

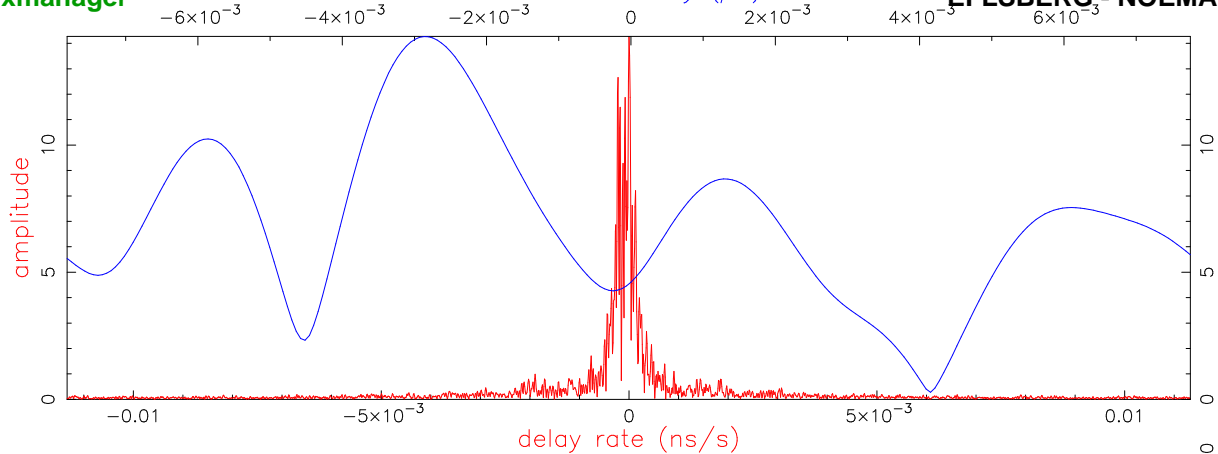
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, BN

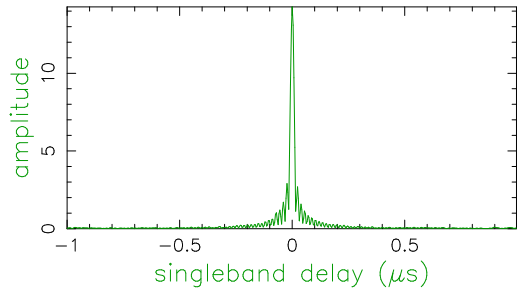
EFLSBERG₃- NOEMA, fgroup W, pol LL

multiband delay (μ s)

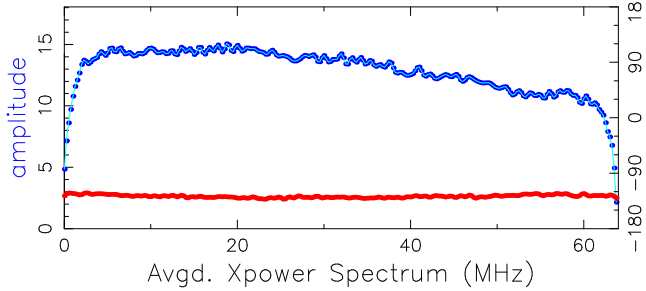


Fringe quality 1

SNR 740.5
 Int time 359.914
 Amp 14.274
 Phase -92.5
 PFD 0.0e+00
 Delays (us)
 SBD 0.000213
 MBD -0.002843
 Fringe rate (Hz)
 0.000215
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

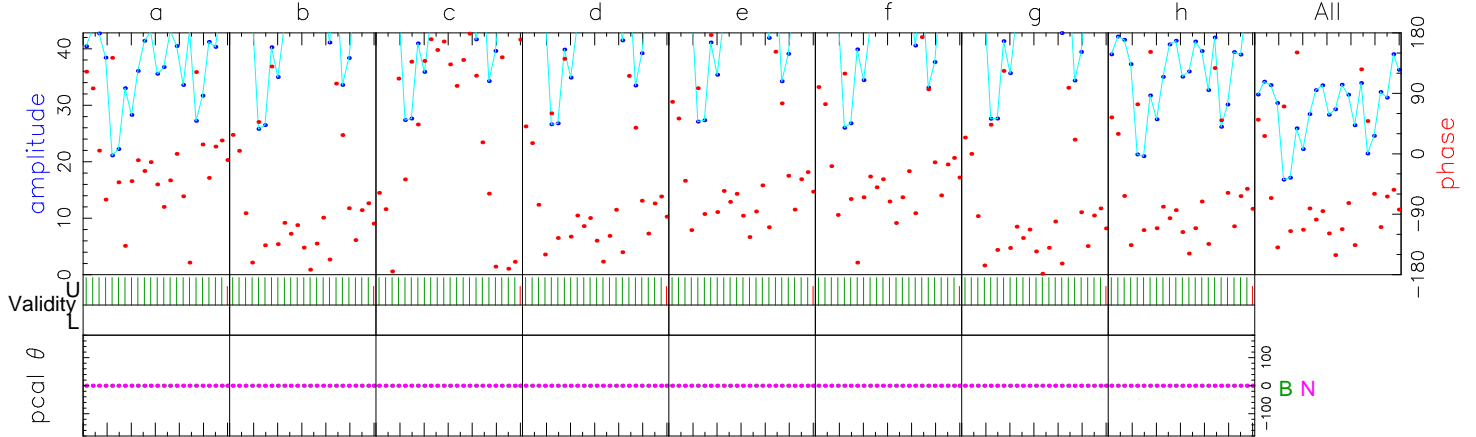


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135414
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -19.6 | -113.5 | 159.6 | -102.7 | -66.4 | -45.1 | -119.9 | -90.7 | Phase | -92.5 |
| | 18.1 | 22.2 | 22.7 | 22.2 | 22.6 | 22.0 | 23.0 | 17.6 | Ampl. | 21.3 |
| | 255.4 | 256.4 | 257.4 | 257.5 | 257.5 | 257.4 | 257.0 | 255.8 | Sbd box | 257.1 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| B:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| B:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 9.11047166230E+02 | Apriori delay (usec) | 9.11050008793E+02 | Resid mbdelay (usec) | -2.84256E-03 | +/- | 1.5E-06 |
| Sband delay (usec) | 9.11050221793E+02 | Apriori clock (usec) | -8.8464546E+00 | Resid sbdelay (usec) | 2.13000E-04 | +/- | 1.2E-05 |
| Phase delay (usec) | 9.11050005809E+02 | Apriori clockrate (us/s) | -9.2540003E-06 | Resid phdelay (usec) | -2.98400E-06 | +/- | 5.0E-09 |
| Delay rate (us/s) | 8.79701545155E-02 | Apriori rate (us/s) | 8.79701520150E-02 | Resid rate (us/s) | 2.50050E-09 | +/- | 2.4E-11 |
| Total phase (deg) | 180.1 | Apriori accel (us/s/s) | 3.69892020486E-07 | Resid phase (deg) | -92.5 | +/- | 0.2 |

| | | | | | | | | | | | |
|--------------|----------|------------|----------------------------|------------------|--------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 75.5 | Theor. 0.4 | Amplitude Search (2048X32) | 14.274 +/- 0.019 | 14.160 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 112.2 | 0.6 | Interp. | 0.000 | | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 59.4 | 0.2 | Inc. seg. avg. | 29.265 | | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 51.2 | 0.4 | Inc. frq. avg. | 21.304 | | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

B: az 302.9 el 28.7 pa 46.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -680.537 488.384 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/BN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/BN.W.14.1W5ADF

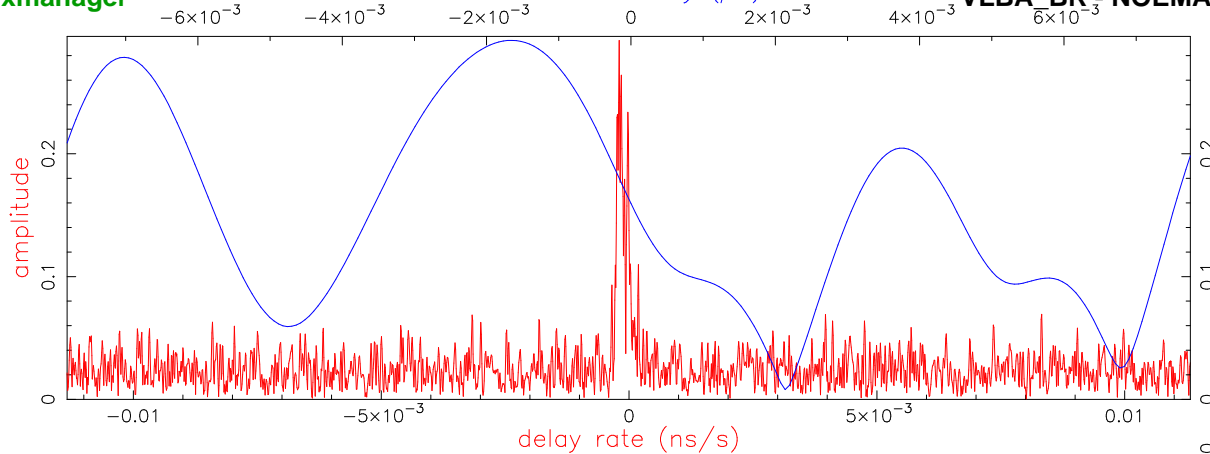
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, bN

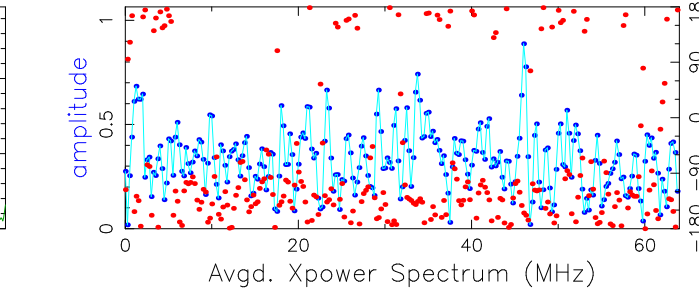
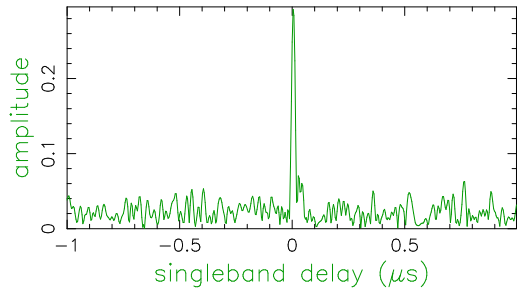
VLBA_BR - NOEMA, fgroup W, pol RR

multiband delay (μ s)



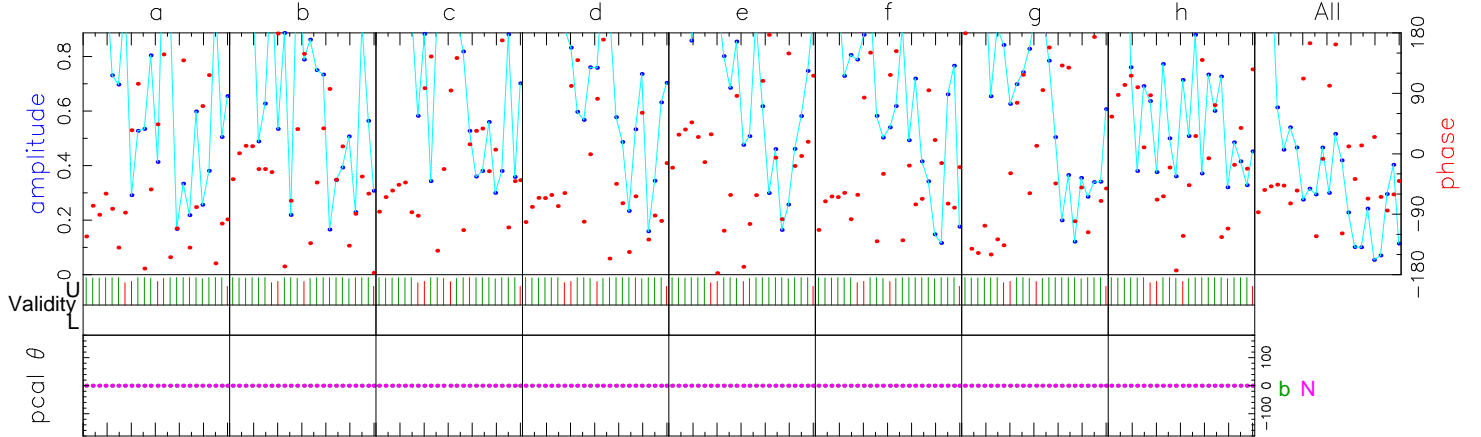
Fringe quality 7

SNR 15.1
 Int time 350.013
 Amp 0.296
 Phase -64.4
 PFD 7.3e-43
 Delays (us)
 SBD 0.005245
 MBD -0.001694
 Fringe rate (Hz)
 -0.017073
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135417
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -111.4 | -15.9 | -64.9 | -80.2 | 13.5 | -82.2 | -147.8 | 53.9 | Phase | -64.4 |
| | 0.5 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | Ampl. | 0.5 |
| | 256.9 | 258.7 | 258.6 | 258.6 | 258.9 | 258.2 | 257.4 | 255.9 | Sbd box | 258.3 |
| U/L | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

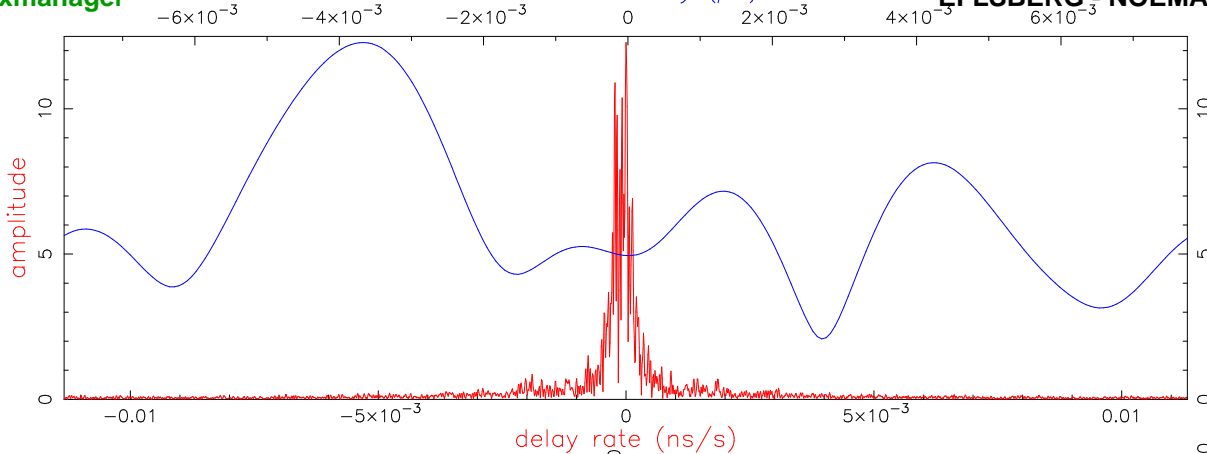
| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.05820760929E+04 | Apriori delay (usec) | 1.05820777869E+04 | Resid mbdelay (usec) | -1.69398E-03 | +/- | 7.2E-05 |
| Sband delay (usec) | 1.05820830324E+04 | Apriori clock (usec) | 1.0241179E+01 | Resid sbdelay (usec) | 5.24550E-03 | +/- | 5.7E-04 |
| Phase delay (usec) | 1.05820777848E+04 | Apriori clockrate (us/s) | -9.3540002E-06 | Resid phdelay (usec) | -2.07832E-06 | +/- | 2.4E-07 |
| Delay rate (us/s) | 1.20643798773E+00 | Apriori rate (us/s) | 1.20643818593E+00 | Resid rate (us/s) | -1.98198E-07 | +/- | 1.2E-09 |
| Total phase (deg) | 138.4 | Apriori accel (us/s/s) | -5.30294099156E-05 | Resid phase (deg) | -64.4 | +/- | 7.6 |

| | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-------|--|----------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 72.6 | Theor. 18.1 | Amplitude Search (2048X32) | 0.291 | PCal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 134.9 | 31.5 | Interp. | 0.000 | PCal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 73.2 | 10.7 | Inc. seg. avg. | 0.426 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 71.7 | 18.7 | Inc. frq. avg. | 0.478 | Data rate(Mb/s): 2048 | nlags: 256 | ion window (TEC) | 0.00 | 0.00 |

b: az 92.6 el 67.1 pa -64.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9453.878 -3401.284 simultaneous interpolator

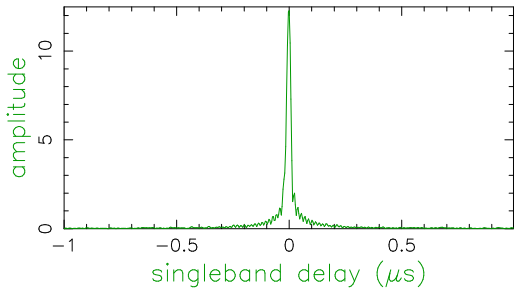
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/bN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/bN.W.27.1W5ADF

multiband delay (μ s)

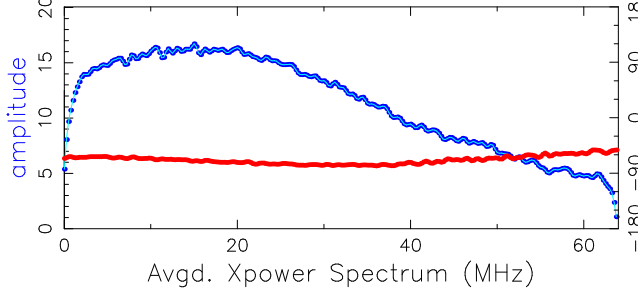


Fringe quality 1

SNR 648.1
Int time 359.914
Amp 12.493
Phase -44.8
PFD 0.0e+00
Delays (us)
SBD -0.001805
MBD -0.003627
Fringe rate (Hz)
0.000194
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

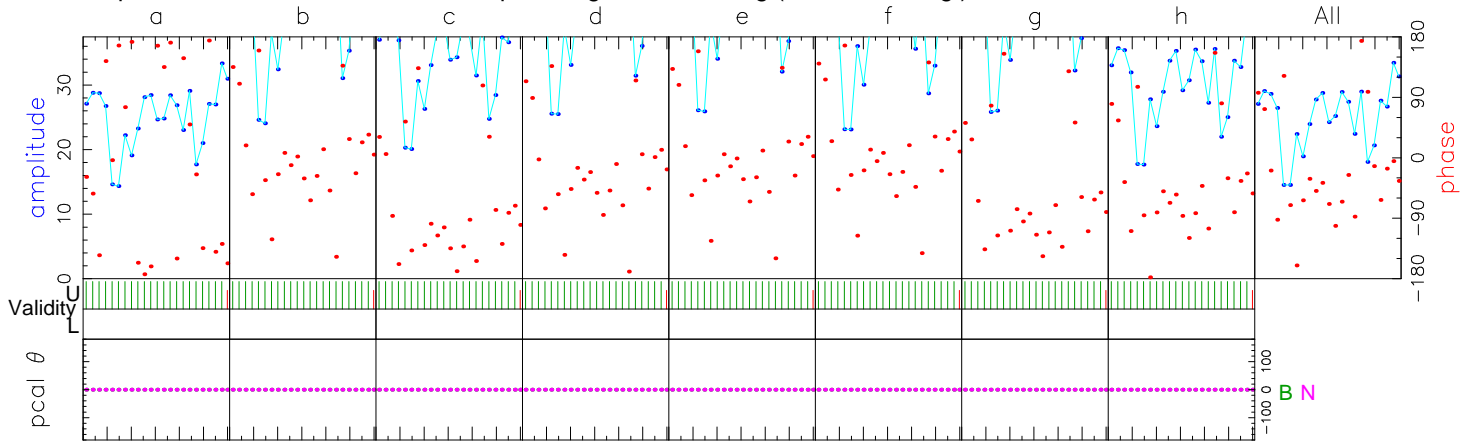


delay rate (ns/s)



Exp. c211a
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135418
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
| | -168.5 | -5.9 | -111.1 | -28.2 | -8.4 | -0.7 | -90.5 | -62.6 | Phase | -44.8 |
| | 12.3 | 20.8 | 16.9 | 21.5 | 22.1 | 19.7 | 22.0 | 15.0 | Ampl. | 18.8 |
| | 254.4 | 256.3 | 257.1 | 256.9 | 257.3 | 257.1 | 256.8 | 255.3 | Sbd box | 256.5 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| B:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| B:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 9.11046381793E+02 | | Apriori delay (usec) | | 9.11050008793E+02 | | Resid mbdelay (usec) | | -3.62700E-03 | +/- 1.7E-06 |
| Sband delay (usec) | 9.11048203543E+02 | | Apriori clock (usec) | | -8.8464546E+00 | | Resid sbdelay (usec) | | -1.80525E-03 | +/- 1.3E-05 |
| Phase delay (usec) | 9.11050007347E+02 | | Apriori clockrate (us/s) | | -9.2540003E-06 | | Resid phdelay (usec) | | -1.44541E-06 | +/- 5.7E-09 |
| Delay rate (us/s) | 8.79701542640E-02 | | Apriori rate (us/s) | | 8.79701520150E-02 | | Resid rate (us/s) | | 2.24896E-09 | +/- 2.7E-11 |
| Total phase (deg) | 227.8 | | Apriori accel (us/s/s) | | 3.69892020486E-07 | | Resid phase (deg) | | -44.8 | +/- 0.2 |

| | RMS | Theor. | Amplitude | 12.493 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|-------|--------|------------------|------------------|--|-------------------------------|
| ph/seg (deg) | 75.6 | 0.4 | Search (2048X32) | 12.091 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 107.5 | 0.7 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 67.3 | 0.3 | Inc. seg. avg. | 25.006 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 57.2 | 0.4 | Inc. frq. avg. | 18.768 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

B: az 302.9 el 28.7 pa 46.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -680.537 488.384 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/BN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/BN.W.35.1W5ADF

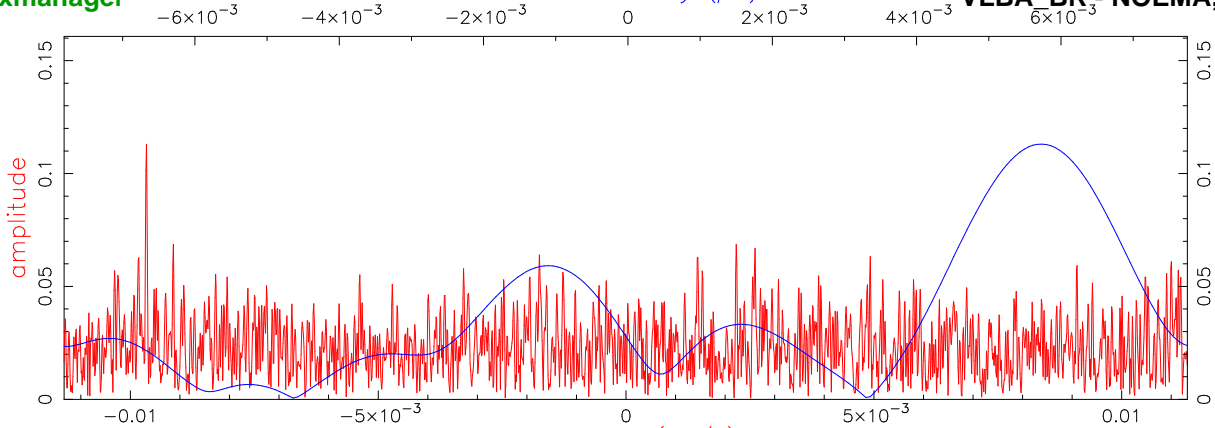
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, bN

VLBA_BR - NOEMA, fgroup W, pol LR

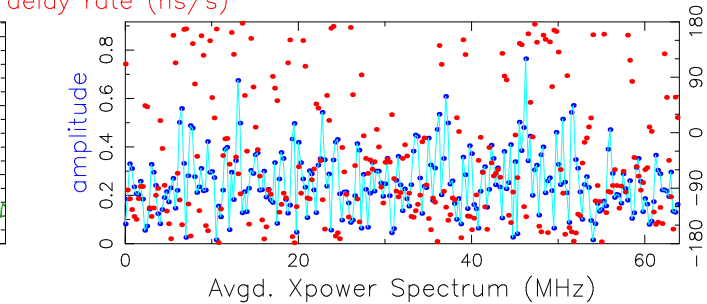
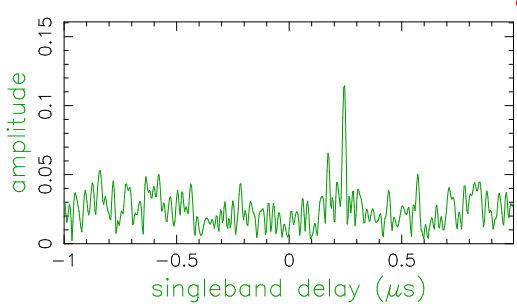
multiband delay (μ s)



Fringe quality 0

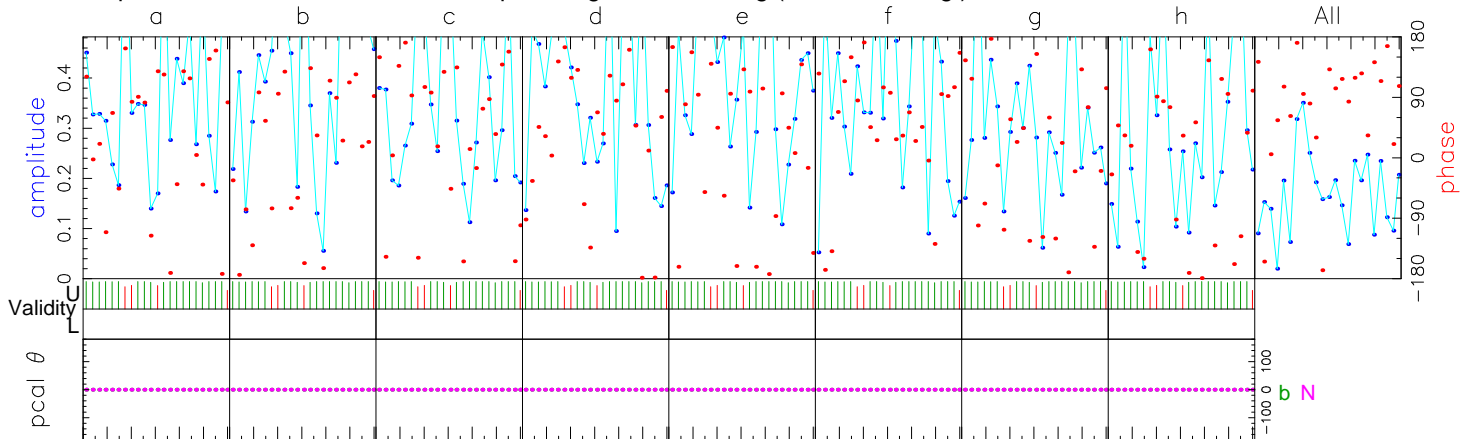
SNR 6.0
 Int time 350.013
 Amp 0.161
 Phase 107.6
 PFD 4.7e-01
 Delays (us)
 SBD 0.244412
 MBD 0.005787
 Fringe rate (Hz) -0.835162
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build 2021:286:102153
 2021:286:135420
 2021:252:122852
 RA & Dec (J2000) 22h02m43.291370s
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|----------|-------------------|----------|-----------------|--------------------|----------|----------|----------|--------------|-------------|
| U/L | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| b:N | 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 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | | 1.05823179486E+04 | | | 1.05820777869E+04 | | | | 5.78674E-03 | +/- 1.8E-04 |
| Sband delay (usec) | | 1.05823221994E+04 | | | 1.0241179E+01 | | | | 2.44412E-01 | +/- 1.4E-03 |
| Phase delay (usec) | | 1.05820777904E+04 | | | -9.3540002E-06 | | | | 3.46855E-06 | +/- 6.2E-07 |
| Delay rate (us/s) | | 1.20642849052E+00 | | | 1.20643818593E+00 | | | | -9.69541E-06 | +/- 3.0E-09 |
| Total phase (deg) | | | 310.4 | | -5.30294099156E-05 | | | | 107.6 | +/- 19.2 |
| ph/seg (deg) | 53.1 | 45.8 | | 0.161 +/- 0.027 | | | | | | |
| amp/seg (%) | 80.7 | 79.9 | | 0.000 | | | | | | |
| ph/frq (deg) | 67.8 | 27.2 | | 0.176 | | | | | | |
| amp/frq (%) | 40.6 | 47.4 | | 0.152 | | | | | | |

b: az 92.6 el 67.1 pa -64.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9453.878 -3401.284 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/bN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/bN.W.46.1W5ADF

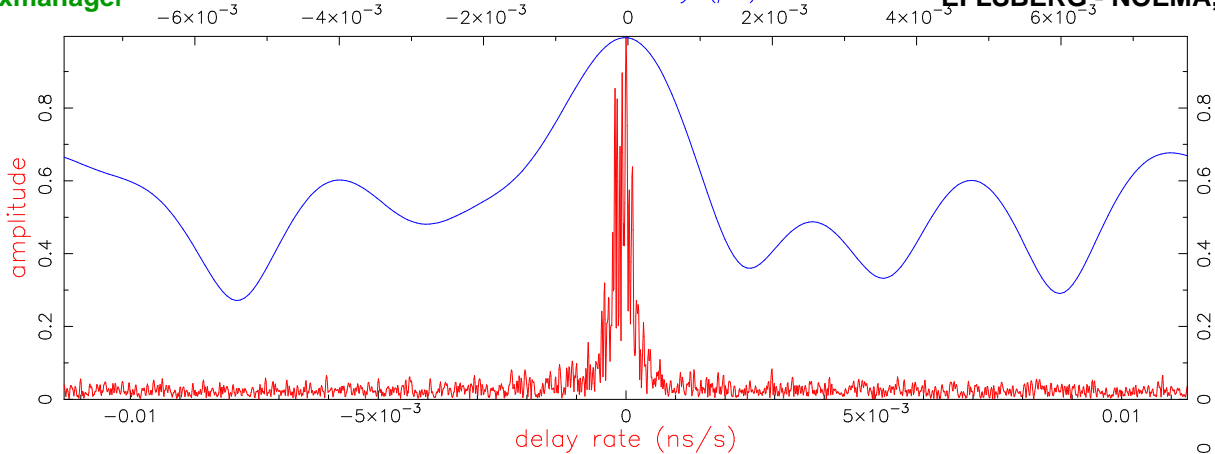
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, BN

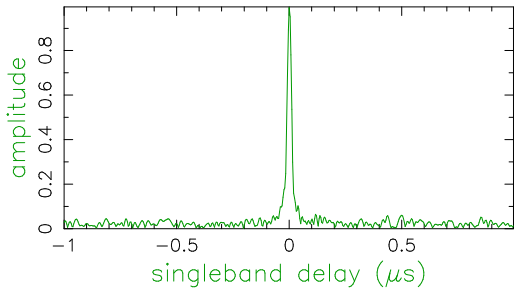
EFLSBERG - NOEMA, fgroup W, pol LR

multiband delay (μ s)

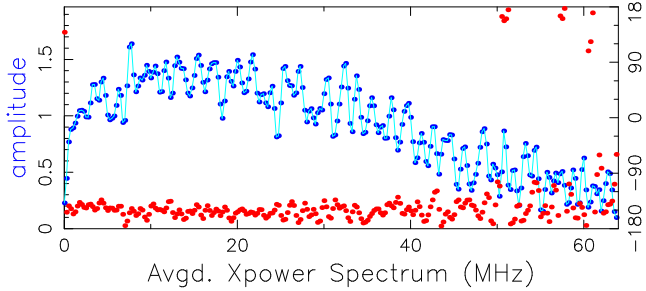


Fringe quality 1

SNR 51.7
 Int time 359.914
 Amp 0.996
 Phase -143.4
 PFD 0.0e+00
 Delays (us)
 SBD 0.000829
 MBD -0.000045
 Fringe rate (Hz) 0.000089
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

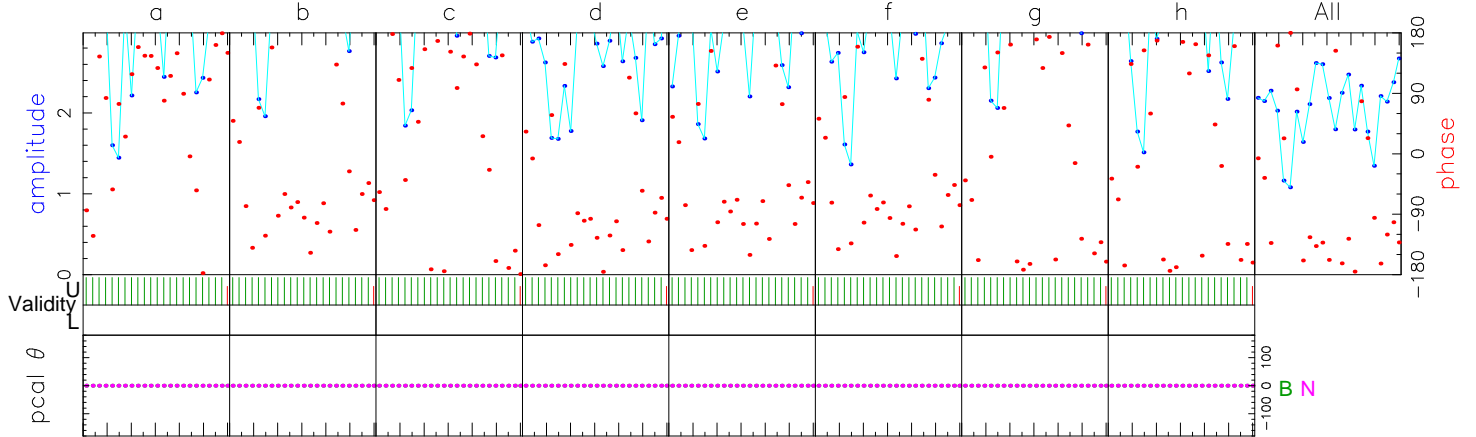


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135421
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
| | 134.5 | -81.6 | 167.2 | -110.8 | -89.2 | -86.5 | -174.8 | -176.2 | Phase | -143.4 |
| | 1.5 | 1.8 | 1.8 | 1.3 | 1.5 | 1.4 | 1.9 | 1.5 | Ampl. | 1.6 |
| | 255.6 | 257.1 | 257.6 | 258.3 | 258.2 | 258.0 | 257.4 | 256.6 | Sbd box | 257.2 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| B:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| B:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 9.11049964043E+02 | | Apriori delay (usec) | | 9.11050008793E+02 | | Resid mbdelay (usec) | | -4.47500E-05 | +/- 2.1E-05 |
| Sband delay (usec) | 9.11050838293E+02 | | Apriori clock (usec) | | -8.8464546E+00 | | Resid sbdelay (usec) | | 8.29500E-04 | +/- 1.7E-04 |
| Phase delay (usec) | 9.11050004169E+02 | | Apriori clockrate (us/s) | | -9.2540003E-06 | | Resid phdelay (usec) | | -4.62410E-06 | +/- 7.1E-08 |
| Delay rate (us/s) | 8.79701530488E-02 | | Apriori rate (us/s) | | 8.79701520150E-02 | | Resid rate (us/s) | | 1.03379E-09 | +/- 3.4E-10 |
| Total phase (deg) | 129.3 | | Apriori accel (us/s/s) | | 3.69892020486E-07 | | Resid phase (deg) | | -143.4 | +/- 2.2 |

| | RMS | Theor. | Amplitude | 0.996 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | |
|--------------|-------|--------|------------------|-----------------|--|-------------------------------|-----------------------------|
| ph/seg (deg) | 77.4 | 5.3 | Search (2048X32) | 0.992 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 | |
| amp/seg (%) | 113.3 | 9.3 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 61.0 | 3.1 | Inc. seg. avg. | 2.035 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 | |
| amp/frq (%) | 64.7 | 5.5 | Inc. frq. avg. | 1.608 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | ion window (TEC) 0.00 0.00 |

B: az 302.9 el 28.7 pa 46.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -680.537 488.384 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/BN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/BN.W.50.1W5ADF

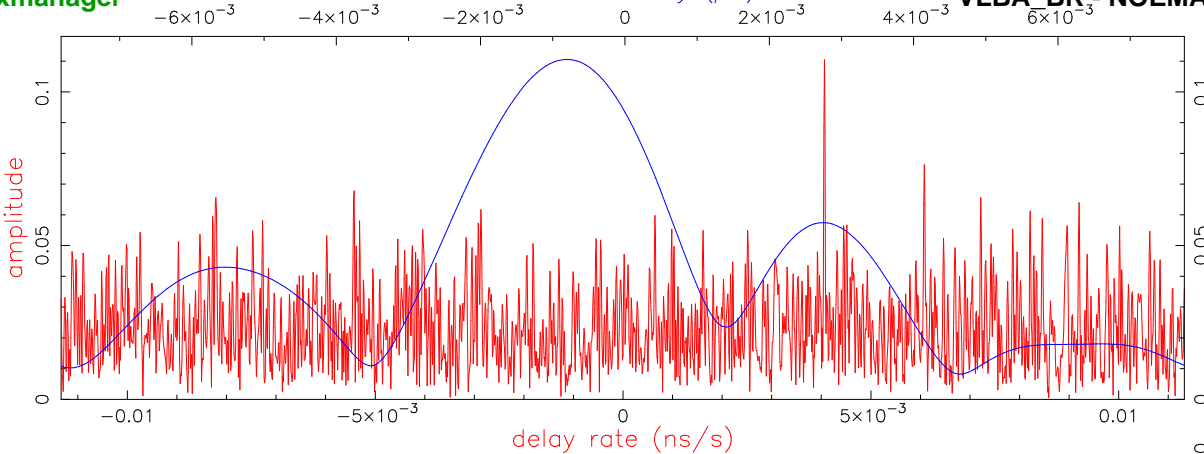
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, bN

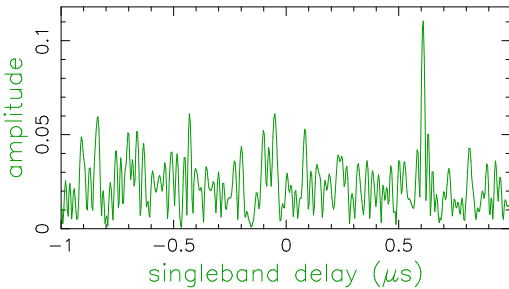
VLBA_BR - NOEMA, fgroup W, pol RL

multiband delay (μs)

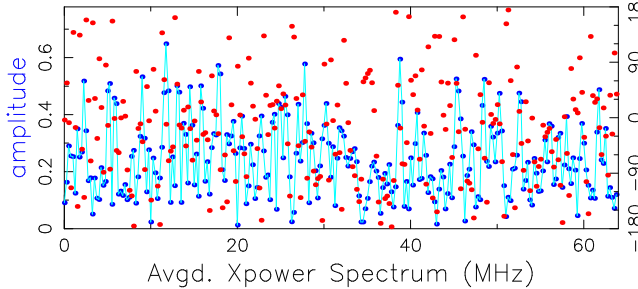


Fringe quality 0

SNR 5.7
 Int time 350.013
 Amp 0.118
 Phase 148.4
 PFD 9.2e-01
 Delays (us)
 SBD 0.607998
 MBD -0.000876
 Fringe rate (Hz)
 0.350348
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

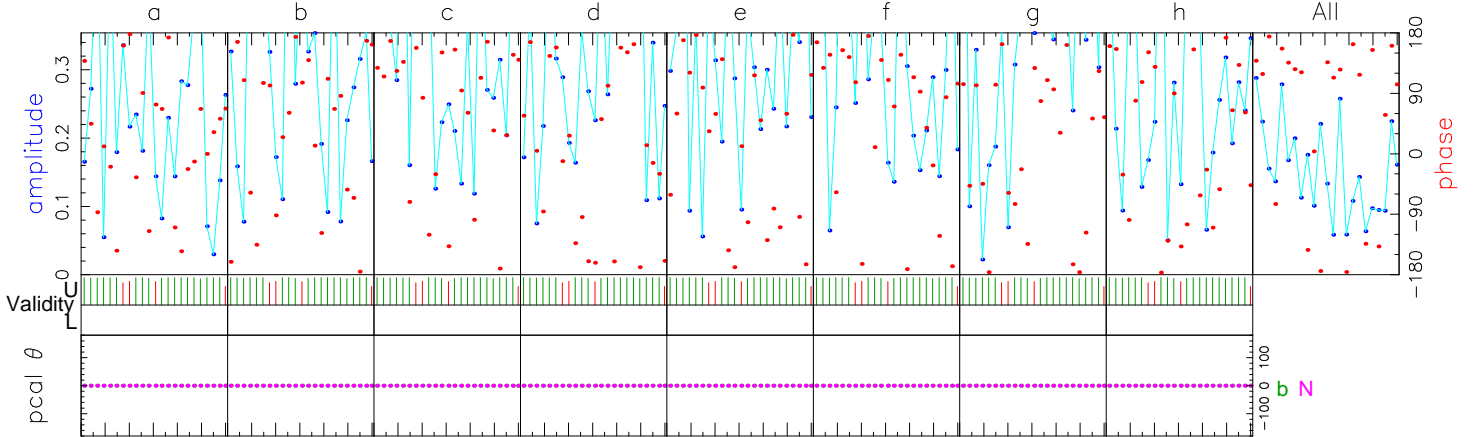


delay rate (ns/s)



Exp. c211a
 Yr:day 16383
 Start 2021:114
 Stop 2021:114
 FRT 134500.00
 Corr/FF/build
 2021:286:102153
 2021:286:135424
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -23.7 | 130.4 | 136.4 | 169.2 | -171.6 | 145.5 | 113.8 | 176.0 | Phase | 148.4 |
| | 0.0 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | Ampl. | 0.1 |
| | 99.6 | 147.2 | 413.1 | 81.4 | 116.3 | 412.1 | 392.4 | 241.9 | Sbd box | 412.6 |
| U/L | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.05826862859E+04 | Apriori delay (usec) | 1.05820777869E+04 | Resid mbdelay (usec) | -8.76020E-04 | +/- | 1.9E-04 |
| Sband delay (usec) | 1.05826857854E+04 | Apriori clock (usec) | 1.0241179E+01 | Resid sbdelay (usec) | 6.07998E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | 1.05820777917E+04 | Apriori clockrate (us/s) | -9.3540002E-06 | Resid phdelay (usec) | 4.78582E-06 | +/- | 6.5E-07 |
| Delay rate (us/s) | 1.20644225312E+00 | Apriori rate (us/s) | 1.20643818593E+00 | Resid rate (us/s) | 4.06720E-06 | +/- | 3.1E-09 |
| Total phase (deg) | 351.3 | Apriori accel (us/s/s) | -5.30294099156E-05 | Resid phase (deg) | 148.4 | +/- | 20.0 |

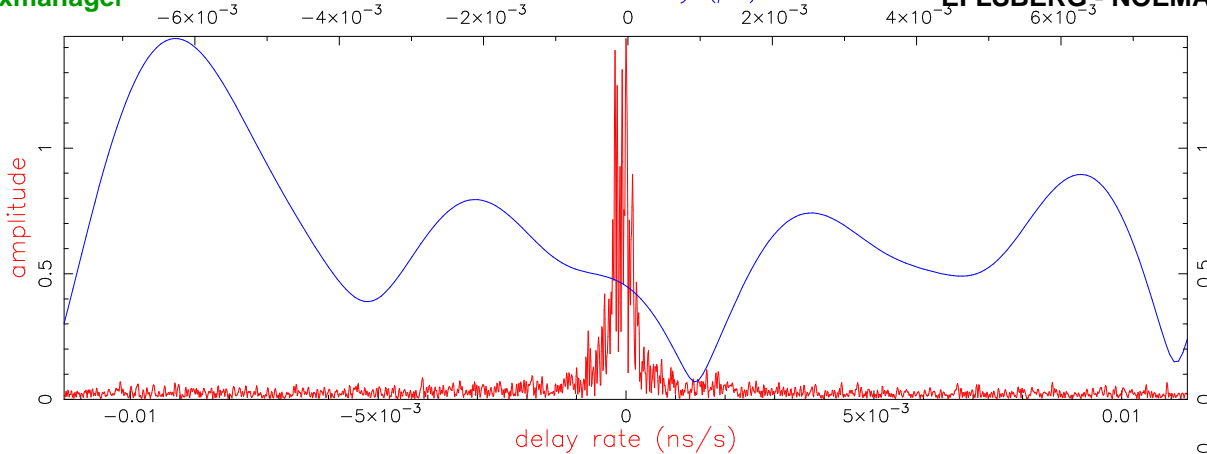
| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 58.0 | Theor. | 47.7 | Amplitude | 0.118 +/- 0.021 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 72.3 | Search (2048X32) | 0.107 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 75.4 | Inc. seg. avg. | 0.121 | Inc. seg. avg. | 0.121 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 56.5 | Inc. frq. avg. | 0.121 | Inc. frq. avg. | 0.121 | 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 | |

b: az 92.6 el 67.1 pa -64.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9453.878 -3401.284 simultaneous interpolator

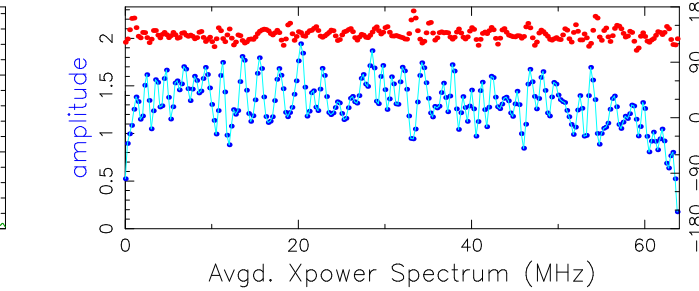
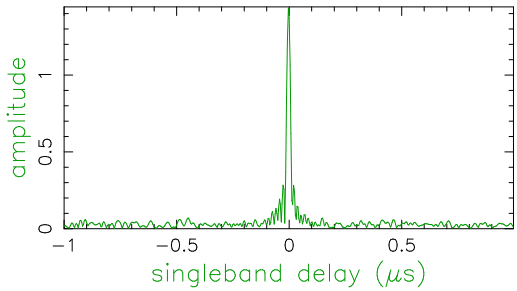
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/bN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/bN.W.67.1W5ADF

multiband delay (μ s)

Fringe quality 1

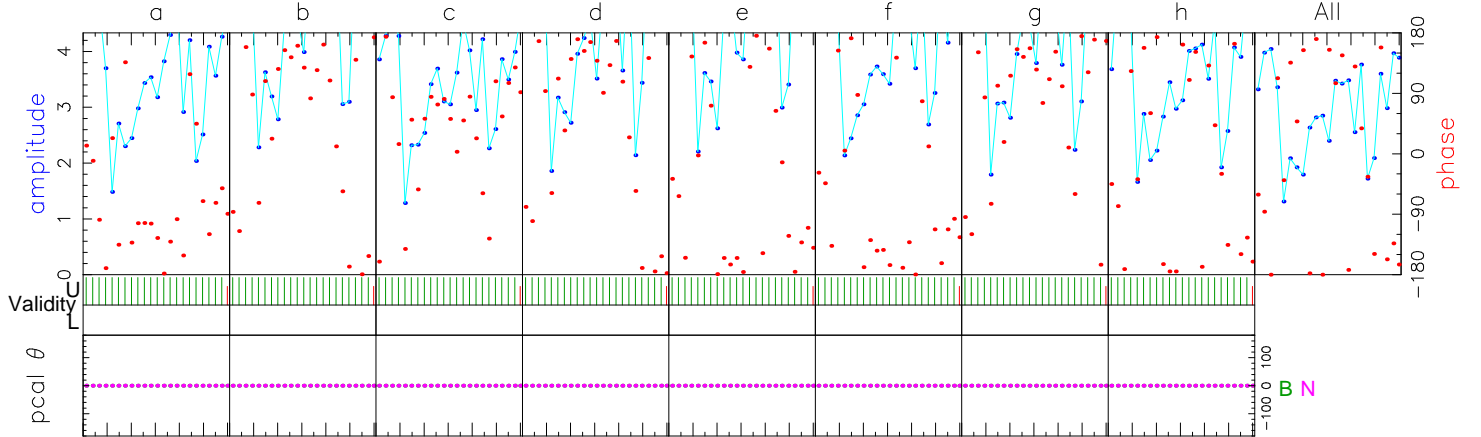


SNR 75.0
 Int time 359.914
 Amp 1.445
 Phase 172.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.002890
 MBD -0.006230
 Fringe rate (Hz)
 -0.000004
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135425
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
| | -105.5 | 150.5 | 71.9 | 156.2 | -161.4 | -145.3 | 140.2 | -178.4 | Phase | 172.8 |
| | 1.8 | 2.3 | 1.7 | 2.3 | 2.4 | 2.0 | 2.2 | 1.7 | Ampl. | 2.1 |
| | 254.2 | 255.6 | 256.6 | 256.5 | 256.8 | 256.6 | 256.3 | 254.9 | Sbd box | 256.3 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| B:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| B:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 9.11043779074E+02 | | Apriori delay (usec) | | 9.11050008793E+02 | | Resid mbdelay (usec) | | -6.22972E-03 | +/- 1.4E-05 |
| Sband delay (usec) | 9.11047118543E+02 | | Apriori clock (usec) | | -8.8464546E+00 | | Resid sbdelay (usec) | | -2.89025E-03 | +/- 1.1E-04 |
| Phase delay (usec) | 9.11050014365E+02 | | Apriori clockrate (us/s) | | -9.2540003E-06 | | Resid phdelay (usec) | | 5.57279E-06 | +/- 4.9E-08 |
| Delay rate (us/s) | 8.79701519633E-02 | | Apriori rate (us/s) | | 8.79701520150E-02 | | Resid rate (us/s) | | -5.17247E-11 | +/- 2.4E-10 |
| Total phase (deg) | 85.5 | | Apriori accel (us/s/s) | | 3.69892020486E-07 | | Resid phase (deg) | | 172.8 | +/- 1.5 |

| | RMS | Theor. | Amplitude | 1.445 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 1.000 |
|--------------|-------|--------|------------------|-----------------|--|------------------------------|------------------|--------------|
| ph/seg (deg) | 74.0 | 3.7 | Search (2048X32) | 1.433 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 0.008 |
| amp/seg (%) | 116.4 | 6.4 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 0.011 |
| ph/frq (deg) | 59.4 | 2.2 | Inc. seg. avg. | 2.915 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 0.00 |
| amp/frq (%) | 46.2 | 3.8 | Inc. frq. avg. | 2.059 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | |

B: az 302.9 el 28.7 pa 46.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -680.537 488.384 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/BN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/BN.W.71.1W5ADF

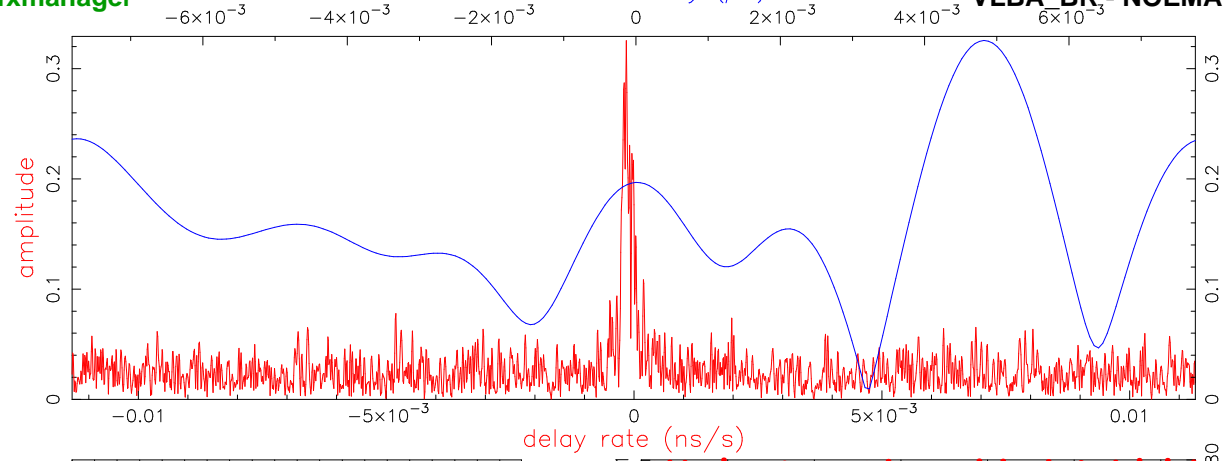
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, bN

VLBA_BR- NOEMA, fgroup W, pol LL

multiband delay (μ s)

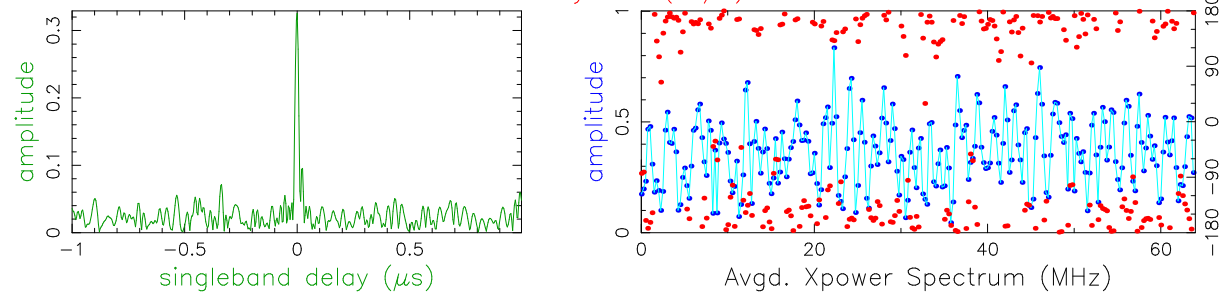


Fringe quality 7

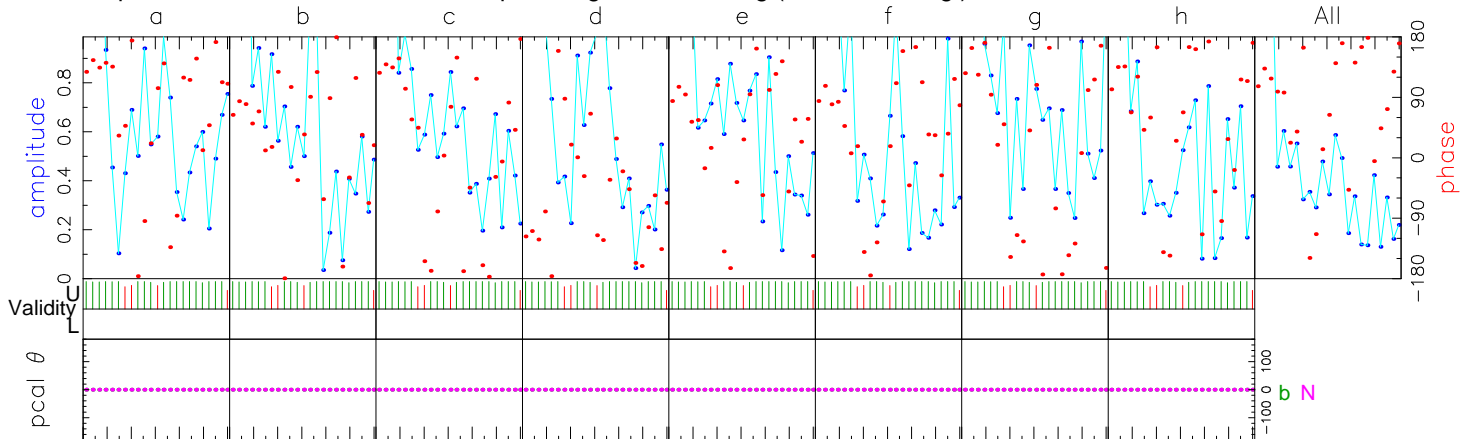
SNR 16.8
 Int time 350.013
 Amp 0.329
 Phase 112.4
 PFD 0.0e+00
 Delays (us)
 SBD -0.001342
 MBD 0.004796
 Fringe rate (Hz)
 -0.013379
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135413
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

delay rate (ns/s)



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec

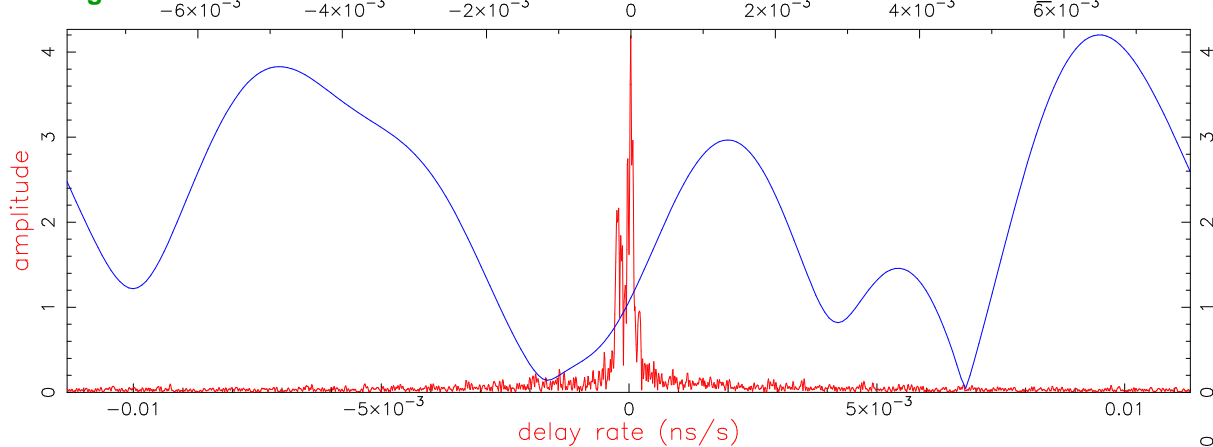


| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | 694/0 | | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| b:N | 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 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

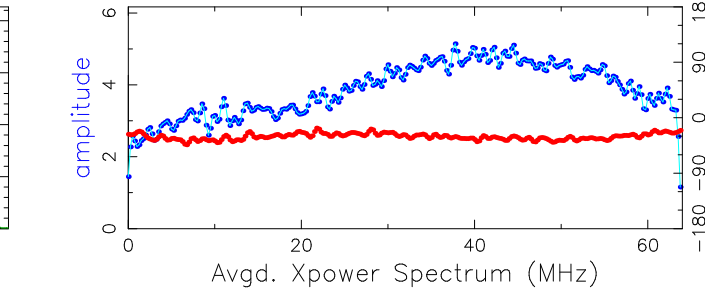
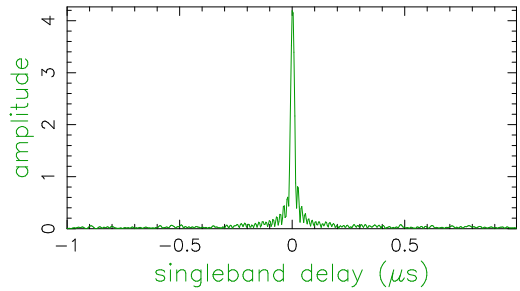
Group delay (usec)(sbd) 1.05820825826E+04 Apriori delay (usec) 1.05820777869E+04 Resid mbdelay (usec) 4.79570E-03 +/- 6.4E-05
 Sband delay (usec) 1.05820764444E+04 Apriori clock (usec) 1.0241179E+01 Resid sbdelay (usec) -1.34250E-03 +/- 5.1E-04
 Phase delay (usec) 1.05820777905E+04 Apriori clockrate (us/s) -9.3540002E-06 Resid phdelay (usec) 3.62343E-06 +/- 2.2E-07
 Delay rate (us/s) 1.20643803061E+00 Apriori rate (us/s) 1.20643818593E+00 Resid rate (us/s) -1.55319E-07 +/- 1.1E-09
 Total phase (deg) 315.2 Apriori accel (us/s/s) -5.30294099156E-05 Resid phase (deg) 112.4 +/- 6.8

ph/seg (deg) 72.1 16.2 Search (2048X32) 0.325 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 147.6 28.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 66.4 9.6 Inc. seg. avg. 0.498 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 48.9 16.8 Inc. frq. avg. 0.472 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 92.6 el 67.1 pa -64.3 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9453.878 -3401.284 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/bN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/bN.W.9.1W5ADF

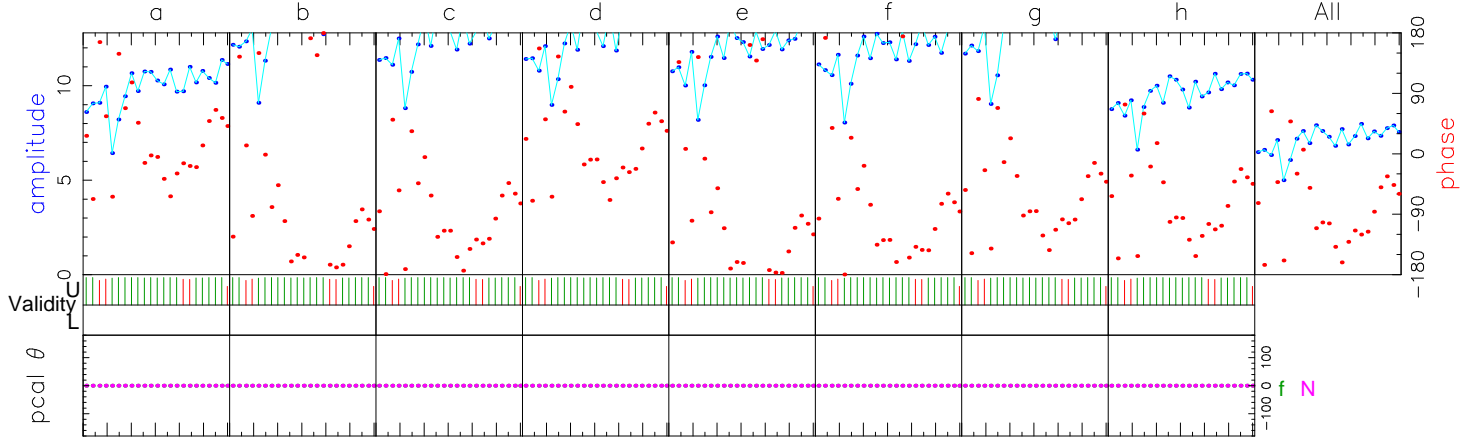
multiband delay (μ s)



Fringe quality 1
SNR 219.5
Int time 353.793
Amp 4.267
Phase -85.2
PFD 0.0e+00
Delays (us)
SBD 0.001735
MBD 0.006576
Fringe rate (Hz) 0.002887
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135434
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|------------------------------|----------|-------------------|-----------------------------|-----------------|--|-----------------------|-------------------|------------------|--------------|---------------------------|
| U/L | 698/0 | 698/0 | 698/0 | 698/0 | 699/0 | 699/0 | 698/0 | 698/0 | | |
| 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) | | 1.12795852082E+04 | | | 1.12795786318E+04 | | | | 6.57638E-03 | +/- 4.9E-06 |
| Sband delay (usec) | | 1.12795803673E+04 | | | 2.3446766E+01 | | | | 1.73550E-03 | +/- 3.9E-05 |
| Phase delay (usec) | | 1.12795786291E+04 | | | -9.1940006E-06 | | | | -2.74785E-06 | +/- 1.7E-08 |
| Delay rate (us/s) | | 1.07039068696E+00 | | | 1.07039065344E+00 | | | | 3.35112E-08 | +/- 8.2E-11 |
| Total phase (deg) | | | 39.0 | | -7.45381819366E-05 | | | | -85.2 | +/- 0.5 |
| | RMS | Theor. | Amplitude | 4.267 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | | | | |
| ph/seg (deg) | 61.6 | 1.2 | Search (2048X32) | 4.168 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | | |
| amp/seg (%) | 69.2 | 2.2 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 65.4 | 0.7 | Inc. seg. avg. | 7.137 | Sample rate(MISamp/s): 128 | | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 65.6 | 1.3 | Inc. frq. avg. | 6.952 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |
| f: az 43.1 el 72.6 pa -126.0 | | | N: az 304.9 el 26.0 pa 55.2 | | u,v (fr/asec) -8443.593 -6494.249 | | | | | simultaneous interpolator |

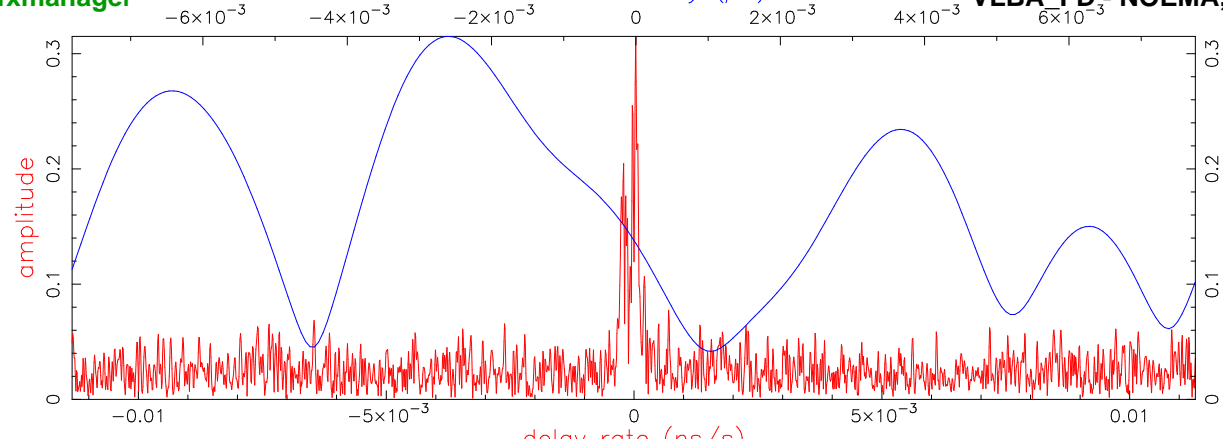
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, fN

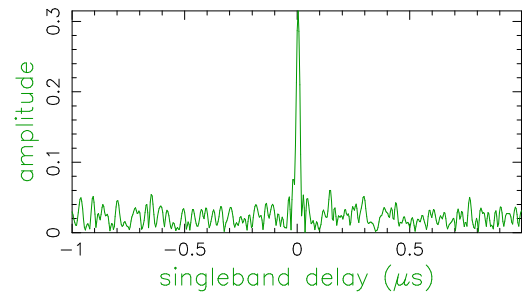
VLBA_FD- NOEMA, fgroup W, pol LR

multiband delay (μ s)

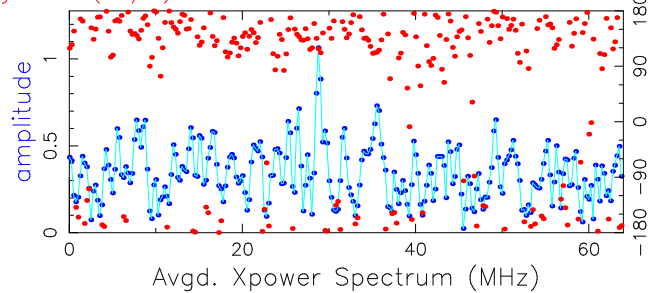


Fringe quality 7

SNR 16.2
 Int time 353.793
 Amp 0.315
 Phase -134.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.003890
 MBD -0.002601
 Fringe rate (Hz) 0.003004
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

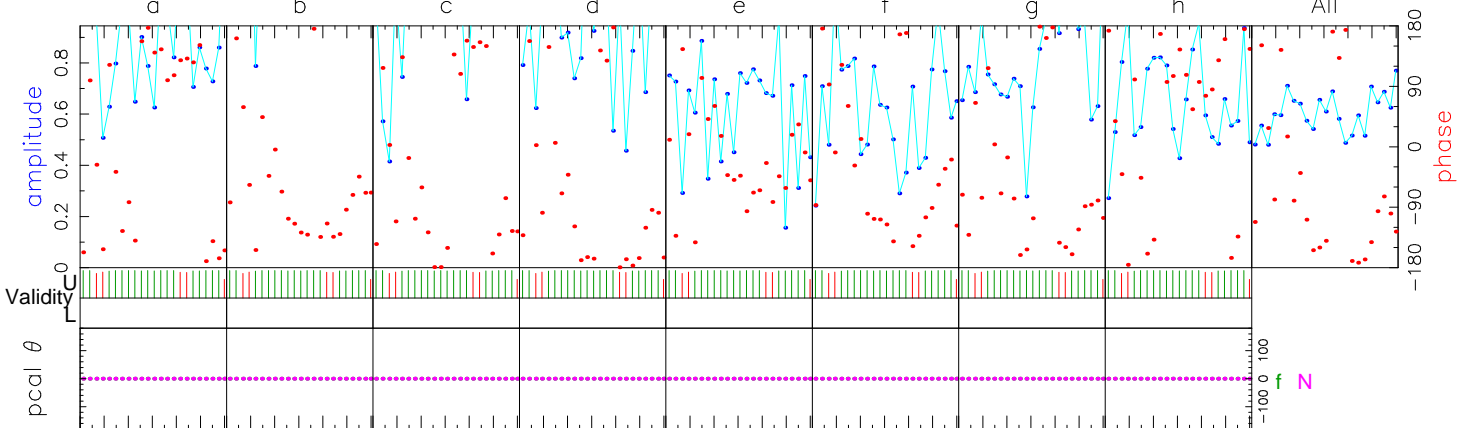


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135437
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All | |
|------------------------------|----------|-------------------|----------|---|--------------------|----------|----------|----------|--|-------------------|--------------|
| U/L | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | | | |
| 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) | | 1.12795760311E+04 | | | 1.12795786318E+04 | | | | | | |
| Sband delay (usec) | | 1.12795825216E+04 | | | 2.3446766E+01 | | | | | | |
| Phase delay (usec) | | 1.12795786275E+04 | | | -9.1940006E-06 | | | | | | |
| Delay rate (us/s) | | 1.07039068831E+00 | | | 1.07039065344E+00 | | | | | | |
| Total phase (deg) | | | -10.6 | | -7.45381819366E-05 | | | | | | |
| | | | | Apriori delay (usec) | | | | | Resid mbdelay (usec) | -2.60072E-03 | +/- 6.7E-05 |
| | | | | Apriori clock (usec) | 0.311 | | | | Resid sbdelay (usec) | 3.88975E-03 | +/- 5.3E-04 |
| | | | | Apriori clockrate (us/s) | 0.000 | | | | Resid phdelay (usec) | -4.34588E-06 | +/- 2.3E-07 |
| | | | | Apriori rate (us/s) | 0.578 | | | | Resid rate (us/s) | 3.48702E-08 | +/- 1.1E-09 |
| | | | | Apriori accel (us/s/s) | 0.472 | | | | Resid phase (deg) | -134.8 | +/- 7.1 |
| ph/seg (deg) | 66.8 | 16.9 | | Search (2048X32) | 0.315 +/- 0.019 | | | | PCal mode: MANUAL, MANUAL | | |
| amp/seg (%) | 94.8 | 29.5 | | Interp. | 0.000 | | | | PCal rate: 0.000E+00, 0.000E+00 (us/s) | | |
| ph/frq (deg) | 66.9 | 10.0 | | Inc. seg. avg. | 0.578 | | | | Bits/sample: 2x2 | sb window (us) | -1.000 1.000 |
| amp/frq (%) | 81.1 | 17.5 | | Inc. frq. avg. | 0.472 | | | | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| | | | | | | | | | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 0.011 |
| | | | | | | | | | Data rate(Mb/s): 2048 | ion window (TEC) | 0.00 0.00 |
| | | | | | | | | | nlags: 256 | t_cohere infinite | |
| f: az 43.1 el 72.6 pa -126.0 | | | | N: az 304.9 el 26.0 pa 55.2 | | | | | | | |
| Control file: cf_1234_gmva | | | | Input file: /Exps/c211a/v2/1234/No0245/fN..1W5ADF | | | | | | | |
| | | | | Output file: /Exps/c211a/v2/1234/No0245/fN.W.129.1W5ADF | | | | | | | |

simultaneous interpolator

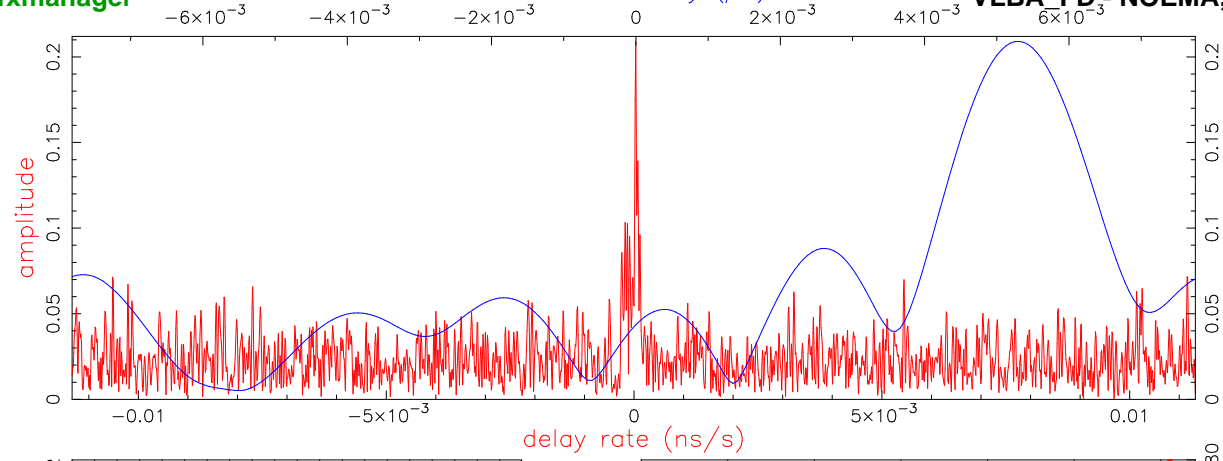
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

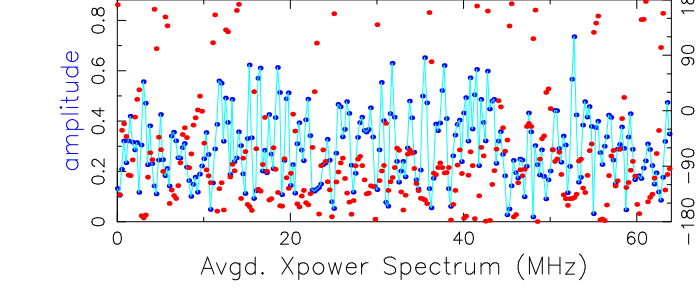
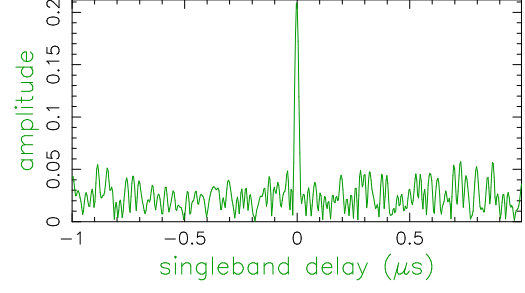
BLLAC.1W5ADF, No0245, fN

VLBA_FD- NOEMA, fgroup W, pol RL

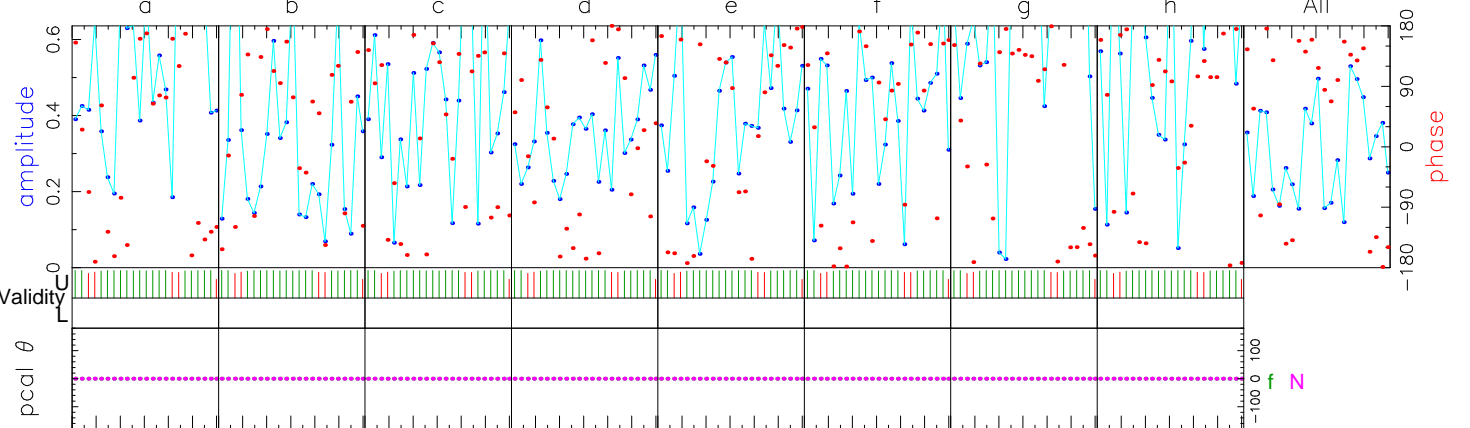
multiband delay (μ s)



Fringe quality 9
 SNR 10.9
 Int time 353.793
 Amp 0.212
 Phase 157.9
 PFD 5.1e-19
 Delays (us)
 SBD -0.002265
 MBD 0.005348
 Fringe rate (Hz) 0.002544
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135441
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|----------|-------------------|----------|----------|--------------------|----------|----------|----------|----------------------|-------------------------------|
| U/L | 698/0 | 698/0 | 698/0 | 698/0 | 699/0 | 699/0 | 698/0 | 698/0 | | |
| 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) | | 1.12795839796E+04 | | | 1.12795786318E+04 | | | | 5.34778E-03 | +/- 1.0E-04 |
| Sband delay (usec) | | 1.12795763668E+04 | | | 2.3446766E+01 | | | | -2.26500E-03 | +/- 7.9E-04 |
| Phase delay (usec) | | 1.12795786369E+04 | | | -9.1940006E-06 | | | | 5.09287E-06 | +/- 3.4E-07 |
| Delay rate (us/s) | | 1.07039068297E+00 | | | 1.07039065344E+00 | | | | 2.95284E-08 | +/- 1.6E-09 |
| Total phase (deg) | | | 282.1 | | -7.45381819366E-05 | | | | 157.9 | +/- 10.5 |
| pcal mode: | | | | | MANUAL | | | | MANUAL | PC period (AP's) 5, 5 |
| pcal rate: | | | | | 0.000E+00 | | | | 0.000E+00 | (us/s) |
| Bits/sample: | | | | | 2x2 | | | | SampCntNorm: enabled | sb window (us) -1.000 1.000 |
| Sample rate (MSamp/s): | | | | | 128 | | | | | mb window (us) -0.008 0.008 |
| Data rate (Mb/s): | | | | | 2048 | | | | | dr window (ns/s) -0.011 0.011 |
| | | | | | | | | | | ion window (TEC) 0.00 0.00 |

f: az 43.1 el 72.6 pa -126.0 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8443.593 -6494.249 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/fN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/fN.W.148.1W5ADF

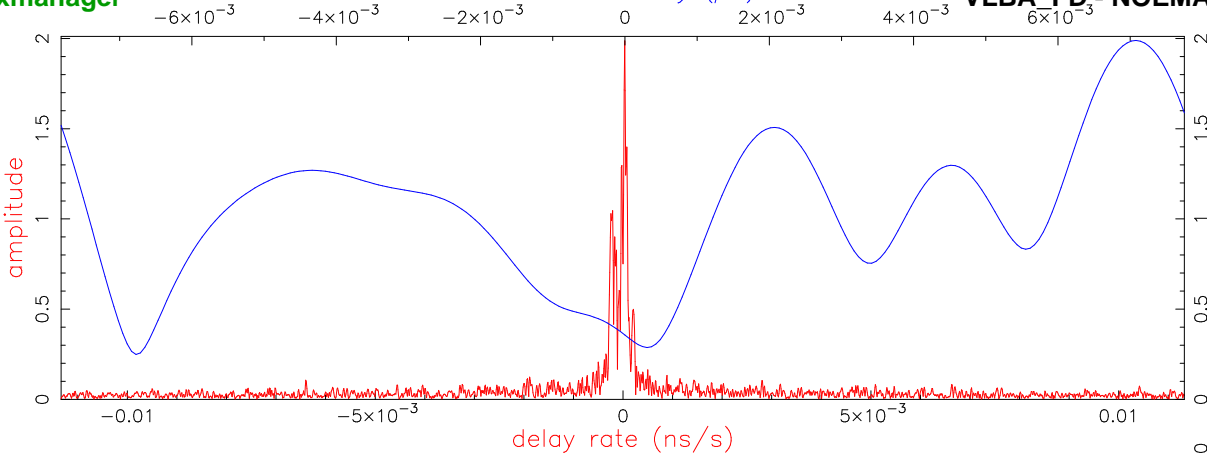
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, fN

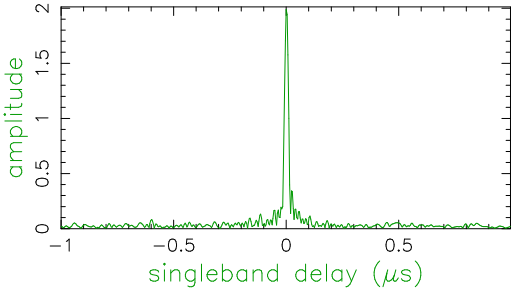
VLBA_FD- NOEMA, fgroup W, pol LL

multiband delay (μ s)

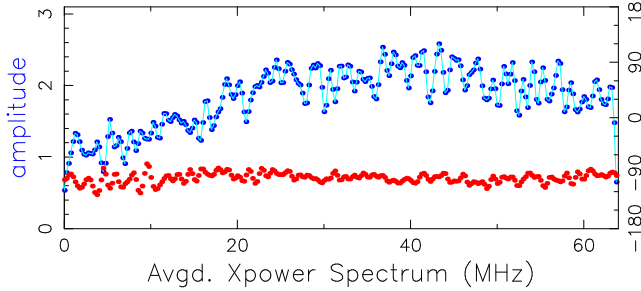


Fringe quality 1

SNR 103.5
 Int time 353.793
 Amp 2.012
 Phase -161.6
 PFD 0.0e+00
 Delays (us)
 SBD 0.001457
 MBD 0.007116
 Fringe rate (Hz)
 0.002858
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

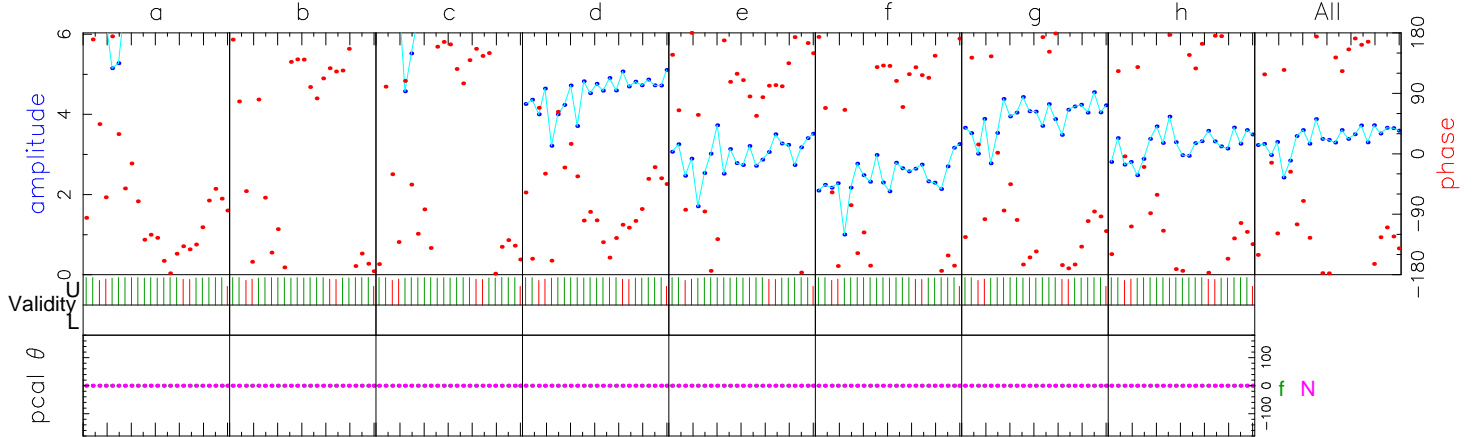


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135430
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
| | -107.0 | 157.2 | -177.1 | -75.5 | 133.2 | 154.6 | -135.4 | -155.0 | Phase | -161.6 |
| | 4.0 | 5.3 | 3.9 | 2.5 | 1.7 | 1.4 | 2.3 | 1.8 | Ampl. | 2.9 |
| | 255.7 | 257.1 | 258.0 | 258.0 | 258.1 | 258.1 | 257.2 | 255.7 | Sbd box | 257.4 |
| U/L | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | 698/0 | APs used | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| f:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| f:N | 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 | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.12795857473E+04 | Apriori delay (usec) | 1.12795786318E+04 | Resid mbdelay (usec) | 7.11550E-03 | +/- | 1.0E-05 |
| Sband delay (usec) | 1.12795800886E+04 | Apriori clock (usec) | 2.3446766E+01 | Resid sbdelay (usec) | 1.45675E-03 | +/- | 8.3E-05 |
| Phase delay (usec) | 1.12795786266E+04 | Apriori clockrate (us/s) | -9.1940006E-06 | Resid phdelay (usec) | -5.21089E-06 | +/- | 3.6E-08 |
| Delay rate (us/s) | 1.07039068662E+00 | Apriori rate (us/s) | 1.07039065344E+00 | Resid rate (us/s) | 3.31740E-08 | +/- | 1.7E-10 |
| Total phase (deg) | -37.4 | Apriori accel (us/s/s) | -7.45381819366E-05 | Resid phase (deg) | -161.6 | +/- | 1.1 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 61.8 | RMS | 2.6 | Theor. | 2.012 +/- 0.019 | PCal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 70.3 | Search (2048X32) | 1.935 | Amplitude | | PCal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 56.6 | Interp. | 0.000 | Search | | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 76.8 | Inc. seg. avg. | 3.388 | Inc. seg. avg. | | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | |
| | | Inc. frq. avg. | 2.883 | Inc. frq. avg. | | Data rate (Mb/s): | 2048 | ion window (TEC) | 0.00 0.00 | |

f: az 43.1 el 72.6 pa -126.0 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8443.593 -6494.249 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/fN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/fN.W.89.1W5ADF

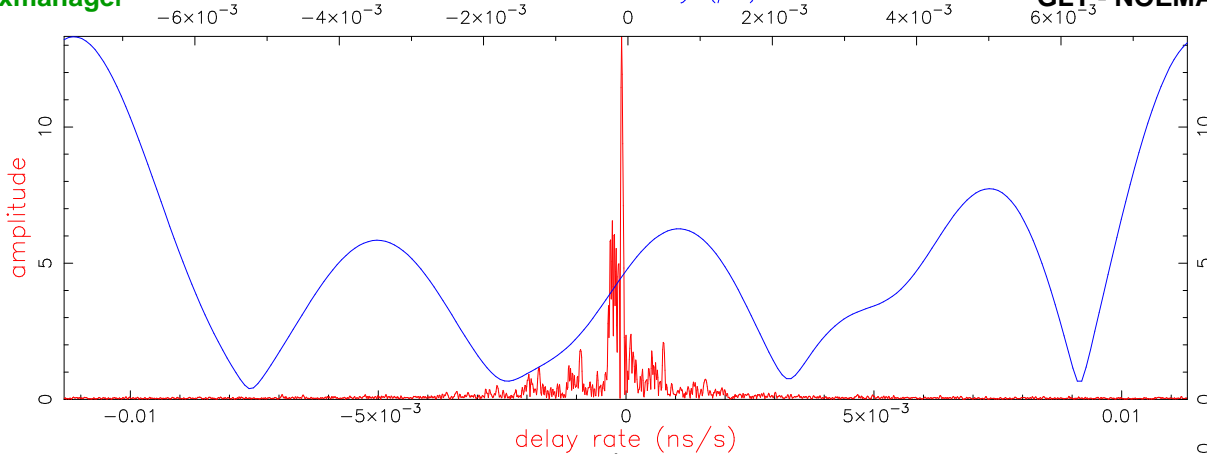
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, gN

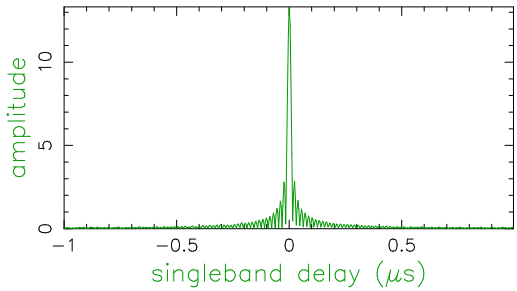
GLT - NOEMA, fgroup W, pol LL

multiband delay (μ s)

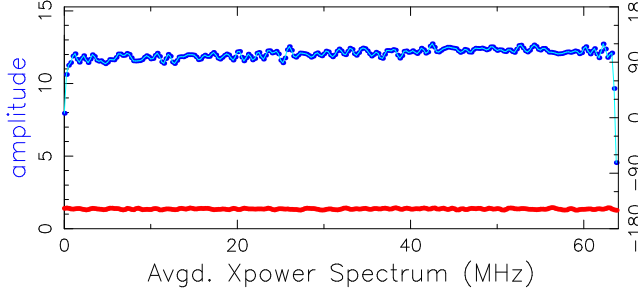


Fringe quality 2

SNR 691.3
 Int time 359.918
 Amp 13.326
 Phase -55.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.000373
 MBD -0.007677
 Fringe rate (Hz)
 -0.007372
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

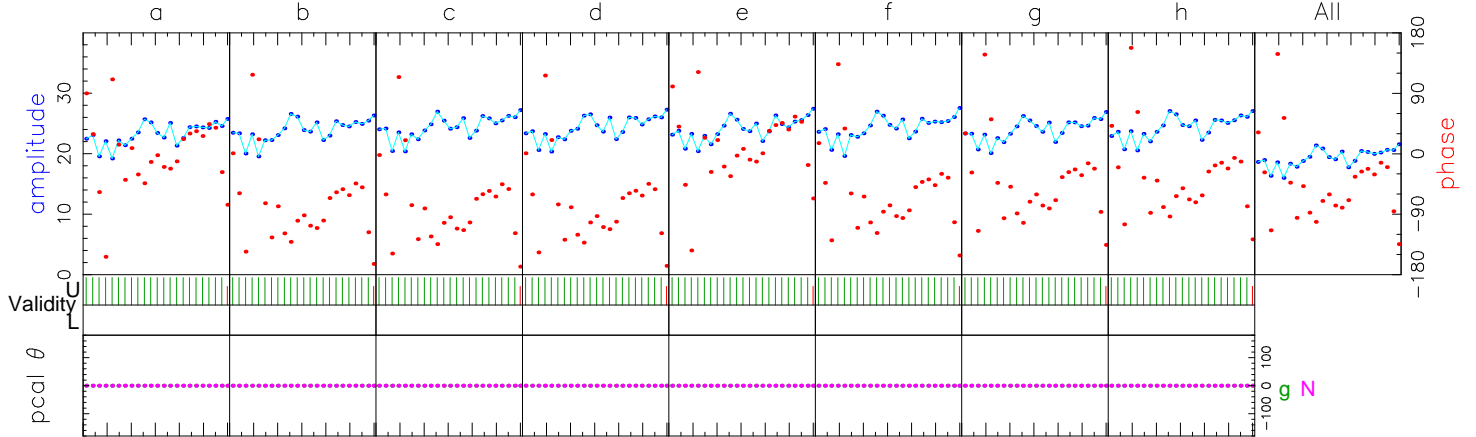


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135445
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 8.26896055090E+03 | Apriori delay (usec) | 8.26895260306E+03 | Resid mbdelay (usec) | -7.67716E-03 | +/- | 1.6E-06 |
| Sband delay (usec) | 8.26895297631E+03 | Apriori clock (usec) | 1.3645765E+01 | Resid sbdelay (usec) | 3.73250E-04 | +/- | 1.2E-05 |
| Phase delay (usec) | 8.26895260128E+03 | Apriori clockrate (us/s) | -9.1940006E-06 | Resid phdelay (usec) | -1.78285E-06 | +/- | 5.3E-09 |
| Delay rate (us/s) | 7.21801385397E-01 | Apriori rate (us/s) | 7.21801470974E-01 | Resid rate (us/s) | -8.55775E-08 | +/- | 2.6E-11 |
| Total phase (deg) | 26.6 | Apriori accel (us/s/s) | -2.33276132393E-05 | Resid phase (deg) | -55.3 | +/- | 0.2 |

| | | | | | | | | | | | |
|--------------|------|--------|-----|------------------|------------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 53.8 | Theor. | 0.4 | Amplitude | 13.326 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 46.0 | | 0.7 | Search (2048X32) | 13.015 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 43.4 | | 0.2 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 24.5 | | 0.4 | Inc. seg. avg. | 19.292 | Sample rate(MISamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | | |
| | | | | Inc. frq. avg. | 16.581 | Data rate(Mb/s): | 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

g: az 205.0 el 54.9 pa 7.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -5637.545 173.274 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/gN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/gN.W.162.1W5ADF

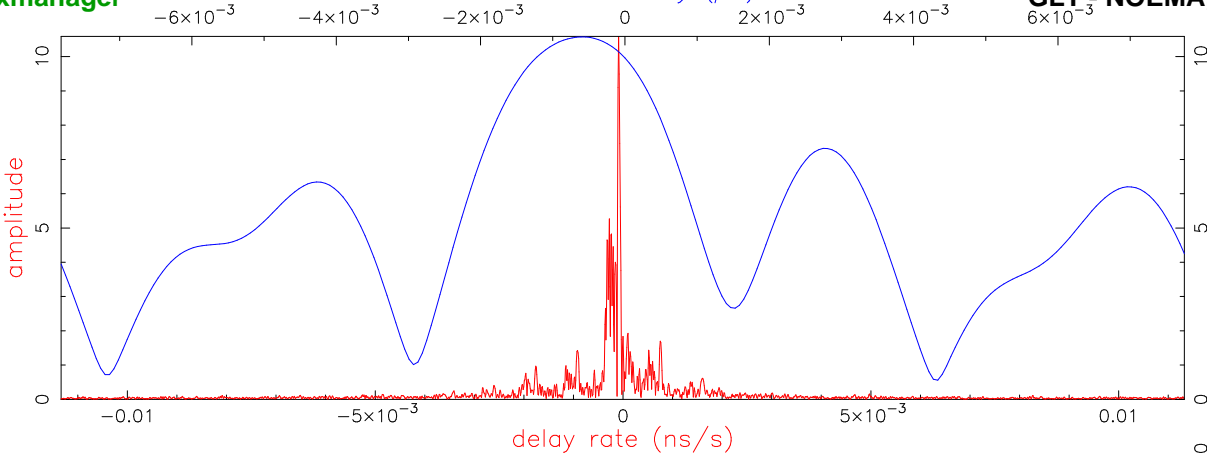
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, gN

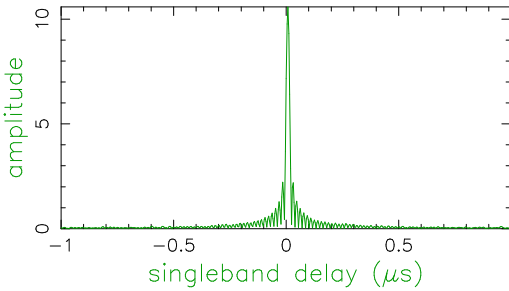
GLT - NOEMA, fgroup W, pol RR

multiband delay (μ s)

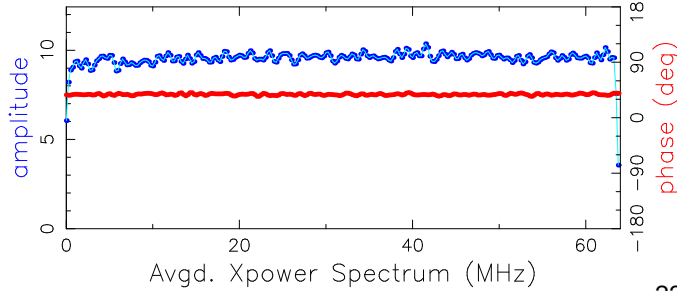


Fringe quality 1

SNR 549.4
 Int time 359.918
 Amp 10.590
 Phase 129.7
 PFD 0.0e+00
 Delays (us)
 SBD 0.007373
 MBD -0.000600
 Fringe rate (Hz)
 -0.007398
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

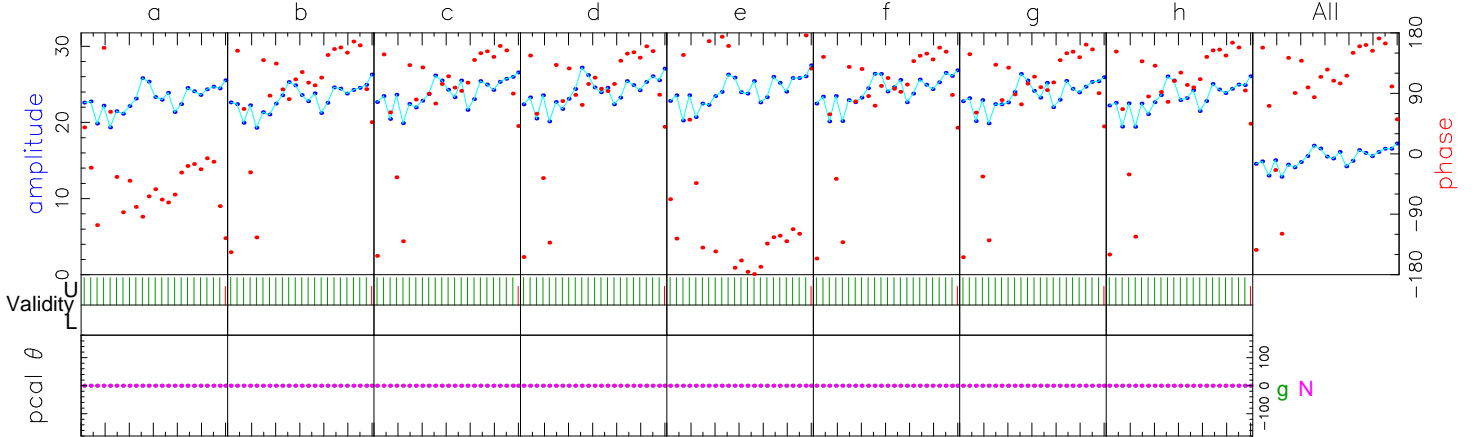


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135448
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -47.6 | 126.3 | 119.6 | 118.2 | -153.8 | 116.8 | 119.6 | 123.7 | Phase | 129.7 |
| | 15.9 | 16.0 | 16.4 | 16.5 | 16.6 | 16.7 | 16.3 | 16.1 | Ampl. | 16.3 |
| | 258.7 | 258.9 | 258.8 | 258.8 | 258.9 | 258.8 | 258.9 | 258.9 | Sbd box | 258.9 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | PC freqs | |
| g:N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| g | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 8.26896762817E+03 | | Apriori delay (usec) | | 8.26895260306E+03 | | Resid mbdelay (usec) | | -5.99889E-04 | +/- 2.0E-06 |
| Sband delay (usec) | 8.26895997606E+03 | | Apriori clock (usec) | | 1.3645765E+01 | | Resid sbdelay (usec) | | 7.37300E-03 | +/- 1.6E-05 |
| Phase delay (usec) | 8.26895260724E+03 | | Apriori clockrate (us/s) | | -9.1940006E-06 | | Resid phdelay (usec) | | 4.18115E-06 | +/- 6.7E-09 |
| Delay rate (us/s) | 7.21801385091E-01 | | Apriori rate (us/s) | | 7.21801470974E-01 | | Resid rate (us/s) | | -8.58836E-08 | +/- 3.2E-11 |
| Total phase (deg) | 211.5 | | Apriori accel (us/s/s) | | -2.33276132393E-05 | | Resid phase (deg) | | 129.7 | +/- 0.2 |

ph/seg (deg) 53.6 0.5 Search (2048X32) 10.451 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 46.1 0.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 79.4 0.3 Inc. seg. avg. 15.337 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 54.1 0.5 Inc. frq. avg. 16.312 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 205.0 el 54.9 pa 7.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -5637.545 173.274 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/gN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/gN.W.172.1W5ADF

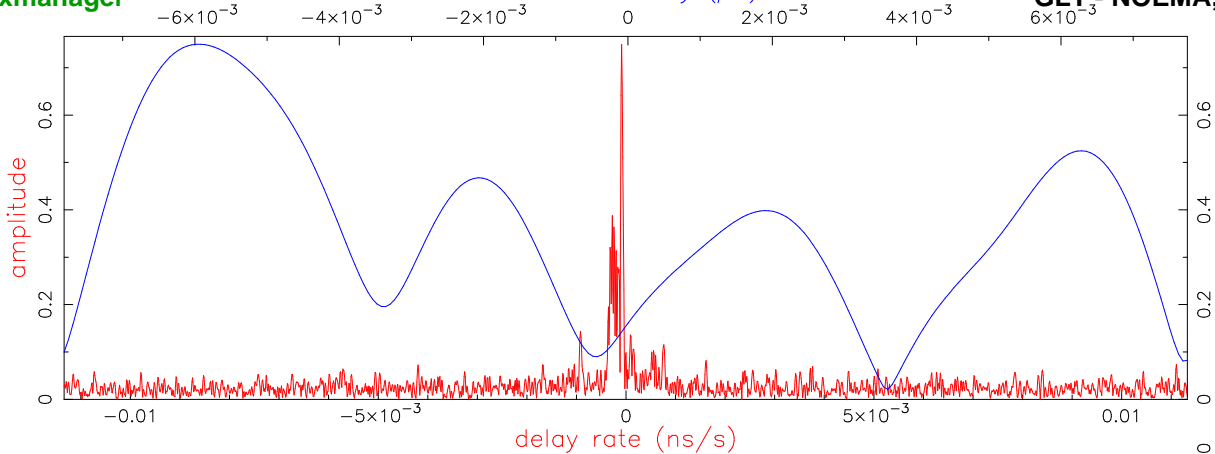
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, gN

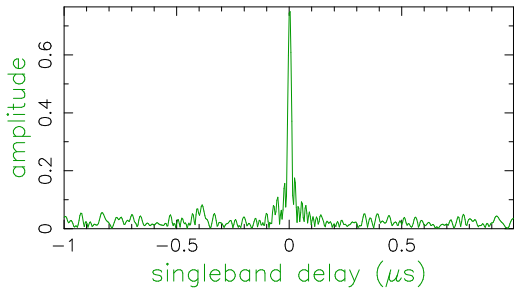
GLT - NOEMA, fgroup W, pol LR

multiband delay (μ s)

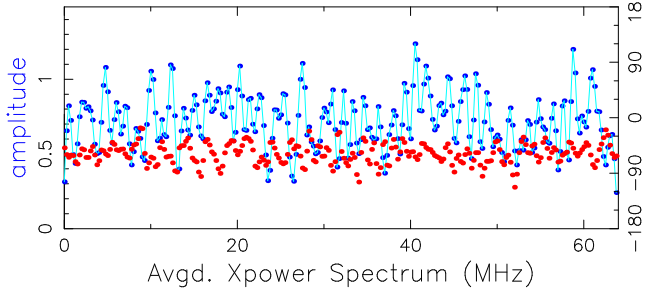


Fringe quality 3

SNR 39.7
 Int time 359.918
 Amp 0.766
 Phase 34.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.002075
 MBD -0.006008
 Fringe rate (Hz)
 -0.007332
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

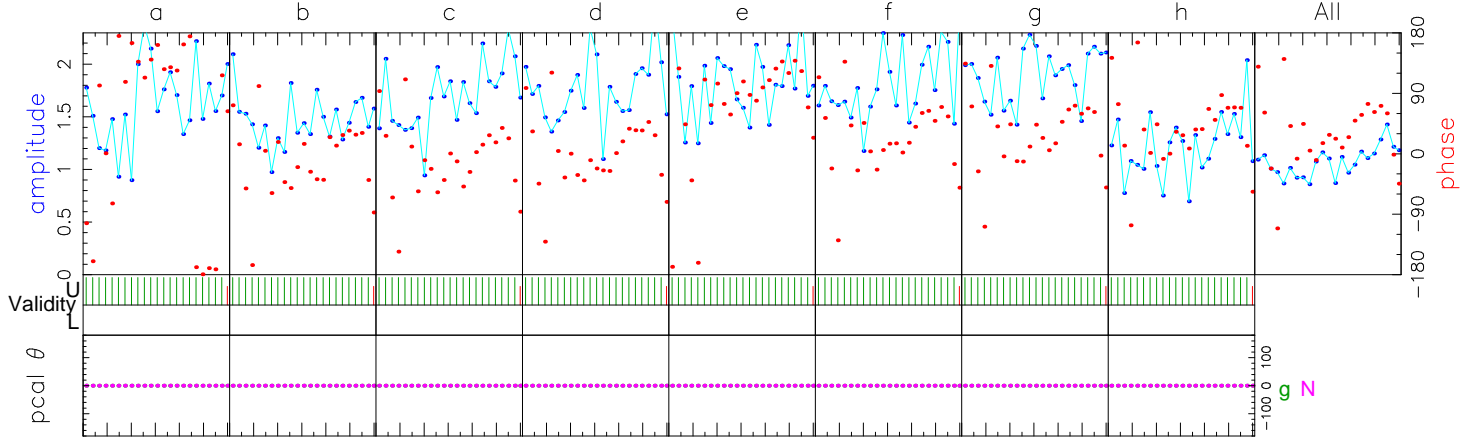


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135451
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

Group delay (usec)(sbd) 8.26896221961E+03 Apriori delay (usec) 8.26895260306E+03 Resid mbdelay (usec) -6.00845E-03 +/- 2.7E-05
 Sband delay (usec) 8.26895467756E+03 Apriori clock (usec) 1.3645765E+01 Resid sbdelay (usec) 2.07450E-03 +/- 2.2E-04
 Phase delay (usec) 8.26895260418E+03 Apriori clockrate (us/s) -9.1940006E-06 Resid phdelay (usec) 1.12201E-06 +/- 9.3E-08
 Delay rate (us/s) 7.21801385858E-01 Apriori rate (us/s) 7.21801470974E-01 Resid rate (us/s) -8.51162E-08 +/- 4.5E-10
 Total phase (deg) 116.7 Apriori accel (us/s/s) -2.33276132393E-05 Resid phase (deg) 34.8 +/- 2.9

ph/seg (deg) 52.3 6.9 Search (2048X32) 0.737 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 43.8 12.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 61.9 4.1 Inc. seg. avg. 1.064 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 53.1 7.1 Inc. frq. avg. 1.138 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 205.0 el 54.9 pa 7.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -5637.545 173.274 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/gN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/gN.W.192.1W5ADF

Mk4/DiFX fourfit 3.21 rev 2937

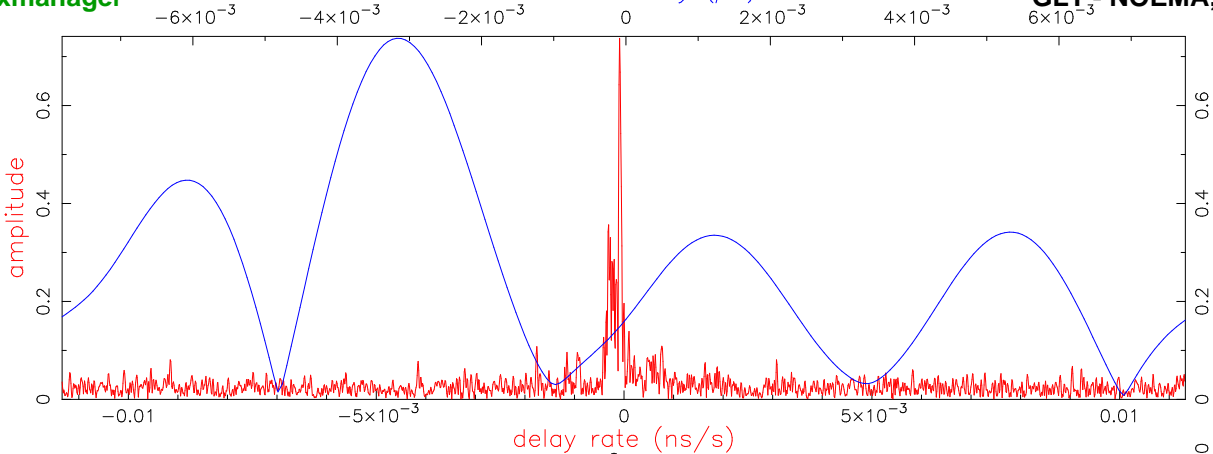
fxmanager

BLLAC.1W5ADF, No0245, gN

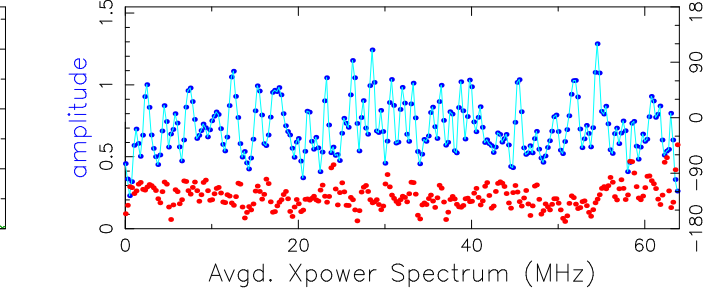
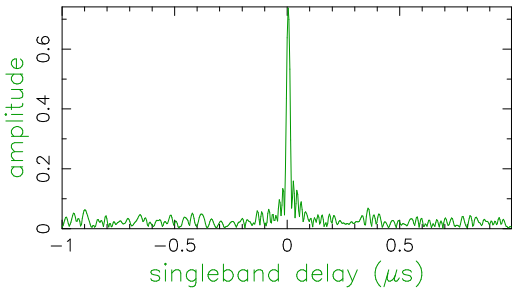
GLT - NOEMA, fgroup W, pol RL

multiband delay (μ s)

Fringe quality 4

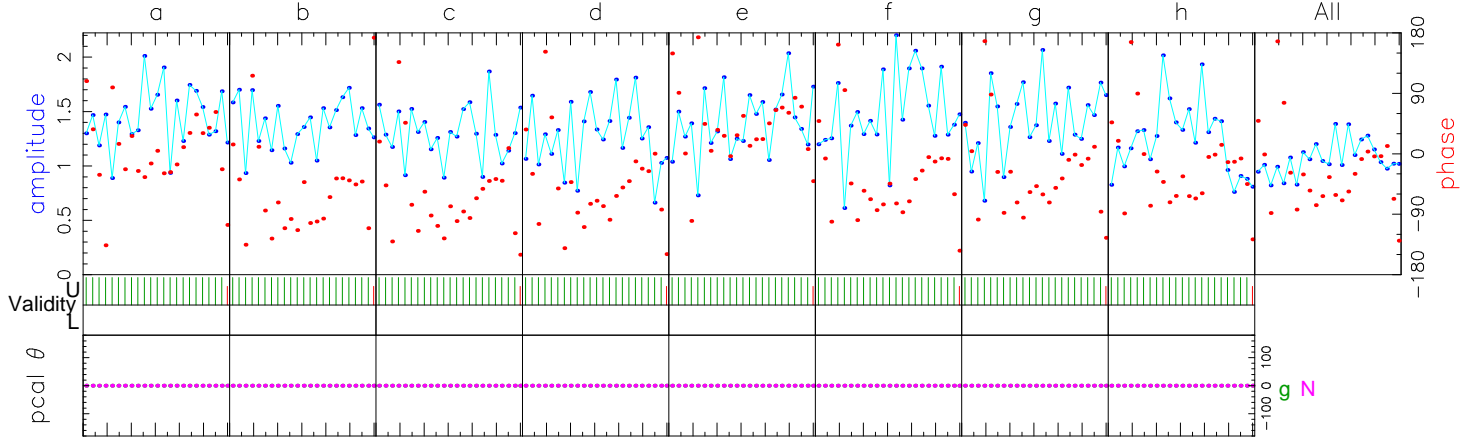


SNR 38.5
 Int time 359.918
 Amp 0.741
 Phase -36.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.004795
 MBD -0.003151
 Fringe rate (Hz)
 -0.007278
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135455
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | 4.5 | -69.6 | -75.5 | -57.2 | 39.0 | -52.1 | -41.5 | -32.6 | Phase | -36.3 |
| | 1.0 | 0.9 | 0.8 | 0.8 | 1.0 | 1.0 | 0.9 | 0.8 | Ampl. | 0.9 |
| | 257.9 | 258.2 | 258.1 | 258.4 | 258.3 | 258.2 | 258.4 | 258.2 | Sbd box | 258.2 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| g | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| g:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 8.26896507701E+03 | Apriori delay (usec) | 8.26895260306E+03 | Resid mbdelay (usec) | -3.15104E-03 | +/- | 2.8E-05 |
| Sband delay (usec) | 8.26895739781E+03 | Apriori clock (usec) | 1.3645765E+01 | Resid sbdelay (usec) | 4.79475E-03 | +/- | 2.2E-04 |
| Phase delay (usec) | 8.26895260189E+03 | Apriori clockrate (us/s) | -9.1940006E-06 | Resid phdelay (usec) | -1.17191E-06 | +/- | 9.6E-08 |
| Delay rate (us/s) | 7.21801386487E-01 | Apriori rate (us/s) | 7.21801470974E-01 | Resid rate (us/s) | -8.44870E-08 | +/- | 4.6E-10 |
| Total phase (deg) | | Apriori accel (us/s/s) | -2.33276132393E-05 | Resid phase (deg) | -36.3 | +/- | 3.0 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 55.1 | RMS | 7.1 | Theor. | 0.741 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 48.7 | Search (2048X32) | 0.710 | Amplitude | | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 42.2 | Interp. | 0.000 | Search | | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 25.0 | Inc. seg. avg. | 1.061 | Inc. seg. avg. | | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | |
| | | Inc. frq. avg. | 0.912 | Inc. frq. avg. | | Data rate (Mb/s): | 2048 | ion window (TEC) | 0.00 0.00 | |

g: az 205.0 el 54.9 pa 7.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -5637.545 173.274 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/gN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/gN.W.214.1W5ADF

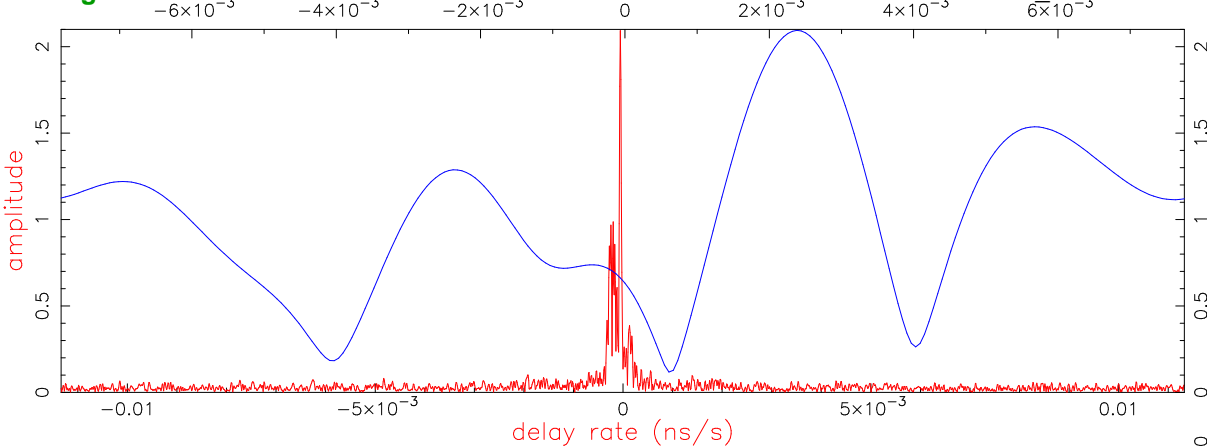
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, kN

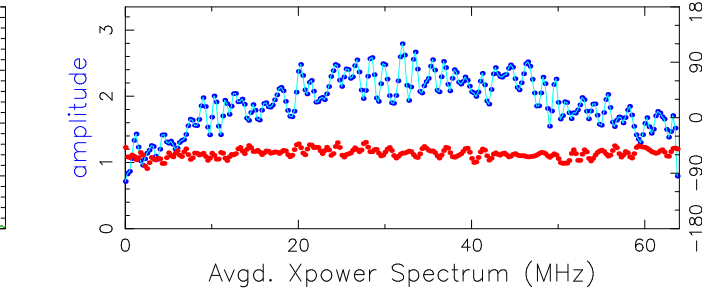
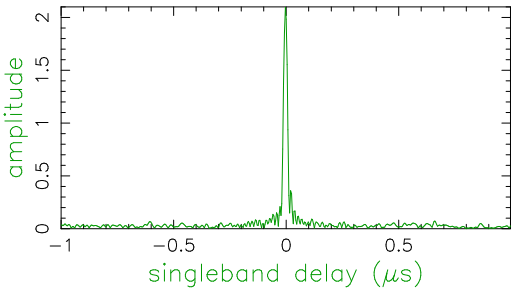
VLBA_KP - NOEMA, fgroup W, pol LL

multiband delay (μ s)



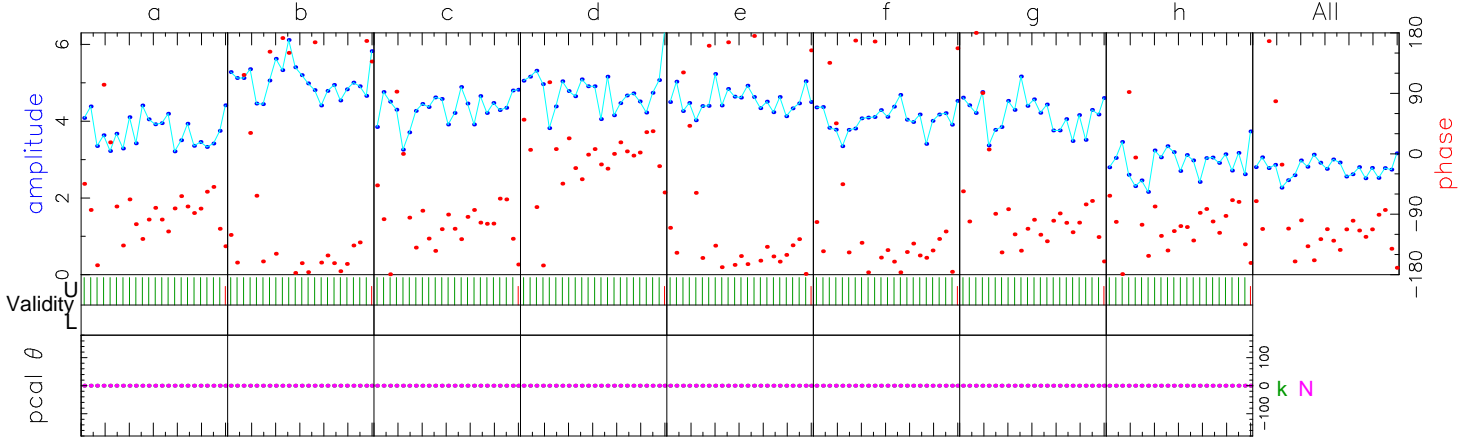
Fringe quality 2

SNR 109.0
 Int time 359.916
 Amp 2.100
 Phase -121.7
 PFD 0.0e+00
 Delays (us)
 SBD -0.003167
 MBD 0.002409
 Fringe rate (Hz)
 -0.004488
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135449
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.07936849728E+04 | Apriori delay (usec) | 1.07936825634E+04 | Resid mbdelay (usec) | 2.40933E-03 | +/- | 1.0E-05 |
| Sband delay (usec) | 1.07936793964E+04 | Apriori clock (usec) | 1.3535545E+01 | Resid sbdelay (usec) | -3.16700E-03 | +/- | 7.9E-05 |
| Phase delay (usec) | 1.07936825595E+04 | Apriori clockrate (us/s) | -9.2540003E-06 | Resid phdelay (usec) | -3.92445E-06 | +/- | 3.4E-08 |
| Delay rate (us/s) | 1.19006022245E+00 | Apriori rate (us/s) | 1.19006027455E+00 | Resid rate (us/s) | -5.21002E-08 | +/- | 1.6E-10 |
| Total phase (deg) | -116.8 | Apriori accel (us/s/s) | -7.05084723023E-05 | Resid phase (deg) | -121.7 | +/- | 1.1 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 48.7 | RMS | 2.5 | Theor. | 2.100 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 33.5 | Search (2048X32) | 2.060 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 58.4 | Inc. seg. avg. | 2.767 | Inc. frq. avg. | 3.141 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 54.1 | Inc. frq. avg. | 3.141 | | | 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 | |

k: az 54.2 el 68.5 pa -110.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9363.052 -6064.330 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/kN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/kN.W.179.1W5ADF

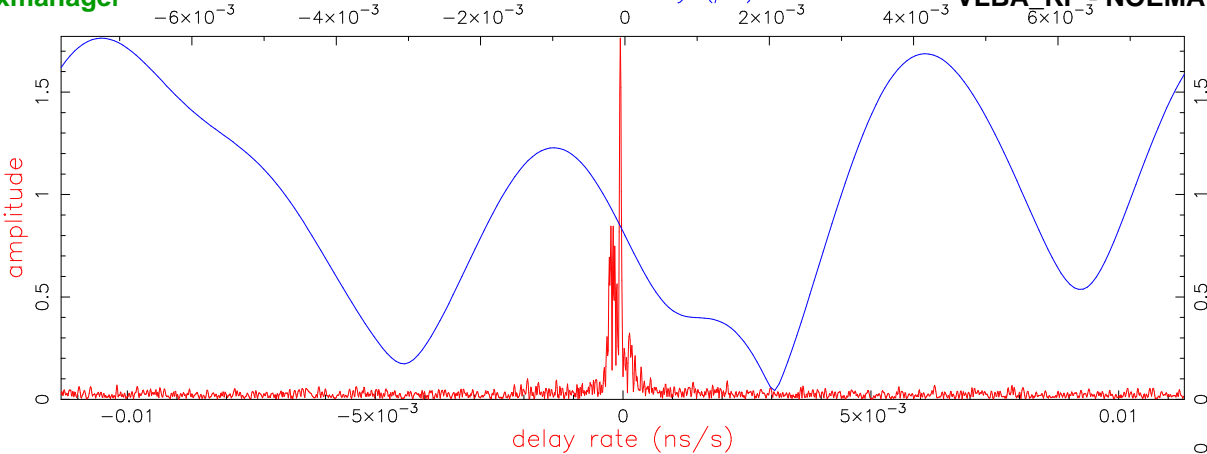
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, kN

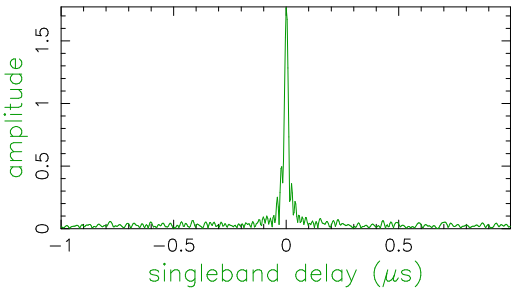
VLBA_KP - NOEMA, fgroup W, pol RR

multiband delay (μ s)

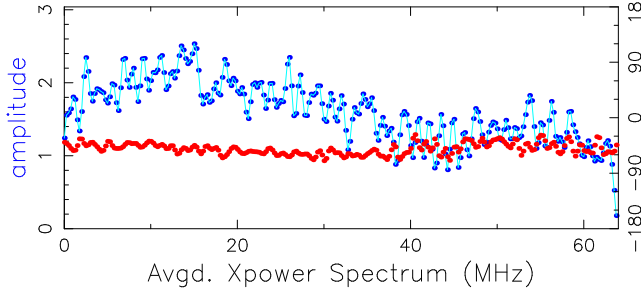


Fringe quality 2

SNR 91.9
Int time 359.916
Amp 1.772
Phase 41.9
PFD 0.0e+00
Delays (us)
SBD 0.000886
MBD -0.007240
Fringe rate (Hz)
-0.004474
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

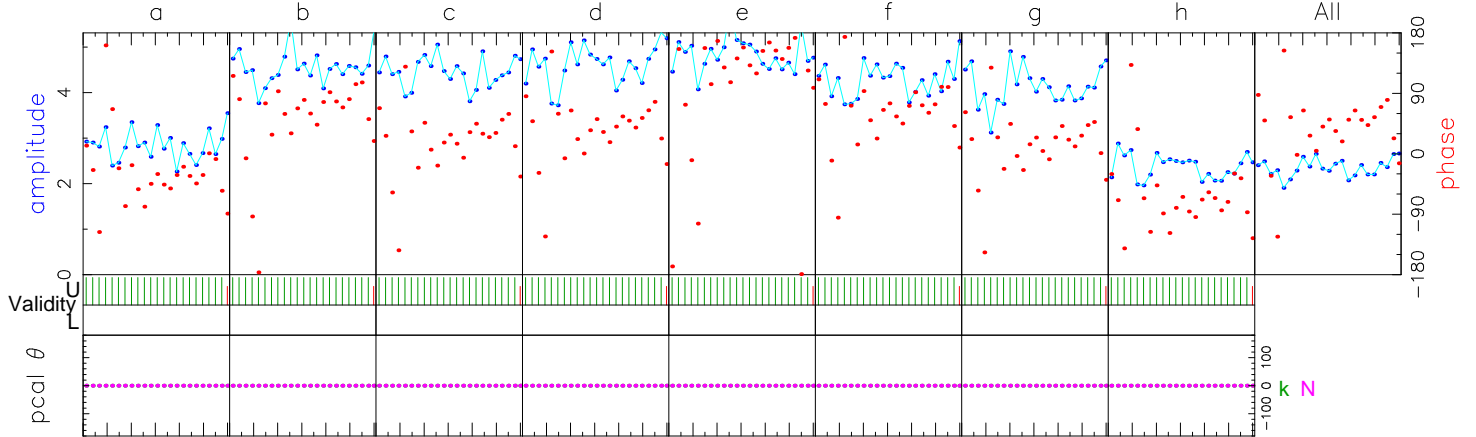


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135453
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -37.9 | 69.3 | 21.6 | 38.8 | 143.7 | 64.6 | 15.3 | -76.3 | Phase | 41.9 |
| | 2.1 | 3.4 | 3.3 | 3.5 | 3.6 | 3.2 | 3.2 | 1.8 | Ampl. | 3.0 |
| | 254.9 | 257.0 | 257.3 | 257.5 | 257.1 | 257.5 | 256.5 | 254.9 | Sbd box | 257.2 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Manl PC | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.07936909486E+04 | | Apriori delay (usec) | | 1.07936825634E+04 | | Resid mbdelay (usec) | | -7.23986E-03 | +/- 1.2E-05 |
| Sband delay (usec) | 1.07936834497E+04 | | Apriori clock (usec) | | 1.3535545E+01 | | Resid sbdelay (usec) | | 8.86250E-04 | +/- 9.4E-05 |
| Phase delay (usec) | 1.07936825648E+04 | | Apriori clockrate (us/s) | | -9.2540003E-06 | | Resid phdelay (usec) | | 1.35042E-06 | +/- 4.0E-08 |
| Delay rate (us/s) | 1.19006022262E+00 | | Apriori rate (us/s) | | 1.19006027455E+00 | | Resid rate (us/s) | | -5.19380E-08 | +/- 1.9E-10 |
| Total phase (deg) | 46.8 | | Apriori accel (us/s/s) | | -7.05084723023E-05 | | Resid phase (deg) | | 41.9 | +/- 1.2 |

ph/seg (deg) 50.5 3.0 Search (2048X32) 1.731 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 34.2 5.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 74.3 1.8 Inc. seg. avg. 2.345 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 78.0 3.1 Inc. frq. avg. 2.996 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 54.2 el 68.5 pa -110.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9363.052 -6064.330 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/kN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/kN.W.201.1W5ADF

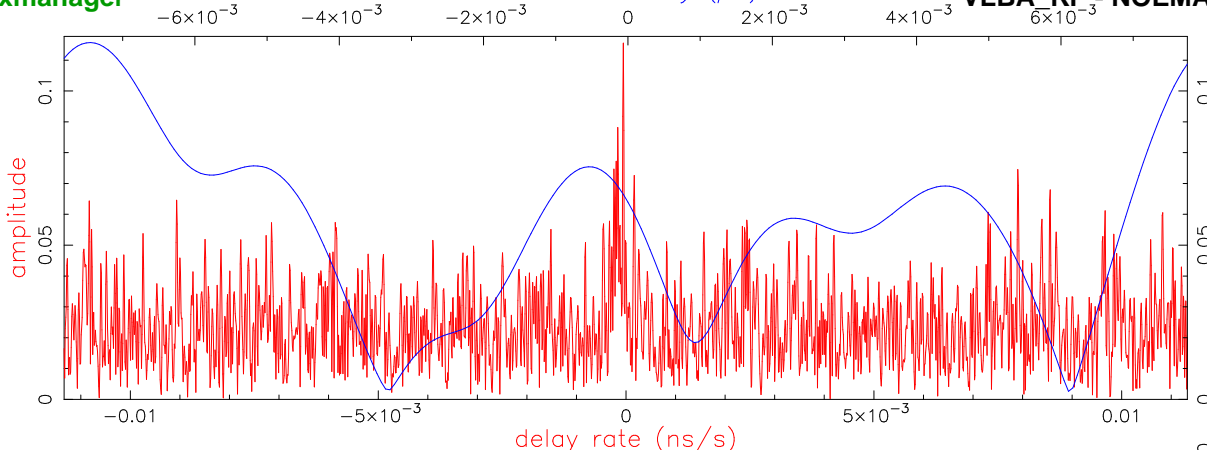
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, kN

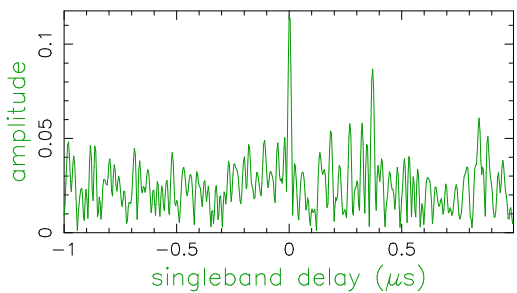
VLBA_KP - NOEMA, fgroup W, pol LR

multiband delay (μ s)

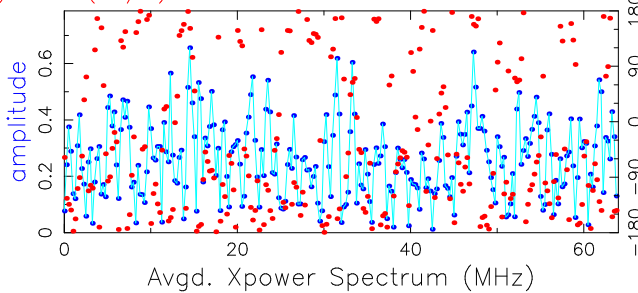


Fringe quality 0

SNR 6.1
Int time 359.916
Amp 0.118
Phase -41.1
PFD 2.4e-01
Delays (us)
SBD 0.001558
MBD -0.007384
Fringe rate (Hz)
-0.004707
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

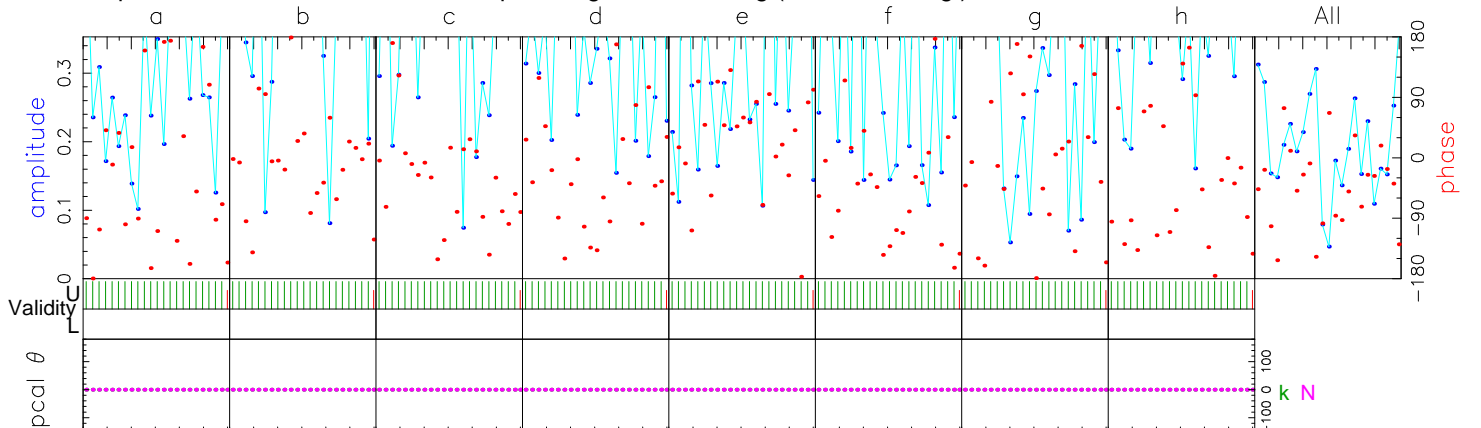


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135456
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -124.3 | -13.7 | -48.0 | -49.7 | 51.3 | -51.9 | -34.5 | -92.1 | Phase | -41.1 |
| | 0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | Ampl. | 0.2 |
| | 351.7 | 256.3 | 257.2 | 157.7 | 257.2 | 69.0 | 308.7 | 254.2 | Sbd box | 257.4 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.07936908045E+04 | | Apriori delay (usec) | | 1.07936825634E+04 | | Resid mbdelay (usec) | | -7.38389E-03 | +/- 1.8E-04 |
| Sband delay (usec) | 1.07936841219E+04 | | Apriori clock (usec) | | 1.3535545E+01 | | Resid sbdelay (usec) | | 1.55850E-03 | +/- 1.4E-03 |
| Phase delay (usec) | 1.07936825621E+04 | | Apriori clockrate (us/s) | | -9.2540003E-06 | | Resid phdelay (usec) | | -1.32564E-06 | +/- 6.1E-07 |
| Delay rate (us/s) | 1.19006021991E+00 | | Apriori rate (us/s) | | 1.19006027455E+00 | | Resid rate (us/s) | | -5.46418E-08 | +/- 2.9E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -7.05084723023E-05 | | Resid phase (deg) | | -41.1 | +/- 18.8 |

ph/seg (deg) 59.8 45.0 Search (2048X32) 0.115 PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 92.9 78.5 Interp. 0.000 PCal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 56.4 26.5 Inc. seg. avg. 0.151 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 64.9 46.3 Inc. frq. avg. 0.150 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 54.2 el 68.5 pa -110.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9363.052 -6064.330 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/kN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/kN.W.220.1W5ADF

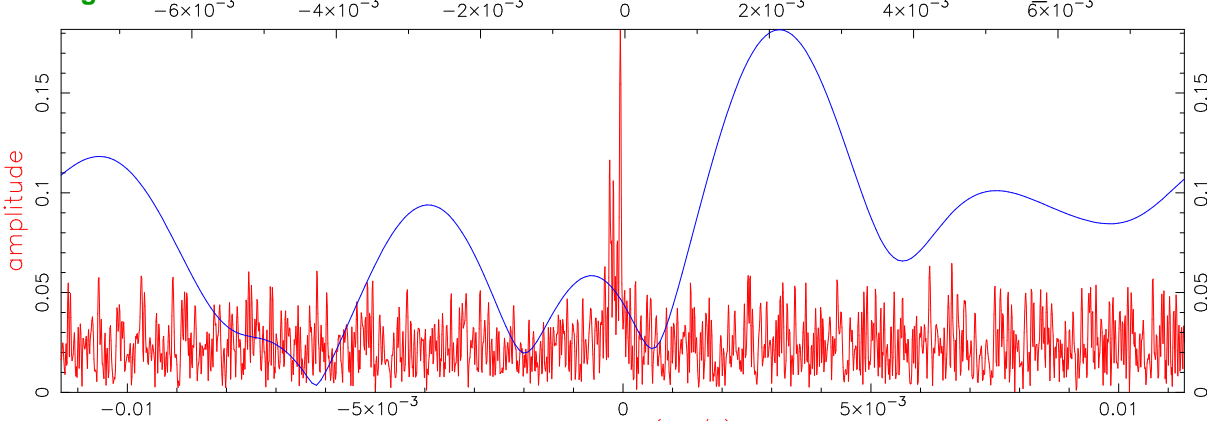
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, kN

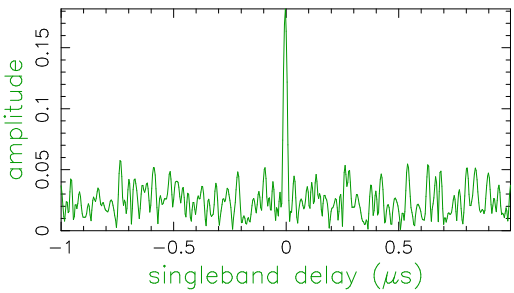
VLBA_KP - NOEMA, fgroup W, pol RL

multiband delay (μ s)

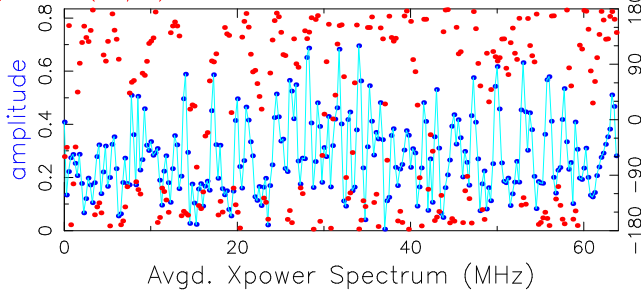


Fringe quality 9

SNR 9.4
 Int time 359.916
 Amp 0.182
 Phase 89.3
 PFD 1.5e-12
 Delays (us)
 SBD -0.004301
 MBD 0.002128
 Fringe rate (Hz)
 -0.004885
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

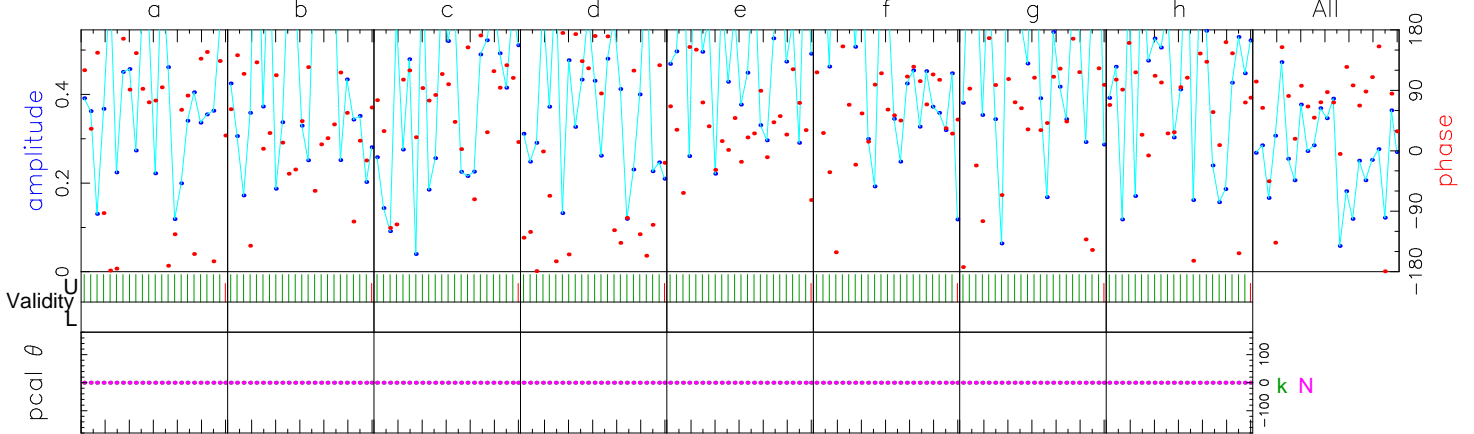


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135459
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| k:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| k | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.07936846914E+04 | Apriori delay (usec) | 1.07936825634E+04 | Resid mbdelay (usec) | 2.12796E-03 | +/- | 1.2E-04 |
| Sband delay (usec) | 1.07936782627E+04 | Apriori clock (usec) | 1.3535545E+01 | Resid sbdelay (usec) | -4.30075E-03 | +/- | 9.1E-04 |
| Phase delay (usec) | 1.07936825663E+04 | Apriori clockrate (us/s) | -9.2540003E-06 | Resid phdelay (usec) | 2.88062E-06 | +/- | 3.9E-07 |
| Delay rate (us/s) | 1.19006021785E+00 | Apriori rate (us/s) | 1.19006027455E+00 | Resid rate (us/s) | -5.67052E-08 | +/- | 1.9E-09 |
| Total phase (deg) | | Apriori accel (us/s/s) | -7.05084723023E-05 | Resid phase (deg) | 89.3 | +/- | 12.1 |

| | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 57.7 | Theor. | 29.1 | Amplitude | 0.182 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 70.0 | | 50.8 | Search (2048X32) | 0.178 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 57.5 | | 17.2 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 44.6 | | 30.0 | Inc. seg. avg. | 0.235 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| | | | | Inc. frq. avg. | 0.242 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | | |

k: az 54.2 el 68.5 pa -110.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -9363.052 -6064.330 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/kN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/kN.W.233.1W5ADF

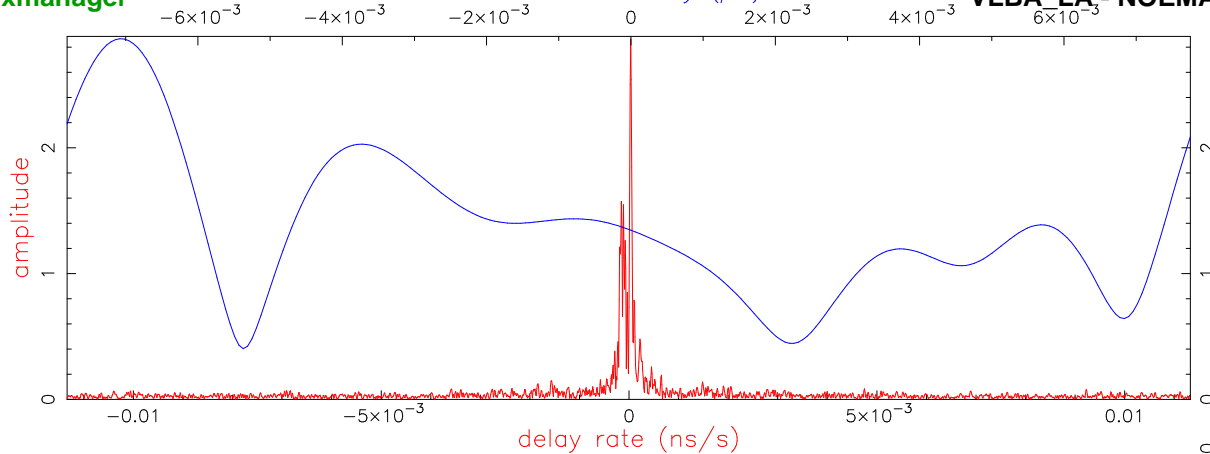
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, IN

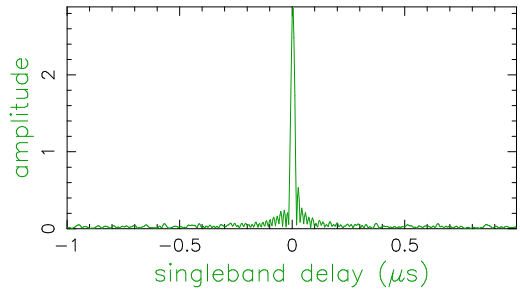
VLBA LA- NOEMA, fgroup W, pol LL

multiband delay (μ s)

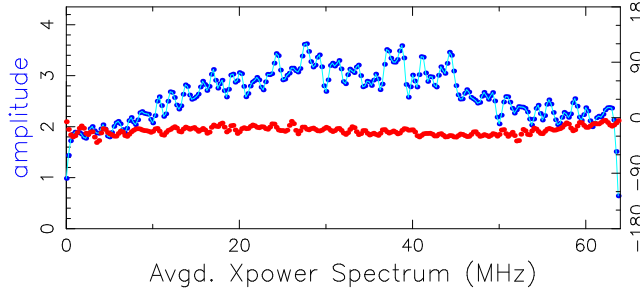


Fringe quality 1

SNR 149.7
 Int time 359.915
 Amp 2.886
 Phase 93.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.002809
 MBD -0.007103
 Fringe rate (Hz)
 0.003071
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

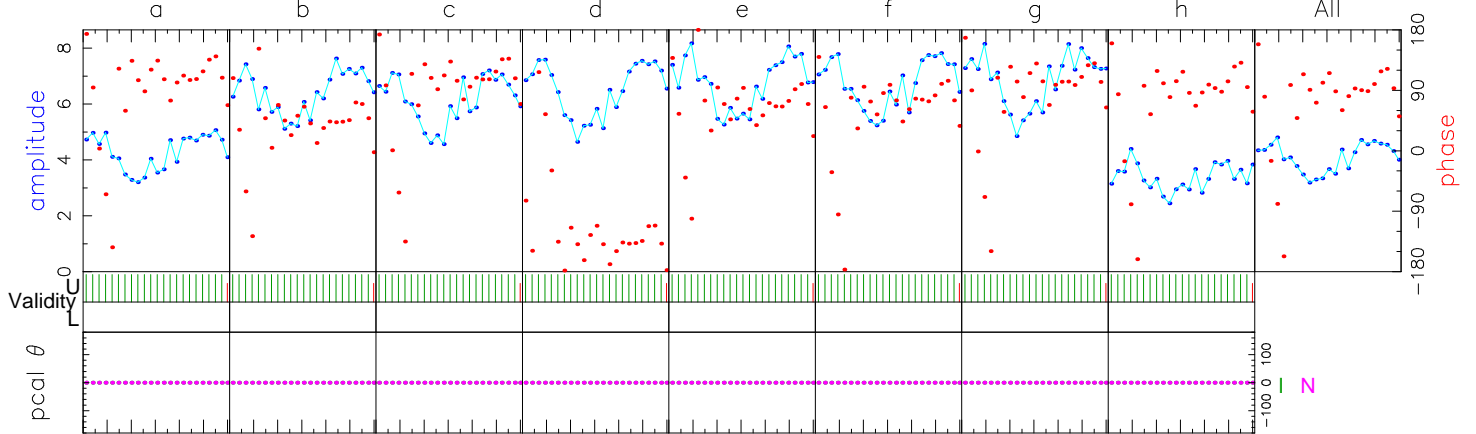


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135502
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

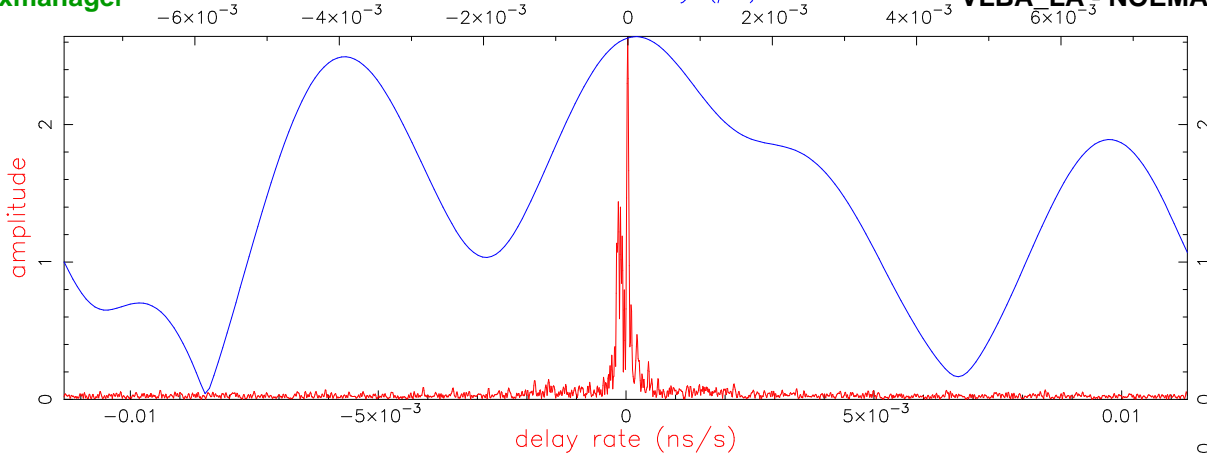
| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.14543296683E+04 | Apriori delay (usec) | 1.14543211466E+04 | Resid mbdelay (usec) | -7.10328E-03 | +/- | 7.2E-06 |
| Sband delay (usec) | 1.14543239553E+04 | Apriori clock (usec) | 1.0617893E+01 | Resid sbdelay (usec) | 2.80875E-03 | +/- | 5.8E-05 |
| Phase delay (usec) | 1.14543211496E+04 | Apriori clockrate (us/s) | -9.5400007E-06 | Resid phdelay (usec) | 3.00448E-06 | +/- | 2.5E-08 |
| Delay rate (us/s) | 1.09176716463E+00 | Apriori rate (us/s) | 1.09176712897E+00 | Resid rate (us/s) | 3.56560E-08 | +/- | 1.2E-10 |
| Total phase (deg) | 297.5 | Apriori accel (us/s/s) | -6.98314174356E-05 | Resid phase (deg) | 93.2 | +/- | 0.8 |

| | | | | | | | | | | |
|--------------|------|-----|------------------|-----------------|--|-----------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | 53.6 | 1.8 | Amplitude | 2.886 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | | | | |
| amp/seg (%) | 45.4 | 3.2 | Search (2048X32) | 2.773 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | | |
| ph/frq (deg) | 59.1 | 1.1 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| amp/frq (%) | 52.5 | 1.9 | Inc. seg. avg. | 4.096 | Sample rate(MISamp/s): 128 | | dr window (ns/s) | -0.011 | 0.011 | |
| | | | Inc. frq. avg. | 4.124 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

I: az 59.5 el 74.4 pa -109.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8599.395 -5663.876 simultaneous interpolator

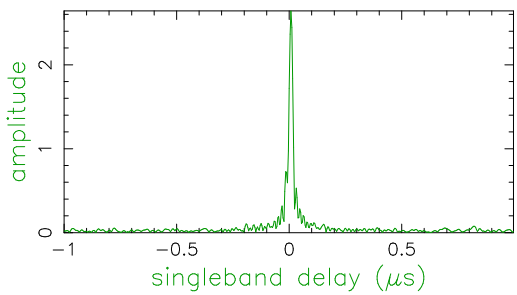
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/IN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/IN.W.241.1W5ADF

multiband delay (μ s)

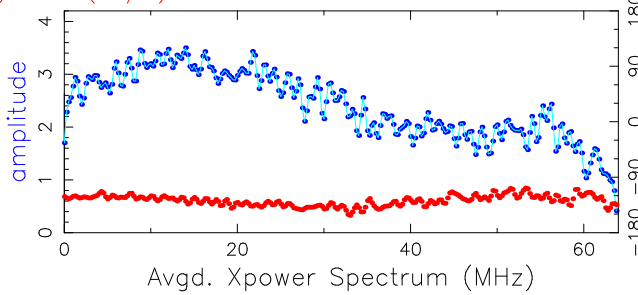


Fringe quality 1

SNR 137.1
Int time 359.915
Amp 2.642
Phase -36.0
PFD 0.0e+00
Delays (us)
SBD 0.008154
MBD 0.000113
Fringe rate (Hz)
0.003099
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

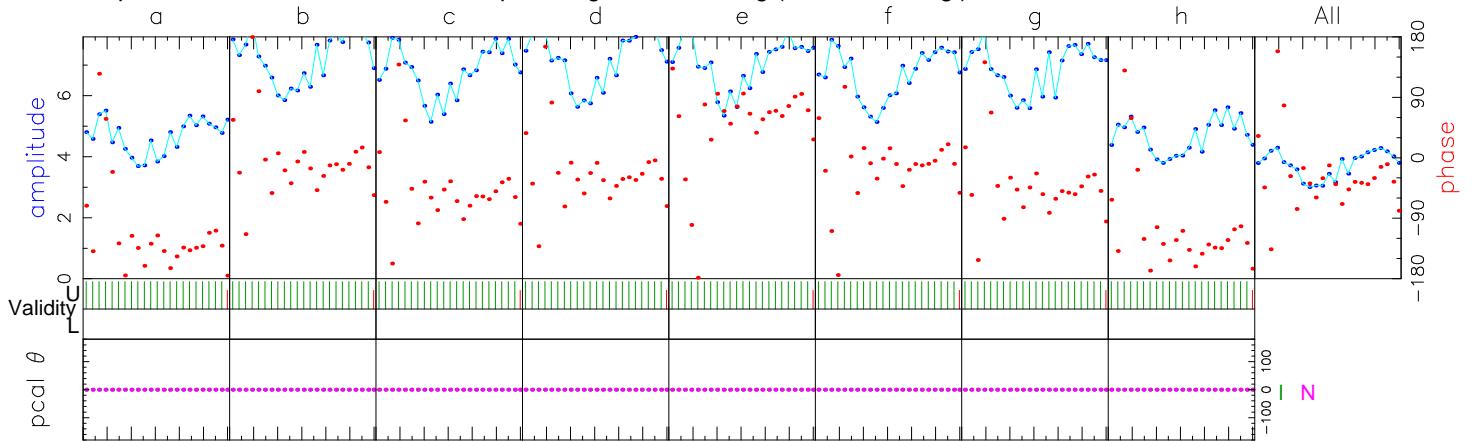


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135505
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -134.9 | -12.7 | -57.8 | -30.0 | 69.3 | -8.4 | -49.9 | -128.7 | Phase | -36.0 |
| | 3.3 | 5.1 | 4.8 | 5.1 | 5.0 | 4.7 | 4.8 | 3.3 | Ampl. | 4.5 |
| | 256.8 | 259.0 | 259.4 | 259.1 | 259.2 | 259.2 | 258.7 | 257.0 | Sbd box | 259.1 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.14543368850E+04 | Apriori delay (usec) | 1.14543211466E+04 | Resid mbdelay (usec) | 1.13407E-04 | +/- | 7.9E-06 |
| Sband delay (usec) | 1.14543293003E+04 | Apriori clock (usec) | 1.0617893E+01 | Resid sbdelay (usec) | 8.15375E-03 | +/- | 6.3E-05 |
| Phase delay (usec) | 1.14543211454E+04 | Apriori clockrate (us/s) | -9.5400007E-06 | Resid phdelay (usec) | -1.16189E-06 | +/- | 2.7E-08 |
| Delay rate (us/s) | 1.09176716495E+00 | Apriori rate (us/s) | 1.09176712897E+00 | Resid rate (us/s) | 3.59756E-08 | +/- | 1.3E-10 |
| Total phase (deg) | 168.3 | Apriori accel (us/s/s) | -6.98314174356E-05 | Resid phase (deg) | -36.0 | +/- | 0.8 |

| | | | | | | | | | | | | |
|--------------|------|-----|-----|----------------|-----------------|------------------|-------|--|----------------------------|------------------|--------|-------|
| ph/seg (deg) | 52.3 | RMS | 2.0 | Theor. | 2.642 +/- 0.019 | Search (2048X32) | 2.609 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 44.6 | | 3.5 | Interp. | 0.000 | | | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 72.4 | | 1.2 | Inc. seg. avg. | 3.741 | | | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 76.2 | | 2.1 | Inc. frq. avg. | 4.526 | | | Data rate(Mb/s): 2048 | nlags: 256 | ion window (TEC) | 0.00 | 0.00 |

I: az 59.5 el 74.4 pa -109.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8599.395 -5663.876 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/IN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/IN.W.255.1W5ADF

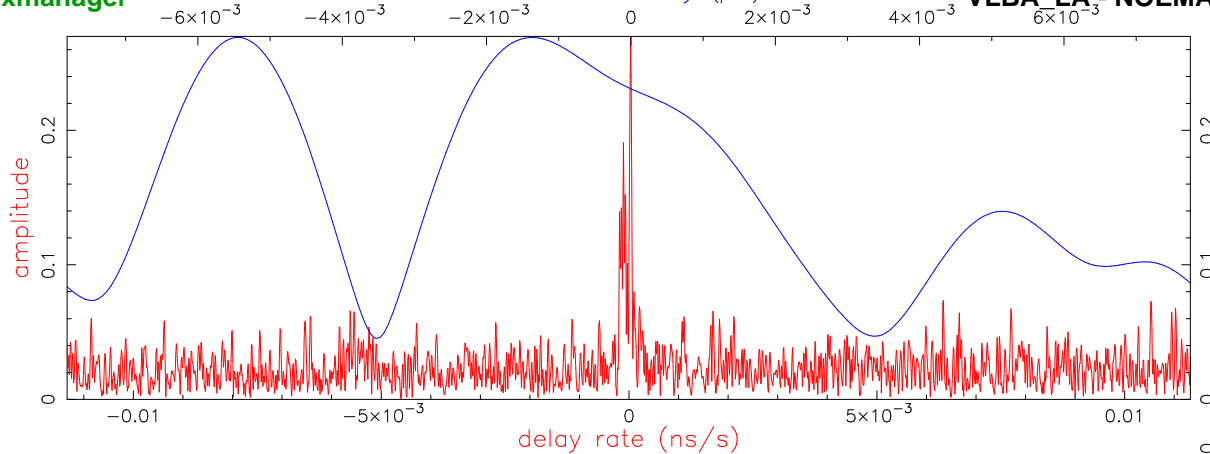
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, IN

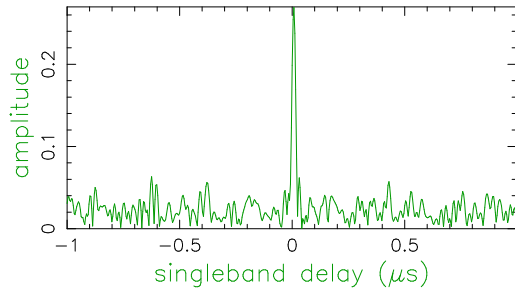
VLBA_LA- NOEMA, fgroup W, pol LR

multiband delay (μ s)

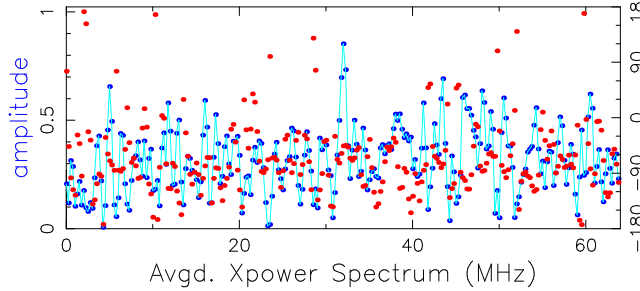


Fringe quality 9

SNR 14.0
 Int time 359.915
 Amp 0.270
 Phase 67.1
 PFD 9.5e-36
 Delays (us)
 SBD 0.007124
 MBD -0.005464
 Fringe rate (Hz)
 0.003099
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

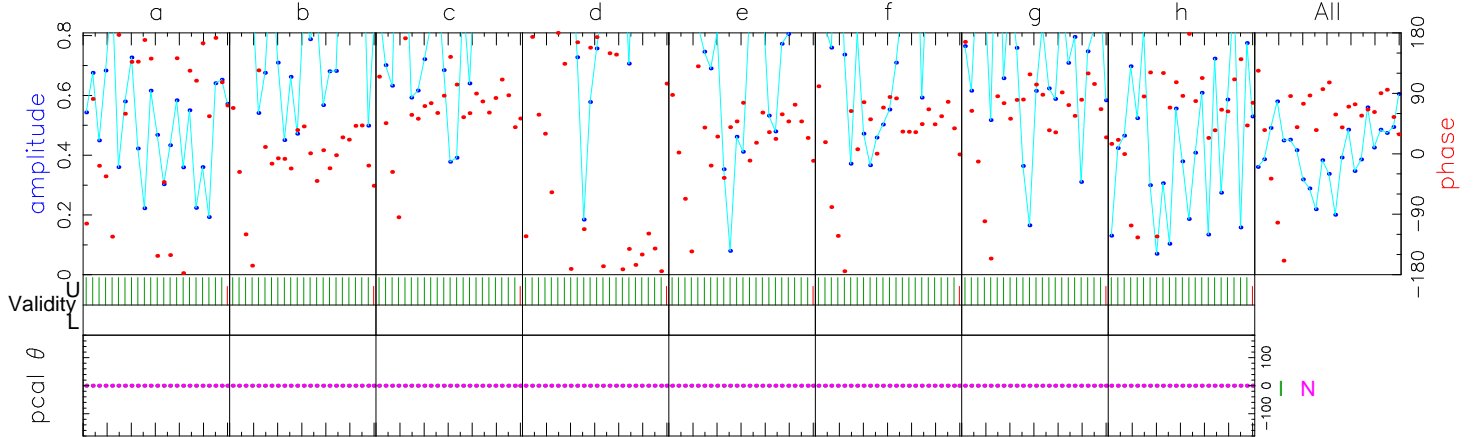


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135508
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.14543313077E+04 | Apriori delay (usec) | 1.14543211466E+04 | Resid mbdelay (usec) | -5.46391E-03 | +/- | 7.8E-05 |
| Sband delay (usec) | 1.14543282708E+04 | Apriori clock (usec) | 1.0617893E+01 | Resid sbdelay (usec) | 7.12425E-03 | +/- | 6.2E-04 |
| Phase delay (usec) | 1.14543211488E+04 | Apriori clockrate (us/s) | -9.5400007E-06 | Resid phdelay (usec) | 2.16413E-06 | +/- | 2.6E-07 |
| Delay rate (us/s) | 1.09176716495E+00 | Apriori rate (us/s) | 1.09176712897E+00 | Resid rate (us/s) | 3.59749E-08 | +/- | 1.3E-09 |
| Total phase (deg) | 271.4 | Apriori accel (us/s/s) | -6.98314174356E-05 | Resid phase (deg) | 67.1 | +/- | 8.2 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 55.6 | RMS | 19.6 | Theor. | 0.270 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 64.4 | Search (2048X32) | 0.266 | Amplitude | | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 66.9 | Interp. | 0.000 | Search | | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 88.5 | Inc. seg. avg. | 0.389 | Inc. seg. avg. | | Sample rate(MISamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | |
| | | Inc. frq. avg. | 0.450 | Inc. frq. avg. | | Data rate(Mb/s): | 2048 | ion window (TEC) | 0.00 0.00 | |

I: az 59.5 el 74.4 pa -109.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8599.395 -5663.876 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/IN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/IN.W.275.1W5ADF

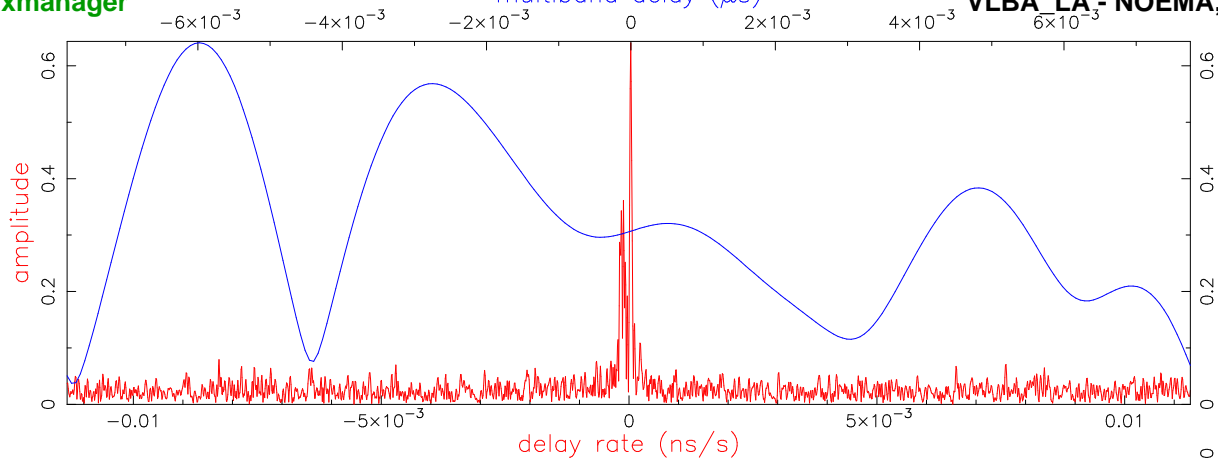
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, IN

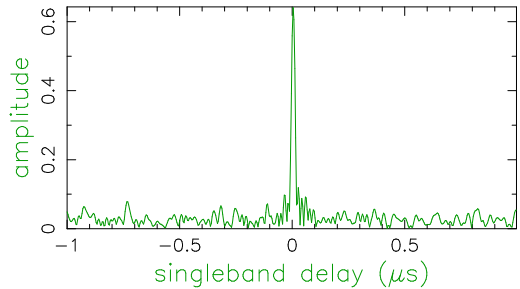
VLBA_LA- NOEMA, fgroup W, pol RL

multiband delay (μ s)

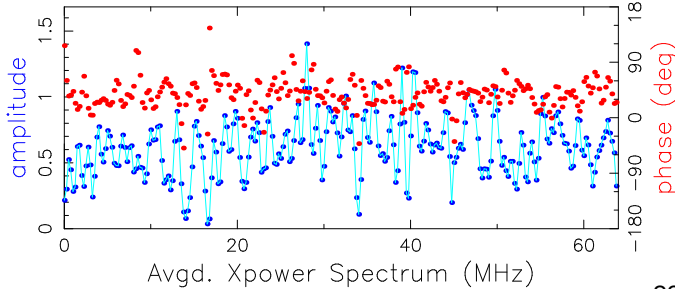


Fringe quality 3

SNR 33.4
 Int time 359.915
 Amp 0.643
 Phase 161.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.004717
 MBD -0.005960
 Fringe rate (Hz)
 0.003068
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

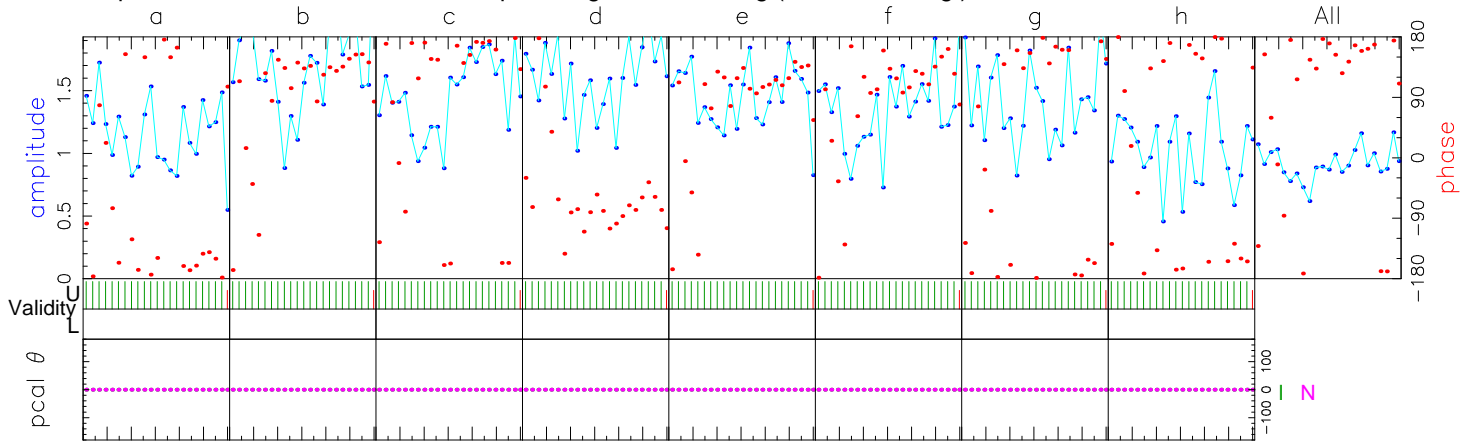


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135512
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -168.5 | 128.0 | 171.4 | -74.9 | 115.1 | 118.9 | 176.4 | -176.3 | Phase | 161.8 |
| | 0.8 | 1.2 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 0.7 | Ampl. | 1.0 |
| | 256.6 | 258.3 | 258.8 | 258.6 | 258.3 | 258.9 | 258.3 | 256.5 | Sbd box | 258.2 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| I:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | ManI PC | |
| I | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| I | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.14543308114E+04 | | Apriori delay (usec) | | 1.14543211466E+04 | | Resid mbdelay (usec) | | -5.96022E-03 | +/- 3.3E-05 |
| Sband delay (usec) | 1.14543258638E+04 | | Apriori clock (usec) | | 1.0617893E+01 | | Resid sbdelay (usec) | | 4.71725E-03 | +/- 2.6E-04 |
| Phase delay (usec) | 1.14543211518E+04 | | Apriori clockrate (us/s) | | -9.5400007E-06 | | Resid phdelay (usec) | | 5.21788E-06 | +/- 1.1E-07 |
| Delay rate (us/s) | 1.09176716459E+00 | | Apriori rate (us/s) | | 1.09176712897E+00 | | Resid rate (us/s) | | 3.56149E-08 | +/- 5.3E-10 |
| Total phase (deg) | 6.1 | | Apriori accel (us/s/s) | | -6.98314174356E-05 | | Resid phase (deg) | | 161.8 | +/- 3.4 |

| | RMS | Theor. | Amplitude | 0.643 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 54.3 | 8.2 | Search (2048X32) | 0.630 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 47.3 | 14.4 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled |
| ph/frq (deg) | 60.6 | 4.9 | Inc. seg. avg. | 0.911 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 57.8 | 8.5 | Inc. frq. avg. | 0.978 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

I: az 59.5 el 74.4 pa -109.7 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -8599.395 -5663.876 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/IN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/IN.W.295.1W5ADF

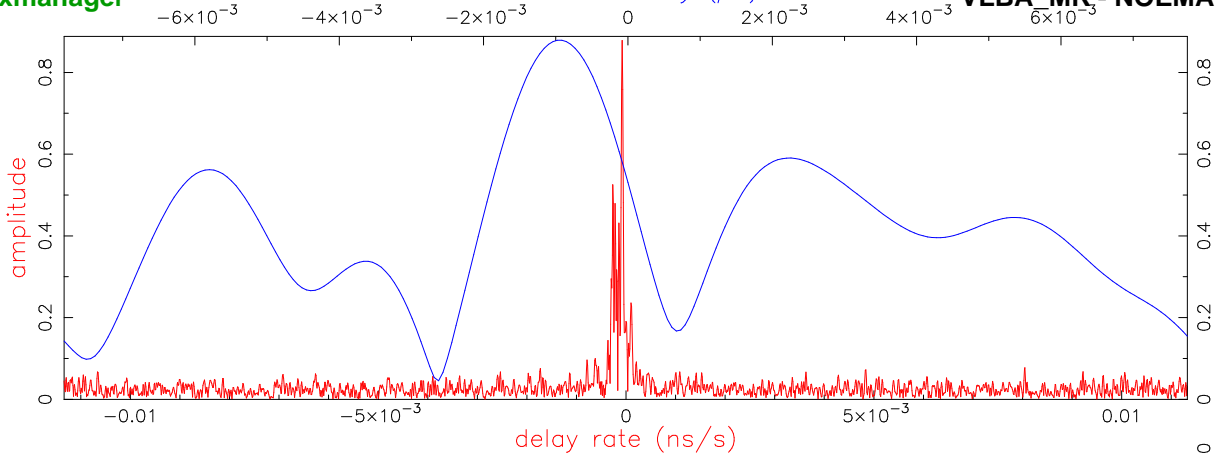
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, mN

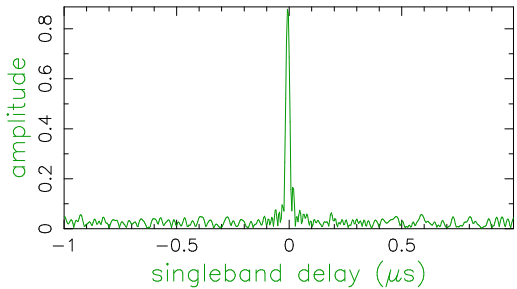
VLBA_MK- NOEMA, fgroup W, pol LL

multiband delay (μ s)

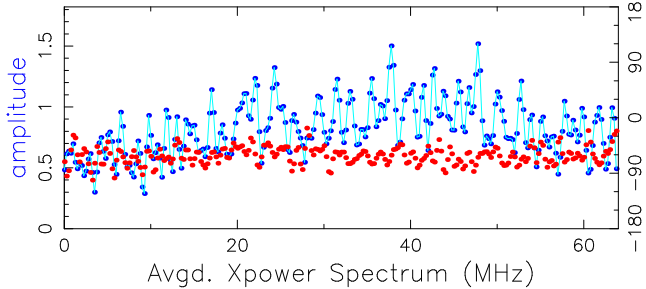


Fringe quality 3

SNR 46.1
 Int time 359.913
 Amp 0.888
 Phase -124.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.006430
 MBD -0.000905
 Fringe rate (Hz)
 -0.006711
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

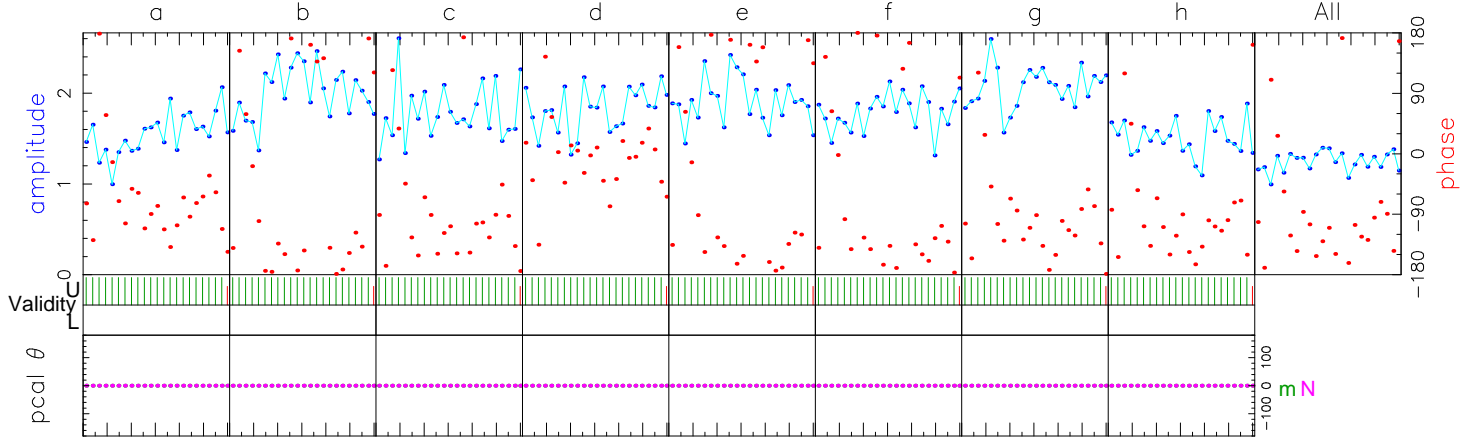


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135503
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.66601955921E+03 | Apriori delay (usec) | 1.66602046377E+03 | Resid mbdelay (usec) | -9.04555E-04 | +/- | 2.4E-05 |
| Sband delay (usec) | 1.66601403352E+03 | Apriori clock (usec) | 2.8879517E+01 | Resid sbdelay (usec) | -6.43025E-03 | +/- | 1.9E-04 |
| Phase delay (usec) | 1.66602045975E+03 | Apriori clockrate (us/s) | -8.9360004E-06 | Resid phdelay (usec) | -4.01447E-06 | +/- | 8.0E-08 |
| Delay rate (us/s) | 1.80454741354E+00 | Apriori rate (us/s) | 1.80454749145E+00 | Resid rate (us/s) | -7.79137E-08 | +/- | 3.9E-10 |
| Total phase (deg) | 145.1 | Apriori accel (us/s/s) | -3.63441634319E-05 | Resid phase (deg) | -124.5 | +/- | 2.5 |

| | | | | | | | | | | | | | | | | |
|-----------------------------|-----------------------------|-----|---------------|--------|----------------------|----------------|---------------------------|-------------------|-----------------------------|------------------------|---------|------------------|----------|------------------|------|------|
| ph/seg (deg) | 53.1 | RMS | 53.1 | Theor. | 6.0 | Amplitude | 0.888 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | sb window (us) | -1.000 | 1.000 | | |
| amp/seg (%) | 42.2 | | 42.2 | | 10.4 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: | enabled | mb window (us) | -0.008 | 0.008 | | |
| ph/frq (deg) | 57.1 | | 57.1 | | 3.5 | Inc. seg. avg. | 1.242 | Bits/sample: | 2x2 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 | 0.011 | | |
| amp/frq (%) | 45.4 | | 45.4 | | 6.1 | Inc. frq. avg. | 1.266 | Data rate (Mb/s): | 2048 | nlags: | 256 | t_cohere | infinite | ion window (TEC) | 0.00 | 0.00 |
| m: az 51.7 el 29.6 pa -89.2 | N: az 304.9 el 26.0 pa 55.2 | | u,v (fr/asec) | | -14060.691 -4798.148 | | simultaneous interpolator | | | | | | | | | |

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/mN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/mN.W.247.1W5ADF

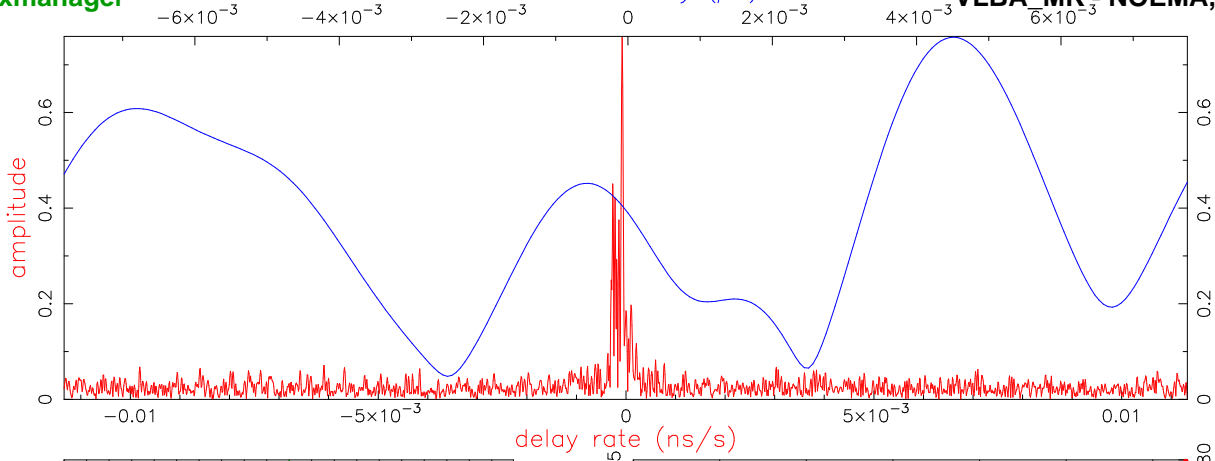
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, mN

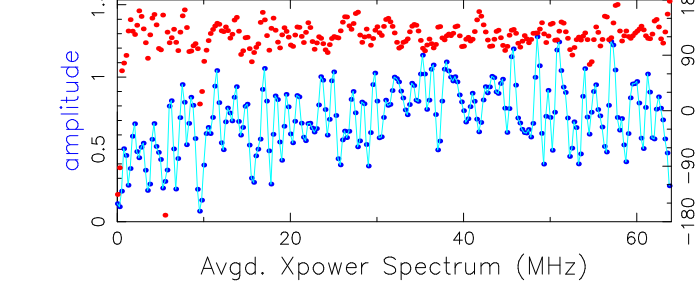
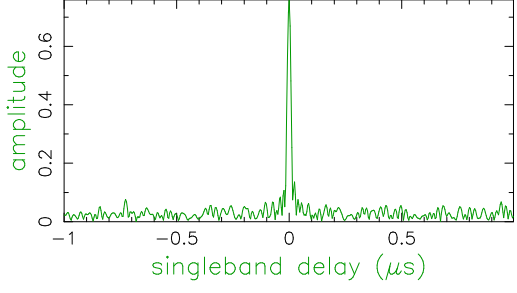
VLBA_MK - NOEMA, fgroup W, pol RR

multiband delay (μ s)



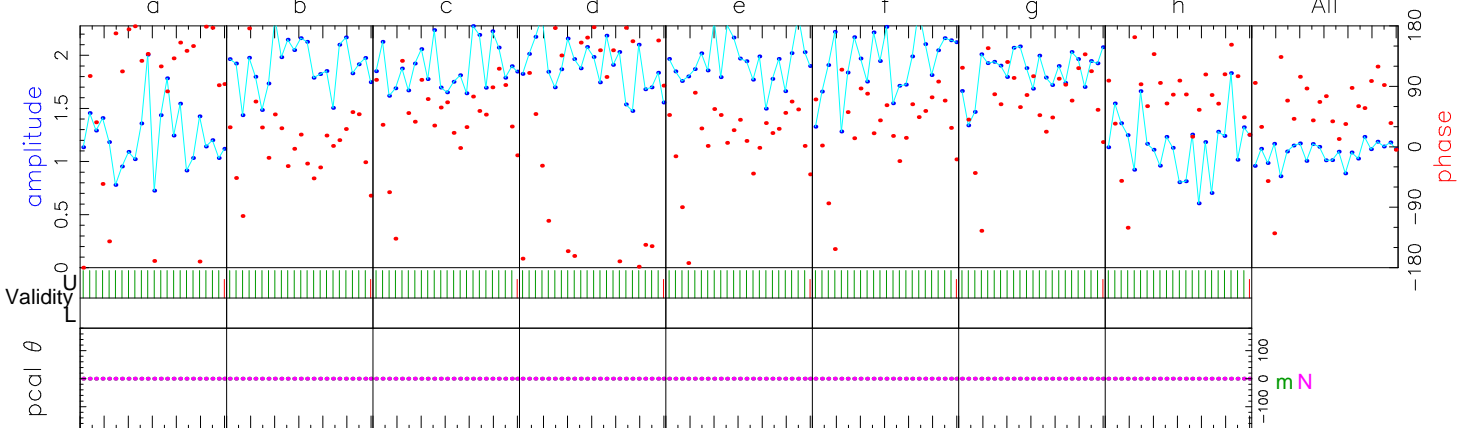
Fringe quality 3

SNR 39.4
 Int time 359.913
 Amp 0.759
 Phase 63.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.000692
 MBD 0.004469
 Fringe rate (Hz)
 -0.006701
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135506
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| U/L | 143.8 | 3.9 | 57.8 | 167.4 | 24.1 | 44.6 | 82.8 | 82.1 | Phase | 63.8 |
| m | 0.8 | 1.3 | 1.3 | 1.2 | 1.4 | 1.3 | 1.3 | 0.7 | Ampl. | 1.2 |
| N | 255.1 | 257.2 | 257.4 | 257.4 | 257.7 | 257.3 | 256.4 | 254.5 | Sbd box | 256.8 |
| m | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | PC amp | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| | | | | | | | | | Tracks | |
| | | | | | | | | | Tracks | |

Group delay (usec)(sbd) 1.66602493287E+03 Apriori delay (usec) 1.66602046377E+03 Resid mbdelay (usec) 4.46910E-03 +/- 2.8E-05
 Sband delay (usec) 1.66601977152E+03 Apriori clock (usec) 2.8879517E+01 Resid sbdelay (usec) -6.92250E-04 +/- 2.2E-04
 Phase delay (usec) 1.66602046582E+03 Apriori clockrate (us/s) -8.9360004E-06 Resid phdelay (usec) 2.05680E-06 +/- 9.4E-08
 Delay rate (us/s) 1.80454741366E+00 Apriori rate (us/s) 1.80454749145E+00 Resid rate (us/s) -7.77918E-08 +/- 4.5E-10
 Total phase (deg) 333.4 Apriori accel (us/s/s) -3.63441634319E-05 Resid phase (deg) 63.8 +/- 2.9

ph/seg (deg) 53.7 7.0 Search (2048X32) 0.751 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 44.4 12.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 62.4 4.1 Inc. seg. avg. 1.074 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 63.8 7.2 Inc. frq. avg. 1.176 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 51.7 el 29.6 pa -89.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -14060.691 -4798.148 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/mN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/mN.W.259.1W5ADF

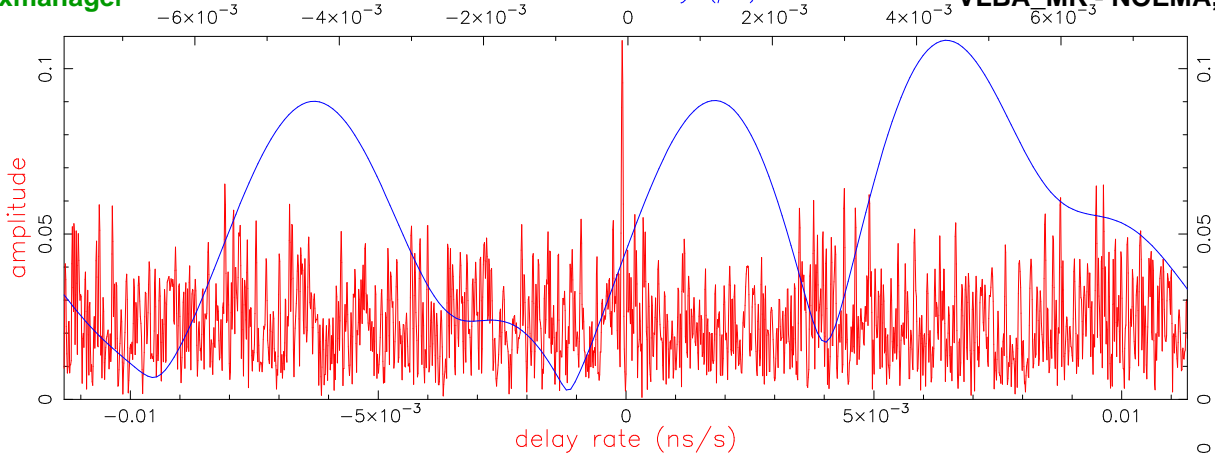
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, mN

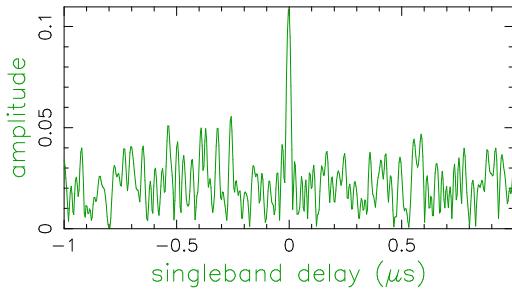
VLBA_MK- NOEMA, fgroup W, pol LR

multiband delay (μ s)

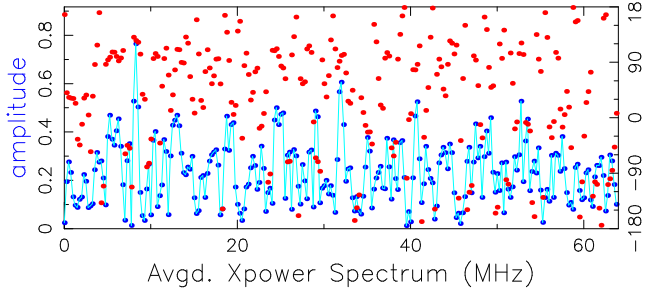


Fringe quality 0

SNR 5.7
 Int time 359.913
 Amp 0.110
 Phase 0.1
 PFD 9.5e-01
 Delays (us)
 SBD -0.002129
 MBD 0.004462
 Fringe rate (Hz)
 -0.006583
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

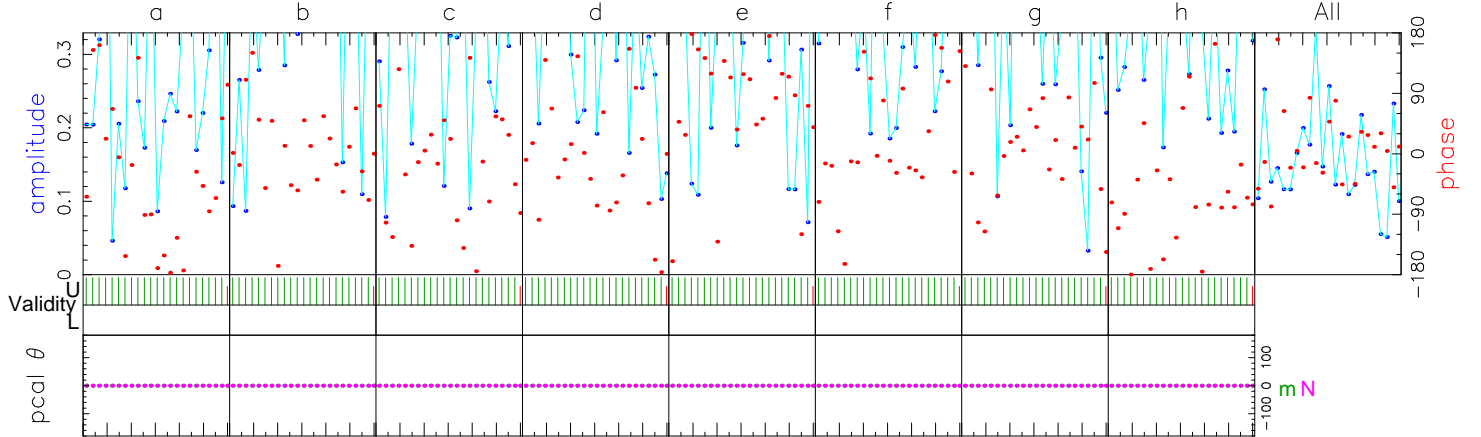


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135509
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -52.3 | 3.4 | -16.6 | -14.7 | 101.6 | -9.7 | 24.6 | -76.0 | Phase | 0.1 |
| | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 140.6 | 256.2 | 360.7 | 397.3 | 256.9 | 284.3 | 255.8 | 254.8 | Sbd box | 256.5 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.66602492609E+03 | Apriori delay (usec) | 1.66602046377E+03 | Resid mbdelay (usec) | 4.46232E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | 1.66601833452E+03 | Apriori clock (usec) | 2.8879517E+01 | Resid sbdelay (usec) | -2.12925E-03 | +/- | 1.5E-03 |
| Phase delay (usec) | 1.66602046377E+03 | Apriori clockrate (us/s) | -8.9360004E-06 | Resid phdelay (usec) | 4.20646E-09 | +/- | 6.5E-07 |
| Delay rate (us/s) | 1.80454741504E+00 | Apriori rate (us/s) | 1.80454749145E+00 | Resid rate (us/s) | -7.64172E-08 | +/- | 3.1E-09 |
| Total phase (deg) | 269.7 | Apriori accel (us/s/s) | -3.63441634319E-05 | Resid phase (deg) | 0.1 | +/- | 20.1 |

| | | | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-----------------|-------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 55.3 | Theor. 48.3 | Amplitude Search (2048X32) | 0.110 +/- 0.019 | 0.108 | PCal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 75.5 | 84.2 | Interp. | 0.000 | 0.108 | PCal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 57.8 | 28.5 | Inc. seg. avg. | 0.117 | 0.117 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 69.5 | 49.7 | Inc. frq. avg. | 0.146 | 0.146 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

m: az 51.7 el 29.6 pa -89.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -14060.691 -4798.148 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/mN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/mN.W.278.1W5ADF

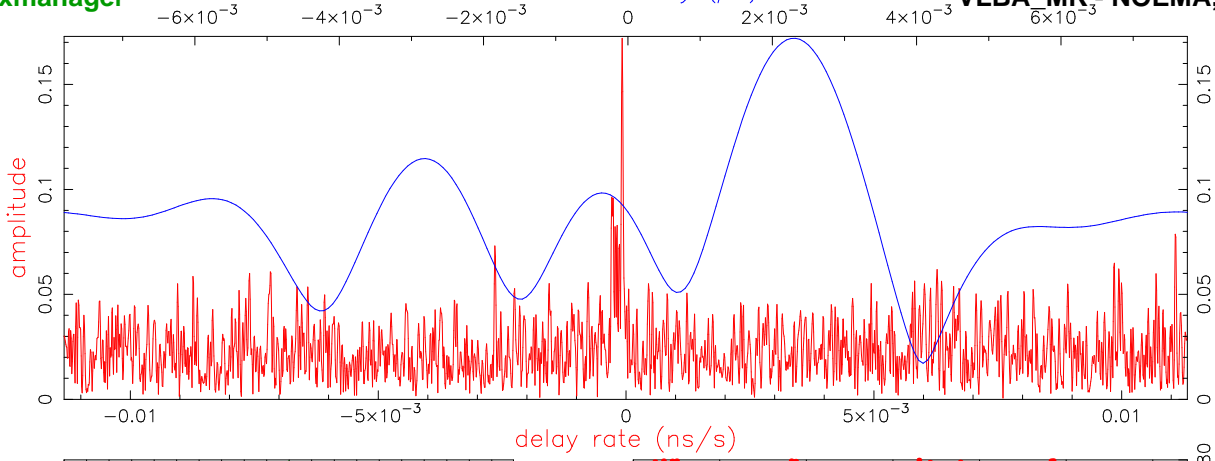
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

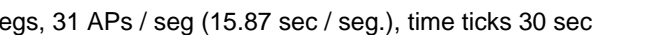
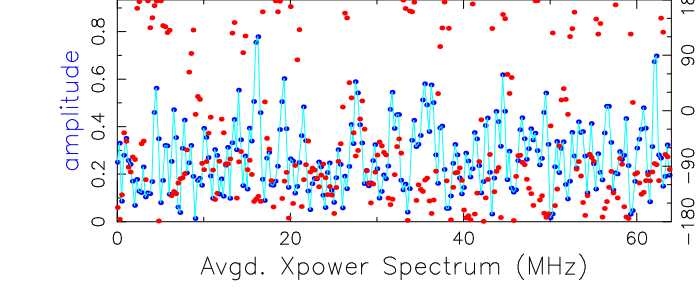
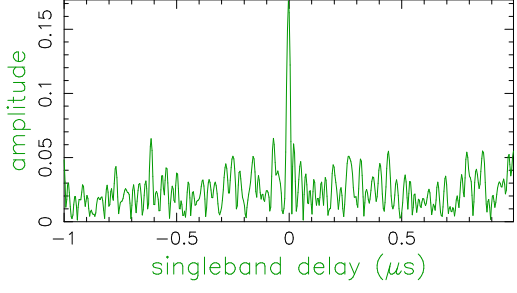
BLLAC.1W5ADF, No0245, mN

VLBA_MK- NOEMA, fgroup W, pol RL

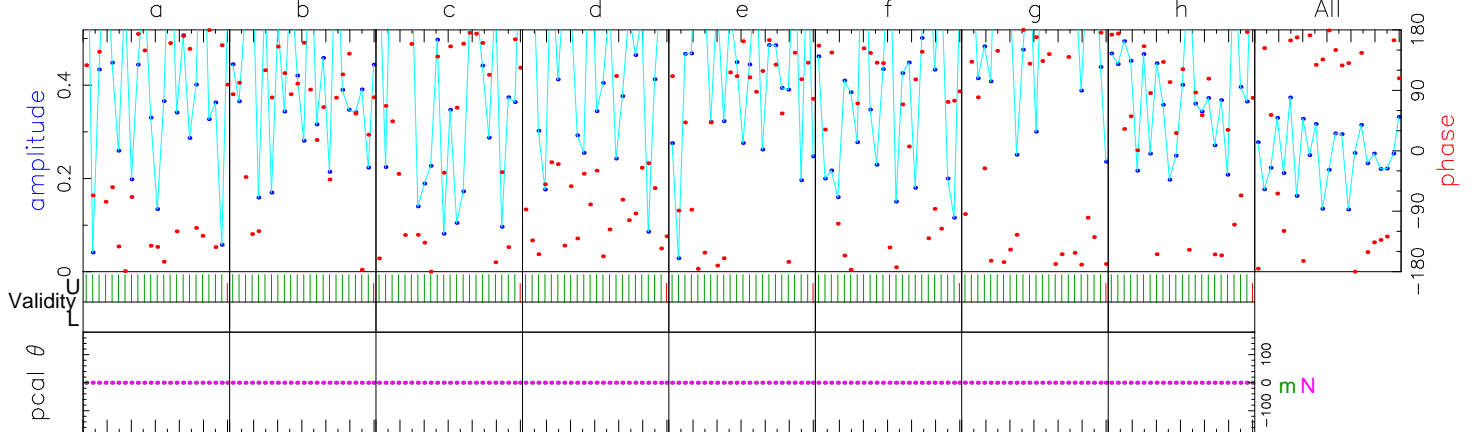
multiband delay (μ s)



Fringe quality 9
 SNR 9.0
 Int time 359.913
 Amp 0.173
 Phase 172.6
 PFD 1.2e-10
 Delays (us)
 SBD -0.003012
 MBD 0.002316
 Fringe rate (Hz)
 -0.006800
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135513
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|------------------------|----------|----------------------|----------|--------------|-------------|
| | -168.2 | 99.1 | 169.2 | -90.1 | 138.9 | 165.7 | -176.2 | 140.4 | Phase | 172.6 |
| | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.2 | 0.4 | 0.1 | Ampl. | 0.2 |
| | 255.3 | 255.8 | 40.0 | 256.0 | 257.2 | 478.2 | 255.8 | 253.7 | Sbd box | 256.2 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Manl PC | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.66602278015E+03 | | Apriori delay (usec) | | 1.66602046377E+03 | | Resid mbdelay (usec) | | 2.31638E-03 | +/- 1.2E-04 |
| Sband delay (usec) | 1.66601745177E+03 | | Apriori clock (usec) | | 2.8879517E+01 | | Resid sbdelay (usec) | | -3.01200E-03 | +/- 9.6E-04 |
| Phase delay (usec) | 1.66602046933E+03 | | Apriori clockrate (us/s) | | -8.9360004E-06 | | Resid phdelay (usec) | | 5.56635E-06 | +/- 4.1E-07 |
| Delay rate (us/s) | 1.80454741251E+00 | | Apriori rate (us/s) | | 1.80454749145E+00 | | Resid rate (us/s) | | -7.89468E-08 | +/- 2.0E-09 |
| Total phase (deg) | | | 82.2 | | Apriori accel (us/s/s) | | -3.63441634319E-05 | | 172.6 | +/- 12.8 |

ph/seg (deg) 50.3 30.6 Search (2048X32) 0.173 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 58.4 53.5 Interp. 0.170 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 54.2 18.1 Inc. seg. avg. 0.220 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 61.4 31.5 Inc. frq. avg. 0.236 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 51.7 el 29.6 pa -89.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -14060.691 -4798.148 ion window (TEC) 0.00 0.00 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/mN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/mN.W.299.1W5ADF

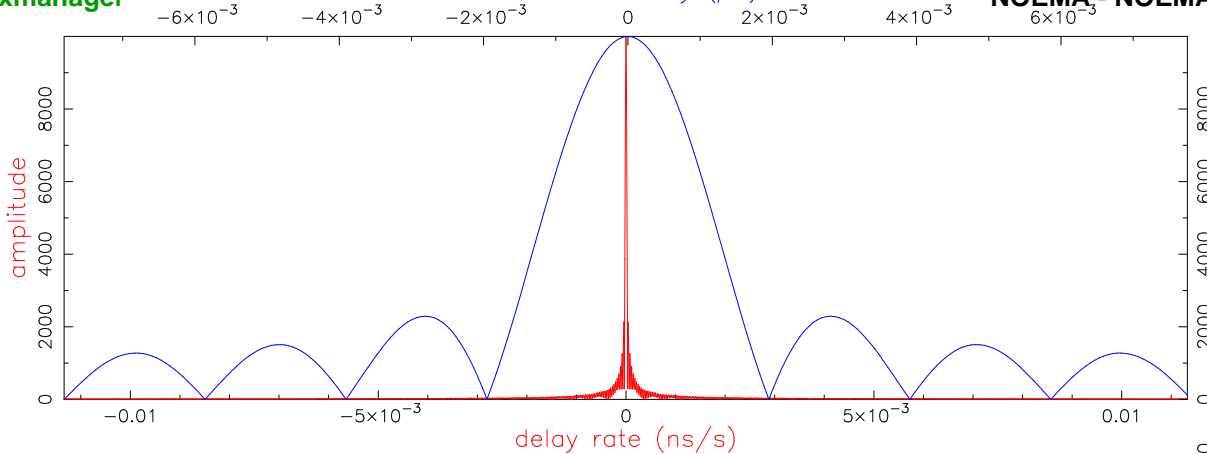
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, NN

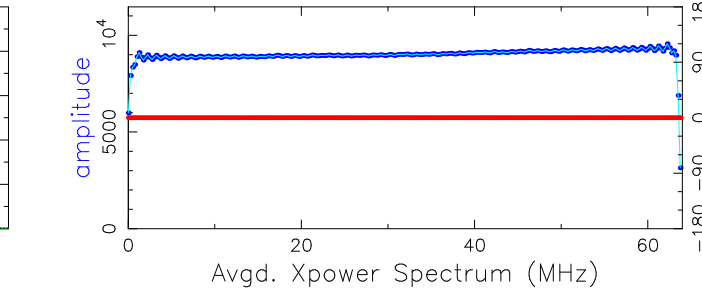
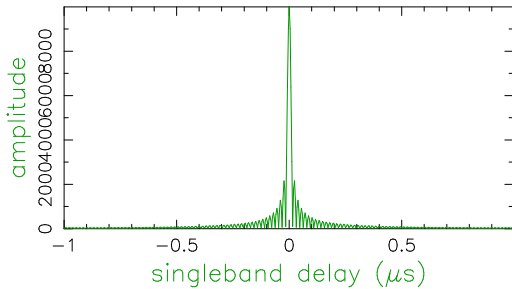
NOEMA - NOEMA, fgroup W, pol LL

multiband delay (μ s)



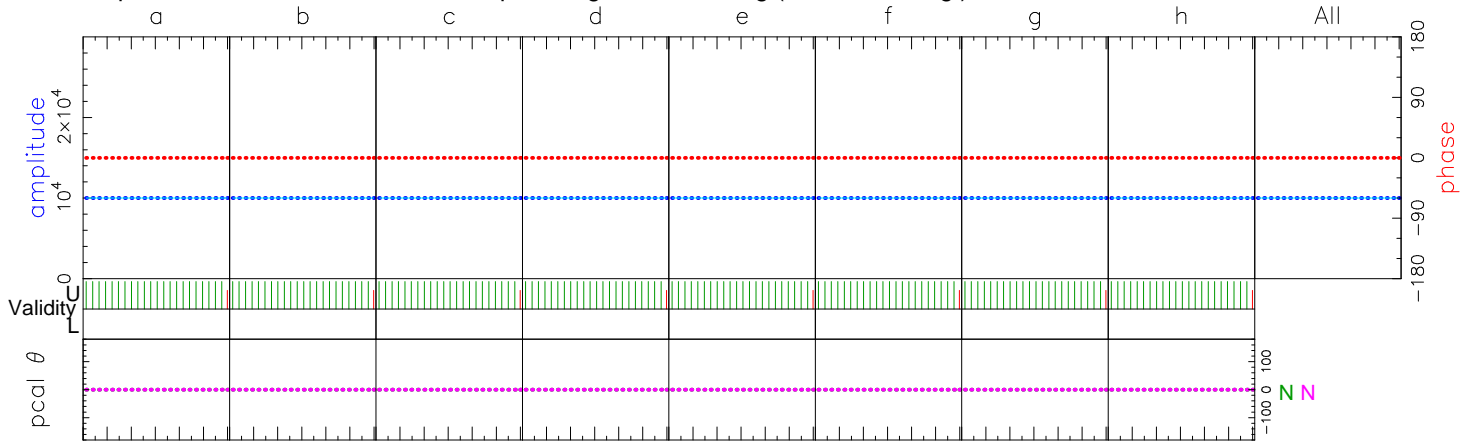
Fringe quality 9

SNR 518805.6
 Int time 359.927
 Amp 9999.999
 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. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135506
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|---------|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | Ampl. | 10000.0 |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Sbd box | 257.0 |
| N:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | APs used | |
| N:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | PC amp | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| | | | | | | | | | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 2.1E-09
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 1.7E-08
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 7.1E-12
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 3.4E-14
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

RMS Theor. Amplitude 9999.999 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (2048X32) 9999.999 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. 9999.999 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

N: az 304.9 el 26.0 pa 55.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NN.W.260.1W5ADF

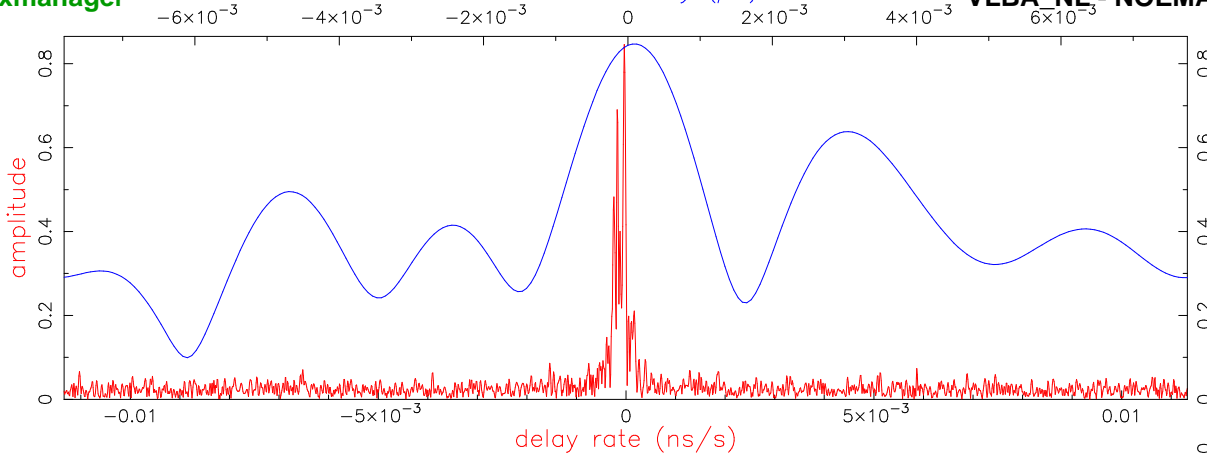
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, nN

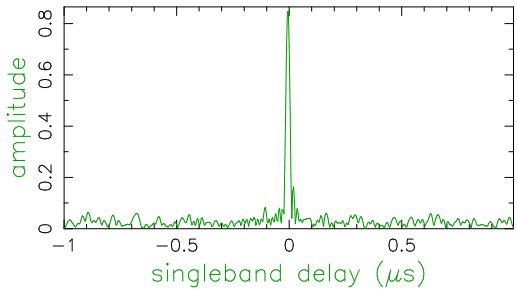
VLBA_NL- NOEMA, fgroup W, pol LL

multiband delay (μ s)

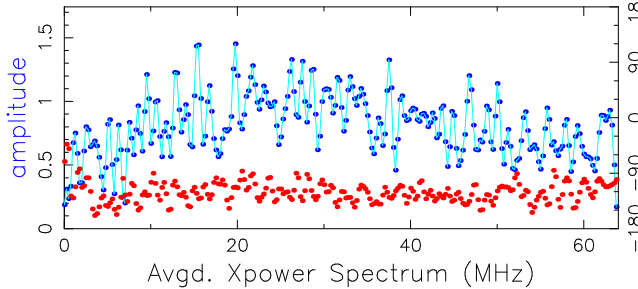


Fringe quality 3

SNR 44.9
 Int time 359.915
 Amp 0.865
 Phase 169.4
 PFD 0.0e+00
 Delays (us)
 SBD -0.005823
 MBD 0.000144
 Fringe rate (Hz)
 -0.002435
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

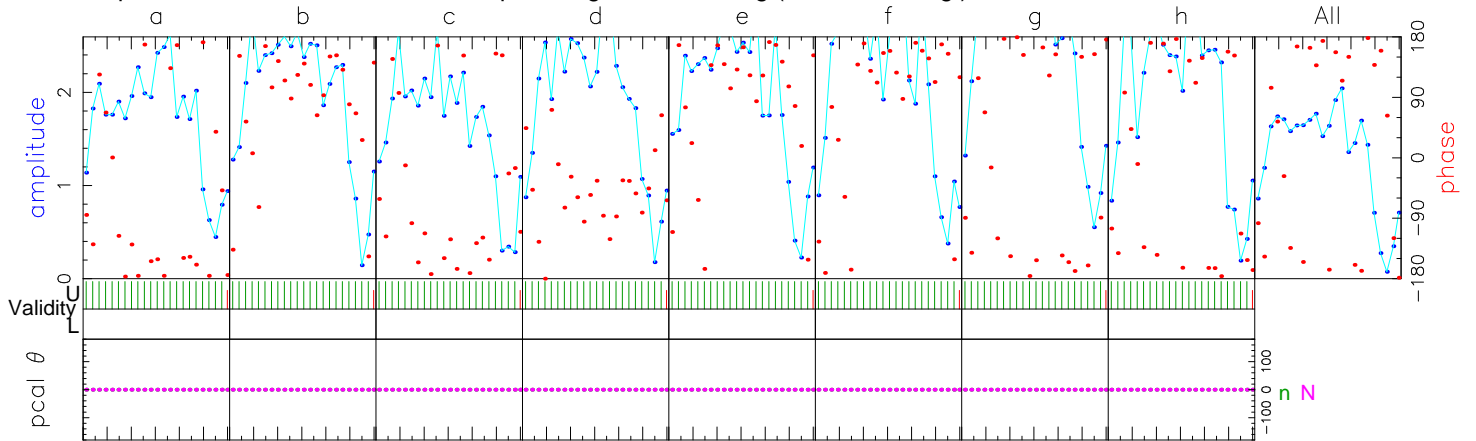


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135507
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



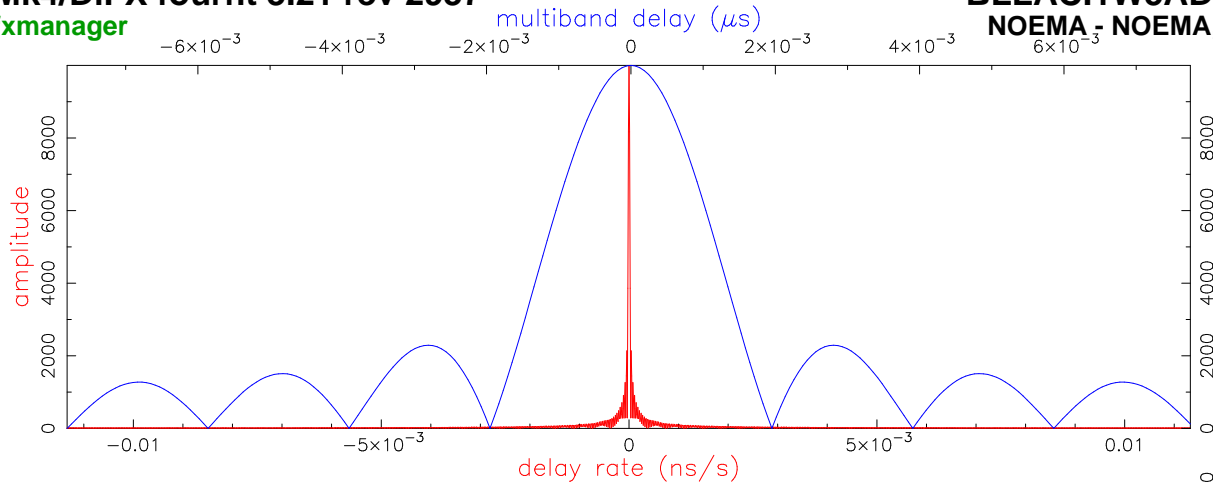
| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.21630590620E+04 | Apriori delay (usec) | 1.21630589182E+04 | Resid mbdelay (usec) | 1.43811E-04 | +/- | 2.4E-05 |
| Sband delay (usec) | 1.21630530957E+04 | Apriori clock (usec) | 1.8635649E+01 | Resid sbdelay (usec) | -5.82250E-03 | +/- | 1.9E-04 |
| Phase delay (usec) | 1.21630589237E+04 | Apriori clockrate (us/s) | -8.9540007E-06 | Resid phdelay (usec) | 5.46369E-06 | +/- | 8.2E-08 |
| Delay rate (us/s) | 8.54091118175E-01 | Apriori rate (us/s) | 8.54091146447E-01 | Resid rate (us/s) | -2.82722E-08 | +/- | 4.0E-10 |
| Total phase (deg) | 246.0 | Apriori accel (us/s/s) | -6.73683745628E-05 | Resid phase (deg) | 169.4 | +/- | 2.6 |

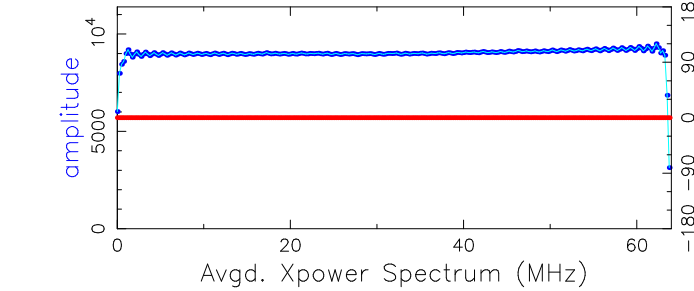
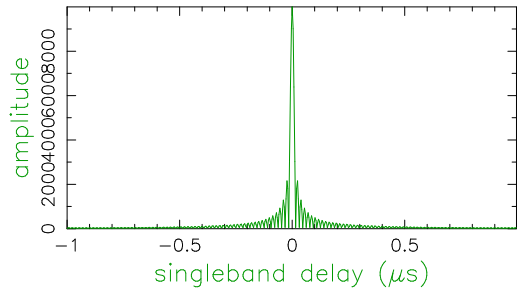
| | | | | | | | | | | |
|--------------|------|--------|------|------------------|-------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 60.7 | Theor. | 6.1 | Search (2048X32) | 0.829 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 83.6 | | 10.7 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 61.9 | | 3.6 | Inc. seg. avg. | 1.335 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 47.3 | | 6.3 | Inc. frq. avg. | 1.236 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

n: az 76.3 el 87.2 pa -102.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -6751.705 -4978.989 simultaneous interpolator

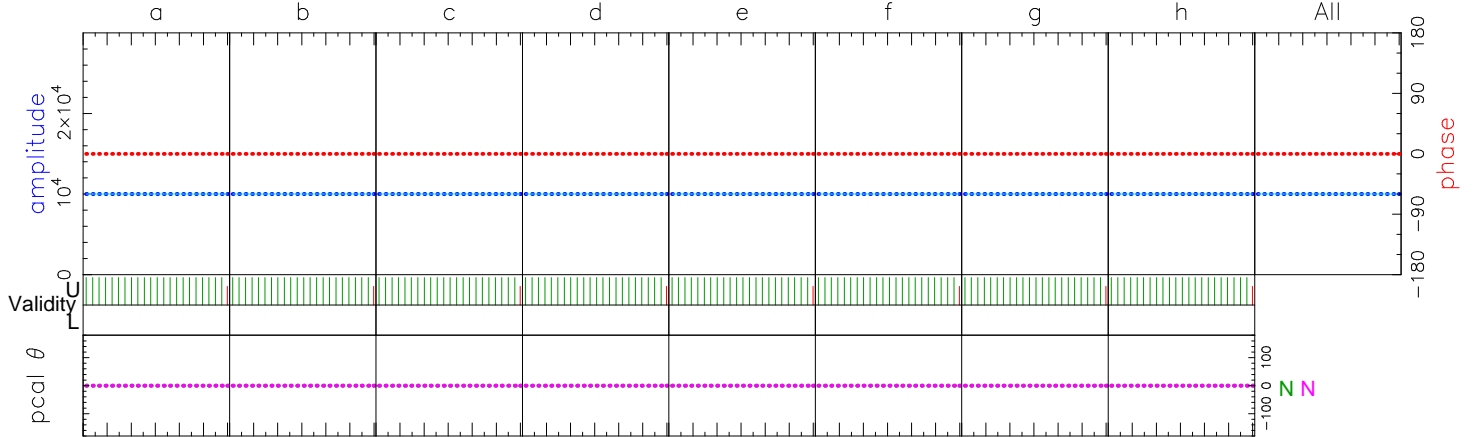
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/nN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/nN.W.264.1W5ADF



Fringe quality 9
SNR 518805.6
Int time 359.927
Amp 9999.999
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. c211a
Yr:day # 16383
Start 2021:114
Stop 2021:114
FRT 134500.00
2021:286:102153
2021:286:135509
2021:252:122852
RA & Dec (J2000) 22h02m43.291370s +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 2.1E-09
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 1.7E-08
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 7.1E-12
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 3.4E-14
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

RMS Theor. Amplitude 9999.999 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (2048X32) 9999.999 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. 9999.999 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 N: az 304.9 el 26.0 pa 55.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

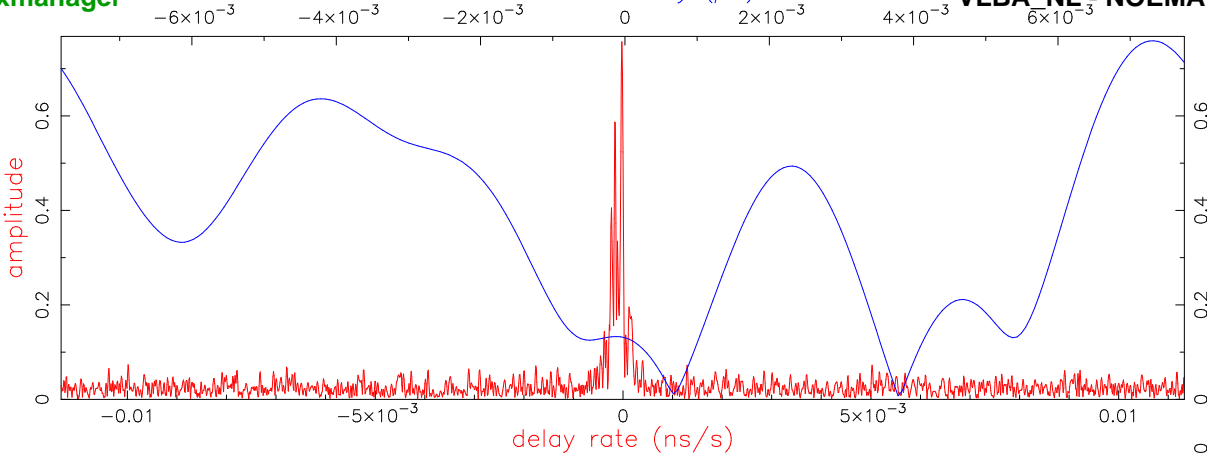
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, nN

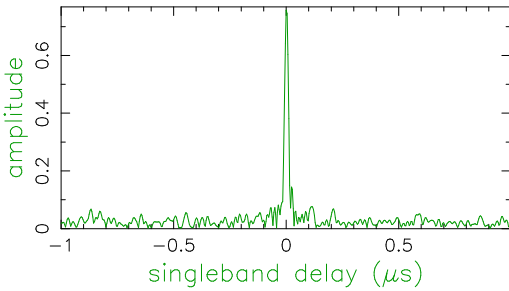
VLBA_NL - NOEMA, fgroup W, pol RR

multiband delay (μ s)

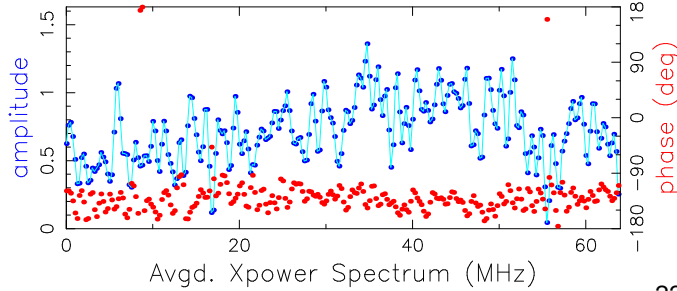


Fringe quality 3

SNR 39.9
 Int time 359.915
 Amp 0.768
 Phase 161.5
 PFD 0.0e+00
 Delays (us)
 SBD 0.001586
 MBD 0.007397
 Fringe rate (Hz)
 -0.002334
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

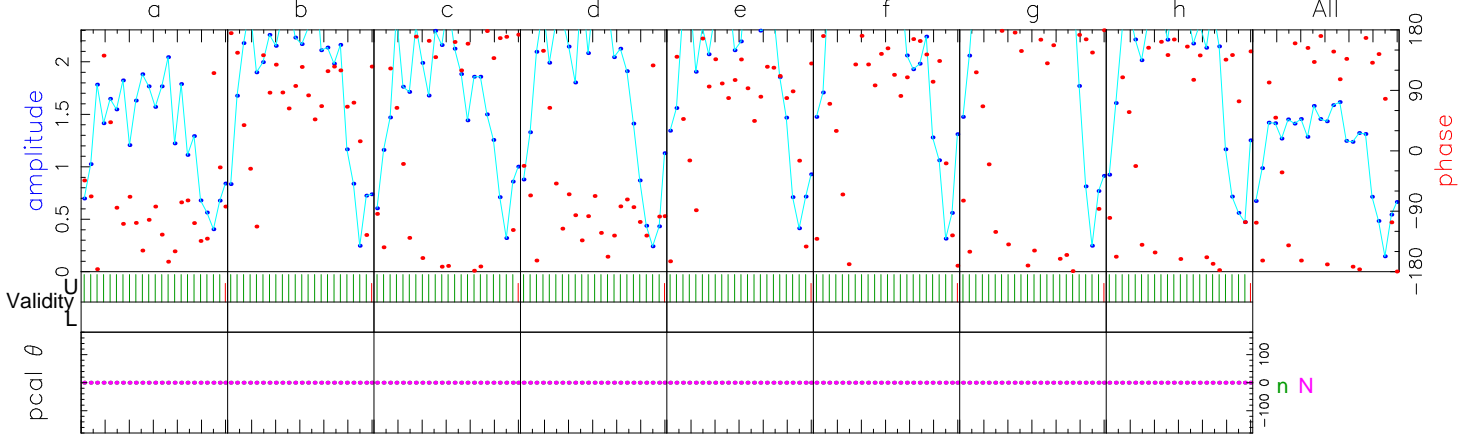


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135511
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -111.7 | 93.6 | 170.4 | -104.4 | 101.1 | 134.1 | -179.7 | 165.6 | Phase | 161.5 |
| | 0.8 | 1.2 | 1.1 | 1.2 | 1.3 | 1.3 | 1.6 | 1.3 | Ampl. | 1.2 |
| | 255.7 | 257.7 | 258.1 | 258.3 | 258.1 | 258.0 | 257.2 | 255.6 | Sbd box | 257.4 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

Group delay (usec)(sbd) 1.21630663149E+04 Apriori delay (usec) 1.21630589182E+04 Resid mbdelay (usec) 7.39668E-03 +/- 2.7E-05
 Sband delay (usec) 1.21630605047E+04 Apriori clock (usec) 0.746 Pcal rate: 0.000E+00, 0.000E+00 (us/s) Resid sbdelay (usec) 1.58650E-03 +/- 2.2E-04
 Phase delay (usec) 1.21630589234E+04 Apriori clockrate (us/s) -8.9540007E-06 Resid phdelay (usec) 5.20745E-06 +/- 9.3E-08
 Delay rate (us/s) 8.54091119348E-01 Apriori rate (us/s) 8.54091146447E-01 Resid rate (us/s) -2.70995E-08 +/- 4.5E-10
 Total phase (deg) 238.0 Apriori accel (us/s/s) -6.73683745628E-05 Resid phase (deg) 161.5 +/- 2.9

RMS Theor. Amplitude 0.768 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 60.1 6.9 Search (2048X32) 0.746 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 73.9 12.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 65.6 4.1 Inc. seg. avg. 1.160 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 63.7 7.1 Inc. frq. avg. 1.214 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

n: az 76.3 el 87.2 pa -102.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -6751.705 -4978.989 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/nN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/nN.W.287.1W5ADF

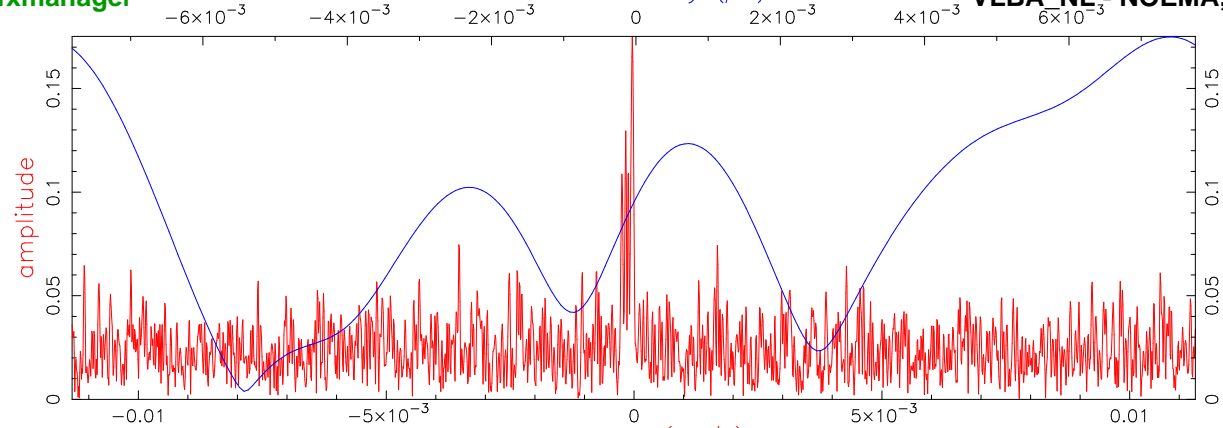
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

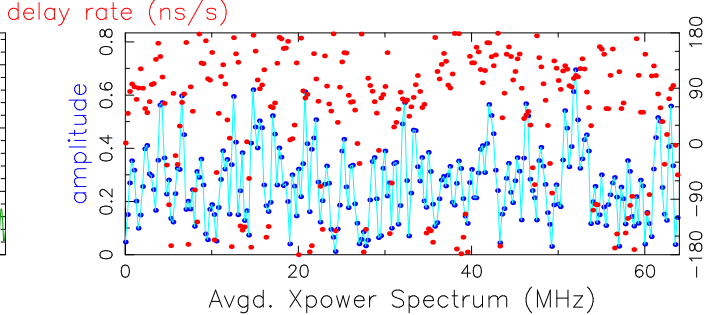
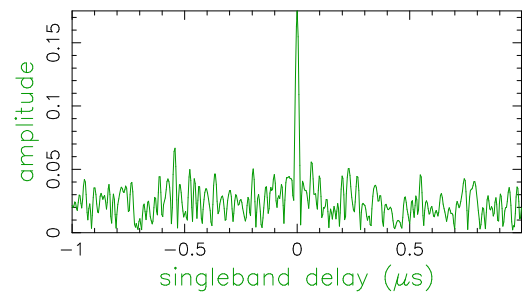
BLLAC.1W5ADF, No0245, nN

VLBA_NL- NOEMA, fgroup W, pol LR

multiband delay (μ s)

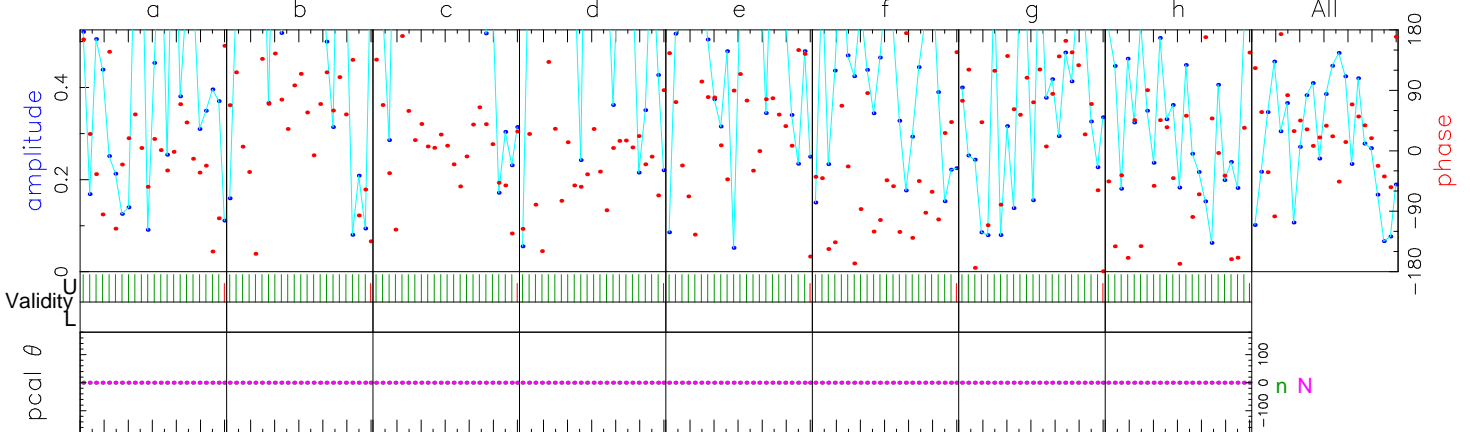


Fringe quality 9
 SNR 9.1
 Int time 359.915
 Amp 0.175
 Phase 21.0
 PFD 3.9e-11
 Delays (us)
 SBD -0.000494
 MBD 0.007372
 Fringe rate (Hz) -0.002471
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135514
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|------------------------------|----------|-------------------|-----------------------------|-----------------|--|----------|----------|----------|-----------------------|---------------------------|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | APs used | 1000 |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | 1000 |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | 0:0 |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | 0:0 |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | 1000 |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | 1000 |
| n | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| Group delay (usec)(sbd) | | 1.21630506653E+04 | | | 1.21630589182E+04 | | | | Resid mbdelay (usec) | 7.37215E-03 +/- 1.2E-04 |
| Sband delay (usec) | | 1.21630584242E+04 | | | 1.8635649E+01 | | | | Resid sbdelay (usec) | -4.94000E-04 +/- 9.5E-04 |
| Phase delay (usec) | | 1.21630589189E+04 | | | -8.9540007E-06 | | | | Resid phdelay (usec) | 6.78407E-07 +/- 4.1E-07 |
| Delay rate (us/s) | | 8.54091117759E-01 | | | 8.54091146447E-01 | | | | Resid rate (us/s) | -2.86881E-08 +/- 2.0E-09 |
| Total phase (deg) | | | 97.6 | | -6.73683745628E-05 | | | | Resid phase (deg) | 21.0 +/- 12.6 |
| | RMS | Theor. | Amplitude | 0.175 +/- 0.019 | Pcal mode: MANUAL, MANUAL | | | | PC period (AP's) 5, 5 | |
| ph/seg (deg) | 63.3 | 30.2 | Search (2048X32) | 0.173 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | | | sb window (us) | -1.000 1.000 |
| amp/seg (%) | 97.5 | 52.8 | Interp. | 0.000 | Bits/sample: 2x2 | | | | mb window (us) | -0.008 0.008 |
| ph/frq (deg) | 62.5 | 17.8 | Inc. seg. avg. | 0.255 | Sample rate(MISamp/s): 128 | | | | dr window (ns/s) | -0.011 0.011 |
| amp/frq (%) | 85.9 | 31.1 | Inc. frq. avg. | 0.248 | Data rate(Mb/s): 2048 | | | | ion window (TEC) | 0.00 0.00 |
| n: az 76.3 el 87.2 pa -102.2 | | | N: az 304.9 el 26.0 pa 55.2 | | u,v (fr/asec) -6751.705 -4978.989 | | | | | simultaneous interpolator |

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/nN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/nN.W.305.1W5ADF

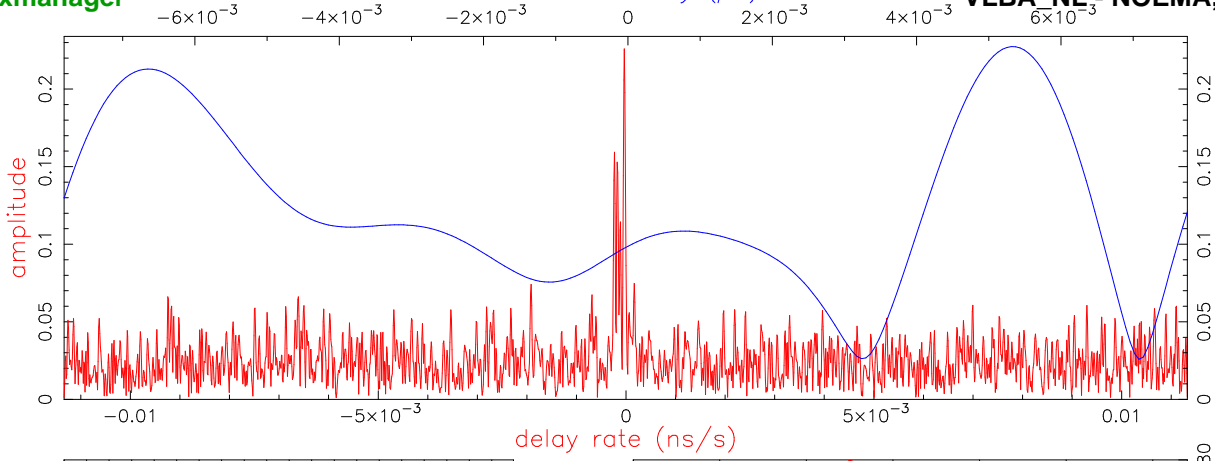
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, nN

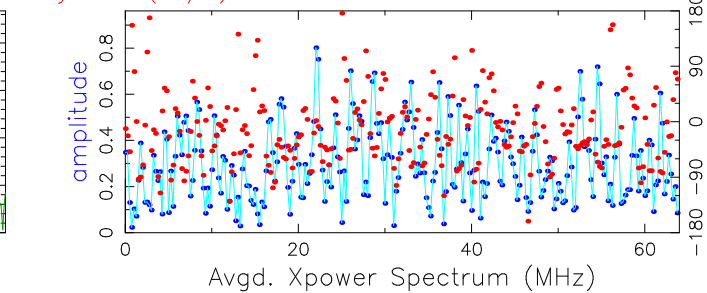
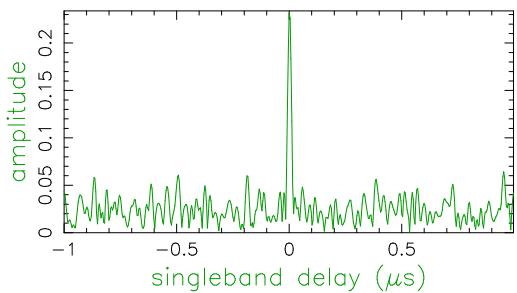
VLBA_NL- NOEMA, fgroup W, pol RL

multiband delay (μ s)



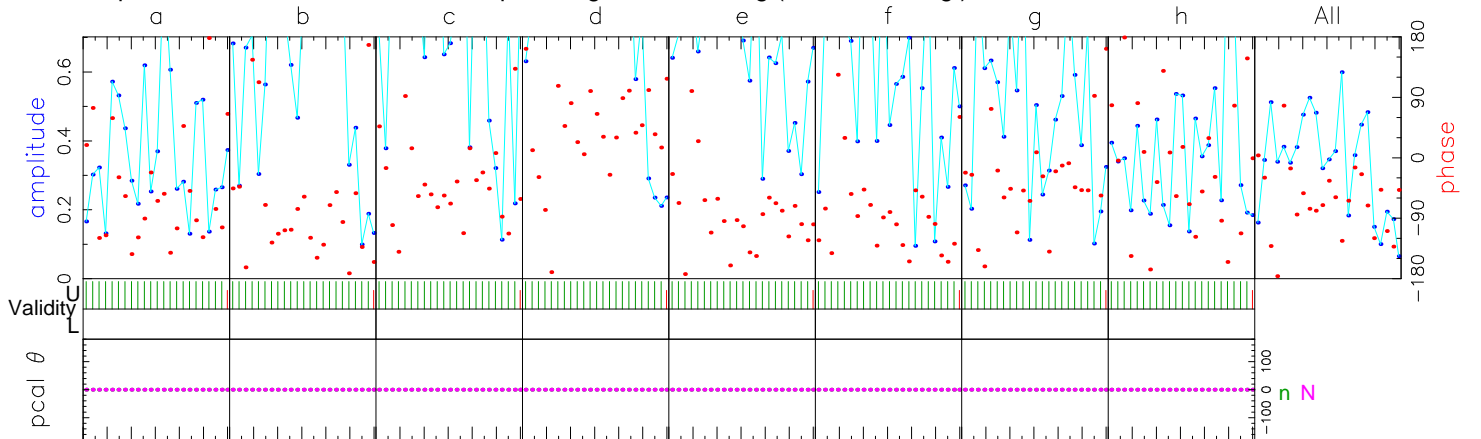
Fringe quality 9

SNR 12.1
 Int time 359.915
 Amp 0.234
 Phase -69.1
 PFD 3.4e-25
 Delays (us)
 SBD 0.001458
 MBD 0.005202
 Fringe rate (Hz)
 -0.002579
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135518
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| n:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.21630641204E+04 | Apriori delay (usec) | 1.21630589182E+04 | Resid mbdelay (usec) | 5.20225E-03 | +/- | 8.9E-05 |
| Sband delay (usec) | 1.21630603762E+04 | Apriori clock (usec) | 1.8635649E+01 | Resid sbdelay (usec) | 1.45800E-03 | +/- | 7.1E-04 |
| Phase delay (usec) | 1.21630589160E+04 | Apriori clockrate (us/s) | -8.9540007E-06 | Resid phdelay (usec) | -2.22723E-06 | +/- | 3.0E-07 |
| Delay rate (us/s) | 8.54091116508E-01 | Apriori rate (us/s) | 8.54091146447E-01 | Resid rate (us/s) | -2.99394E-08 | +/- | 1.5E-09 |
| Total phase (deg) | 7.5 | Apriori accel (us/s/s) | -6.73683745628E-05 | Resid phase (deg) | -69.1 | +/- | 9.4 |

| | | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-------------------|--|----------------------------|-----------------------|----------------|--------|-------|
| ph/seg (deg) | 53.7 | RMS | 22.6 | Theor. | Amplitude | 0.234 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 75.7 | Search (2048X32) | 0.226 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 58.6 | Inc. seg. avg. | 0.316 | Inc. frq. avg. | 0.337 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 78.8 | Inc. frq. avg. | 0.337 | nlags: 256 | t_cohere infinite | Data rate(Mb/s): 2048 | ion window (TEC) | 0.00 | 0.00 | | |

n: az 76.3 el 87.2 pa -102.2 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -6751.705 -4978.989 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/nN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/nN.W.319.1W5ADF

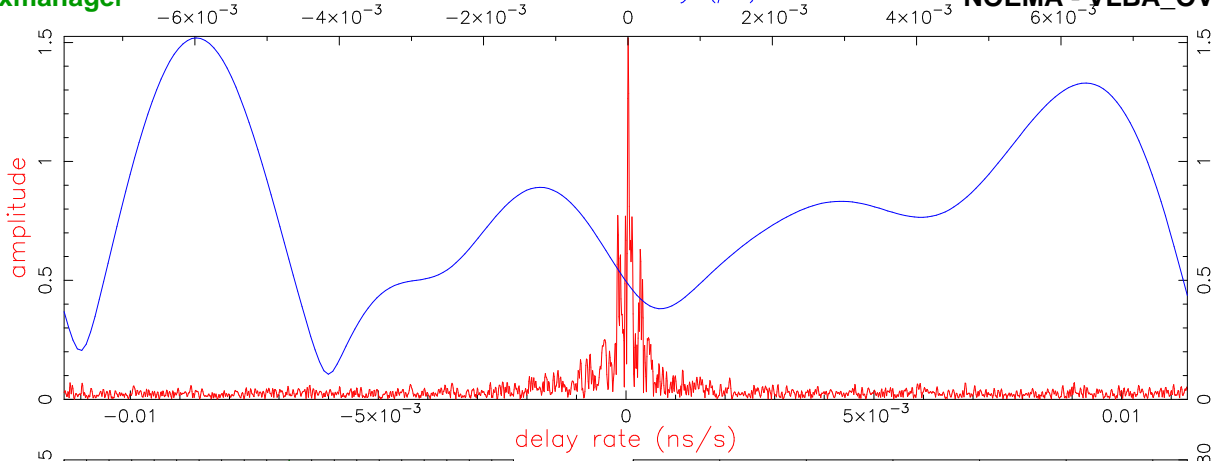
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, No

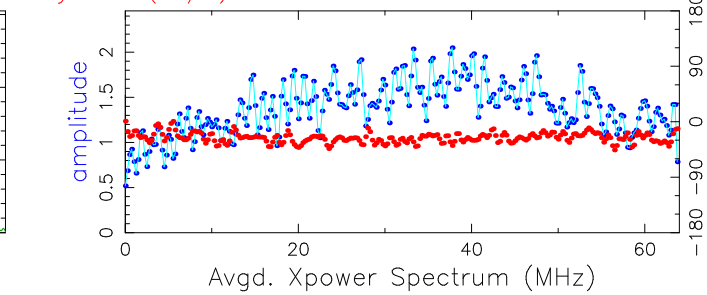
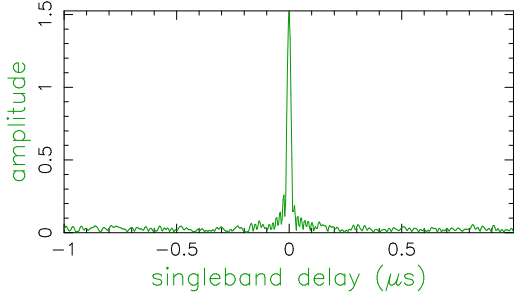
NOEMA - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)



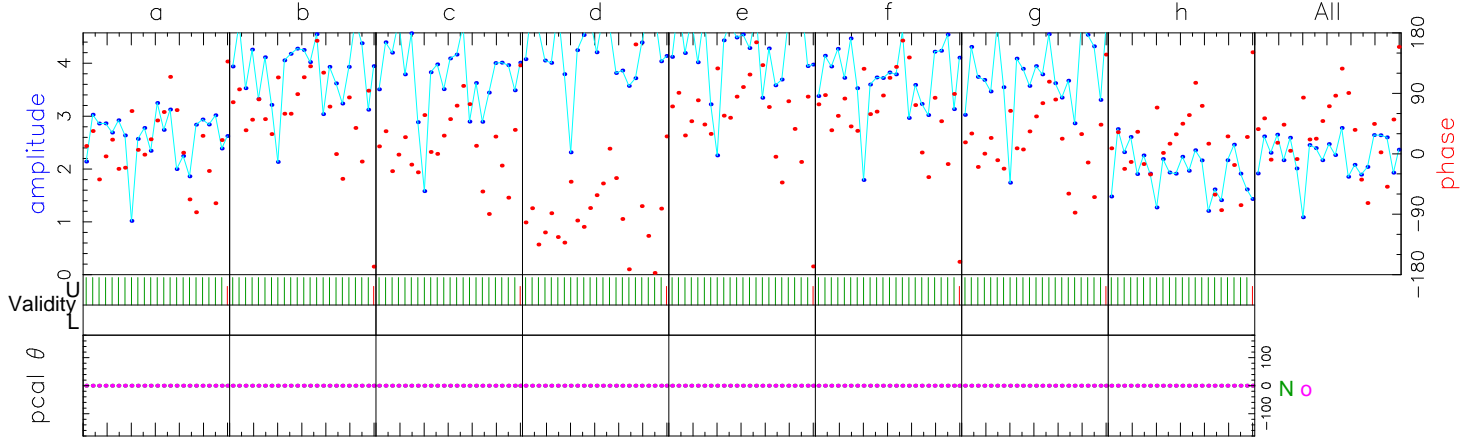
Fringe quality 1

SNR 79.1
 Int time 359.843
 Amp 1.525
 Phase 32.3
 PFD 0.0e+00
 Delays (us)
 SBD -0.000875
 MBD -0.006002
 Fringe rate (Hz)
 0.003762
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135515
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|------|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | APs used | 1000 |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | 1000 |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | 0:0 |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | 0:0 |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | 1000 |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| o | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

Group delay (usec)(sbd) -1.04831132165E+04 Apriori delay (usec) -1.04831072149E+04 Resid mbdelay (usec) -6.00167E-03 +/- 1.4E-05
 Sband delay (usec) -1.04831080904E+04 Apriori clock (usec) -1.6877871E+01 Resid sbdelay (usec) -8.75500E-04 +/- 1.1E-04
 Phase delay (usec) -1.04831072138E+04 Apriori clockrate (us/s) 8.8940001E-06 Resid phdelay (usec) 1.04133E-06 +/- 4.7E-08
 Delay rate (us/s) -1.26244423840E+00 Apriori rate (us/s) -1.26244428208E+00 Resid rate (us/s) 4.36776E-08 +/- 2.2E-10
 Total phase (deg) -143.9 Apriori accel (us/s/s) 6.30856999280E-05 Resid phase (deg) 32.3 +/- 1.4

RMS Theor. Amplitude 1.525 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 51.4 3.5 Search (2048X32) 1.505 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 53.9 6.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 61.4 2.0 Inc. seg. avg. 2.252 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 65.1 3.6 Inc. frq. avg. 2.374 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

N: az 304.9 el 26.0 pa 55.2 o: az 68.0 el 66.2 pa -91.8 u,v (fr/asec) 9908.876 5029.927 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/No..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/No.W.311.1W5ADF

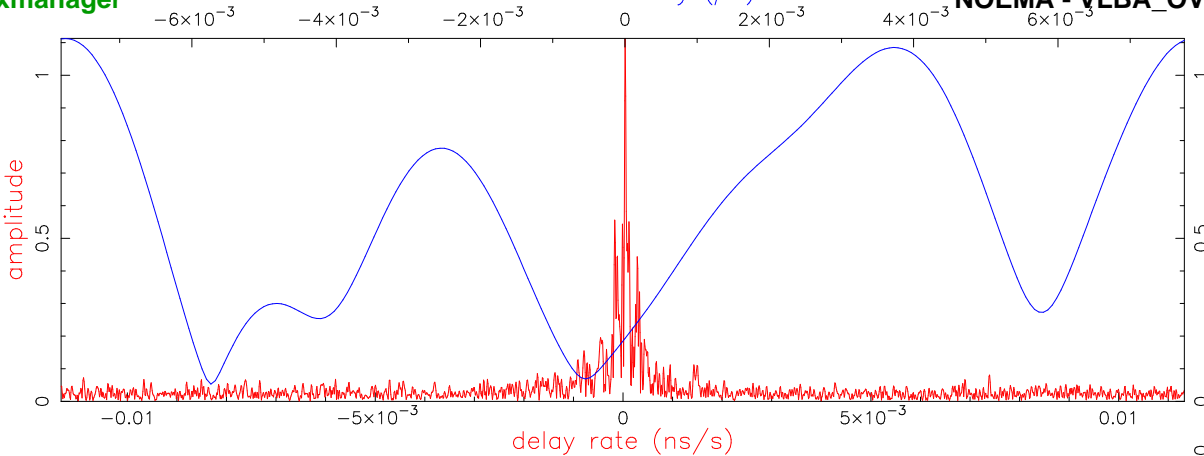
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, No

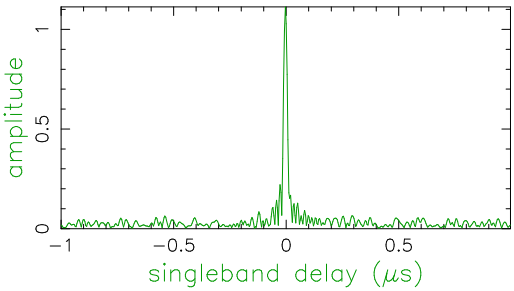
NOEMA - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

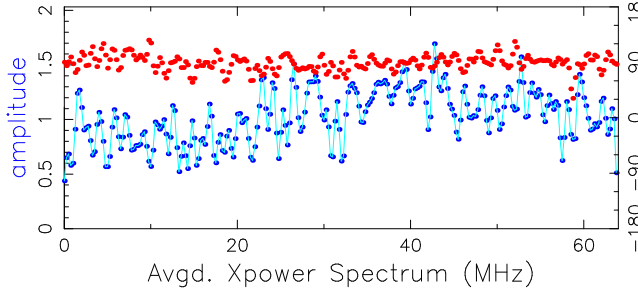


Fringe quality 1

SNR 57.7
 Int time 359.843
 Amp 1.113
 Phase 137.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.003576
 MBD -0.007733
 Fringe rate (Hz)
 0.003817
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

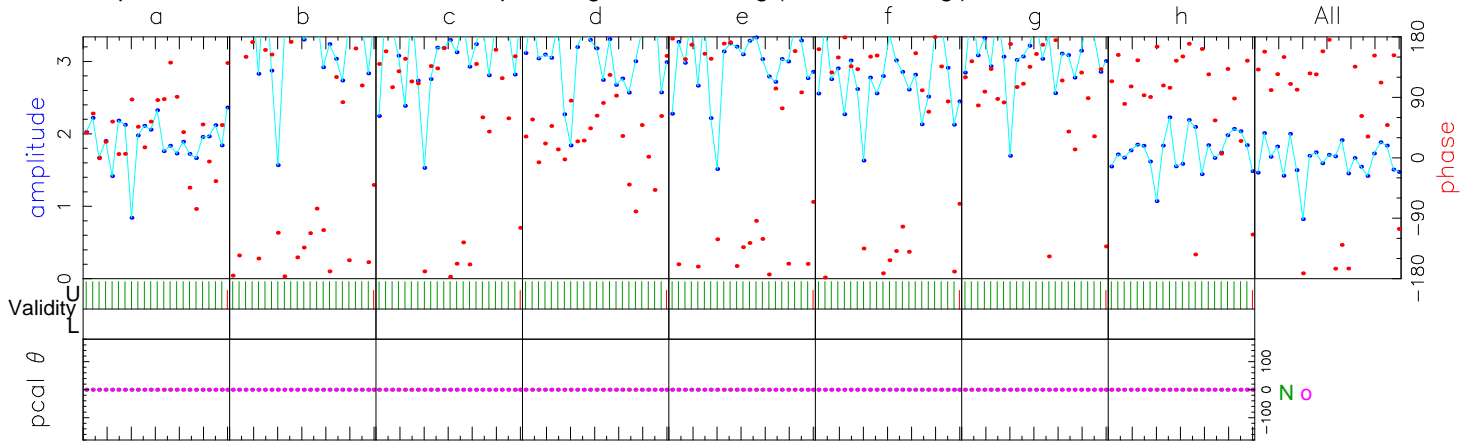


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135518
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-----------|--------------------|--------------------------|----------|--------------------|----------------------|----------|--------------|------------|---------|
| Group delay (usec)(sbd) | 38.4 | -169.8 | 142.1 | 33.5 | -176.1 | 165.9 | 116.7 | 120.5 | Phase | 137.1 |
| Sband delay (usec) | 1.3 | 2.2 | 2.1 | 2.1 | 2.0 | 1.9 | 2.1 | 1.2 | Ampl. | 1.9 |
| Phase delay (usec) | 258.4 | 256.0 | 255.7 | 255.8 | 255.7 | 255.8 | 256.7 | 258.4 | Sbd box | 256.1 |
| Delay rate (us/s) | U/L 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| Total phase (deg) | N 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| | o 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| | N:o 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| | N:o 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| | N 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| | o 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| | N W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| | o W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | | -1.04831149474E+04 | Apriori delay (usec) | | -1.04831072149E+04 | Resid mbdelay (usec) | | -7.73257E-03 | +/- | 1.9E-05 |
| Sband delay (usec) | | -1.04831107906E+04 | Apriori clock (usec) | | -1.6877871E+01 | Resid sbdelay (usec) | | -3.57575E-03 | +/- | 1.5E-04 |
| Phase delay (usec) | | -1.04831072105E+04 | Apriori clockrate (us/s) | | 8.8940001E-06 | Resid phdelay (usec) | | 4.42113E-06 | +/- | 6.4E-08 |
| Delay rate (us/s) | | -1.26244423777E+00 | Apriori rate (us/s) | | -1.26244428208E+00 | Resid rate (us/s) | | 4.43167E-08 | +/- | 3.1E-10 |
| Total phase (deg) | | -39.1 | Apriori accel (us/s/s) | | 6.30856999280E-05 | Resid phase (deg) | | 137.1 | +/- | 2.0 |

ph/seg (deg) 51.2 4.8 Search (2048X32) 1.110 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 52.1 8.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 67.1 2.8 Inc. seg. avg. 1.631 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 75.4 4.9 Inc. frq. avg. 1.860 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 N: az 304.9 el 26.0 pa 55.2 o: az 68.0 el 66.2 pa -91.8 u,v (fr/asec) 9908.876 5029.927 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/No..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/No.W.326.1W5ADF

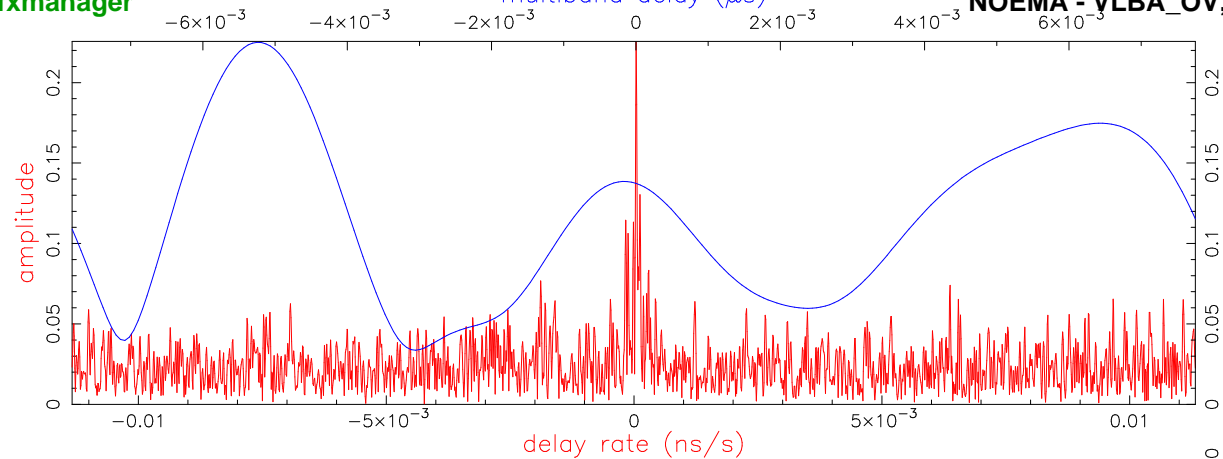
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, No

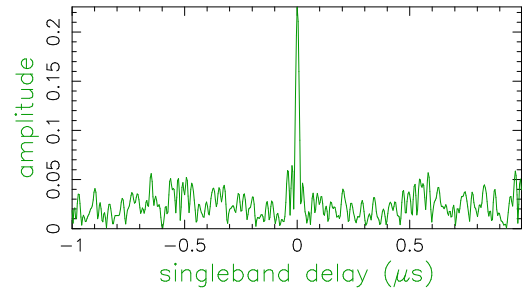
NOEMA - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

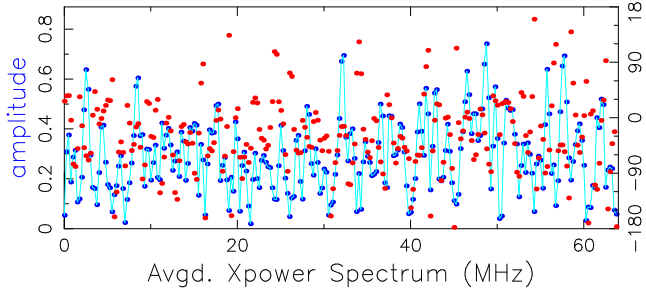


Fringe quality 9

SNR 11.7
 Int time 359.843
 Amp 0.226
 Phase 37.6
 PFD 6.0e-23
 Delays (us)
 SBD 0.000643
 MBD -0.005211
 Fringe rate (Hz)
 0.003672
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

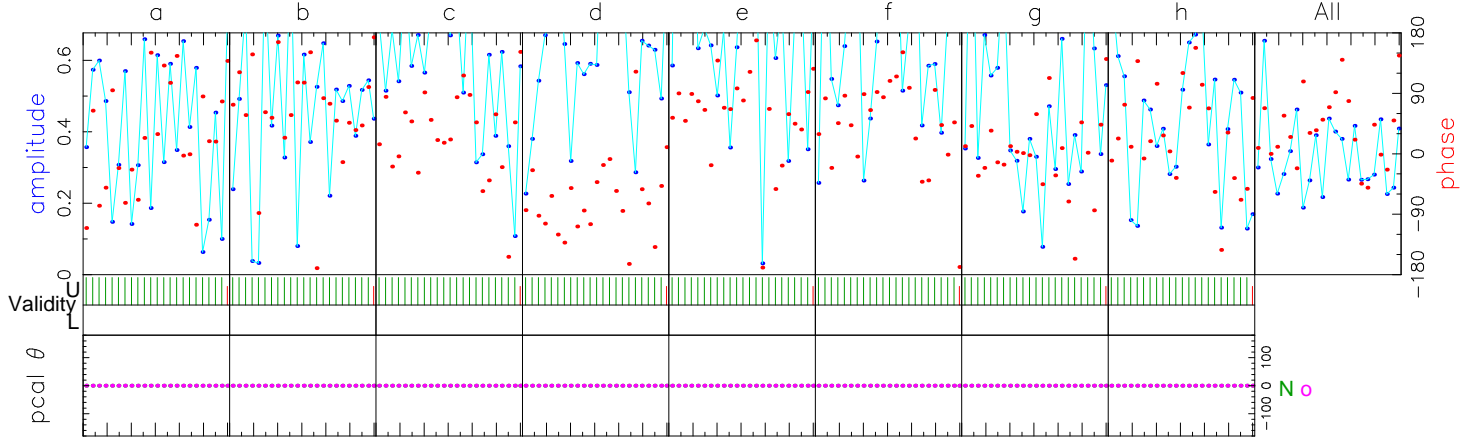


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135523
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| U/L | 2.2 | 76.9 | 36.4 | -74.2 | 74.7 | 63.6 | 5.6 | 32.6 | Phase | 37.6 |
| N | 0.1 | 0.3 | 0.4 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | Ampl. | 0.3 |
| o | 245.4 | 256.8 | 256.6 | 256.0 | 256.8 | 256.2 | 257.4 | 259.2 | Sbd box | 257.2 |
| N | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| o | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.04831124259E+04 | | Apriori delay (usec) | | -1.04831072149E+04 | | Resid mbdelay (usec) | | -5.21101E-03 | +/- 9.3E-05 |
| Sband delay (usec) | -1.04831065719E+04 | | Apriori clock (usec) | | -1.6877871E+01 | | Resid sbdelay (usec) | | 6.43000E-04 | +/- 7.4E-04 |
| Phase delay (usec) | -1.04831072137E+04 | | Apriori clockrate (us/s) | | 8.8940001E-06 | | Resid phdelay (usec) | | 1.21301E-06 | +/- 3.2E-07 |
| Delay rate (us/s) | -1.26244423946E+00 | | Apriori rate (us/s) | | -1.26244428208E+00 | | Resid rate (us/s) | | 4.26261E-08 | +/- 1.5E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 6.30856999280E-05 | | Resid phase (deg) | | 37.6 | +/- 9.8 |

| | RMS | Theor. | Amplitude | 0.226 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 50.3 | 23.5 | Search (2048X32) | 0.222 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 66.7 | 41.0 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 55.4 | 13.8 | Inc. seg. avg. | 0.307 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 72.6 | 24.2 | Inc. frq. avg. | 0.329 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

N: az 304.9 el 26.0 pa 55.2 o: az 68.0 el 66.2 pa -91.8 u,v (fr/asec) 9908.876 5029.927 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/No..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/No.W.342.1W5ADF

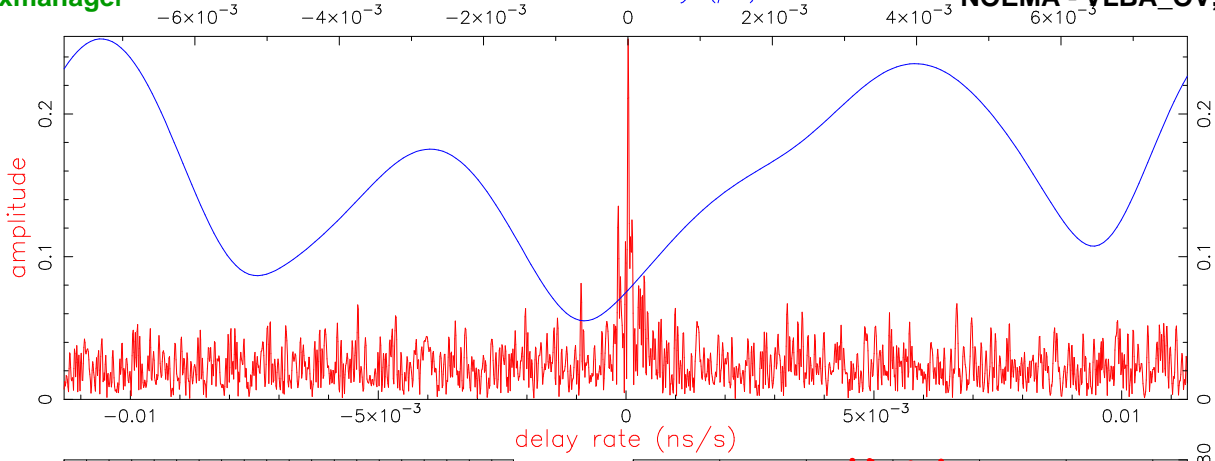
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, No

NOEMA - VLBA_OV, fgroup W, pol RL

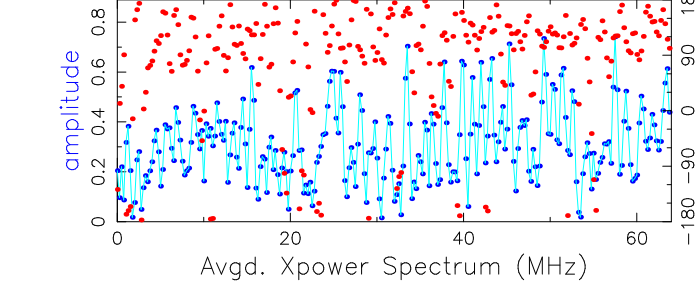
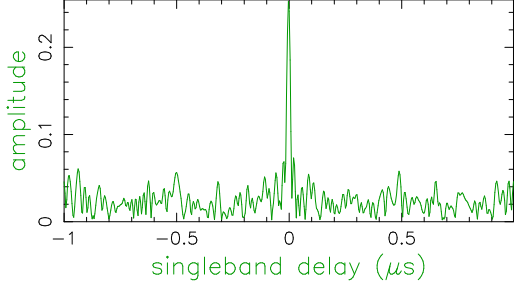
multiband delay (μ s)



Fringe quality 9

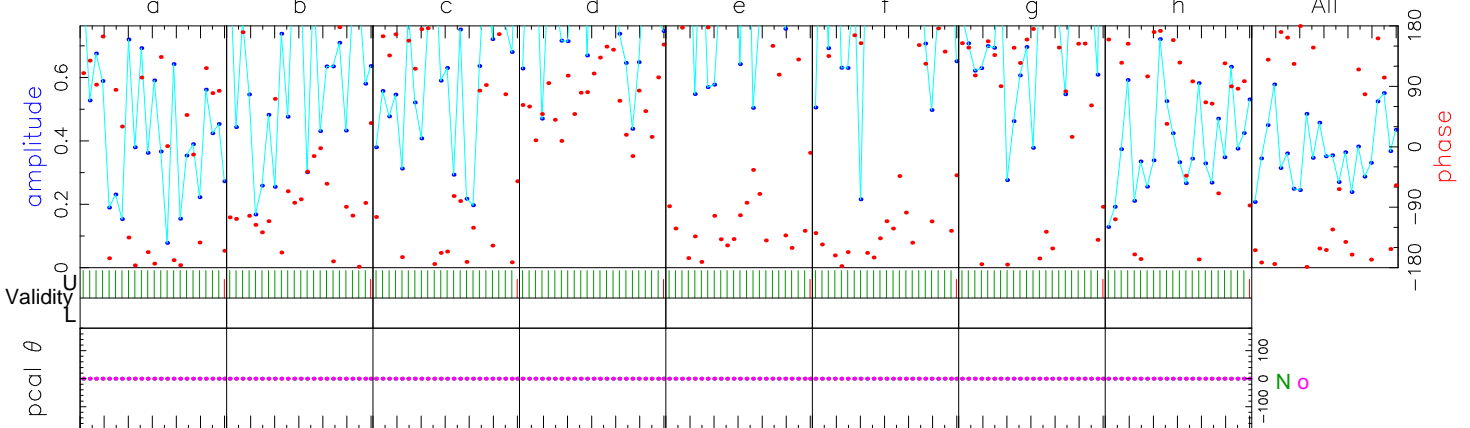
SNR 13.2
 Int time 359.843
 Amp 0.254
 Phase 176.8
 PFD 5.3e-31
 Delays (us)
 SBD -0.002836
 MBD -0.007256
 Fringe rate (Hz) 0.003678
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135526
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| U/L | 136.9 | -103.6 | 174.1 | 73.0 | -141.0 | -154.3 | 154.7 | 135.2 | Phase | 176.8 |
| N | 0.2 | 0.3 | 0.4 | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 | Ampl. | 0.4 |
| o | 257.4 | 256.0 | 255.8 | 256.1 | 255.7 | 256.1 | 256.5 | 258.2 | Sbd box | 256.3 |
| N | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| o | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

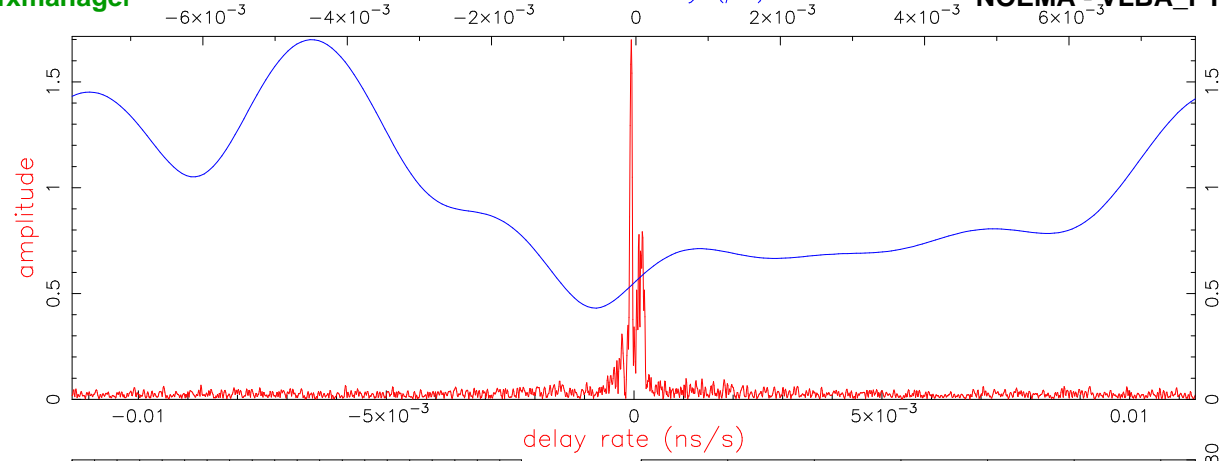
| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.04831144710E+04 | Apriori delay (usec) | -1.04831072149E+04 | Resid mbdelay (usec) | -7.25617E-03 | +/- | 8.2E-05 |
| Sband delay (usec) | -1.04831100509E+04 | Apriori clock (usec) | -1.6877871E+01 | Resid sbdelay (usec) | -2.83600E-03 | +/- | 6.5E-04 |
| Phase delay (usec) | -1.04831072092E+04 | Apriori clockrate (us/s) | 8.8940001E-06 | Resid phdelay (usec) | 5.70041E-06 | +/- | 2.8E-07 |
| Delay rate (us/s) | -1.26244423939E+00 | Apriori rate (us/s) | -1.26244428208E+00 | Resid rate (us/s) | 4.26941E-08 | +/- | 1.3E-09 |
| Total phase (deg) | 0.5 | Apriori accel (us/s/s) | 6.30856999280E-05 | Resid phase (deg) | 176.8 | +/- | 8.7 |

| | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|--|-------------------------------|-----------------------------|
| ph/seg (deg) | 51.7 | Theor. | 20.8 | Amplitude | 0.254 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | |
| amp/seg (%) | 59.7 | Search (2048X32) | 0.251 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 | |
| ph/frq (deg) | 62.6 | Inc. seg. avg. | 0.346 | Inc. frq. avg. | 0.423 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) -0.008 0.008 |
| amp/frq (%) | 96.9 | Inc. frq. avg. | 0.423 | | | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 | |
| | | | | | | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 | |
| | | | | | | nlags: 256 | t_cohere infinite | |

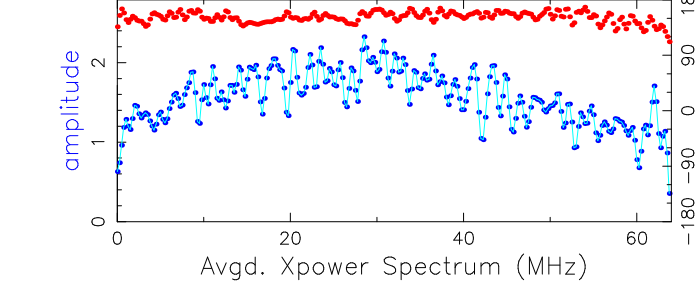
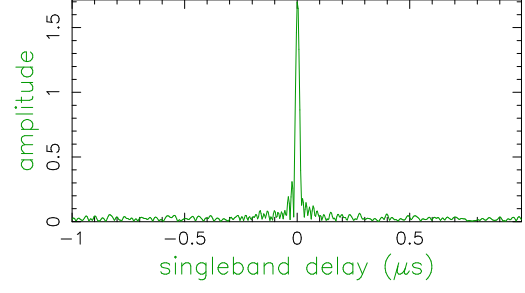
N: az 304.9 el 26.0 pa 55.2 o: az 68.0 el 66.2 pa -91.8 u,v (fr/asec) 9908.876 5029.927 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/No..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/No.W.357.1W5ADF

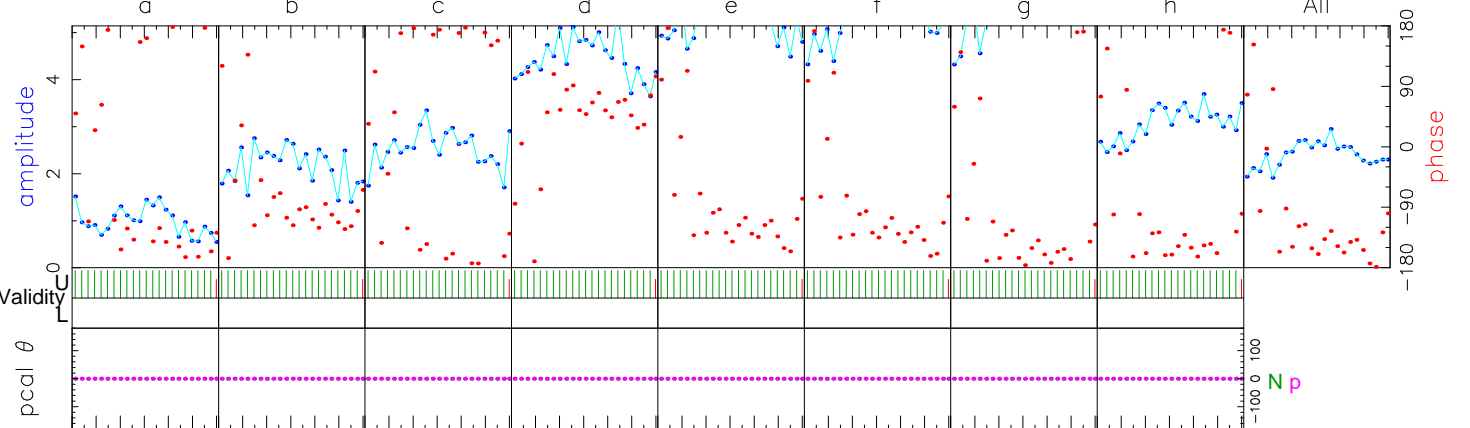
multiband delay (μ s)



Fringe quality 1
SNR 89.0
Int time 359.916
Amp 1.715
Phase -142.6
PFD 0.0e+00
Delays (us)
SBD 0.001275
MBD -0.004458
Fringe rate (Hz)
-0.005197
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135517
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"



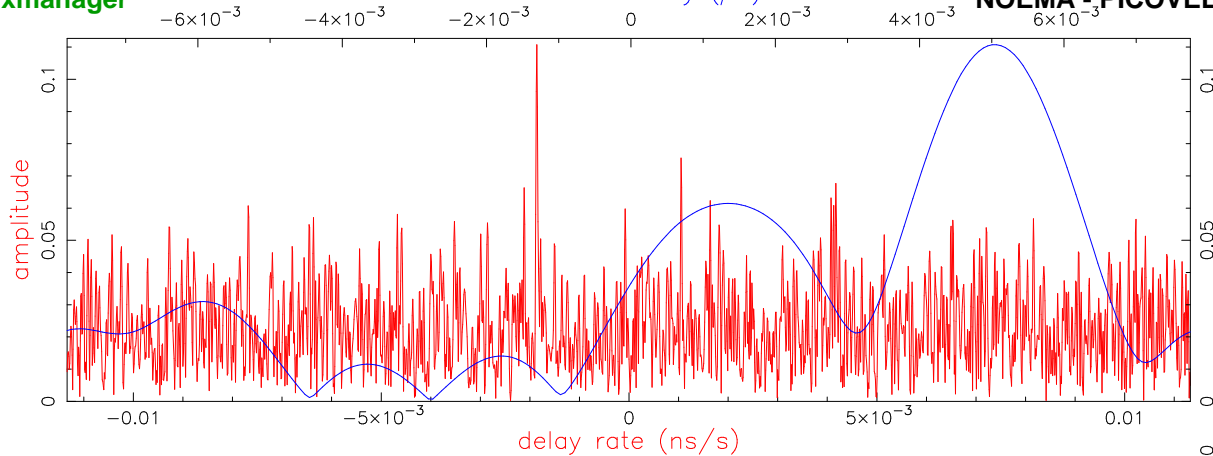
Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -158.4 | -99.4 | -176.1 | 62.2 | -120.6 | -124.7 | -155.9 | -149.9 | Phase | -142.6 |
| | 0.6 | 1.5 | 1.7 | 3.2 | 3.8 | 3.9 | 4.1 | 2.2 | Ampl. | 2.6 |
| | 257.7 | 257.0 | 256.2 | 256.7 | 257.0 | 256.7 | 257.3 | 259.7 | Sbd box | 257.3 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Manl PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| p | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.12502972504E+04 | | Apriori delay (usec) | | -1.12502927927E+04 | | Resid mbdelay (usec) | | -4.45776E-03 | +/- 1.2E-05 |
| Sband delay (usec) | -1.12502915182E+04 | | Apriori clock (usec) | | -1.8751104E+01 | | Resid sbdelay (usec) | | 1.27450E-03 | +/- 9.7E-05 |
| Phase delay (usec) | -1.12502927973E+04 | | Apriori clockrate (us/s) | | 9.3740007E-06 | | Resid phdelay (usec) | | -4.59898E-06 | +/- 4.2E-08 |
| Delay rate (us/s) | -1.12625330260E+00 | | Apriori rate (us/s) | | -1.12625324227E+00 | | Resid rate (us/s) | | -6.03266E-08 | +/- 2.0E-10 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 7.03016936228E-05 | | Resid phase (deg) | | -142.6 | +/- 1.3 |

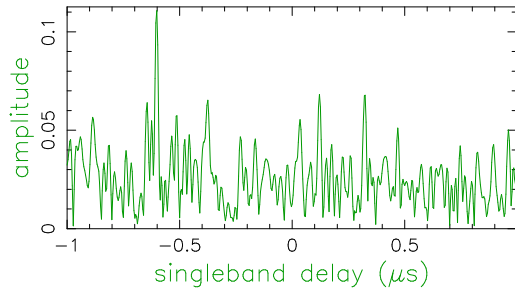
RMS Theor. Amplitude 1.715 +/- 0.019
 ph/seg (deg) 56.3 3.1 Search (2048X32) 1.661 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 42.8 5.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 68.7 1.8 Inc. seg. avg. 2.398 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 87.1 3.2 Inc. frq. avg. 2.614 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 N: az 304.9 el 26.0 pa 55.2 p: az 56.9 el 72.3 pa -111.3 u,v (fr/asec) 8867.793 5831.631 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/Np..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/Np.W.318.1W5ADF

multiband delay (μ s)

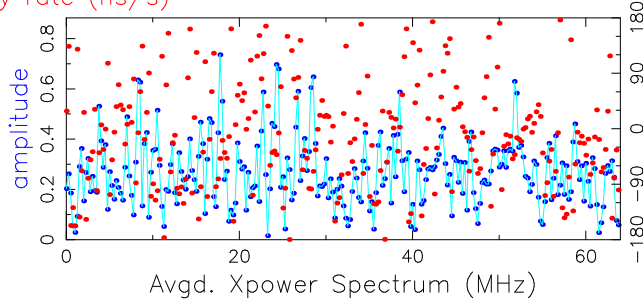


Fringe quality 0

SNR 5.8
Int time 359.926
Amp 0.113
Phase 178.4
PFD 8.4e-01
Delays (us)
SBD -0.602511
MBD 0.005004
Fringe rate (Hz)
-0.160499
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

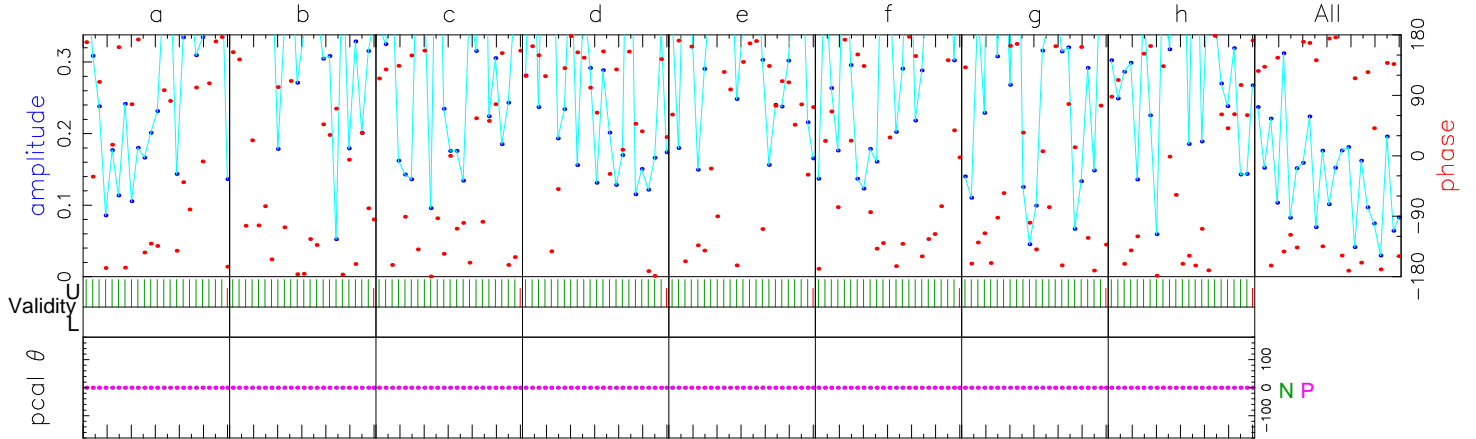


delay rate (ns/s)



Exp. c211a
Yr:day 16383
Start 2021:114
Stop 2021:114
FRT 134500.00
Corr/FF/build
2021:286:102153
2021:286:135518
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| P | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

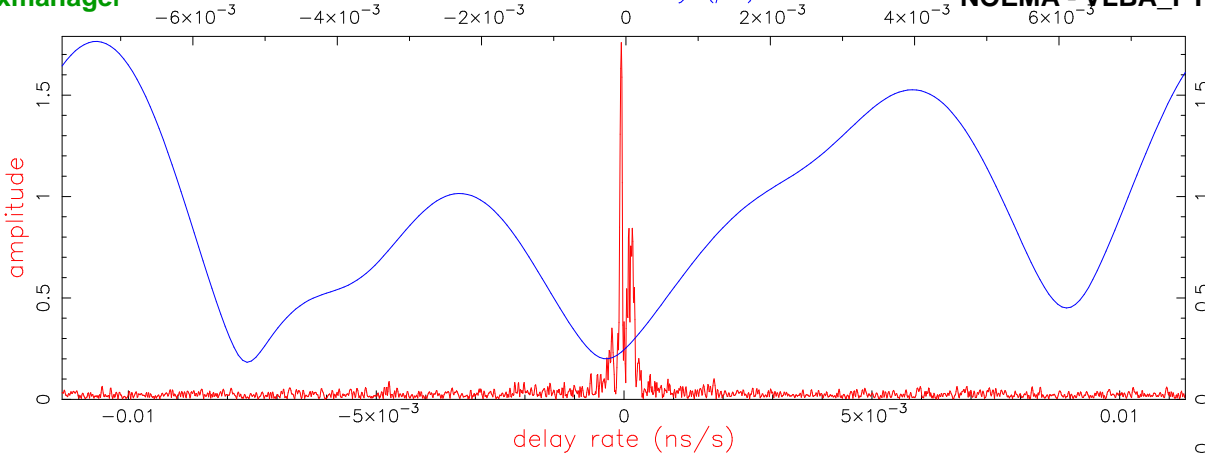
| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.07415497447E+02 | Apriori delay (usec) | -5.06811126661E+02 | Resid mbdelay (usec) | 5.00421E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -5.07413637161E+02 | Apriori clock (usec) | -1.2249338E+01 | Resid sbdelay (usec) | -6.02511E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -5.06811120910E+02 | Apriori clockrate (us/s) | 9.8540004E-06 | Resid phdelay (usec) | 5.75133E-06 | +/- | 6.4E-07 |
| Delay rate (us/s) | 9.88920133499E-02 | Apriori rate (us/s) | 9.88938765829E-02 | Resid rate (us/s) | -1.86323E-06 | +/- | 3.1E-09 |
| Total phase (deg) | | Apriori accel (us/s/s) | 1.02244791757E-05 | Resid phase (deg) | 178.4 | +/- | 19.8 |

| | | | | | | | | | | |
|--------------|------|--------|------|------------------|-------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 46.6 | Theor. | 47.5 | Search (2048X32) | 0.108 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 67.9 | | 82.9 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 34.7 | | 28.0 | Inc. seg. avg. | 0.107 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 32.9 | | 48.9 | Inc. frq. avg. | 0.115 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

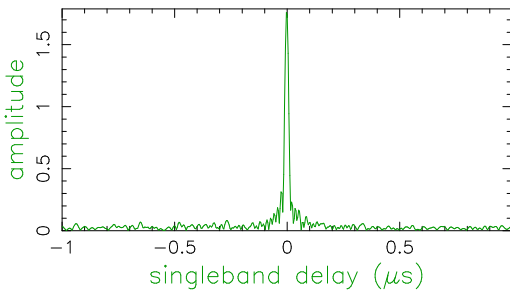
N: az 304.9 el 26.0 pa 55.2 P: az 304.0 el 27.6 pa 64.2 u,v (fr/asec) -745.524 1396.294 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NP..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NP.W.322.1W5ADF

multiband delay (μ s)

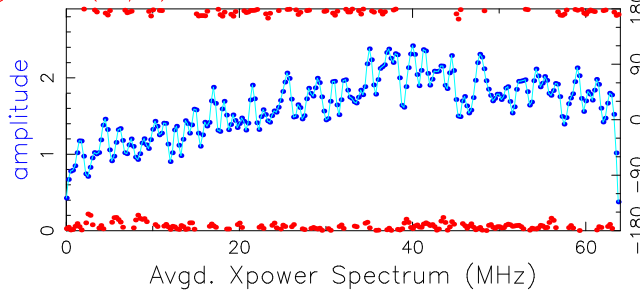
Fringe quality 1



SNR 92.8
 Int time 359.916
 Amp 1.789
 Phase -117.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.002204
 MBD -0.007246
 Fringe rate (Hz)
 -0.005243
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

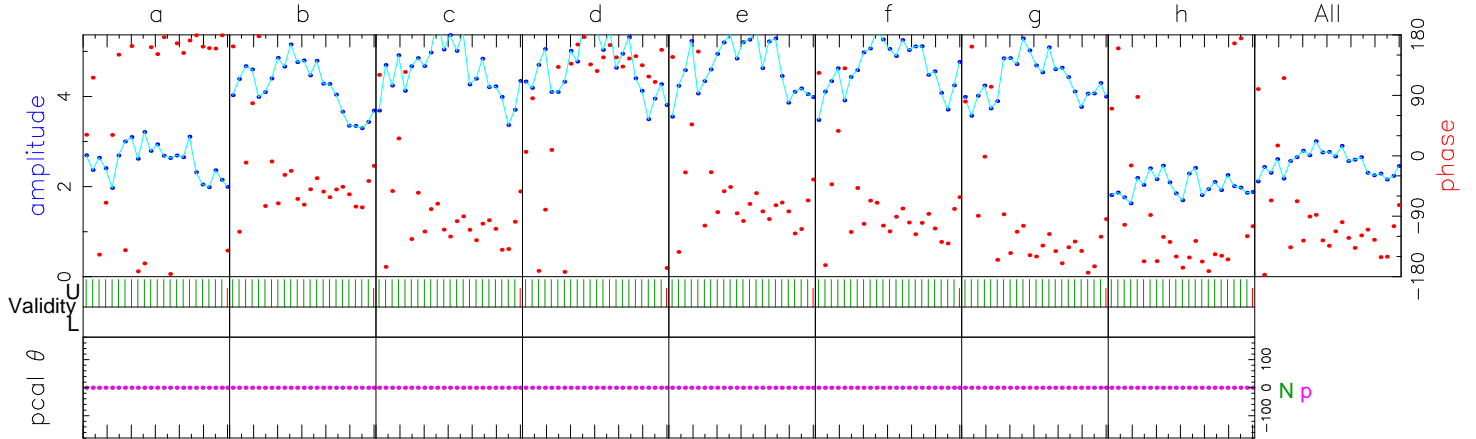


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135521
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



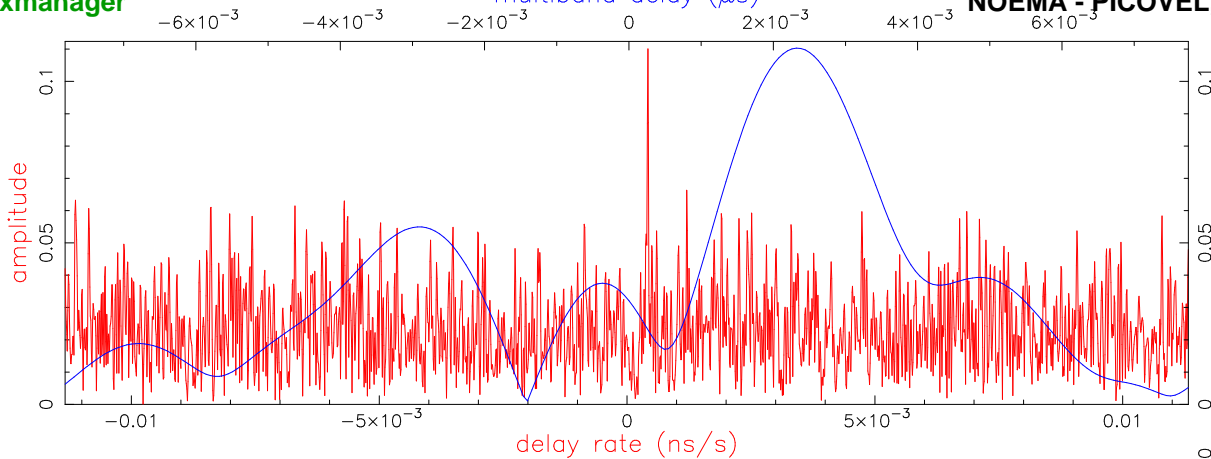
| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| U/L | 172.5 | -52.2 | -103.5 | 145.3 | -76.5 | -95.5 | -136.3 | -149.2 | Phase | -117.2 |
| N | 1.9 | 2.9 | 3.2 | 3.2 | 3.2 | 3.3 | 3.1 | 1.4 | Ampl. | 2.8 |
| p | 258.1 | 256.0 | 255.9 | 255.8 | 255.7 | 256.0 | 256.7 | 258.5 | Sbd box | 256.4 |
| N:p | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N:p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N:p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| p | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| Group delay (usec)(sbd) | -1.12503000390E+04 | | Apriori delay (usec) | | -1.12502927927E+04 | | Resid mbdelay (usec) | | -7.24635E-03 | +/- 1.2E-05 |
| Sband delay (usec) | -1.12502949969E+04 | | Apriori clock (usec) | | -1.8751104E+01 | | Resid sbdelay (usec) | | -2.20425E-03 | +/- 9.3E-05 |
| Phase delay (usec) | -1.12502927964E+04 | | Apriori clockrate (us/s) | | 9.3740007E-06 | | Resid phdelay (usec) | | -3.77893E-06 | +/- 4.0E-08 |
| Delay rate (us/s) | -1.12625330315E+00 | | Apriori rate (us/s) | | -1.12625324227E+00 | | Resid rate (us/s) | | -6.08708E-08 | +/- 1.9E-10 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 7.03016936228E-05 | | Resid phase (deg) | | -117.2 | +/- 1.2 |

| | RMS | Theor. | Amplitude | 1.789 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 55.5 | 3.0 | Search (2048X32) | 1.724 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 43.2 | 5.2 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 61.1 | 1.7 | Inc. seg. avg. | 2.518 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 66.5 | 3.0 | Inc. frq. avg. | 2.766 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

N: az 304.9 el 26.0 pa 55.2 p: az 56.9 el 72.3 pa -111.3 u,v (fr/asec) 8867.793 5831.631 simultaneous interpolator

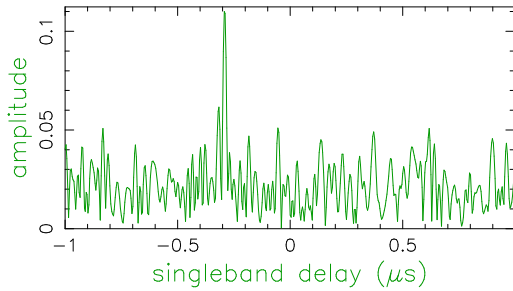
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/Np..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/Np.W.334.1W5ADF

multiband delay (μs)

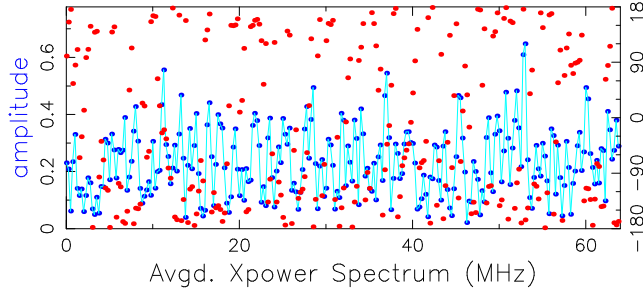


Fringe quality 0

SNR 5.8
Int time 359.926
Amp 0.112
Phase 58.2
PFD 7.6e-01
Delays (us)
SBD -0.291211
MBD 0.002256
Fringe rate (Hz)
0.036226
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

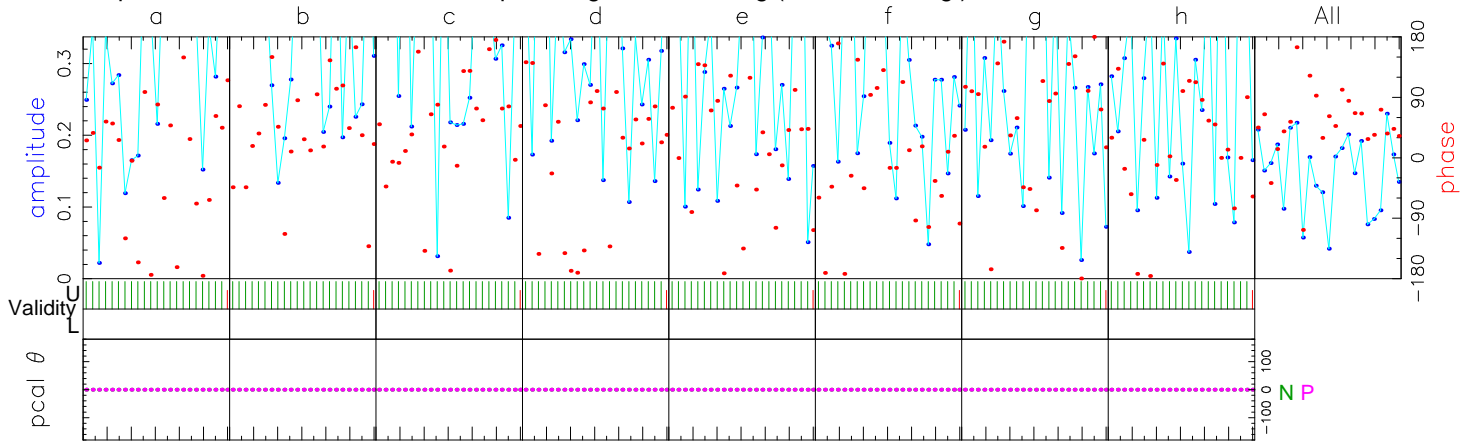


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135522
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|--|--------------------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| P | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| Group delay (usec)(sbd) | -5.07105745292E+02 | | | | | | | | | |
| Sband delay (usec) | -5.07102338161E+02 | | | | | | | | | |
| Phase delay (usec) | -5.06811124784E+02 | | | | | | | | | |
| Delay rate (us/s) | 9.88942971260E-02 | | | | | | | | | |
| Total phase (deg) | | | -104.0 | | | | | | | |
| 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) | | | | | | | | | | |
| pcal mode: MANUAL, MANUAL | | | | | | | | | | |
| PC period (AP's) 5, 5 | | | | | | | | | | |
| pcal mode: MANUAL, MANUAL | | | | | | | | | | |
| PC period (AP's) 5, 5 | | | | | | | | | | |
| sb window (us) | | | | | | | | | | |
| mb window (us) | | | | | | | | | | |
| dr window (ns/s) | | | | | | | | | | |
| ion window (TEC) | | | | | | | | | | |
| simultaneous interpolator | | | | | | | | | | |

ph/seg (deg) 52.4 47.1 Search (2048X32) 0.112 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 57.6 82.3 Interp. 0.108 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 34.0 27.8 Inc. seg. avg. 0.112 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 37.2 48.5 Inc. frq. avg. 0.110 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 N: az 304.9 el 26.0 pa 55.2 P: az 304.0 el 27.6 pa 64.2 u,v (fr/asec) -745.524 1396.294 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NP..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NP.W.341.1W5ADF

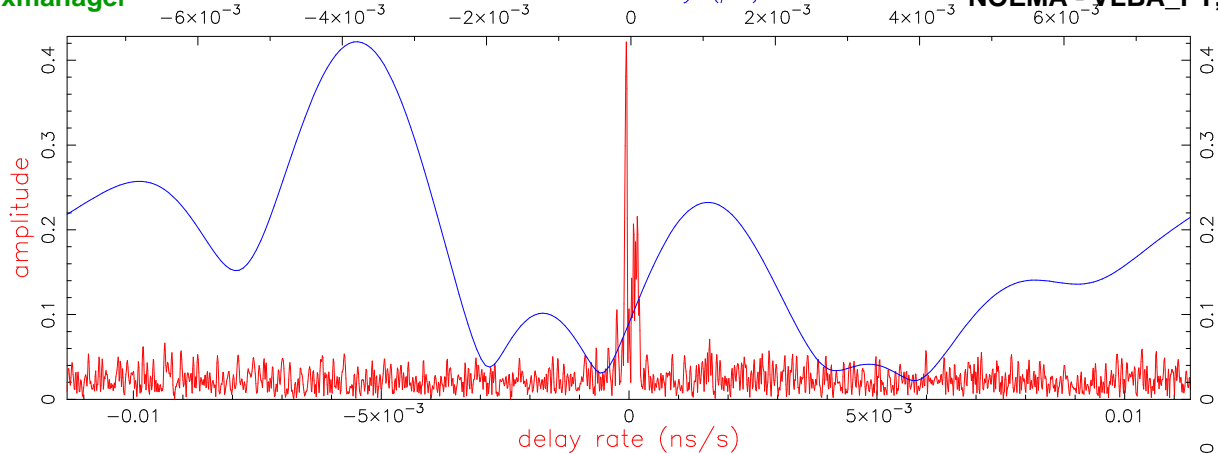
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, Np

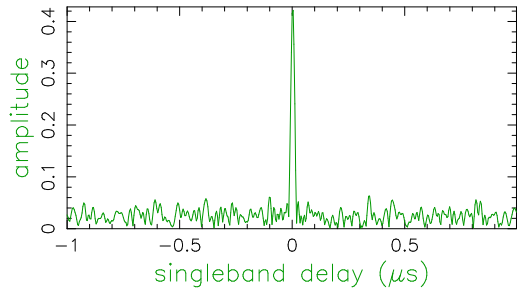
NOEMA - VLBA_PT, fgroup W, pol LR

multiband delay (μ s)

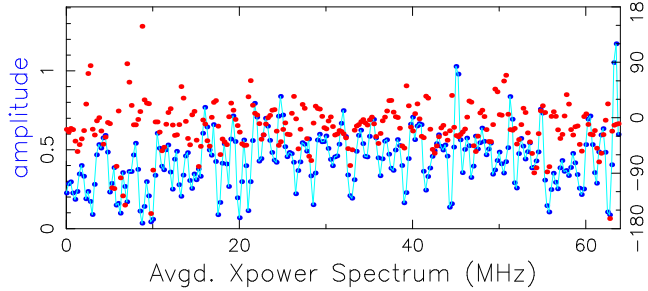


Fringe quality 8

SNR 22.2
 Int time 359.916
 Amp 0.428
 Phase 55.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.002272
 MBD -0.003842
 Fringe rate (Hz)
 -0.004940
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

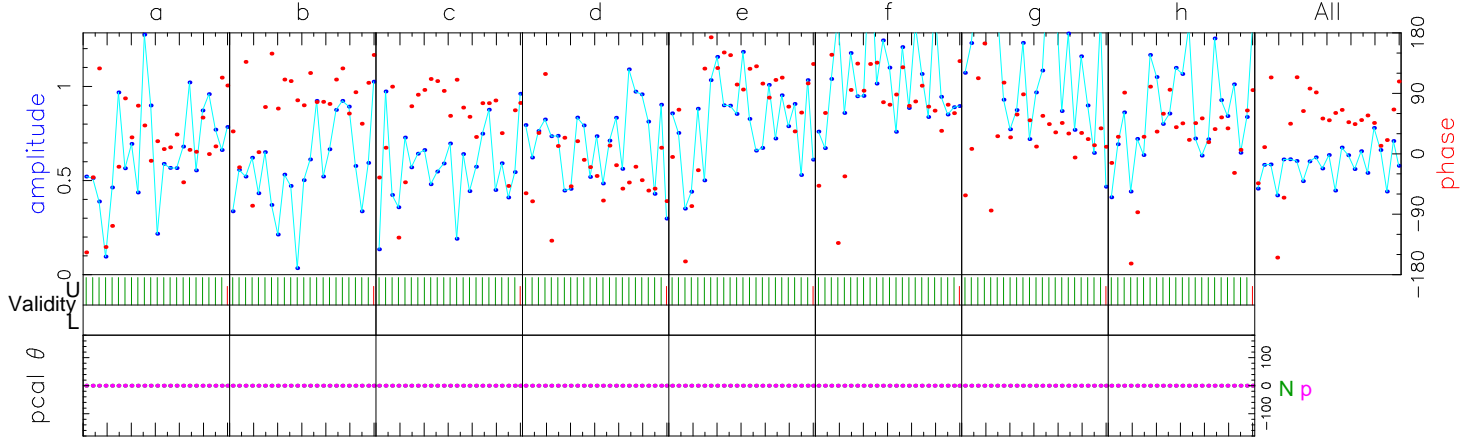


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135525
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| p | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

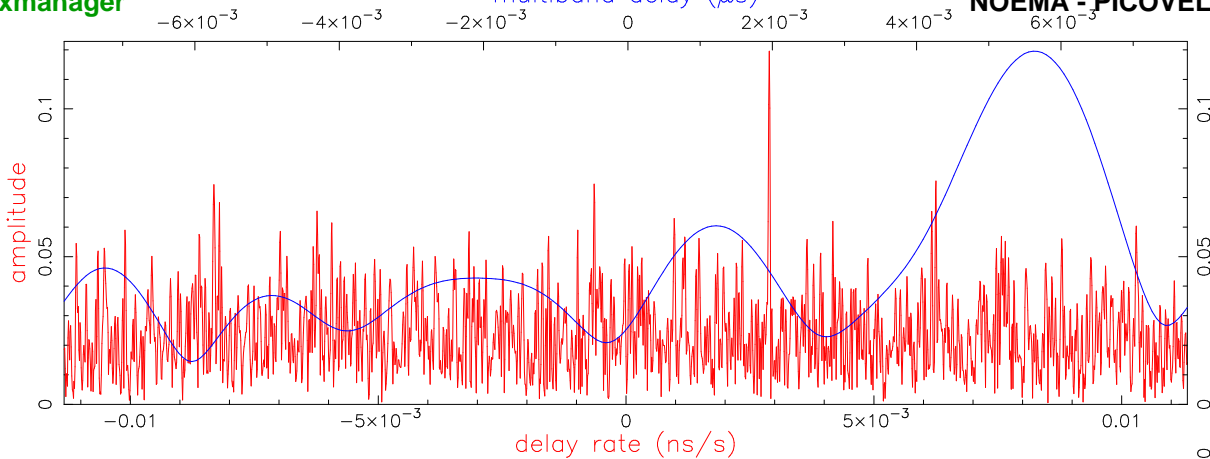
| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.12502966345E+04 | Apriori delay (usec) | -1.12502927927E+04 | Resid mbdelay (usec) | -3.84182E-03 | +/- | 4.9E-05 |
| Sband delay (usec) | -1.12502905209E+04 | Apriori clock (usec) | -1.8751104E+01 | Resid sbdelay (usec) | 2.27175E-03 | +/- | 3.9E-04 |
| Phase delay (usec) | -1.12502927909E+04 | Apriori clockrate (us/s) | 9.3740007E-06 | Resid phdelay (usec) | 1.78063E-06 | +/- | 1.7E-07 |
| Delay rate (us/s) | -1.12625329963E+00 | Apriori rate (us/s) | -1.12625324227E+00 | Resid rate (us/s) | -5.73507E-08 | +/- | 8.0E-10 |
| Total phase (deg) | -2.6 | Apriori accel (us/s/s) | 7.03016936228E-05 | Resid phase (deg) | 55.2 | +/- | 5.2 |

| | | | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|----------------|-------------------|------------------|-----------|
| ph/seg (deg) | 53.4 | Theor. | 12.4 | Amplitude | 0.428 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | | |
| amp/seg (%) | 42.2 | | 21.6 | Search (2048X32) | 0.416 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | | |
| ph/frq (deg) | 47.0 | | 7.3 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | | |
| amp/frq (%) | 39.7 | | 12.7 | Inc. seg. avg. | 0.573 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | | | |
| | | | | Inc. frq. avg. | 0.536 | Data rate (Mb/s): | 2048 | nlags: | 256 | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

N: az 304.9 el 26.0 pa 55.2 p: az 56.9 el 72.3 pa -111.3 u,v (fr/asec) 8867.793 5831.631 simultaneous interpolator

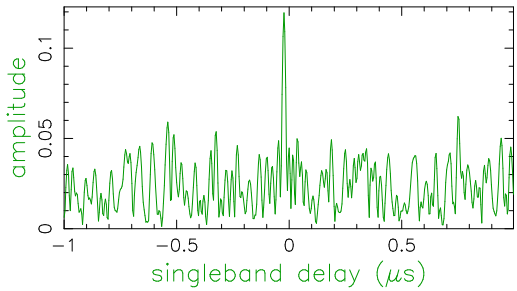
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/Np..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/Np.W.353.1W5ADF

multiband delay (μs)

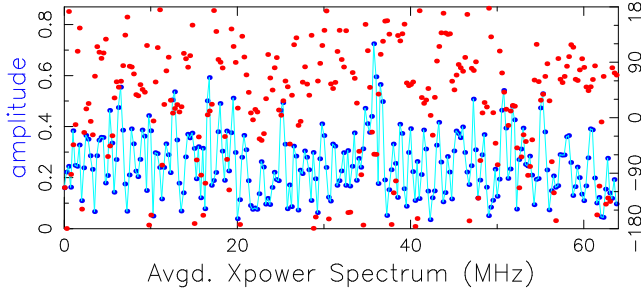


Fringe quality 0

SNR 6.2
Int time 359.926
Amp 0.123
Phase 94.2
PFD 1.4e-01
Delays (us)
SBD -0.023200
MBD 0.005647
Fringe rate (Hz)
0.249123
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

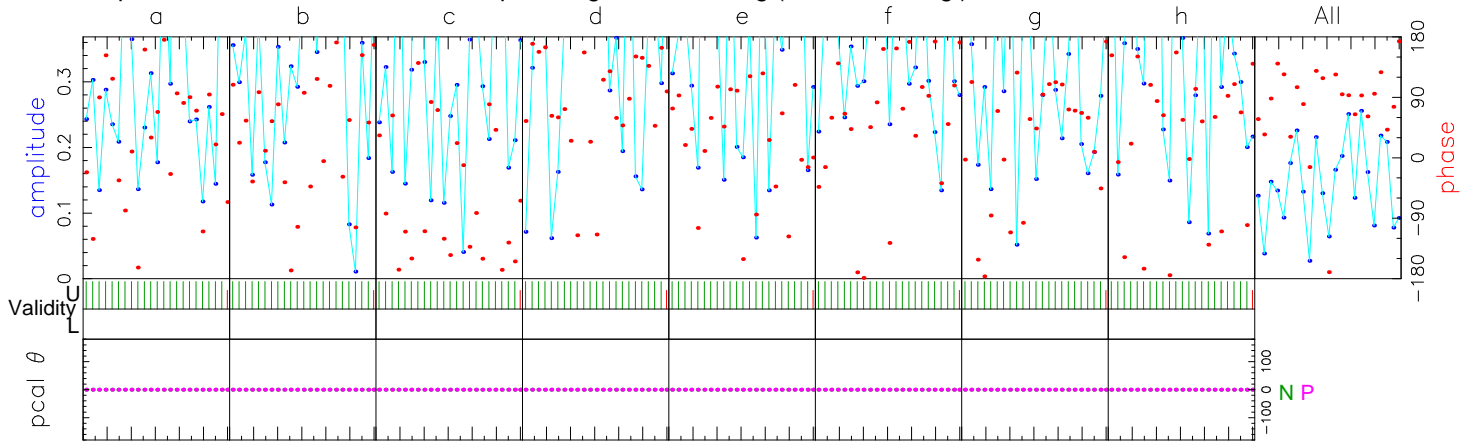


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134500.00
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135527
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| P | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.06836729713E+02 | Apriori delay (usec) | -5.06811126661E+02 | Resid mbdelay (usec) | 5.64695E-03 | +/- | 1.7E-04 |
| Sband delay (usec) | -5.06834326661E+02 | Apriori clock (usec) | -1.2249338E+01 | Resid sbdelay (usec) | -2.32000E-02 | +/- | 1.4E-03 |
| Phase delay (usec) | -5.06811123622E+02 | Apriori clockrate (us/s) | 9.8540004E-02 | Resid phdelay (usec) | 3.03927E-06 | +/- | 6.0E-07 |
| Delay rate (us/s) | 9.88967686551E-02 | Apriori rate (us/s) | 9.88938765829E-02 | Resid rate (us/s) | 2.89207E-06 | +/- | 2.9E-09 |
| Total phase (deg) | -68.0 | Apriori accel (us/s/s) | 1.02244791757E-05 | Resid phase (deg) | 94.2 | +/- | 18.5 |

| | | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|-----------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 45.1 | Theor. | 44.3 | Amplitude | 0.123 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 58.1 | Search (2048X32) | 0.115 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 47.2 | Inc. seg. avg. | 0.115 | Inc. frq. avg. | 0.133 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 44.0 | Inc. frq. avg. | 0.133 | | | 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 |

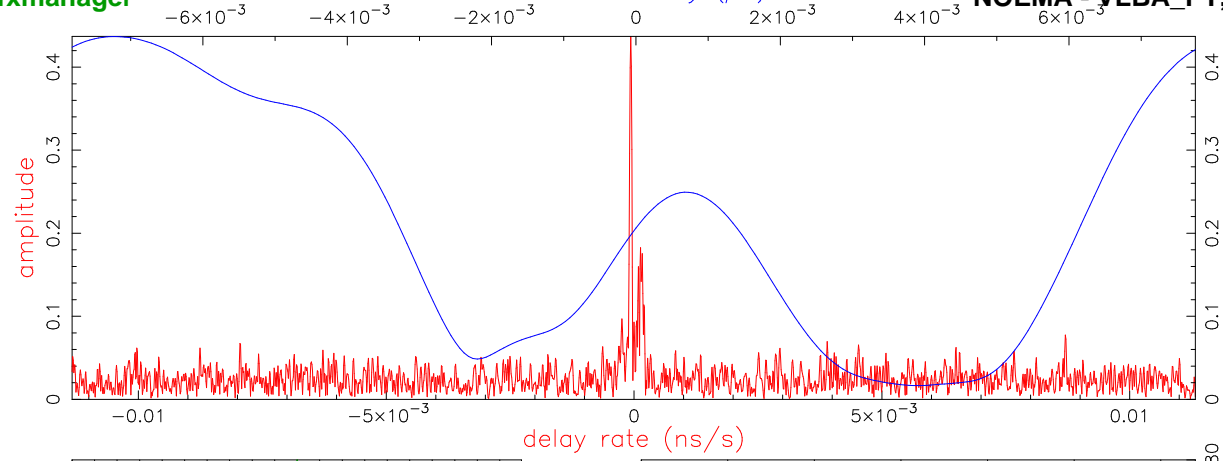
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

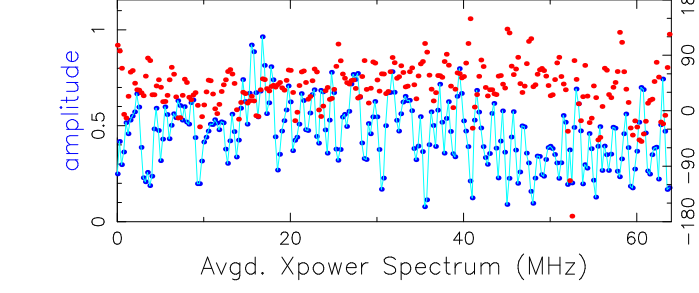
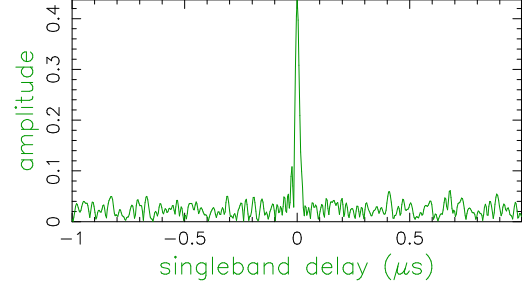
BLLAC.1W5ADF, No0245, Np

NOEMA - VLBA_PT, fgroup W, pol RL

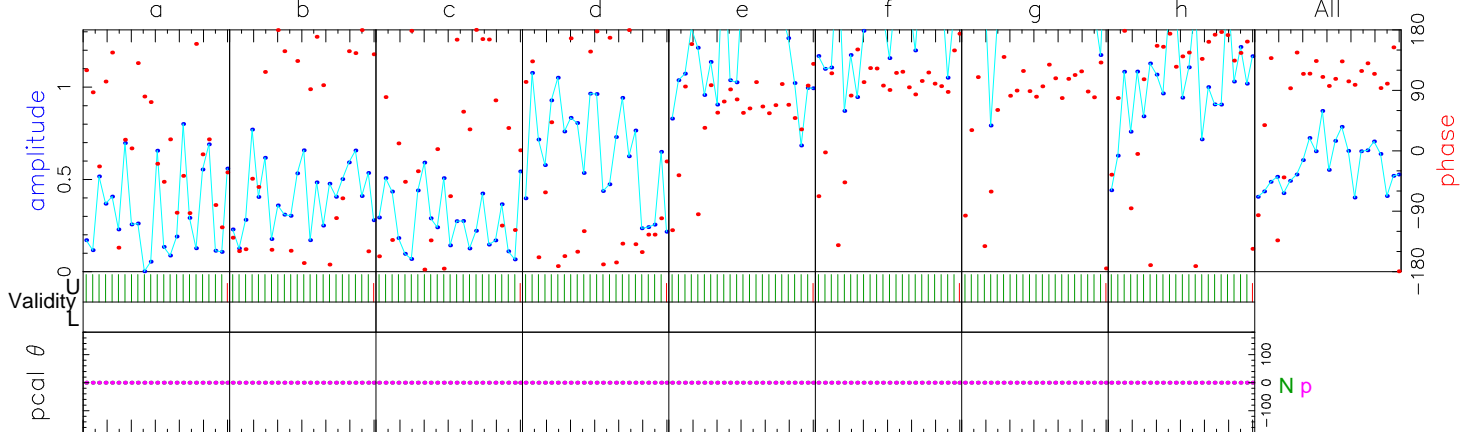
multiband delay (μ s)



Fringe quality 7
 SNR 22.7
 Int time 359.916
 Amp 0.437
 Phase 119.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.000301
 MBD -0.007245
 Fringe rate (Hz)
 -0.005649
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135529
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -8.3 | -174.7 | -169.2 | -168.2 | 74.6 | 111.5 | 103.8 | 160.3 | Phase | 119.1 |
| | 0.1 | 0.2 | 0.1 | 0.4 | 0.8 | 1.0 | 1.3 | 0.8 | Ampl. | 0.6 |
| | 159.4 | 256.7 | 429.9 | 257.0 | 256.9 | 256.5 | 257.1 | 259.5 | Sbd box | 256.9 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 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) | -1.12503000373E+04 | | Apriori delay (usec) | | -1.12502927927E+04 | | Resid mbdelay (usec) | | -7.24466E-03 | +/- 4.8E-05 |
| Sband delay (usec) | -1.12502930934E+04 | | Apriori clock (usec) | | -1.8751104E+01 | | Resid sbdelay (usec) | | -3.00750E-04 | +/- 3.8E-04 |
| Phase delay (usec) | -1.12502927888E+04 | | Apriori clockrate (us/s) | | 9.3740007E-06 | | Resid phdelay (usec) | | 3.84195E-06 | +/- 1.6E-07 |
| Delay rate (us/s) | -1.12625330785E+00 | | Apriori rate (us/s) | | -1.12625324227E+00 | | Resid rate (us/s) | | -6.55806E-08 | +/- 7.8E-10 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 7.03016936228E-05 | | Resid phase (deg) | | 119.1 | +/- 5.1 |

ph/seg (deg) 56.7 12.1 Amplitude 0.437 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 44.2 21.2 Search (2048X32) 0.435 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 76.4 7.1 Inc. seg. avg. 0.569 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 99.1 12.5 Inc. frq. avg. 0.583 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 N: az 304.9 el 26.0 pa 55.2 p: az 56.9 el 72.3 pa -111.3 u,v (fr/asec) 8867.793 5831.631 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/Np..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/Np.W.374.1W5ADF

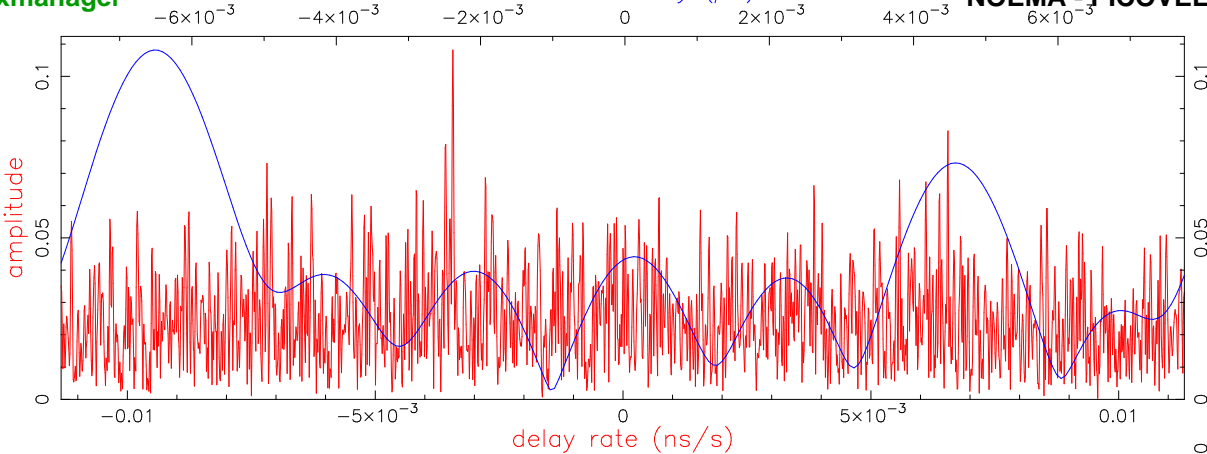
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, NP

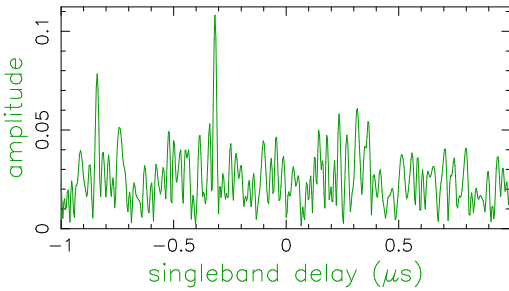
NOEMA - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

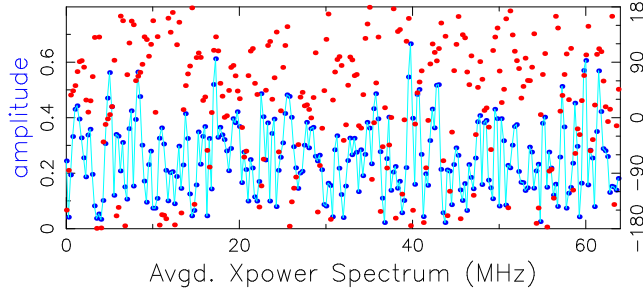


Fringe quality 0

SNR 5.6
 Int time 359.926
 Amp 0.112
 Phase 112.4
 PFD 9.9e-01
 Delays (us)
 SBD -0.316354
 MBD -0.006509
 Fringe rate (Hz)
 -0.296470
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

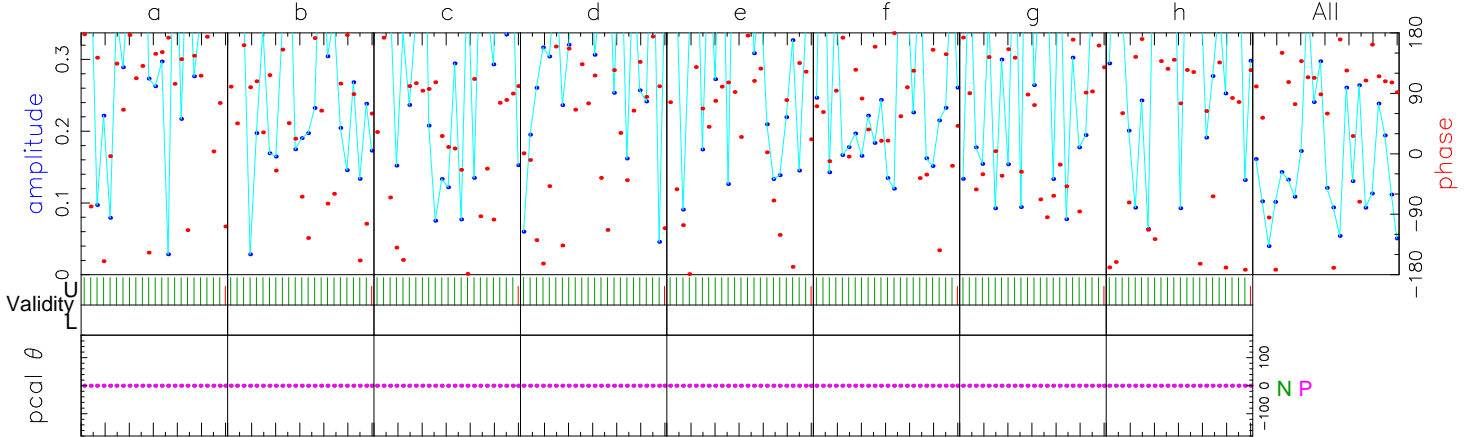


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135530
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| P | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.07130135171E+02 | Apriori delay (usec) | -5.06811126661E+02 | Resid mbdelay (usec) | -6.50851E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -5.07127480661E+02 | Apriori clock (usec) | -1.2249338E+01 | Resid sbdelay (usec) | -3.16354E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -5.06811123036E+02 | Apriori clockrate (us/s) | 9.8540004E-06 | Resid phdelay (usec) | 3.62449E-06 | +/- | 6.6E-07 |
| Delay rate (us/s) | 9.88904348557E-02 | Apriori rate (us/s) | 9.88938765829E-02 | Resid rate (us/s) | -3.44173E-06 | +/- | 3.2E-09 |
| Total phase (deg) | -49.8 | Apriori accel (us/s/s) | 1.02244791757E-05 | Resid phase (deg) | 112.4 | +/- | 20.4 |

| | | | | | | | | | | | |
|--------------|------|------------------|-------|-------------------|-------|------------------------|-----------------------------|----------------------|----------------|------------------|----------|
| ph/seg (deg) | 63.2 | RMS | 49.0 | Theor. | 63.2 | Amplitude | 0.112 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 |
| amp/seg (%) | 91.9 | Search (2048X32) | 0.107 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | |
| ph/frq (deg) | 34.3 | Inc. seg. avg. | 0.121 | Inc. frq. avg. | 0.116 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| amp/frq (%) | 48.4 | Inc. frq. avg. | 0.116 | Data rate (Mb/s): | 2048 | Sample rate (MSamp/s): | 128 | nlags: | 256 | t_cohere | infinite |
| | | | | | | Data rate (Mb/s): | 2048 | ion window (TEC) | 0.00 | 0.00 | |

N: az 304.9 el 26.0 pa 55.2 P: az 304.0 el 27.6 pa 64.2 u,v (fr/asec) -745.524 1396.294 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NP..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NP.W.380.1W5ADF

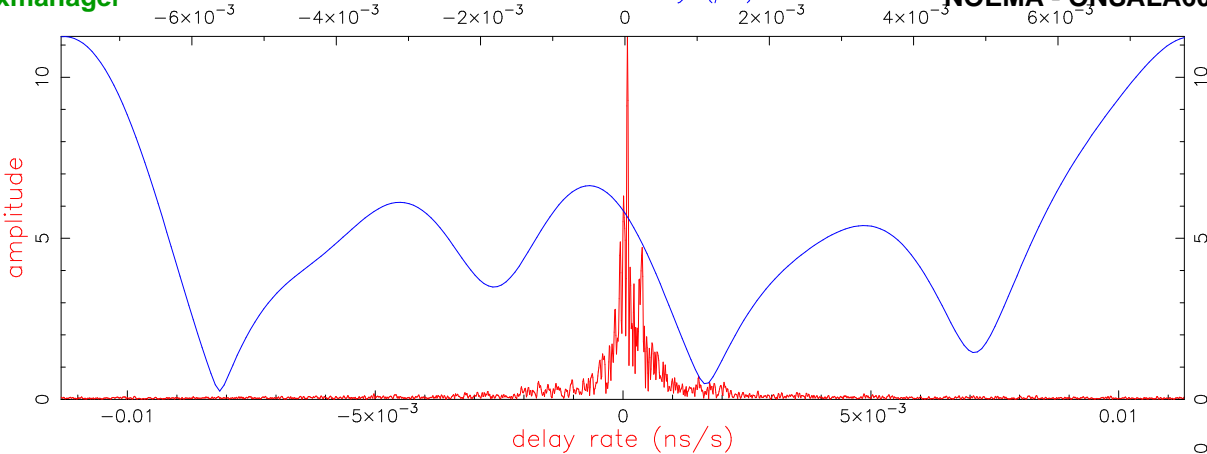
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, NX

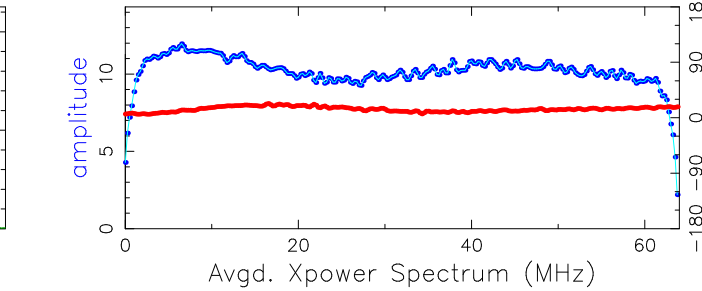
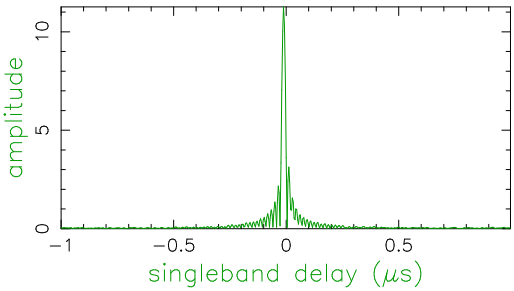
NOEMA - ONSALA60, fgroup W, pol LL

multiband delay (μ s)



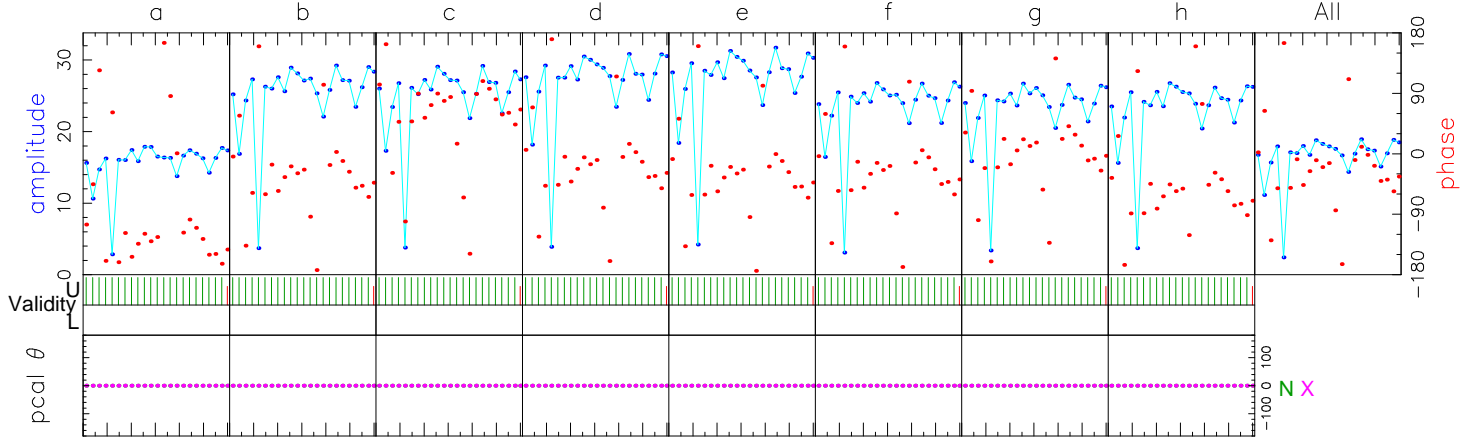
Fringe quality 1

SNR 584.6
 Int time 359.897
 Amp 11.269
 Phase -28.4
 PFD 0.0e+00
 Delays (us)
 SBD -0.011420
 MBD -0.007765
 Fringe rate (Hz)
 0.007269
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135518
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -137.2 | -37.2 | 70.7 | -23.9 | -37.9 | -32.5 | 2.3 | -65.3 | Phase | -28.4 |
| | 10.6 | 17.2 | 17.1 | 18.3 | 18.7 | 16.0 | 15.9 | 16.0 | Ampl. | 16.2 |
| | 256.5 | 254.7 | 254.1 | 254.0 | 254.1 | 253.8 | 253.9 | 254.5 | Sbd box | 254.1 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| X | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.41471639205E+03 | Apriori delay (usec) | -1.41470862712E+03 | Resid mbdelay (usec) | -7.76492E-03 | +/- | 1.9E-06 |
| Sband delay (usec) | -1.41472004737E+03 | Apriori clock (usec) | -6.9625290E+01 | Resid sbdelay (usec) | -1.14202E-02 | +/- | 1.5E-05 |
| Phase delay (usec) | -1.41470862804E+03 | Apriori clockrate (us/s) | 8.7260000E-06 | Resid phdelay (usec) | -9.15291E-07 | +/- | 6.3E-09 |
| Delay rate (us/s) | -2.06382578975E-01 | Apriori rate (us/s) | -2.06382663360E-01 | Resid rate (us/s) | 8.43850E-08 | +/- | 3.0E-11 |
| Total phase (deg) | -78.9 | Apriori accel (us/s/s) | -3.48134915832E-06 | Resid phase (deg) | -28.4 | +/- | 0.2 |

| | | | | | | | | | |
|--------------|------|-----|------------------|--------|--|----------------------------|------------------|--------|-------|
| ph/seg (deg) | 64.5 | 0.5 | Search (2048X32) | 10.924 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 54.3 | 0.8 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 63.5 | 0.3 | Inc. seg. avg. | 16.344 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 48.9 | 0.5 | Inc. frq. avg. | 16.247 | Data rate(Mb/s): 2048 | nlags: 256 | ion window (TEC) | 0.00 | 0.00 |

N: az 304.9 el 26.0 pa 55.2 X: az 302.8 el 30.0 pa 37.6 u,v (fr/asec) 1591.574 -1185.824 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NX..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NX.W.325.1W5ADF

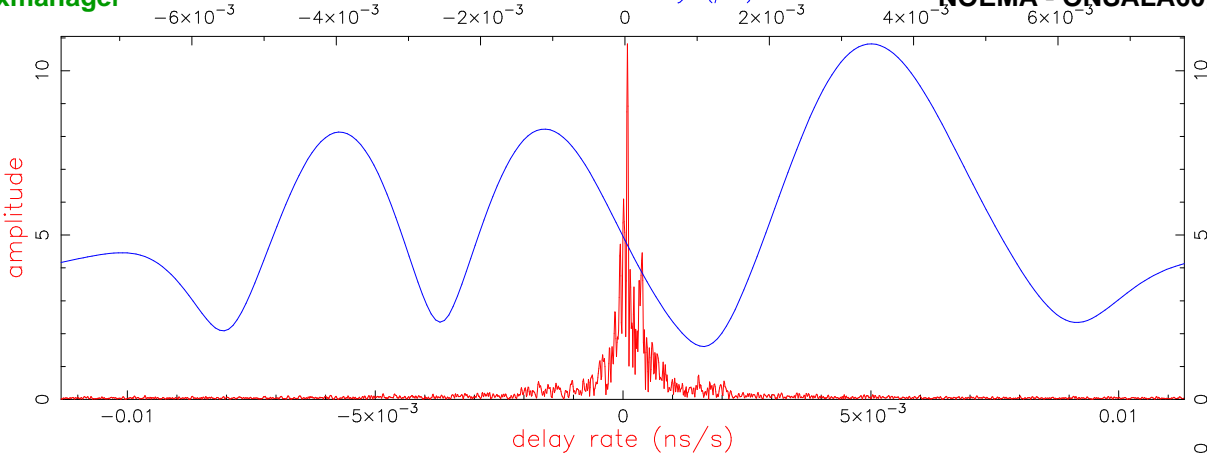
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

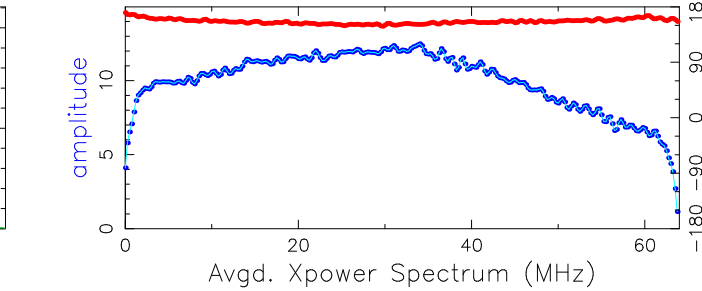
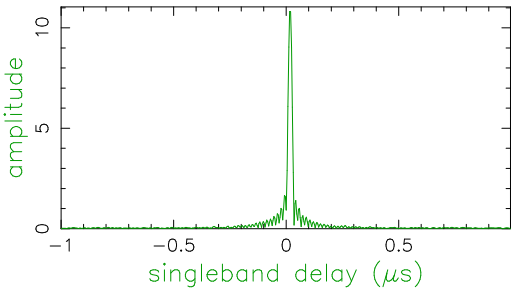
BLLAC.1W5ADF, No0245, NX

NOEMA - ONSALA60, fgroup W, pol RR

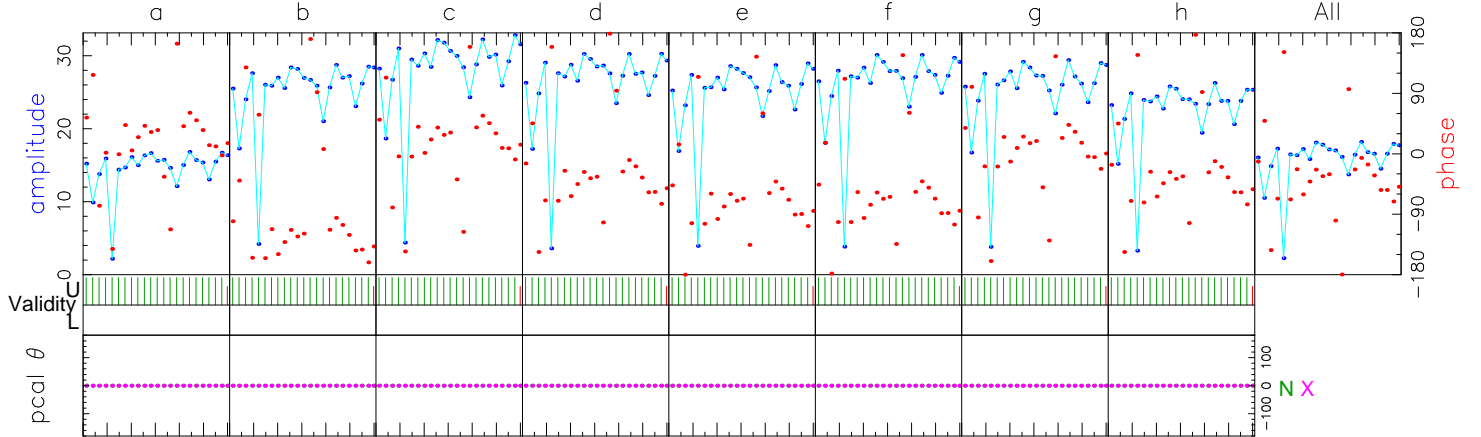
multiband delay (μ s)



Fringe quality 1
 SNR 573.1
 Int time 359.897
 Amp 11.047
 Phase -43.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.017558
 MBD 0.003448
 Fringe rate (Hz)
 0.007287
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135522
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"



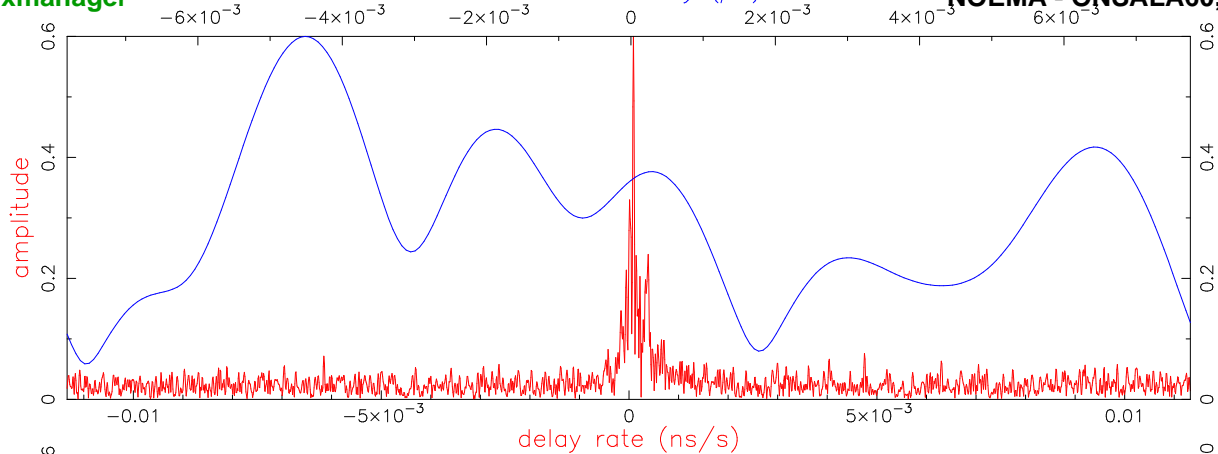
Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----------------------------|--------------------|----------|---|------------------|----------|----------|----------|----------|--|---|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | APs used | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| X | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| Group delay (usec)(sbd) | -1.41468955420E+03 | | | | | | | | 3.44792E-03 | +/- 1.9E-06 |
| Sband delay (usec) | -1.41469106937E+03 | | | | | | | | 1.75577E-02 | +/- 1.5E-05 |
| Phase delay (usec) | -1.41470862852E+03 | | | | | | | | -1.39540E-06 | +/- 6.4E-09 |
| Delay rate (us/s) | -2.06382578764E-01 | | | | | | | | 8.45954E-08 | +/- 3.1E-11 |
| Total phase (deg) | | | -93.8 | | | | | | -43.3 | +/- 0.2 |
| | | | Apriori delay (usec) | | | | | | Resid mbdelay (usec) | |
| | | | Apriori clock (usec) | | | | | | Resid sbdelay (usec) | |
| | | | Apriori clockrate (us/s) | | | | | | Resid phdelay (usec) | |
| | | | Apriori rate (us/s) | | | | | | Resid rate (us/s) | |
| | | | Apriori accel (us/s/s) | | | | | | Resid phase (deg) | |
| ph/seg (deg) | 64.4 | 0.5 | Search (2048X32) | 11.047 +/- 0.019 | | | | | PCal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
| amp/seg (%) | 51.8 | 0.8 | Interp. | 0.000 | | | | | PCal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| ph/frq (deg) | 59.3 | 0.3 | Inc. seg. avg. | 15.695 | | | | | Bits/sample: 2x2 | SampCntNorm: enabled mb window (us) -0.008 0.008 |
| amp/frq (%) | 54.9 | 0.5 | Inc. frq. avg. | 16.499 | | | | | 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 |
| N: az 304.9 el 26.0 pa 55.2 | | | X: az 302.8 el 30.0 pa 37.6 | | | | | | | u,v (fr/asec) 1591.574 -1185.824 |
| Control file: cf_1234_gmva | | | Input file: /Exps/c211a/v2/1234/No0245/NX..1W5ADF | | | | | | | Output file: /Exps/c211a/v2/1234/No0245/NX.W.338.1W5ADF |

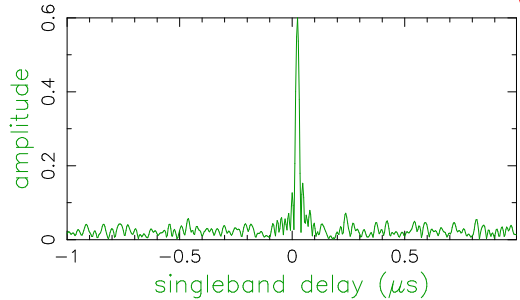
simultaneous interpolator

multiband delay (μ s)

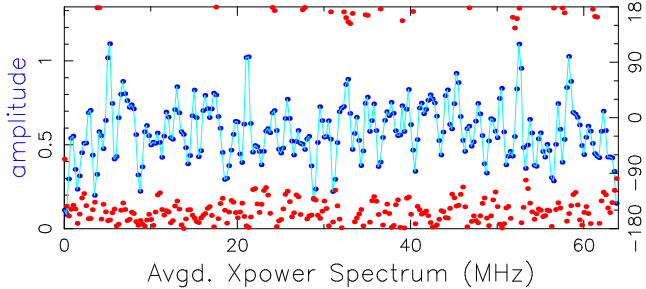


Fringe quality 3

SNR 31.1
 Int time 359.897
 Amp 0.600
 Phase 162.5
 PFD 0.0e+00
 Delays (us)
 SBD 0.023245
 MBD -0.004517
 Fringe rate (Hz)
 0.007266
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

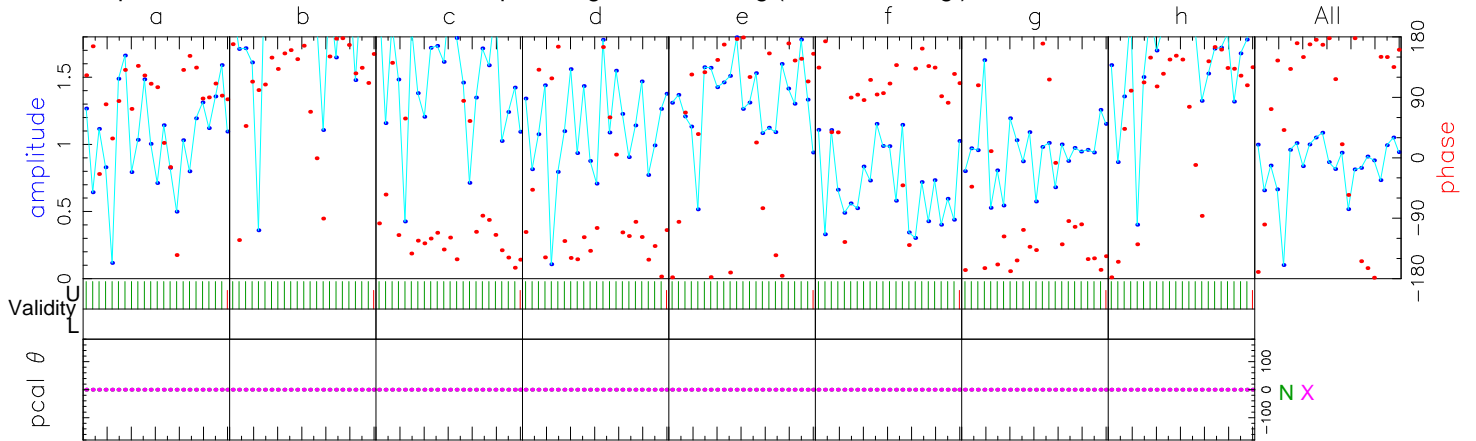


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135527
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| X | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.41468189436E+03 | Apriori delay (usec) | -1.41470862712E+03 | Resid mbdelay (usec) | -4.51724E-03 | +/- | 3.5E-05 |
| Sband delay (usec) | -1.41468538237E+03 | Apriori clock (usec) | -6.9625290E+01 | Resid sbdelay (usec) | 2.32447E-02 | +/- | 2.8E-04 |
| Phase delay (usec) | -1.41470862188E+03 | Apriori clockrate (us/s) | 8.7260000E-06 | Resid phdelay (usec) | 5.24013E-06 | +/- | 1.2E-07 |
| Delay rate (us/s) | -2.06382579005E-01 | Apriori rate (us/s) | -2.06382663360E-01 | Resid rate (us/s) | 8.43545E-08 | +/- | 5.7E-10 |
| Total phase (deg) | 112.0 | Apriori accel (us/s/s) | -3.48134915832E-06 | Resid phase (deg) | 162.5 | +/- | 3.7 |

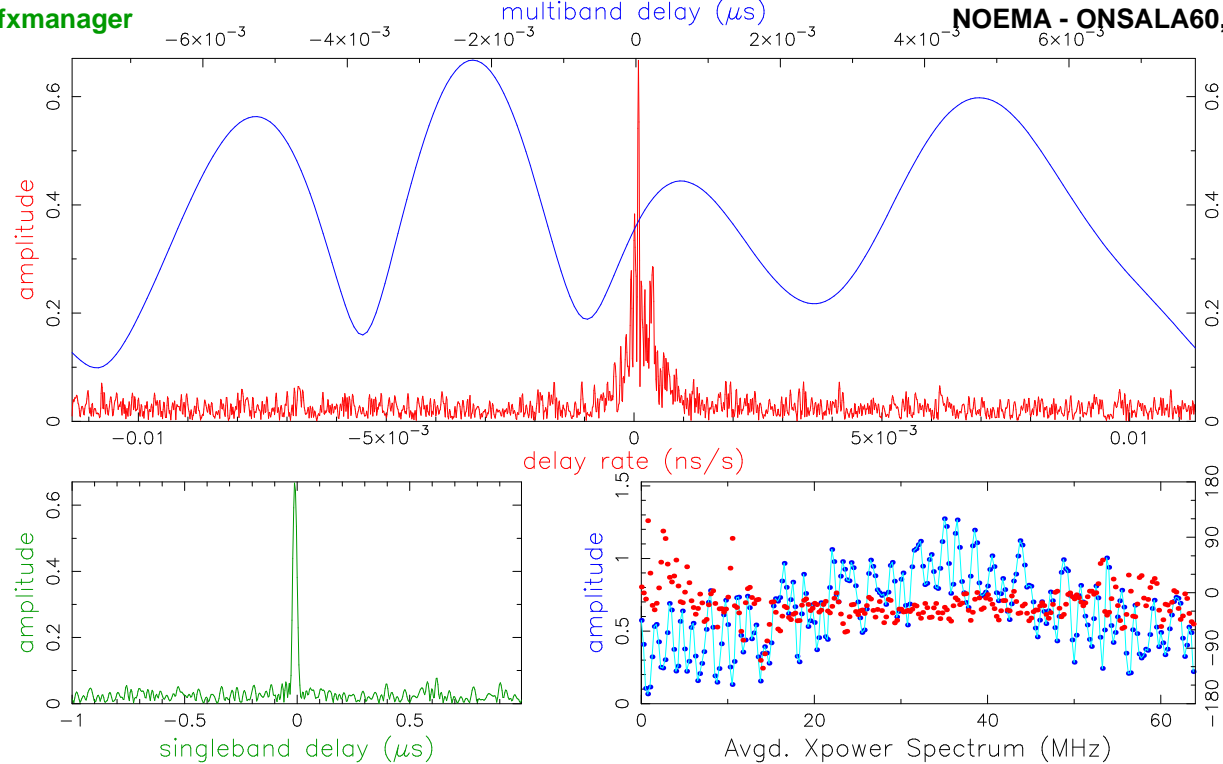
| | | | | | | | | | | | | | |
|--------------|------|------------------|-------|------------------------|-------|-------------------|-----------------------------|----------------------|----------------|------------------|------------------|------|------|
| ph/seg (deg) | 60.3 | RMS | 60.3 | Theor. | 8.8 | Amplitude | 0.600 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 54.1 | Search (2048X32) | 0.577 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | | | |
| ph/frq (deg) | 57.5 | Inc. seg. avg. | 0.837 | Inc. frq. avg. | 0.865 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | | |
| amp/frq (%) | 65.1 | Inc. frq. avg. | 0.865 | Sample rate (MSamp/s): | 128 | Data rate (Mb/s): | 2048 | nlags: 256 | t_cohere | infinite | ion window (TEC) | 0.00 | 0.00 |

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, NX

NOEMA - ONSALA60, fgroup W, pol RL

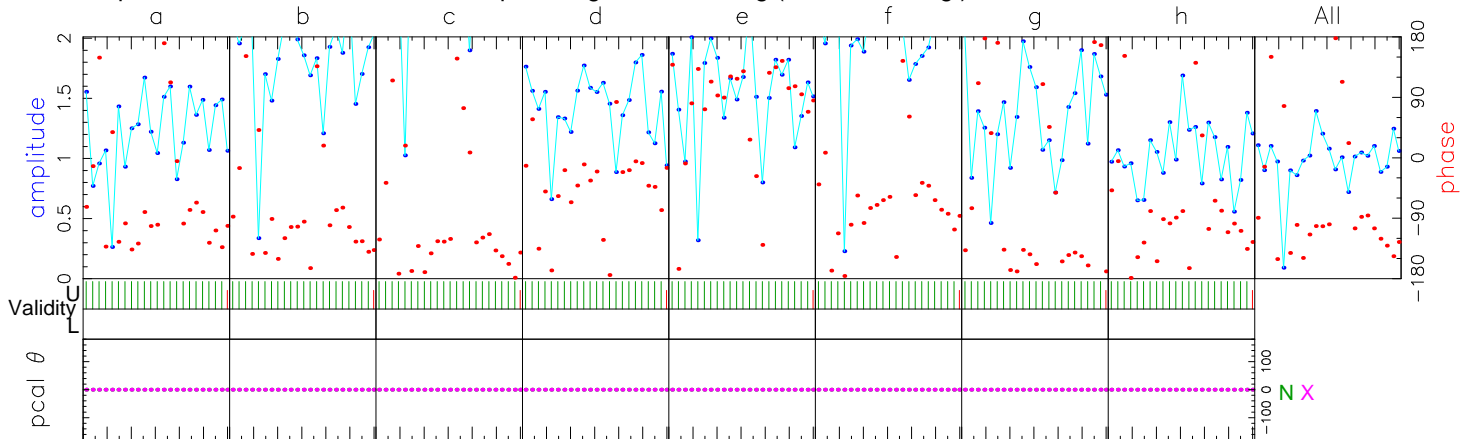


Fringe quality 3

SNR 34.8
 Int time 359.897
 Amp 0.671
 Phase -118.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.010688
 MBD -0.002238
 Fringe rate (Hz)
 0.007296
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134500.00
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135530
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

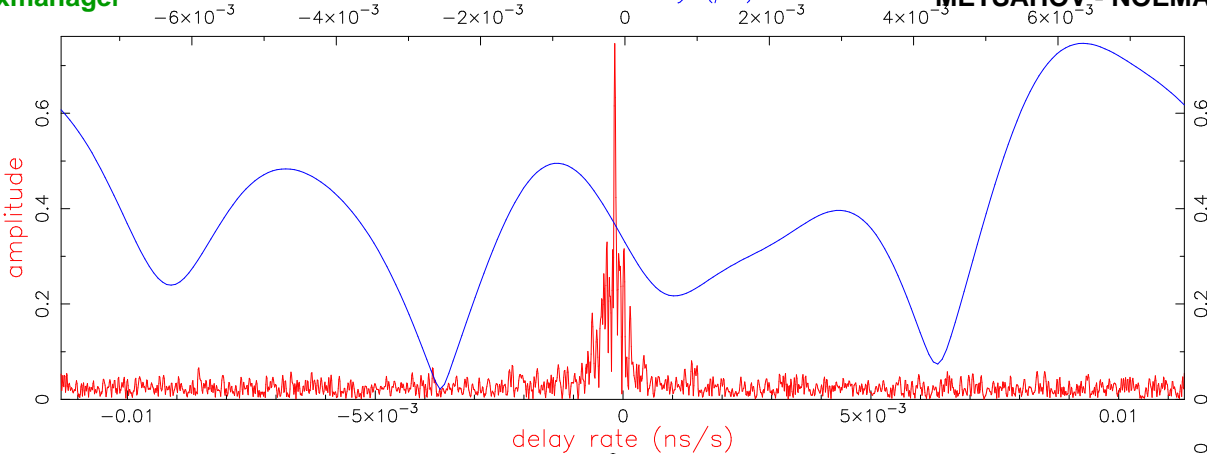
Amp. and Phase vs. time for each freq., 23 segs, 31 APs / seg (15.87 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -107.4 | -115.7 | -144.7 | -35.6 | 102.8 | -77.7 | -162.1 | -109.7 | Phase | -118.8 |
| | 0.8 | 1.3 | 1.8 | 0.9 | 1.1 | 1.4 | 1.0 | 0.7 | Ampl. | 1.1 |
| | 256.6 | 253.7 | 254.1 | 253.0 | 253.5 | 253.9 | 253.7 | 254.9 | Sbd box | 254.3 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| N:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Manl PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| X | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.41472649011E+03 | | Apriori delay (usec) | | -1.41470862712E+03 | | Resid mbdelay (usec) | | -2.23799E-03 | +/- 3.1E-05 |
| Sband delay (usec) | -1.41471931487E+03 | | Apriori clock (usec) | | -6.9625290E+01 | | Resid sbdelay (usec) | | -1.06877E-02 | +/- 2.5E-04 |
| Phase delay (usec) | -1.41470863095E+03 | | Apriori clockrate (us/s) | | 8.7260000E-06 | | Resid phdelay (usec) | | -3.83206E-06 | +/- 1.1E-07 |
| Delay rate (us/s) | -2.06382578657E-01 | | Apriori rate (us/s) | | -2.06382663360E-01 | | Resid rate (us/s) | | 8.47031E-08 | +/- 5.1E-10 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -3.48134915832E-06 | | Resid phase (deg) | | -118.8 | +/- 3.3 |

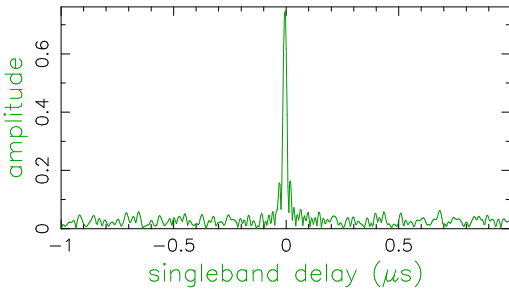
ph/seg (deg) 64.6 7.9 Search (2048X32) 0.642 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 58.2 13.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 71.3 4.7 Inc. seg. avg. 0.972 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 81.4 8.1 Inc. frq. avg. 1.100 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 N: az 304.9 el 26.0 pa 55.2 X: az 302.8 el 30.0 pa 37.6 u,v (fr/asec) 1591.574 -1185.824 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/NX..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/NX.W.381.1W5ADF

multiband delay (μ s)

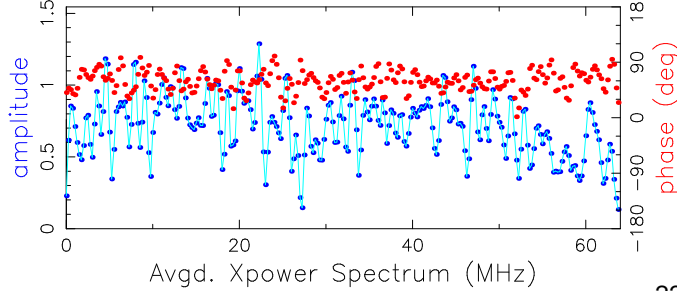


Fringe quality 3

SNR 38.7
 Int time 345.796
 Amp 0.761
 Phase -77.4
 PFD 0.0e+00
 Delays (us)
 SBD -0.005673
 MBD 0.006315
 Fringe rate (Hz)
 -0.013998
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

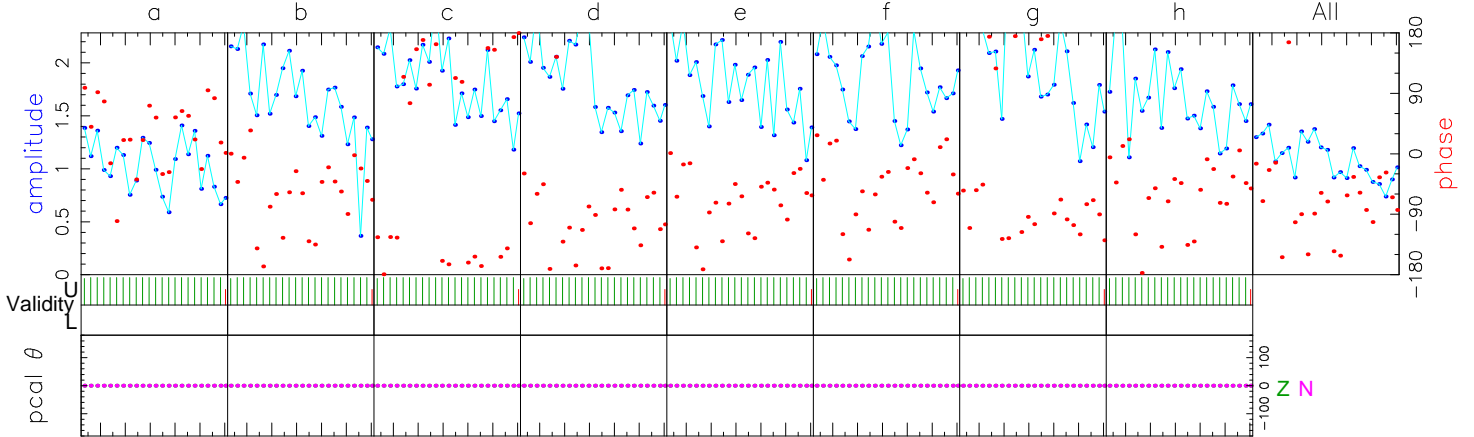


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134513.31
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135525
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 30 APs / seg (15.36 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | 39.9 | -55.1 | 175.8 | -102.7 | -67.7 | -41.1 | -109.2 | -51.2 | Phase | -77.4 |
| | 0.7 | 1.1 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 | 1.1 | Ampl. | 1.2 |
| | 253.4 | 254.5 | 255.2 | 255.6 | 255.7 | 255.8 | 255.6 | 254.9 | Sbd box | 255.5 |
| U/L | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | APs used | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.23512564521E+02 | Apriori delay (usec) | 2.23521874910E+02 | Resid mbdelay (usec) | 6.31461E-03 | +/- | 2.8E-05 |
| Sband delay (usec) | 2.23516201910E+02 | Apriori clock (usec) | 1.2501205E+01 | Resid sbdelay (usec) | -5.67300E-03 | +/- | 2.2E-04 |
| Phase delay (usec) | 2.23521872413E+02 | Apriori clockrate (us/s) | -9.2380001E-06 | Resid phdelay (usec) | -2.49665E-06 | +/- | 9.5E-08 |
| Delay rate (us/s) | 2.90223146557E-01 | Apriori rate (us/s) | 2.90223309064E-01 | Resid rate (us/s) | -1.62508E-07 | +/- | 4.8E-10 |
| Total phase (deg) | 32.3 | Apriori accel (us/s/s) | 1.14580098046E-05 | Resid phase (deg) | -77.4 | +/- | 3.0 |

| | | | | | | | | | | |
|--------------|------|-----|------|------------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 49.1 | RMS | 7.1 | Theor. | 0.761 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 50.4 | | 12.4 | Search (2048X32) | 0.730 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 70.0 | | 4.2 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 62.3 | | 7.3 | Inc. seg. avg. | 1.086 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | |
| | | | | Inc. frq. avg. | 1.187 | Data rate (Mb/s): | 2048 | ion window (TEC) | 0.00 0.00 | |

Z: az 310.2 el 26.5 pa 31.4 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -2225.579 1933.356 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/ZN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/ZN.W.349.1W5ADF

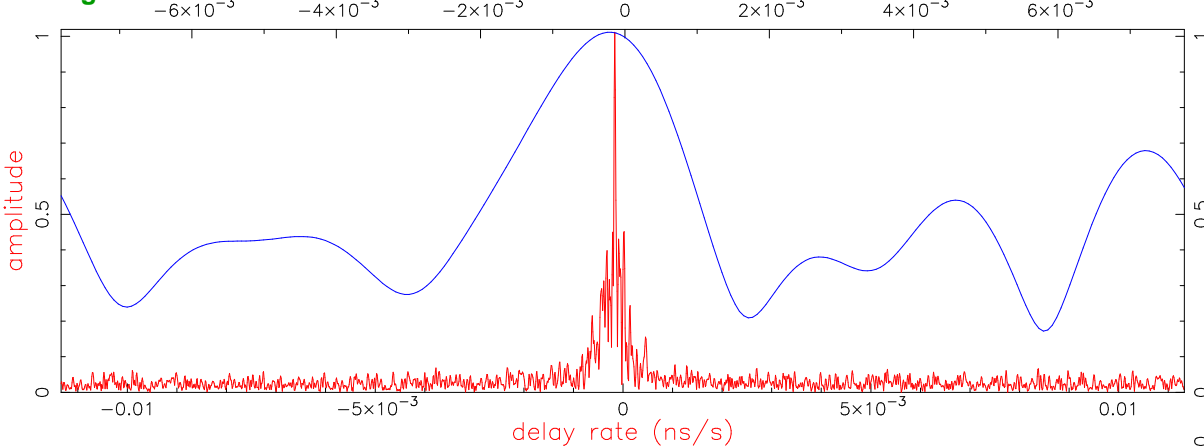
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, ZN

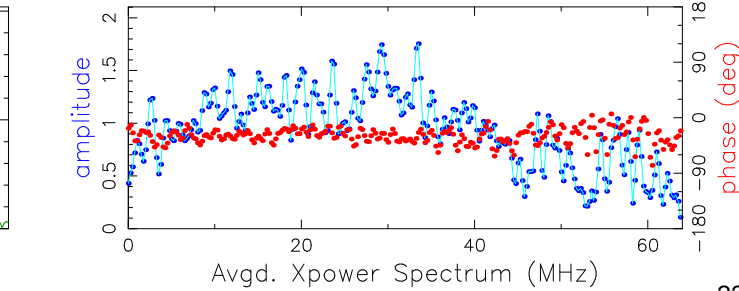
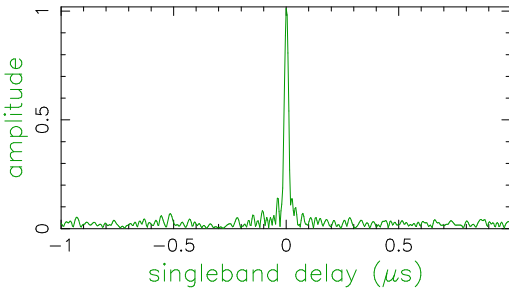
METSAHOV - NOEMA, fgroup W, pol RR

multiband delay (μ s)



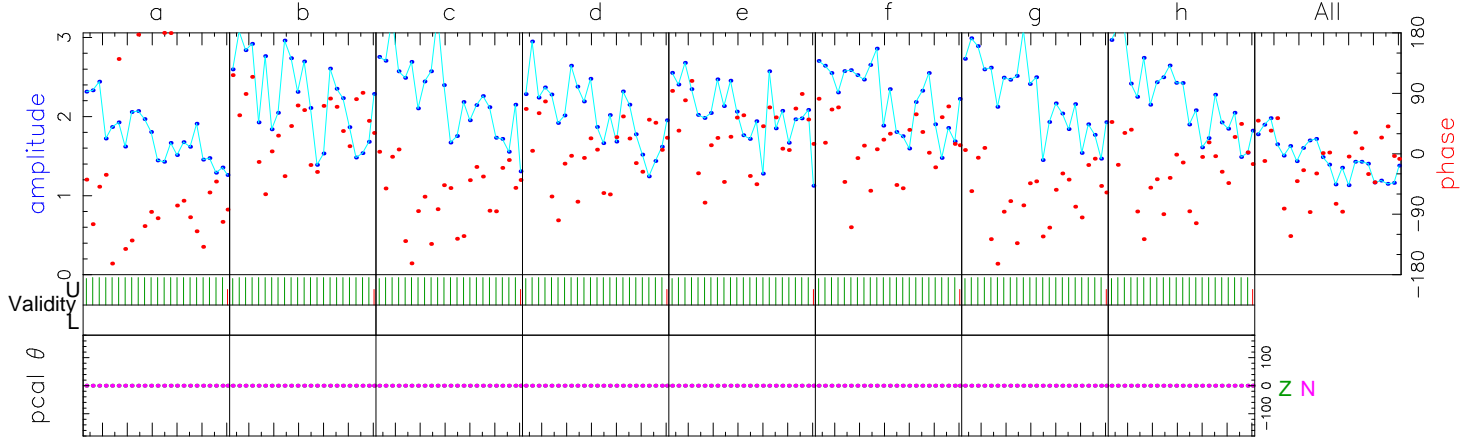
Fringe quality 1

SNR 51.8
 Int time 345.796
 Amp 1.020
 Phase -14.1
 PFD 0.0e+00
 Delays (us)
 SBD 0.001237
 MBD -0.000234
 Fringe rate (Hz)
 -0.014015
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Yr:day 16383
 Start 2021:114
 Stop 2021:114
 FRT 134513.31
 135059.94
 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135529
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 30 APs / seg (15.36 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
| | -105.6 | 46.5 | -60.6 | 4.3 | 35.0 | 13.6 | -59.6 | -20.7 | Phase | -14.1 |
| | 1.1 | 1.5 | 1.5 | 1.4 | 1.4 | 1.6 | 1.6 | 1.5 | Ampl. | 1.5 |
| | 255.4 | 257.0 | 257.5 | 258.0 | 258.1 | 257.9 | 257.8 | 256.9 | Sbd box | 257.3 |
| U/L | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | APs used | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 2.23521640865E+02 | | Apriori delay (usec) | | 2.23521874910E+02 | | Resid mbdelay (usec) | | -2.34045E-04 | +/- 2.1E-05 |
| Sband delay (usec) | 2.23523112160E+02 | | Apriori clock (usec) | | 1.2501205E+01 | | Resid sbdelay (usec) | | 1.23725E-03 | +/- 1.7E-04 |
| Phase delay (usec) | 2.23521874456E+02 | | Apriori clockrate (us/s) | | -9.2380001E-06 | | Resid phdelay (usec) | | -4.53932E-07 | +/- 7.1E-08 |
| Delay rate (us/s) | 2.90223146360E-01 | | Apriori rate (us/s) | | 2.90223309064E-01 | | Resid rate (us/s) | | -1.62705E-07 | +/- 3.6E-10 |
| Total phase (deg) | 95.6 | | Apriori accel (us/s/s) | | 1.14580098046E-05 | | Resid phase (deg) | | -14.1 | +/- 2.2 |

| | RMS | Theor. | Amplitude | 1.020 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|-----------------------------|-----------------------------|--------|----------------------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 47.6 | 5.3 | Search (2048X32) | 0.979 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 50.0 | 9.2 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled |
| ph/frq (deg) | 57.5 | 3.1 | Inc. seg. avg. | 1.461 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 46.2 | 5.5 | Inc. frq. avg. | 1.468 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |
| Z: az 310.2 el 26.5 pa 31.4 | N: az 304.9 el 26.0 pa 55.2 | | u,v (fr/asec) -2225.579 1933.356 | | simultaneous interpolator | |

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/ZN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/ZN.W.372.1W5ADF

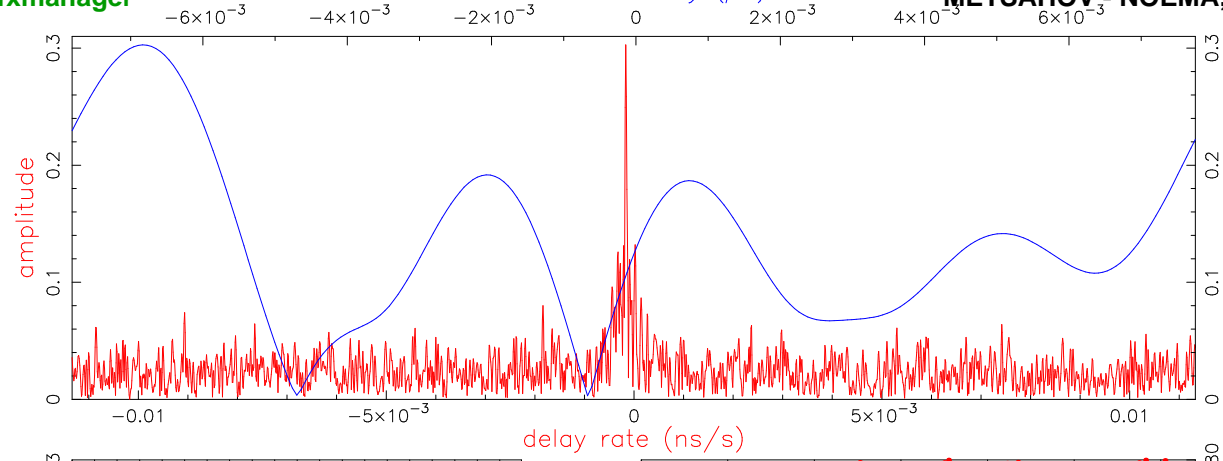
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W5ADF, No0245, ZN

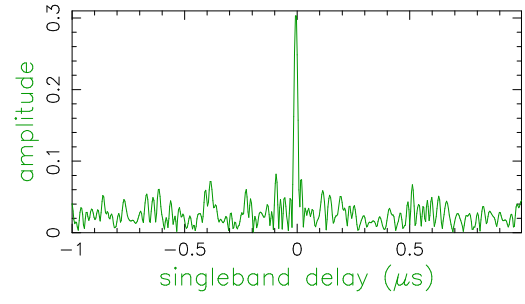
METSAHOV - NOEMA, fgroup W, pol LR

multiband delay (μ s)

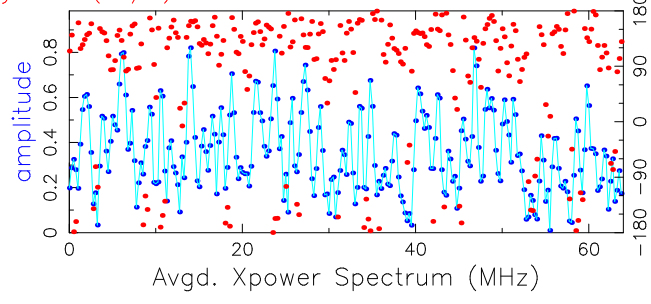


Fringe quality 7

SNR 15.8
 Int time 345.796
 Amp 0.310
 Phase 156.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.005877
 MBD -0.006813
 Fringe rate (Hz)
 -0.013993
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

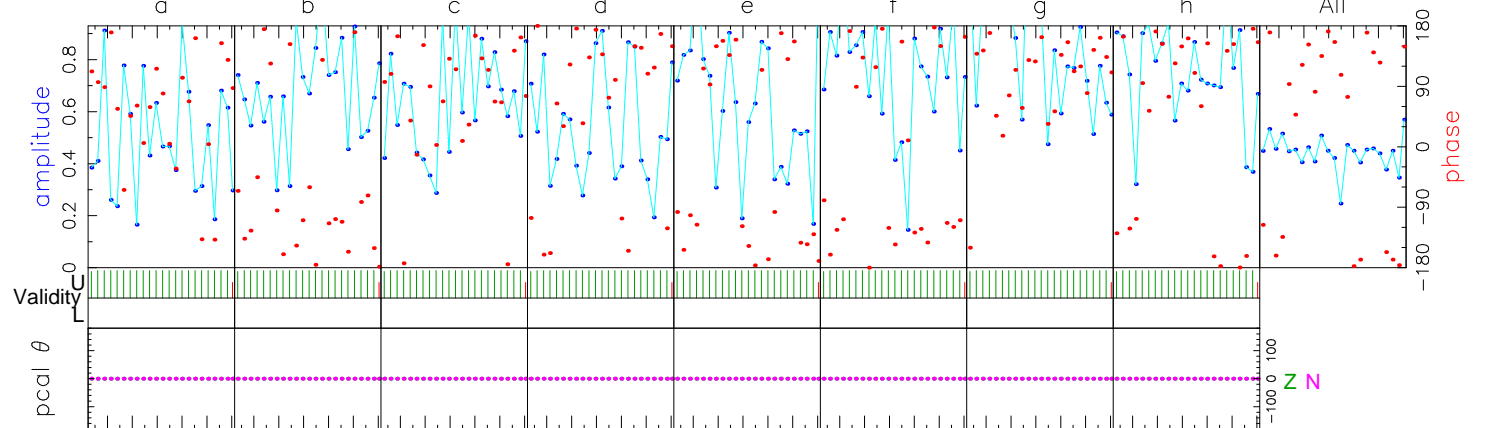


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 134513.31
 Stop 135059.94
 FRT 134800.00
 Corr/FF/build
 2021:286:102153
 2021:286:135532
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 30 APs / seg (15.36 sec / seg.), time ticks 30 sec

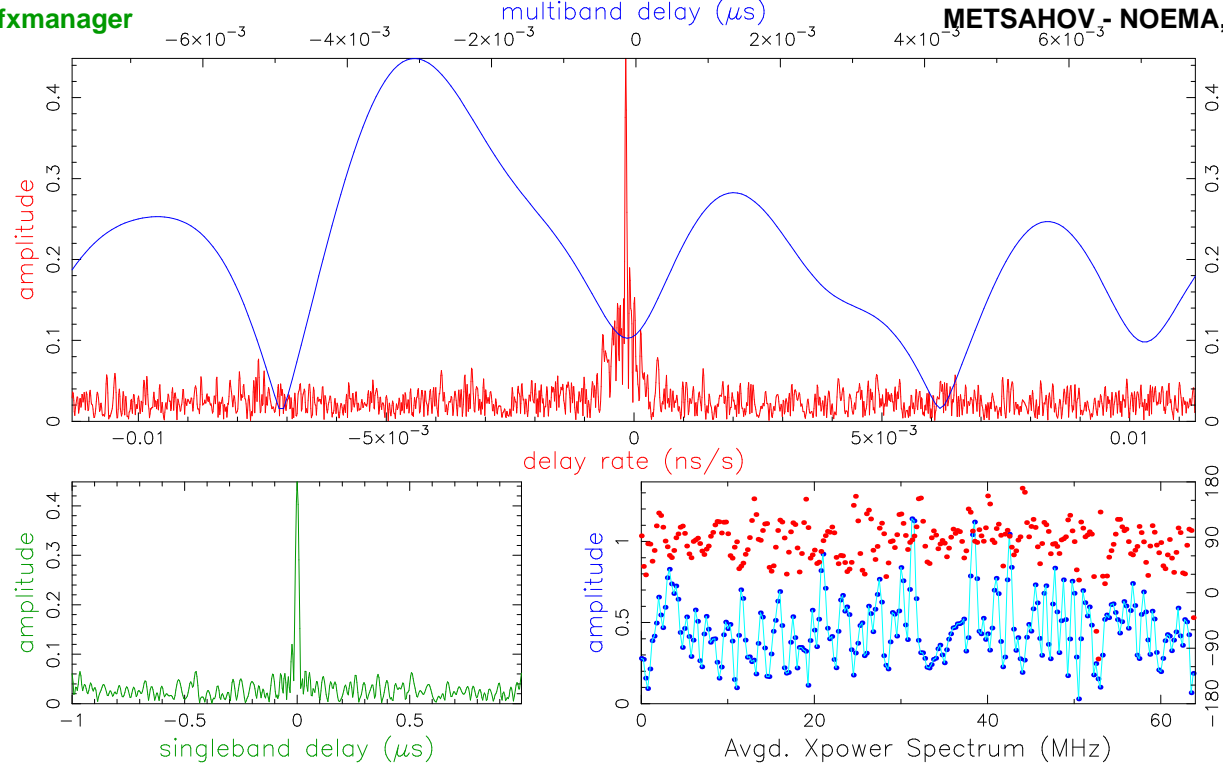


| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-----|
| U/L | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| N | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | |
|-------------------------|-------------------|--------------------------|-------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 2.23515061802E+02 | Apriori delay (usec) | 2.23521874910E+02 | Resid mbdelay (usec) | -6.81311E-03 | +/- | 6.9E-05 |
| Sband delay (usec) | 2.23515997910E+02 | Apriori clock (usec) | 1.2501205E+01 | Resid sbdelay (usec) | -5.87700E-03 | +/- | 5.5E-04 |
| Phase delay (usec) | 2.23521879947E+02 | Apriori clockrate (us/s) | -9.2380001E-06 | Resid phdelay (usec) | 5.03688E-06 | +/- | 2.3E-07 |
| Delay rate (us/s) | 2.90223146625E-01 | Apriori rate (us/s) | 2.90223309064E-01 | Resid rate (us/s) | -1.62440E-07 | +/- | 1.2E-09 |
| Total phase (deg) | 265.9 | Apriori accel (us/s/s) | 1.14580098046E-05 | Resid phase (deg) | 156.2 | +/- | 7.3 |

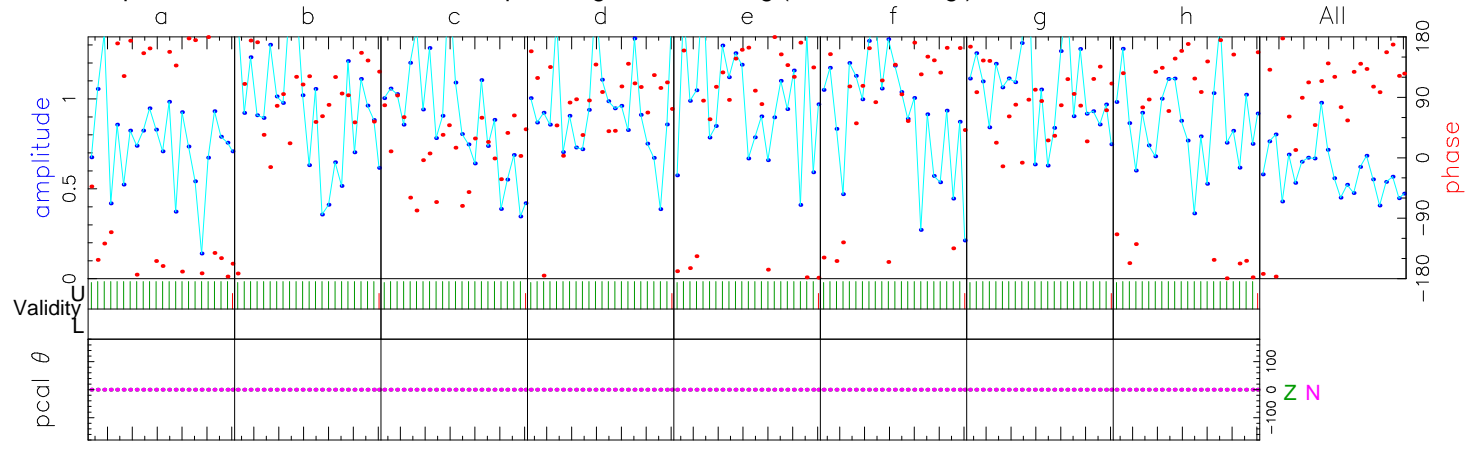
| | | | | | | | | | | | | | | |
|--------------|------|------------------|-------|-------------------|-------|--------------|-----------------------------|------------------------|----------------|------------------|--------|----------------|--------|-------|
| ph/seg (deg) | 49.0 | RMS | 17.4 | Theor. | 17.4 | Amplitude | 0.310 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 46.5 | Search (2048X32) | 0.296 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: | enabled | mb window (us) | -0.008 | 0.008 | | |
| ph/frq (deg) | 54.4 | Inc. seg. avg. | 0.421 | Inc. frq. avg. | 0.421 | Bits/sample: | 2x2 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 | 0.011 | | |
| amp/frq (%) | 48.0 | Inc. frq. avg. | 0.412 | Data rate (Mb/s): | 2048 | nlags: | 256 | t_cohere | infinite | ion window (TEC) | 0.00 | 0.00 | | |

Z: az 310.2 el 26.5 pa 31.4 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -2225.579 1933.356 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/ZN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/ZN.W.388.1W5ADF



Fringe quality 7
SNR 22.8
Int time 345.796
Amp 0.448
Phase 119.3
PFD 0.0e+00
Delays (us)
SBD -0.000144
MBD -0.003071
Fringe rate (Hz)
-0.013866
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 134513.31
Stop 135059.94
FRT 134800.00
Corr/FF/build
2021:286:102153
2021:286:135535
2021:252:122852
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 30 APs / seg (15.36 sec / seg.), time ticks 30 sec



| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|-------------------|----------|--------------------------|----------|-------------------|----------|----------------------|----------|--------------|-------------|
| | -170.0 | 100.4 | 13.1 | 97.3 | 143.1 | 140.5 | 81.6 | 157.3 | Phase | 119.3 |
| | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | Ampl. | 0.6 |
| | 255.0 | 256.8 | 256.9 | 257.4 | 257.4 | 257.2 | 256.9 | 256.1 | Sbd box | 257.0 |
| U/L | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | 677/0 | APs used | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| Z:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| Z | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 2.23518804240E+02 | | Apriori delay (usec) | | 2.23521874910E+02 | | Resid mbdelay (usec) | | -3.07067E-03 | +/- 4.8E-05 |
| Sband delay (usec) | 2.23521731160E+02 | | Apriori clock (usec) | | 1.2501205E+01 | | Resid sbdelay (usec) | | -1.43750E-04 | +/- 3.8E-04 |
| Phase delay (usec) | 2.23521878757E+02 | | Apriori clockrate (us/s) | | -9.2380001E-06 | | Resid phdelay (usec) | | 3.84728E-06 | +/- 1.6E-07 |
| Delay rate (us/s) | 2.90223148090E-01 | | Apriori rate (us/s) | | 2.90223309064E-01 | | Resid rate (us/s) | | -1.60974E-07 | +/- 8.1E-10 |
| Total phase (deg) | 229.0 | | Apriori accel (us/s/s) | | 1.14580098046E-05 | | Resid phase (deg) | | 119.3 | +/- 5.0 |

ph/seg (deg) 44.5 12.0 Search (2048X32) 0.428 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 45.6 21.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 59.2 7.1 Inc. seg. avg. 0.589 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 48.4 12.4 Inc. frq. avg. 0.650 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
Z: az 310.2 el 26.5 pa 31.4 N: az 304.9 el 26.0 pa 55.2 u,v (fr/asec) -2225.579 1933.356 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0245/ZN..1W5ADF Output file: /Exps/c211a/v2/1234/No0245/ZN.W.398.1W5ADF