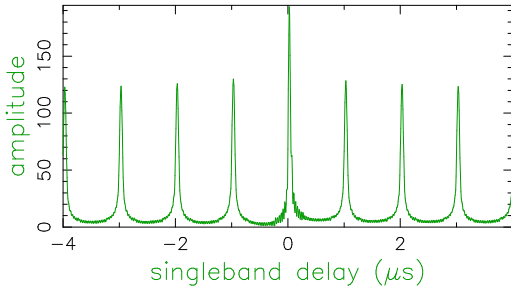
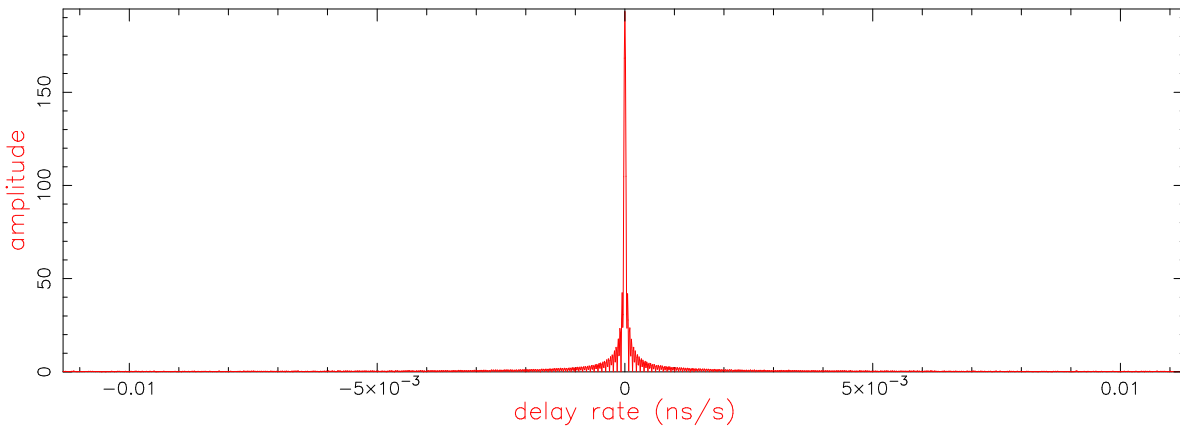
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XX.W.274.0QR2SH



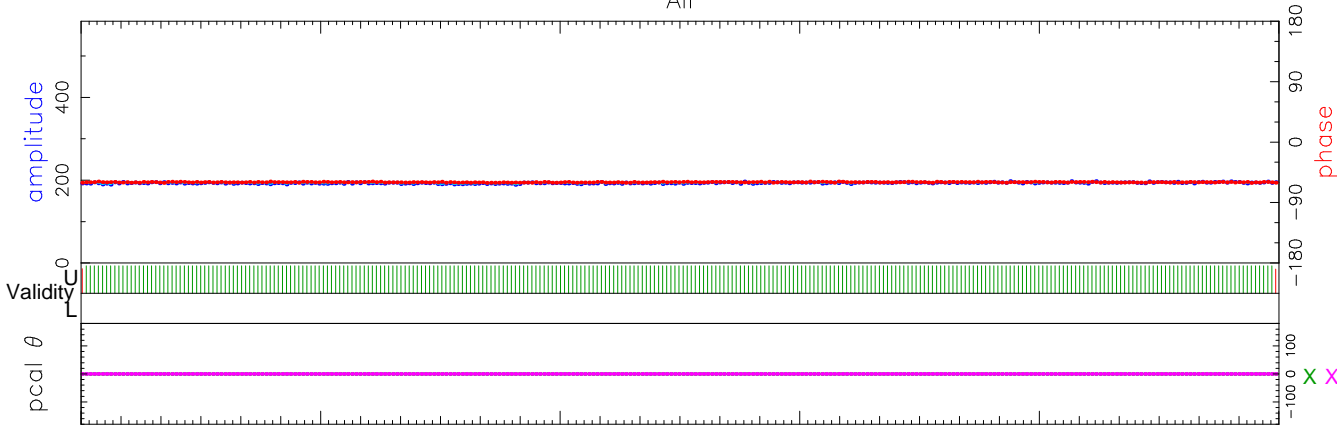
Fringe quality 9

SNR 2304.3  
Int time 299.796  
Amp 194.667  
Phase -59.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.025650  
MBD -0.000007  
Fringe rate (Hz)  
0.000016  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-59.7  
193.3  
516.3  
U/L 586/0  
X 0  
X 0  
X:X 0:0  
X:X 0:0  
X 1000  
X 1000  
X W04UL  
X W04UR

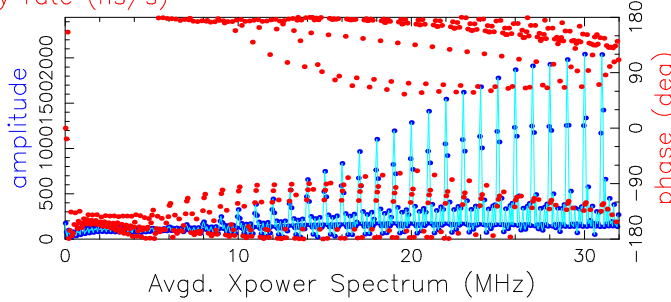
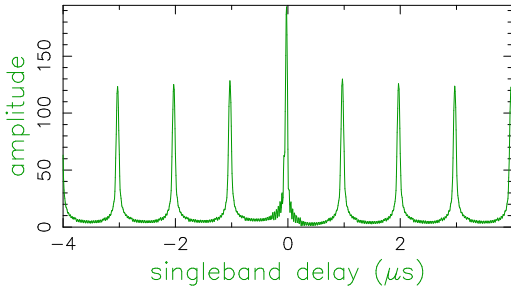
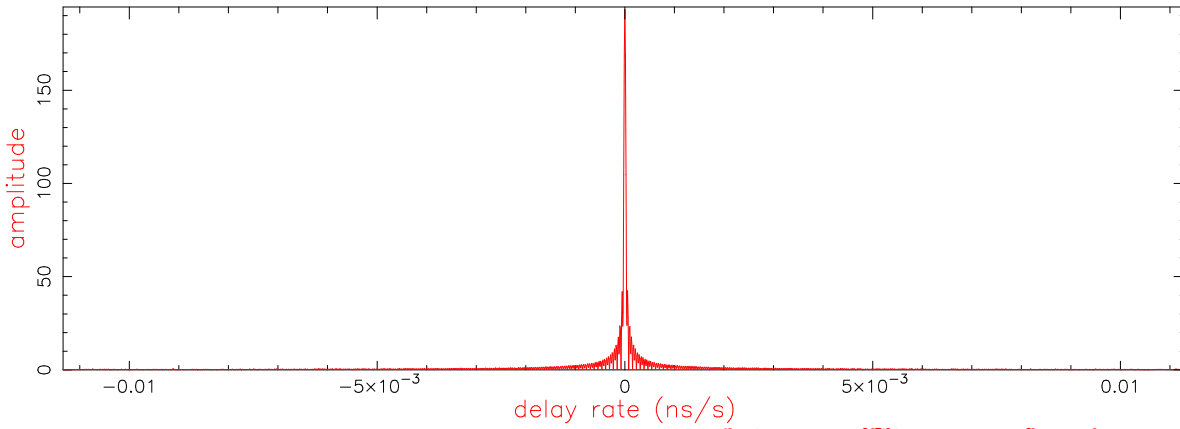
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                  |                      |              |     |         |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.56487009055E-02  | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.20808E-06 | +/- | 7.5E-06 |
| Sband delay (usec)      | 2.56505000000E-02  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 2.56505E-02  | +/- | 7.5E-06 |
| Phase delay (usec)      | -1.92594388449E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -1.92594E-06 | +/- | 1.6E-09 |
| Delay rate (us/s)       | 1.84933538711E-10  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 1.84934E-10  | +/- | 9.3E-12 |
| Total phase (deg)       | -59.7              | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -59.7        | +/- | 0.0     |

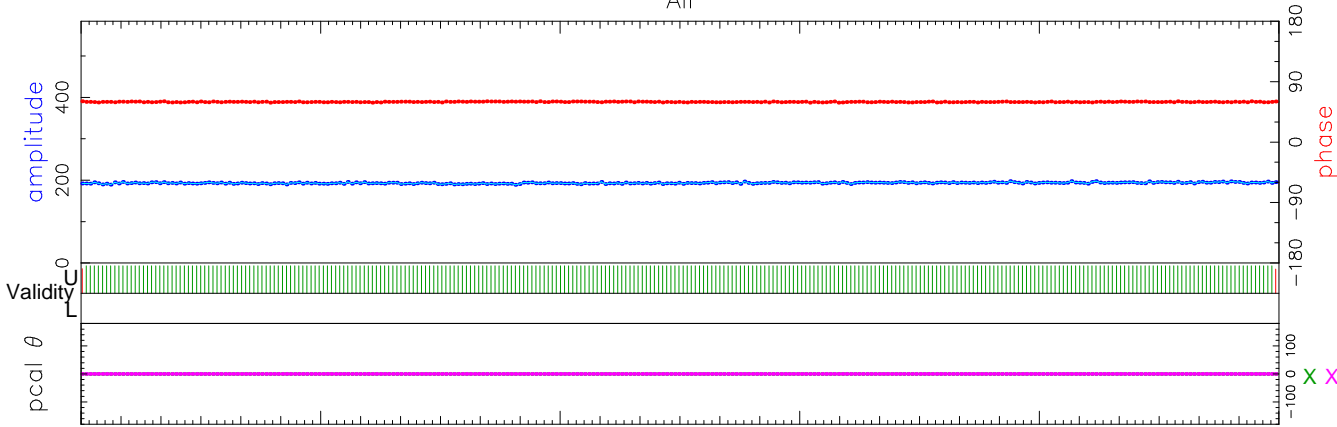
|              |     |     |                 |                   |                       |                             |                  |              |                |              |                  |           |
|--------------|-----|-----|-----------------|-------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 0.4 | 0.4 | Amplitude       | 194.667 +/- 0.084 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 1.1 | 0.7 | Search (2048X8) | 193.338           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0 | 0.0 | Interp.         | 0.000             | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.7 | 0.0 | Inc. seg. avg.  | 193.346           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |     |     | Inc. frq. avg.  | 193.346           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

X: az 247.6 el 32.5 pa 31.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XX.W.284.0QR2SH

Fringe quality 9  
 SNR 2304.3  
 Int time 299.796  
 Amp 194.667  
 Phase 59.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.025650  
 MBD -0.000004  
 Fringe rate (Hz)  
 -0.000016  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.000  
 AP (sec) 0.512  
 Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171835  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



|           |  |            |
|-----------|--|------------|
| 86140.00  |  | Freq (MHz) |
| 59.8      |  | Phase      |
| 193.3     |  | Ampl.      |
| 509.7     |  | Sbd box    |
| U/L 586/0 |  | APs used   |
| X 0       |  | PC freqs   |
| X 0       |  | PC freqs   |
| X:X 0:0   |  | PC phase   |
| X:X 0:0   |  | Mani PC    |
| X 1000    |  | PC amp     |
| X 1000    |  |            |
| X W04UR   |  | Chan ids   |
| X         |  |            |
| X W04UL   |  | Chan ids   |
| X         |  |            |

|                         |                    |                          |                  |                      |              |             |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -2.56487717669E-02 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -4.47179E-06 | +/- 7.5E-06 |
| Sband delay (usec)      | -2.5650500000E-02  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | -2.56505E-02 | +/- 7.5E-06 |
| Phase delay (usec)      | 1.92811335175E-06  | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.92811E-06  | +/- 1.6E-09 |
| Delay rate (us/s)       | -1.84933538711E-10 | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | -1.84934E-10 | +/- 9.3E-12 |
| Total phase (deg)       | 59.8               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 59.8         | +/- 0.0     |

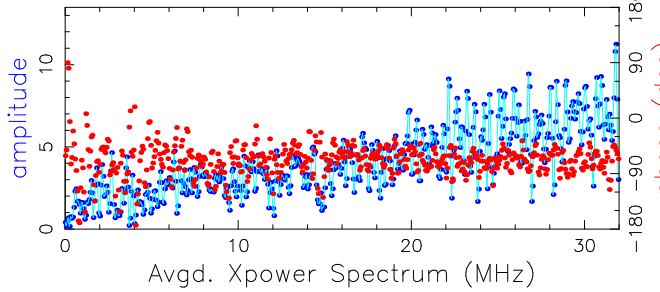
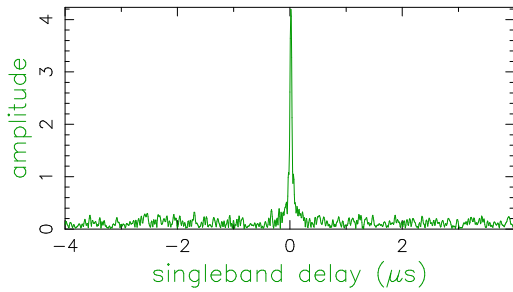
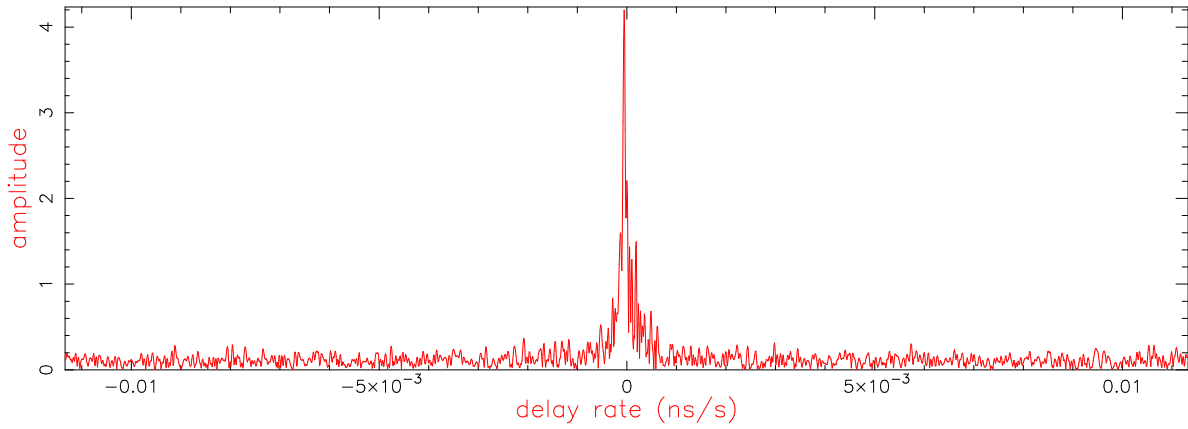
|              |     |        |     |                 |                   |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|-------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.4 | Theor. | 0.4 | Amplitude       | 194.667 +/- 0.084 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 1.1 |        | 0.7 | Search (2048X8) | 193.338           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.7 |        | 0.0 | Inc. seg. avg.  | 193.346           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 193.346           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

X: az 247.6 el 32.5 pa 31.4      X: az 247.6 el 32.5 pa 31.4      u,v (fr/asec) 0.000 0.000      simultaneous interpolator  
 Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//XX..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//XX.W.293.0QR2SH

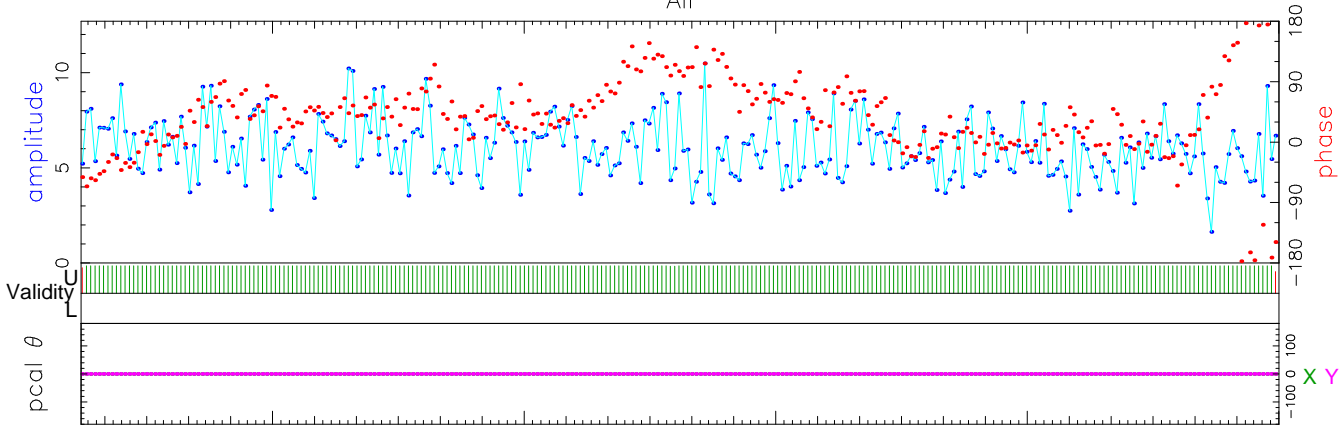
Fringe quality 9

SNR 48.9  
 Int time 285.318  
 Amp 4.234  
 Phase 40.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.018086  
 MBD -0.000005  
 Fringe rate (Hz)  
 -0.004732  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171831  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 40.0  
 4.2  
 515.3  
 U/L 558/0  
 X 0  
 Y 0  
 X:Y 0:0  
 X:Y 0:0  
 X 1000  
 Y 1000  
 X W04UL  
 Y W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.42162272562E+03 | Apriori delay (usec)     | -4.42164080740E+03 | Resid mbdelay (usec) | -5.05057E-06 | +/- | 3.5E-04 |
| Sband delay (usec)      | -4.42162272140E+03 | Apriori clock (usec)     | 1.8047026E+01      | Resid sbdelay (usec) | 1.80860E-02  | +/- | 3.5E-04 |
| Phase delay (usec)      | -4.42164080611E+03 | Apriori clockrate (us/s) | 5.8699996E-07      | Resid phdelay (usec) | 1.29036E-06  | +/- | 7.6E-08 |
| Delay rate (us/s)       | 7.06486381054E-02  | Apriori rate (us/s)      | 7.06486930427E-02  | Resid rate (us/s)    | -5.49373E-08 | +/- | 4.6E-10 |
| Total phase (deg)       | -13.9              | Apriori accel (us/s/s)   | 2.96955604669E-05  | Resid phase (deg)    | 40.0         | +/- | 2.3     |

|              |      |     |      |        |      |                |                 |                 |       |                       |                             |                  |              |
|--------------|------|-----|------|--------|------|----------------|-----------------|-----------------|-------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 50.6 | RMS | 19.6 | Theor. | 50.6 | Amplitude      | 4.234 +/- 0.087 | Search (2048X8) | 4.198 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 56.3 |     | 34.2 |        | 56.3 | Interp.        | 0.000           |                 | 0.000 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0  |     | 1.2  |        | 0.0  | Inc. seg. avg. | 5.723           |                 | 5.723 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.8  |     | 2.0  |        | 0.8  | Inc. frq. avg. | 4.198           |                 | 4.198 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |      |     |      |        |      |                |                 |                 |       | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

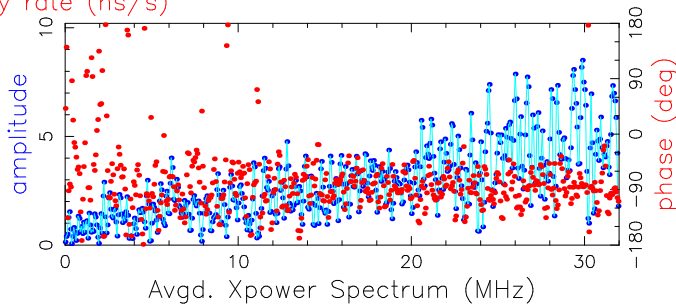
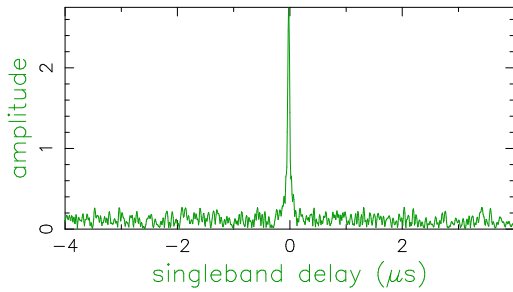
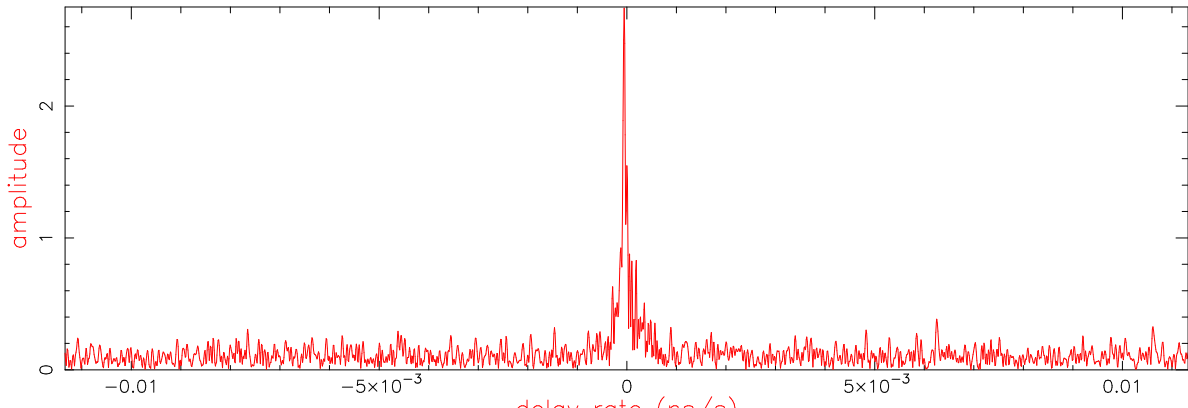
X: az 247.6 el 32.5 pa 31.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -383.023 2322.219 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XY.W.255.0QR2SH

Fringe quality 9

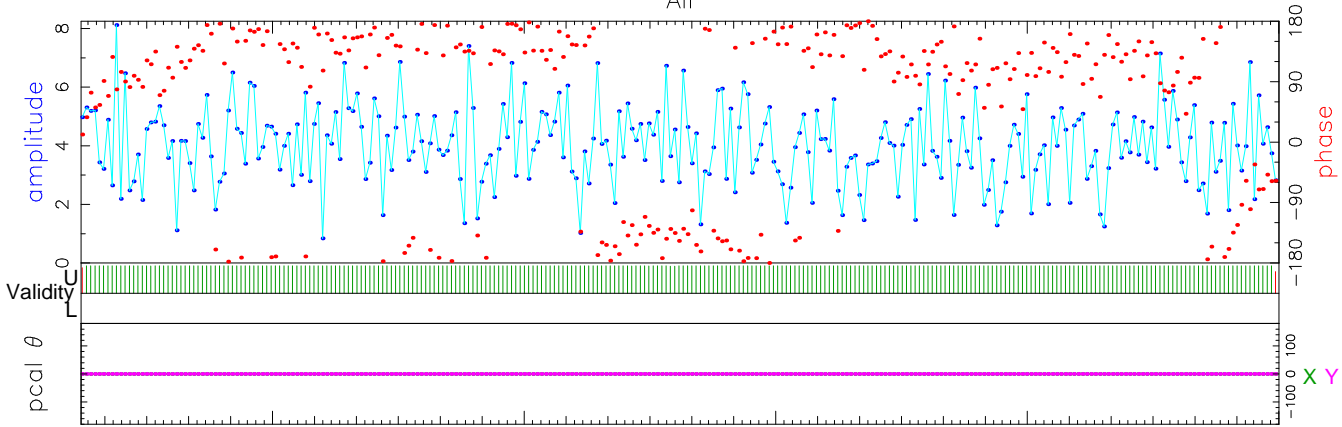
SNR 31.8  
Int time 285.318  
Amp 2.750  
Phase 148.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.021825  
MBD -0.000007  
Fringe rate (Hz)  
-0.004637  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171832  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
148.8  
2.7  
510.2  
U/L 558/0  
X 0  
Y 0  
X:Y 0:0  
X:Y 0:0  
X 1000  
Y 1000  
X W04UR  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.42166262776E+03 | Apriori delay (usec)     | -4.42164080740E+03 | Resid mbdelay (usec) | -7.03288E-06 | +/- | 5.4E-04 |
| Sband delay (usec)      | -4.42166263290E+03 | Apriori clock (usec)     | 1.8047026E+01      | Resid sbdelay (usec) | -2.18255E-02 | +/- | 5.4E-04 |
| Phase delay (usec)      | -4.42164080260E+03 | Apriori clockrate (us/s) | 5.8699996E-07      | Resid phdelay (usec) | 4.79885E-06  | +/- | 1.2E-07 |
| Delay rate (us/s)       | 7.06486392143E-02  | Apriori rate (us/s)      | 7.06486930427E-02  | Resid rate (us/s)    | -5.38284E-08 | +/- | 7.1E-10 |
| Total phase (deg)       | 94.9               | Apriori accel (us/s/s)   | 2.96955604669E-05  | Resid phase (deg)    | 148.8        | +/- | 3.6     |

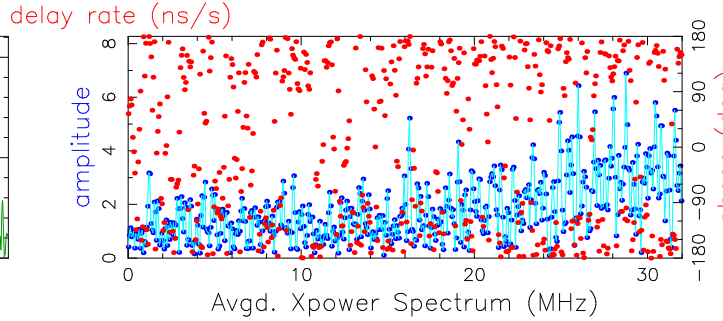
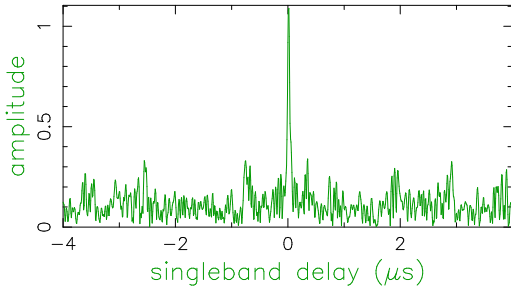
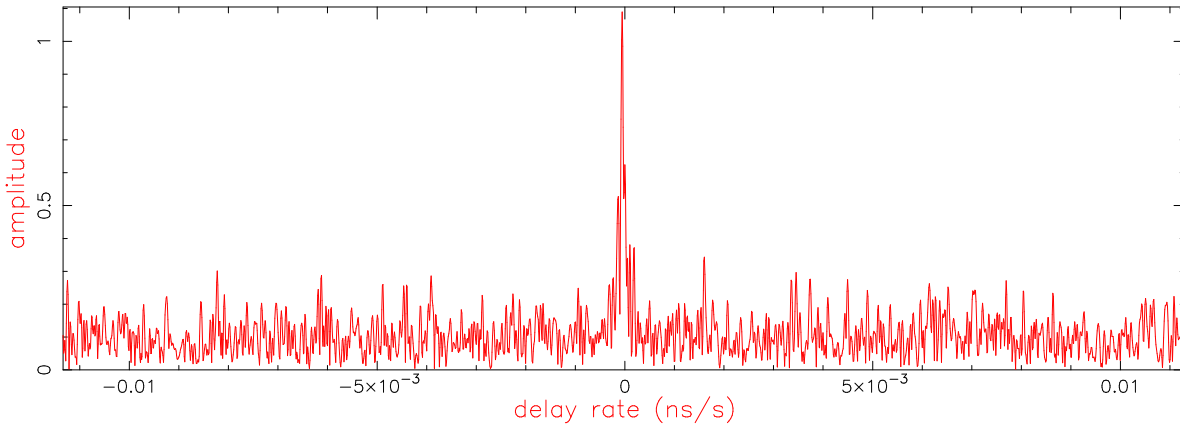
|              |      |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 51.5 | Theor.          | 30.1  | Amplitude      | 2.750 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 67.0 | Search (2048X8) | 2.737 | Interp.        | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0  | Inc. seg. avg.  | 3.534 | Inc. frq. avg. | 2.740           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3  | Inc. frq. avg.  | 2.740 |                |                 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -383.023 2322.219 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XY.W.264.0QR2SH

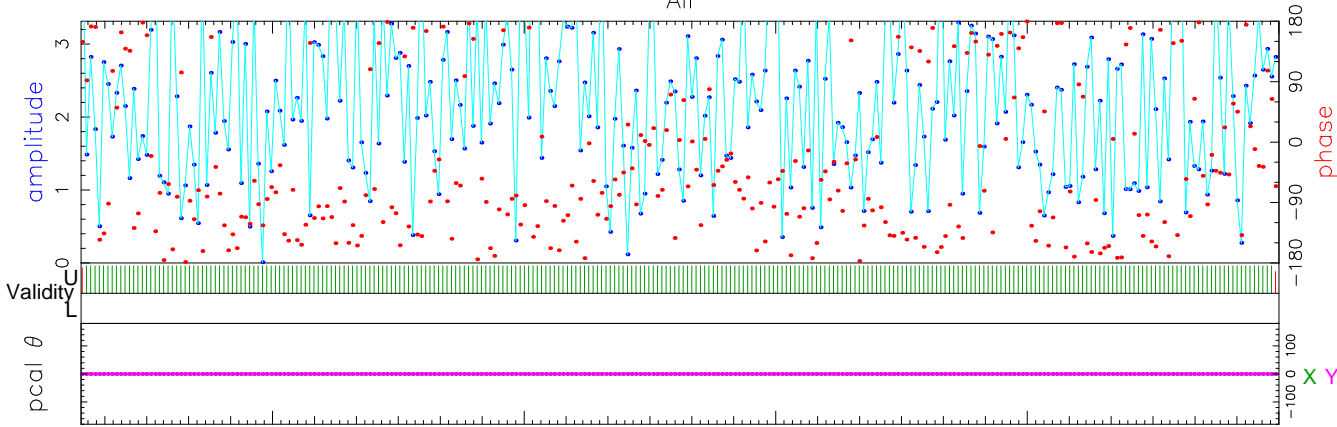
Fringe quality 9

SNR 12.8  
Int time 285.318  
Amp 1.105  
Phase -120.8  
PFD 7.6e-29  
Delays (us)  
SBD 0.012257  
MBD -0.000007  
Fringe rate (Hz)  
-0.004736  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-120.8  
1.1  
514.6  
U/L 558/0  
X 0  
Y 0  
X:Y 0:0  
X:Y 0:0  
X 1000  
Y 1000  
X W04UL  
Y W04UR

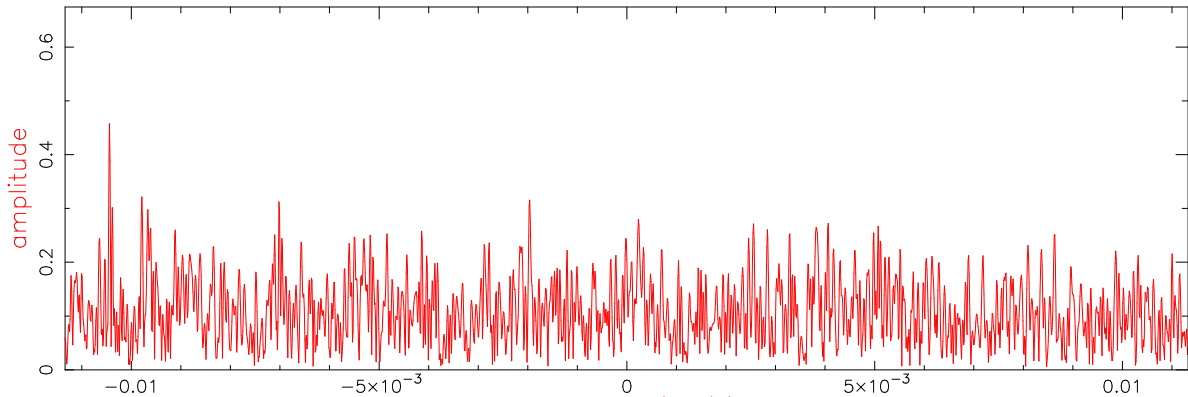
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -4.42162855490E+03 | Apriori delay (usec)     | -4.42164080740E+03 | Resid mbdelay (usec) | -6.61091E-06 | +/- 1.4E-03 |
| Sband delay (usec)      | -4.42162855090E+03 | Apriori clock (usec)     | 1.8047026E+01      | Resid sbdelay (usec) | 1.22565E-02  | +/- 1.4E-03 |
| Phase delay (usec)      | -4.42164081130E+03 | Apriori clockrate (us/s) | 5.8699996E-07      | Resid phdelay (usec) | -3.89601E-06 | +/- 2.9E-07 |
| Delay rate (us/s)       | 7.06486380671E-02  | Apriori rate (us/s)      | 7.06486930427E-02  | Resid rate (us/s)    | -5.49756E-08 | +/- 1.8E-09 |
| Total phase (deg)       | -174.7             | Apriori accel (us/s/s)   | 2.96955604669E-05  | Resid phase (deg)    | -120.8       | +/- 9.0     |

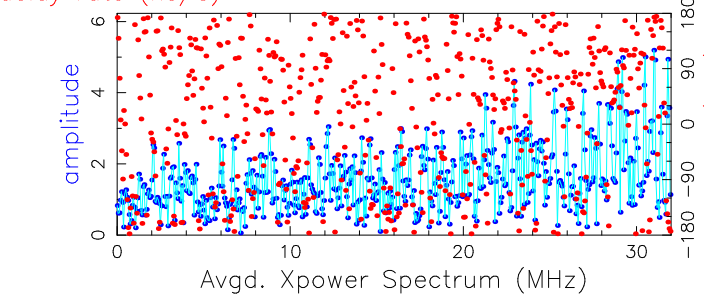
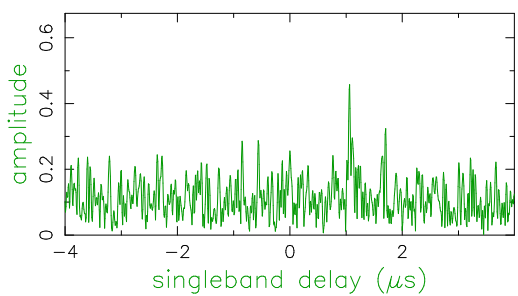
|              |          |             |                           |  |                       |                   |        |       |
|--------------|----------|-------------|---------------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | RMS 73.5 | Theor. 75.0 | Amplitude 1.105 +/- 0.087 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 141.4    | 130.9       | Search (2048X8) 1.090     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 4.5         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 1.4      | 7.8         | Inc. seg. avg. 1.197      | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |          |             | Inc. frq. avg. 1.086      | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

X: az 247.6 el 32.5 pa 31.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -383.023 2322.219 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XY.W.273.0QR2SH



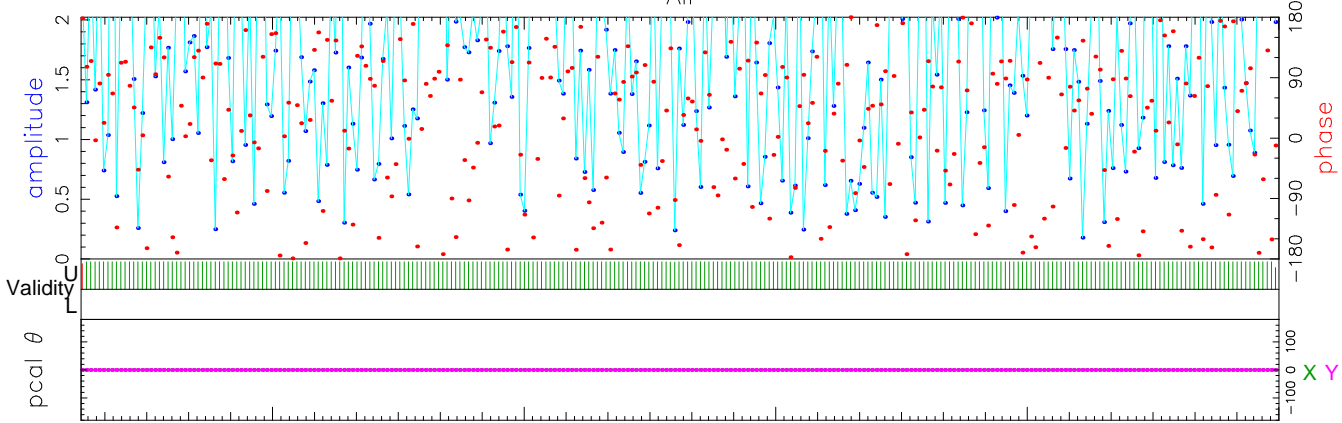
Fringe quality 0  
SNR 5.3  
Int time 285.318  
Amp 0.675  
Phase 99.2  
PFD 1.0e+00  
Delays (us)  
SBD 1.059869  
MBD -0.000007  
Fringe rate (Hz)  
-0.899361  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
99.2  
0.7  
648.7  
U/L 558/0  
X 0  
Y 0  
X:Y 0:0  
X:Y 0:0  
X 1000  
Y 1000  
X W04UR  
Y W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.42058093498E+03 | Apriori delay (usec)     | -4.42164080740E+03 | Resid mbdelay (usec) | -6.83956E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -4.42058093840E+03 | Apriori clock (usec)     | 1.8047026E+01      | Resid sbdelay (usec) | 1.05987E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -4.42164080420E+03 | Apriori clockrate (us/s) | 5.8699996E-07      | Resid phdelay (usec) | 3.19801E-06  | +/- | 6.9E-07 |
| Delay rate (us/s)       | 7.06382523491E-02  | Apriori rate (us/s)      | 7.06486930427E-02  | Resid rate (us/s)    | -1.04407E-05 | +/- | 4.2E-09 |
| Total phase (deg)       | 45.3               | Apriori accel (us/s/s)   | 2.96955604669E-05  | Resid phase (deg)    | 99.2         | +/- | 21.4    |

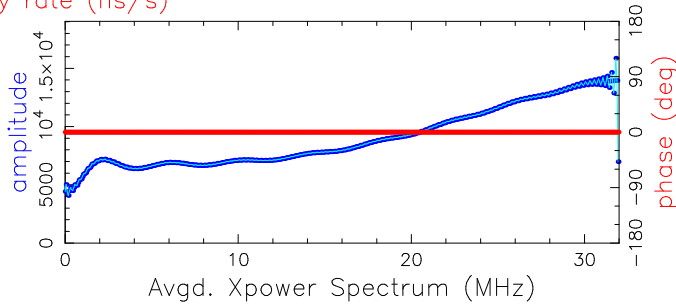
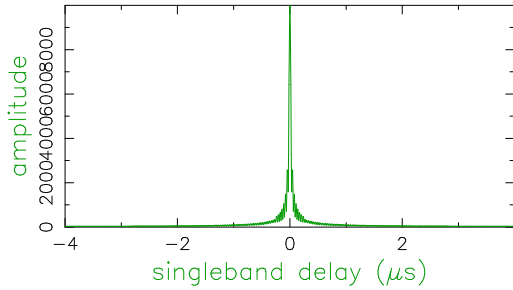
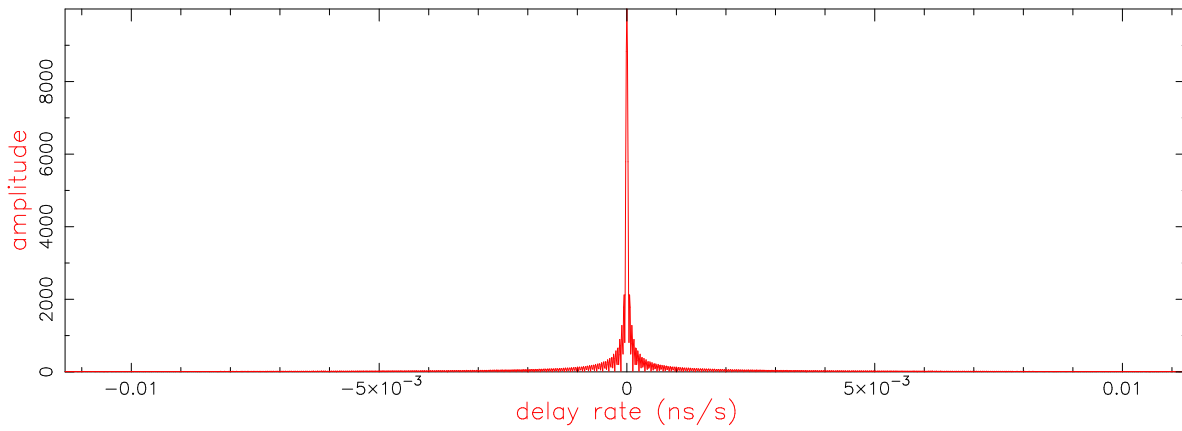
|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.9  | Theor.          | 179.1 | Amplitude      | 0.675 +/- 0.126 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 362.4 | Search (2048X8) | 0.457 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.450           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.655 | Inc. frq. avg. | 0.655           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

X: az 247.6 el 32.5 pa 31.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -383.023 2322.219 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//XY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//XY.W.282.0QR2SH

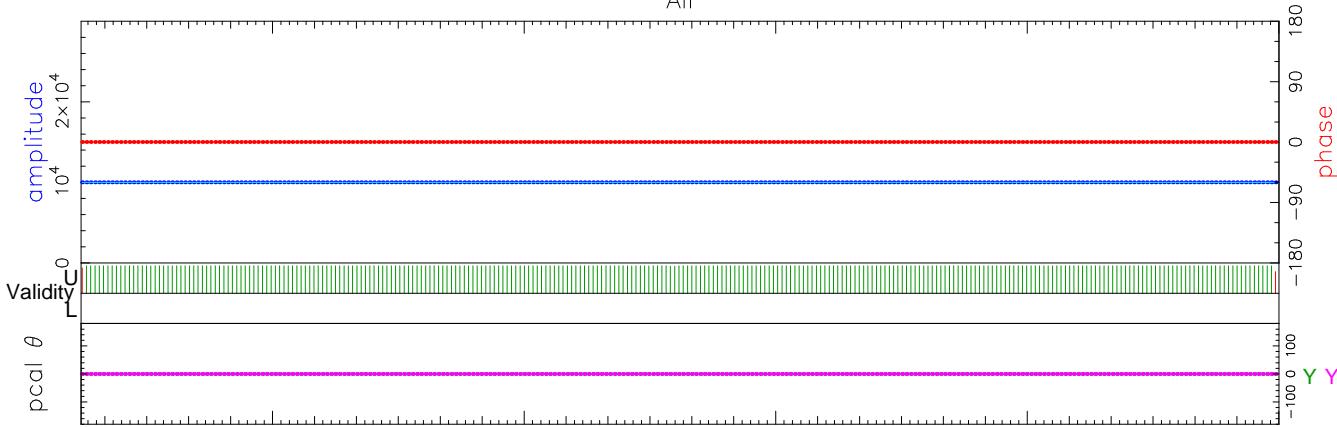
Fringe quality 9

SNR 115479.5  
Int time 285.322  
Amp 9999.999  
Phase 0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD -0.000007  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171832  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
0.0  
10000.0  
513.0  
U/L 558/0  
Y 0  
Y 0  
Y:Y 0:0  
Y:Y 0:0  
Y 1000  
Y 1000  
Y W04UL  
Y W04UL

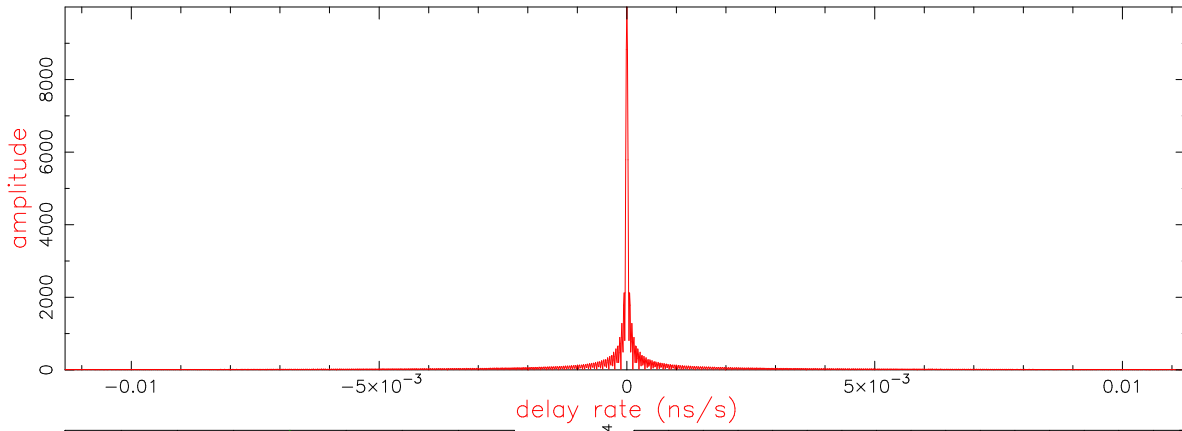
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                   |                          |                  |                      |              |     |         |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.36498723009E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24402E-06 | +/- | 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- | 1.5E-07 |
| Phase delay (usec)      | 1.34553449929E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34553E-09  | +/- | 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- | 1.9E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- | 0.0     |

|              |     |                 |           |                |                    |                       |                             |                  |              |                |              |          |          |                  |           |
|--------------|-----|-----------------|-----------|----------------|--------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|----------|----------|------------------|-----------|
| ph/seg (deg) | 0.0 | Theor.          | 0.0       | Amplitude      | 9999.999 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |          |          |                  |           |
| amp/seg (%)  | 0.0 | Search (2048X8) | 9999.999  | Interp.        | 0.000              | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |          |          |                  |           |
| ph/frq (deg) | 0.0 | Inc. seg. avg.  | 10000.000 | Inc. frq. avg. | 9999.999           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |          |          |                  |           |
| amp/frq (%)  | 0.0 | 0.0             | 0.0       | 0.0            | 0.0                | Sample rate(MSamp/s): | 64                          | Data rate(Mb/s): | 128          | nlags:         | 512          | t_cohere | infinite | ion window (TEC) | 0.00 0.00 |

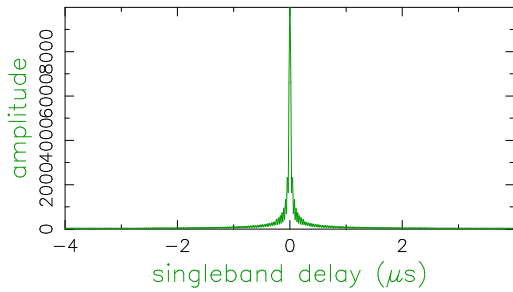
Y: az 246.0 el 48.3 pa 46.5 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//YY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//YY.W.262.0QR2SH

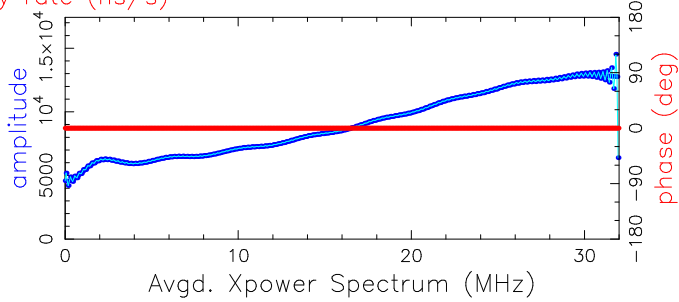


Fringe quality 9

SNR 115479.5  
 Int time 285.322  
 Amp 9999.999  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

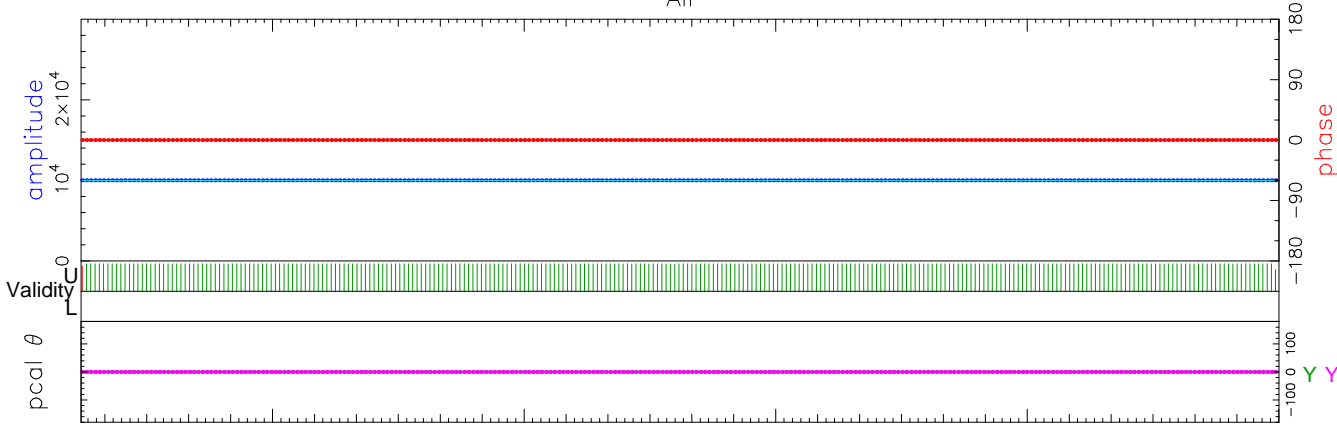


delay rate (ns/s)



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171833  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 558/0 | APs used   |
| Y 0       | PC freqs   |
| Y 0       | PC freqs   |
| Y:Y 0:0   | PC phase   |
| Y:Y 0:0   | Mani PC    |
| Y 1000    | PC amp     |
| Y 1000    |            |
| Y W04UR   | Chan ids   |
| Y W04UR   | Chan ids   |

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.35338112375E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.25563E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34769026551E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34769E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.9E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

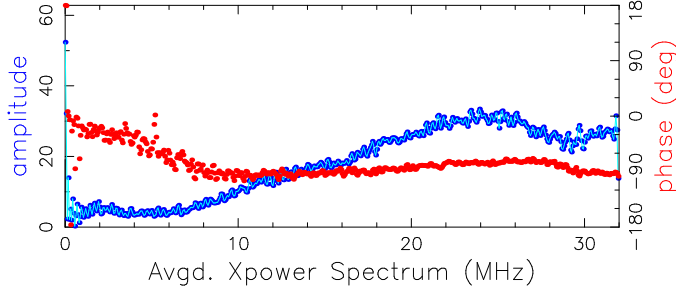
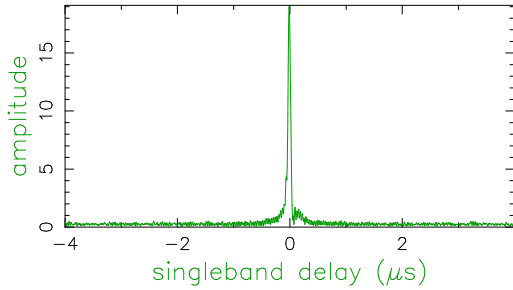
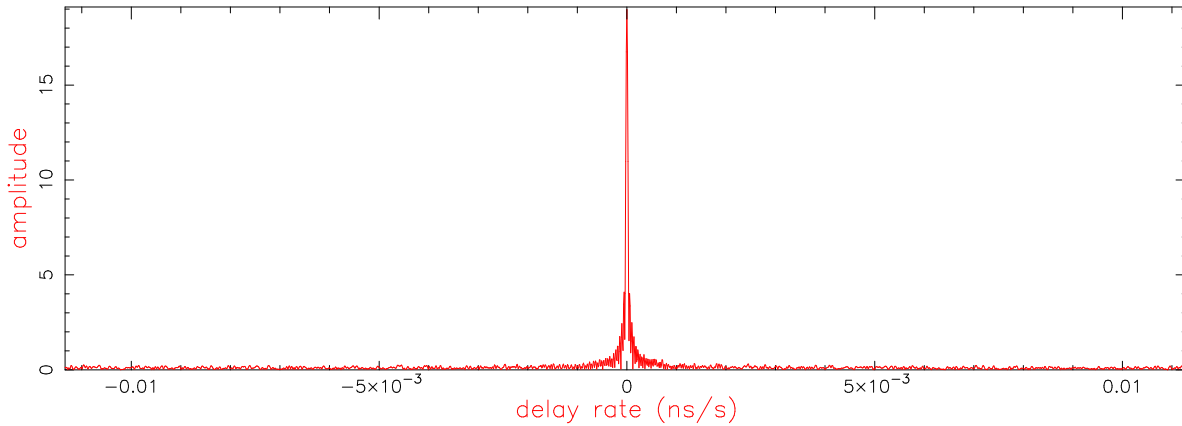
|              |     |                 |             |                  |          |                       |                    |              |                             |                  |              |                  |              |
|--------------|-----|-----------------|-------------|------------------|----------|-----------------------|--------------------|--------------|-----------------------------|------------------|--------------|------------------|--------------|
| ph/seg (deg) | 0.0 | RMS             | 0.0         | Theor.           | 0.0      | Amplitude             | 9999.999 +/- 0.087 | Pcal mode:   | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                  |              |
| amp/seg (%)  | 0.0 | Search (2048X8) | 9999.999    | Interp.          | 0.000    | Inc. seg. avg.        | 10000.000          | Pcal rate:   | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                  |              |
| ph/frq (deg) | 0.0 | Inc. frq. avg.  | 9999.999    | Inc. frq. avg.   | 9999.999 | Sample rate(MSamp/s): | 64                 | Bits/sample: | 2x2                         | SampCntNorm:     | enabled      | mb window (us)   | -0.000 0.000 |
| amp/frq (%)  | 0.0 | u,v (fr/asec)   | 0.000 0.000 | Data rate(Mb/s): | 128      | nlags:                | 512                | t_cohere     | infinite                    | ion window (TEC) | 0.00 0.00    | dr window (ns/s) | -0.011 0.011 |



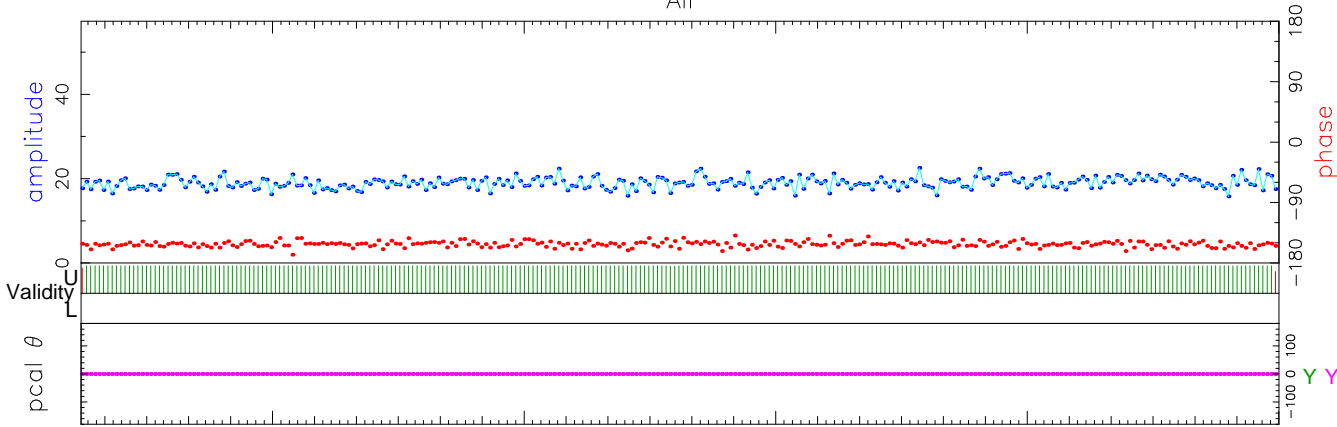
Fringe quality 9

SNR 220.7  
Int time 285.322  
Amp 19.113  
Phase -151.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.012895  
MBD -0.000007  
Fringe rate (Hz)  
0.000001  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-151.8  
19.0  
511.4  
U/L 558/0  
Y 0  
Y 0  
Y:Y 0:0  
Y:Y 0:0  
Y 1000  
Y 1000  
Y W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                   |                      |              |     |         |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.28931449269E-02 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.14539E-06 | +/- | 7.8E-05 |
| Sband delay (usec)      | -1.28950000000E-02 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | -1.28950E-02 | +/- | 7.8E-05 |
| Phase delay (usec)      | -4.89544490176E-06 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | -4.89544E-06 | +/- | 1.7E-08 |
| Delay rate (us/s)       | 1.20454795329E-11  | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 1.20455E-11  | +/- | 1.0E-10 |
| Total phase (deg)       | -151.8             | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | -151.8       | +/- | 0.5     |

|              |     |     |                 |                  |                       |                             |                  |              |                |              |                  |           |
|--------------|-----|-----|-----------------|------------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|------------------|-----------|
| ph/seg (deg) | 4.2 | 4.3 | Amplitude       | 19.113 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |                  |           |
| amp/seg (%)  | 6.9 | 7.6 | Search (2048X8) | 18.977           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |                  |           |
| ph/frq (deg) | 0.0 | 0.3 | Interp.         | 0.000            | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |                  |           |
| amp/frq (%)  | 0.7 | 0.5 | Inc. seg. avg.  | 18.974           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |                  |           |
|              |     |     | Inc. frq. avg.  | 18.977           | Data rate(Mb/s):      | 128                         | nlags:           | 512          | t_cohere       | infinite     | ion window (TEC) | 0.00 0.00 |

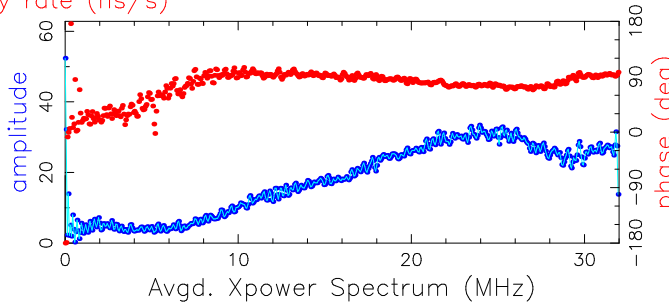
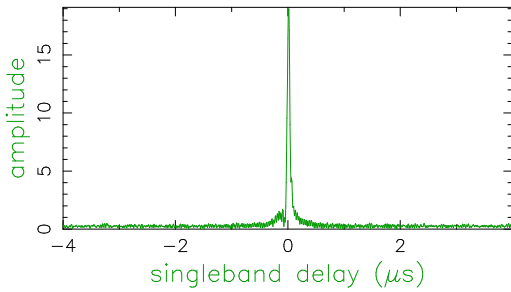
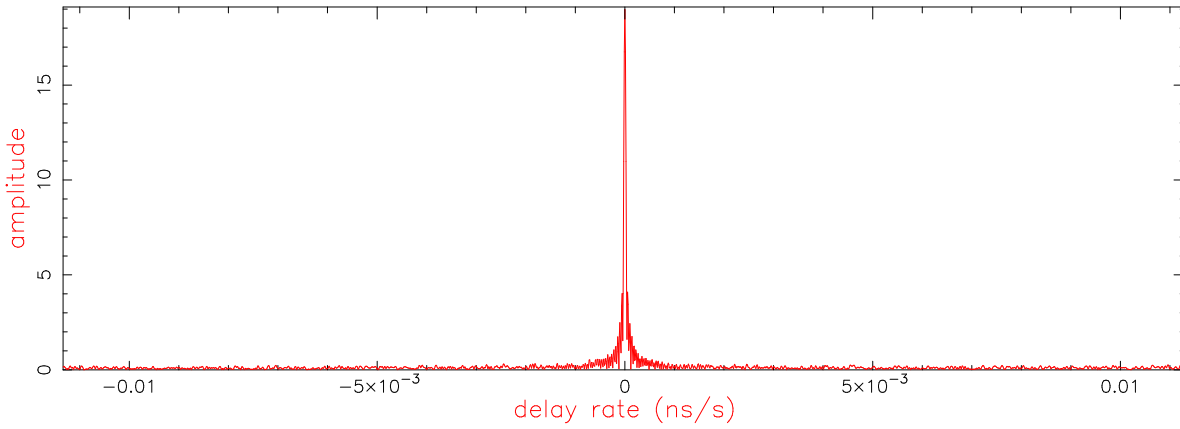
Y: az 246.0 el 48.3 pa 46.5 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//YY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//YY.W.283.0QR2SH

Fringe quality 9

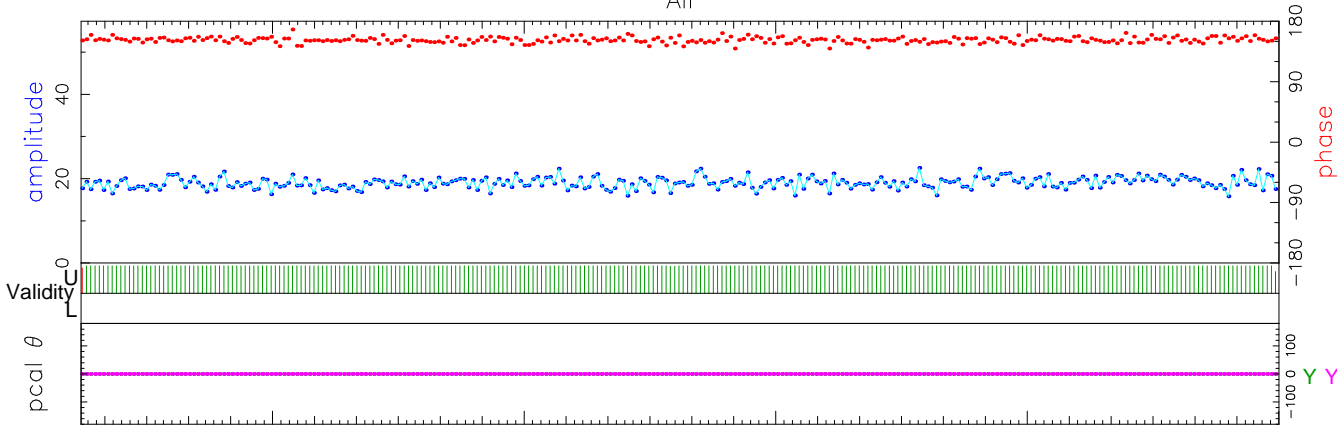
SNR 220.7  
 Int time 285.322  
 Amp 19.113  
 Phase 151.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.012895  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125514.34  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171836  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 151.9  
 19.0  
 514.6  
 U/L 558/0  
 Y 0  
 Y 0  
 Y:Y 0:0  
 Y:Y 0:0  
 Y 1000  
 Y 1000  
 Y W04UR  
 Y W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                   |                      |              |             |
|-------------------------|--------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.28904537729E-02  | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.15477E-06 | +/- 7.8E-05 |
| Sband delay (usec)      | 1.28950000000E-02  | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 1.28950E-02  | +/- 7.8E-05 |
| Phase delay (usec)      | 4.89810107413E-06  | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 4.89810E-06  | +/- 1.7E-08 |
| Delay rate (us/s)       | -1.20454795329E-11 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | -1.20455E-11 | +/- 1.0E-10 |
| Total phase (deg)       | 151.9              | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 151.9        | +/- 0.5     |

|              |     |     |                 |                  |  |                       |                   |        |       |
|--------------|-----|-----|-----------------|------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 4.2 | 4.3 | Amplitude       | 19.113 +/- 0.087 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 6.9 | 7.6 | Search (2048X8) | 18.977           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 | 0.3 | Interp.         | 0.000            | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.7 | 0.5 | Inc. seg. avg.  | 18.974           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |     | Inc. frq. avg.  | 18.977           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

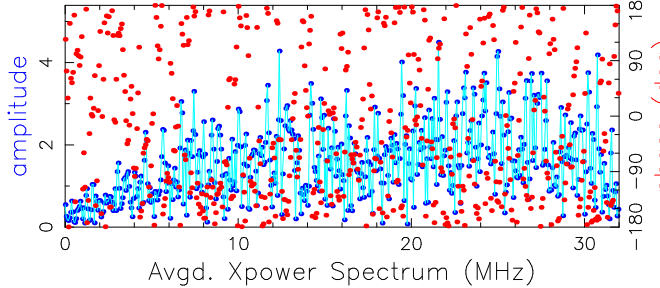
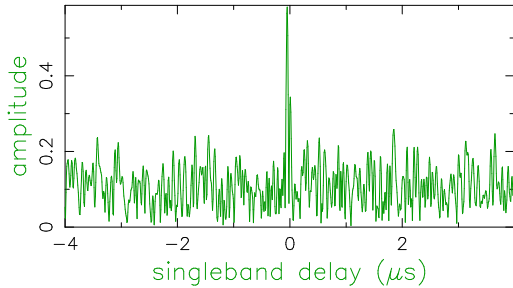
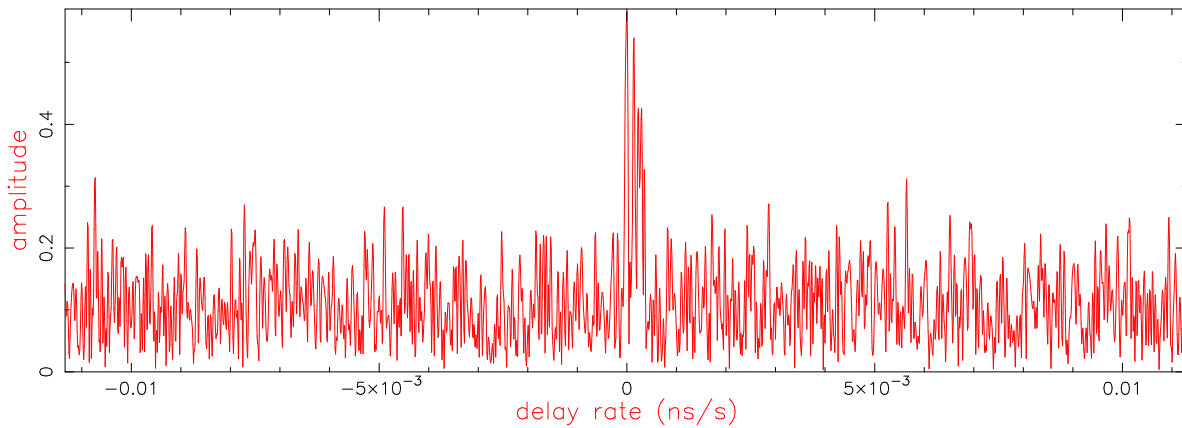
Y: az 246.0 el 48.3 pa 46.5 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//YY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//YY.W.296.0QR2SH

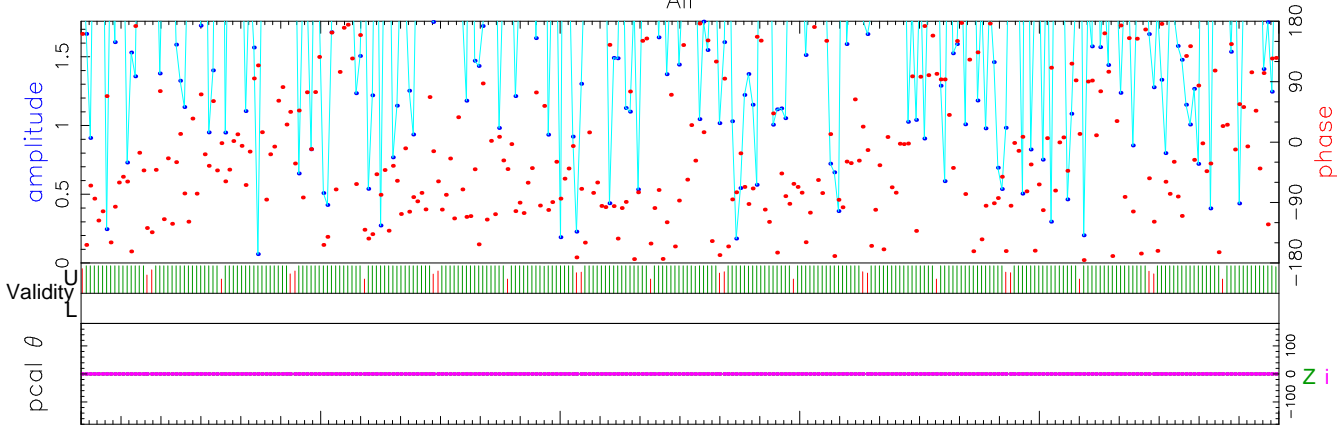
Fringe quality 0

SNR 6.8  
Int time 291.861  
Amp 0.586  
Phase -66.4  
PFD 1.1e-03  
Delays (us)  
SBD -0.049314  
MBD -0.000006  
Fringe rate (Hz)  
-0.000293  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171831  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



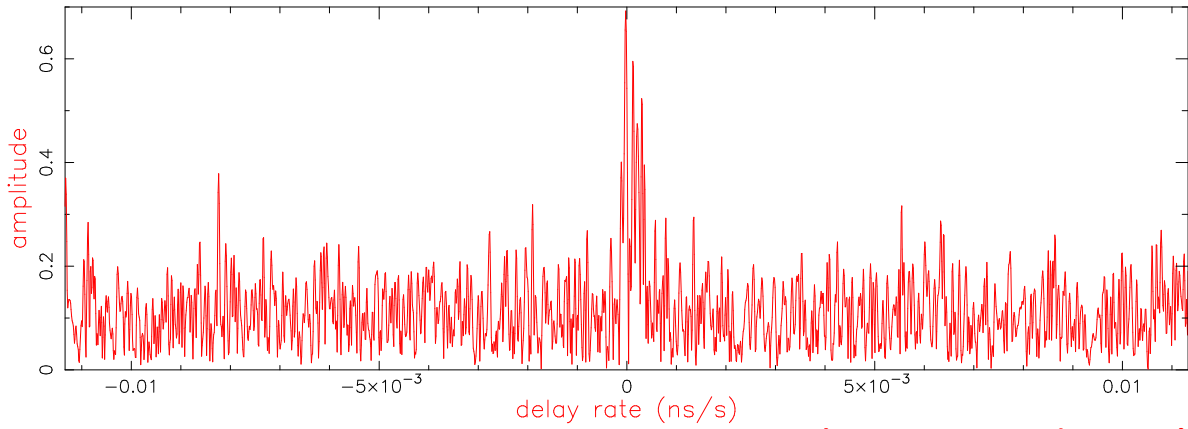
86140.00  
-66.4  
0.6  
506.7  
U/L 586/0  
Z 0  
i 0  
Z:i 0:0  
Z:i 0:0  
Z 1000  
i 1000  
Z W04UL  
i W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

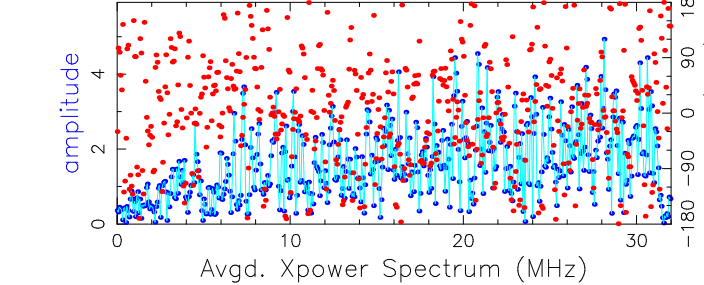
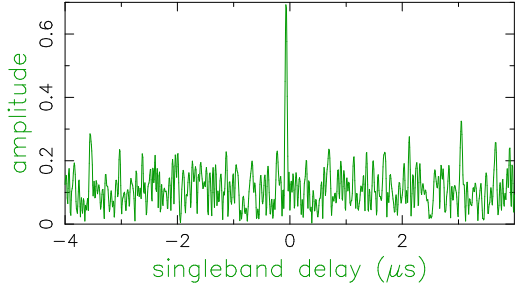
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08861110259E+03 | Apriori delay (usec)     | -7.08856179347E+03 | Resid mbdelay (usec) | -5.65247E-06 | +/- | 2.5E-03 |
| Sband delay (usec)      | -7.08861110797E+03 | Apriori clock (usec)     | 7.0823097E-01      | Resid sbdelay (usec) | -4.93145E-02 | +/- | 2.5E-03 |
| Phase delay (usec)      | -7.08856179561E+03 | Apriori clockrate (us/s) | 6.4699998E-07      | Resid phdelay (usec) | -2.14069E-06 | +/- | 5.4E-07 |
| Delay rate (us/s)       | 7.65469017188E-02  | Apriori rate (us/s)      | 7.65469051213E-02  | Resid rate (us/s)    | -3.40249E-09 | +/- | 3.1E-09 |
| Total phase (deg)       | -26.7              | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | -66.4        | +/- | 16.7    |

|              |       |                 |       |                 |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.0  | Theor.          | 143.2 | Amplitude       | 0.586 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 307.9 | Search (2048X8) | 0.579 | Search (2048X8) | 0.579           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.8   | Inc. seg. avg.  | 0.501 | Inc. seg. avg.  | 0.501           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |
|              |       | Inc. frq. avg.  | 0.576 | Inc. frq. avg.  | 0.576           | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |                |              |

Z: az 257.8 el 25.5 pa 30.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zi.W.249.0QR2SH

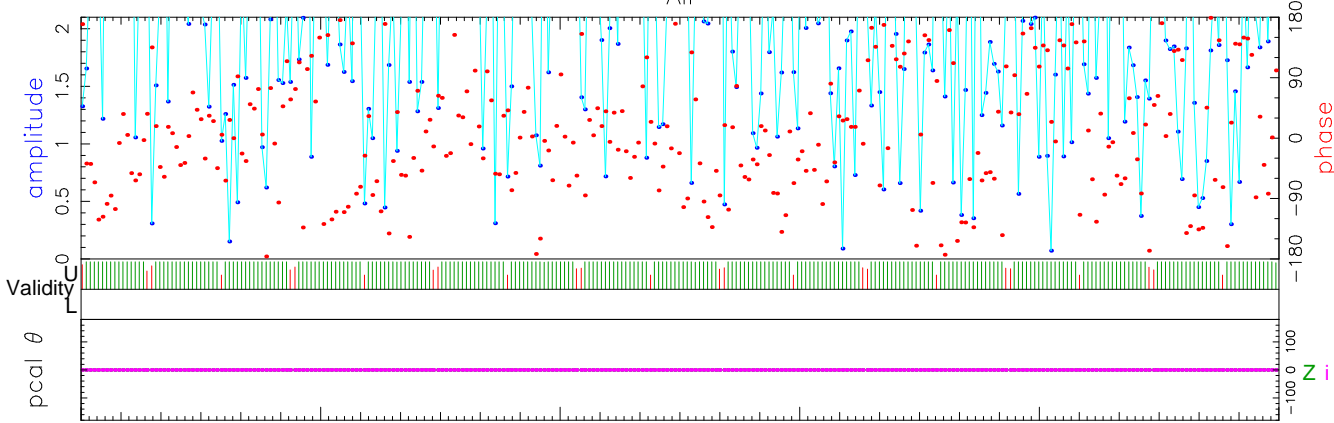


Fringe quality 9  
SNR 8.2  
Int time 291.861  
Amp 0.700  
Phase -14.8  
PFD 5.1e-08  
Delays (us)  
SBD -0.067222  
MBD -0.000005  
Fringe rate (Hz)  
-0.001578  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



Validity  
pcal theta  
86140.00  
-14.8  
0.7  
504.4  
U/L 586/0  
Z 0  
i 0  
Z:i 0:0  
Z:i 0:0  
Z 1000  
i 1000  
Z W04UR  
i W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08862901513E+03 | Apriori delay (usec)     | -7.08856179347E+03 | Resid mbdelay (usec) | -5.49208E-06 | +/- | 2.1E-03 |
| Sband delay (usec)      | -7.08862901547E+03 | Apriori clock (usec)     | 7.0823097E-01      | Resid sbdelay (usec) | -6.72220E-02 | +/- | 2.1E-03 |
| Phase delay (usec)      | -7.08856179395E+03 | Apriori clockrate (us/s) | 6.4699998E-07      | Resid phdelay (usec) | -4.78298E-07 | +/- | 4.5E-07 |
| Delay rate (us/s)       | 7.65468868079E-02  | Apriori rate (us/s)      | 7.65469051213E-02  | Resid rate (us/s)    | -1.83134E-08 | +/- | 2.6E-09 |
| Total phase (deg)       | -335.2             | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | -14.8        | +/- | 14.0    |

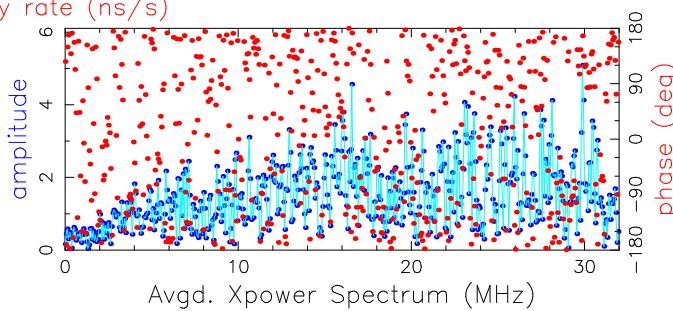
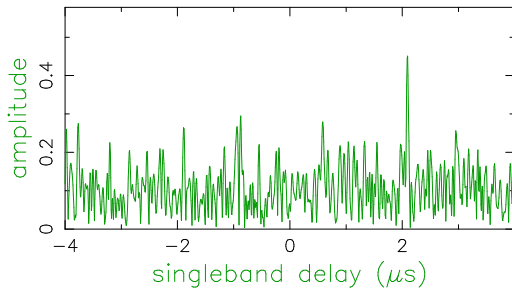
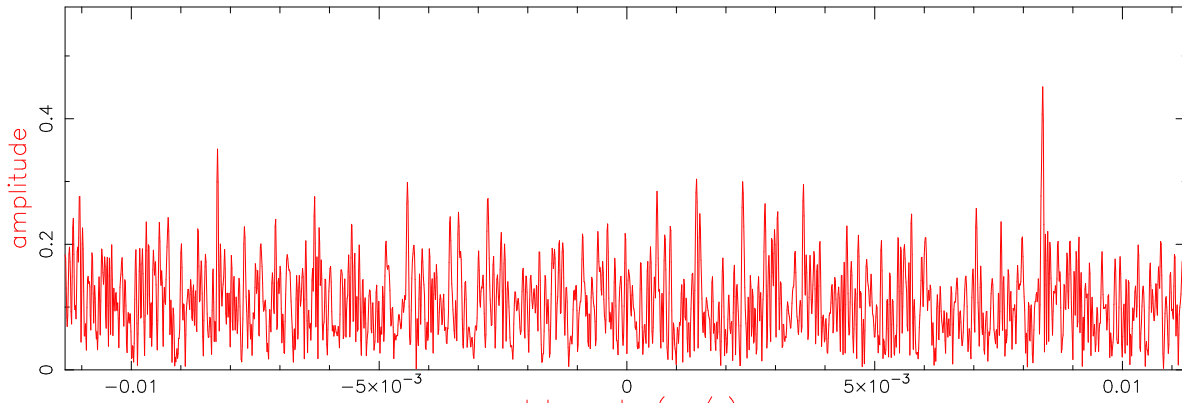
|              |       |                 |       |                 |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 89.3  | Theor.          | 120.0 | Amplitude       | 0.700 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 277.1 | Search (2048X8) | 0.688 | Search (2048X8) | 0.688           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 1.1   | Inc. seg. avg.  | 0.711 | Inc. seg. avg.  | 0.711           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       | Inc. frq. avg.  | 0.687 | Inc. frq. avg.  | 0.687           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |

Z: az 257.8 el 25.5 pa 30.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007/Zi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007/Zi.W.285.0QR2SH

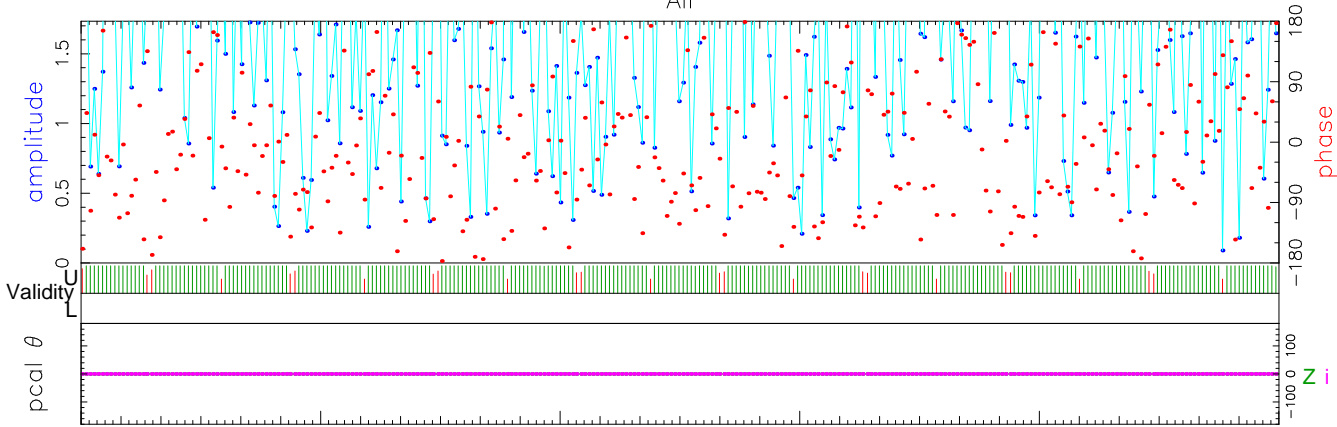
Fringe quality 0

SNR 5.3  
Int time 291.861  
Amp 0.578  
Phase -41.4  
PFD 1.0e+00  
Delays (us)  
SBD 2.090447  
MBD 0.000005  
Fringe rate (Hz)  
0.722884  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-41.4  
0.6  
780.6  
U/L 586/0  
Z 0  
i 0  
Z:i 0:0  
Z:i 0:0  
Z 1000  
i 1000  
Z W04UL  
i W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

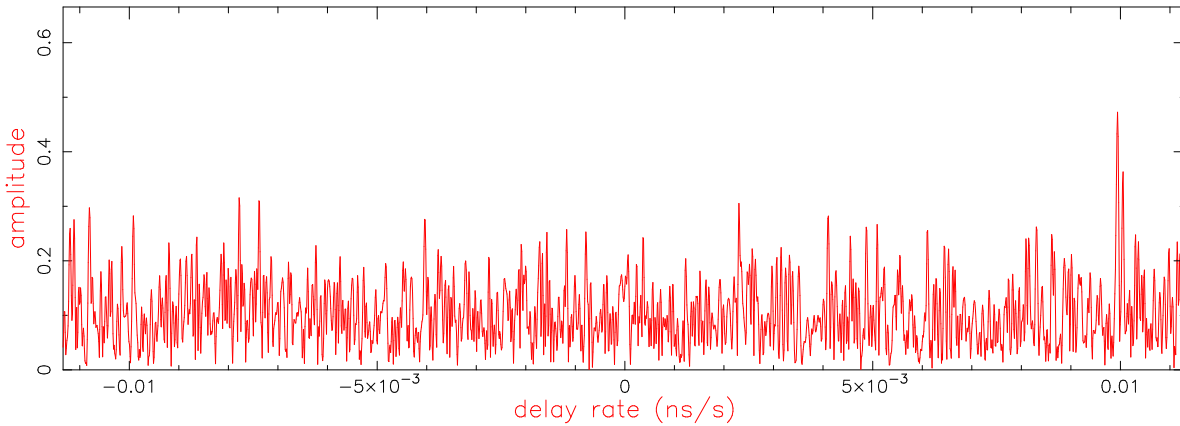
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08647134275E+03 | Apriori delay (usec)     | -7.08856179347E+03 | Resid mbdelay (usec) | 4.93903E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -7.08647134647E+03 | Apriori clock (usec)     | 7.0823097E-01      | Resid sbdelay (usec) | 2.09045E+00  | +/- | 3.2E-03 |
| Phase delay (usec)      | -7.08856179481E+03 | Apriori clockrate (us/s) | 6.4699998E-07      | Resid phdelay (usec) | -1.33625E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 7.65552970871E-02  | Apriori rate (us/s)      | 7.65469051213E-02  | Resid rate (us/s)    | 8.39197E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -1.8               | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | -41.4        | +/- | 21.5    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 89.1  | Theor.          | 184.0 | Amplitude      | 0.578 +/- 0.108 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 367.0 | Search (2048X8) | 0.451 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.371           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.2   | Inc. frq. avg.  | 0.561 | Inc. frq. avg. | 0.561           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

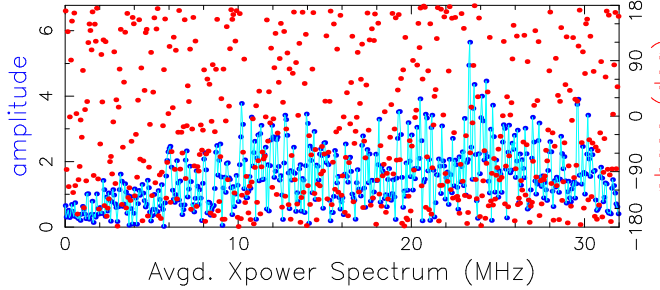
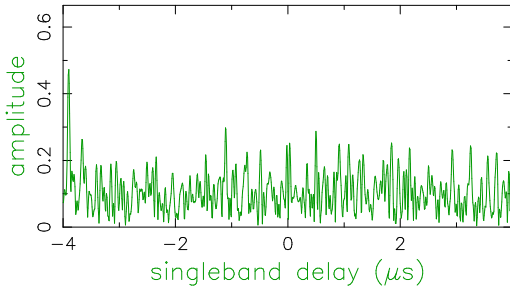
Z: az 257.8 el 25.5 pa 30.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zi.W.295.0QR2SH

Fringe quality 0

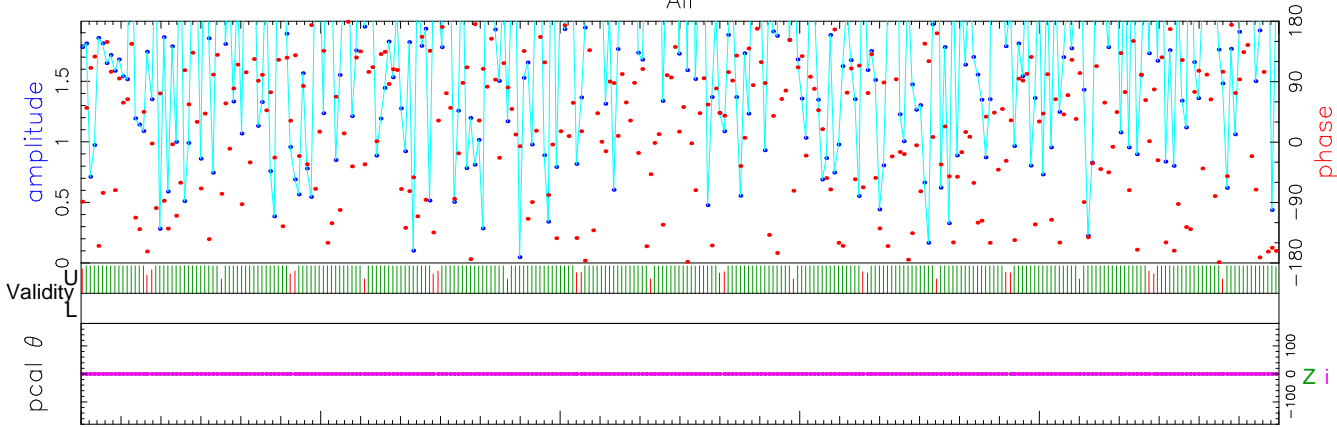


SNR 5.5  
 Int time 291.861  
 Amp 0.665  
 Phase 82.2  
 PFD 9.8e-01  
 Delays (us)  
 SBD -3.900090  
 MBD 0.000006  
 Fringe rate (Hz)  
 0.856722  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171837  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 82.2  
 0.7  
 13.8  
 U/L 586/0  
 Z 0  
 i 0  
 Zi 0:0  
 Zi 0:0  
 Z 1000  
 i 1000  
 Z W04UR  
 i W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp  
 Chan ids  
 Chan ids

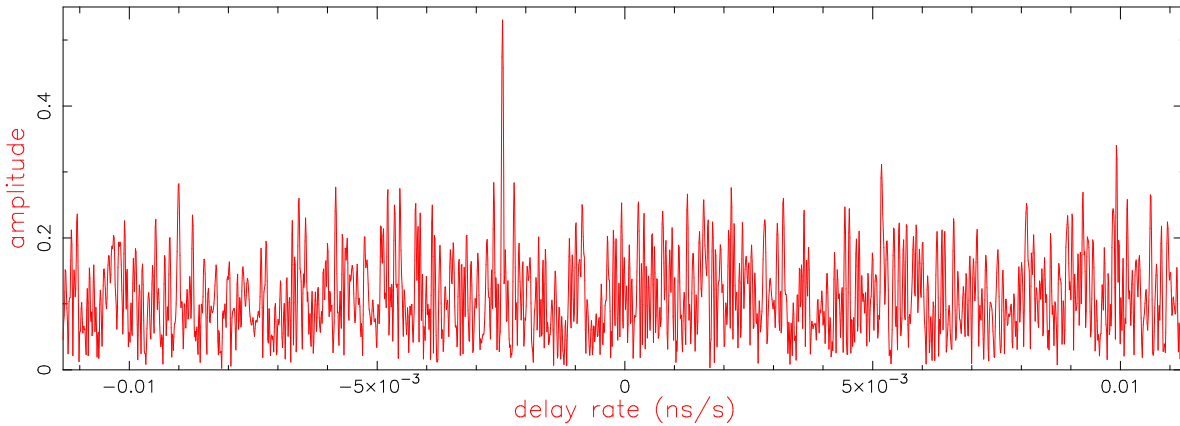
|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.09246188013E+03 | Apriori delay (usec)     | -7.08856179347E+03 | Resid mbdelay (usec) | 6.21296E-06  | +/- | 3.1E-03 |
| Sband delay (usec)      | -7.09246188347E+03 | Apriori clock (usec)     | 7.0823097E-01      | Resid sbdelay (usec) | -3.90009E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -7.08856179082E+03 | Apriori clockrate (us/s) | 6.4699998E-07      | Resid phdelay (usec) | 2.65193E-06  | +/- | 6.7E-07 |
| Delay rate (us/s)       | 7.65568508194E-02  | Apriori rate (us/s)      | 7.65469051213E-02  | Resid rate (us/s)    | 9.94570E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -238.1             | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | 82.2         | +/- | 20.7    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 92.5  | Theor.          | 177.2 | Amplitude      | 0.665 +/- 0.120 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 362.7 | Search (2048X8) | 0.468 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.458           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.653 | Inc. frq. avg. | 0.653           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       |                 |       |                |                 | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |
|              |       |                 |       |                |                 | nlags:                | 512                         | ion window (TEC) | 0.00 0.00    |

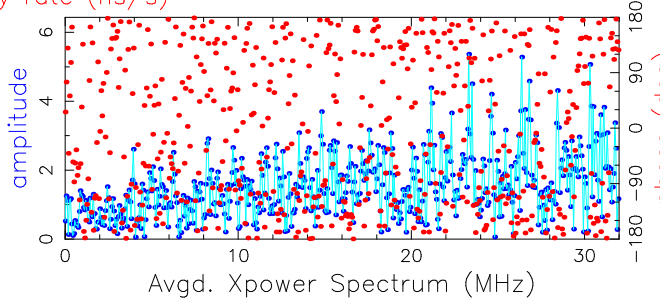
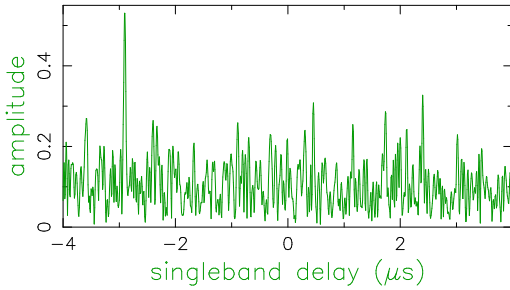
Z: az 257.8 el 25.5 pa 30.4 i: az 249.4 el 49.9 pa 50.9 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zi..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zi.W.303.0QR2SH

Fringe quality 0

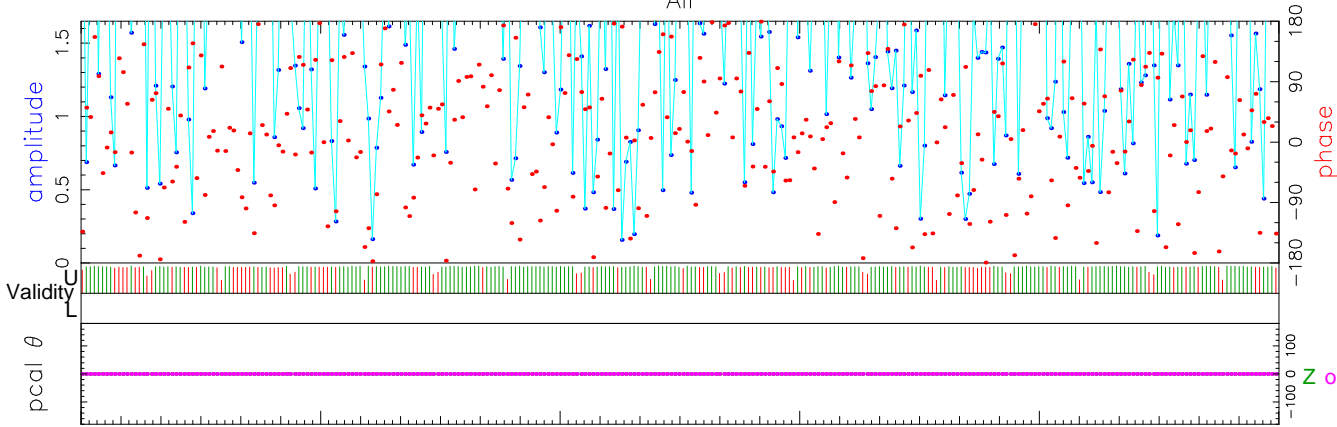


SNR 6.2  
Int time 280.121  
Amp 0.550  
Phase 31.7  
PFD 8.5e-02  
Delays (us)  
SBD -2.902366  
MBD -0.000007  
Fringe rate (Hz)  
-0.212372  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
31.7  
0.5  
141.5  
U/L 586/0  
Z 0  
o 5000  
Z:o 0:0  
Z:o 0:0  
Z 1000  
o 1000  
Z W04UL  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.20977270189E+03  | Apriori delay (usec)     | 1.21267506554E+03  | Resid mbdelay (usec) | -7.02754E-06 | +/- | 2.8E-03 |
| Sband delay (usec)      | 1.20977269904E+03  | Apriori clock (usec)     | -2.9179239E+01     | Resid sbdelay (usec) | -2.90237E+00 | +/- | 2.8E-03 |
| Phase delay (usec)      | 1.21267506657E+03  | Apriori clockrate (us/s) | -6.9559972E-08     | Resid phdelay (usec) | 1.02357E-06  | +/- | 6.0E-07 |
| Delay rate (us/s)       | -1.83322932531E+00 | Apriori rate (us/s)      | -1.83322685989E+00 | Resid rate (us/s)    | -2.46542E-06 | +/- | 3.5E-09 |
| Total phase (deg)       | 84.3               | Apriori accel (us/s/s)   | 1.70401814732E-06  | Resid phase (deg)    | 31.7         | +/- | 18.6    |

|              |          |              |                                 |                 |  |                              |                  |        |       |
|--------------|----------|--------------|---------------------------------|-----------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 90.6 | Theor. 158.9 | Amplitude Search (2048X8) 0.527 | 0.550 +/- 0.089 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        | sb window (us)   | -4.000 | 4.000 |
| amp/seg (%)  | 320.0    | 277.3        | Interp. 0.000                   | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled         | mb window (us)   | -0.000 | 0.000 |
| ph/frq (deg) | 0.0      | 9.3          | Inc. seg. avg. 0.403            | 0.403           | Bits/sample: 2x2                       | Sample rate(MSamp/s): 64     | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 1.7      | 16.2         | Inc. frq. avg. 0.534            | 0.534           | Data rate(Mb/s): 128                   | nlags: 512 t_cohere infinite | ion window (TEC) | 0.00   | 0.00  |

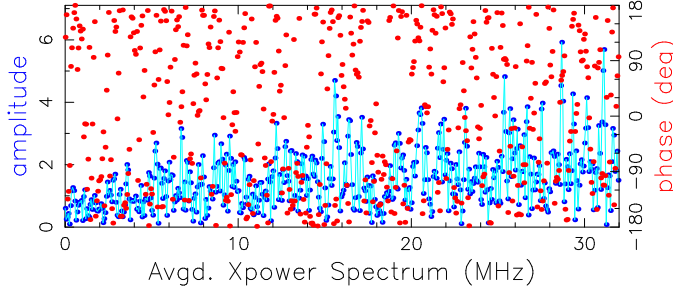
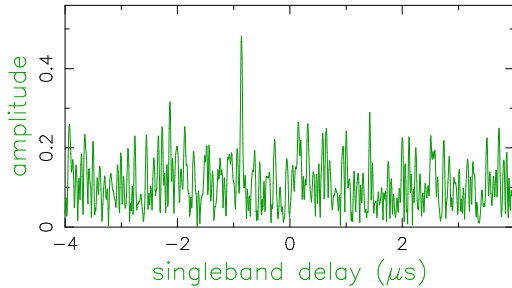
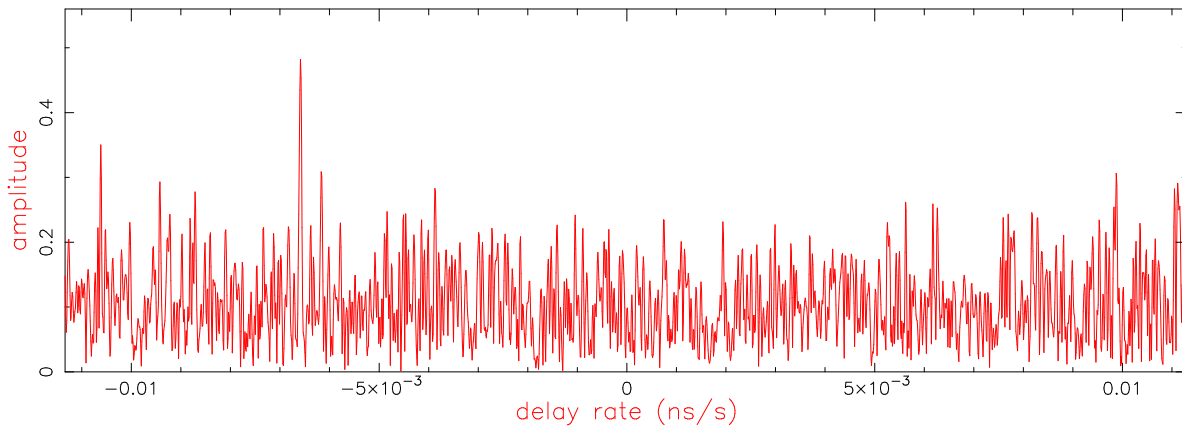
Z: az 257.8 el 25.5 pa 30.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10937.241 2224.847 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zo.W.281.0QR2SH

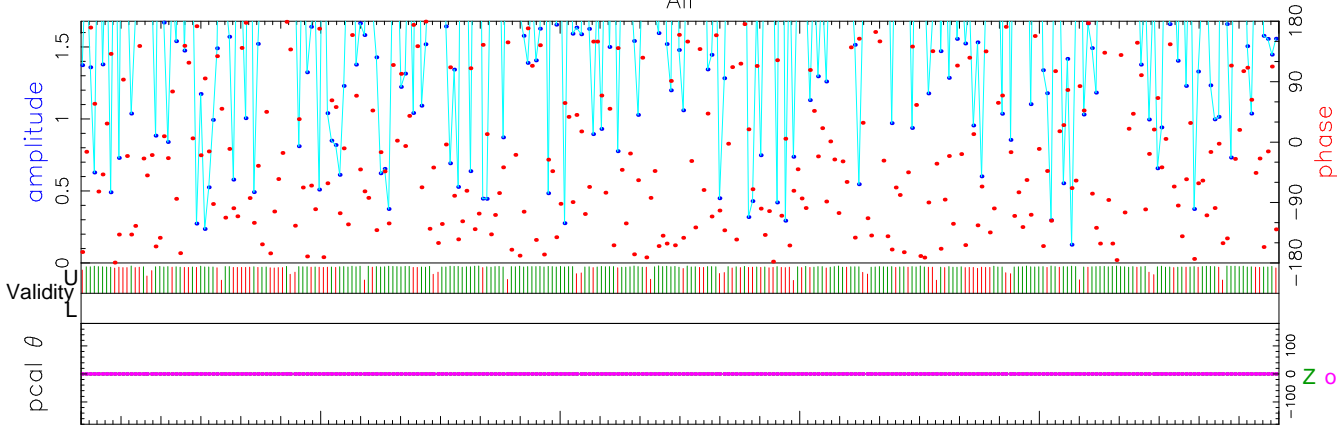
Fringe quality 0

SNR 5.6  
Int time 280.123  
Amp 0.560  
Phase -114.3  
PFD 9.7e-01  
Delays (us)  
SBD -0.861805  
MBD -0.000006  
Fringe rate (Hz)  
-0.567079  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-114.3  
0.6  
402.7  
U/L 586/0  
Z 0  
o 5000  
Z:o 0:0  
Z:o 0:0  
Z 1000  
o 1000  
Z W04UR  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.21181326449E+03  | Apriori delay (usec)     | 1.21267506554E+03  | Resid mbdelay (usec) | -6.30397E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | 1.21181326004E+03  | Apriori clock (usec)     | -2.9179239E+01     | Resid sbdelay (usec) | -8.61805E-01 | +/- | 3.1E-03 |
| Phase delay (usec)      | 1.21267506186E+03  | Apriori clockrate (us/s) | -6.9559972E-08     | Resid phdelay (usec) | -3.68472E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | -1.83323344311E+00 | Apriori rate (us/s)      | -1.83322685989E+00 | Resid rate (us/s)    | -6.58322E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -61.7              | Apriori accel (us/s/s)   | 1.70401814732E-06  | Resid phase (deg)    | -114.3       | +/- | 20.6    |

|              |          |              |                           |  |                             |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 90.1 | Theor. 176.6 | Amplitude 0.560 +/- 0.101 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                               |
| amp/seg (%)  | 356.0    | 308.2        | Search (2048X8) 0.473     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                               |
| ph/frq (deg) | 0.0      | 10.3         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 0.7      | 18.0         | Inc. seg. avg. 0.385      | Sample rate(MSamp/s): 64               | ion window (TEC)            | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.547      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite             |

Z: az 257.8 el 25.5 pa 30.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10937.241 2224.847 simultaneous interpolator

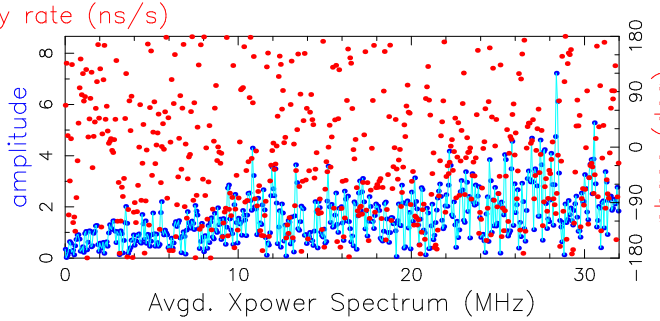
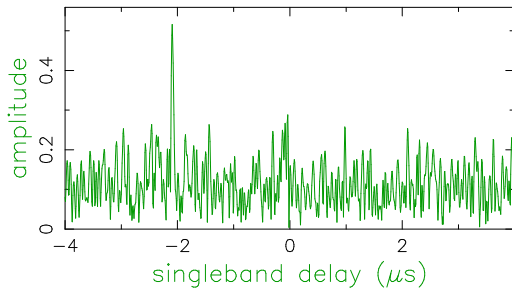
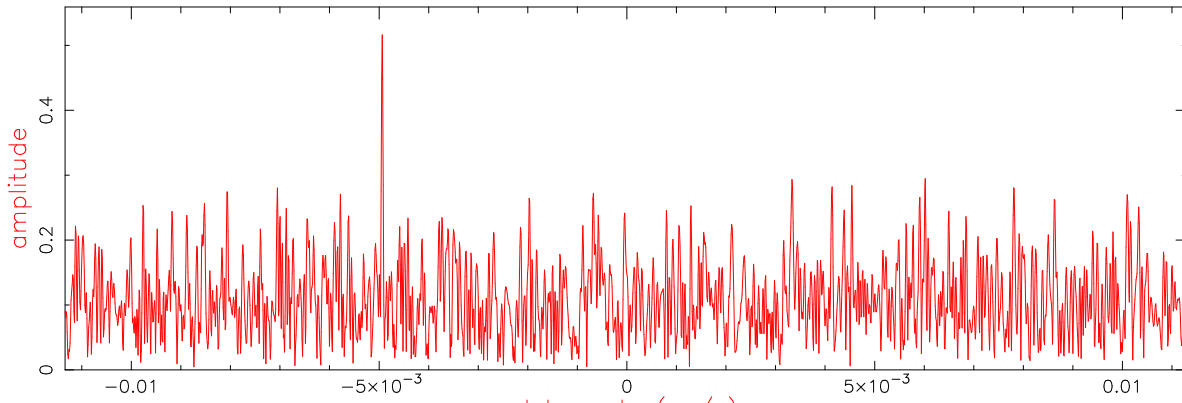
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zo.W.292.0QR2SH



Fringe quality 0

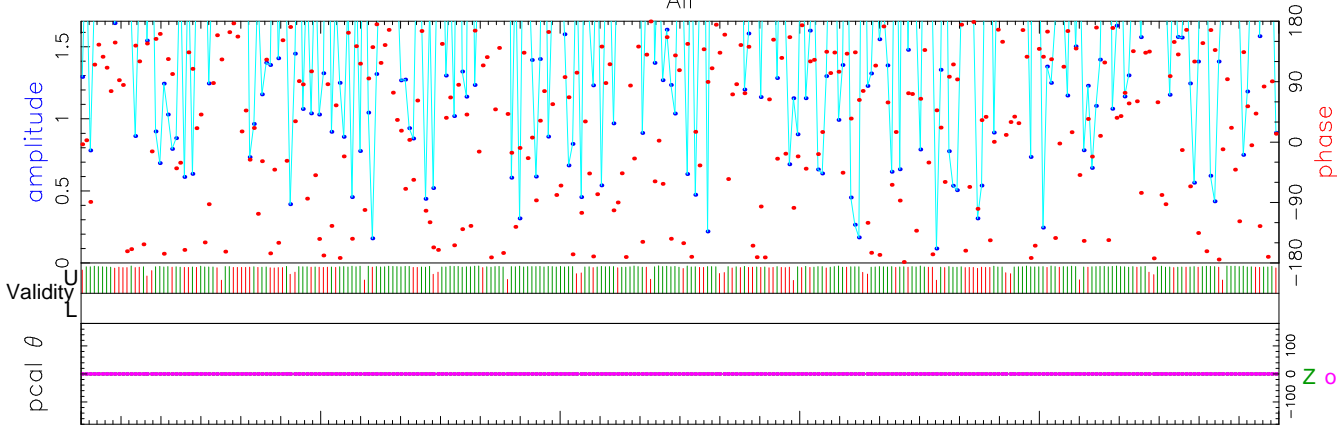
SNR 5.9  
Int time 280.123  
Amp 0.559  
Phase 129.5  
PFD 3.5e-01  
Delays (us)  
SBD -2.094646  
MBD -0.000007  
Fringe rate (Hz)  
-0.425254  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
129.5  
0.6  
244.9  
U/L 586/0  
Z 0  
o 5000  
Z:o 0:0  
Z:o 0:0  
Z 1000  
o 1000  
Z W04UL  
o W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 1.21058042197E+03  | Apriori delay (usec)     | 1.21267506554E+03  | Resid mbdelay (usec) | -6.93884E-06 | +/- 2.9E-03 |
| Sband delay (usec)      | 1.21058041904E+03  | Apriori clock (usec)     | -2.9179239E+01     | Resid sbdelay (usec) | -2.09465E+00 | +/- 2.9E-03 |
| Phase delay (usec)      | 1.21267506972E+03  | Apriori clockrate (us/s) | -6.9559972E-08     | Resid phdelay (usec) | 4.17718E-06  | +/- 6.3E-07 |
| Delay rate (us/s)       | -1.83323179667E+00 | Apriori rate (us/s)      | -1.83322685989E+00 | Resid rate (us/s)    | -4.93678E-06 | +/- 3.6E-09 |
| Total phase (deg)       | 182.1              | Apriori accel (us/s/s)   | 1.70401814732E-06  | Resid phase (deg)    | 129.5        | +/- 19.4    |

|              |       |                 |       |                |                 |  |                             |
|--------------|-------|-----------------|-------|----------------|-----------------|--|-----------------------------|
| ph/seg (deg) | 89.5  | Theor.          | 165.9 | Amplitude      | 0.559 +/- 0.095 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |
| amp/seg (%)  | 325.4 | Search (2048X8) | 0.516 | Search         | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.390           | Bits/sample: 2x2                       | SampCntNorm: enabled        |
| amp/frq (%)  | 0.1   | Inc. frq. avg.  | 0.551 | Inc. frq. avg. | 0.551           | Sample rate(MSamp/s): 64               | mb window (us) -0.000 0.000 |

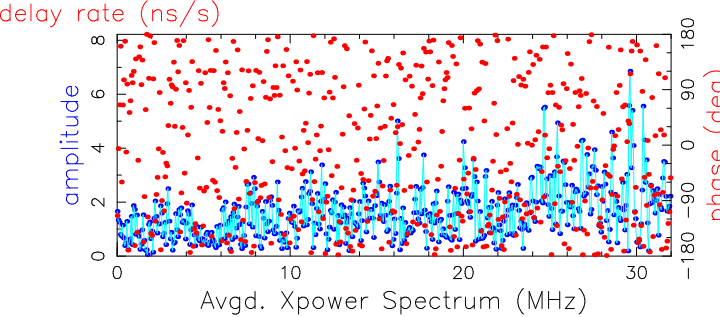
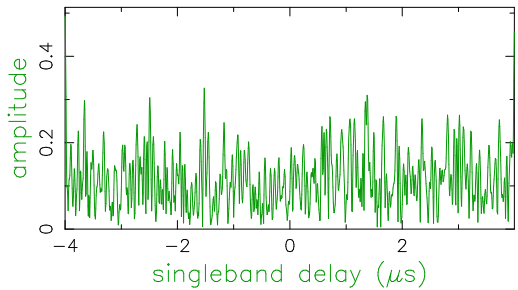
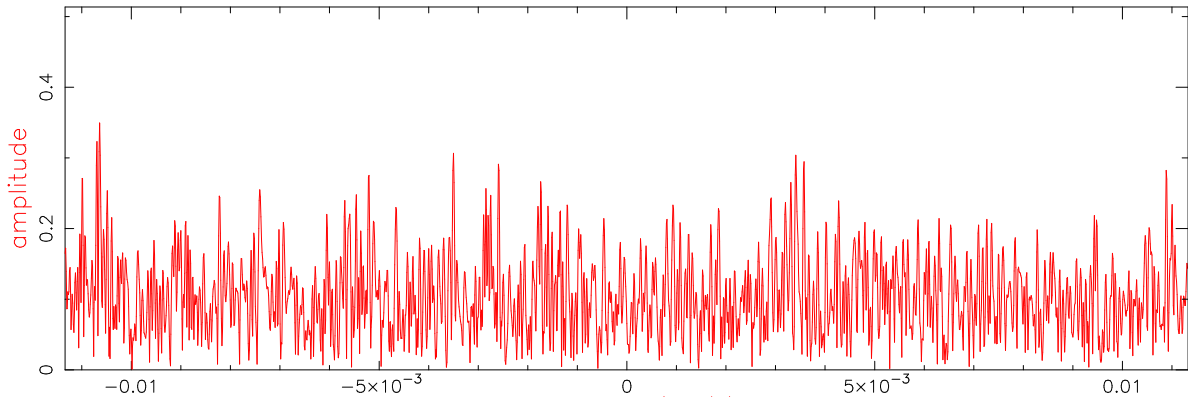
Z: az 257.8 el 25.5 pa 30.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10937.241 2224.847 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zo.W.301.0QR2SH

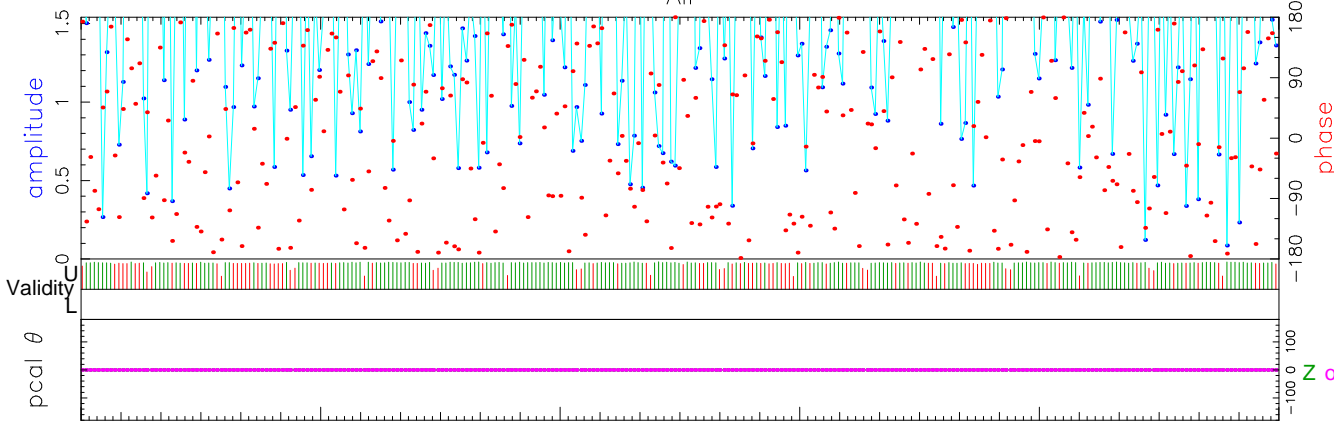
Fringe quality 0

SNR 5.6  
Int time 280.121  
Amp 0.514  
Phase -177.1  
PFD 8.6e-01  
Delays (us)  
SBD -4.000000  
MBD -0.000005  
Fringe rate (Hz)  
-0.300956  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171838  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



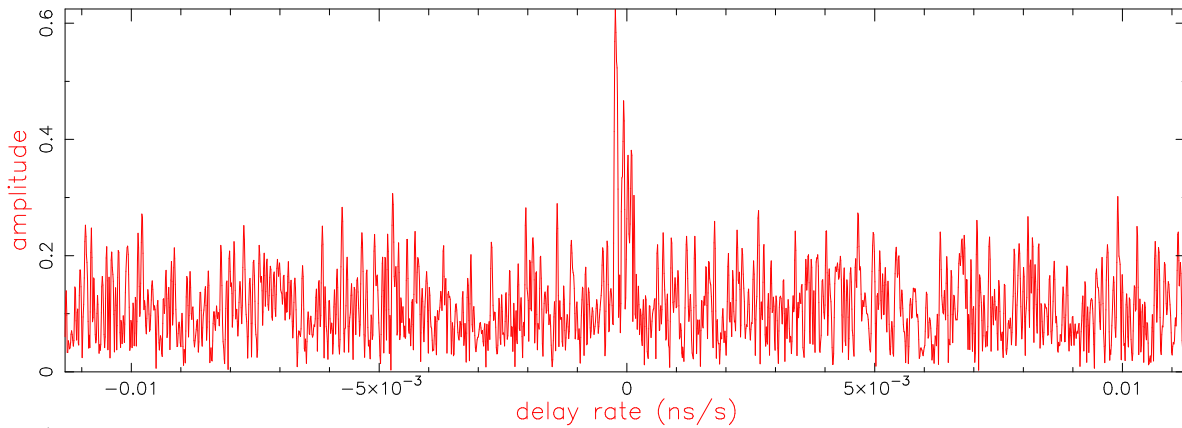
86140.00  
-177.1  
0.3  
1.4  
U/L 586/0  
Z 0  
o 5000  
Z:o 0:0  
Z:o 0:0  
Z 1000  
o 1000  
Z W04UR  
o W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.20867506008E+03  | Apriori delay (usec)     | 1.21267506554E+03  | Resid mbdelay (usec) | -5.46534E-06 | +/- | 3.0E-03 |
| Sband delay (usec)      | 1.20867506554E+03  | Apriori clock (usec)     | -2.9179239E+01     | Resid sbdelay (usec) | -4.00000E+00 | +/- | 3.0E-03 |
| Phase delay (usec)      | 1.21267505983E+03  | Apriori clockrate (us/s) | -6.9559972E-08     | Resid phdelay (usec) | -5.71048E-06 | +/- | 6.5E-07 |
| Delay rate (us/s)       | -1.83323035369E+00 | Apriori rate (us/s)      | -1.83322685989E+00 | Resid rate (us/s)    | -3.49380E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -124.5             | Apriori accel (us/s/s)   | 1.70401814732E-06  | Resid phase (deg)    | -177.1       | +/- | 20.3    |

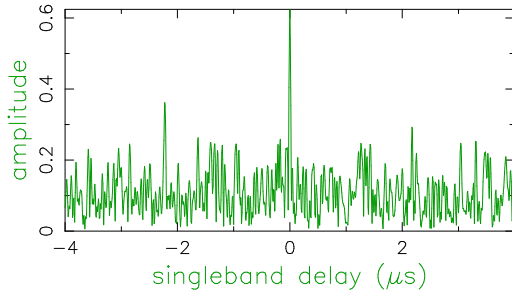
|              |          |              |                           |  |                             |                               |
|--------------|----------|--------------|---------------------------|--|-----------------------------|-------------------------------|
| ph/seg (deg) | RMS 97.4 | Theor. 173.6 | Amplitude 0.514 +/- 0.091 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5       |                               |
| amp/seg (%)  | 337.4    | 303.0        | Search (2048X8) 0.482     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -4.000 4.000 |                               |
| ph/frq (deg) | 0.0      | 10.1         | Interp. 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled        | mb window (us) -0.000 0.000   |
| amp/frq (%)  | 37.9     | 17.7         | Inc. seg. avg. 0.344      | Sample rate(MSamp/s): 64               | ion window (TEC)            | dr window (ns/s) -0.011 0.011 |
|              |          |              | Inc. frq. avg. 0.314      | Data rate(Mb/s): 128                   | nlags: 512                  | t_cohere infinite             |

Z: az 257.8 el 25.5 pa 30.4 o: az 85.0 el 20.8 pa -55.7 u,v (fr/asec) 10937.241 2224.847 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zo..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zo.W.306.0QR2SH

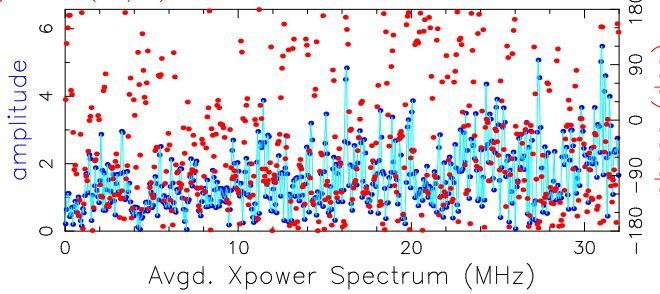


Fringe quality 9

SNR 7.3  
Int time 288.761  
Amp 0.625  
Phase -99.6  
PFD 6.3e-05  
Delays (us)  
SBD -0.000967  
MBD -0.000006  
Fringe rate (Hz)  
-0.019703  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

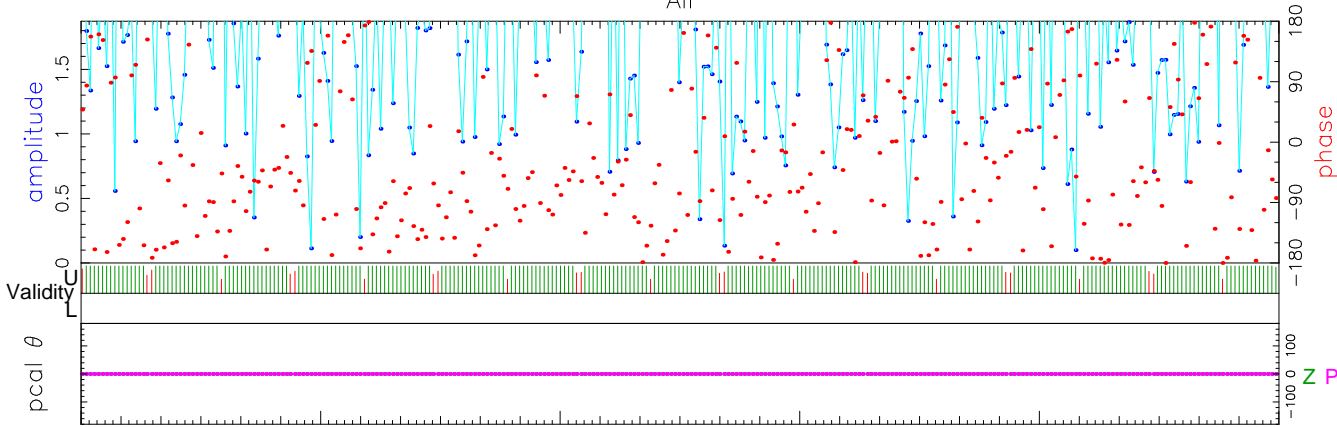


delay rate (ns/s)



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-99.6  
0.6  
512.9  
U/L 586/0  
Z 0  
P 0  
Z:P 0:0  
Z:P 0:0  
Z 1000  
P 1000  
Z W04UL  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08904707341E+03 | Apriori delay (usec)     | -7.08904610347E+03 | Resid mbdelay (usec) | -6.38709E-06 | +/- | 2.4E-03 |
| Sband delay (usec)      | -7.08904707097E+03 | Apriori clock (usec)     | 2.2392273E-01      | Resid sbdelay (usec) | -9.67500E-04 | +/- | 2.4E-03 |
| Phase delay (usec)      | -7.08904610669E+03 | Apriori clockrate (us/s) | 8.46999999E-07     | Resid phdelay (usec) | -3.21340E-06 | +/- | 5.1E-07 |
| Delay rate (us/s)       | 7.65468763869E-02  | Apriori rate (us/s)      | 7.65471051213E-02  | Resid rate (us/s)    | -2.28734E-07 | +/- | 2.9E-09 |
| Total phase (deg)       | -226.8             | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | -99.6        | +/- | 15.8    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 87.4  | Theor.          | 135.2 | Amplitude      | 0.625 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 293.3 | Search (2048X8) | 0.617 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.558           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.2   | Inc. frq. avg.  | 0.618 | Inc. frq. avg. | 0.618           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

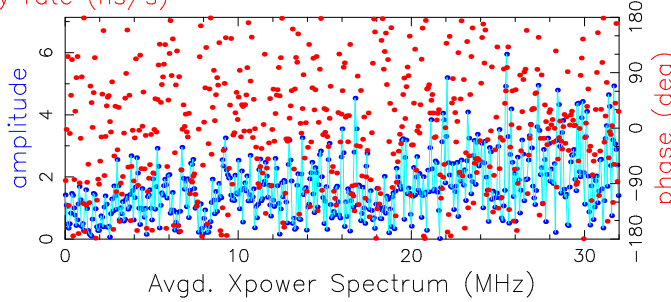
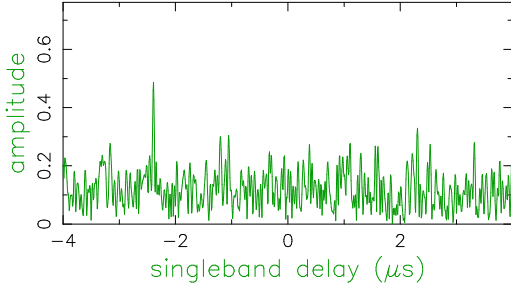
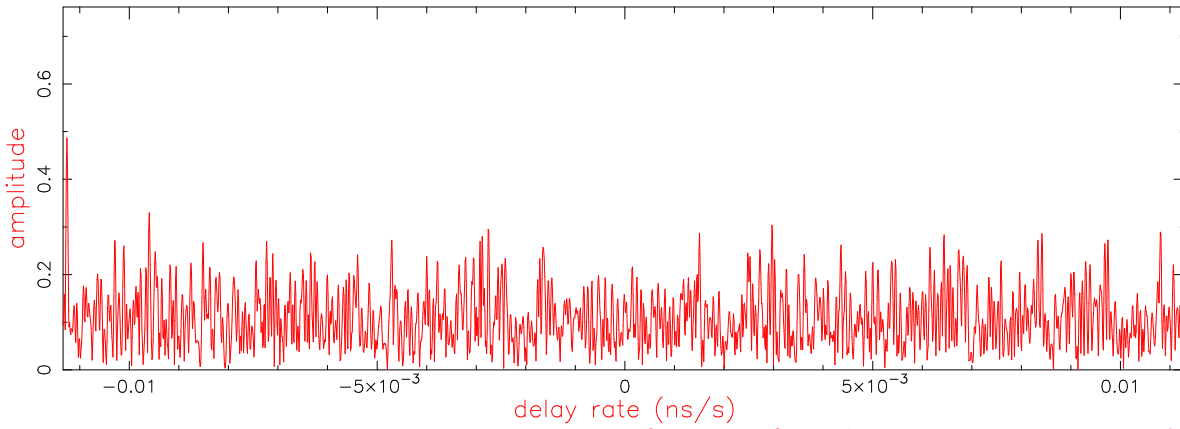
Z: az 257.8 el 25.5 pa 30.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZP.W.268.0QR2SH

Fringe quality 0

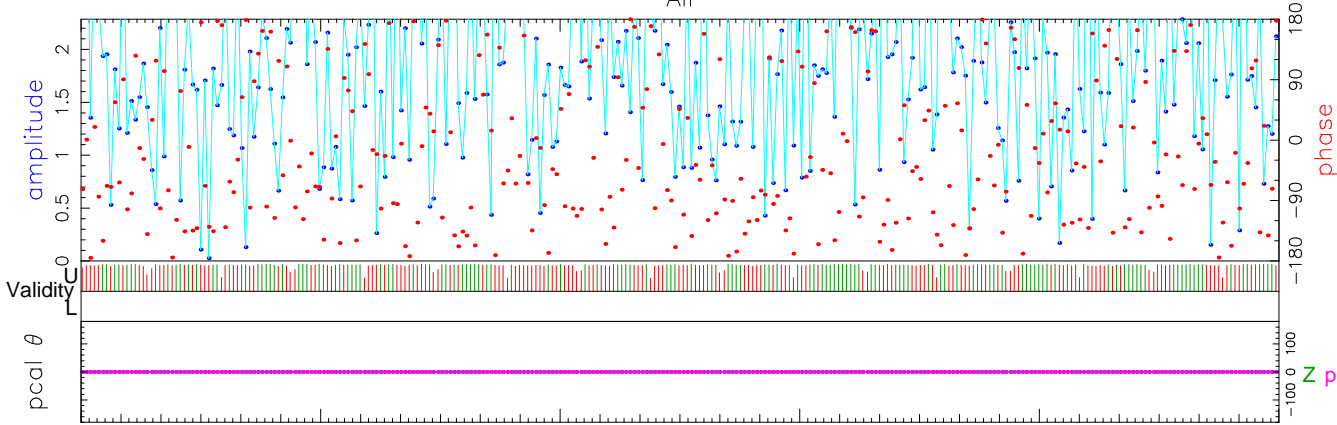
SNR 5.6  
Int time 278.166  
Amp 0.762  
Phase -100.7  
PFD 9.6e-01  
Delays (us)  
SBD -2.392025  
MBD -0.000007  
Fringe rate (Hz)  
-0.969801  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171833  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
-100.7  
0.8  
206.8  
U/L 586/0  
Z 0  
p 5000  
Z:p 0:0  
Z:p 0:0  
Z 1000  
p 1000  
Z W04UL  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.51490948413E+03 | Apriori delay (usec)     | -1.51251745286E+03 | Resid mbdelay (usec) | -6.66339E-06 | +/- | 3.1E-03 |
| Sband delay (usec)      | -1.51490947836E+03 | Apriori clock (usec)     | -3.1158604E+01     | Resid sbdelay (usec) | -2.39203E+00 | +/- | 3.1E-03 |
| Phase delay (usec)      | -1.51251745610E+03 | Apriori clockrate (us/s) | 4.0499998E-07      | Resid phdelay (usec) | -3.24855E-06 | +/- | 6.6E-07 |
| Delay rate (us/s)       | -1.80168868839E+00 | Apriori rate (us/s)      | -1.80167742996E+00 | Resid rate (us/s)    | -1.12584E-05 | +/- | 3.8E-09 |
| Total phase (deg)       | -240.8             | Apriori accel (us/s/s)   | 1.74901977657E-05  | Resid phase (deg)    | -100.7       | +/- | 20.6    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 87.4  | Theor.          | 176.1 | Amplitude      | 0.762 +/- 0.137 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 359.4 | Search (2048X8) | 0.487 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.529           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.3   | Inc. frq. avg.  | 0.747 | Inc. frq. avg. | 0.747           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

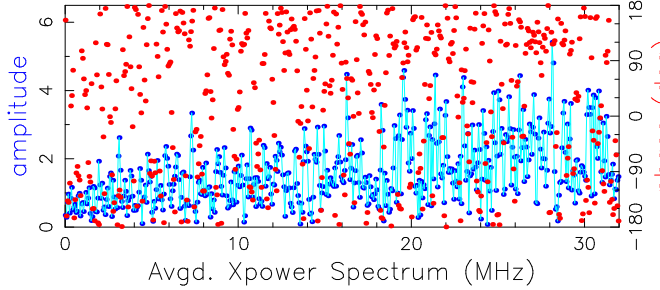
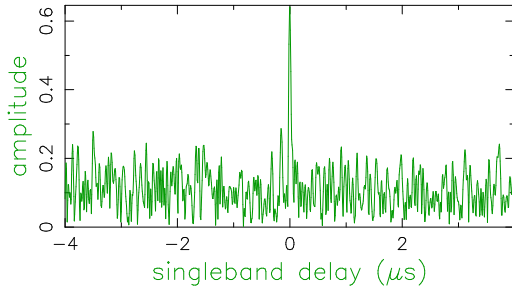
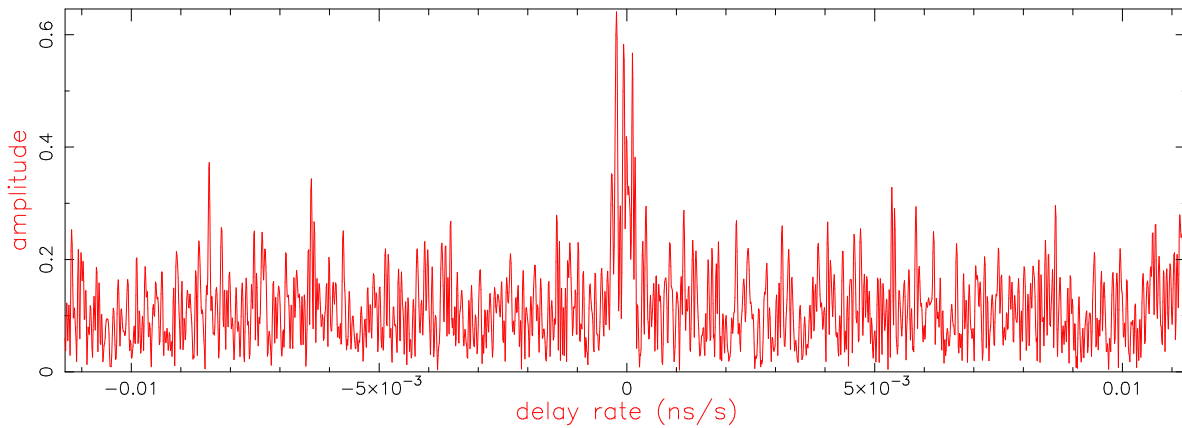
Z: az 257.8 el 25.5 pa 30.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10769.182 2939.045 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zp.W.269.0QR2SH

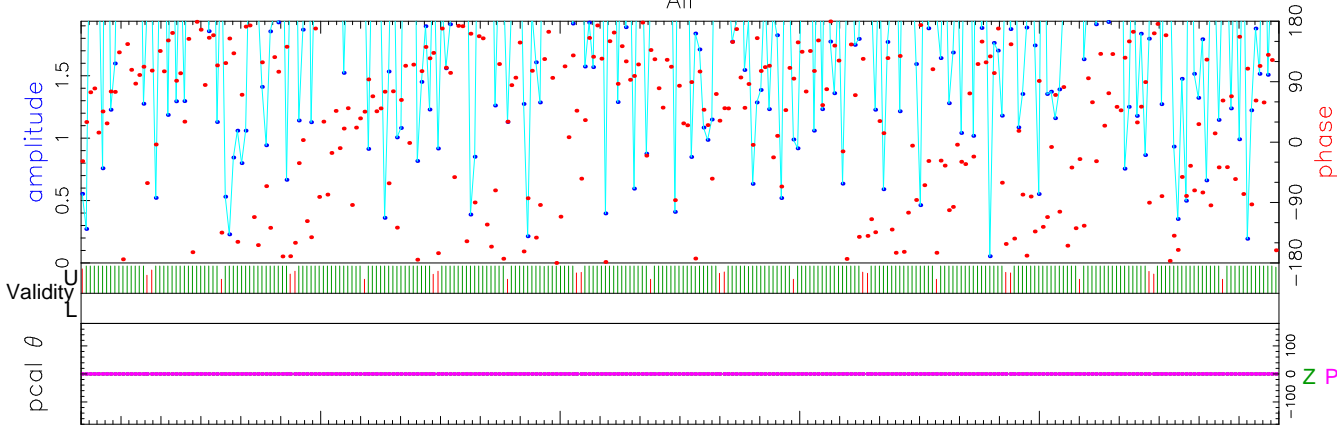
Fringe quality 9

SNR 7.5  
 Int time 288.761  
 Amp 0.646  
 Phase 121.0  
 PFD 1.0e-05  
 Delays (us)  
 SBD -0.002721  
 MBD -0.000006  
 Fringe rate (Hz)  
 -0.018392  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171834  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 121.0  
 0.6  
 512.7  
 U/L 586/0  
 Z 0  
 P 0  
 Z:P 0:0  
 Z:P 0:0  
 Z 1000  
 P 1000  
 Z W04UR  
 P W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08904882612E+03 | Apriori delay (usec)     | -7.08904610347E+03 | Resid mbdelay (usec) | -6.14302E-06 | +/- | 2.3E-03 |
| Sband delay (usec)      | -7.08904882447E+03 | Apriori clock (usec)     | 2.2392273E-01      | Resid sbdelay (usec) | -2.72100E-03 | +/- | 2.3E-03 |
| Phase delay (usec)      | -7.08904609957E+03 | Apriori clockrate (us/s) | 8.4699999E-07      | Resid phdelay (usec) | 3.90165E-06  | +/- | 4.9E-07 |
| Delay rate (us/s)       | 7.65468916095E-02  | Apriori rate (us/s)      | 7.65471051213E-02  | Resid rate (us/s)    | -2.13512E-07 | +/- | 2.8E-09 |
| Total phase (deg)       | -6.2               | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | 121.0        | +/- | 15.3    |

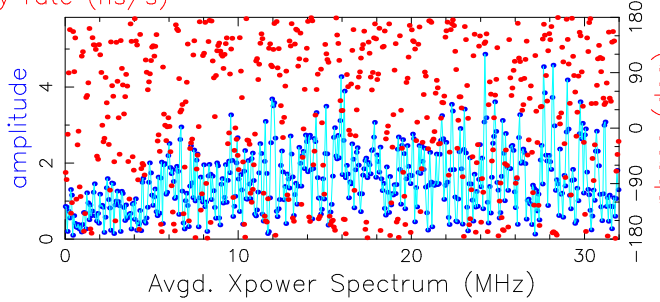
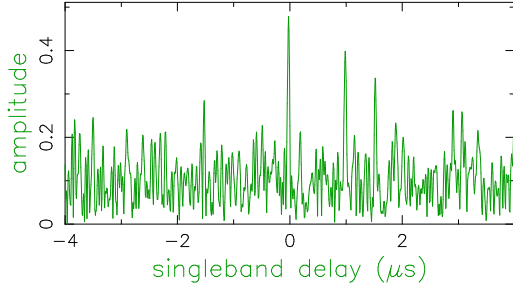
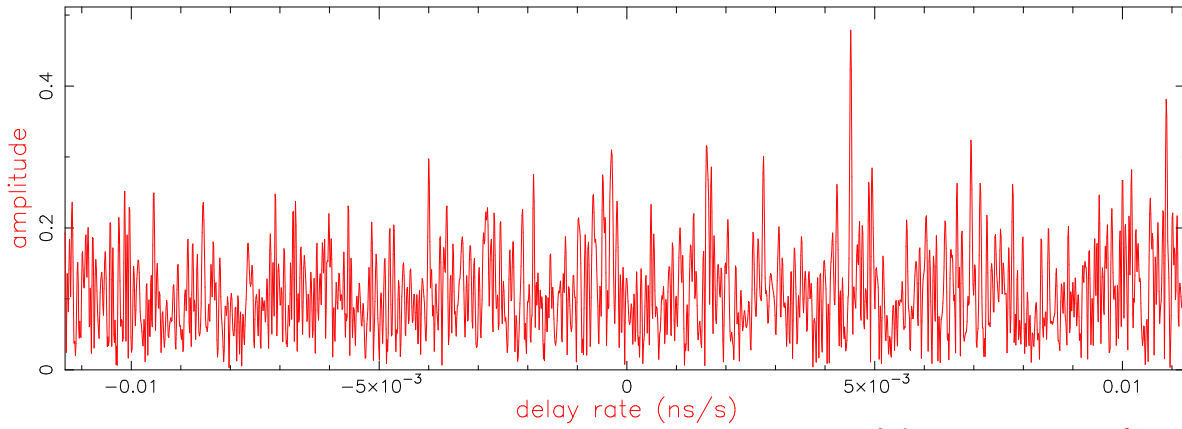
|                             |       |                             |       |                |                   |                        |                             |                  |              |           |
|-----------------------------|-------|-----------------------------|-------|----------------|-------------------|------------------------|-----------------------------|------------------|--------------|-----------|
| ph/seg (deg)                | 87.8  | Theor.                      | 130.7 | Amplitude      | 0.646 +/- 0.086   | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |           |
| amp/seg (%)                 | 291.9 | Search (2048X8)             | 0.636 | Search         | 0.000             | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |           |
| ph/frq (deg)                | 0.0   | Interp.                     | 0.000 | Inc. seg. avg. | 0.605             | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |           |
| amp/frq (%)                 | 0.8   | Inc. frq. avg.              | 0.635 | Inc. frq. avg. | 0.635             | Sample rate (MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |           |
| Z: az 257.8 el 25.5 pa 30.4 |       | P: az 249.4 el 49.9 pa 50.8 |       | u,v (fr/asec)  | -397.217 3313.526 | Data rate (Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |           |
|                             |       |                             |       |                |                   | nlags:                 | 512                         | t_cohere         | infinite     |           |
|                             |       |                             |       |                |                   | ion window (TEC)       |                             |                  |              | 0.00 0.00 |

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZP.W.278.0QR2SH

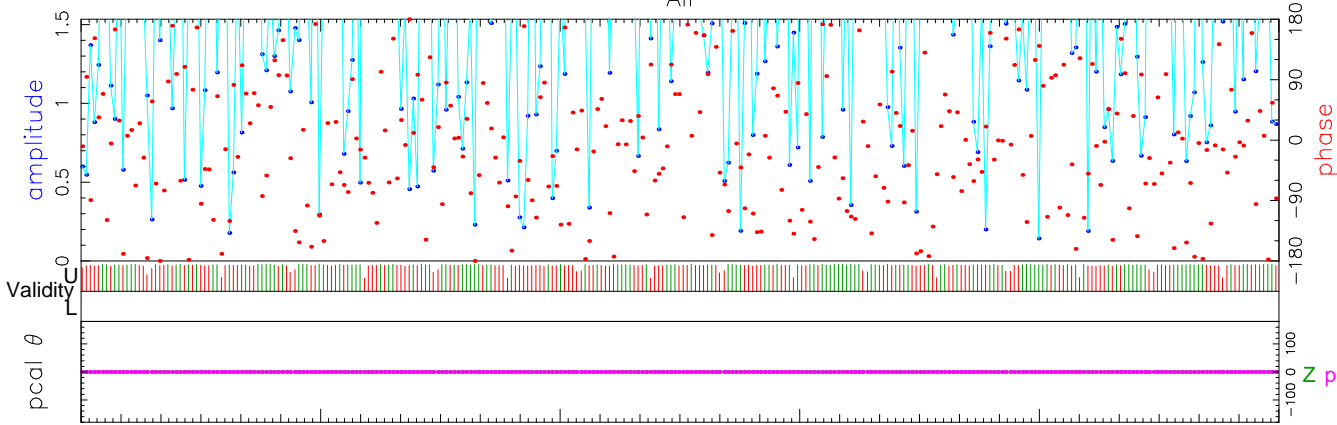
Fringe quality 0

SNR 5.5  
Int time 278.162  
Amp 0.511  
Phase -9.8  
PFD 1.0e+00  
Delays (us)  
SBD -0.023544  
MBD 0.000005  
Fringe rate (Hz)  
0.389469  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171834  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-9.8  
0.5  
510.0  
U/L 586/0  
Z 0  
p 5000  
Z:p 0:0  
Z:p 0:0  
Z 1000  
p 1000  
Z W04UR  
p W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.51254100234E+03 | Apriori delay (usec)     | -1.51251745286E+03 | Resid mbdelay (usec) | 5.19712E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.51254099686E+03 | Apriori clock (usec)     | -3.1158604E+01     | Resid sbdelay (usec) | -2.35440E-02 | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.51251745317E+03 | Apriori clockrate (us/s) | 4.0499998E-07      | Resid phdelay (usec) | -3.17589E-07 | +/- | 6.8E-07 |
| Delay rate (us/s)       | -1.80167290860E+00 | Apriori rate (us/s)      | -1.80167742996E+00 | Resid rate (us/s)    | 4.52135E-06  | +/- | 3.9E-09 |
| Total phase (deg)       | -149.9             | Apriori accel (us/s/s)   | 1.74901977657E-05  | Resid phase (deg)    | -9.8         | +/- | 21.0    |

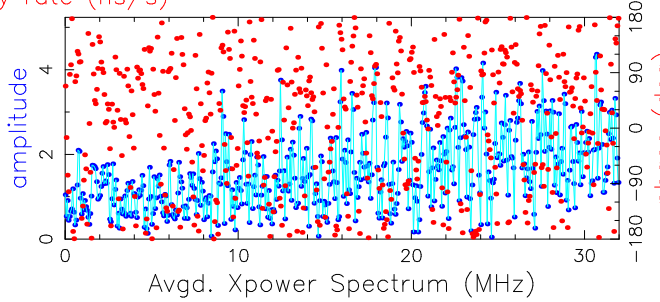
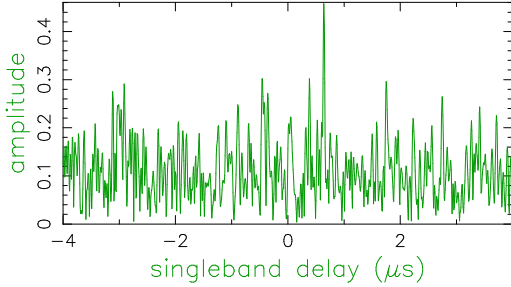
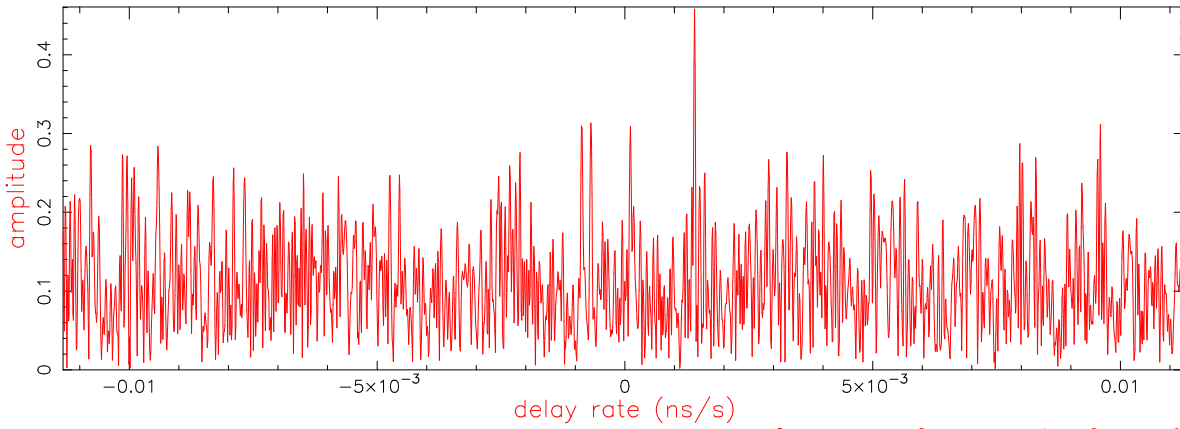
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 93.7  | Theor.          | 179.7 | Amplitude      | 0.511 +/- 0.094 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 374.9 | Search (2048X8) | 0.470 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.348           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.503 | Inc. frq. avg. | 0.503           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

Z: az 257.8 el 25.5 pa 30.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10769.182 2939.045 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zp.W.279.0QR2SH

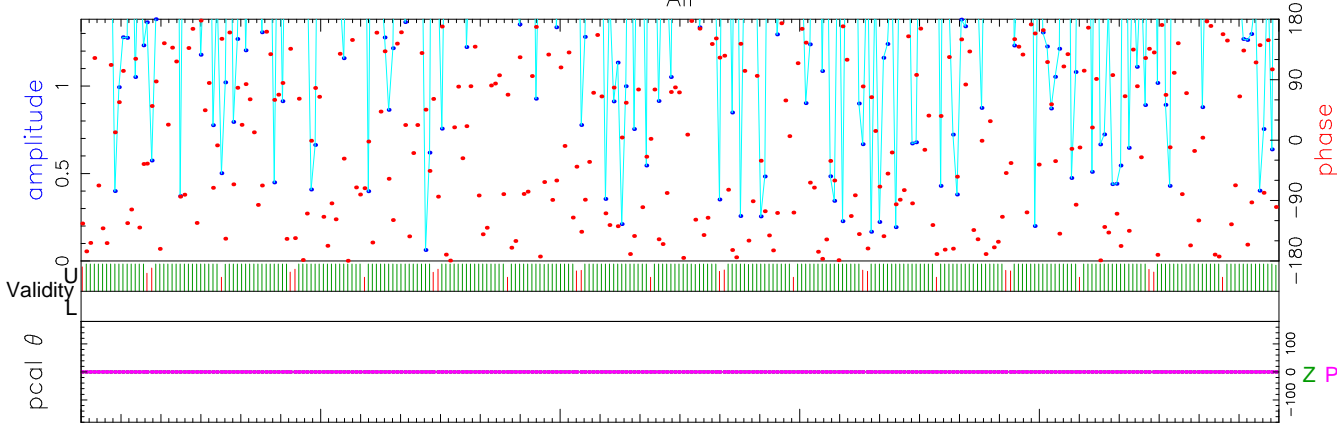
Fringe quality 0

SNR 5.3  
Int time 288.761  
Amp 0.461  
Phase -178.9  
PFD 1.0e+00  
Delays (us)  
SBD 0.640434  
MBD 0.000005  
Fringe rate (Hz)  
0.121052  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-178.9  
0.5  
595.0  
U/L 586/0  
Z 0  
P 0  
Z:P 0:0  
Z:P 0:0  
Z 1000  
P 1000  
Z W04UL  
P W04UR

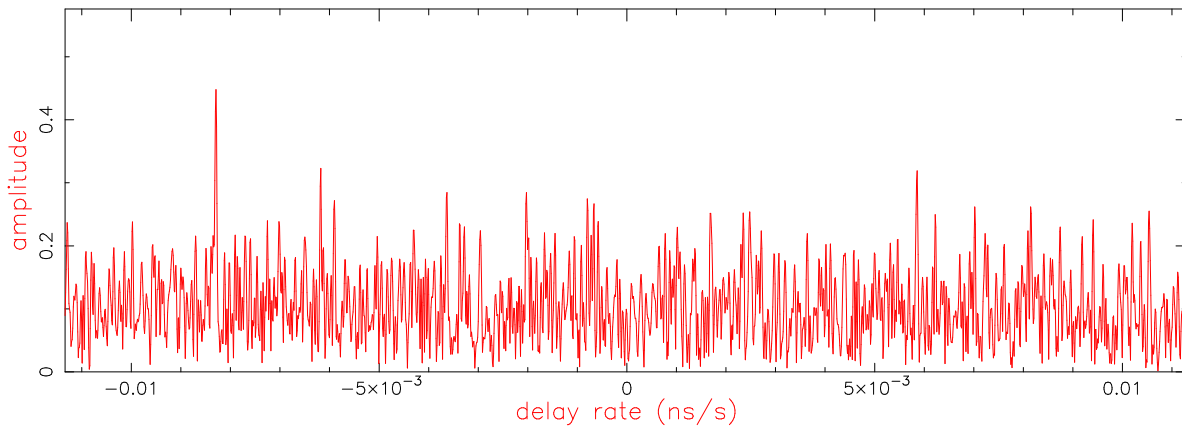
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -7.08840566429E+03 | Apriori delay (usec)     | -7.08904610347E+03 | Resid mbdelay (usec) | 5.00348E-06  | +/- | 3.2E-03 |
| Sband delay (usec)      | -7.08840566947E+03 | Apriori clock (usec)     | 2.2392273E-01      | Resid sbdelay (usec) | 6.40434E-01  | +/- | 3.2E-03 |
| Phase delay (usec)      | -7.08904610924E+03 | Apriori clockrate (us/s) | 8.4699999E-07      | Resid phdelay (usec) | -5.76856E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | 7.65485104150E-02  | Apriori rate (us/s)      | 7.65471051213E-02  | Resid rate (us/s)    | 1.40529E-06  | +/- | 4.0E-09 |
| Total phase (deg)       | -306.0             | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | -178.9       | +/- | 21.5    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.0  | Theor.          | 184.4 | Amplitude      | 0.461 +/- 0.087 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 376.2 | Search (2048X8) | 0.457 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.304           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.453 | Inc. frq. avg. | 0.453           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

Z: az 257.8 el 25.5 pa 30.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator

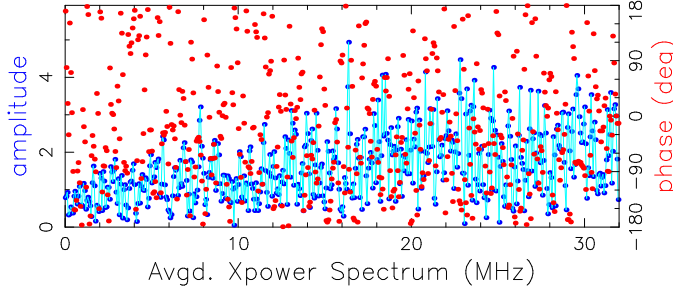
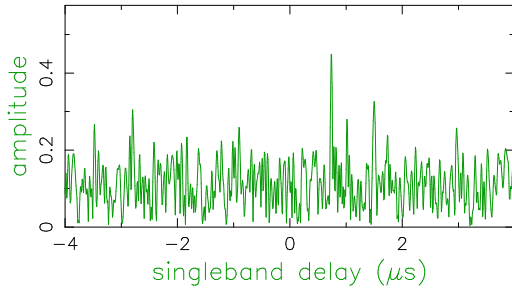
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZP.W.288.0QR2SH



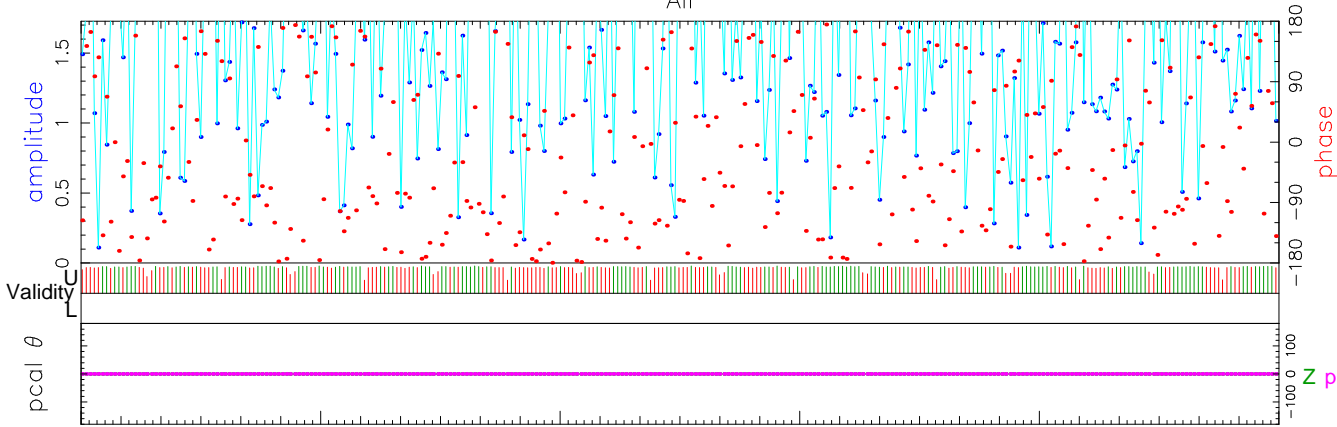
Fringe quality 0

SNR 5.2  
 Int time 278.162  
 Amp 0.576  
 Phase -132.3  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.738081  
 MBD -0.000007  
 Fringe rate (Hz)  
 -0.714760  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171835  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
 All



86140.00  
 -132.3  
 0.6  
 607.5  
 U/L 586/0  
 Z 0  
 p 5000  
 Z:p 0:0  
 Z:p 0:0  
 Z 1000  
 p 1000  
 Z W04UL  
 p W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Manl PC  
 PC amp

Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -1.51177937041E+03 | Apriori delay (usec)     | -1.51251745286E+03 | Resid mbdelay (usec) | -6.70843E-06 | +/- 3.3E-03 |
| Sband delay (usec)      | -1.51177937186E+03 | Apriori clock (usec)     | -3.1158604E+01     | Resid sbdelay (usec) | 7.38081E-01  | +/- 3.3E-03 |
| Phase delay (usec)      | -1.51251745712E+03 | Apriori clockrate (us/s) | 4.0499998E-07      | Resid phdelay (usec) | -4.26739E-06 | +/- 7.1E-07 |
| Delay rate (us/s)       | -1.80168572761E+00 | Apriori rate (us/s)      | -1.80167742996E+00 | Resid rate (us/s)    | -8.29765E-06 | +/- 4.1E-09 |
| Total phase (deg)       | -272.4             | Apriori accel (us/s/s)   | 1.74901977657E-05  | Resid phase (deg)    | -132.3       | +/- 22.0    |

|              |       |        |       |                 |                 |  |                      |                |              |
|--------------|-------|--------|-------|-----------------|-----------------|--|----------------------|----------------|--------------|
| ph/seg (deg) | 90.8  | Theor. | 188.1 | Amplitude       | 0.576 +/- 0.110 | Pcal mode: MANUAL, MANUAL              | PC period (AP's)     | 5, 5           |              |
| amp/seg (%)  | 366.0 |        | 328.4 | Search (2048X8) | 0.442           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -4.000 4.000   |              |
| ph/frq (deg) | 0.0   |        | 11.0  | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 2.0   |        | 19.2  | Inc. seg. avg.  | 0.356           | Sample rate(MSamp/s): 64               | dr window (ns/s)     | -0.011 0.011   |              |
|              |       |        |       | Inc. frq. avg.  | 0.554           | Data rate(Mb/s): 128                   | ion window (TEC)     | 0.00 0.00      |              |

Z: az 257.8 el 25.5 pa 30.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10769.182 2939.045 simultaneous interpolator

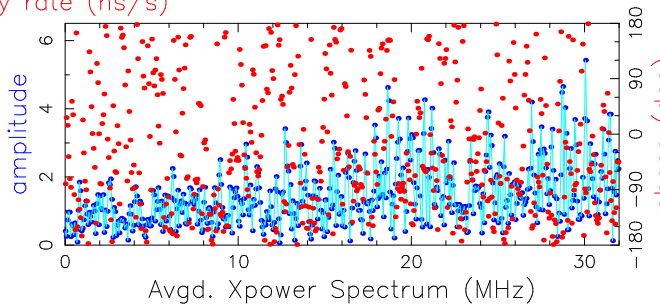
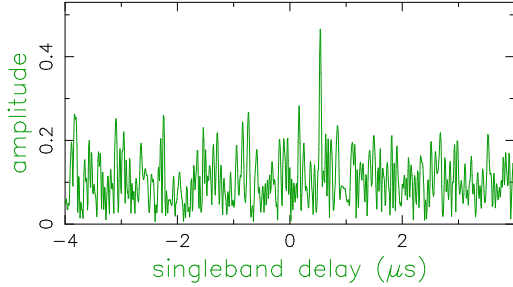
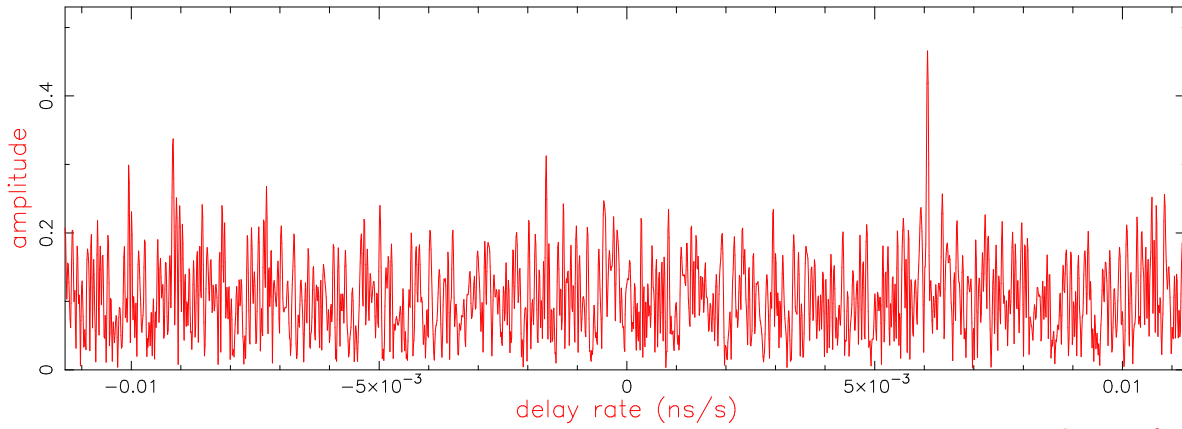
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zp.W.289.0QR2SH



Fringe quality 0

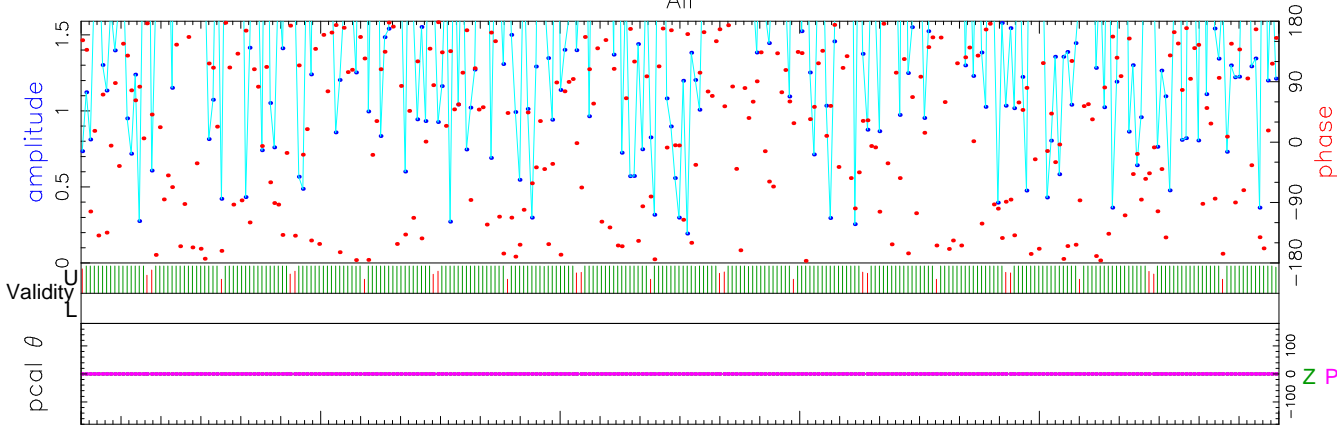
SNR 5.5  
Int time 288.761  
Amp 0.530  
Phase 145.1  
PFD 1.0e+00  
Delays (us)  
SBD 0.541442  
MBD 0.000004  
Fringe rate (Hz)  
0.522996  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
145.1  
0.5  
582.3  
U/L 586/0  
Z 0  
P 0  
Z:P 0:0  
Z:P 0:0  
Z 1000  
P 1000  
Z W04UR  
P W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | -7.08850466655E+03 | Apriori delay (usec)     | -7.08904610347E+03 | Resid mbdelay (usec) | 4.37144E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -7.08850466147E+03 | Apriori clock (usec)     | 2.2392273E-01      | Resid sbdelay (usec) | 5.41442E-01 | +/- | 3.2E-03 |
| Phase delay (usec)      | -7.08904609879E+03 | Apriori clockrate (us/s) | 8.4699999E-07      | Resid phdelay (usec) | 4.67884E-06 | +/- | 6.8E-07 |
| Delay rate (us/s)       | 7.65531765836E-02  | Apriori rate (us/s)      | 7.65471051213E-02  | Resid rate (us/s)    | 6.07146E-06 | +/- | 3.9E-09 |
| Total phase (deg)       | 17.9               | Apriori accel (us/s/s)   | 4.60716722859E-05  | Resid phase (deg)    | 145.1       | +/- | 21.0    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.3  | Theor.          | 179.8 | Amplitude      | 0.530 +/- 0.097 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 361.1 | Search (2048X8) | 0.458 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.350 | Interp.        | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.8   | Inc. frq. avg.  | 0.517 | Inc. seg. avg. | 0.350           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

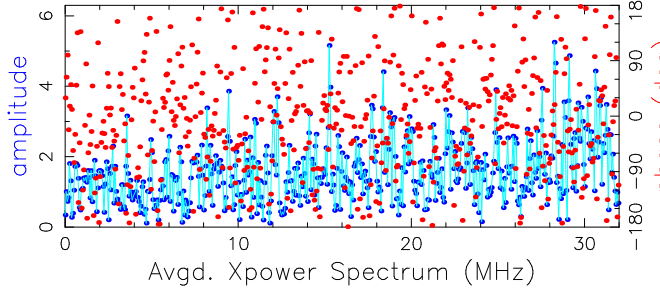
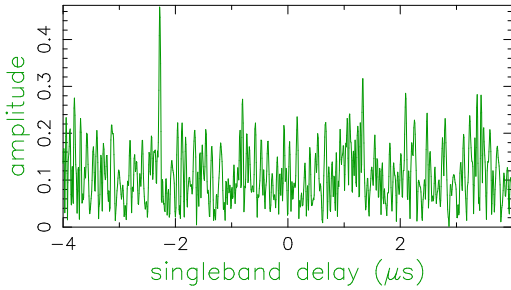
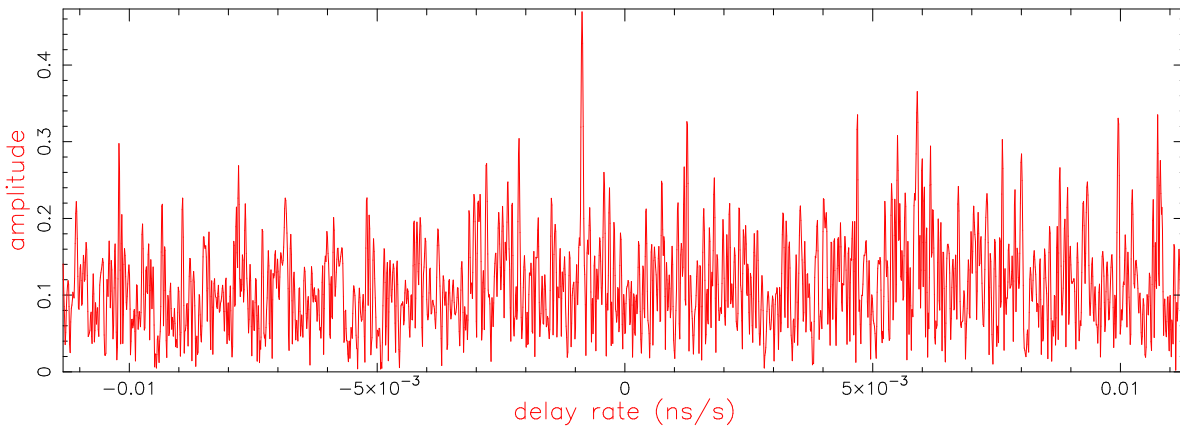
Z: az 257.8 el 25.5 pa 30.4 P: az 249.4 el 49.9 pa 50.8 u,v (fr/asec) -397.217 3313.526 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZP..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZP.W.297.0QR2SH

Fringe quality 0

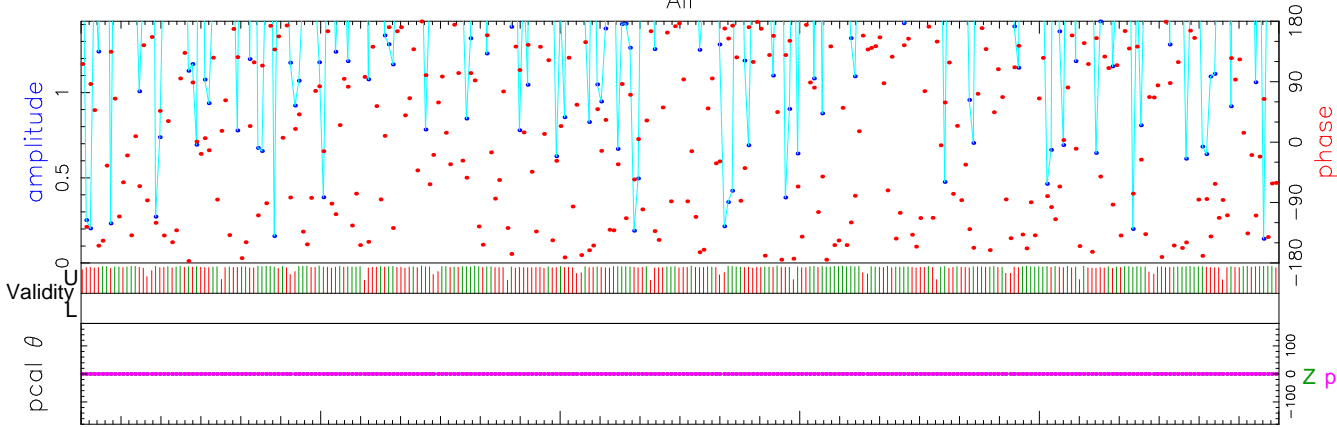
SNR 5.4  
Int time 278.166  
Amp 0.473  
Phase -175.3  
PFD 1.0e+00  
Delays (us)  
SBD -2.279301  
MBD -0.000006  
Fringe rate (Hz)  
-0.074477  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



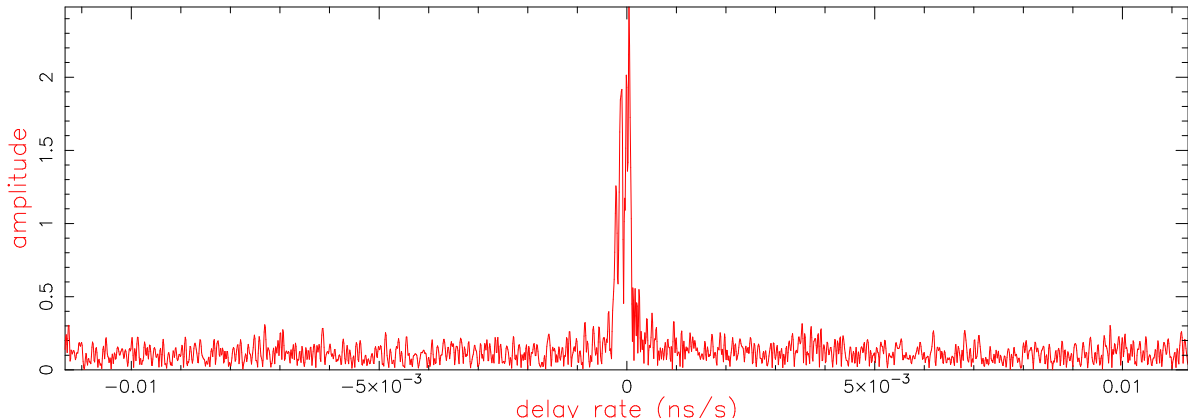
86140.00  
-175.3  
0.5  
221.2  
U/L 586/0  
Z 0  
p 5000  
Z:p 0:0  
Z:p 0:0  
Z 1000  
p 1000  
Z W04UR  
p W04UL

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC freqs  
PC phase  
Manl PC  
PC amp  
  
Chan ids  
  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.51479676006E+03 | Apriori delay (usec)     | -1.51251745286E+03 | Resid mbdelay (usec) | -6.06362E-06 | +/- | 3.2E-03 |
| Sband delay (usec)      | -1.51479675436E+03 | Apriori clock (usec)     | -3.1158604E+01     | Resid sbdelay (usec) | -2.27930E+00 | +/- | 3.2E-03 |
| Phase delay (usec)      | -1.51251745851E+03 | Apriori clockrate (us/s) | 4.0499998E-07      | Resid phdelay (usec) | -5.65214E-06 | +/- | 6.9E-07 |
| Delay rate (us/s)       | -1.80167829456E+00 | Apriori rate (us/s)      | -1.80167742996E+00 | Resid rate (us/s)    | -8.64604E-07 | +/- | 4.0E-09 |
| Total phase (deg)       | -315.3             | Apriori accel (us/s/s)   | 1.74901977657E-05  | Resid phase (deg)    | -175.3       | +/- | 21.3    |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 91.2  | Theor.          | 182.3 | Amplitude      | 0.473 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 392.6 | Search (2048X8) | 0.469 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.333           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.6   | Inc. frq. avg.  | 0.462 | Inc. frq. avg. | 0.462           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

Z: az 257.8 el 25.5 pa 30.4 p: az 89.4 el 28.9 pa -59.3 u,v (fr/asec) 10769.182 2939.045 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//Zp..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//Zp.W.299.0QR2SH



Fringe quality 9

SNR 29.0

Int time 291.770

Amp 2.480

Phase 155.2

PFD 0.0e+00

Delays (us)

SBD -0.015726

MBD 0.000001

Fringe rate (Hz) 0.003386

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

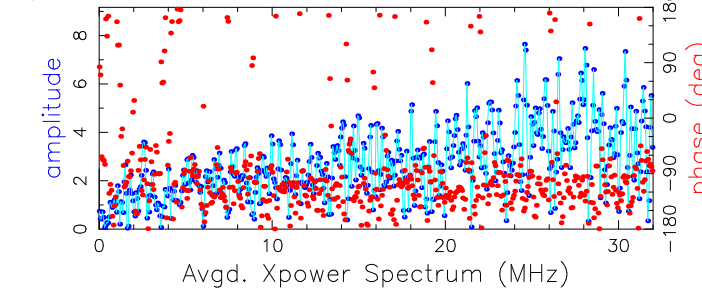
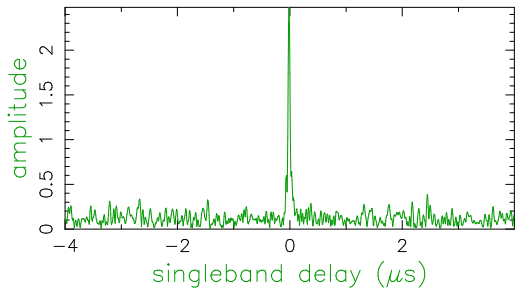
2019:212:171834

2018:249:082454

RA & Dec (J2000)

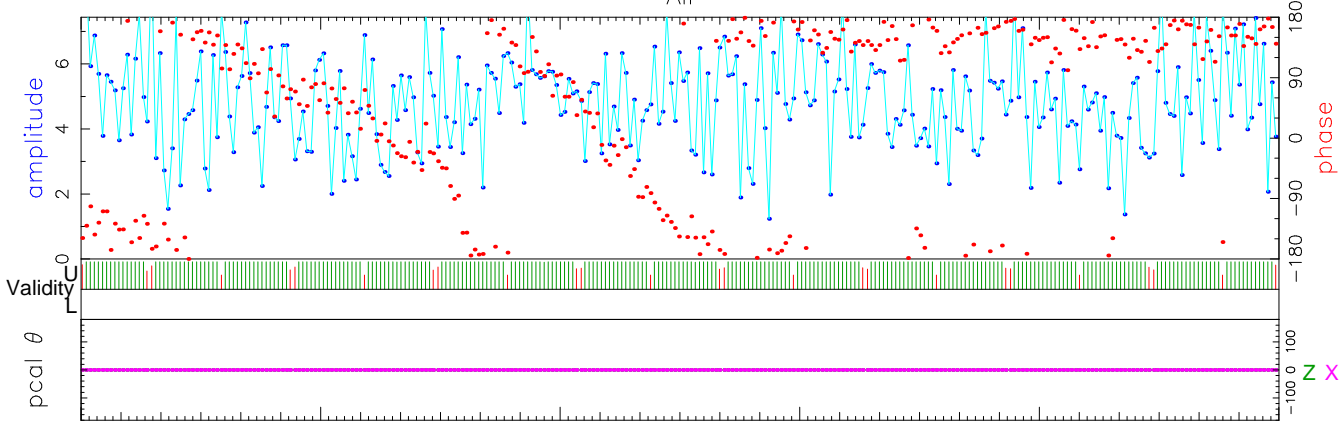
22h53m57.7479s

+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



|                         |                    |                      |                    |                      |             |     |         |                    |                    |                      |                |                      |              |       |         |                    |                    |                          |                |                      |             |        |         |                   |                    |                     |                    |                   |             |           |         |                   |         |                        |                   |                   |         |         |     |
|-------------------------|--------------------|----------------------|--------------------|----------------------|-------------|-----|---------|--------------------|--------------------|----------------------|----------------|----------------------|--------------|-------|---------|--------------------|--------------------|--------------------------|----------------|----------------------|-------------|--------|---------|-------------------|--------------------|---------------------|--------------------|-------------------|-------------|-----------|---------|-------------------|---------|------------------------|-------------------|-------------------|---------|---------|-----|
| 86140.00                | 155.2              | 2.5                  | 511.0              | U/L 586/0            | Z 0         | X 0 | Z:X 0:0 | Z:X 0:0            | Z 1000             | X 1000               | Z W04UL        | X W04UL              | 86140.00     | 155.2 | 2.5     | 511.0              | U/L 586/0          | Z 0                      | X 0            | Z:X 0:0              | Z:X 0:0     | Z 1000 | X 1000  | Z W04UL           | X W04UL            | 86140.00            | 155.2              | 2.5               | 511.0       | U/L 586/0 | Z 0     | X 0               | Z:X 0:0 | Z:X 0:0                | Z 1000            | X 1000            | Z W04UL | X W04UL |     |
| Group delay (usec)(sbd) | -2.30387352509E+03 | Apriori delay (usec) | -2.30385779559E+03 | Resid mbdelay (usec) | 7.03831E-07 | +/- | 5.9E-04 | Sband delay (usec) | -2.30387352209E+03 | Apriori clock (usec) | -2.4921793E+01 | Resid sbdelay (usec) | -1.57265E-02 | +/-   | 5.9E-04 | Phase delay (usec) | -2.30385779058E+03 | Apriori clockrate (us/s) | -2.2999999E-07 | Resid phdelay (usec) | 5.00483E-06 | +/-    | 1.3E-07 | Delay rate (us/s) | -2.56650361393E-02 | Apriori rate (us/s) | -2.56650754465E-02 | Resid rate (us/s) | 3.93072E-08 | +/-       | 7.4E-10 | Total phase (deg) | -29.0   | Apriori accel (us/s/s) | 1.29260425995E-05 | Resid phase (deg) | 155.2   | +/-     | 4.0 |

ph/seg (deg) 72.2 33.9 Search (2048X8) 2.419 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 113.1 59.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -4.000 4.000

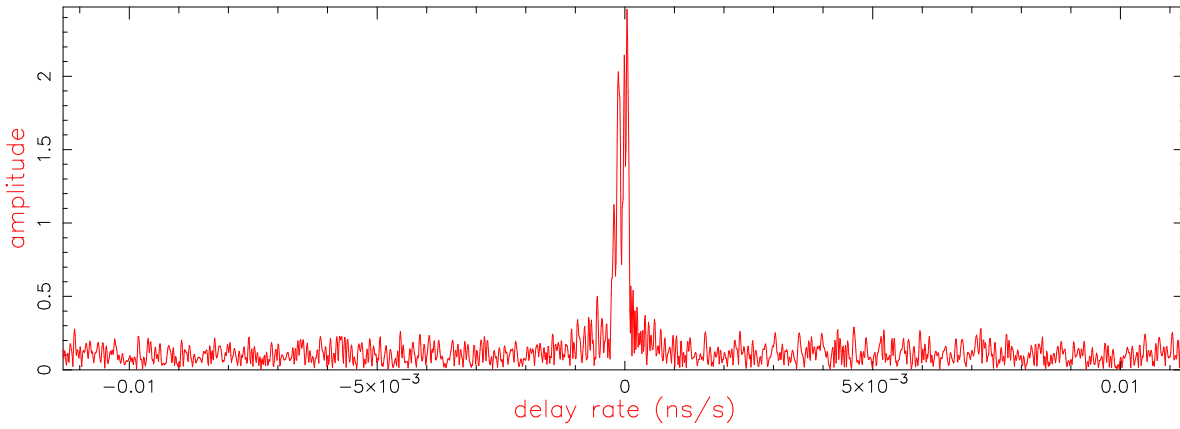
ph/frq (deg) 0.0 2.0 Inc. seg. avg. 4.146 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.000 0.000

amp/frq (%) 0.0 3.5 Inc. frq. avg. 2.478 Sample rate(MSamp/s): 64 Data rate(Mb/s): 128 nlags: 512 t\_cohere infinite dr window (ns/s) -0.011 0.011

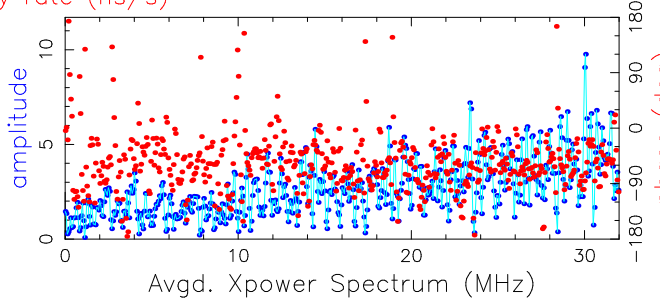
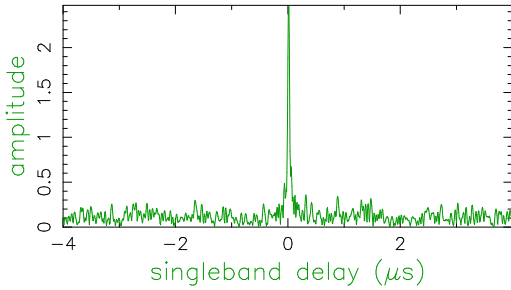
Z: az 257.8 el 25.5 pa 30.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 169.488 512.818 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZX.W.280.0QR2SH

Fringe quality 9



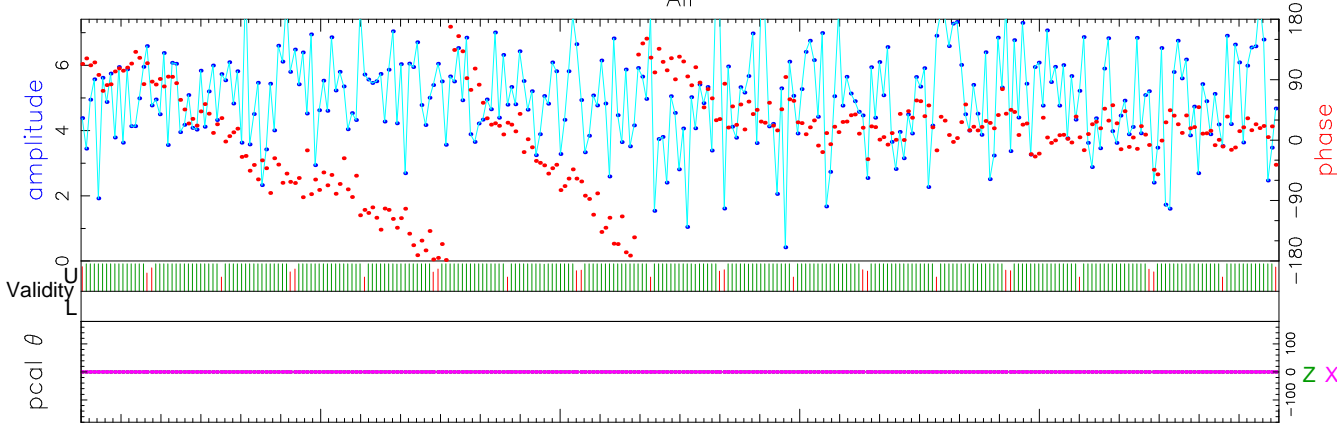
SNR 28.9  
 Int time 291.770  
 Amp 2.472  
 Phase 15.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.013522  
 MBD -0.000001  
 Fringe rate (Hz)  
 0.003654  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171835  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
 15.6  
 2.5  
 514.7  
 U/L 586/0  
 Z 0  
 X 0  
 Z:X 0:0  
 Z:X 0:0  
 Z 1000  
 X 1000  
 Z W04UR  
 X W04UR

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                    |                      |              |             |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | -2.30384427160E+03 | Apriori delay (usec)     | -2.30385779559E+03 | Resid mbdelay (usec) | -5.12097E-07 | +/- 6.0E-04 |
| Sband delay (usec)      | -2.30384427359E+03 | Apriori clock (usec)     | -2.4921793E+01     | Resid sbdelay (usec) | 1.35220E-02  | +/- 6.0E-04 |
| Phase delay (usec)      | -2.30385779508E+03 | Apriori clockrate (us/s) | -2.2999999E-07     | Resid phdelay (usec) | 5.01982E-07  | +/- 1.3E-07 |
| Delay rate (us/s)       | -2.56650330266E-02 | Apriori rate (us/s)      | -2.56650754465E-02 | Resid rate (us/s)    | 4.24199E-08  | +/- 7.4E-10 |
| Total phase (deg)       | -168.7             | Apriori accel (us/s/s)   | 1.29260425995E-05  | Resid phase (deg)    | 15.6         | +/- 4.0     |

|              |       |        |      |                 |                 |  |                       |                   |        |       |
|--------------|-------|--------|------|-----------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 71.0  | Theor. | 34.0 | Amplitude       | 2.472 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 117.2 |        | 59.3 | Search (2048X8) | 2.449           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0   |        | 2.0  | Interp.         | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.6   |        | 3.5  | Inc. seg. avg.  | 4.249           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |       |        |      | Inc. frq. avg.  | 2.455           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

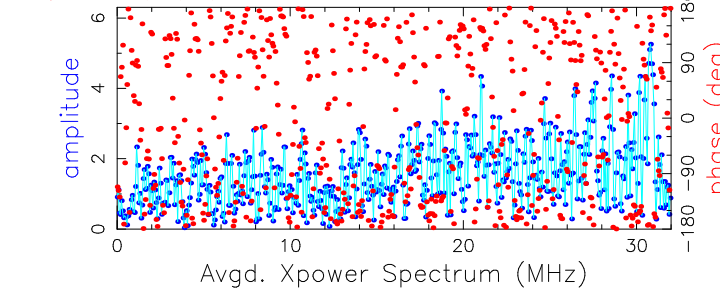
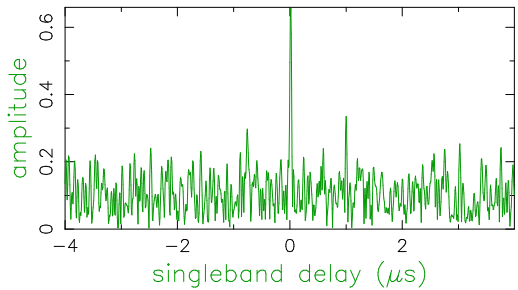
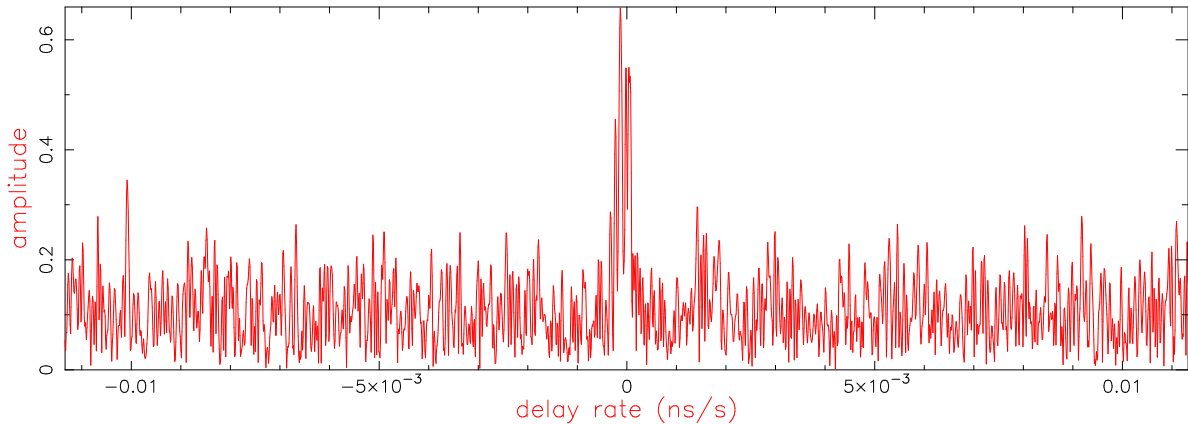
Z: az 257.8 el 25.5 pa 30.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 169.488 512.818 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZX.W.291.0QR2SH

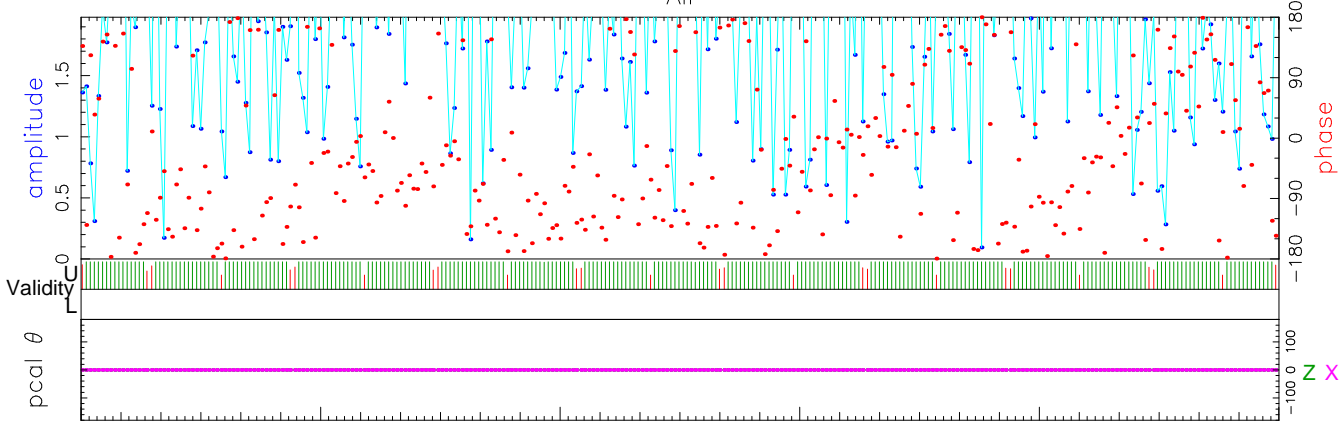
Fringe quality 9

SNR 7.7  
Int time 291.770  
Amp 0.660  
Phase -112.6  
PFD 2.2e-06  
Delays (us)  
SBD 0.014095  
MBD -0.000005  
Fringe rate (Hz)  
-0.011419  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-112.6  
0.7  
514.8  
U/L 586/0  
Z 0  
X 0  
Z:X 0:0  
Z:X 0:0  
Z 1000  
X 1000  
Z W04UL  
X W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.30384369599E+03 | Apriori delay (usec)     | -2.30385779559E+03 | Resid mbdelay (usec) | -5.34990E-06 | +/- | 2.2E-03 |
| Sband delay (usec)      | -2.30384370059E+03 | Apriori clock (usec)     | -2.4921793E+01     | Resid sbdelay (usec) | 1.40950E-02  | +/- | 2.2E-03 |
| Phase delay (usec)      | -2.30385779922E+03 | Apriori clockrate (us/s) | -2.2999999E-07     | Resid phdelay (usec) | -3.63176E-06 | +/- | 4.8E-07 |
| Delay rate (us/s)       | -2.56652080078E-02 | Apriori rate (us/s)      | -2.56650754465E-02 | Resid rate (us/s)    | -1.32561E-07 | +/- | 2.8E-09 |
| Total phase (deg)       | -296.9             | Apriori accel (us/s/s)   | 1.29260425995E-05  | Resid phase (deg)    | -112.6       | +/- | 14.9    |

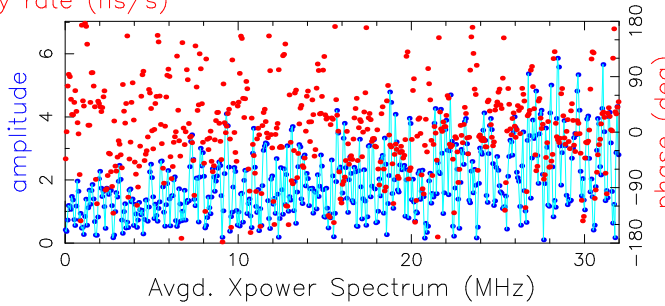
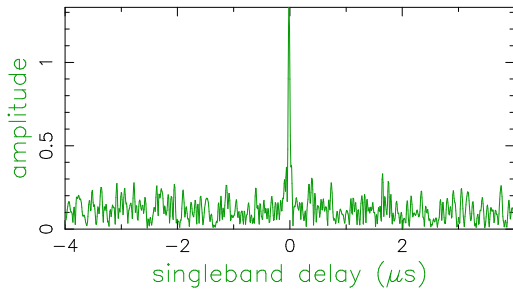
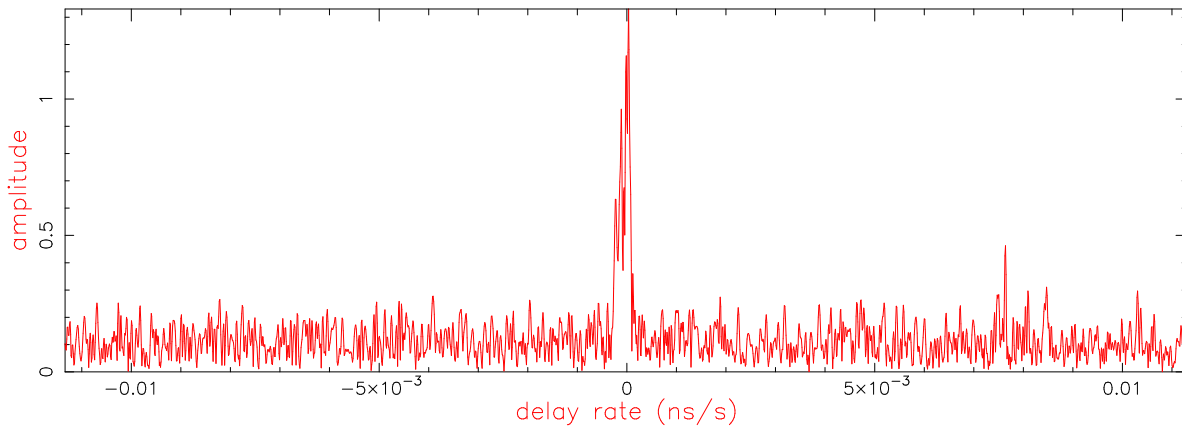
|              |       |        |       |                 |                 |                       |                             |                  |              |
|--------------|-------|--------|-------|-----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 84.9  | Theor. | 127.3 | Amplitude       | 0.660 +/- 0.086 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 270.0 | RMS    | 84.9  | Search (2048X8) | 0.657           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | 222.2  | 127.3 | Interp.         | 0.000           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.3   | 7.4    | 127.3 | Inc. seg. avg.  | 0.613           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |
|              |       | 13.0   | 127.3 | Inc. frq. avg.  | 0.652           | Data rate(Mb/s):      | 128                         | dr window (ns/s) | -0.011 0.011 |

Z: az 257.8 el 25.5 pa 30.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 169.488 512.818 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZX...0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZX.W.300.0QR2SH

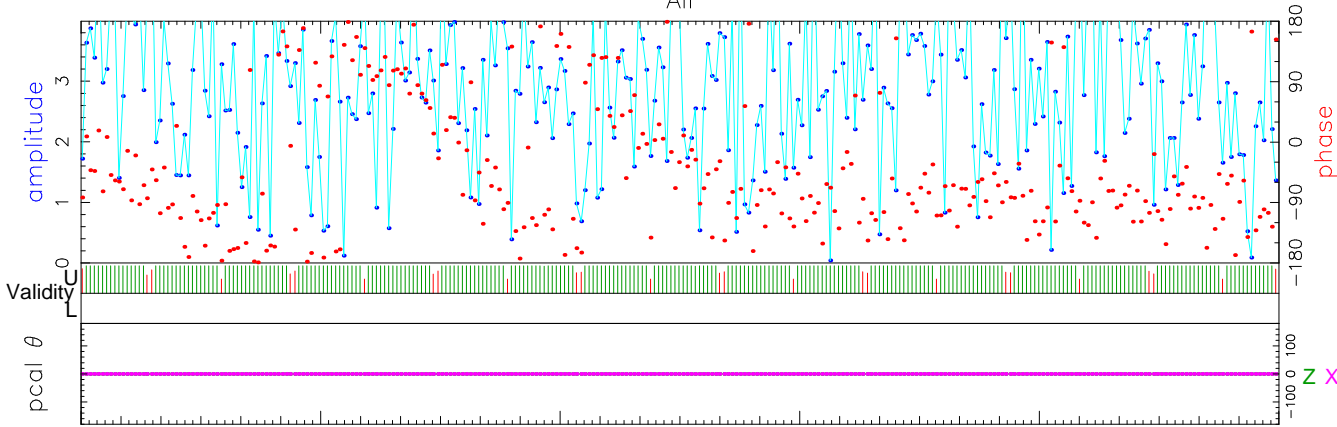
Fringe quality 9

SNR 15.5  
Int time 291.770  
Amp 1.330  
Phase -90.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.016010  
MBD -0.000002  
Fringe rate (Hz)  
0.003069  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171837  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-90.2  
1.3  
511.0  
U/L 586/0  
Z 0  
X 0  
Z:X 0:0  
Z:X 0:0  
Z 1000  
X 1000  
Z W04UR  
X W04UL

Freq (MHz)  
Phase  
Amp.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.30387380615E+03 | Apriori delay (usec)     | -2.30385779559E+03 | Resid mbdelay (usec) | -1.74343E-06 | +/- | 1.1E-03 |
| Sband delay (usec)      | -2.30387380559E+03 | Apriori clock (usec)     | -2.4921793E+01     | Resid sbdelay (usec) | -1.60100E-02 | +/- | 1.1E-03 |
| Phase delay (usec)      | -2.30385779850E+03 | Apriori clockrate (us/s) | -2.2999999E-07     | Resid phdelay (usec) | -2.90877E-06 | +/- | 2.4E-07 |
| Delay rate (us/s)       | -2.56650398167E-02 | Apriori rate (us/s)      | -2.56650754465E-02 | Resid rate (us/s)    | 3.56298E-08  | +/- | 1.4E-09 |
| Total phase (deg)       | -274.5             | Apriori accel (us/s/s)   | 1.29260425995E-05  | Resid phase (deg)    | -90.2        | +/- | 7.4     |

|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 78.7  | Theor.          | 63.1  | Amplitude      | 1.330 +/- 0.086 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 154.0 | Search (2048X8) | 1.322 | Search         | 1.322           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 1.818           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 1.327 | Inc. frq. avg. | 1.327           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

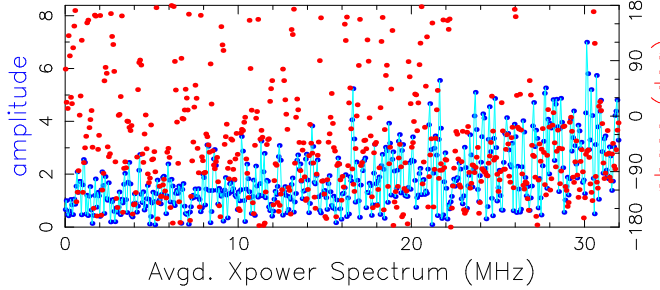
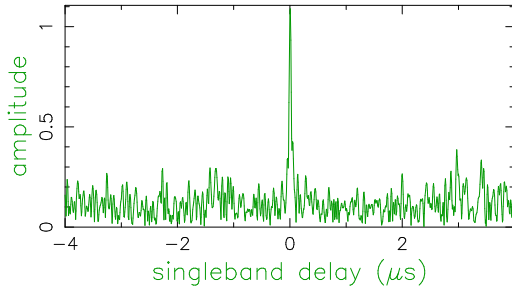
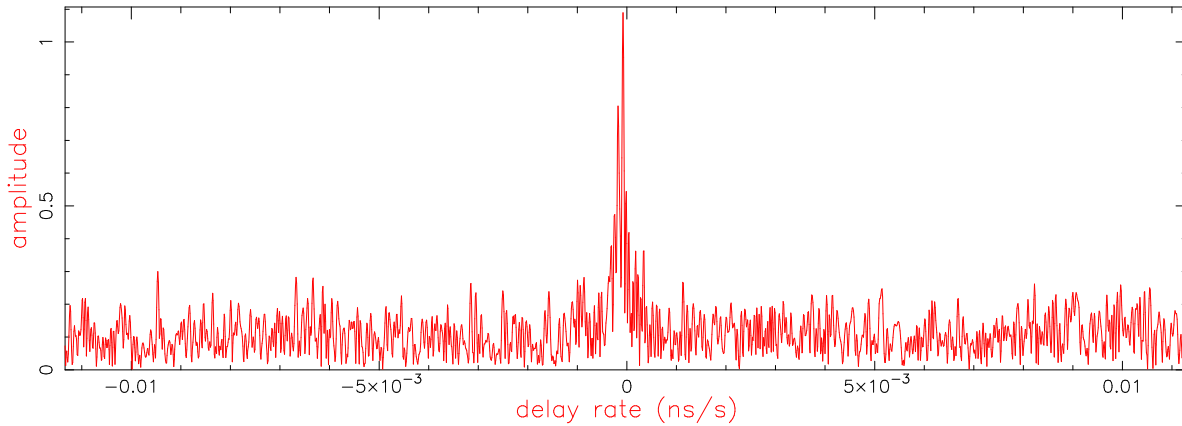
Z: az 257.8 el 25.5 pa 30.4 X: az 247.6 el 32.5 pa 31.4 u,v (fr/asec) 169.488 512.818 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZX..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZX.W.305.0QR2SH

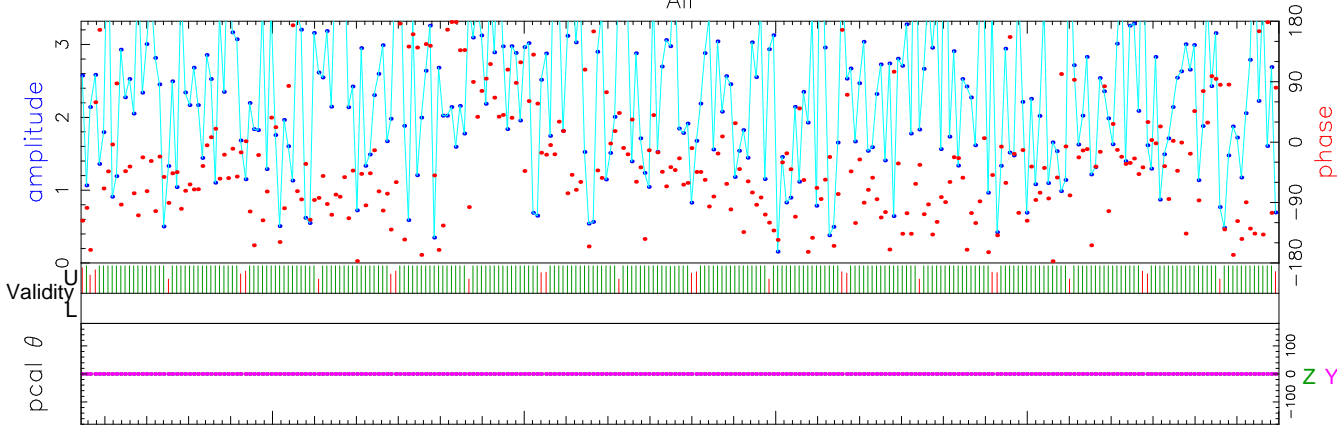
Fringe quality 9

SNR 12.6  
Int time 277.292  
Amp 1.107  
Phase -58.9  
PFD 5.6e-28  
Delays (us)  
SBD 0.004376  
MBD -0.000005  
Fringe rate (Hz)  
-0.006234  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171835  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-58.9  
1.1  
513.6  
U/L 558/0  
Z 0  
Y 0  
Z:Y 0:0  
Z:Y 0:0  
Z 1000  
Y 1000  
Z W04UL  
Y W04UL

Freq (MHz)  
Phase  
Amp.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.72549423140E+03 | Apriori delay (usec)     | -6.72549860299E+03 | Resid mbdelay (usec) | -5.00766E-06 | +/- | 1.4E-03 |
| Sband delay (usec)      | -6.72549422749E+03 | Apriori clock (usec)     | -6.8747673E+00     | Resid sbdelay (usec) | 4.37550E-03  | +/- | 1.4E-03 |
| Phase delay (usec)      | -6.72549860489E+03 | Apriori clockrate (us/s) | 3.5699999E-07      | Resid phdelay (usec) | -1.90034E-06 | +/- | 2.9E-07 |
| Delay rate (us/s)       | 4.49835452240E-02  | Apriori rate (us/s)      | 4.49836175961E-02  | Resid rate (us/s)    | -7.23721E-08 | +/- | 1.8E-09 |
| Total phase (deg)       | -297.1             | Apriori accel (us/s/s)   | 4.26216030664E-05  | Resid phase (deg)    | -58.9        | +/- | 9.1     |

|              |       |                 |       |                |                 |                       |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 75.9  | Theor.          | 76.0  | Amplitude      | 1.107 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 148.7 | Search (2048X8) | 1.065 | Search         | 1.065           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 1.246           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.6   | Inc. frq. avg.  | 1.086 | Inc. frq. avg. | 1.086           | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

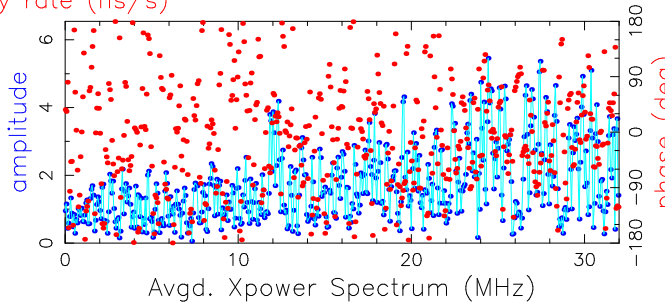
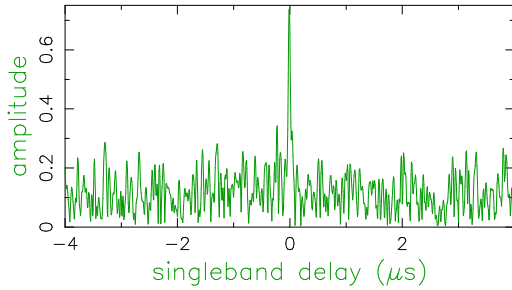
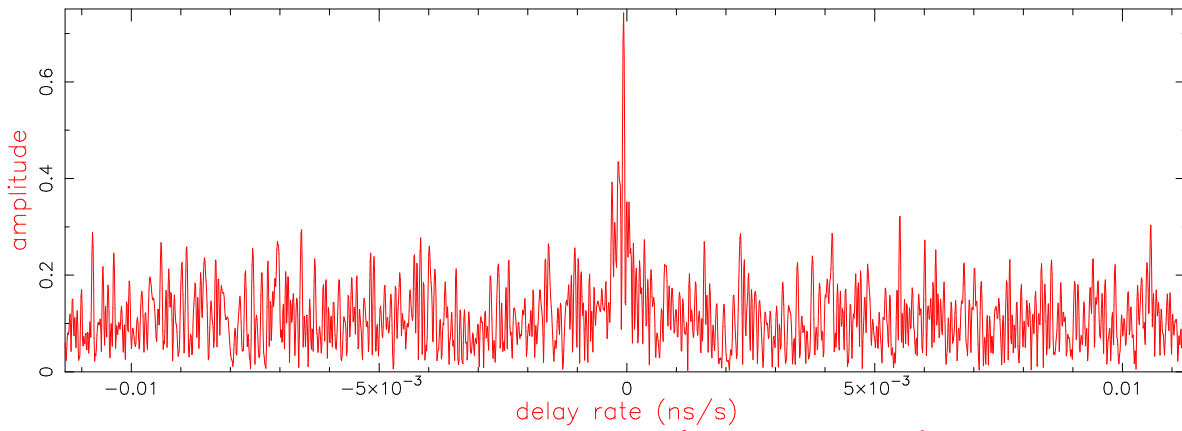
Z: az 257.8 el 25.5 pa 30.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -213.535 2835.037 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZY.W.290.0QR2SH

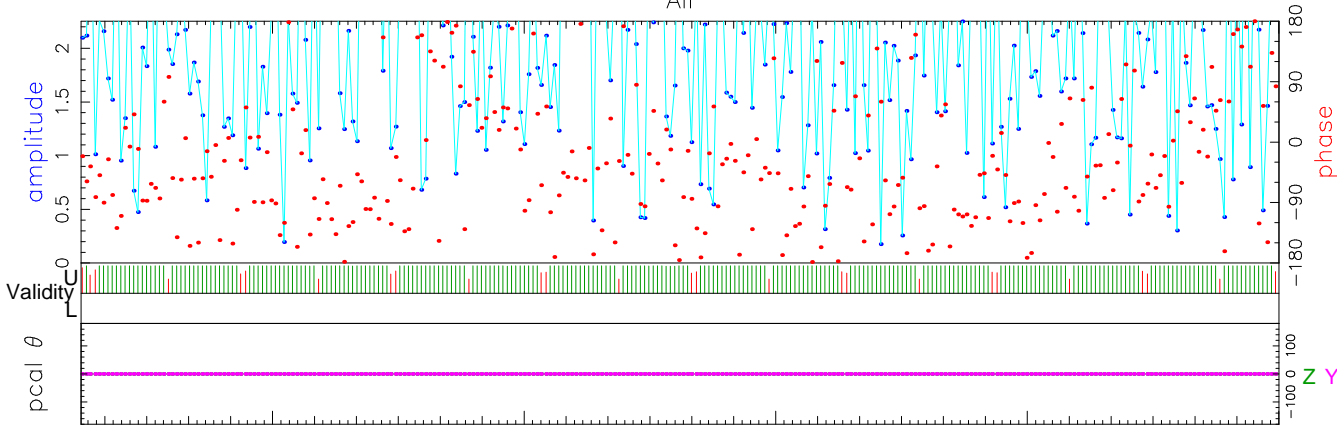
Fringe quality 9

SNR 8.5  
Int time 277.292  
Amp 0.751  
Phase -75.6  
PFD 2.3e-09  
Delays (us)  
SBD -0.010928  
MBD -0.000007  
Fringe rate (Hz)  
-0.005954  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171836  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
-75.6  
0.7  
511.6  
U/L 558/0  
Z 0  
Y 0  
Z:Y 0:0  
Z:Y 0:0  
Z 1000  
Y 1000  
Z W04UR  
Y W04UR

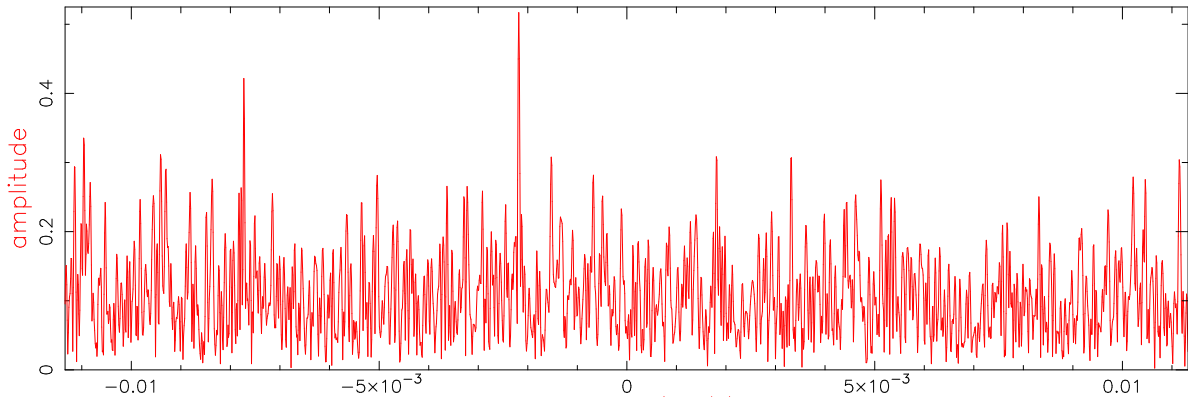
Freq (MHz)  
Phase  
Amp.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.72550953368E+03 | Apriori delay (usec)     | -6.72549860299E+03 | Resid mbdelay (usec) | -6.61714E-06 | +/- | 2.0E-03 |
| Sband delay (usec)      | -6.72550953049E+03 | Apriori clock (usec)     | -6.8747673E+00     | Resid sbdelay (usec) | -1.09275E-02 | +/- | 2.0E-03 |
| Phase delay (usec)      | -6.72549860543E+03 | Apriori clockrate (us/s) | 3.56999999E-07     | Resid phdelay (usec) | -2.43645E-06 | +/- | 4.3E-07 |
| Delay rate (us/s)       | 4.49835484785E-02  | Apriori rate (us/s)      | 4.49836175961E-02  | Resid rate (us/s)    | -6.91177E-08 | +/- | 2.6E-09 |
| Total phase (deg)       | -313.7             | Apriori accel (us/s/s)   | 4.26216030664E-05  | Resid phase (deg)    | -75.6        | +/- | 13.4    |

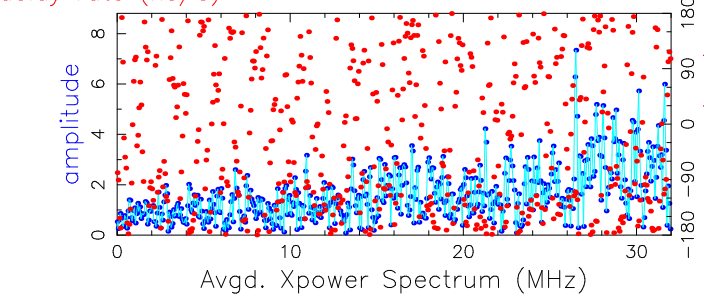
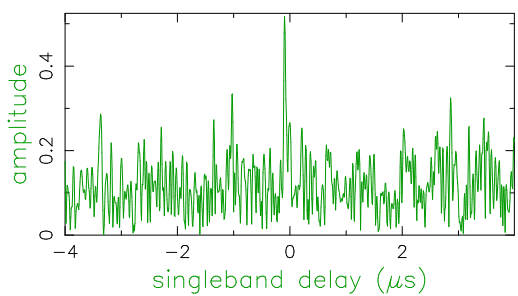
|              |       |                 |       |                |                 |                        |                             |                  |              |                |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|----------------|--------------|
| ph/seg (deg) | 81.8  | Theor.          | 112.0 | Amplitude      | 0.751 +/- 0.088 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |                |              |
| amp/seg (%)  | 228.3 | Search (2048X8) | 0.735 | Search         | 0.735           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |                |              |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.729           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      | mb window (us) | -0.000 0.000 |
| amp/frq (%)  | 1.1   | Inc. frq. avg.  | 0.738 | Inc. frq. avg. | 0.738           | Sample rate (MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |                |              |

Z: az 257.8 el 25.5 pa 30.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -213.535 2835.037 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZY.W.298.0QR2SH





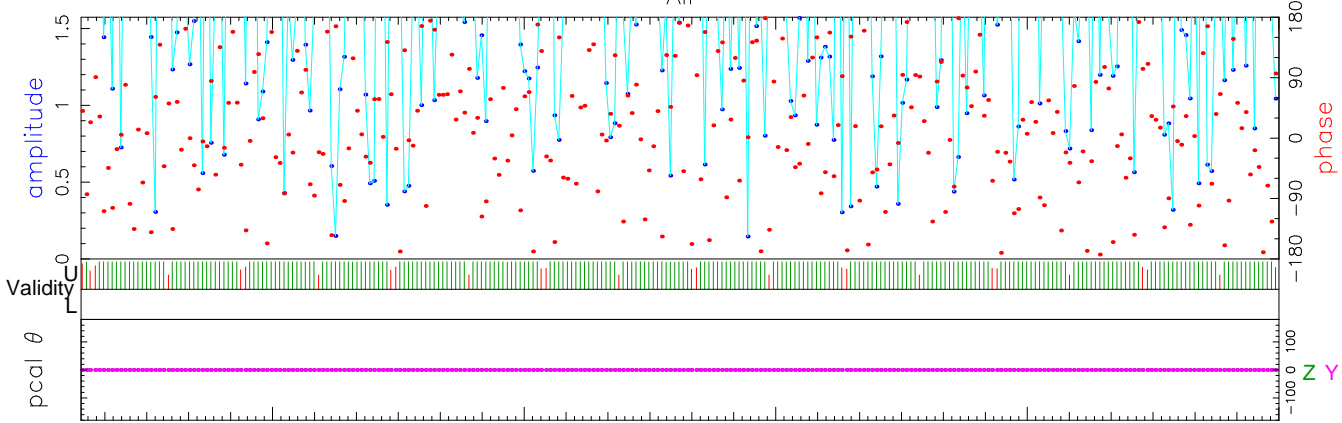
Fringe quality 0  
SNR 5.9  
Int time 277.292  
Amp 0.525  
Phase 19.8  
PFD 4.0e-01  
Delays (us)  
SBD -0.093931  
MBD -0.000007  
Fringe rate (Hz)  
-0.187772  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512



Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171837  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"

Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



86140.00  
19.8  
0.5  
501.0  
U/L 558/0  
Z 0  
Y 0  
Z:Y 0:0  
Z:Y 0:0  
Z 1000  
Y 1000  
Z W04UL  
Y W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.72559253806E+03 | Apriori delay (usec)     | -6.72549860299E+03 | Resid mbdelay (usec) | -6.57971E-06 | +/- | 2.9E-03 |
| Sband delay (usec)      | -6.72559253399E+03 | Apriori clock (usec)     | -6.8747673E+00     | Resid sbdelay (usec) | -9.39310E-02 | +/- | 2.9E-03 |
| Phase delay (usec)      | -6.72549860235E+03 | Apriori clockrate (us/s) | 3.5699999E-07      | Resid phdelay (usec) | 6.39117E-07  | +/- | 6.3E-07 |
| Delay rate (us/s)       | 4.49814377540E-02  | Apriori rate (us/s)      | 4.49836175961E-02  | Resid rate (us/s)    | -2.17984E-06 | +/- | 3.8E-09 |
| Total phase (deg)       | -218.3             | Apriori accel (us/s/s)   | 4.26216030664E-05  | Resid phase (deg)    | 19.8         | +/- | 19.5    |

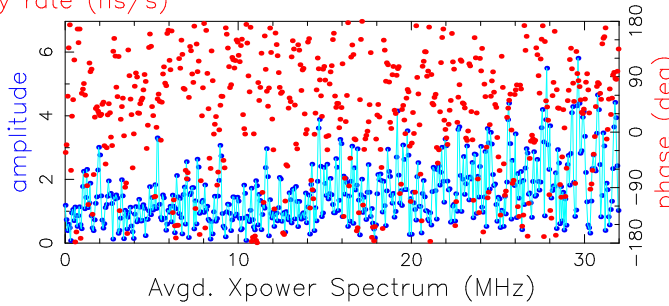
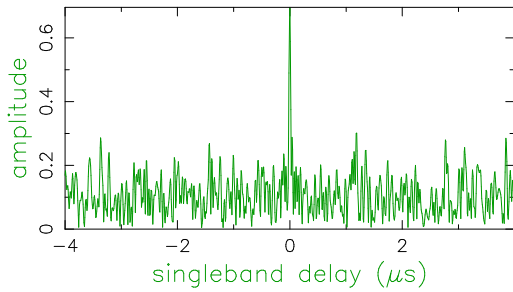
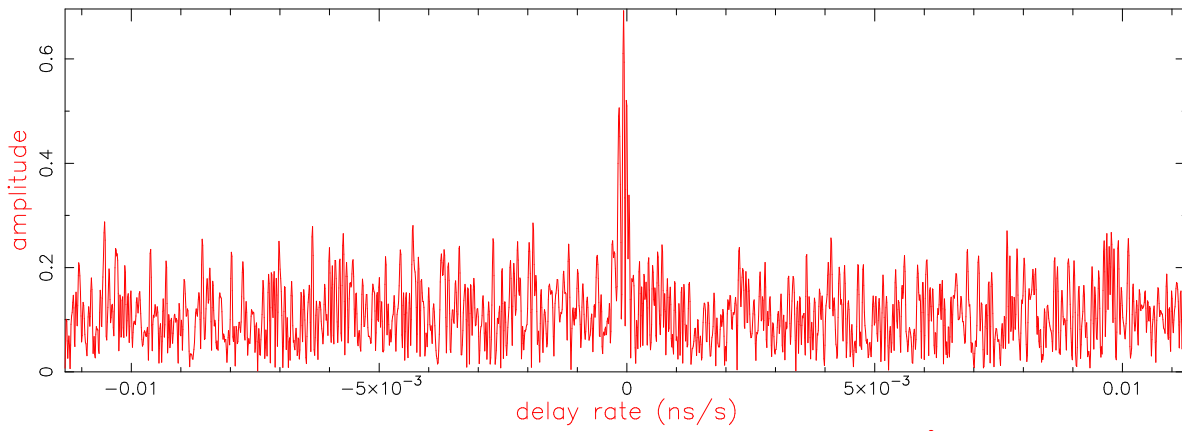
|              |       |                 |       |                |                 |                        |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|------------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 92.1  | Theor.          | 162.6 | Amplitude      | 0.525 +/- 0.089 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 334.7 | Search (2048X8) | 0.516 | Search         | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Inc. seg. avg.  | 0.390 | Inc. seg. avg. | 0.390           | Bits/sample:           | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0   | Inc. frq. avg.  | 0.517 | Inc. frq. avg. | 0.517           | Sample rate (MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

Z: az 257.8 el 25.5 pa 30.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -213.535 2835.037 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZY.W.304.0QR2SH

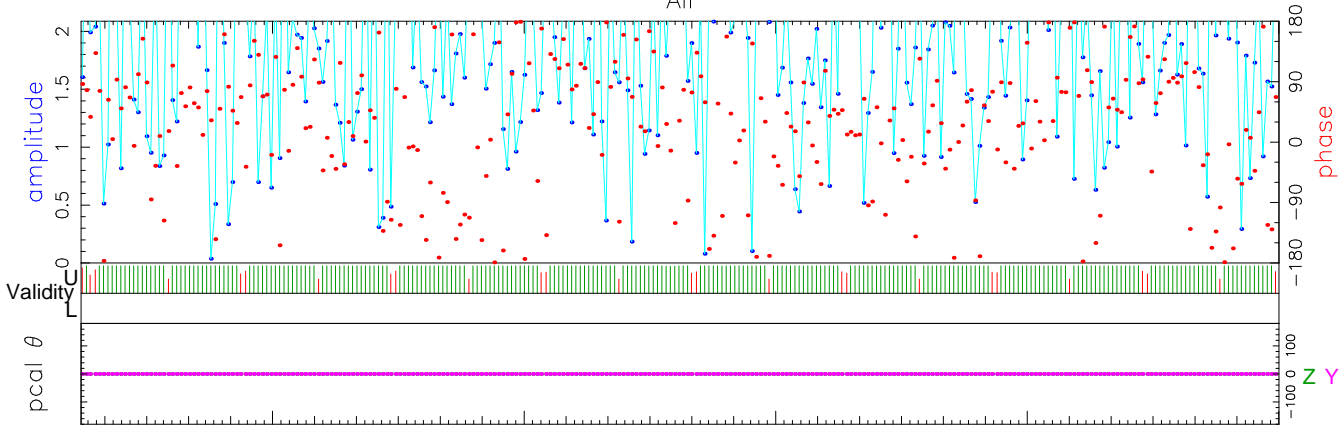
Fringe quality 9

SNR 7.9  
Int time 277.292  
Amp 0.696  
Phase 58.1  
PFD 3.9e-07  
Delays (us)  
SBD -0.001638  
MBD -0.000007  
Fringe rate (Hz)  
-0.006047  
Ion TEC 0.000  
Ref freq (MHz)  
86140.000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125514.34  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171838  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 279 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec  
All



86140.00  
58.1  
0.7  
512.8  
U/L 558/0  
Z 0  
Y 0  
Z:Y 0:0  
Z:Y 0:0  
Z 1000  
Y 1000  
Z W04UR  
Y W04UL

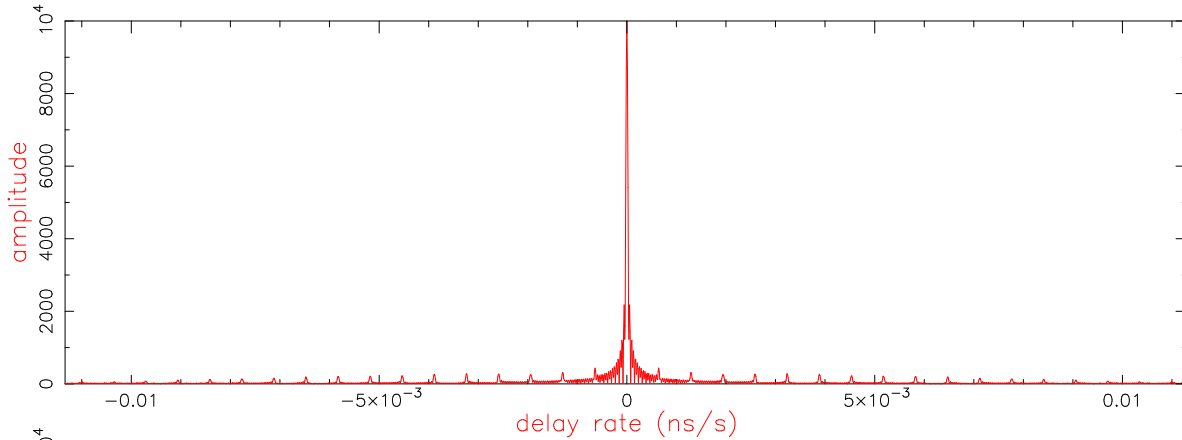
Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Manl PC  
PC amp  
Chan ids  
Chan ids

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -6.72550024670E+03 | Apriori delay (usec)     | -6.72549860299E+03 | Resid mbdelay (usec) | -6.84384E-06 | +/- | 2.2E-03 |
| Sband delay (usec)      | -6.72550024099E+03 | Apriori clock (usec)     | -6.8747673E+00     | Resid sbdelay (usec) | -1.63800E-03 | +/- | 2.2E-03 |
| Phase delay (usec)      | -6.72549860112E+03 | Apriori clockrate (us/s) | 3.5699999E-07      | Resid phdelay (usec) | 1.87327E-06  | +/- | 4.7E-07 |
| Delay rate (us/s)       | 4.49835473944E-02  | Apriori rate (us/s)      | 4.49836175961E-02  | Resid rate (us/s)    | -7.02018E-08 | +/- | 2.8E-09 |
| Total phase (deg)       | -180.0             | Apriori accel (us/s/s)   | 4.26216030664E-05  | Resid phase (deg)    | 58.1         | +/- | 14.5    |

|              |       |                 |       |                |                 |                       |                             |                  |              |
|--------------|-------|-----------------|-------|----------------|-----------------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 85.6  | Theor.          | 120.8 | Amplitude      | 0.696 +/- 0.088 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 239.3 | Search (2048X8) | 0.680 | Search         | 0.000           | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0   | Interp.         | 0.000 | Inc. seg. avg. | 0.629           | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.5   | Inc. frq. avg.  | 0.687 | Inc. frq. avg. | 0.687           | Sample rate(MSamp/s): | 64                          | mb window (us)   | -0.000 0.000 |

Z: az 257.8 el 25.5 pa 30.4 Y: az 246.0 el 48.3 pa 46.5 u,v (fr/asec) -213.535 2835.037 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZY..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZY.W.308.0QR2SH



Fringe quality 9

SNR 116796.0

Int time 291.864

Ampl 10000.000

Phase 0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD -0.000007

Fringe rate (Hz)

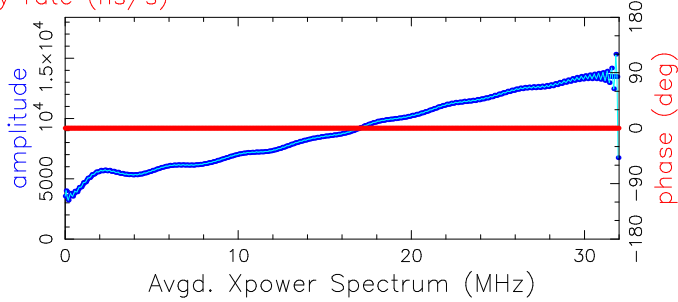
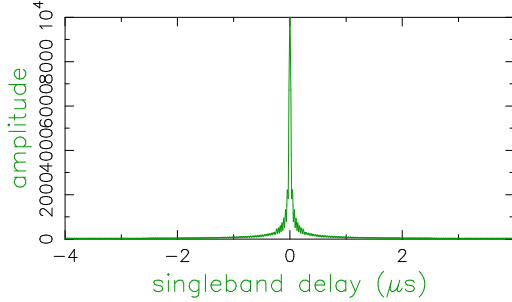
0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171836

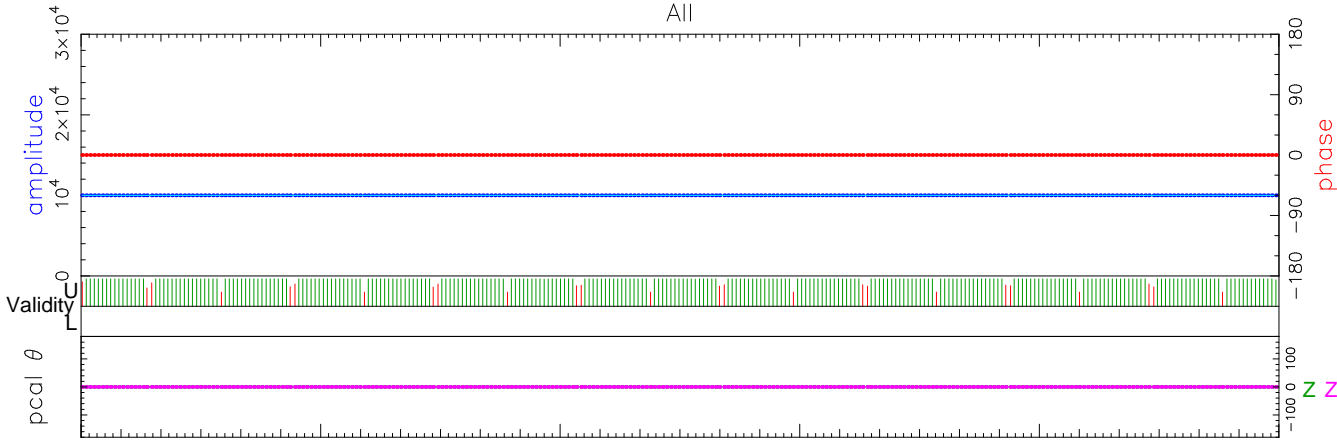
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



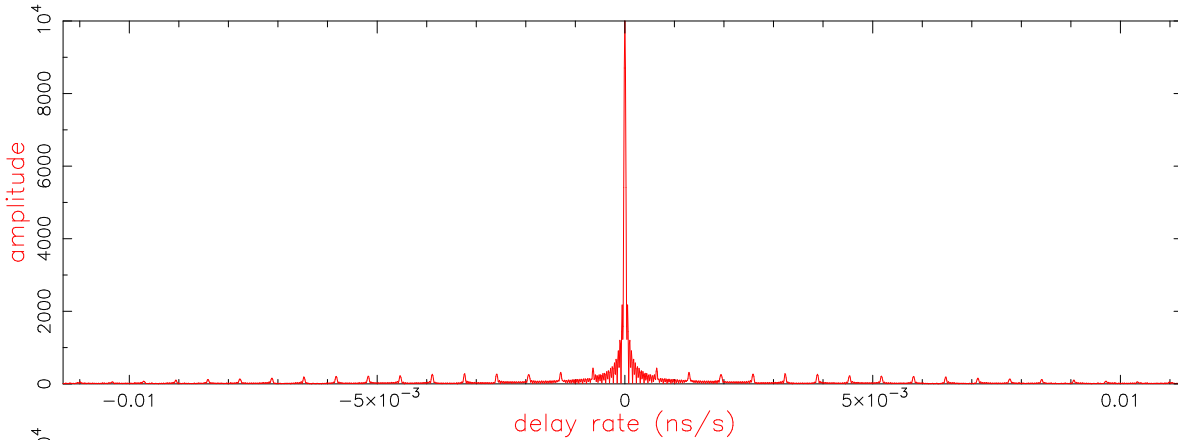
|           |            |
|-----------|------------|
| 86140.00  | Freq (MHz) |
| 0.0       | Phase      |
| 10000.0   | Ampl.      |
| 513.0     | Sbd box    |
| U/L 586/0 | APs used   |
| Z 0       | PC freqs   |
| Z 0       | PC freqs   |
| Z:Z 0:0   | PC phase   |
| Z:Z 0:0   | Mani PC    |
| Z 1000    | PC amp     |
| Z 1000    |            |
| Z W04UL   | Chan ids   |
| Z W04UL   | Chan ids   |

|                         |                   |                          |                   |                      |              |             |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.46946830741E-06 | Apriori delay (usec)     | 0.00000000000E+00 | Resid mbdelay (usec) | -7.13954E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.00000000000E+00 | Apriori clock (usec)     | 0.0000000E+00     | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.32612775171E-09 | Apriori clockrate (us/s) | 0.0000000E+00     | Resid phdelay (usec) | 1.32613E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.00000000000E+00 | Apriori rate (us/s)      | 0.00000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.00000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |        |     |                 |                     |  |                       |                  |          |       |
|--------------|-----|--------|-----|-----------------|---------------------|--|-----------------------|------------------|----------|-------|
| ph/seg (deg) | 0.0 | Theor. | 0.0 | Amplitude       | 10000.000 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -4.000   | 4.000 |
| amp/seg (%)  | 0.0 |        | 0.0 | Search (2048X8) | 10000.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)   | -0.000   | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000               | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s) | -0.011   | 0.011 |
| amp/frq (%)  | 0.0 |        | 0.0 | Inc. seg. avg.  | 10000.000           | Sample rate(MSamp/s): 64               |                       | ion window (TEC) | 0.00     | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 10000.000           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere         | infinite |       |

Z: az 257.8 el 25.5 pa 30.4      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//ZZ...0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//ZZ.W.294.0QR2SH



Fringe quality 9

SNR 116796.0

Int time 291.864

Amp 10000.000

Phase 0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD -0.000007

Fringe rate (Hz)

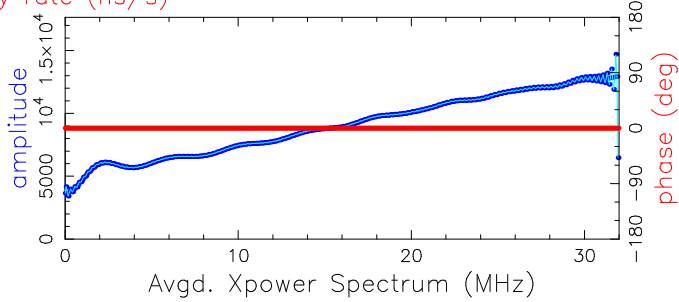
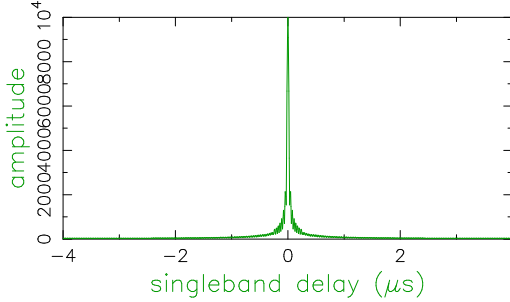
0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512



Exp. f191a

Exper # 16383

Yr:day 2019:094

Start 125500.00

Stop 130000.03

FRT 125730.00

Corr/FF/build

2019:176:093417

2019:212:171837

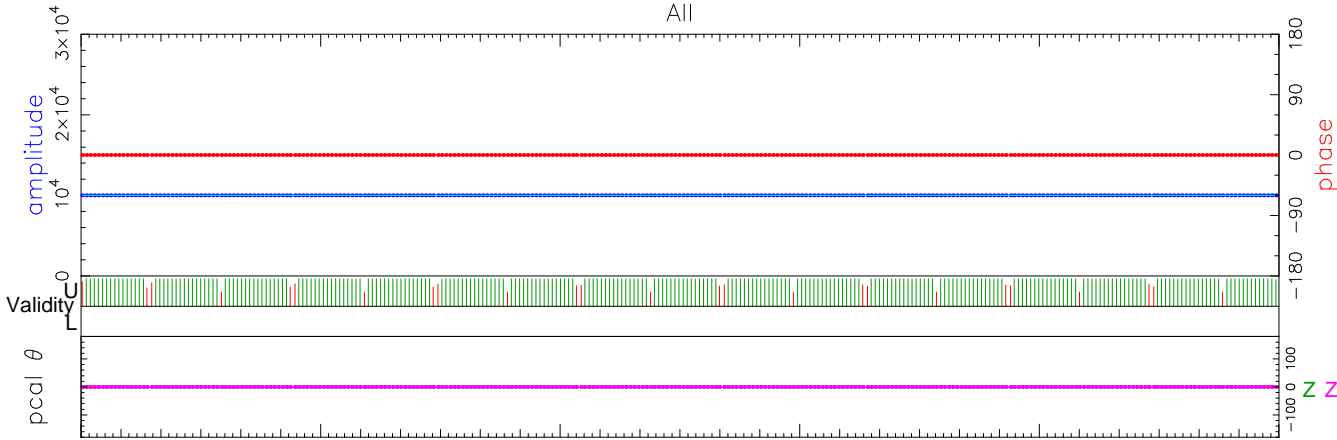
2018:249:082454

RA & Dec (J2000)

22h53m57.7479s

+16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00 Freq (MHz)

0.0 Phase

10000.0 Ampl.

513.0 Sbd box

U/L 586/0 APs used

Z 0 PC freqs

Z 0 PC freqs

Z:Z 0:0 PC phase

Z:Z 0:0 Mani PC

Z 1000 PC amp

Z 1000

Z W04UR Chan ids

Z W04UR Chan ids

|                         |                   |                          |                  |                      |              |             |
|-------------------------|-------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 4.36496401207E-06 | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -7.24404E-06 | +/- 1.5E-07 |
| Sband delay (usec)      | 0.0000000000E+00  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 0.00000E+00  | +/- 1.5E-07 |
| Phase delay (usec)      | 1.34553881190E-09 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | 1.34554E-09  | +/- 3.2E-11 |
| Delay rate (us/s)       | 0.0000000000E+00  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 0.00000E+00  | +/- 1.8E-13 |
| Total phase (deg)       | 0.0               | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | 0.0          | +/- 0.0     |

|              |     |              |     |              |     |                |                     |                 |           |                       |                             |                  |              |
|--------------|-----|--------------|-----|--------------|-----|----------------|---------------------|-----------------|-----------|-----------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 0.0 | RMS          | 0.0 | Theor.       | 0.0 | Amplitude      | 10000.000 +/- 0.086 | Search (2048X8) | 10000.000 | Pcal mode:            | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 0.0 | ph/seg (deg) | 0.0 | amp/seg (%)  | 0.0 | Inc. seg. avg. | 10000.000           | Inc. frq. avg.  | 10000.000 | Pcal rate:            | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -4.000 4.000 |
| ph/frq (deg) | 0.0 | amp/frq (%)  | 0.0 | ph/frq (deg) | 0.0 | Inc. seg. avg. | 10000.000           | Inc. frq. avg.  | 10000.000 | Bits/sample:          | 2x2                         | SampCntNorm:     | enabled      |
| amp/frq (%)  | 0.0 | ph/frq (deg) | 0.0 | amp/frq (%)  | 0.0 | Inc. seg. avg. | 10000.000           | Inc. frq. avg.  | 10000.000 | Sample rate(MSamp/s): | 64                          | dr window (ns/s) | -0.011 0.011 |
|              |     | amp/frq (%)  | 0.0 | ph/frq (deg) | 0.0 | Inc. seg. avg. | 10000.000           | Inc. frq. avg.  | 10000.000 | Data rate(Mb/s):      | 128                         | ion window (TEC) | 0.00 0.00    |

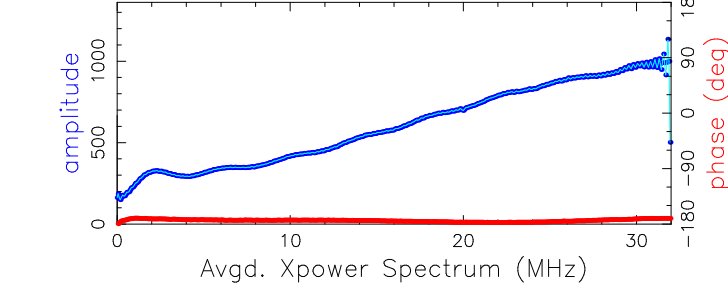
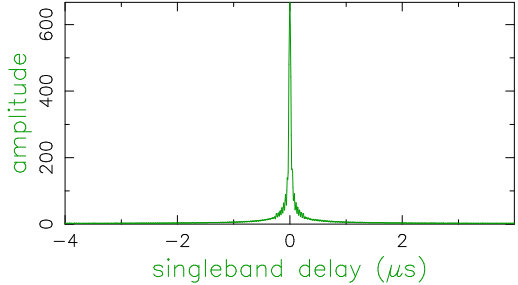
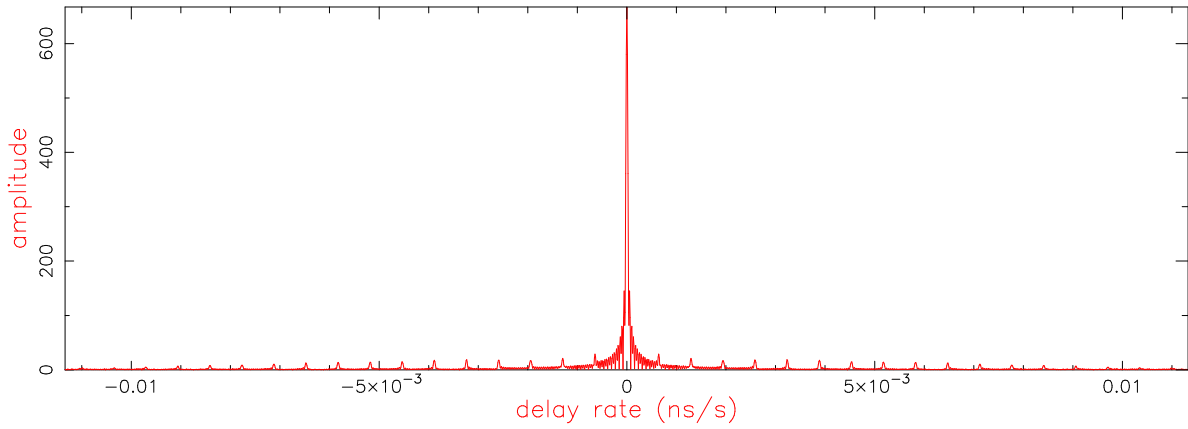
Z: az 257.8 el 25.5 pa 30.4      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//ZZ...0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//ZZ.W.302.0QR2SH

Fringe quality 9

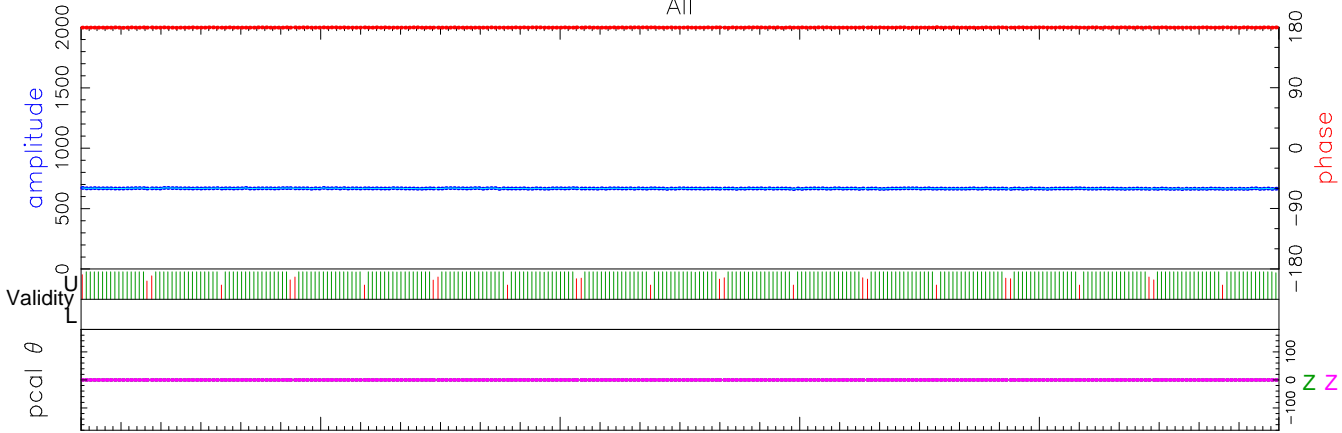
SNR 7795.0  
Int time 291.864  
Amp 667.400  
Phase 179.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.000870  
MBD -0.000005  
Fringe rate (Hz)  
-0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. f191a  
Exper # 16383  
Yr:day 2019:094  
Start 125500.00  
Stop 130000.03  
FRT 125730.00  
Corr/FF/build  
2019:176:093417  
2019:212:171838  
2018:249:082454  
RA & Dec (J2000)  
22h53m57.7479s  
+16°08'53.561"



Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec

All



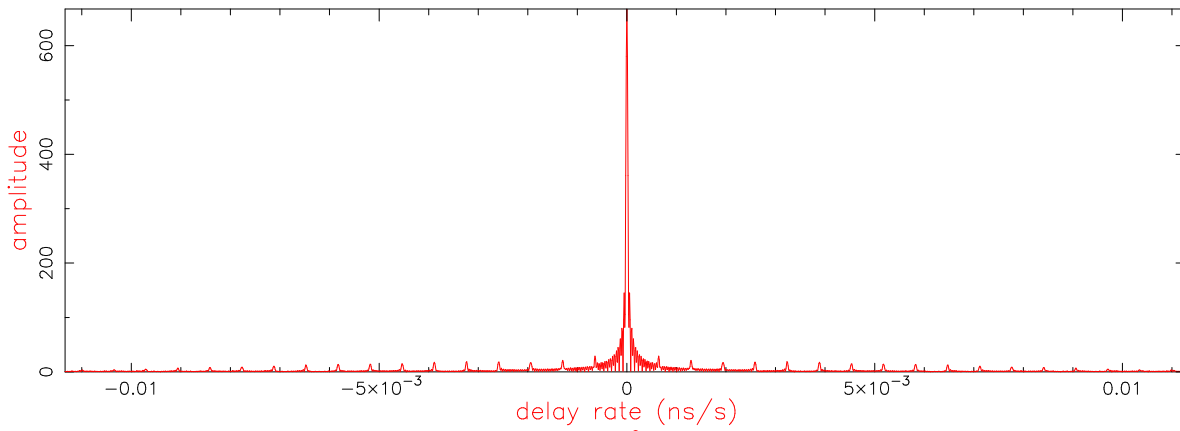
86140.00  
179.4  
666.7  
512.9  
U/L 586/0  
Z 0  
Z 0  
Z:Z 0:0  
Z:Z 0:0  
Z 1000  
Z 1000  
Z W04UL  
Z W04UR

Freq (MHz)  
Phase  
Ampl.  
Sbd box  
APs used  
PC freqs  
PC phase  
Mani PC  
PC amp  
Chan ids  
Chan ids

Table with 6 columns: Parameter, Value, Error, etc. Includes Group delay, Sband delay, Phase delay, Delay rate, Total phase, Apriori delay, Apriori clock, Apriori clockrate, Apriori rate, Apriori accel, Resid mbdelay, Resid sbdelay, Resid phdelay, Resid rate, Resid phase.

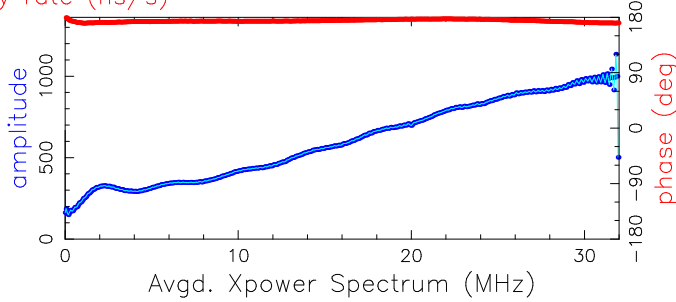
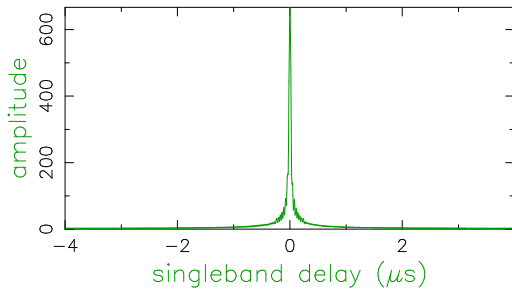
Table with 4 columns: Parameter, RMS, Theor., Value. Includes ph/seg, amp/seg, ph/frq, amp/frq. Also includes Pcal mode, Pcal rate, SampCntNorm, nlags, t\_cohere.

Z: az 257.8 el 25.5 pa 30.4 Z: az 257.8 el 25.5 pa 30.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps2/f191a/FRINGE/1234/No0007//ZZ..0QR2SH Output file: /Exps2/f191a/FRINGE/1234/No0007//ZZ.W.307.0QR2SH



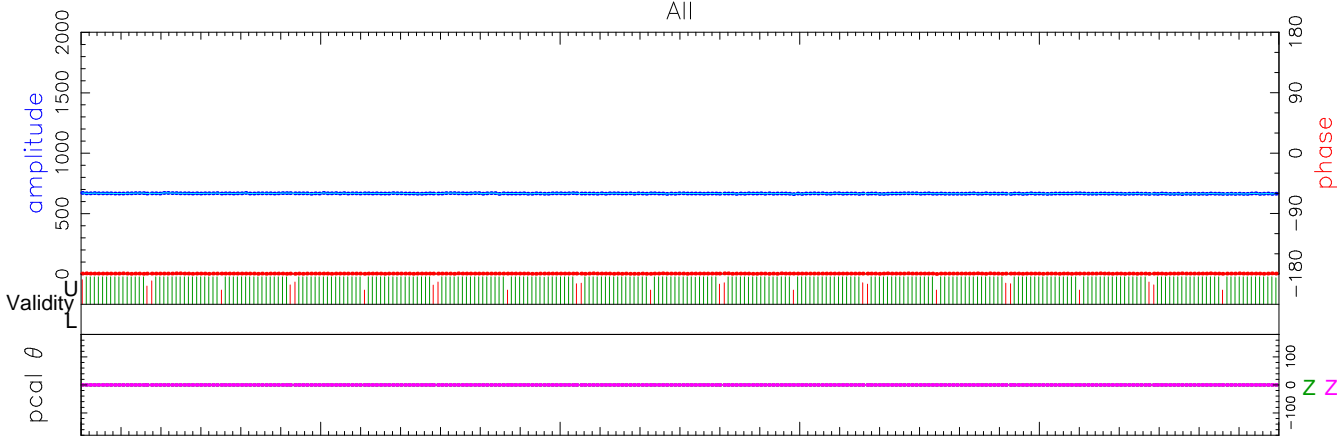
Fringe quality 9

SNR 7795.0  
 Int time 291.864  
 Amp 667.400  
 Phase -179.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000870  
 MBD -0.000007  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. f191a  
 Exper # 16383  
 Yr:day 2019:094  
 Start 125500.00  
 Stop 130000.03  
 FRT 125730.00  
 Corr/FF/build  
 2019:176:093417  
 2019:212:171839  
 2018:249:082454  
 RA & Dec (J2000)  
 22h53m57.7479s  
 +16°08'53.561"

Amp. and Phase vs. time for each freq., 293 segs, 2 APs / seg (1.02 sec / seg.), time ticks 2 sec



86140.00  
 -179.3  
 666.7  
 513.1  
 U/L 586/0  
 Z 0  
 Z 0  
 Z:Z 0:0  
 Z:Z 0:0  
 Z 1000  
 Z 1000  
 Z W04UR  
 Z W04UL

Freq (MHz)  
 Phase  
 Ampl.  
 Sbd box  
 APs used  
 PC freqs  
 PC freqs  
 PC phase  
 Mani PC  
 PC amp  
 Chan ids  
 Chan ids

|                         |                    |                          |                  |                      |              |             |
|-------------------------|--------------------|--------------------------|------------------|----------------------|--------------|-------------|
| Group delay (usec)(sbd) | 8.75653122823E-04  | Apriori delay (usec)     | 0.0000000000E+00 | Resid mbdelay (usec) | -6.63153E-06 | +/- 2.2E-06 |
| Sband delay (usec)      | 8.70000000000E-04  | Apriori clock (usec)     | 0.0000000E+00    | Resid sbdelay (usec) | 8.70000E-04  | +/- 2.2E-06 |
| Phase delay (usec)      | -5.78307859652E-06 | Apriori clockrate (us/s) | 0.0000000E+00    | Resid phdelay (usec) | -5.78308E-06 | +/- 4.7E-10 |
| Delay rate (us/s)       | 1.41711523917E-12  | Apriori rate (us/s)      | 0.0000000000E+00 | Resid rate (us/s)    | 1.41712E-12  | +/- 2.7E-12 |
| Total phase (deg)       | -179.3             | Apriori accel (us/s/s)   | 0.0000000000E+00 | Resid phase (deg)    | -179.3       | +/- 0.0     |

|              |     |        |     |                 |                   |  |                       |                   |        |       |
|--------------|-----|--------|-----|-----------------|-------------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 0.1 | Theor. | 0.1 | Amplitude       | 667.400 +/- 0.086 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -4.000 | 4.000 |
| amp/seg (%)  | 0.3 |        | 0.2 | Search (2048X8) | 666.676           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.000 | 0.000 |
| ph/frq (deg) | 0.0 |        | 0.0 | Interp.         | 0.000             | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| amp/frq (%)  | 0.1 |        | 0.0 | Inc. seg. avg.  | 666.675           | Sample rate(MSamp/s): 64               |                       | ion window (TEC)  | 0.00   | 0.00  |
|              |     |        |     | Inc. frq. avg.  | 666.676           | Data rate(Mb/s): 128                   | nlags: 512            | t_cohere infinite |        |       |

Z: az 257.8 el 25.5 pa 30.4      Z: az 257.8 el 25.5 pa 30.4      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps2/f191a/FRINGE/1234/No0007//ZZ..0QR2SH    Output file: /Exps2/f191a/FRINGE/1234/No0007//ZZ.W.309.0QR2SH