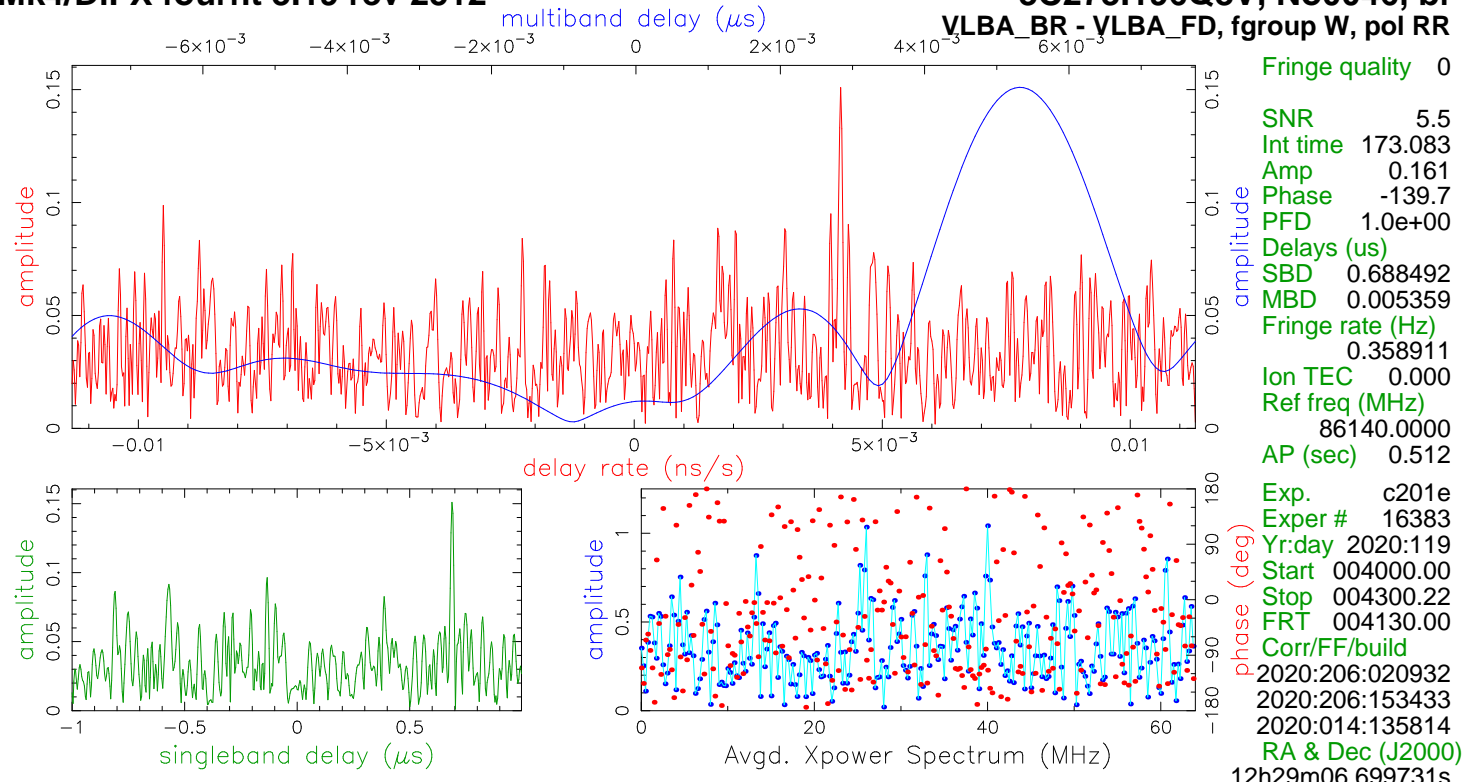
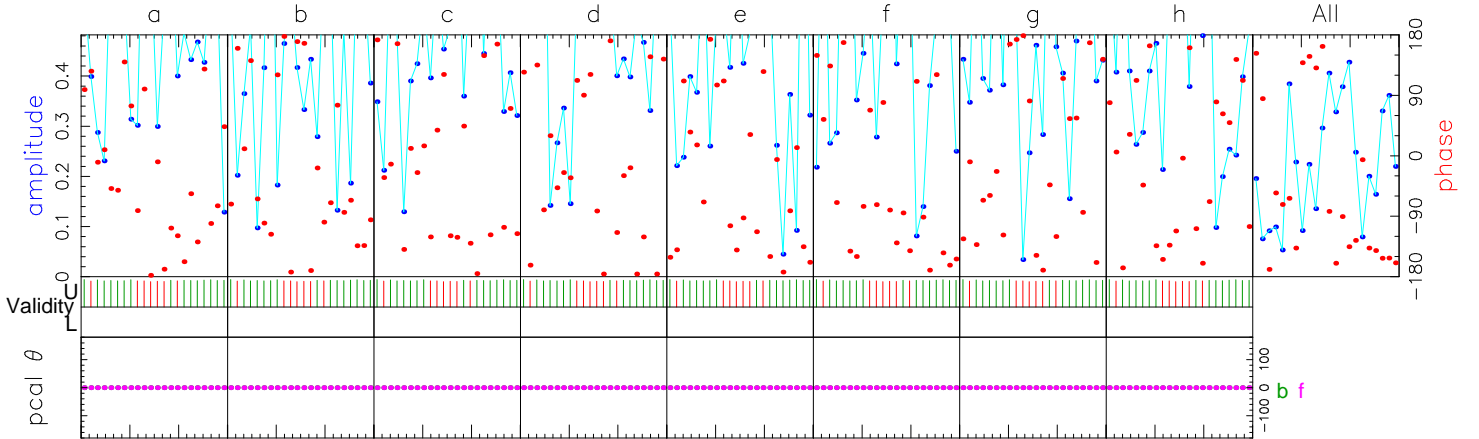


Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, bf  
VLBA\_BR - VLBA\_FD, fgroup W, pol RR



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -126.9             | -125.1   | -139.4                   | -179.5   | -139.8             | -143.5   | -128.3               | -135.7   | Phase        | -139.7      |
|                         | 0.1                | 0.3      | 0.1                      | 0.2      | 0.2                | 0.2      | 0.2                  | 0.1      | Ampl.        | 0.1         |
|                         | 337.1              | 401.0    | 1.5                      | 499.4    | 491.0              | 73.8     | 49.1                 | 487.9    | Sbd box      | 433.3       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Manl PC      |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| b                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| f                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Chan ids     |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | -5.30339469168E+03 |          | Apriori delay (usec)     |          | -5.30408755064E+03 |          | Resid mbdelay (usec) |          | 5.35896E-03  | +/- 2.0E-04 |
| Sband delay (usec)      | -5.30339905864E+03 |          | Apriori clock (usec)     |          | -5.3367767E+00     |          | Resid sbdelay (usec) |          | 6.88492E-01  | +/- 1.6E-03 |
| Phase delay (usec)      | -5.30408755515E+03 |          | Apriori clockrate (us/s) |          | -1.5100001E-07     |          | Resid phdelay (usec) |          | -4.50414E-06 | +/- 6.8E-07 |
| Delay rate (us/s)       | -1.84761234517E-01 |          | Apriori rate (us/s)      |          | -1.84765401118E-01 |          | Resid rate (us/s)    |          | 4.16660E-06  | +/- 6.5E-09 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 2.90638953073E-05  |          | Resid phase (deg)    |          | -139.7       | +/- 21.0    |

ph/seg (deg) 63.7 49.2 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

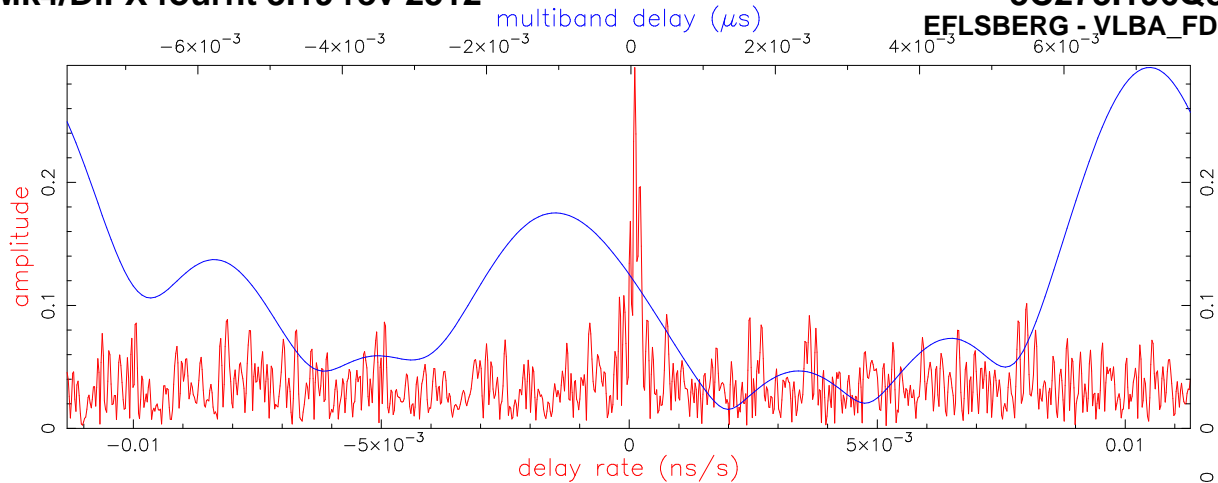
amp/seg (%) 92.1 85.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 18.8 29.6 Inc. seg. avg. 0.176 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 32.9 51.7 Inc. frq. avg. 0.147 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011

b: az 95.6 el 7.6 pa -41.7 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 1074.287 2158.246 simultaneous interpolator

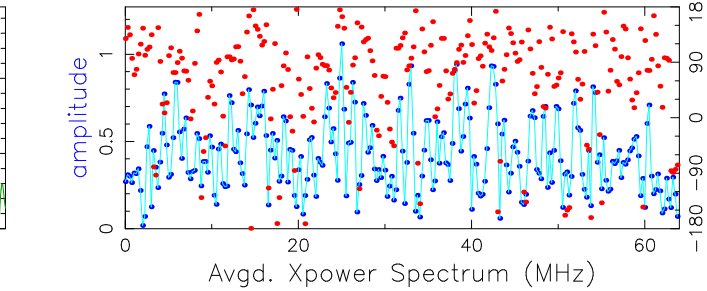
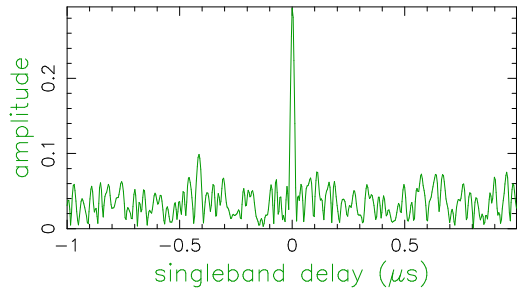
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/bf.W.12.196Q8V



Fringe quality 9

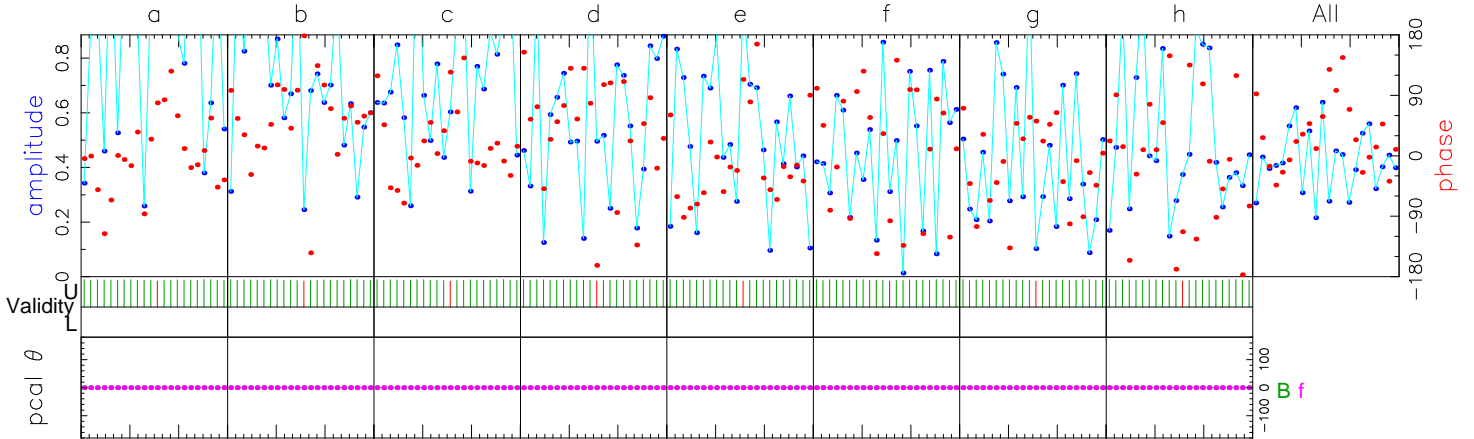
SNR 10.7  
Int time 176.211  
Amp 0.295  
Phase 22.5  
PFD 2.0e-18  
Delays (us)  
SBD 0.001012  
MBD 0.007210  
Fringe rate (Hz) 0.009605  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build 2020:206:020932  
2020:206:153434  
2020:014:135814  
RA & Dec (J2000) 12h29m06.699731s +02°03'08.598201"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| B   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| B:f | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| B:f | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| B   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| B   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |

|                         |                    |                          |                        |                    |                      |                   |             |             |          |
|-------------------------|--------------------|--------------------------|------------------------|--------------------|----------------------|-------------------|-------------|-------------|----------|
| Group delay (usec)(sbd) | 1.73797006790E+03  | Apriori delay (usec)     |                        | 1.73796285765E+03  | Resid mbdelay (usec) |                   | 7.21025E-03 | +/- 1.0E-04 |          |
| Sband delay (usec)      | 1.73796386990E+03  | Apriori clock (usec)     |                        | 9.0984631E+00      | Resid sbdelay (usec) |                   | 1.01225E-03 | +/- 8.0E-04 |          |
| Phase delay (usec)      | 1.73796285837E+03  | Apriori clockrate (us/s) |                        | -3.0900000E-07     | Resid phdelay (usec) |                   | 7.24233E-07 | +/- 3.4E-07 |          |
| Delay rate (us/s)       | -1.91967149992E+00 | Apriori rate (us/s)      |                        | -1.91967161143E+00 | Resid rate (us/s)    |                   | 1.11509E-07 | +/- 3.3E-09 |          |
| Total phase (deg)       | 223.3              |                          | Apriori accel (us/s/s) |                    | -8.19082693796E-06   | Resid phase (deg) |             | 22.5        | +/- 10.7 |

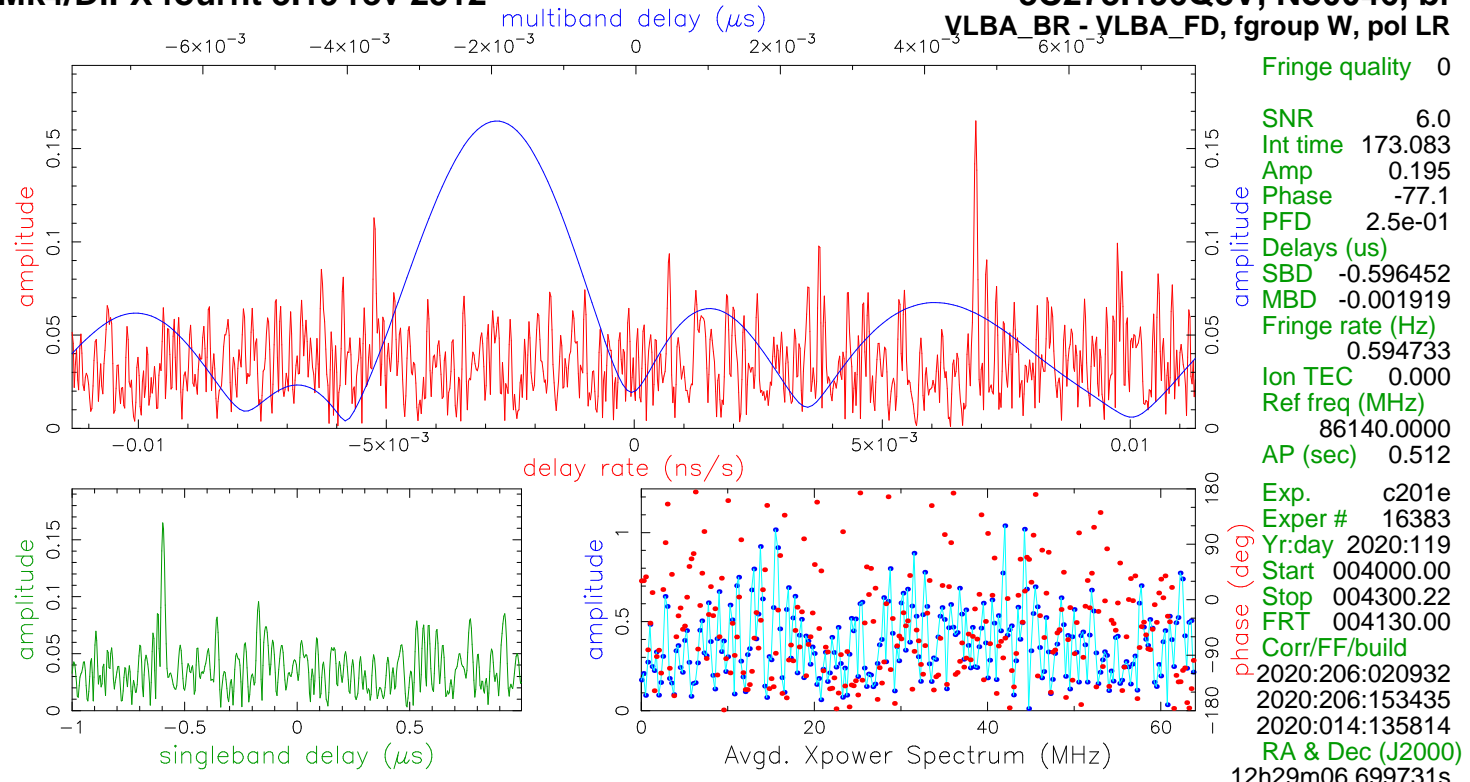
|              |          |             |                            |                 |                                        |  |                       |                   |                  |           |
|--------------|----------|-------------|----------------------------|-----------------|----------------------------------------|--|-----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | RMS 50.9 | Theor. 25.1 | Amplitude Search (1024X32) | 0.295 +/- 0.028 | Pcal mode: MANUAL, MANUAL              |  | PC period (AP's) 5, 5 |                   |                  |           |
| amp/seg (%)  | 57.7     | 43.8        | Interp.                    | 0.000           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |  | sb window (us)        | -1.000 1.000      |                  |           |
| ph/frq (deg) | 37.0     | 15.1        | Inc. seg. avg.             | 0.385           | Bits/sample: 2x2                       |  | SampCntNorm: enabled  | mb window (us)    | -0.008 0.008     |           |
| amp/frq (%)  | 50.4     | 26.4        | Inc. frq. avg.             | 0.330           | Sample rate(MISamp/s): 128             |  | dr window (ns/s)      | -0.011 0.011      |                  |           |
|              |          |             |                            |                 | Data rate(Mb/s): 2048                  |  | nlags: 256            | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

B: az 234.2 el 28.0 pa 31.1 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 10996.925 2295.988 simultaneous interpolator

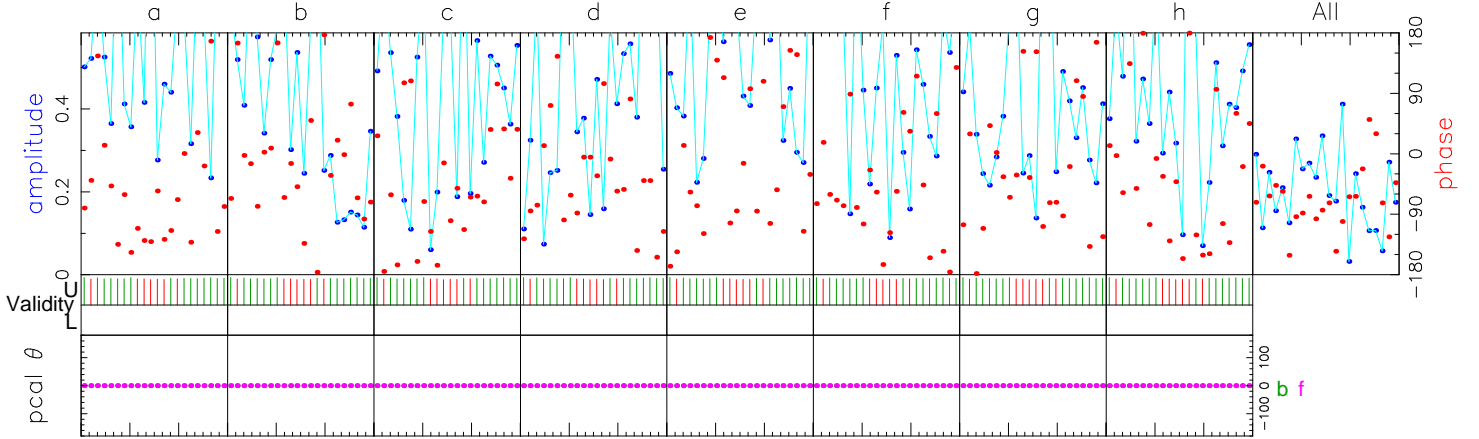
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/Bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/Bf.W.17.196Q8V

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, bf  
VLBA\_BR - VLBA\_FD, fgroup W, pol LR



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -91.4              | -50.2    | -66.1                    | -61.2    | -120.0             | -80.4    | -70.9                | -94.7    | Phase        | -77.1       |
|                         | 0.4                | 0.2      | 0.2                      | 0.3      | 0.1                | 0.2      | 0.2                  | 0.1      | Ampl.        | 0.2         |
|                         | 104.4              | 419.6    | 268.3                    | 392.8    | 399.8              | 339.5    | 380.5                | 483.6    | Sbd box      | 104.3       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| b                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| f                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Chan ids     |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | -5.30468321956E+03 |          | Apriori delay (usec)     |          | -5.30408755064E+03 |          | Resid mbdelay (usec) |          | -1.91892E-03 | +/- 1.8E-04 |
| Sband delay (usec)      | -5.30468400314E+03 |          | Apriori clock (usec)     |          | -5.3367767E+00     |          | Resid sbdelay (usec) |          | -5.96452E-01 | +/- 1.4E-03 |
| Phase delay (usec)      | -5.30408755313E+03 |          | Apriori clockrate (us/s) |          | -1.5100001E-07     |          | Resid phdelay (usec) |          | -2.48479E-06 | +/- 6.2E-07 |
| Delay rate (us/s)       | -1.84758496862E-01 |          | Apriori rate (us/s)      |          | -1.84765401118E-01 |          | Resid rate (us/s)    |          | 6.90426E-06  | +/- 5.9E-09 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 2.90638953073E-05  |          | Resid phase (deg)    |          | -77.1        | +/- 19.2    |

|              | RMS  | Theor. | Amplitude        | 0.195 +/- 0.033 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-------------------------------|
| ph/seg (deg) | 48.2 | 44.9   | Search (1024X32) | 0.163           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000   |
| amp/seg (%)  | 60.4 | 78.4   | Interp.          | 0.000           | Bits/sample: 2x2                       | mb window (us) -0.008 0.008   |
| ph/frq (deg) | 24.2 | 27.1   | Inc. seg. avg.   | 0.183           | Sample rate(MISamp/s): 128             | dr window (ns/s) -0.011 0.011 |
| amp/frq (%)  | 46.8 | 47.3   | Inc. frq. avg.   | 0.183           | Data rate(Mb/s): 2048                  | ion window (TEC) 0.00 0.00    |

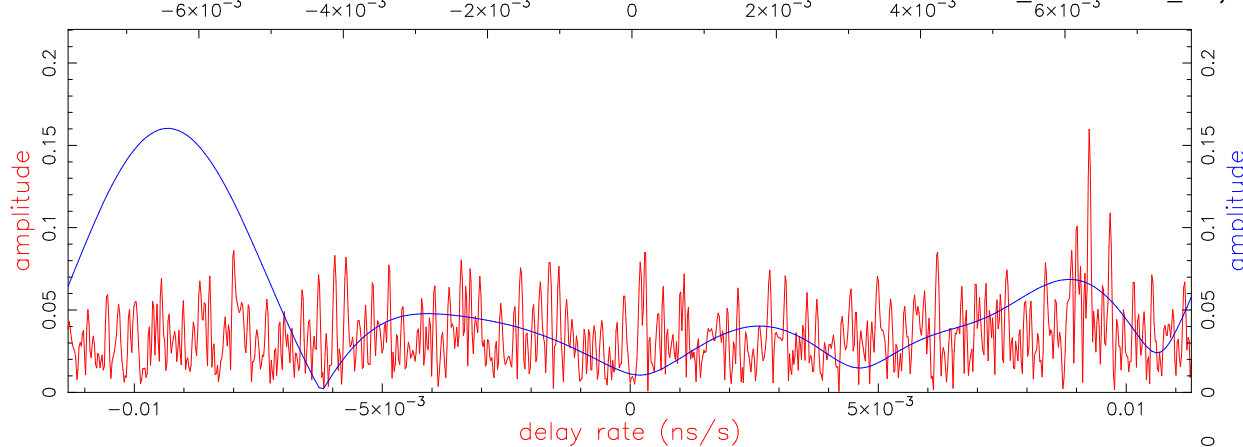
b: az 95.6 el 7.6 pa -41.7 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 1074.287 2158.246 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/bf.W.24.196Q8V

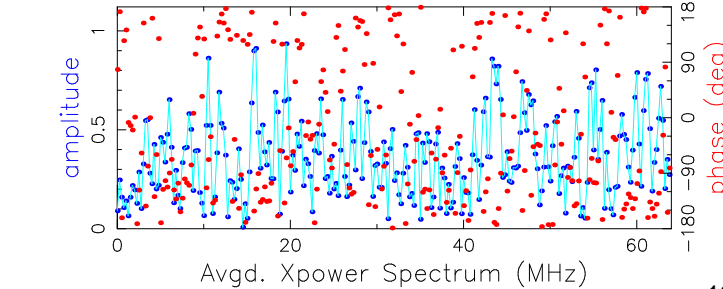
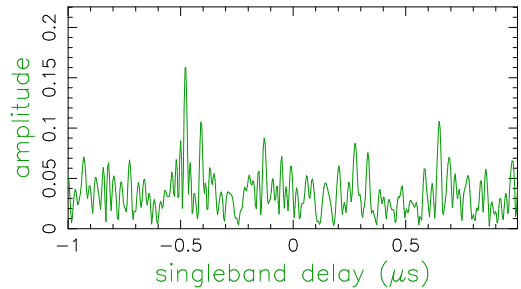
# Mk4/DiFX fourfit 3.19 rev 2512

**3C273.196Q8V, No0046, bf**  
**VLBA\_BR - VLBA\_FD, fgroup W, pol LL**

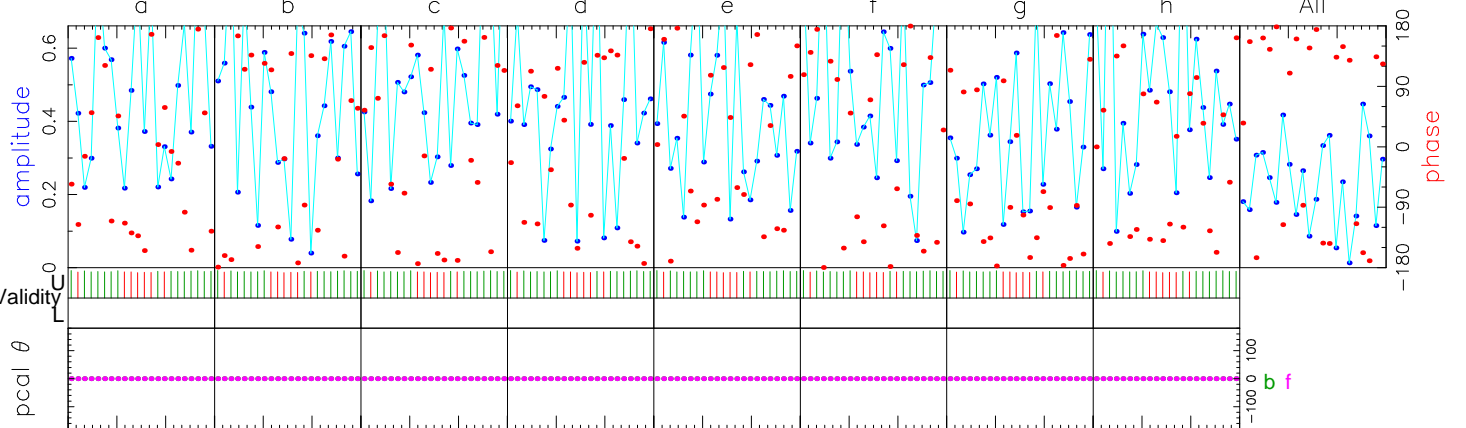
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.9  
 Int time 173.083  
 Amp 0.220  
 Phase -177.0  
 PFD 3.3e-01  
 Delays (us)  
 SBD -0.478465  
 MBD -0.006527  
 Fringe rate (Hz)  
 0.798590  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004000.00  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build  
 2020:206:020932  
 2020:206:153431  
 2020:014:135814  
 RA & Dec (J2000)  
 12h29m06.699731s  
 +02°03'08.598201"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

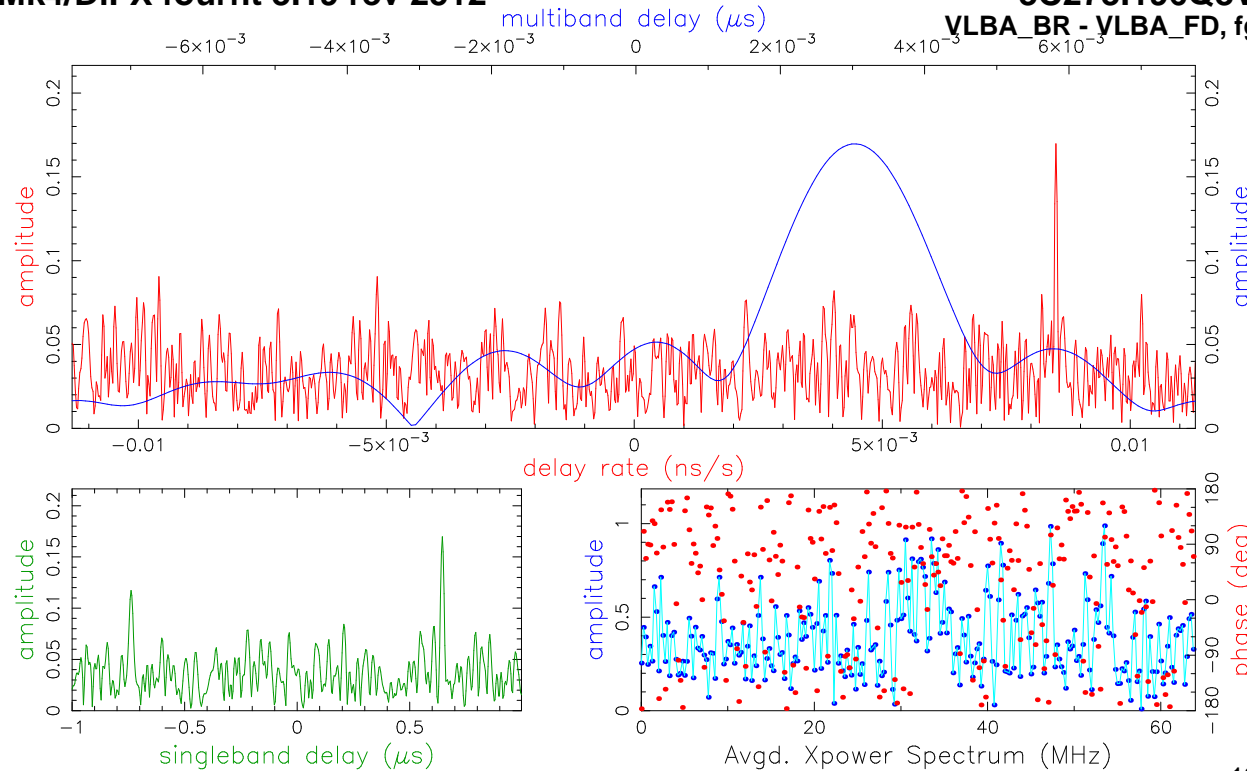


|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00        | 86268.00           | 86332.00                               | 86396.00             | 86460.00                     | Freq (MHz)               | All              |              |
|-------------------------|--------------------|----------|--------------------------|-----------------|--------------------|----------------------------------------|----------------------|------------------------------|--------------------------|------------------|--------------|
|                         | -144.1             | 166.0    | 164.9                    | 175.4           | -135.2             | 165.5                                  | -153.2               | -162.5                       | Phase                    | -177.0           |              |
|                         | 0.2                | 0.3      | 0.3                      | 0.2             | 0.1                | 0.3                                    | 0.2                  | 0.1                          | Ampl.                    | 0.2              |              |
|                         | 50.0               | 380.9    | 135.1                    | 310.0           | 406.0              | 133.0                                  | 511.2                | 72.3                         | Sbd box                  | 134.5            |              |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0           | 352/0              | 352/0                                  | 352/0                | 352/0                        | APs used                 |                  |              |
| b                       | 1000               | 1000     | 1000                     | 1000            | 1000               | 1000                                   | 1000                 | 1000                         | PC freqs                 |                  |              |
| f                       | 1000               | 1000     | 1000                     | 1000            | 1000               | 1000                                   | 1000                 | 1000                         | PC freqs                 |                  |              |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0             | 0:0                | 0:0                                    | 0:0                  | 0:0                          | PC phase                 |                  |              |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0             | 0:0                | 0:0                                    | 0:0                  | 0:0                          | Manl PC                  |                  |              |
| b                       | 1000               | 1000     | 1000                     | 1000            | 1000               | 1000                                   | 1000                 | 1000                         | PC amp                   |                  |              |
| f                       | 1000               | 1000     | 1000                     | 1000            | 1000               | 1000                                   | 1000                 | 1000                         |                          |                  |              |
| b                       | W00UL              | W01UL    | W02UL                    | W03UL           | W04UL              | W05UL                                  | W06UL                | W07UL                        | Chan ids                 |                  |              |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL           | W04UL              | W05UL                                  | W06UL                | W07UL                        | Tracks                   |                  |              |
|                         |                    |          |                          |                 |                    |                                        |                      |                              | Tracks                   |                  |              |
| Group delay (usec)(sbd) | -5.30456282778E+03 |          | Apriori delay (usec)     |                 | -5.30408755064E+03 |                                        | Resid mbdelay (usec) |                              | -6.52713E-03 +/- 1.8E-04 |                  |              |
| Sband delay (usec)      | -5.30456601564E+03 |          | Apriori clock (usec)     |                 | -5.3367767E+00     |                                        | Resid sbdelay (usec) |                              | -4.78465E-01 +/- 1.5E-03 |                  |              |
| Phase delay (usec)      | -5.30408755635E+03 |          | Apriori clockrate (us/s) |                 | -1.5100001E-07     |                                        | Resid phdelay (usec) |                              | -5.70671E-06 +/- 6.2E-07 |                  |              |
| Delay rate (us/s)       | -1.84756130278E-01 |          | Apriori rate (us/s)      |                 | -1.84765401118E-01 |                                        | Resid rate (us/s)    |                              | 9.27084E-06 +/- 6.0E-09  |                  |              |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |                 | 2.90638953073E-05  |                                        | Resid phase (deg)    |                              | -177.0 +/- 19.3          |                  |              |
|                         | RMS                | Theor.   | Amplitude                | 0.220 +/- 0.037 |                    | Pcal mode: MANUAL, MANUAL              |                      | PC period (AP's) 5, 5        |                          |                  |              |
| ph/seg (deg)            | 53.8               | 45.4     | Search (1024X32)         | 0.157           |                    | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                      | sb window (us)               |                          | -1.000 1.000     |              |
| amp/seg (%)             | 81.3               | 79.2     | Interp.                  | 0.000           |                    | Bits/sample: 2x2                       |                      | SampCntNorm: enabled         |                          | mb window (us)   | -0.008 0.008 |
| ph/frq (deg)            | 27.6               | 27.4     | Inc. seg. avg.           | 0.238           |                    | Sample rate(MISamp/s): 128             |                      |                              |                          | dr window (ns/s) | -0.011 0.011 |
| amp/frq (%)             | 38.7               | 47.8     | Inc. frq. avg.           | 0.208           |                    | Data rate(Mb/s): 2048                  |                      | nlags: 256 t_cohere infinite |                          | ion window (TEC) | 0.00 0.00    |

b: az 95.6 el 7.6 pa -41.7 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 1074.287 2158.246 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/bf.W.3.196Q8V

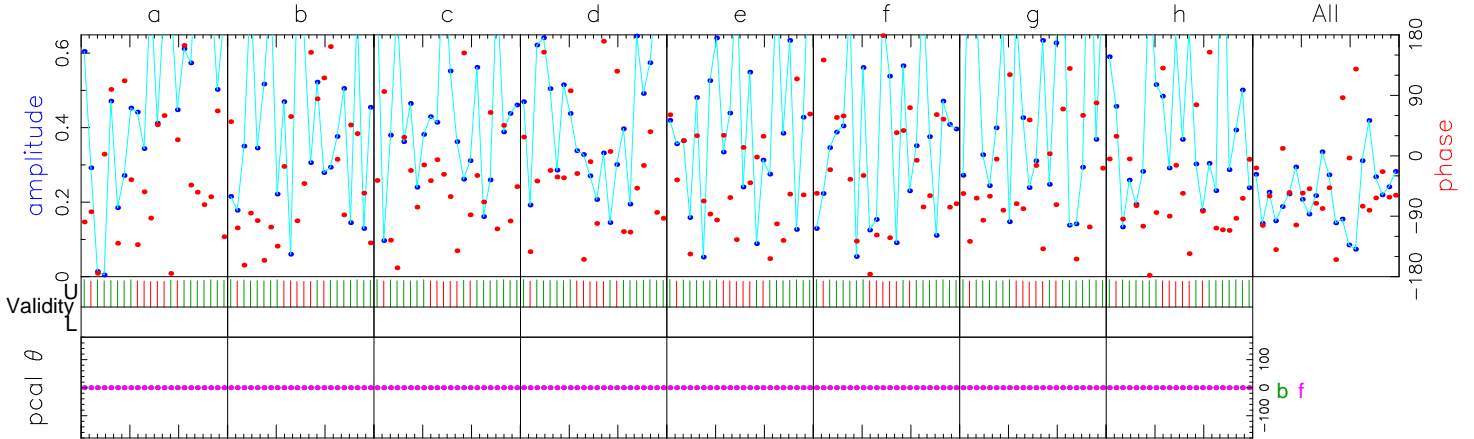
Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, bf  
VLBA\_BR - VLBA\_FD, fgroup W, pol RL



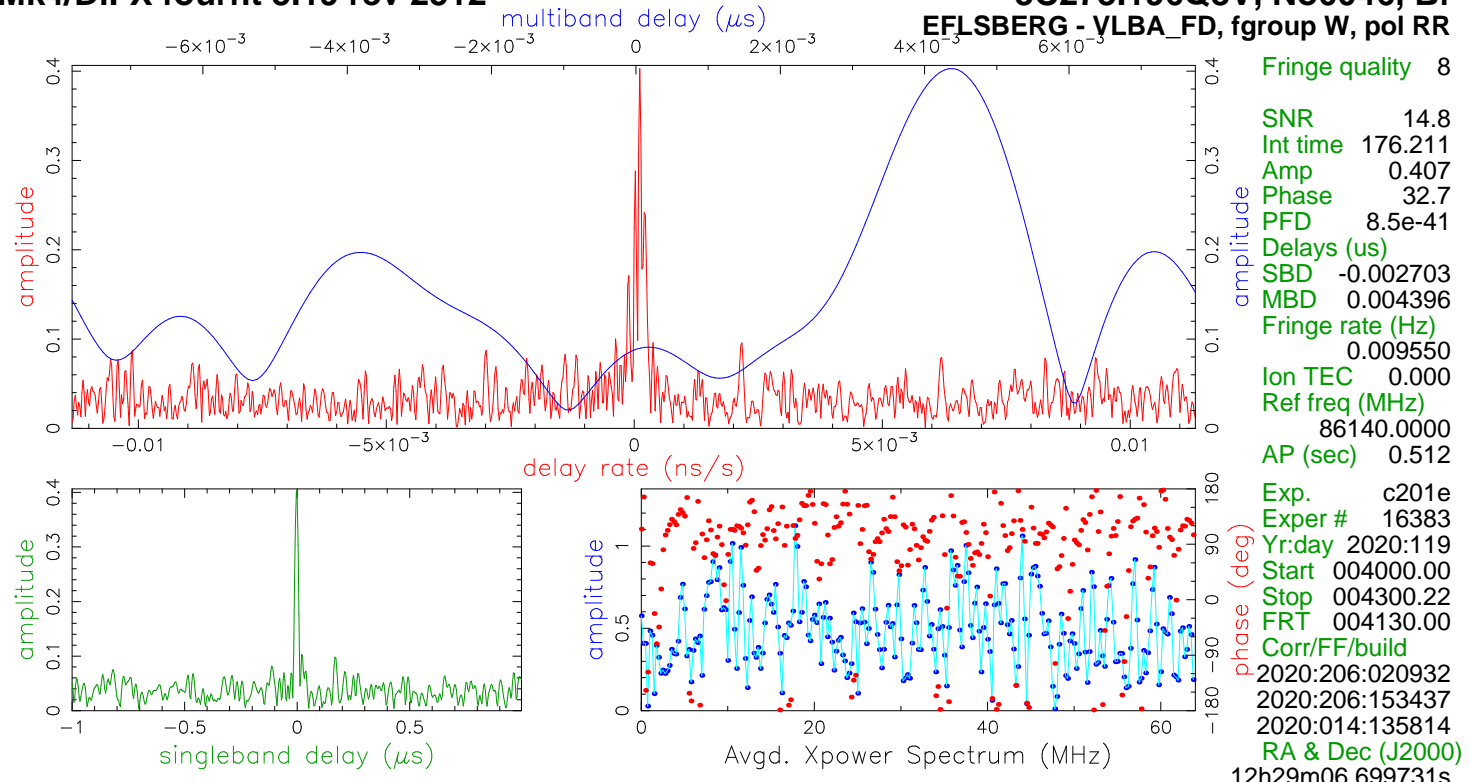
Fringe quality 0  
SNR 6.1  
Int time 173.083  
Amp 0.216  
Phase -63.0  
PFD 1.3e-01  
Delays (us)  
SBD 0.644701  
MBD 0.003037  
Fringe rate (Hz) 0.732727  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build 2020:206:020932  
2020:206:153436  
2020:014:135814  
RA & Dec (J2000) 12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

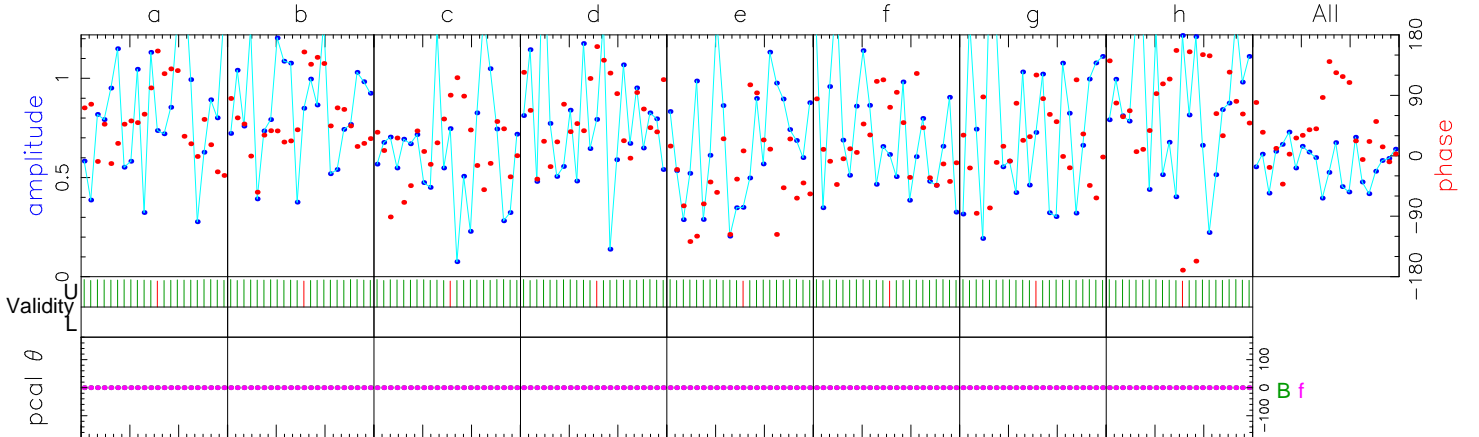


|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -73.8              | -88.4    | -53.3                    | -49.4    | -50.3              | -32.0    | -67.5                | -88.1    | Phase        | -63.0       |
|                         | 0.2                | 0.2      | 0.3                      | 0.2      | 0.2                | 0.2      | 0.2                  | 0.2      | Ampl.        | 0.2         |
|                         | 69.3               | 68.0     | 73.3                     | 8.2      | 277.1              | 198.2    | 477.8                | 333.0    | Sbd box      | 422.0       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| b:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| b                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| b                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | -5.30344388833E+03 |          | Apriori delay (usec)     |          | -5.30408755064E+03 |          | Resid mbdelay (usec) |          | 3.03732E-03  | +/- 1.8E-04 |
| Sband delay (usec)      | -5.30344284964E+03 |          | Apriori clock (usec)     |          | -5.3367767E+00     |          | Resid sbdelay (usec) |          | 6.44701E-01  | +/- 1.4E-03 |
| Phase delay (usec)      | -5.30408755267E+03 |          | Apriori clockrate (us/s) |          | -1.5100001E-07     |          | Resid phdelay (usec) |          | -2.03079E-06 | +/- 6.1E-07 |
| Delay rate (us/s)       | -1.84756894881E-01 |          | Apriori rate (us/s)      |          | -1.84765401118E-01 |          | Resid rate (us/s)    |          | 8.50624E-06  | +/- 5.8E-09 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 2.90638953073E-05  |          | Resid phase (deg)    |          | -63.0        | +/- 18.8    |

ph/seg (deg) 61.2 44.0 Search (1024X32) 0.165 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 56.9 76.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 21.6 26.5 Inc. seg. avg. 0.220 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 21.3 46.3 Inc. frq. avg. 0.205 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
b: az 95.6 el 7.6 pa -41.7 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 1074.287 2158.246 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/bf.W.34.196Q8V



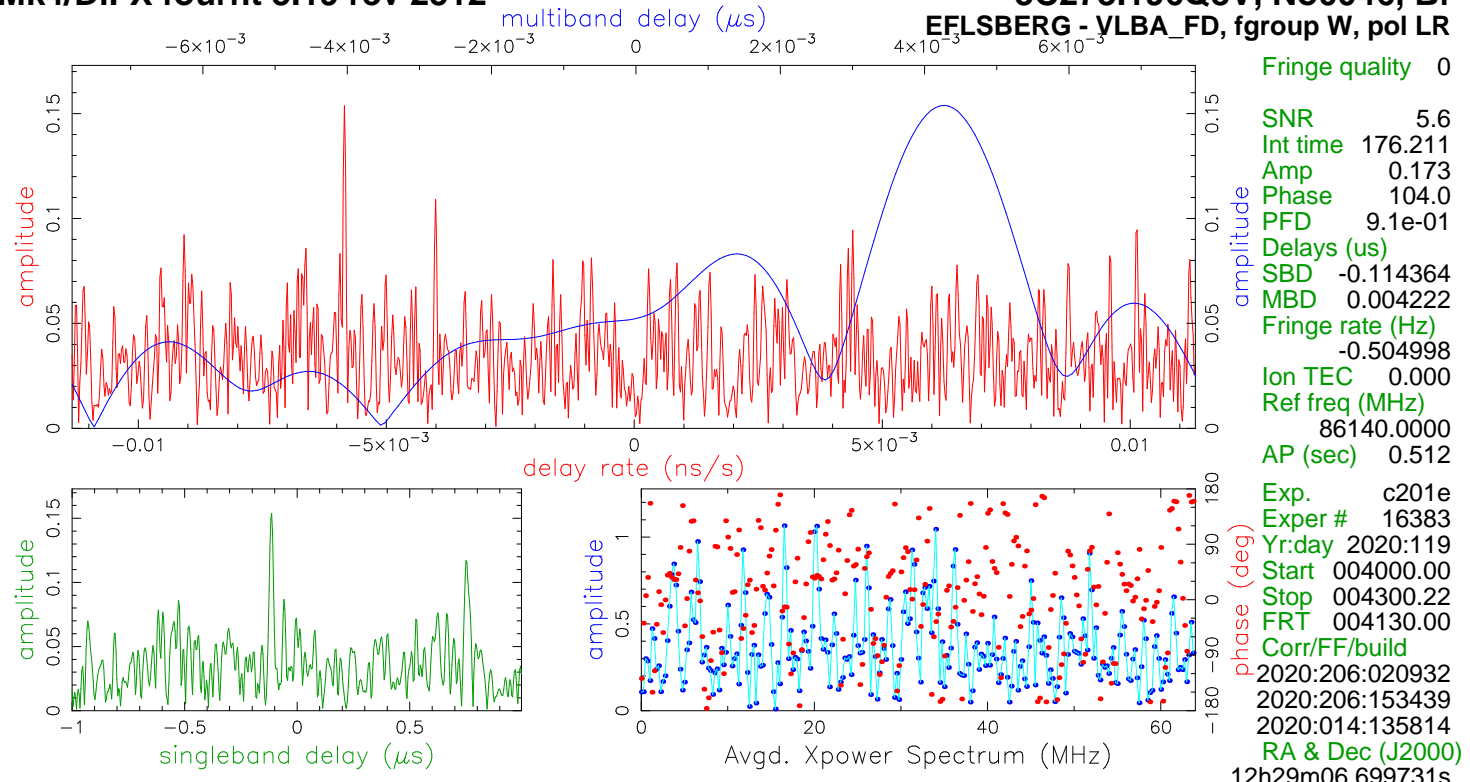
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



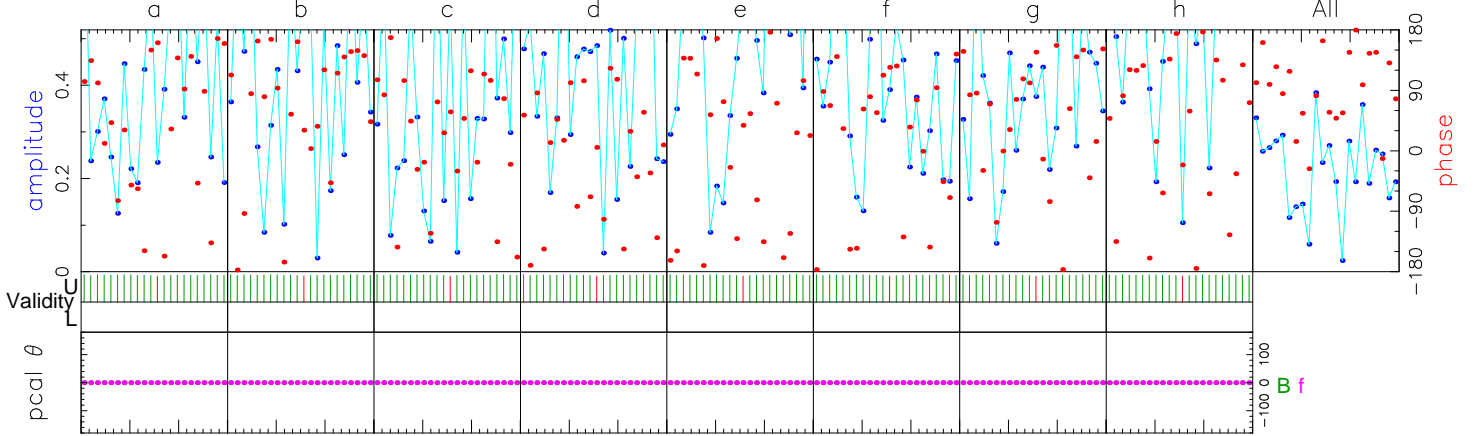
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| B   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| B:f | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| B:f | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| B   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| B   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    | Chan ids   |     |
| f   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    | Tracks     |     |

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.73796725318E+03  | Apriori delay (usec)     | 1.73796285765E+03  | Resid mbdelay (usec) | 4.39553E-03  | +/- | 7.4E-05 |
| Sband delay (usec)      | 1.73796015465E+03  | Apriori clock (usec)     | 9.0984631E+00      | Resid sbdelay (usec) | -2.70300E-03 | +/- | 5.8E-04 |
| Phase delay (usec)      | 1.73796285870E+03  | Apriori clockrate (us/s) | -3.0900000E-07     | Resid phdelay (usec) | 1.05554E-06  | +/- | 2.5E-07 |
| Delay rate (us/s)       | -1.91967150057E+00 | Apriori rate (us/s)      | -1.91967161143E+00 | Resid rate (us/s)    | 1.10861E-07  | +/- | 2.4E-09 |
| Total phase (deg)       | 233.6              | Apriori accel (us/s/s)   | -8.19082693796E-06 | Resid phase (deg)    | 32.7         | +/- | 7.8     |

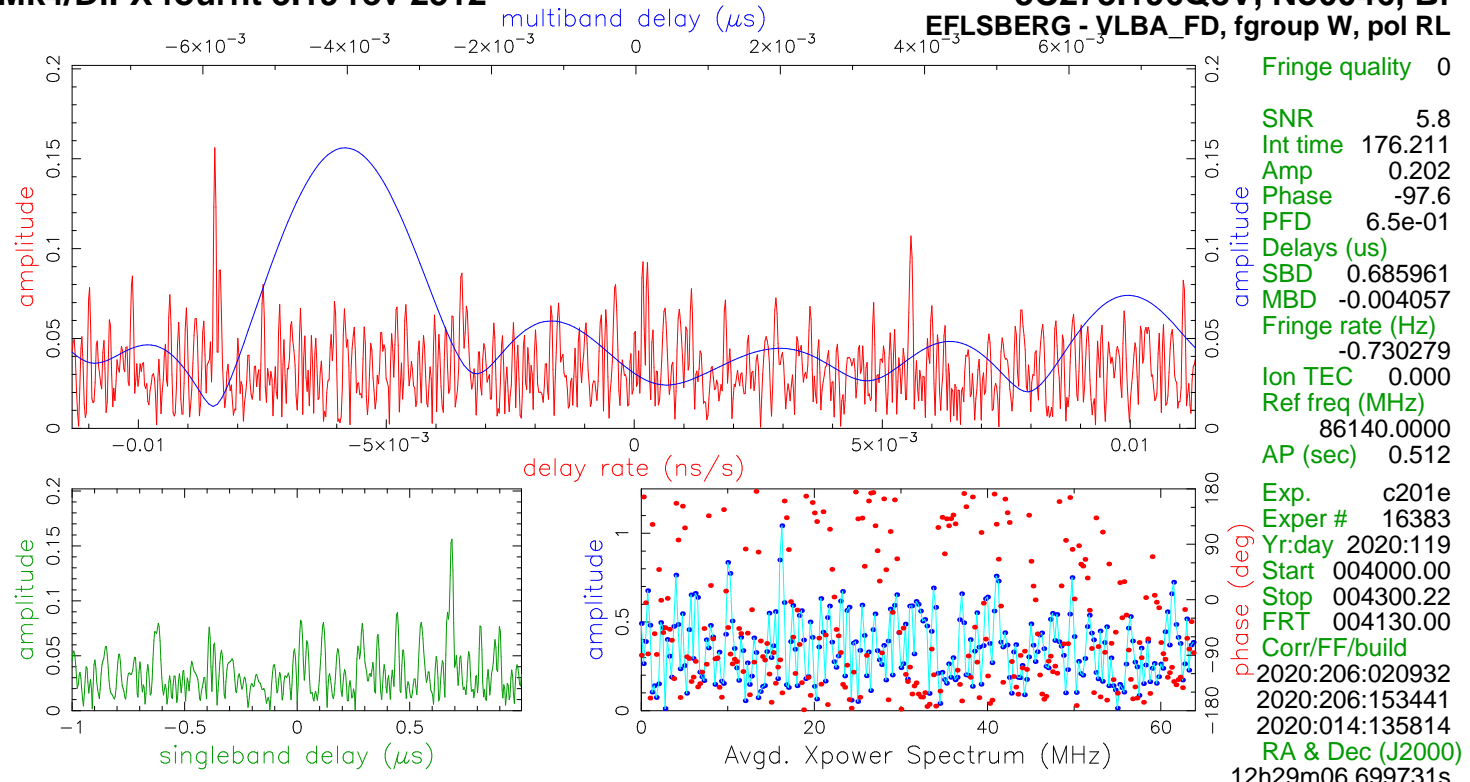
|              |      |                        |       |                |       |                |                 |                   |                             |                  |              |
|--------------|------|------------------------|-------|----------------|-------|----------------|-----------------|-------------------|-----------------------------|------------------|--------------|
| ph/seg (deg) | 48.6 | RMS                    | 18.2  | Theor.         | 48.6  | Amplitude      | 0.407 +/- 0.028 | Pcal mode:        | MANUAL, MANUAL              | PC period (AP's) | 5, 5         |
| amp/seg (%)  | 46.4 | Search (1024X32)       | 0.402 | Inc. seg. avg. | 0.541 | Inc. frq. avg. | 0.477           | Pcal rate:        | 0.000E+00, 0.000E+00 (us/s) | sb window (us)   | -1.000 1.000 |
| ph/frq (deg) | 42.0 | Bits/sample:           | 2x2   | Inc. seg. avg. | 0.541 | Inc. frq. avg. | 0.477           | SampCntNorm:      | enabled                     | mb window (us)   | -0.008 0.008 |
| amp/frq (%)  | 24.6 | Sample rate (MSamp/s): | 128   | Inc. frq. avg. | 0.477 | Inc. frq. avg. | 0.477           | Data rate (Mb/s): | 2048                        | dr window (ns/s) | -0.011 0.011 |
|              |      | Data rate (Mb/s):      | 2048  | Inc. frq. avg. | 0.477 | Inc. frq. avg. | 0.477           | nlags:            | 256                         | ion window (TEC) | 0.00 0.00    |



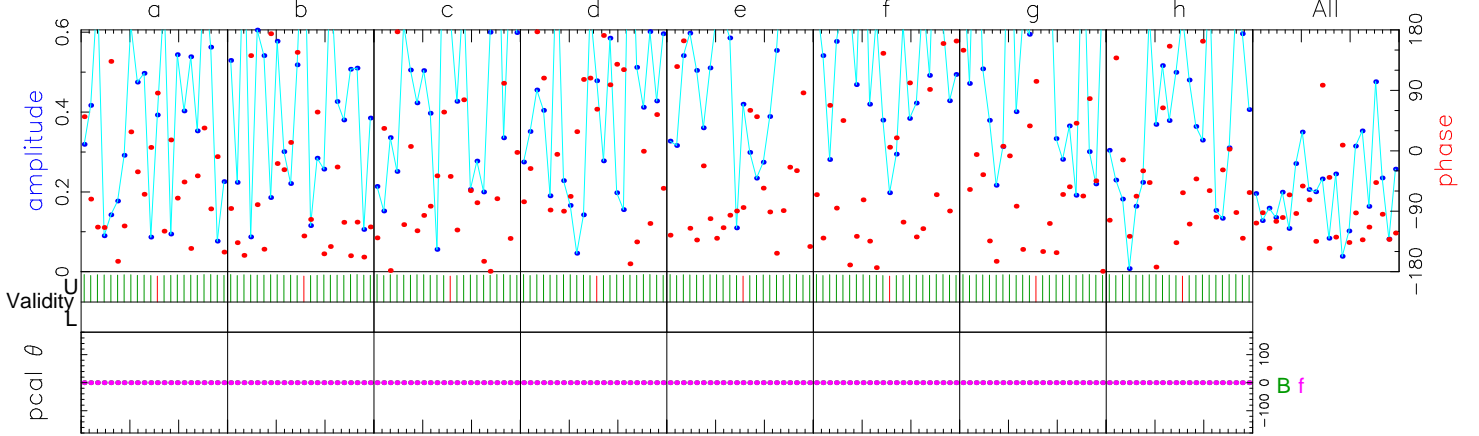
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00 | 86076.00           | 86140.00         | 86204.00        | 86268.00 | 86332.00                               | 86396.00 | 86460.00 | Freq (MHz)            | All              |              |
|-------------------------|----------|--------------------|------------------|-----------------|----------|----------------------------------------|----------|----------|-----------------------|------------------|--------------|
| U/L                     | 352/0    | 352/0              | 352/0            | 352/0           | 352/0    | 352/0                                  | 352/0    | 352/0    |                       |                  |              |
| B                       | 1000     | 1000               | 1000             | 1000            | 1000     | 1000                                   | 1000     | 1000     |                       |                  |              |
| f                       | 1000     | 1000               | 1000             | 1000            | 1000     | 1000                                   | 1000     | 1000     |                       |                  |              |
| B:f                     | 0:0      | 0:0                | 0:0              | 0:0             | 0:0      | 0:0                                    | 0:0      | 0:0      |                       |                  |              |
| B:f                     | 0:0      | 0:0                | 0:0              | 0:0             | 0:0      | 0:0                                    | 0:0      | 0:0      |                       |                  |              |
| B                       | 1000     | 1000               | 1000             | 1000            | 1000     | 1000                                   | 1000     | 1000     |                       |                  |              |
| f                       | 1000     | 1000               | 1000             | 1000            | 1000     | 1000                                   | 1000     | 1000     |                       |                  |              |
| B                       | W00UL    | W01UL              | W02UL            | W03UL           | W04UL    | W05UL                                  | W06UL    | W07UL    |                       |                  |              |
| f                       | W00UR    | W01UR              | W02UR            | W03UR           | W04UR    | W05UR                                  | W06UR    | W07UR    |                       |                  |              |
| Group delay (usec)(sbd) |          | 1.73784207987E+03  |                  |                 |          | 1.73796285765E+03                      |          |          | 4.22222E-03           | +/- 1.9E-04      |              |
| Sband delay (usec)      |          | 1.73784849340E+03  |                  |                 |          | 9.0984631E+00                          |          |          | -1.14364E-01          | +/- 1.5E-03      |              |
| Phase delay (usec)      |          | 1.73796286100E+03  |                  |                 |          | -3.0900000E-07                         |          |          | 3.35418E-06           | +/- 6.6E-07      |              |
| Delay rate (us/s)       |          | -1.91967747396E+00 |                  |                 |          | -1.91967161143E+00                     |          |          | -5.86253E-06          | +/- 6.3E-09      |              |
| Total phase (deg)       |          |                    | 304.9            |                 |          | -8.19082693796E-06                     |          |          | 104.0                 | +/- 20.4         |              |
|                         | RMS      | Theor.             | Amplitude        | 0.173 +/- 0.031 |          | Pcal mode: MANUAL, MANUAL              |          |          | PC period (AP's) 5, 5 |                  |              |
| ph/seg (deg)            | 56.1     | 47.9               | Search (1024X32) | 0.150           |          | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |          |          | sb window (us)        | -1.000 1.000     |              |
| amp/seg (%)             | 72.2     | 83.6               | Interp.          | 0.000           |          | Bits/sample: 2x2                       |          |          | SampCntNorm: enabled  | mb window (us)   | -0.008 0.008 |
| ph/frq (deg)            | 41.0     | 28.9               | Inc. seg. avg.   | 0.184           |          | Sample rate(MISamp/s): 128             |          |          |                       | dr window (ns/s) | -0.011 0.011 |
| amp/frq (%)             | 28.0     | 50.4               | Inc. frq. avg.   | 0.174           |          | Data rate(Mb/s): 2048                  |          |          |                       | ion window (TEC) | 0.00 0.00    |



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

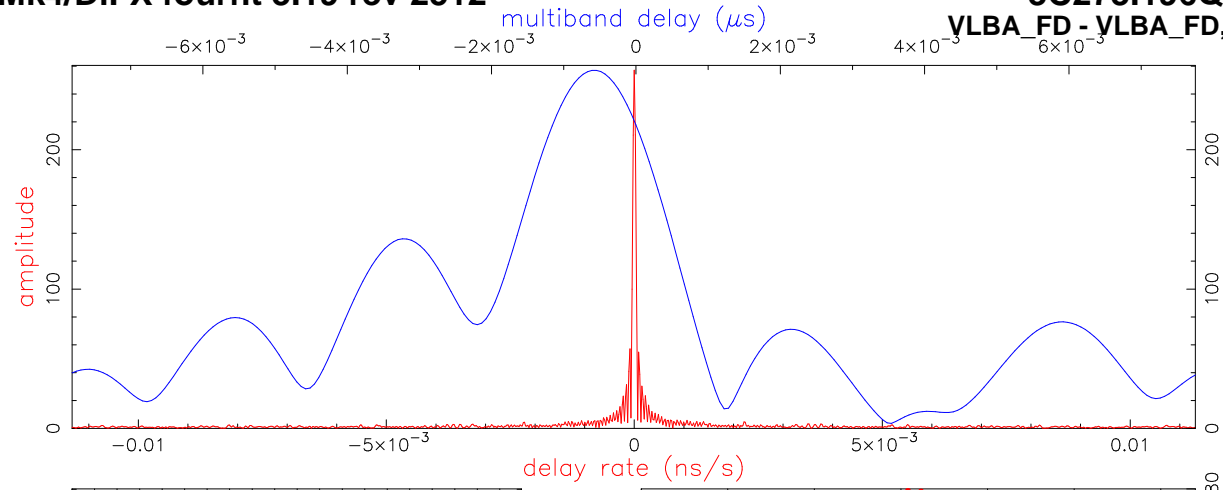


|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -65.1              | -120.4   | -85.4                    | 167.4    | -103.5             | -119.1   | -72.1                | -83.9    | Phase        | -97.6       |
|                         | 0.2                | 0.3      | 0.2                      | 0.0      | 0.3                | 0.3      | 0.2                  | 0.2      | Ampl.        | 0.2         |
|                         | 259.2              | 508.5    | 184.1                    | 136.0    | 287.0              | 93.7     | 502.1                | 273.1    | Sbd box      | 432.6       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| B                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| B:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| B:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| B                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| B                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 1.73864630048E+03  |          | Apriori delay (usec)     |          | 1.73796285765E+03  |          | Resid mbdelay (usec) |          | -4.05717E-03 | +/- 1.9E-04 |
| Sband delay (usec)      | 1.73864881915E+03  |          | Apriori clock (usec)     |          | 9.0984631E+00      |          | Resid sbdelay (usec) |          | 6.85961E-01  | +/- 1.5E-03 |
| Phase delay (usec)      | 1.73796285450E+03  |          | Apriori clockrate (us/s) |          | -3.0900000E-07     |          | Resid phdelay (usec) |          | -3.14657E-06 | +/- 6.4E-07 |
| Delay rate (us/s)       | -1.91968008925E+00 |          | Apriori rate (us/s)      |          | -1.91967161143E+00 |          | Resid rate (us/s)    |          | -8.47782E-06 | +/- 6.2E-09 |
| Total phase (deg)       | 103.3              |          | Apriori accel (us/s/s)   |          | -8.19082693796E-06 |          | Resid phase (deg)    |          | -97.6        | +/- 19.9    |

|              | RMS  | Theor. | Amplitude        | 0.202 +/- 0.035 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-------------------------------|
| ph/seg (deg) | 50.9 | 46.7   | Search (1024X32) | 0.152           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000   |
| amp/seg (%)  | 71.5 | 81.5   | Interp.          | 0.000           | Bits/sample: 2x2                       | mb window (us) -0.008 0.008   |
| ph/frq (deg) | 44.9 | 28.1   | Inc. seg. avg.   | 0.198           | Sample rate(MISamp/s): 128             | dr window (ns/s) -0.011 0.011 |
| amp/frq (%)  | 44.0 | 49.1   | Inc. frq. avg.   | 0.192           | Data rate(Mb/s): 2048                  | ion window (TEC) 0.00 0.00    |

B: az 234.2 el 28.0 pa 31.1 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 10996.925 2295.988 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/Bf..196Q8V Output file: /Exps/c201e/v1/1234/No0046/Bf.W.62.196Q8V

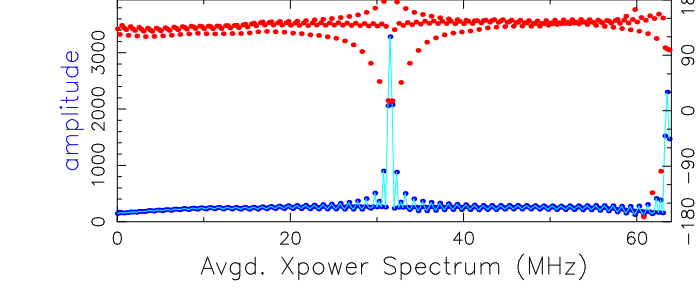
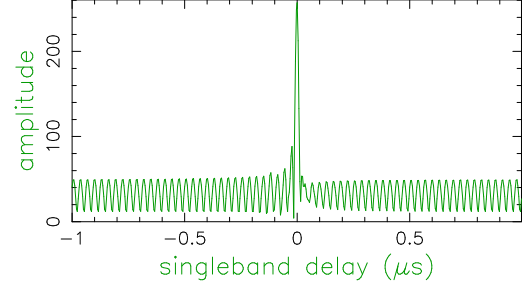




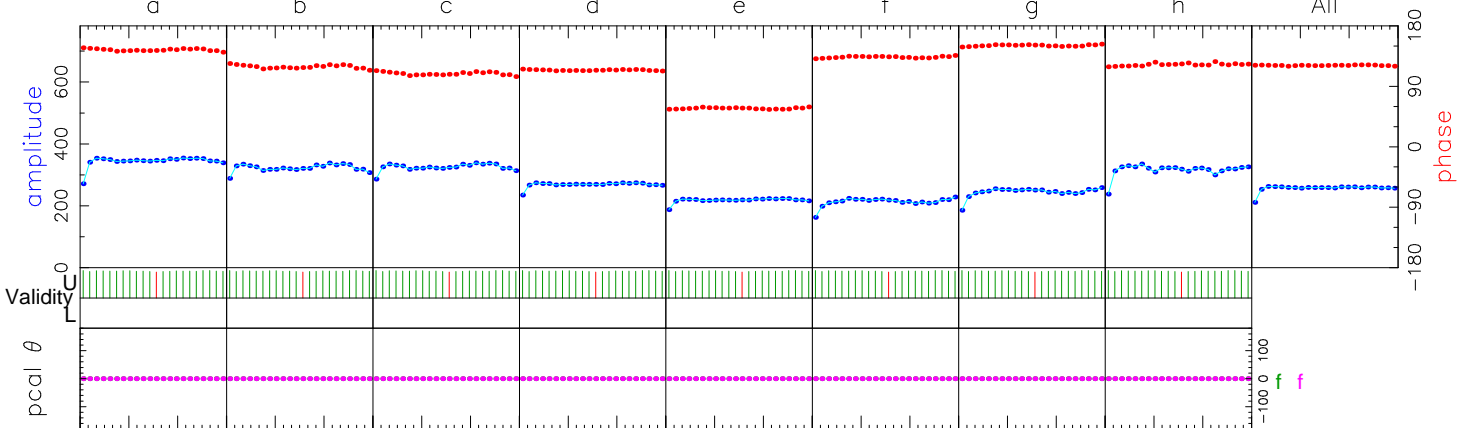
Fringe quality 6

SNR 9459.5  
Int time 176.221  
Amp 260.581  
Phase 121.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.001368  
MBD -0.000572  
Fringe rate (Hz)  
-0.000007  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

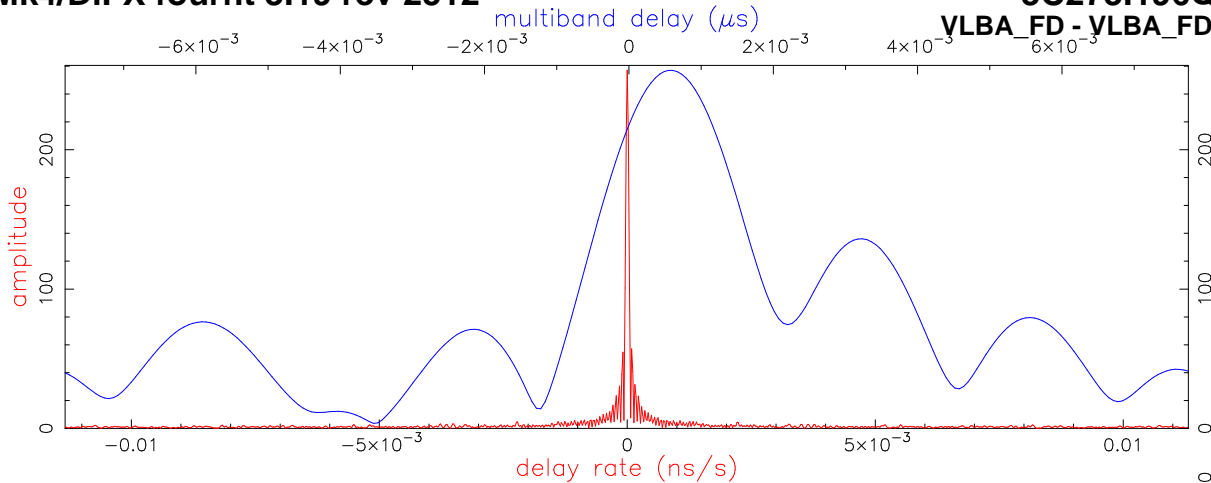
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153448  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

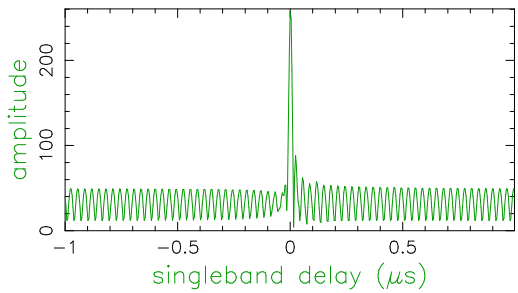


|                              | 86012.00           | 86076.00 | 86140.00                     | 86204.00          | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz)                             | All                                                     |
|------------------------------|--------------------|----------|------------------------------|-------------------|----------|----------|----------|----------|----------------------------------------|---------------------------------------------------------|
| U/L                          | 352/0              | 352/0    | 352/0                        | 352/0             | 352/0    | 352/0    | 352/0    | 352/0    |                                        |                                                         |
| f                            | 1000               | 1000     | 1000                         | 1000              | 1000     | 1000     | 1000     | 1000     | PC freqs                               |                                                         |
| f:f                          | 0:0                | 0:0      | 0:0                          | 0:0               | 0:0      | 0:0      | 0:0      | 0:0      | PC phase                               |                                                         |
| f:f                          | 0:0                | 0:0      | 0:0                          | 0:0               | 0:0      | 0:0      | 0:0      | 0:0      | Manl PC                                |                                                         |
| f                            | 1000               | 1000     | 1000                         | 1000              | 1000     | 1000     | 1000     | 1000     | PC amp                                 |                                                         |
| f                            | W00UL              | W01UL    | W02UL                        | W03UL             | W04UL    | W05UL    | W06UL    | W07UL    | Chan ids                               |                                                         |
| f                            | W00UR              | W01UR    | W02UR                        | W03UR             | W04UR    | W05UR    | W06UR    | W07UR    | Tracks                                 |                                                         |
| Group delay (usec)(sbd)      | -5.72406250000E-04 |          |                              |                   |          |          |          |          | Resid mbdelay (usec)                   | -5.72406E-04 +/- 1.1E-07                                |
| Sband delay (usec)           | -1.36825000000E-03 |          |                              |                   |          |          |          |          | Resid sbdelay (usec)                   | -1.36825E-03 +/- 9.1E-07                                |
| Phase delay (usec)           | 3.90495376072E-06  |          |                              |                   |          |          |          |          | Resid phdelay (usec)                   | 3.90495E-06 +/- 3.9E-10                                 |
| Delay rate (us/s)            | -8.21926838718E-11 |          |                              |                   |          |          |          |          | Resid rate (us/s)                      | -8.21927E-11 +/- 3.8E-12                                |
| Total phase (deg)            |                    |          | 121.1                        |                   |          |          |          |          | Resid phase (deg)                      | 121.1 +/- 0.0                                           |
|                              | RMS                | Theor.   | Amplitude                    | 260.581 +/- 0.028 |          |          |          |          | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5                                   |
| ph/seg (deg)                 | 0.5                | 0.0      | Search (1024X32)             | 256.141           |          |          |          |          | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000                             |
| amp/seg (%)                  | 4.2                | 0.0      | Interp.                      | 0.000             |          |          |          |          | Bits/sample: 2x2                       | SampCntNorm: enabled mb window (us) -0.008 0.008        |
| ph/frq (deg)                 | 31.2               | 0.0      | Inc. seg. avg.               | 257.158           |          |          |          |          | Sample rate(MISamp/s): 128             | dr window (ns/s) -0.011 0.011                           |
| amp/frq (%)                  | 20.3               | 0.0      | Inc. frq. avg.               | 281.711           |          |          |          |          | Data rate(Mb/s): 2048                  | nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00 |
| f: az 101.6 el 22.3 pa -57.5 |                    |          | f: az 101.6 el 22.3 pa -57.5 |                   |          |          |          |          | u,v (fr/asec) 0.000 0.000              | simultaneous interpolator                               |

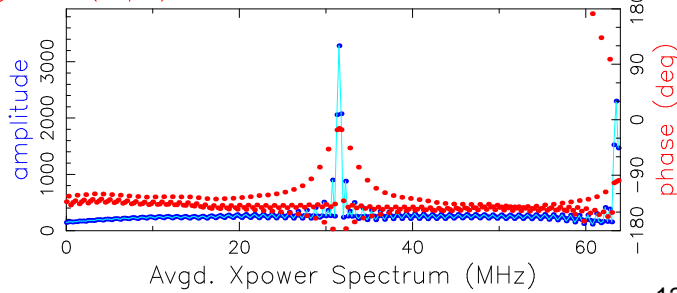


Fringe quality 6

SNR 9459.5  
Int time 176.221  
Amp 260.580  
Phase -121.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.001368  
MBD 0.000572  
Fringe rate (Hz)  
0.000007  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

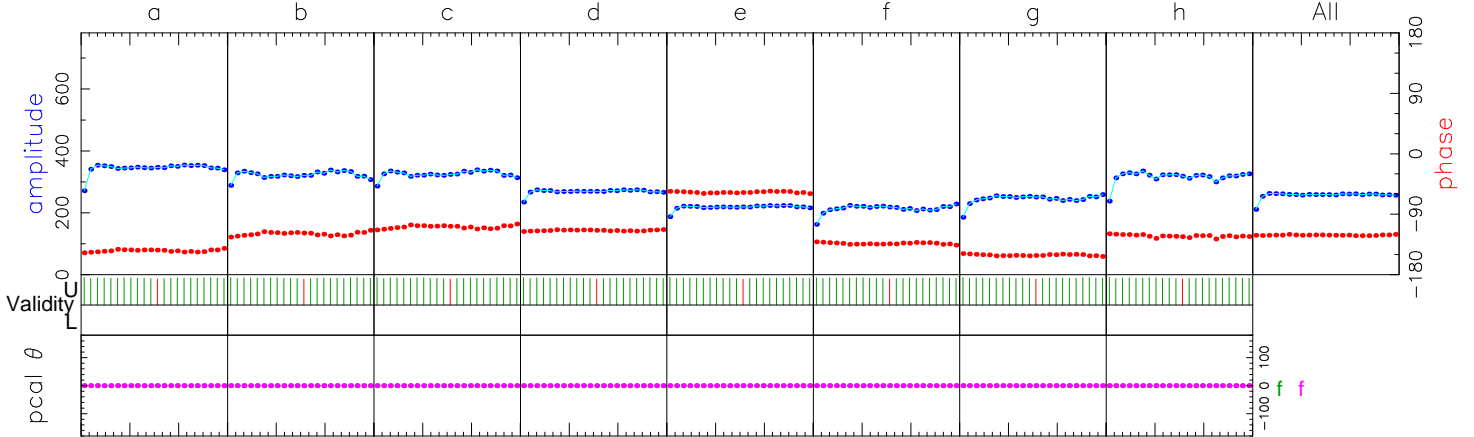


delay rate (ns/s)



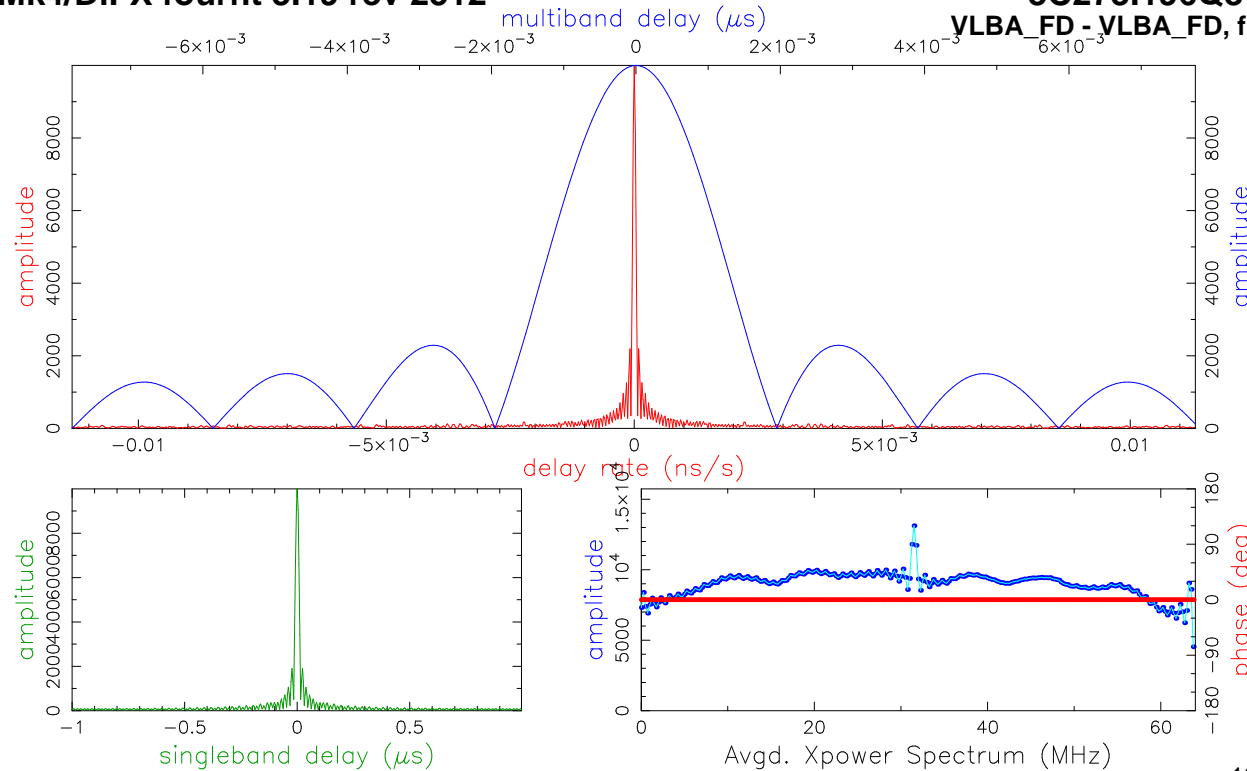
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153451  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



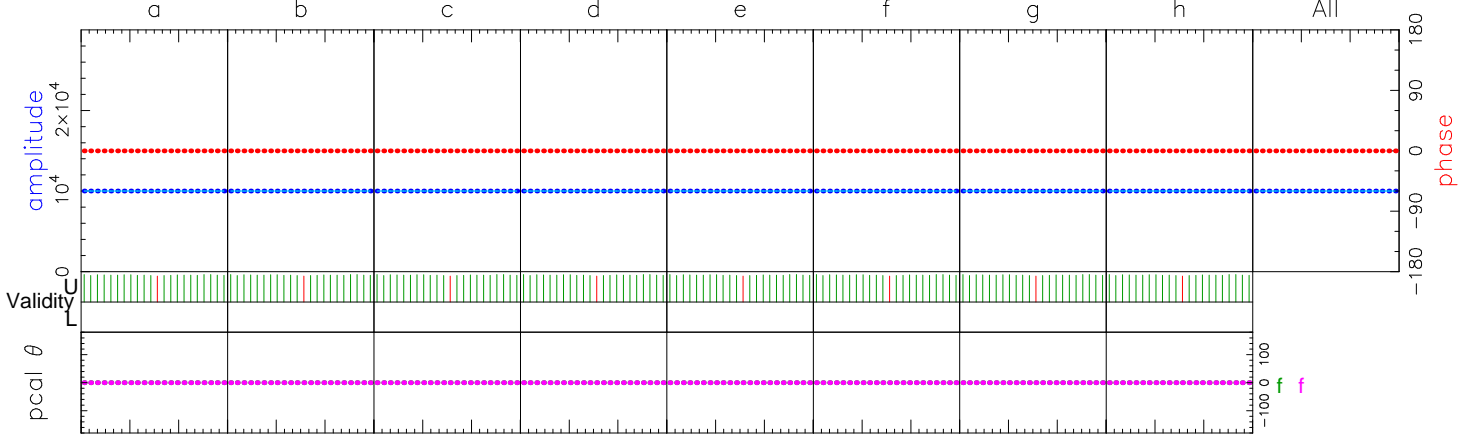
|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00          | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
|                         | -144.3             | -119.1   | -108.9                   | -114.1   | -57.2             | -133.5   | -150.7               | -122.3   | Phase        | -121.1      |
|                         | 344.2              | 322.7    | 325.1                    | 268.9    | 218.4             | 213.4    | 244.9                | 316.2    | Ampl.        | 281.7       |
|                         | 257.4              | 257.2    | 257.3                    | 257.1    | 263.0             | 256.9    | 257.3                | 258.1    | Sbd box      | 257.4       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0             | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000              | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0               | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:f                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0               | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000              | 1000     | 1000                 | 1000     | PC amp       |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000              | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR             | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL             | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                    |          |                          |          |                   |          |                      |          | Chan ids     |             |
|                         |                    |          |                          |          |                   |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 5.72406250000E-04  |          | Apriori delay (usec)     |          | 0.00000000000E+00 |          | Resid mbdelay (usec) |          | 5.72406E-04  | +/- 1.1E-07 |
| Sband delay (usec)      | 1.36825000000E-03  |          | Apriori clock (usec)     |          | 0.0000000E+00     |          | Resid sbdelay (usec) |          | 1.36825E-03  | +/- 9.1E-07 |
| Phase delay (usec)      | -3.90495376060E-06 |          | Apriori clockrate (us/s) |          | 0.0000000E+00     |          | Resid phdelay (usec) |          | -3.90495E-06 | +/- 3.9E-10 |
| Delay rate (us/s)       | 8.21926838718E-11  |          | Apriori rate (us/s)      |          | 0.00000000000E+00 |          | Resid rate (us/s)    |          | 8.21927E-11  | +/- 3.8E-12 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 0.00000000000E+00 |          | Resid phase (deg)    |          | -121.1       | +/- 0.0     |

RMS Theor. Amplitude 260.580 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.5 0.0 Search (1024X32) 256.141 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 4.2 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 31.2 0.0 Inc. seg. avg. 257.157 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 20.3 0.0 Inc. frq. avg. 281.711 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 f: az 101.6 el 22.3 pa -57.5 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator



Fringe quality 9  
 SNR 363016.1  
 Int time 176.221  
 Amp 9999.998  
 Phase -0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz) 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004000.00  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build  
 2020:206:020932  
 2020:206:153442  
 2020:014:135814  
 RA & Dec (J2000)  
 12h29m06.699731s  
 +02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

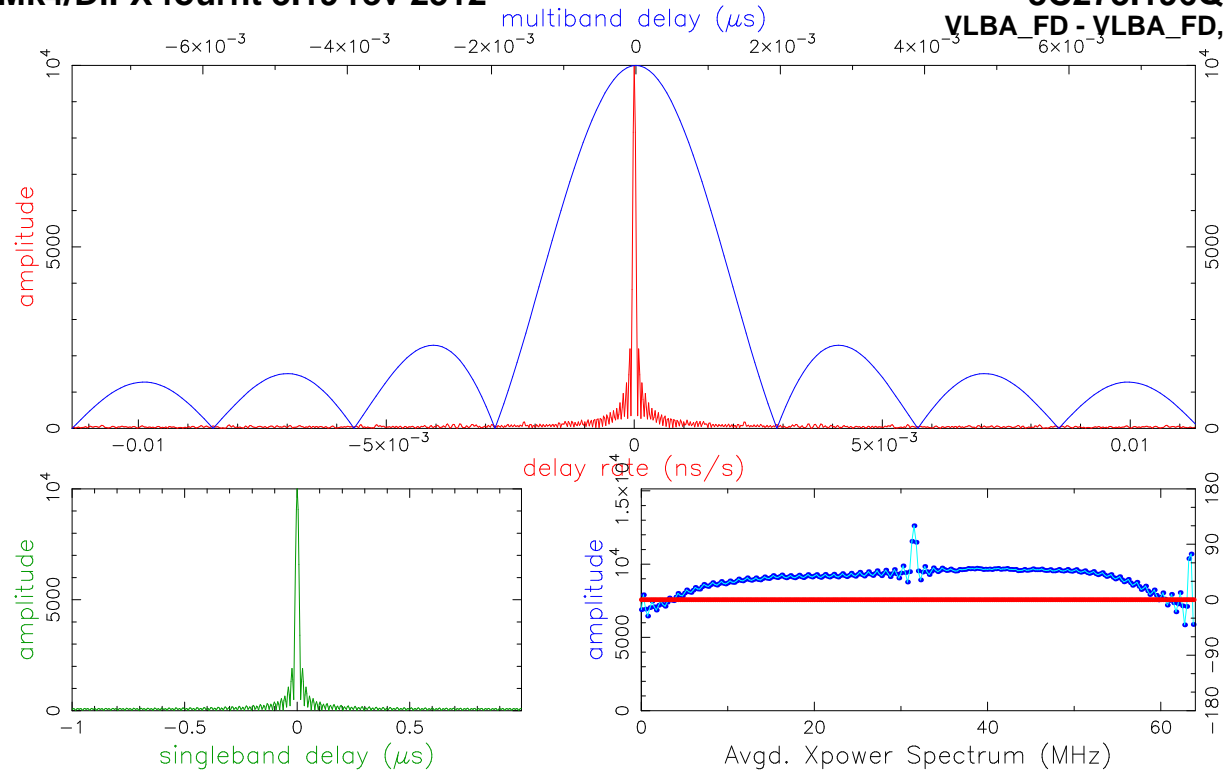


|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:f | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.4E-08  
 Phase delay (usec) -1.19776589331E-19 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -1.19777E-19 +/- 1.0E-11  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.8E-14  
 Total phase (deg) -0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) -0.0 +/- 0.0

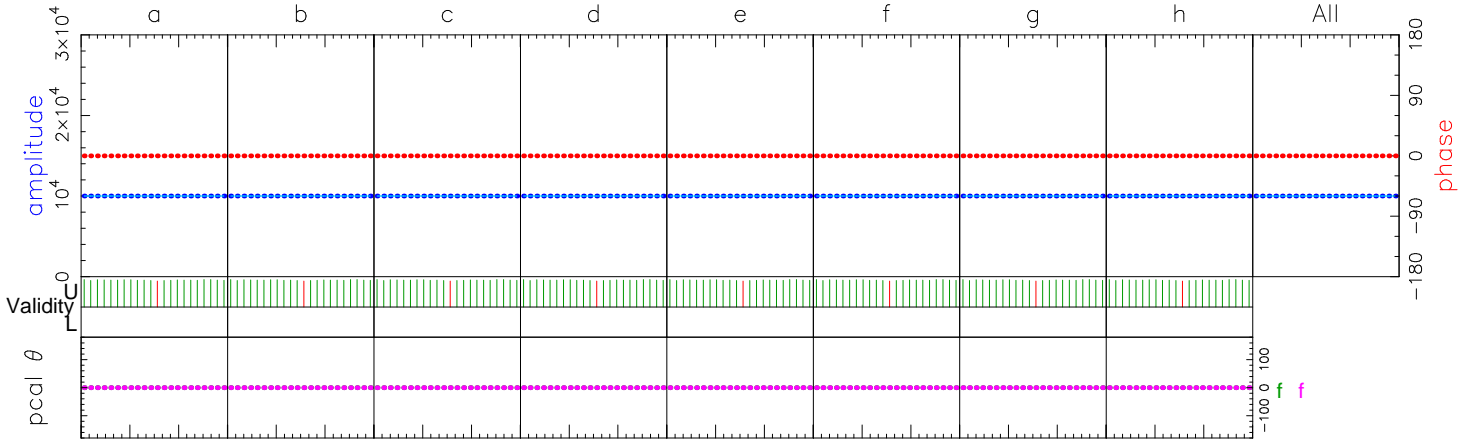
RMS Theor. Amplitude 9999.998 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.0 0.0 Search (1024X32) 9999.998 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 9999.998 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

f: az 101.6 el 22.3 pa -57.5 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/ff..196Q8V Output file: /Exps/c201e/v1/1234/No0046/ff.W.68.196Q8V



Fringe quality 9  
SNR 363016.4  
Int time 176.221  
Amp 10000.004  
Phase -0.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.000000  
MBD 0.000000  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153446  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

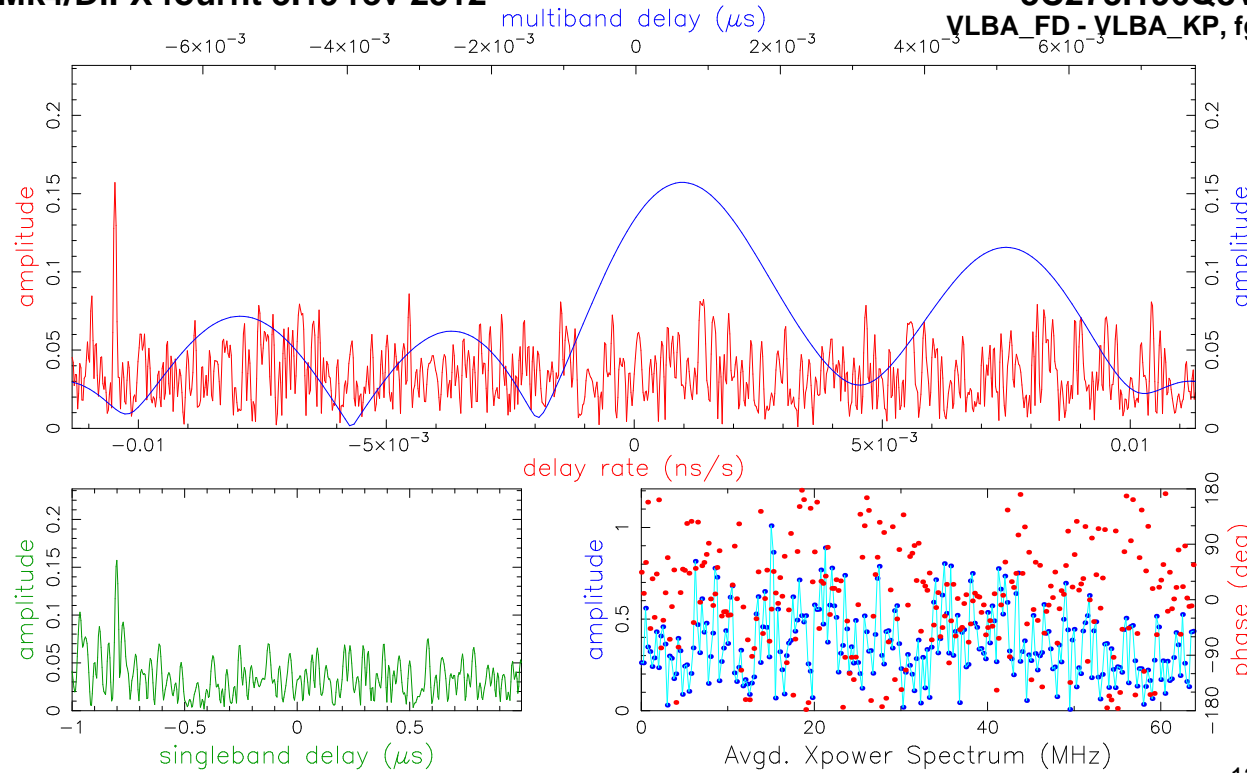


|                                        | 86012.00           | 86076.00           | 86140.00           | 86204.00           | 86268.00           | 86332.00           | 86396.00           | 86460.00           | Freq (MHz) | All |
|----------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------|-----|
| U/L                                    | 352/0              | 352/0              | 352/0              | 352/0              | 352/0              | 352/0              | 352/0              | 352/0              |            |     |
| f                                      | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               |            |     |
| f:f                                    | 0:0                | 0:0                | 0:0                | 0:0                | 0:0                | 0:0                | 0:0                | 0:0                |            |     |
| f                                      | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               | 1000               |            |     |
| f                                      | W00UR              | W01UR              | W02UR              | W03UR              | W04UR              | W05UR              | W06UR              | W07UR              |            |     |
| f                                      | W00UR              | W01UR              | W02UR              | W03UR              | W04UR              | W05UR              | W06UR              | W07UR              |            |     |
| Group delay (usec)(sbd)                | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   |            |     |
| Sband delay (usec)                     | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   |            |     |
| Phase delay (usec)                     | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 | -4.67531694933E-20 |            |     |
| Delay rate (us/s)                      | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   | 0.0000000000E+00   |            |     |
| Total phase (deg)                      |                    |                    | -0.0               |                    |                    |                    |                    |                    |            |     |
| RMS                                    |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Theor.                                 |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Amplitude                              |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Search (1024X32)                       |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Interp.                                |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Inc. seg. avg.                         |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Inc. frq. avg.                         |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Apriori delay (usec)                   |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Apriori clock (usec)                   |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Apriori clockrate (us/s)               |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Apriori rate (us/s)                    |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Apriori accel (us/s/s)                 |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Resid mbdelay (usec)                   |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Resid sbdelay (usec)                   |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Resid phdelay (usec)                   |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Resid rate (us/s)                      |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Resid phase (deg)                      |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| PCal mode: MANUAL, MANUAL              |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| PCal rate: 0.000E+00, 0.000E+00 (us/s) |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Bits/sample: 2x2                       |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Sample rate(MISamp/s): 128             |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| Data rate(Mb/s): 2048                  |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| nlags: 256                             |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| t_cohere infinite                      |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| sb window (us)                         |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| mb window (us)                         |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| dr window (ns/s)                       |                    |                    |                    |                    |                    |                    |                    |                    |            |     |
| ion window (TEC)                       |                    |                    |                    |                    |                    |                    |                    |                    |            |     |

ph/seg (deg) 0.0 0.0  
amp/seg (%) 0.0 0.0  
ph/frq (deg) 0.0 0.0  
amp/frq (%) 0.0 0.0  
f: az 101.6 el 22.3 pa -57.5 f: az 101.6 el 22.3 pa -57.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/ff..196Q8V Output file: /Exps/c201e/v1/1234/No0046/ff.W.90.196Q8V

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, fk  
VLBA\_FD - VLBA\_KP, fgroup W, pol LR

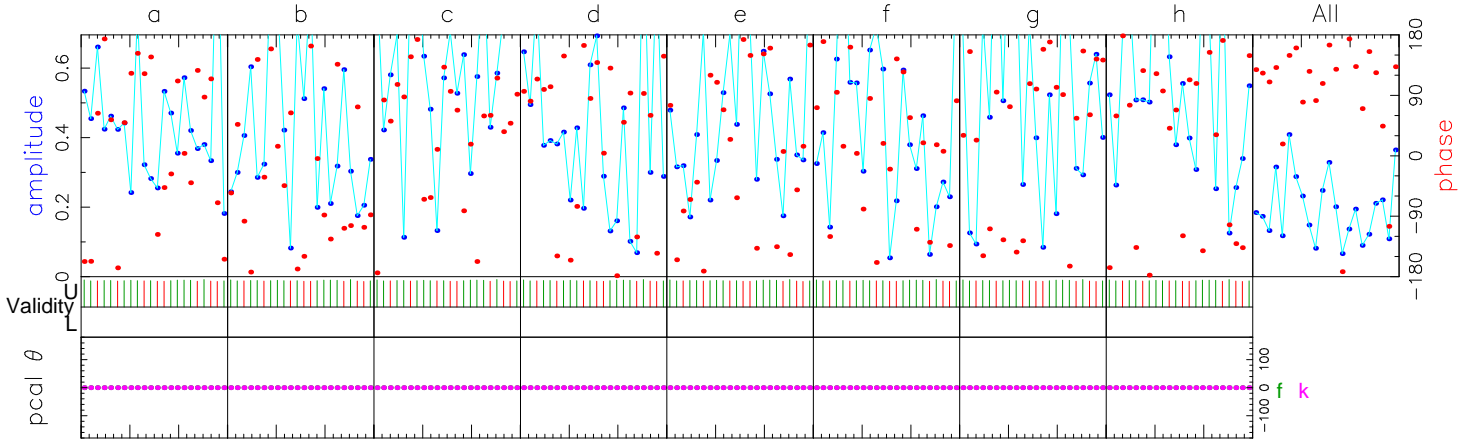


Fringe quality 0

SNR 5.7  
Int time 172.427  
Amp 0.232  
Phase 128.9  
PFD 7.9e-01  
Delays (us)  
SBD -0.801899  
MBD 0.000603  
Fringe rate (Hz)  
-0.903991  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

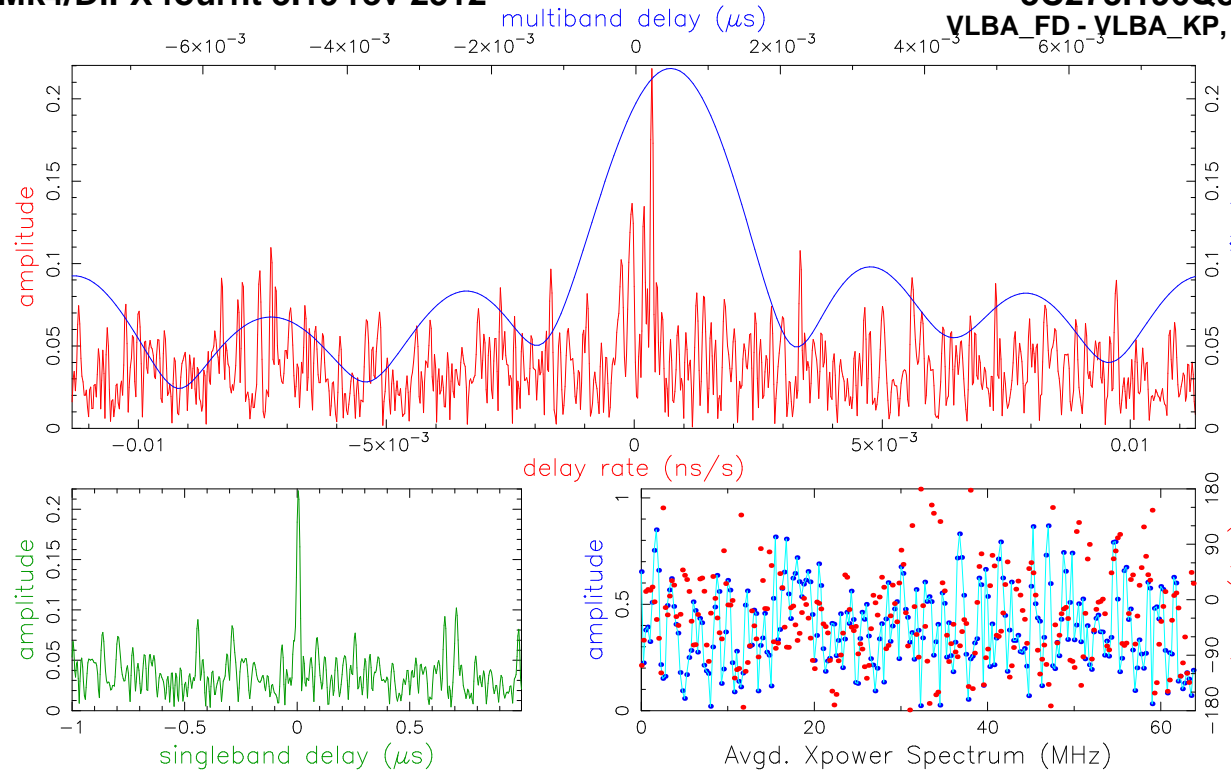
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153447  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



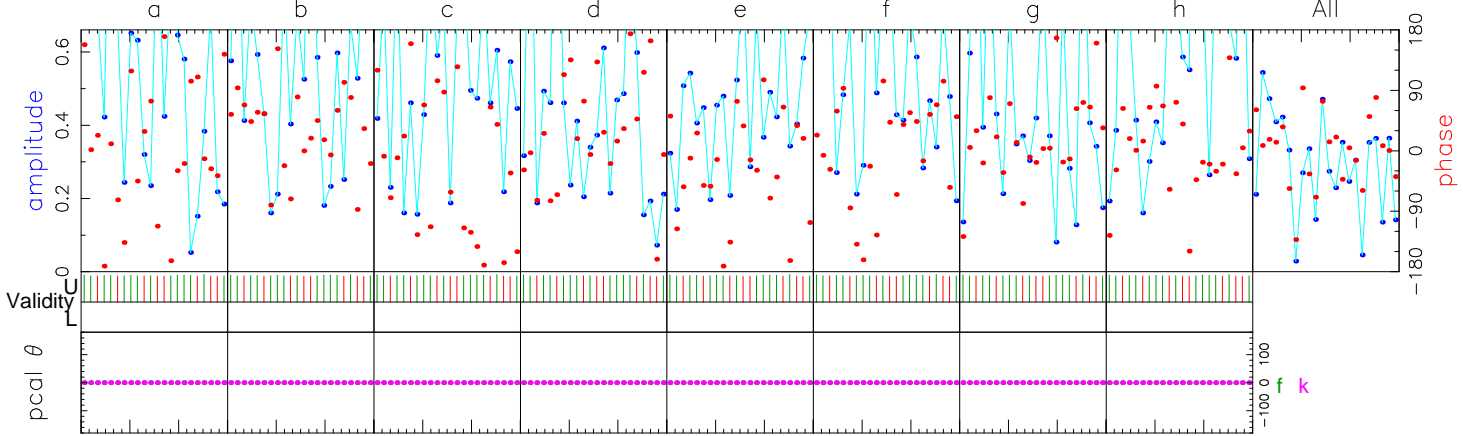
|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 128.6              | -137.8   | 93.1                     | 116.9    | 168.4              | 68.5     | 129.4                | 145.9    | Phase        | 128.9       |
|                         | 0.1                | 0.2      | 0.4                      | 0.4      | 0.2                | 0.2      | 0.4                  | 0.5      | Ampl.        | 0.3         |
|                         | 256.0              | 38.4     | 51.9                     | 51.0     | 453.0              | 401.4    | 405.9                | 51.1     | Sbd box      | 51.7        |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| k                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:k                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:k                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| k                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| k                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 2.34480935089E+03  |          | Apriori delay (usec)     |          | 2.34560562258E+03  |          | Resid mbdelay (usec) |          | 6.03310E-04  | +/- 1.9E-04 |
| Sband delay (usec)      | 2.34480372333E+03  |          | Apriori clock (usec)     |          | 4.2613487E+00      |          | Resid sbdelay (usec) |          | -8.01899E-01 | +/- 1.5E-03 |
| Phase delay (usec)      | 2.34560562674E+03  |          | Apriori clockrate (us/s) |          | 1.0360000E-07      |          | Resid phdelay (usec) |          | 4.15547E-06  | +/- 6.5E-07 |
| Delay rate (us/s)       | -4.79272621419E-02 |          | Apriori rate (us/s)      |          | -4.79167677064E-02 |          | Resid rate (us/s)    |          | -1.04944E-05 | +/- 6.2E-09 |
| Total phase (deg)       | 247.4              |          | Apriori accel (us/s/s)   |          | -1.25240679872E-05 |          | Resid phase (deg)    |          | 128.9        | +/- 20.1    |

ph/seg (deg) 49.0 47.2 Search (1024X32) 0.155 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 63.7 82.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 51.0 28.5 Inc. seg. avg. 0.217 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 55.6 49.7 Inc. frq. avg. 0.259 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
f: az 101.6 el 22.3 pa -57.5 k: az 97.7 el 15.7 pa -57.3 u,v (fr/asec) 268.110 -208.052 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fk..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fk.W.100.196Q8V



Fringe quality 9  
SNR 7.9  
Int time 172.428  
Amp 0.220  
Phase 14.8  
PFD 4.5e-07  
Delays (us)  
SBD 0.005081  
MBD 0.000521  
Fringe rate (Hz) 0.030391  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153449  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

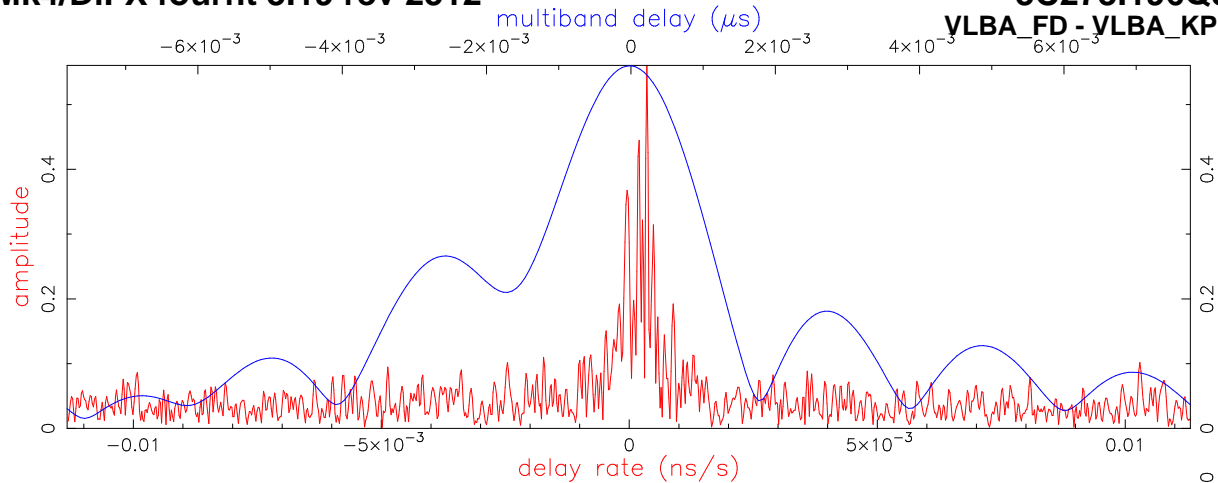


|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All   |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
|     | -29.0    | 37.5     | -167.6   | 8.9      | -6.9     | 21.5     | 26.7     | 2.4      | Phase      | 14.8  |
|     | 0.1      | 0.4      | 0.0      | 0.2      | 0.2      | 0.3      | 0.3      | 0.4      | Ampl.      | 0.2   |
|     | 146.1    | 258.4    | 185.8    | 236.6    | 393.7    | 257.1    | 257.2    | 257.8    | Sbd box    | 258.3 |
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | APs used   |       |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |       |
| k   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |       |
| f:k | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | PC phase   |       |
| f:k | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | Mani PC    |       |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC amp     |       |
| k   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |       |
| f   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    | Chan ids   |       |
| k   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Tracks     |       |

|                         |                    |                          |                    |                      |             |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|-------------|-----|---------|
| Group delay (usec)(sbd) | 2.34560614309E+03  | Apriori delay (usec)     | 2.34560562258E+03  | Resid mbdelay (usec) | 5.20513E-04 | +/- | 1.4E-04 |
| Sband delay (usec)      | 2.34561070383E+03  | Apriori clock (usec)     | 4.2613487E+00      | Resid sbdelay (usec) | 5.08125E-03 | +/- | 1.1E-03 |
| Phase delay (usec)      | 2.34560562306E+03  | Apriori clockrate (us/s) | 1.0360000E-07      | Resid phdelay (usec) | 4.78101E-07 | +/- | 4.7E-07 |
| Delay rate (us/s)       | -4.79164148957E-02 | Apriori rate (us/s)      | -4.79167677064E-02 | Resid rate (us/s)    | 3.52811E-07 | +/- | 4.5E-09 |
| Total phase (deg)       | 133.3              | Apriori accel (us/s/s)   | -1.25240679872E-05 | Resid phase (deg)    | 14.8        | +/- | 14.5    |

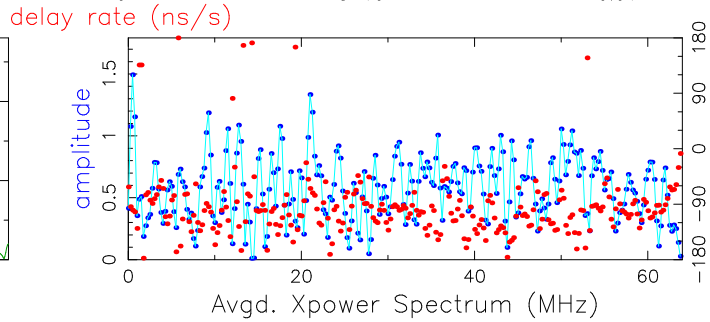
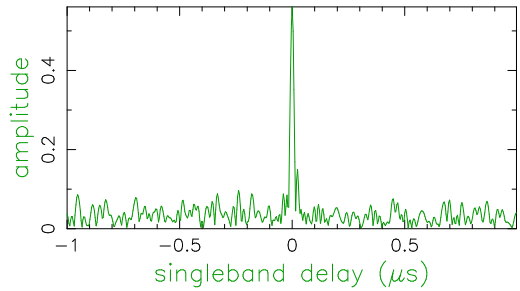
|              |      |                  |       |                        |                             |                      |                  |                  |       |
|--------------|------|------------------|-------|------------------------|-----------------------------|----------------------|------------------|------------------|-------|
| ph/seg (deg) | 55.1 | Theor.           | 34.0  | Amplitude              | 0.220 +/- 0.028             | Pcal mode:           | MANUAL, MANUAL   | PC period (AP's) | 5, 5  |
| amp/seg (%)  | 69.2 | Search (1024X32) | 0.217 | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000           | 1.000            |       |
| ph/frq (deg) | 76.2 | Interp.          | 0.000 | Bits/sample:           | 2x2                         | SampCntNorm: enabled | mb window (us)   | -0.008           | 0.008 |
| amp/frq (%)  | 54.5 | Inc. seg. avg.   | 0.250 | Sample rate (MSamp/s): | 128                         | nlags: 256           | dr window (ns/s) | -0.011           | 0.011 |
|              |      | Inc. frq. avg.   | 0.224 | Data rate (Mb/s):      | 2048                        | t_cohere infinite    | ion window (TEC) | 0.00             | 0.00  |

f: az 101.6 el 22.3 pa -57.5 k: az 97.7 el 15.7 pa -57.3 u,v (fr/asec) 268.110 -208.052 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fk..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fk.W.112.196Q8V



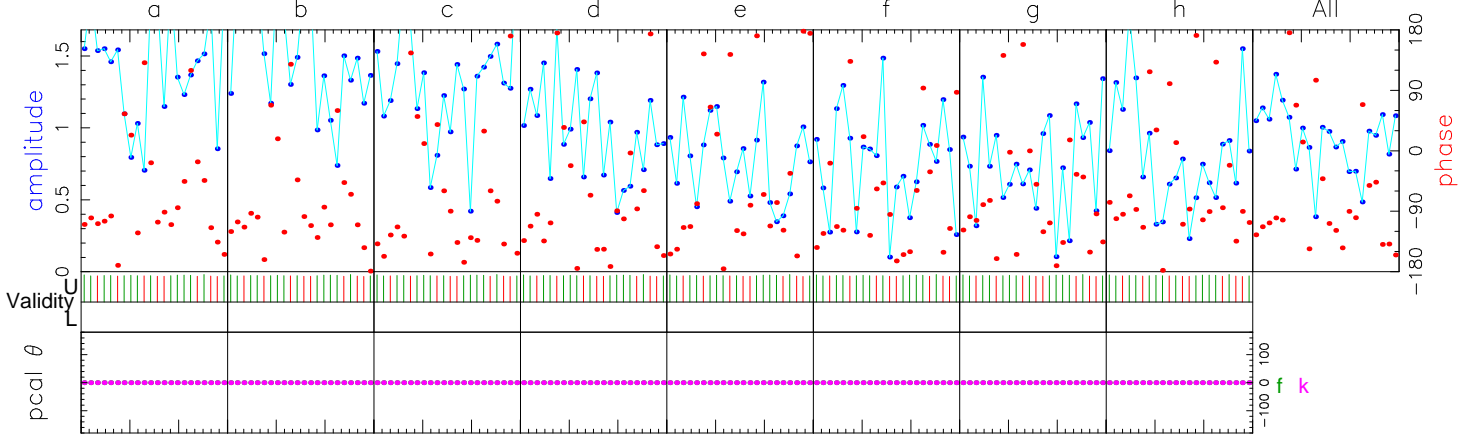
Fringe quality 9

SNR 20.1  
Int time 172.427  
Amp 0.561  
Phase -110.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.000341  
MBD -0.000024  
Fringe rate (Hz) 0.030047  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512



Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153440  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

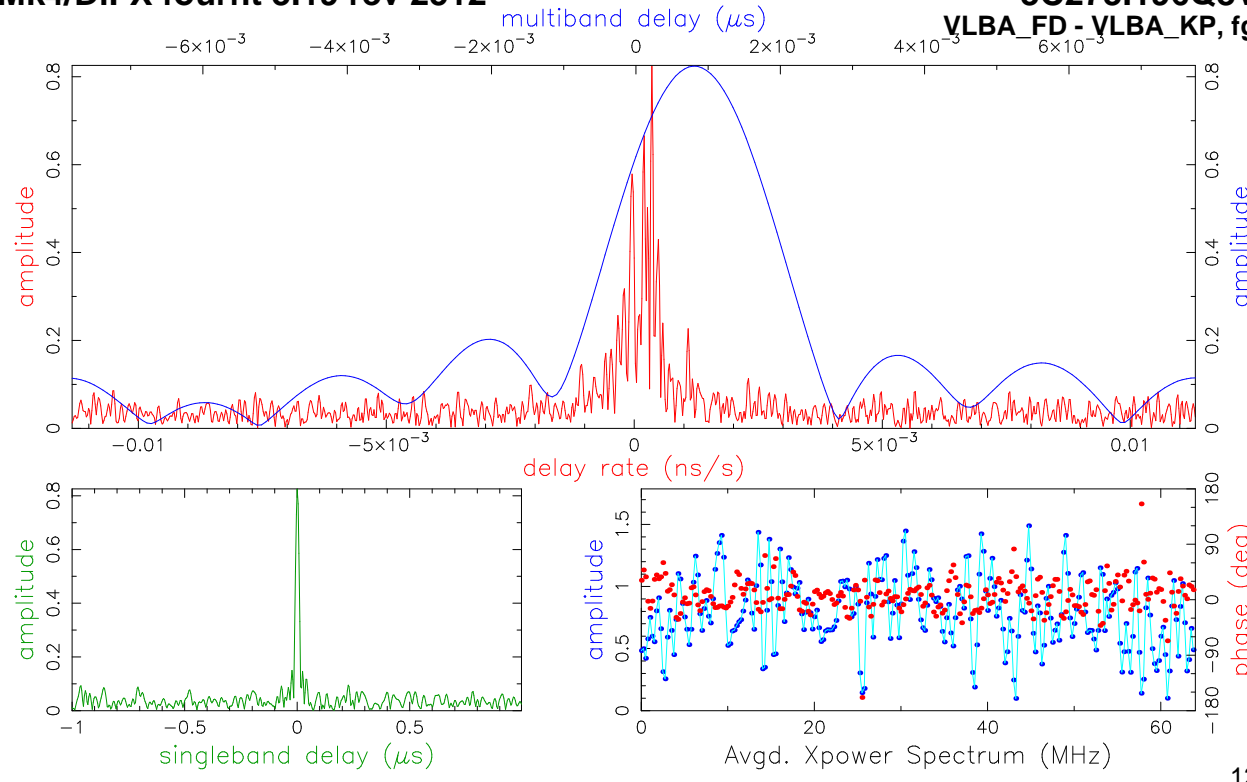


|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All    |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
|     | -98.5    | -103.1   | -126.3   | -126.9   | -137.2   | -104.8   | -104.4   | -93.0    | Phase      | -110.1 |
|     | 0.8      | 0.9      | 0.6      | 0.6      | 0.4      | 0.3      | 0.5      | 0.5      | Ampl.      | 0.6    |
|     | 257.1    | 256.5    | 257.3    | 256.7    | 256.9    | 256.5    | 257.8    | 257.0    | Sbd box    | 256.9  |
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | APs used   |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| k   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| f:k | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | PC phase   |        |
| f:k | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | Manl PC    |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC amp     |        |
| k   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |        |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Chan ids   |        |
| k   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Tracks     |        |

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.34560559888E+03  | Apriori delay (usec)     | 2.34560562258E+03  | Resid mbdelay (usec) | -2.37056E-05 | +/- | 5.4E-05 |
| Sband delay (usec)      | 2.34560528208E+03  | Apriori clock (usec)     | 4.2613487E+00      | Resid sbdelay (usec) | -3.40500E-04 | +/- | 4.3E-04 |
| Phase delay (usec)      | 2.34560561903E+03  | Apriori clockrate (us/s) | 1.0360000E-07      | Resid phdelay (usec) | -3.55090E-06 | +/- | 1.8E-07 |
| Delay rate (us/s)       | -4.79164188919E-02 | Apriori rate (us/s)      | -4.79167677064E-02 | Resid rate (us/s)    | 3.48814E-07  | +/- | 1.8E-09 |
| Total phase (deg)       | 8.4                | Apriori accel (us/s/s)   | -1.25240679872E-05 | Resid phase (deg)    | -110.1       | +/- | 5.7     |

|              |          |             |                            |                 |       |                                        |                            |                  |        |       |
|--------------|----------|-------------|----------------------------|-----------------|-------|----------------------------------------|----------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 75.4 | Theor. 13.4 | Amplitude Search (1024X32) | 0.561 +/- 0.028 | 0.548 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5      | sb window (us)   | -1.000 | 1.000 |
| amp/seg (%)  | 75.4     | 13.4        | Interp.                    | 0.000           | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled       | mb window (us)   | -0.008 | 0.008 |
| ph/frq (deg) | 17.4     | 8.1         | Inc. seg. avg.             | 0.903           | 0.903 | Bits/sample: 2x2                       | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%)  | 37.0     | 14.1        | Inc. frq. avg.             | 0.572           | 0.572 | Data rate(Mb/s): 2048                  | nlags: 256                 | ion window (TEC) | 0.00   | 0.00  |

f: az 101.6 el 22.3 pa -57.5 k: az 97.7 el 15.7 pa -57.3 u,v (fr/asec) 268.110 -208.052 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fk..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fk.W.56.196Q8V

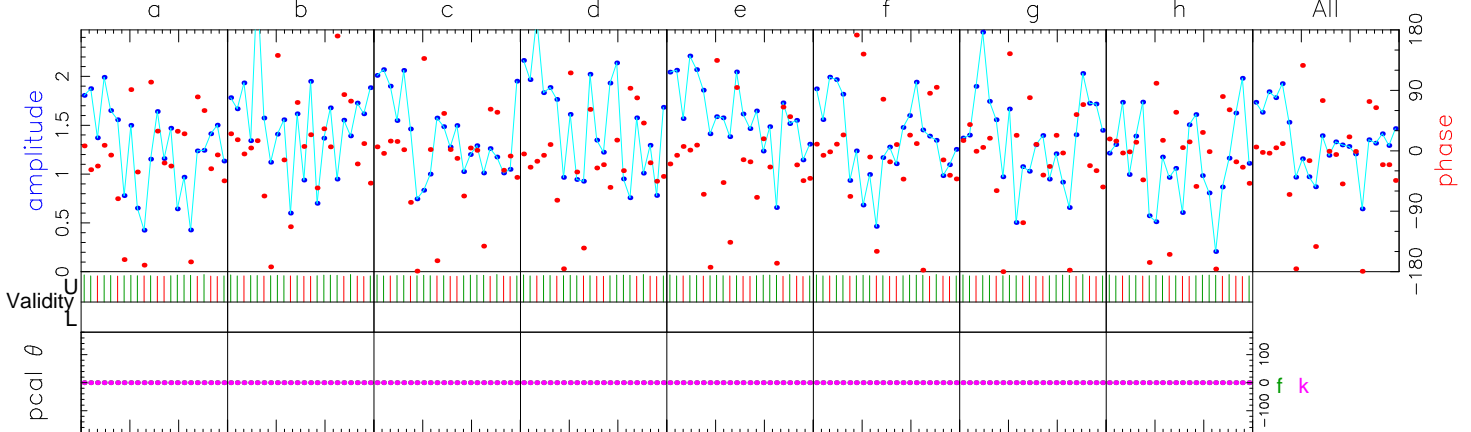


Fringe quality 7

SNR 29.6  
Int time 172.427  
Amp 0.826  
Phase 1.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.000548  
MBD 0.000824  
Fringe rate (Hz) 0.029825  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153445  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

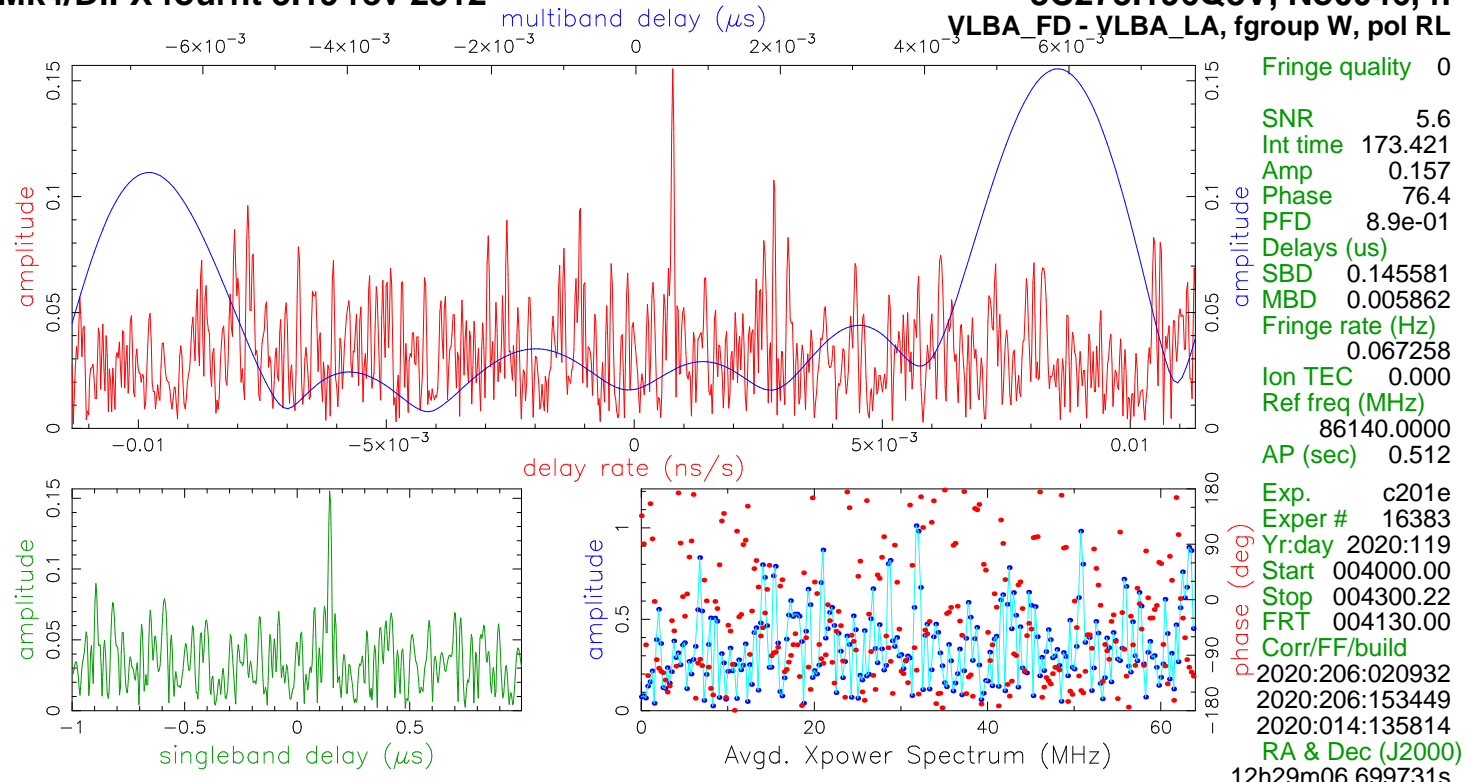
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



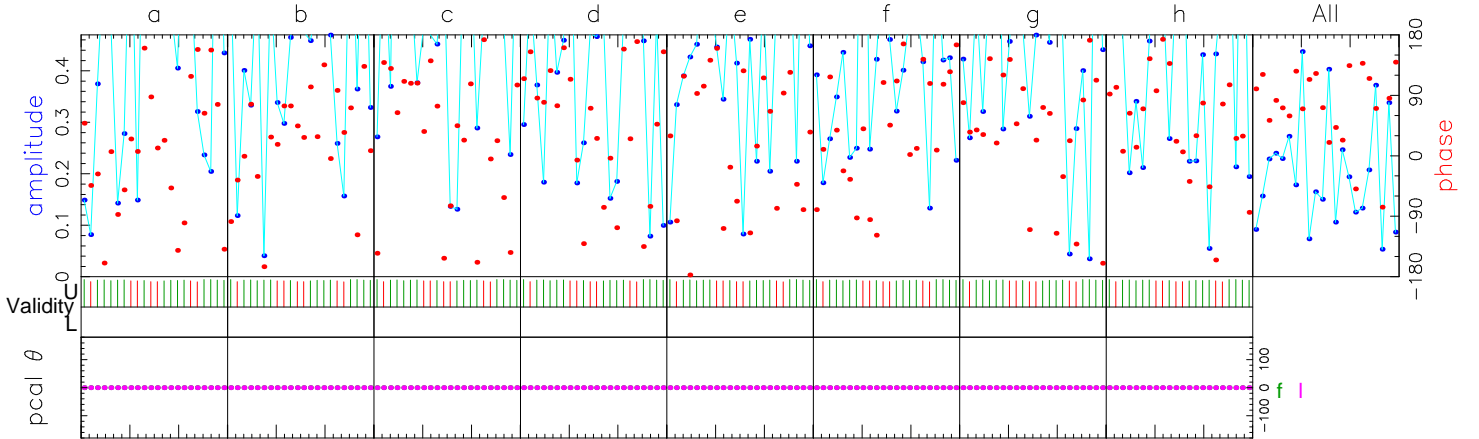
|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)  | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|-------------|-------------|
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    |             | 257.1       |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs    |             |
| k                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs    |             |
| f:k                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase    |             |
| f:k                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp      |             |
| k                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |             |             |
| f                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids    |             |
| k                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks      |             |
| Group delay (usec)(sbd) | 2.34560644613E+03  |          | Apriori delay (usec)     |          | 2.34560562258E+03  |          | Resid mbdelay (usec) |          | 8.23544E-04 | +/- 3.7E-05 |
| Sband delay (usec)      | 2.34560617058E+03  |          | Apriori clock (usec)     |          | 4.2613487E+00      |          | Resid sbdelay (usec) |          | 5.48000E-04 | +/- 2.9E-04 |
| Phase delay (usec)      | 2.34560562262E+03  |          | Apriori clockrate (us/s) |          | 1.0360000E-07      |          | Resid phdelay (usec) |          | 4.15889E-08 | +/- 1.2E-07 |
| Delay rate (us/s)       | -4.79164214654E-02 |          | Apriori rate (us/s)      |          | -4.79167677064E-02 |          | Resid rate (us/s)    |          | 3.46241E-07 | +/- 1.2E-09 |
| Total phase (deg)       | 119.8              |          | Apriori accel (us/s/s)   |          | -1.25240679872E-05 |          | Resid phase (deg)    |          | 1.3         | +/- 3.9     |

ph/seg (deg) 75.6 9.1 Search (1024X32) 0.778 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 73.6 15.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 8.4 5.5 Inc. seg. avg. 1.329 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 7.4 9.5 Inc. frq. avg. 0.827 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 k: az 97.7 el 15.7 pa -57.3 u,v (fr/asec) 268.110 -208.052 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fk..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fk.W.89.196Q8V



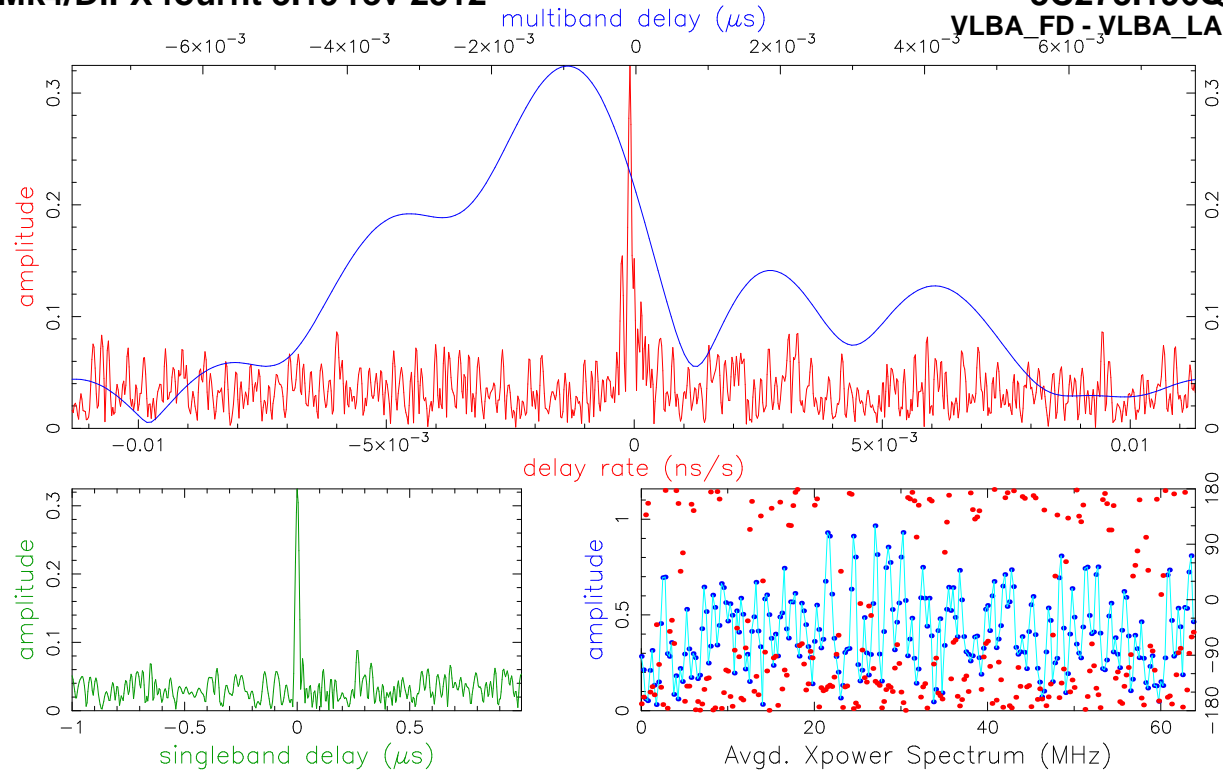


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00           | 86268.00             | 86332.00    | 86396.00 | 86460.00 | Freq (MHz) | All   |
|-------------------------|-------------------|----------|--------------------------|--------------------|----------------------|-------------|----------|----------|------------|-------|
| 49.0                    | 51.0              | 93.1     | 118.6                    | 125.1              | 49.2                 | 71.3        | 70.7     | 70.7     | Phase      | 76.4  |
| 0.1                     | 0.2               | 0.2      | 0.2                      | 0.1                | 0.1                  | 0.2         | 0.3      | 0.3      | Ampl.      | 0.2   |
| 87.8                    | 452.2             | 295.4    | 452.7                    | 262.4              | 386.1                | 51.3        | 294.1    | 294.1    | Sbd box    | 294.3 |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0              | 352/0                | 352/0       | 352/0    | 352/0    | APs used   |       |
| f                       | 1000              | 1000     | 1000                     | 1000               | 1000                 | 1000        | 1000     | 1000     | PC freqs   |       |
| l                       | 1000              | 1000     | 1000                     | 1000               | 1000                 | 1000        | 1000     | 1000     | PC freqs   |       |
| f:l                     | 0:0               | 0:0      | 0:0                      | 0:0                | 0:0                  | 0:0         | 0:0      | 0:0      | PC phase   |       |
| f:l                     | 0:0               | 0:0      | 0:0                      | 0:0                | 0:0                  | 0:0         | 0:0      | 0:0      | Manl PC    |       |
| f                       | 1000              | 1000     | 1000                     | 1000               | 1000                 | 1000        | 1000     | 1000     | PC amp     |       |
| l                       | 1000              | 1000     | 1000                     | 1000               | 1000                 | 1000        | 1000     | 1000     |            |       |
| f                       | W00UR             | W01UR    | W02UR                    | W03UR              | W04UR                | W05UR       | W06UR    | W07UR    | Chan ids   |       |
| l                       | W00UL             | W01UL    | W02UL                    | W03UL              | W04UL                | W05UL       | W06UL    | W07UL    | Tracks     |       |
|                         |                   |          |                          |                    |                      |             |          |          | Tracks     |       |
| Group delay (usec)(sbd) | 1.03172894335E+03 |          | Apriori delay (usec)     | 1.03158245602E+03  | Resid mbdelay (usec) | 5.86233E-03 | +/-      | 1.9E-04  |            |       |
| Sband delay (usec)      | 1.03172803652E+03 |          | Apriori clock (usec)     | 7.6556554E+00      | Resid sbdelay (usec) | 1.45581E-01 | +/-      | 1.5E-03  |            |       |
| Phase delay (usec)      | 1.03158245848E+03 |          | Apriori clockrate (us/s) | 2.6000000E-07      | Resid phdelay (usec) | 2.46322E-06 | +/-      | 6.6E-07  |            |       |
| Delay rate (us/s)       | 4.77924369017E-02 |          | Apriori rate (us/s)      | 4.77916561066E-02  | Resid rate (us/s)    | 7.80795E-07 | +/-      | 6.3E-09  |            |       |
| Total phase (deg)       |                   | 350.4    | Apriori accel (us/s/s)   | -5.73107607359E-06 | Resid phase (deg)    | 76.4        | +/-      | 20.4     |            |       |

|              | RMS  | Theor. | Amplitude        | 0.157 +/- 0.028 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 56.2 | 47.7   | Search (1024X32) | 0.151           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.008 | 0.008 |
| amp/seg (%)  | 73.8 | 83.3   | Interp.          | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| ph/frq (deg) | 33.2 | 28.8   | Inc. seg. avg.   | 0.152           | Sample rate(MISamp/s): 128             |                       | ion window (TEC)  | 0.00   | 0.00  |
| amp/frq (%)  | 46.8 | 50.2   | Inc. frq. avg.   | 0.152           | Data rate(Mb/s): 2048                  | nlags: 256            | t_cohere infinite |        |       |

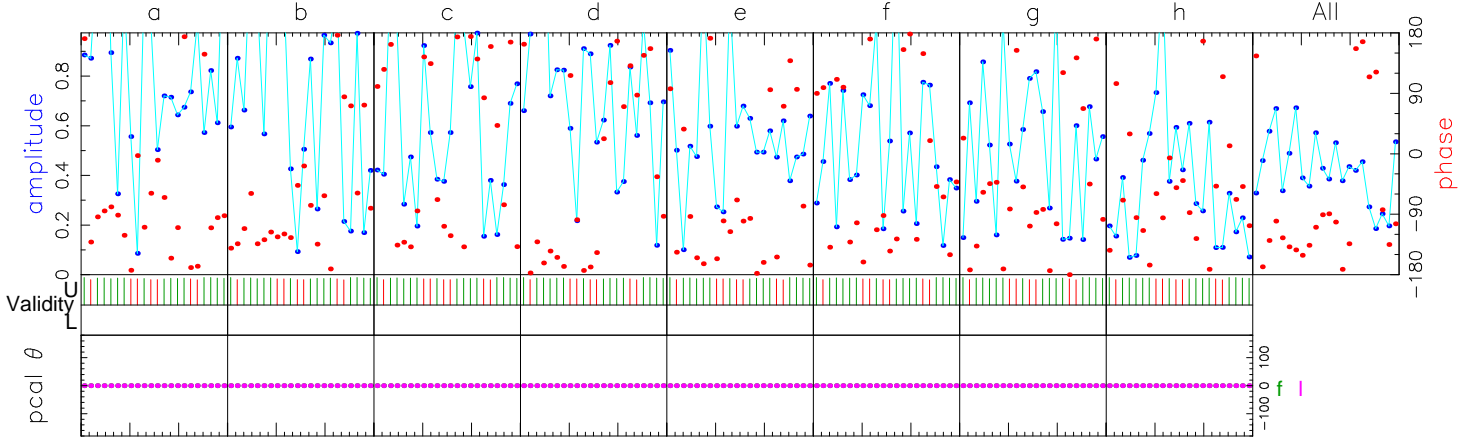


Fringe quality 9

SNR 11.7  
Int time 173.421  
Amp 0.325  
Phase -136.3  
PFD 3.4e-23  
Delays (us)  
SBD 0.000567  
MBD -0.000930  
Fringe rate (Hz)  
-0.007464  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153441  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



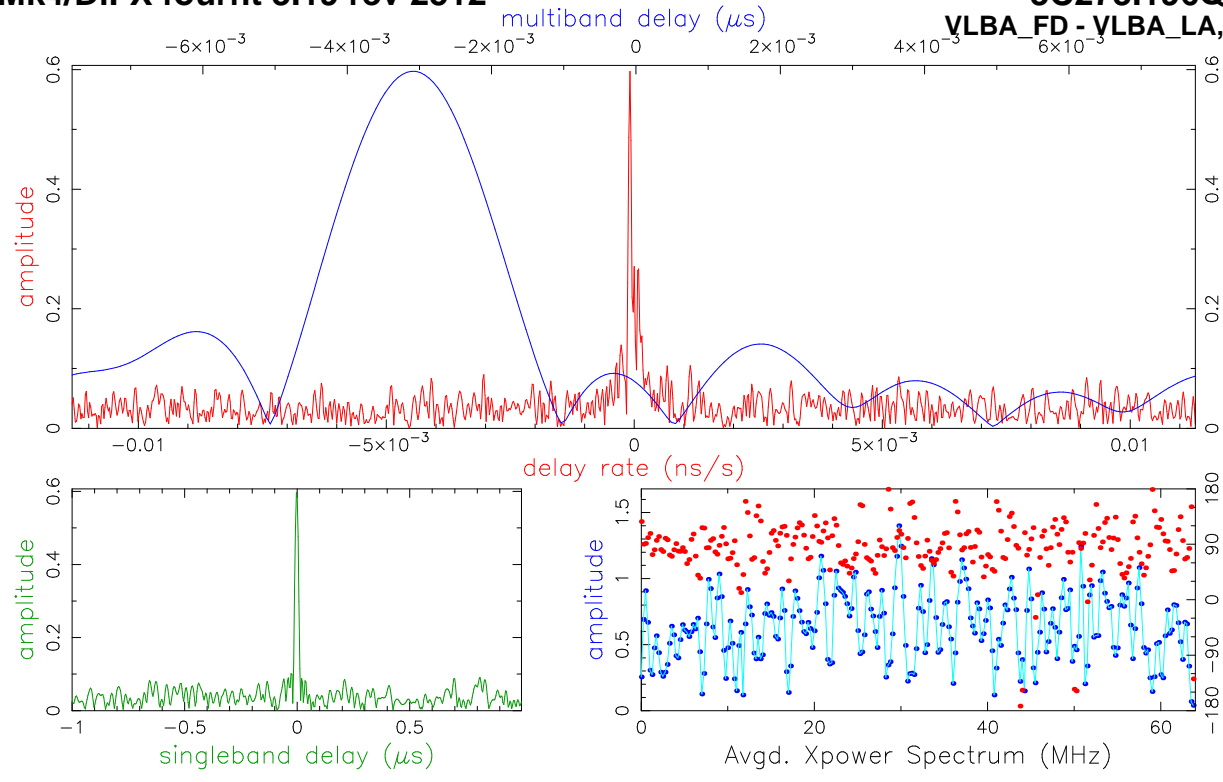
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All    |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
|     | -113.8   | -111.4   | -175.3   | 178.5    | -155.2   | -152.5   | -108.5   | -88.8    | Phase      | -136.3 |
|     | 0.6      | 0.5      | 0.4      | 0.5      | 0.3      | 0.2      | 0.3      | 0.2      | Ampl.      | 0.4    |
|     | 257.1    | 256.0    | 256.9    | 256.7    | 257.6    | 258.1    | 257.2    | 258.6    | Sbd box    | 257.1  |
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | APs used   |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| l   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| f:l | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | PC phase   |        |
| f:l | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | Manl PC    |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC amp     |        |
| l   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |        |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Chan ids   |        |
| l   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Tracks     |        |

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.03158152619E+03 | Apriori delay (usec)     | 1.03158245602E+03  | Resid mbdelay (usec) | -9.29824E-04 | +/- | 9.3E-05 |
| Sband delay (usec)      | 1.03158302252E+03 | Apriori clock (usec)     | 7.6556554E+07      | Resid sbdelay (usec) | 5.66500E-04  | +/- | 7.4E-04 |
| Phase delay (usec)      | 1.03158245162E+03 | Apriori clockrate (us/s) | 2.6000000E-07      | Resid phdelay (usec) | -4.39673E-06 | +/- | 3.2E-07 |
| Delay rate (us/s)       | 4.77915694599E-02 | Apriori rate (us/s)      | 4.77916561066E-02  | Resid rate (us/s)    | -8.66467E-08 | +/- | 3.0E-09 |
| Total phase (deg)       | 137.7             | Apriori accel (us/s/s)   | -5.73107607359E-06 | Resid phase (deg)    | -136.3       | +/- | 9.8     |

|              | RMS  | Theor. | Amplitude        | 0.325 +/- 0.028 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)    | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 47.8 | 23.0   | Search (1024X32) | 0.323           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                       | mb window (us)    | -0.008 | 0.008 |
| amp/seg (%)  | 51.2 | 40.1   | Interp.          | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled  | dr window (ns/s)  | -0.011 | 0.011 |
| ph/frq (deg) | 37.3 | 13.9   | Inc. seg. avg.   | 0.392           | Sample rate(MISamp/s): 128             |                       | ion window (TEC)  | 0.00   | 0.00  |
| amp/frq (%)  | 45.8 | 24.2   | Inc. frq. avg.   | 0.370           | Data rate(Mb/s): 2048                  | nlags: 256            | t_cohere infinite |        |       |

f: az 101.6 el 22.3 pa -57.5      l: az 102.1 el 19.4 pa -52.5      u,v (fr/asec) -276.971 -679.492      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c201e/v1/1234/No0046/fl..196Q8V    Output file: /Exps/c201e/v1/1234/No0046/fl.W.60.196Q8V

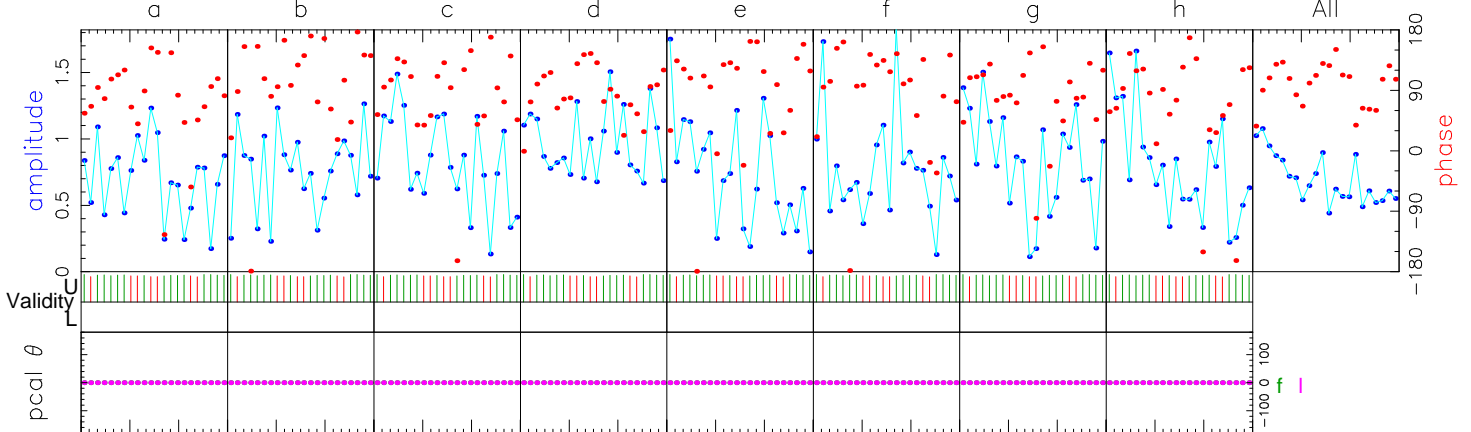


Fringe quality 9

SNR 21.9  
Int time 173.421  
Amp 0.607  
Phase 98.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.002252  
MBD -0.003045  
Fringe rate (Hz)  
-0.007339  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153445  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

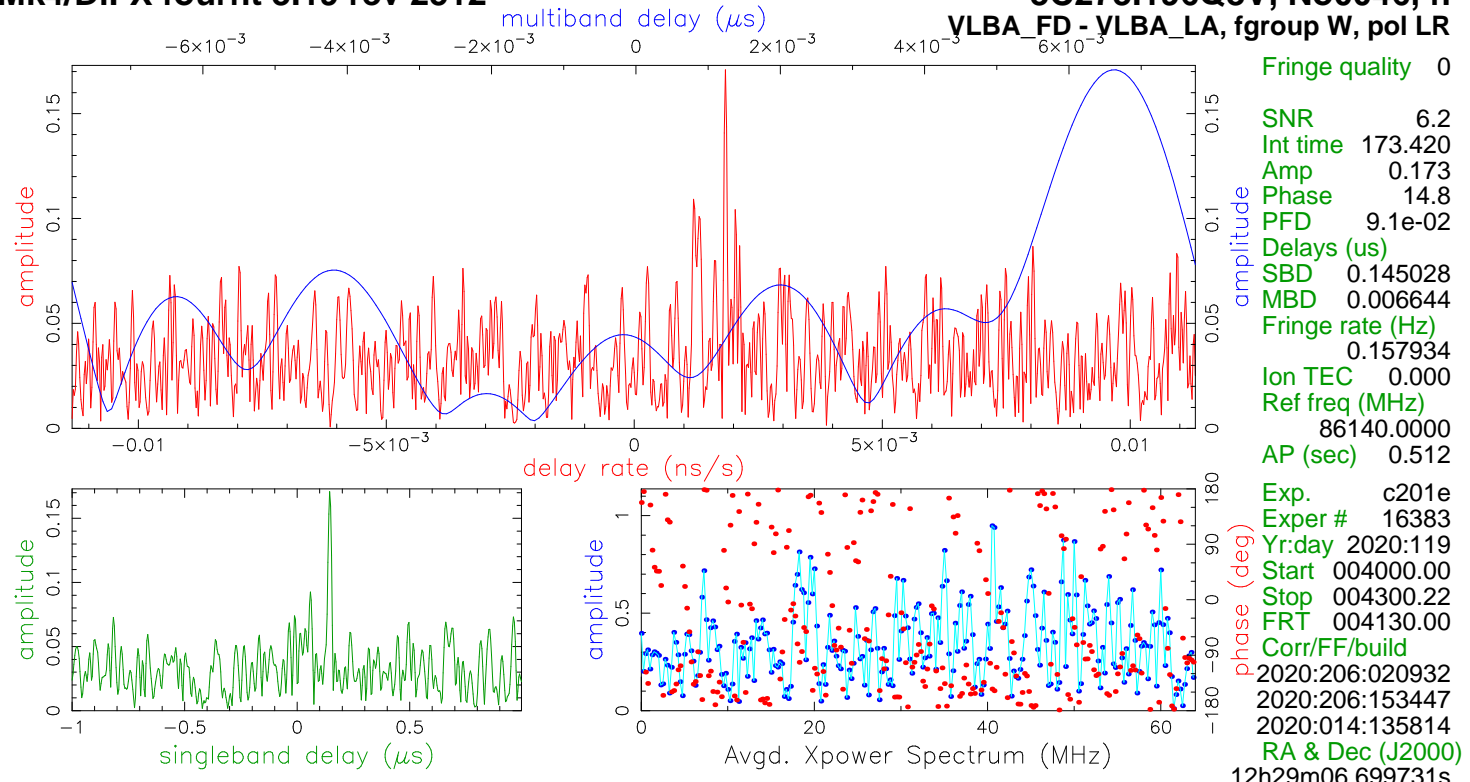
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



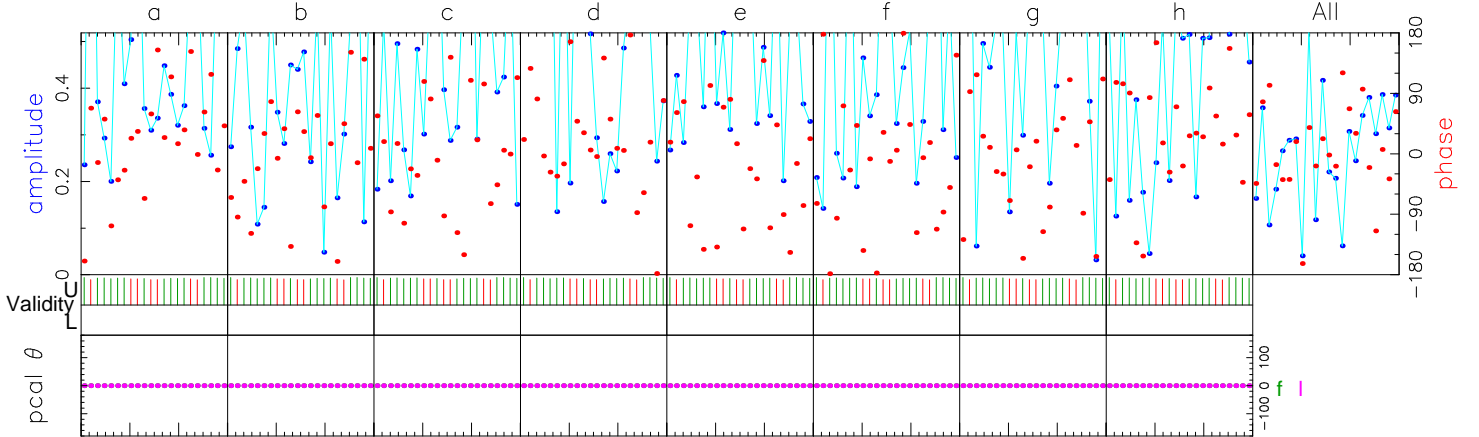
|                         | 86012.00 | 86076.00          | 86140.00                  | 86204.00                               | 86268.00                  | 86332.00              | 86396.00         | 86460.00 | Freq (MHz)           | All          |             |
|-------------------------|----------|-------------------|---------------------------|----------------------------------------|---------------------------|-----------------------|------------------|----------|----------------------|--------------|-------------|
| U/L                     | 352/0    | 352/0             | 352/0                     | 352/0                                  | 352/0                     | 352/0                 | 352/0            | 352/0    |                      |              |             |
| f                       | 1000     | 1000              | 1000                      | 1000                                   | 1000                      | 1000                  | 1000             | 1000     |                      |              |             |
| l                       | 1000     | 1000              | 1000                      | 1000                                   | 1000                      | 1000                  | 1000             | 1000     |                      |              |             |
| f:l                     | 0:0      | 0:0               | 0:0                       | 0:0                                    | 0:0                       | 0:0                   | 0:0              | 0:0      |                      |              |             |
| f:l                     | 0:0      | 0:0               | 0:0                       | 0:0                                    | 0:0                       | 0:0                   | 0:0              | 0:0      |                      |              |             |
| f                       | 1000     | 1000              | 1000                      | 1000                                   | 1000                      | 1000                  | 1000             | 1000     |                      |              |             |
| l                       | 1000     | 1000              | 1000                      | 1000                                   | 1000                      | 1000                  | 1000             | 1000     |                      |              |             |
| f                       | W00UR    | W01UR             | W02UR                     | W03UR                                  | W04UR                     | W05UR                 | W06UR            | W07UR    |                      |              |             |
| l                       | W00UR    | W01UR             | W02UR                     | W03UR                                  | W04UR                     | W05UR                 | W06UR            | W07UR    |                      |              |             |
| Group delay (usec)(sbd) |          | 1.03157941097E+03 |                           |                                        | 1.03158245602E+03         |                       |                  |          | Resid mbdelay (usec) | -3.04504E-03 | +/- 5.0E-05 |
| Sband delay (usec)      |          | 1.03158020402E+03 |                           |                                        | 7.6556554E+00             |                       |                  |          | Resid sbdelay (usec) | -2.25200E-03 | +/- 3.9E-04 |
| Phase delay (usec)      |          | 1.03158245918E+03 |                           |                                        | 2.6000000E-07             |                       |                  |          | Resid phdelay (usec) | 3.16606E-06  | +/- 1.7E-07 |
| Delay rate (us/s)       |          | 4.77915709096E-02 |                           |                                        | 4.77916561066E-02         |                       |                  |          | Resid rate (us/s)    | -8.51970E-08 | +/- 1.6E-09 |
| Total phase (deg)       |          |                   | 12.2                      |                                        | -5.73107607359E-06        |                       |                  |          | Resid phase (deg)    | 98.2         | +/- 5.2     |
| ph/seg (deg)            | RMS 30.9 | Theor. 12.3       | Amplitude 0.607 +/- 0.028 | Search (1024X32) 0.588                 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |                  |          | sb window (us)       | -1.000       | 1.000       |
| amp/seg (%)             | 33.4     | 21.5              | Interp. 0.000             | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled      | mb window (us)        | -0.008           | 0.008    | dr window (ns/s)     | -0.011       | 0.011       |
| ph/frq (deg)            | 12.8     | 7.4               | Inc. seg. avg. 0.685      | Sample rate(MISamp/s): 128             | nlags: 256                | t_cohere infinite     | ion window (TEC) | 0.00     | 0.00                 |              |             |
| amp/frq (%)             | 13.9     | 12.9              | Inc. frq. avg. 0.603      | Data rate(Mb/s): 2048                  |                           |                       |                  |          |                      |              |             |

f: az 101.6 el 22.3 pa -57.5      l: az 102.1 el 19.4 pa -52.5      u,v (fr/asec) -276.971 -679.492      simultaneous interpolator

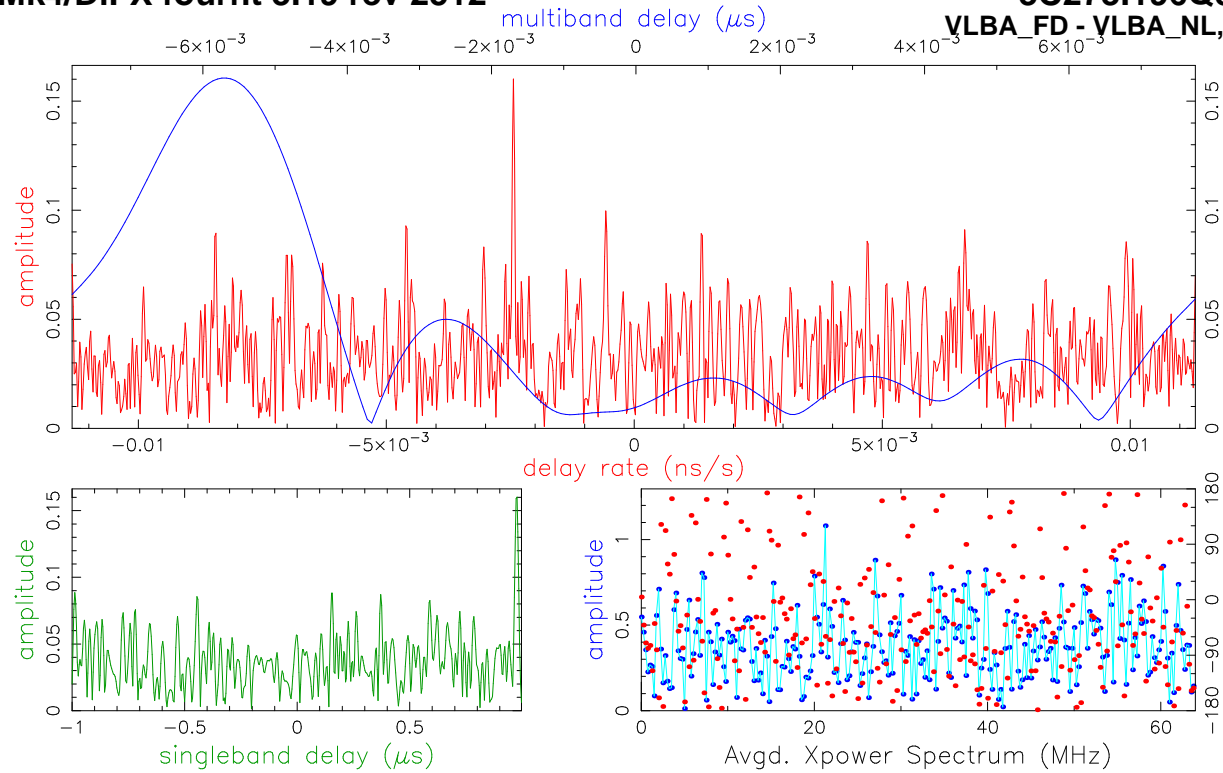
Control file: cf\_1234\_gmva      Input file: /Exps/c201e/v1/1234/No0046/fl..196Q8V      Output file: /Exps/c201e/v1/1234/No0046/fl.W.86.196Q8V



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

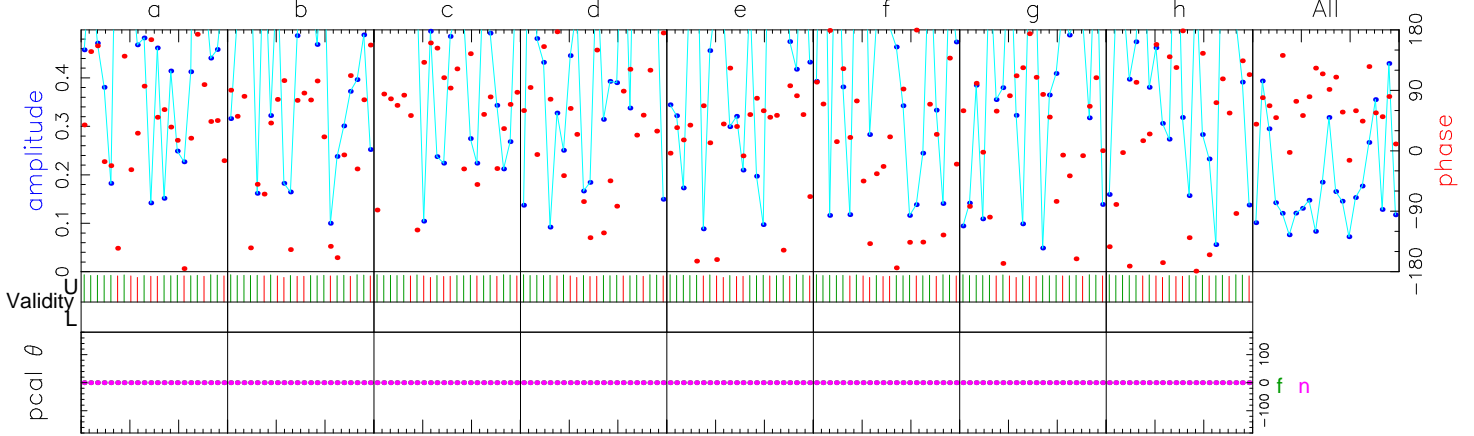


|                              | 86012.00          | 86076.00                     | 86140.00                 | 86204.00                        | 86268.00                               | 86332.00             | 86396.00          | 86460.00         | Freq (MHz) | All                       |
|------------------------------|-------------------|------------------------------|--------------------------|---------------------------------|----------------------------------------|----------------------|-------------------|------------------|------------|---------------------------|
| 30.8                         | 10.2              | 15.3                         | 9.6                      | -3.6                            | -49.9                                  | 16.2                 | 38.9              |                  | Phase      | 14.8                      |
| 0.3                          | 0.2               | 0.1                          | 0.3                      | 0.1                             | 0.2                                    | 0.1                  | 0.2               |                  | Ampl.      | 0.2                       |
| 295.0                        | 121.5             | 438.7                        | 293.9                    | 425.1                           | 440.2                                  | 136.2                | 165.5             |                  | Sbd box    | 294.1                     |
| U/L 352/0                    | 352/0             | 352/0                        | 352/0                    | 352/0                           | 352/0                                  | 352/0                | 352/0             |                  | APs used   |                           |
| f 1000                       | 1000              | 1000                         | 1000                     | 1000                            | 1000                                   | 1000                 | 1000              |                  | PC freqs   |                           |
| l 1000                       | 1000              | 1000                         | 1000                     | 1000                            | 1000                                   | 1000                 | 1000              |                  | PC phase   |                           |
| f:l 0:0                      | 0:0               | 0:0                          | 0:0                      | 0:0                             | 0:0                                    | 0:0                  | 0:0               |                  | Manl PC    |                           |
| f:l 0:0                      | 0:0               | 0:0                          | 0:0                      | 0:0                             | 0:0                                    | 0:0                  | 0:0               |                  | PC amp     |                           |
| f 1000                       | 1000              | 1000                         | 1000                     | 1000                            | 1000                                   | 1000                 | 1000              |                  | Chan ids   |                           |
| l 1000                       | 1000              | 1000                         | 1000                     | 1000                            | 1000                                   | 1000                 | 1000              |                  | Tracks     |                           |
| f W00UL                      | W01UL             | W02UL                        | W03UL                    | W04UL                           | W05UL                                  | W06UL                | W07UL             |                  | Chan ids   |                           |
| l W00UR                      | W01UR             | W02UR                        | W03UR                    | W04UR                           | W05UR                                  | W06UR                | W07UR             |                  | Tracks     |                           |
| Group delay (usec)(sbd)      | 1.03172972501E+03 |                              | Apriori delay (usec)     | 1.03158245602E+03               | Resid mbdelay (usec)                   | 6.64400E-03          | +/-               | 1.8E-04          |            |                           |
| Sband delay (usec)           | 1.03172748402E+03 |                              | Apriori clock (usec)     | 7.6556554E+00                   | Resid sbdelay (usec)                   | 1.45028E-01          | +/-               | 1.4E-03          |            |                           |
| Phase delay (usec)           | 1.03158245649E+03 |                              | Apriori clockrate (us/s) | 2.6000000E-07                   | Resid phdelay (usec)                   | 4.76450E-07          | +/-               | 6.0E-07          |            |                           |
| Delay rate (us/s)            | 4.77934895604E-02 |                              | Apriori rate (us/s)      | 4.77916561066E-02               | Resid rate (us/s)                      | 1.83345E-06          | +/-               | 5.8E-09          |            |                           |
| Total phase (deg)            |                   | 288.8                        | Apriori accel (us/s/s)   | -5.73107607359E-06              | Resid phase (deg)                      | 14.8                 | +/-               | 18.6             |            |                           |
| RMS                          | Theor.            | Amplitude                    | 0.173 +/- 0.028          | Pcal mode: MANUAL, MANUAL       | PC period (AP's)                       | 5, 5                 |                   |                  |            |                           |
| ph/seg (deg)                 | 67.6              | 43.6                         | Search (1024X32)         | 0.168                           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000            | 1.000            |            |                           |
| amp/seg (%)                  | 89.9              | 76.1                         | Interp.                  | 0.000                           | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.008           | 0.008      |                           |
| ph/frq (deg)                 | 30.0              | 26.3                         | Inc. seg. avg.           | 0.210                           | Sample rate(MISamp/s): 128             | dr window (ns/s)     | -0.011            | 0.011            |            |                           |
| amp/frq (%)                  | 37.3              | 45.9                         | Inc. frq. avg.           | 0.168                           | Data rate(Mb/s): 2048                  | nlags: 256           | t_cohere infinite | ion window (TEC) | 0.00       | 0.00                      |
| f: az 101.6 el 22.3 pa -57.5 |                   | l: az 102.1 el 19.4 pa -52.5 |                          | u,v (fr/asec) -276.971 -679.492 |                                        |                      |                   |                  |            | simultaneous interpolator |



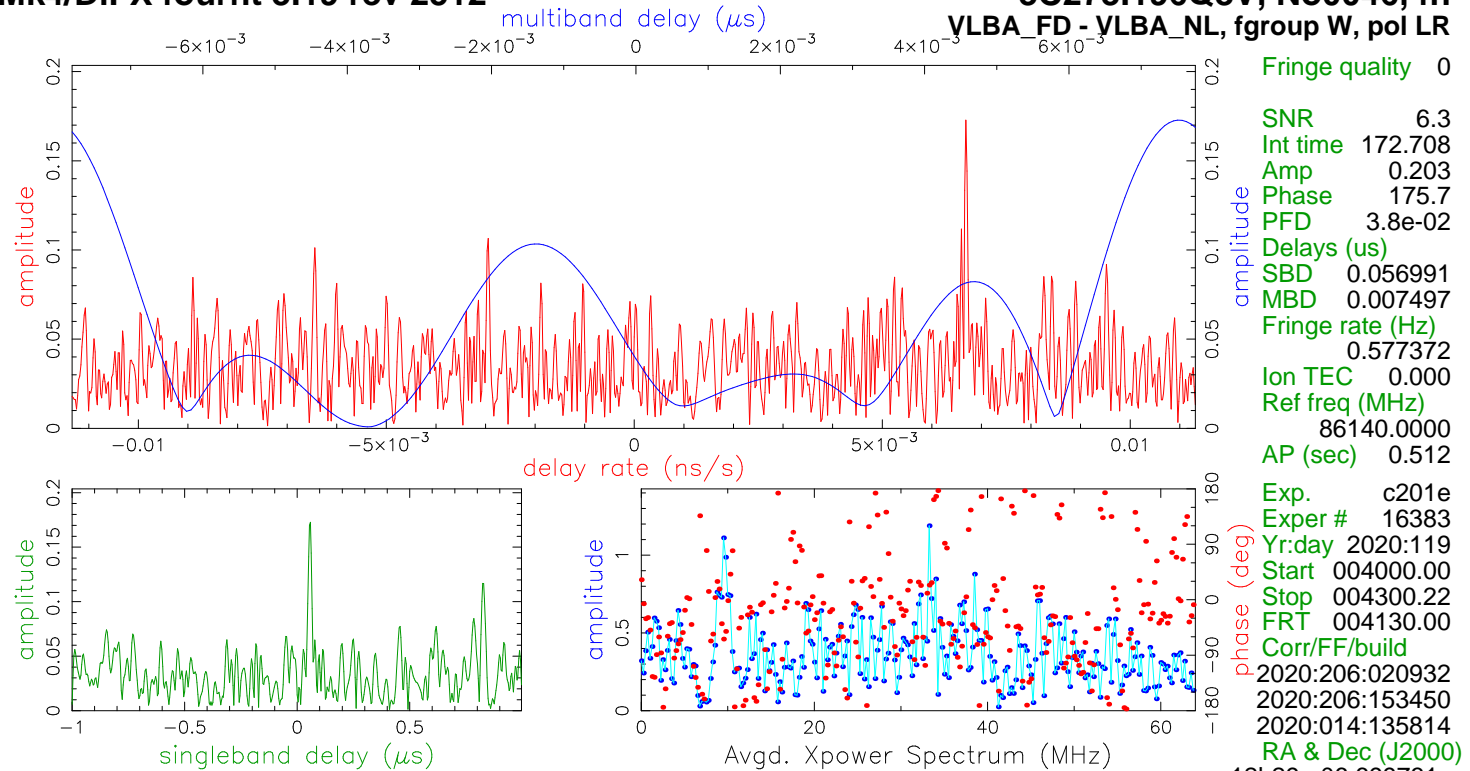
Fringe quality 0  
SNR 5.9  
Int time 172.708  
Amp 0.166  
Phase 74.3  
PFD 4.3e-01  
Delays (us)  
SBD 0.974746  
MBD -0.005802  
Fringe rate (Hz)  
-0.209508  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153448  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00 | 86076.00           | 86140.00 | 86204.00 | 86268.00 | 86332.00           | 86396.00 | 86460.00 | Freq (MHz)           | All                      |
|-------------------------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------------------|--------------------------|
| U/L                     | 352/0    | 352/0              | 352/0    | 352/0    | 352/0    | 352/0              | 352/0    | 352/0    |                      |                          |
| f                       | 1000     | 1000               | 1000     | 1000     | 1000     | 1000               | 1000     | 1000     |                      |                          |
| n                       | 1000     | 1000               | 1000     | 1000     | 1000     | 1000               | 1000     | 1000     |                      |                          |
| f:n                     | 0:0      | 0:0                | 0:0      | 0:0      | 0:0      | 0:0                | 0:0      | 0:0      |                      |                          |
| f:n                     | 0:0      | 0:0                | 0:0      | 0:0      | 0:0      | 0:0                | 0:0      | 0:0      |                      |                          |
| f                       | 1000     | 1000               | 1000     | 1000     | 1000     | 1000               | 1000     | 1000     |                      |                          |
| n                       | 1000     | 1000               | 1000     | 1000     | 1000     | 1000               | 1000     | 1000     |                      |                          |
| f                       | W00UR    | W01UR              | W02UR    | W03UR    | W04UR    | W05UR              | W06UR    | W07UR    |                      |                          |
| n                       | W00UR    | W01UR              | W02UR    | W03UR    | W04UR    | W05UR              | W06UR    | W07UR    |                      |                          |
| Group delay (usec)(sbd) |          | -2.01536410101E+03 |          |          |          | -2.01634267395E+03 |          |          | Resid mbdelay (usec) | -5.80206E-03 +/- 1.9E-04 |
| Sband delay (usec)      |          | -2.01536792795E+03 |          |          |          | -2.8413742E+01     |          |          | Resid sbdelay (usec) | 9.74746E-01 +/- 1.5E-03  |
| Phase delay (usec)      |          | -2.01634267156E+03 |          |          |          | -2.2499998E-07     |          |          | Resid phdelay (usec) | 2.39522E-06 +/- 6.3E-07  |
| Delay rate (us/s)       |          | 2.90885460218E-01  |          |          |          | 2.90887892401E-01  |          |          | Resid rate (us/s)    | -2.43218E-06 +/- 6.1E-09 |
| Total phase (deg)       |          |                    | -262.1   |          |          | 9.97279012004E-06  |          |          | Resid phase (deg)    | 74.3 +/- 19.5            |

ph/seg (deg) 40.1 45.8  
amp/seg (%) 65.2 80.0  
ph/frq (deg) 27.2 27.6  
amp/frq (%) 30.2 48.2  
f: az 101.6 el 22.3 pa -57.5  
n: az 115.5 el 28.3 pa -42.4  
u,v (fr/asec) -1662.145 -1357.815  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fn...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fn.W.106.196Q8V



Fringe quality 0

SNR 6.3

Int time 172.708

Amp 0.203

Phase 175.7

PFD 3.8e-02

Delays (us)

SBD 0.056991

MBD 0.007497

Fringe rate (Hz)

0.577372

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c201e

Exper # 16383

Yr:day 2020:119

Start 004000.00

Stop 004300.22

FRT 004130.00

Corr/FF/build

2020:206:020932

2020:206:153450

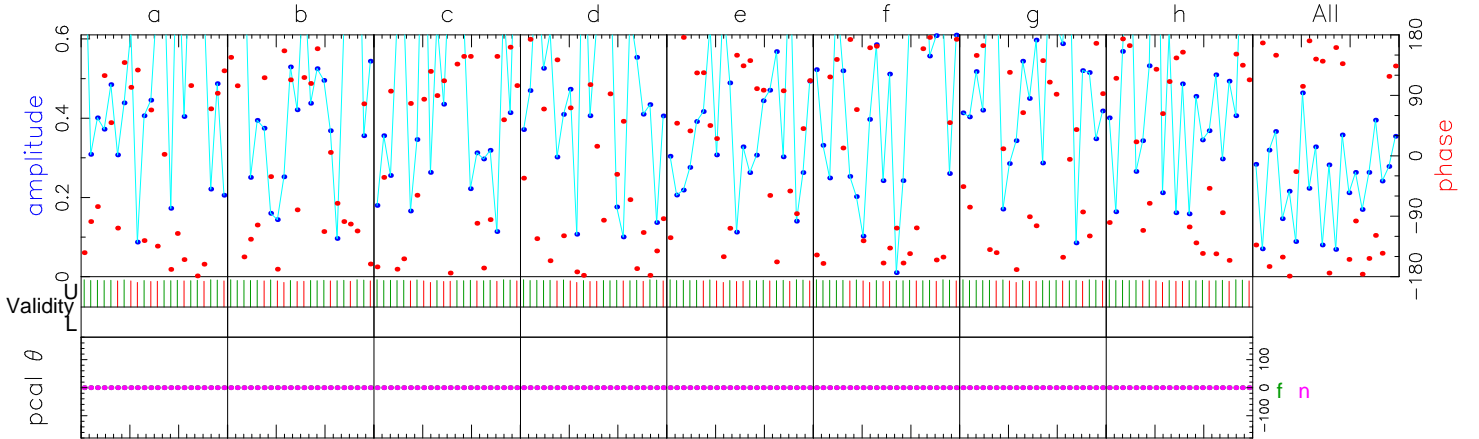
2020:014:135814

RA & Dec (J2000)

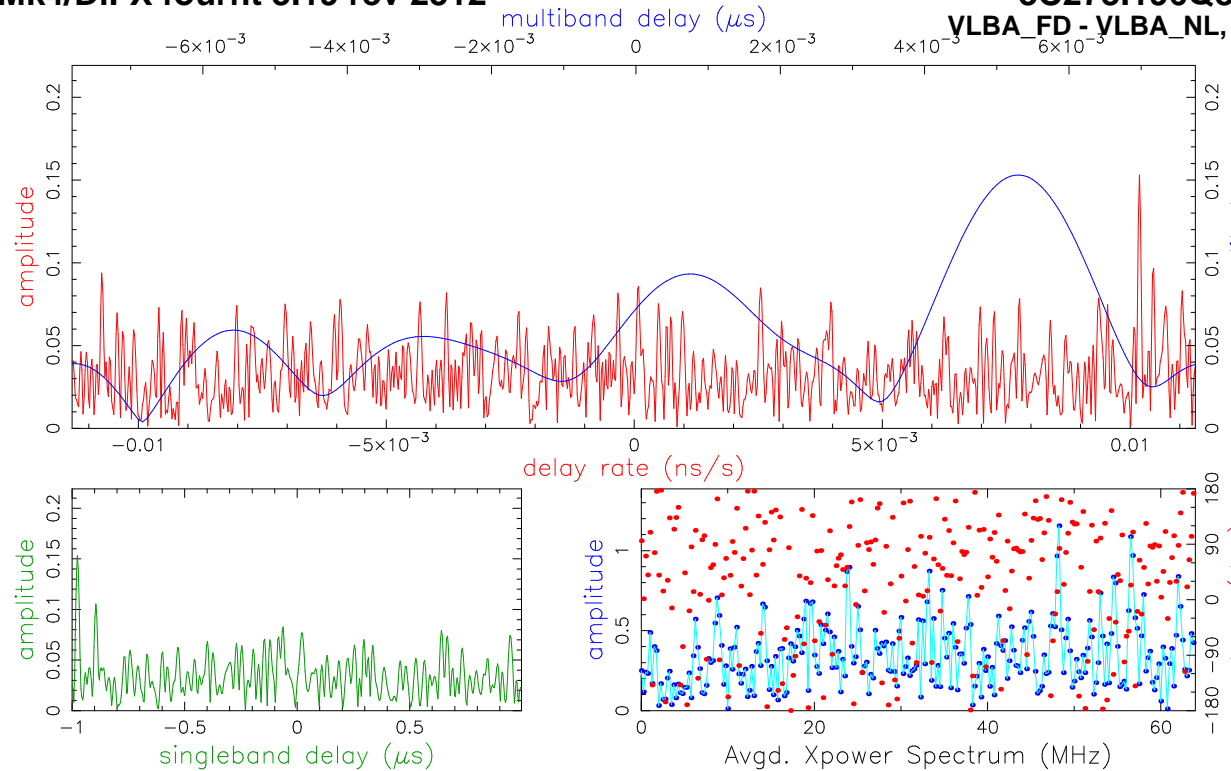
12h29m06.699731s

+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

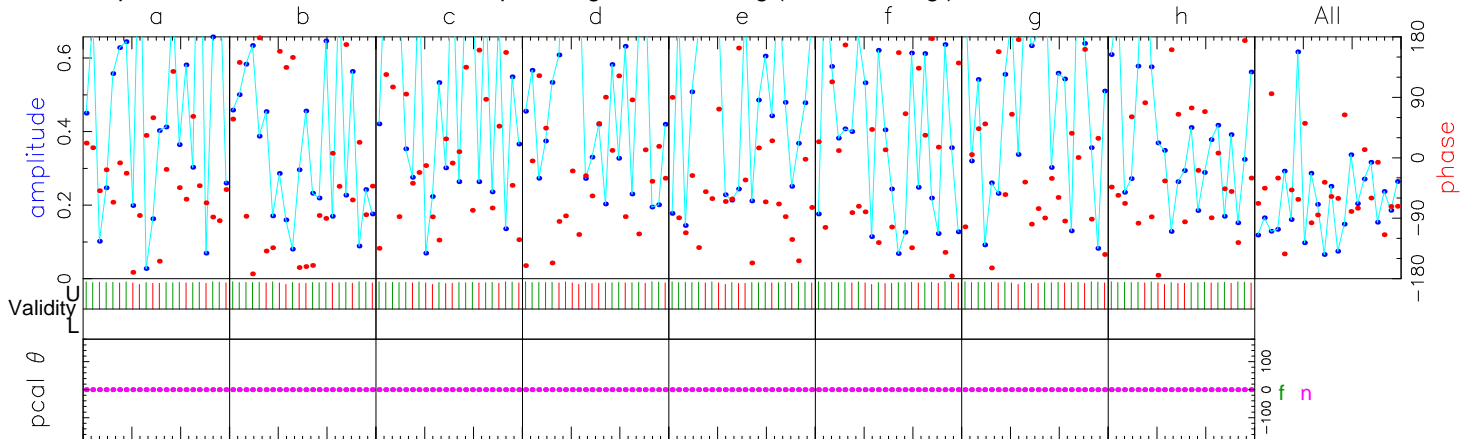


|                                        | 86012.00           | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|----------------------------------------|--------------------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L                                    | 352/0              | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f                                      | 1000               | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n                                      | 1000               | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:n                                    | 0:0                | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f:n                                    | 0:0                | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f                                      | 1000               | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n                                      | 1000               | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f                                      | W00UL              | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |
| n                                      | W00UR              | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    |            |     |
| Group delay (usec)(sbd)                | -2.01628830147E+03 |          |          |          |          |          |          |          |            |     |
| Sband delay (usec)                     | -2.01628568270E+03 |          |          |          |          |          |          |          |            |     |
| Phase delay (usec)                     | -2.01634266829E+03 |          |          |          |          |          |          |          |            |     |
| Delay rate (us/s)                      | 2.90894595120E-01  |          |          |          |          |          |          |          |            |     |
| Total phase (deg)                      |                    |          | -160.7   |          |          |          |          |          |            |     |
| Apriori delay (usec)                   |                    |          |          |          |          |          |          |          |            |     |
| Apriori clock (usec)                   |                    |          |          |          |          |          |          |          |            |     |
| Apriori clockrate (us/s)               |                    |          |          |          |          |          |          |          |            |     |
| Apriori rate (us/s)                    |                    |          |          |          |          |          |          |          |            |     |
| Apriori accel (us/s/s)                 |                    |          |          |          |          |          |          |          |            |     |
| Resid mbdelay (usec)                   |                    |          |          |          |          |          |          |          |            |     |
| Resid sbdelay (usec)                   |                    |          |          |          |          |          |          |          |            |     |
| Resid phdelay (usec)                   |                    |          |          |          |          |          |          |          |            |     |
| Resid rate (us/s)                      |                    |          |          |          |          |          |          |          |            |     |
| Resid phase (deg)                      |                    |          |          |          |          |          |          |          |            |     |
| Pcal mode: MANUAL, MANUAL              |                    |          |          |          |          |          |          |          |            |     |
| Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                    |          |          |          |          |          |          |          |            |     |
| Bits/sample: 2x2                       |                    |          |          |          |          |          |          |          |            |     |
| Sample rate(MISamp/s): 128             |                    |          |          |          |          |          |          |          |            |     |
| Data rate(Mb/s): 2048                  |                    |          |          |          |          |          |          |          |            |     |
| PC period (AP's) 5, 5                  |                    |          |          |          |          |          |          |          |            |     |
| sb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| mb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| dr window (ns/s)                       |                    |          |          |          |          |          |          |          |            |     |
| ion window (TEC)                       |                    |          |          |          |          |          |          |          |            |     |
| pcal $\theta$                          |                    |          |          |          |          |          |          |          |            |     |
| pcal mode: MANUAL, MANUAL              |                    |          |          |          |          |          |          |          |            |     |
| PC period (AP's) 5, 5                  |                    |          |          |          |          |          |          |          |            |     |
| sb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| mb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| dr window (ns/s)                       |                    |          |          |          |          |          |          |          |            |     |
| ion window (TEC)                       |                    |          |          |          |          |          |          |          |            |     |
| amplitude                              | 52.8               | 42.6     |          |          |          |          |          |          |            |     |
| amp/seg (%)                            | 74.3               | 74.4     |          |          |          |          |          |          |            |     |
| ph/frq (deg)                           | 32.5               | 25.7     |          |          |          |          |          |          |            |     |
| amp/frq (%)                            | 43.1               | 44.8     |          |          |          |          |          |          |            |     |
| Search (1024X32)                       |                    |          |          |          |          |          |          |          |            |     |
| Inc. seg. avg.                         |                    |          |          |          |          |          |          |          |            |     |
| Inc. frq. avg.                         |                    |          |          |          |          |          |          |          |            |     |
| 0.203 +/- 0.032                        |                    |          |          |          |          |          |          |          |            |     |
| 0.169                                  |                    |          |          |          |          |          |          |          |            |     |
| 0.000                                  |                    |          |          |          |          |          |          |          |            |     |
| 0.226                                  |                    |          |          |          |          |          |          |          |            |     |
| 0.200                                  |                    |          |          |          |          |          |          |          |            |     |
| PC period (AP's) 5, 5                  |                    |          |          |          |          |          |          |          |            |     |
| sb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| mb window (us)                         |                    |          |          |          |          |          |          |          |            |     |
| dr window (ns/s)                       |                    |          |          |          |          |          |          |          |            |     |
| ion window (TEC)                       |                    |          |          |          |          |          |          |          |            |     |
| simultaneous interpolator              |                    |          |          |          |          |          |          |          |            |     |



Fringe quality 0  
SNR 5.5  
Int time 172.707  
Amp 0.219  
Phase -63.7  
PFD 9.9e-01  
Delays (us)  
SBD -0.976183  
MBD 0.005308  
Fringe rate (Hz)  
0.878776  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153503  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



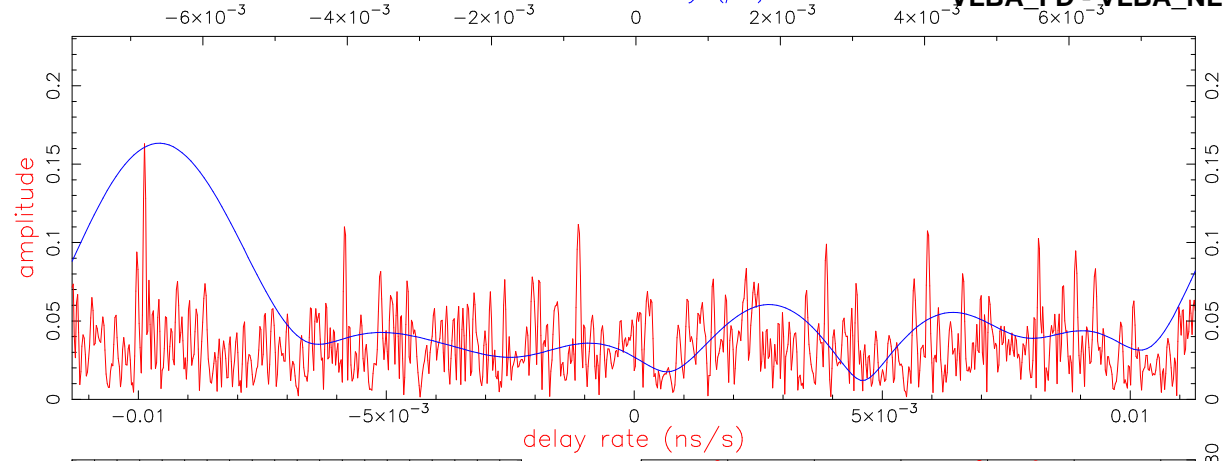
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:n | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f:n | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    |            |     |
| n   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.01732174094E+03 | Apriori delay (usec)     | -2.01634267395E+03 | Resid mbdelay (usec) | 5.30801E-03  | +/- | 2.0E-04 |
| Sband delay (usec)      | -2.01731885670E+03 | Apriori clock (usec)     | -2.8413742E+01     | Resid sbdelay (usec) | -9.76183E-01 | +/- | 1.6E-03 |
| Phase delay (usec)      | -2.01634267601E+03 | Apriori clockrate (us/s) | -2.2499998E-07     | Resid phdelay (usec) | -2.05444E-06 | +/- | 6.7E-07 |
| Delay rate (us/s)       | 2.90898094122E-01  | Apriori rate (us/s)      | 2.90887892401E-01  | Resid rate (us/s)    | 1.02017E-05  | +/- | 6.5E-09 |
| Total phase (deg)       | -40.0              | Apriori accel (us/s/s)   | 9.97279012004E-06  | Resid phase (deg)    | -63.7        | +/- | 20.8    |

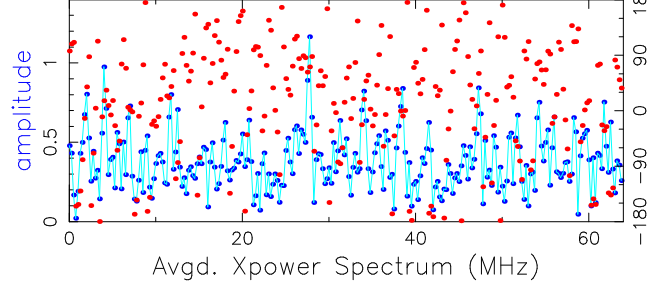
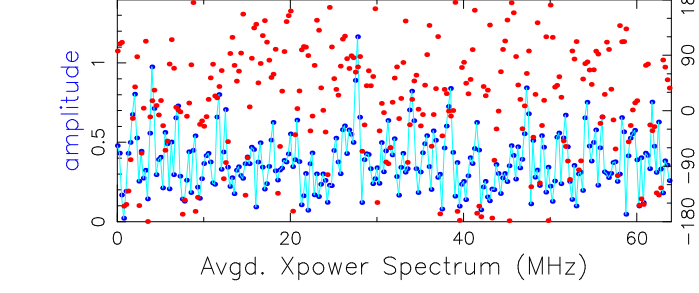
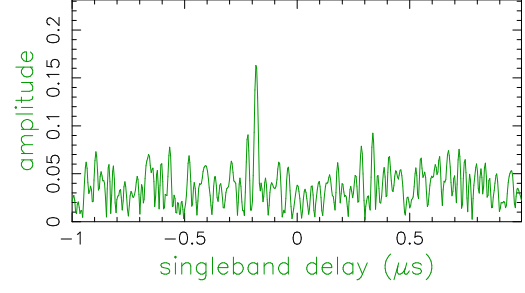
|              |      |                  |       |                |                 |                        |                             |                      |                |              |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 59.3 | Theor.           | 48.8  | Amplitude      | 0.219 +/- 0.040 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's)     | 5, 5           |              |
| amp/seg (%)  | 86.5 | Search (1024X32) | 0.150 | Interp.        | 0.000           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000 1.000   |              |
| ph/frq (deg) | 44.9 | Inc. seg. avg.   | 0.226 | Inc. frq. avg. | 0.223           | Bits/sample:           | 2x2                         | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%)  | 50.3 | Inc. frq. avg.   | 0.223 |                |                 | Sample rate (MSamp/s): | 128                         | dr window (ns/s)     | -0.011 0.011   |              |
|              |      |                  |       |                |                 | Data rate (Mb/s):      | 2048                        | ion window (TEC)     | 0.00 0.00      |              |

f: az 101.6 el 22.3 pa -57.5 n: az 115.5 el 28.3 pa -42.4 u,v (fr/asec) -1662.145 -1357.815 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fn...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fn.W.199.196Q8V

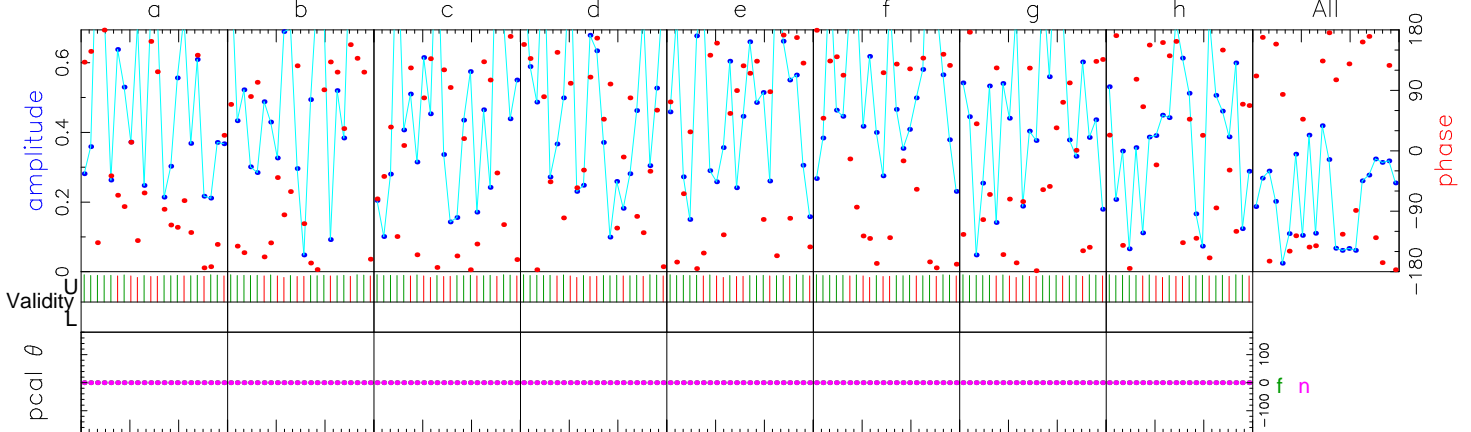
multiband delay ( $\mu$ s)



Fringe quality 0  
SNR 5.9  
Int time 172.707  
Amp 0.231  
Phase 178.6  
PFD 2.9e-01  
Delays (us)  
SBD -0.182012  
MBD -0.006538  
Fringe rate (Hz)  
-0.852024  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153444  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



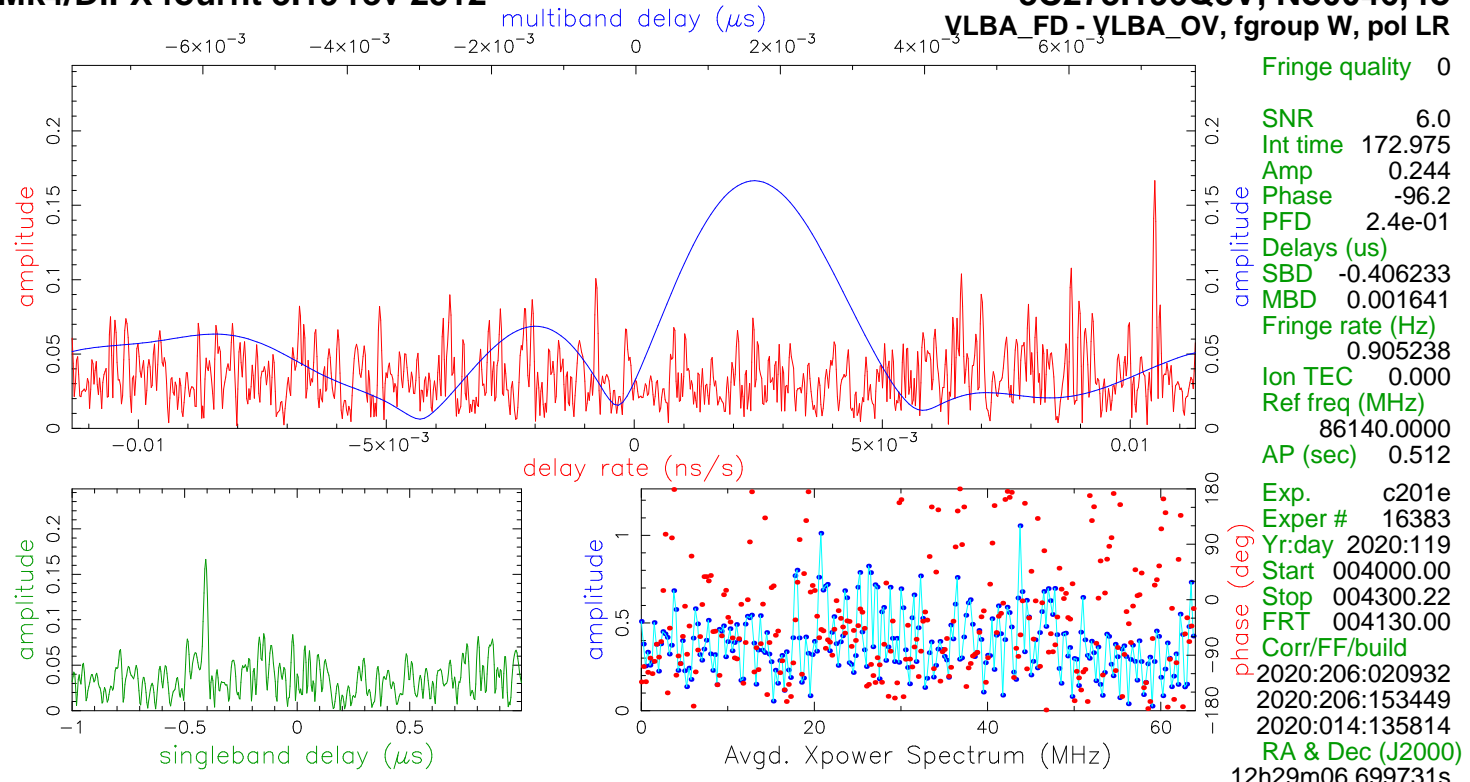
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:n | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f:n | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| n   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |
| n   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |

|                         |                    |                          |                    |                      |              |     |         |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -2.01652108730E+03 | Apriori delay (usec)     | -2.01634267395E+03 | Resid mbdelay (usec) | -6.53835E-03 | +/- | 1.8E-04 |
| Sband delay (usec)      | -2.01652468595E+03 | Apriori clock (usec)     | -2.8413742E+01     | Resid sbdelay (usec) | -1.82012E-01 | +/- | 1.4E-03 |
| Phase delay (usec)      | -2.01634266819E+03 | Apriori clockrate (us/s) | -2.249998E-07      | Resid phdelay (usec) | 5.75870E-06  | +/- | 6.2E-07 |
| Delay rate (us/s)       | 2.90878001246E-01  | Apriori rate (us/s)      | 2.90887892401E-01  | Resid rate (us/s)    | -9.89116E-06 | +/- | 6.0E-09 |
| Total phase (deg)       | -157.8             | Apriori accel (us/s/s)   | 9.97279012004E-06  | Resid phase (deg)    | 178.6        | +/- | 19.3    |

|              |      |        |      |                  |                 |                        |                             |                      |                   |                  |           |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 54.9 | Theor. | 45.2 | Amplitude        | 0.231 +/- 0.039 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |           |
| amp/seg (%)  | 77.8 |        | 78.8 | Search (1024X32) | 0.157           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000 1.000      |                  |           |
| ph/frq (deg) | 30.7 |        | 27.2 | Inc. seg. avg.   | 0.231           | Bits/sample:           | 2x2                         | SampCntNorm: enabled | mb window (us)    | -0.008 0.008     |           |
| amp/frq (%)  | 37.5 |        | 47.5 | Inc. frq. avg.   | 0.226           | Sample rate (MSamp/s): | 128                         | dr window (ns/s)     | -0.011 0.011      |                  |           |
|              |      |        |      |                  |                 | Data rate (Mb/s):      | 2048                        | nlags: 256           | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

f: az 101.6 el 22.3 pa -57.5 n: az 115.5 el 28.3 pa -42.4 u,v (fr/asec) -1662.145 -1357.815 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fn...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fn.W.80.196Q8V





Fringe quality 0

SNR 6.0

Int time 172.975

Amp 0.244

Phase -96.2

PFD 2.4e-01

Delays (us)

SBD -0.406233

MBD 0.001641

Fringe rate (Hz) 0.905238

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. c201e

Exper # 16383

Yr:day 2020:119

Start 004000.00

Stop 004300.22

FRT 004130.00

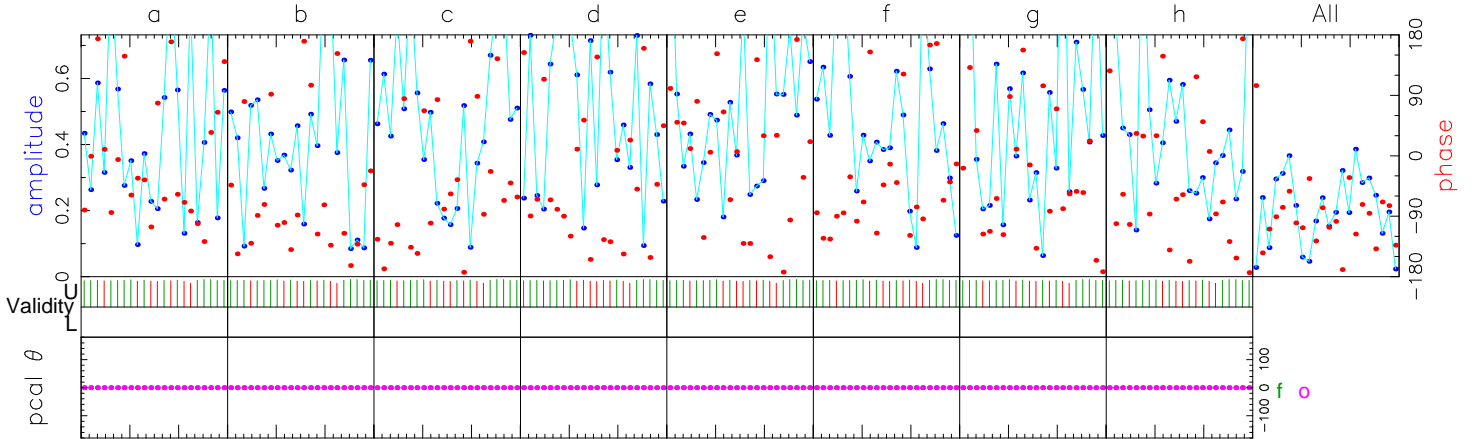
Corr/FF/build 2020:206:020932

2020:206:153449

2020:014:135814

RA & Dec (J2000) 12h29m06.699731s +02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -72.2              | -106.3   | -113.7                   | -96.4    | 28.4               | -90.0    | -80.7                | -115.6   | Phase        | -96.2       |
|                         | 0.2                | 0.3      | 0.3                      | 0.4      | 0.0                | 0.4      | 0.2                  | 0.2      | Ampl.        | 0.2         |
|                         | 289.6              | 463.3    | 312.0                    | 152.3    | 477.4              | 79.6     | 420.2                | 346.9    | Sbd box      | 153.0       |
| U/L                     | 352/0              | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| o                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:0                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| fo                      | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Manl PC      |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| o                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| o                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Chan ids     |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 4.51674490289E+03  |          | Apriori delay (usec)     |          | 4.51714951156E+03  |          | Resid mbdelay (usec) |          | 1.64133E-03  | +/- 1.8E-04 |
| Sband delay (usec)      | 4.51674327856E+03  |          | Apriori clock (usec)     |          | -1.6194063E+01     |          | Resid sbdelay (usec) |          | -4.06233E-01 | +/- 1.4E-03 |
| Phase delay (usec)      | 4.51714950845E+03  |          | Apriori clockrate (us/s) |          | -9.2000002E-08     |          | Resid phdelay (usec) |          | -3.10208E-06 | +/- 6.2E-07 |
| Delay rate (us/s)       | -6.43301667186E-03 |          | Apriori rate (us/s)      |          | -6.44352558751E-03 |          | Resid rate (us/s)    |          | 1.05089E-05  | +/- 5.9E-09 |
| Total phase (deg)       | 236.9              |          | Apriori accel (us/s/s)   |          | -2.44637249132E-05 |          | Resid phase (deg)    |          | -96.2        | +/- 19.1    |

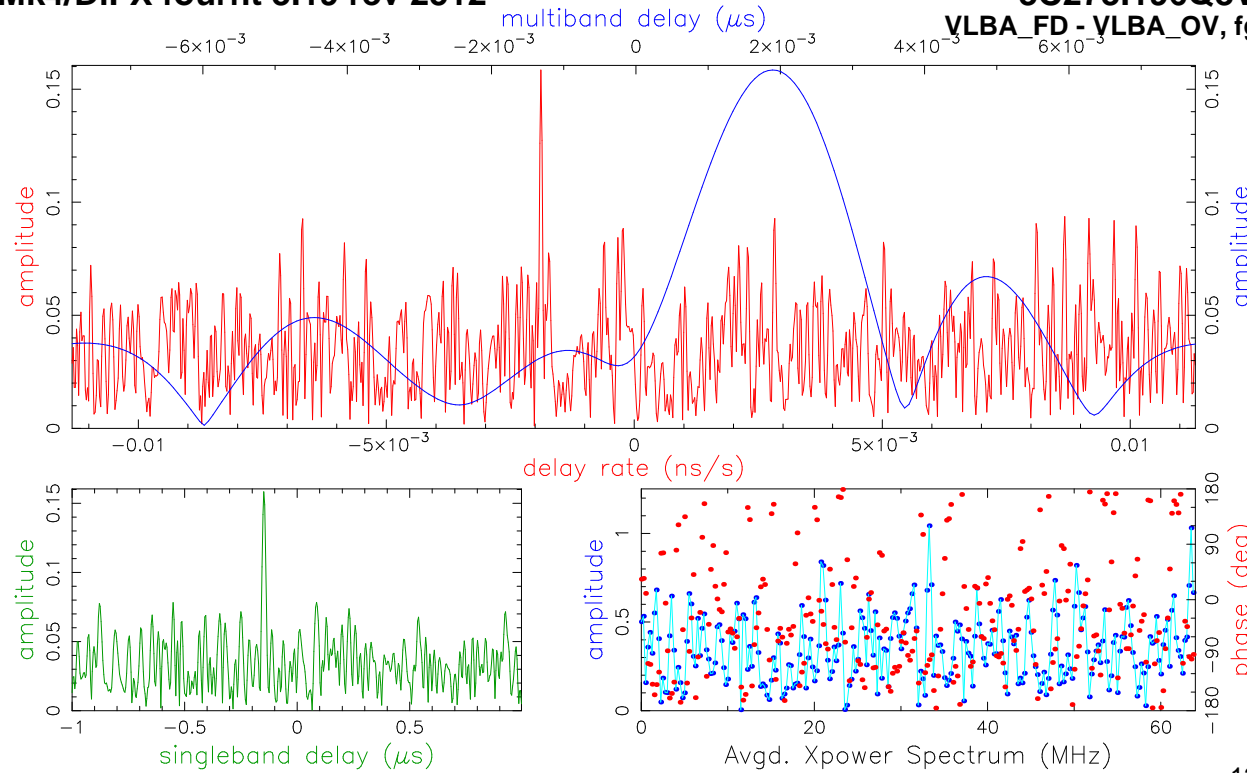
|              | RMS  | Theor. | Amplitude        | 0.244 +/- 0.041 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        | sb window (us)   | -1.000 1.000 |
|--------------|------|--------|------------------|-----------------|----------------------------------------|------------------------------|------------------|--------------|
| ph/seg (deg) | 47.9 | 44.9   | Search (1024X32) | 0.160           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                              | mb window (us)   | -0.008 0.008 |
| amp/seg (%)  | 67.1 | 78.3   | Interp.          | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled         | dr window (ns/s) | -0.011 0.011 |
| ph/frq (deg) | 53.5 | 27.1   | Inc. seg. avg.   | 0.228           | Sample rate(MISamp/s): 128             |                              | ion window (TEC) | 0.00 0.00    |
| amp/frq (%)  | 51.4 | 47.2   | Inc. frq. avg.   | 0.231           | Data rate(Mb/s): 2048                  | nlags: 256 t_cohere infinite |                  |              |

f: az 101.6 el 22.3 pa -57.5 o: az 94.9 el 9.6 pa -52.5 u,v (fr/asec) 24.119 -909.866 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fo...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fo.W.114.196Q8V

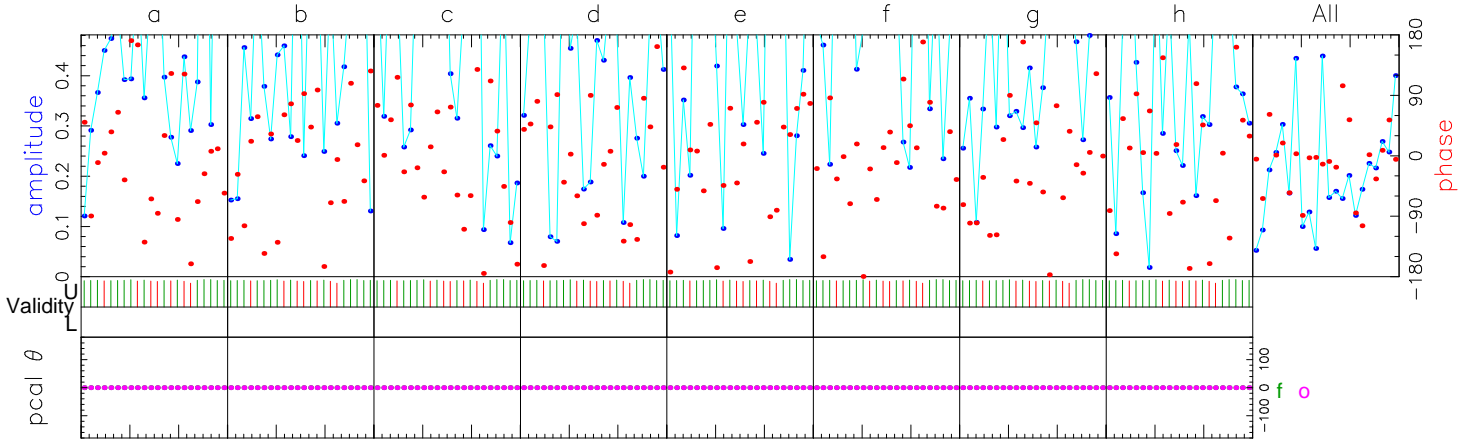
Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, fo VLBA\_FD - VLBA\_OV, fgroup W, pol RL



Fringe quality 0  
 SNR 5.7  
 Int time 172.975  
 Amp 0.160  
 Phase -1.0  
 PFD 7.6e-01  
 Delays (us)  
 SBD -0.147915  
 MBD 0.001921  
 Fringe rate (Hz)  
 -0.162129  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004000.00  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build  
 2020:206:020932  
 2020:206:153452  
 2020:014:135814  
 RA & Dec (J2000)  
 12h29m06.699731s  
 +02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

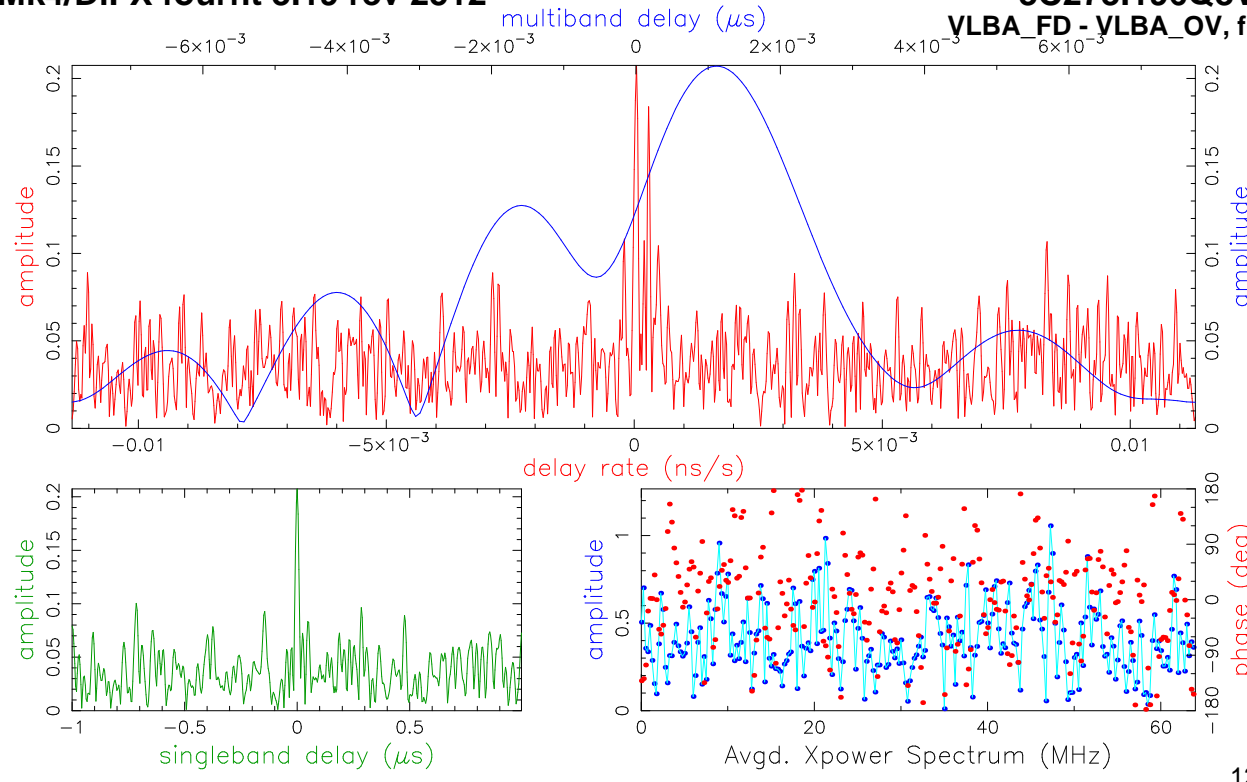


|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| o   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:0 | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| fo  | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| o   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    |            |     |
| o   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    |            |     |

|                         |                    |                          |                        |                    |                      |                   |              |      |         |      |
|-------------------------|--------------------|--------------------------|------------------------|--------------------|----------------------|-------------------|--------------|------|---------|------|
| Group delay (usec)(sbd) | 4.51699518212E+03  | Apriori delay (usec)     |                        | 4.51714951156E+03  | Resid mbdelay (usec) |                   | 1.92056E-03  | +/-  | 1.9E-04 |      |
| Sband delay (usec)      | 4.51700159606E+03  | Apriori clock (usec)     |                        | -1.6194063E+01     | Resid sbdelay (usec) |                   | -1.47915E-01 | +/-  | 1.5E-03 |      |
| Phase delay (usec)      | 4.51714951152E+03  | Apriori clockrate (us/s) |                        | -9.2000002E-08     | Resid phdelay (usec) |                   | -3.33529E-08 | +/-  | 6.5E-07 |      |
| Delay rate (us/s)       | -6.44540774470E-03 | Apriori rate (us/s)      |                        | -6.44352558751E-03 | Resid rate (us/s)    |                   | -1.88216E-06 | +/-  | 6.2E-09 |      |
| Total phase (deg)       | 332.1              |                          | Apriori accel (us/s/s) |                    | -2.44637249132E-05   | Resid phase (deg) |              | -1.0 | +/-     | 20.1 |

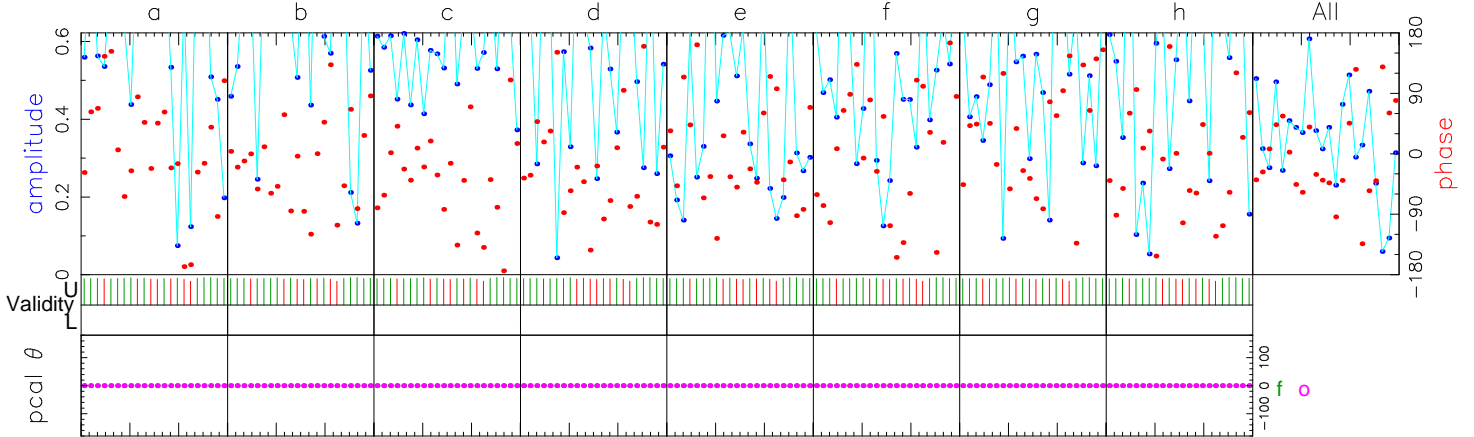
|              |      |        |      |                  |                 |                        |                             |                      |                   |                  |           |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 49.7 | Theor. | 47.1 | Amplitude        | 0.160 +/- 0.028 | Pcal mode:             | MANUAL, MANUAL              | PC period (AP's)     | 5, 5              |                  |           |
| amp/seg (%)  | 74.6 |        | 82.2 | Search (1024X32) | 0.156           | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000 1.000      |                  |           |
| ph/frq (deg) | 22.0 |        | 28.4 | Inc. seg. avg.   | 0.157           | Bits/sample:           | 2x2                         | SampCntNorm: enabled | mb window (us)    | -0.008 0.008     |           |
| amp/frq (%)  | 32.3 |        | 49.6 | Inc. frq. avg.   | 0.152           | Sample rate (MSamp/s): | 128                         | dr window (ns/s)     | -0.011 0.011      |                  |           |
|              |      |        |      |                  |                 | Data rate (Mb/s):      | 2048                        | nlags: 256           | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

f: az 101.6 el 22.3 pa -57.5 o: az 94.9 el 9.6 pa -52.5 u,v (fr/asec) 24.119 -909.866 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fo...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fo.W.133.196Q8V



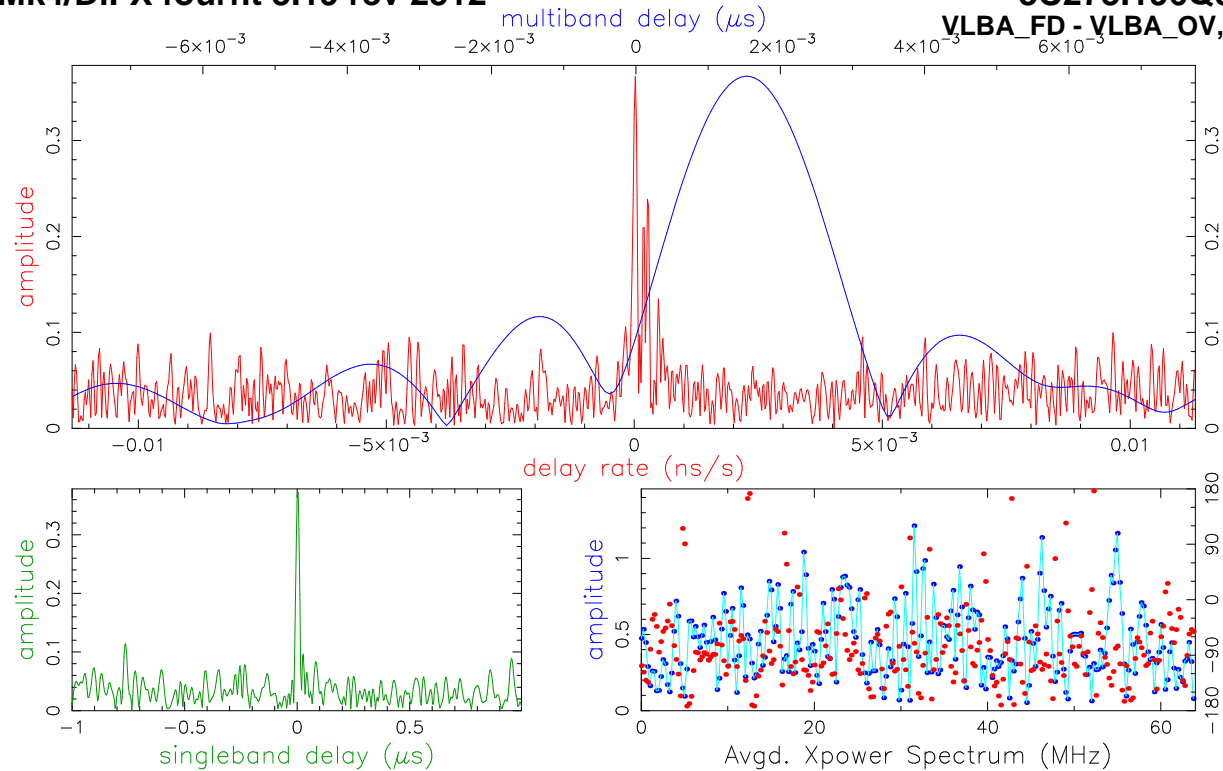
Fringe quality 9  
 SNR 7.5  
 Int time 172.975  
 Amp 0.207  
 Phase -11.7  
 PFD 1.4e-05  
 Delays (us)  
 SBD -0.000585  
 MBD 0.001096  
 Fringe rate (Hz) 0.003441  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004000.00  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build 2020:206:020932  
 2020:206:153443  
 2020:014:135814  
 RA & Dec (J2000) 12h29m06.699731s +02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                                        | 86012.00 | 86076.00           | 86140.00 | 86204.00 | 86268.00           | 86332.00 | 86396.00 | 86460.00 | Freq (MHz)   | All         |
|----------------------------------------|----------|--------------------|----------|----------|--------------------|----------|----------|----------|--------------|-------------|
| U/L                                    | 352/0    | 352/0              | 352/0    | 352/0    | 352/0              | 352/0    | 352/0    | 352/0    |              |             |
| f                                      | 1000     | 1000               | 1000     | 1000     | 1000               | 1000     | 1000     | 1000     |              |             |
| o                                      | 1000     | 1000               | 1000     | 1000     | 1000               | 1000     | 1000     | 1000     |              |             |
| f:0                                    | 0:0      | 0:0                | 0:0      | 0:0      | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| fo                                     | 0:0      | 0:0                | 0:0      | 0:0      | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| f                                      | 1000     | 1000               | 1000     | 1000     | 1000               | 1000     | 1000     | 1000     |              |             |
| o                                      | 1000     | 1000               | 1000     | 1000     | 1000               | 1000     | 1000     | 1000     |              |             |
| f                                      | W00UL    | W01UL              | W02UL    | W03UL    | W04UL              | W05UL    | W06UL    | W07UL    |              |             |
| o                                      | W00UL    | W01UL              | W02UL    | W03UL    | W04UL              | W05UL    | W06UL    | W07UL    |              |             |
| Group delay (usec)(sbd)                |          | 4.51715060753E+03  |          |          | 4.51714951156E+03  |          |          |          | 1.09597E-03  | +/- 1.5E-04 |
| Sband delay (usec)                     |          | 4.51714892606E+03  |          |          | -1.6194063E+01     |          |          |          | -5.85500E-04 | +/- 1.2E-03 |
| Phase delay (usec)                     |          | 4.51714951118E+03  |          |          | -9.2000002E-08     |          |          |          | -3.77208E-07 | +/- 5.0E-07 |
| Delay rate (us/s)                      |          | -6.44348564328E-03 |          |          | -6.44352558751E-03 |          |          |          | 3.99442E-08  | +/- 4.8E-09 |
| Total phase (deg)                      |          |                    | 321.4    |          |                    |          |          |          | -11.7        | +/- 15.4    |
| Apriori delay (usec)                   |          |                    |          |          |                    |          |          |          |              |             |
| Apriori clock (usec)                   |          |                    |          |          |                    |          |          |          |              |             |
| Apriori clockrate (us/s)               |          |                    |          |          |                    |          |          |          |              |             |
| Apriori rate (us/s)                    |          |                    |          |          |                    |          |          |          |              |             |
| Apriori accel (us/s/s)                 |          |                    |          |          |                    |          |          |          |              |             |
| Resid mbdelay (usec)                   |          |                    |          |          |                    |          |          |          |              |             |
| Resid sbdelay (usec)                   |          |                    |          |          |                    |          |          |          |              |             |
| Resid phdelay (usec)                   |          |                    |          |          |                    |          |          |          |              |             |
| Resid rate (us/s)                      |          |                    |          |          |                    |          |          |          |              |             |
| Resid phase (deg)                      |          |                    |          |          |                    |          |          |          |              |             |
| Pcal mode: MANUAL, MANUAL              |          |                    |          |          |                    |          |          |          |              |             |
| Pcal rate: 0.000E+00, 0.000E+00 (us/s) |          |                    |          |          |                    |          |          |          |              |             |
| Bits/sample: 2x2                       |          |                    |          |          |                    |          |          |          |              |             |
| Sample rate(MISamp/s): 128             |          |                    |          |          |                    |          |          |          |              |             |
| Data rate(Mb/s): 2048                  |          |                    |          |          |                    |          |          |          |              |             |
| PC period (AP's) 5, 5                  |          |                    |          |          |                    |          |          |          |              |             |
| sb window (us)                         |          |                    |          |          |                    |          |          |          | -1.000       | 1.000       |
| SampCntNorm: enabled                   |          |                    |          |          |                    |          |          |          | -0.008       | 0.008       |
| mb window (us)                         |          |                    |          |          |                    |          |          |          | -0.011       | 0.011       |
| dr window (ns/s)                       |          |                    |          |          |                    |          |          |          | 0.00         | 0.00        |
| ion window (TEC)                       |          |                    |          |          |                    |          |          |          | 0.00         | 0.00        |

ph/seg (deg) 66.4 36.0 Amplitude 0.207 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 91.9 62.9 Search (1024X32) 0.204 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 42.8 21.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 41.2 37.9 Inc. seg. avg. 0.291 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 o: az 94.9 el 9.6 pa -52.5 u,v (fr/asec) 24.119 -909.866 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fo...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fo.W.76.196Q8V simultaneous interpolator

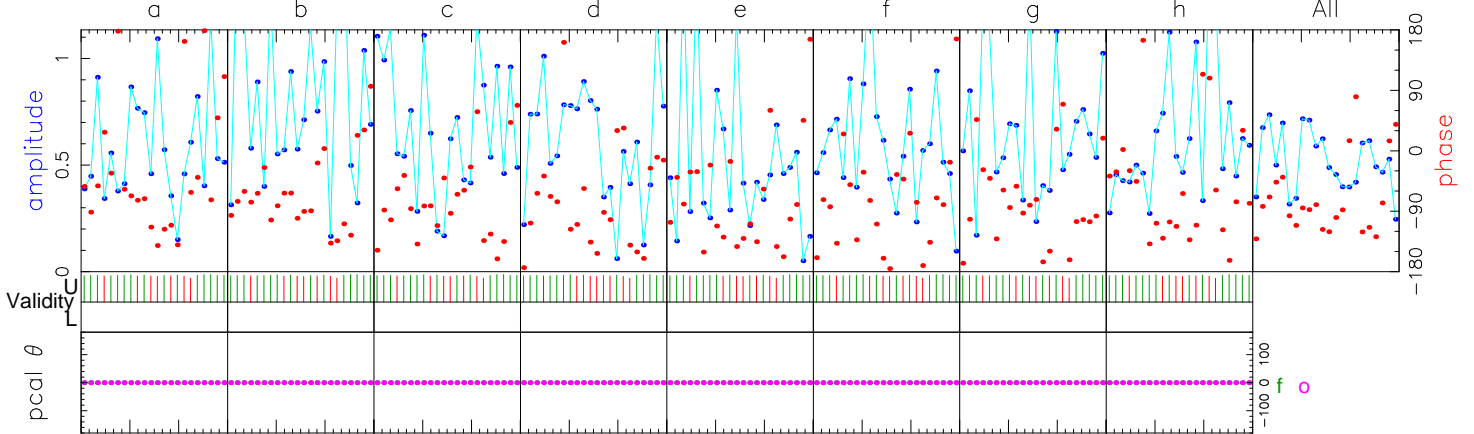


Fringe quality 9

SNR 13.6  
Int time 172.975  
Amp 0.378  
Phase -83.7  
PFD 1.1e-33  
Delays (us)  
SBD 0.002277  
MBD 0.001591  
Fringe rate (Hz) 0.002491  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153445  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| o   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f:0 | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f:0 | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      |            |     |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| o   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |     |
| f   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    |            |     |
| o   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    |            |     |

|                         |                    |                          |                        |                    |                      |                   |              |       |         |     |
|-------------------------|--------------------|--------------------------|------------------------|--------------------|----------------------|-------------------|--------------|-------|---------|-----|
| Group delay (usec)(sbd) | 4.51715110261E+03  | Apriori delay (usec)     |                        | 4.51714951156E+03  | Resid mbdelay (usec) |                   | 1.59105E-03  | +/-   | 8.0E-05 |     |
| Sband delay (usec)      | 4.51715178831E+03  | Apriori clock (usec)     |                        | -1.6194063E+01     | Resid sbdelay (usec) |                   | 2.27675E-03  | +/-   | 6.3E-04 |     |
| Phase delay (usec)      | 4.51714950886E+03  | Apriori clockrate (us/s) |                        | -9.2000002E-08     | Resid phdelay (usec) |                   | -2.69756E-06 | +/-   | 2.7E-07 |     |
| Delay rate (us/s)       | -6.44349666986E-03 | Apriori rate (us/s)      |                        | -6.44352558751E-03 | Resid rate (us/s)    |                   | 2.89177E-08  | +/-   | 2.6E-09 |     |
| Total phase (deg)       |                    | 249.5                    | Apriori accel (us/s/s) |                    | -2.44637249132E-05   | Resid phase (deg) |              | -83.7 | +/-     | 8.4 |

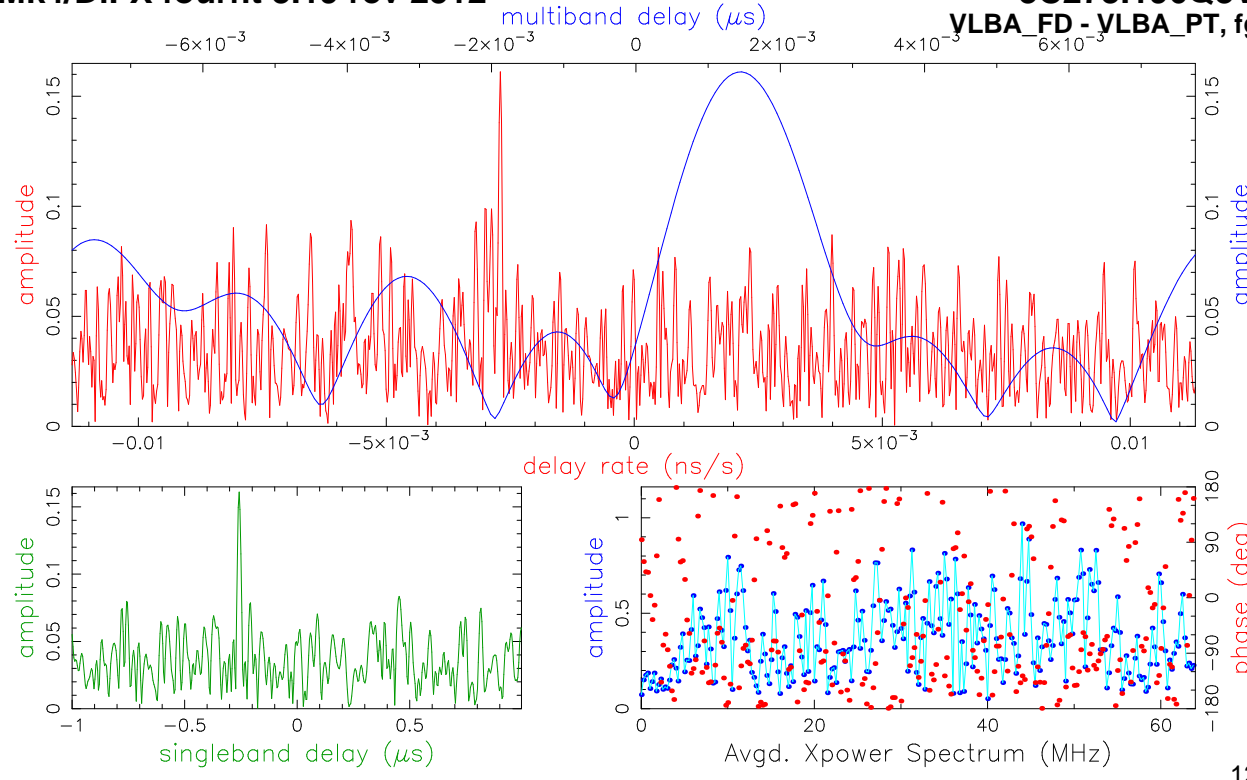
|                              |      |                            |                  |                               |       |                                        |  |                       |                   |                  |           |
|------------------------------|------|----------------------------|------------------|-------------------------------|-------|----------------------------------------|--|-----------------------|-------------------|------------------|-----------|
| ph/seg (deg)                 | 58.3 | 19.8                       | Search (1024X32) |                               | 0.361 | Pcal mode: MANUAL, MANUAL              |  | PC period (AP's) 5, 5 |                   |                  |           |
| amp/seg (%)                  | 52.2 | 34.5                       | Interp.          |                               | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |  | sb window (us)        | -1.000 1.000      |                  |           |
| ph/frq (deg)                 | 10.4 | 11.9                       | Inc. seg. avg.   |                               | 0.488 | Bits/sample: 2x2                       |  | SampCntNorm: enabled  | mb window (us)    | -0.008 0.008     |           |
| amp/frq (%)                  | 19.4 | 20.8                       | Inc. frq. avg.   |                               | 0.363 | Sample rate(MISamp/s): 128             |  | dr window (ns/s)      | -0.011 0.011      |                  |           |
| f: az 101.6 el 22.3 pa -57.5 |      | o: az 94.9 el 9.6 pa -52.5 |                  | u,v (fr/asec) 24.119 -909.866 |       | Data rate(Mb/s): 2048                  |  | nlags: 256            | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fo..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fo.W.87.196Q8V

simultaneous interpolator

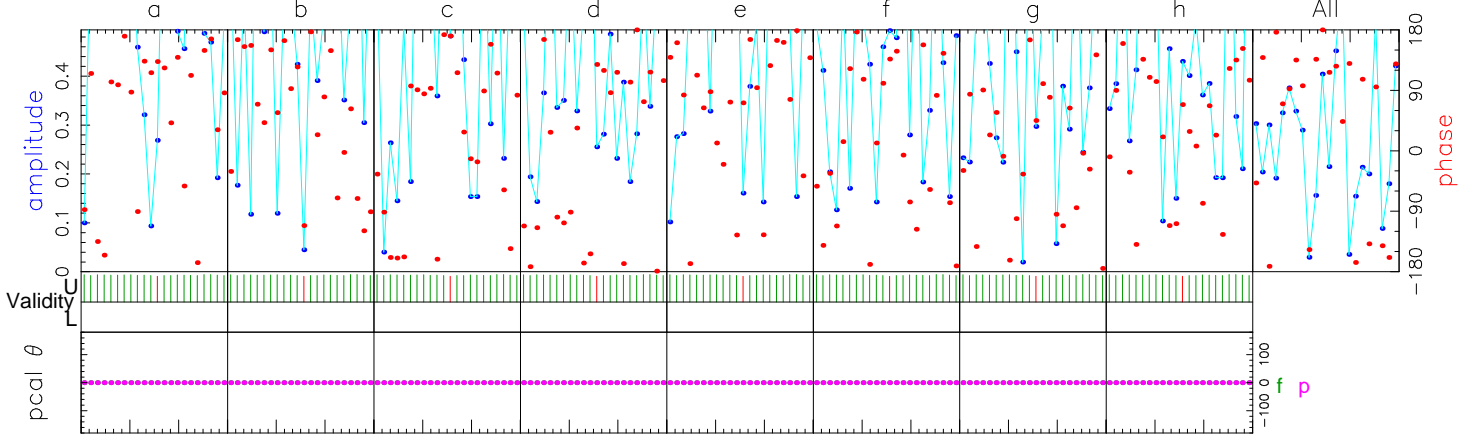
Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, fp  
VLBA\_FD - VLBA\_PT, fgroup W, pol LR



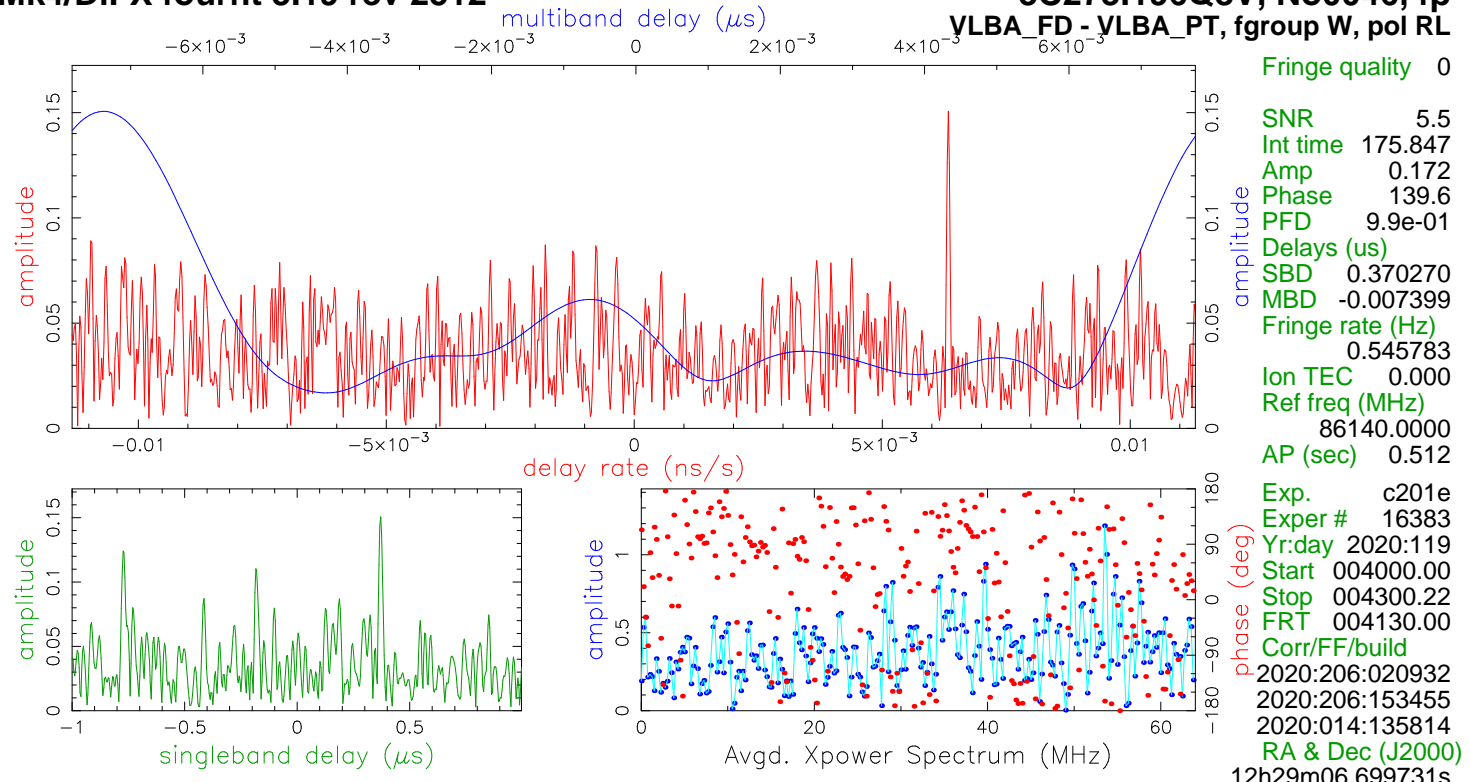
Fringe quality 0  
SNR 5.8  
Int time 175.847  
Amp 0.165  
Phase 124.6  
PFD 4.8e-01  
Delays (us)  
SBD -0.257969  
MBD 0.001442  
Fringe rate (Hz)  
-0.232691  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153453  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 122.9             | 105.0    | 117.9                    | 163.6    | 113.1              | 158.8    | 142.2                | 110.4    | Phase        | 124.6       |
|                         | 0.3               | 0.1      | 0.3                      | 0.2      | 0.2                | 0.1      | 0.1                  | 0.2      | Ampl.        | 0.2         |
|                         | 191.4             | 1.4      | 189.8                    | 404.4    | 251.0              | 62.9     | 130.4                | 341.5    | Sbd box      | 191.0       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:p                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| fp                      | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| p                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 1.43529664503E+03 |          | Apriori delay (usec)     |          | 1.43556082762E+03  |          | Resid mbdelay (usec) |          | 1.44241E-03  | +/- 1.9E-04 |
| Sband delay (usec)      | 1.43530285837E+03 |          | Apriori clock (usec)     |          | -1.3385912E+01     |          | Resid sbdelay (usec) |          | -2.57969E-01 | +/- 1.5E-03 |
| Phase delay (usec)      | 1.43556083164E+03 |          | Apriori clockrate (us/s) |          | -9.4999990E-08     |          | Resid phdelay (usec) |          | 4.01689E-06  | +/- 6.3E-07 |
| Delay rate (us/s)       | 1.09203321901E-02 |          | Apriori rate (us/s)      |          | 1.09230335022E-02  |          | Resid rate (us/s)    |          | -2.70131E-06 | +/- 6.1E-09 |
| Total phase (deg)       |                   |          | Apriori accel (us/s/s)   |          | -7.91061379006E-06 |          | Resid phase (deg)    |          | 124.6        | +/- 19.6    |

ph/seg (deg) RMS 64.0 Theor. 46.0 Amplitude 0.165 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 113.1 80.3 Search (1024X32) 0.156 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 25.1 27.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 52.9 48.4 Inc. seg. avg. 0.210 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 p: az 100.4 el 18.2 pa -54.4 u,v (fr/asec) -66.772 -499.233 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fp..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fp.W.135.196Q8V simultaneous interpolator



Fringe quality 0

SNR 5.5

Int time 175.847

Amp 0.172

Phase 139.6

PFD 9.9e-01

Delays (us)

SBD 0.370270

MBD -0.007399

Fringe rate (Hz)

0.545783

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c201e

Exper # 16383

Yr:day 2020:119

Start 004000.00

Stop 004300.22

FRT 004130.00

Corr/FF/build

2020:206:020932

2020:206:153455

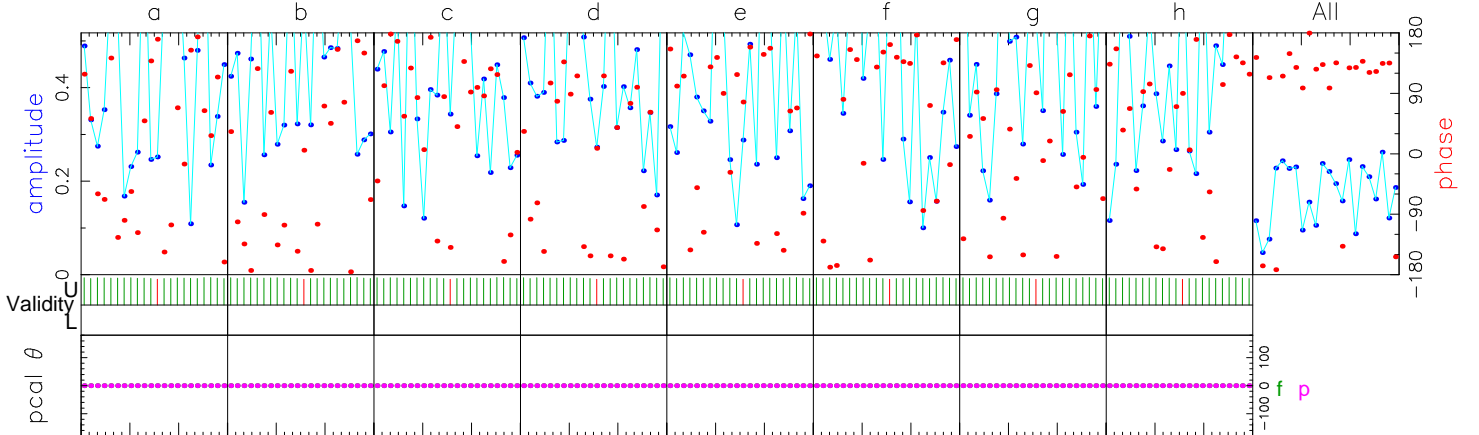
2020:014:135814

RA & Dec (J2000)

12h29m06.699731s

+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 127.4             | 149.1    | 120.0                    | 142.9    | 148.9              | 157.5    | 67.7                 | 127.5    | Phase        | 139.6       |
|                         | 0.1               | 0.1      | 0.2                      | 0.2      | 0.2                | 0.4      | 0.0                  | 0.2      | Ampl.        | 0.2         |
|                         | 407.4             | 186.7    | 291.4                    | 300.0    | 68.0               | 352.7    | 61.5                 | 266.1    | Sbd box      | 351.8       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:p                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| fp                      | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Manl PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| p                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 1.43592842904E+03 |          | Apriori delay (usec)     |          | 1.43556082762E+03  |          | Resid mbdelay (usec) |          | -7.39858E-03 | +/- 2.0E-04 |
| Sband delay (usec)      | 1.43593109712E+03 |          | Apriori clock (usec)     |          | -1.3385912E+01     |          | Resid sbdelay (usec) |          | 3.70270E-01  | +/- 1.6E-03 |
| Phase delay (usec)      | 1.43556083212E+03 |          | Apriori clockrate (us/s) |          | -9.4999990E-08     |          | Resid phdelay (usec) |          | 4.50190E-06  | +/- 6.7E-07 |
| Delay rate (us/s)       | 1.09293694967E-02 |          | Apriori rate (us/s)      |          | 1.09230335022E-02  |          | Resid rate (us/s)    |          | 6.33599E-06  | +/- 6.5E-09 |
| Total phase (deg)       | 28.5              |          | Apriori accel (us/s/s)   |          | -7.91061379006E-06 |          | Resid phase (deg)    |          | 139.6        | +/- 20.9    |

ph/seg (deg) 33.1 49.0 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

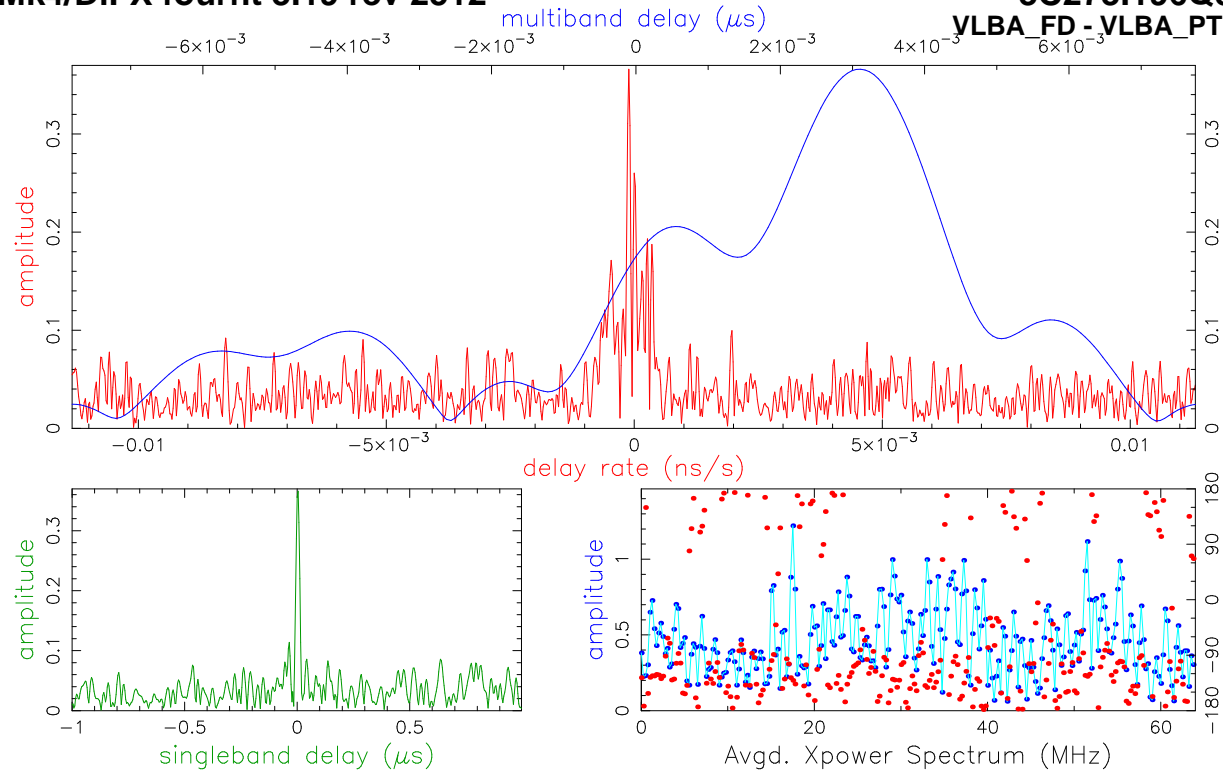
amp/seg (%) 44.9 85.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 32.5 29.6 Inc. seg. avg. 0.146 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 54.0 51.6 Inc. frq. avg. 0.160 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011

f: az 101.6 el 22.3 pa -57.5 p: az 100.4 el 18.2 pa -54.4 u,v (fr/asec) -66.772 -499.233 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fp..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fp.W.152.196Q8V

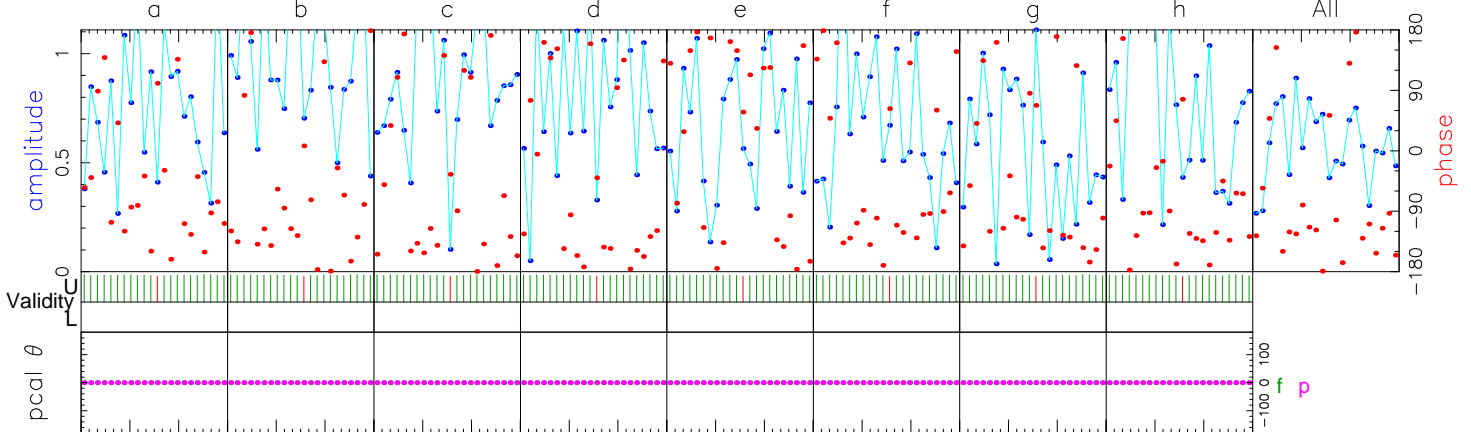


Fringe quality 9

SNR 13.4  
Int time 175.847  
Amp 0.370  
Phase -140.3  
PFD 1.5e-32  
Delays (us)  
SBD 0.002550  
MBD 0.003077  
Fringe rate (Hz)  
-0.010051  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153443  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



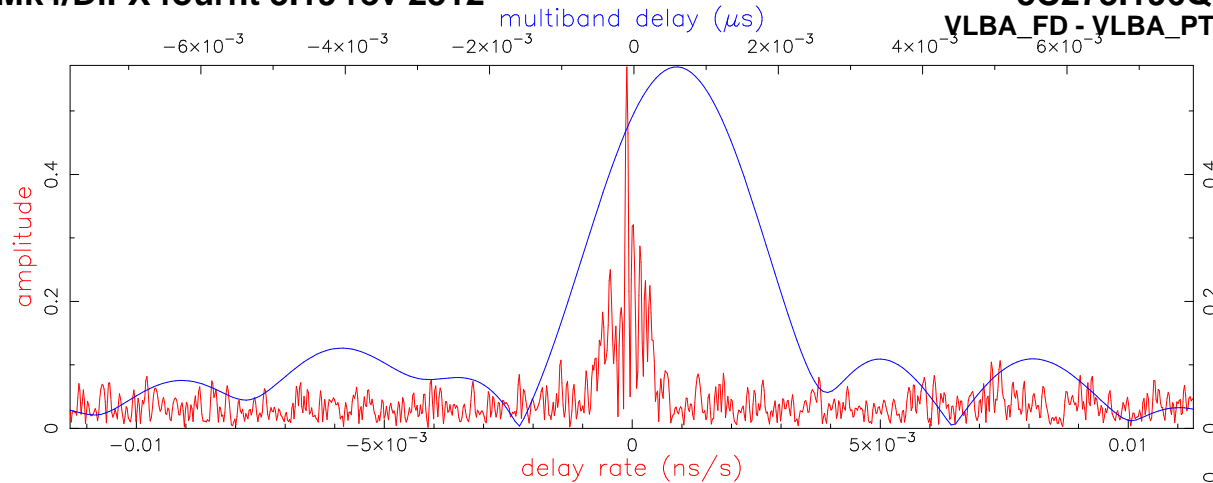
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All    |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
|     | -98.2    | -128.9   | -159.3   | -173.3   | 164.4    | -129.5   | -126.7   | -105.5   | Phase      | -140.3 |
|     | 0.4      | 0.6      | 0.5      | 0.5      | 0.4      | 0.4      | 0.2      | 0.4      | Ampl.      | 0.4    |
|     | 257.9    | 257.1    | 257.6    | 257.6    | 258.7    | 257.7    | 256.9    | 259.0    | Sbd box    | 257.7  |
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | APs used   |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| p   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| f:p | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | PC phase   |        |
| fp  | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | Manl PC    |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC amp     |        |
| p   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |        |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Chan ids   |        |
| p   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Tracks     |        |

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.43556390481E+03 | Apriori delay (usec)     | 1.43556082762E+03  | Resid mbdelay (usec) | 3.07719E-03  | +/- | 8.1E-05 |
| Sband delay (usec)      | 1.43556337787E+03 | Apriori clock (usec)     | -1.3385912E+01     | Resid sbdelay (usec) | 2.55025E-03  | +/- | 6.4E-04 |
| Phase delay (usec)      | 1.43556082310E+03 | Apriori clockrate (us/s) | -9.4999990E-08     | Resid phdelay (usec) | -4.52432E-06 | +/- | 2.8E-07 |
| Delay rate (us/s)       | 1.09229168226E-02 | Apriori rate (us/s)      | 1.09230335022E-02  | Resid rate (us/s)    | -1.16680E-07 | +/- | 2.6E-09 |
| Total phase (deg)       | 108.6             | Apriori accel (us/s/s)   | -7.91061379006E-06 | Resid phase (deg)    | -140.3       | +/- | 8.5     |

|              |      |      |      |                  |           |                                        |                           |                       |              |
|--------------|------|------|------|------------------|-----------|----------------------------------------|---------------------------|-----------------------|--------------|
| ph/seg (deg) | 64.6 | RMS  | 20.0 | Theor.           | Amplitude | 0.370 +/- 0.028                        | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |              |
| amp/seg (%)  | 73.8 | 64.6 | 20.0 | Search (1024X32) | 0.357     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us)            | -1.000 1.000          |              |
| ph/frq (deg) | 36.3 | 73.8 | 35.0 | Interp.          | 0.000     | Bits/sample: 2x2                       | SampCntNorm: enabled      | mb window (us)        | -0.008 0.008 |
| amp/frq (%)  | 28.9 | 36.3 | 12.1 | Inc. seg. avg.   | 0.550     | Sample rate(MISamp/s): 128             | dr window (ns/s)          | -0.011 0.011          |              |
|              |      | 28.9 | 21.1 | Inc. frq. avg.   | 0.415     | Data rate(Mb/s): 2048                  | ion window (TEC)          | 0.00 0.00             |              |

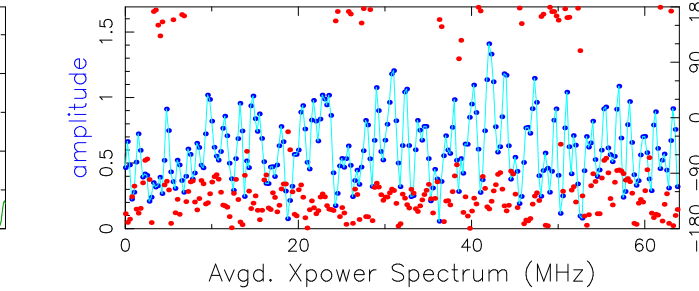
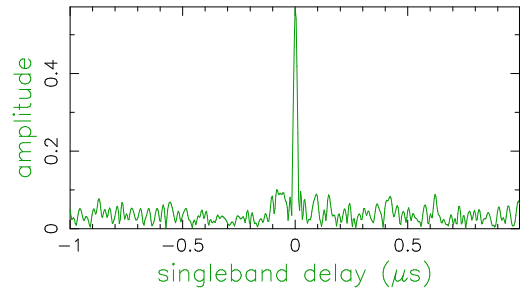
f: az 101.6 el 22.3 pa -57.5      p: az 100.4 el 18.2 pa -54.4      u,v (fr/asec) -66.772 -499.233      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c201e/v1/1234/No0046/fp..196Q8V    Output file: /Exps/c201e/v1/1234/No0046/fp.W.75.196Q8V



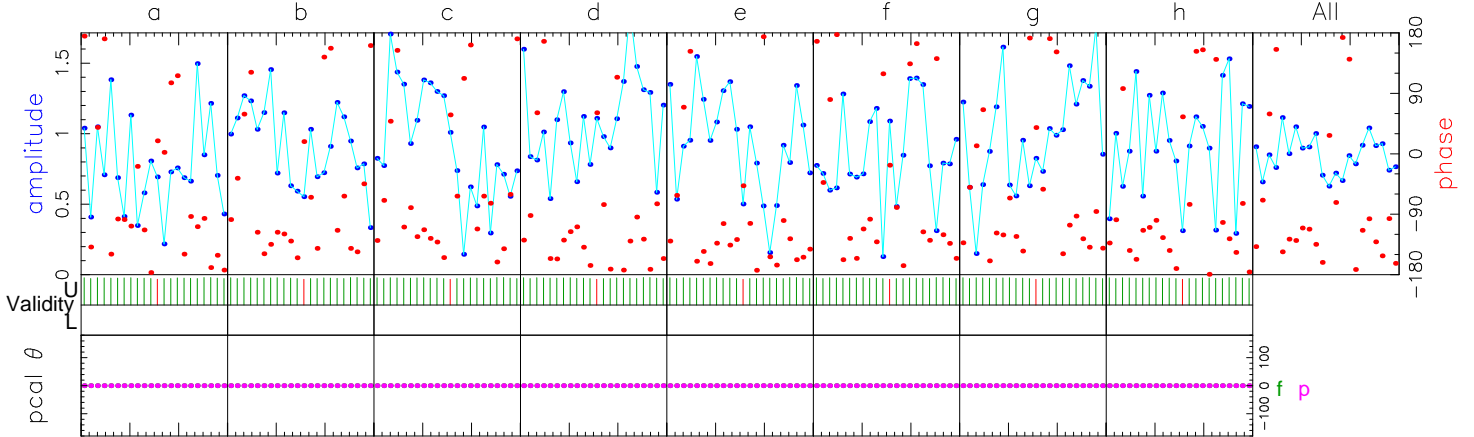
Fringe quality 9

SNR 20.7  
Int time 175.847  
Amp 0.572  
Phase -135.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.000830  
MBD 0.000606  
Fringe rate (Hz)  
-0.010072  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c201e  
Exper # 16383  
Yr:day 2020:119  
Start 004000.00  
Stop 004300.22  
FRT 004130.00  
Corr/FF/build  
2020:206:020932  
2020:206:153447  
2020:014:135814  
RA & Dec (J2000)  
12h29m06.699731s  
+02°03'08.598201"

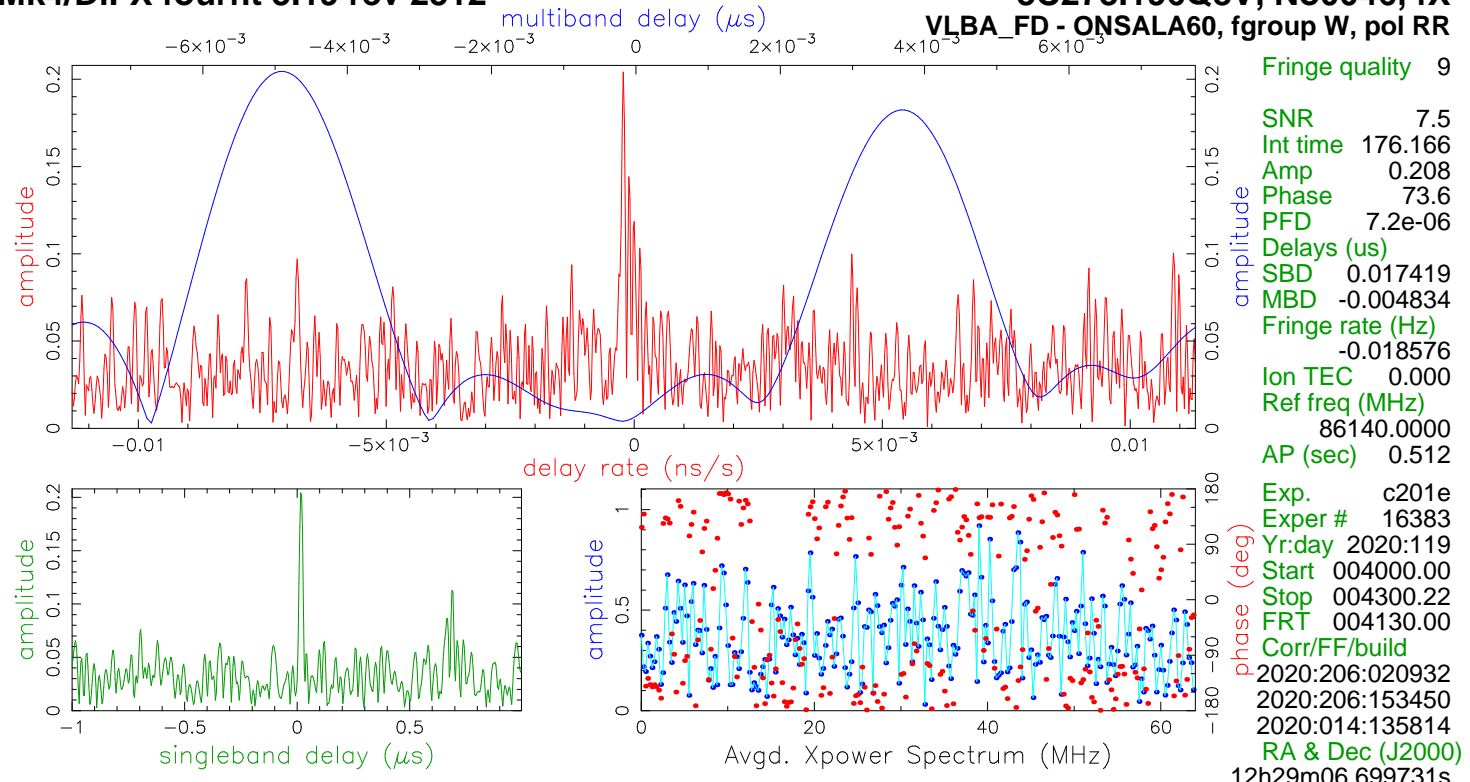
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



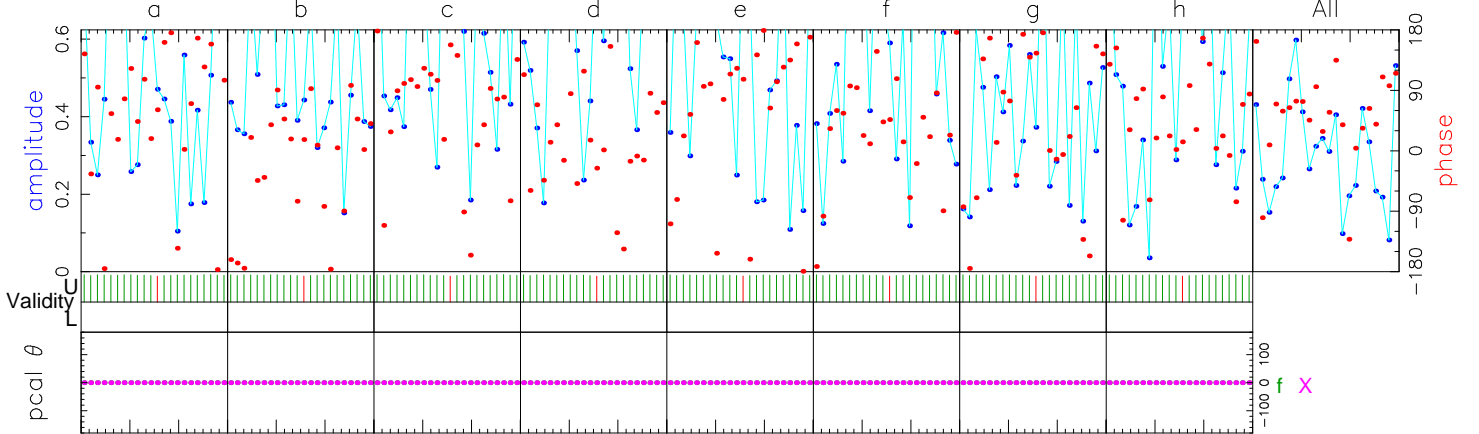
|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -142.0            | -124.0   | -123.8                   | -142.0   | -140.8             | -145.9   | -124.6               | -137.9   | Phase        | -135.5      |
|                         | 0.4               | 0.5      | 0.5                      | 0.7      | 0.7                | 0.5      | 0.7                  | 0.7      | Ampl.        | 0.6         |
|                         | 257.3             | 257.1    | 257.2                    | 257.3    | 257.0              | 257.1    | 257.2                | 257.4    | Sbd box      | 257.2       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:p                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| fp                      | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Manl PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| p                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| p                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Chan ids     |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 1.43556143337E+03 |          | Apriori delay (usec)     |          | 1.43556082762E+03  |          | Resid mbdelay (usec) |          | 6.05752E-04  | +/- 5.2E-05 |
| Sband delay (usec)      | 1.43556165787E+03 |          | Apriori clock (usec)     |          | -1.3385912E+01     |          | Resid sbdelay (usec) |          | 8.30250E-04  | +/- 4.2E-04 |
| Phase delay (usec)      | 1.43556082325E+03 |          | Apriori clockrate (us/s) |          | -9.4999990E-08     |          | Resid phdelay (usec) |          | -4.36954E-06 | +/- 1.8E-07 |
| Delay rate (us/s)       | 1.09229165746E-02 |          | Apriori rate (us/s)      |          | 1.09230335022E-02  |          | Resid rate (us/s)    |          | -1.16928E-07 | +/- 1.7E-09 |
| Total phase (deg)       | 113.4             |          | Apriori accel (us/s/s)   |          | -7.91061379006E-06 |          | Resid phase (deg)    |          | -135.5       | +/- 5.5     |

ph/seg (deg) 61.8 13.0 Search (1024X32) 0.557 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 53.7 22.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 10.1 7.8 Inc. seg. avg. 0.829 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 21.2 13.6 Inc. frq. avg. 0.571 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 p: az 100.4 el 18.2 pa -54.4 u,v (fr/asec) -66.772 -499.233 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fp..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fp.W.98.196Q8V

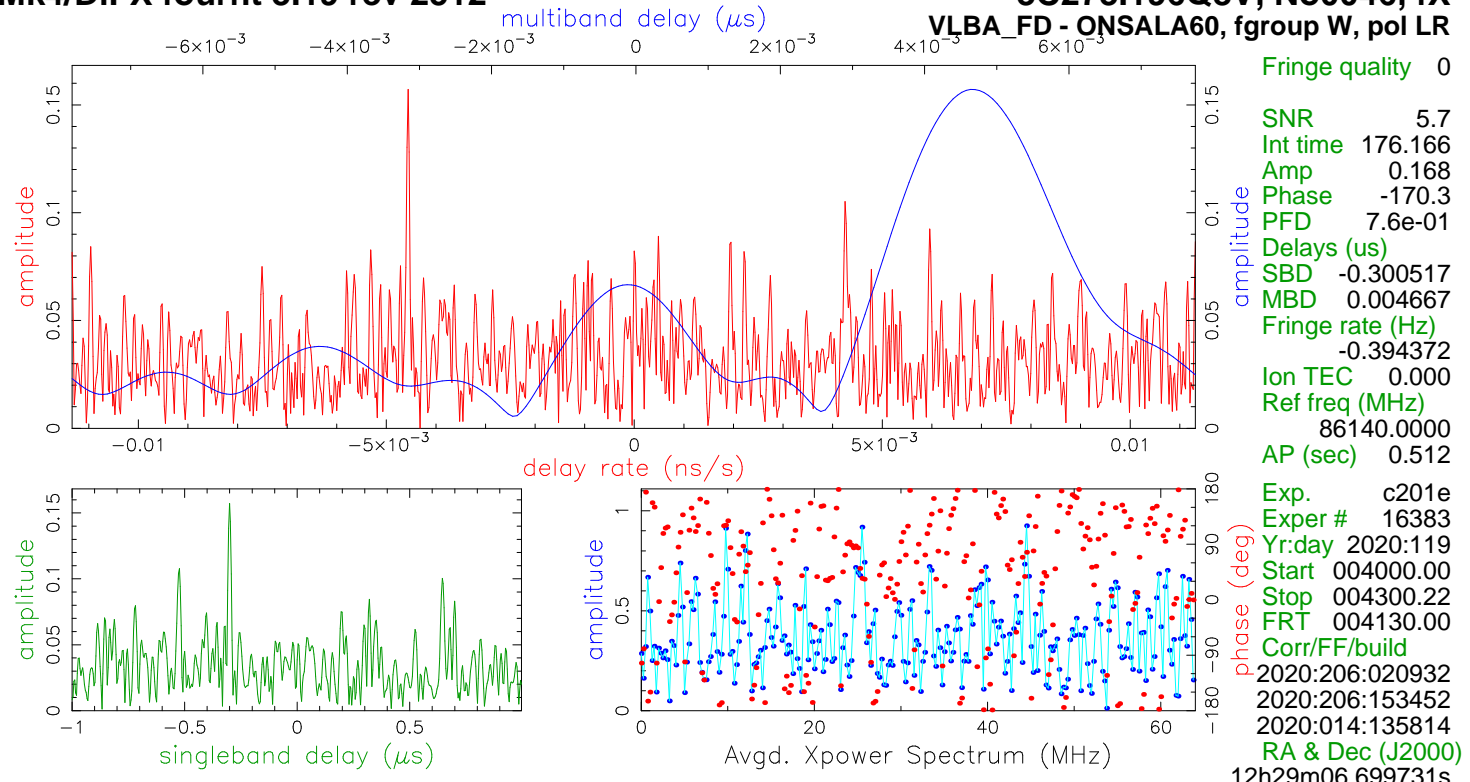




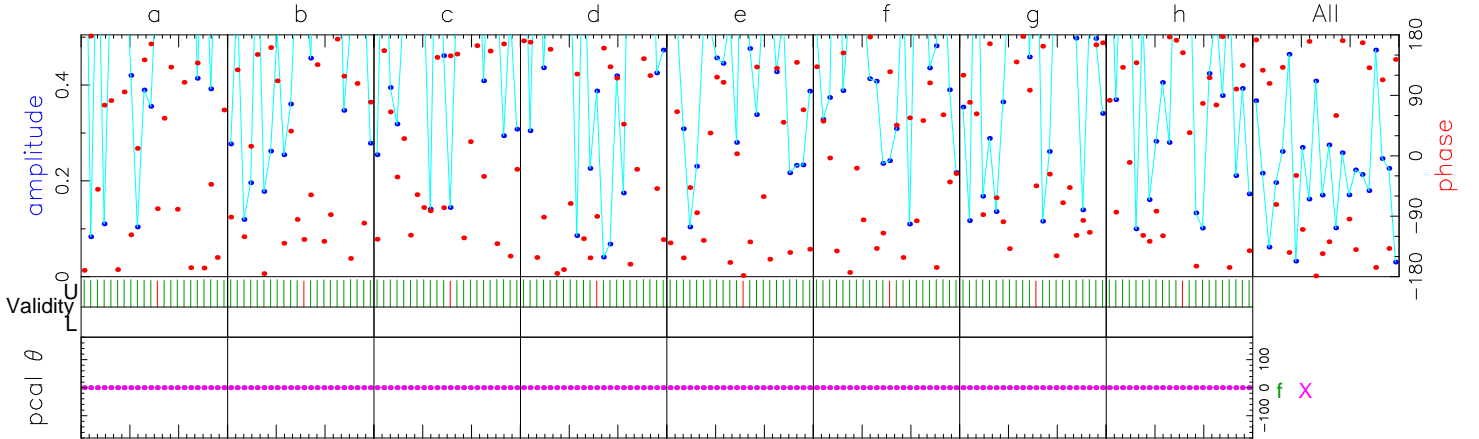
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         |                   |           |                          |                           |                                        |                      |                   |                  |         |      |
|-------------------------|-------------------|-----------|--------------------------|---------------------------|----------------------------------------|----------------------|-------------------|------------------|---------|------|
| 86012.00                | 86076.00          | 86140.00  | 86204.00                 | 86268.00                  | 86332.00                               | 86396.00             | 86460.00          | Freq (MHz)       | All     |      |
| 101.8                   | 23.8              | 102.1     | 23.8                     | 126.9                     | 47.8                                   | 120.8                | 61.0              | Phase            | 73.6    |      |
| 0.3                     | 0.2               | 0.3       | 0.2                      | 0.3                       | 0.4                                    | 0.1                  | 0.3               | Ampl.            | 0.2     |      |
| 260.4                   | 408.1             | 261.0     | 479.9                    | 261.4                     | 261.2                                  | 370.9                | 259.5             | Sbd box          | 261.5   |      |
| U/L 352/0               | 352/0             | 352/0     | 352/0                    | 352/0                     | 352/0                                  | 352/0                | 352/0             | APs used         |         |      |
| f 1000                  | 1000              | 1000      | 1000                     | 1000                      | 1000                                   | 1000                 | 1000              | PC freqs         |         |      |
| X 1000                  | 1000              | 1000      | 1000                     | 1000                      | 1000                                   | 1000                 | 1000              | PC freqs         |         |      |
| f:X 0:0                 | 0:0               | 0:0       | 0:0                      | 0:0                       | 0:0                                    | 0:0                  | 0:0               | PC phase         |         |      |
| f:X 0:0                 | 0:0               | 0:0       | 0:0                      | 0:0                       | 0:0                                    | 0:0                  | 0:0               | Mani PC          |         |      |
| f 1000                  | 1000              | 1000      | 1000                     | 1000                      | 1000                                   | 1000                 | 1000              | PC amp           |         |      |
| X 1000                  | 1000              | 1000      | 1000                     | 1000                      | 1000                                   | 1000                 | 1000              |                  |         |      |
| f                       | W00UR             | W01UR     | W02UR                    | W03UR                     | W04UR                                  | W05UR                | W06UR             | Chan ids         |         |      |
| X                       | W00UR             | W01UR     | W02UR                    | W03UR                     | W04UR                                  | W05UR                | W07UR             | Tracks           |         |      |
|                         |                   |           |                          |                           |                                        |                      |                   | Chan ids         |         |      |
|                         |                   |           |                          |                           |                                        |                      |                   | Tracks           |         |      |
| Group delay (usec)(sbd) | 3.69854456020E+02 |           | Apriori delay (usec)     | 3.69843664579E+02         | Resid mbdelay (usec)                   | -4.83356E-03         |                   | +/-              | 1.4E-04 |      |
| Sband delay (usec)      | 3.69861083579E+02 |           | Apriori clock (usec)     | -3.6916698E+01            | Resid sbdelay (usec)                   | 1.74190E-02          |                   | +/-              | 1.1E-03 |      |
| Phase delay (usec)      | 3.69843666953E+02 |           | Apriori clockrate (us/s) | -4.1900001E-07            | Resid phdelay (usec)                   | 2.37438E-06          |                   | +/-              | 4.9E-07 |      |
| Delay rate (us/s)       | 1.85987984076E+00 |           | Apriori rate (us/s)      | 1.85988005640E+00         | Resid rate (us/s)                      | -2.15650E-07         |                   | +/-              | 4.7E-09 |      |
| Total phase (deg)       |                   | 169.7     | Apriori accel (us/s/s)   | -3.43512071145E-06        | Resid phase (deg)                      | 73.6                 |                   | +/-              | 15.2    |      |
| RMS                     | Theor.            | Amplitude | 0.208 +/- 0.028          | Pcal mode: MANUAL, MANUAL | PC period (AP's)                       | 5, 5                 |                   |                  |         |      |
| ph/seg (deg)            | 62.6              | 35.6      | Search (1024X32)         | 0.202                     | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                      | sb window (us)    | -1.000           | 1.000   |      |
| amp/seg (%)             | 80.2              | 62.1      | Interp.                  | 0.000                     | Bits/sample: 2x2                       | SampCntNorm: enabled | mb window (us)    | -0.008           | 0.008   |      |
| ph/frq (deg)            | 45.6              | 21.5      | Inc. seg. avg.           | 0.256                     | Sample rate(MISamp/s): 128             |                      | dr window (ns/s)  | -0.011           | 0.011   |      |
| amp/frq (%)             | 41.2              | 37.5      | Inc. frq. avg.           | 0.240                     | Data rate(Mb/s): 2048                  | nlags: 256           | t_cohere infinite | ion window (TEC) | 0.00    | 0.00 |



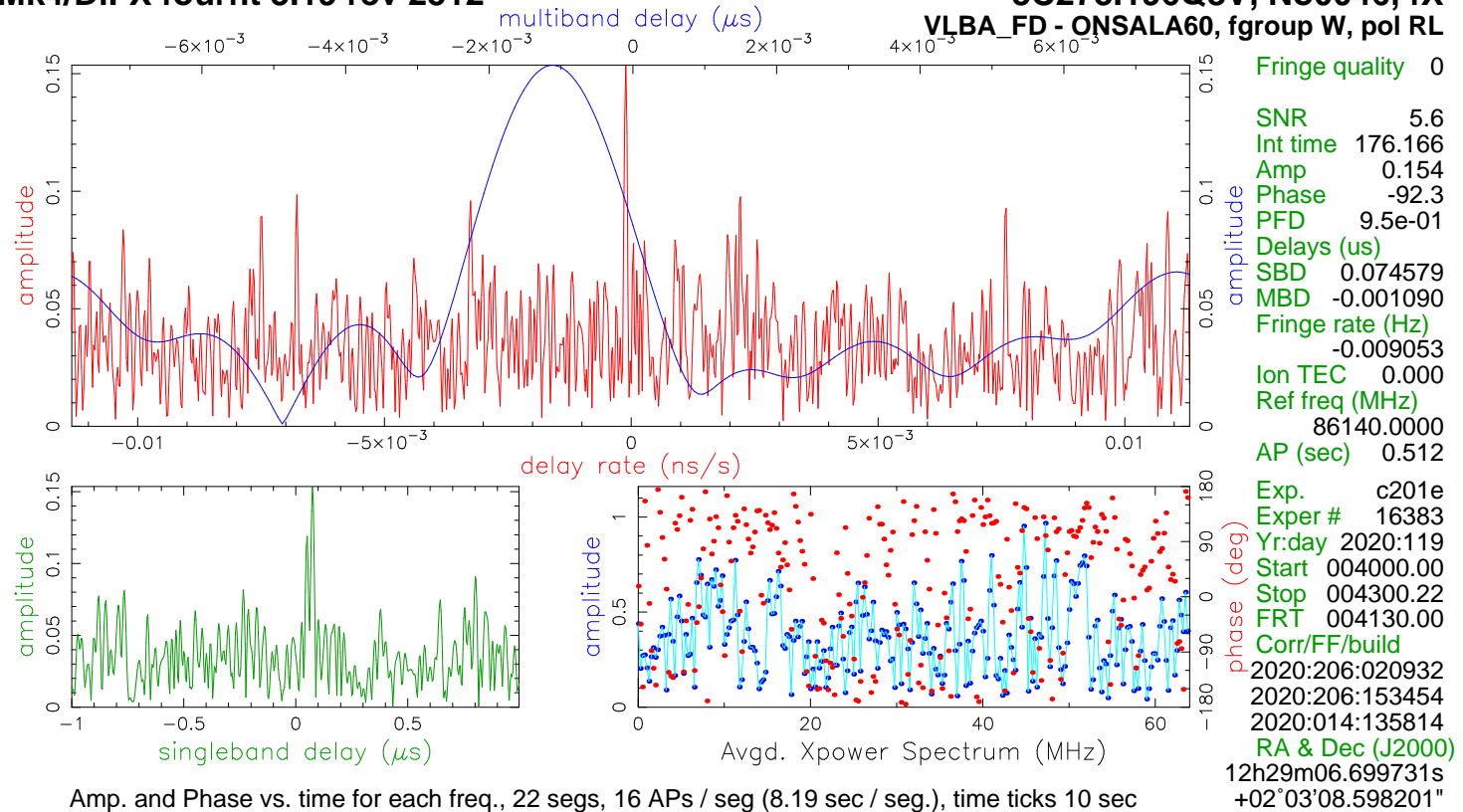
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



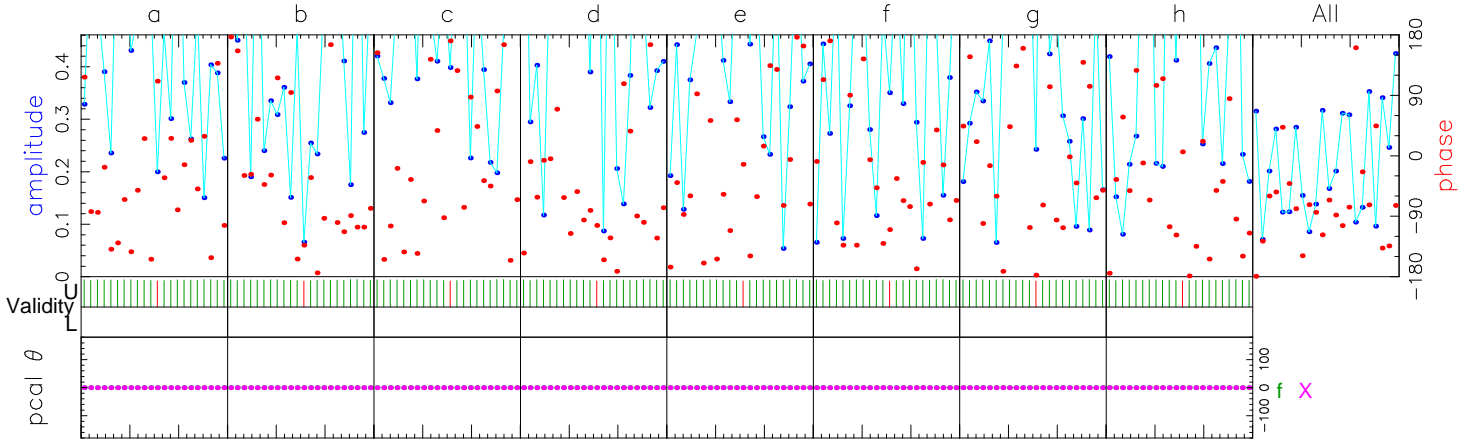
|                          | 86012.00 | 86076.00          | 86140.00 | 86204.00                    | 86268.00           | 86332.00 | 86396.00 | 86460.00 | Freq (MHz)   | All         |
|--------------------------|----------|-------------------|----------|-----------------------------|--------------------|----------|----------|----------|--------------|-------------|
| U/L                      | 352/0    | 352/0             | 352/0    | 352/0                       | 352/0              | 352/0    | 352/0    | 352/0    |              |             |
| f                        | 1000     | 1000              | 1000     | 1000                        | 1000               | 1000     | 1000     | 1000     |              |             |
| X                        | 1000     | 1000              | 1000     | 1000                        | 1000               | 1000     | 1000     | 1000     |              |             |
| f:X                      | 0:0      | 0:0               | 0:0      | 0:0                         | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| f:X                      | 0:0      | 0:0               | 0:0      | 0:0                         | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| f                        | 1000     | 1000              | 1000     | 1000                        | 1000               | 1000     | 1000     | 1000     |              |             |
| X                        | 1000     | 1000              | 1000     | 1000                        | 1000               | 1000     | 1000     | 1000     |              |             |
| f                        | W00UL    | W01UL             | W02UL    | W03UL                       | W04UL              | W05UL    | W06UL    | W07UL    |              |             |
| X                        | W00UR    | W01UR             | W02UR    | W03UR                       | W04UR              | W05UR    | W06UR    | W07UR    |              |             |
| Group delay (usec)(sbd)  |          | 3.69535831457E+02 |          |                             | 3.69843664579E+02  |          |          |          | 4.66688E-03  | +/- 1.9E-04 |
| Sband delay (usec)       |          | 3.69543147079E+02 |          |                             | -3.6916698E+01     |          |          |          | -3.00517E-01 | +/- 1.5E-03 |
| Phase delay (usec)       |          | 3.69843659086E+02 |          |                             | -4.1900001E-07     |          |          |          | -5.49273E-06 | +/- 6.5E-07 |
| Delay rate (us/s)        |          | 1.85987547814E+00 |          |                             | 1.85988005640E+00  |          |          |          | -4.57826E-06 | +/- 6.2E-09 |
| Total phase (deg)        |          |                   | -74.3    |                             | -3.43512071145E-06 |          |          |          | -170.3       | +/- 20.1    |
| Apriori delay (usec)     |          |                   |          |                             |                    |          |          |          |              |             |
| Apriori clock (usec)     |          |                   |          |                             |                    |          |          |          |              |             |
| Apriori clockrate (us/s) |          |                   |          |                             |                    |          |          |          |              |             |
| Apriori rate (us/s)      |          |                   |          |                             |                    |          |          |          |              |             |
| Apriori accel (us/s/s)   |          |                   |          |                             |                    |          |          |          |              |             |
| RMS                      | 63.3     | 47.1              |          |                             |                    |          |          |          |              |             |
| Theor.                   |          |                   |          |                             |                    |          |          |          |              |             |
| Amplitude                |          |                   |          | 0.168 +/- 0.029             |                    |          |          |          |              |             |
| Search (1024X32)         |          |                   |          | 0.152                       |                    |          |          |          |              |             |
| Interp.                  |          |                   |          | 0.000                       |                    |          |          |          |              |             |
| Inc. seg. avg.           |          |                   |          | 0.182                       |                    |          |          |          |              |             |
| Inc. frq. avg.           |          |                   |          | 0.160                       |                    |          |          |          |              |             |
| PCal mode:               |          |                   |          | MANUAL, MANUAL              |                    |          |          |          |              |             |
| PCal rate:               |          |                   |          | 0.000E+00, 0.000E+00 (us/s) |                    |          |          |          |              |             |
| Bits/sample:             |          |                   |          | 2x2                         |                    |          |          |          |              |             |
| SampCntNorm:             |          |                   |          | enabled                     |                    |          |          |          |              |             |
| Sample rate (MSamp/s):   |          |                   |          | 128                         |                    |          |          |          |              |             |
| Data rate (Mb/s):        |          |                   |          | 2048                        |                    |          |          |          |              |             |
| nlags:                   |          |                   |          | 256                         |                    |          |          |          |              |             |
| t_cohere                 |          |                   |          | infinite                    |                    |          |          |          |              |             |
| sb window (us)           |          |                   |          | -1.000                      |                    |          |          |          | 1.000        |             |
| mb window (us)           |          |                   |          | -0.008                      |                    |          |          |          | 0.008        |             |
| dr window (ns/s)         |          |                   |          | -0.011                      |                    |          |          |          | 0.011        |             |
| ion window (TEC)         |          |                   |          | 0.00                        |                    |          |          |          | 0.00         |             |

f: az 101.6 el 22.3 pa -57.5 X: az 236.5 el 21.6 pa 26.8 u,v (fr/asec) -10660.407 -2952.827 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fX..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fX.W.129.196Q8V



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

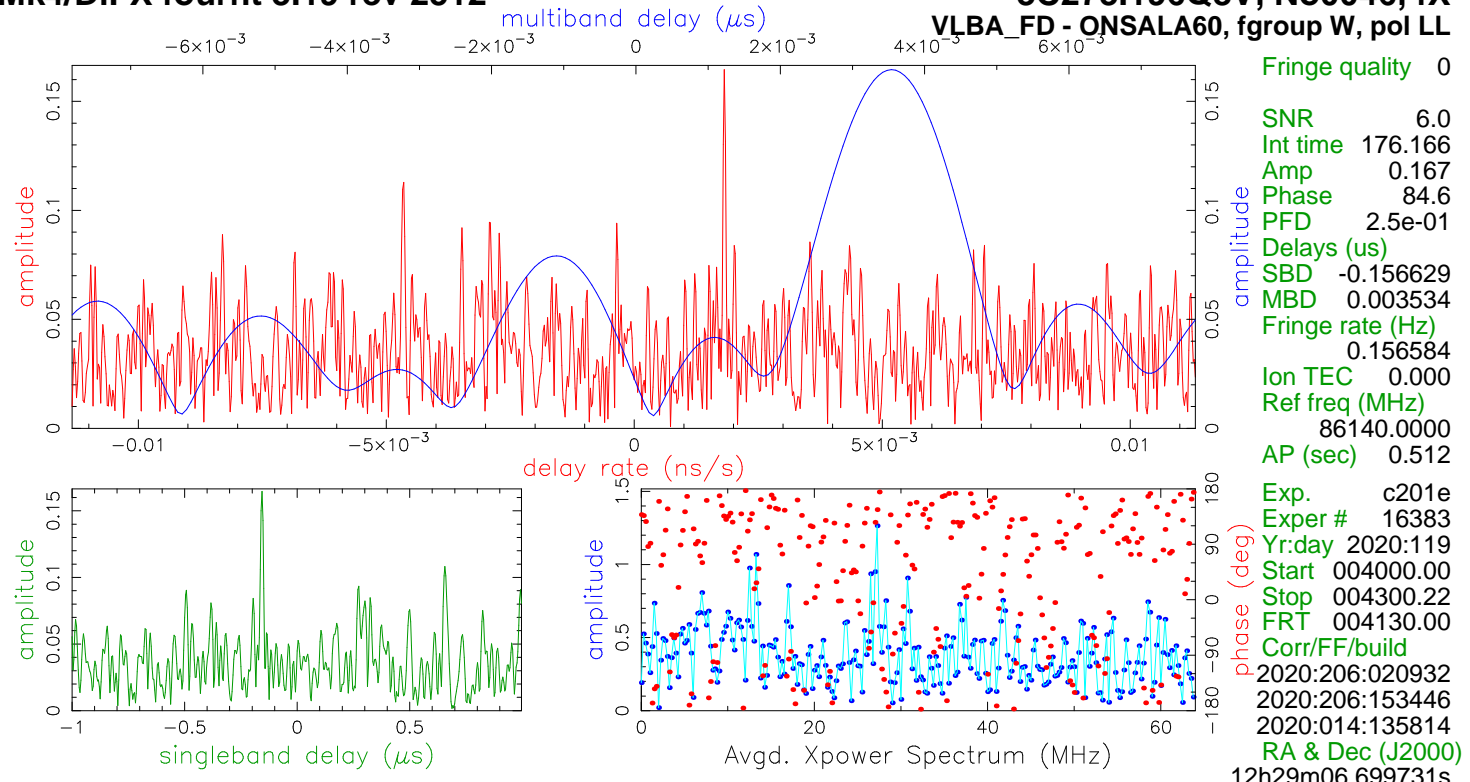


|                         | 86012.00 | 86076.00          | 86140.00 | 86204.00                 | 86268.00 | 86332.00           | 86396.00 | 86460.00             | Freq (MHz)   | All         |
|-------------------------|----------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|--------------|-------------|
|                         | -72.5    | -111.5            | -99.4    | -93.1                    | -75.4    | -88.9              | -98.1    | -93.2                | Phase        | -92.3       |
|                         | 0.2      | 0.2               | 0.1      | 0.3                      | 0.0      | 0.2                | 0.1      | 0.2                  | Ampl.        | 0.1         |
|                         | 273.7    | 283.3             | 107.1    | 275.7                    | 236.1    | 264.0              | 38.1     | 151.2                | Sbd box      | 276.1       |
| U/L                     | 352/0    | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | APs used     |             |
| f                       | 1000     | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | PC freqs     |             |
| X                       | 1000     | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | PC freqs     |             |
| f:X                     | 0:0      | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | PC phase     |             |
| f:X                     | 0:0      | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | Mani PC      |             |
| f                       | 1000     | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | PC amp       |             |
| X                       | 1000     | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 |              |             |
| f                       | W00UR    | W01UR             | W02UR    | W03UR                    | W04UR    | W05UR              | W06UR    | W07UR                | Chan ids     |             |
| X                       | W00UL    | W01UL             | W02UL    | W03UL                    | W04UL    | W05UL              | W06UL    | W07UL                | Tracks       |             |
|                         |          |                   |          |                          |          |                    |          |                      | Chan ids     |             |
|                         |          |                   |          |                          |          |                    |          |                      | Tracks       |             |
| Group delay (usec)(sbd) |          | 3.69920699174E+02 |          | Apriori delay (usec)     |          | 3.69843664579E+02  |          | Resid mbdelay (usec) | -1.09040E-03 | +/- 1.9E-04 |
| Sband delay (usec)      |          | 3.69918244079E+02 |          | Apriori clock (usec)     |          | -3.6916698E+01     |          | Resid sbdelay (usec) | 7.45795E-02  | +/- 1.5E-03 |
| Phase delay (usec)      |          | 3.69843661601E+02 |          | Apriori clockrate (us/s) |          | -4.1900001E-07     |          | Resid phdelay (usec) | -2.97760E-06 | +/- 6.6E-07 |
| Delay rate (us/s)       |          | 1.85987995131E+00 |          | Apriori rate (us/s)      |          | 1.85988005640E+00  |          | Resid rate (us/s)    | -1.05096E-07 | +/- 6.4E-09 |
| Total phase (deg)       |          |                   | 3.7      | Apriori accel (us/s/s)   |          | -3.43512071145E-06 |          | Resid phase (deg)    | -92.3        | +/- 20.5    |

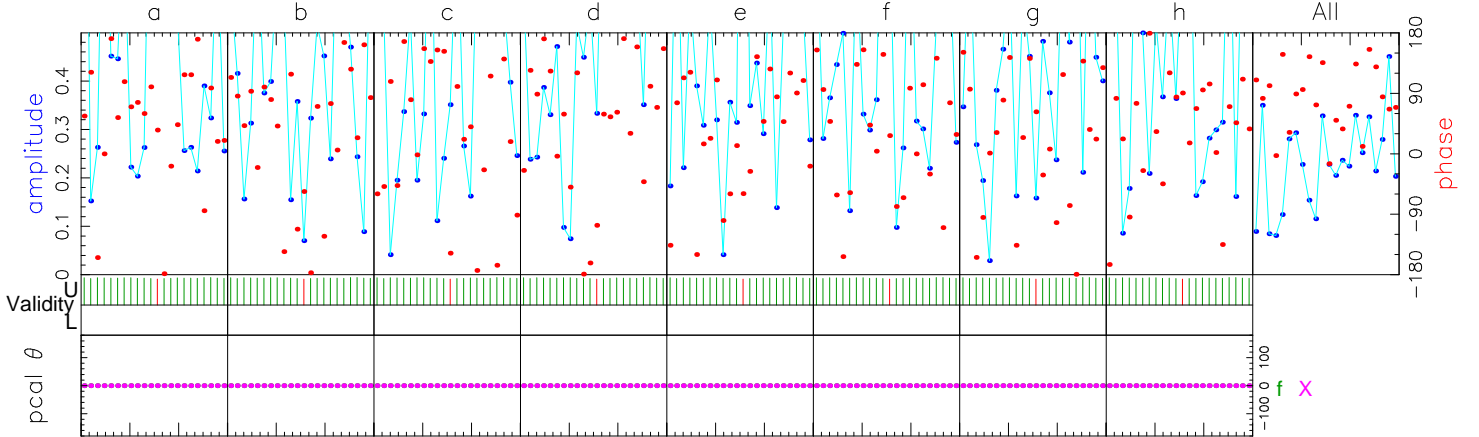
|              | RMS  | Theor. | Amplitude        | 0.154 +/- 0.028 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5        | sb window (us)   | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|----------------------------------------|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 59.4 | 48.2   | Search (1024X32) | 0.151           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) |                              | mb window (us)   | -0.008 | 0.008 |
| amp/seg (%)  | 78.2 | 84.1   | Interp.          | 0.000           | Bits/sample: 2x2                       | SampCntNorm: enabled         | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 13.8 | 29.1   | Inc. seg. avg.   | 0.161           | Sample rate(MISamp/s): 128             |                              | ion window (TEC) | 0.00   | 0.00  |
| amp/frq (%)  | 47.0 | 50.7   | Inc. frq. avg.   | 0.139           | Data rate(Mb/s): 2048                  | nlags: 256 t_cohere infinite |                  |        |       |

f: az 101.6 el 22.3 pa -57.5 X: az 236.5 el 21.6 pa 26.8 u,v (fr/asec) -10660.407 -2952.827 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fX..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fX.W.144.196Q8V



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 64.5              | 88.0     | 139.5                    | 95.7     | 66.3               | 102.2    | 95.9                 | 69.2     | Phase        | 84.6        |
|                         | 0.3               | 0.2      | 0.1                      | 0.2      | 0.1                | 0.1      | 0.1                  | 0.3      | Ampl.        | 0.2         |
|                         | 216.2             | 26.3     | 400.9                    | 178.2    | 427.6              | 327.3    | 5.1                  | 431.7    | Sbd box      | 216.9       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| X                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:X                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:X                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| X                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| X                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 3.69690948775E+02 |          | Apriori delay (usec)     |          | 3.69843664579E+02  |          | Resid mbdelay (usec) |          | 3.53420E-03  | +/- 1.8E-04 |
| Sband delay (usec)      | 3.69687035329E+02 |          | Apriori clock (usec)     |          | -3.6916698E+01     |          | Resid sbdelay (usec) |          | -1.56629E-01 | +/- 1.4E-03 |
| Phase delay (usec)      | 3.69843667306E+02 |          | Apriori clockrate (us/s) |          | -4.1900001E-07     |          | Resid phdelay (usec) |          | 2.72694E-06  | +/- 6.2E-07 |
| Delay rate (us/s)       | 1.85988187419E+00 |          | Apriori rate (us/s)      |          | 1.85988005640E+00  |          | Resid rate (us/s)    |          | 1.81778E-06  | +/- 5.9E-09 |
| Total phase (deg)       | 180.6             |          | Apriori accel (us/s/s)   |          | -3.43512071145E-06 |          | Resid phase (deg)    |          | 84.6         | +/- 19.2    |

ph/seg (deg) 47.8 44.9 Search (1024X32) 0.163 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 69.8 78.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 27.6 27.1 Inc. seg. avg. 0.178 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 33.3 47.3 Inc. frq. avg. 0.159 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011

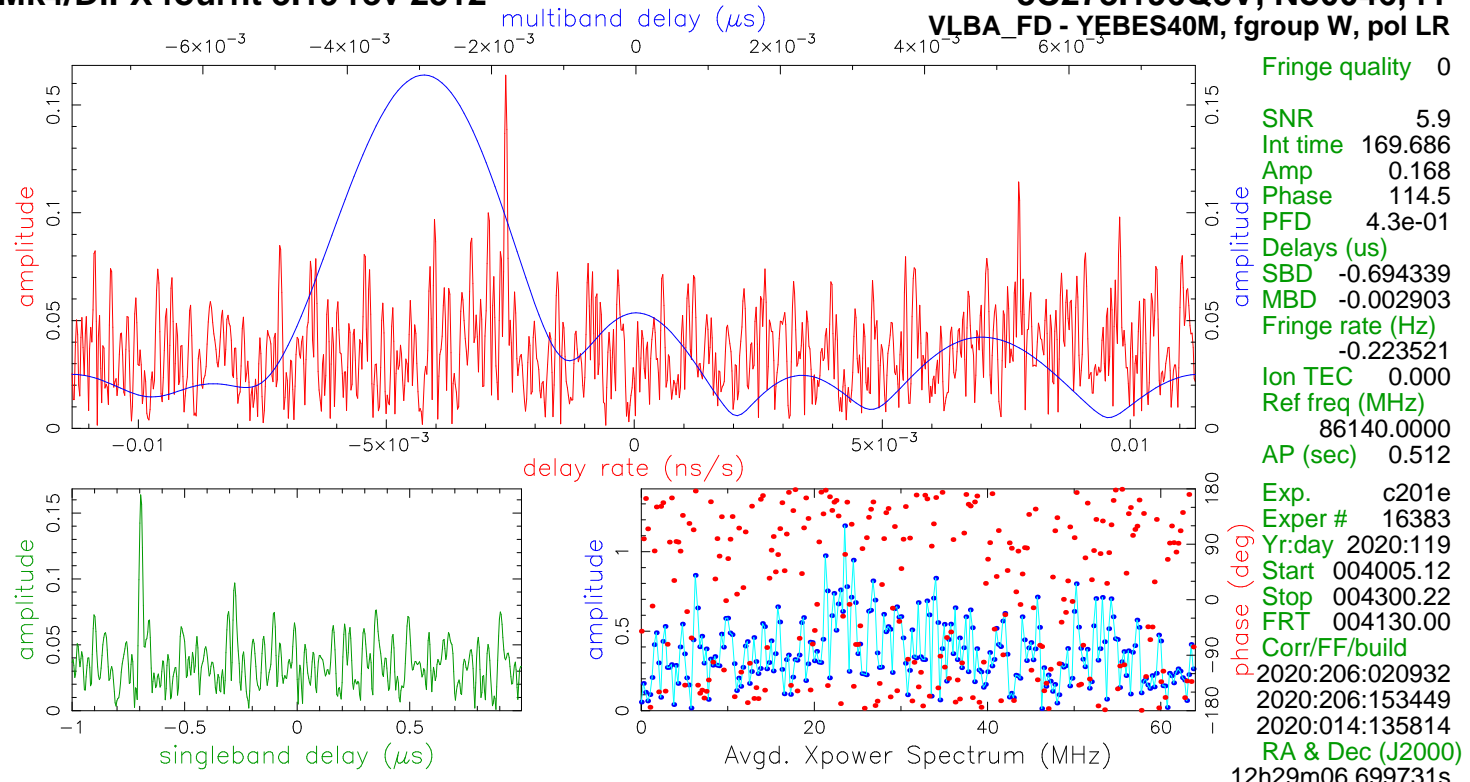
f: az 101.6 el 22.3 pa -57.5 X: az 236.5 el 21.6 pa 26.8 u,v (fr/asec) -10660.407 -2952.827 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fX..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fX.W.92.196Q8V

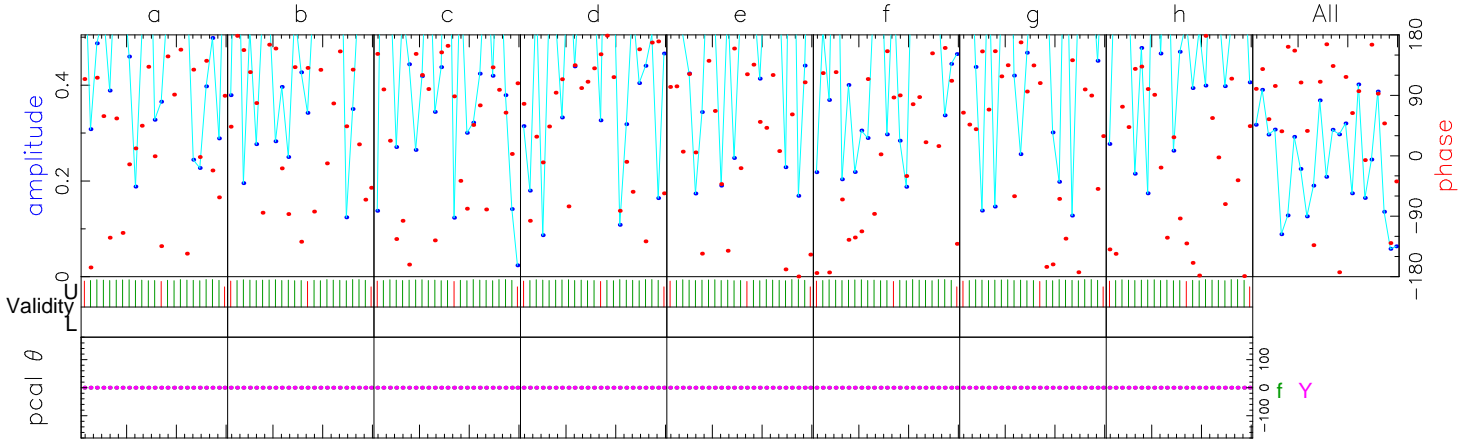
Mk4/DiFX fourfit 3.19 rev 2512

3C273.196Q8V, No0046, fY

VLBA\_FD - YEBES40M, fgroup W, pol LR



Amp. and Phase vs. time for each freq., 23 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec

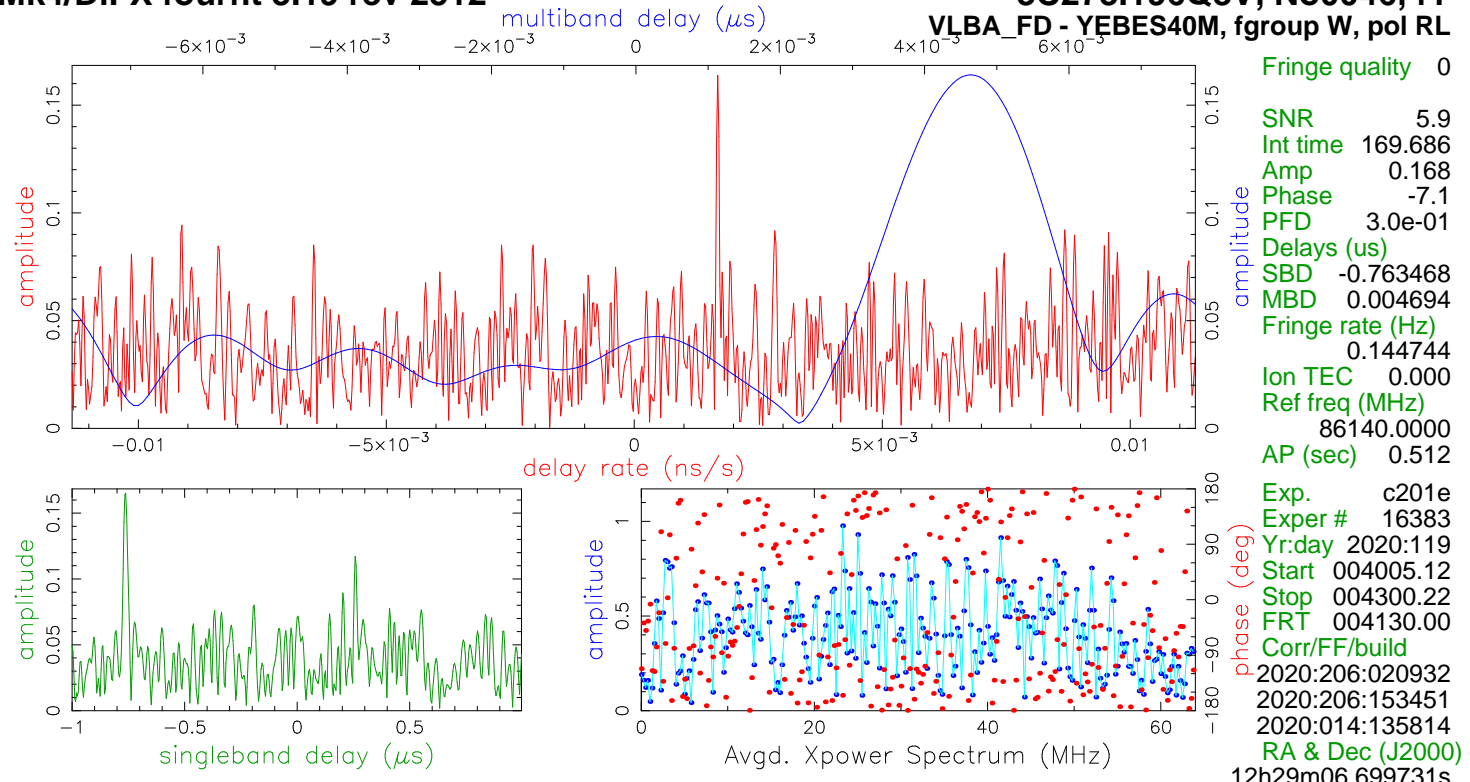


|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00           | 86268.00             | 86332.00     | 86396.00 | 86460.00 | Freq (MHz) | All   |
|-------------------------|--------------------|----------|--------------------------|--------------------|----------------------|--------------|----------|----------|------------|-------|
| 110.8                   | 139.0              | 118.5    | 125.4                    | 100.1              | 106.9                | 114.2        | 114.2    | 138.0    | Phase      | 114.5 |
| 0.2                     | 0.1                | 0.1      | 0.2                      | 0.3                | 0.2                  | 0.2          | 0.2      | 0.1      | Ampl.      | 0.2   |
| 138.4                   | 332.2              | 492.8    | 428.3                    | 219.7              | 219.7                | 35.2         | 35.2     | 105.6    | Sbd box    | 79.2  |
| U/L                     | 342/0              | 342/0    | 342/0                    | 342/0              | 342/0                | 342/0        | 342/0    | 342/0    | APs used   |       |
| f                       | 1000               | 1000     | 1000                     | 1000               | 1000                 | 1000         | 1000     | 1000     | PC freqs   |       |
| Y                       | 1000               | 1000     | 1000                     | 1000               | 1000                 | 1000         | 1000     | 1000     | PC freqs   |       |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0                | 0:0                  | 0:0          | 0:0      | 0:0      | PC phase   |       |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0                | 0:0                  | 0:0          | 0:0      | 0:0      | Mani PC    |       |
| f                       | 1000               | 1000     | 1000                     | 1000               | 1000                 | 1000         | 1000     | 1000     | PC amp     |       |
| Y                       | 1000               | 1000     | 1000                     | 1000               | 1000                 | 1000         | 1000     | 1000     |            |       |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL              | W04UL                | W05UL        | W06UL    | W07UL    | Chan ids   |       |
| Y                       | W00UR              | W01UR    | W02UR                    | W03UR              | W04UR                | W05UR        | W06UR    | W07UR    | Tracks     |       |
|                         |                    |          |                          |                    |                      |              |          |          | Tracks     |       |
| Group delay (usec)(sbd) | -5.33224976185E+03 |          | Apriori delay (usec)     | -5.33155935849E+03 | Resid mbdelay (usec) | -2.90336E-03 | +/-      | 1.8E-04  |            |       |
| Sband delay (usec)      | -5.33225369724E+03 |          | Apriori clock (usec)     | -8.0684452E+00     | Resid sbdelay (usec) | -6.94339E-01 | +/-      | 1.5E-03  |            |       |
| Phase delay (usec)      | -5.33155935479E+03 |          | Apriori clockrate (us/s) | -1.1100000E-07     | Resid phdelay (usec) | 3.69339E-06  | +/-      | 6.3E-07  |            |       |
| Delay rate (us/s)       | 1.90426960451E+00  |          | Apriori rate (us/s)      | 1.90427219937E+00  | Resid rate (us/s)    | -2.59486E-06 | +/-      | 6.2E-09  |            |       |
| Total phase (deg)       |                    | 64.1     | Apriori accel (us/s/s)   | 2.77719840482E-05  | Resid phase (deg)    | 114.5        | +/-      | 19.5     |            |       |

|              | RMS  | Theor. | Amplitude        | 0.168 +/- 0.029 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5         |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-------------------------------|
| ph/seg (deg) | 65.4 | 46.8   | Search (1024X32) | 0.160           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000   |
| amp/seg (%)  | 78.1 | 81.7   | Interp.          | 0.000           | Bits/sample: 2x2                       | mb window (us) -0.008 0.008   |
| ph/frq (deg) | 16.1 | 27.6   | Inc. seg. avg.   | 0.184           | Sample rate(MISamp/s): 128             | dr window (ns/s) -0.011 0.011 |
| amp/frq (%)  | 37.8 | 48.2   | Inc. frq. avg.   | 0.153           | Data rate(Mb/s): 2048                  | ion window (TEC) 0.00 0.00    |

f: az 101.6 el 22.3 pa -57.5 Y: az 229.4 el 39.6 pa 35.3 u,v (fr/asec) -10898.381 -1161.554 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fY...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fY.W.111.196Q8V



Fringe quality 0

SNR 5.9

Int time 169.686

Amp 0.168

Phase -7.1

PFD 3.0e-01

Delays (us)

SBD -0.763468

MBD 0.004694

Fringe rate (Hz)

0.144744

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c201e

Exper # 16383

Yr:day 2020:119

Start 004005.12

Stop 004300.22

FRT 004130.00

Corr/FF/build

2020:206:020932

2020:206:153451

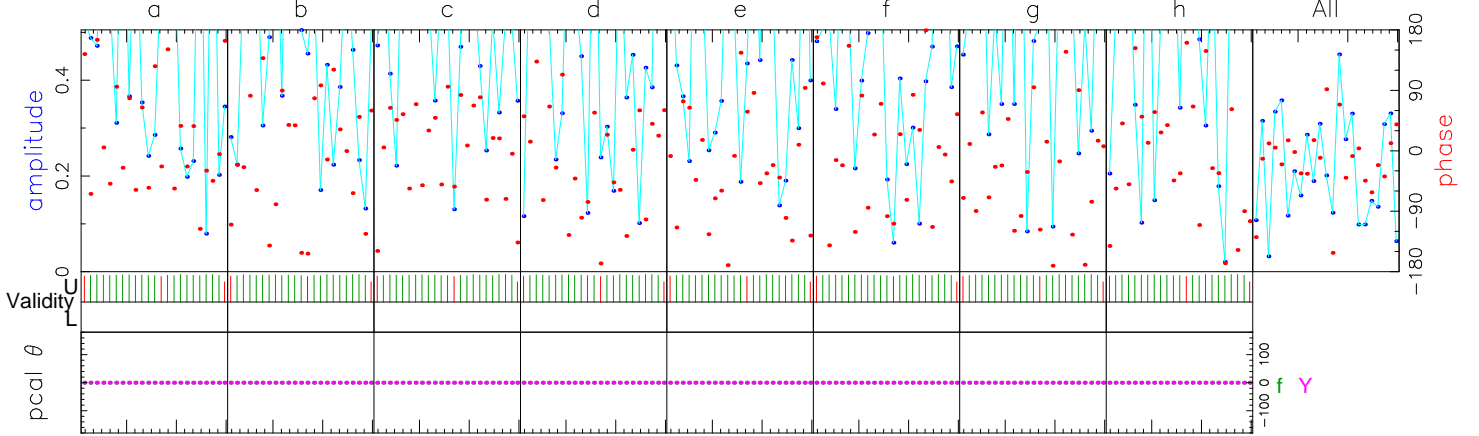
2020:014:135814

RA & Dec (J2000)

12h29m06.699731s

+02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec



|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -36.7              | 8.1      | 19.9                     | -9.6     | -16.4              | 9.0      | -31.5                | -8.4     |              | -7.1        |
|                         | 0.2                | 0.1      | 0.3                      | 0.2      | 0.2                | 0.1      | 0.2                  | 0.2      |              | 0.2         |
|                         | 347.8              | 73.3     | 63.2                     | 382.7    | 110.6              | 329.8    | 213.8                | 162.0    |              | 61.6        |
| U/L                     | 342/0              | 342/0    | 342/0                    | 342/0    | 342/0              | 342/0    | 342/0                | 342/0    |              |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              | PC freqs    |
| Y                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              | PC freqs    |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      |              | PC phase    |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      |              | Mani PC     |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              | PC amp      |
| Y                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR              | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    |              | Chan ids    |
| Y                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    |              | Tracks      |
|                         |                    |          |                          |          |                    |          |                      |          |              | Tracks      |
| Group delay (usec)(sbd) | -5.33232028902E+03 |          | Apriori delay (usec)     |          | -5.33155935849E+03 |          | Resid mbdelay (usec) |          | 4.69447E-03  | +/- 1.8E-04 |
| Sband delay (usec)      | -5.33232282649E+03 |          | Apriori clock (usec)     |          | -8.0684452E+00     |          | Resid sbdelay (usec) |          | -7.63468E-01 | +/- 1.4E-03 |
| Phase delay (usec)      | -5.33155935872E+03 |          | Apriori clockrate (us/s) |          | -1.1100000E-07     |          | Resid phdelay (usec) |          | -2.28452E-07 | +/- 6.2E-07 |
| Delay rate (us/s)       | 1.90427387971E+00  |          | Apriori rate (us/s)      |          | 1.90427219937E+00  |          | Resid rate (us/s)    |          | 1.68034E-06  | +/- 6.1E-09 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 2.77719840482E-05  |          | Resid phase (deg)    |          | -7.1         | +/- 19.3    |

ph/seg (deg) 52.0 46.2 Amplitude 0.168 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

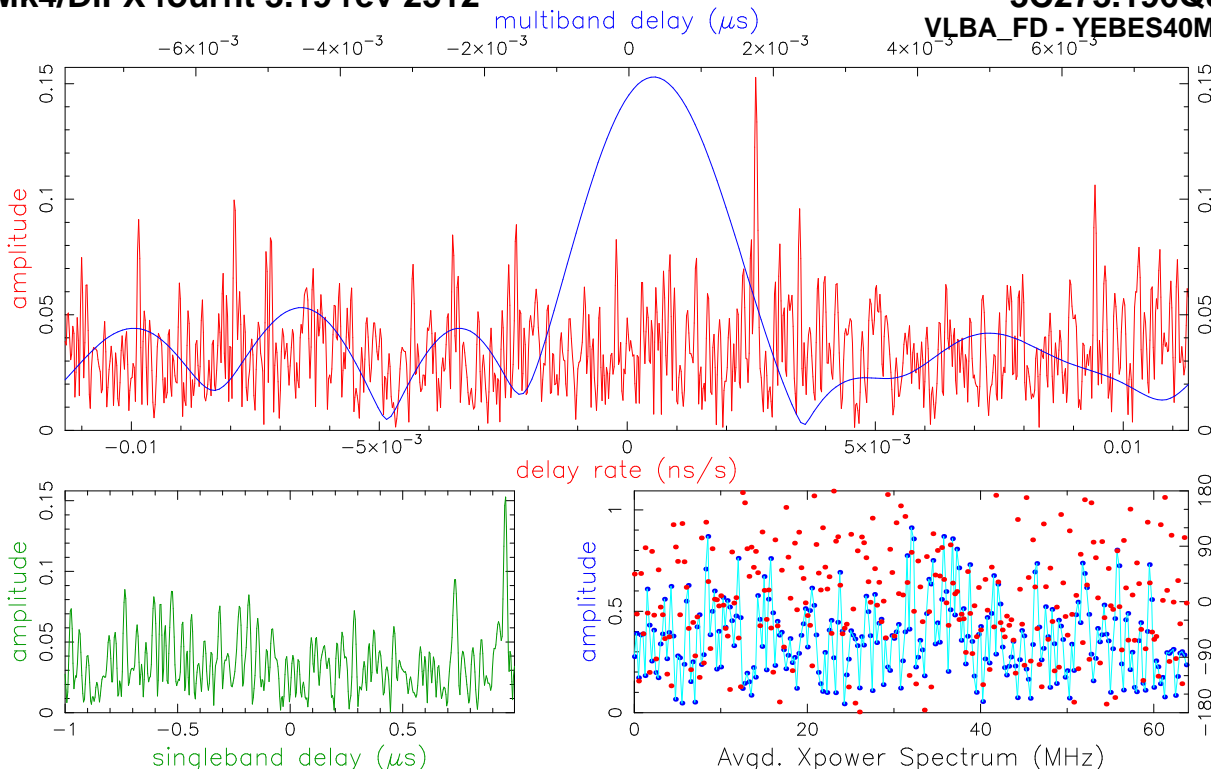
amp/seg (%) 73.0 80.7 Search (1024X32) 0.162 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 21.5 27.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 28.7 47.6 Inc. seg. avg. 0.167 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011

f: az 101.6 el 22.3 pa -57.5 Y: az 229.4 el 39.6 pa 35.3 u,v (fr/asec) -10898.381 -1161.554 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fY...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fY.W.124.196Q8V

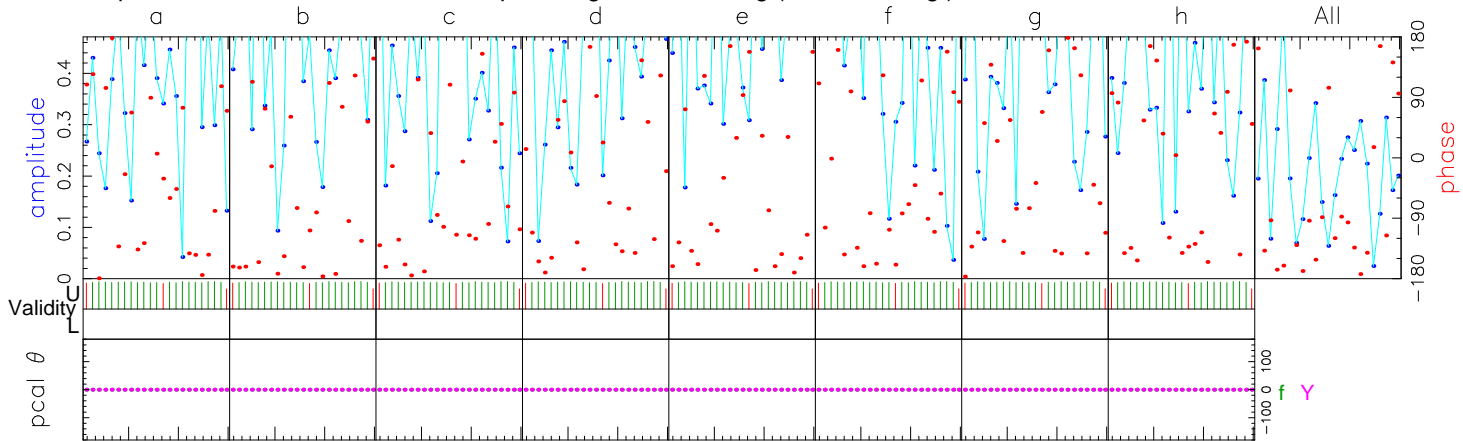


Fringe quality 0

SNR 5.5  
 Int time 169.686  
 Amp 0.157  
 Phase -147.1  
 PFD 9.9e-01  
 Delays (us)  
 SBD 0.955982  
 MBD 0.000287  
 Fringe rate (Hz) 0.222847  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

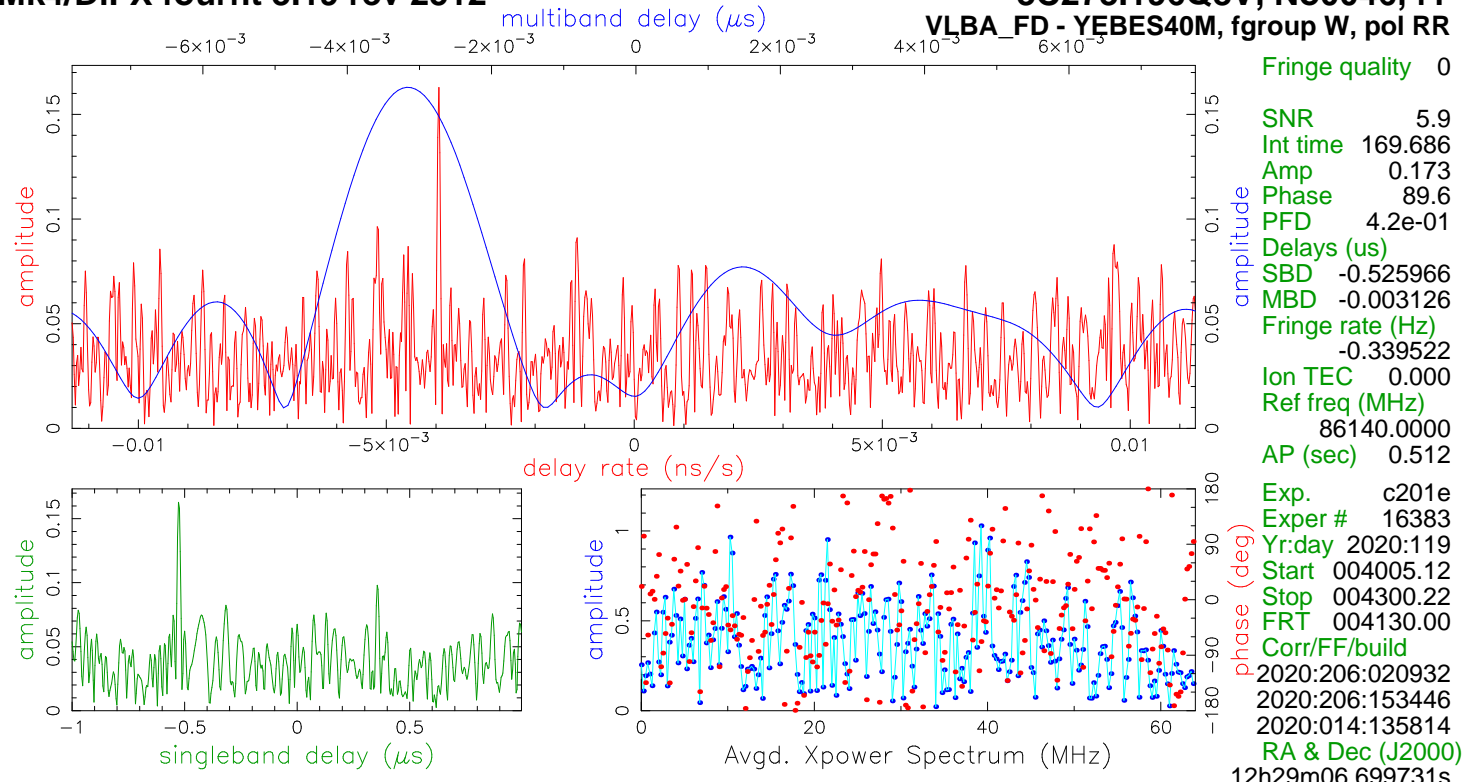
Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004005.12  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build  
 2020:206:020932  
 2020:206:153444  
 2020:014:135814  
 RA & Dec (J2000)  
 12h29m06.699731s  
 +02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec

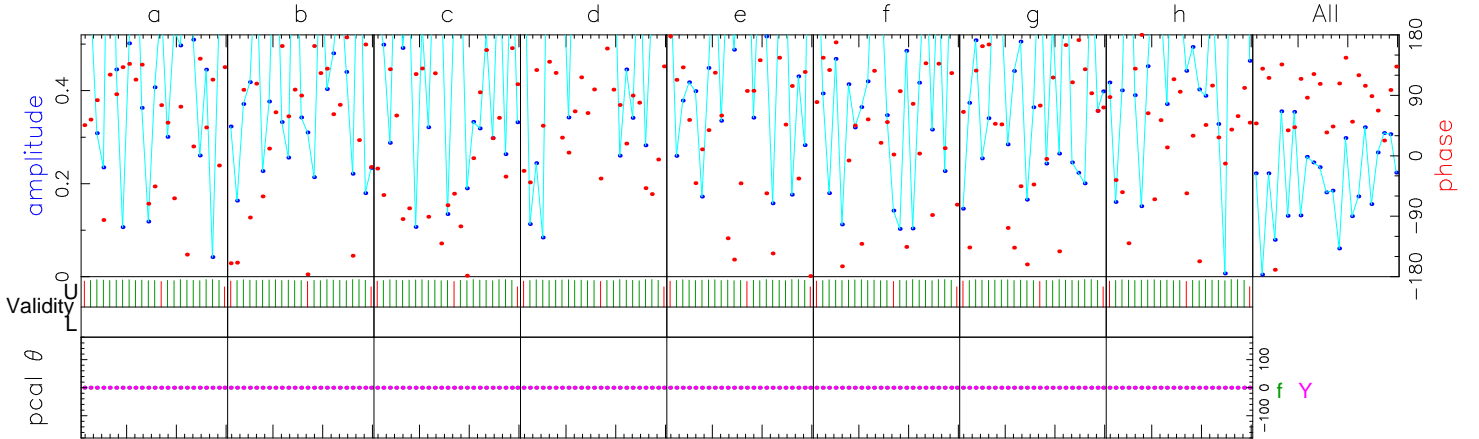


|                         | 86012.00           | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | -149.1             | -169.4   | -126.8                   | -164.5   | -148.8             | -130.3   | -118.3               | -165.7   | Phase        | -147.1      |
|                         | 0.2                | 0.2      | 0.1                      | 0.1      | 0.3                | 0.1      | 0.2                  | 0.2      | Ampl.        | 0.1         |
|                         | 234.8              | 437.8    | 485.5                    | 251.6    | 200.3              | 443.3    | 75.8                 | 295.3    | Sbd box      | 501.7       |
| U/L                     | 342/0              | 342/0    | 342/0                    | 342/0    | 342/0              | 342/0    | 342/0                | 342/0    | APs used     |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| Y                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:Y                     | 0:0                | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| Y                       | 1000               | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| Y                       | W00UL              | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                    |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | -5.33060594676E+03 |          | Apriori delay (usec)     |          | -5.33155935849E+03 |          | Resid mbdelay (usec) |          | 2.86732E-04  | +/- 2.0E-04 |
| Sband delay (usec)      | -5.33060337649E+03 |          | Apriori clock (usec)     |          | -8.0684452E+00     |          | Resid sbdelay (usec) |          | 9.55982E-01  | +/- 1.6E-03 |
| Phase delay (usec)      | -5.33155936323E+03 |          | Apriori clockrate (us/s) |          | -1.1100000E-07     |          | Resid phdelay (usec) |          | -4.74417E-06 | +/- 6.7E-07 |
| Delay rate (us/s)       | 1.90427478640E+00  |          | Apriori rate (us/s)      |          | 1.90427219937E+00  |          | Resid rate (us/s)    |          | 2.58704E-06  | +/- 6.7E-09 |
| Total phase (deg)       |                    |          | Apriori accel (us/s/s)   |          | 2.77719840482E-05  |          | Resid phase (deg)    |          | -147.1       | +/- 20.9    |

ph/seg (deg) 62.9 50.2 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 84.4 87.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 21.1 29.6 Inc. seg. avg. 0.159 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 27.5 51.7 Inc. frq. avg. 0.144 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 Y: az 229.4 el 39.6 pa 35.3 u,v (fr/asec) -10898.381 -1161.554 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fY...196Q8V Output file: /Exps/c201e/v1/1234/No0046/fY.W.79.196Q8V

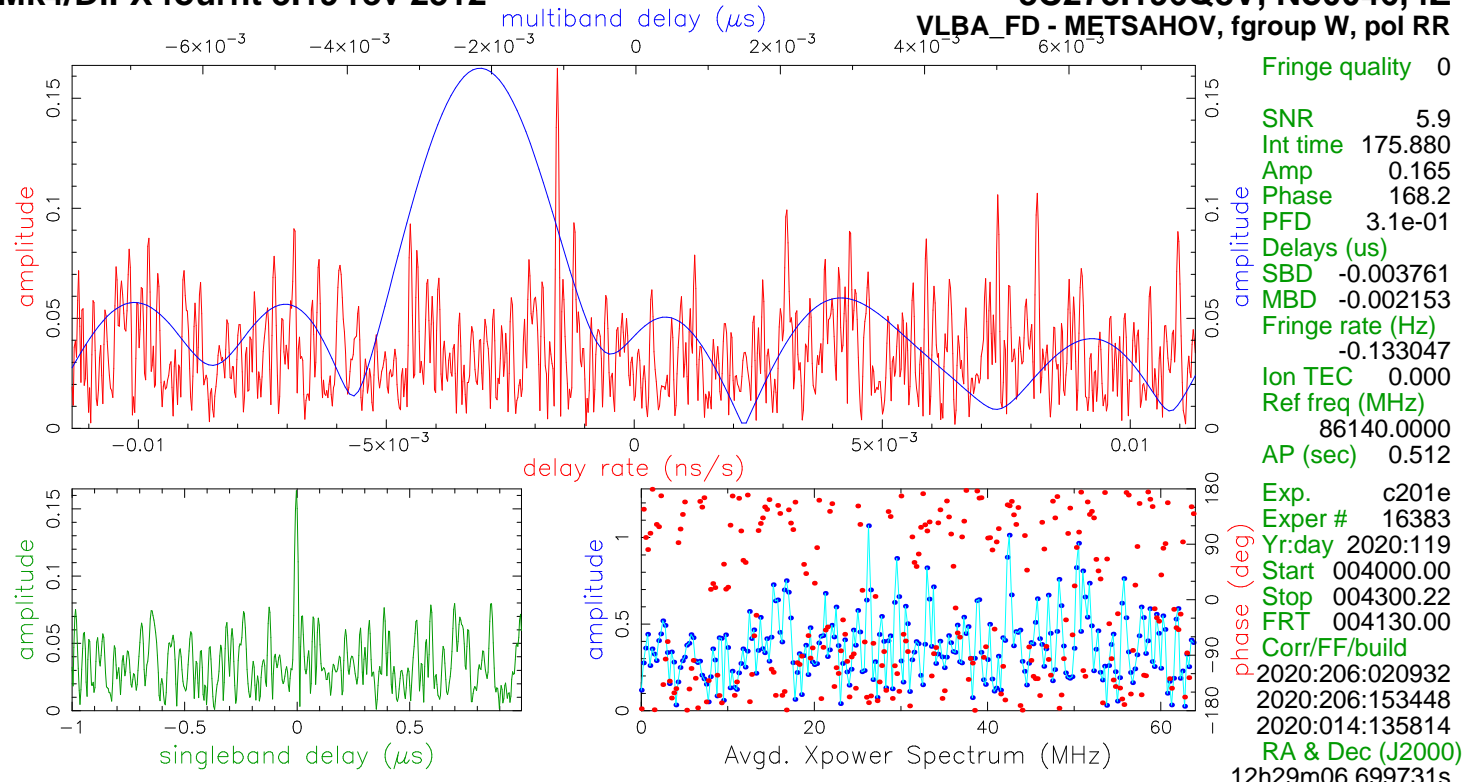


Amp. and Phase vs. time for each freq., 23 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec

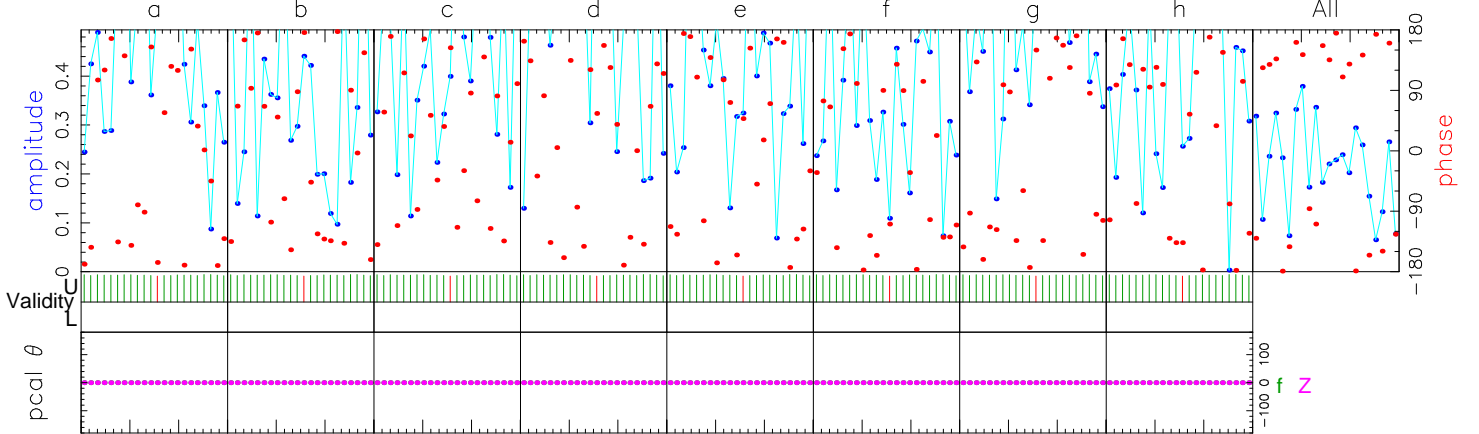


|                                                        | 86012.00           | 86076.00 | 86140.00 | 86204.00        | 86268.00           | 86332.00 | 86396.00 | 86460.00 | Freq (MHz)   | All         |
|--------------------------------------------------------|--------------------|----------|----------|-----------------|--------------------|----------|----------|----------|--------------|-------------|
| U/L                                                    | 342/0              | 342/0    | 342/0    | 342/0           | 342/0              | 342/0    | 342/0    | 342/0    |              |             |
| f                                                      | 1000               | 1000     | 1000     | 1000            | 1000               | 1000     | 1000     | 1000     |              |             |
| Y                                                      | 1000               | 1000     | 1000     | 1000            | 1000               | 1000     | 1000     | 1000     |              |             |
| f:Y                                                    | 0:0                | 0:0      | 0:0      | 0:0             | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| f:Y                                                    | 0:0                | 0:0      | 0:0      | 0:0             | 0:0                | 0:0      | 0:0      | 0:0      |              |             |
| f                                                      | 1000               | 1000     | 1000     | 1000            | 1000               | 1000     | 1000     | 1000     |              |             |
| Y                                                      | 1000               | 1000     | 1000     | 1000            | 1000               | 1000     | 1000     | 1000     |              |             |
| f                                                      | W00UR              | W01UR    | W02UR    | W03UR           | W04UR              | W05UR    | W06UR    | W07UR    |              |             |
| Y                                                      | W00UR              | W01UR    | W02UR    | W03UR           | W04UR              | W05UR    | W06UR    | W07UR    |              |             |
| Group delay (usec)(sbd)                                | -5.33207810983E+03 |          |          |                 | -5.33155935849E+03 |          |          |          | -3.12635E-03 | +/- 1.8E-04 |
| Sband delay (usec)                                     | -5.33208532474E+03 |          |          |                 | -8.0684452E+00     |          |          |          | -5.25966E-01 | +/- 1.5E-03 |
| Phase delay (usec)                                     | -5.33155935560E+03 |          |          |                 | -1.1100000E-07     |          |          |          | 2.88961E-06  | +/- 6.3E-07 |
| Delay rate (us/s)                                      | 1.90426825785E+00  |          |          |                 | 1.90427219937E+00  |          |          |          | -3.94151E-06 | +/- 6.2E-09 |
| Total phase (deg)                                      |                    |          | 39.1     |                 | 2.77719840482E-05  |          |          |          | 89.6         | +/- 19.5    |
| Apriori delay (usec)                                   |                    |          |          |                 |                    |          |          |          |              |             |
| Apriori clock (usec)                                   |                    |          |          |                 |                    |          |          |          |              |             |
| Apriori clockrate (us/s)                               |                    |          |          |                 |                    |          |          |          |              |             |
| Apriori rate (us/s)                                    |                    |          |          |                 |                    |          |          |          |              |             |
| Apriori accel (us/s/s)                                 |                    |          |          |                 |                    |          |          |          |              |             |
| Resid mbdelay (usec)                                   |                    |          |          |                 |                    |          |          |          |              |             |
| Resid sbdelay (usec)                                   |                    |          |          |                 |                    |          |          |          |              |             |
| Resid phdelay (usec)                                   |                    |          |          |                 |                    |          |          |          |              |             |
| Resid rate (us/s)                                      |                    |          |          |                 |                    |          |          |          |              |             |
| Resid phase (deg)                                      |                    |          |          |                 |                    |          |          |          |              |             |
| Pcal mode: MANUAL, MANUAL                              |                    |          |          |                 |                    |          |          |          |              |             |
| Pcal rate: 0.000E+00, 0.000E+00 (us/s)                 |                    |          |          |                 |                    |          |          |          |              |             |
| Bits/sample: 2x2                                       |                    |          |          |                 |                    |          |          |          |              |             |
| Sample rate(MISamp/s): 128                             |                    |          |          |                 |                    |          |          |          |              |             |
| Data rate(Mb/s): 2048                                  |                    |          |          |                 |                    |          |          |          |              |             |
| PC period (AP's) 5, 5                                  |                    |          |          |                 |                    |          |          |          |              |             |
| sb window (us)                                         |                    |          |          |                 |                    |          |          |          | -1.000       | 1.000       |
| mb window (us)                                         |                    |          |          |                 |                    |          |          |          | -0.008       | 0.008       |
| dr window (ns/s)                                       |                    |          |          |                 |                    |          |          |          | -0.011       | 0.011       |
| ion window (TEC)                                       |                    |          |          |                 |                    |          |          |          | 0.00         | 0.00        |
| ph/seg (deg)                                           | 42.4               | 46.8     |          | 0.173 +/- 0.030 |                    |          |          |          |              |             |
| amp/seg (%)                                            | 62.8               | 81.7     |          | 0.000           |                    |          |          |          |              |             |
| ph/frq (deg)                                           | 55.9               | 27.6     |          | 0.166           |                    |          |          |          |              |             |
| amp/frq (%)                                            | 47.7               | 48.2     |          | 0.163           |                    |          |          |          |              |             |
| f: az 101.6 el 22.3 pa -57.5                           |                    |          |          |                 |                    |          |          |          |              |             |
| Y: az 229.4 el 39.6 pa 35.3                            |                    |          |          |                 |                    |          |          |          |              |             |
| u,v (fr/asec) -10898.381 -1161.554                     |                    |          |          |                 |                    |          |          |          |              |             |
| Control file: cf_1234_gmva                             |                    |          |          |                 |                    |          |          |          |              |             |
| Input file: /Exps/c201e/v1/1234/No0046/fY...196Q8V     |                    |          |          |                 |                    |          |          |          |              |             |
| Output file: /Exps/c201e/v1/1234/No0046/fY.W.93.196Q8V |                    |          |          |                 |                    |          |          |          |              |             |





Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

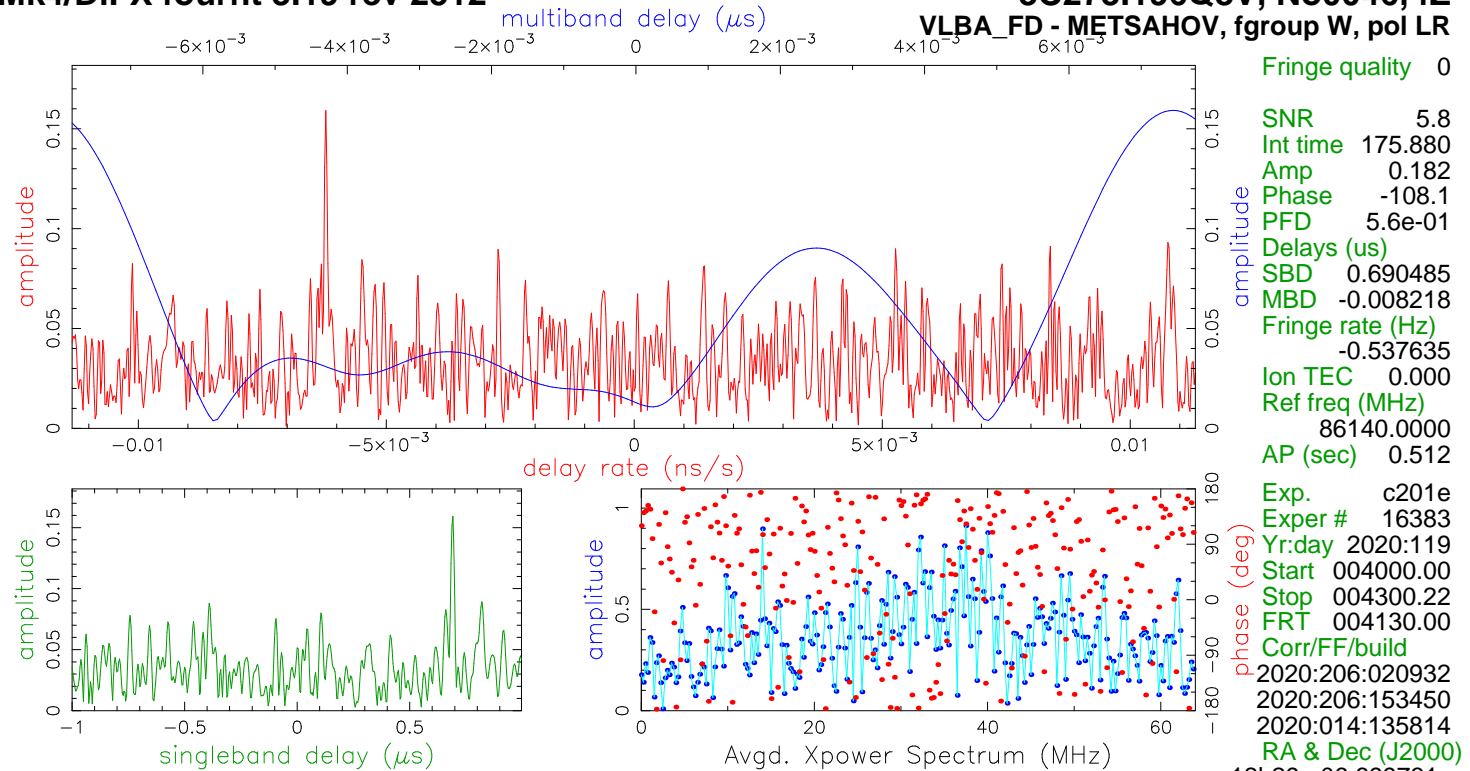


|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 171.3             | -173.5   | 159.5                    | 151.1    | 175.6              | 146.7    | -175.7               | 160.1    | Phase        | 168.2       |
|                         | 0.2               | 0.1      | 0.1                      | 0.2      | 0.1                | 0.1      | 0.3                  | 0.2      | Ampl.        | 0.2         |
|                         | 250.9             | 454.5    | 224.6                    | 303.8    | 183.8              | 263.2    | 255.0                | 440.0    | Sbd box      | 256.0       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Manl PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| Z                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 2.89197909696E+03 |          | Apriori delay (usec)     |          | 2.89198125022E+03  |          | Resid mbdelay (usec) |          | -2.15326E-03 | +/- 1.8E-04 |
| Sband delay (usec)      | 2.89197748972E+03 |          | Apriori clock (usec)     |          | 4.0383458E+00      |          | Resid sbdelay (usec) |          | -3.76050E-03 | +/- 1.5E-03 |
| Phase delay (usec)      | 2.89198125564E+03 |          | Apriori clockrate (us/s) |          | 9.3000003E-08      |          | Resid phdelay (usec) |          | 5.42387E-06  | +/- 6.2E-07 |
| Delay rate (us/s)       | 1.89914976866E+00 |          | Apriori rate (us/s)      |          | 1.89915131321E+00  |          | Resid rate (us/s)    |          | -1.54455E-06 | +/- 6.0E-09 |
| Total phase (deg)       | 130.0             |          | Apriori accel (us/s/s)   |          | -1.67258348291E-05 |          | Resid phase (deg)    |          | 168.2        | +/- 19.3    |

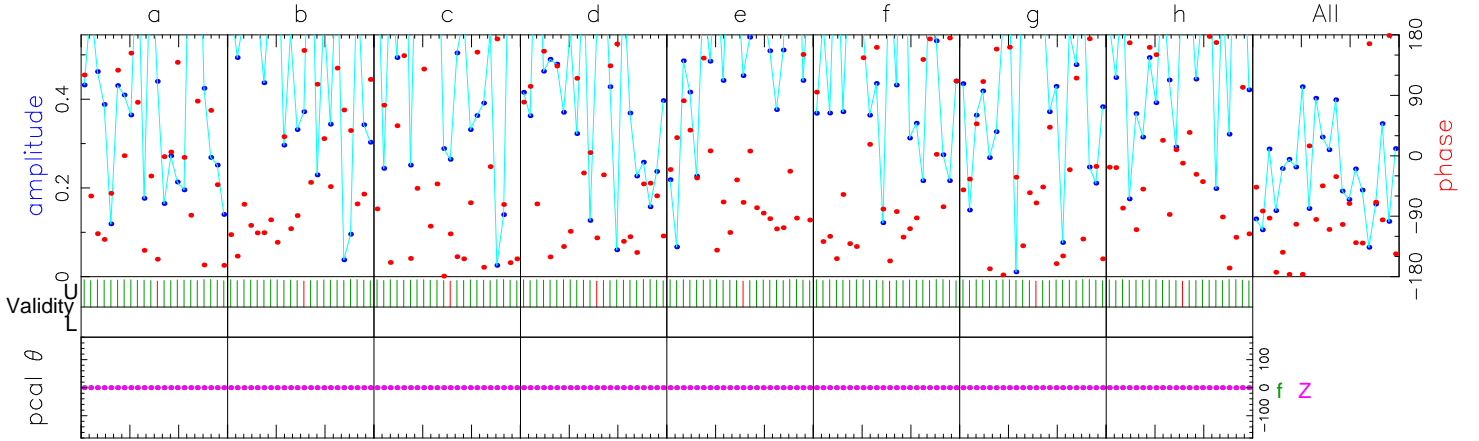
|              | RMS  | Theor. | Amplitude        | 0.165 +/- 0.028 | Pcal mode: MANUAL, MANUAL              | PC period (AP's) 5, 5 | sb window (us)   | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|----------------------------------------|-----------------------|------------------|--------|-------|
| ph/seg (deg) | 44.9 | 45.3   | Search (1024X32) | 0.161           | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled  | mb window (us)   | -0.008 | 0.008 |
| amp/seg (%)  | 64.9 | 79.0   | Interp.          | 0.000           | Sample rate(MISamp/s): 128             | nlags: 256            | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 16.1 | 27.3   | Inc. seg. avg.   | 0.169           | Data rate(Mb/s): 2048                  | t_cohere infinite     | ion window (TEC) | 0.00   | 0.00  |
| amp/frq (%)  | 40.9 | 47.7   | Inc. frq. avg.   | 0.152           |                                        |                       |                  |        |       |

f: az 101.6 el 22.3 pa -57.5      Z: az 247.3 el 14.6 pa 27.3      u,v (fr/asec) -10892.301 -3214.817      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c201e/v1/1234/No0046/fZ..196Q8V    Output file: /Exps/c201e/v1/1234/No0046/fZ.W.105.196Q8V



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



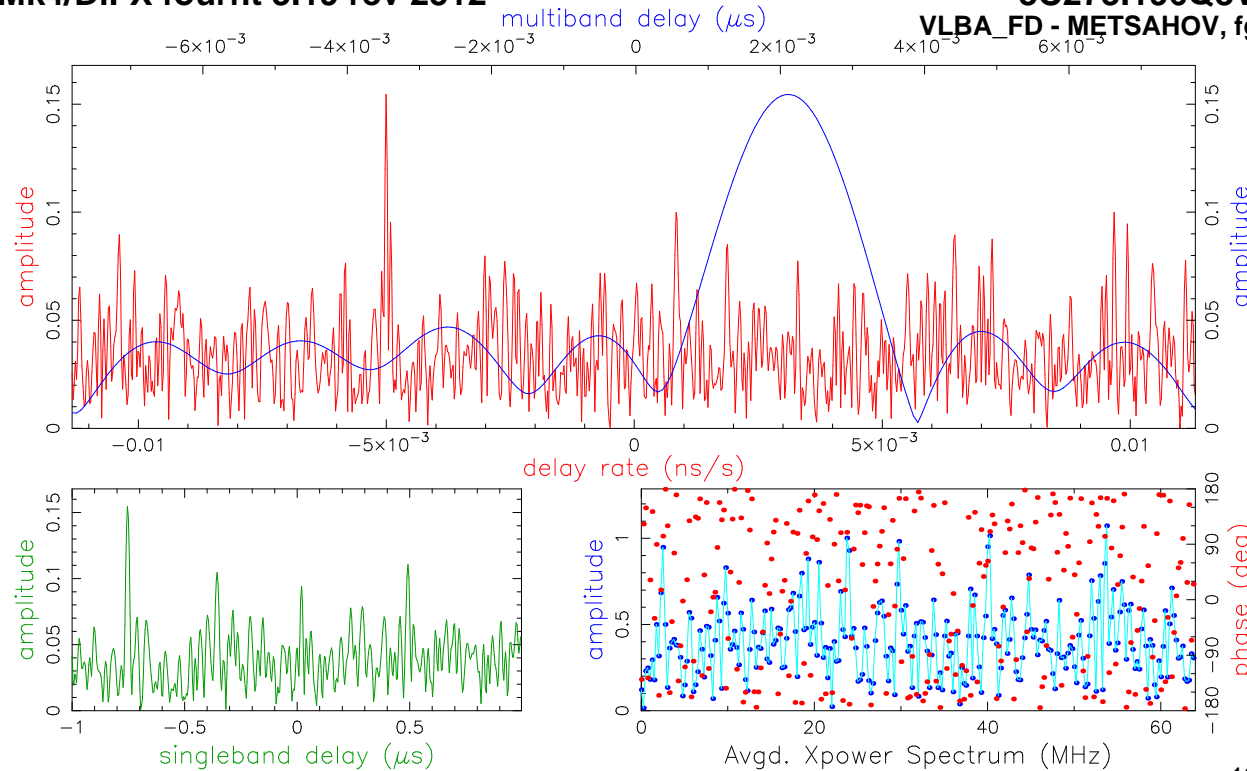
|     | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All    |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
|     | -54.9    | -96.6    | -135.4   | -113.6   | -75.5    | -140.8   | -123.6   | -69.1    | Phase      | -108.1 |
|     | 0.0      | 0.3      | 0.3      | 0.2      | 0.3      | 0.3      | 0.1      | 0.1      | Ampl.      | 0.2    |
|     | 457.8    | 248.2    | 208.9    | 361.0    | 432.0    | 433.2    | 74.6     | 439.7    | Sbd box    | 433.8  |
| U/L | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | 352/0    | APs used   |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| Z   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC freqs   |        |
| f:Z | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | PC phase   |        |
| f:Z | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | 0:0      | Mani PC    |        |
| f   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | PC amp     |        |
| Z   | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     | 1000     |            |        |
| f   | W00UL    | W01UL    | W02UL    | W03UL    | W04UL    | W05UL    | W06UL    | W07UL    | Chan ids   |        |
| Z   | W00UR    | W01UR    | W02UR    | W03UR    | W04UR    | W05UR    | W06UR    | W07UR    | Tracks     |        |

|                         |                   |                          |                    |                      |              |     |         |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.89267615762E+03 | Apriori delay (usec)     | 2.89198125022E+03  | Resid mbdelay (usec) | -8.21759E-03 | +/- | 1.9E-04 |
| Sband delay (usec)      | 2.89267173522E+03 | Apriori clock (usec)     | 4.0383458E+00      | Resid sbdelay (usec) | 6.90485E-01  | +/- | 1.5E-03 |
| Phase delay (usec)      | 2.89198124673E+03 | Apriori clockrate (us/s) | 9.3000003E-08      | Resid phdelay (usec) | -3.48435E-06 | +/- | 6.4E-07 |
| Delay rate (us/s)       | 1.89914507180E+00 | Apriori rate (us/s)      | 1.89915131321E+00  | Resid rate (us/s)    | -6.24141E-06 | +/- | 6.1E-09 |
| Total phase (deg)       | 213.7             | Apriori accel (us/s/s)   | -1.67258348291E-05 | Resid phase (deg)    | -108.1       | +/- | 19.8    |

|              |      |                  |       |                        |                             |                      |                   |                  |       |      |
|--------------|------|------------------|-------|------------------------|-----------------------------|----------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | 53.4 | Theor.           | 46.3  | Amplitude              | 0.182 +/- 0.031             | Pcal mode:           | MANUAL, MANUAL    | PC period (AP's) | 5, 5  |      |
| amp/seg (%)  | 78.2 | Search (1024X32) | 0.155 | Pcal rate:             | 0.000E+00, 0.000E+00 (us/s) | sb window (us)       | -1.000            | 1.000            |       |      |
| ph/frq (deg) | 35.7 | Inc. seg. avg.   | 0.203 | Bits/sample:           | 2x2                         | SampCntNorm: enabled | mb window (us)    | -0.008           | 0.008 |      |
| amp/frq (%)  | 55.2 | Inc. frq. avg.   | 0.182 | Sample rate (MSamp/s): | 128                         | nlags: 256           | t_cohere infinite | ion window (TEC) | 0.00  | 0.00 |

f: az 101.6 el 22.3 pa -57.5      Z: az 247.3 el 14.6 pa 27.3      u,v (fr/asec) -10892.301 -3214.817      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c201e/v1/1234/No0046/fZ..196Q8V    Output file: /Exps/c201e/v1/1234/No0046/fZ.W.119.196Q8V

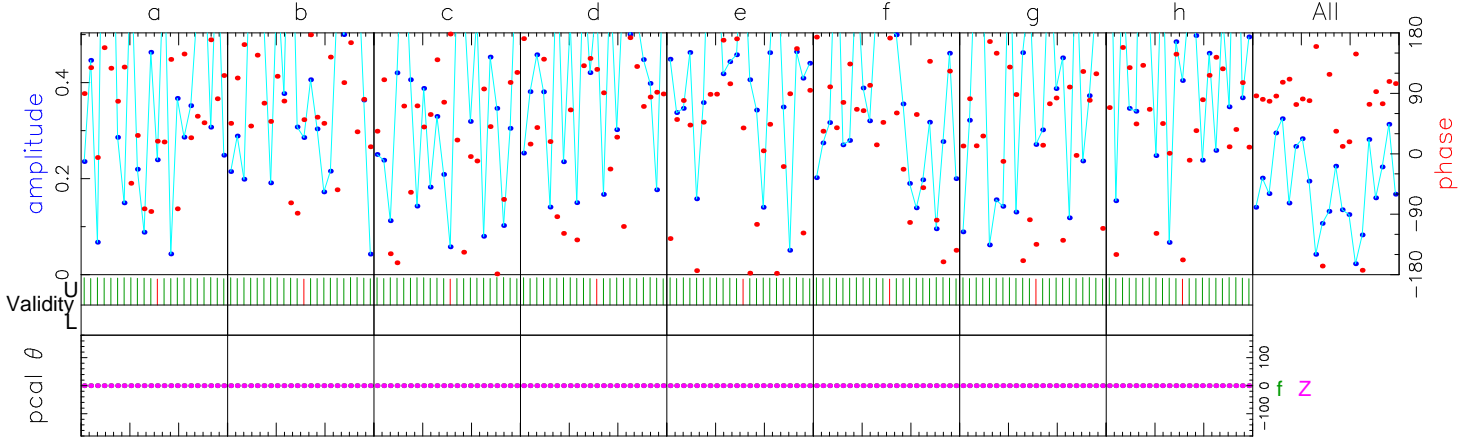


Fringe quality 0

SNR 5.6  
 Int time 175.880  
 Amp 0.168  
 Phase 86.0  
 PFD 9.1e-01  
 Delays (us)  
 SBD -0.753308  
 MBD 0.002127  
 Fringe rate (Hz)  
 -0.431509  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

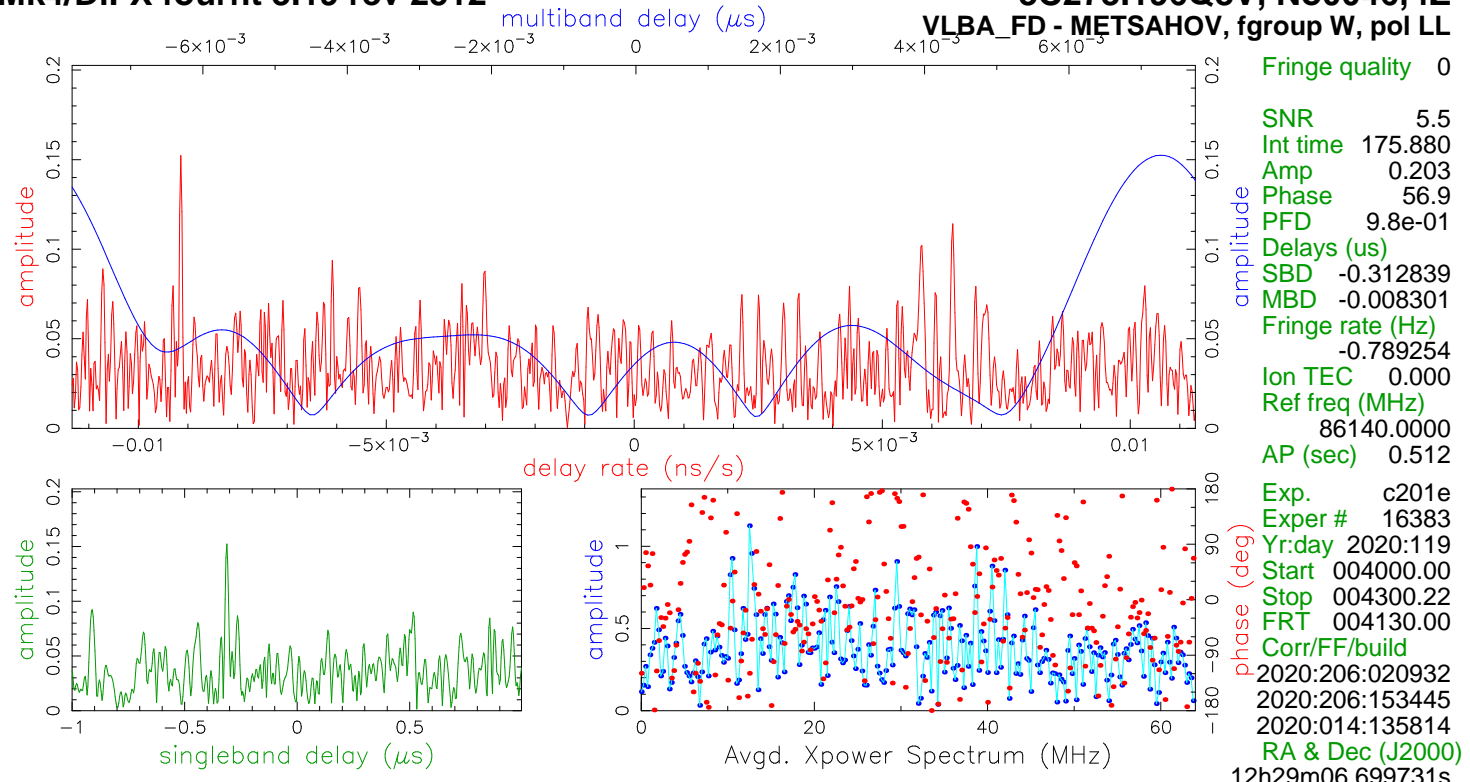
Exp. c201e  
 Exper # 16383  
 Yr:day 2020:119  
 Start 004000.00  
 Stop 004300.22  
 FRT 004130.00  
 Corr/FF/build  
 2020:206:020932  
 2020:206:153452  
 2020:014:135814  
 RA & Dec (J2000)  
 12h29m06.699731s  
 +02°03'08.598201"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

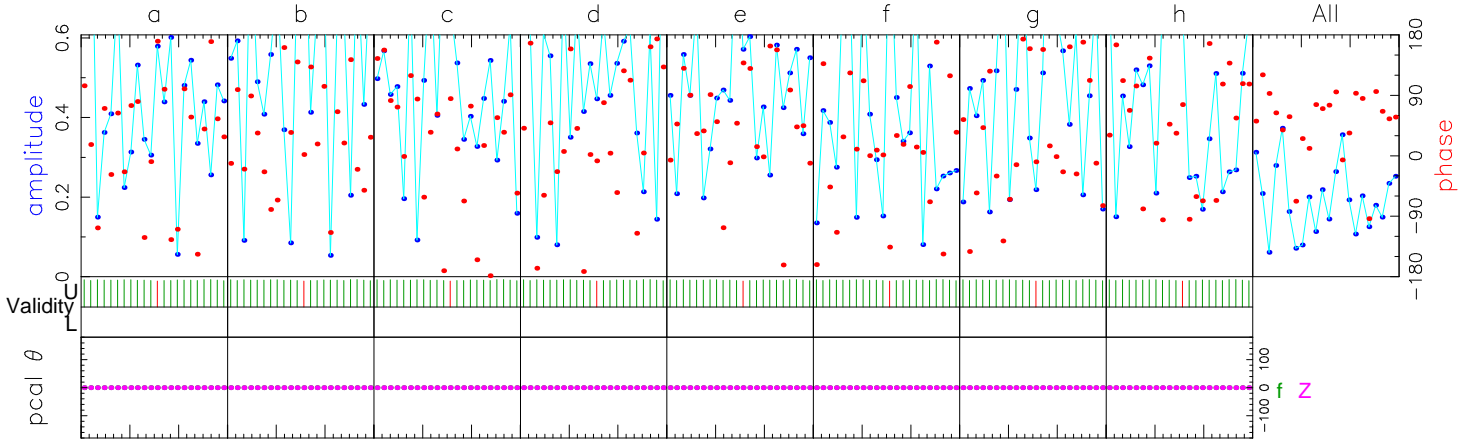


|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    |              |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UR             | W01UR    | W02UR                    | W03UR    | W04UR              | W05UR    | W06UR                | W07UR    | Chan ids     |             |
| Z                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
| Group delay (usec)(sbd) | 2.89123337737E+03 |          | Apriori delay (usec)     |          | 2.89198125022E+03  |          | Resid mbdelay (usec) |          | 2.12715E-03  | +/- 1.9E-04 |
| Sband delay (usec)      | 2.89122794272E+03 |          | Apriori clock (usec)     |          | 4.0383458E+00      |          | Resid sbdelay (usec) |          | -7.53308E-01 | +/- 1.5E-03 |
| Phase delay (usec)      | 2.89198125299E+03 |          | Apriori clockrate (us/s) |          | 9.3000003E-08      |          | Resid phdelay (usec) |          | 2.77277E-06  | +/- 6.6E-07 |
| Delay rate (us/s)       | 1.89914630382E+00 |          | Apriori rate (us/s)      |          | 1.89915131321E+00  |          | Resid rate (us/s)    |          | -5.00939E-06 | +/- 6.3E-09 |
| Total phase (deg)       |                   |          | 47.7                     |          | -1.67258348291E-05 |          | Resid phase (deg)    |          | 86.0         | +/- 20.4    |

ph/seg (deg) 46.4 47.9 Search (1024X32) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 57.3 83.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.4 28.9 Inc. seg. avg. 0.148 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 30.2 50.4 Inc. frq. avg. 0.152 Data rate (Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 101.6 el 22.3 pa -57.5 Z: az 247.3 el 14.6 pa 27.3 u,v (fr/asec) -10892.301 -3214.817 simultaneous interpolator



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



|                         | 86012.00          | 86076.00 | 86140.00                 | 86204.00 | 86268.00           | 86332.00 | 86396.00             | 86460.00 | Freq (MHz)   | All         |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
|                         | 65.5              | 31.6     | 84.9                     | 70.6     | 65.4               | 48.5     | -20.7                | 68.7     | Phase        | 56.9        |
|                         | 0.3               | 0.3      | 0.3                      | 0.2      | 0.3                | 0.1      | 0.1                  | 0.2      | Ampl.        | 0.2         |
|                         | 483.5             | 177.3    | 474.5                    | 87.3     | 433.4              | 297.3    | 76.1                 | 142.0    | Sbd box      | 176.9       |
| U/L                     | 352/0             | 352/0    | 352/0                    | 352/0    | 352/0              | 352/0    | 352/0                | 352/0    | APs used     |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC freqs     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | PC phase     |             |
| f:Z                     | 0:0               | 0:0      | 0:0                      | 0:0      | 0:0                | 0:0      | 0:0                  | 0:0      | Mani PC      |             |
| f                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     | PC amp       |             |
| Z                       | 1000              | 1000     | 1000                     | 1000     | 1000               | 1000     | 1000                 | 1000     |              |             |
| f                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Chan ids     |             |
| Z                       | W00UL             | W01UL    | W02UL                    | W03UL    | W04UL              | W05UL    | W06UL                | W07UL    | Tracks       |             |
|                         |                   |          |                          |          |                    |          |                      |          | Tracks       |             |
| Group delay (usec)(sbd) | 2.89167607444E+03 |          | Apriori delay (usec)     |          | 2.89198125022E+03  |          | Resid mbdelay (usec) |          | -8.30078E-03 | +/- 2.0E-04 |
| Sband delay (usec)      | 2.89166841147E+03 |          | Apriori clock (usec)     |          | 4.0383458E+00      |          | Resid sbdelay (usec) |          | -3.12839E-01 | +/- 1.6E-03 |
| Phase delay (usec)      | 2.89198125205E+03 |          | Apriori clockrate (us/s) |          | 9.3000003E-08      |          | Resid phdelay (usec) |          | 1.83580E-06  | +/- 6.7E-07 |
| Delay rate (us/s)       | 1.89914215075E+00 |          | Apriori rate (us/s)      |          | 1.89915131321E+00  |          | Resid rate (us/s)    |          | -9.16246E-06 | +/- 6.4E-09 |
| Total phase (deg)       | 18.7              |          | Apriori accel (us/s/s)   |          | -1.67258348291E-05 |          | Resid phase (deg)    |          | 56.9         | +/- 20.7    |

ph/seg (deg) 51.1 48.6 Search (1024X32) 0.147 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 62.7 84.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 36.5 29.3 Inc. seg. avg. 0.191 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 34.6 51.2 Inc. frq. avg. 0.200 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011

f: az 101.6 el 22.3 pa -57.5 Z: az 247.3 el 14.6 pa 27.3 u,v (fr/asec) -10892.301 -3214.817 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c201e/v1/1234/No0046/fz..196Q8V Output file: /Exps/c201e/v1/1234/No0046/fz.W.88.196Q8V