

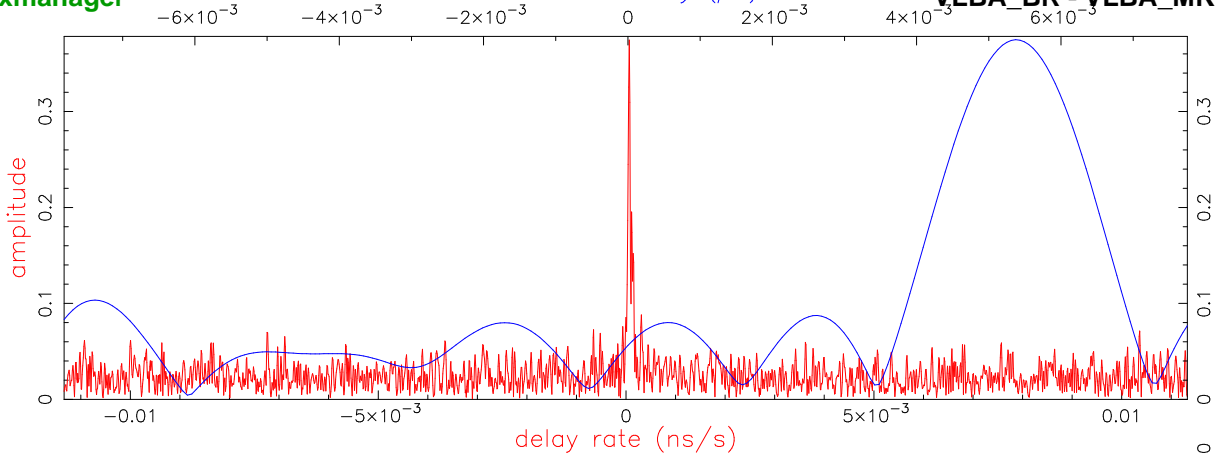
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, bm

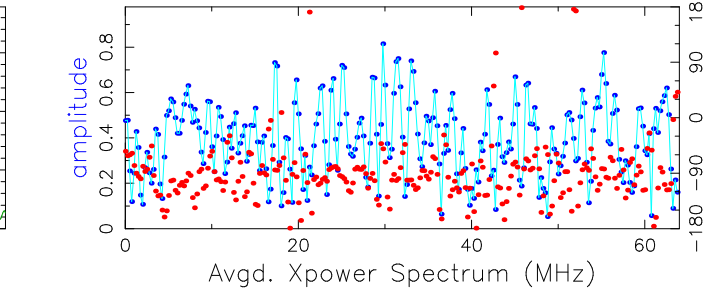
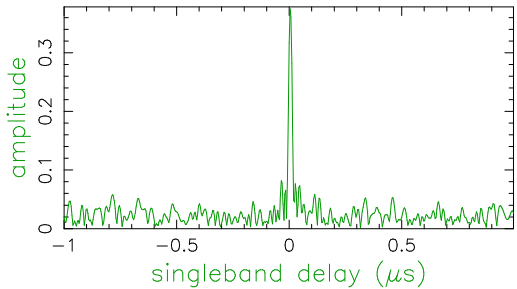
VLBA_BR - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)



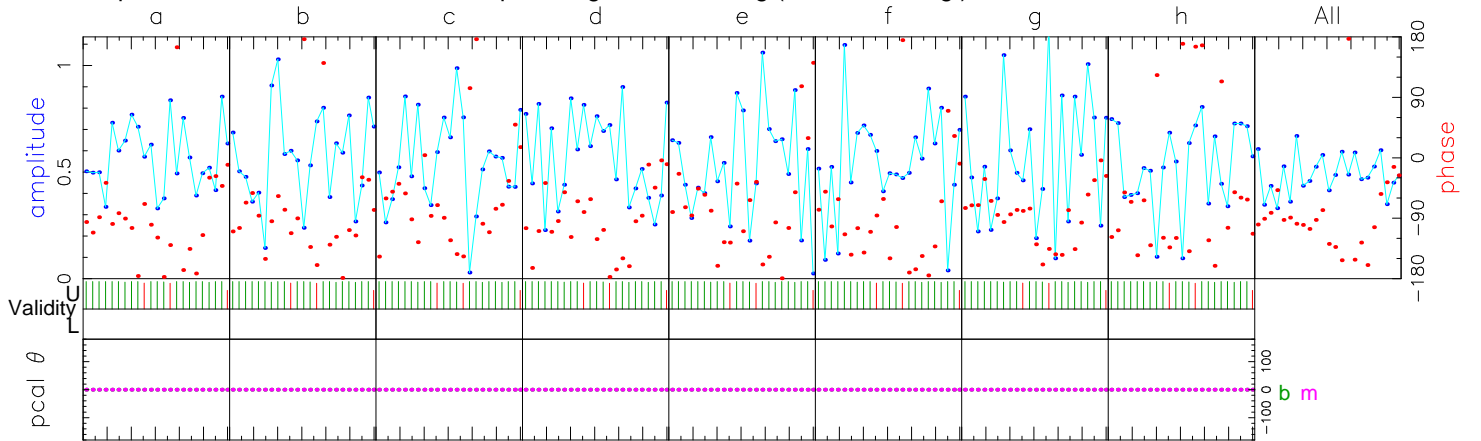
Fringe quality 9

SNR 19.5
 Int time 356.254
 Amp 0.378
 Phase -100.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.005147
 MBD 0.005417
 Fringe rate (Hz) 0.005743
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134829
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
| | -104.3 | -101.3 | -88.5 | -100.9 | -89.8 | -119.1 | -86.7 | -117.6 | Phase | -100.8 |
| | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | Ampl. | 0.4 |
| | 258.1 | 258.7 | 258.4 | 257.9 | 259.1 | 258.1 | 257.9 | 256.9 | Sbd box | 258.3 |
| U/L | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

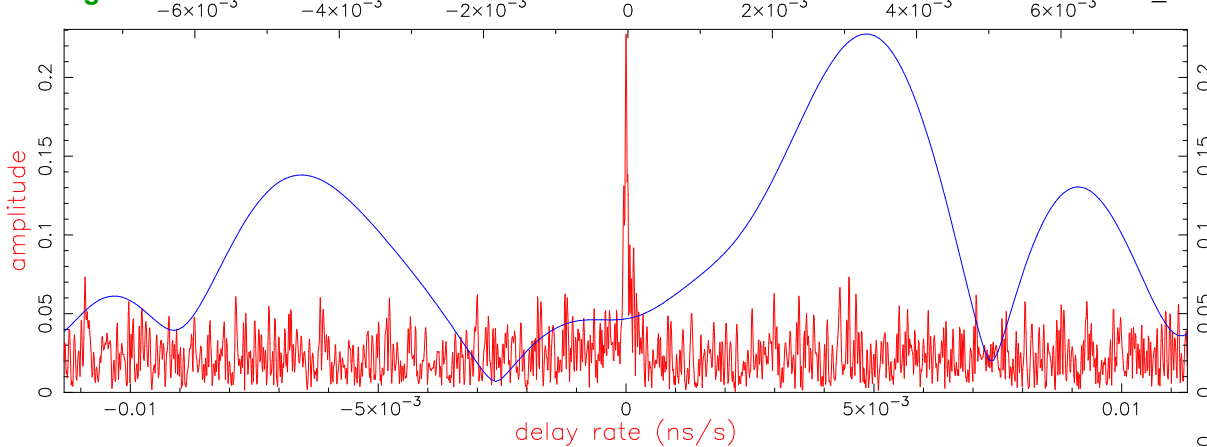
Group delay (usec)(sbd) 1.09288148265E+04 Apriori delay (usec) 1.09288094093E+04 Resid mbdelay (usec) 5.41725E-03 +/- 5.6E-05
 Sband delay (usec) 1.09288145563E+04 Apriori clock (usec) 0.374 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 Phase delay (usec) 1.09288094060E+04 Apriori clockrate (us/s) -4.1800000E-07 Resid sbdelay (usec) 5.14700E-03 +/- 4.4E-04
 Delay rate (us/s) -5.18678078561E-01 Apriori rate (us/s) -5.18678145230E-01 Resid phdelay (usec) -3.25150E-06 +/- 1.9E-07
 Total phase (deg) 84.4 Apriori accel (us/s/s) -2.73874625682E-05 Resid phase (deg) -100.8 +/- 9.1E-10

RMS Theor. Amplitude 0.378 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 41.9 14.1 Search (2048X32) 0.374 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 37.5 24.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 13.5 8.3 Inc. seg. avg. 0.473 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 9.4 14.5 Inc. frq. avg. 0.378 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

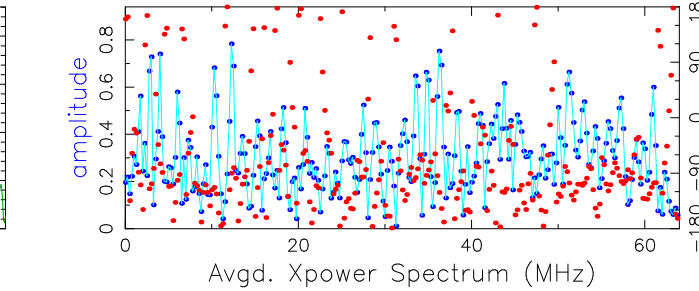
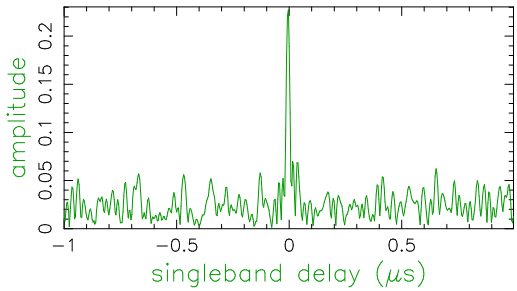
b: az 82.2 el 57.1 pa -63.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3966.774 635.156 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/bm.W.18.1W57LH

multiband delay (μ s)

Fringe quality 9

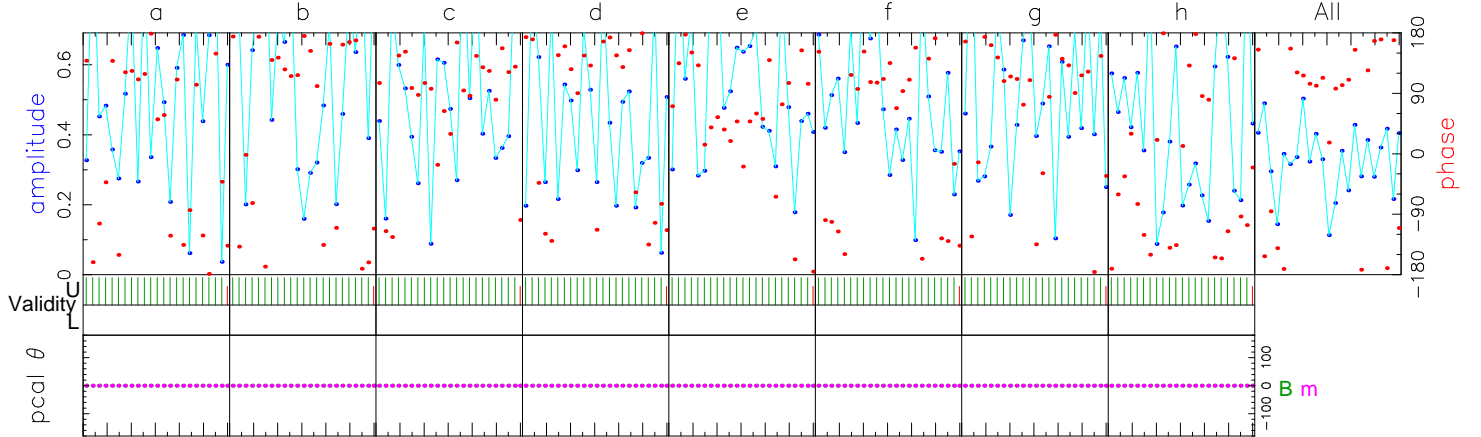


SNR 12.0
 Int time 359.916
 Amp 0.230
 Phase 151.1
 PFD 3.0e-24
 Delays (us)
 SBD -0.005338
 MBD 0.003256
 Fringe rate (Hz) 0.000024
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134832
 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



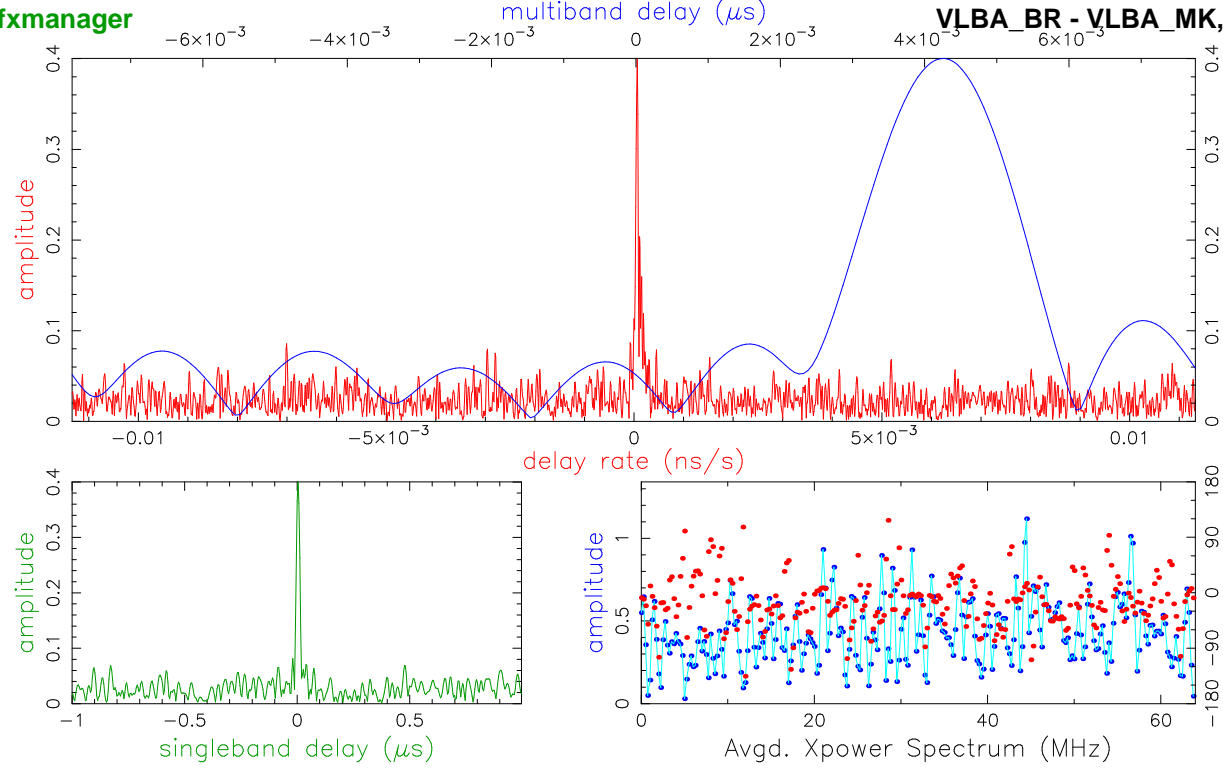
| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|--------------------------|----------|--------------------|----------|----------|-----------------------------|----------|----------|----------|--------------|-------------|
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| B:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | | 5.56189187789E+03 | | | 5.56190424692E+03 | | | | 3.25597E-03 | +/- 9.1E-05 |
| Sband delay (usec) | | 5.56189890942E+03 | | | -3.7724831E+01 | | | | -5.33750E-03 | +/- 7.2E-04 |
| Phase delay (usec) | | 5.56190425179E+03 | | | -3.1799999E-07 | | | | 4.87374E-06 | +/- 3.1E-07 |
| Delay rate (us/s) | | -1.78837744474E+00 | | | -1.78837744502E+00 | | | | 2.83423E-10 | +/- 1.5E-09 |
| Total phase (deg) | | | 89.8 | | 3.12476420372E-06 | | | | 151.1 | +/- 9.6 |
| Apriori delay (usec) | | | | | | | | | | |
| Apriori clock (usec) | | | | | | | | | | |
| Apriori clockrate (us/s) | | | | | | | | | | |
| Apriori rate (us/s) | | | | | | | | | | |
| Apriori accel (us/s/s) | | | | | | | | | | |
| RMS | 55.1 | 23.0 | | | 0.230 +/- 0.019 | | | | | |
| ph/seg (deg) | 60.1 | 40.1 | | | 0.000 | | | | | |
| amp/seg (%) | 50.0 | 13.6 | | | 0.304 | | | | | |
| ph/frq (deg) | 37.3 | 23.7 | | | 0.289 | | | | | |
| amp/frq (%) | | | | | | | | | | |
| Search (2048X32) | | | | | | | | | | |
| Interp. | | | | | | | | | | |
| Inc. seg. avg. | | | | | | | | | | |
| Inc. frq. avg. | | | | | | | | | | |
| PCal mode: | | | | | MANUAL, MANUAL | | | | | |
| PCal rate: | | | | | 0.000E+00, 0.000E+00 (us/s) | | | | | |
| Bits/sample: | | | | | 2x2 | | | | | |
| Sample rate (MSamp/s): | | | | | 128 | | | | | |
| Data rate (Mb/s): | | | | | 2048 | | | | | |
| PC period (AP's) | | | | | 5, 5 | | | | | |
| sb window (us) | | | | | | | | | -1.000 | 1.000 |
| mb window (us) | | | | | | | | | -0.008 | 0.008 |
| dr window (ns/s) | | | | | | | | | -0.011 | 0.011 |
| ion window (TEC) | | | | | | | | | 0.00 | 0.00 |

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, bm

VLBA_BR - VLBA_MK, fgroup W, pol RR

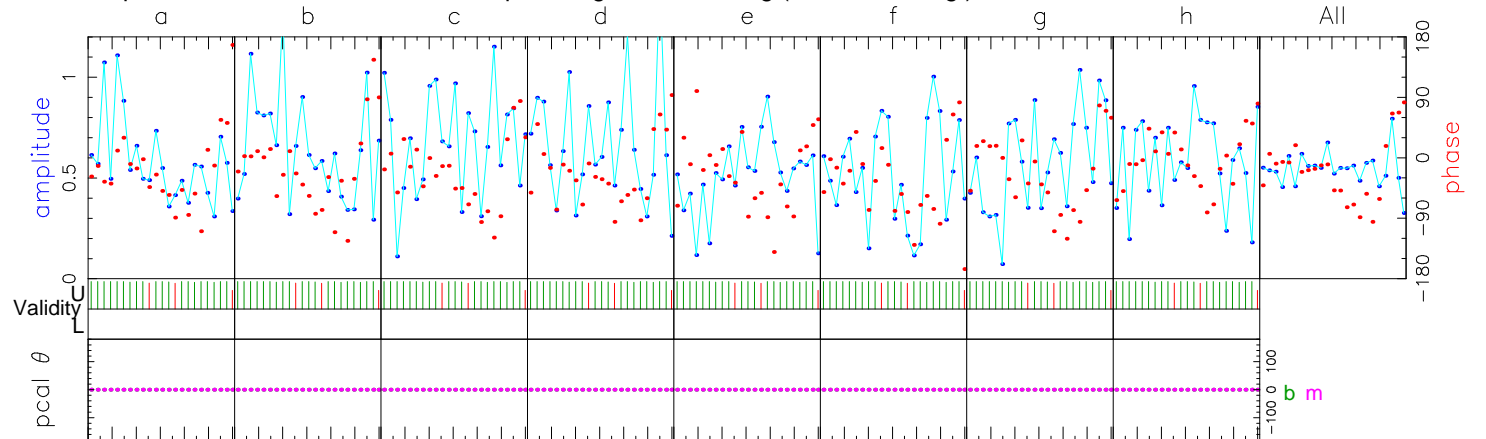


Fringe quality 9

SNR 20.7
 Int time 356.254
 Amp 0.400
 Phase -21.6
 PFD 0.0e+00
 Delays (us)
 SBD 0.003774
 MBD 0.004250
 Fringe rate (Hz) 0.005769
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134833
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -19.7 | -17.2 | -23.7 | -20.0 | -31.5 | -29.5 | -28.2 | -9.3 | Phase | -21.6 |
| | 0.4 | 0.4 | 0.5 | 0.5 | 0.3 | 0.3 | 0.4 | 0.4 | Ampl. | 0.4 |
| | 257.9 | 258.3 | 258.0 | 257.7 | 257.9 | 257.6 | 258.3 | 258.3 | Sbd box | 258.0 |
| U/L | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.09288136592E+04 | | Apriori delay (usec) | | 1.09288094093E+04 | | Resid mbdelay (usec) | | 4.24997E-03 | +/- 5.3E-05 |
| Sband delay (usec) | 1.09288131835E+04 | | Apriori clock (usec) | | -1.8636839E+01 | | Resid sbdelay (usec) | | 3.77425E-03 | +/- 4.2E-04 |
| Phase delay (usec) | 1.09288094086E+04 | | Apriori clockrate (us/s) | | -4.1800000E-07 | | Resid phdelay (usec) | | -6.97774E-07 | +/- 1.8E-07 |
| Delay rate (us/s) | -5.18678078255E-01 | | Apriori rate (us/s) | | -5.18678145230E-01 | | Resid rate (us/s) | | 6.69750E-08 | +/- 8.6E-10 |
| Total phase (deg) | 163.6 | | Apriori accel (us/s/s) | | -2.73874625682E-05 | | Resid phase (deg) | | -21.6 | +/- 5.5 |

ph/seg (deg) 45.6 13.3 Search (2048X32) 0.396 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 42.4 23.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 8.0 7.8 Inc. seg. avg. 0.534 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 14.3 13.7 Inc. frq. avg. 0.399 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 82.2 el 57.1 pa -63.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3966.774 635.156 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/bm.W.37.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

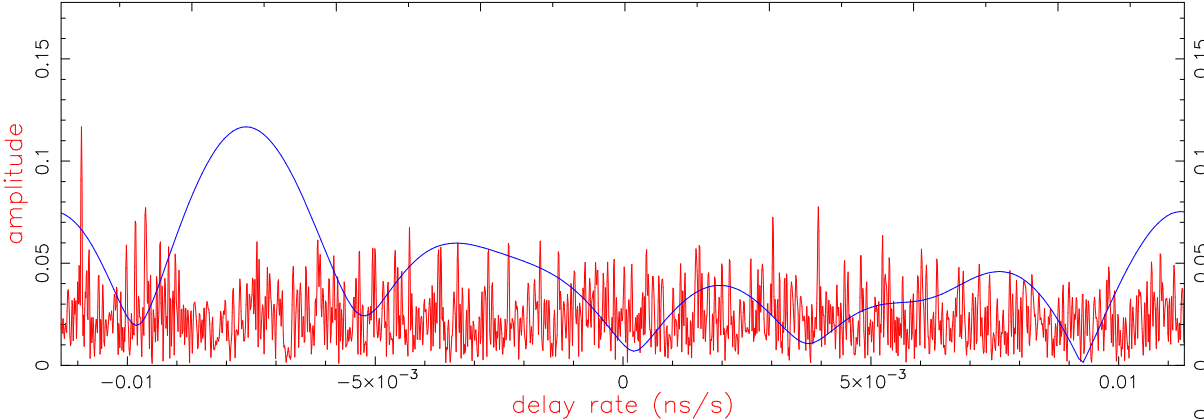
BLLAC.1W57LH, No0237, Bm

EFLSBERG - VLBA_MK, fgroup W, pol LR

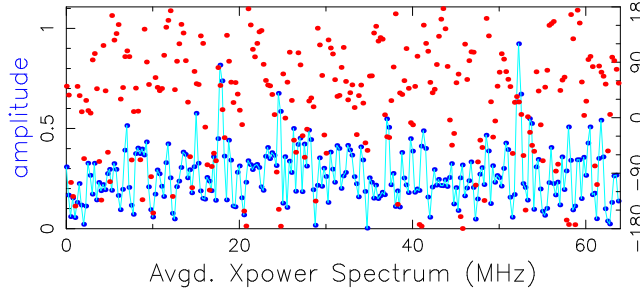
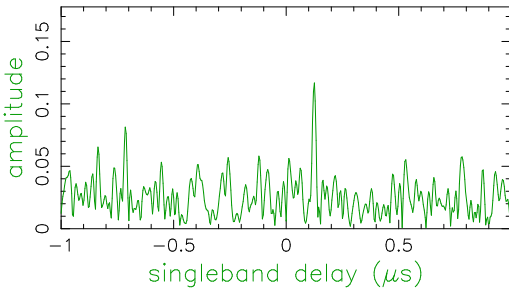
multiband delay (μ s)

-6×10^{-3} -4×10^{-3} -2×10^{-3} 0 2×10^{-3} 4×10^{-3} 6×10^{-3}

Fringe quality 0

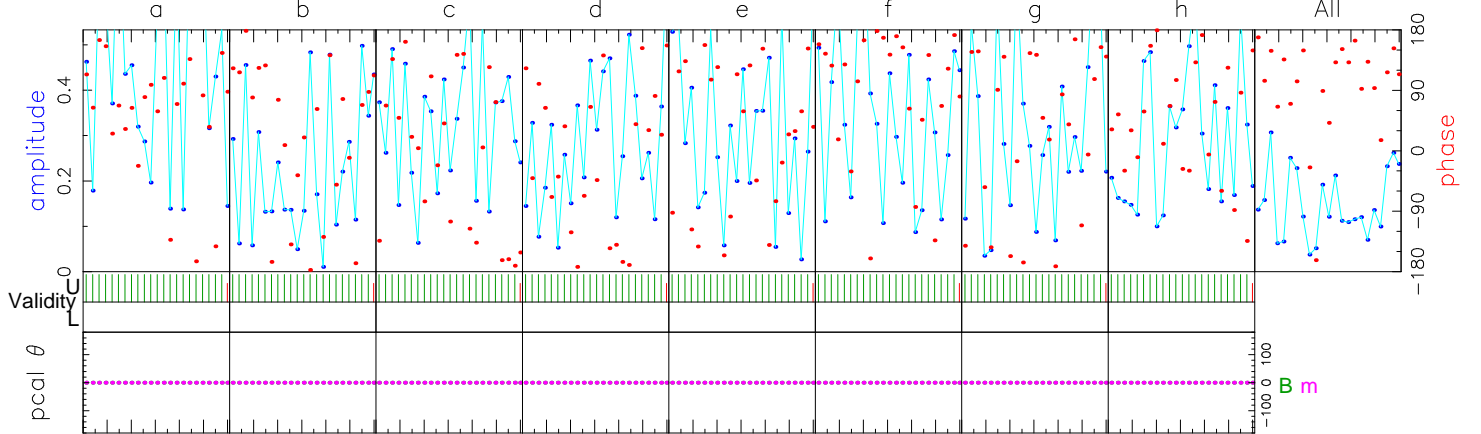


SNR 6.1
 Int time 359.916
 Amp 0.178
 Phase 117.9
 PFD 2.8e-01
 Delays (us)
 SBD 0.124329
 MBD -0.005280
 Fringe rate (Hz)
 -0.942333
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134835
 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 | | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| B:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | 5.56202396711E+03 | | Apriori delay (usec) | | 5.56190424692E+03 | | Resid mbdelay (usec) | | -5.27981E-03 | +/- 1.8E-04 |
| Sband delay (usec) | 5.56202857642E+03 | | Apriori clock (usec) | | -3.7724831E+01 | | Resid sbdelay (usec) | | 1.24329E-01 | +/- 1.4E-03 |
| Phase delay (usec) | 5.56190425072E+03 | | Apriori clockrate (us/s) | | -3.1799999E-07 | | Resid phdelay (usec) | | 3.80079E-06 | +/- 6.1E-07 |
| Delay rate (us/s) | -1.78838838458E+00 | | Apriori rate (us/s) | | -1.78837744502E+00 | | Resid rate (us/s) | | -1.09396E-05 | +/- 2.9E-09 |
| Total phase (deg) | 56.5 | | Apriori accel (us/s/s) | | 3.12476420372E-06 | | Resid phase (deg) | | 117.9 | +/- 18.9 |

| | RMS | Theor. | Amplitude | 0.178 +/- 0.029 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|----------------------------|------------------|--------|-------|
| ph/seg (deg) | 51.6 | 45.3 | Search (2048X32) | 0.114 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 68.6 | 79.0 | Interp. | 0.000 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 28.8 | 26.7 | Inc. seg. avg. | 0.172 | Data rate(Mb/s): 2048 | nlags: 256 | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 65.1 | 46.6 | Inc. frq. avg. | 0.173 | | | | | |

B: az 294.2 el 37.1 pa 51.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 13871.111 2861.991 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Bm.W.50.1W57LH

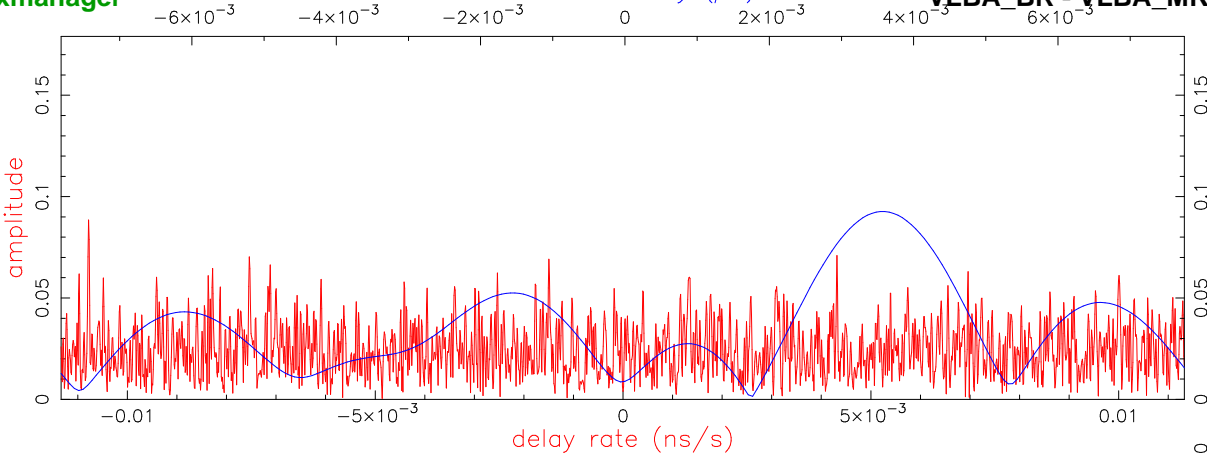
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, bm

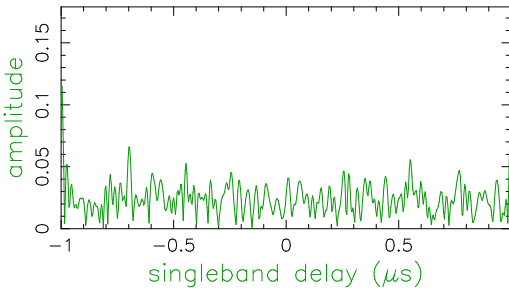
VLBA_BR - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

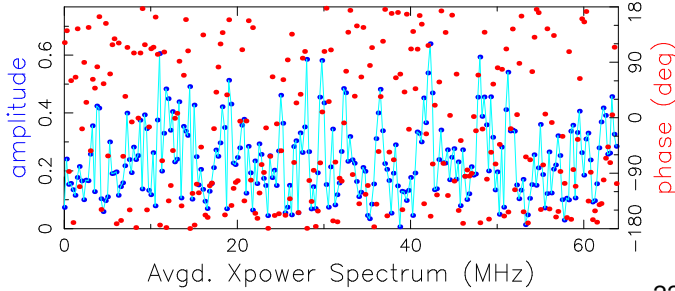


Fringe quality 0

SNR 6.2
 Int time 356.254
 Amp 0.179
 Phase 164.4
 PFD 1.7e-01
 Delays (us)
 SBD -0.998647
 MBD 0.003252
 Fringe rate (Hz)
 -0.929906
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

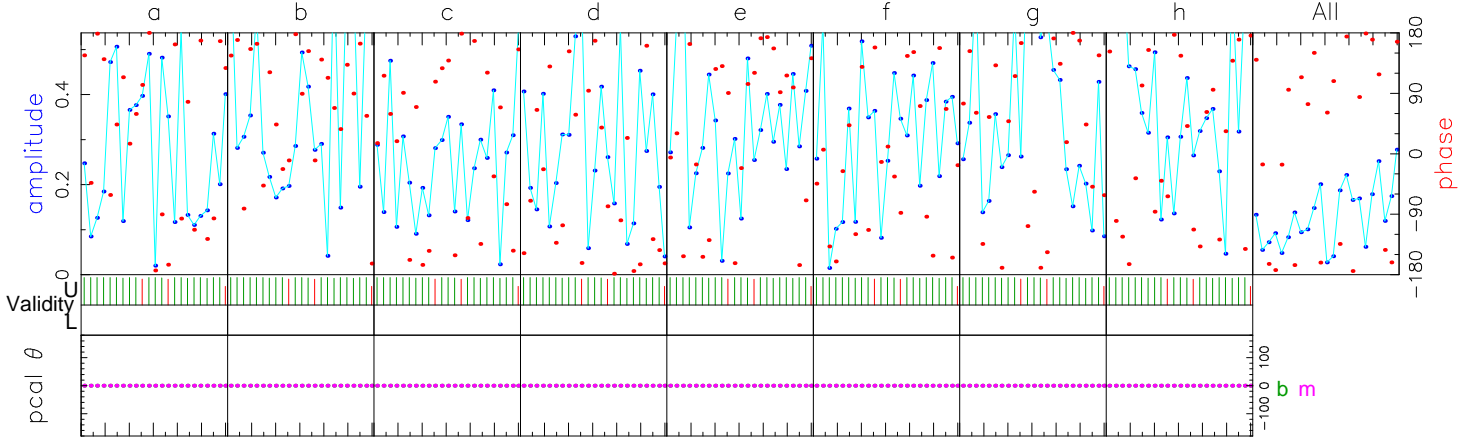


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134840
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -171.3 | 120.7 | 149.4 | -147.6 | 150.8 | -147.0 | 159.2 | -162.9 | Phase | 164.4 |
| | 0.1 | 0.3 | 0.1 | 0.2 | 0.2 | 0.0 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 126.2 | 398.2 | 119.4 | 370.7 | 442.2 | 436.4 | 222.0 | 1.4 | Sbd box | 1.3 |
| U/L | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

Group delay (usec)(sbd) 1.09278126611E+04 Apriori delay (usec) 1.09288094093E+04 Resid mbdelay (usec) 3.25180E-03 +/- 1.8E-04
 Sband delay (usec) 1.09278107623E+04 Apriori clock (usec) -1.8636839E+01 Resid sbdelay (usec) -9.98647E-01 +/- 1.4E-03
 Phase delay (usec) 1.09288094146E+04 Apriori clockrate (us/s) -4.180000E-07 Resid phdelay (usec) 5.30004E-06 +/- 6.0E-07
 Delay rate (us/s) -5.18688940521E-01 Apriori rate (us/s) -5.18678145230E-01 Resid rate (us/s) -1.07953E-05 +/- 2.9E-09
 Total phase (deg) 349.6 Apriori accel (us/s/s) -2.73874625682E-05 Resid phase (deg) 164.4 +/- 18.6

RMS Theor. Amplitude 0.179 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 71.4 44.5 Search (2048X32) 0.116 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 55.9 77.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 38.1 26.3 Inc. seg. avg. 0.150 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 44.9 45.9 Inc. frq. avg. 0.142 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

b: az 82.2 el 57.1 pa -63.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3966.774 635.156 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/bm.W.66.1W57LH

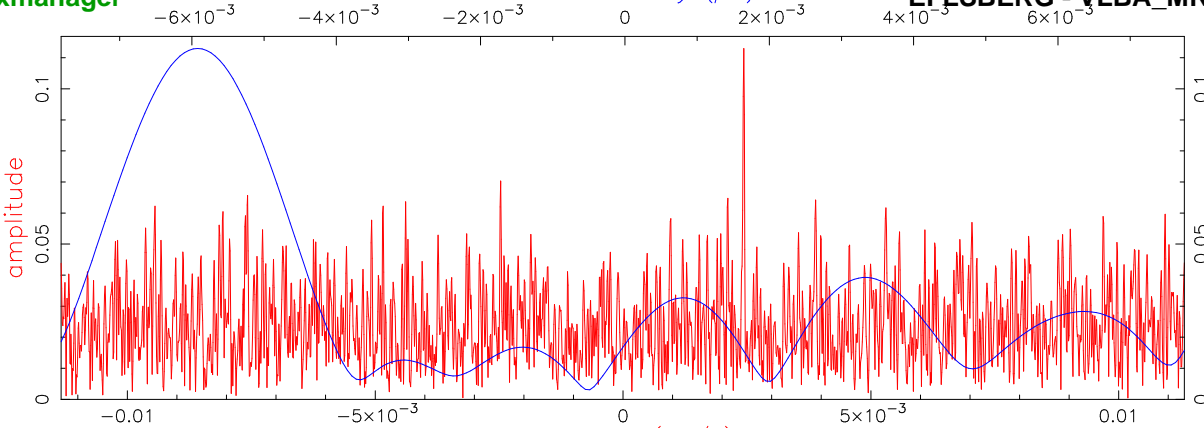
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Bm

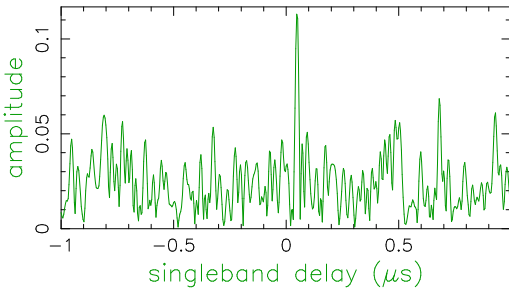
EFLSBERG - VLBA_MK, fgroup W, pol RL

multiband delay (μ s)

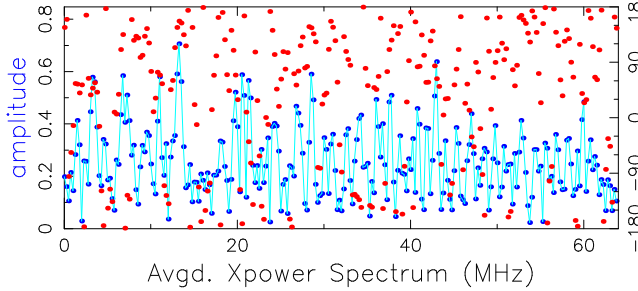


Fringe quality 0

SNR 5.9
Int time 359.916
Amp 0.117
Phase 21.1
PFD 5.0e-01
Delays (us)
SBD 0.048411
MBD -0.005892
Fringe rate (Hz)
0.210315
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

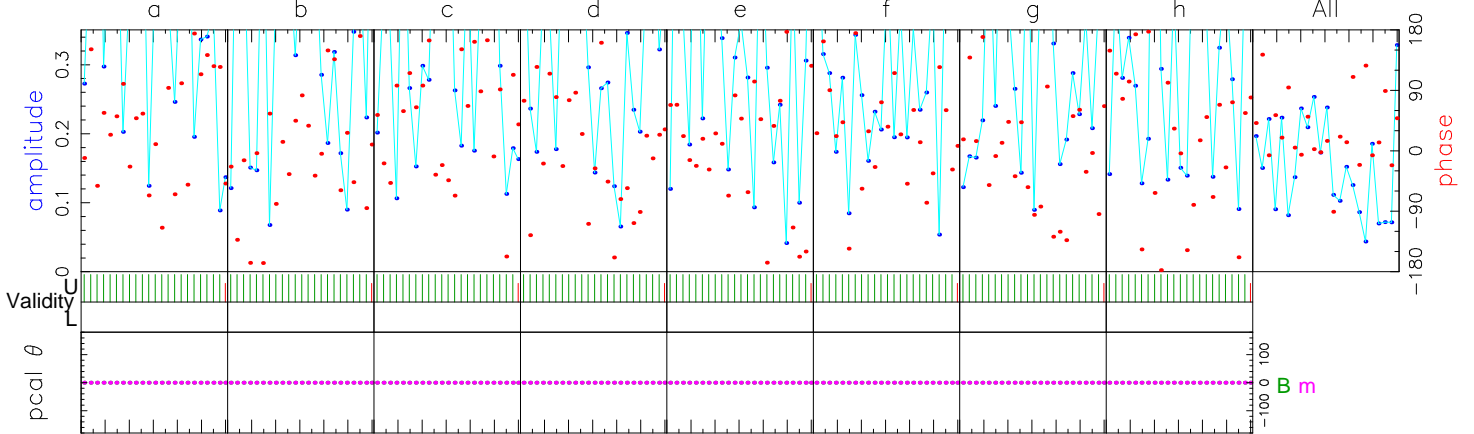


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 124500.00
Stop 125059.94
FRT 124816.00
Corr/FF/build
2021:286:092156
2021:286:134840
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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | 40.2 | -23.5 | 32.1 | 23.4 | 25.3 | 24.2 | -15.9 | 49.3 | Phase | 21.1 |
| | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 267.1 | 362.5 | 271.0 | 47.2 | 79.5 | 345.5 | 52.5 | 378.9 | Sbd box | 269.4 |
| 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| B:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| B:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.56194522987E+03 | Apriori delay (usec) | 5.56190424692E+03 | Resid mbdelay (usec) | -5.89205E-03 | +/- | 1.8E-04 |
| Sband delay (usec) | 5.56195265742E+03 | Apriori clock (usec) | -3.7724831E+01 | Resid sbdelay (usec) | 4.84105E-02 | +/- | 1.4E-03 |
| Phase delay (usec) | 5.56190424760E+03 | Apriori clockrate (us/s) | -3.1799999E-07 | Resid phdelay (usec) | 6.80519E-07 | +/- | 6.2E-07 |
| Delay rate (us/s) | -1.78837500347E+00 | Apriori rate (us/s) | -1.78837744502E+00 | Resid rate (us/s) | 2.44155E-06 | +/- | 3.0E-09 |
| Total phase (deg) | 319.8 | Apriori accel (us/s/s) | 3.12476420372E-06 | Resid phase (deg) | 21.1 | +/- | 19.3 |

| | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-------|--|-----------------|----------------------------|-------------------------------|
| ph/seg (deg) | 54.1 | RMS | 46.2 | Theor. | 54.1 | Amplitude | 0.117 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
| amp/seg (%) | 69.5 | Search (2048X32) | 0.109 | Interp. | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | SampCntNorm: enabled | sb window (us) -1.000 1.000 |
| ph/frq (deg) | 27.9 | Inc. seg. avg. | 0.117 | Inc. frq. avg. | 0.111 | Bits/sample: 2x2 | | Sample rate(MISamp/s): 128 | mb window (us) -0.008 0.008 |
| amp/frq (%) | 21.7 | Inc. frq. avg. | 0.111 | | | Sample rate(Mb/s): 2048 | | Data rate(Mb/s): 2048 | dr window (ns/s) -0.011 0.011 |
| | | | | | | nlags: 256 | | t_cohere infinite | ion window (TEC) 0.00 0.00 |

B: az 294.2 el 37.1 pa 51.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 13871.111 2861.991 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Bm.W.67.1W57LH

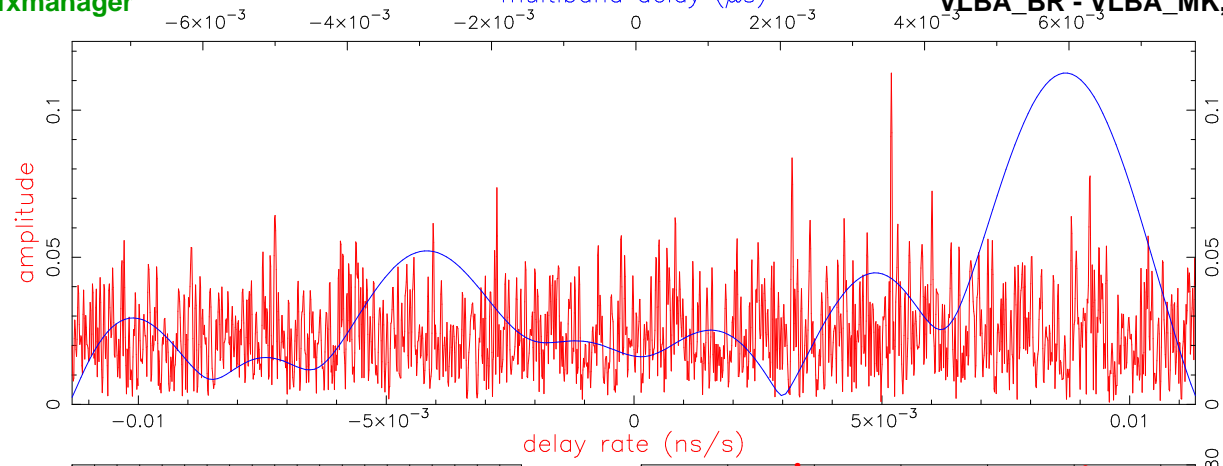
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, bm

VLBA_BR - VLBA_MK, fgroup W, pol RL

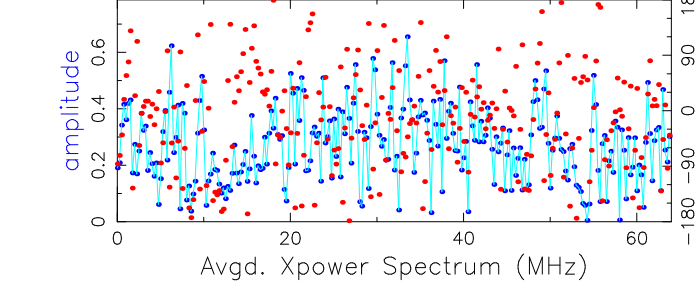
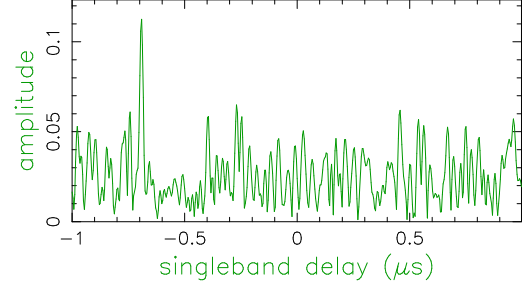
multiband delay (μ s)



Fringe quality 0

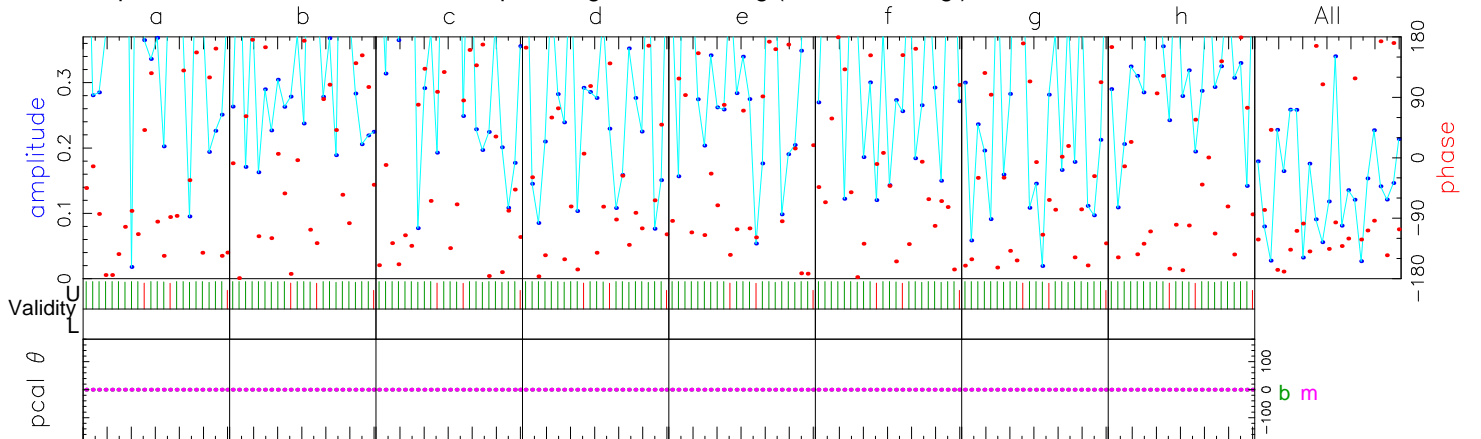
SNR 5.8
 Int time 356.254
 Amp 0.123
 Phase -133.5
 PFD 7.5e-01
 Delays (us)
 SBD -0.692140
 MBD 0.005926
 Fringe rate (Hz)
 0.447987
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134843
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -126.2 | -132.1 | -144.6 | -137.3 | -169.1 | -106.3 | -128.1 | -127.0 | Phase | -133.5 |
| | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 256.0 | 155.8 | 80.8 | 232.4 | 130.0 | 251.2 | 162.6 | 368.0 | Sbd box | 79.8 |
| U/L | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | 701/0 | APs used | |
| b | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| b:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| b:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| b | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.09281122106E+04 | | Apriori delay (usec) | | 1.09288094093E+04 | | Resid mbdelay (usec) | | 5.92633E-03 | +/- 1.9E-04 |
| Sband delay (usec) | 1.09281172693E+04 | | Apriori clock (usec) | | -1.8636839E+01 | | Resid sbdelay (usec) | | -6.92140E-01 | +/- 1.5E-03 |
| Phase delay (usec) | 1.09288094050E+04 | | Apriori clockrate (us/s) | | -4.1800000E-07 | | Resid phdelay (usec) | | -4.30655E-06 | +/- 6.3E-07 |
| Delay rate (us/s) | -5.18672944546E-01 | | Apriori rate (us/s) | | -5.18678145230E-01 | | Resid rate (us/s) | | 5.20068E-06 | +/- 3.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -2.73874625682E-05 | | Resid phase (deg) | | -133.5 | +/- 19.7 |

ph/seg (deg) 58.7 47.1 Search (2048X32) 0.110 Pcd mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 76.5 82.1 Interp. 0.000 Pcd rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 19.5 27.8 Inc. seg. avg. 0.119 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 41.0 48.5 Inc. frq. avg. 0.114 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 b: az 82.2 el 57.1 pa -63.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3966.774 635.156 ion window (TEC) 0.00 0.00 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/bm.W.80.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

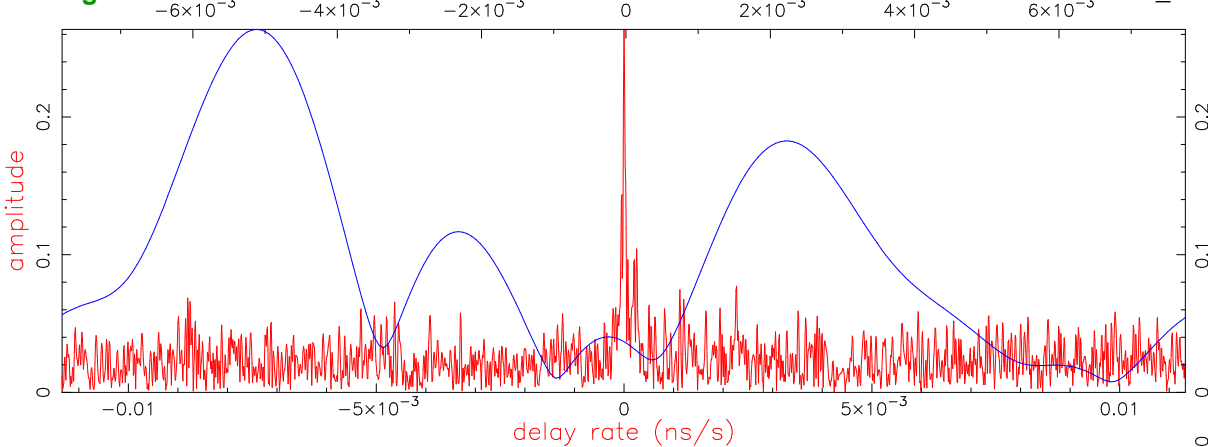
fxmanager

BLLAC.1W57LH, No0237, Bm

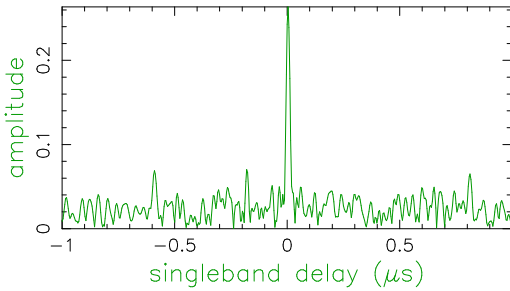
EFLSBERG - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)

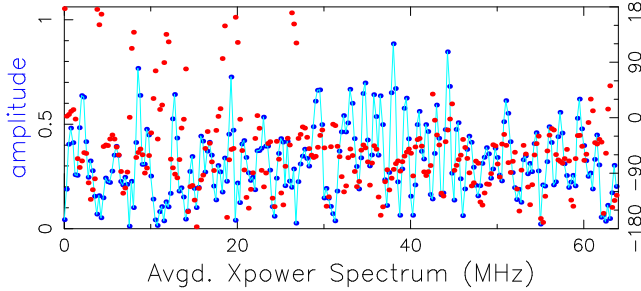
Fringe quality 9



SNR 13.7
 Int time 359.916
 Amp 0.264
 Phase 36.0
 PFD 8.1e-34
 Delays (us)
 SBD 0.003711
 MBD -0.005120
 Fringe rate (Hz)
 0.000125
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

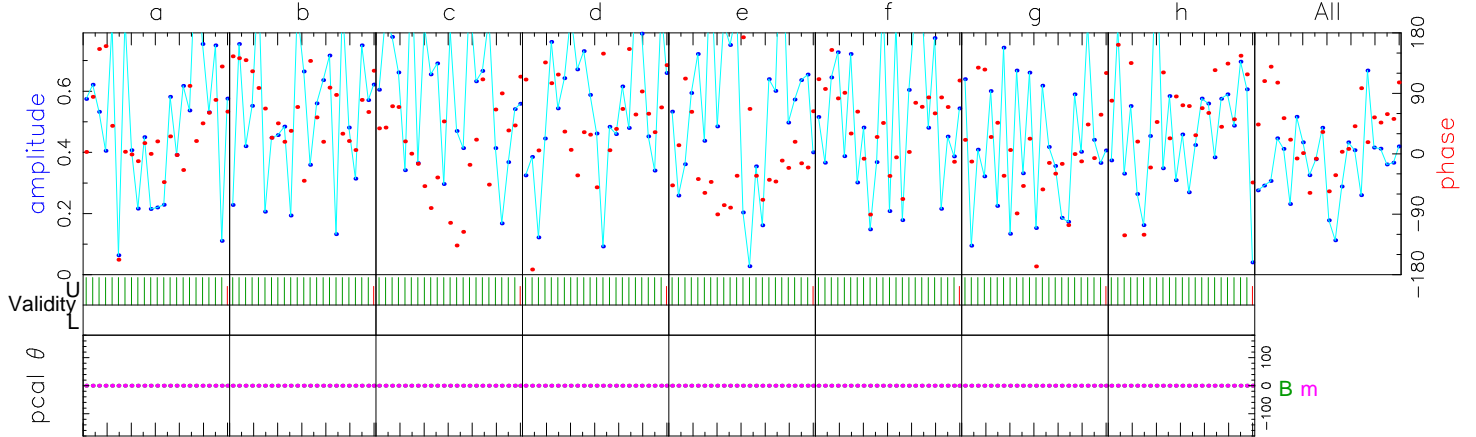


delay rate (ns/s)



Exp. c211a
 Yr:day 16383
 Start 2021:114
 Stop 2021:114
 FRT 124500.00
 125059.94
 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134828
 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 | | |
| B | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| B:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| B | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 5.56191475167E+03 | Apriori delay (usec) | 5.56190424692E+03 | Resid mbdelay (usec) | -5.12025E-03 | +/- | 7.9E-05 |
| Sband delay (usec) | 5.56190795842E+03 | Apriori clock (usec) | -3.7724831E+01 | Resid sbdelay (usec) | 3.71150E-03 | +/- | 6.3E-04 |
| Phase delay (usec) | 5.56190424808E+03 | Apriori clockrate (us/s) | -3.1799999E-07 | Resid phdelay (usec) | 1.16210E-06 | +/- | 2.7E-07 |
| Delay rate (us/s) | -1.78837744357E+00 | Apriori rate (us/s) | -1.78837744502E+00 | Resid rate (us/s) | 1.45396E-09 | +/- | 1.3E-09 |
| Total phase (deg) | 334.7 | Apriori accel (us/s/s) | 3.12476420372E-06 | Resid phase (deg) | 36.0 | +/- | 8.4 |

| | | | | | | | | | | |
|--------------|------|------|------------------|-------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | 50.1 | 20.1 | Search (2048X32) | 0.257 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 58.5 | 35.1 | 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) | 42.5 | 11.8 | Inc. seg. avg. | 0.344 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 31.4 | 20.7 | Inc. frq. avg. | 0.324 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

B: az 294.2 el 37.1 pa 51.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 13871.111 2861.991 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Bm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Bm.W.9.1W57LH

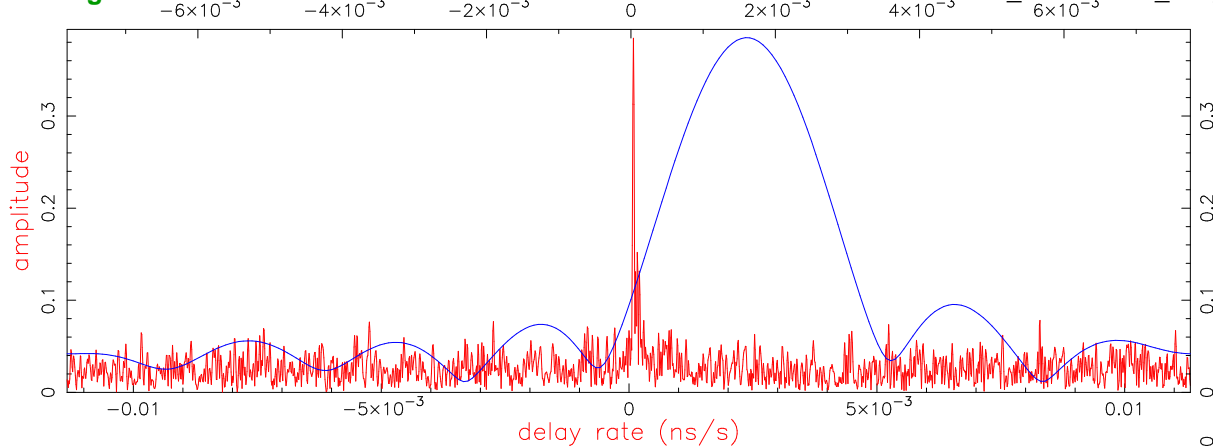
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, fm

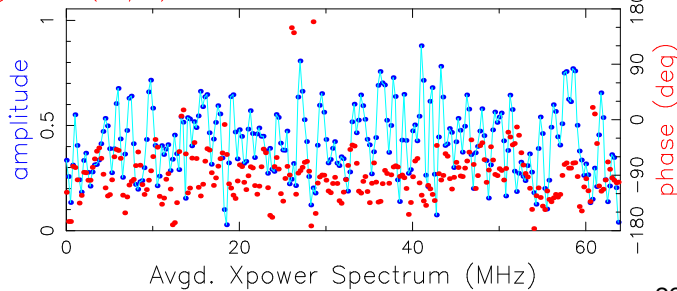
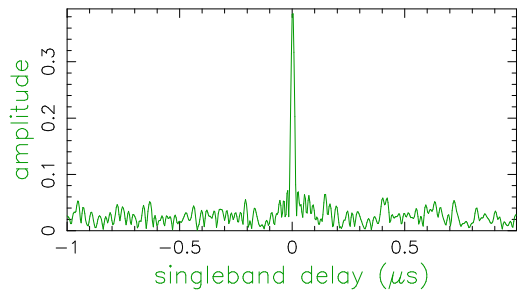
VLBA_FD - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)



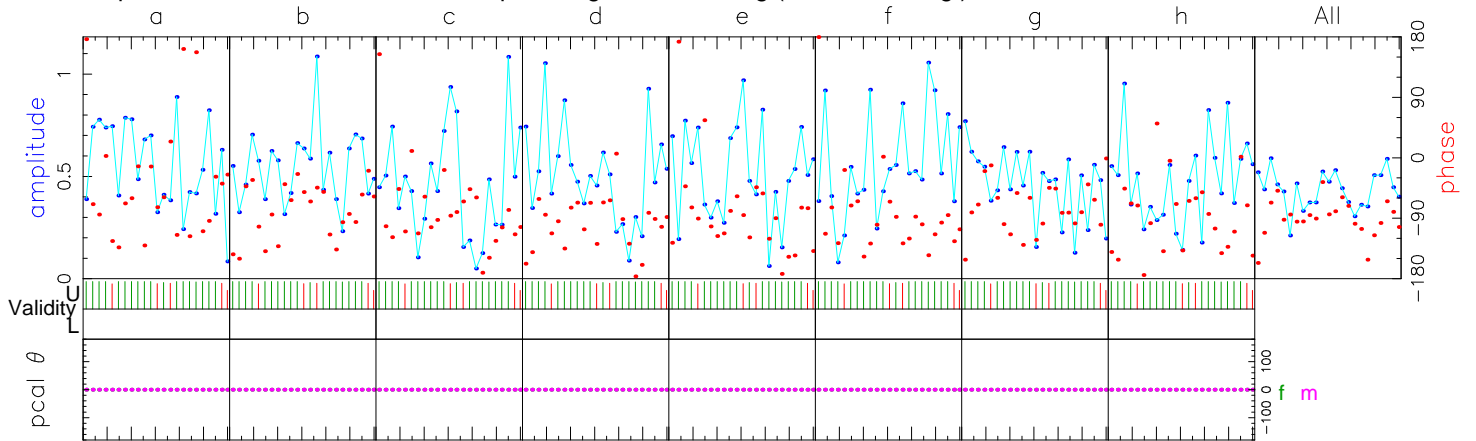
Fringe quality 9

SNR 20.3
 Int time 354.365
 Amp 0.394
 Phase -88.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.001994
 MBD 0.001669
 Fringe rate (Hz) 0.008003
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134851
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -79.5 | -74.8 | -90.8 | -96.7 | -89.0 | -105.6 | -76.5 | -87.9 | Phase | -88.0 |
| | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.5 | 0.4 | 0.3 | Ampl. | 0.4 |
| | 257.6 | 257.3 | 257.4 | 257.2 | 257.9 | 257.4 | 257.5 | 258.0 | Sbd box | 257.5 |
| U/L | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | APs used | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.19710182756E+04 | | Apriori delay (usec) | | 1.19710166070E+04 | | Resid mbdelay (usec) | | 1.66856E-03 | +/- 5.4E-05 |
| Sband delay (usec) | 1.19710186008E+04 | | Apriori clock (usec) | | -5.4318237E+00 | | Resid sbdelay (usec) | | 1.99375E-03 | +/- 4.2E-04 |
| Phase delay (usec) | 1.19710166042E+04 | | Apriori clockrate (us/s) | | -2.5800000E-07 | | Resid phdelay (usec) | | -2.83936E-06 | +/- 1.8E-07 |
| Delay rate (us/s) | -5.73892834794E-01 | | Apriori rate (us/s) | | -5.73892927700E-01 | | Resid rate (us/s) | | 9.29068E-08 | +/- 8.8E-10 |
| Total phase (deg) | 102.8 | | Apriori accel (us/s/s) | | -5.07292029063E-05 | | Resid phase (deg) | | -88.0 | +/- 5.6 |

| | RMS | Theor. | Amplitude | 0.394 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------------|
| ph/seg (deg) | 27.7 | 13.5 | Search (2048X32) | 0.369 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 0.008 |
| amp/seg (%) | 25.3 | 23.5 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 0.011 |
| ph/frq (deg) | 11.4 | 8.0 | Inc. seg. avg. | 0.423 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 0.00 |
| amp/frq (%) | 11.5 | 13.9 | Inc. frq. avg. | 0.387 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | |

f: az 56.0 el 62.6 pa -104.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4344.073 -2581.150 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/fm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/fm.W.113.1W57LH

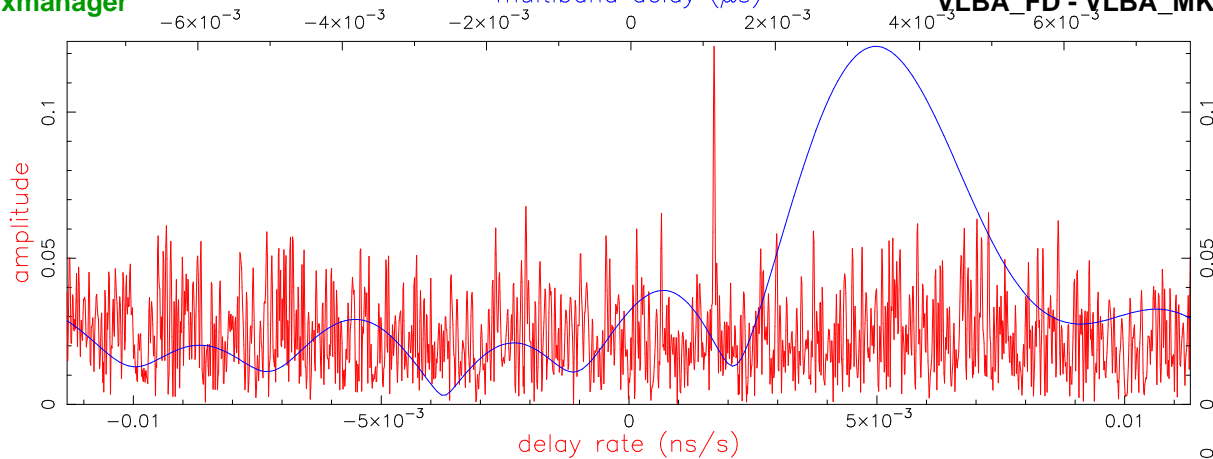
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, fm

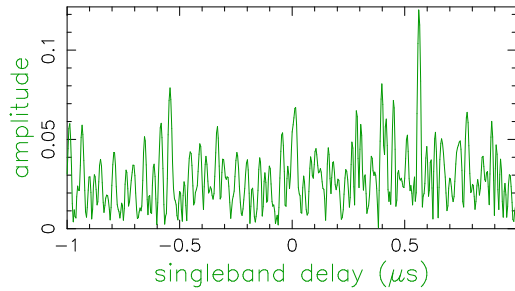
VLBA_FD - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

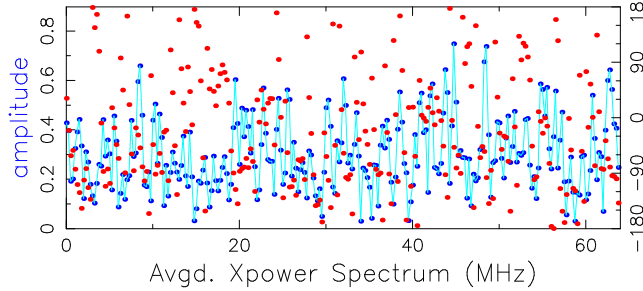


Fringe quality 0

SNR 6.3
 Int time 354.365
 Amp 0.124
 Phase -87.1
 PFD 6.4e-02
 Delays (us)
 SBD 0.563260
 MBD 0.003412
 Fringe rate (Hz)
 0.148198
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

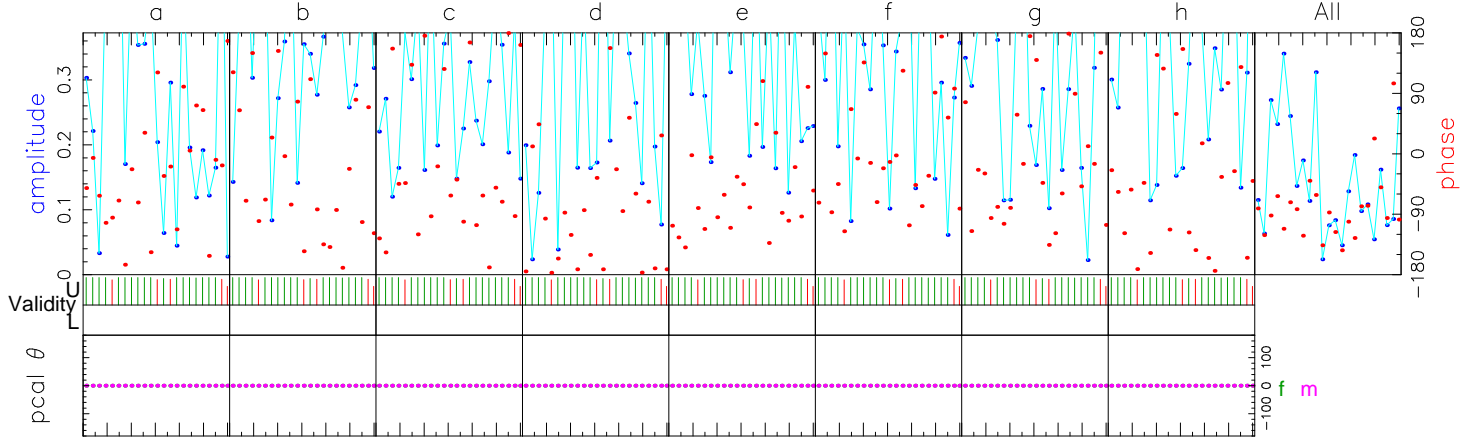


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134855
 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



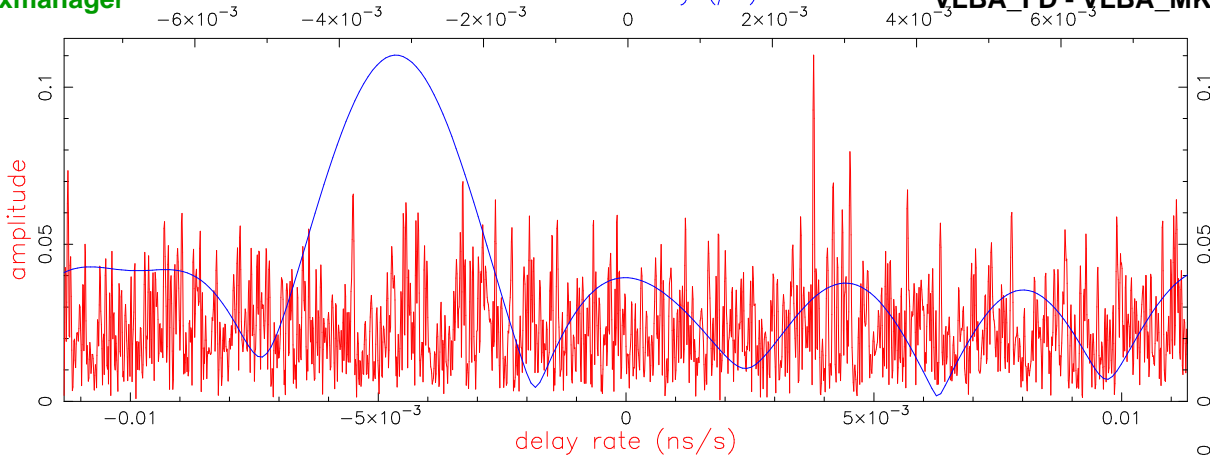
| | 86012.00 | 86076.00 | 86140.00 | 86204.00 | 86268.00 | 86332.00 | 86396.00 | 86460.00 | Freq (MHz) | All |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -44.4 | -103.0 | -107.3 | -116.6 | -77.2 | -66.3 | -70.7 | -100.1 | Phase | -87.1 |
| | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 54.1 | 330.2 | 74.8 | 78.0 | 400.2 | 39.8 | 373.6 | 421.0 | Sbd box | 401.2 |
| U/L | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | APs used | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.19715825194E+04 | | Apriori delay (usec) | | 1.19710166070E+04 | | Resid mbdelay (usec) | | 3.41240E-03 | +/- 1.7E-04 |
| Sband delay (usec) | 1.19715798668E+04 | | Apriori clock (usec) | | -5.4318237E+00 | | Resid sbdelay (usec) | | 5.63260E-01 | +/- 1.4E-03 |
| Phase delay (usec) | 1.19710166042E+04 | | Apriori clockrate (us/s) | | -2.5800000E-07 | | Resid phdelay (usec) | | -2.80962E-06 | +/- 5.8E-07 |
| Delay rate (us/s) | -5.73891207272E-01 | | Apriori rate (us/s) | | -5.73892927700E-01 | | Resid rate (us/s) | | 1.72043E-06 | +/- 2.8E-09 |
| Total phase (deg) | 103.7 | | Apriori accel (us/s/s) | | -5.07292029063E-05 | | Resid phase (deg) | | -87.1 | +/- 18.1 |

| | RMS | Theor. | Amplitude | 0.124 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------------|
| ph/seg (deg) | 49.5 | 43.2 | Search (2048X32) | 0.118 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 0.008 |
| amp/seg (%) | 72.7 | 75.4 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 0.011 |
| ph/frq (deg) | 26.8 | 25.6 | Inc. seg. avg. | 0.114 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 0.00 |
| amp/frq (%) | 30.8 | 44.7 | Inc. frq. avg. | 0.122 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | |

f: az 56.0 el 62.6 pa -104.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4344.073 -2581.150 simultaneous interpolator

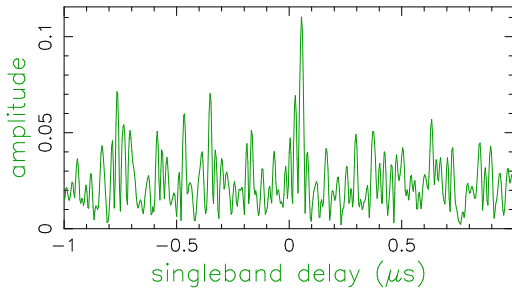
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/fm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/fm.W.134.1W57LH

multiband delay (μ s)

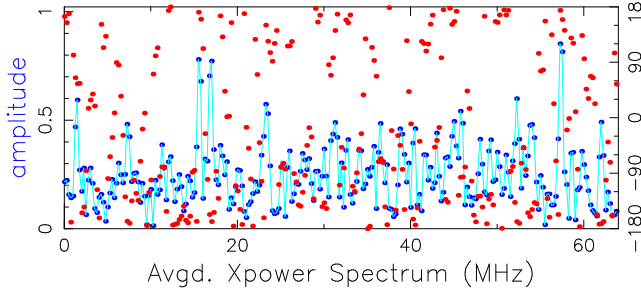


Fringe quality 0

SNR 5.7
 Int time 354.365
 Amp 0.116
 Phase 148.3
 PFD 9.7e-01
 Delays (us)
 SBD 0.055090
 MBD -0.003206
 Fringe rate (Hz)
 0.326426
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

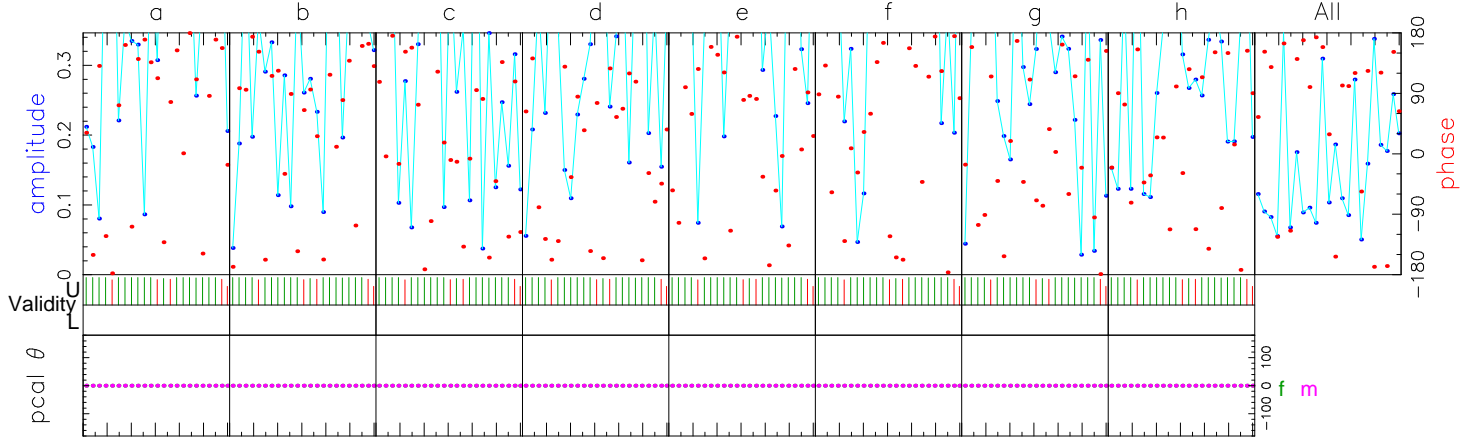


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134858
 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 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| f:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.19710759010E+04 | Apriori delay (usec) | 1.19710166070E+04 | Resid mbdelay (usec) | -3.20600E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | 1.19710716975E+04 | Apriori clock (usec) | -5.4318237E+00 | Resid sbdelay (usec) | 5.50905E-02 | +/- | 1.5E-03 |
| Phase delay (usec) | 1.19710166118E+04 | Apriori clockrate (us/s) | -2.5800000E-07 | Resid phdelay (usec) | 4.78264E-06 | +/- | 6.5E-07 |
| Delay rate (us/s) | -5.73889138222E-01 | Apriori rate (us/s) | -5.73892927700E-01 | Resid rate (us/s) | 3.78948E-06 | +/- | 3.2E-09 |
| Total phase (deg) | 339.2 | Apriori accel (us/s/s) | -5.07292029063E-05 | Resid phase (deg) | 148.3 | +/- | 20.2 |

| | | | | | | | | | | | |
|--------------|------|------------------|-------|-------------------|-------|------------------------|-----------------------------|----------------------|------------------|------------------|----------|
| ph/seg (deg) | 62.1 | RMS | 48.2 | Theor. | 48.2 | Amplitude | 0.116 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 |
| amp/seg (%) | 92.6 | Search (2048X32) | 0.109 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | |
| ph/frq (deg) | 26.8 | Inc. seg. avg. | 0.121 | Inc. frq. avg. | 0.108 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| amp/frq (%) | 50.8 | Inc. frq. avg. | 0.108 | Data rate (Mb/s): | 2048 | Sample rate (MSamp/s): | 128 | nlags: | 256 | t_cohere | infinite |
| | | | | | | | | | ion window (TEC) | 0.00 | 0.00 |

f: az 56.0 el 62.6 pa -104.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4344.073 -2581.150 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/fm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/fm.W.152.1W57LH

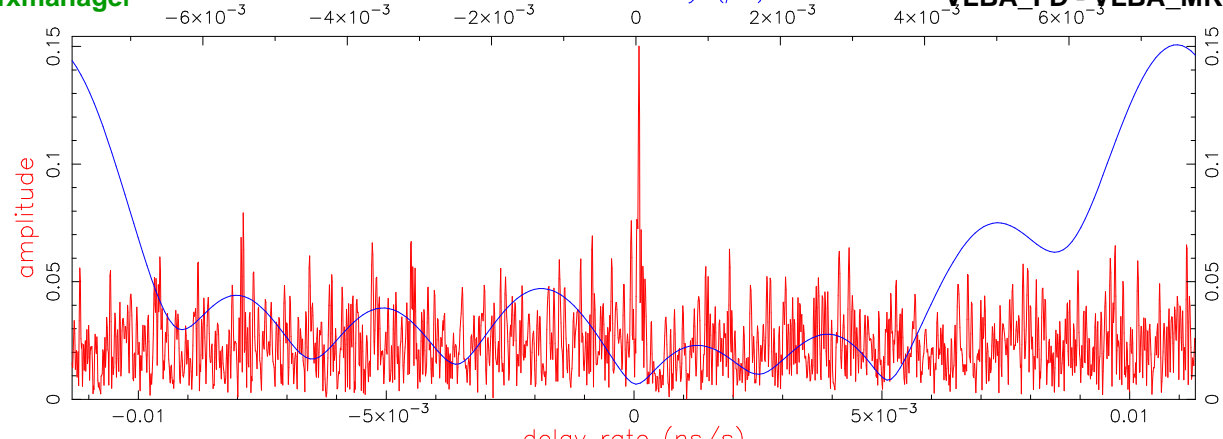
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, fm

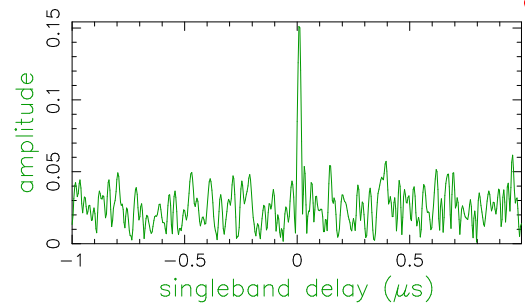
VLBA_FD - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)

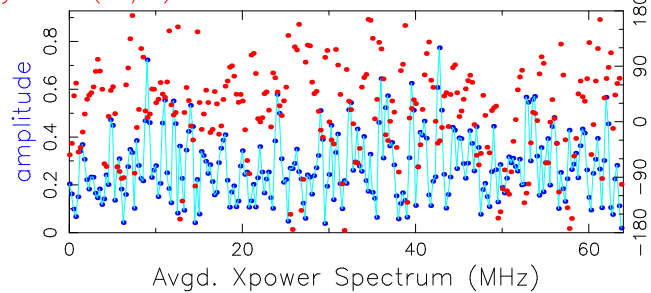


Fringe quality 9

SNR 7.9
 Int time 354.365
 Amp 0.154
 Phase 54.6
 PFD 6.8e-07
 Delays (us)
 SBD 0.009653
 MBD 0.007399
 Fringe rate (Hz) 0.008150
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

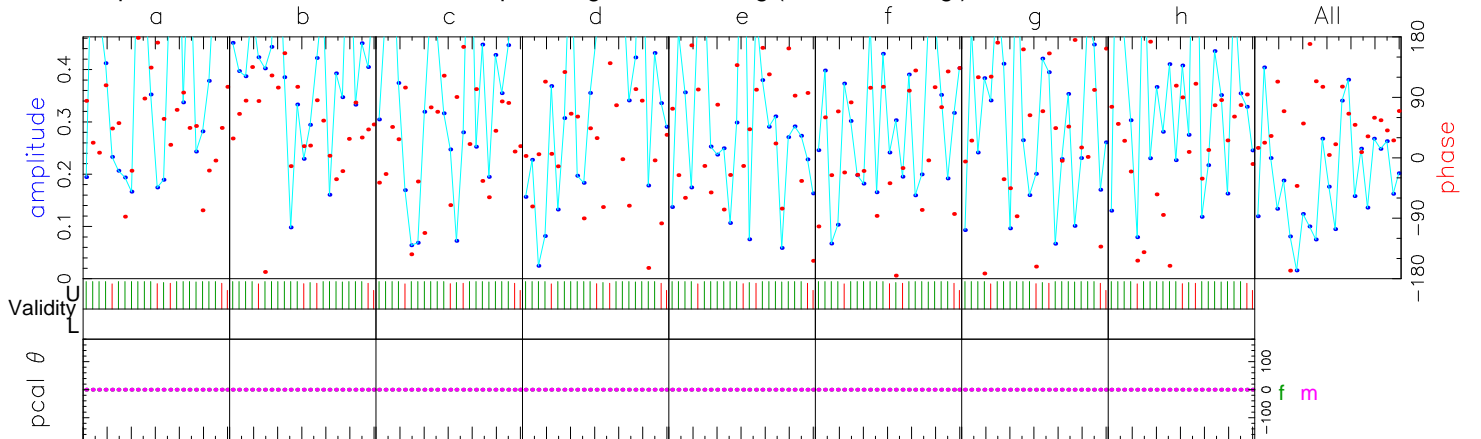


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134847
 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 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | 697/0 | | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| f:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| f | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| f | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| Group delay (usec)(sbd) | 1.19710240057E+04 | | Apriori delay (usec) | | 1.19710166070E+04 | | Resid mbdelay (usec) | | 7.39869E-03 | +/- 1.4E-04 |
| Sband delay (usec) | 1.19710262603E+04 | | Apriori clock (usec) | | -5.4318237E+00 | | Resid sbdelay (usec) | | 9.65325E-03 | +/- 1.1E-03 |
| Phase delay (usec) | 1.19710166088E+04 | | Apriori clockrate (us/s) | | -2.5800000E-07 | | Resid phdelay (usec) | | 1.76109E-06 | +/- 4.7E-07 |
| Delay rate (us/s) | -5.73892833082E-01 | | Apriori rate (us/s) | | -5.73892927700E-01 | | Resid rate (us/s) | | 9.46187E-08 | +/- 2.3E-09 |
| Total phase (deg) | 245.5 | | Apriori accel (us/s/s) | | -5.07292029063E-05 | | Resid phase (deg) | | 54.6 | +/- 14.4 |

| | RMS | Theor. | Amplitude | 0.154 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 53.6 | 34.5 | Search (2048X32) | 0.143 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 68.7 | 60.1 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 20.9 | 20.4 | Inc. seg. avg. | 0.162 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 47.1 | 35.6 | Inc. frq. avg. | 0.146 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

f: az 56.0 el 62.6 pa -104.4 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4344.073 -2581.150 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/fm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/fm.W.93.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

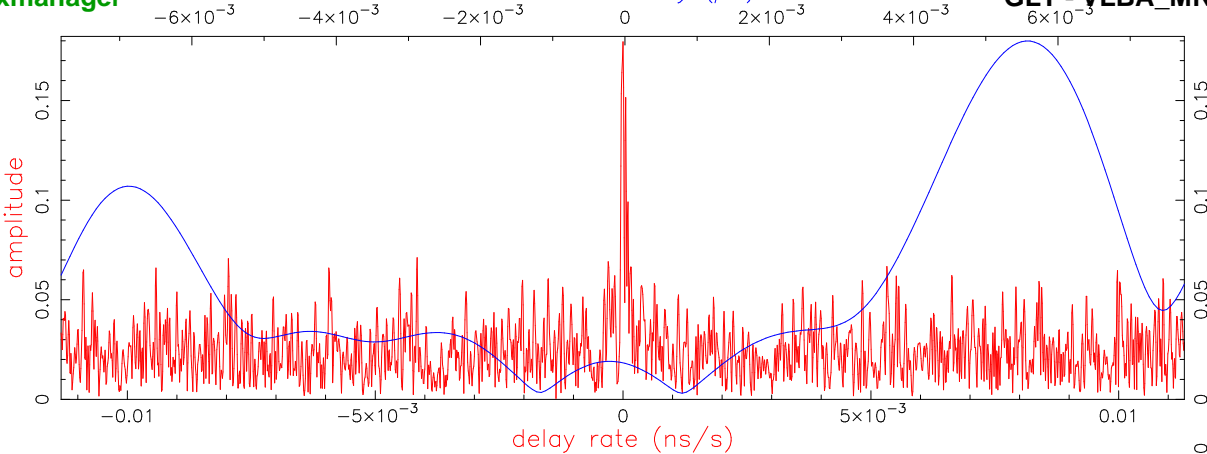
fxmanager

BLLAC.1W57LH, No0237, gm

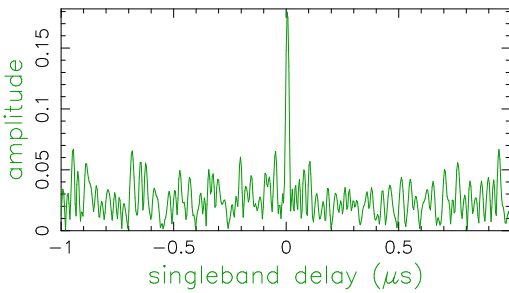
GLT - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)

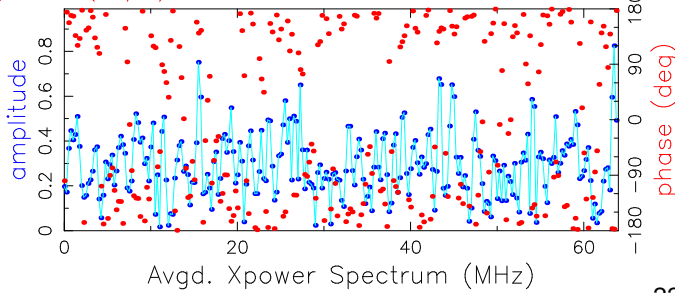
Fringe quality 9



SNR 9.0
 Int time 327.680
 Amp 0.182
 Phase -179.3
 PFD 7.3e-11
 Delays (us)
 SBD 0.005372
 MBD 0.005662
 Fringe rate (Hz) 0.000109
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

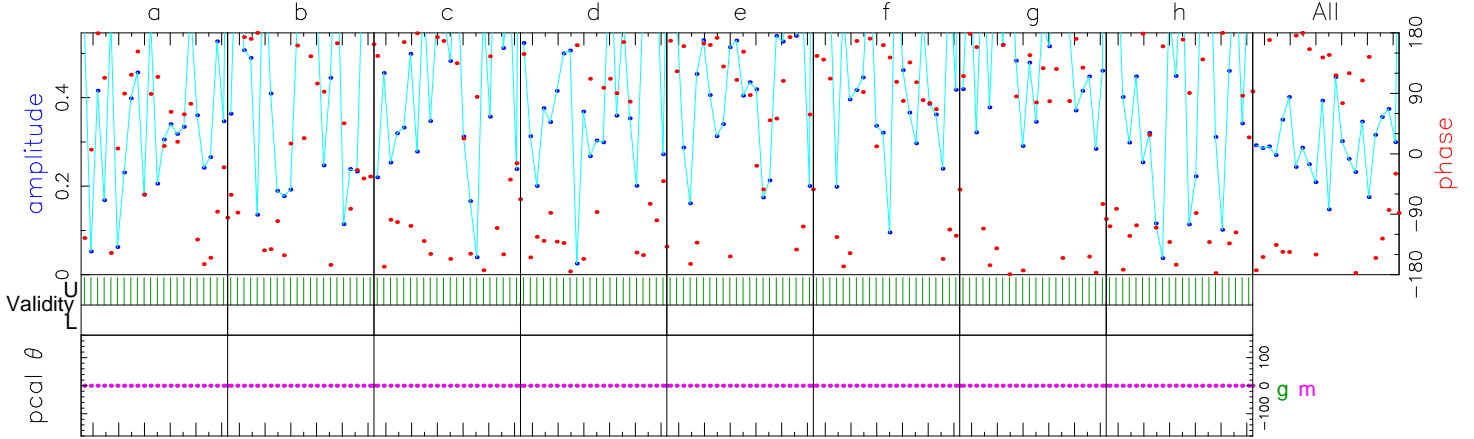


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124532.26
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134902
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 29 APs / seg (14.85 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 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | | |
| g | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| g:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.05225994501E+04 | Apriori delay (usec) | 1.05225937882E+04 | Resid mbdelay (usec) | 5.66194E-03 | +/- | 1.2E-04 |
| Sband delay (usec) | 1.05225991605E+04 | Apriori clock (usec) | -1.5232826E+01 | Resid sbdelay (usec) | 5.37225E-03 | +/- | 9.6E-04 |
| Phase delay (usec) | 1.05225937824E+04 | Apriori clockrate (us/s) | -2.5800000E-07 | Resid phdelay (usec) | -5.78353E-06 | +/- | 4.1E-07 |
| Delay rate (us/s) | -1.09210122161E+00 | Apriori rate (us/s) | -1.09210122288E+00 | Resid rate (us/s) | 1.27044E-09 | +/- | 2.2E-09 |
| Total phase (deg) | 150.4 | Apriori accel (us/s/s) | -7.82563224201E-06 | Resid phase (deg) | -179.3 | +/- | 12.7 |

| | | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-----------------|-------|--|----------------------------|------------------|--------|-------|
| ph/seg (deg) | RMS 56.3 | Theor. 30.5 | Amplitude Search (2048X32) | 0.182 +/- 0.020 | 0.177 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 76.8 | 53.2 | Interp. | 0.000 | 0.000 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 36.1 | 18.0 | Inc. seg. avg. | 0.262 | 0.262 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 42.7 | 31.4 | Inc. frq. avg. | 0.197 | 0.197 | Data rate(Mb/s): 2048 | nlags: 256 | ion window (TEC) | 0.00 | 0.00 |

g: az 185.5 el 55.8 pa 1.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 8453.775 3470.703 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/gm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/gm.W.162.1W57LH

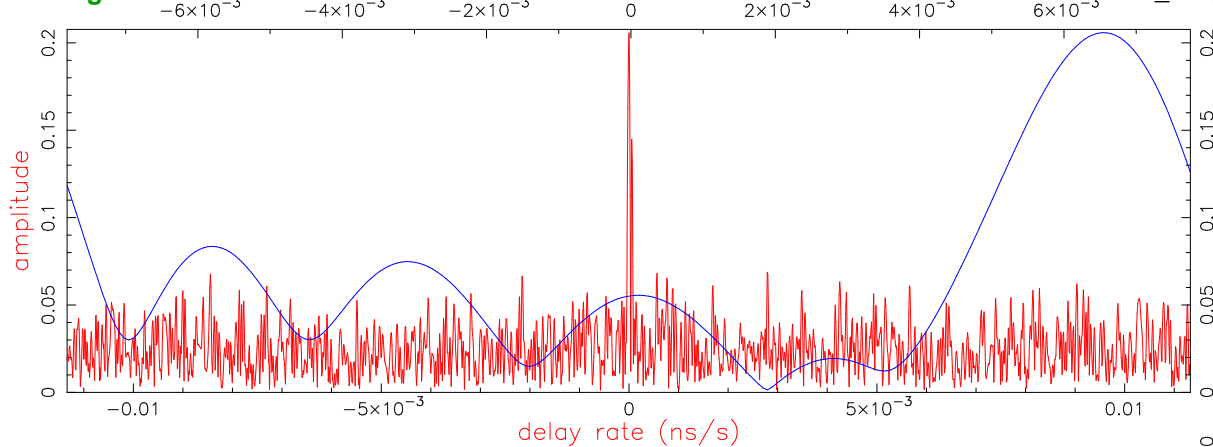
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, gm

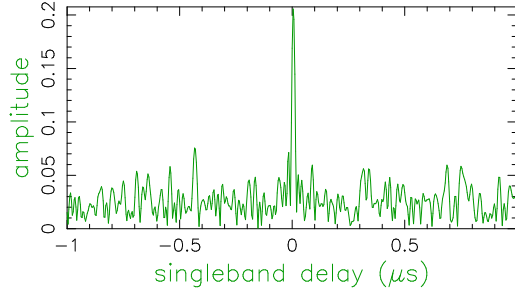
GLT - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)

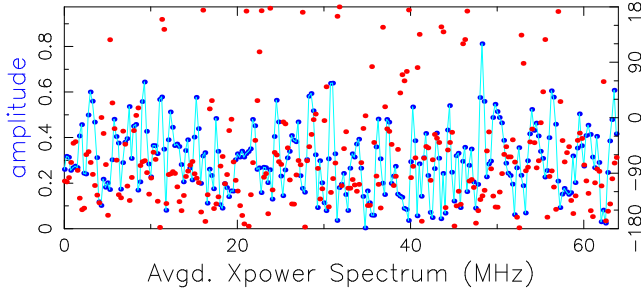


Fringe quality 9

SNR 10.3
 Int time 327.680
 Amp 0.208
 Phase -112.0
 PFD 3.8e-16
 Delays (us)
 SBD 0.005053
 MBD 0.006615
 Fringe rate (Hz)
 -0.000193
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

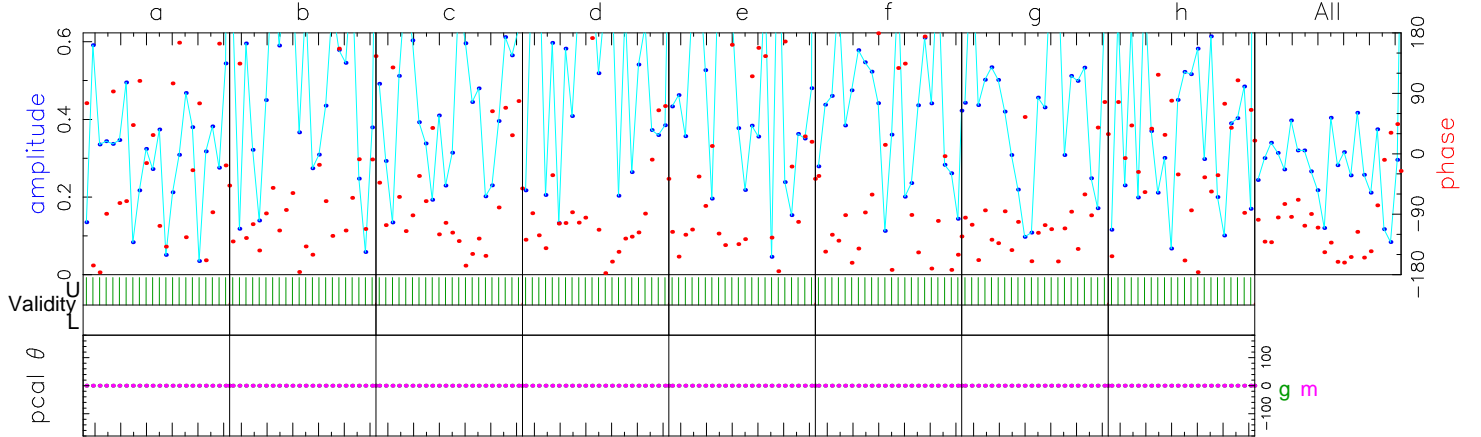


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124532.26
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134905
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 29 APs / seg (14.85 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -103.0 | -99.9 | -98.2 | -114.8 | -135.5 | -138.0 | -114.1 | -10.3 | Phase | -112.0 |
| | 0.1 | 0.3 | 0.2 | 0.3 | 0.2 | 0.3 | 0.3 | 0.1 | Ampl. | 0.2 |
| | 261.1 | 258.7 | 222.9 | 258.4 | 259.0 | 257.1 | 258.3 | 261.1 | Sbd box | 258.3 |
| U/L | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | APs used | |
| g | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| g:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| g:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Manl PC | |
| g | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.05226004028E+04 | | Apriori delay (usec) | | 1.05225937882E+04 | | Resid mbdelay (usec) | | 6.61462E-03 | +/- 1.1E-04 |
| Sband delay (usec) | 1.05225988412E+04 | | Apriori clock (usec) | | -1.5232826E+01 | | Resid sbdelay (usec) | | 5.05300E-03 | +/- 8.4E-04 |
| Phase delay (usec) | 1.05225937846E+04 | | Apriori clockrate (us/s) | | -2.5800000E-07 | | Resid phdelay (usec) | | -3.61219E-06 | +/- 3.6E-07 |
| Delay rate (us/s) | -1.09210122511E+00 | | Apriori rate (us/s) | | -1.09210122288E+00 | | Resid rate (us/s) | | -2.23621E-09 | +/- 1.9E-09 |
| Total phase (deg) | 217.7 | | Apriori accel (us/s/s) | | -7.82563224201E-06 | | Resid phase (deg) | | -112.0 | +/- 11.1 |

ph/seg (deg) 57.8 26.7 Amplitude 0.208 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 57.2 46.6 Interp. 0.202 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.7 15.8 Inc. seg. avg. 0.253 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 47.0 27.5 Inc. frq. avg. 0.221 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 185.5 el 55.8 pa 1.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 8453.775 3470.703 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/gm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/gm.W.177.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

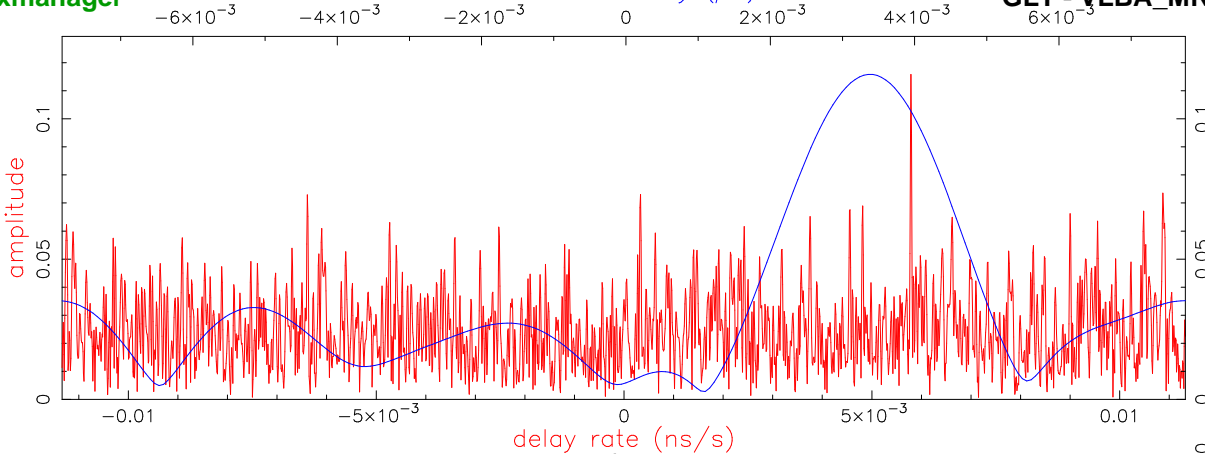
fxmanager

BLLAC.1W57LH, No0237, gm

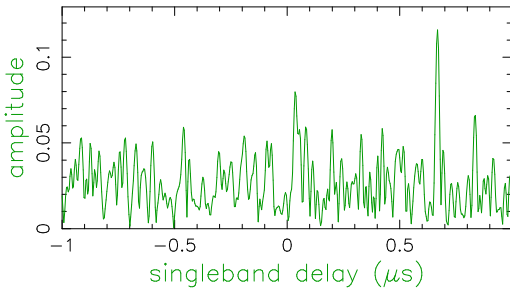
GLT - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

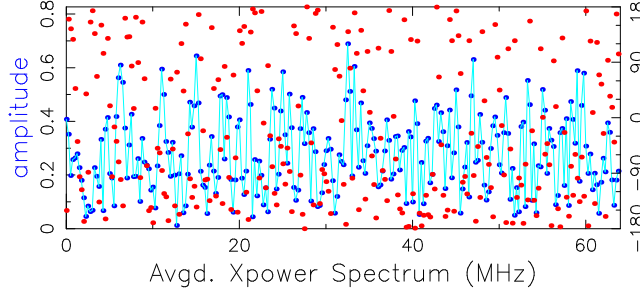
Fringe quality 0



SNR 5.7
 Int time 327.680
 Amp 0.129
 Phase -51.4
 PFD 9.1e-01
 Delays (us)
 SBD 0.667713
 MBD 0.003386
 Fringe rate (Hz)
 0.499654
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

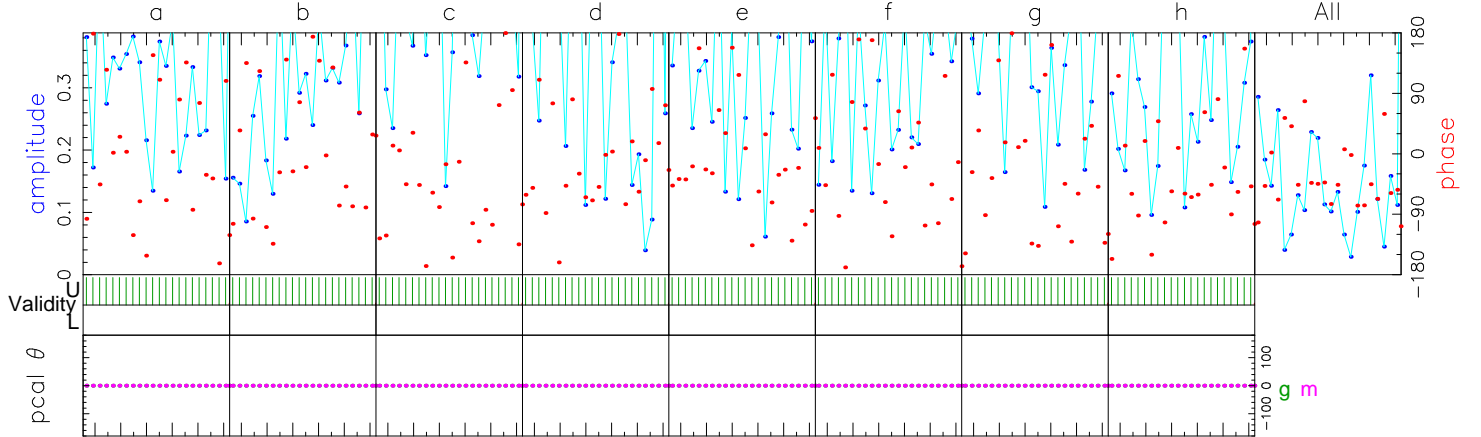


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124532.26
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134908
 2021:252:122852
 RA & Dec (J2000)
 22h02m43.291370s
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 29 APs / seg (14.85 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -48.1 | -39.0 | -81.0 | -25.4 | -47.0 | -63.4 | -68.1 | -42.0 | Phase | -51.4 |
| | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 358.9 | 226.2 | 210.2 | 427.1 | 144.9 | 266.1 | 282.0 | 164.9 | Sbd box | 427.9 |
| U/L | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | APs used | |
| g | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| g:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| g:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.05232690492E+04 | Apriori delay (usec) | 1.05225937882E+04 | Resid mbdelay (usec) | 3.38604E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | 1.05232615007E+04 | Apriori clock (usec) | -1.5232826E+01 | Resid sbdelay (usec) | 6.67713E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | 1.05225937865E+04 | Apriori clockrate (us/s) | -2.5800000E-07 | Resid phdelay (usec) | -1.65715E-06 | +/- | 6.4E-07 |
| Delay rate (us/s) | -1.09209542239E+00 | Apriori rate (us/s) | -1.09210122288E+00 | Resid rate (us/s) | 5.80048E-06 | +/- | 3.4E-09 |
| Total phase (deg) | 278.3 | Apriori accel (us/s/s) | -7.82563224201E-06 | Resid phase (deg) | -51.4 | +/- | 20.0 |

| | | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 53.3 | Theor. | 47.9 | Amplitude | 0.129 +/- 0.023 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 79.6 | | 83.6 | Search (2048X32) | 0.115 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 19.4 | | 28.2 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 31.3 | | 49.3 | Inc. seg. avg. | 0.120 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | | |
| | | | | Inc. frq. avg. | 0.121 | Data rate (Mb/s): | 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

g: az 185.5 el 55.8 pa 1.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 8453.775 3470.703 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/gm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/gm.W.196.1W57LH

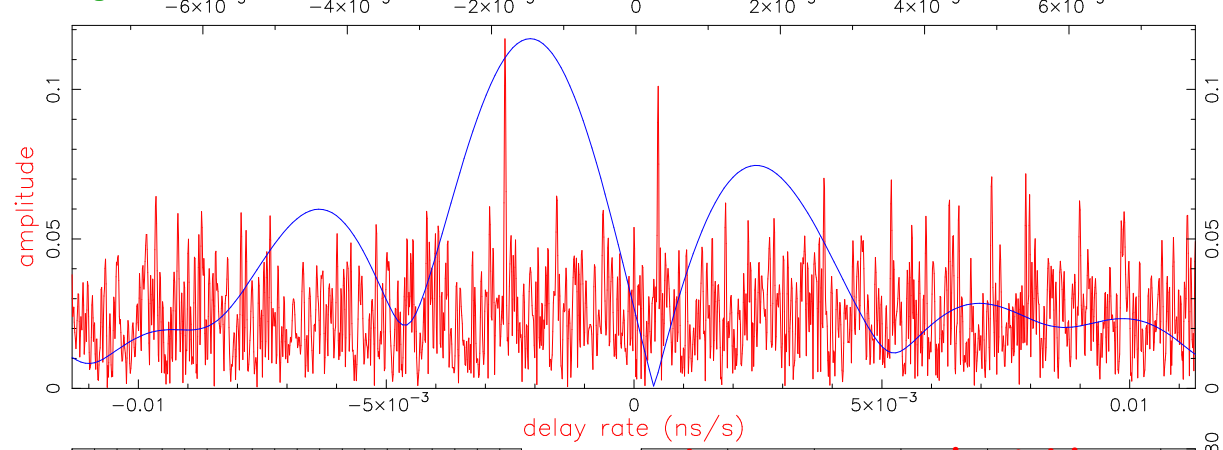
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, gm

GLT - VLBA_MK, fgroup W, pol RL

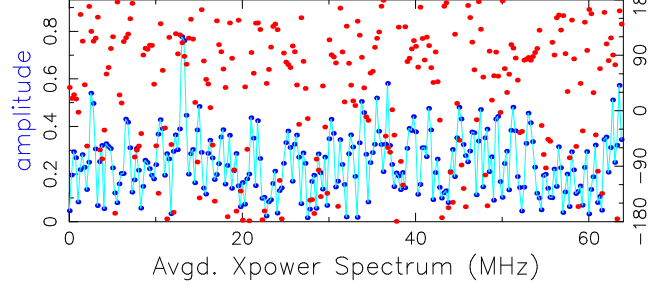
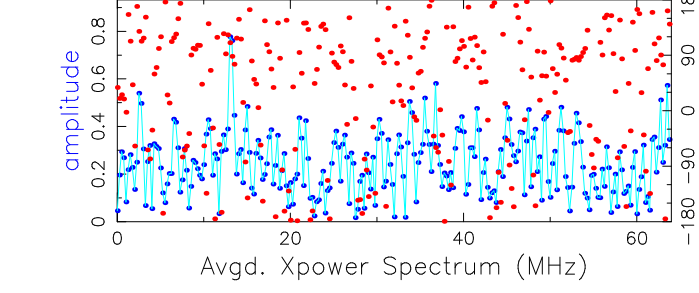
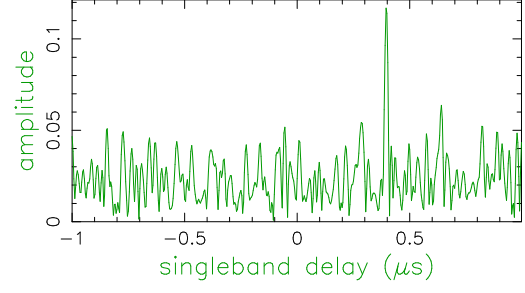
multiband delay (μ s)



Fringe quality 0

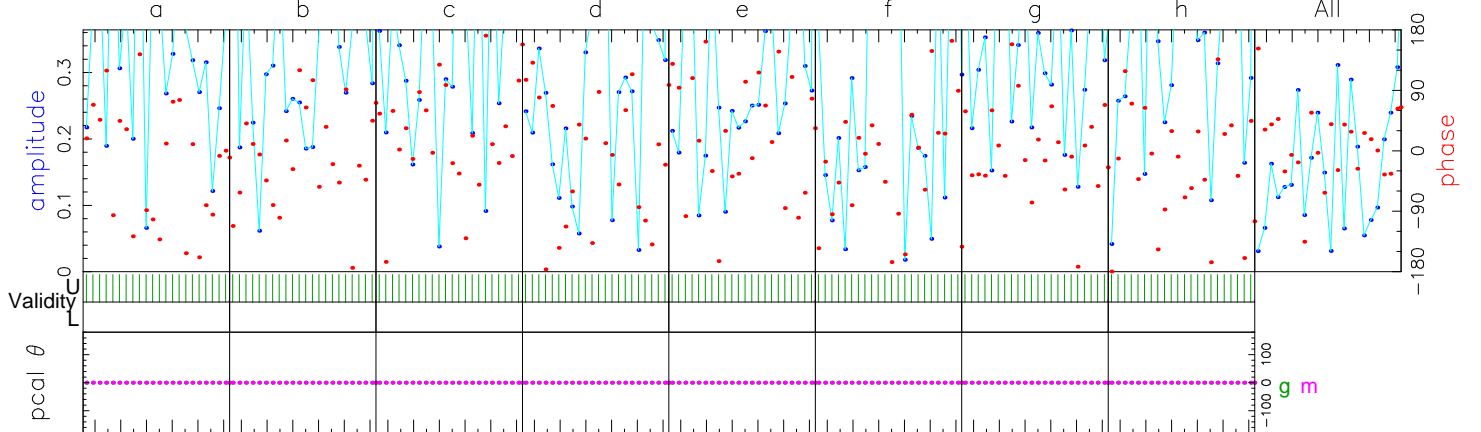
SNR 5.9
 Int time 327.680
 Amp 0.121
 Phase 1.7
 PFD 6.5e-01
 Delays (us)
 SBD 0.396043
 MBD -0.001423
 Fringe rate (Hz)
 -0.224750
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124532.26
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134911
 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, 29 APs / seg (14.85 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | 18.2 | -25.2 | 15.8 | 43.6 | 28.2 | -1.6 | 0.7 | -9.2 | Phase | 1.7 |
| | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 | 0.1 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 260.5 | 144.3 | 357.4 | 272.7 | 463.6 | 388.6 | 358.4 | 476.0 | Sbd box | 358.4 |
| U/L | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | 640/0 | APs used | |
| g | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| g:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| g:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| g | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.05229829901E+04 | | Apriori delay (usec) | | 1.05225937882E+04 | | Resid mbdelay (usec) | | -1.42307E-03 | +/- 1.8E-04 |
| Sband delay (usec) | 1.05229898315E+04 | | Apriori clock (usec) | | -1.5232826E+01 | | Resid sbdelay (usec) | | 3.96043E-01 | +/- 1.5E-03 |
| Phase delay (usec) | 1.05225937883E+04 | | Apriori clockrate (us/s) | | -2.5800000E-07 | | Resid phdelay (usec) | | 5.62140E-08 | +/- 6.3E-07 |
| Delay rate (us/s) | -1.09210383200E+00 | | Apriori rate (us/s) | | -1.09210122288E+00 | | Resid rate (us/s) | | -2.60913E-06 | +/- 3.3E-09 |
| Total phase (deg) | 331.4 | | Apriori accel (us/s/s) | | -7.82563224201E-06 | | Resid phase (deg) | | 1.7 | +/- 19.5 |

ph/seg (deg) 55.2 46.7 Search (2048X32) 0.114 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 81.8 81.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 25.1 27.6 Inc. seg. avg. 0.120 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 63.2 48.1 Inc. frq. avg. 0.112 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 185.5 el 55.8 pa 1.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 8453.775 3470.703 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/gm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/gm.W.215.1W57LH

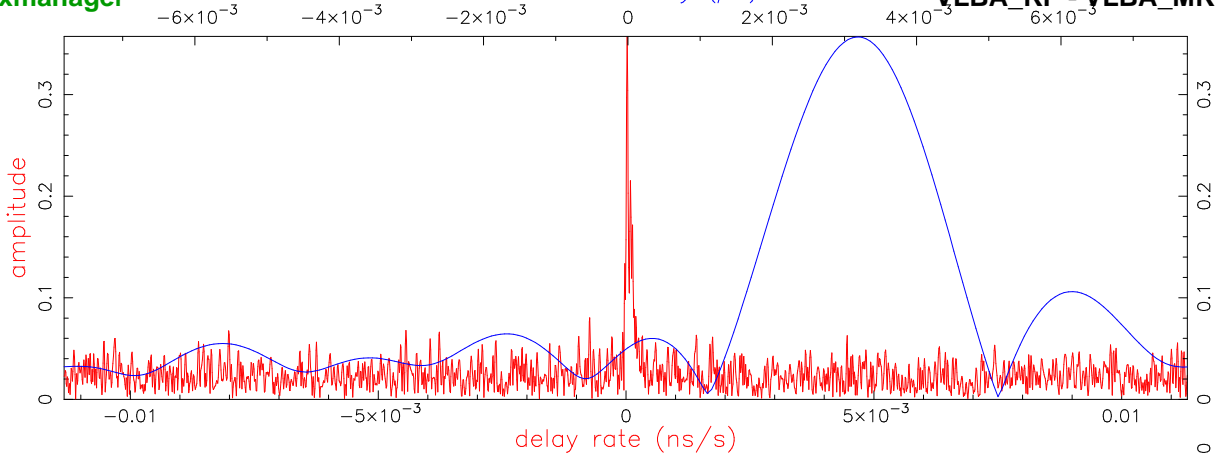
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, km

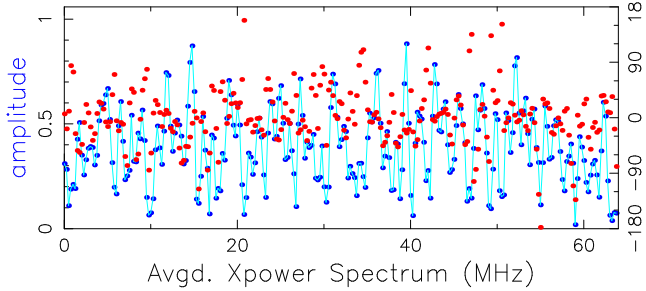
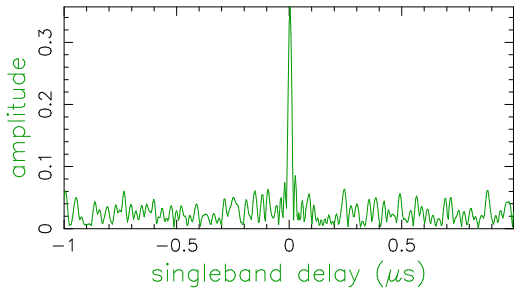
VLBA_KP - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)



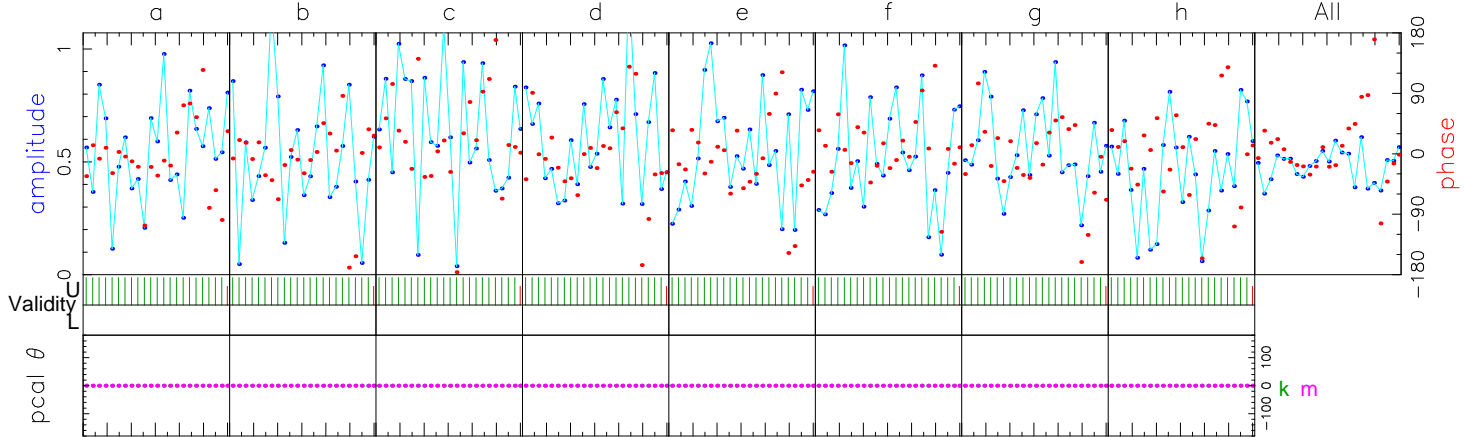
Fringe quality 9

SNR 18.5
 Int time 359.729
 Amp 0.357
 Phase 3.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.003404
 MBD 0.003172
 Fringe rate (Hz) 0.001608
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134903
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|----------|
| | -4.8 | -3.0 | 21.1 | 2.9 | -13.9 | 10.6 | 3.4 | 2.9 | | 3.0 |
| | 0.4 | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | | 0.4 |
| | 258.1 | 258.2 | 257.9 | 258.3 | 258.0 | 258.1 | 257.3 | 257.3 | | 257.9 |
| 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 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | PC freqs |
| k:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | PC phase |
| k:m | 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 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | Chan ids |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | Tracks |

Group delay (usec)(sbd) 1.10868276205E+04 Apriori delay (usec) 1.10868244485E+04 Resid mbdelay (usec) 3.17199E-03 +/- 5.9E-05
 Sband delay (usec) 1.10868278525E+04 Apriori clock (usec) -1.5342831E+01 Resid sbdelay (usec) 3.40400E-03 +/- 4.6E-04
 Phase delay (usec) 1.10868244486E+04 Apriori clockrate (us/s) -3.1799999E-07 Resid phdelay (usec) 9.57052E-08 +/- 2.0E-07
 Delay rate (us/s) -4.72565643920E-01 Apriori rate (us/s) -4.72565662589E-01 Resid rate (us/s) 1.86698E-08 +/- 9.6E-10
 Total phase (deg) 1.6 Apriori accel (us/s/s) -4.45815556537E-05 Resid phase (deg) 3.0 +/- 6.2

RMS Theor. Amplitude 0.357 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 53.0 14.8 Search (2048X32) 0.342 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 40.5 25.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 11.3 8.7 Inc. seg. avg. 0.468 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 14.3 15.3 Inc. frq. avg. 0.358 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 60.0 el 57.7 pa -95.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3571.695 -2000.776 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/km..1W57LH Output file: /Exps/c211a/v2/1234/No0237/km.W.175.1W57LH

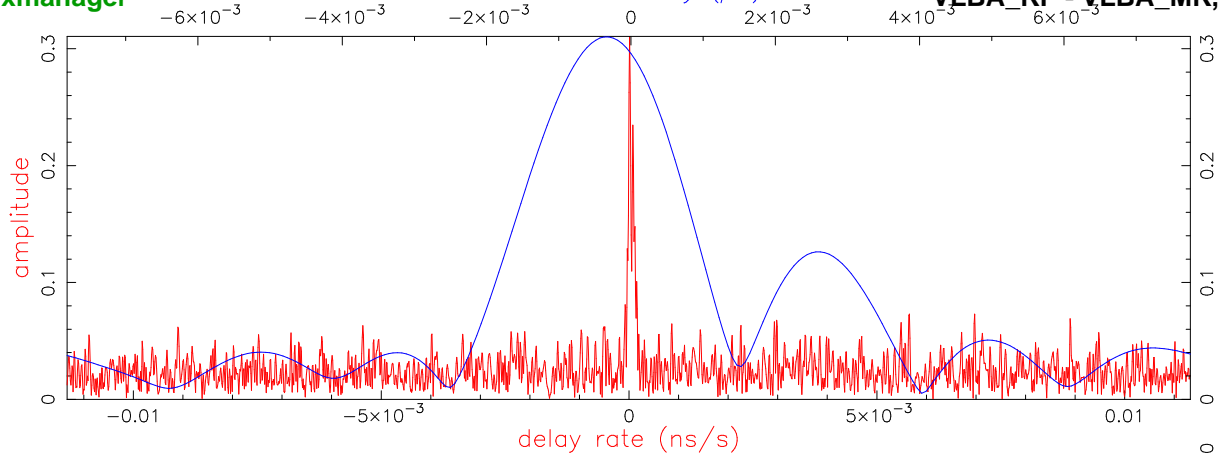
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, km

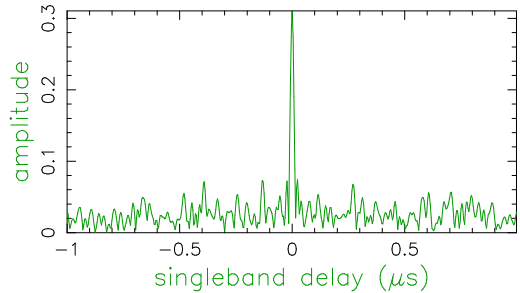
VLBA_KP - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)

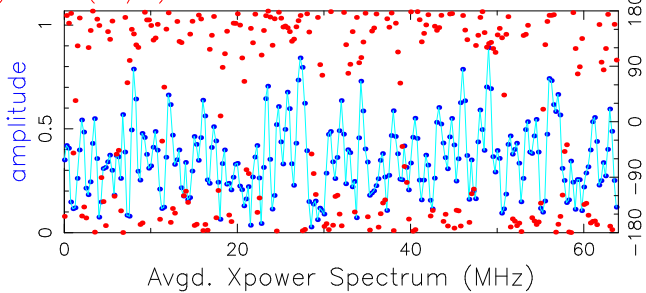


Fringe quality 9

SNR 16.1
Int time 359.729
Amp 0.311
Phase 171.2
PFD 0.0e+00
Delays (us)
SBD -0.000433
MBD -0.000347
Fringe rate (Hz)
0.001404
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

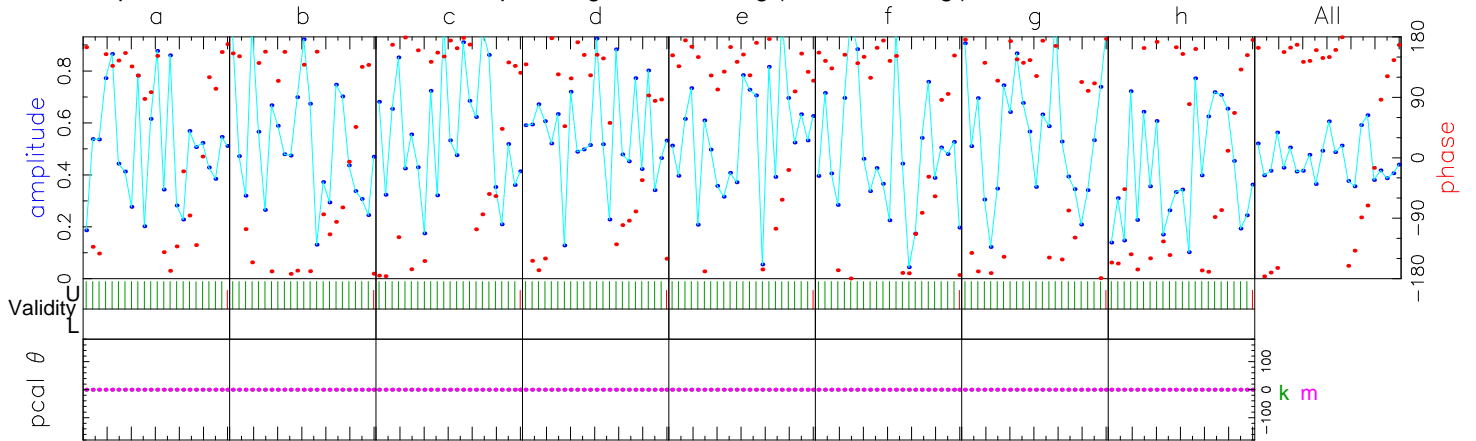


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 124500.00
Stop 125059.94
FRT 124816.00
Corr/FF/build
2021:286:092156
2021:286:134907
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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | 161.5 | -178.0 | -173.2 | 167.4 | 154.3 | 157.0 | 172.0 | -166.3 | Phase | 171.2 |
| | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | Ampl. | 0.3 |
| | 256.9 | 256.5 | 257.3 | 257.4 | 256.3 | 257.1 | 256.7 | 257.8 | Sbd box | 256.9 |
| 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| k:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| k:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.10868241012E+04 | | Apriori delay (usec) | | 1.10868244485E+04 | | Resid mbdelay (usec) | | -3.47322E-04 | +/- 6.7E-05 |
| Sband delay (usec) | 1.10868240160E+04 | | Apriori clock (usec) | | -1.5342831E+01 | | Resid sbdelay (usec) | | -4.32500E-04 | +/- 5.3E-04 |
| Phase delay (usec) | 1.10868244541E+04 | | Apriori clockrate (us/s) | | -3.1799999E-07 | | Resid phdelay (usec) | | 5.52166E-06 | +/- 2.3E-07 |
| Delay rate (us/s) | -4.72565646290E-01 | | Apriori rate (us/s) | | -4.72565662589E-01 | | Resid rate (us/s) | | 1.62990E-08 | +/- 1.1E-09 |
| Total phase (deg) | 169.9 | | Apriori accel (us/s/s) | | -4.45815556537E-05 | | Resid phase (deg) | | 171.2 | +/- 7.1 |

| | RMS | Theor. | Amplitude | 0.311 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | | | | |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------|-------|--|
| ph/seg (deg) | 56.3 | 17.1 | Search (2048X32) | 0.296 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | | |
| amp/seg (%) | 54.6 | 29.8 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 15.6 | 10.1 | Inc. seg. avg. | 0.441 | Sample rate(MISamp/s): 128 | | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 19.7 | 17.6 | Inc. frq. avg. | 0.313 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | ion window (TEC) | 0.00 | 0.00 | |

k: az 60.0 el 57.7 pa -95.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3571.695 -2000.776 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/km..1W57LH Output file: /Exps/c211a/v2/1234/No0237/km.W.189.1W57LH

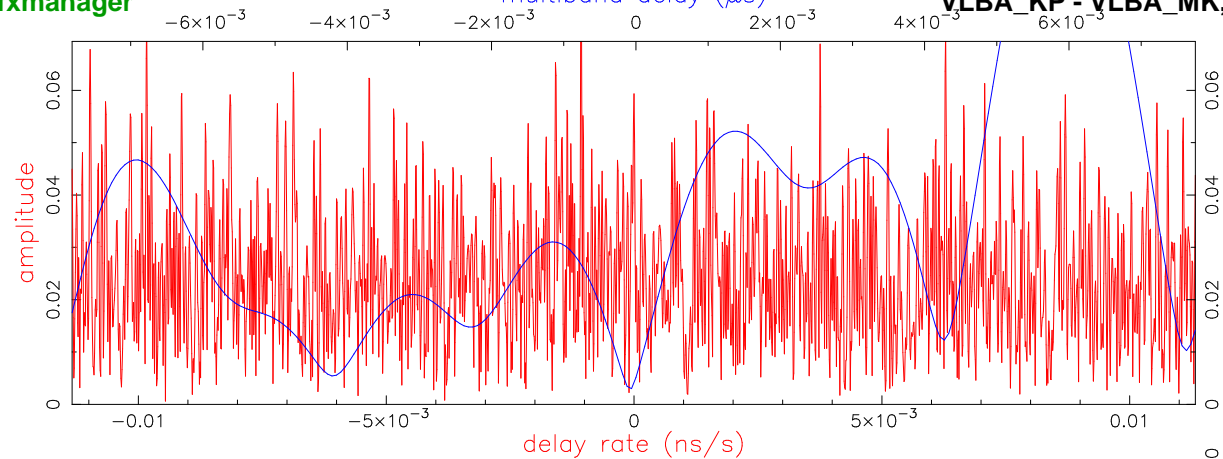
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, km

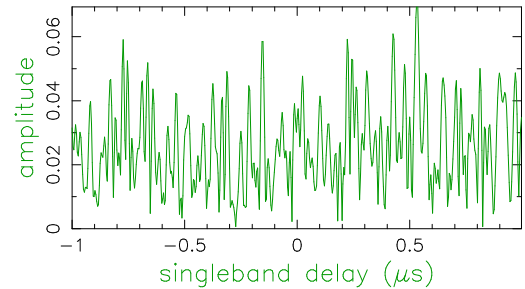
VLBA_KP - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

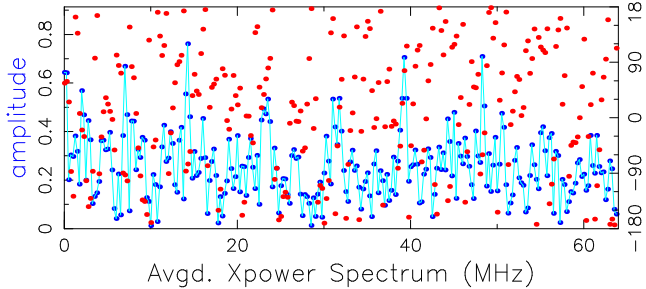


Fringe quality 0

SNR 2.4
 Int time 359.729
 Amp 0.069
 Phase 93.9
 PFD 1.0e+00
 Delays (us)
 SBD -0.160156
 MBD -0.008301
 Fringe rate (Hz)
 -0.914213
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

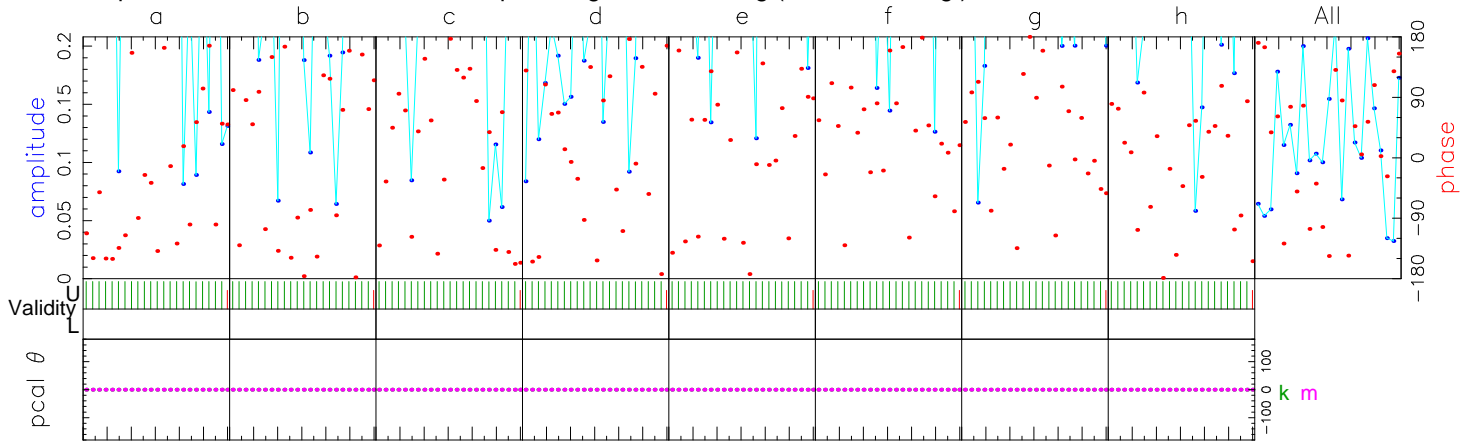


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134910
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -111.0 | 160.9 | 144.3 | 175.6 | 98.2 | 31.5 | 33.6 | 16.7 | Phase | 93.9 |
| | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 214.6 | 309.4 | 118.9 | 256.0 | 393.0 | 81.2 | 312.2 | 466.0 | Sbd box | 216.0 |
| 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| k:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| k:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| k | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.10866598977E+04 | Apriori delay (usec) | 1.10868244485E+04 | Resid mbdelay (usec) | -8.30078E-03 | +/- | 4.5E-04 |
| Sband delay (usec) | 1.10866642923E+04 | Apriori clock (usec) | -1.5342831E+01 | Resid sbdelay (usec) | -1.60156E-01 | +/- | 3.5E-03 |
| Phase delay (usec) | 1.10868244516E+04 | Apriori clockrate (us/s) | -3.1799999E-07 | Resid phdelay (usec) | 3.02902E-06 | +/- | 1.5E-06 |
| Delay rate (us/s) | -4.72576275693E-01 | Apriori rate (us/s) | -4.72565662589E-01 | Resid rate (us/s) | -1.06131E-05 | +/- | 7.3E-09 |
| Total phase (deg) | | Apriori accel (us/s/s) | -4.45815556537E-05 | Resid phase (deg) | 93.9 | +/- | 47.1 |

| | | | | | | | | | | | | | |
|--------------|-------|-----|-------|--------|-------|------------------|-----------------|--|----------------------|------|------------------|--------|-------|
| ph/seg (deg) | 92.6 | RMS | 92.6 | Theor. | 112.9 | Amplitude | 0.069 +/- 0.028 | Pcal mode: MANUAL, MANUAL | PC period (AP's) | 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 194.3 | | 194.3 | | 197.0 | Search (2048X32) | 0.109 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 92.4 | | 92.4 | | 66.6 | Inc. seg. avg. | 0.060 | Bits/sample: 2x2 | | | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 177.5 | | 177.5 | | 116.2 | Inc. frq. avg. | 0.105 | Sample rate(MISamp/s): 128 | | | ion window (TEC) | 0.00 | 0.00 |
| | | | | | | | | Data rate(Mb/s): 2048 | | | | | |
| | | | | | | | | nlags: 256 | | | | | |
| | | | | | | | | t_cohere infinite | | | | | |

k: az 60.0 el 57.7 pa -95.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3571.695 -2000.776 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/km..1W57LH Output file: /Exps/c211a/v2/1234/No0237/km.W.206.1W57LH

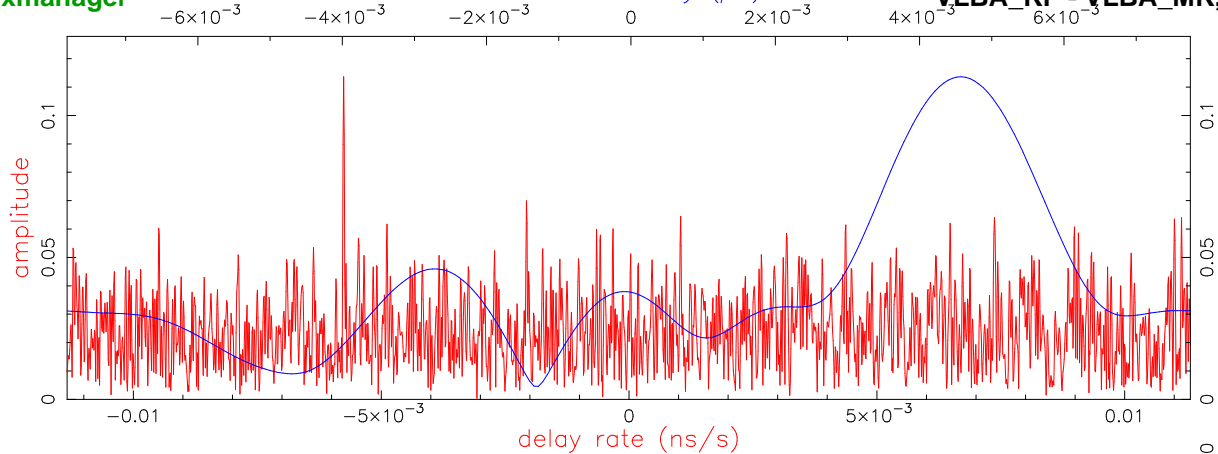
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, km

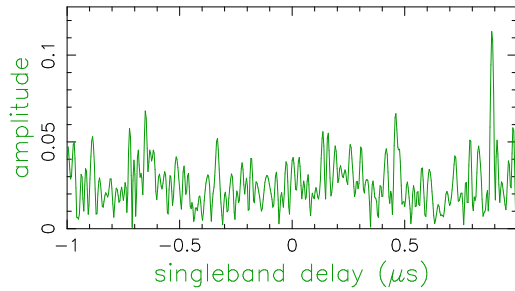
VLBA_KP - VLBA_MK, fgroup W, pol RL

multiband delay (μ s)

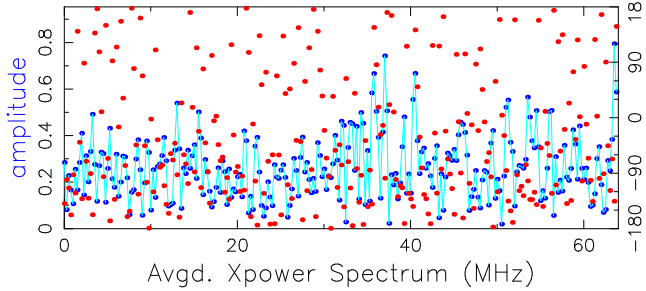


Fringe quality 0

SNR 5.9
 Int time 359.729
 Amp 0.128
 Phase -19.4
 PFD 5.0e-01
 Delays (us)
 SBD 0.887845
 MBD 0.004592
 Fringe rate (Hz)
 -0.496582
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

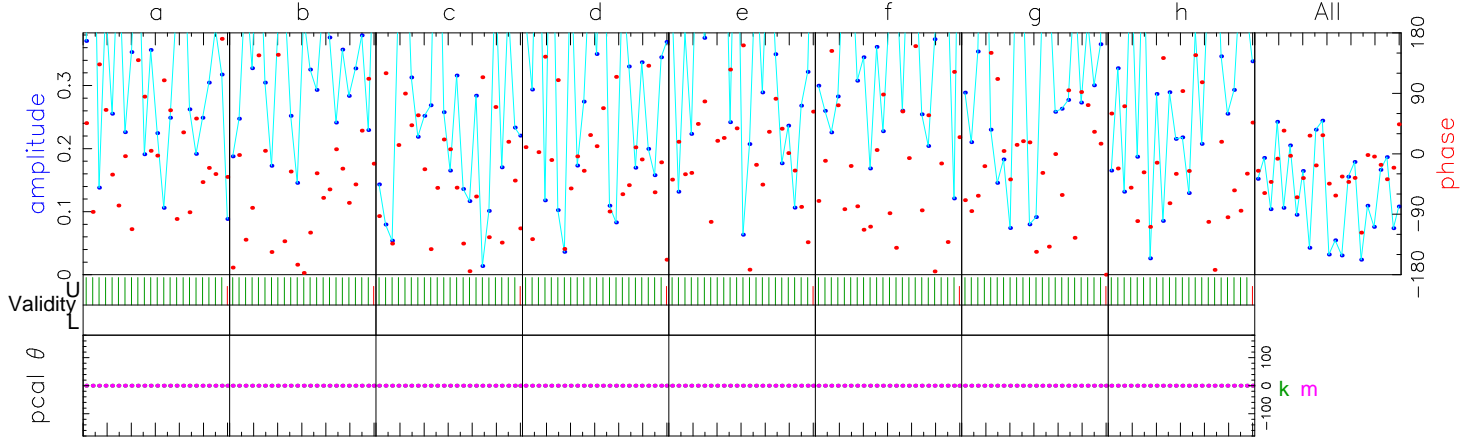


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134913
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|---------------|
| | -18.7 | -76.7 | -7.8 | -7.4 | 15.0 | -53.7 | -12.0 | -48.7 | | Phase -19.4 |
| | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | | Ampl. 0.1 |
| | 405.9 | 224.3 | 257.2 | 306.0 | 484.6 | 365.2 | 430.6 | 404.2 | | Sbd box 484.3 |
| 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 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | PC freqs |
| k:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | PC phase |
| k:m | 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 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | PC amp |
| k | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | Chan ids |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | Tracks |

Group delay (usec)(sbd) 1.10877196657E+04 Apriori delay (usec) 1.10868244485E+04 Resid mbdelay (usec) 4.59221E-03 +/- 1.8E-04
 Sband delay (usec) 1.10877122933E+04 Apriori clock (usec) -1.5342831E+01 Resid sbdelay (usec) 8.87845E-01 +/- 1.4E-03
 Phase delay (usec) 1.10868244479E+04 Apriori clockrate (us/s) -3.1799999E-07 Resid phdelay (usec) -6.26409E-07 +/- 6.2E-07
 Delay rate (us/s) -4.72571427418E-01 Apriori rate (us/s) -4.72565662589E-01 Resid rate (us/s) -5.76483E-06 +/- 3.0E-09
 Total phase (deg) 339.2 Apriori accel (us/s/s) -4.45815556537E-05 Resid phase (deg) -19.4 +/- 19.3

RMS Theor. Amplitude 0.128 +/- 0.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 35.6 46.2 Search (2048X32) 0.108 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 61.2 80.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 33.7 27.2 Inc. seg. avg. 0.109 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 39.8 47.5 Inc. frq. avg. 0.129 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 60.0 el 57.7 pa -95.8 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 3571.695 -2000.776 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/km..1W57LH Output file: /Exps/c211a/v2/1234/No0237/km.W.223.1W57LH

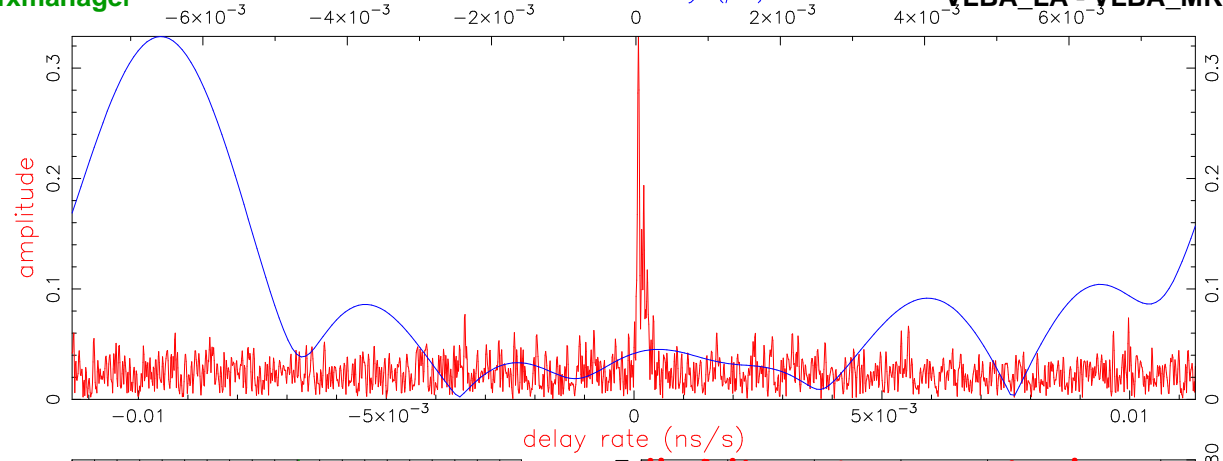
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Im

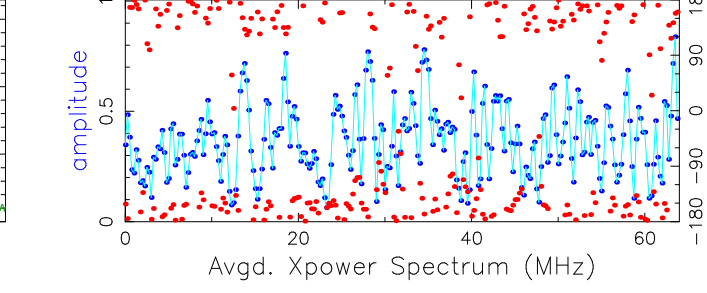
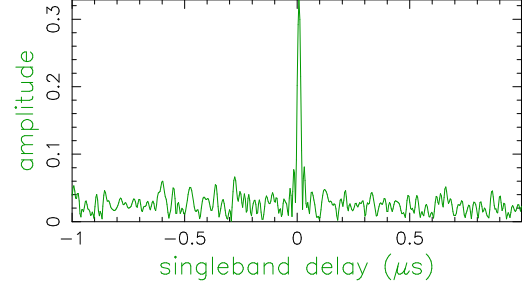
VLBA_LA - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)



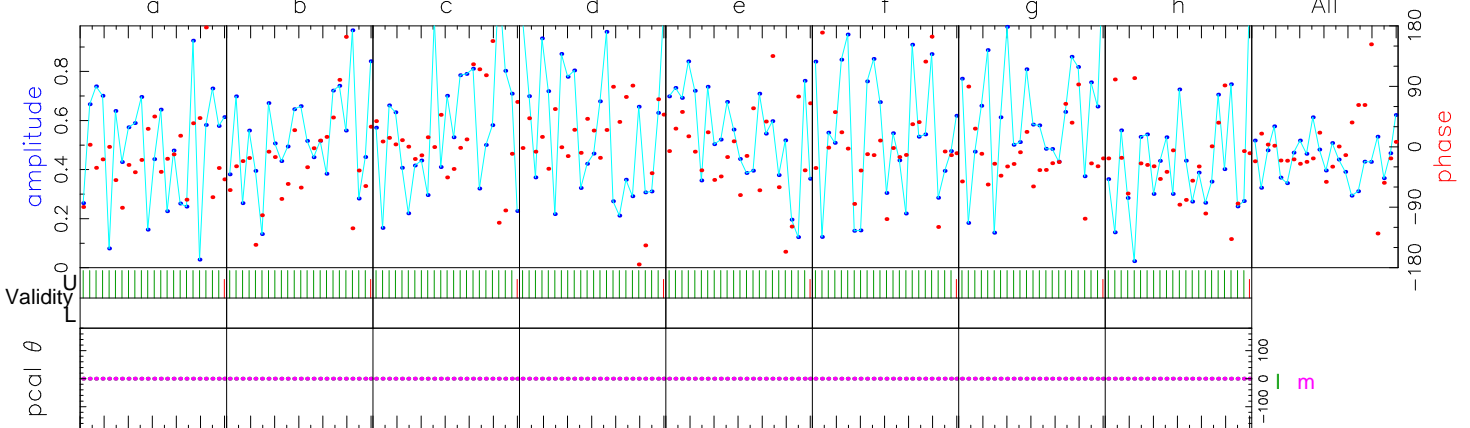
Fringe quality 9

SNR 17.1
 Int time 359.917
 Amp 0.329
 Phase -9.7
 PFD 0.0e+00
 Delays (us)
 SBD 0.008044
 MBD -0.006579
 Fringe rate (Hz) 0.007936
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134917
 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 | | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 1.21000817672E+04 | Apriori delay (usec) | 1.21000727210E+04 | Resid mbdelay (usec) | -6.57882E-03 | +/- | 6.4E-05 |
| Sband delay (usec) | 1.21000807653E+04 | Apriori clock (usec) | -1.8259459E+01 | Resid sbdelay (usec) | 8.04425E-03 | +/- | 5.1E-04 |
| Phase delay (usec) | 1.21000727207E+04 | Apriori clockrate (us/s) | -6.0400003E-07 | Resid phdelay (usec) | -3.12384E-07 | +/- | 2.2E-07 |
| Delay rate (us/s) | -5.69919957843E-01 | Apriori rate (us/s) | -5.69920049973E-01 | Resid rate (us/s) | 9.21295E-08 | +/- | 1.0E-09 |
| Total phase (deg) | 58.6 | Apriori accel (us/s/s) | -4.57794837239E-05 | Resid phase (deg) | -9.7 | +/- | 6.7 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 51.6 | Theor. | 16.1 | Amplitude | 0.329 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 45.1 | Search (2048X32) | 0.315 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 19.1 | Inc. seg. avg. | 0.431 | Inc. frq. avg. | 0.338 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 19.5 | Inc. frq. avg. | 0.338 | | | 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 | |
| | | | | | | nlags: | 256 | t_cohere | infinite | |

l: az 65.4 el 63.4 pa -93.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4324.248 -1735.138 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/lm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/lm.W.236.1W57LH

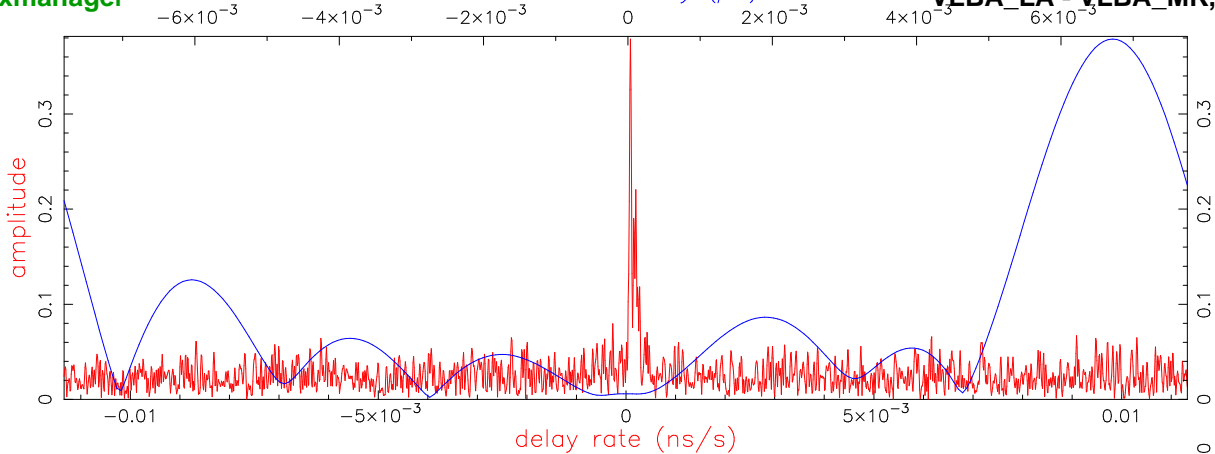
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Im

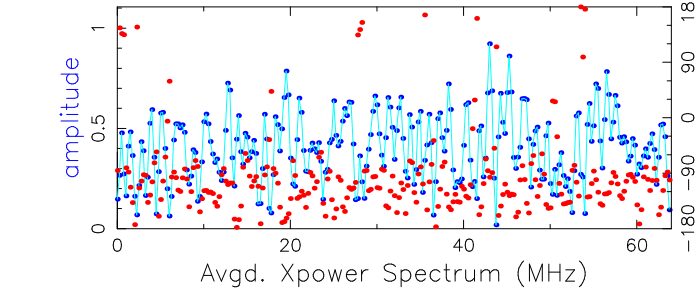
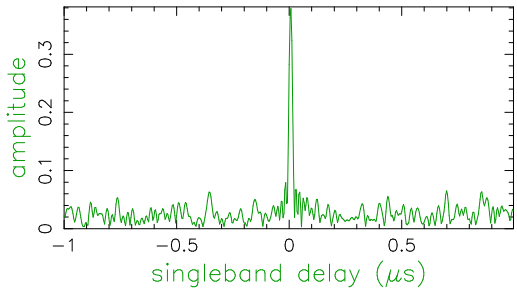
VLBA_LA - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)



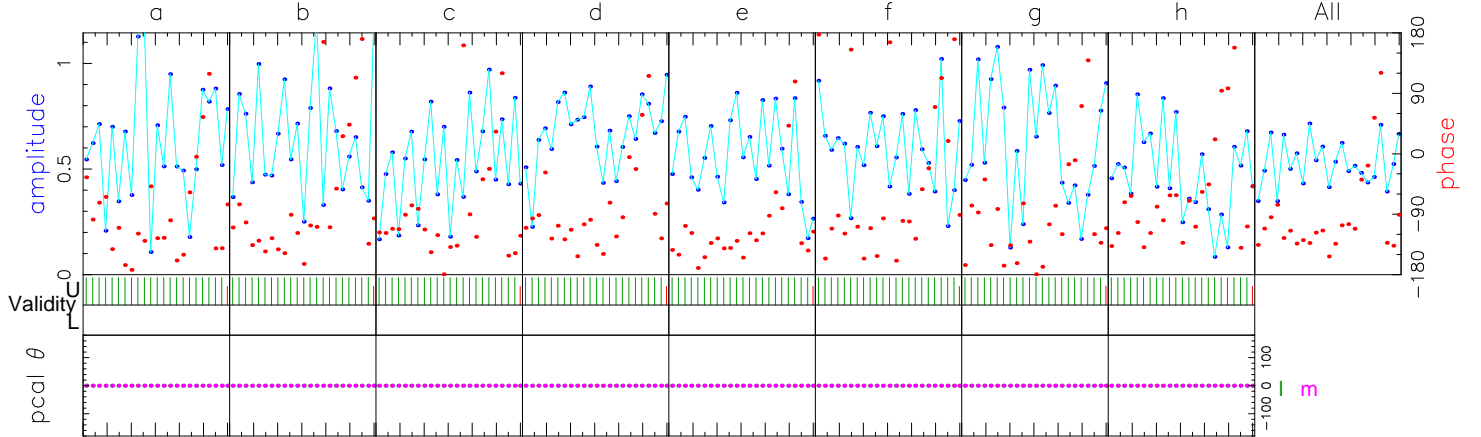
Fringe quality 9

SNR 19.8
 Int time 359.917
 Amp 0.382
 Phase -116.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.006708
 MBD 0.006684
 Fringe rate (Hz) 0.007987
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134920
 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 | | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | | 1.21000794046E+04 | | | 1.21000727210E+04 | | | | 6.68362E-03 | +/- 5.5E-05 |
| Sband delay (usec) | | 1.21000794285E+04 | | | -1.8259459E+01 | | | | 6.70750E-03 | +/- 4.4E-04 |
| Phase delay (usec) | | 1.21000727173E+04 | | | -6.0400003E-07 | | | | -3.74966E-06 | +/- 1.9E-07 |
| Delay rate (us/s) | | -5.69919957250E-01 | | | -5.69920049973E-01 | | | | 9.27226E-08 | +/- 9.0E-10 |
| Total phase (deg) | | | -48.0 | | | | | | -116.3 | +/- 5.8 |
| | RMS | Theor. | Amplitude | 0.382 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | | | | |
| ph/seg (deg) | 54.0 | 13.9 | Search (2048X32) | 0.367 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 | 1.000 | | |
| amp/seg (%) | 47.2 | 24.2 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 12.3 | 8.2 | Inc. seg. avg. | 0.511 | Sample rate(MISamp/s): 128 | | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 11.4 | 14.3 | Inc. frq. avg. | 0.381 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

l: az 65.4 el 63.4 pa -93.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4324.248 -1735.138 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/lm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/lm.W.251.1W57LH

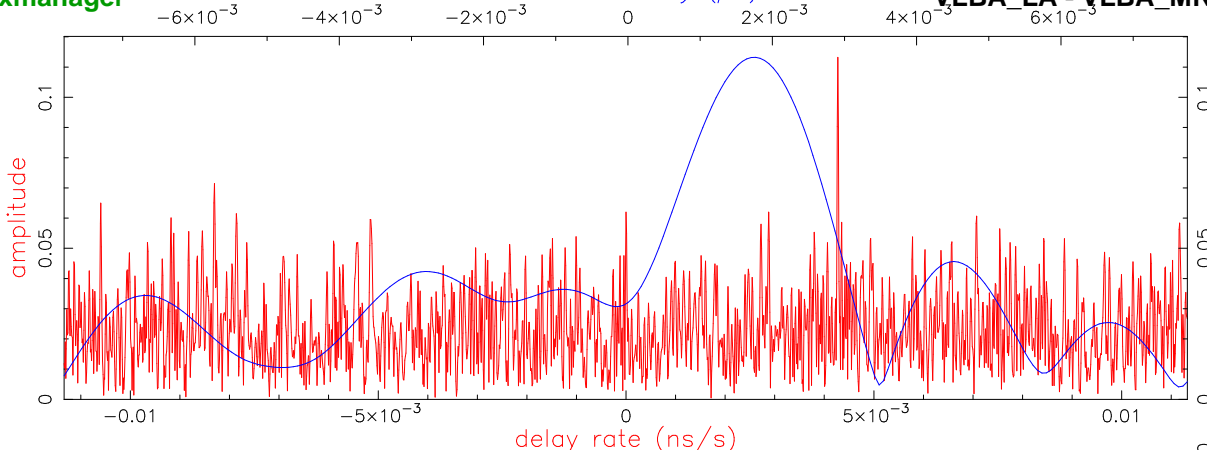
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Im

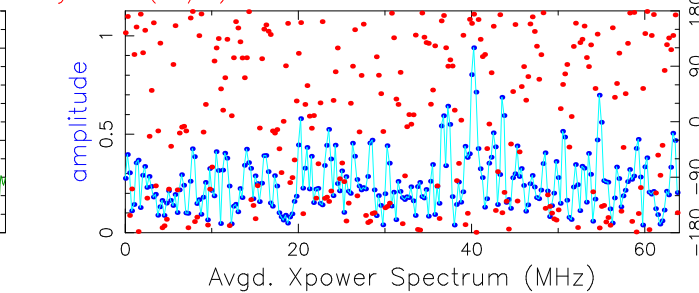
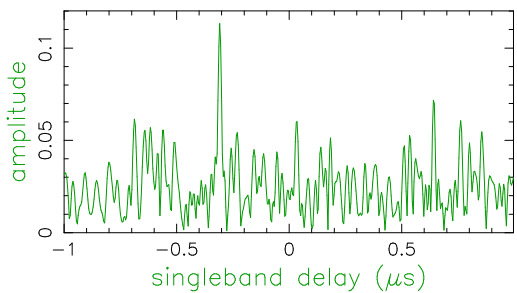
VLBA_LA - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)



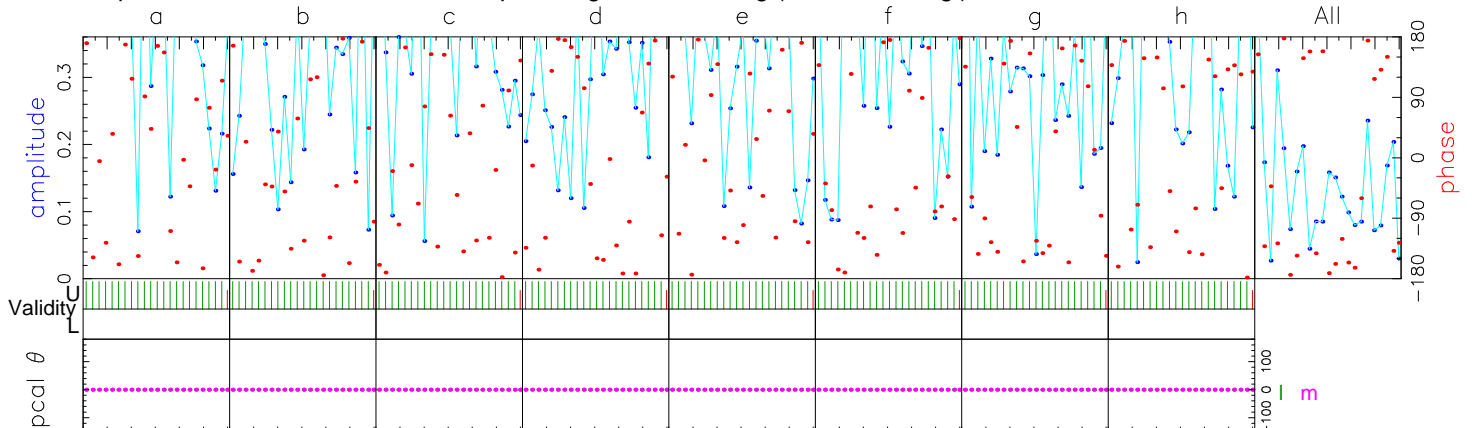
Fringe quality 0

SNR 5.9
 Int time 359.917
 Amp 0.120
 Phase -170.1
 PFD 6.6e-01
 Delays (us)
 SBD -0.308469
 MBD 0.001752
 Fringe rate (Hz)
 0.368333
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134924
 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 | | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | | 1.20997619734E+04 | | | 1.21000727210E+04 | | | | 1.75235E-03 | +/- 1.8E-04 |
| Sband delay (usec) | | 1.20997642520E+04 | | | -1.8259459E+01 | | | | -3.08469E-01 | +/- 1.5E-03 |
| Phase delay (usec) | | 1.21000727155E+04 | | | -6.0400003E-07 | | | | -5.48429E-06 | +/- 6.3E-07 |
| Delay rate (us/s) | | -5.69915773989E-01 | | | -5.69920049973E-01 | | | | 4.27598E-06 | +/- 3.0E-09 |
| Total phase (deg) | | | -101.8 | | -4.57794837239E-05 | | | | -170.1 | +/- 19.5 |
| Apriori delay (usec) | | | | | | | | | | |
| Apriori clock (usec) | | | | | | | | | | |
| Apriori clockrate (us/s) | | | | | | | | | | |
| Apriori rate (us/s) | | | | | | | | | | |
| Apriori accel (us/s/s) | | | | | | | | | | |
| Resid mbdelay (usec) | | | | | | | | | | |
| Resid sbdelay (usec) | | | | | | | | | | |
| Resid phdelay (usec) | | | | | | | | | | |
| Resid rate (us/s) | | | | | | | | | | |
| Resid phase (deg) | | | | | | | | | | |
| Pcal mode: MANUAL, MANUAL | | | | | | | | | | |
| Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | | | | | | | | | |
| Bits/sample: 2x2 | | | | | | | | | | |
| Sample rate(MISamp/s): 128 | | | | | | | | | | |
| Data rate(Mb/s): 2048 | | | | | | | | | | |
| nlags: 256 | | | | | | | | | | |
| t_cohere infinite | | | | | | | | | | |
| sb window (us) | | | | | | | | | -1.000 | 1.000 |
| mb window (us) | | | | | | | | | -0.008 | 0.008 |
| dr window (ns/s) | | | | | | | | | -0.011 | 0.011 |
| ion window (TEC) | | | | | | | | | 0.00 | 0.00 |

ph/seg (deg) 48.8 46.8 Search (2048X32) 0.111 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 84.4 81.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 24.9 27.6 Inc. seg. avg. 0.114 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 39.7 48.1 Inc. frq. avg. 0.115 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 l: az 65.4 el 63.4 pa -93.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4324.248 -1735.138 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/lm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/lm.W.266.1W57LH simultaneous interpolator

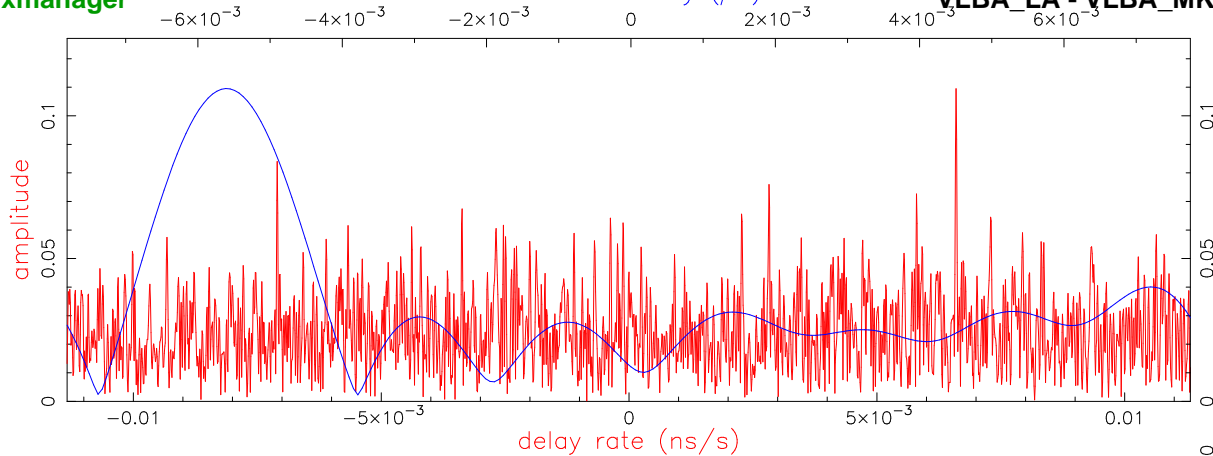
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Im

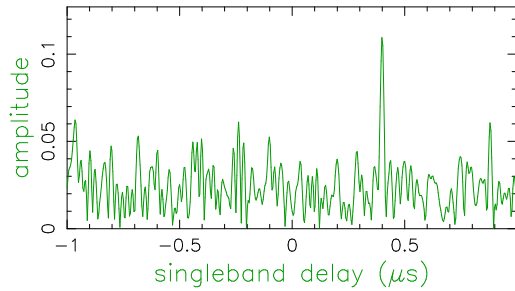
VLBA_LA - VLBA_MK, fgroup W, pol RL

multiband delay (μ s)

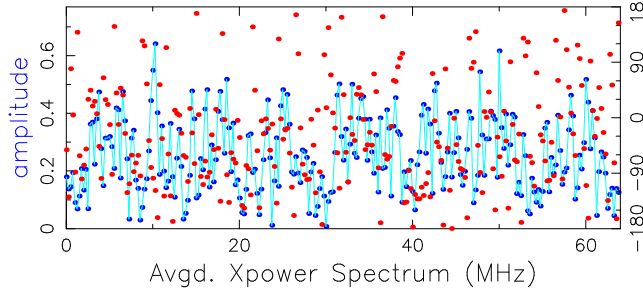


Fringe quality 0

SNR 5.7
 Int time 359.917
 Amp 0.127
 Phase -64.1
 PFD 9.4e-01
 Delays (us)
 SBD 0.399422
 MBD -0.005570
 Fringe rate (Hz)
 0.569333
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

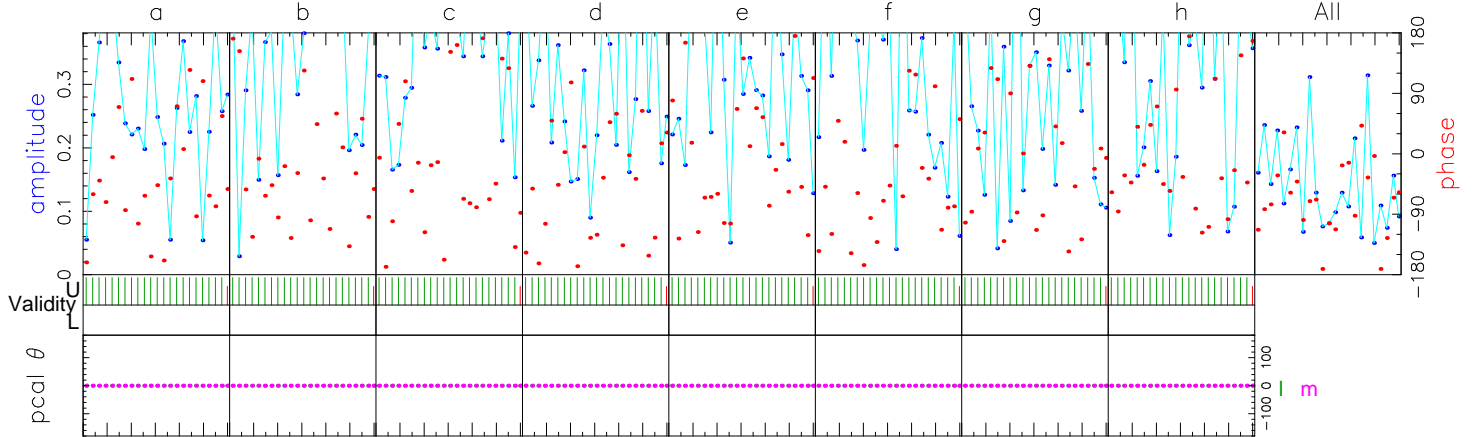


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134927
 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 | -57.2 | -90.1 | -64.5 | -42.3 | -64.8 | -102.7 | -57.3 | Phase | -64.1 |
| | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | Ampl. | 0.1 |
| | 341.8 | 329.7 | 45.0 | 189.9 | 423.8 | 457.5 | 103.2 | 384.1 | Sbd box | 359.3 |
| U/L | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| l:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| l | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| l | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | 1.21004734009E+04 | | Apriori delay (usec) | 1.21000727210E+04 | Resid mbdelay (usec) | -5.57016E-03 | +/- | 1.9E-04 | | |
| Sband delay (usec) | 1.21004721435E+04 | | Apriori clock (usec) | -1.8259459E+01 | Resid sbdelay (usec) | 3.99422E-01 | +/- | 1.5E-03 | | |
| Phase delay (usec) | 1.21000727190E+04 | | Apriori clockrate (us/s) | -6.0400003E-07 | Resid phdelay (usec) | -2.06548E-06 | +/- | 6.5E-07 | | |
| Delay rate (us/s) | -5.69913440576E-01 | | Apriori rate (us/s) | -5.69920049973E-01 | Resid rate (us/s) | 6.60940E-06 | +/- | 3.1E-09 | | |
| Total phase (deg) | | 4.2 | Apriori accel (us/s/s) | -4.57794837239E-05 | Resid phase (deg) | -64.1 | +/- | 20.1 | | |

| | RMS | Theor. | Amplitude | 0.127 +/- 0.022 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 54.3 | 48.1 | Search (2048X32) | 0.109 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 76.1 | 84.0 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 21.9 | 28.4 | Inc. seg. avg. | 0.125 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 31.4 | 49.5 | Inc. frq. avg. | 0.117 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | | |

l: az 65.4 el 63.4 pa -93.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 4324.248 -1735.138 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/lm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/lm.W.286.1W57LH

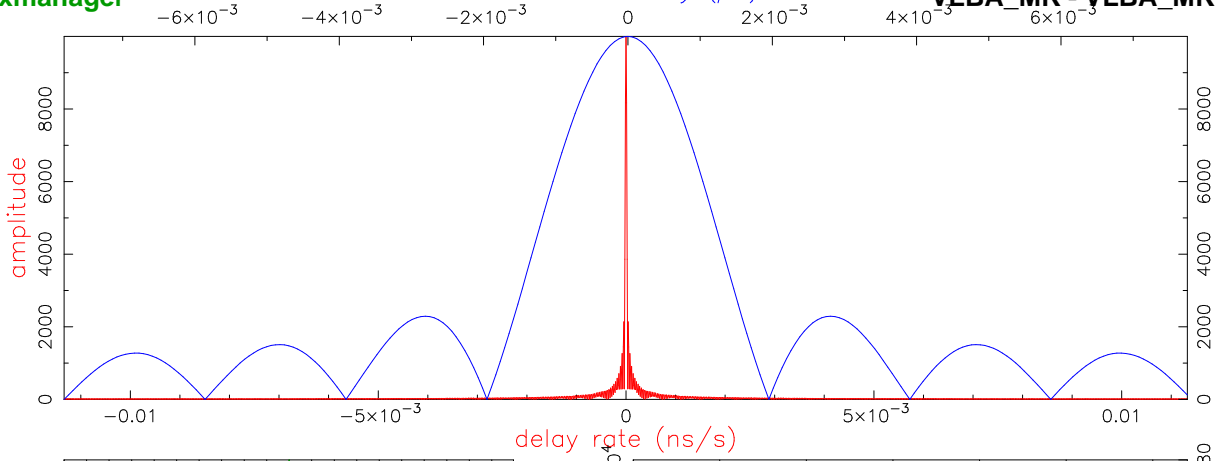
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

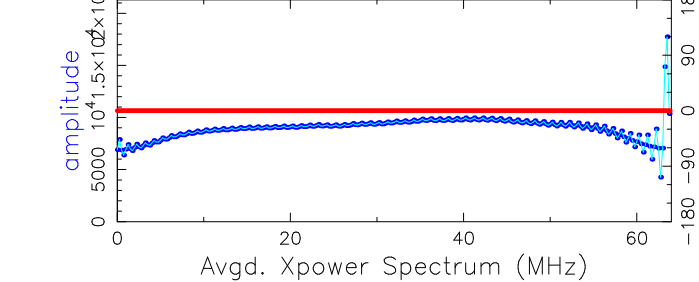
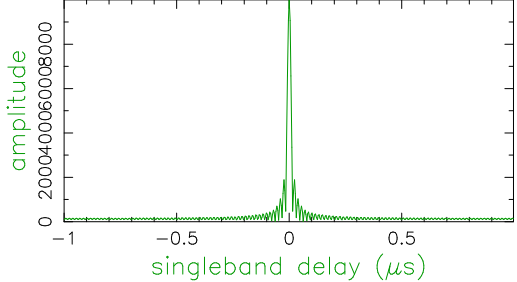
BLLAC.1W57LH, No0237, mm

VLBA_MK - VLBA_MK, fgroup W, pol LL

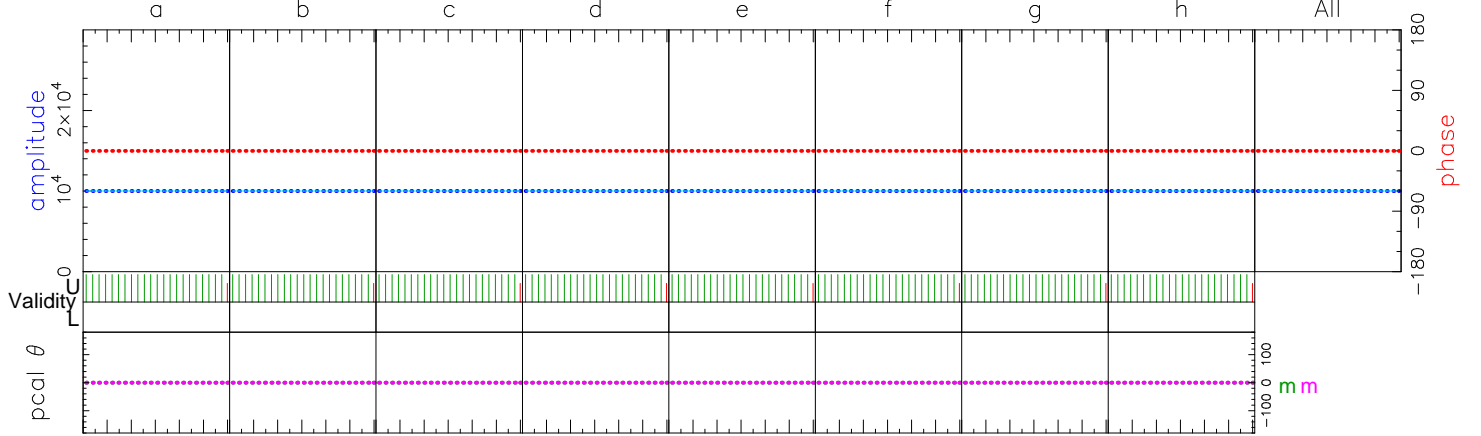
multiband delay (μ s)



Fringe quality 9
 SNR 518807.3
 Int time 359.929
 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 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134918
 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 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Sbd box | 257.0 |
| m:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | APs used | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Mani PC | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | PC amp | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | 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 |

| | | | | | | | | | |
|--------------|-----|-----|--------|------------------|--------------------|--|----------------------|----------------|--------------|
| ph/seg (deg) | 0.0 | RMS | Theor. | Amplitude | 9999.999 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 0.0 | 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 | |
| ph/frq (deg) | 0.0 | 0.0 | 0.0 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 0.0 | 0.0 | 0.0 | Inc. seg. avg. | 10000.000 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 0.011 | |
| | | | | Inc. frq. avg. | 9999.999 | Data rate(Mb/s): 2048 | ion window (TEC) | 0.00 0.00 | |
| | | | | | | nlags: 256 | t_cohere infinite | | |

m: az 50.6 el 18.5 pa -79.6 m: az 50.6 el 18.5 pa -79.6 u,v (vr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mm.W.244.1W57LH

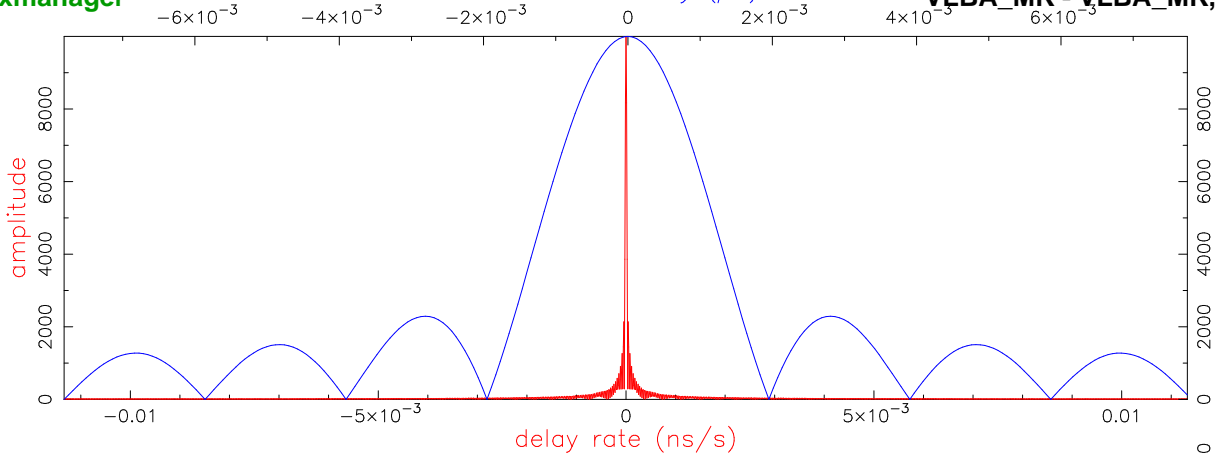
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mm

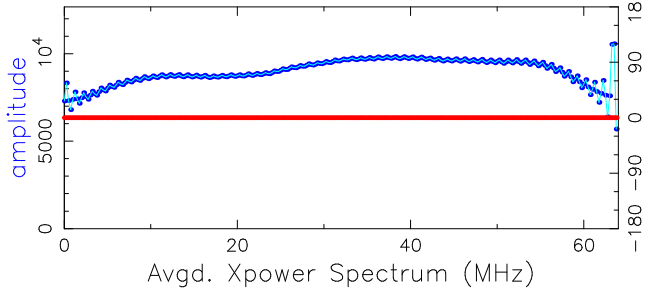
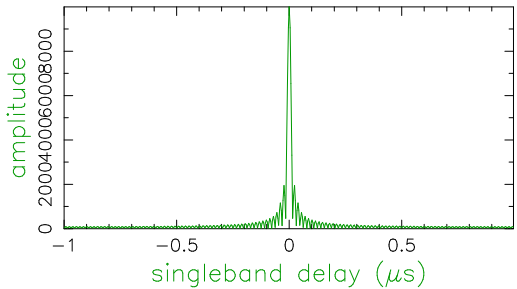
VLBA_MK - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)



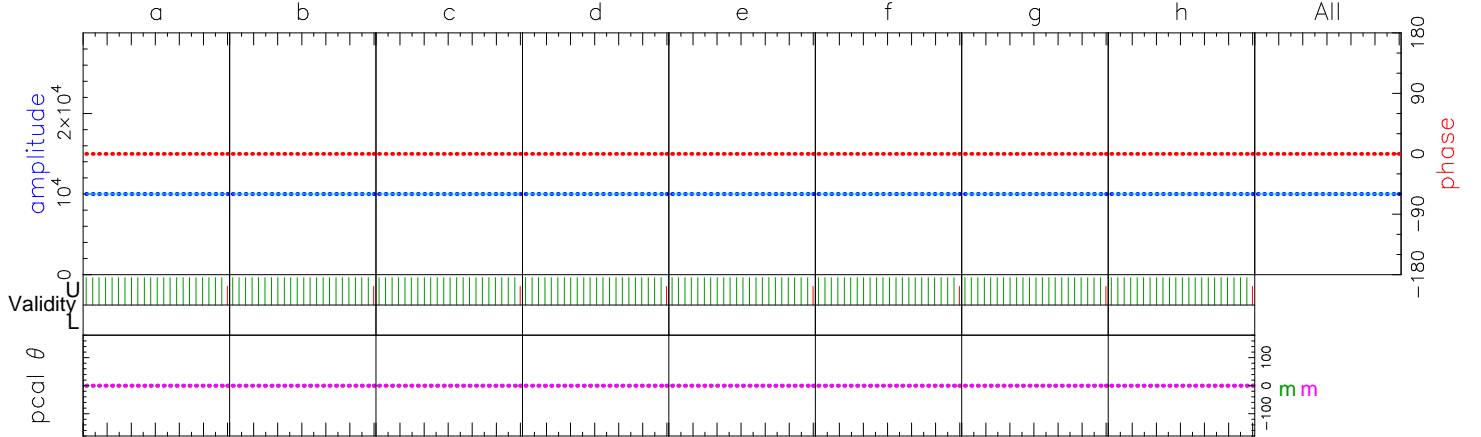
Fringe quality 9

SNR 518807.3
 Int time 359.929
 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 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134921
 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Sbd box | 257.0 | | |
| m:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | APs used | | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Mani PC | | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | PC amp | | | |
| | | | | | | | | | Chan ids | | | |
| | | | | | | | | | Tracks | | | |
| | | | | | | | | | Chan ids | | | |
| | | | | | | | | | Tracks | | | |
| Group delay (usec)(sbd) | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | Apriori delay (usec) | 0.000000000000E+00 | +/- 2.1E-09 | |
| Sband delay (usec) | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | Apriori clock (usec) | 0.000000000000E+00 | +/- 1.7E-08 | |
| Phase delay (usec) | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | Apriori clockrate (us/s) | 0.000000000000E+00 | +/- 7.1E-12 | |
| Delay rate (us/s) | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | 0.000000000000E+00 | Apriori rate (us/s) | 0.000000000000E+00 | +/- 3.4E-14 | |
| Total phase (deg) | | | 0.0 | | | | | | Apriori accel (us/s/s) | 0.000000000000E+00 | +/- 0.0 | |
| | RMS | Theor. | Amplitude | 9999.999 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | | | Resid mbdelay (usec) | 0.000000E+00 | | |
| 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 | Resid sbdelay (usec) | 0.000000E+00 | +/- 1.7E-08 | |
| amp/seg (%) | 0.0 | 0.0 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | Resid phdelay (usec) | 0.000000E+00 | +/- 7.1E-12 |
| 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 | Resid rate (us/s) | 0.000000E+00 | +/- 3.4E-14 | |
| 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 | Resid phase (deg) | 0.0 | +/- 0.0 |

m: az 50.6 el 18.5 pa -79.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

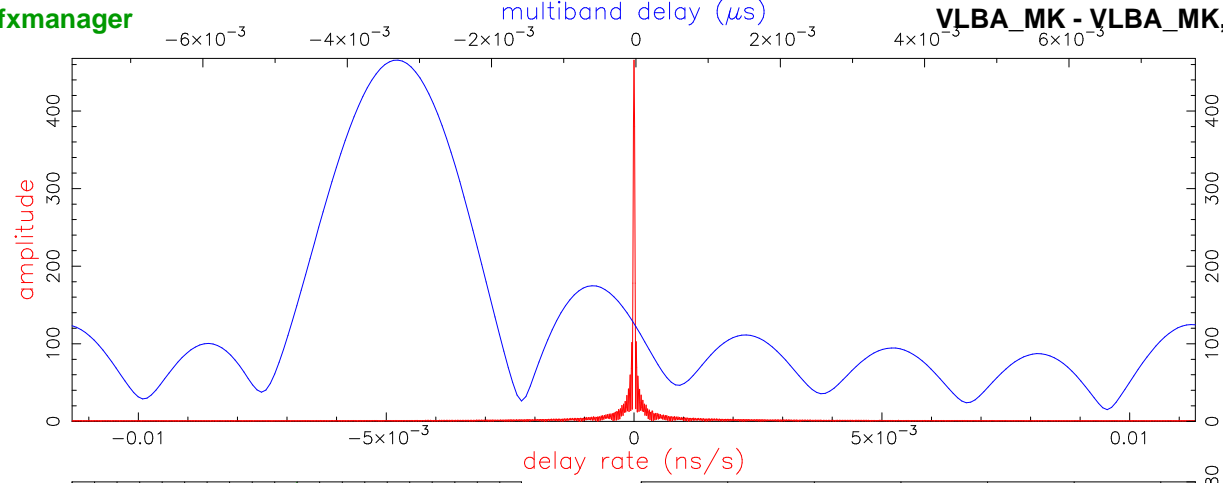
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mm.W.256.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mm

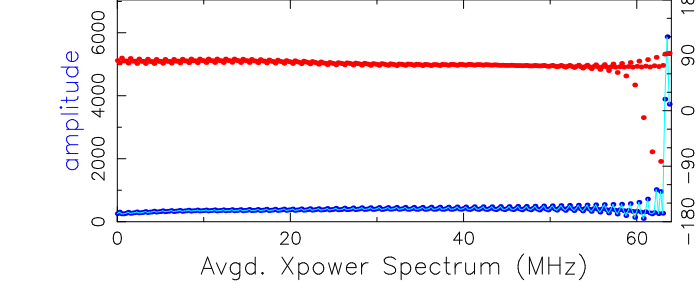
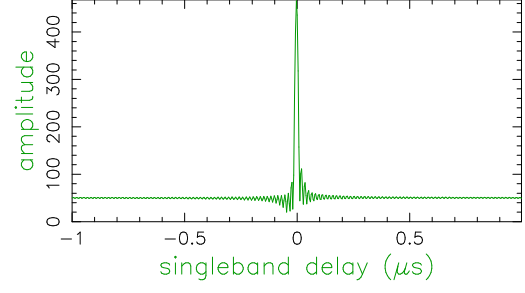
VLBA_MK - VLBA_MK, fgroup W, pol LR



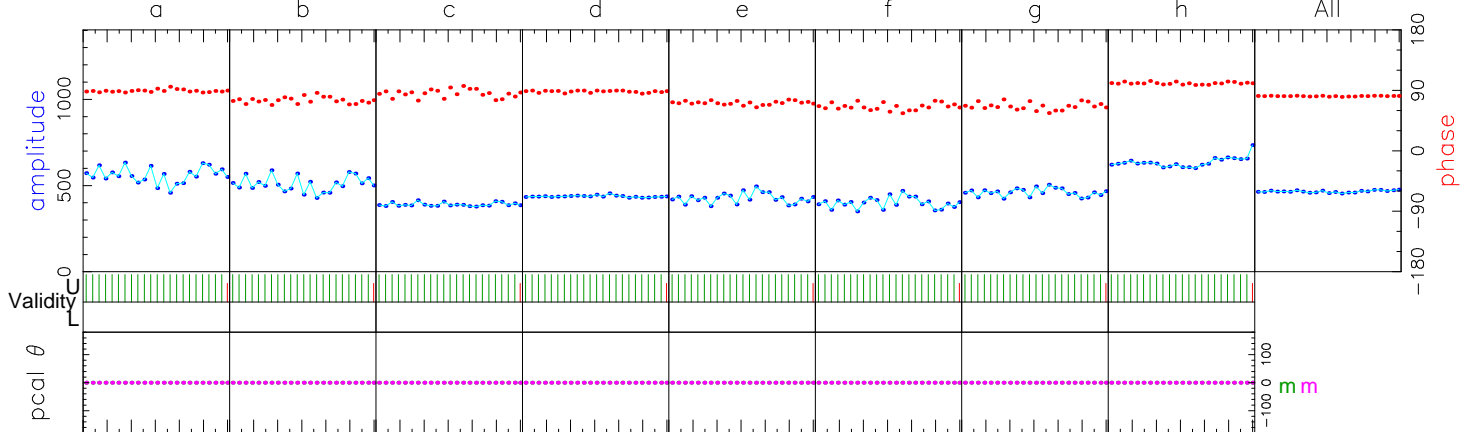
Fringe quality 8

SNR 24270.5
 Int time 359.929
 Amp 467.814
 Phase 81.3
 PFD 0.0e+00
 Delays (us)
 SBD -0.003112
 MBD -0.003320
 Fringe rate (Hz) 0.000006
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134925
 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 | Ampl. | 476.5 |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Sbd box | 256.2 |
| m:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | APs used | |
| m:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC freqs | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | PC amp | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| | | | | | | | | | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -3.31981250000E-03 | | | | | | | | Resid mbdelay (usec) | -3.31981E-03 +/- 4.5E-08 |
| Sband delay (usec) | -3.11150000000E-03 | | | | | | | | Resid sbdelay (usec) | -3.11150E-03 +/- 3.5E-07 |
| Phase delay (usec) | 2.62101252280E-06 | | | | | | | | Resid phdelay (usec) | 2.62101E-06 +/- 1.5E-10 |
| Delay rate (us/s) | 6.80215314801E-11 | | | | | | | | Resid rate (us/s) | 6.80215E-11 +/- 7.3E-13 |
| Total phase (deg) | | | 81.3 | | | | | | Resid phase (deg) | 81.3 +/- 0.0 |

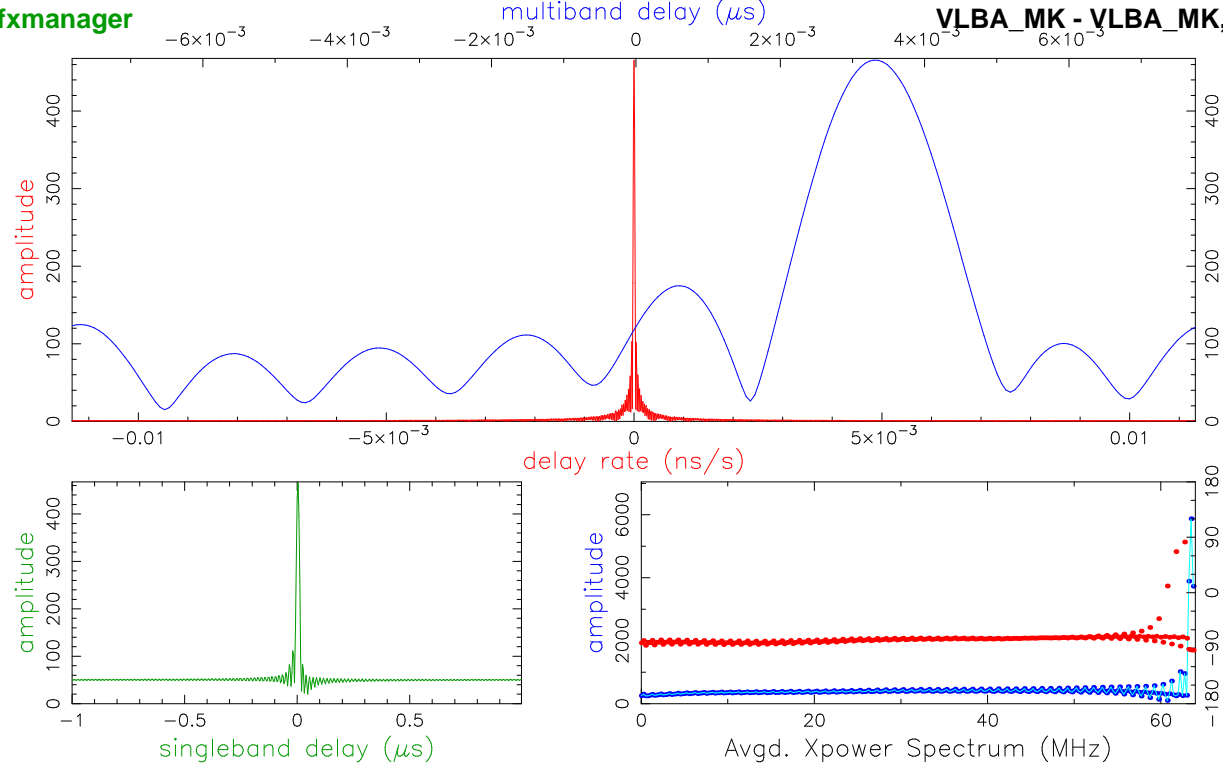
ph/seg (deg) 0.5 0.0 RMS Theor. Amplitude 467.814 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 1.4 0.0 Search (2048X32) 463.350 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 13.7 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 17.2 0.0 Inc. seg. avg. 465.709 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 m: az 50.6 el 18.5 pa -79.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 0.000 0.000 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mm.W.275.1W57LH simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

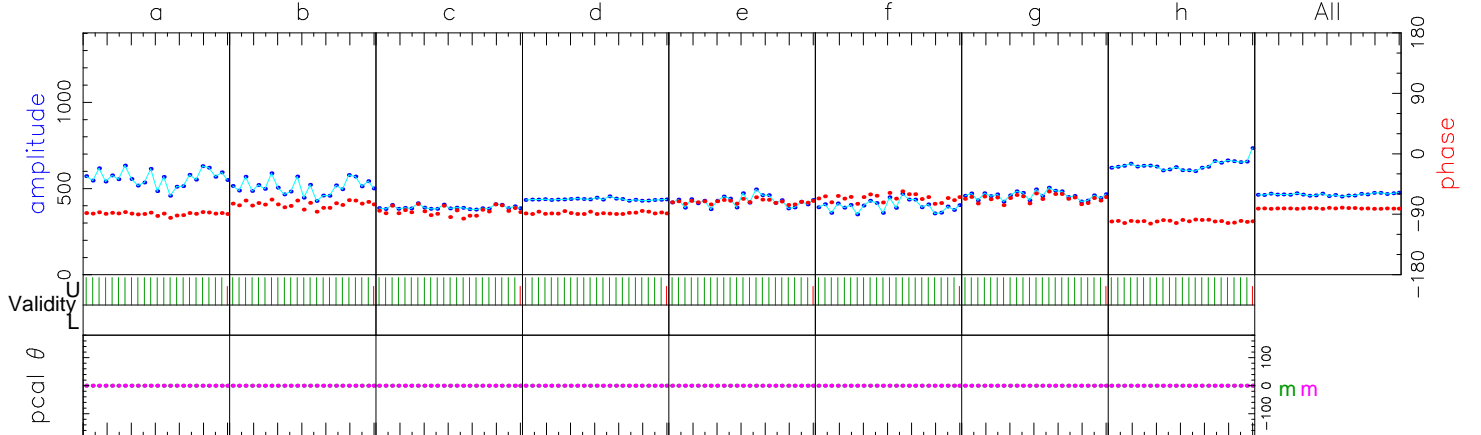
BLLAC.1W57LH, No0237, mm

VLBA_MK - VLBA_MK, fgroup W, pol RL



Fringe quality 8
 SNR 24270.5
 Int time 359.929
 Amp 467.814
 Phase -81.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.003112
 MBD 0.003320
 Fringe rate (Hz)
 -0.000006
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134928
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -89.0 | -74.8 | -85.1 | -88.1 | -71.1 | -65.3 | -66.0 | -100.5 | Phase | -81.3 |
| | 560.4 | 508.3 | 388.3 | 437.2 | 426.5 | 398.2 | 458.5 | 634.2 | Ampl. | 476.5 |
| | 258.0 | 258.3 | 257.9 | 257.8 | 258.2 | 257.9 | 257.7 | 257.7 | Sbd box | 257.8 |
| 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | |
| m:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

Group delay (usec)(sbd) 3.31981250000E-03 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) 3.31981E-03 +/- 4.5E-08
 Sband delay (usec) 3.11150000000E-03 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 3.11150E-03 +/- 3.5E-07
 Phase delay (usec) -2.62101252295E-06 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -2.62101E-06 +/- 1.5E-10
 Delay rate (us/s) -6.80215314801E-11 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) -6.80215E-11 +/- 7.3E-13
 Total phase (deg) -81.3 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) -81.3 +/- 0.0

RMS Theor. Amplitude 467.814 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.5 0.0 Search (2048X32) 463.350 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 1.4 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 13.7 0.0 Inc. seg. avg. 465.709 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 17.2 0.0 Inc. frq. avg. 476.462 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 50.6 el 18.5 pa -79.6 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mm.W.294.1W57LH

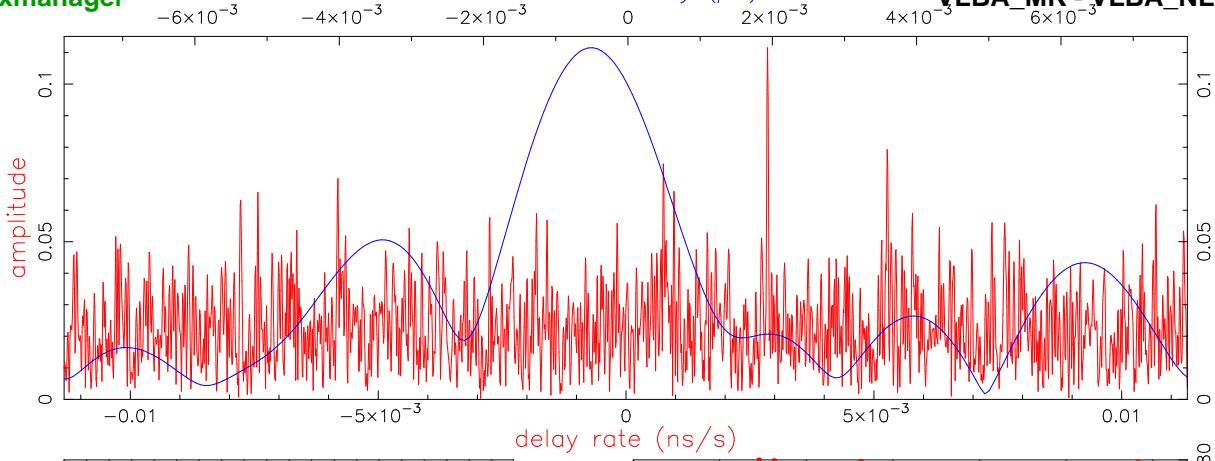
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

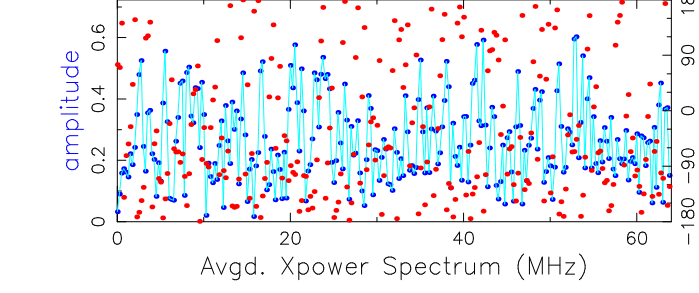
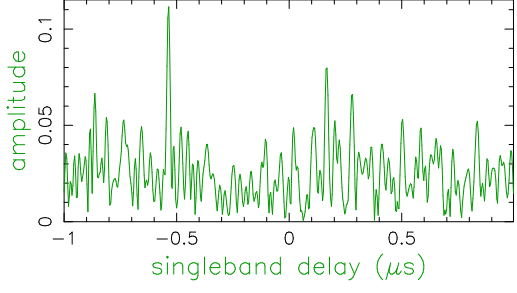
BLLAC.1W57LH, No0237, mn

VLBA_MK - VLBA_NL, fgroup W, pol LL

multiband delay (μ s)

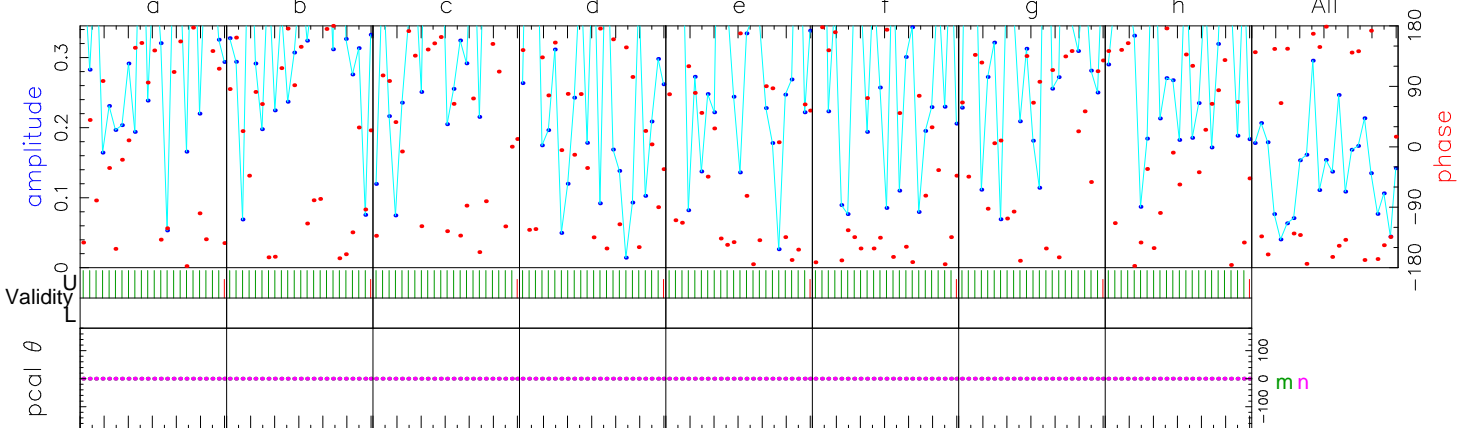


Fringe quality 0
 SNR 5.8
 Int time 359.915
 Amp 0.115
 Phase -175.8
 PFD 7.8e-01
 Delays (us)
 SBD -0.536060
 MBD -0.000529
 Fringe rate (Hz)
 0.246759
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134919
 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 | | |
| 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) | -1.36672378049E+04 | | | | | | | | | |
| Sband delay (usec) | -1.36672420853E+04 | | | | | | | | | |
| Phase delay (usec) | -1.36667060312E+04 | | | | | | | | | |
| Delay rate (us/s) | 8.08255223092E-01 | | | | | | | | | |
| Total phase (deg) | | | -190.6 | | | | | | | |
| 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 | | | | | | | | | | |
| ion window (TEC) | | | | | | | | | | |
| sb window (us) | | | | | | | | | | |
| mb window (us) | | | | | | | | | | |
| dr window (ns/s) | | | | | | | | | | |
| ion window (TEC) | | | | | | | | | | |

ph/seg (deg) 49.3 47.2 Search (2048X32) 0.110 0.110 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 62.3 82.4 Interp. 0.000 0.110 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 26.9 27.9 Inc. seg. avg. 0.108 0.110 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 30.2 48.6 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
 m: az 50.6 el 18.5 pa -79.6 n: az 81.2 el 76.1 pa -86.1 u,v (fr/asec) -6167.813 1378.566 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mn..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mn.W.249.1W57LH

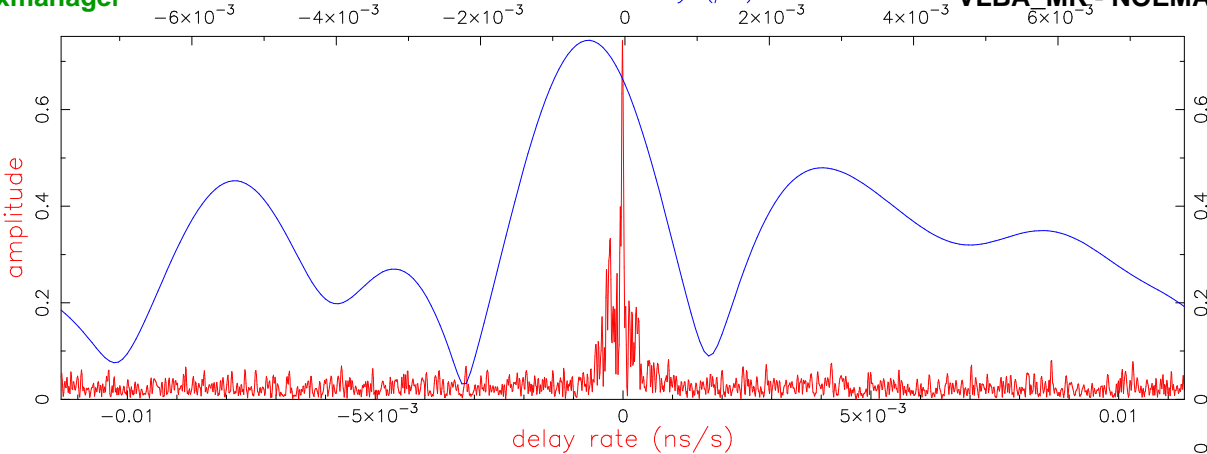
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mN

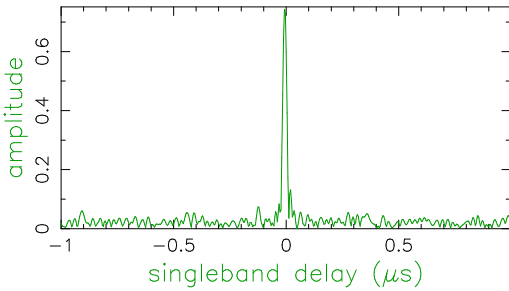
VLBA_MK- NOEMA, fgroup W, pol LL

multiband delay (μ s)

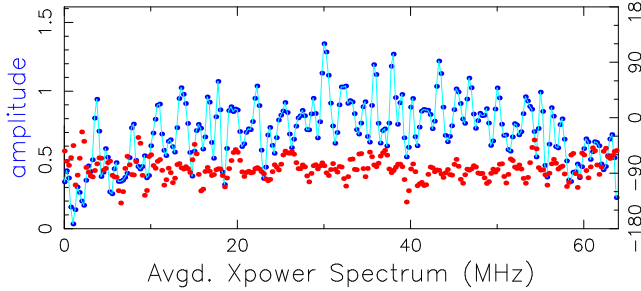


Fringe quality 3

SNR 39.0
 Int time 359.924
 Amp 0.752
 Phase -149.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.006334
 MBD -0.000458
 Fringe rate (Hz)
 -0.001302
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

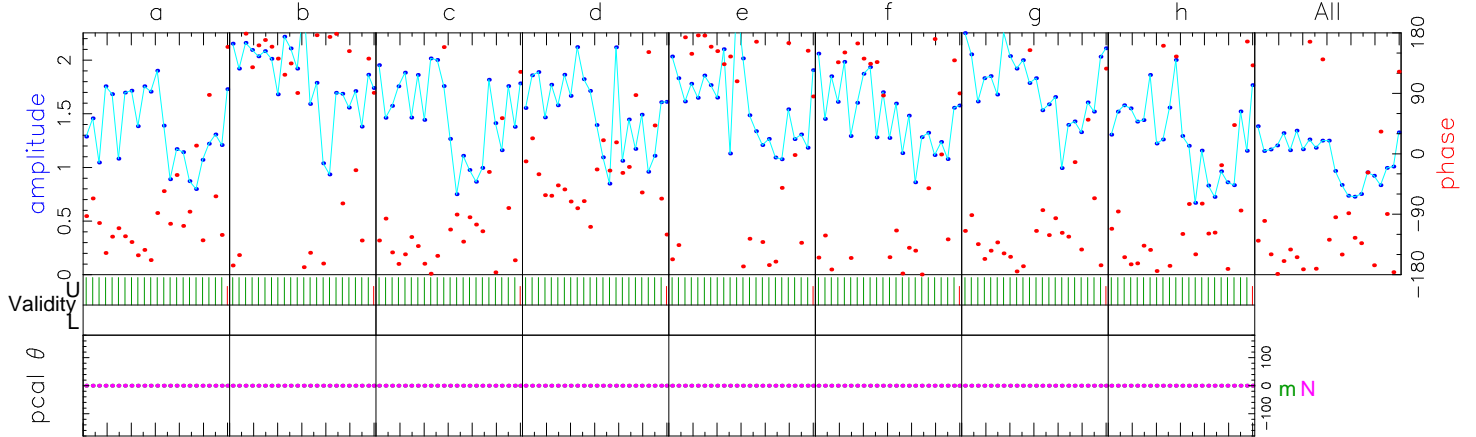


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134921
 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) | -4.96020034563E+03 | Apriori delay (usec) | -4.96019988730E+03 | Resid mbdelay (usec) | -4.58323E-04 | +/- | 2.8E-05 |
| Sband delay (usec) | -4.96020622080E+03 | Apriori clock (usec) | 2.8911541E+01 | Resid sbdelay (usec) | -6.33350E-03 | +/- | 2.2E-04 |
| Phase delay (usec) | -4.96019989211E+03 | Apriori clockrate (us/s) | -8.9360004E-06 | Resid phdelay (usec) | -4.81208E-06 | +/- | 9.5E-08 |
| Delay rate (us/s) | 1.87204940905E+00 | Apriori rate (us/s) | 1.87204942417E+00 | Resid rate (us/s) | -1.51185E-08 | +/- | 4.6E-10 |
| Total phase (deg) | -254.4 | Apriori accel (us/s/s) | -1.10978130528E-06 | Resid phase (deg) | -149.2 | +/- | 2.9 |

| | | | | | | | | | | |
|--------------|------|--------|------|------------------|-------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 57.9 | Theor. | 7.0 | Search (2048X32) | 0.729 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 51.4 | | 12.3 | 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) | 54.8 | | 4.2 | Inc. seg. avg. | 1.072 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 42.1 | | 7.3 | Inc. frq. avg. | 1.034 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

m: az 50.6 el 18.5 pa -79.6 N: az 297.6 el 35.2 pa 58.9 u,v (fr/asec) -14514.857 -2255.688 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mN..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mN.W.252.1W57LH

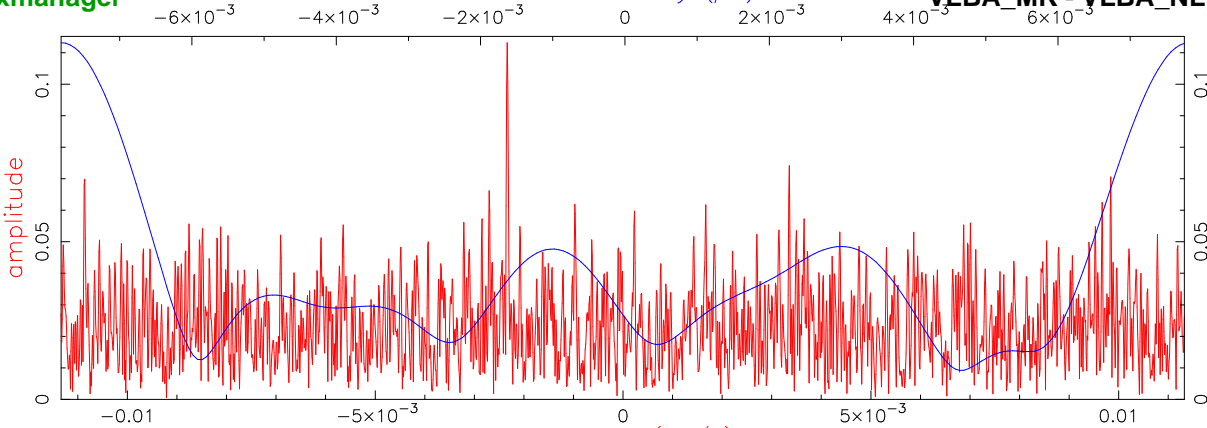
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mn

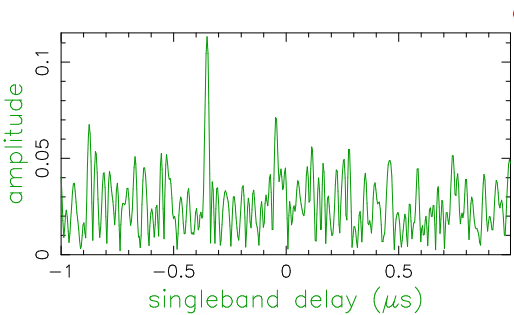
VLBA_MK - VLBA_NL, fgroup W, pol RR

multiband delay (μ s)

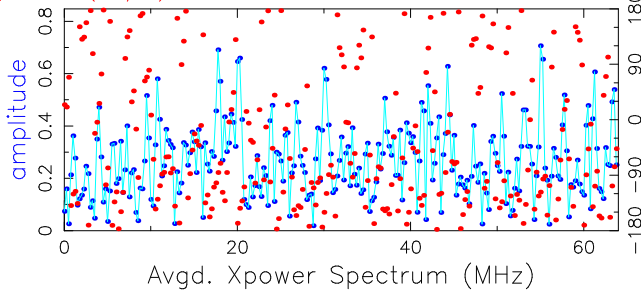


Fringe quality 0

SNR 5.9
Int time 359.915
Amp 0.115
Phase -118.6
PFD 6.7e-01
Delays (us)
SBD -0.351476
MBD -0.007803
Fringe rate (Hz)
-0.201800
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

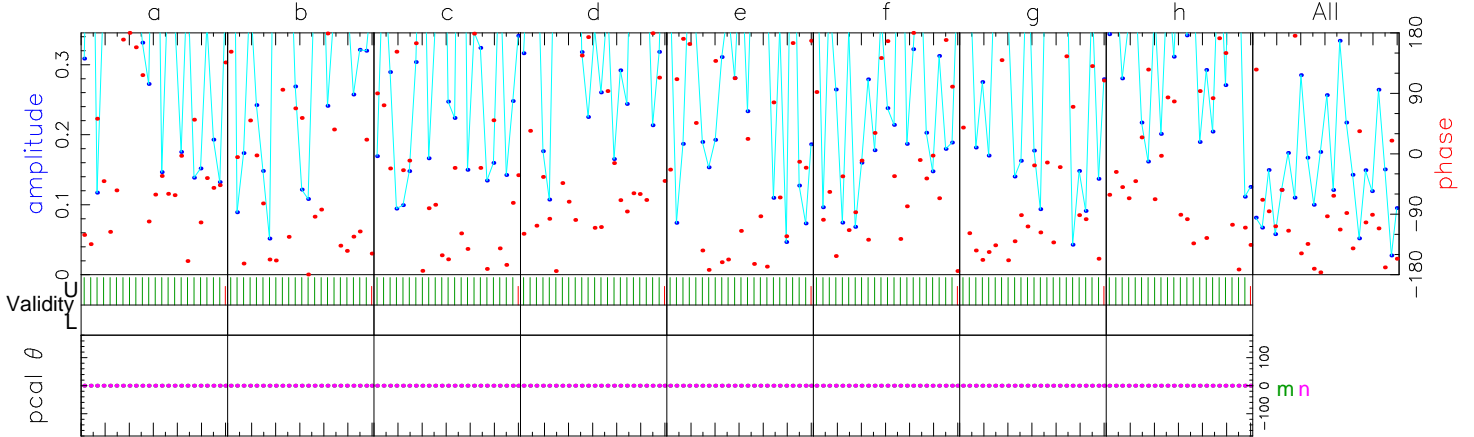


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 124500.00
Stop 125059.94
FRT 124816.00
Corr/FF/build
2021:286:092156
2021:286:134923
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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -101.1 | -151.0 | -130.2 | -84.1 | -163.4 | -112.1 | -141.5 | -95.5 | Phase | -118.6 |
| | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 223.6 | 174.0 | 285.9 | 167.1 | 189.4 | 12.8 | 384.7 | 434.5 | Sbd box | 167.0 |
| 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 | | |
| m | 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) | -1.36670575786E+04 | | Apriori delay (usec) | | -1.36667060256E+04 | | Resid mbdelay (usec) | | -7.80305E-03 | +/- 1.8E-04 |
| Sband delay (usec) | -1.36670575018E+04 | | Apriori clock (usec) | | 1.0243801E+01 | | Resid sbdelay (usec) | | -3.51476E-01 | +/- 1.5E-03 |
| Phase delay (usec) | -1.36667060294E+04 | | Apriori clockrate (us/s) | | 1.8000006E-08 | | Resid phdelay (usec) | | -3.82304E-06 | +/- 6.3E-07 |
| Delay rate (us/s) | 8.08250015760E-01 | | Apriori rate (us/s) | | 8.08252358463E-01 | | Resid rate (us/s) | | -2.34270E-06 | +/- 3.0E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 4.787832326483E-05 | | Resid phase (deg) | | -118.6 | +/- 19.5 |

| | RMS | Theor. | Amplitude | 0.115 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 61.2 | 46.8 | Search (2048X32) | 0.110 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 75.6 | 81.7 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 31.1 | 27.6 | Inc. seg. avg. | 0.114 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 37.1 | 48.2 | Inc. frq. avg. | 0.117 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | | |

m: az 50.6 el 18.5 pa -79.6 n: az 81.2 el 76.1 pa -86.1 u,v (fr/asec) -6167.813 1378.566 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mn..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mn.W.264.1W57LH

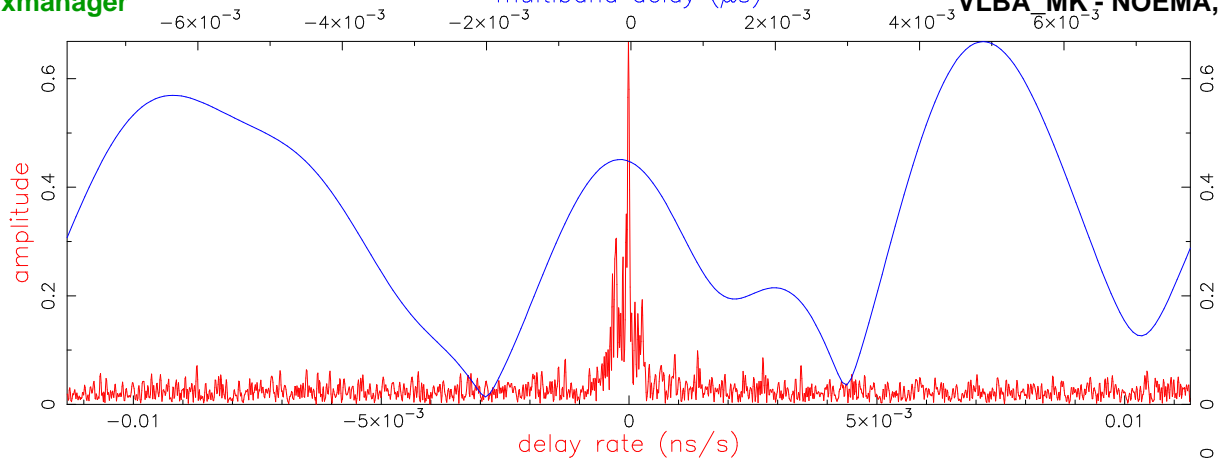
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mN

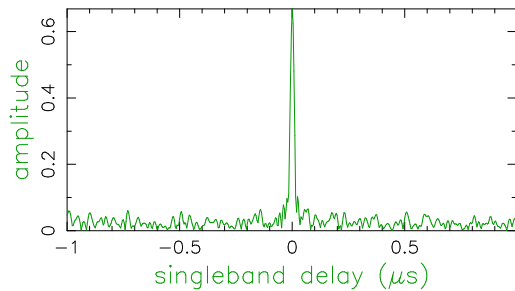
VLBA_MK - NOEMA, fgroup W, pol RR

multiband delay (μ s)

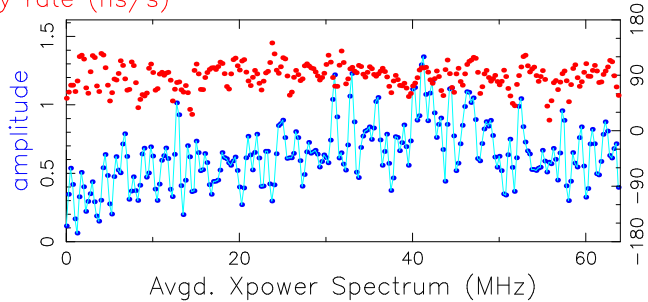


Fringe quality 3

SNR 34.7
 Int time 359.924
 Amp 0.669
 Phase 37.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.000405
 MBD 0.004903
 Fringe rate (Hz)
 -0.001242
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

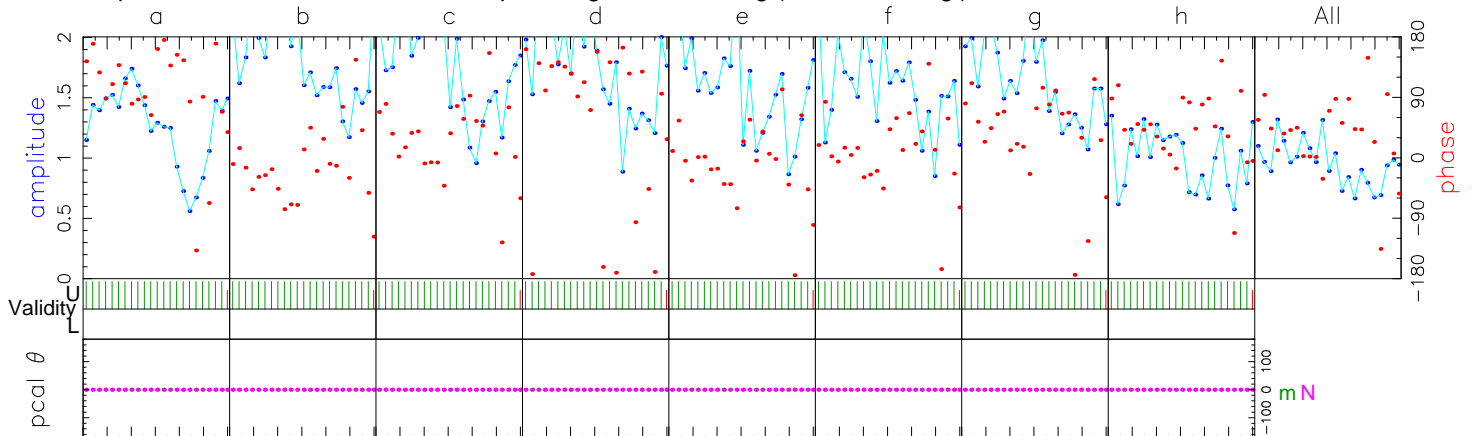


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134924
 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 | 118.0 | -23.4 | 26.8 | 134.9 | -4.7 | 12.4 | 56.9 | 48.1 | Phase | 37.8 |
| m | 0.9 | 1.3 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 0.7 | Ampl. | 1.1 |
| N | 255.3 | 257.3 | 257.4 | 257.3 | 257.6 | 257.5 | 256.6 | 254.7 | Sbd box | 257.1 |
| m:N | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| m: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 freqs | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| N | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 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) | -4.96019498397E+03 | | Apriori delay (usec) | | -4.96019988730E+03 | | Resid mbdelay (usec) | | 4.90333E-03 | +/- 3.1E-05 |
| Sband delay (usec) | -4.96019948230E+03 | | Apriori clock (usec) | | 2.8911541E+01 | | Resid sbdelay (usec) | | 4.05000E-04 | +/- 2.5E-04 |
| Phase delay (usec) | -4.96019988608E+03 | | Apriori clockrate (us/s) | | -8.9360004E-06 | | Resid phdelay (usec) | | 1.21923E-06 | +/- 1.1E-07 |
| Delay rate (us/s) | 1.87204940975E+00 | | Apriori rate (us/s) | | 1.87204942417E+00 | | Resid rate (us/s) | | -1.44213E-08 | +/- 5.1E-10 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -1.10978130528E-06 | | Resid phase (deg) | | 37.8 | +/- 3.3 |

ph/seg (deg) 56.2 7.9 Search (2048X32) 0.659 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 51.4 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) 61.4 4.7 Inc. seg. avg. 0.952 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 66.2 8.2 Inc. frq. avg. 1.070 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 50.6 el 18.5 pa -79.6 N: az 297.6 el 35.2 pa 58.9 u,v (fr/asec) -14514.857 -2255.688 ion window (TEC) 0.00 0.00
 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mN.1W57LH Output file: /Exps/c211a/v2/1234/No0237/mN.W.270.1W57LH

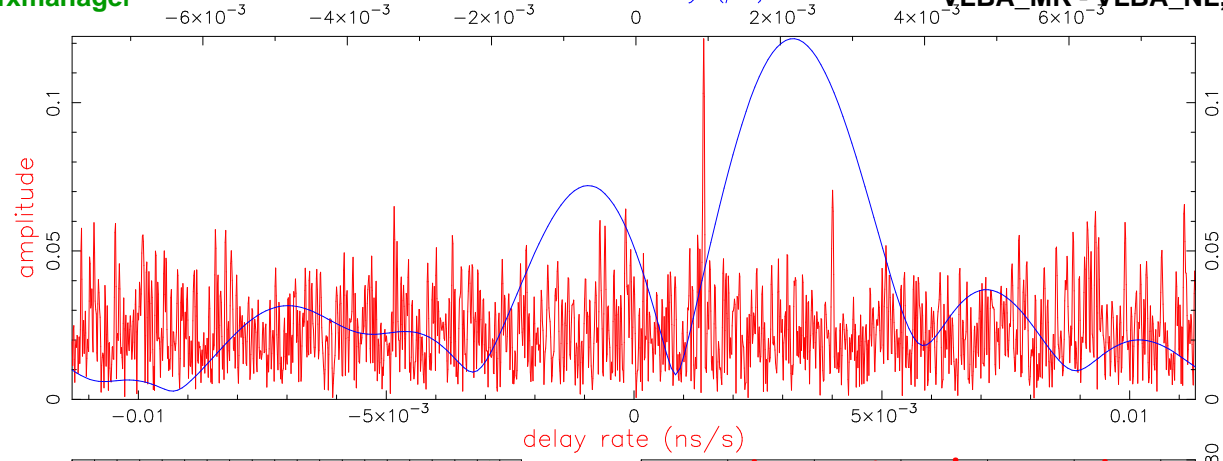
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mn

VLBA_MK - VLBA_NL, fgroup W, pol LR

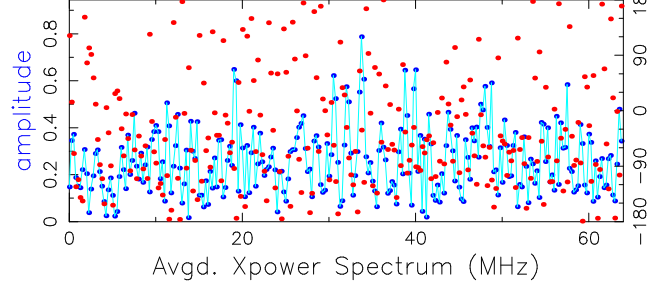
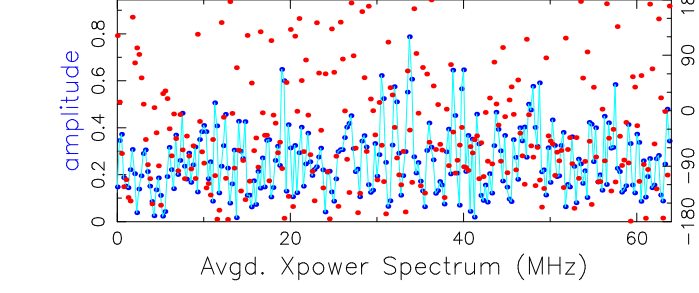
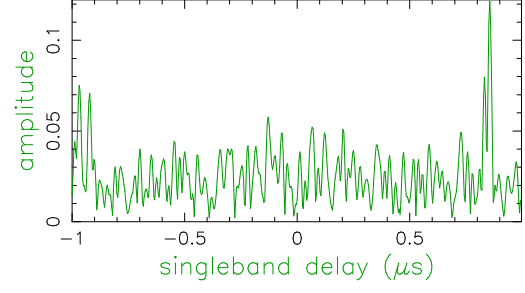
multiband delay (μ s)



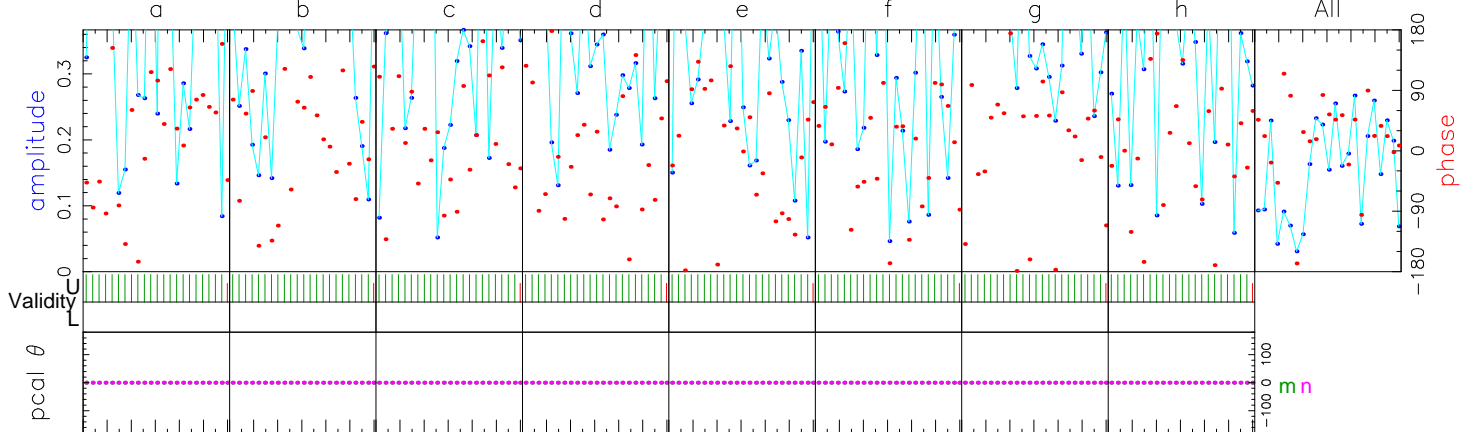
Fringe quality 0

SNR 6.3
 Int time 359.915
 Amp 0.122
 Phase 32.5
 PFD 7.5e-02
 Delays (us)
 SBD 0.855452
 MBD 0.002173
 Fringe rate (Hz)
 0.121704
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134926
 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 | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | -1.36658444777E+04 | | | | -1.36667060256E+04 | | | | 2.17289E-03 | +/- 1.7E-04 |
| Sband delay (usec) | -1.36658505741E+04 | | | | 1.0243801E+01 | | | | 8.55452E-01 | +/- 1.4E-03 |
| Phase delay (usec) | -1.36667060245E+04 | | | | 1.8000006E-08 | | | | 1.04714E-06 | +/- 5.9E-07 |
| Delay rate (us/s) | 8.08253771328E-01 | | | | 8.0825358463E-01 | | | | 1.41286E-06 | +/- 2.8E-09 |
| Total phase (deg) | | | 17.6 | | 4.78783236483E-05 | | | | 32.5 | +/- 18.2 |
| 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) | | | | | | | | | -1.000 | 1.000 |
| mb window (us) | | | | | | | | | -0.008 | 0.008 |
| dr window (ns/s) | | | | | | | | | -0.011 | 0.011 |
| ion window (TEC) | | | | | | | | | 0.00 | 0.00 |
| PC period (AP's) 5, 5 | | | | | | | | | | |
| SampCntNorm: enabled | | | | | | | | | | |
| simultaneous interpolator | | | | | | | | | | |

m: az 50.6 el 18.5 pa -79.6 n: az 81.2 el 76.1 pa -86.1 u,v (fr/asec) -6167.813 1378.566

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mn..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mn.W.285.1W57LH

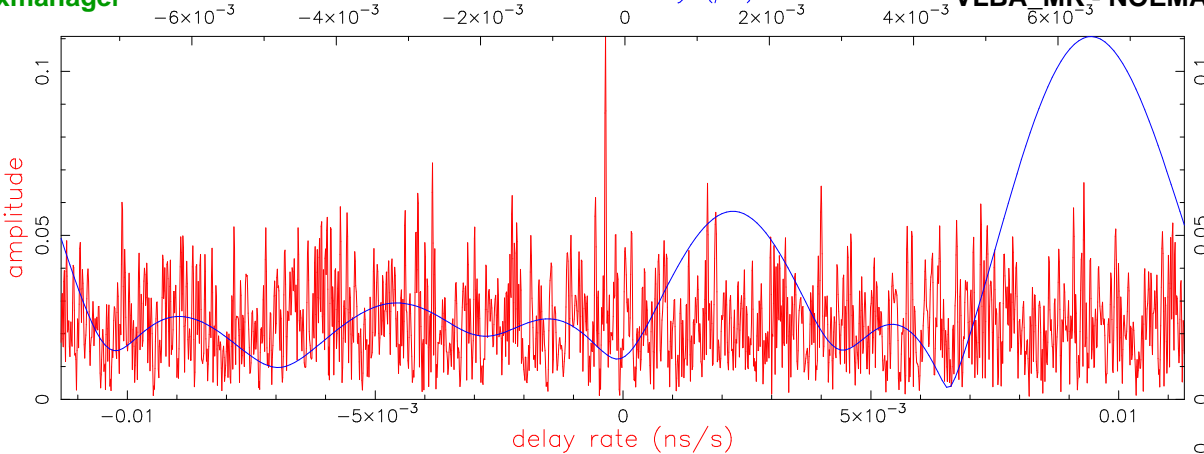
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mN

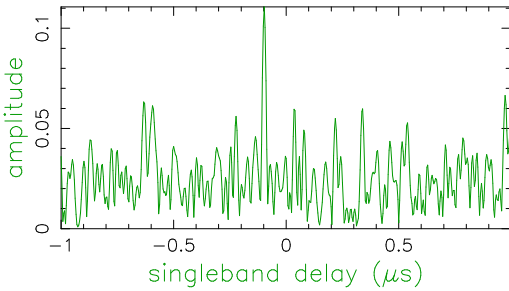
VLBA_MK- NOEMA, fgroup W, pol LR

multiband delay (μ s)

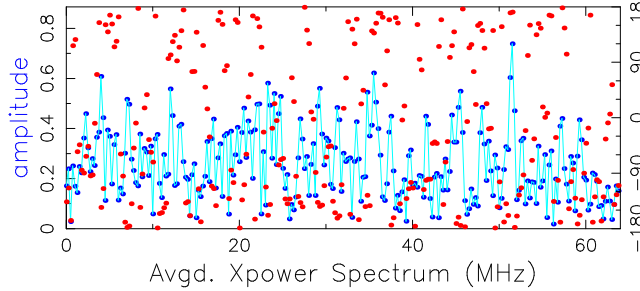


Fringe quality 0

SNR 5.7
 Int time 359.924
 Amp 0.111
 Phase 77.1
 PFD 9.0e-01
 Delays (us)
 SBD -0.097713
 MBD 0.006455
 Fringe rate (Hz)
 -0.030516
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

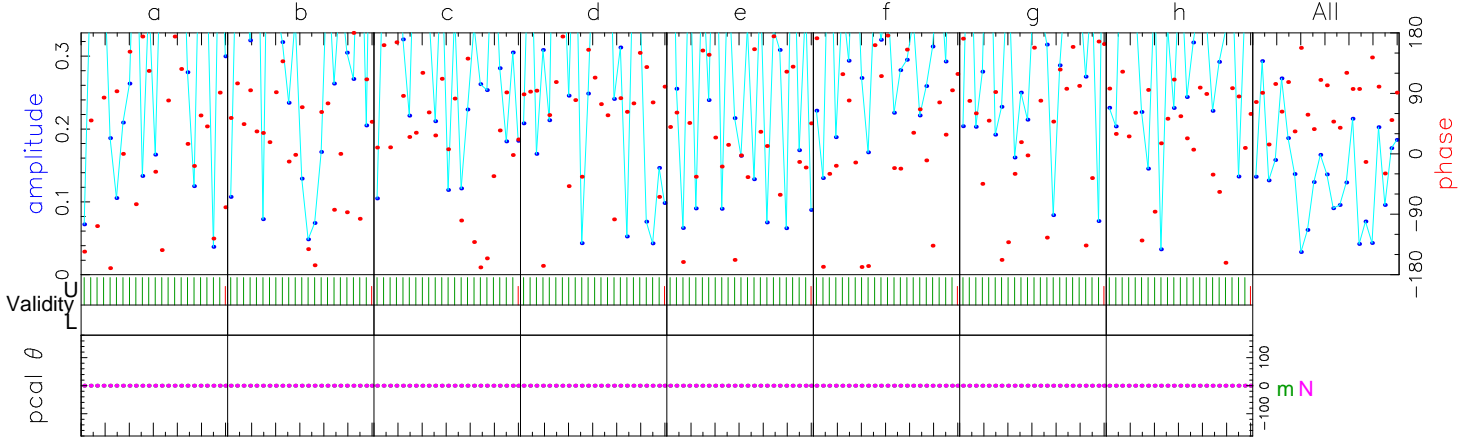


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134928
 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 | 100.6 | 45.7 | 83.6 | 100.2 | 40.8 | 88.0 | 110.7 | 60.6 | Phase | 77.1 |
| m | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| N | 497.0 | 233.4 | 201.3 | 232.1 | 255.1 | 406.7 | 323.6 | 273.0 | Sbd box | 232.0 |
| m:N | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| m: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 freqs | |
| m:N | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| 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 | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -4.96030280709E+03 | | Apriori delay (usec) | | -4.96019988730E+03 | | Resid mbdelay (usec) | | 6.45521E-03 | +/- 1.9E-04 |
| Sband delay (usec) | -4.96029759980E+03 | | Apriori clock (usec) | | 2.8911541E+01 | | Resid sbdelay (usec) | | -9.77125E-02 | +/- 1.5E-03 |
| Phase delay (usec) | -4.96019988481E+03 | | Apriori clockrate (us/s) | | -8.9360004E-06 | | Resid phdelay (usec) | | 2.48696E-06 | +/- 6.4E-07 |
| Delay rate (us/s) | 1.87204906991E+00 | | Apriori rate (us/s) | | 1.87204942417E+00 | | Resid rate (us/s) | | -3.54263E-07 | +/- 3.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -1.10978130528E-06 | | Resid phase (deg) | | 77.1 | +/- 20.0 |

| | RMS | Theor. | Amplitude | 0.111 +/- 0.019 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------------|
| ph/seg (deg) | 46.0 | 47.9 | Search (2048X32) | 0.109 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 0.008 |
| amp/seg (%) | 65.6 | 83.6 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 0.011 |
| ph/frq (deg) | 28.7 | 28.2 | Inc. seg. avg. | 0.102 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 0.00 |
| amp/frq (%) | 33.7 | 49.3 | Inc. frq. avg. | 0.109 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | |

m: az 50.6 el 18.5 pa -79.6 N: az 297.6 el 35.2 pa 58.9 u,v (fr/asec) -14514.857 -2255.688 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mN..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mN.W.290.1W57LH

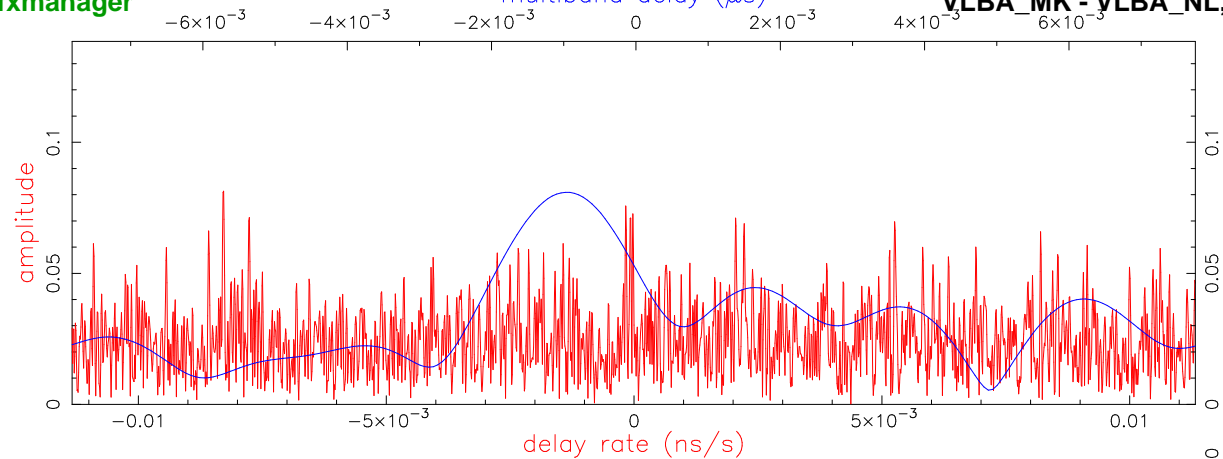
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mn

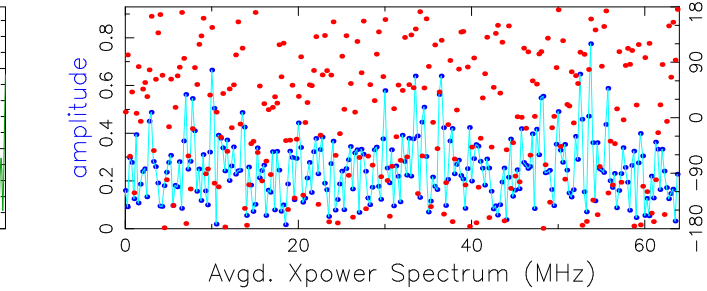
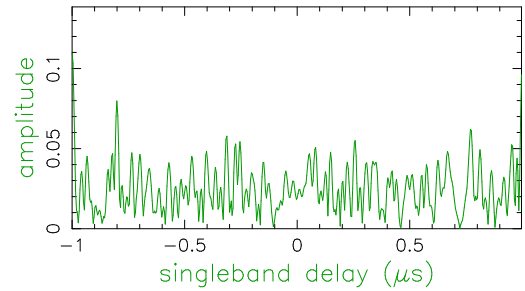
VLBA_MK - VLBA_NL, fgroup W, pol RL

multiband delay (μ s)



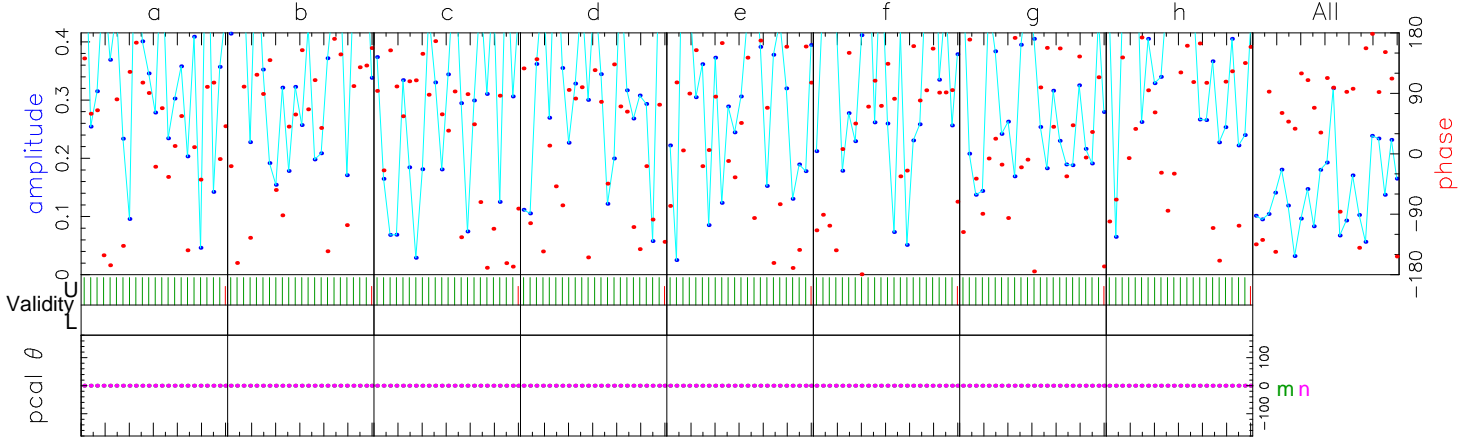
Fringe quality 0

SNR 5.7
 Int time 359.915
 Amp 0.139
 Phase 115.6
 PFD 9.5e-01
 Delays (us)
 SBD -0.999286
 MBD -0.000996
 Fringe rate (Hz)
 -0.715562
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134930
 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 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| n | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| n | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.36677070212E+04 | Apriori delay (usec) | -1.36667060256E+04 | Resid mbdelay (usec) | -9.95624E-04 | +/- | 1.9E-04 |
| Sband delay (usec) | -1.36677053114E+04 | Apriori clock (usec) | 1.0243801E+01 | Resid sbdelay (usec) | -9.99286E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -1.36667060218E+04 | Apriori clockrate (us/s) | 1.8000006E-08 | Resid phdelay (usec) | 3.72867E-06 | +/- | 6.5E-07 |
| Delay rate (us/s) | 8.08244051496E-01 | Apriori rate (us/s) | 8.08252358463E-01 | Resid rate (us/s) | -8.30697E-06 | +/- | 3.1E-09 |
| Total phase (deg) | 100.8 | Apriori accel (us/s/s) | 4.787832326483E-05 | Resid phase (deg) | 115.6 | +/- | 20.1 |

| | | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 69.4 | RMS | 48.2 | Theor. | 0.139 +/- 0.024 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 68.7 | Search (2048X32) | 0.106 | Amplitude | | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 45.5 | Interp. | 0.000 | Inc. seg. avg. | 0.133 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 50.0 | Inc. frq. avg. | 0.101 | Inc. frq. avg. | 0.101 | 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 |

m: az 50.6 el 18.5 pa -79.6 n: az 81.2 el 76.1 pa -86.1 u,v (fr/asec) -6167.813 1378.566 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mn..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mn.W.303.1W57LH

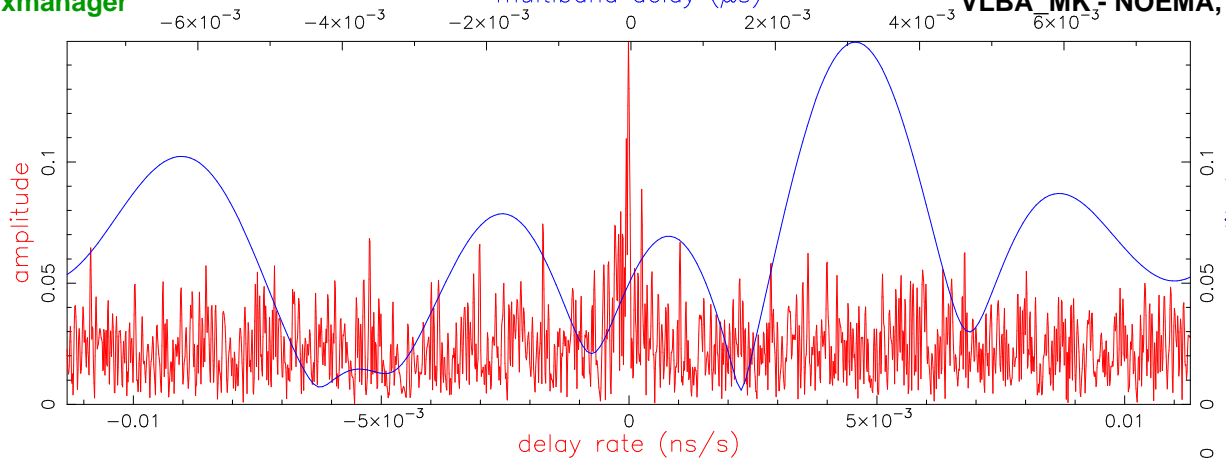
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mN

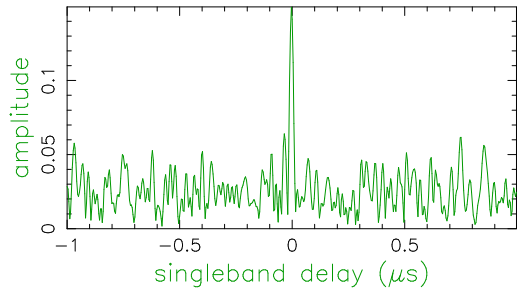
VLBA_MK- NOEMA, fgroup W, pol RL

multiband delay (μ s)

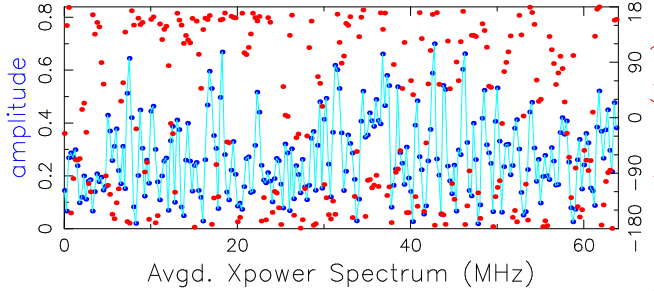


Fringe quality 9

SNR 7.8
 Int time 359.924
 Amp 0.150
 Phase 108.2
 PFD 2.6e-06
 Delays (us)
 SBD -0.003229
 MBD 0.003131
 Fringe rate (Hz)
 -0.001259
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

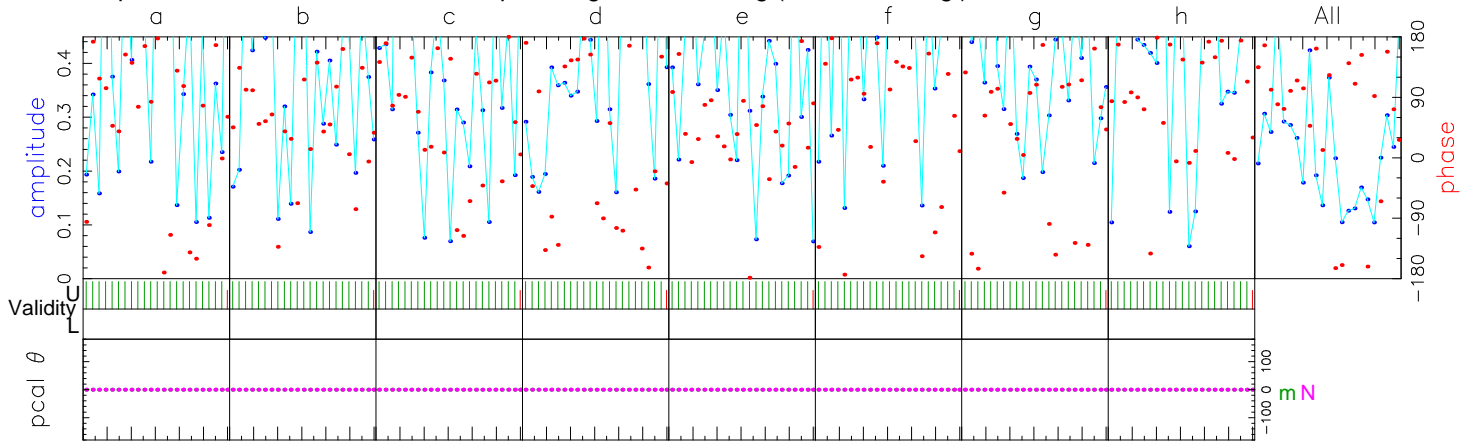


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134931
 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 | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| N | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -4.96019675606E+03 | Apriori delay (usec) | -4.96019988730E+03 | Resid mbdelay (usec) | 3.13124E-03 | +/- | 1.4E-04 |
| Sband delay (usec) | -4.96020311605E+03 | Apriori clock (usec) | 2.8911541E+01 | Resid sbdelay (usec) | -3.22875E-03 | +/- | 1.1E-03 |
| Phase delay (usec) | -4.96019988381E+03 | Apriori clockrate (us/s) | -8.9360004E-06 | Resid phdelay (usec) | 3.49002E-06 | +/- | 4.8E-07 |
| Delay rate (us/s) | 1.87204940955E+00 | Apriori rate (us/s) | 1.87204942417E+00 | Resid rate (us/s) | -1.46161E-08 | +/- | 2.3E-09 |
| Total phase (deg) | | Apriori accel (us/s/s) | -1.10978130528E-06 | Resid phase (deg) | 108.2 | +/- | 14.8 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 62.4 | Theor. | 35.4 | Amplitude | 0.150 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 98.0 | Search (2048X32) | 0.145 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 53.6 | Inc. seg. avg. | 0.206 | Inc. frq. avg. | 0.190 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 41.7 | Inc. frq. avg. | 0.190 | | | 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 | |

m: az 50.6 el 18.5 pa -79.6 N: az 297.6 el 35.2 pa 58.9 u,v (fr/asec) -14514.857 -2255.688 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mN..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mN.W.307.1W57LH

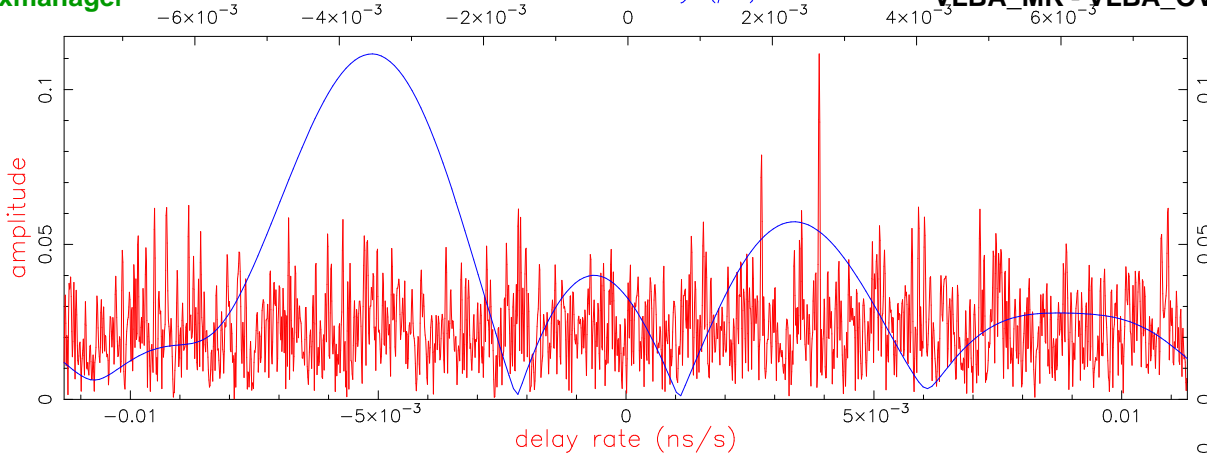
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mo

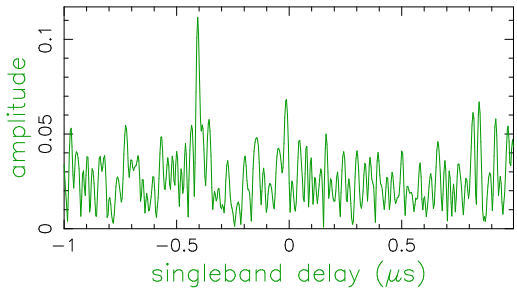
VLBA_MK - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

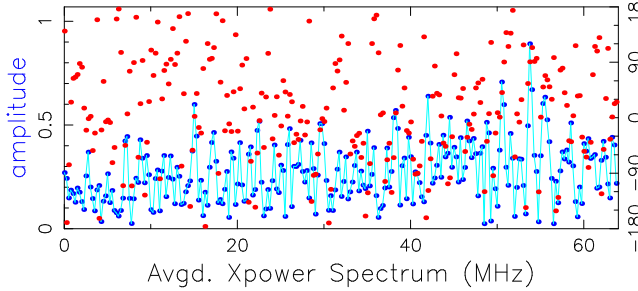


Fringe quality 0

SNR 5.8
Int time 359.914
Amp 0.117
Phase 57.7
PFD 8.4e-01
Delays (us)
SBD -0.406190
MBD -0.003549
Fringe rate (Hz)
0.336558
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

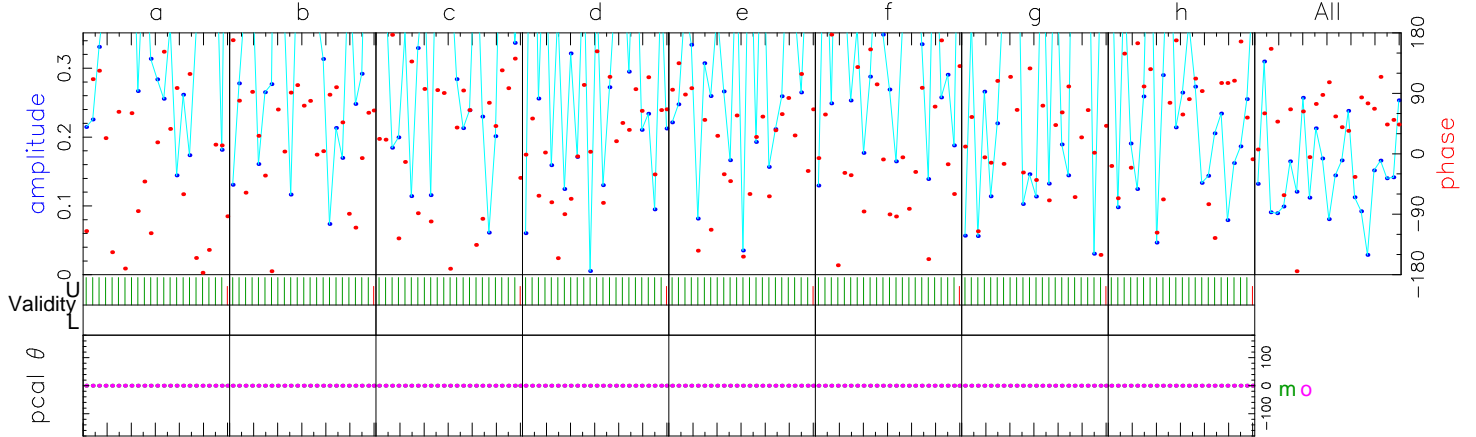


delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 124500.00
Stop 125059.94
FRT 124816.00
Corr/FF/build
2021:286:092156
2021:286:134922
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 | 63.0 | 52.7 | 90.3 | 53.5 | 45.7 | 41.0 | 40.4 | 92.5 | Phase | 57.7 |
| m | 0.0 | 0.2 | 0.1 | 0.1 | 0.2 | 0.0 | 0.2 | 0.1 | Ampl. | 0.1 |
| o | 253.5 | 152.5 | 27.7 | 70.3 | 508.4 | 472.6 | 154.0 | 405.8 | Sbd box | 153.0 |
| m | 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 | |
| m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Mani PC | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | PC amp | |
| o | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| | | | | | | | | | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.05675800127E+04 | | | Apriori delay (usec) | -1.05671702137E+04 | | Resid mbdelay (usec) | -3.54894E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -1.05675764037E+04 | | | Apriori clock (usec) | 1.2001795E+01 | | Resid sbdelay (usec) | -4.06190E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -1.05671702119E+04 | | | Apriori clockrate (us/s) | -4.2000013E-08 | | Resid phdelay (usec) | 1.86177E-06 | +/- | 6.4E-07 |
| Delay rate (us/s) | 4.28944940226E-01 | | | Apriori rate (us/s) | 4.28941033122E-01 | | Resid rate (us/s) | 3.90710E-06 | +/- | 3.1E-09 |
| Total phase (deg) | | -18.7 | | Apriori accel (us/s/s) | 3.60470231616E-05 | | Resid phase (deg) | 57.7 | +/- | 19.8 |

| | RMS | Theor. | Amplitude | 0.117 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 53.3 | 47.5 | Search (2048X32) | 0.111 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 67.0 | 82.9 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 22.6 | 28.0 | Inc. seg. avg. | 0.117 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 56.0 | 48.9 | Inc. frq. avg. | 0.111 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

m: az 50.6 el 18.5 pa -79.6 o: az 67.0 el 55.2 pa -82.6 u,v (fr/asec) -3252.010 889.419 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mo..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mo.W.260.1W57LH

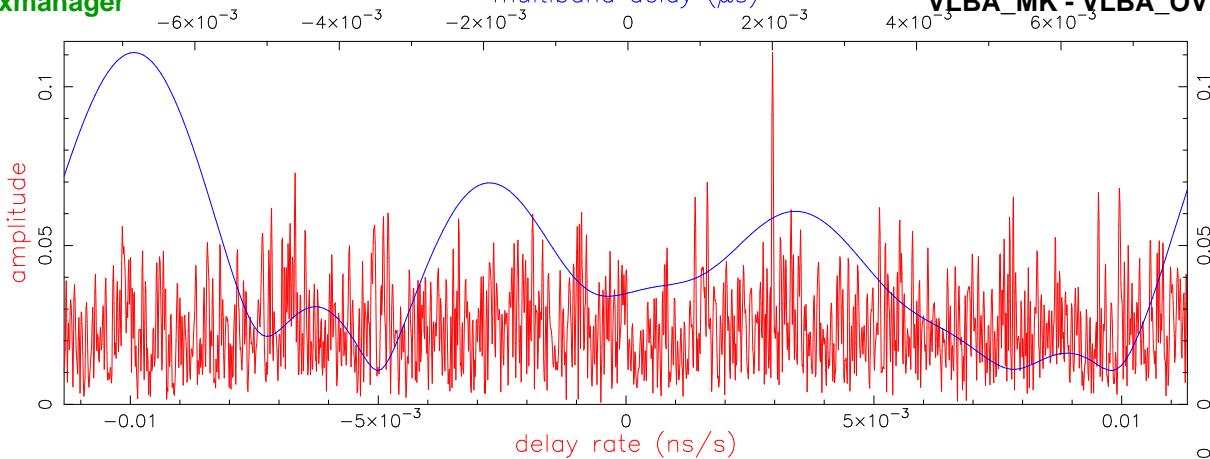
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mo

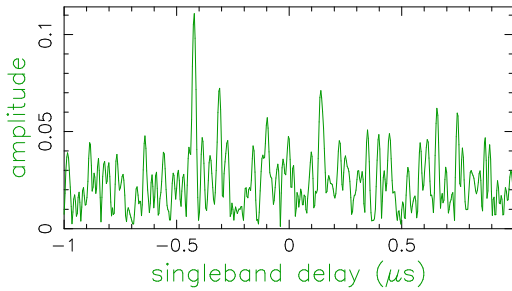
VLBA_MK - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

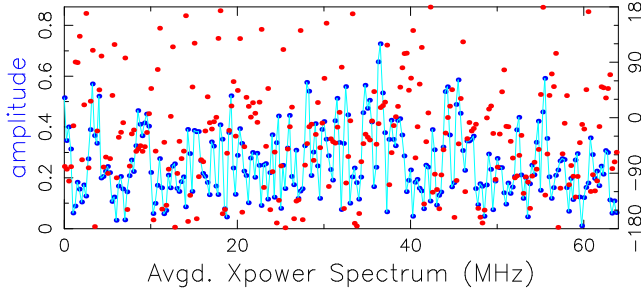


Fringe quality 0

SNR 5.8
 Int time 359.914
 Amp 0.114
 Phase -149.3
 PFD 8.7e-01
 Delays (us)
 SBD -0.422624
 MBD -0.006868
 Fringe rate (Hz)
 0.255355
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

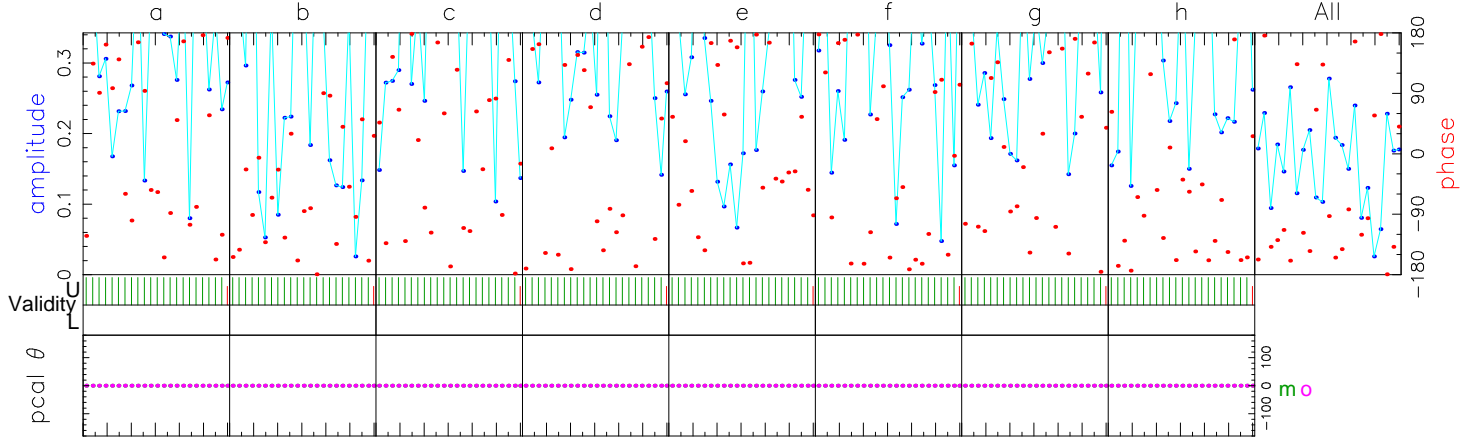


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134926
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
| | -150.2 | -110.6 | 178.2 | -176.7 | -79.8 | 179.4 | -177.9 | -118.8 | Phase | -149.3 |
| | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | Ampl. | 0.1 |
| | 292.9 | 358.4 | 245.7 | 149.5 | 255.7 | 182.1 | 178.7 | 148.7 | Sbd box | 148.8 |
| 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 | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:o | 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 | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| o | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.05675989568E+04 | Apriori delay (usec) | -1.05671702137E+04 | Resid mbdelay (usec) | -6.86809E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -1.05675928377E+04 | Apriori clock (usec) | 1.2001795E+01 | Resid sbdelay (usec) | -4.22624E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -1.05671702186E+04 | Apriori clockrate (us/s) | -4.2000013E-08 | Resid phdelay (usec) | -4.81385E-06 | +/- | 6.4E-07 |
| Delay rate (us/s) | 4.28943997537E-01 | Apriori rate (us/s) | 4.28941033122E-01 | Resid rate (us/s) | 2.96441E-06 | +/- | 3.1E-09 |
| Total phase (deg) | -225.7 | Apriori accel (us/s/s) | 3.60470231616E-05 | Resid phase (deg) | -149.3 | +/- | 19.9 |

| | | | | | | | |
|--------------|------|------------------|-------|--|-----------------|---------------------------|-----------------------|
| ph/seg (deg) | 65.1 | Theor. | 47.7 | Amplitude | 0.114 +/- 0.020 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
| amp/seg (%) | 73.7 | Search (2048X32) | 0.109 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | sb window (us) | -1.000 1.000 |
| ph/frq (deg) | 42.6 | Interp. | 0.000 | Bits/sample: 2x2 | | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 50.1 | Inc. seg. avg. | 0.124 | Sample rate(MISamp/s): 128 | | dr window (ns/s) | -0.011 0.011 |
| | | Inc. frq. avg. | 0.125 | Data rate(Mb/s): 2048 | | ion window (TEC) | 0.00 0.00 |

m: az 50.6 el 18.5 pa -79.6 o: az 67.0 el 55.2 pa -82.6 u,v (fr/asec) -3252.010 889.419 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mo..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mo.W.281.1W57LH

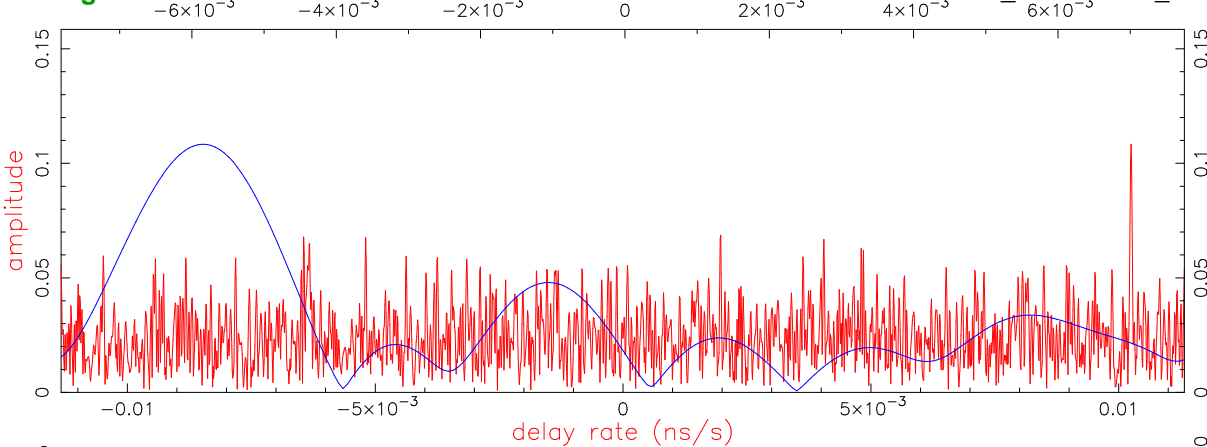
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mo

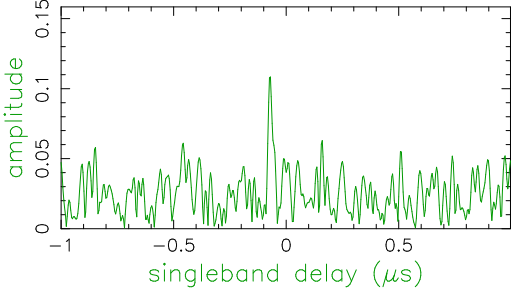
VLBA_MK - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

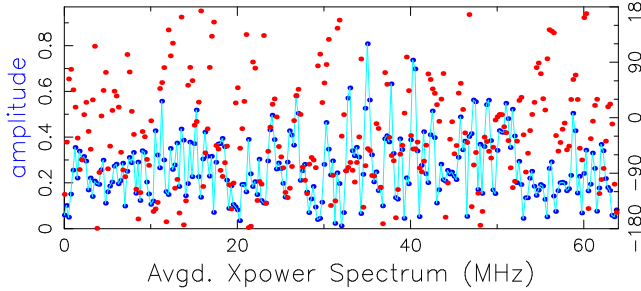


Fringe quality 0

SNR 5.7
 Int time 359.914
 Amp 0.158
 Phase -82.4
 PFD 9.3e-01
 Delays (us)
 SBD -0.072182
 MBD -0.005887
 Fringe rate (Hz)
 0.884232
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

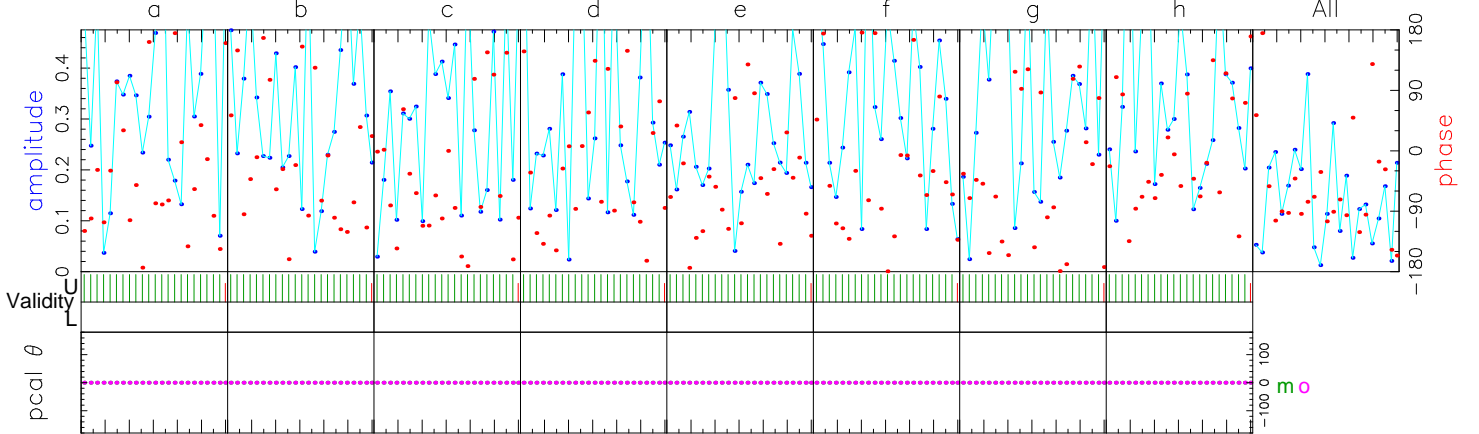


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134929
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -81.9 | -69.2 | -111.7 | -97.1 | -66.3 | -87.4 | -126.8 | -48.4 | Phase | -82.4 |
| | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | Ampl. | 0.1 |
| | 118.6 | 269.6 | 511.6 | 79.8 | 237.2 | 57.9 | 175.1 | 259.0 | Sbd box | 238.5 |
| 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 | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:o | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:o | 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 | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | 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) | -1.05672386010E+04 | | Apriori delay (usec) | | -1.05671702137E+04 | | Resid mbdelay (usec) | | -5.88730E-03 | +/- 1.9E-04 |
| Sband delay (usec) | -1.05672423957E+04 | | Apriori clock (usec) | | 1.2001795E+01 | | Resid sbdelay (usec) | | -7.21820E-02 | +/- 1.5E-03 |
| Phase delay (usec) | -1.05671702164E+04 | | Apriori clockrate (us/s) | | -4.2000013E-08 | | Resid phdelay (usec) | | -2.65703E-06 | +/- 6.5E-07 |
| Delay rate (us/s) | 4.28951298183E-01 | | Apriori rate (us/s) | | 4.28941033122E-01 | | Resid rate (us/s) | | 1.02651E-05 | +/- 3.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 3.60470231616E-05 | | Resid phase (deg) | | -82.4 | +/- 20.0 |

| | RMS | Theor. | Amplitude | 0.158 +/- 0.028 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|-----------------------|------------------|--------|-------|
| ph/seg (deg) | 63.8 | 48.1 | Search (2048X32) | 0.108 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 89.8 | 83.9 | Interp. | 0.000 | Sample rate(MISamp/s): 128 | nlags: 256 | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 27.9 | 28.3 | Inc. seg. avg. | 0.148 | Data rate(Mb/s): 2048 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 26.7 | 49.5 | Inc. frq. avg. | 0.149 | | | | | |

m: az 50.6 el 18.5 pa -79.6 o: az 67.0 el 55.2 pa -82.6 u,v (fr/asec) -3252.010 889.419 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mo..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mo.W.299.1W57LH

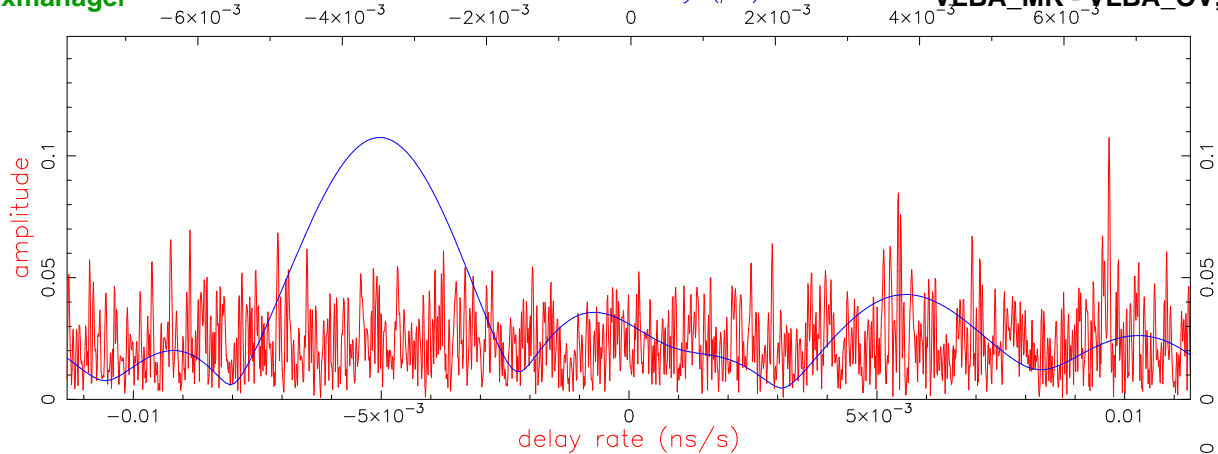
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mo

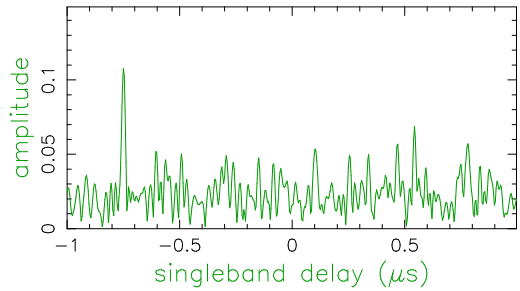
VLBA_MK - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

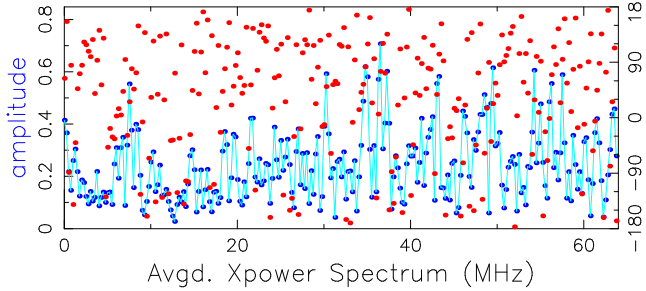


Fringe quality 0

SNR 5.6
 Int time 359.914
 Amp 0.149
 Phase 129.1
 PFD 9.9e-01
 Delays (us)
 SBD -0.749092
 MBD -0.003457
 Fringe rate (Hz)
 0.835756
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

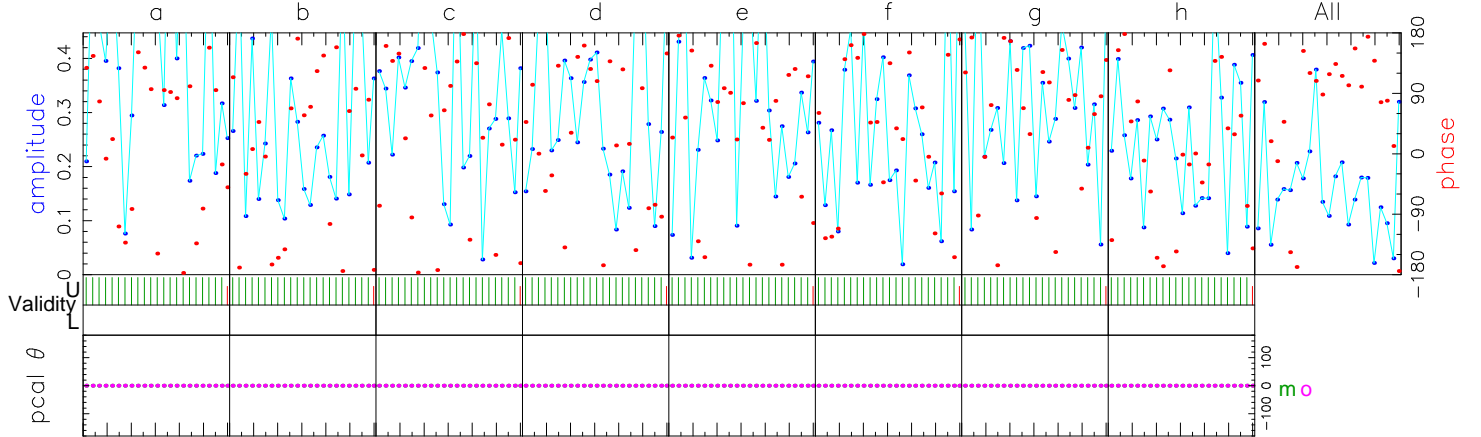


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134933
 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 | | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m:0 | 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 | | |
| o | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| o | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -1.05679236705E+04 | Apriori delay (usec) | -1.05671702137E+04 | Resid mbdelay (usec) | -3.45679E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -1.05679193052E+04 | Apriori clock (usec) | 1.2001795E+01 | Resid sbdelay (usec) | -7.49092E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -1.05671702096E+04 | Apriori clockrate (us/s) | -4.2000013E-08 | Resid phdelay (usec) | 4.16204E-06 | +/- | 6.6E-07 |
| Delay rate (us/s) | 4.28950735417E-01 | Apriori rate (us/s) | 4.28941033122E-01 | Resid rate (us/s) | 9.70229E-06 | +/- | 3.2E-09 |
| Total phase (deg) | | Apriori accel (us/s/s) | 3.60470231616E-05 | Resid phase (deg) | 129.1 | +/- | 20.4 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 59.4 | Theor. | 49.0 | Amplitude | 0.149 +/- 0.027 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 92.8 | Search (2048X32) | 0.105 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 15.4 | Inc. seg. avg. | 0.161 | Inc. frq. avg. | 0.136 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 42.2 | Inc. frq. avg. | 0.136 | | | 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 | |

m: az 50.6 el 18.5 pa -79.6 o: az 67.0 el 55.2 pa -82.6 u,v (fr/asec) -3252.010 889.419 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mo..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mo.W.312.1W57LH

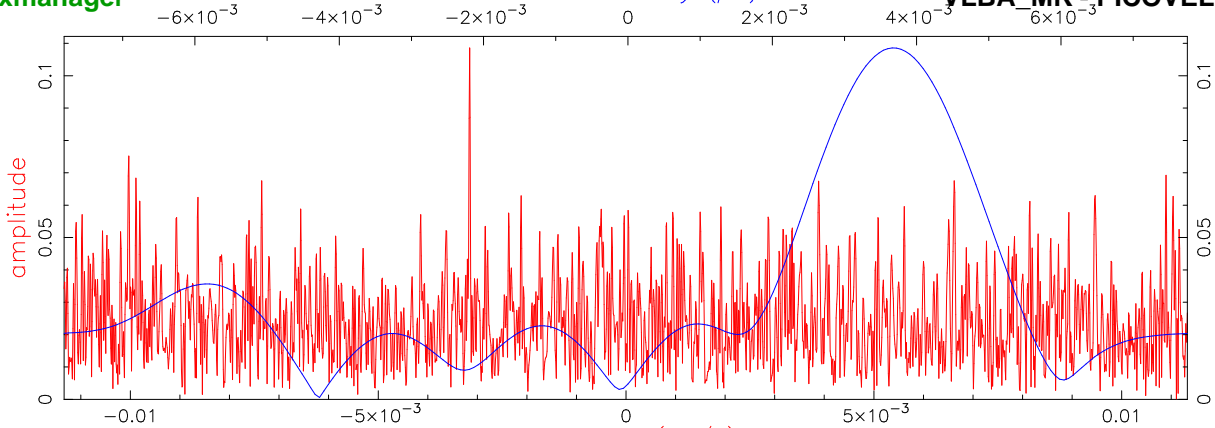
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

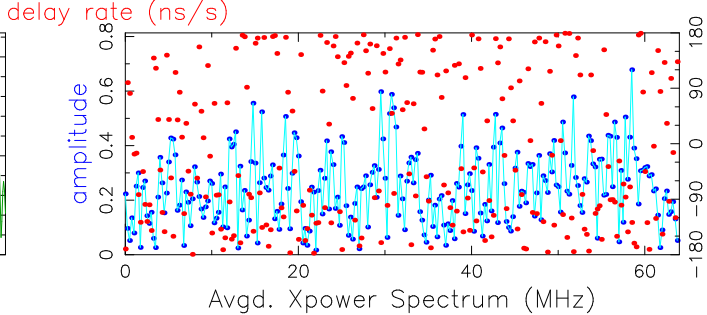
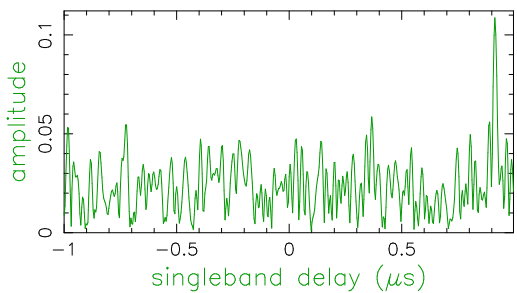
BLLAC.1W57LH, No0237, mP

VLBA_MK - PICOVEL, fgroup W, pol LL

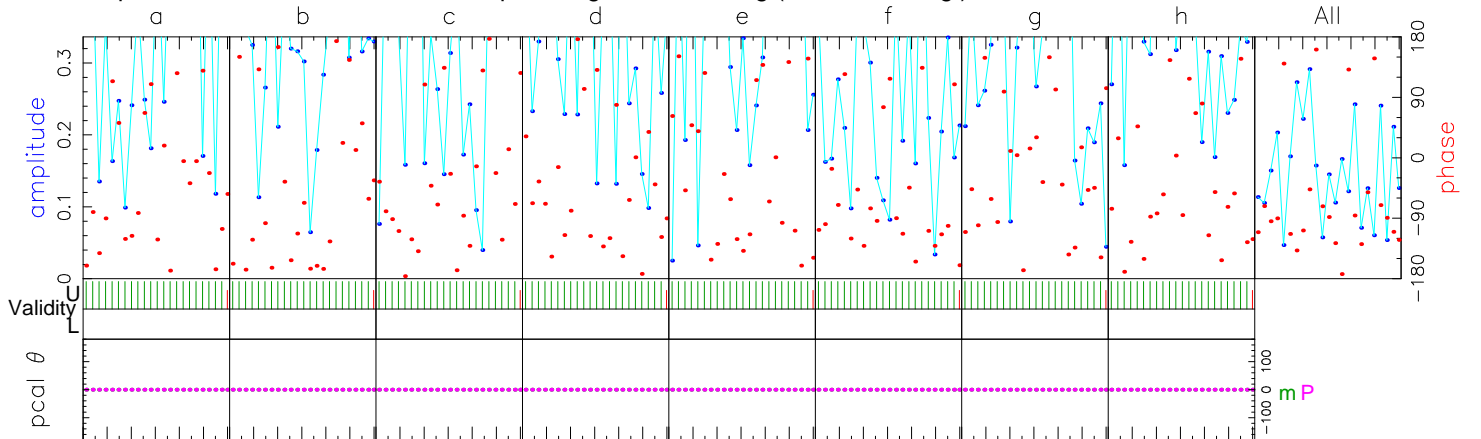
multiband delay (μ s)



Fringe quality 0
 SNR 5.6
 Int time 359.923
 Amp 0.112
 Phase -105.7
 PFD 9.9e-01
 Delays (us)
 SBD 0.914049
 MBD 0.003678
 Fringe rate (Hz)
 -0.271928
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134921
 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 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m:P | 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 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| P | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.75122200262E+03 | Apriori delay (usec) | -5.75213193080E+03 | Resid mbdelay (usec) | 3.67818E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -5.75121788180E+03 | Apriori clock (usec) | 1.6626888E+01 | Resid sbdelay (usec) | 9.14049E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -5.75213193421E+03 | Apriori clockrate (us/s) | 9.1799994E-07 | Resid phdelay (usec) | -3.40979E-06 | +/- | 6.6E-07 |
| Delay rate (us/s) | 1.93135349849E+00 | Apriori rate (us/s) | 1.93135665530E+00 | Resid rate (us/s) | -3.15681E-06 | +/- | 3.2E-09 |
| Total phase (deg) | -292.7 | Apriori accel (us/s/s) | 1.06306242304E-05 | Resid phase (deg) | -105.7 | +/- | 20.3 |

| | | | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|----------------|-------------------|------------------|-----------|
| ph/seg (deg) | 54.1 | Theor. | 48.8 | Amplitude | 0.112 +/- 0.020 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | | |
| amp/seg (%) | 76.1 | | 85.1 | Search (2048X32) | 0.107 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | | |
| ph/frq (deg) | 24.1 | | 28.8 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | | |
| amp/frq (%) | 31.3 | | 50.2 | Inc. seg. avg. | 0.114 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | | | |
| | | | | Inc. frq. avg. | 0.106 | Data rate (Mb/s): | 2048 | nlags: | 256 | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

m: az 50.6 el 18.5 pa -79.6 P: az 298.9 el 37.8 pa 71.4 u,v (fr/asec) -14949.134 -754.502 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mP..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mP.W.254.1W57LH

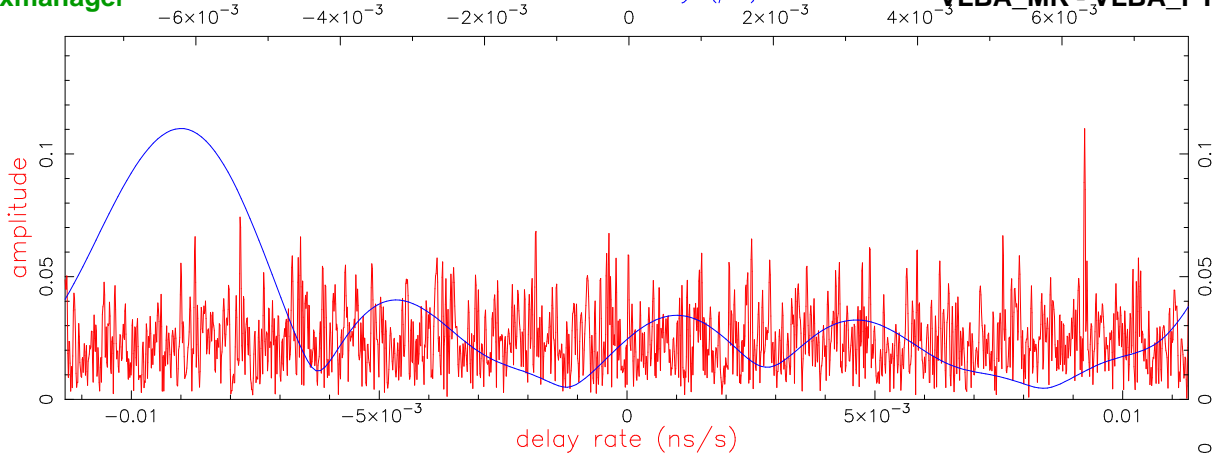
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mp

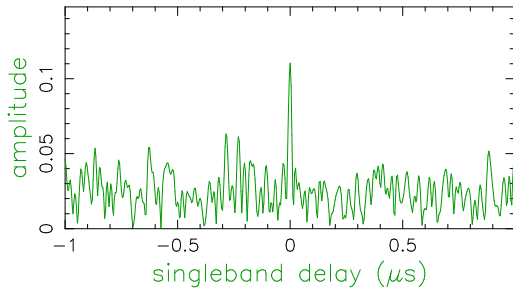
VLBA_MK - VLBA_PT, fgroup W, pol LL

multiband delay (μ s)

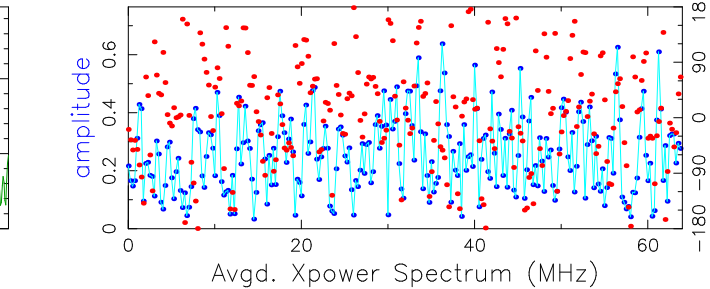


Fringe quality 0

SNR 5.7
 Int time 359.917
 Amp 0.148
 Phase 75.3
 PFD 9.0e-01
 Delays (us)
 SBD -0.000680
 MBD -0.006245
 Fringe rate (Hz)
 0.796249
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

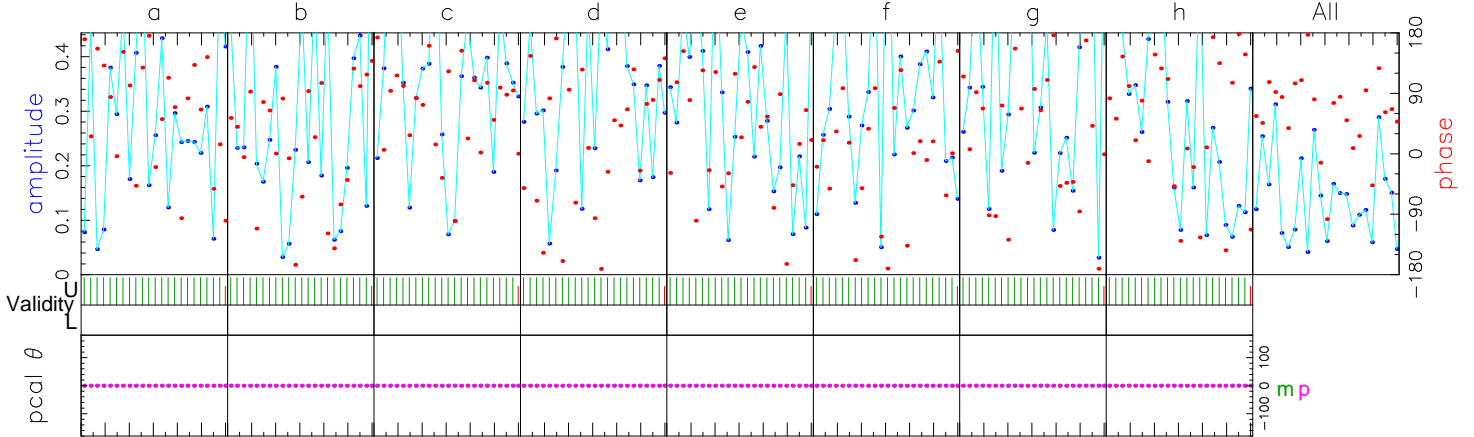


singleband delay (μ s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134922
 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 | 73/0 | 72.6 | 78.9 | 78.2 | 77.6 | 54.4 | 45.9 | 110.3 | Phase | 75.3 |
| m | 1000 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | Ampl. | 0.1 |
| p | 1000 | 249.0 | 256.8 | 18.0 | 95.8 | 388.3 | 440.1 | 451.7 | Sbd box | 256.8 |
| m:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC freqs | |
| m:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Manl PC | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| p | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

Group delay (usec)(sbd) -1.17708513943E+04 Apriori delay (usec) -1.17708451491E+04 Resid mbdelay (usec) -6.24514E-03 +/- 1.9E-04
 Sband delay (usec) -1.17708458294E+04 Apriori clock (usec) 1.0126842E+01 Resid sbdelay (usec) -6.80250E-04 +/- 1.5E-03
 Phase delay (usec) -1.17708451467E+04 Apriori clockrate (us/s) 4.3800001E-07 Resid phdelay (usec) 2.42926E-06 +/- 6.4E-07
 Delay rate (us/s) 5.34947893699E-01 Apriori rate (us/s) 5.34938650040E-01 Resid rate (us/s) 9.24366E-06 +/- 3.1E-09
 Total phase (deg) 22.3 Apriori accel (us/s/s) 4.55840207397E-05 Resid phase (deg) 75.3 +/- 20.0

RMS Theor. Amplitude 0.148 +/- 0.026 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 59.6 47.9 Search (2048X32) 0.108 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 76.5 83.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 20.7 28.2 Inc. seg. avg. 0.143 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 38.6 49.3 Inc. frq. avg. 0.137 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 50.6 el 18.5 pa -79.6 p: az 63.0 el 61.4 pa -95.1 u,v (fr/asec) -4053.342 1854.936 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mp..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mp.W.258.1W57LH

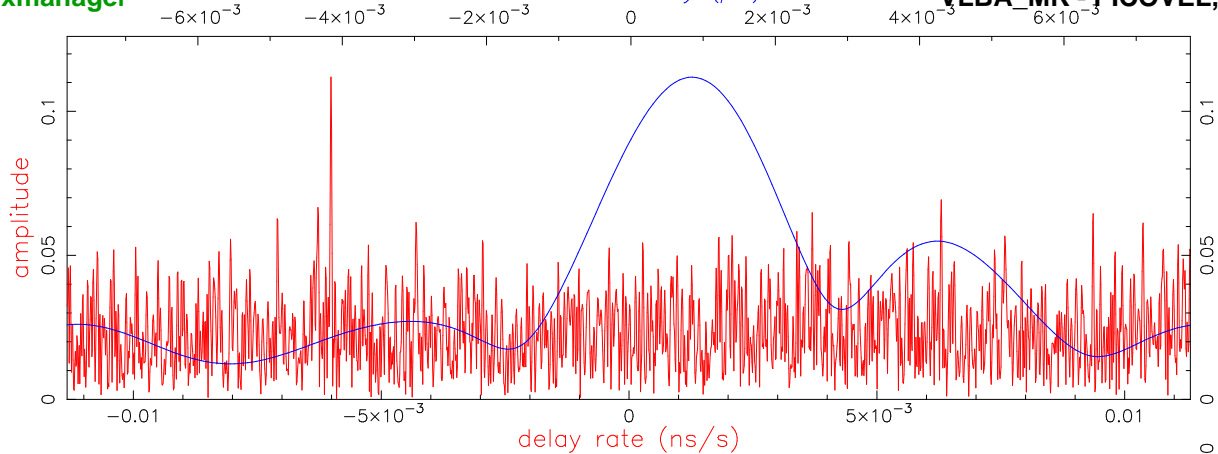
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mP

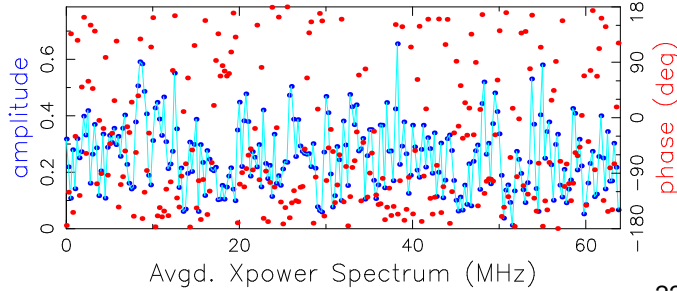
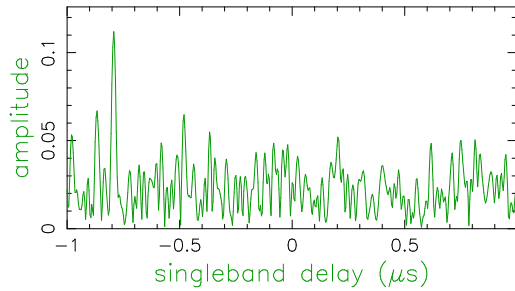
VLBA_MK - PICOVEL, fgroup W, pol RR

multiband delay (μs)



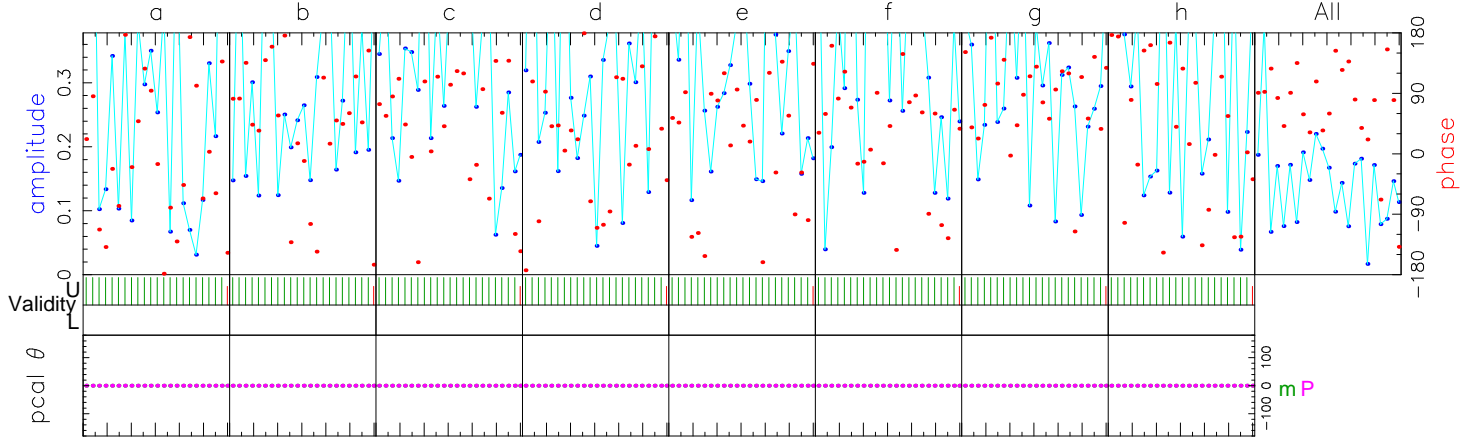
Fringe quality 0

SNR 5.8
 Int time 359.923
 Amp 0.126
 Phase 83.8
 PFD 8.0e-01
 Delays (us)
 SBD -0.792768
 MBD 0.000848
 Fringe rate (Hz)
 -0.518786
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134925
 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 | 127.6 | 92.2 | 87.8 | 50.8 | 75.5 | 54.1 | 98.1 | 161.9 | Phase | 83.8 |
| m | 0.0 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | Ampl. | 0.1 |
| P | 469.5 | 308.3 | 54.5 | 324.9 | 35.5 | 54.8 | 52.6 | 253.1 | Sbd box | 54.1 |
| m:P | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | 703/0 | APs used | |
| m:P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:P | 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 | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| P | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -5.75292795803E+03 | | Apriori delay (usec) | | -5.75213193080E+03 | | Resid mbdelay (usec) | | 8.47772E-04 | +/- 1.9E-04 |
| Sband delay (usec) | -5.75292469880E+03 | | Apriori clock (usec) | | 1.6626888E+01 | | Resid sbdelay (usec) | | -7.92768E-01 | +/- 1.5E-03 |
| Phase delay (usec) | -5.75213192810E+03 | | Apriori clockrate (us/s) | | 9.1799994E-07 | | Resid phdelay (usec) | | 2.70271E-06 | +/- 6.4E-07 |
| Delay rate (us/s) | 1.93135063272E+00 | | Apriori rate (us/s) | | 1.93135665530E+00 | | Resid rate (us/s) | | -6.02259E-06 | +/- 3.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | 1.06306242304E-05 | | Resid phase (deg) | | 83.8 | +/- 19.7 |

| | RMS | Theor. | Amplitude | 0.126 +/- 0.022 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 55.4 | 47.3 | Search (2048X32) | 0.111 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 73.4 | 82.6 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 41.5 | 27.9 | Inc. seg. avg. | 0.123 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 51.6 | 48.7 | Inc. frq. avg. | 0.126 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | | |

m: az 50.6 el 18.5 pa -79.6 P: az 298.9 el 37.8 pa 71.4 u,v (fr/asec) -14949.134 -754.502 simultaneous interpolator

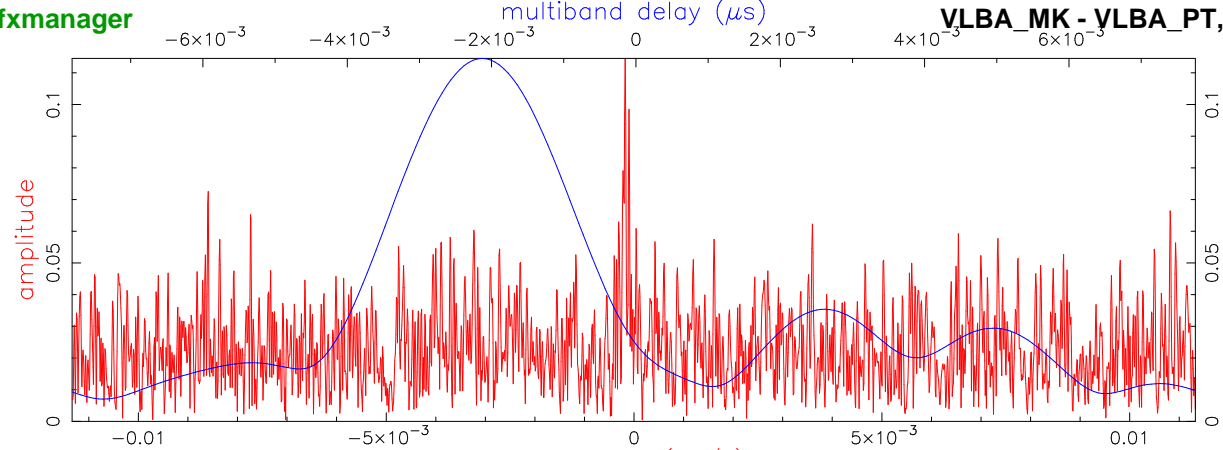
Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mP..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mP.W.272.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

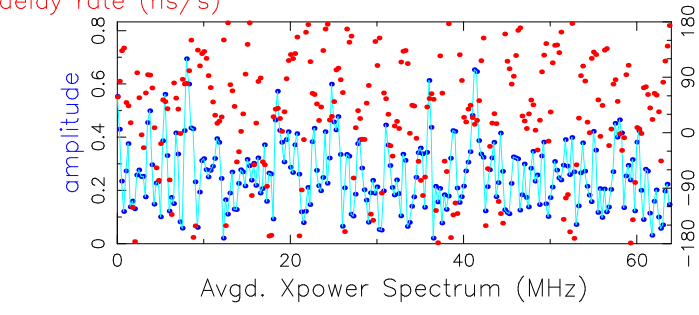
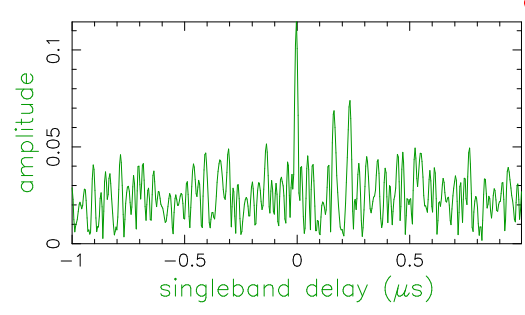
fxmanager

BLLAC.1W57LH, No0237, mp

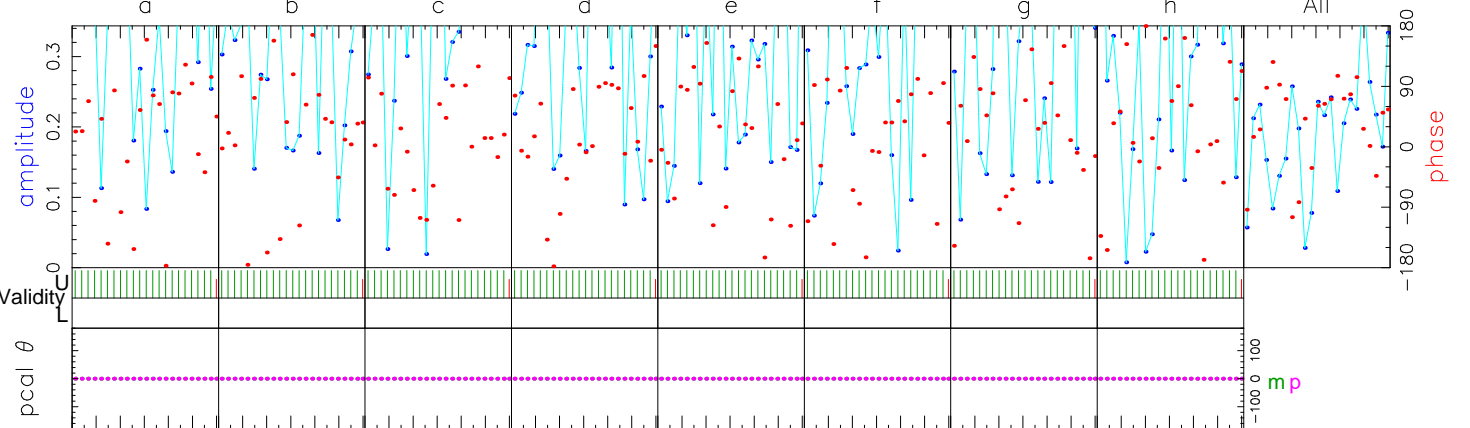
VLBA_MK - VLBA_PT, fgroup W, pol RR



Fringe quality 0
 SNR 5.9
 Int time 359.917
 Amp 0.115
 Phase 46.0
 PFD 5.1e-01
 Delays (us)
 SBD -0.004031
 MBD -0.002142
 Fringe rate (Hz)
 -0.015588
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134925
 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 | | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m:p | 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 | | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| p | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| Group delay (usec)(sbd) | -1.17708472911E+04 | | | | | | | | | |
| Sband delay (usec) | -1.17708491804E+04 | | | | | | | | | |
| Phase delay (usec) | -1.17708451477E+04 | | | | | | | | | |
| Delay rate (us/s) | 5.34938469080E-01 | | | | | | | | | |
| Total phase (deg) | | | -7.0 | | | | | | | |
| 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) | | | | | | | | | 46.0 | +/- 19.3 |
| Pcal mode: | MANUAL | MANUAL | | | | | | | | |
| Pcal rate: | 0.000E+00 | 0.000E+00 | | | | | | | | |
| Bits/sample: | 2x2 | | | | | | | | | |
| Sample rate(MISamp/s): | 128 | | | | | | | | | |
| Data rate(Mb/s): | 2048 | | | | | | | | | |
| nlags: | 256 | | | | | | | | | |
| t_cohere | infinite | | | | | | | | | |
| sb window (us) | -1.000 | 1.000 | | | | | | | | |
| mb window (us) | -0.008 | 0.008 | | | | | | | | |
| dr window (ns/s) | -0.011 | 0.011 | | | | | | | | |
| ion window (TEC) | 0.00 | 0.00 | | | | | | | | |

m: az 50.6 el 18.5 pa -79.6 p: az 63.0 el 61.4 pa -95.1 u,v (fr/asec) -4053.342 1854.936 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mp..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mp.W.276.1W57LH

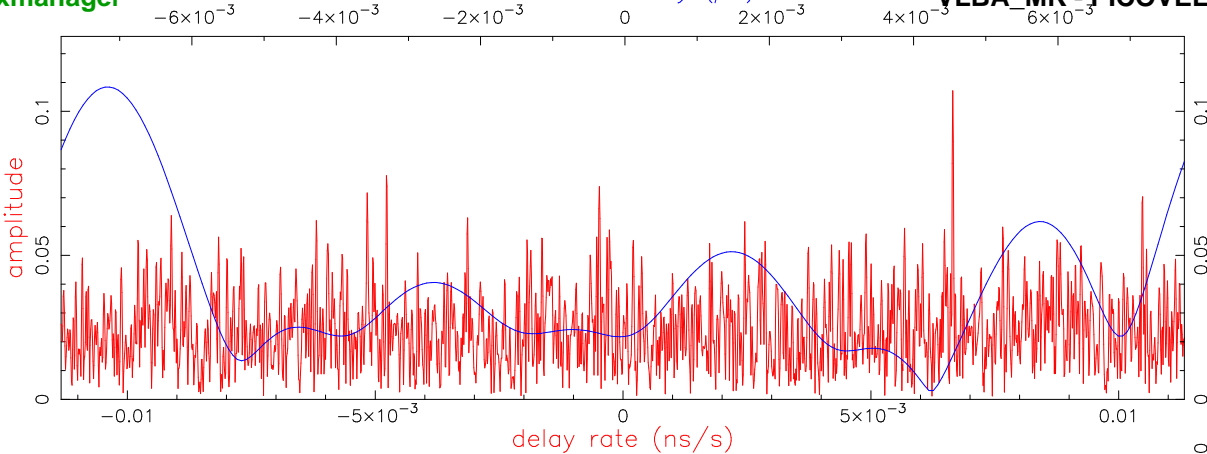
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mP

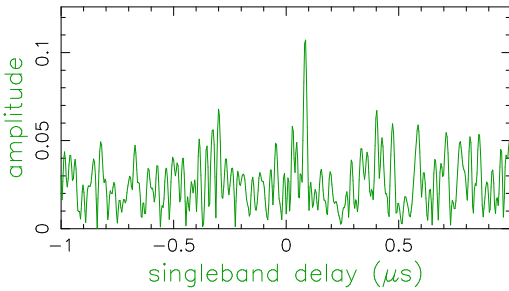
VLBA_MK - PICOVEL, fgroup W, pol LR

multiband delay (μ s)

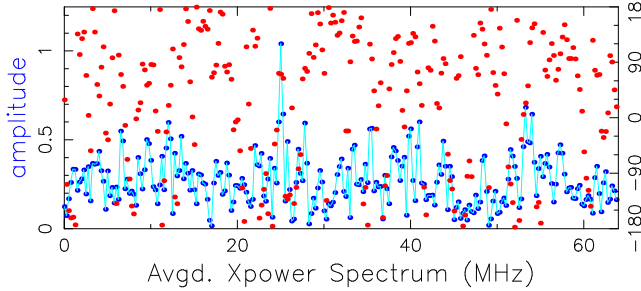


Fringe quality 0

SNR 5.6
 Int time 359.923
 Amp 0.126
 Phase -101.9
 PFD 9.8e-01
 Delays (us)
 SBD 0.084359
 MBD 0.008301
 Fringe rate (Hz)
 0.573892
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

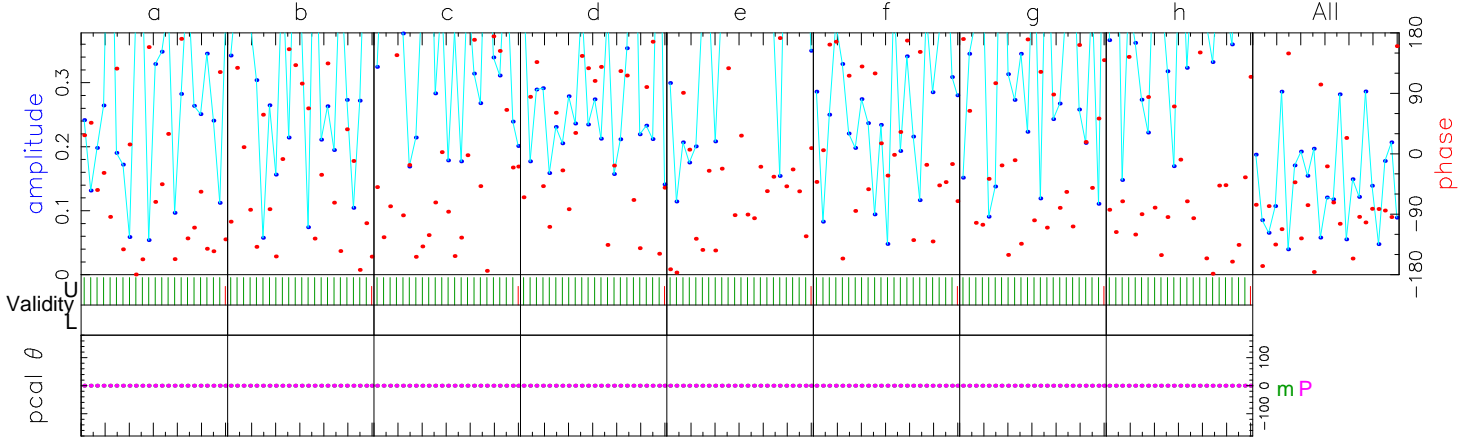


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134928
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|--------|
| | -112.1 | -135.6 | -117.5 | -160.6 | -62.8 | -57.9 | -95.1 | -110.2 | Phase | -101.9 |
| | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 | Ampl. | 0.1 |
| | 384.7 | 433.8 | 38.1 | 360.2 | 279.7 | 108.7 | 418.9 | 277.8 | Sbd box | 278.6 |
| 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 | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:P | 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 | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| P | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.75204550502E+03 | Apriori delay (usec) | -5.75213193080E+03 | Resid mbdelay (usec) | 8.30078E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -5.75204757205E+03 | Apriori clock (usec) | 1.6626888E+01 | Resid sbdelay (usec) | 8.43588E-02 | +/- | 1.5E-03 |
| Phase delay (usec) | -5.75213193409E+03 | Apriori clockrate (us/s) | 9.1799994E-07 | Resid phdelay (usec) | -3.28713E-06 | +/- | 6.5E-07 |
| Delay rate (us/s) | 1.93136331762E+00 | Apriori rate (us/s) | 1.93135665530E+00 | Resid rate (us/s) | 6.66231E-06 | +/- | 3.1E-09 |
| Total phase (deg) | -288.9 | Apriori accel (us/s/s) | 1.06306242304E-05 | Resid phase (deg) | -101.9 | +/- | 20.3 |

| | | | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-----------------|-------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 61.9 | Theor. 48.7 | Amplitude Search (2048X32) | 0.126 +/- 0.022 | 0.106 | PCal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 75.6 | 84.9 | Interp. | 0.000 | 0.106 | PCal rate: 0.000E+00, 0.000E+00 (us/s) | SampCntNorm: enabled | mb window (us) | -0.008 | 0.008 | |
| ph/frq (deg) | 37.6 | 28.7 | Inc. seg. avg. | 0.124 | 0.124 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 46.3 | 50.1 | Inc. frq. avg. | 0.124 | 0.124 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

m: az 50.6 el 18.5 pa -79.6 P: az 298.9 el 37.8 pa 71.4 u,v (fr/asec) -14949.134 -754.502 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mP..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mP.W.292.1W57LH

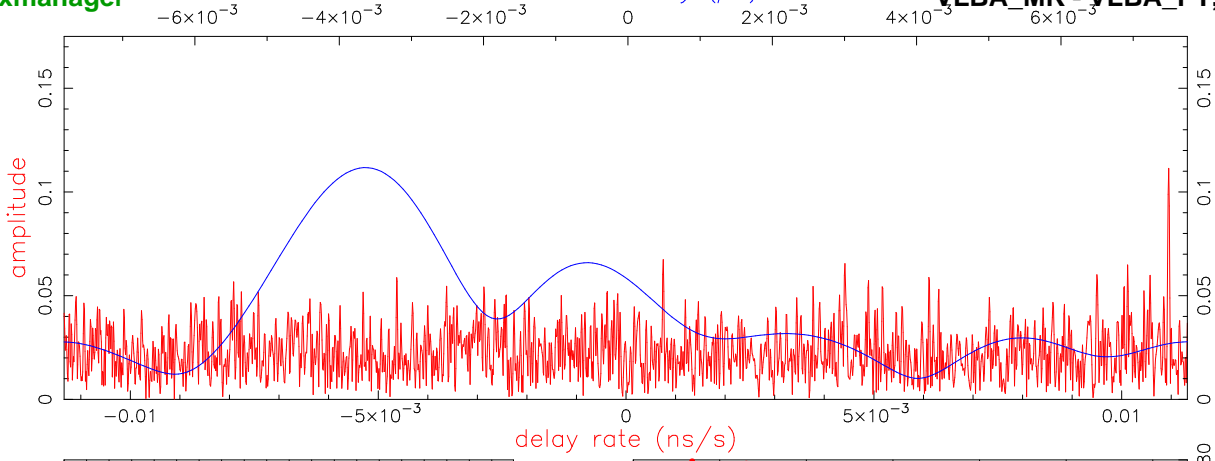
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

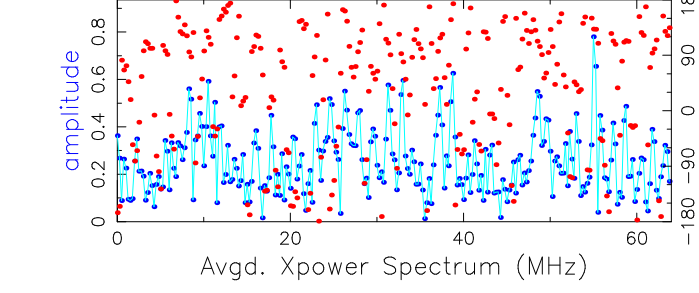
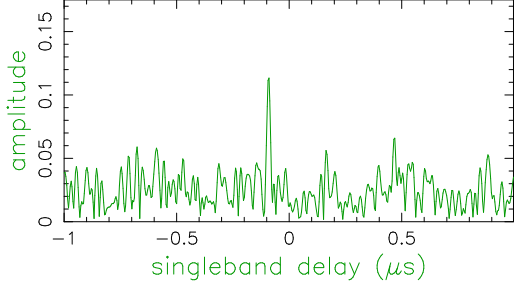
BLLAC.1W57LH, No0237, mp

VLBA_MK - VLBA_PT, fgroup W, pol LR

multiband delay (μ s)

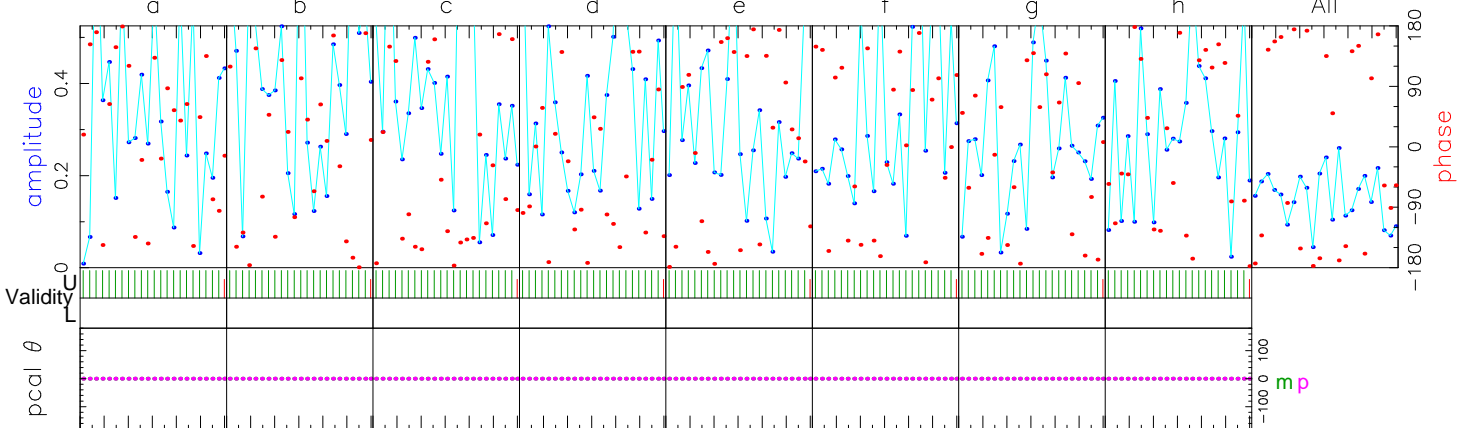


Fringe quality 0
 SNR 6.0
 Int time 359.917
 Amp 0.175
 Phase 177.8
 PFD 4.6e-01
 Delays (us)
 SBD -0.091416
 MBD -0.003546
 Fringe rate (Hz)
 0.944493
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134928
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | 160.5 | 157.4 | -159.3 | -122.8 | 179.1 | 140.6 | 132.7 | -174.2 | Phase | 177.8 |
| | 0.1 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | Ampl. | 0.2 |
| | 375.9 | 35.4 | 232.4 | 198.0 | 144.7 | 220.7 | 278.2 | 123.3 | Sbd box | 233.6 |
| 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 | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:p | 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 | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| p | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.17709424449E+04 | | Apriori delay (usec) | | -1.17708451491E+04 | | Resid mbdelay (usec) | | -3.54574E-03 | +/- 1.8E-04 |
| Sband delay (usec) | -1.17709365649E+04 | | Apriori clock (usec) | | 1.0126842E+01 | | Resid sbdelay (usec) | | -9.14157E-02 | +/- 1.4E-03 |
| Phase delay (usec) | -1.17708451434E+04 | | Apriori clockrate (us/s) | | 4.3800001E-07 | | Resid phdelay (usec) | | 5.73340E-06 | +/- 6.2E-07 |
| Delay rate (us/s) | 5.34949614665E-01 | | Apriori rate (us/s) | | 5.34938650040E-01 | | Resid rate (us/s) | | 1.09646E-05 | +/- 3.0E-09 |
| Total phase (deg) | 124.7 | | Apriori accel (us/s/s) | | 4.55840207397E-05 | | Resid phase (deg) | | 177.8 | +/- 19.2 |

ph/seg (deg) 58.6 46.0 Search (2048X32) 0.109 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 59.3 80.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 37.1 27.1 Inc. seg. avg. 0.178 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 52.1 47.4 Inc. frq. avg. 0.175 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 50.6 el 18.5 pa -79.6 p: az 63.0 el 61.4 pa -95.1 u,v (fr/asec) -4053.342 1854.936 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mp..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mp.W.295.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

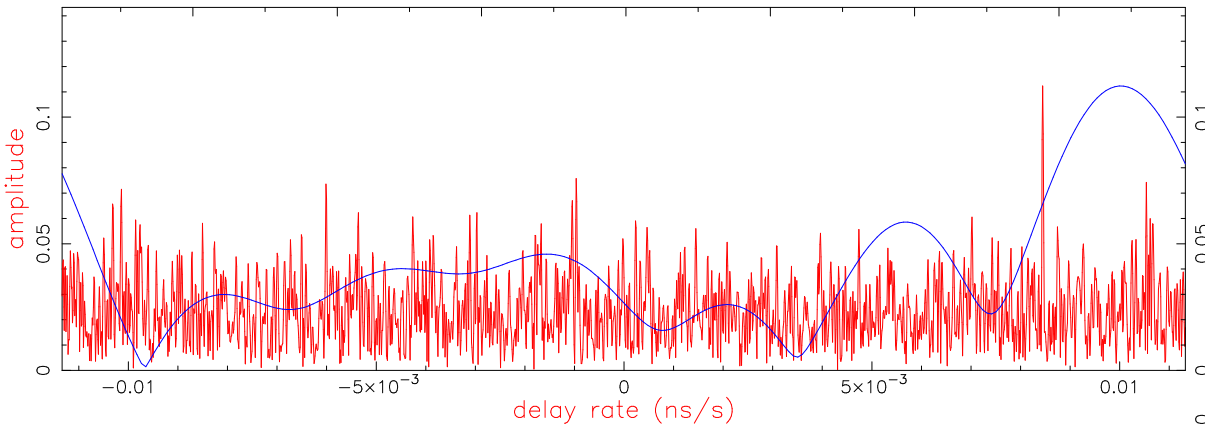
BLLAC.1W57LH, No0237, mP

VLBA_MK - PICOVEL, fgroup W, pol RL

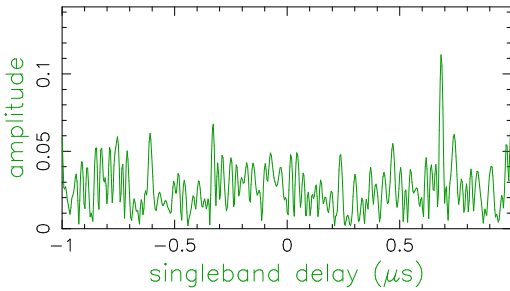
multiband delay (μ s)

-6×10^{-3} -4×10^{-3} -2×10^{-3} 0 2×10^{-3} 4×10^{-3} 6×10^{-3}

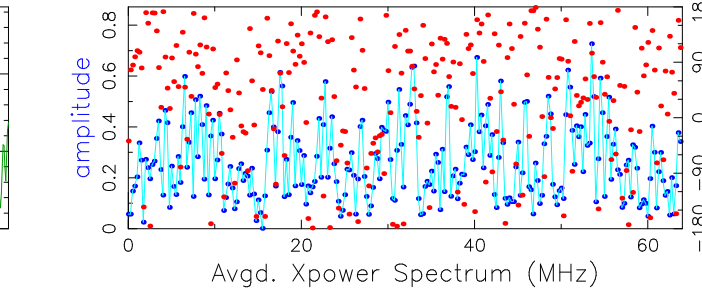
Fringe quality 0



SNR 5.8
 Int time 359.923
 Amp 0.143
 Phase -20.6
 PFD 7.2e-01
 Delays (us)
 SBD 0.684310
 MBD 0.006881
 Fringe rate (Hz)
 0.728731
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

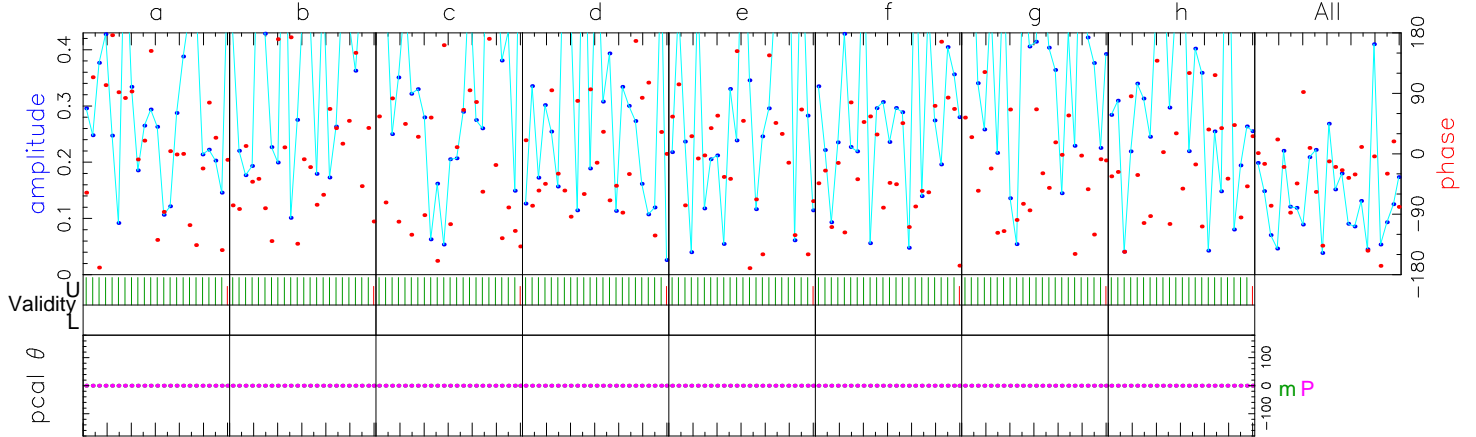


singleband delay (μ s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134931
 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 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m:P | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| m:P | 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 | | |
| P | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| P | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.75145317528E+03 | Apriori delay (usec) | -5.75213193080E+03 | Resid mbdelay (usec) | 6.88053E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | -5.75144762030E+03 | Apriori clock (usec) | 1.6626888E+01 | Resid sbdelay (usec) | 6.84310E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | -5.75213193146E+03 | Apriori clockrate (us/s) | 9.1799994E-07 | Resid phdelay (usec) | -6.62780E-07 | +/- | 6.3E-07 |
| Delay rate (us/s) | 1.93136511515E+00 | Apriori rate (us/s) | 1.93135665530E+00 | Resid rate (us/s) | 8.45984E-06 | +/- | 3.0E-09 |
| Total phase (deg) | -207.5 | Apriori accel (us/s/s) | 1.06306242304E-05 | Resid phase (deg) | -20.6 | +/- | 19.6 |

| | | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 59.8 | Theor. | 47.0 | Amplitude | 0.143 +/- 0.025 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 80.1 | | 82.0 | Search (2048X32) | 0.110 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 42.4 | | 27.7 | Inc. seg. avg. | 0.136 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 53.3 | | 48.4 | Inc. frq. avg. | 0.142 | 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 |

m: az 50.6 el 18.5 pa -79.6 P: az 298.9 el 37.8 pa 71.4 u,v (fr/asec) -14949.134 -754.502 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mP..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mP.W.308.1W57LH

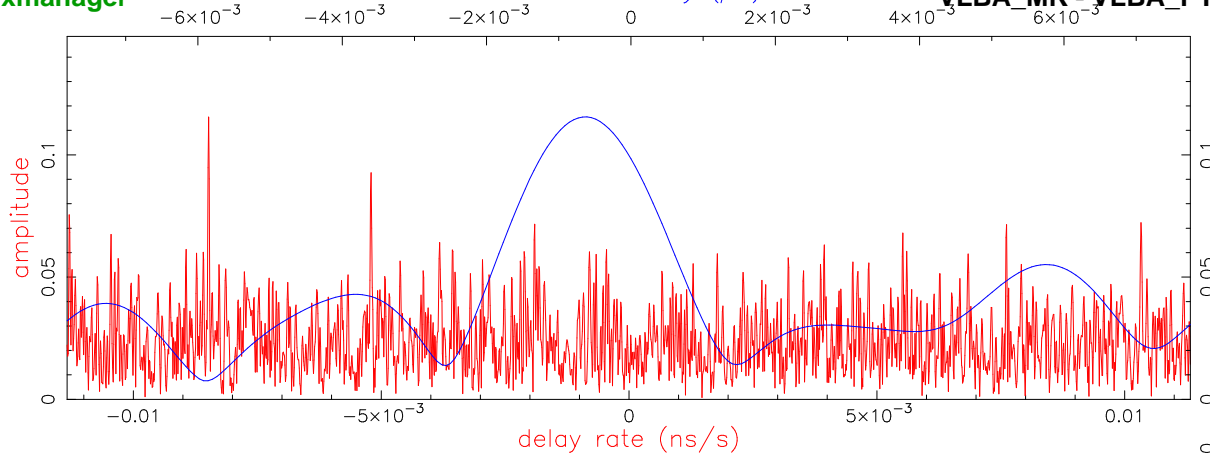
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mp

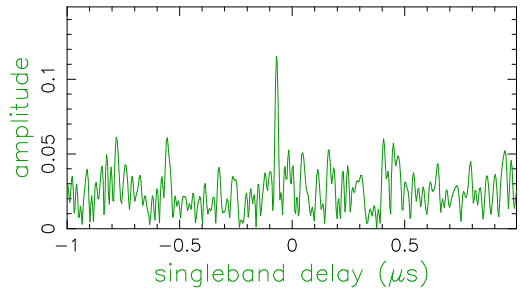
VLBA_MK - VLBA_PT, fgroup W, pol RL

multiband delay (μ s)

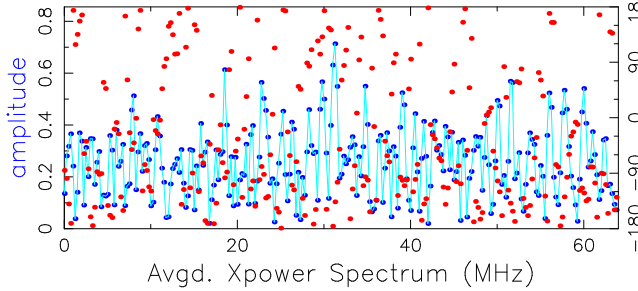


Fringe quality 0

SNR 6.0
 Int time 359.917
 Amp 0.148
 Phase 165.6
 PFD 3.2e-01
 Delays (us)
 SBD -0.069160
 MBD -0.000582
 Fringe rate (Hz)
 -0.731233
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

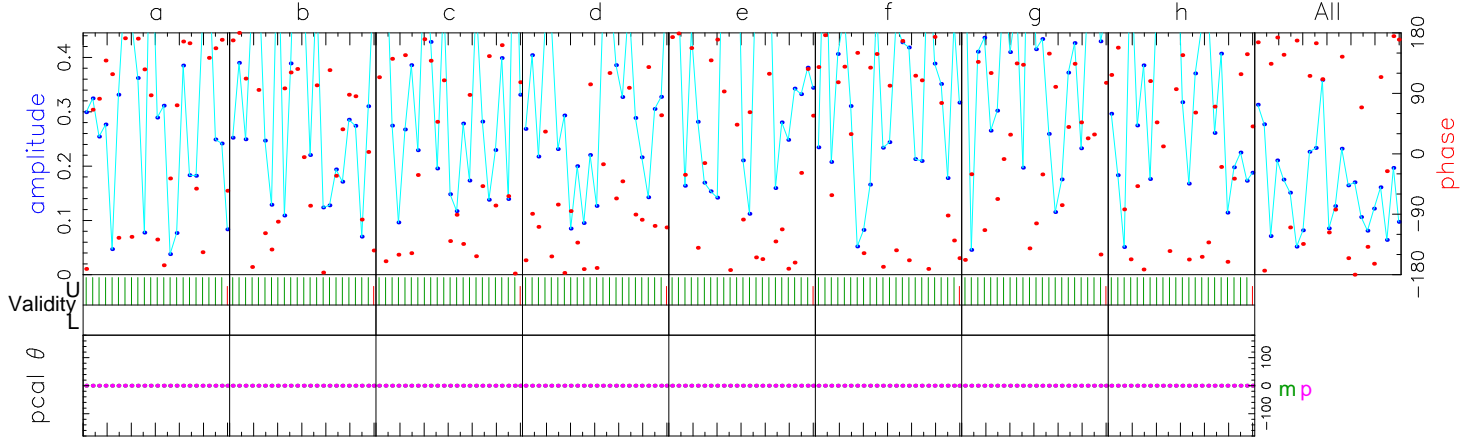


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134931
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | 166.8 | 137.9 | 172.9 | -112.5 | 161.9 | 164.8 | 138.4 | 147.3 | Phase | 165.6 |
| | 0.2 | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.0 | 0.1 | Ampl. | 0.1 |
| | 240.9 | 57.8 | 5.4 | 271.5 | 180.6 | 239.0 | 296.1 | 22.4 | Sbd box | 239.3 |
| 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 | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:p | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:p | 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 | |
| p | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC amp | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| p | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -1.17709082309E+04 | | Apriori delay (usec) | | -1.17708451491E+04 | | Resid mbdelay (usec) | | -5.81715E-04 | +/- 1.8E-04 |
| Sband delay (usec) | -1.17709143091E+04 | | Apriori clock (usec) | | 1.0126842E+01 | | Resid sbdelay (usec) | | -6.91600E-02 | +/- 1.4E-03 |
| Phase delay (usec) | -1.17708451438E+04 | | Apriori clockrate (us/s) | | 4.3800001E-07 | | Resid phdelay (usec) | | 5.33924E-06 | +/- 6.1E-07 |
| Delay rate (us/s) | 5.34930161149E-01 | | Apriori rate (us/s) | | 5.34938650040E-01 | | Resid rate (us/s) | | -8.48889E-06 | +/- 2.9E-09 |
| Total phase (deg) | 112.5 | | Apriori accel (us/s/s) | | 4.55840207397E-05 | | Resid phase (deg) | | 165.6 | +/- 19.0 |

| | RMS | Theor. | Amplitude | 0.148 +/- 0.025 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 |
|--------------|------|--------|------------------|-----------------|--|-------------------------------|
| ph/seg (deg) | 60.6 | 45.5 | Search (2048X32) | 0.114 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | sb window (us) -1.000 1.000 |
| amp/seg (%) | 81.0 | 79.3 | Interp. | 0.000 | Bits/sample: 2x2 | mb window (us) -0.008 0.008 |
| ph/frq (deg) | 37.9 | 26.8 | Inc. seg. avg. | 0.159 | Sample rate(MISamp/s): 128 | dr window (ns/s) -0.011 0.011 |
| amp/frq (%) | 52.7 | 46.8 | Inc. frq. avg. | 0.144 | Data rate(Mb/s): 2048 | ion window (TEC) 0.00 0.00 |

m: az 50.6 el 18.5 pa -79.6 p: az 63.0 el 61.4 pa -95.1 u,v (fr/asec) -4053.342 1854.936 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mp..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mp.W.309.1W57LH

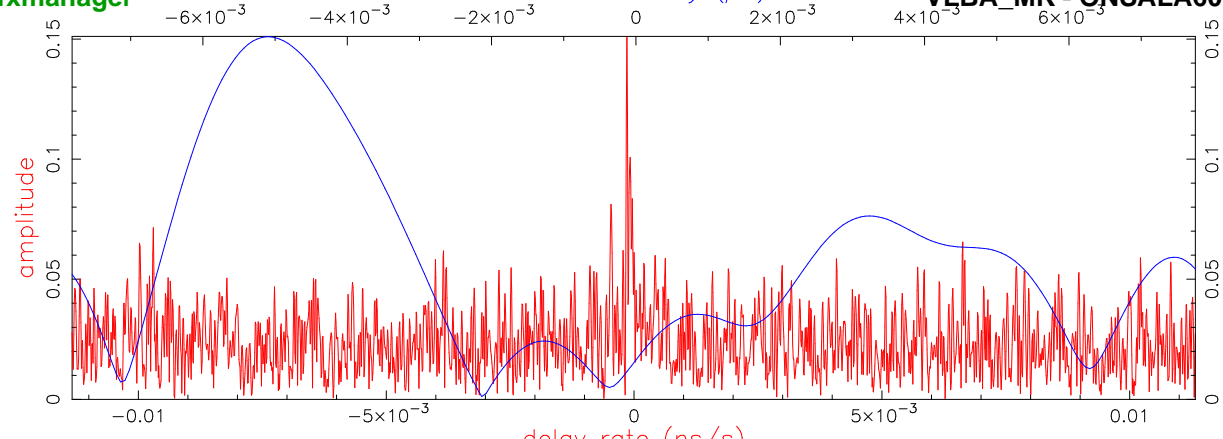
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mX

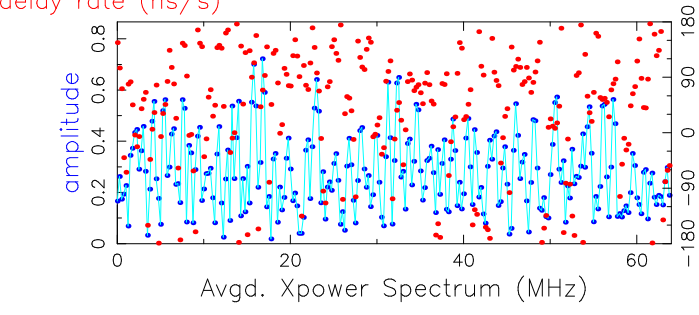
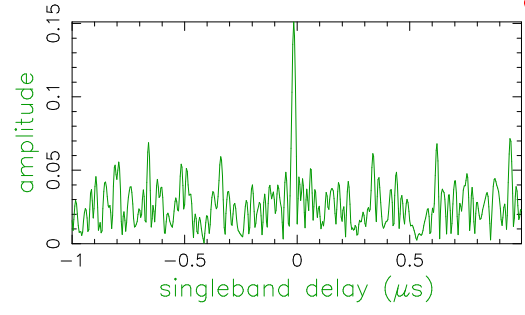
VLBA_MK - ONSALA60, fgroup W, pol LL

multiband delay (μ s)



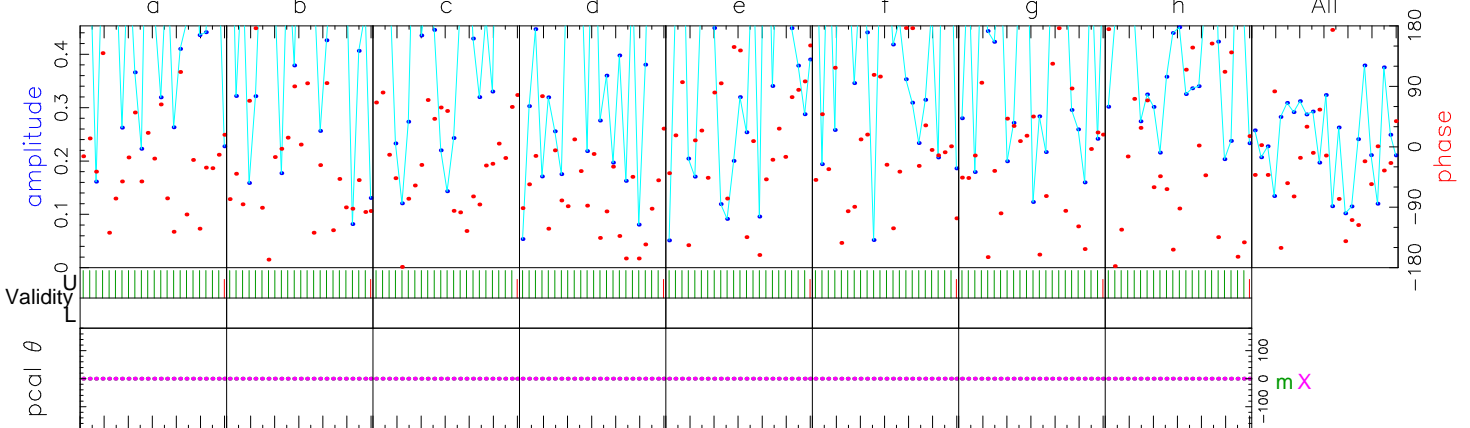
Fringe quality 9

SNR 7.8
 Int time 359.899
 Amp 0.151
 Phase -34.4
 PFD 1.5e-06
 Delays (us)
 SBD -0.015115
 MBD -0.005058
 Fringe rate (Hz)
 -0.012174
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134924
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | -30.4 | -62.1 | -13.4 | -56.9 | 26.7 | -32.0 | -15.5 | -146.4 | Phase | -34.4 |
| | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0.1 | Ampl. | 0.2 |
| | 252.4 | 252.8 | 252.6 | 253.3 | 166.8 | 50.1 | 39.0 | 27.8 | Sbd box | 253.1 |
| 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:X | 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| X | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | -5.66587768162E+03 | Apriori delay (usec) | -5.66585699907E+03 | Resid mbdelay (usec) | -5.05755E-03 | +/- | 1.4E-04 |
| Sband delay (usec) | -5.66587211382E+03 | Apriori clock (usec) | -4.0745018E+01 | Resid sbdelay (usec) | -1.51147E-02 | +/- | 1.1E-03 |
| Phase delay (usec) | -5.66585700018E+03 | Apriori clockrate (us/s) | -2.1000001E-07 | Resid phdelay (usec) | -1.10788E-06 | +/- | 4.7E-07 |
| Delay rate (us/s) | 1.68501068168E+00 | Apriori rate (us/s) | 1.68501082301E+00 | Resid rate (us/s) | -1.41333E-07 | +/- | 2.3E-09 |
| Total phase (deg) | -358.4 | Apriori accel (us/s/s) | -8.36161241631E-06 | Resid phase (deg) | -34.4 | +/- | 14.6 |

| | | | | | | | | | | |
|--------------|------|------------------|-------|----------------|-----------------|------------------------|-----------------------------|----------------------|----------------|--------------|
| ph/seg (deg) | 65.7 | Theor. | 35.1 | Amplitude | 0.151 +/- 0.019 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | |
| amp/seg (%) | 79.0 | Search (2048X32) | 0.147 | Interp. | 0.000 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | |
| ph/frq (deg) | 55.3 | Inc. seg. avg. | 0.202 | Inc. frq. avg. | 0.176 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 |
| amp/frq (%) | 46.2 | Inc. frq. avg. | 0.176 | | | 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 | |

m: az 50.6 el 18.5 pa -79.6 X: az 292.6 el 37.1 pa 42.1 u,v (fr/asec) -13081.505 -3710.774 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mX..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mX.W.267.1W57LH

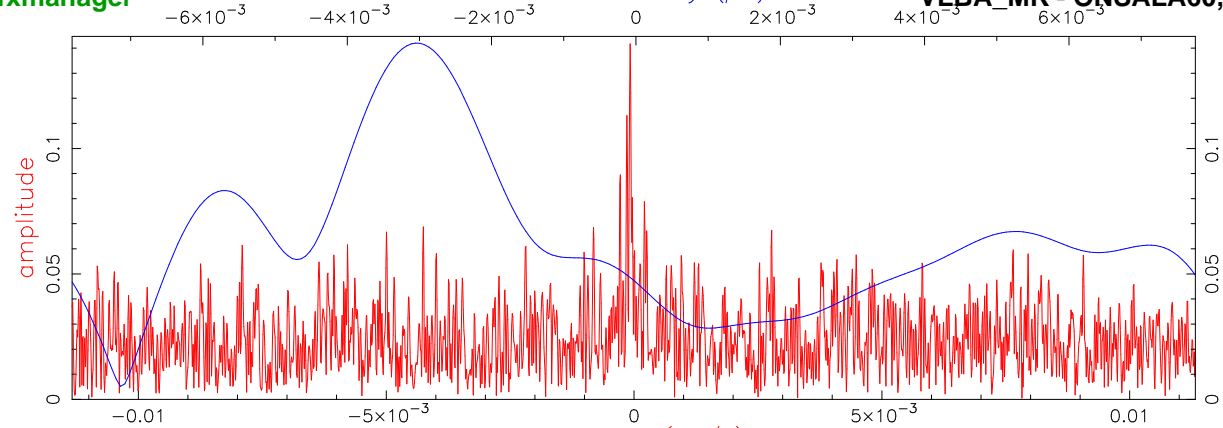
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, mX

VLBA_MK - ONSALA60, fgroup W, pol RR

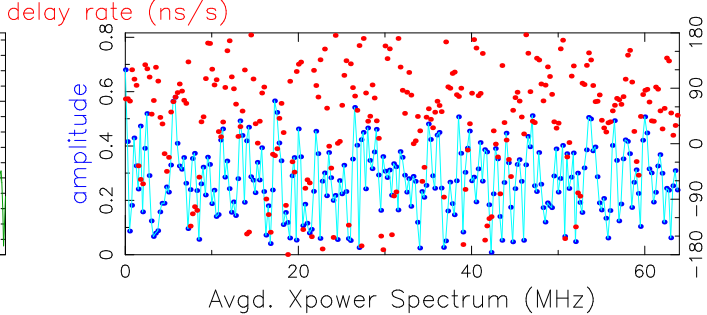
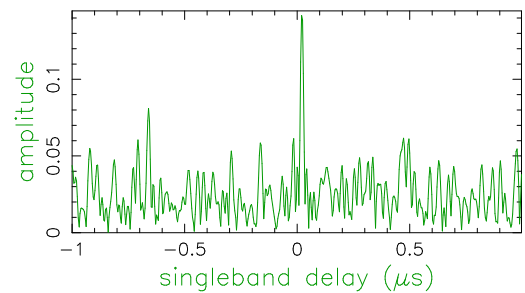
multiband delay (μ s)



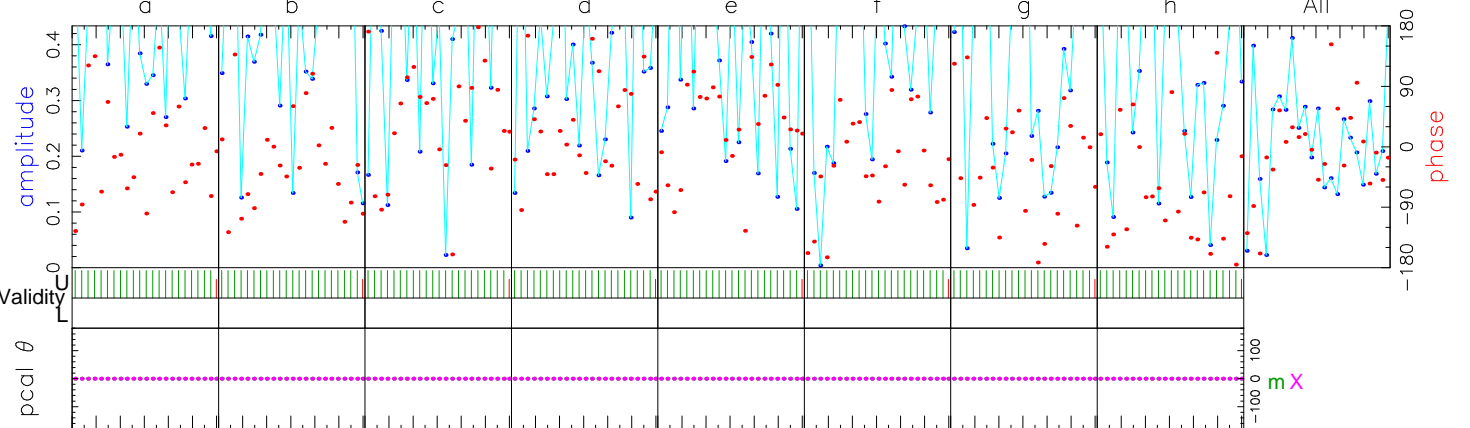
Fringe quality 9

SNR 7.5
 Int time 359.899
 Amp 0.145
 Phase -6.5
 PFD 2.0e-05
 Delays (us)
 SBD 0.021138
 MBD -0.002962
 Fringe rate (Hz)
 -0.006620
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134927
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -27.0 | -37.9 | 66.7 | -10.1 | 55.9 | -12.0 | -24.4 | -79.6 | Phase | -6.5 |
| | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | Ampl. | 0.2 |
| | 263.3 | 262.4 | 27.9 | 375.4 | 261.4 | 261.9 | 295.0 | 257.5 | Sbd box | 262.4 |
| 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:X | 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| X | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| | | | | | | | | | Chan ids | |
| | | | | | | | | | Tracks | |
| Group delay (usec)(sbd) | -5.66582871093E+03 | | Apriori delay (usec) | | -5.66585699907E+03 | | Resid mbdelay (usec) | | -2.96186E-03 | +/- 1.4E-04 |
| Sband delay (usec) | -5.66583586157E+03 | | Apriori clock (usec) | | -4.0745018E+01 | | Resid sbdelay (usec) | | 2.11375E-02 | +/- 1.1E-03 |
| Phase delay (usec) | -5.66585699928E+03 | | Apriori clockrate (us/s) | | -2.1000001E-07 | | Resid phdelay (usec) | | -2.09275E-07 | +/- 4.9E-07 |
| Delay rate (us/s) | 1.68501074615E+00 | | Apriori rate (us/s) | | 1.68501082301E+00 | | Resid rate (us/s) | | -7.68565E-08 | +/- 2.4E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -8.3616241631E-06 | | Resid phase (deg) | | -6.5 | +/- 15.3 |

ph/seg (deg) 66.7 36.6 Search (2048X32) 0.141 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 92.3 63.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 52.2 21.6 Inc. seg. avg. 0.190 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 39.8 37.7 Inc. frq. avg. 0.178 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 50.6 el 18.5 pa -79.6 X: az 292.6 el 37.1 pa 42.1 u,v (fr/asec) -13081.505 -3710.774 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mX..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mX.W.289.1W57LH simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

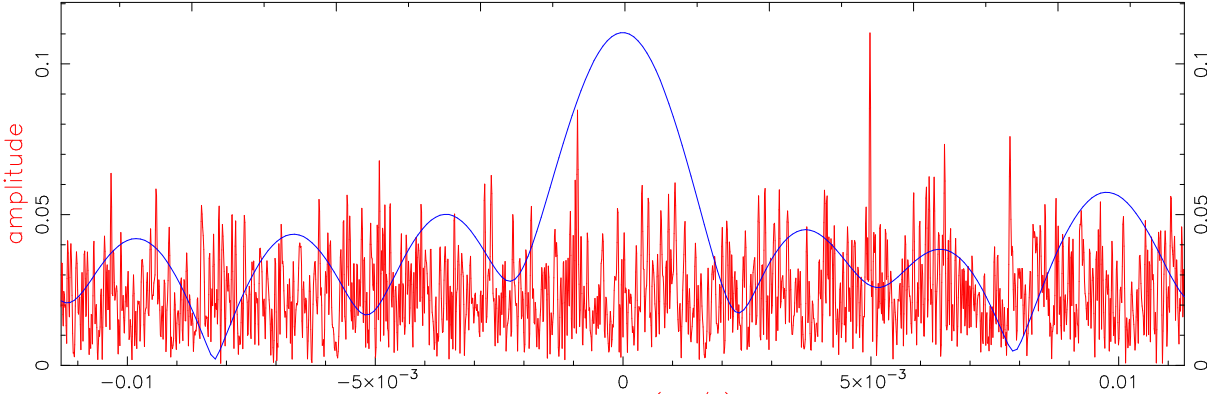
fxmanager

BLLAC.1W57LH, No0237, mX

VLBA_MK - ONSALA60, fgroup W, pol LR

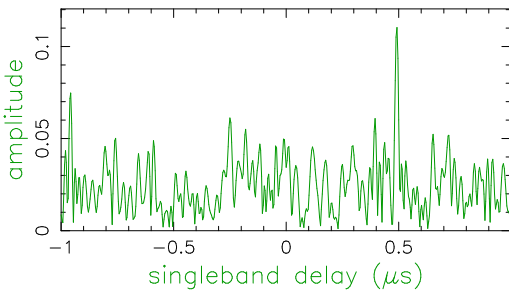
multiband delay (μ s)

-6×10^{-3} -4×10^{-3} -2×10^{-3} 0 2×10^{-3} 4×10^{-3} 6×10^{-3}



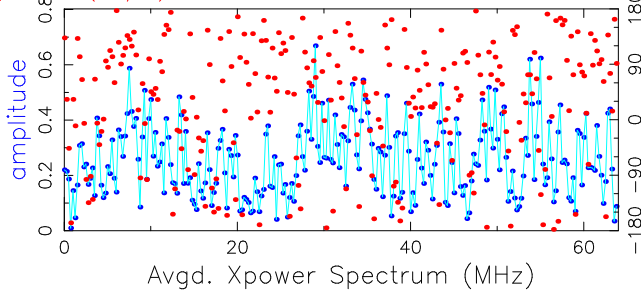
Fringe quality 0

SNR 5.8
Int time 359.899
Amp 0.120
Phase -17.1
PFD 8.8e-01
Delays (us)
SBD 0.491168
MBD -0.000075
Fringe rate (Hz)
0.429884
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



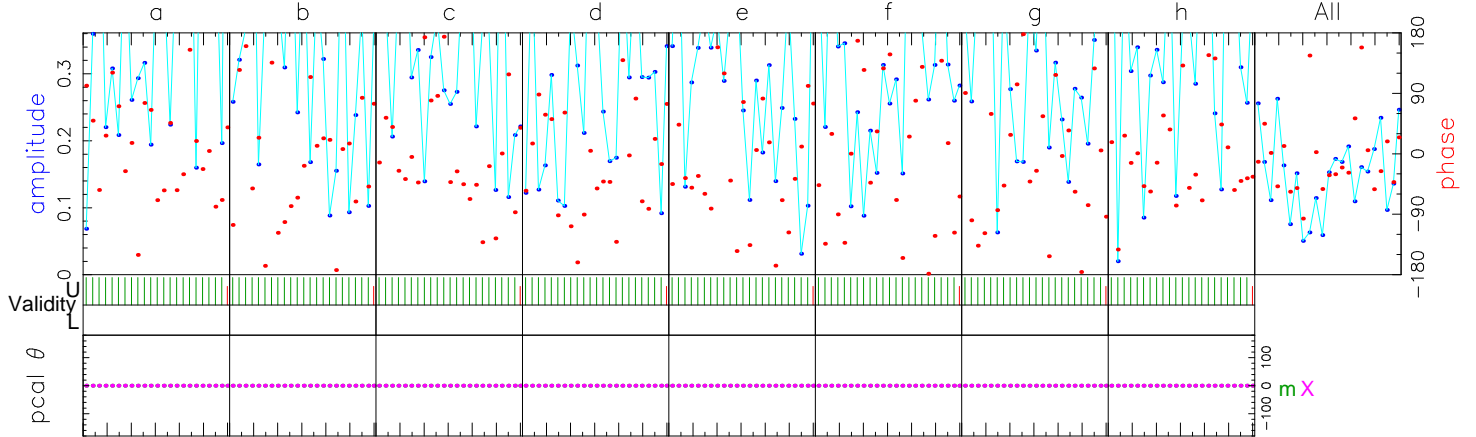
singleband delay (μ s)

delay rate (ns/s)



Exp. c211a
Exper # 16383
Yr:day 2021:114
Start 124500.00
Stop 125059.94
FRT 124816.00
Corr/FF/build
2021:286:092156
2021:286:134931
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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -12.1 | -37.4 | -20.7 | -9.6 | -32.6 | 133.1 | -24.5 | -7.4 | Phase | -17.1 |
| | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | Ampl. | 0.1 |
| | 382.4 | 481.6 | 382.8 | 192.7 | 260.3 | 257.4 | 126.6 | 383.1 | Sbd box | 382.7 |
| 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC phase | |
| m:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | Mani PC | |
| m:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC amp | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Chan ids | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | Tracks | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Chan ids | |
| X | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Tracks | |
| Group delay (usec)(sbd) | -5.66537269911E+03 | | Apriori delay (usec) | | -5.66585699907E+03 | | Resid mbdelay (usec) | | -7.50336E-05 | +/- 1.9E-04 |
| Sband delay (usec) | -5.66536583057E+03 | | Apriori clock (usec) | | -4.0745018E+01 | | Resid sbdelay (usec) | | 4.91168E-01 | +/- 1.5E-03 |
| Phase delay (usec) | -5.66585699962E+03 | | Apriori clockrate (us/s) | | -2.1000001E-07 | | Resid phdelay (usec) | | -5.50900E-07 | +/- 6.4E-07 |
| Delay rate (us/s) | 1.68501581354E+00 | | Apriori rate (us/s) | | 1.68501082301E+00 | | Resid rate (us/s) | | 4.99053E-06 | +/- 3.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -8.36162141631E-06 | | Resid phase (deg) | | -17.1 | +/- 19.9 |

| | RMS | Theor. | Amplitude | 0.120 +/- 0.021 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
|--------------|------|--------|------------------|-----------------|--|------------------------------|------------------|--------|-------|
| ph/seg (deg) | 61.0 | 47.7 | Search (2048X32) | 0.108 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| amp/seg (%) | 64.3 | 83.2 | Interp. | 0.000 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| ph/frq (deg) | 62.5 | 28.1 | Inc. seg. avg. | 0.121 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| amp/frq (%) | 63.7 | 49.1 | Inc. frq. avg. | 0.110 | Data rate(Mb/s): 2048 | nlags: 256 t_cohere infinite | | | |

m: az 50.6 el 18.5 pa -79.6 X: az 292.6 el 37.1 pa 42.1 u,v (fr/asec) -13081.505 -3710.774 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mX..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mX.W.306.1W57LH

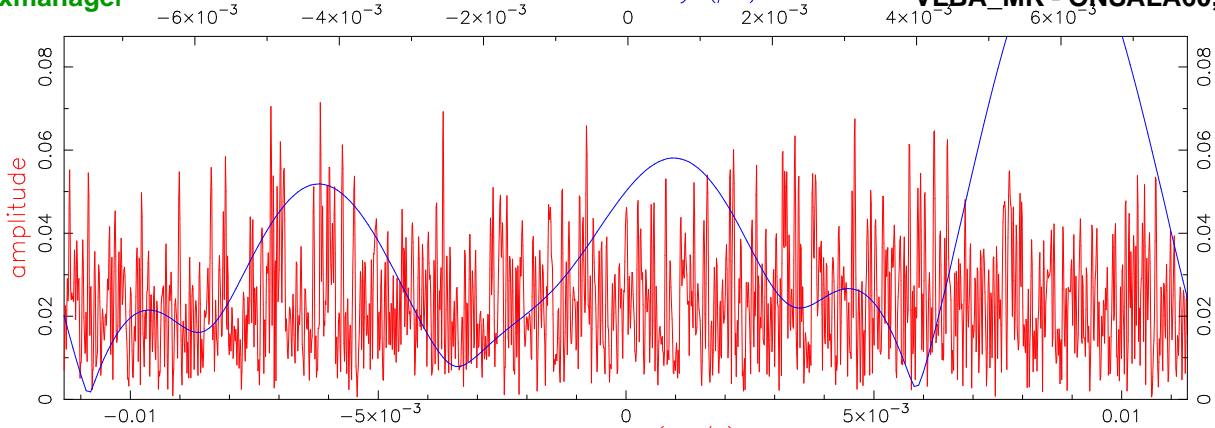
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

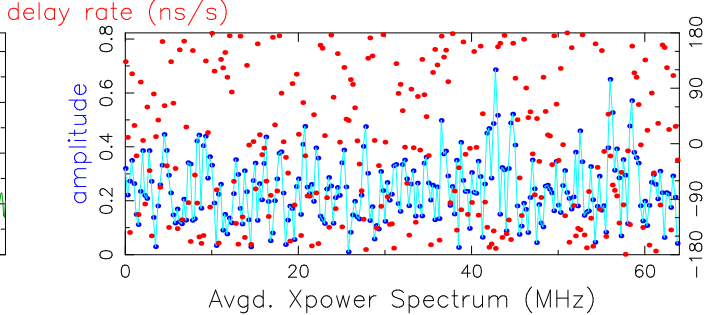
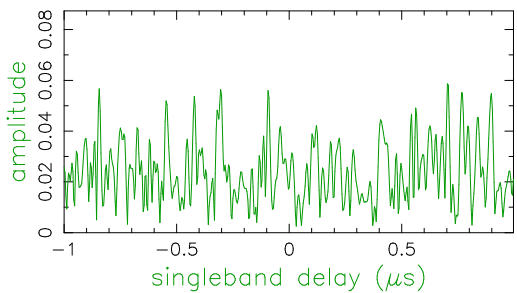
BLLAC.1W57LH, No0237, mX

VLBA_MK - ONSALA60, fgroup W, pol RL

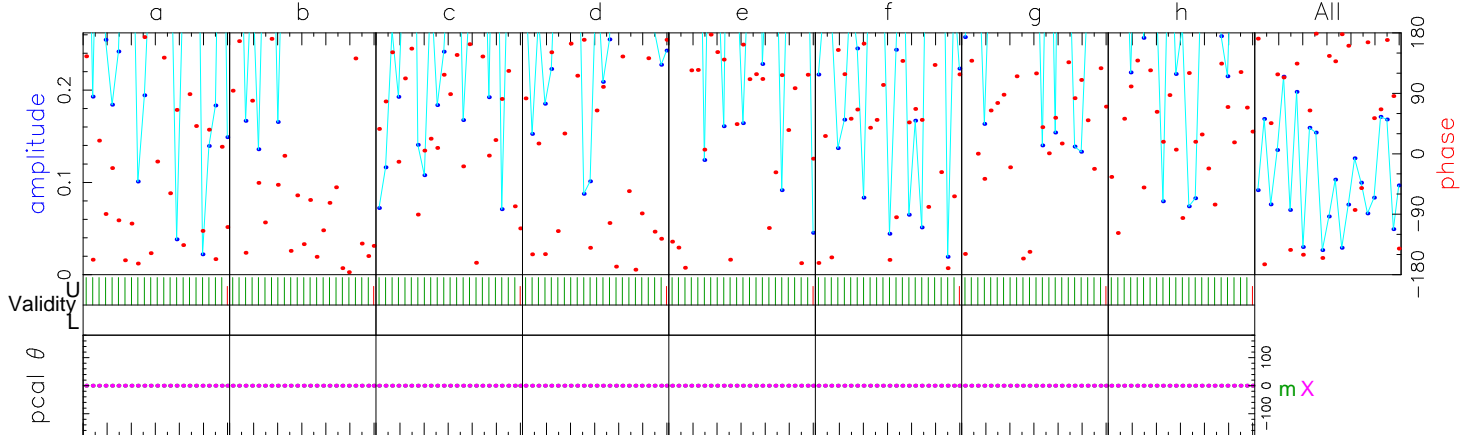
multiband delay (μ s)



Fringe quality 0
 SNR 2.9
 Int time 359.899
 Amp 0.087
 Phase 142.2
 PFD 1.0e+00
 Delays (us)
 SBD 0.767430
 MBD -0.008301
 Fringe rate (Hz)
 -0.968326
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124500.00
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134934
 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 |
|-------------------------|--------------------|----------|--------------------------|----------|--------------------|----------|----------------------|----------|--------------|-------------|
| | -92.4 | -127.6 | 129.6 | 176.9 | 147.4 | 59.9 | 67.4 | 57.9 | Phase | 142.2 |
| | 0.0 | 0.3 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 461.7 | 452.3 | 110.7 | 73.8 | 452.1 | 460.8 | 466.2 | 121.0 | Sbd box | 453.5 |
| 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| m:X | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| m:X | 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 | |
| X | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| m | 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) | -5.66508404985E+03 | | Apriori delay (usec) | | -5.66585699907E+03 | | Resid mbdelay (usec) | | -8.30078E-03 | +/- 3.7E-04 |
| Sband delay (usec) | -5.66508956907E+03 | | Apriori clock (usec) | | -4.0745018E+01 | | Resid sbdelay (usec) | | 7.67430E-01 | +/- 3.0E-03 |
| Phase delay (usec) | -5.66585699449E+03 | | Apriori clockrate (us/s) | | -2.1000001E-07 | | Resid phdelay (usec) | | 4.58623E-06 | +/- 1.3E-06 |
| Delay rate (us/s) | 1.68499958171E+00 | | Apriori rate (us/s) | | 1.68501082301E+00 | | Resid rate (us/s) | | -1.12413E-05 | +/- 6.1E-09 |
| Total phase (deg) | | | Apriori accel (us/s/s) | | -8.36162141631E-06 | | Resid phase (deg) | | 142.2 | +/- 39.4 |

ph/seg (deg) 68.2 94.4 Theor. Amplitude 0.087 +/- 0.030 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 132.9 164.8 Search (2048X32) 0.115 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 86.3 55.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 162.4 97.2 Inc. seg. avg. 0.071 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 50.6 el 18.5 pa -79.6 X: az 292.6 el 37.1 pa 42.1 u,v (fr/asec) -13081.505 -3710.774 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/mX..1W57LH Output file: /Exps/c211a/v2/1234/No0237/mX.W.318.1W57LH simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

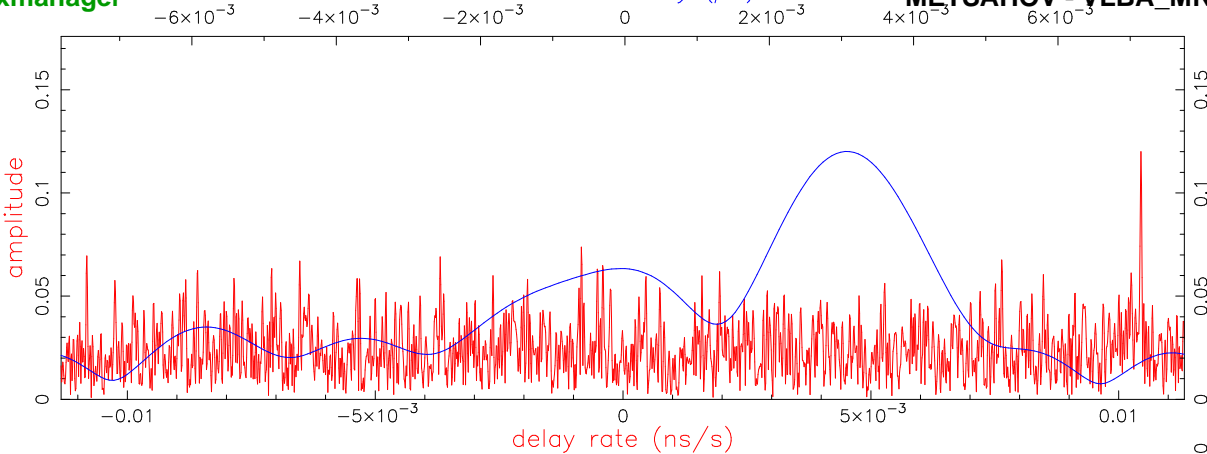
fxmanager

BLLAC.1W57LH, No0237, Zm

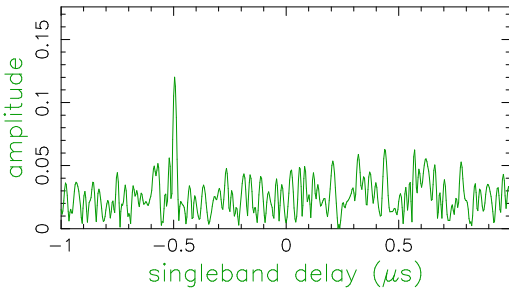
METSAHOV - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)

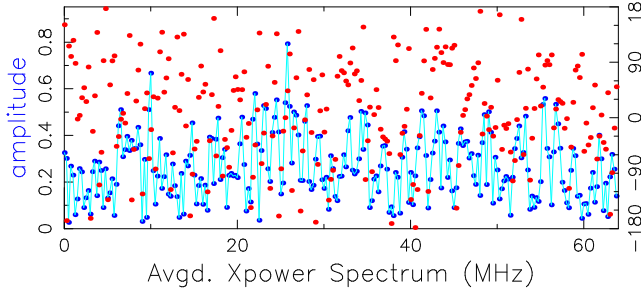
Fringe quality 0



SNR 6.1
 Int time 345.932
 Amp 0.176
 Phase 40.1
 PFD 2.2e-01
 Delays (us)
 SBD -0.495439
 MBD 0.003118
 Fringe rate (Hz)
 0.901976
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

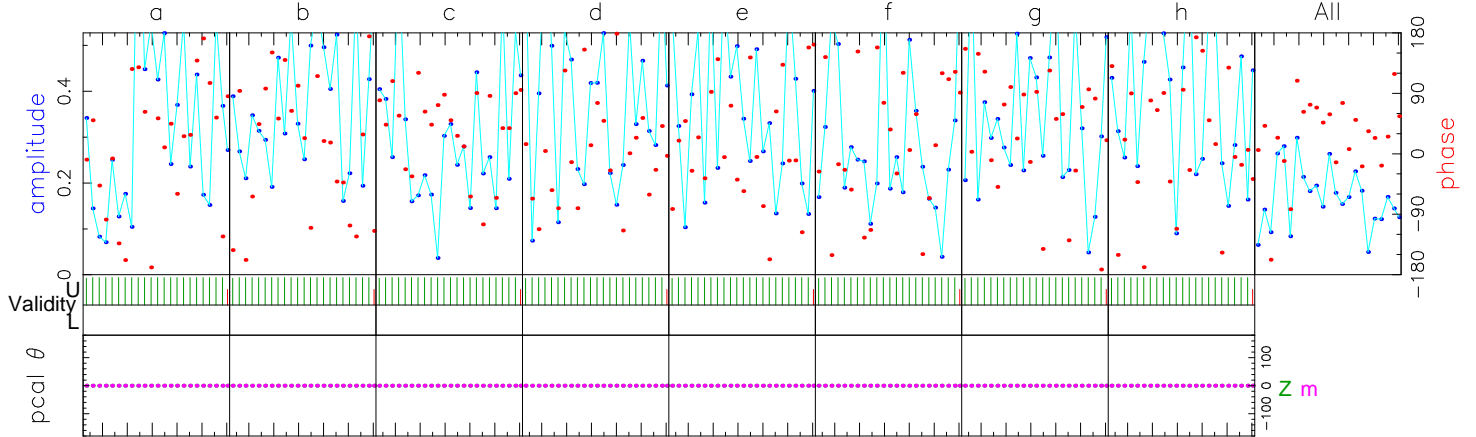


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124513.31
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134940
 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| Z:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.22803690716E+03 | Apriori delay (usec) | 4.22853378901E+03 | Resid mbdelay (usec) | 3.11815E-03 | +/- | 1.8E-04 |
| Sband delay (usec) | 4.22803835026E+03 | Apriori clock (usec) | -1.6377228E+01 | Resid sbdelay (usec) | -4.95439E-01 | +/- | 1.4E-03 |
| Phase delay (usec) | 4.22853379031E+03 | Apriori clockrate (us/s) | -3.0199999E-07 | Resid phdelay (usec) | 1.29275E-06 | +/- | 6.0E-07 |
| Delay rate (us/s) | -1.63227076418E+00 | Apriori rate (us/s) | -1.63228123523E+00 | Resid rate (us/s) | 1.04711E-05 | +/- | 3.0E-09 |
| Total phase (deg) | 250.9 | Apriori accel (us/s/s) | 1.76471046422E-05 | Resid phase (deg) | 40.1 | +/- | 18.7 |

| | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|--|-----------------------|-------------------|--------|-------|
| ph/seg (deg) | 56.4 | Theor. | 44.9 | Amplitude | 0.176 +/- 0.029 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 |
| amp/seg (%) | 68.5 | | 78.3 | Search (2048X32) | 0.117 | Pcal rate: 0.000E+00, 0.000E+00 (us/s) | | mb window (us) | -0.008 | 0.008 |
| ph/frq (deg) | 30.7 | | 26.5 | Inc. seg. avg. | 0.189 | Bits/sample: 2x2 | SampCntNorm: enabled | dr window (ns/s) | -0.011 | 0.011 |
| amp/frq (%) | 51.3 | | 46.2 | Inc. frq. avg. | 0.176 | Sample rate(MISamp/s): 128 | | ion window (TEC) | 0.00 | 0.00 |
| | | | | | | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | | |

Z: az 299.6 el 32.6 pa 35.9 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 12692.348 4549.192 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Zm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Zm.W.345.1W57LH

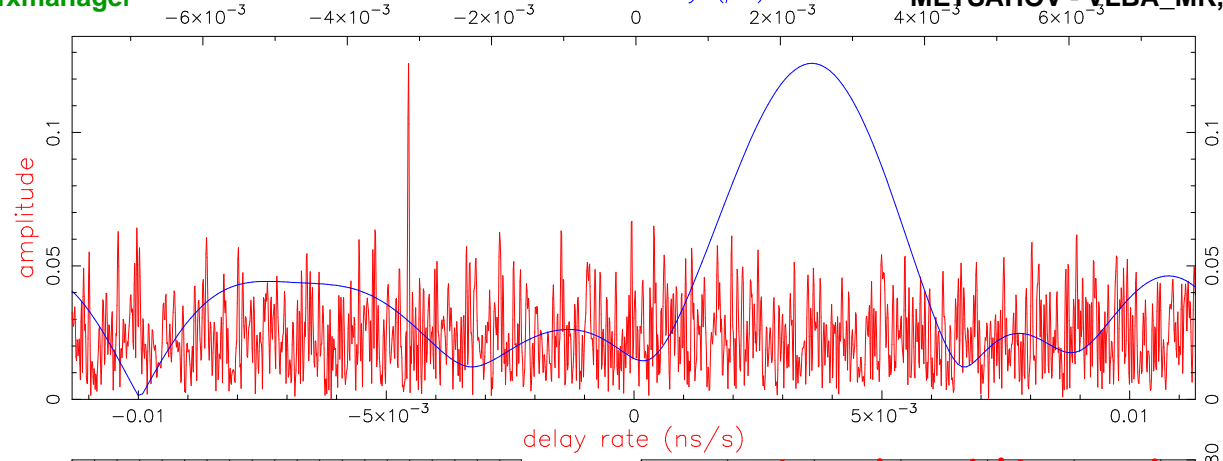
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W57LH, No0237, Zm

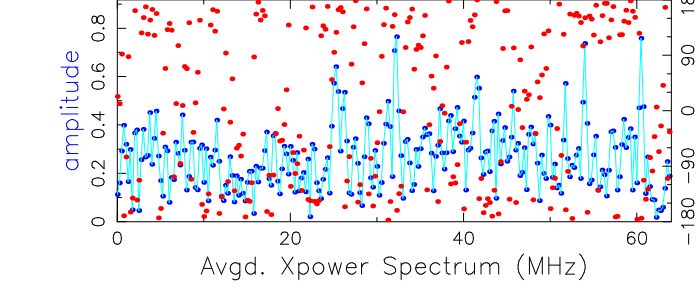
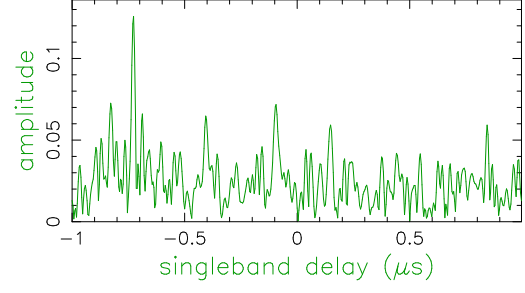
MEṬSAHOV - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)



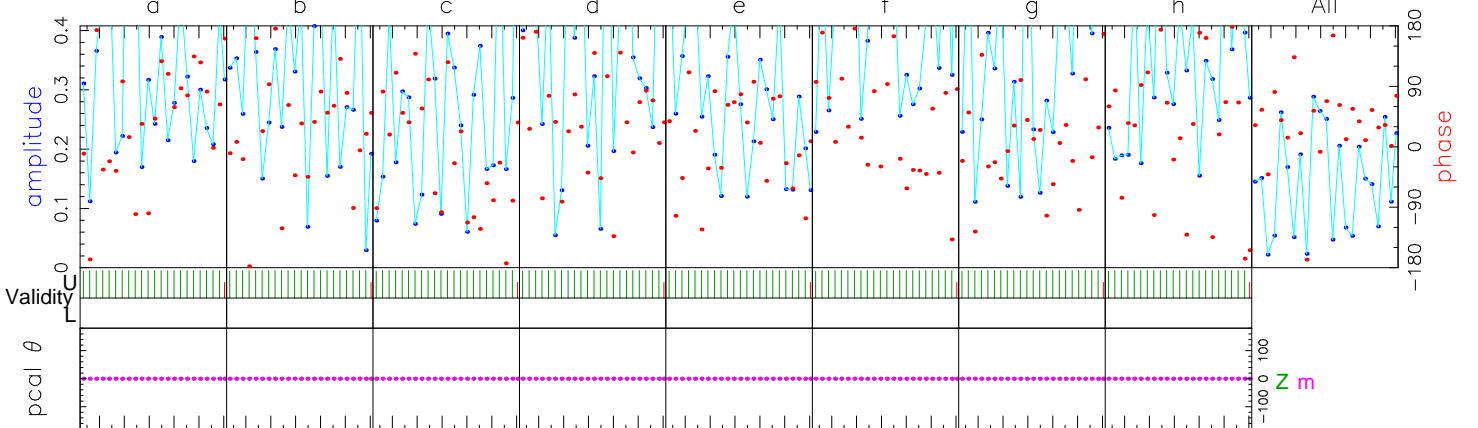
Fringe quality 0

SNR 6.5
 Int time 345.932
 Amp 0.136
 Phase 39.0
 PFD 2.8e-02
 Delays (us)
 SBD -0.727781
 MBD 0.002453
 Fringe rate (Hz)
 -0.392674
 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 124513.31
 125059.94
 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134944
 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| Z:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | | | | |
|-------------------------|--------------------|--------------------------|------------------------|--------------------|----------------------|-------------------|--------------|------|---------|------|
| Group delay (usec)(sbd) | 4.22780186663E+03 | Apriori delay (usec) | | 4.22853378901E+03 | Resid mbdelay (usec) | | 2.45262E-03 | +/- | 1.7E-04 | |
| Sband delay (usec) | 4.22780600801E+03 | Apriori clock (usec) | | -1.6377228E+01 | Resid sbdelay (usec) | | -7.27781E-01 | +/- | 1.3E-03 | |
| Phase delay (usec) | 4.22853379027E+03 | Apriori clockrate (us/s) | | -3.0199999E-07 | Resid phdelay (usec) | | 1.25896E-06 | +/- | 5.7E-07 | |
| Delay rate (us/s) | -1.63228579379E+00 | Apriori rate (us/s) | | -1.63228123523E+00 | Resid rate (us/s) | | -4.55855E-06 | +/- | 2.9E-09 | |
| Total phase (deg) | 249.8 | | Apriori accel (us/s/s) | | 1.76471046422E-05 | Resid phase (deg) | | 39.0 | +/- | 17.7 |

| | | | | | | | | | | | |
|--------------|------|--------|------|------------------|-----------------|------------------------|-----------------------------|----------------------|-------------------|------------------|-----------|
| ph/seg (deg) | 54.2 | Theor. | 42.5 | Amplitude | 0.136 +/- 0.021 | Pcal mode: | MANUAL, MANUAL | PC period (AP's) | 5, 5 | | |
| amp/seg (%) | 68.6 | | 74.2 | Search (2048X32) | 0.122 | Pcal rate: | 0.000E+00, 0.000E+00 (us/s) | sb window (us) | -1.000 1.000 | | |
| ph/frq (deg) | 31.1 | | 25.1 | Interp. | 0.000 | Bits/sample: | 2x2 | SampCntNorm: enabled | mb window (us) | -0.008 0.008 | |
| amp/frq (%) | 37.9 | | 43.7 | Inc. seg. avg. | 0.123 | Sample rate (MSamp/s): | 128 | dr window (ns/s) | -0.011 0.011 | | |
| | | | | Inc. frq. avg. | 0.135 | Data rate (Mb/s): | 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 0.00 |

Z: az 299.6 el 32.6 pa 35.9 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 12692.348 4549.192 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Zm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Zm.W.363.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

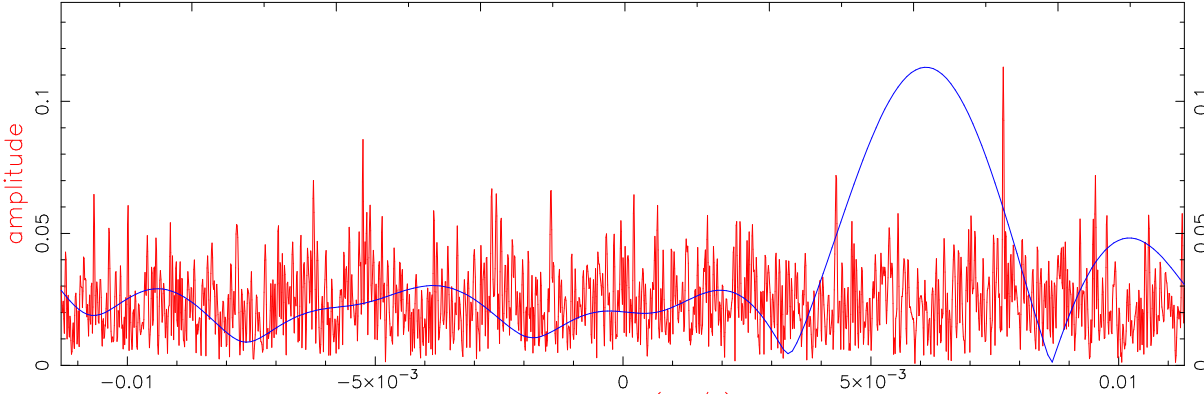
BLLAC.1W57LH, No0237, Zm

METSAHOV - VLBA_MK, fgroup W, pol LR

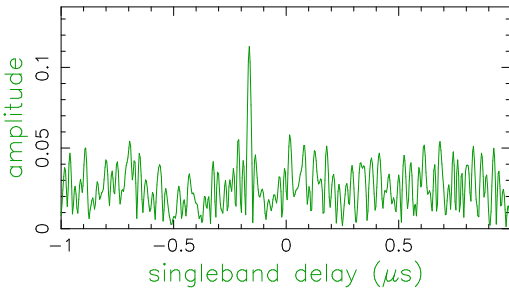
multiband delay (μ s)

-6×10^{-3} -4×10^{-3} -2×10^{-3} 0 2×10^{-3} 4×10^{-3} 6×10^{-3}

Fringe quality 0

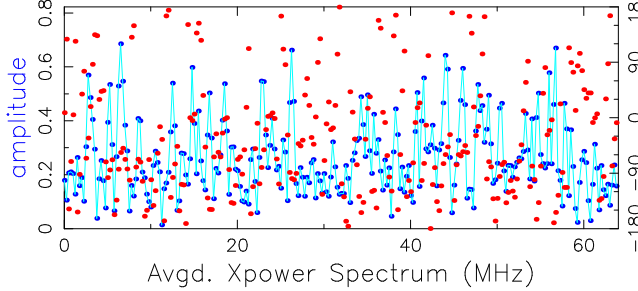


SNR 5.7
 Int time 345.932
 Amp 0.137
 Phase 149.8
 PFD 9.0e-01
 Delays (us)
 SBD -0.164087
 MBD 0.004169
 Fringe rate (Hz)
 0.662102
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



singleband delay (μ s)

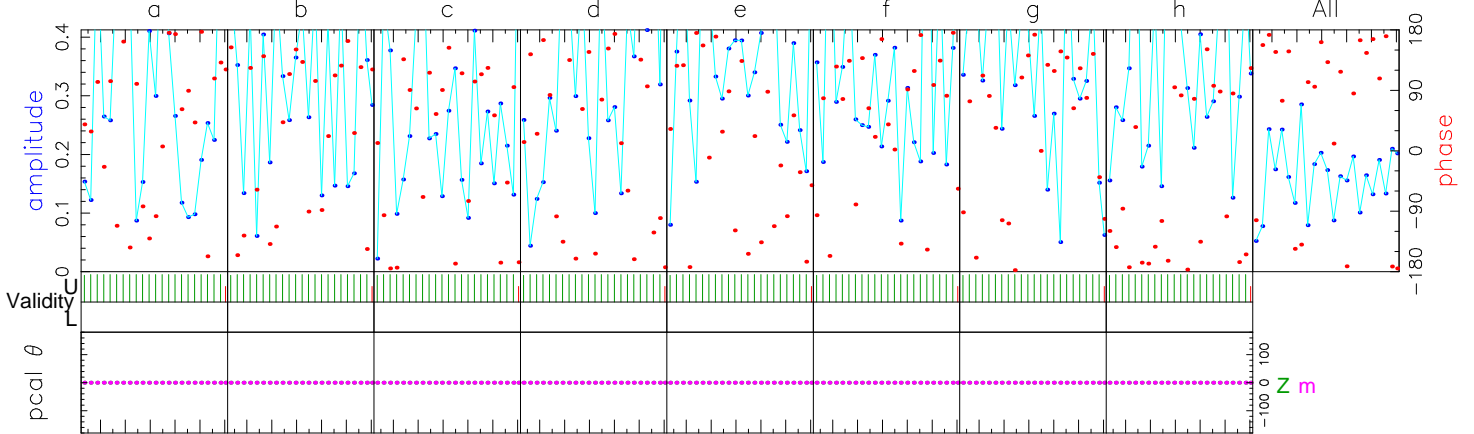
delay rate (ns/s)



Avgd. Xpower Spectrum (MHz)

Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124513.31
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134947
 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | | |
| Z:m | 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 | | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | | |
| m | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.22836608303E+03 | Apriori delay (usec) | 4.22853378901E+03 | Resid mbdelay (usec) | 4.16901E-03 | +/- | 1.9E-04 |
| Sband delay (usec) | 4.22836970201E+03 | Apriori clock (usec) | -1.6377228E+01 | Resid sbdelay (usec) | -1.64087E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | 4.22853379384E+03 | Apriori clockrate (us/s) | -3.0199999E-07 | Resid phdelay (usec) | 4.83010E-06 | +/- | 6.4E-07 |
| Delay rate (us/s) | -1.63227354889E+00 | Apriori rate (us/s) | -1.63228123523E+00 | Resid rate (us/s) | 7.68635E-06 | +/- | 3.2E-09 |
| Total phase (deg) | 0.6 | Apriori accel (us/s/s) | 1.76471046422E-05 | Resid phase (deg) | 149.8 | +/- | 19.9 |

| | | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-----------------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 52.9 | Theor. 47.8 | Amplitude Search (2048X32) | 0.137 +/- 0.024 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 66.6 | 83.5 | 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) | 18.6 | 28.2 | Inc. seg. avg. | 0.146 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 27.0 | 49.2 | Inc. frq. avg. | 0.129 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

Z: az 299.6 el 32.6 pa 35.9 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 12692.348 4549.192 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Zm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Zm.W.383.1W57LH

Mk4/DiFX fourfit 3.21 rev 2937

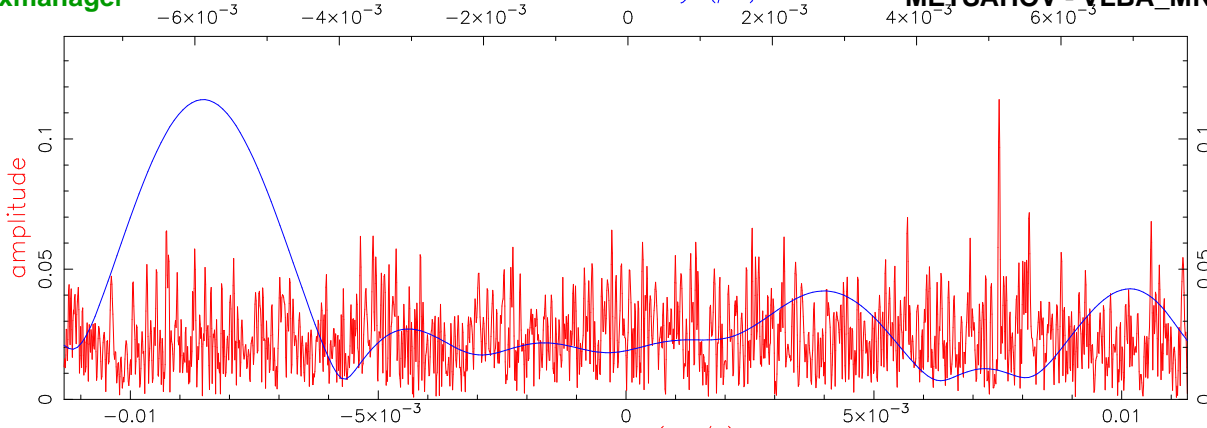
fxmanager

BLLAC.1W57LH, No0237, Zm

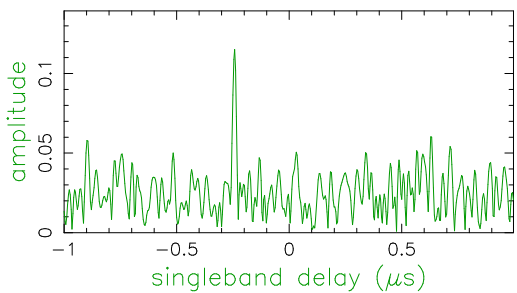
METSAHOV - VLBA_MK, fgroup W, pol RL

multiband delay (μs)

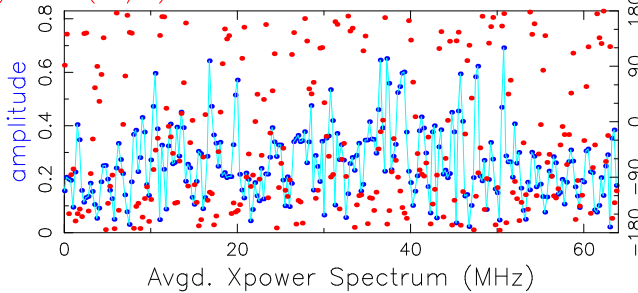
Fringe quality 0



SNR 5.9
 Int time 345.932
 Amp 0.139
 Phase 19.1
 PFD 6.7e-01
 Delays (us)
 SBD -0.242856
 MBD -0.005908
 Fringe rate (Hz)
 0.649252
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

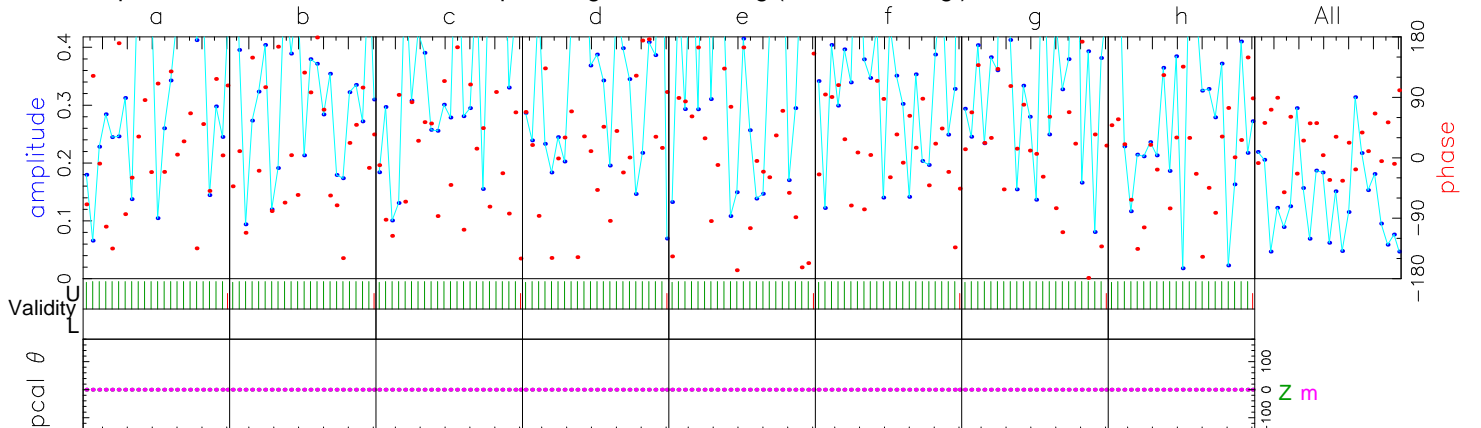


delay rate (ns/s)



Exp. c211a
 Exper # 16383
 Yr:day 2021:114
 Start 124513.31
 Stop 125059.94
 FRT 124816.00
 Corr/FF/build
 2021:286:092156
 2021:286:134950
 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 |
|-----|----------|----------|----------|----------|----------|----------|----------|----------|------------|-------|
| | 27.6 | -3.8 | 9.6 | 19.8 | 74.3 | 11.3 | 20.0 | 17.6 | Phase | 19.1 |
| | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | Ampl. | 0.1 |
| | 111.3 | 363.4 | 403.3 | 72.0 | 131.7 | 413.4 | 108.4 | 265.9 | Sbd box | 194.8 |
| 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | PC freqs | |
| Z:m | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | 0:0 | PC phase | |
| Z:m | 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 | |
| m | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | | |
| Z | W00UR | W01UR | W02UR | W03UR | W04UR | W05UR | W06UR | W07UR | Chan ids | |
| m | W00UL | W01UL | W02UL | W03UL | W04UL | W05UL | W06UL | W07UL | Tracks | |

| | | | | | | | |
|-------------------------|--------------------|--------------------------|--------------------|----------------------|--------------|-----|---------|
| Group delay (usec)(sbd) | 4.22829350577E+03 | Apriori delay (usec) | 4.22853378901E+03 | Resid mbdelay (usec) | -5.90824E-03 | +/- | 1.8E-04 |
| Sband delay (usec) | 4.22829093351E+03 | Apriori clock (usec) | -1.6377228E+01 | Resid sbdelay (usec) | -2.42856E-01 | +/- | 1.5E-03 |
| Phase delay (usec) | 4.22853378963E+03 | Apriori clockrate (us/s) | -3.0199999E-07 | Resid phdelay (usec) | 6.15267E-07 | +/- | 6.3E-07 |
| Delay rate (us/s) | -1.63227369806E+00 | Apriori rate (us/s) | -1.63228123523E+00 | Resid rate (us/s) | 7.53717E-06 | +/- | 3.1E-09 |
| Total phase (deg) | 229.9 | Apriori accel (us/s/s) | 1.76471046422E-05 | Resid phase (deg) | 19.1 | +/- | 19.5 |

| | | | | | | | | | | |
|--------------|----------|-------------|----------------------------|-----------------|--|----------------------------|-------------------|------------------|-------|------|
| ph/seg (deg) | RMS 40.1 | Theor. 46.8 | Amplitude Search (2048X32) | 0.139 +/- 0.024 | Pcal mode: MANUAL, MANUAL | PC period (AP's) 5, 5 | sb window (us) | -1.000 | 1.000 | |
| amp/seg (%) | 68.8 | 81.7 | 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) | 25.2 | 27.6 | Inc. seg. avg. | 0.128 | Bits/sample: 2x2 | Sample rate(MISamp/s): 128 | dr window (ns/s) | -0.011 | 0.011 | |
| amp/frq (%) | 31.5 | 48.2 | Inc. frq. avg. | 0.131 | Data rate(Mb/s): 2048 | nlags: 256 | t_cohere infinite | ion window (TEC) | 0.00 | 0.00 |

Z: az 299.6 el 32.6 pa 35.9 m: az 50.6 el 18.5 pa -79.6 u,v (fr/asec) 12692.348 4549.192 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c211a/v2/1234/No0237/Zm..1W57LH Output file: /Exps/c211a/v2/1234/No0237/Zm.W.393.1W57LH