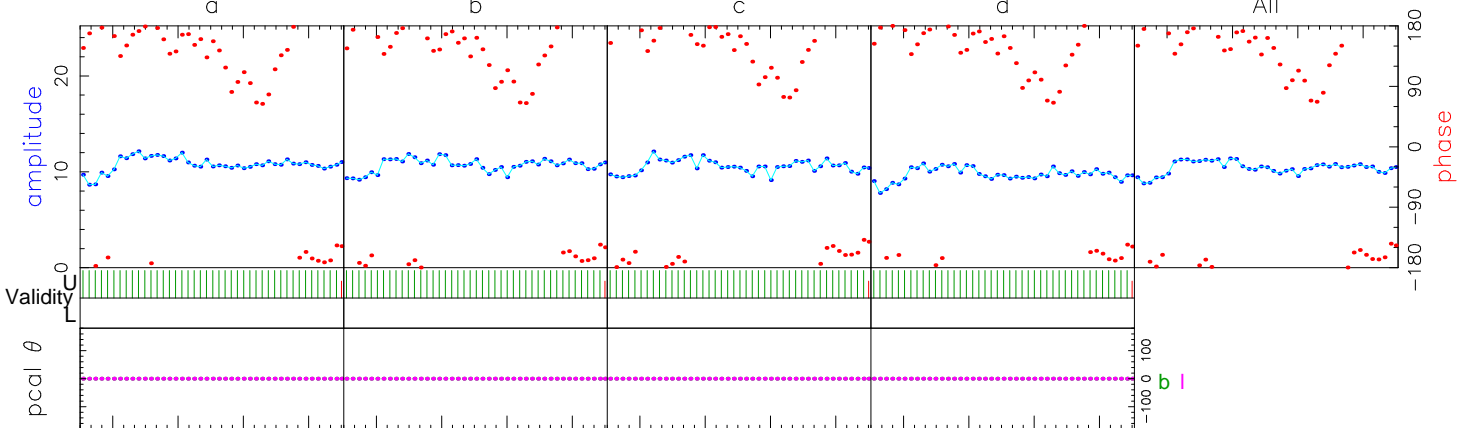


Fringe quality 6
SNR 356.2
Int time 239.982
Amp 8.408
Phase 159.1
PFD 0.0e+00
Delays (us)
SBD 0.001270
MBD 0.001344
Fringe rate (Hz) 0.001060
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211438
2020:247:085004
RA & Dec (J2000) 15h04m24.979782s +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
154.9	157.9	164.6	159.0	Phase	159.1
8.6	8.5	8.4	7.8	Ampl.	8.3
513.8	513.7	513.6	513.4	Sbd box	513.7
U/L 469/0	469/0	469/0	469/0	APs used	
b 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
b:l 0:0	0:0	0:0	0:0	PC phase	
b:l 0:0	0:0	0:0	0:0	Manl PC	
b 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
b Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-3.83915080870E+03	Apriori delay (usec)	-3.83915215279E+03	Resid mbdelay (usec)	1.34409E-03	+/-	3.1E-06
Sband delay (usec)	-3.83915088291E+03	Apriori clock (usec)	-1.3052969E+08	Resid sbdelay (usec)	1.26987E-03	+/-	1.2E-05
Phase delay (usec)	-3.83915214252E+03	Apriori clockrate (us/s)	9.9999998E-08	Resid phdelay (usec)	1.02656E-05	+/-	2.1E-08
Delay rate (us/s)	1.09656048781E-01	Apriori rate (us/s)	1.09656024146E-01	Resid rate (us/s)	2.46353E-08	+/-	1.5E-10
Total phase (deg)	-77.1	Apriori accel (us/s/s)	2.36716970997E-05	Resid phase (deg)	159.1	+/-	0.3

ph/seg (deg)	RMS 38.6	Theor. 1.1	Amplitude	8.408 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	25.2	1.8	Search (1024X16)	7.726	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	4.9	0.3	Inc. seg. avg.	10.427	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	4.2	0.6	Inc. frq. avg.	8.334	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

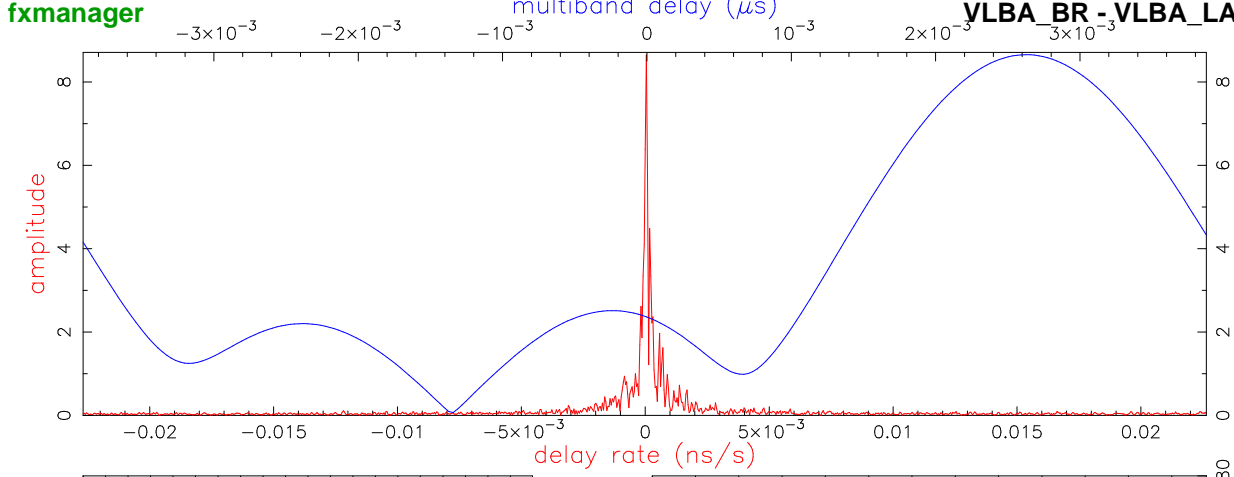
b: az 125.7 el 40.0 pa -33.5 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -307.474 868.587 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.Q.23.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

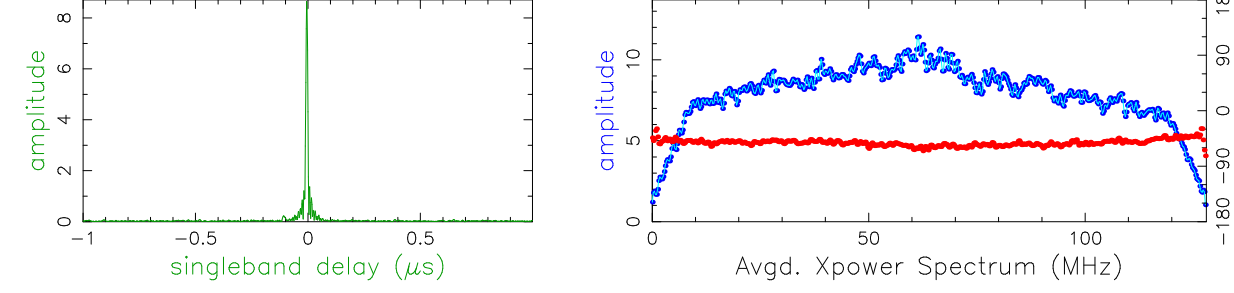
1502+106.1J2DGP, No0154, bl

VLBA_BR - VLBA_LA, fgroup Q, pol LL



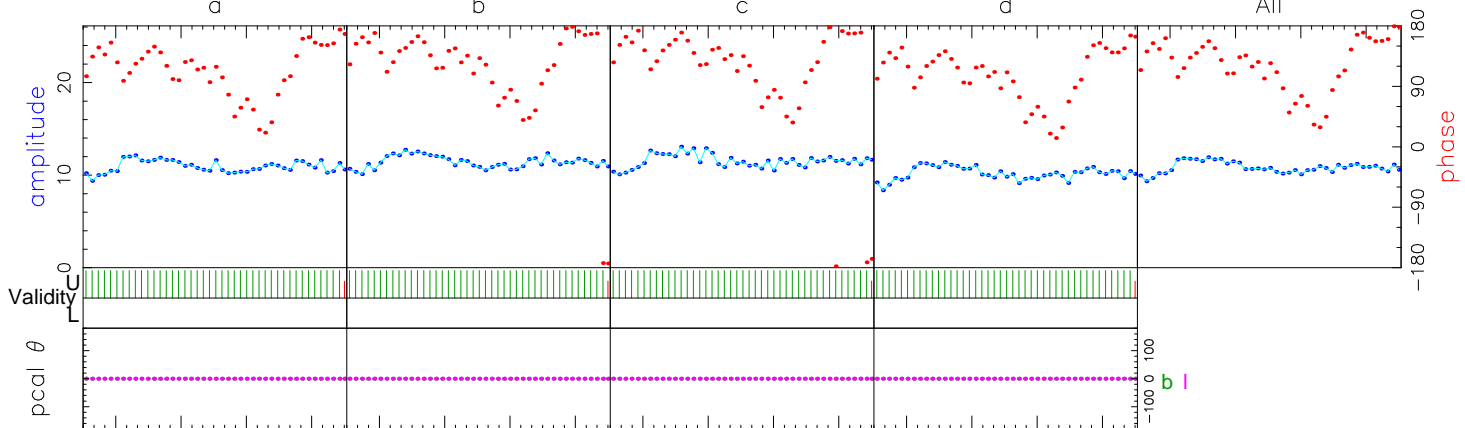
Fringe quality 5

SNR 369.0
 Int time 239.982
 Amp 8.710
 Phase 123.6
 PFD 0.0e+00
 Delays (us)
 SBD -0.005299
 MBD 0.002662
 Fringe rate (Hz)
 0.001064
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211436
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
116.4	132.1	134.6	109.4	Phase	123.6
8.7	9.1	9.2	8.1	Ampl.	8.8
510.9	510.5	510.0	509.7	Sbd box	510.3
U/L 469/0	469/0	469/0	469/0	APs used	
b 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
b:l 0:0	0:0	0:0	0:0	PC phase	
b:l 0:0	0:0	0:0	0:0	Manl PC	
b 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
b Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-3.83915730367E+03	Apriori delay (usec)	-3.83915215279E+03	Resid mbdelay (usec)	2.66162E-03	+/-	3.0E-06
Sband delay (usec)	-3.83915745191E+03	Apriori clock (usec)	-1.3052969E+00	Resid sbdelay (usec)	-5.29912E-03	+/-	1.2E-05
Phase delay (usec)	-3.83915214481E+03	Apriori clockrate (us/s)	9.9999998E-08	Resid phdelay (usec)	7.97893E-06	+/-	2.0E-08
Delay rate (us/s)	1.09656048863E-01	Apriori rate (us/s)	1.09656024146E-01	Resid rate (us/s)	2.47175E-08	+/-	1.4E-10
Total phase (deg)	-112.5	Apriori accel (us/s/s)	2.36716970997E-05	Resid phase (deg)	123.6	+/-	0.3

ph/seg (deg)	38.8	1.0	Amplitude	8.710 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	25.4	1.8	Search (1024X16)	7.949	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	14.9	0.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	5.0	0.5	Inc. seg. avg.	10.838	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
			Inc. frq. avg.	8.797	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

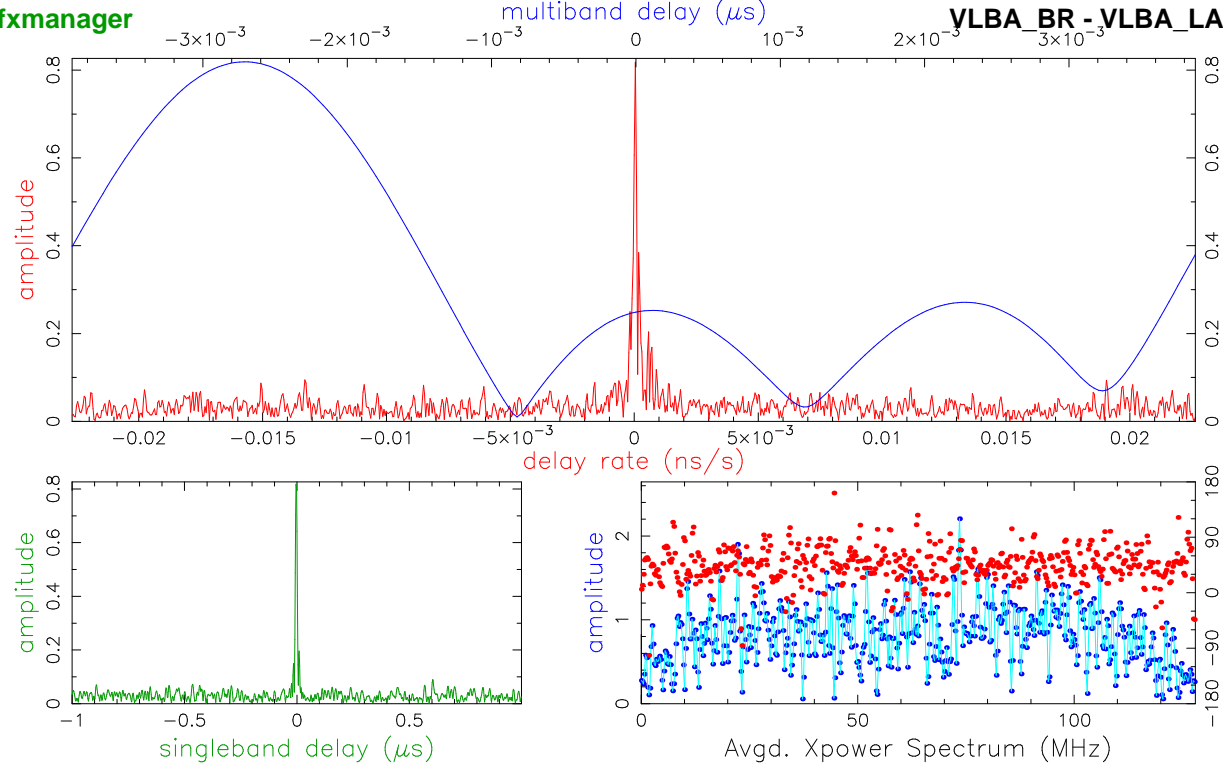
b: az 125.7 el 40.0 pa -33.5 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -307.474 868.587 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.Q.3.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, bl

VLBA_BR - VLBA_LA, fgroup Q, pol LR

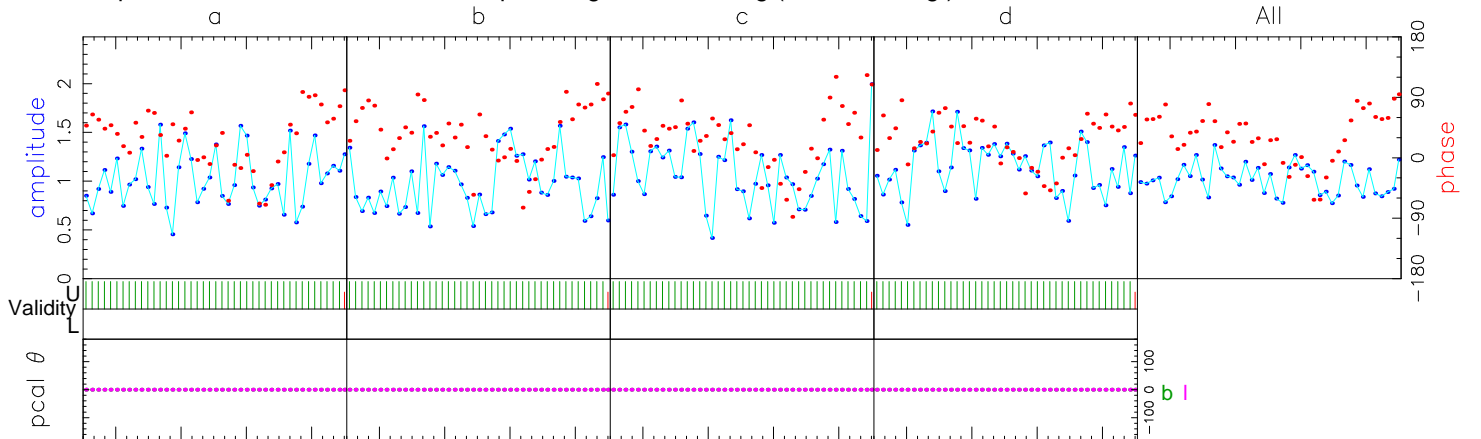


Fringe quality 8

SNR 35.0
 Int time 239.982
 Amp 0.827
 Phase 32.0
 PFD 0.0e+00
 Delays (us)
 SBD -0.003228
 MBD -0.002662
 Fringe rate (Hz) 0.001094
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211439
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
32.8	35.2	35.6	25.9	Phase	32.0
0.8	0.7	0.8	1.0	Ampl.	0.8
511.7	511.4	511.3	511.0	Sbd box	511.3
U/L 469/0	469/0	469/0	469/0	APs used	
b 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
b:l 0:0	0:0	0:0	0:0	PC phase	
b:l 0:0	0:0	0:0	0:0	Manl PC	
b 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
b Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	-3.83915481439E+03	Apriori delay (usec)	-3.83915215279E+03	Resid mbdelay (usec)	-2.66160E-03 +/- 3.2E-05
Sband delay (usec)	-3.83915538054E+03	Apriori clock (usec)	-1.3052969E+00	Resid sbdelay (usec)	-3.22775E-03 +/- 1.2E-04
Phase delay (usec)	-3.83915215072E+03	Apriori clockrate (us/s)	9.9999998E-08	Resid phdelay (usec)	2.06591E-06 +/- 2.1E-07
Delay rate (us/s)	1.09656049558E-01	Apriori rate (us/s)	1.09656024146E-01	Resid rate (us/s)	2.54124E-08 +/- 1.5E-09
Total phase (deg)	-204.2	Apriori accel (us/s/s)	2.36716970997E-05	Resid phase (deg)	32.0 +/- 3.3
RMS	Theor.	Amplitude	0.827 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
38.0	10.7	Search (1024X16)	0.752	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
29.0	18.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
5.5	3.3	Inc. seg. avg.	0.996	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
10.0	5.7	Inc. frq. avg.	0.819	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
b: az 125.7 el 40.0 pa -33.5	l: az 131.0 el 55.5 pa -38.1	u,v (fr/asec)	-307.474 868.587	simultaneous interpolator	
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.Q.38.1J2DGP					

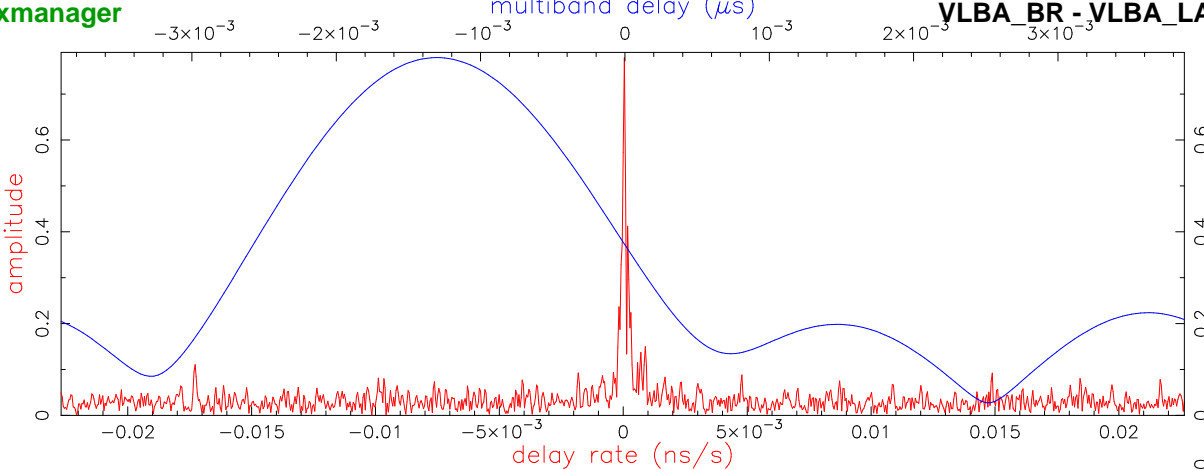
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

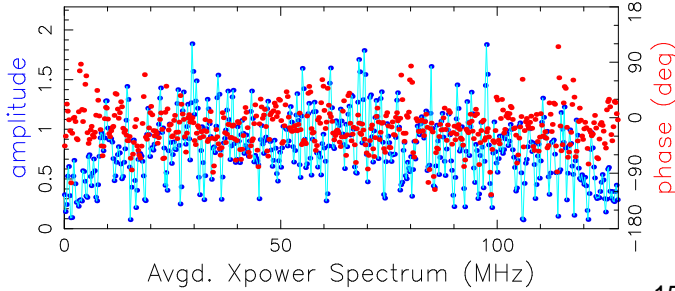
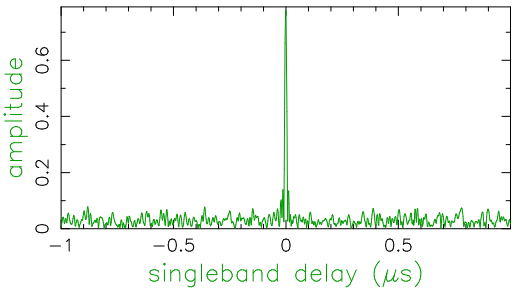
1502+106.1J2DGP, No0154, bl

VLBA_BR - VLBA_LA, fgroup Q, pol RL

Fringe quality 7

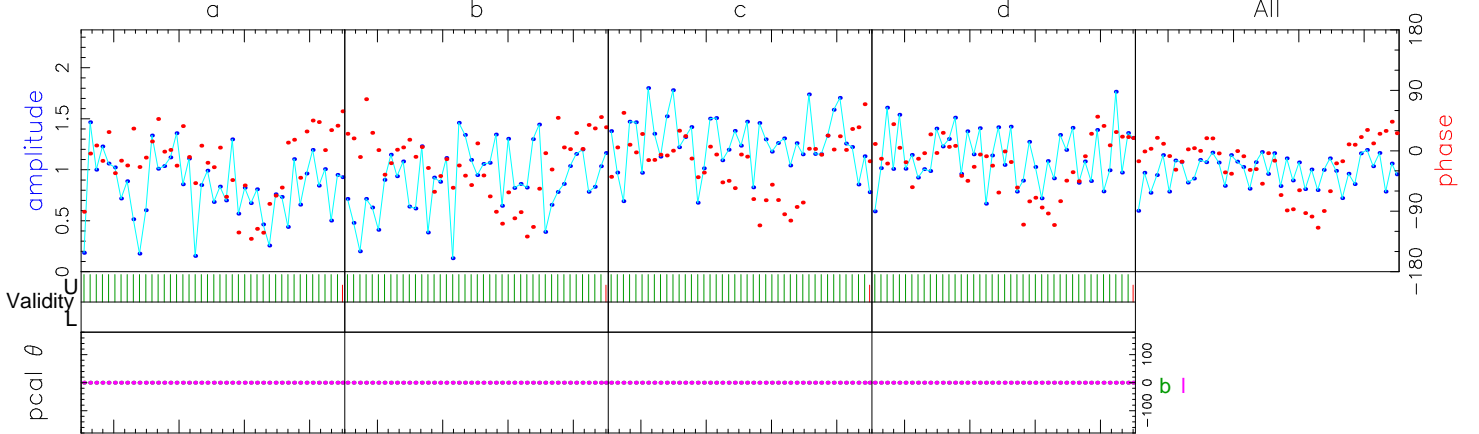


SNR 33.5
 Int time 239.982
 Amp 0.791
 Phase -14.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.001130
 MBD -0.001261
 Fringe rate (Hz)
 0.001135
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211442
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
b	1000	1000	1000	1000		
l	1000	1000	1000	1000		
b:l	0:0	0:0	0:0	0:0		
b:l	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000		
l	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR		
l	Q00UL	Q01UL	Q02UL	Q03UL		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.83915341367E+03	Apriori delay (usec)	-3.83915215279E+03	Resid mbdelay (usec)	-1.26088E-03	+/-	3.3E-05
Sband delay (usec)	-3.83915328316E+03	Apriori clock (usec)	-1.3052969E+00	Resid sbdelay (usec)	-1.13037E-03	+/-	1.3E-04
Phase delay (usec)	-3.83915215374E+03	Apriori clockrate (us/s)	9.9999998E-08	Resid phdelay (usec)	-9.55651E-07	+/-	2.2E-07
Delay rate (us/s)	1.09656050514E-01	Apriori rate (us/s)	1.09656024146E-01	Resid rate (us/s)	2.63682E-08	+/-	1.6E-09
Total phase (deg)	-251.0	Apriori accel (us/s/s)	2.36716970997E-05	Resid phase (deg)	-14.8	+/-	3.4

ph/seg (deg)	39.7	Theor.	11.2	Amplitude	0.791 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	30.8		19.6	Search (1024X16)	0.727	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	7.0		3.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	20.1		6.0	Inc. seg. avg.	0.968	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.780	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

b: az 125.7 el 40.0 pa -33.5 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -307.474 868.587 simultaneous interpolator

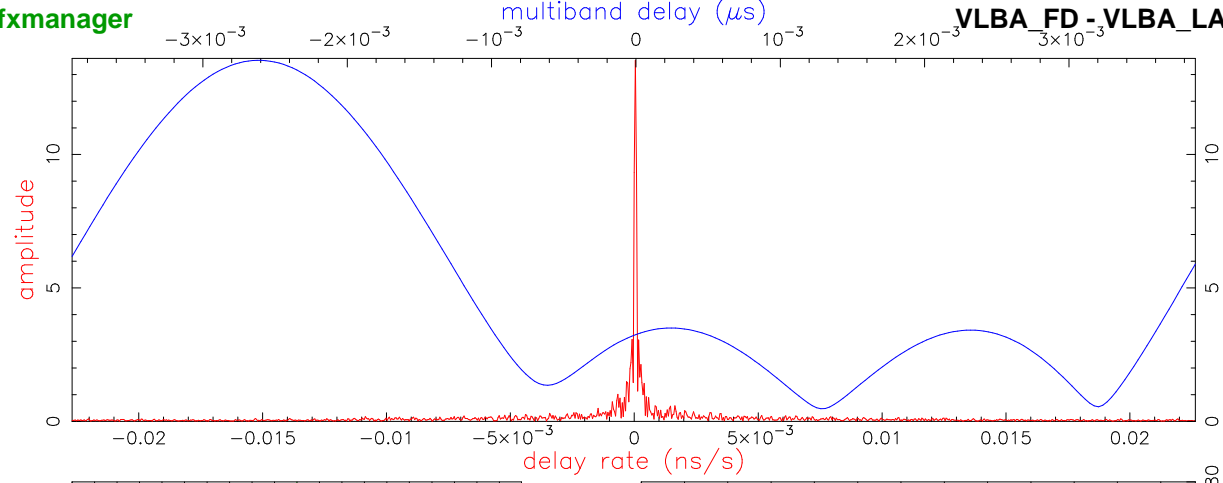
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bl.Q.58.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fl

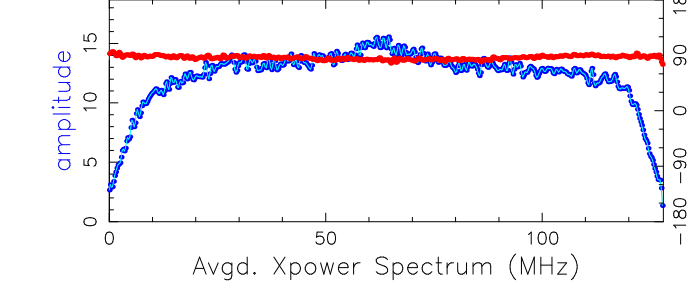
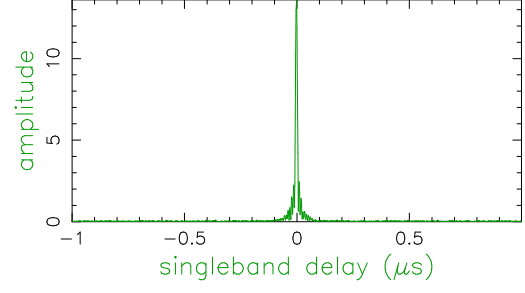
VLBA_FD - VLBA_LA, fgroup Q, pol LL



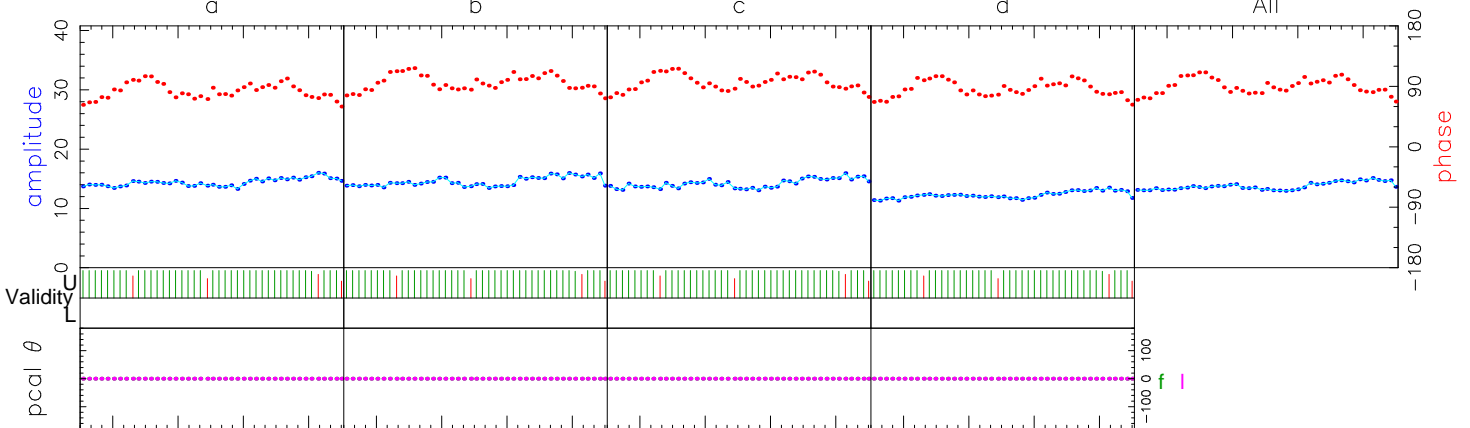
Fringe quality 9

SNR 571.7
 Int time 236.233
 Amp 13.602
 Phase 90.3
 PFD 0.0e+00
 Delays (us)
 SBD -0.002448
 MBD -0.002642
 Fringe rate (Hz) 0.002318
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211437
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000	APs used	
l	1000	1000	1000	1000	PC freqs	
f:l	0:0	0:0	0:0	0:0	PC phase	
f:l	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

	9.40929990848E+02	Apriori delay (usec)	9.40932632448E+02	Resid mbdelay (usec)	-2.64160E-03	+/- 1.9E-06
Group delay (usec)(sbd)	9.40930184573E+02	Apriori clock (usec)	8.2875147E+00	Resid sbdelay (usec)	-2.44787E-03	+/- 7.5E-06
Sband delay (usec)	9.40932638278E+02	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	5.83066E-06	+/- 1.3E-08
Phase delay (usec)	-1.65432393658E-02	Apriori rate (us/s)	-1.65432932225E-02	Resid rate (us/s)	5.38567E-08	+/- 9.4E-11
Delay rate (us/s)		Apriori accel (us/s/s)	-6.48974360416E-06	Resid phase (deg)	90.3	+/- 0.2
Total phase (deg)	270.5					

	RMS	Theor.	Amplitude	13.602 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	11.3	0.7	Search (1024X16)	13.140	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.8	1.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	8.1	0.2	Inc. seg. avg.	13.792	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	6.7	0.3	Inc. frq. avg.	13.597	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 127.9 el 60.3 pa -43.4 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 44.765 -373.644 simultaneous interpolator

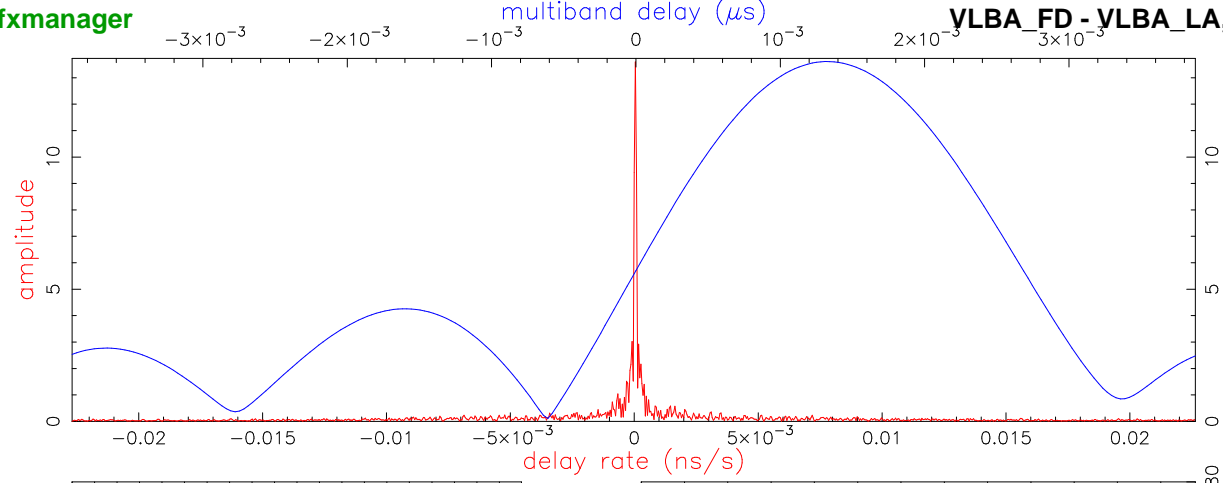
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl.Q.13.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fl

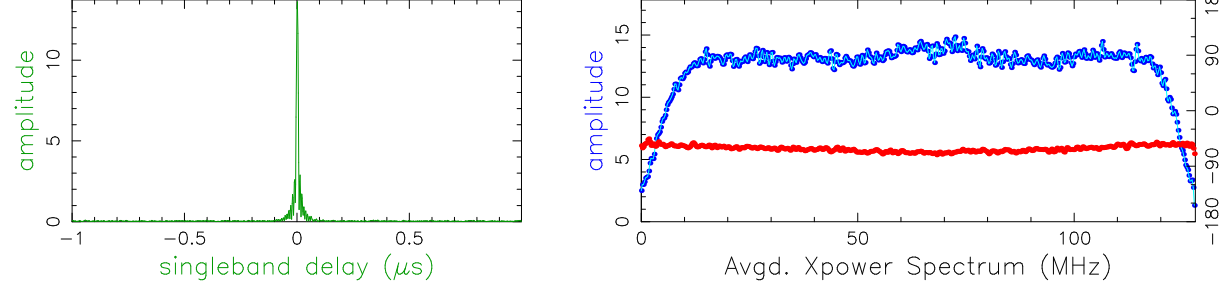
VLBA_FD - VLBA_LA, fgroup Q, pol RR



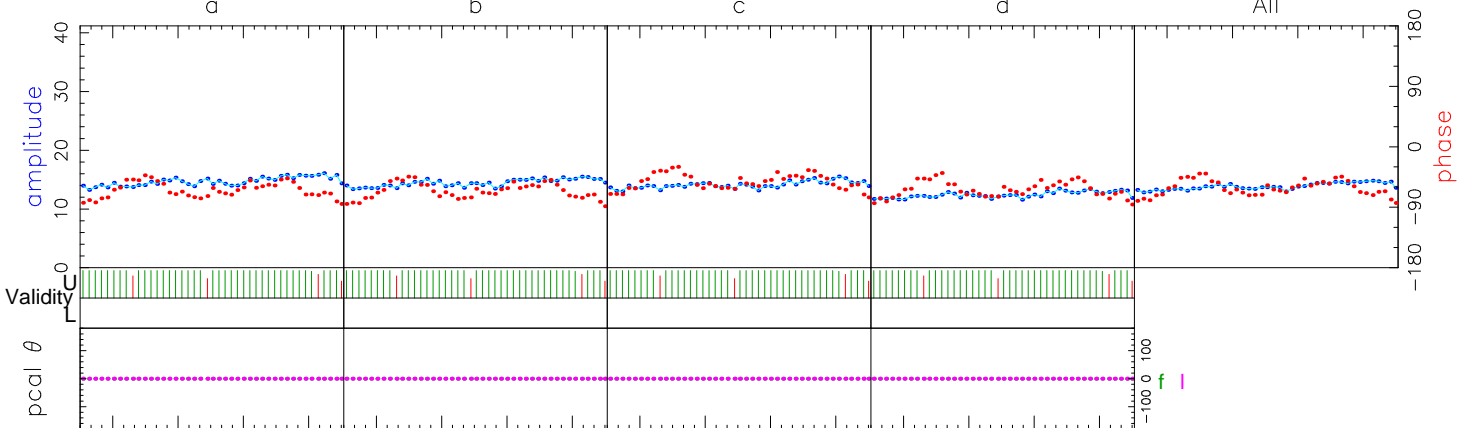
Fringe quality 9

SNR 577.1
 Int time 236.233
 Amp 13.731
 Phase -61.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.001322
 MBD 0.001285
 Fringe rate (Hz)
 0.002322
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211439
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



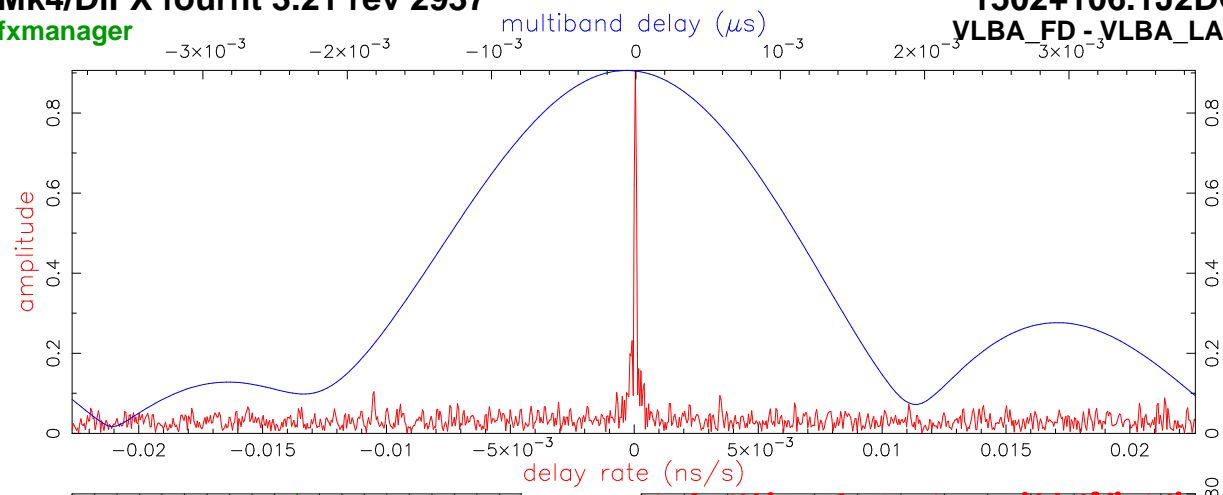
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
l	1000	1000	1000	1000		
f:l	0:0	0:0	0:0	0:0		
f:l	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
l	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
l	Q00UR	Q01UR	Q02UR	Q03UR		

	9.40933917067E+02	Apriori delay (usec)	9.40932632448E+02	Resid mbdelay (usec)	1.28462E-03	+/- 1.9E-06
Group delay (usec)(sbd)	9.40933954448E+02	Apriori clock (usec)	8.2875147E+00	Resid sbdelay (usec)	1.32200E-03	+/- 7.5E-06
Sband delay (usec)	9.40932628499E+02	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-3.94874E-06	+/- 1.3E-08
Phase delay (usec)	-1.65432392750E-02	Apriori rate (us/s)	-1.65432932225E-02	Resid rate (us/s)	5.39475E-08	+/- 9.3E-11
Delay rate (us/s)		Apriori accel (us/s/s)	-6.48974360416E-06	Resid phase (deg)	-61.2	+/- 0.2
Total phase (deg)	119.0					

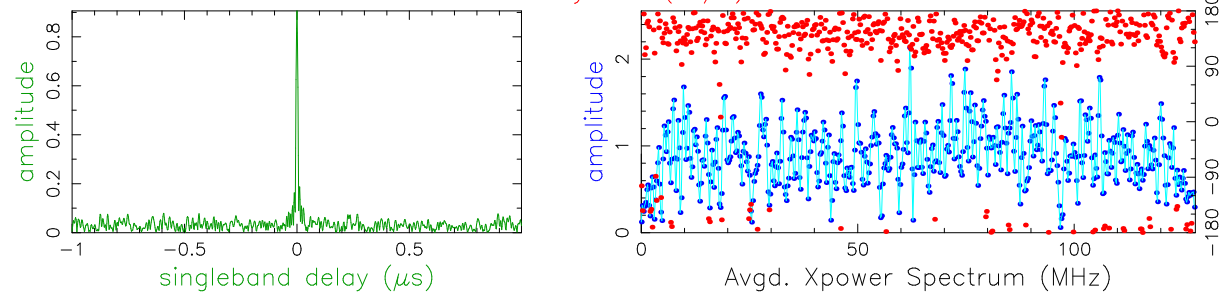
	RMS	Theor.	Amplitude	13.731 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	11.3	0.6	Search (1024X16)	13.268	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.2	1.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.8	0.2	Inc. seg. avg.	13.867	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	6.4	0.3	Inc. frq. avg.	13.667	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 127.9 el 60.3 pa -43.4 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 44.765 -373.644 simultaneous interpolator

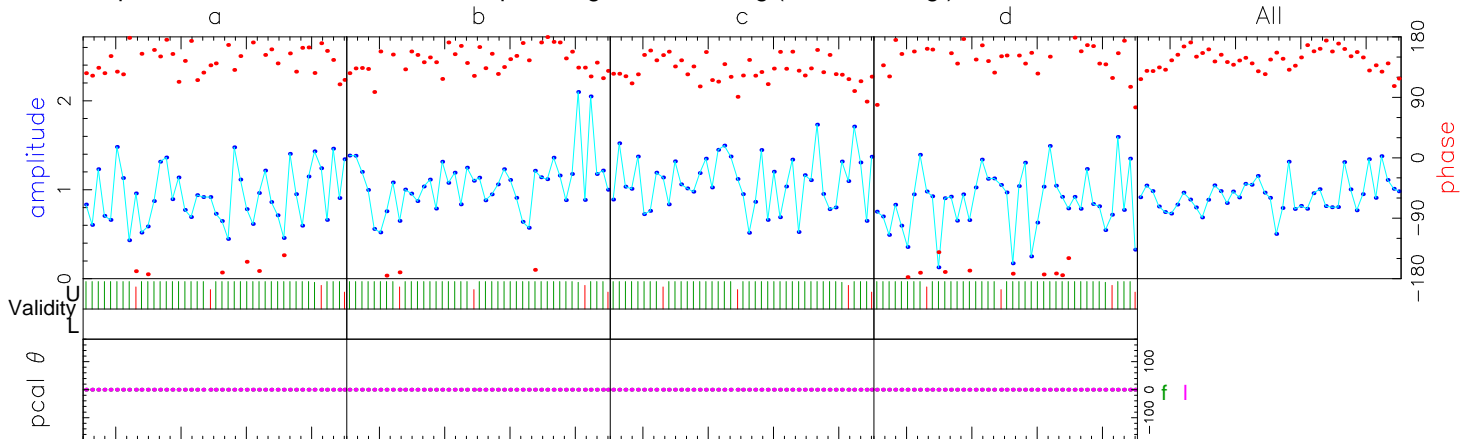
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl.Q.32.1J2DGP



Fringe quality 8
SNR 38.1
Int time 236.233
Amp 0.906
Phase 144.6
PFD 0.0e+00
Delays (us)
SBD -0.000115
MBD -0.000074
Fringe rate (Hz) 0.002318
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211441
2020:247:085004
RA & Dec (J2000) 15h04m24.979782s +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
l	1000	1000	1000	1000		
f:l	0:0	0:0	0:0	0:0		
f:l	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
l	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL		
l	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	9.40932558160E+02	Apriori delay (usec)	9.40932632448E+02	Resid mbdelay (usec)	-7.42872E-05	+/-	2.9E-05
Sband delay (usec)	9.40932517698E+02	Apriori clock (usec)	8.2875147E+00	Resid sbdelay (usec)	-1.14750E-04	+/-	1.1E-04
Phase delay (usec)	9.40932641779E+02	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	9.33137E-06	+/-	1.9E-07
Delay rate (us/s)	-1.65432393715E-02	Apriori rate (us/s)	-1.65432932225E-02	Resid rate (us/s)	5.38510E-08	+/-	1.4E-09
Total phase (deg)	324.8	Apriori accel (us/s/s)	-6.48974360416E-06	Resid phase (deg)	144.6	+/-	3.0

	RMS	Theor.	Amplitude	0.906 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	15.3	9.8	Search (1024X16)	0.889	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	20.1	17.1	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	14.3	3.0	Inc. seg. avg.	0.926	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
amp/frq (%)	11.7	5.3	Inc. frq. avg.	0.919					

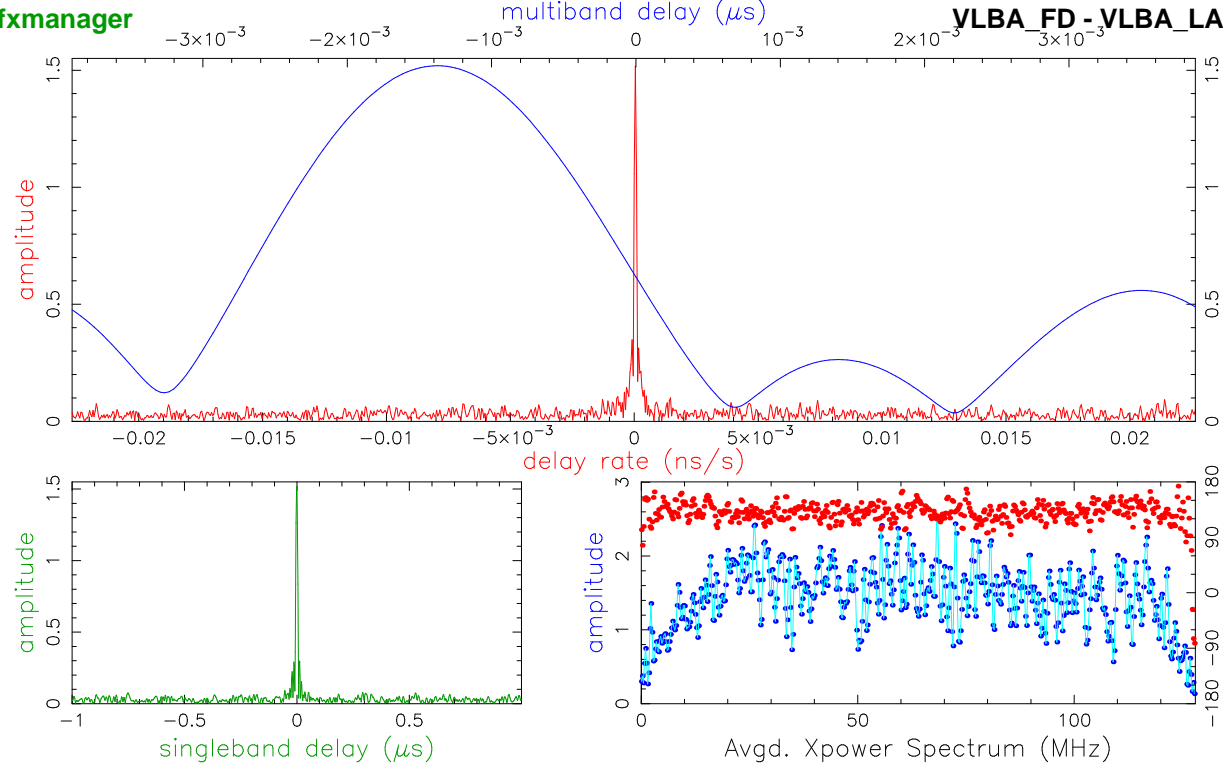
f: az 127.9 el 60.3 pa -43.4 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 44.765 -373.644 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl.Q.49.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

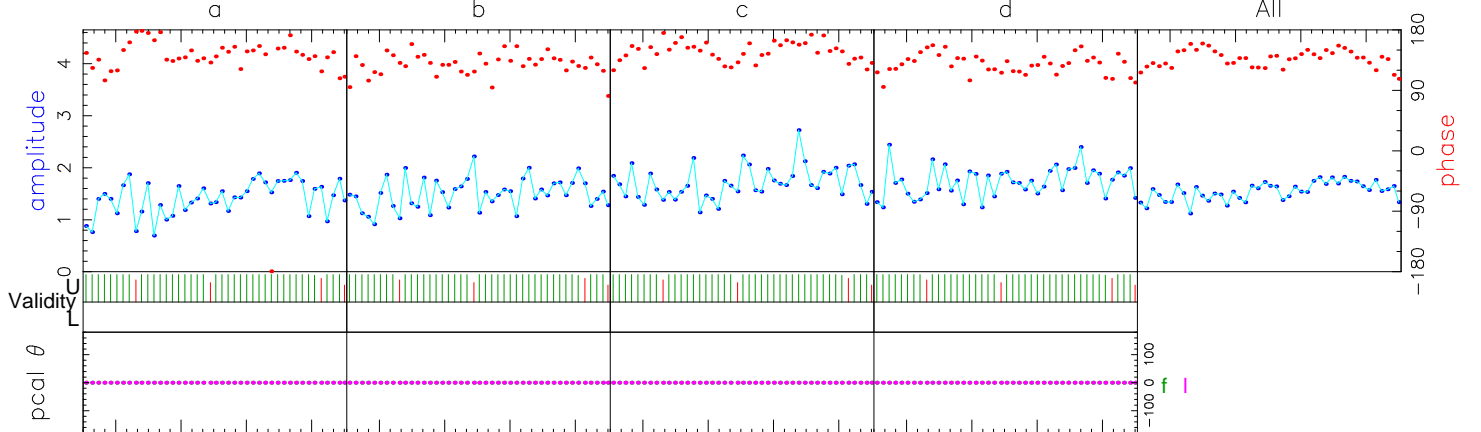
1502+106.1J2DGP, No0154, fl

VLBA_FD - VLBA_LA, fgroup Q, pol RL



Fringe quality 8
 SNR 65.2
 Int time 236.233
 Amp 1.551
 Phase 137.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.000979
 MBD -0.001320
 Fringe rate (Hz)
 0.002298
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512
 Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211443
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	PC freqs	
f:l	0:0	0:0	0:0	0:0	PC phase	
f:l	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

	9.40931312598E+02	Apriori delay (usec)	9.40932632448E+02	Resid mbdelay (usec)	-1.31985E-03	+/- 1.7E-05
Sband delay (usec)	9.40931653698E+02	Apriori clock (usec)	8.2875147E+07	Resid sbdelay (usec)	-9.78750E-04	+/- 6.6E-05
Phase delay (usec)	9.40932641342E+02	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	8.89489E-06	+/- 1.1E-07
Delay rate (us/s)	-1.65432398253E-02	Apriori rate (us/s)	-1.65432932225E-02	Resid rate (us/s)	5.33973E-08	+/- 8.3E-10
Total phase (deg)	318.0	Apriori accel (us/s/s)	-6.48974360416E-06	Resid phase (deg)	137.8	+/- 1.8

	RMS	Theor.	Amplitude	1.551 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	12.3	5.7	Search (1024X16)	1.493	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	10.8	10.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	12.1	1.8	Inc. seg. avg.	1.544	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	9.1	3.1	Inc. frq. avg.	1.534	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

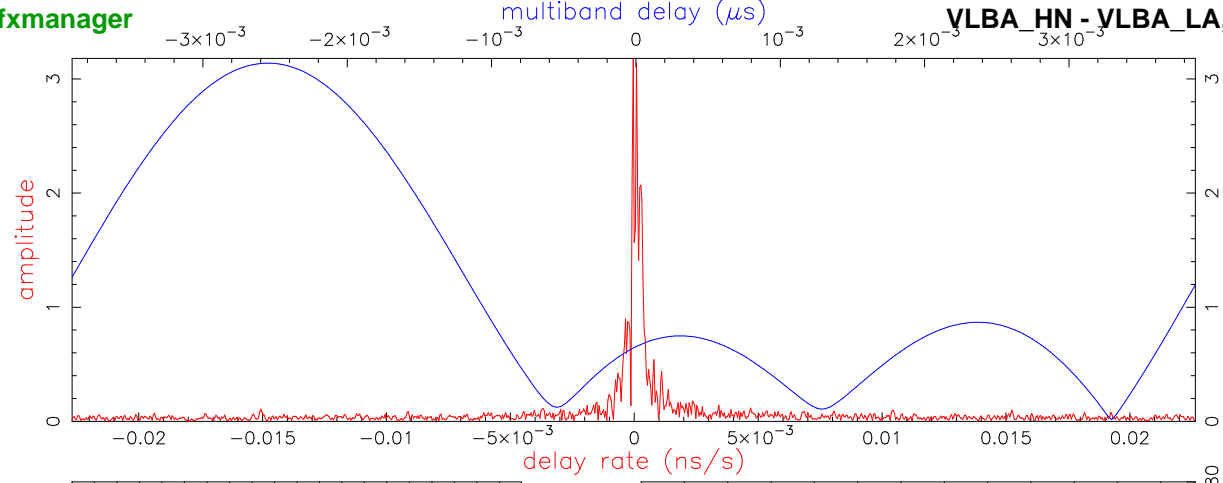
f: az 127.9 el 60.3 pa -43.4 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 44.765 -373.644 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl.Q.71.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, hl

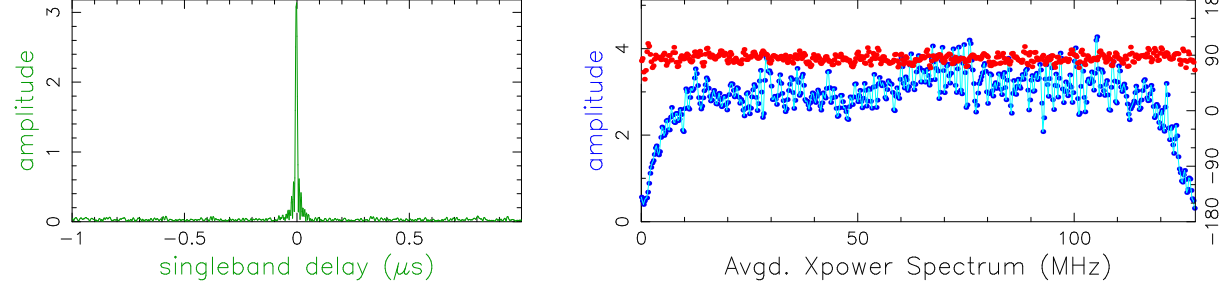
VLBA_HN - VLBA_LA, fgroup Q, pol RR



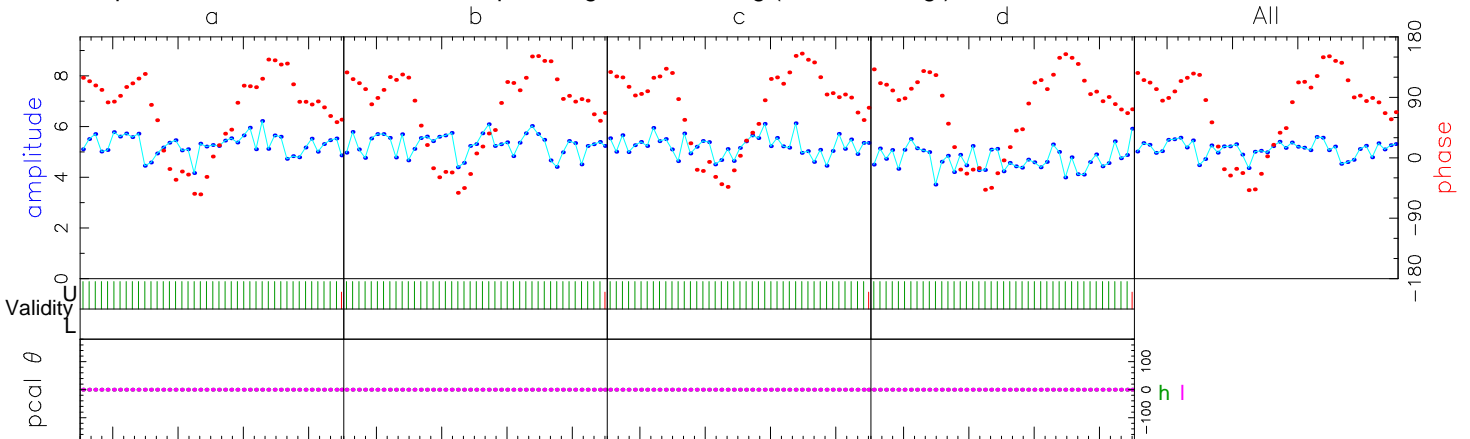
Fringe quality 5

SNR 134.7
 Int time 239.982
 Amp 3.180
 Phase 82.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.002725
 MBD -0.002597
 Fringe rate (Hz)
 0.003232
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211448
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec

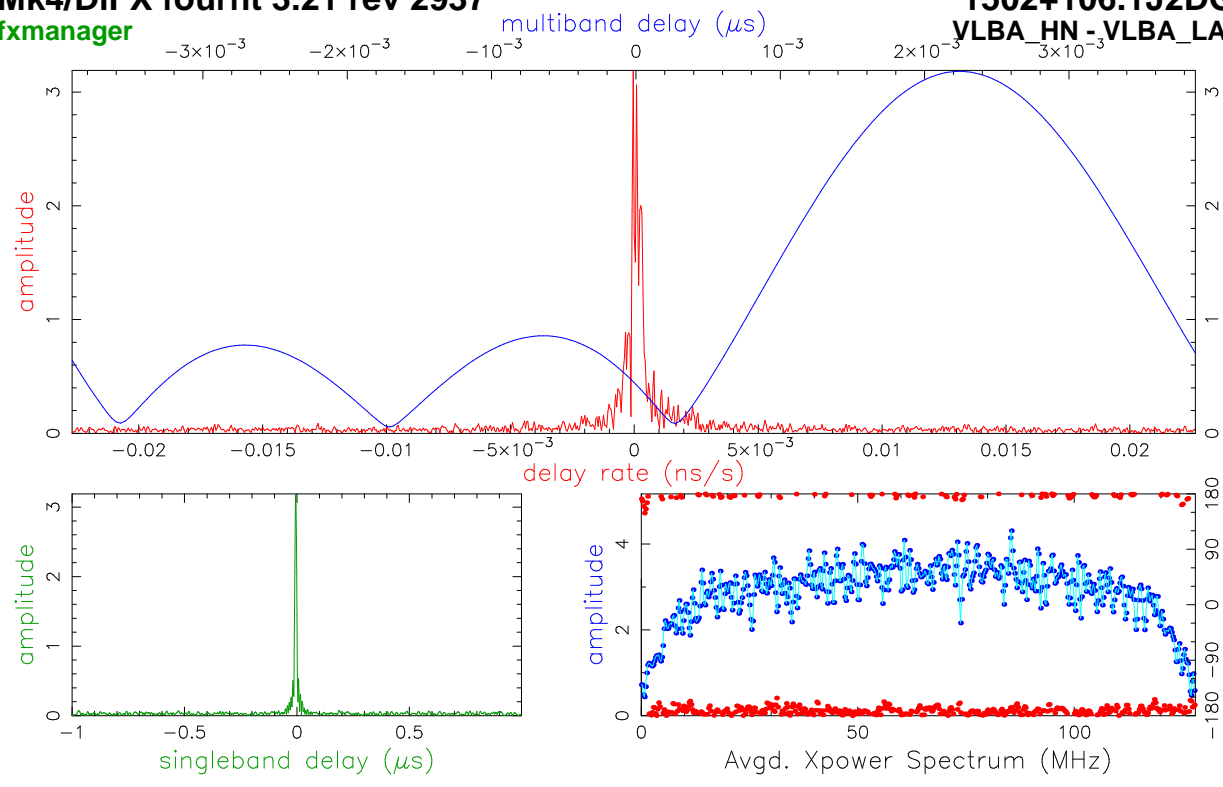


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0	APs used	511.6
h	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	PC freqs	
h:l	0:0	0:0	0:0	0:0	PC phase	
h:l	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.27889809987E+02	Apriori delay (usec)	1.27892407312E+02	Resid mbdelay (usec)	-2.59732E-03	+/-	8.3E-06
Sband delay (usec)	1.27889682687E+02	Apriori clock (usec)	9.6541977E-01	Resid sbdelay (usec)	-2.72462E-03	+/-	3.2E-05
Phase delay (usec)	1.27892412615E+02	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	5.30379E-06	+/-	5.5E-08
Delay rate (us/s)	-7.04006973101E-01	Apriori rate (us/s)	-7.04007048203E-01	Resid rate (us/s)	7.51027E-08	+/-	4.0E-10
Total phase (deg)	158.0	Apriori accel (us/s/s)	1.29159585858E-06	Resid phase (deg)	82.2	+/-	0.9

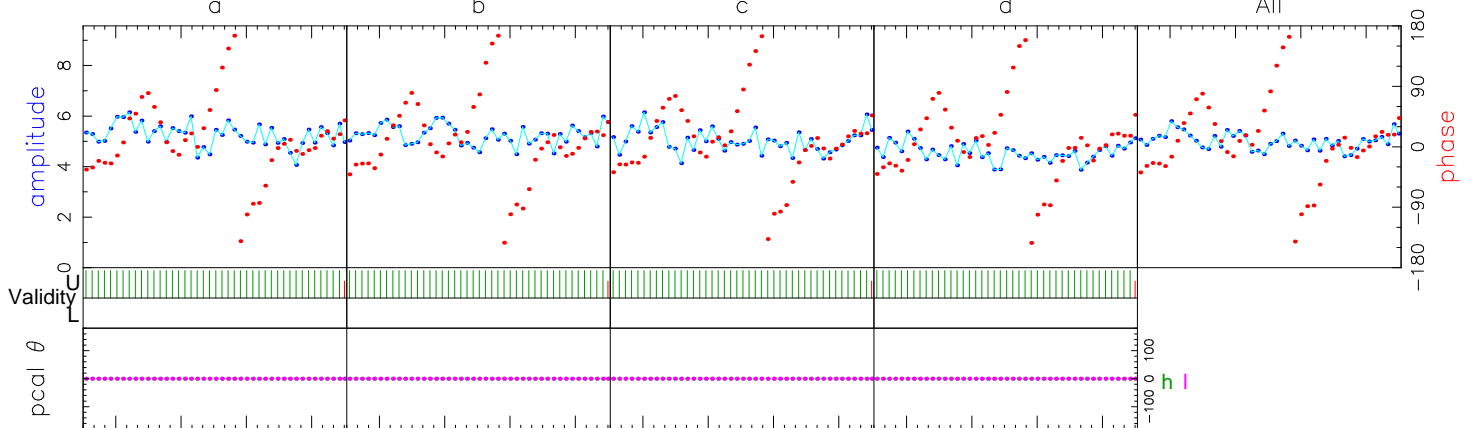
ph/seg (deg)	57.2	2.8	Amplitude	3.180 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	61.7	4.9	Search (1024X16)	2.981	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	4.5	0.9	Inc. seg. avg.	5.116	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
amp/frq (%)	5.4	1.5	Inc. frq. avg.	3.141	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023
h: az 195.3 el 56.6 pa 11.8	l: az 131.0 el 55.5 pa -38.1	u,v (fr/asec)	2049.408 422.032	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl.Q.100.1J2DGP



Fringe quality 5
SNR 135.1
Int time 239.982
Amp 3.190
Phase 6.6
PFD 0.0e+00
Delays (us)
SBD -0.005535
MBD 0.002257
Fringe rate (Hz)
-0.002568
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211446
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



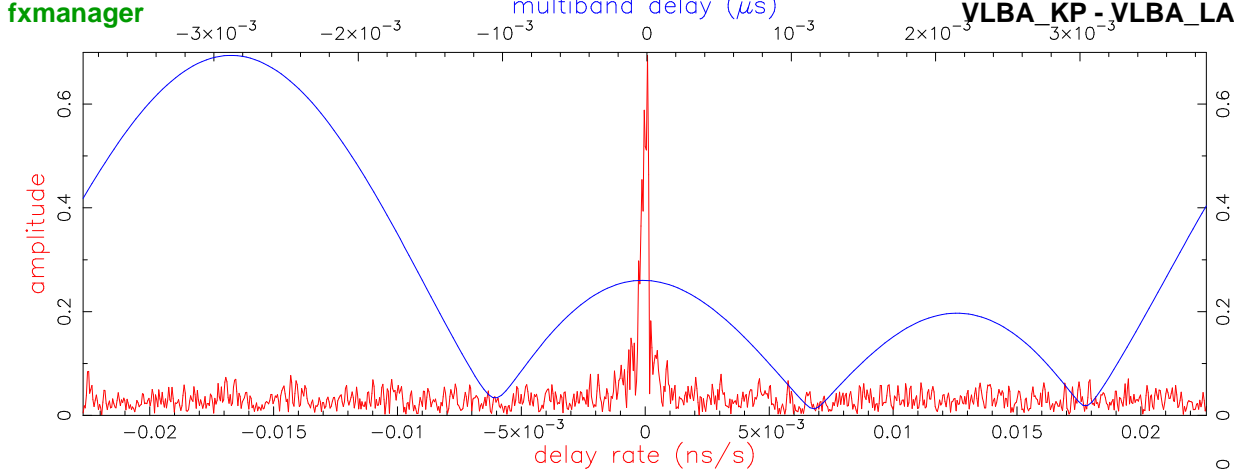
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0	APs used	1000
h	1000	1000	1000	1000	PC freqs	1000
l	1000	1000	1000	1000	PC freqs	1000
h:l	0:0	0:0	0:0	0:0	PC phase	0:0
h:l	0:0	0:0	0:0	0:0	ManI PC	0:0
h	1000	1000	1000	1000	PC amp	1000
l	1000	1000	1000	1000		1000
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	1.27886852224E+02		Apriori delay (usec)	1.27892407312E+02	Resid mbdelay (usec)	2.25741E-03 +/- 8.2E-06
Sband delay (usec)	1.27886872562E+02		Apriori clock (usec)	9.6541977E-01	Resid sbdelay (usec)	-5.53475E-03 +/- 3.2E-05
Phase delay (usec)	1.27892407735E+02		Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	4.23679E-07 +/- 5.5E-08
Delay rate (us/s)	-7.04007107874E-01		Apriori rate (us/s)	-7.04007048203E-01	Resid rate (us/s)	-5.96709E-08 +/- 3.9E-10
Total phase (deg)		82.4	Apriori accel (us/s/s)	1.29159585858E-06	Resid phase (deg)	6.6 +/- 0.8
RMS	58.7	2.8	Amplitude	3.190 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.7	2.8	Search (1024X16)	2.950	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	58.2	4.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	1.9	0.8	Inc. seg. avg.	5.013	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	4.9	1.5	Inc. frq. avg.	3.182	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8	l: az 131.0 el 55.5 pa -38.1	u, v (fr/asec) 2049.408 422.032				simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl.Q.82.1J2DGP				

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

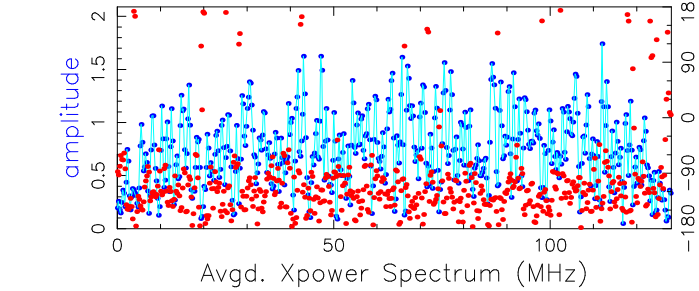
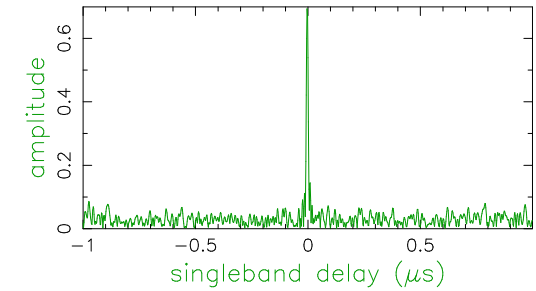
1502+106.1J2DGP, No0154, kl

VLBA_KP - VLBA_LA, fgroup Q, pol LR



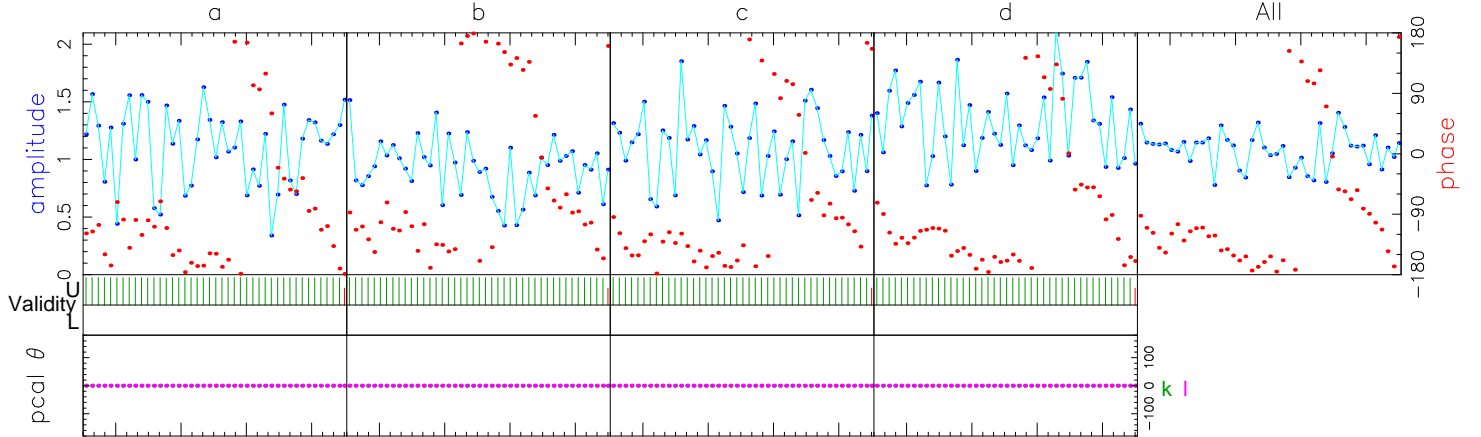
Fringe quality 9

SNR 29.6
 Int time 239.075
 Amp 0.700
 Phase -133.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.003294
 MBD -0.002849
 Fringe rate (Hz)
 0.004522
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211450
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-132.0	-127.7	-140.3	-133.3	Phase	-133.5
0.7	0.6	0.7	0.8	Ampl.	0.7
511.5	511.5	511.0	511.4	Sbd box	511.3
U/L 469/0	469/0	469/0	469/0	APs used	
k 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
k:l 0:0	0:0	0:0	0:0	PC phase	
k:l 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
k Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-2.86847220781E+02	Apriori delay (usec)	-2.86844371362E+02	Resid mbdelay (usec)	-2.84942E-03	+/-	3.8E-05
Sband delay (usec)	-2.86847664987E+02	Apriori clock (usec)	7.4540520E-01	Resid sbdelay (usec)	-3.29363E-03	+/-	1.5E-04
Phase delay (usec)	-2.86844379978E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	-8.61554E-06	+/-	2.5E-07
Delay rate (us/s)	1.31326551589E-01	Apriori rate (us/s)	1.31326446522E-01	Resid rate (us/s)	1.05067E-07	+/-	1.8E-09
Total phase (deg)	-41.1	Apriori accel (us/s/s)	4.00938228034E-07	Resid phase (deg)	-133.5	+/-	3.9

ph/seg (deg)	57.4	Theor.	12.7	Amplitude	0.700 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	58.7	Search (1024X16)	0.661	Search	0.661	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	6.4	Inc. seg. avg.	1.057	Inc. seg. avg.	1.057	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	9.6	Inc. frq. avg.	0.694	Inc. frq. avg.	0.694	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 119.9 el 54.1 pa -48.3 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -382.251 -236.619 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl.Q.115.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

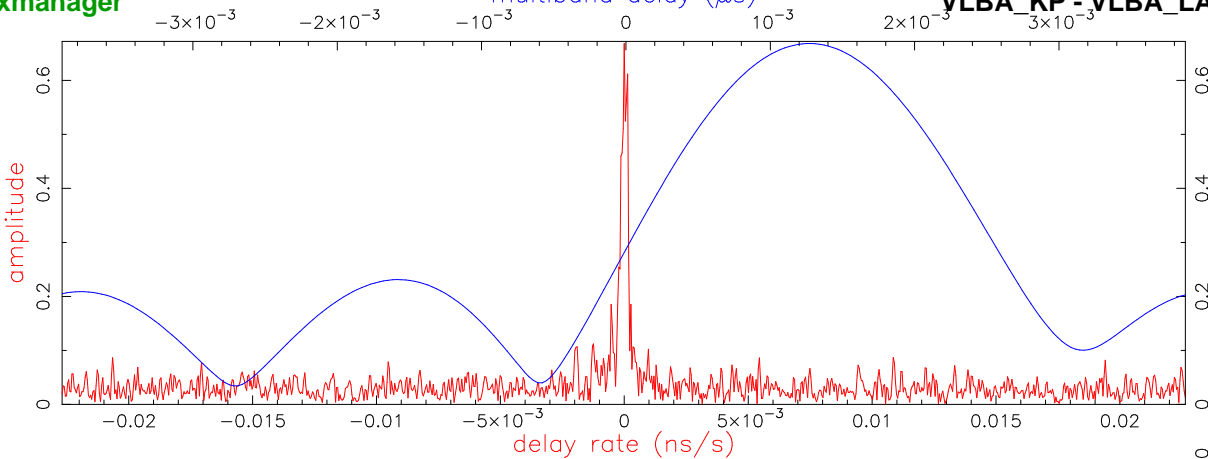
fxmanager

1502+106.1J2DGP, No0154, kl

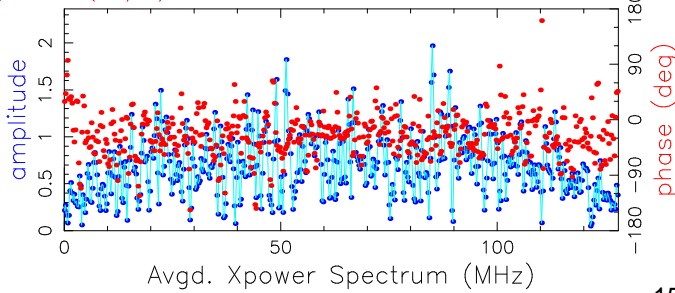
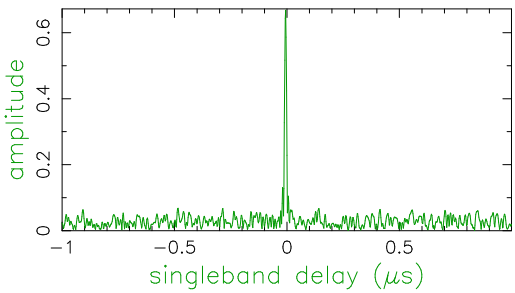
VLBA_KP - VLBA_LA, fgroup Q, pol RL

multiband delay (μ s)

Fringe quality 9

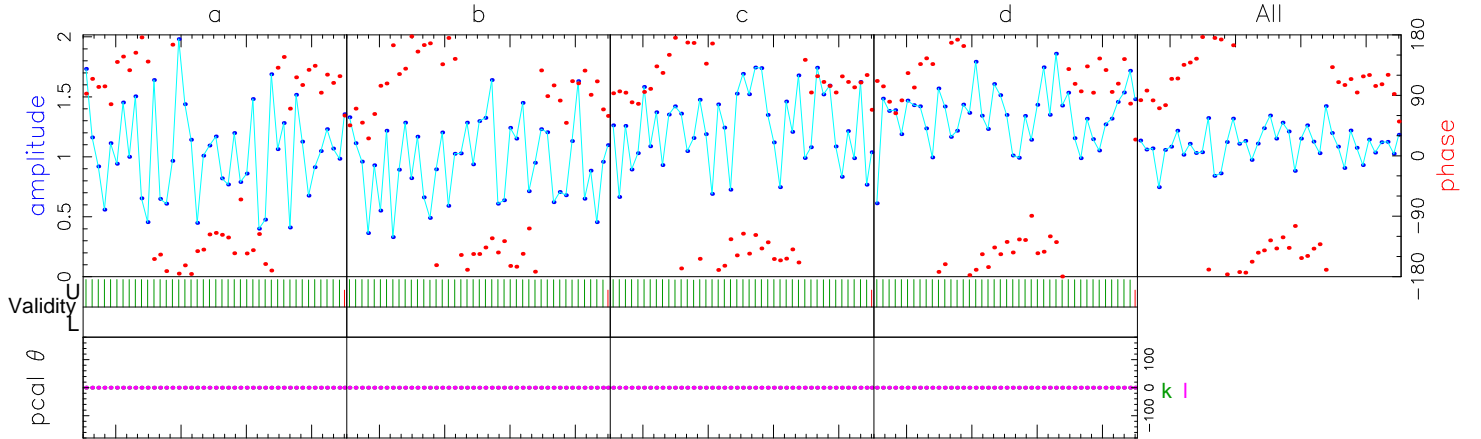


SNR 28.4
 Int time 239.075
 Amp 0.672
 Phase 157.0
 PFD 0.0e+00
 Delays (us)
 SBD -0.006385
 MBD 0.001251
 Fringe rate (Hz)
 -0.000589
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211452
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
160.6	147.0	156.9	160.7	Phase	157.0
0.6	0.5	0.8	0.8	Ampl.	0.7
509.9	509.0	509.9	510.1	Sbd box	509.7
U/L 469/0	469/0	469/0	469/0	APs used	
k 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
k:l 0:0	0:0	0:0	0:0	PC phase	
k:l 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-2.86850933300E+02	Apriori delay (usec)	-2.86844371362E+02	Resid mbdelay (usec)	1.25056E-03	+/-	3.9E-05
Sband delay (usec)	-2.86850756737E+02	Apriori clock (usec)	7.4540520E-01	Resid sbdelay (usec)	-6.38537E-03	+/-	1.5E-04
Phase delay (usec)	-2.86844361227E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	1.01355E-05	+/-	2.6E-07
Delay rate (us/s)	1.31326432829E-01	Apriori rate (us/s)	1.31326446522E-01	Resid rate (us/s)	-1.36932E-08	+/-	1.9E-09
Total phase (deg)	-110.6	Apriori accel (us/s/s)	4.00938228034E-07	Resid phase (deg)	157.0	+/-	4.0

ph/seg (deg)	54.5	Theor.	13.2	Amplitude	0.672 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	67.5	Search (1024X16)	0.640	Search	0.640	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	8.0	Interp.	0.000	Inc. seg. avg.	1.076	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	16.1	Inc. frq. avg.	0.669	Inc. frq. avg.	0.669	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 119.9 el 54.1 pa -48.3 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -382.251 -236.619 simultaneous interpolator

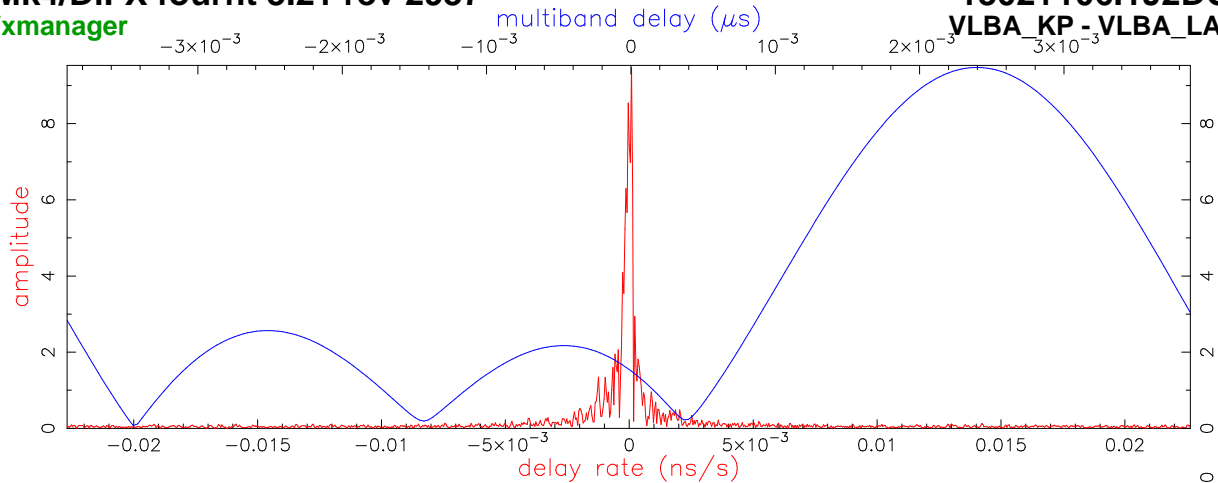
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl.Q.131.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

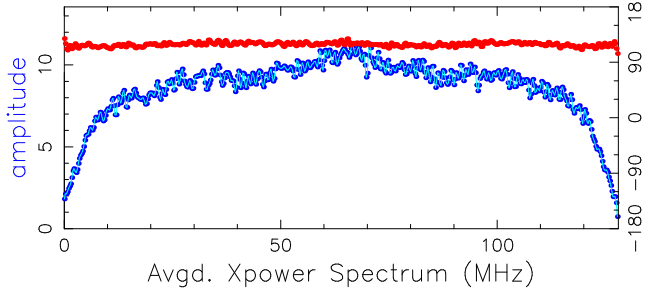
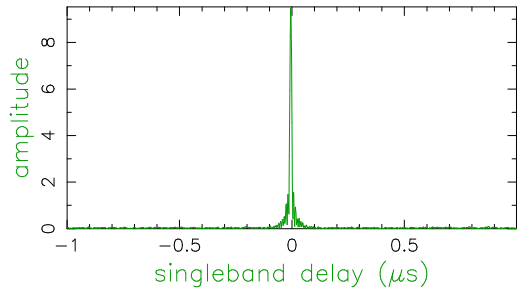
1502+106.1J2DGP, No0154, kl

VLBA_KP - VLBA_LA, fgroup Q, pol LL



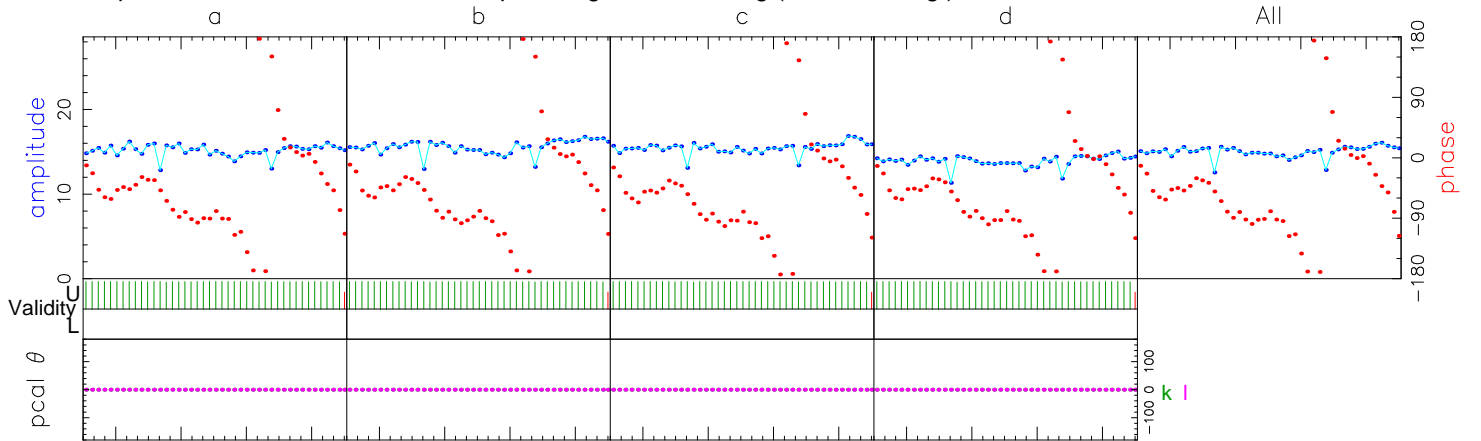
Fringe quality 5

SNR 403.0
 Int time 239.075
 Amp 9.531
 Phase -60.0
 PFD 0.0e+00
 Delays (us)
 SBD -0.005358
 MBD 0.002420
 Fringe rate (Hz)
 0.004557
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211447
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
l	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	-2.86849763718E+02	Apriori delay (usec)	-2.86844371362E+02	Resid mbdelay (usec)	2.42014E-03	+/- 2.8E-06
Sband delay (usec)	-2.86849729612E+02	Apriori clock (usec)	7.4540520E-01	Resid sbdelay (usec)	-5.35825E-03	+/- 1.1E-05
Phase delay (usec)	-2.86844375235E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	-3.87261E-06	+/- 1.8E-08
Delay rate (us/s)	1.31326552392E-01	Apriori rate (us/s)	1.31326446522E-01	Resid rate (us/s)	1.05870E-07	+/- 1.3E-10
Total phase (deg)	-327.6	Apriori accel (us/s/s)	4.00938228034E-07	Resid phase (deg)	-60.0	+/- 0.3

ph/seg (deg)	57.0	0.9	Amplitude	9.531 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	58.0	1.6	Search (1024X16)	8.953	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	3.1	0.3	Inc. seg. avg.	15.015	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	4.5	0.5	Inc. frq. avg.	9.483	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 119.9 el 54.1 pa -48.3 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -382.251 -236.619 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl.Q.84.1J2DGP

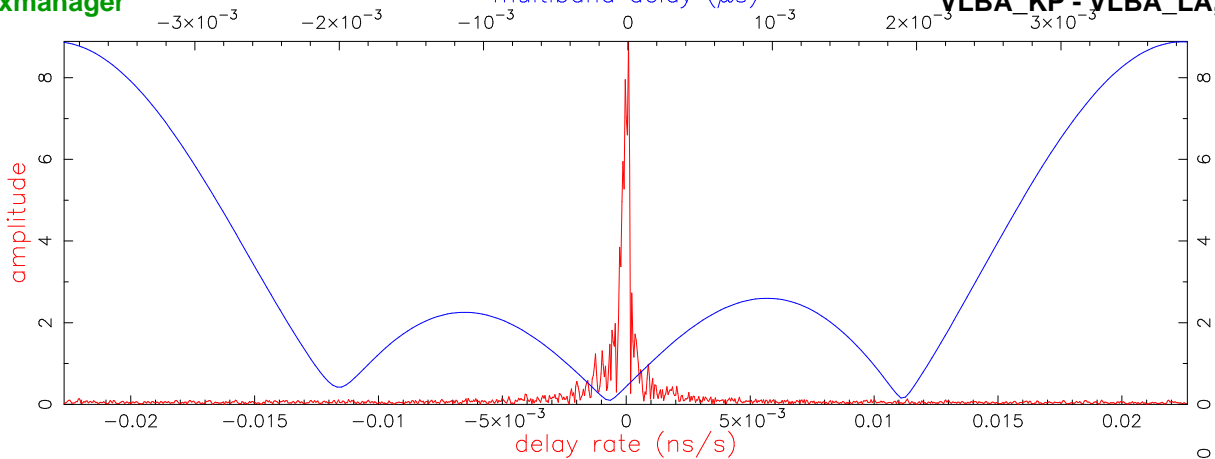
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, kl

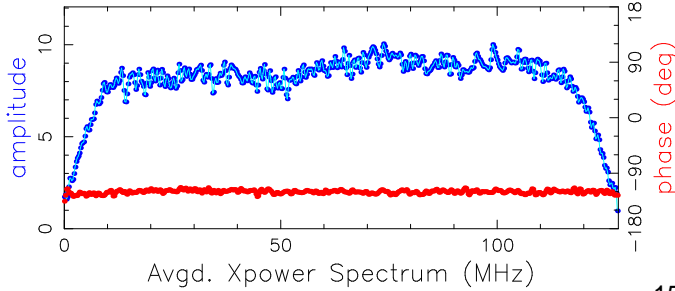
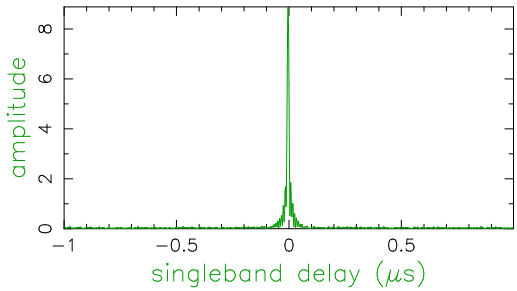
VLBA_KP - VLBA_LA, fgroup Q, pol RR

multiband delay (μ s)



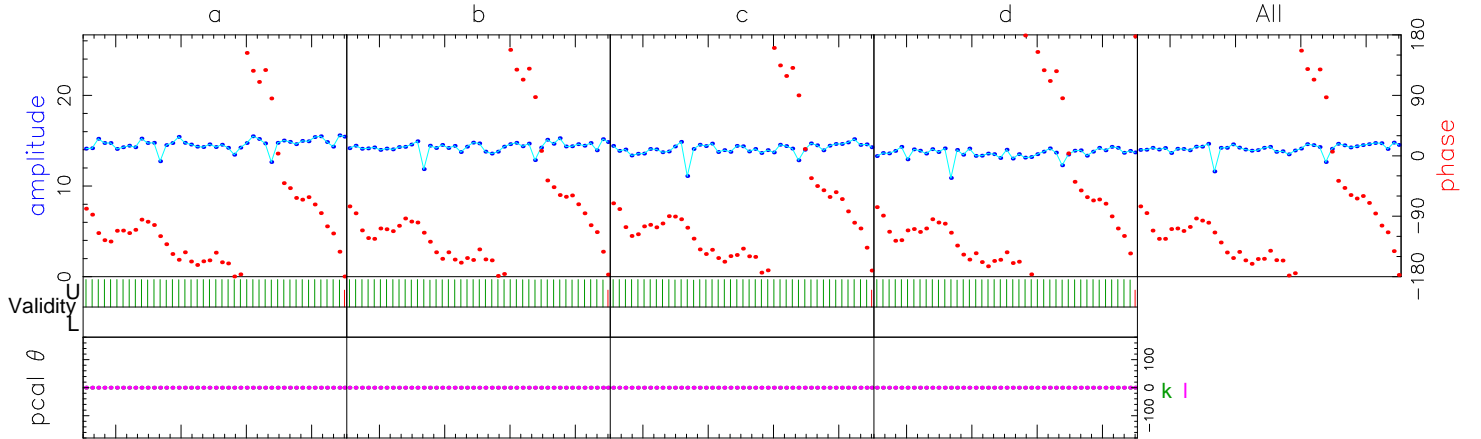
Fringe quality 5

SNR 375.9
 Int time 239.075
 Amp 8.890
 Phase -123.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.004111
 MBD -0.003983
 Fringe rate (Hz)
 0.004543
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211448
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



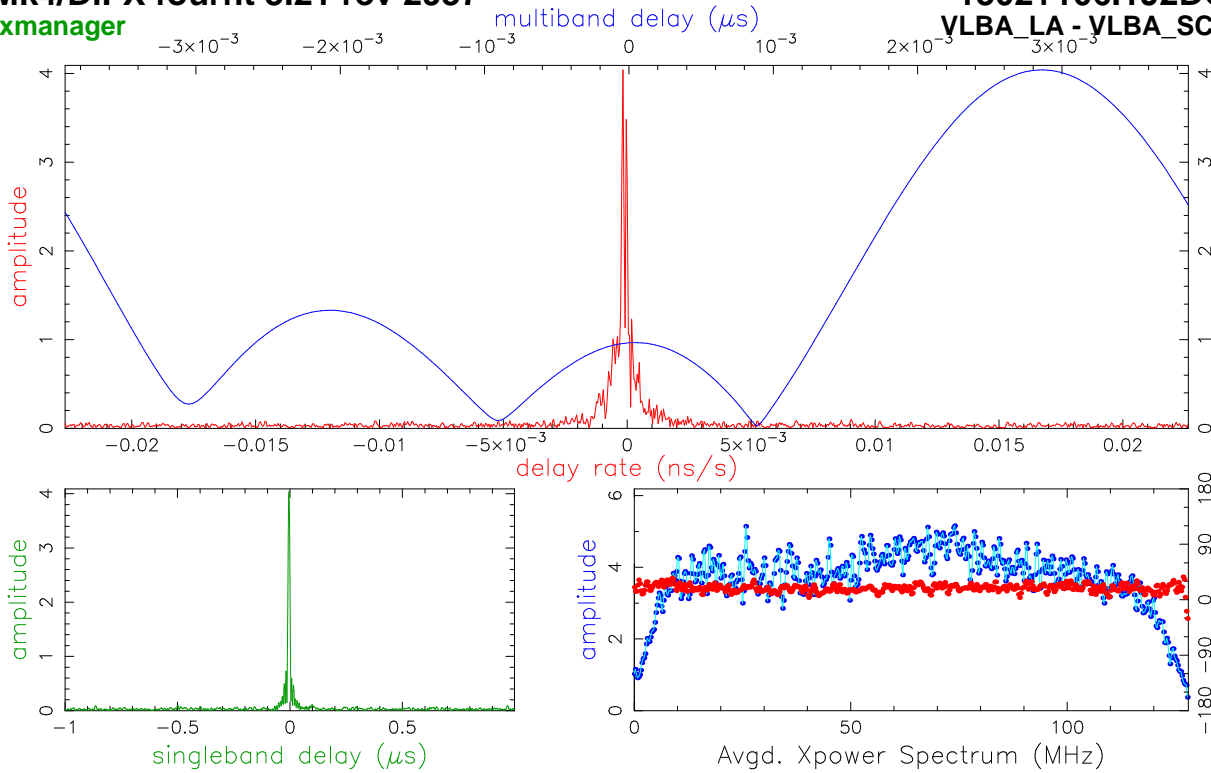
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR		
l	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
Group delay (usec)(sbd)	-2.86848354281E+02	-2.86848354281E+02	-2.86844371362E+02	-2.86844371362E+02		
Sband delay (usec)	-2.86848481987E+02	-2.86848481987E+02	7.4540520E-01	7.4540520E-01		
Phase delay (usec)	-2.86844379307E+02	-2.86844379307E+02	1.9999998E-07	1.9999998E-07		
Delay rate (us/s)	1.31326552066E-01	1.31326552066E-01	1.31326446522E-01	1.31326446522E-01		
Total phase (deg)		-30.7	4.00938228034E-07	4.00938228034E-07		
Apriori delay (usec)			-2.86844371362E+02	-2.86844371362E+02		
Apriori clock (usec)			7.4540520E-01	7.4540520E-01		
Apriori clockrate (us/s)			1.9999998E-07	1.9999998E-07		
Apriori rate (us/s)			1.31326446522E-01	1.31326446522E-01		
Apriori accel (us/s/s)			4.00938228034E-07	4.00938228034E-07		
Resid mbdelay (usec)			-3.98292E-03	-3.98292E-03		+/- 3.0E-06
Resid sbdelay (usec)			-4.11063E-03	-4.11063E-03		+/- 1.1E-05
Resid phdelay (usec)			-7.94411E-06	-7.94411E-06		+/- 2.0E-08
Resid rate (us/s)			1.05544E-07	1.05544E-07		+/- 1.4E-10
Resid phase (deg)			-123.1	-123.1		+/- 0.3

	RMS	Theor.	Amplitude	8.890 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	56.7	1.0	Search (1024X16)	8.404	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	59.3	1.7	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	4.4	0.3	Inc. seg. avg.	14.129	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	2.4	0.5	Inc. frq. avg.	8.893	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

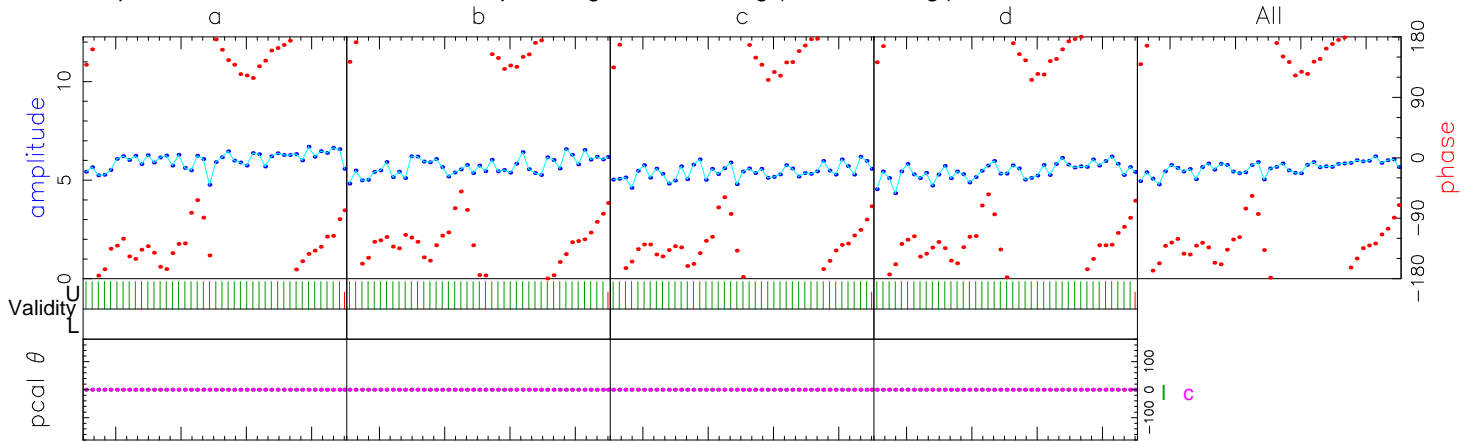
k: az 119.9 el 54.1 pa -48.3 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) -382.251 -236.619 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/kl.Q.99.1J2DGP



Fringe quality 6
SNR 173.3
Int time 239.976
Amp 4.090
Phase -153.5
PFD 0.0e+00
Delays (us)
SBD -0.004657
MBD 0.002834
Fringe rate (Hz)
-0.008022
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211449
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-159.6	-146.2	-155.1	-152.9	Phase	-153.5
4.4	4.1	3.9	3.9	Ampl.	4.1
510.9	510.5	510.3	511.0	Sbd box	510.6
U/L 469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
l:c 0:0	0:0	0:0	0:0	PC phase	
l:c 0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
l Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-2.65408524712E+03	Apriori delay (usec)	-2.65408026911E+03	Resid mbdelay (usec)	2.83449E-03	+/-	6.4E-06
Sband delay (usec)	-2.65408492649E+03	Apriori clock (usec)	-8.9232178E+00	Resid sbdelay (usec)	-4.65738E-03	+/-	2.5E-05
Phase delay (usec)	-2.65408027902E+03	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	-9.90745E-06	+/-	4.3E-08
Delay rate (us/s)	9.40130644547E-01	Apriori rate (us/s)	9.40130830923E-01	Resid rate (us/s)	-1.86376E-07	+/-	3.1E-10
Total phase (deg)	-75.3	Apriori accel (us/s/s)	1.9763332281E-05	Resid phase (deg)	-153.5	+/-	0.7

ph/seg (deg)	45.8	RMS	2.2	Theor.	Amplitude	4.090 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	38.4	Search (1024X16)	3.956	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	6.8	Inc. seg. avg.	5.625	Inc. frq. avg.	4.053	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/frq (%)	5.1	Inc. frq. avg.	4.053			Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023		
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

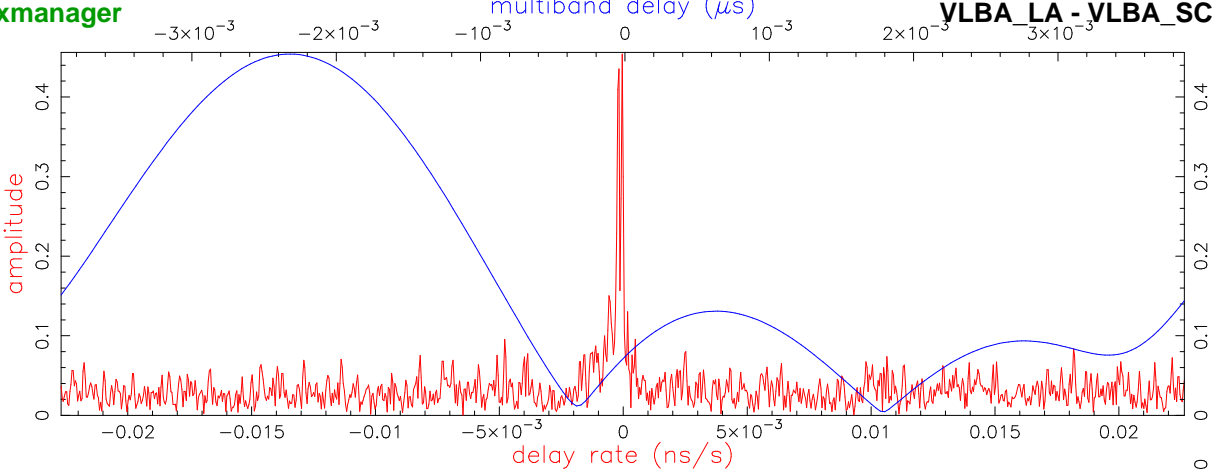
l: az 131.0 el 55.5 pa -38.1 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2724.613 1368.083 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc.Q.106.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

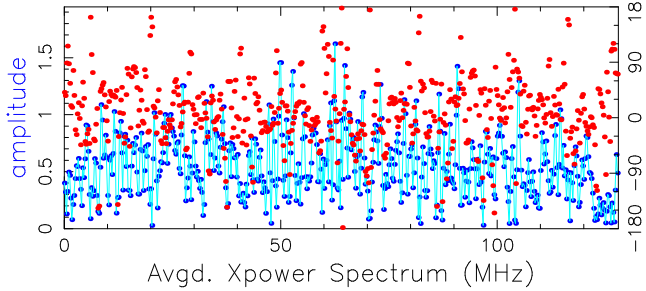
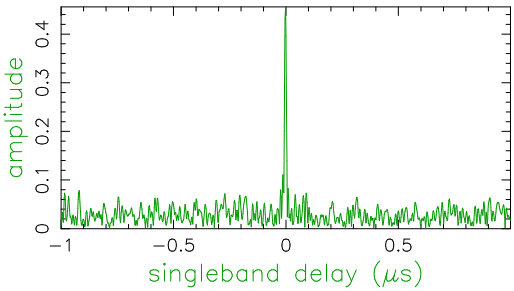
1502+106.1J2DGP, No0154, lc

VLBA_LA - VLBA_SC, fgroup Q, pol LR



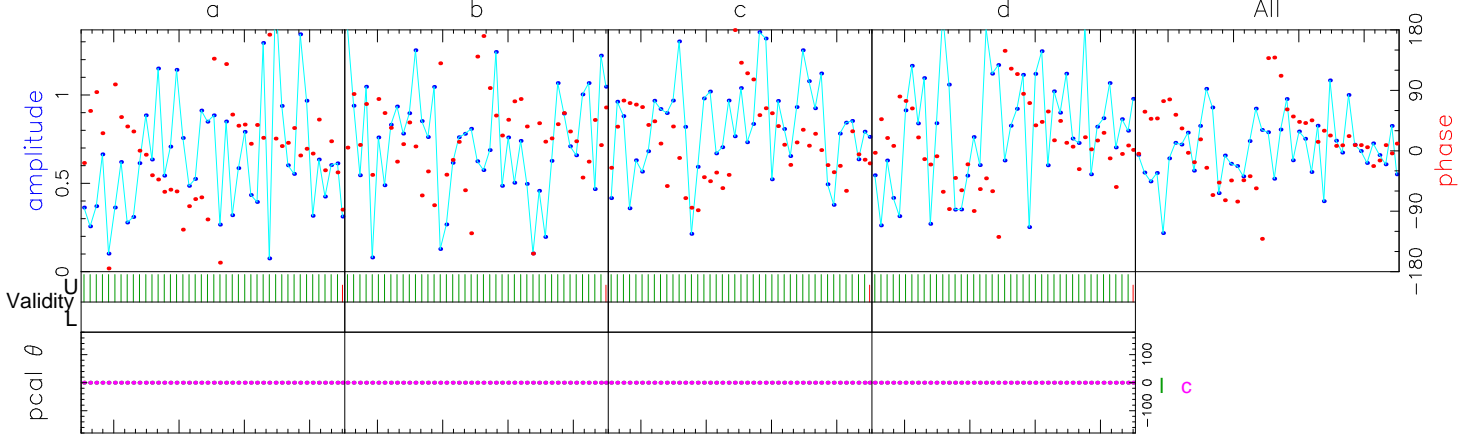
Fringe quality 9

SNR 19.3
 Int time 239.976
 Amp 0.456
 Phase 9.9
 PFD 0.0e+00
 Delays (us)
 SBD -0.002393
 MBD -0.002336
 Fringe rate (Hz)
 -0.001760
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211451
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0	APs used	511.8
l	1000	1000	1000	1000	PC freqs	
c	1000	1000	1000	1000	PC freqs	
l:c	0:0	0:0	0:0	0:0	PC phase	
l:c	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

	-2.65408260514E+03	Apriori delay (usec)	-2.65408026911E+03	Resid mbdelay (usec)	-2.33603E-03	+/- 5.8E-05
Sband delay (usec)	-2.65408266236E+03	Apriori clock (usec)	-8.9232178E+00	Resid sbdelay (usec)	-2.39325E-03	+/- 2.2E-04
Phase delay (usec)	-2.65408026848E+03	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	6.37561E-07	+/- 3.8E-07
Delay rate (us/s)	9.40130790028E-01	Apriori rate (us/s)	9.40130830923E-01	Resid rate (us/s)	-4.08953E-08	+/- 2.8E-09
Total phase (deg)	-271.9	Apriori accel (us/s/s)	1.9763332281E-05	Resid phase (deg)	9.9	+/- 5.9

	RMS	Theor.	Amplitude	0.456 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	54.8	19.4	Search (1024X16)	0.450	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	65.1	33.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	13.5	5.9	Inc. seg. avg.	0.661	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	12.5	10.4	Inc. frq. avg.	0.457	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2724.613 1368.083 simultaneous interpolator

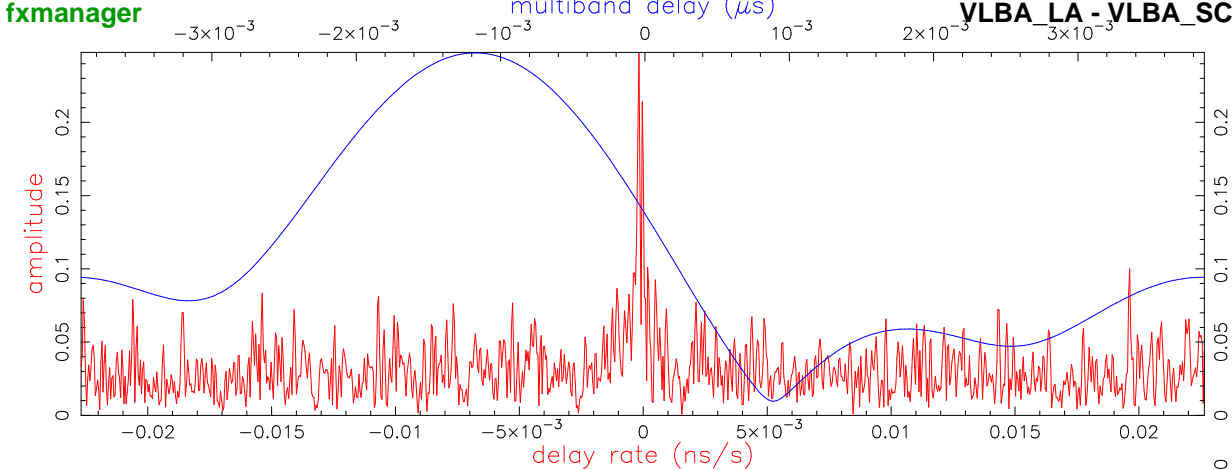
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc.Q.121.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

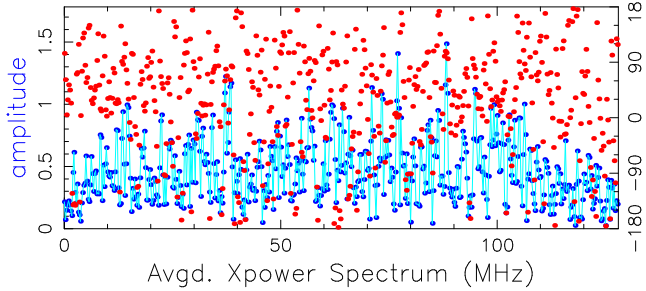
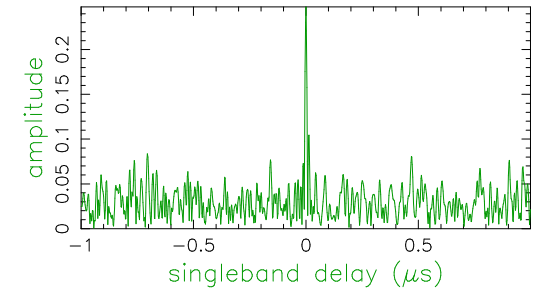
1502+106.1J2DGP, No0154, lc

VLBA_LA - VLBA_SC, fgroup Q, pol RL



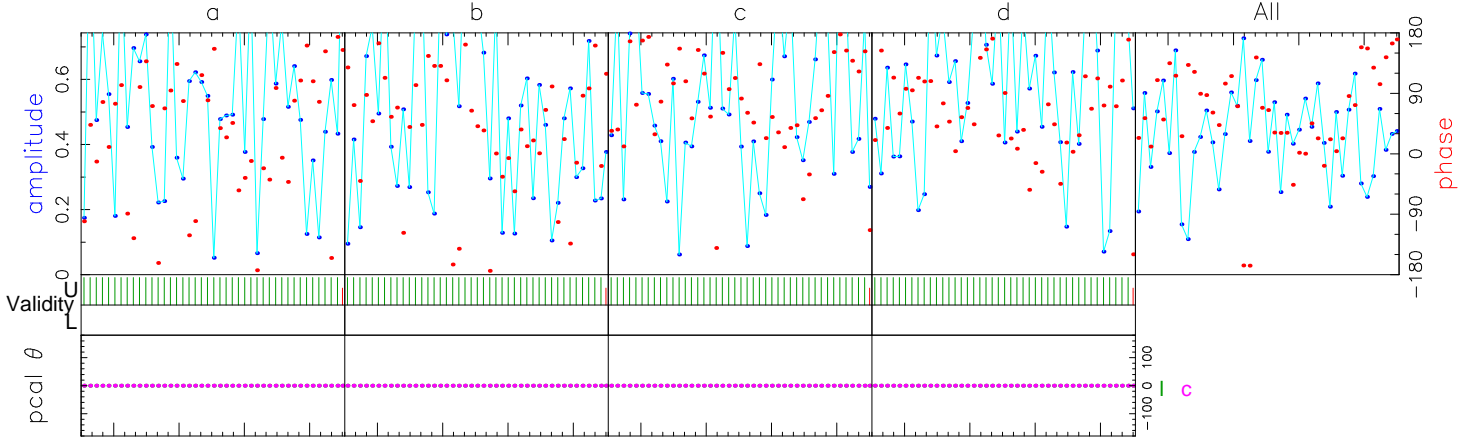
Fringe quality 9

SNR 10.5
 Int time 239.975
 Amp 0.248
 Phase 76.7
 PFD 2.0e-17
 Delays (us)
 SBD -0.000220
 MBD -0.001182
 Fringe rate (Hz)
 -0.008076
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211453
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



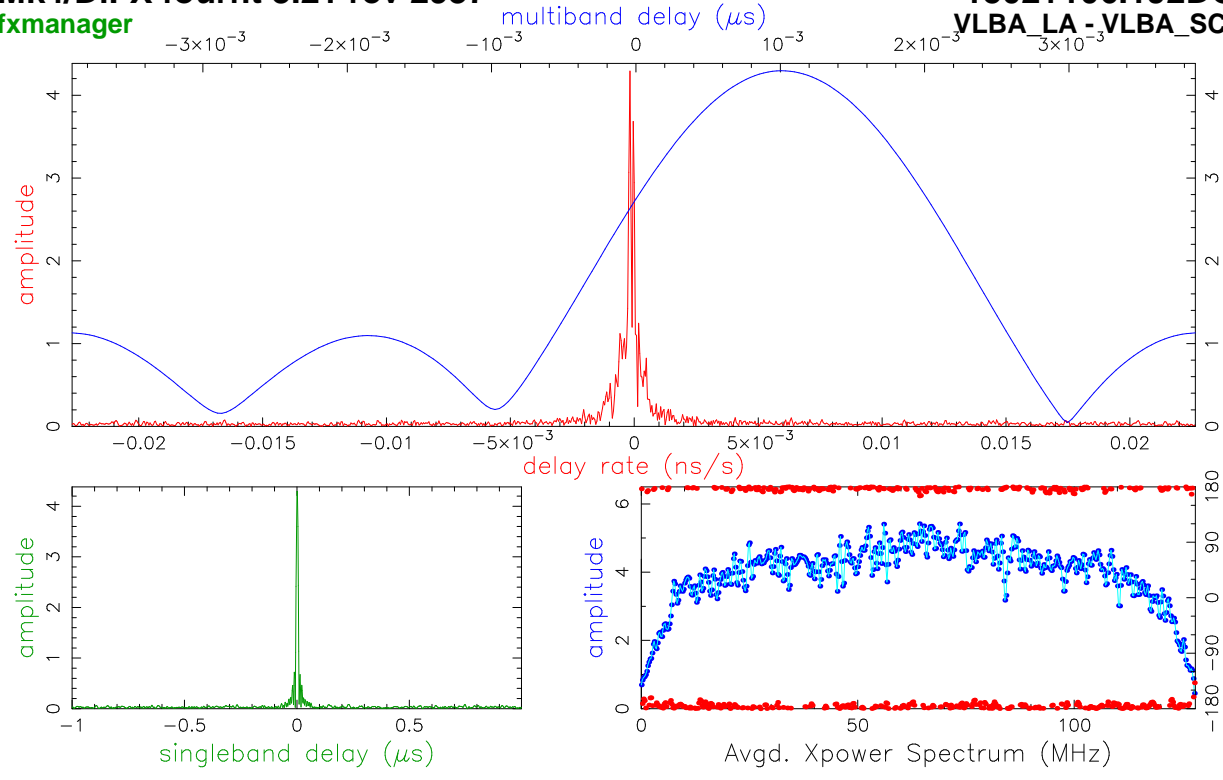
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0	APs used	512.9
l	1000	1000	1000	1000	PC freqs	
c	1000	1000	1000	1000	PC freqs	
l:c	0:0	0:0	0:0	0:0	PC phase	
l:c	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
l	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-2.65408145100E+03	Apriori delay (usec)	-2.65408026911E+03	Resid mbdelay (usec)	-1.18188E-03	+/-	1.1E-04
Sband delay (usec)	-2.65408048936E+03	Apriori clock (usec)	-8.9232178E+00	Resid sbdelay (usec)	-2.20250E-04	+/-	4.1E-04
Phase delay (usec)	-2.65408026416E+03	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	4.95198E-06	+/-	7.0E-07
Delay rate (us/s)	9.40130643282E-01	Apriori rate (us/s)	9.40130830923E-01	Resid rate (us/s)	-1.87641E-07	+/-	5.1E-09
Total phase (deg)	-205.0	Apriori accel (us/s/s)	1.9763332281E-05	Resid phase (deg)	76.7	+/-	10.9

ph/seg (deg)	RMS	Theor.	Amplitude	0.248 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	59.1	35.8	Search (1024X16)	0.238	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	94.5	62.5	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	16.7	10.9	Inc. seg. avg.	0.362	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
	31.9	19.1	Inc. frq. avg.	0.248						

l: az 131.0 el 55.5 pa -38.1 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2724.613 1368.083 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc.Q.145.1J2DGP

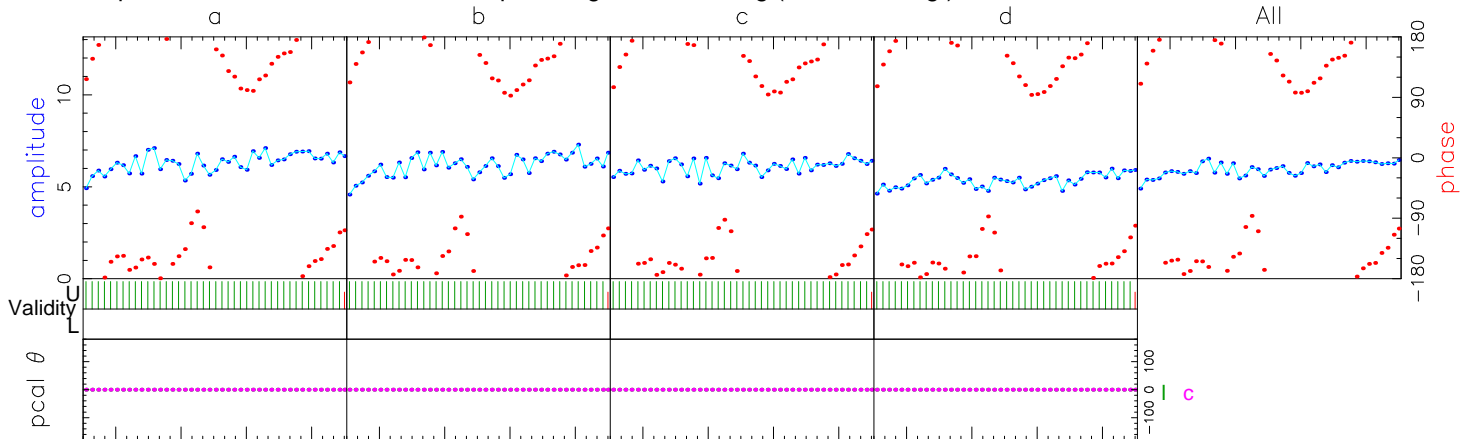


Fringe quality 6

SNR 185.7
Int time 239.975
Amp 4.385
Phase 178.9
PFD 0.0e+00
Delays (us)
SBD 0.000983
MBD 0.001062
Fringe rate (Hz)
-0.008053
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211447
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

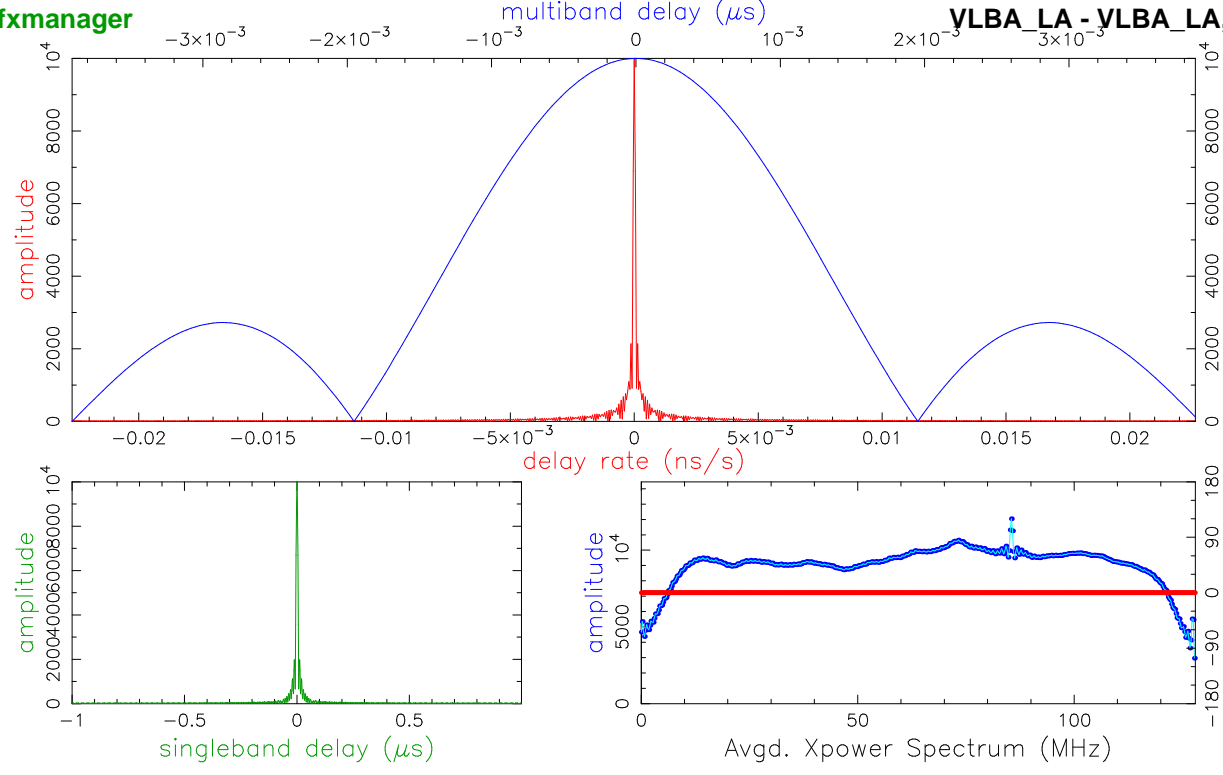
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-176.4	178.8	175.8	177.0	Phase	178.9
4.5	4.4	4.4	3.9	Ampl.	4.3
513.2	513.7	513.6	513.5	Sbd box	513.5
U/L 469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
l:c 0:0	0:0	0:0	0:0	PC phase	
l:c 0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
l Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-2.65407920715E+03	Apriori delay (usec)	-2.65408026911E+03	Resid mbdelay (usec)	1.06196E-03	+/-	6.0E-06
Sband delay (usec)	-2.65407928599E+03	Apriori clock (usec)	-8.9232178E+00	Resid sbdelay (usec)	9.83125E-04	+/-	2.3E-05
Phase delay (usec)	-2.65408025757E+03	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	1.15467E-05	+/-	4.0E-08
Delay rate (us/s)	9.40130643813E-01	Apriori rate (us/s)	9.40130830923E-01	Resid rate (us/s)	-1.87110E-07	+/-	2.9E-10
Total phase (deg)	-102.9	Apriori accel (us/s/s)	1.9763332281E-05	Resid phase (deg)	178.9	+/-	0.6

ph/seg (deg) 45.8 2.0 Amplitude 4.385 +/- 0.024 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 37.0 3.5 Search (1024X16) 4.194 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 4.2 0.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
 amp/frq (%) 6.2 1.1 Inc. seg. avg. 5.964 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t_cohere infinite dr window (ns/s) -0.023 0.023
 l: az 131.0 el 55.5 pa -38.1 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2724.613 1368.083 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lc.Q.91.1J2DGP

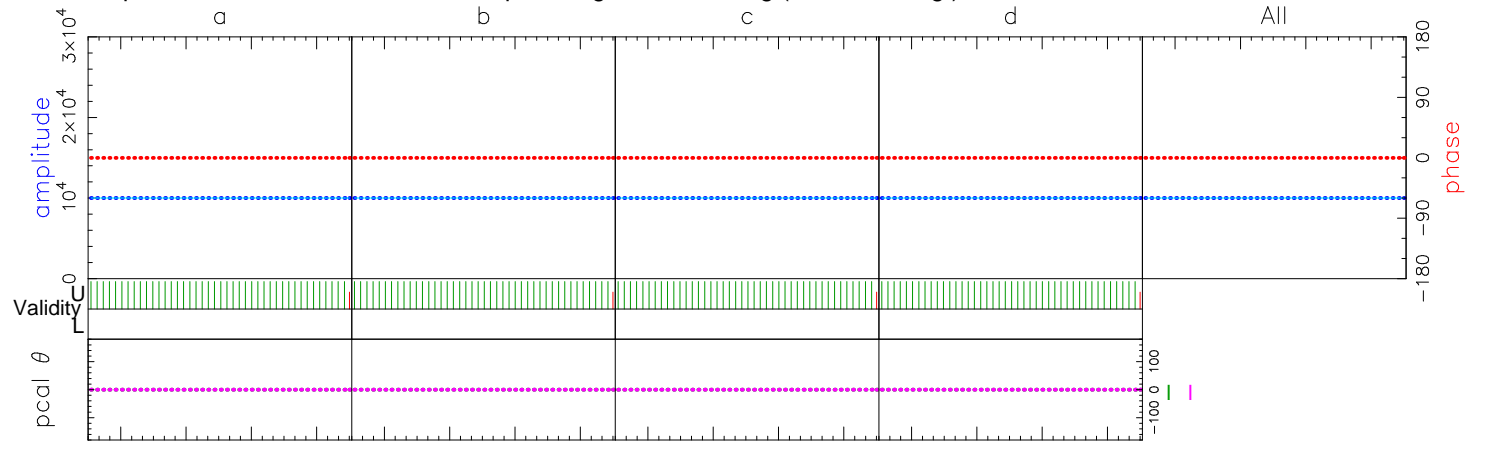


Fringe quality 9

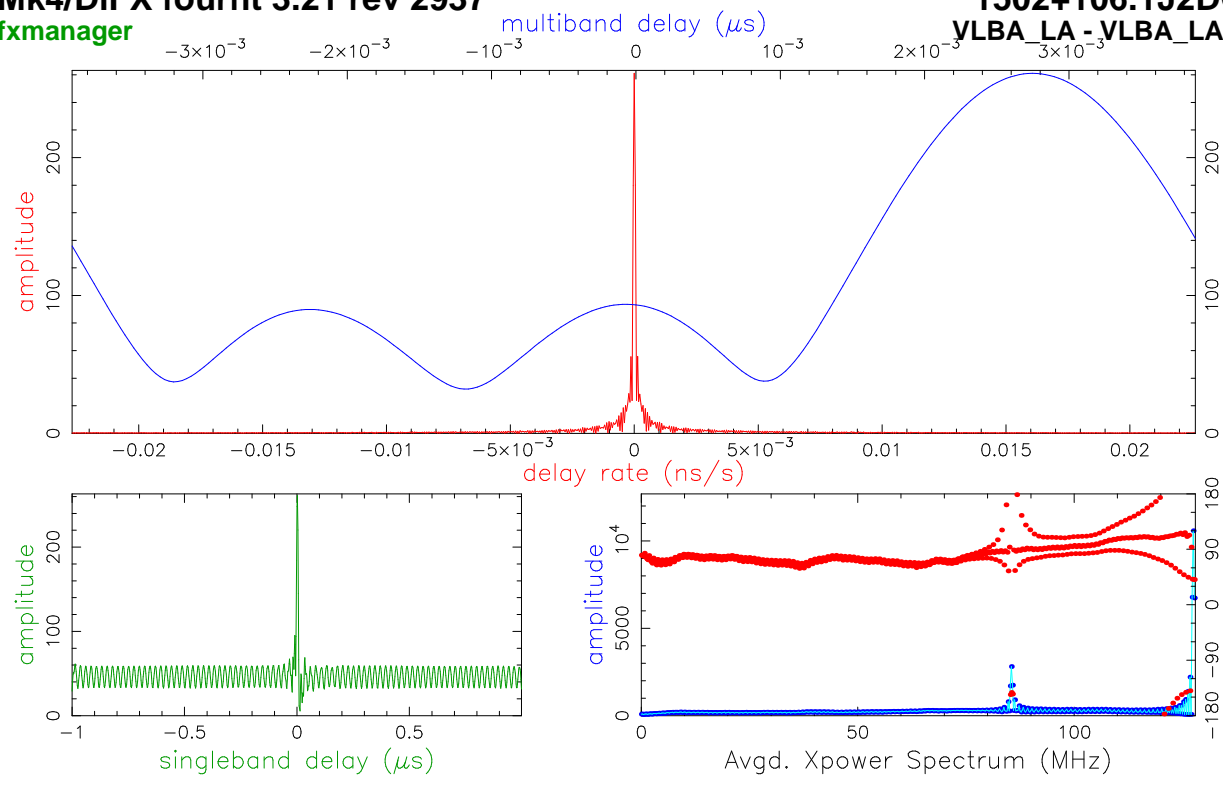
SNR 423630.6
Int time 239.982
Amp 10000.000
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211450
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
I	1000	1000	1000	1000		
I:I	0:0	0:0	0:0	0:0		
I:I	0:0	0:0	0:0	0:0		
I	1000	1000	1000	1000		
I	1000	1000	1000	1000		
I	Q00UR	Q01UR	Q02UR	Q03UR		
I	Q00UR	Q01UR	Q02UR	Q03UR		
Group delay (usec)(sbd)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.00000E+00	+/- 2.6E-09
Sband delay (usec)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.00000E+00	+/- 1.0E-08
Phase delay (usec)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.00000E+00	+/- 1.7E-11
Delay rate (us/s)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.00000E+00	+/- 1.3E-13
Total phase (deg)		0.0			0.0	+/- 0.0
Apriori delay (usec)						
Apriori clock (usec)						
Apriori clockrate (us/s)						
Apriori rate (us/s)						
Apriori accel (us/s/s)						
RMS	0.0	0.0	0.0	0.0		
Theor.	0.0	0.0	0.0	0.0		
Amplitude	10000.000	10000.000	10000.000	10000.000		+/- 0.024
Search (1024X16)						
Interp.	0.000	0.000	0.000	0.000		
Inc. seg. avg.	10000.000	10000.000	10000.000	10000.000		
Inc. frq. avg.	10000.000	10000.000	10000.000	10000.000		
Pcal mode:	MANUAL	MANUAL	MANUAL	MANUAL		PC period (AP's) 5, 5
Pcal rate:	0.000E+00	0.000E+00	0.000E+00	0.000E+00		(us/s)
Bits/sample:	2x2	2x2	2x2	2x2		SampCntNorm: enabled
Sample rate (MSamp/s):	256	256	256	256		mb window (us) -1.000 1.000
Data rate (Mb/s):	2048	2048	2048	2048		dr window (ns/s) -0.023 0.023
nlags:	512	512	512	512		ion window (TEC) 0.00 0.00
t_cohere	infinite	infinite	infinite	infinite		simultaneous interpolator
l: az 131.0 el 55.5 pa -38.1	l: az 131.0 el 55.5 pa -38.1	u,v (fr/asec) 0.000 0.000				
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/II..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/II.Q.114.1J2DGP				

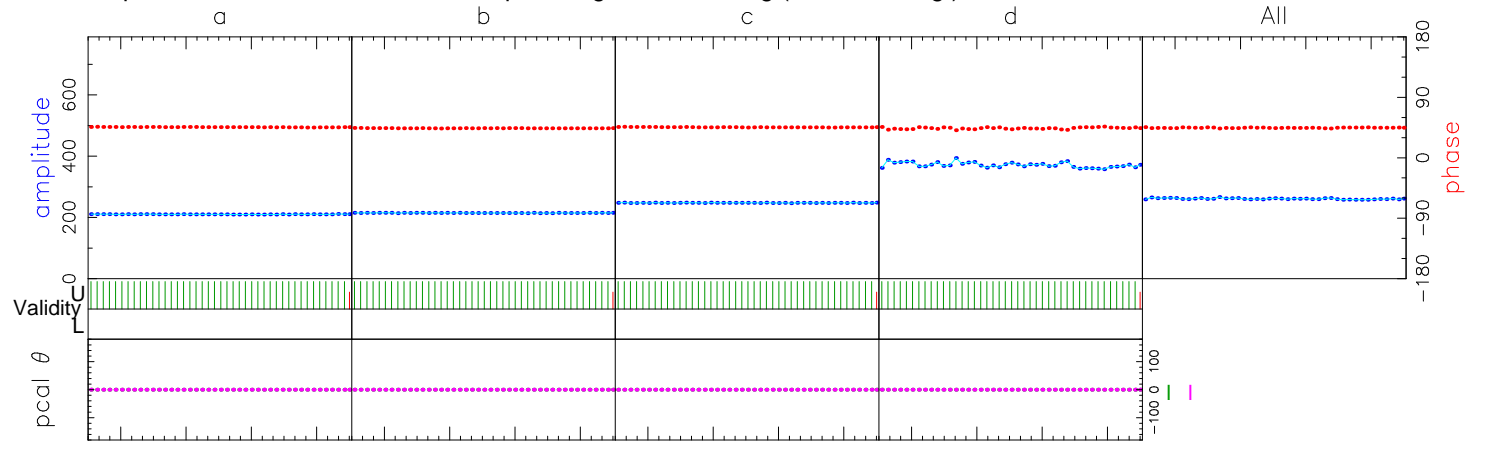


Fringe quality 8

SNR 11152.0
Int time 239.982
Amp 263.249
Phase 44.6
PFD 0.0e+00
Delays (us)
SBD 0.001415
MBD 0.002757
Fringe rate (Hz) 0.000009
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211452
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

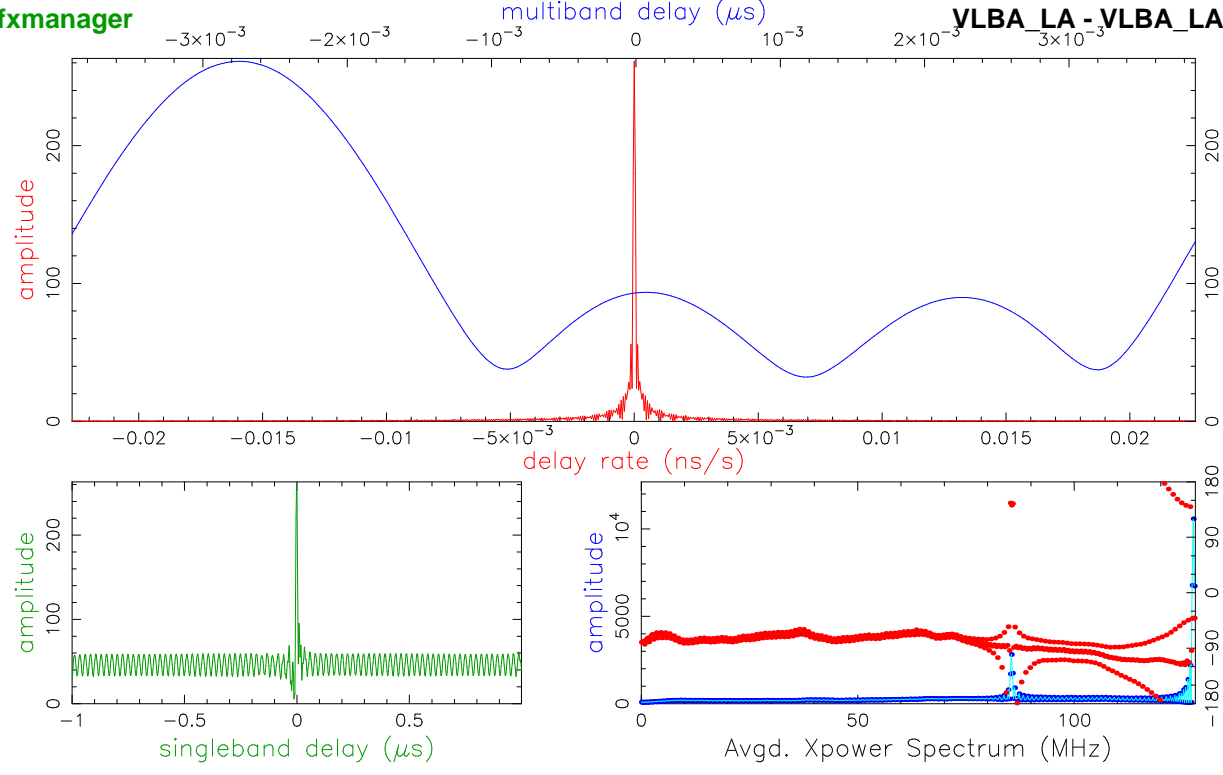
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	45.6	44.0	45.4	44.0	Phase	44.6
	210.4	214.8	247.7	371.6	Ampl.	261.1
	514.7	514.4	514.8	512.9	Sbd box	513.7
U/L	469/0	469/0	469/0	469/0	APs used	
	1000	1000	1000	1000	PC freqs	
	1000	1000	1000	1000	PC freqs	
:	0:0	0:0	0:0	0:0	PC phase	
:	0:0	0:0	0:0	0:0	Manl PC	
	1000	1000	1000	1000	PC amp	
	1000	1000	1000	1000		
	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.75725000000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	2.75725E-03	+/-	1.0E-07
Sband delay (usec)	1.41512500000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	1.41512E-03	+/-	3.9E-07
Phase delay (usec)	2.88091678693E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	2.88092E-06	+/-	6.6E-10
Delay rate (us/s)	2.01370626762E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	2.01371E-10	+/-	4.8E-12
Total phase (deg)	44.6	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	44.6	+/-	0.0

ph/seg (deg)	0.5	0.0	Amplitude	263.249 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	1.1	0.1	Search (1024X16)	257.538	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	1.1	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	24.9	0.0	Inc. seg. avg.	261.117	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
			Inc. frq. avg.	261.133	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

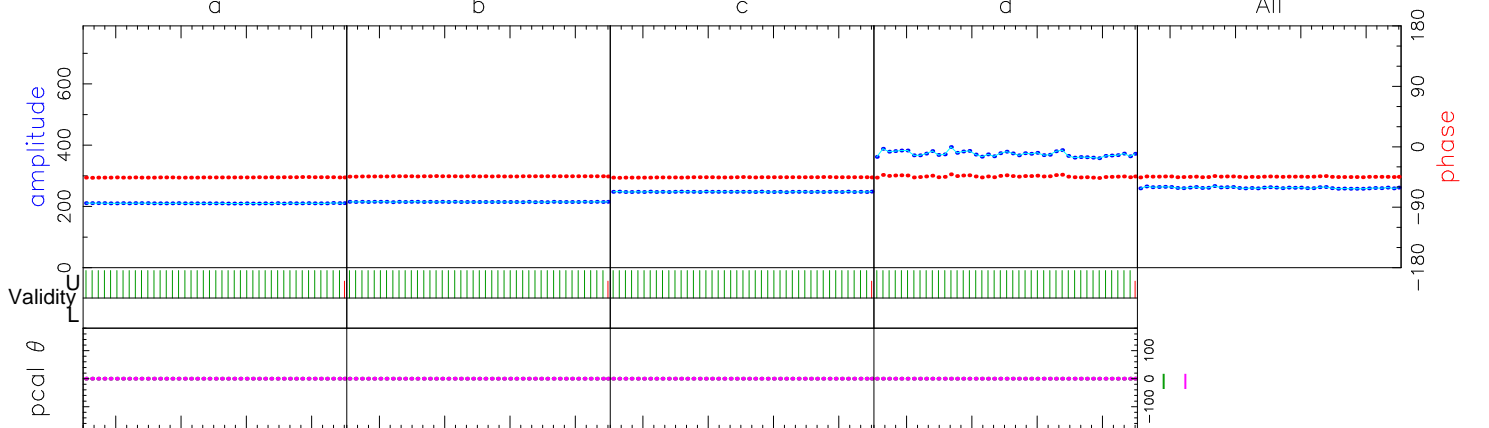


Fringe quality 8

SNR 11152.0
Int time 239.982
Amp 263.249
Phase -44.6
PFD 0.0e+00
Delays (us)
SBD -0.001415
MBD -0.002757
Fringe rate (Hz)
-0.000009
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211454
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-45.6	-44.0	-45.4	-44.0	Phase	-44.6
210.4	214.8	247.7	371.6	Ampl.	261.1
511.3	511.6	511.2	513.1	Sbd box	512.3
U/L 469/0	469/0	469/0	469/0	APs used	
1000	1000	1000	1000	PC freqs	
1000	1000	1000	1000	PC freqs	
: 0:0	0:0	0:0	0:0	PC phase	
: 0:0	0:0	0:0	0:0	Manl PC	
1000	1000	1000	1000	PC amp	
1000	1000	1000	1000		
Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
				Tracks	
Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
				Tracks	

Group delay (usec)(sbd)	-2.75725000000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-2.75725E-03	+/-	1.0E-07
Sband delay (usec)	-1.41512500000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-1.41512E-03	+/-	3.9E-07
Phase delay (usec)	-2.88091678744E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.88092E-06	+/-	6.6E-10
Delay rate (us/s)	-2.01370626762E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-2.01371E-10	+/-	4.8E-12
Total phase (deg)	-44.6	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-44.6	+/-	0.0

ph/seg (deg)	0.5	0.0	Amplitude	263.249 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	1.1	0.1	Search (1024X16)	257.538	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	1.1	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	24.9	0.0	Inc. seg. avg.	261.117	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
			Inc. frq. avg.	261.133	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

l: az 131.0 el 55.5 pa -38.1 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

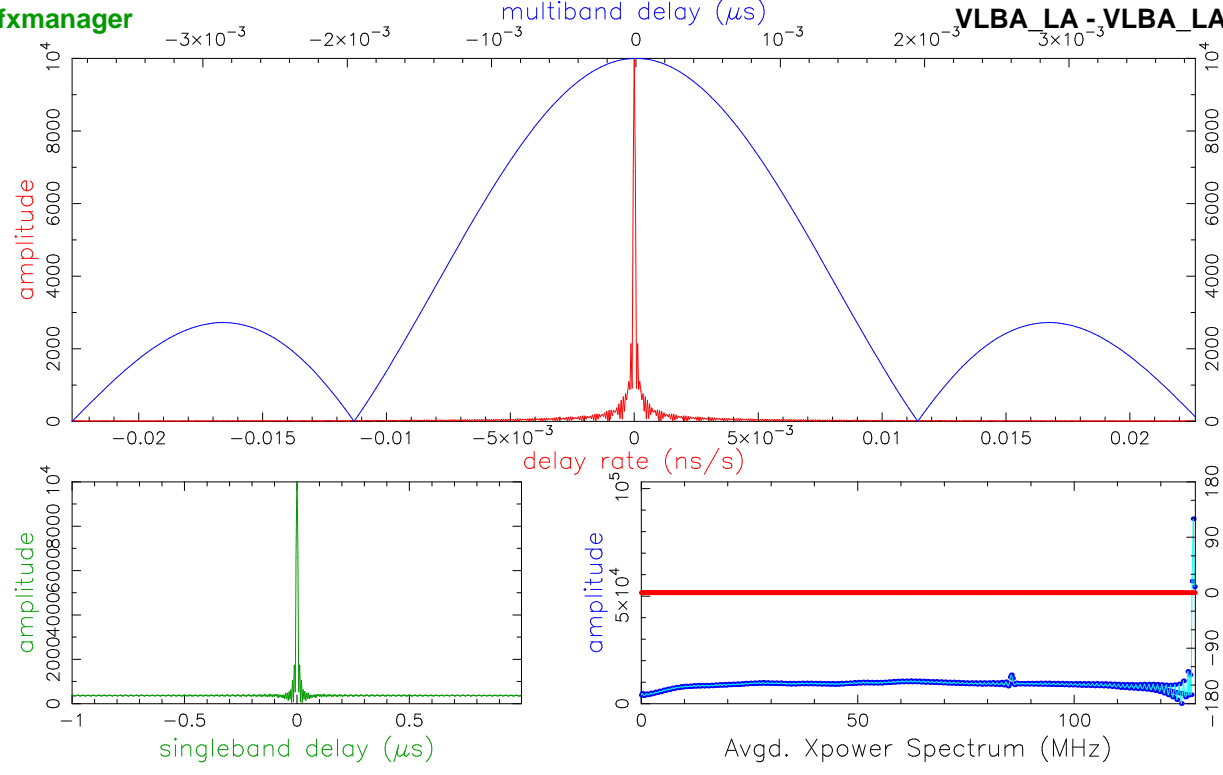
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/II..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/II.Q.148.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, II

VLBA_LA - VLBA_LA, fgroup Q, pol LL

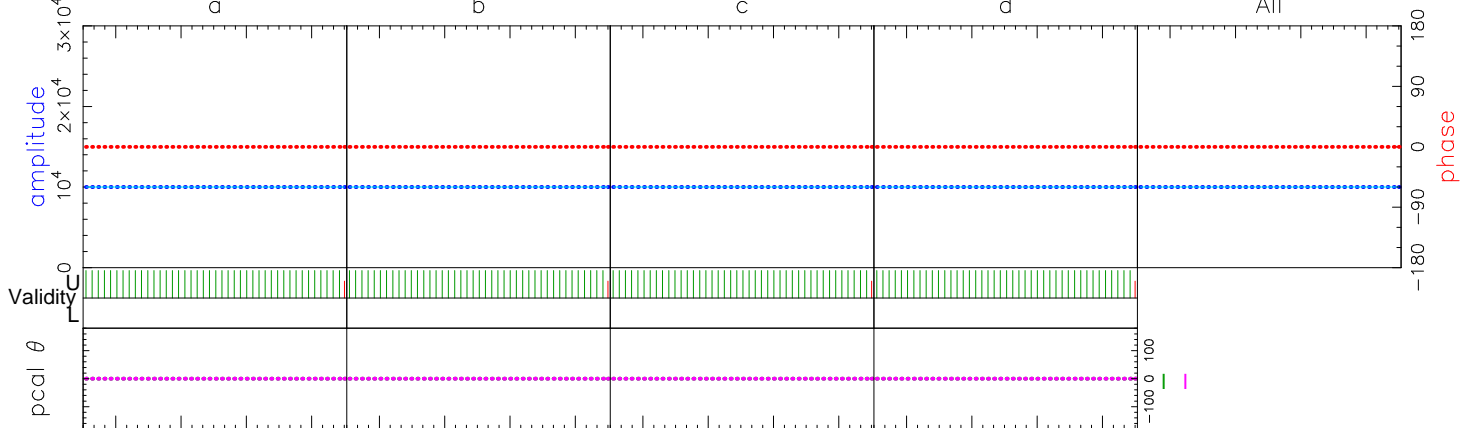


Fringe quality 9

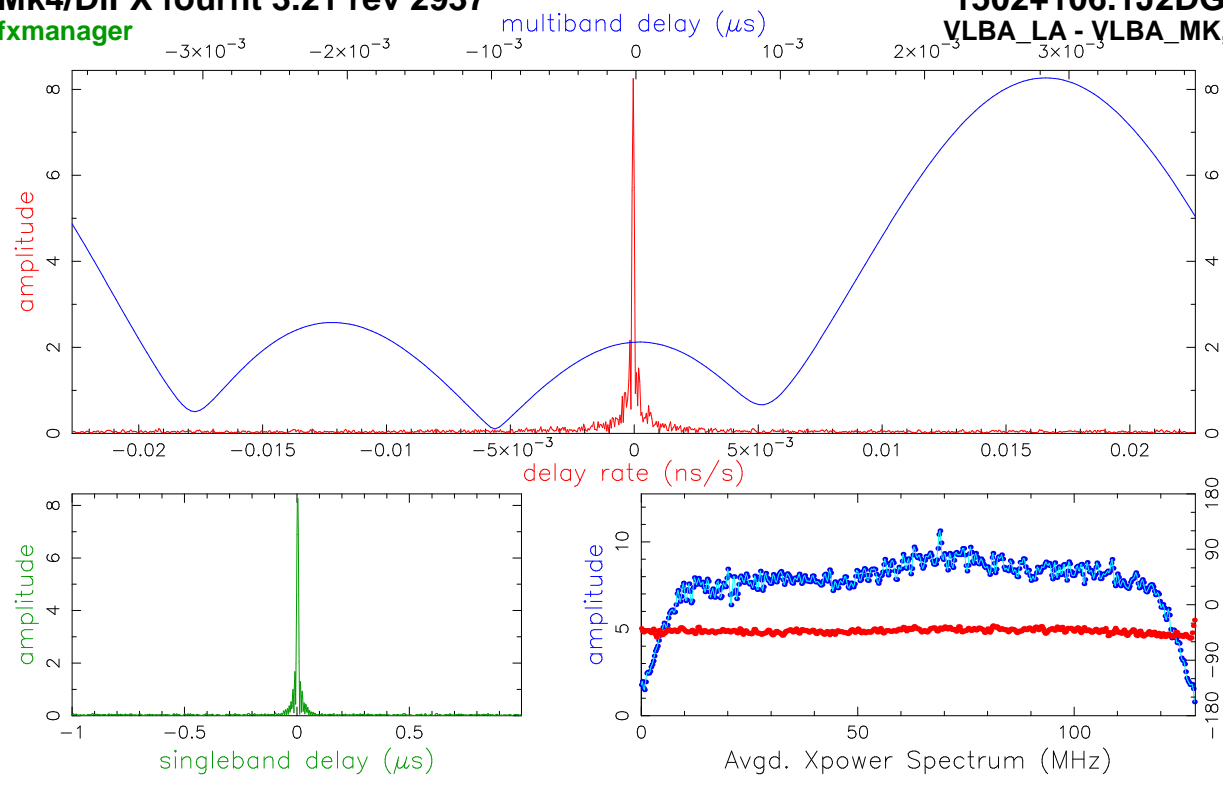
SNR 423630.6
 Int time 239.982
 Amp 10000.000
 Phase 0.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.000000
 MBD 0.000000
 Fringe rate (Hz) 0.000000
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211447
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec

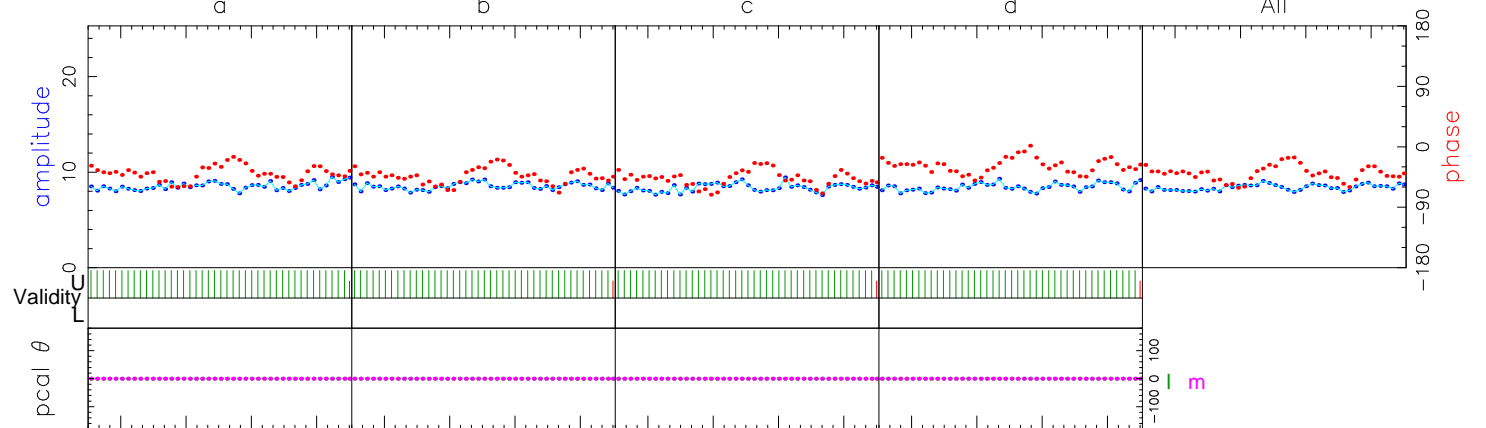


42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
0.0	0.0	0.0	0.0	Phase	0.0
10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
513.0	513.0	513.0	513.0	Sbd box	513.0
U/L 469/0	469/0	469/0	469/0	APs used	
1000	1000	1000	1000	PC freqs	
1000	1000	1000	1000	PC freqs	
: 0:0	0:0	0:0	0:0	PC phase	
: 0:0	0:0	0:0	0:0	Manl PC	
1000	1000	1000	1000	PC amp	
1000	1000	1000	1000		
Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	0.0000000000E+00	Apriori delay (usec)	0.0000000000E+00	Resid mbdelay (usec)	0.00000E+00 +/- 2.6E-09
Sband delay (usec)	0.0000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00 +/- 1.0E-08
Phase delay (usec)	0.0000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00 +/- 1.7E-11
Delay rate (us/s)	0.0000000000E+00	Apriori rate (us/s)	0.0000000000E+00	Resid rate (us/s)	0.00000E+00 +/- 1.3E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.0000000000E+00	Resid phase (deg)	0.0 +/- 0.0
RMS	Theor.	Amplitude	10000.000 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.0	Search (1024X16)	10000.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	0.0	Inc. frq. avg.	10000.000	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
I: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator					
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ll..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ll.Q.90.1J2DGP					



Fringe quality 9
SNR 357.6
Int time 239.982
Amp 8.440
Phase -39.6
PFD 0.0e+00
Delays (us)
SBD 0.002909
MBD 0.002771
Fringe rate (Hz)
-0.001370
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211450
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-39.5	-43.3	-47.3	-28.1	Phase	-39.6
8.4	8.4	8.2	8.3	Ampl.	8.3
514.1	514.4	514.4	515.1	Sbd box	514.5
U/L 469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	PC freqs	
m 1000	1000	1000	1000	PC freqs	
l:m 0:0	0:0	0:0	0:0	PC phase	
l:m 0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	PC amp	
m 1000	1000	1000	1000		
l Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.09989694011E+04	Apriori delay (usec)	1.09989666297E+04	Resid mbdelay (usec)	2.77147E-03	+/-	3.1E-06
Sband delay (usec)	1.09989695392E+04	Apriori clock (usec)	-1.3775406E+01	Resid sbdelay (usec)	2.90950E-03	+/-	1.2E-05
Phase delay (usec)	1.09989666271E+04	Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	-2.55292E-06	+/-	2.1E-08
Delay rate (us/s)	-8.57265647649E-01	Apriori rate (us/s)	-8.57265615827E-01	Resid rate (us/s)	-3.18222E-08	+/-	1.5E-10
Total phase (deg)	226.9	Apriori accel (us/s/s)	-5.35526904152E-05	Resid phase (deg)	-39.6	+/-	0.3

ph/seg (deg)	RMS 11.0	Theor. 1.1	Amplitude	8.440 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	3.6	1.8	Search (1024X16)	8.007	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
ph/frq (deg)	10.1	0.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.004 0.004
amp/frq (%)	1.7	0.6	Inc. seg. avg.	8.404	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023
			Inc. frq. avg.	8.317	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite
						ion window (TEC)	0.00 0.00

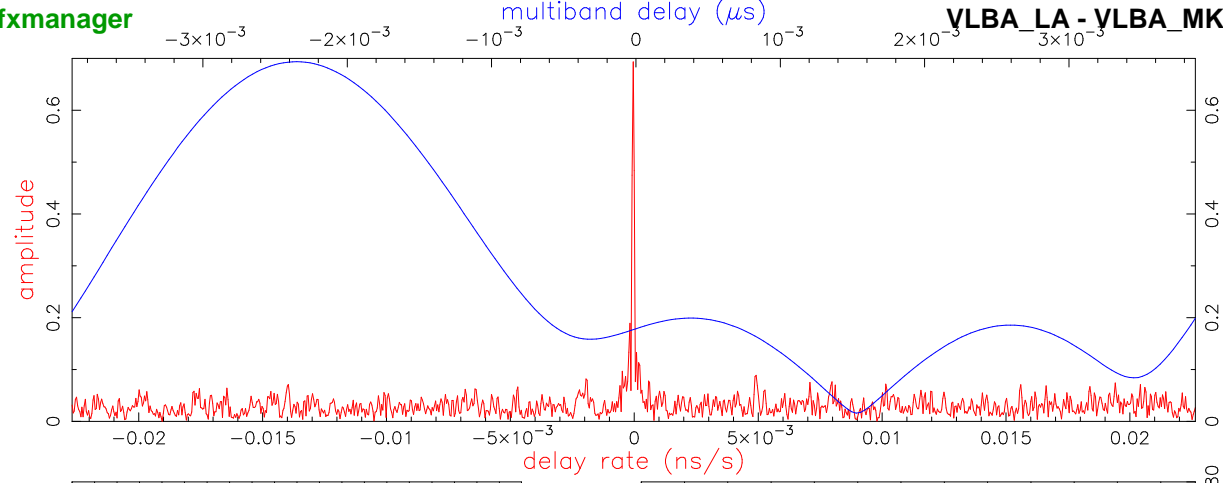
l: az 131.0 el 55.5 pa -38.1 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2471.832 673.470 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im.Q.111.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, Im

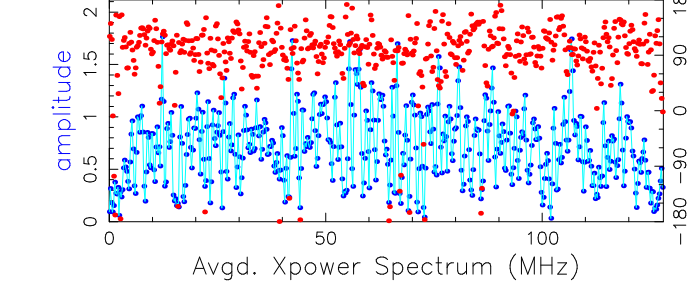
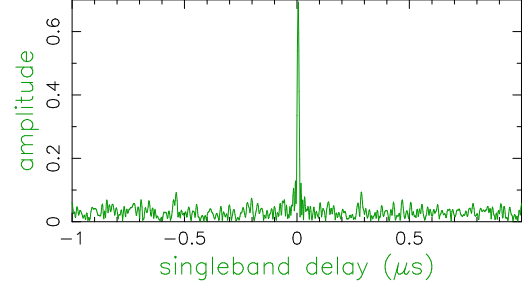
VLBA_LA - VLBA_MK, fgroup Q, pol LR



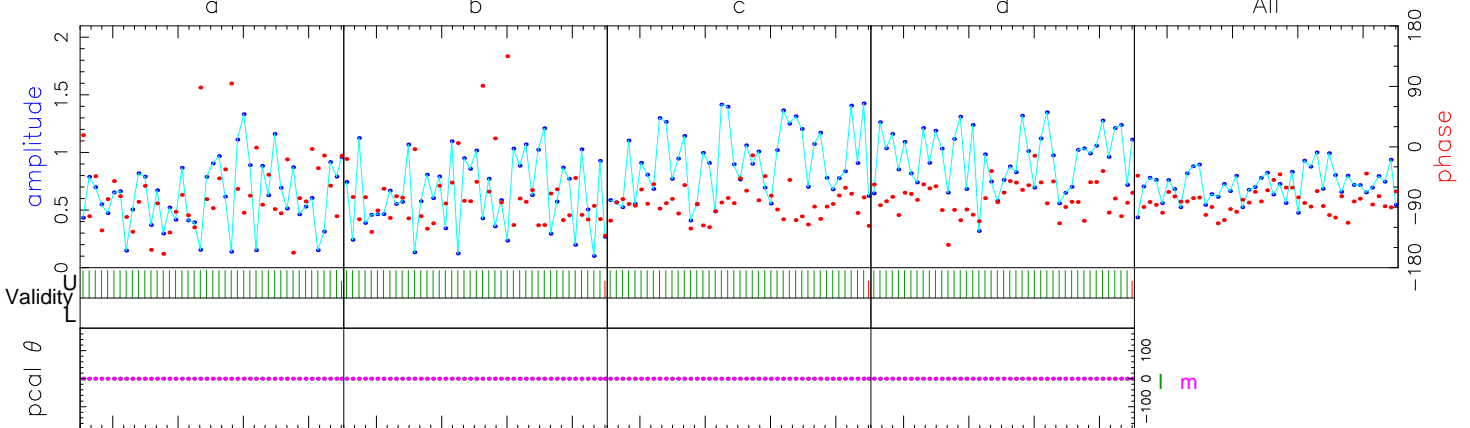
Fringe quality 8

SNR 29.7
 Int time 239.982
 Amp 0.700
 Phase -80.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.005216
 MBD -0.002388
 Fringe rate (Hz) -0.001465
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211451
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



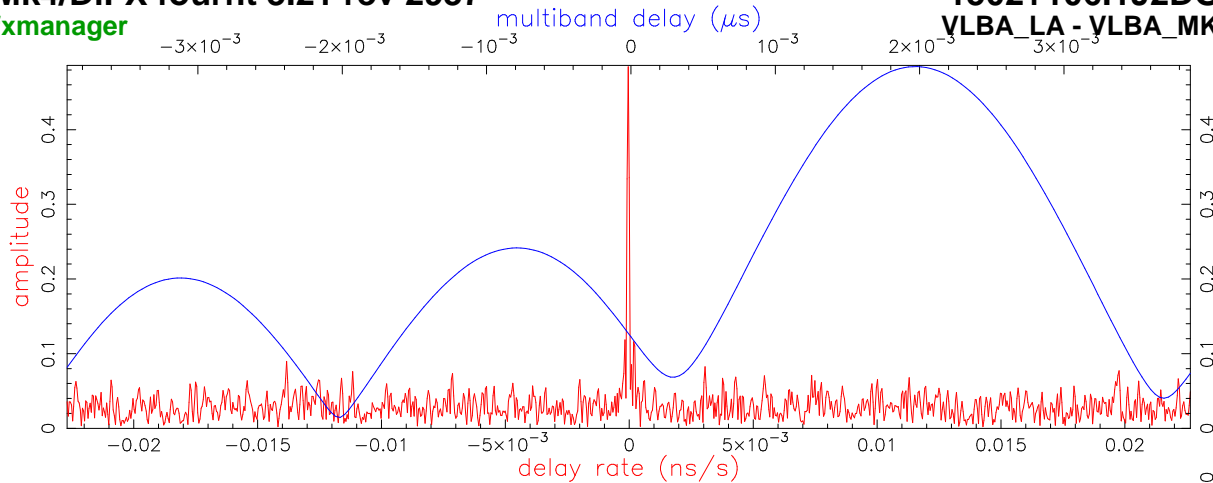
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-77.4	-88.2	-83.6	-75.5	Phase	-80.8
	0.5	0.5	0.9	0.9	Ampl.	0.7
	515.5	515.9	515.5	515.8	Sbd box	515.7
U/L	469/0	469/0	469/0	469/0	APs used	
l	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
l:m	0:0	0:0	0:0	0:0	PC phase	
l:m	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.09989720546E+04	Apriori delay (usec)	1.09989666297E+04	Resid mbdelay (usec)	-2.38756E-03	+/-	3.8E-05
Sband delay (usec)	1.09989718452E+04	Apriori clock (usec)	-1.3775406E+01	Resid sbdelay (usec)	5.21550E-03	+/-	1.5E-04
Phase delay (usec)	1.09989666244E+04	Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	-5.21774E-06	+/-	2.5E-07
Delay rate (us/s)	-8.57265649875E-01	Apriori rate (us/s)	-8.57265615827E-01	Resid rate (us/s)	-3.40487E-08	+/-	1.8E-09
Total phase (deg)	185.6	Apriori accel (us/s/s)	-5.35526904152E-05	Resid phase (deg)	-80.8	+/-	3.9

ph/seg (deg)	17.7	Theor.	12.7	Amplitude	0.700 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	19.3		12.7	Search (1024X16)	0.677	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	7.1		3.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	25.0		6.7	Inc. seg. avg.	0.708	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
				Inc. frq. avg.	0.694	Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
						nlags: 512	ion window (TEC) 0.00 0.00

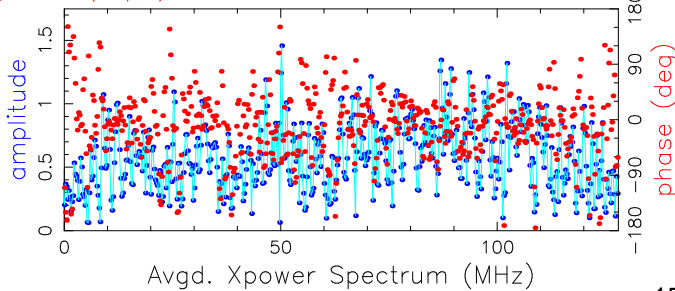
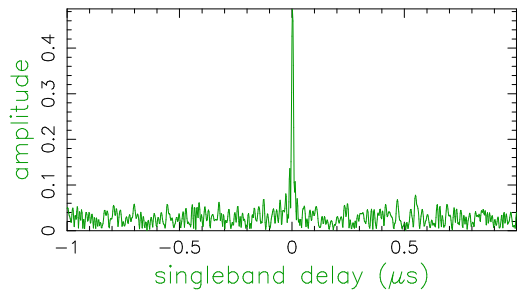
l: az 131.0 el 55.5 pa -38.1 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2471.832 673.470 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im.Q.125.1J2DGP



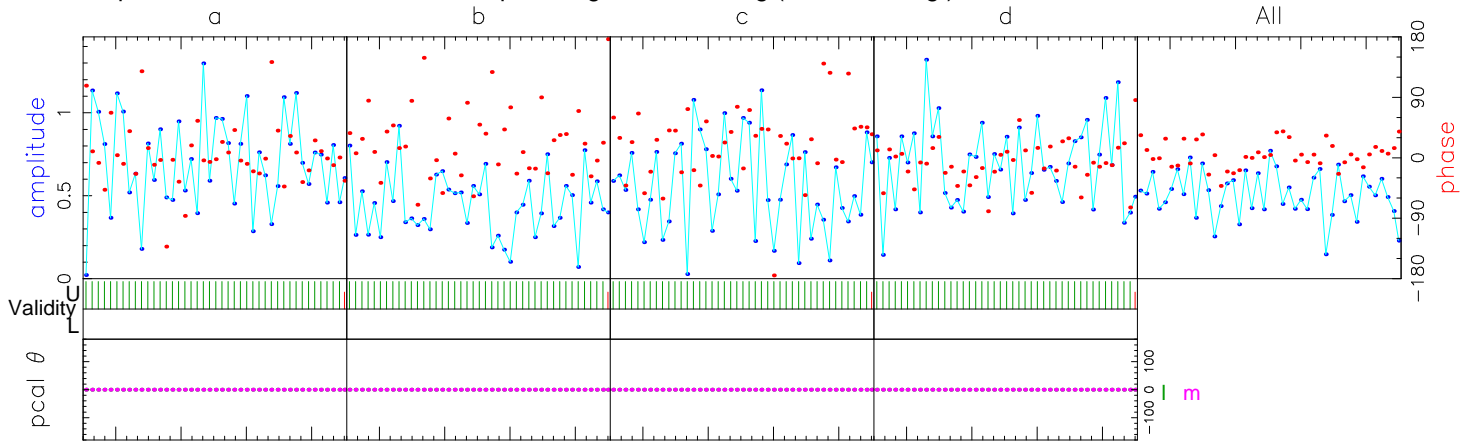
Fringe quality 7

SNR 20.6
Int time 239.982
Amp 0.486
Phase 3.7
PFD 0.0e+00
Delays (us)
SBD 0.002348
MBD 0.001989
Fringe rate (Hz)
-0.001436
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512



Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211454
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-2.3	-2.3	13.7	19.6	-6.8	Phase	3.7
0.6	0.6	0.3	0.4	0.6	Ampl.	0.5
514.5	514.2	513.8	514.3	514.3	Sbd box	514.2
U/L 469/0	469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	1000	PC freqs	
m 1000	1000	1000	1000	1000	PC freqs	
l:m 0:0	0:0	0:0	0:0	0:0	PC phase	
l:m 0:0	0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	1000	PC amp	
m 1000	1000	1000	1000	1000		
l Q00UR	Q01UR	Q02UR	Q03UR		Chan ids	
m Q00UL	Q01UL	Q02UL	Q03UL		Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.09989686183E+04	Apriori delay (usec)	1.09989666297E+04	Resid mbdelay (usec)	1.98866E-03	+/-	5.4E-05
Sband delay (usec)	1.09989689777E+04	Apriori clock (usec)	-1.3775406E+01	Resid sbdelay (usec)	2.34800E-03	+/-	2.1E-04
Phase delay (usec)	1.09989666299E+04	Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	2.41080E-07	+/-	3.6E-07
Delay rate (us/s)	-8.57265649180E-01	Apriori rate (us/s)	-8.57265615827E-01	Resid rate (us/s)	-3.33538E-08	+/-	2.6E-09
Total phase (deg)	270.2	Apriori accel (us/s/s)	-5.35526904152E-05	Resid phase (deg)	3.7	+/-	5.6

	RMS	Theor.	Amplitude	0.486 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	19.4	18.2	Search (1024X16)	0.474	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	28.1	31.8	Inc. seg. avg.	0.487	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	15.8	5.6	Inc. frq. avg.	0.491	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
amp/frq (%)	24.2	9.7							

l: az 131.0 el 55.5 pa -38.1 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2471.832 673.470 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/Im.Q.149.1J2DGP

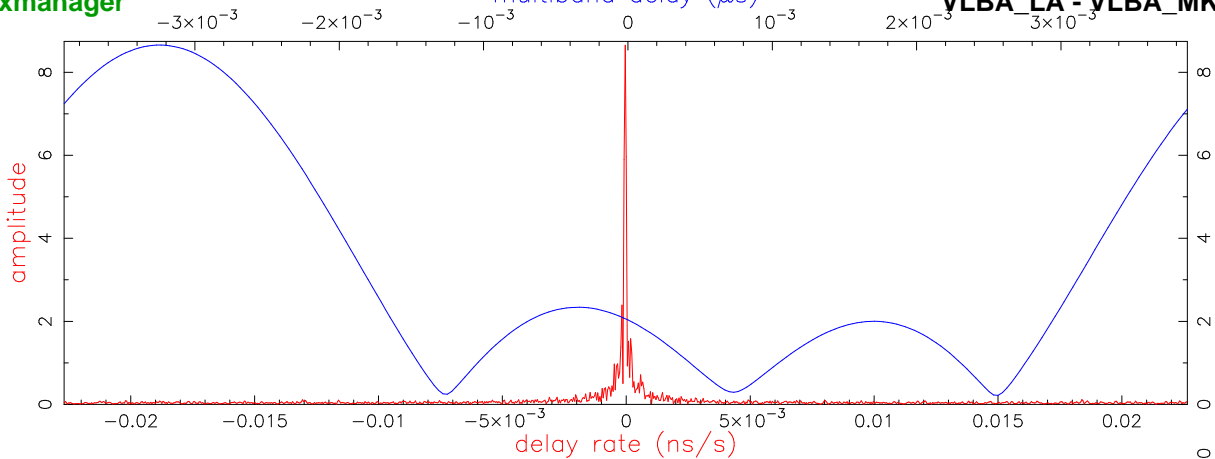
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, Im

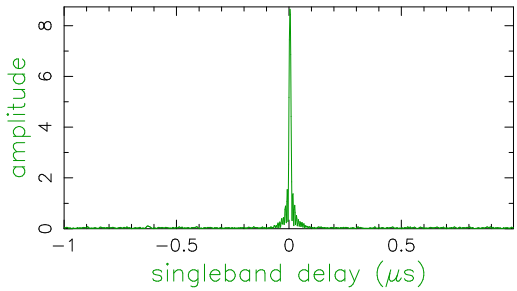
VLBA_LA - VLBA_MK, fgroup Q, pol LL

multiband delay (μ s)

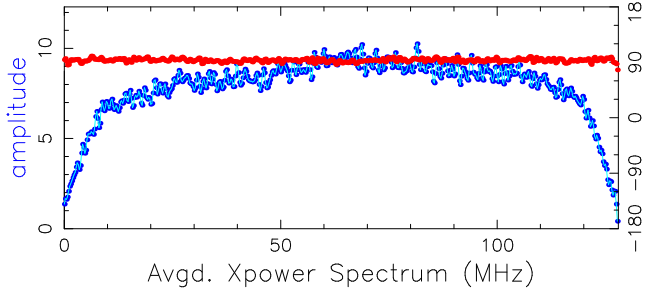


Fringe quality 9

SNR 370.4
 Int time 239.982
 Amp 8.744
 Phase -86.6
 PFD 0.0e+00
 Delays (us)
 SBD 0.004595
 MBD -0.003214
 Fringe rate (Hz)
 -0.001343
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



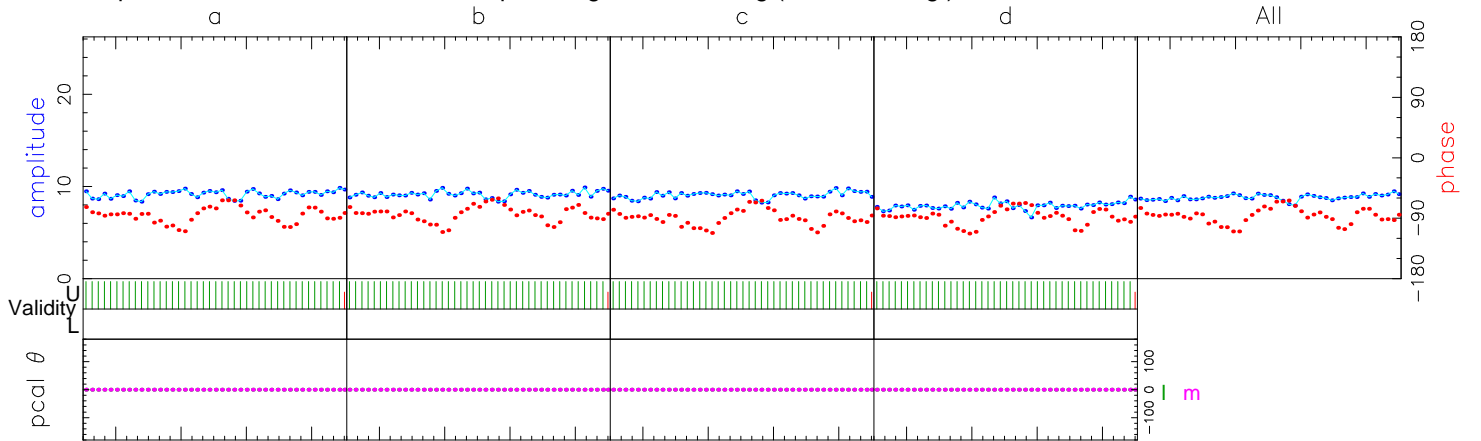
singleband delay (μ s)



Avgd. Xpower Spectrum (MHz)

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211448
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000	APs used	
m	1000	1000	1000	1000	PC freqs	
l:m	0:0	0:0	0:0	0:0	PC phase	
l:m	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

Group delay (usec)(sbd)	1.09989712286E+04	Apriori delay (usec)	1.09989666297E+04	Resid mbdelay (usec)	-3.21353E-03	+/-	3.0E-06
Sband delay (usec)	1.09989712252E+04	Apriori clock (usec)	-1.3775406E+01	Resid sbdelay (usec)	4.59550E-03	+/-	1.2E-05
Phase delay (usec)	1.09989666241E+04	Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	-5.58672E-06	+/-	2.0E-08
Delay rate (us/s)	-8.57265647033E-01	Apriori rate (us/s)	-8.57265615827E-01	Resid rate (us/s)	-3.12068E-08	+/-	1.4E-10
Total phase (deg)	179.9	Apriori accel (us/s/s)	-5.35526904152E-05	Resid phase (deg)	-86.6	+/-	0.3

ph/seg (deg)	11.3	Theor.	1.0	Amplitude	8.744 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	3.6		1.8	Search (1024X16)	8.278	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	3.1		0.3	Inc. seg. avg.	8.820	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	6.1		0.5	Inc. frq. avg.	8.659	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

l: az 131.0 el 55.5 pa -38.1 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2471.832 673.470 simultaneous interpolator

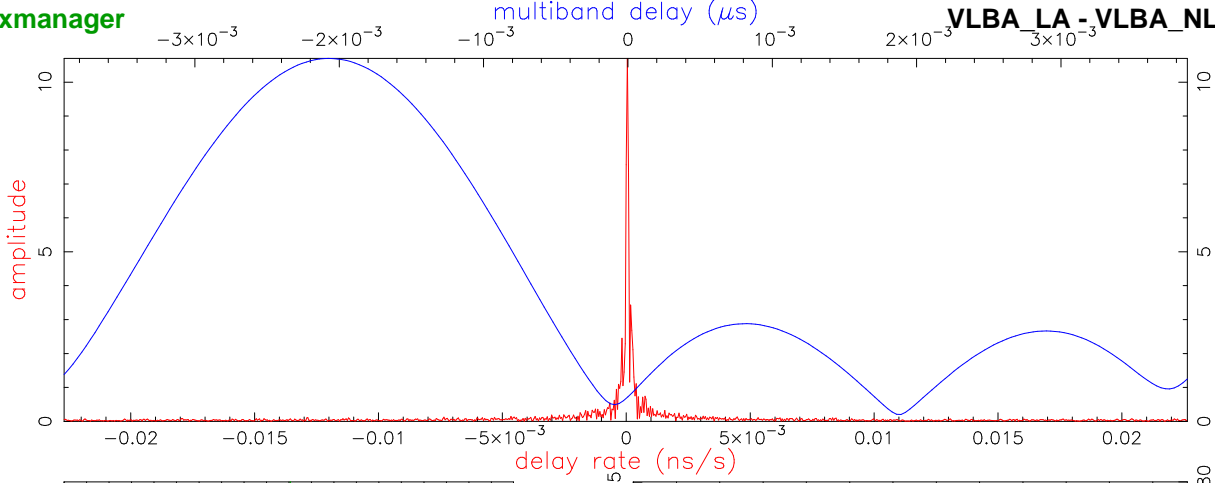
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lm.Q.93.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, In

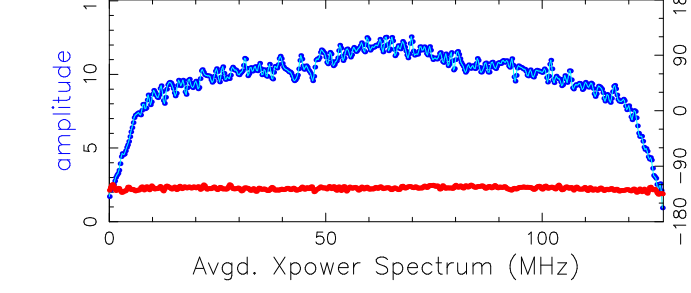
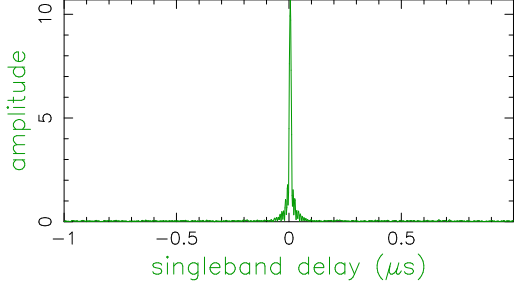
VLBA_LA - VLBA_NL, fgroup Q, pol LL



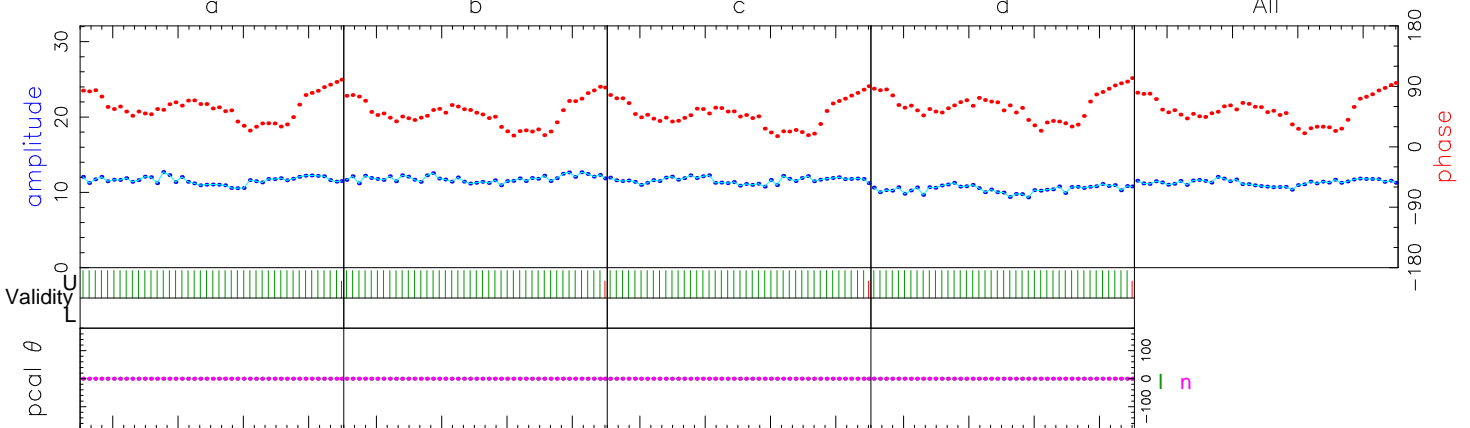
Fringe quality 8

SNR 453.4
 Int time 239.982
 Amp 10.702
 Phase 54.6
 PFD 0.0e+00
 Delays (us)
 SBD 0.005749
 MBD -0.002076
 Fringe rate (Hz) 0.002611
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211456
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



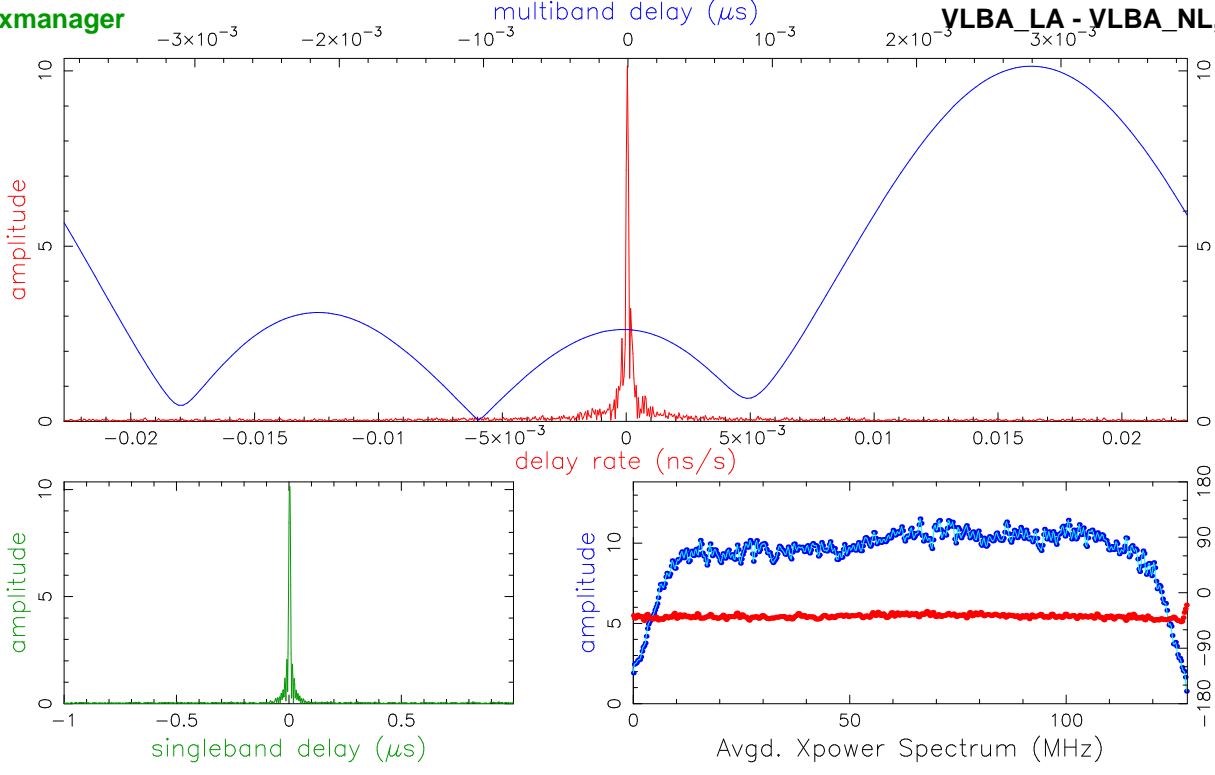
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l:n	0:0	0:0	0:0	0:0		
l:n	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL		
n	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	-2.90314197694E+02	Apriori delay (usec)	-2.90319934501E+02	Resid mbdelay (usec)	-2.07569E-03	+/- 2.5E-06
Sband delay (usec)	-2.90314185376E+02	Apriori clock (usec)	-5.9021759E-01	Resid sbdelay (usec)	5.74913E-03	+/- 9.5E-06
Phase delay (usec)	-2.90319930980E+02	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	3.52106E-06	+/- 1.6E-08
Delay rate (us/s)	3.19596880550E-01	Apriori rate (us/s)	3.19596819892E-01	Resid rate (us/s)	6.06579E-08	+/- 1.2E-10
Total phase (deg)	-298.6	Apriori accel (us/s/s)	-1.19827416187E-07	Resid phase (deg)	54.6	+/- 0.3

ph/seg (deg)	RMS 19.1	Theor. 0.8	Amplitude 10.702 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	6.7	1.4	Search (1024X16) 0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	7.8	0.3	Inc. seg. avg. 11.317	Bits/sample: 2x2	mb window (us) -0.004 0.004
amp/frq (%)	4.9	0.4	Inc. frq. avg. 10.749	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
				Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) -930.400 -352.082 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ln..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ln.Q.155.1J2DGP

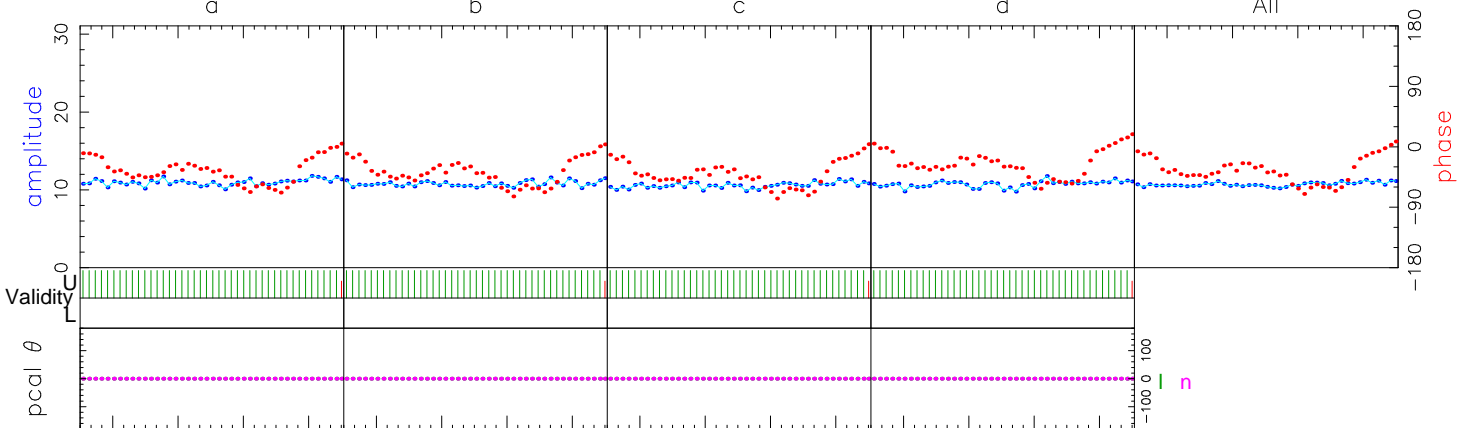


Fringe quality 8

SNR 438.8
Int time 239.982
Amp 10.358
Phase -34.5
PFD 0.0e+00
Delays (us)
SBD 0.002906
MBD 0.002734
Fringe rate (Hz) 0.002620
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211458
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l:n	0:0	0:0	0:0	0:0		
l:n	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l	Q00UR	Q01UR	Q02UR	Q03UR		
n	Q00UR	Q01UR	Q02UR	Q03UR		

	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
Group delay (usec)(sbd)	-2.90317200100E+02	-2.90317028751E+02	-2.90319934501E+02	-2.9031759E-01	2.73440E-03	+/- 2.5E-06
Sband delay (usec)	-2.90317028751E+02	-2.90319936726E+02	-6.0000003E-07	-6.0000003E-07	2.90575E-03	+/- 9.8E-06
Phase delay (usec)	-2.90319936726E+02	3.19596880769E-01	3.19596819892E-01	3.19596819892E-01	-2.22527E-06	+/- 1.7E-08
Delay rate (us/s)	3.19596880769E-01	-1.19827416187E-07	-1.19827416187E-07	-1.19827416187E-07	6.08763E-08	+/- 1.2E-10
Total phase (deg)		-27.6			-34.5	+/- 0.3

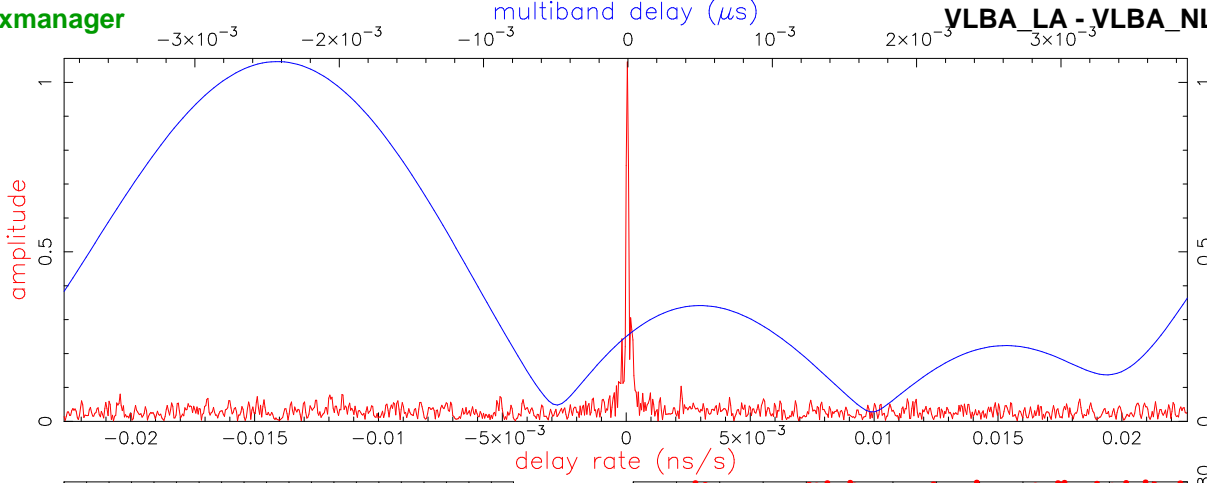
	RMS	Theor.	Amplitude	10.358 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	19.2	0.9	Search (1024X16)	9.586	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.3	1.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	8.3	0.3	Inc. seg. avg.	10.715	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	2.2	0.5	Inc. frq. avg.	10.174	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, In

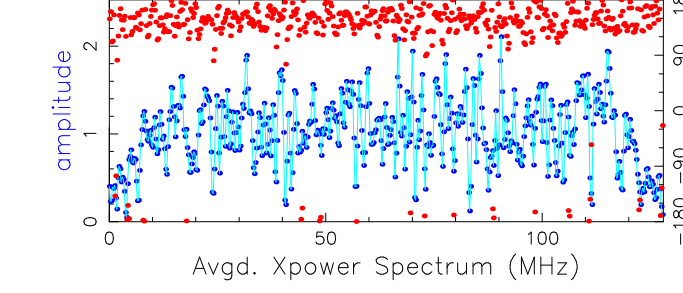
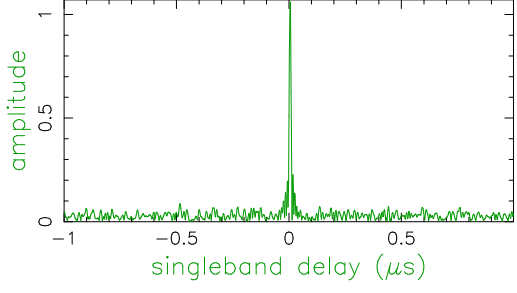
VLBA_LA - VLBA_NL, fgroup Q, pol LR



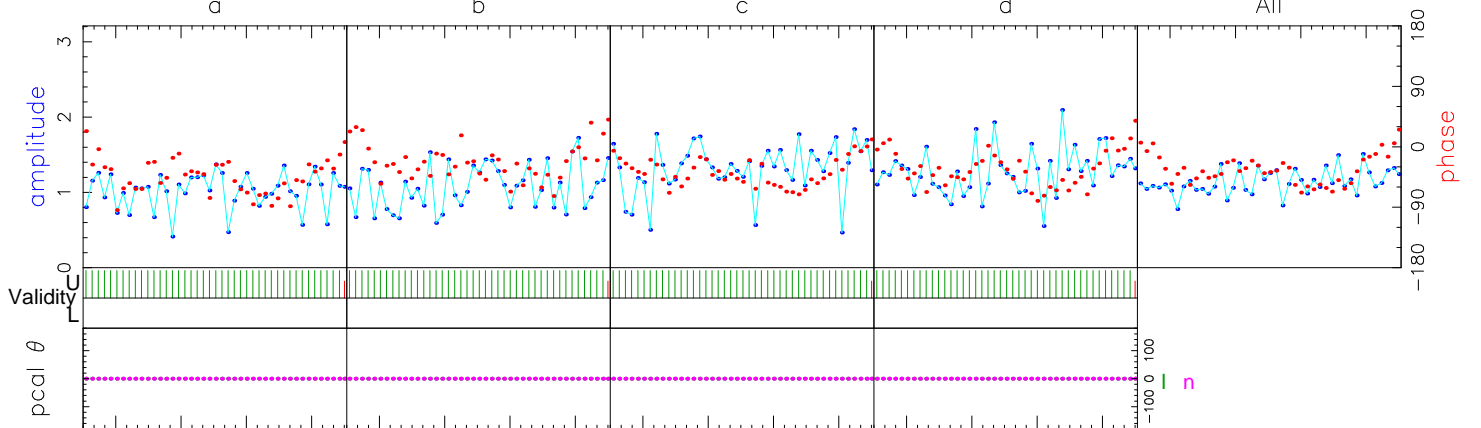
Fringe quality 9

SNR 45.4
 Int time 239.982
 Amp 1.071
 Phase -34.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.005221
 MBD -0.002470
 Fringe rate (Hz) 0.002621
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211500
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l:n	0:0	0:0	0:0	0:0		
l:n	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
n	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL		
n	Q00UR	Q01UR	Q02UR	Q03UR		

Group delay (usec)(sbd)	-2.90314591913E+02	Apriori delay (usec)	-2.90319934501E+02	Resid mbdelay (usec)	-2.46991E-03	+/-	2.5E-05
Sband delay (usec)	-2.90314713251E+02	Apriori clock (usec)	-5.9021759E-01	Resid sbdelay (usec)	5.22125E-03	+/-	9.5E-05
Phase delay (usec)	-2.90319936693E+02	Apriori clockrate (us/s)	-6.0000003E-07	Resid phdelay (usec)	-2.19232E-06	+/-	1.6E-07
Delay rate (us/s)	3.19596880780E-01	Apriori rate (us/s)	3.19596819892E-01	Resid rate (us/s)	6.08877E-08	+/-	1.2E-09
Total phase (deg)		Apriori accel (us/s/s)	-1.19827416187E-07	Resid phase (deg)	-34.0	+/-	2.5

ph/seg (deg)	RMS 21.6	Theor. 8.3	Amplitude	1.071 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	16.5	14.5	Search (1024X16)	1.012	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	10.7	2.5	Inc. seg. avg.	1.129	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023
amp/frq (%)	12.1	4.4	Inc. frq. avg.	1.068	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00

l: az 131.0 el 55.5 pa -38.1 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) -930.400 -352.082 simultaneous interpolator

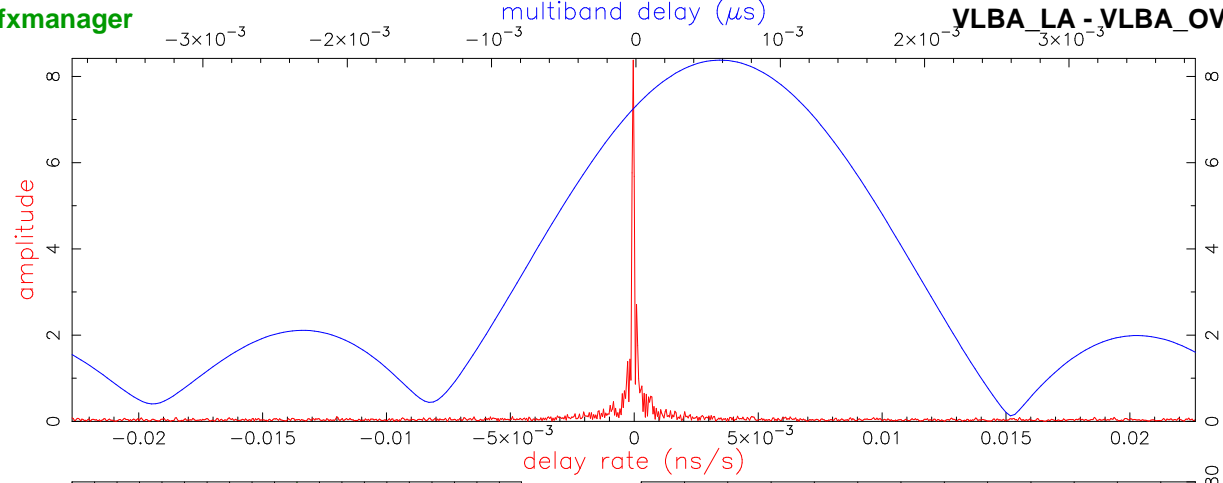
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ln..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ln.Q.186.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, lo

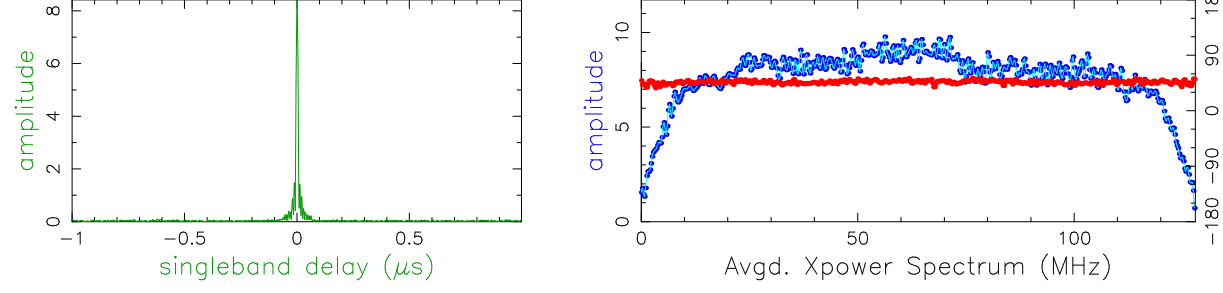
VLBA_LA - VLBA_OV, fgroup Q, pol LL



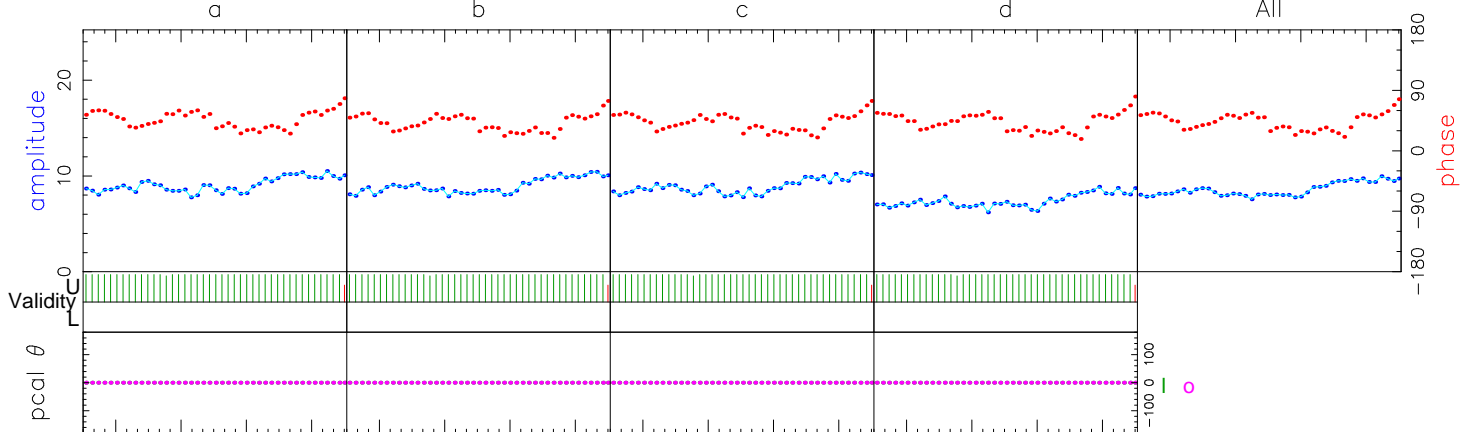
Fringe quality 8

SNR 356.4
 Int time 239.711
 Amp 8.418
 Phase 43.4
 PFD 0.0e+00
 Delays (us)
 SBD 0.000473
 MBD 0.000607
 Fringe rate (Hz)
 -0.001718
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211456
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
46.7	41.6	42.2	42.9	Phase	43.4
8.9	8.8	8.7	7.2	Ampl.	8.4
513.0	513.4	513.3	513.2	Sbd box	513.2
U/L 469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	PC freqs	
o 1000	1000	1000	1000	PC freqs	
l:o 0:0	0:0	0:0	0:0	PC phase	
l:o 0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	PC amp	
o 1000	1000	1000	1000		
l Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.99593630181E+03	Apriori delay (usec)	1.99593569443E+03	Resid mbdelay (usec)	6.07381E-04	+/-	3.1E-06
Sband delay (usec)	1.99593616706E+03	Apriori clock (usec)	-2.1800999E+01	Resid sbdelay (usec)	4.72625E-04	+/-	1.2E-05
Phase delay (usec)	1.99593569723E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	2.80035E-06	+/-	2.1E-08
Delay rate (us/s)	-2.08424946939E-01	Apriori rate (us/s)	-2.08424907016E-01	Resid rate (us/s)	-3.99224E-08	+/-	1.5E-10
Total phase (deg)	147.2	Apriori accel (us/s/s)	-1.11445982855E-05	Resid phase (deg)	43.4	+/-	0.3

ph/seg (deg)	12.2	1.1	Amplitude	8.418 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	8.3	1.8	Search (1024X16)	8.309	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	2.8	0.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	8.2	0.6	Inc. seg. avg.	8.573	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
			Inc. frq. avg.	8.381	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 601.296 -171.152 simultaneous interpolator

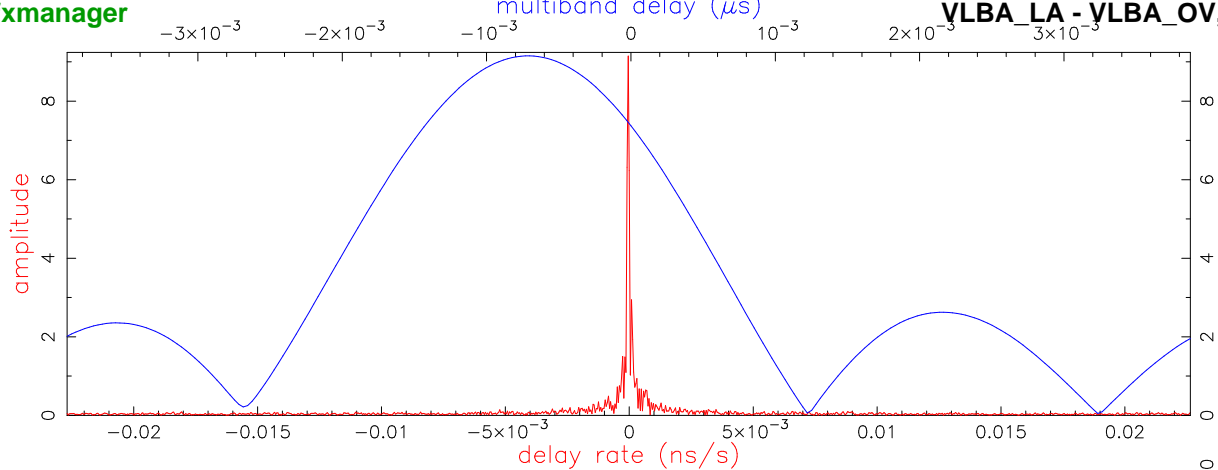
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo.Q.154.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

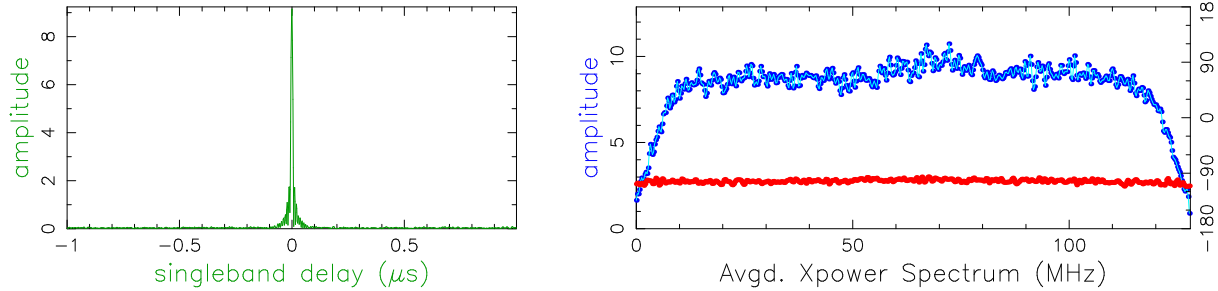
1502+106.1J2DGP, No0154, lo

VLBA_LA - VLBA_OV, fgroup Q, pol RR



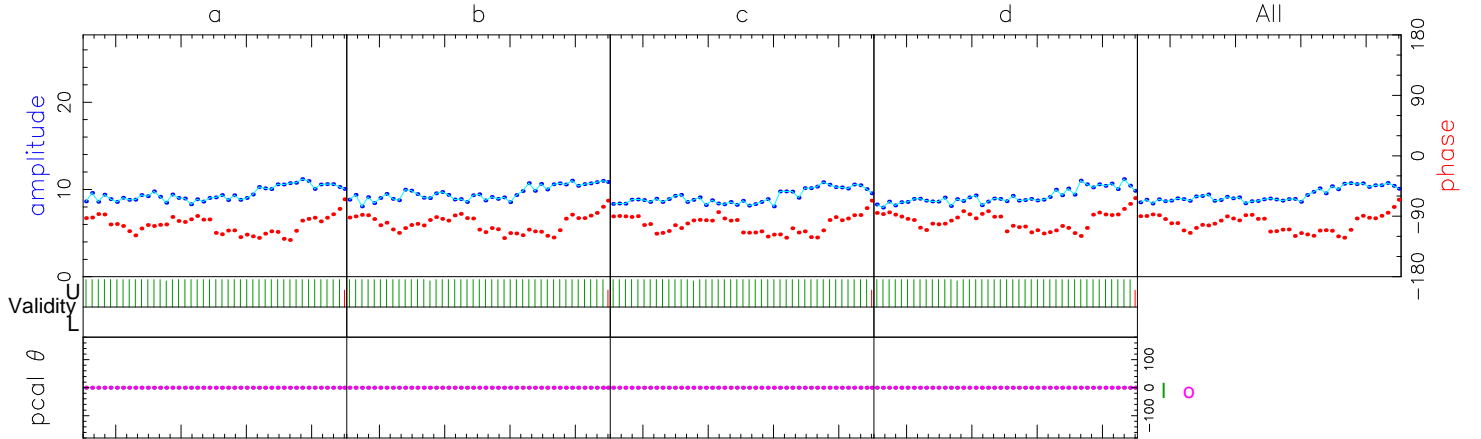
Fringe quality 8

SNR 391.3
 Int time 239.711
 Amp 9.242
 Phase -100.6
 PFD 0.0e+00
 Delays (us)
 SBD -0.000659
 MBD -0.000752
 Fringe rate (Hz)
 -0.001724
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211458
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



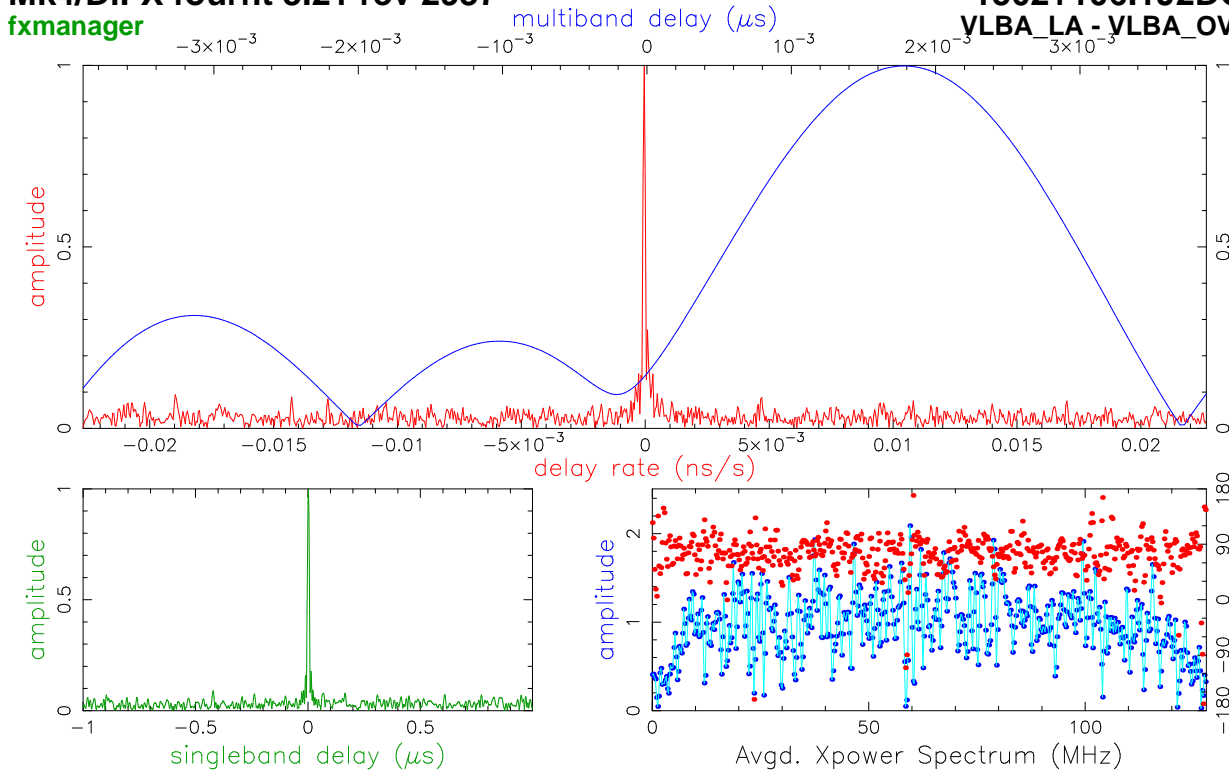
42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-103.1	-100.5	-102.2	-96.5	Phase	-100.6
9.3	9.4	9.0	9.0	Ampl.	9.2
512.4	512.7	512.5	513.1	Sbd box	512.7
U/L 469/0	469/0	469/0	469/0	APs used	
l 1000	1000	1000	1000	PC freqs	
o 1000	1000	1000	1000	PC freqs	
l:o 0:0	0:0	0:0	0:0	PC phase	
l:o 0:0	0:0	0:0	0:0	Manl PC	
l 1000	1000	1000	1000	PC amp	
o 1000	1000	1000	1000		
l Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
o Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.99593494194E+03	Apriori delay (usec)	1.99593569443E+03	Resid mbdelay (usec)	-7.52494E-04	+/- 2.8E-06
Sband delay (usec)	1.99593503543E+03	Apriori clock (usec)	-2.1800999E+01	Resid sbdelay (usec)	-6.59000E-04	+/- 1.1E-05
Phase delay (usec)	1.99593568794E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-6.49317E-06	+/- 1.9E-08
Delay rate (us/s)	-2.08424947078E-01	Apriori rate (us/s)	-2.08424907016E-01	Resid rate (us/s)	-4.00614E-08	+/- 1.4E-10
Total phase (deg)	3.2	Apriori accel (us/s/s)	-1.11445982855E-05	Resid phase (deg)	-100.6	+/- 0.3

ph/seg (deg)	RMS 12.4	Theor. 1.0	Amplitude	9.242 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	8.4	1.7	Search (1024X16)	8.940	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	3.6	0.3	Inc. seg. avg.	9.370	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	2.2	0.5	Inc. frq. avg.	9.158	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00

l: az 131.0 el 55.5 pa -38.1 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 601.296 -171.152 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo.Q.173.1J2DGP

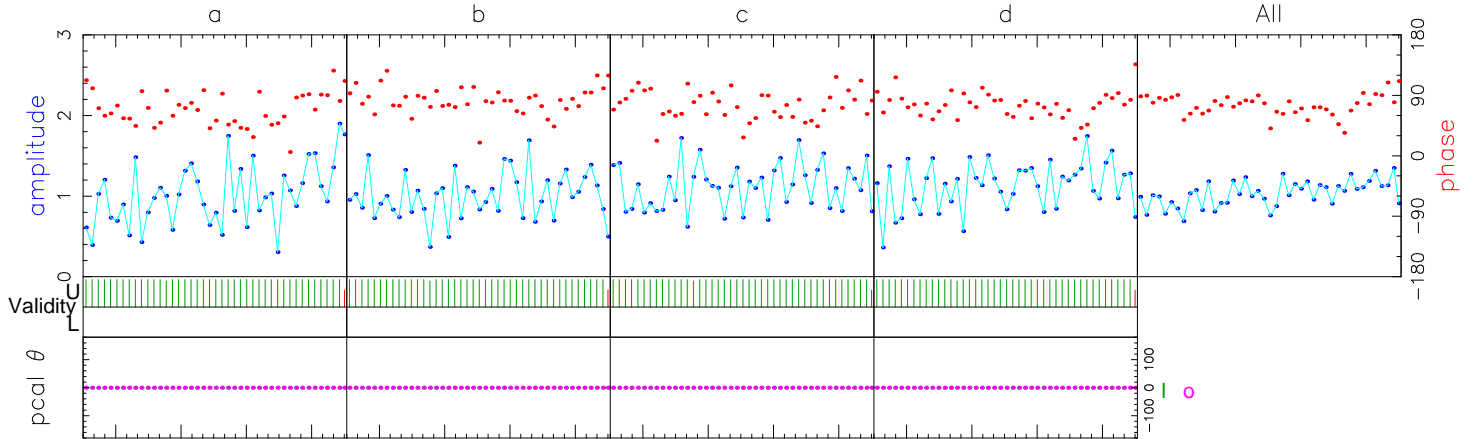


Fringe quality 9

SNR 42.3
Int time 239.711
Amp 1.000
Phase 75.2
PFD 0.0e+00
Delays (us)
SBD 0.001687
MBD 0.001770
Fringe rate (Hz)
-0.001794
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211500
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
o	1000	1000	1000	1000		
l:o	0:0	0:0	0:0	0:0		
l:o	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
o	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL		
o	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.99593746459E+03	Apriori delay (usec)	1.99593569443E+03	Resid mbdelay (usec)	1.77016E-03	+/-	2.6E-05
Sband delay (usec)	1.99593738106E+03	Apriori clock (usec)	-2.1800999E+01	Resid sbdelay (usec)	1.68662E-03	+/-	1.0E-04
Phase delay (usec)	1.99593569928E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	4.85087E-06	+/-	1.7E-07
Delay rate (us/s)	-2.08424948706E-01	Apriori rate (us/s)	-2.08424907016E-01	Resid rate (us/s)	-4.16894E-08	+/-	1.3E-09
Total phase (deg)	178.9	Apriori accel (us/s/s)	-1.11445982855E-05	Resid phase (deg)	75.2	+/-	2.7

	RMS	Theor.	Amplitude	1.000 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	15.3	8.9	Search (1024X16)	0.985	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	16.2	15.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.4	2.7	Inc. seg. avg.	1.022	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	6.5	4.7	Inc. frq. avg.	1.001	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 601.296 -171.152 simultaneous interpolator

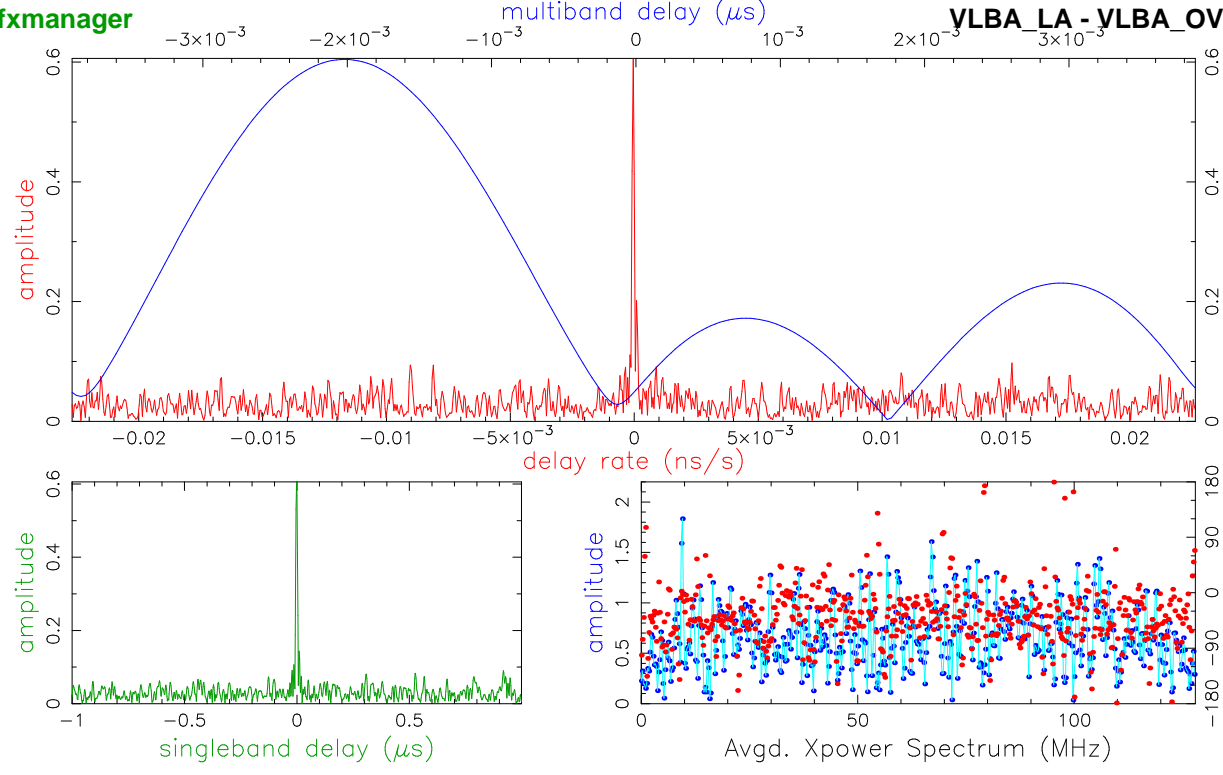
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo.Q.190.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, lo

VLBA_LA - VLBA_OV, fgroup Q, pol RL

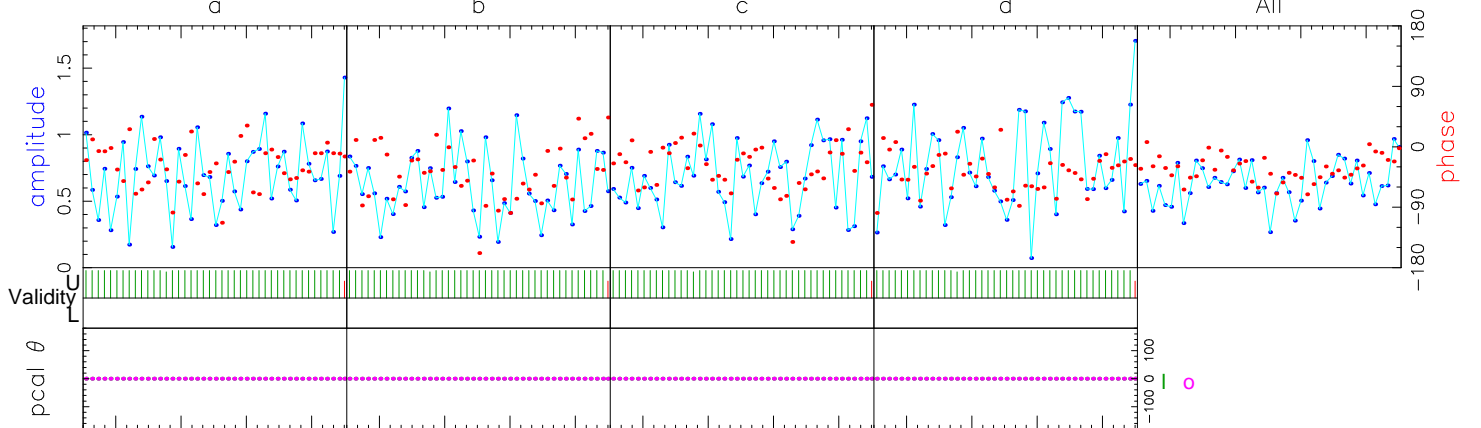


Fringe quality 9

SNR 25.7
 Int time 239.711
 Amp 0.606
 Phase -32.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.001608
 MBD -0.001997
 Fringe rate (Hz)
 -0.001808
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211502
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



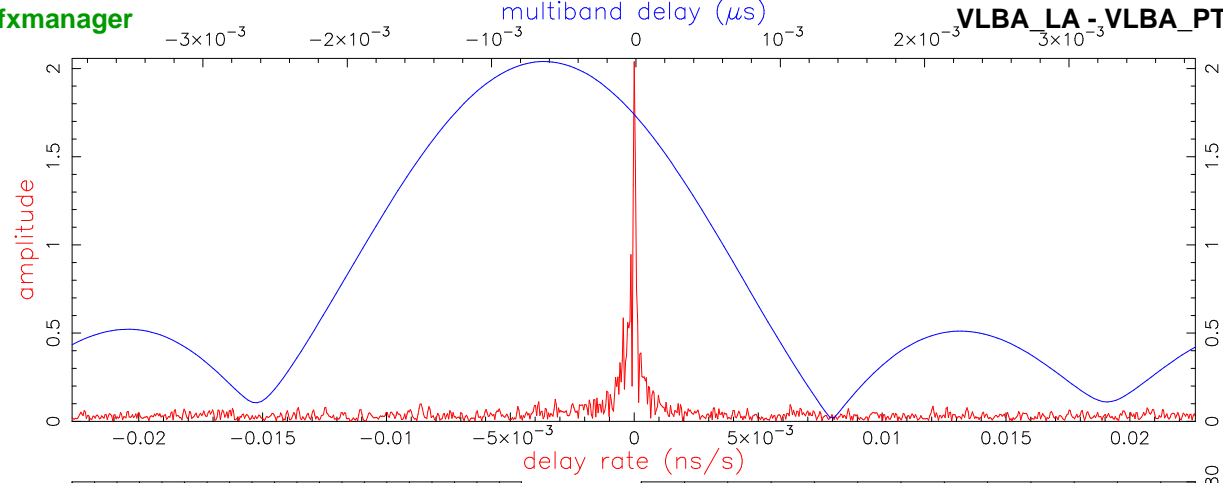
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
o	1000	1000	1000	1000		
l:o	0:0	0:0	0:0	0:0		
l:o	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
o	1000	1000	1000	1000		
l	Q00UR	Q01UR	Q02UR	Q03UR		
o	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	1.99593369787E+03	Apriori delay (usec)	1.99593569443E+03	Resid mbdelay (usec)	-1.99656E-03	+/- 4.3E-05
Sband delay (usec)	1.99593408618E+03	Apriori clock (usec)	-2.1800999E+01	Resid sbdelay (usec)	-1.60825E-03	+/- 1.7E-04
Phase delay (usec)	1.99593569236E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.07077E-06	+/- 2.9E-07
Delay rate (us/s)	-2.08424949029E-01	Apriori rate (us/s)	-2.08424907016E-01	Resid rate (us/s)	-4.20127E-08	+/- 2.1E-09
Total phase (deg)	71.7	Apriori accel (us/s/s)	-1.11445982855E-05	Resid phase (deg)	-32.1	+/- 4.5

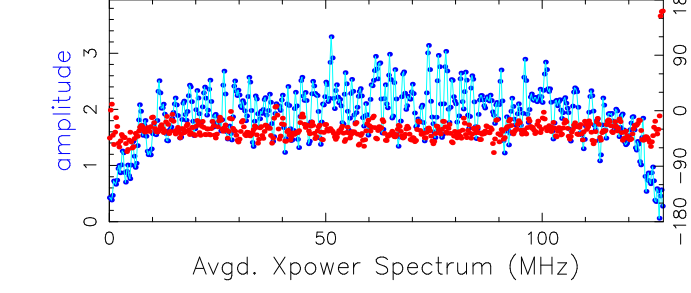
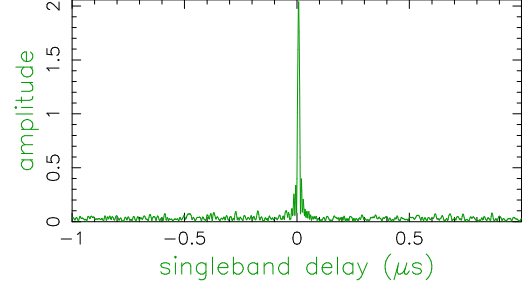
ph/seg (deg)	18.8	Theor.	14.6	Amplitude	0.606 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	26.6	Search (1024X16)	0.602	Search	0.602	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	6.4	Interp.	0.000	Inc. seg. avg.	0.619	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	11.6	Inc. frq. avg.	0.604	Inc. frq. avg.	0.604	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
						Data rate(Mb/s): 2048	nlags: 512
							t_cohere infinite
							ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 601.296 -171.152 simultaneous interpolator

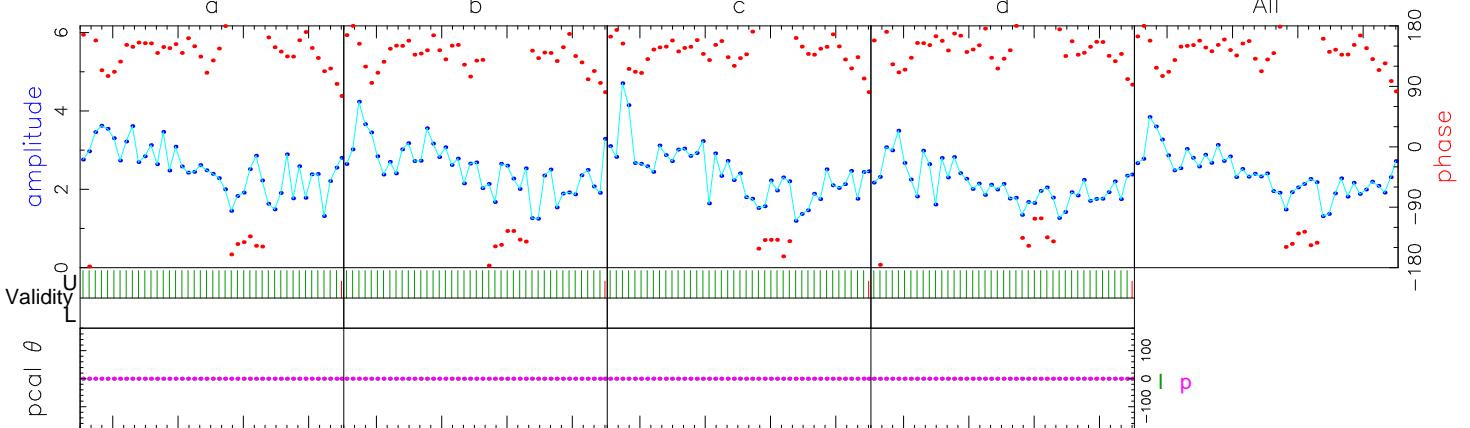
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lo.Q.207.1J2DGP



Fringe quality 6
SNR 87.2
Int time 239.982
Amp 2.057
Phase 148.5
PFD 0.0e+00
Delays (us)
SBD 0.007181
MBD -0.000665
Fringe rate (Hz)
-0.000095
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211456
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



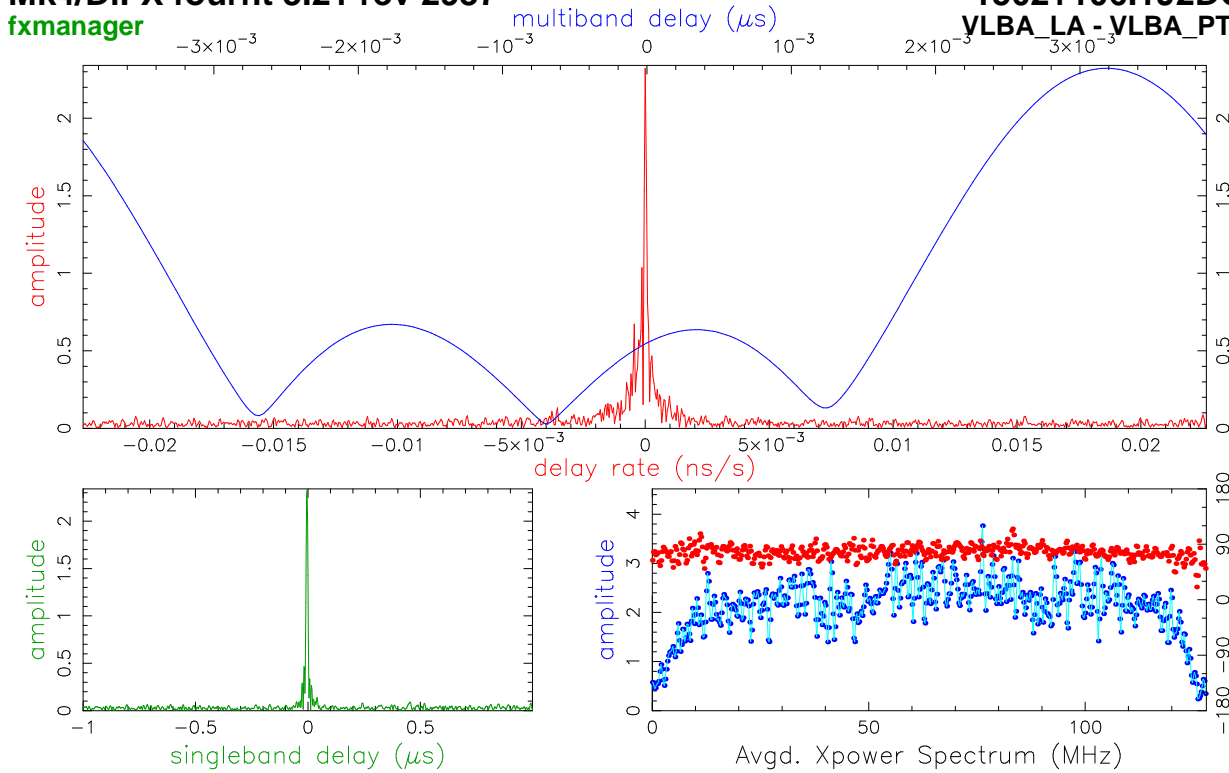
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
p	1000	1000	1000	1000		
l:p	0:0	0:0	0:0	0:0		
lp	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
p	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL		
p	Q00UL	Q01UL	Q02UL	Q03UL		

	4.88817996099E+01	Apriori delay (usec)	4.88746523287E+01	Resid mbdelay (usec)	-6.65219E-04	+/- 1.3E-05
Group delay (usec)(sbd)	4.88817996099E+01	Apriori clock (usec)	-4.9851418E-01	Resid sbdelay (usec)	7.18075E-03	+/- 4.9E-05
Sband delay (usec)	4.88818330787E+01	Apriori clockrate (us/s)	-5.0000000E-07	Resid phdelay (usec)	9.58169E-06	+/- 8.5E-08
Phase delay (usec)	4.88746619104E+01	Apriori rate (us/s)	-4.66523591341E-02	Resid rate (us/s)	-2.20657E-09	+/- 6.1E-10
Delay rate (us/s)	-4.66523613407E-02	Apriori accel (us/s/s)	1.66308908488E-07	Resid phase (deg)	148.5	+/- 1.3
Total phase (deg)	161.5					

	RMS	Theor.	Amplitude	2.057 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	33.9	4.3	Search (1024X16)	2.020	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	30.5	7.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	3.4	1.3	Inc. seg. avg.	2.383	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	7.5	2.3	Inc. frq. avg.	2.040	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 135.936 92.268 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp.Q.157.1J2DGP

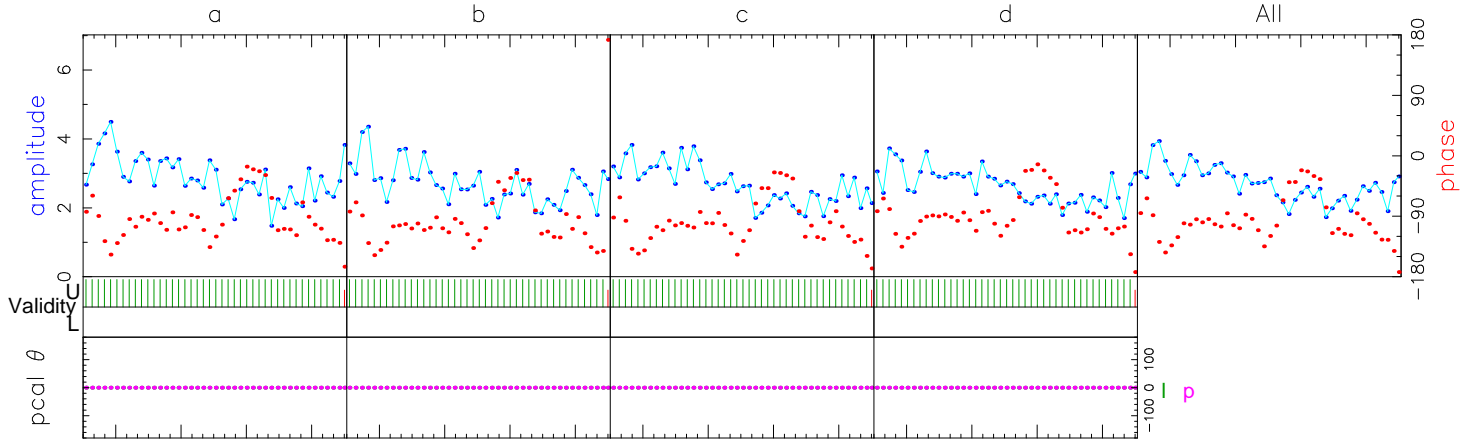


Fringe quality 6

SNR 99.2
Int time 239.982
Amp 2.341
Phase -98.9
PFD 0.0e+00
Delays (us)
SBD -0.004520
MBD 0.003153
Fringe rate (Hz)
-0.000098
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211458
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
l	1000	1000	1000	1000		
p	1000	1000	1000	1000		
l:p	0:0	0:0	0:0	0:0		
lp	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000		
p	1000	1000	1000	1000		
l	Q00UR	Q01UR	Q02UR	Q03UR		
p	Q00UR	Q01UR	Q02UR	Q03UR		

	4.88699926724E+01	4.88701322037E+01	4.88746459488E+01	4.88746523287E+01	4.88746523287E+01	3.15284E-03	+/-	1.1E-05
Group delay (usec)(sbd)								
Sband delay (usec)								
Phase delay (usec)								
Delay rate (us/s)								
Total phase (deg)		-85.8						

	2.341 +/- 0.024	2.269	2.694	2.327	2.3	-92.6	-98.9	2.3	510.7
Search (1024X16)									
Interp.									
Inc. seg. avg.									
Inc. frq. avg.									

l: az 131.0 el 55.5 pa -38.1 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 135.936 92.268 simultaneous interpolator

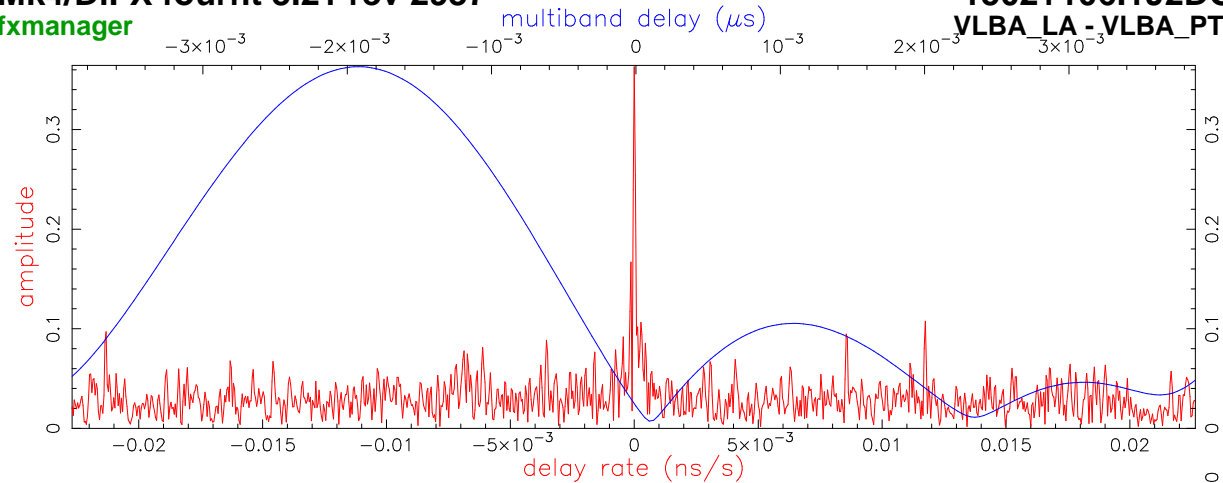
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp.Q.172.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

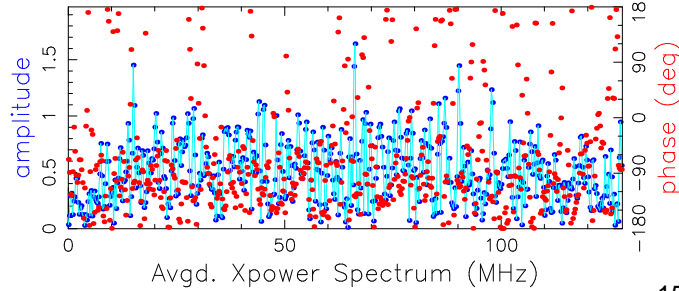
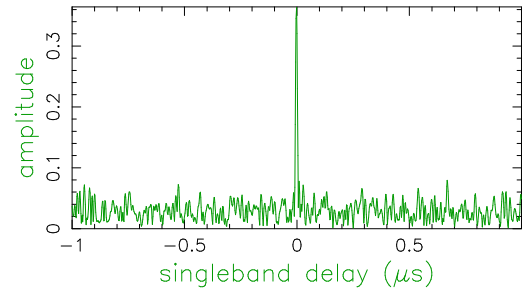
1502+106.1J2DGP, No0154, lp

VLBA_LA - VLBA_PT, fgroup Q, pol LR



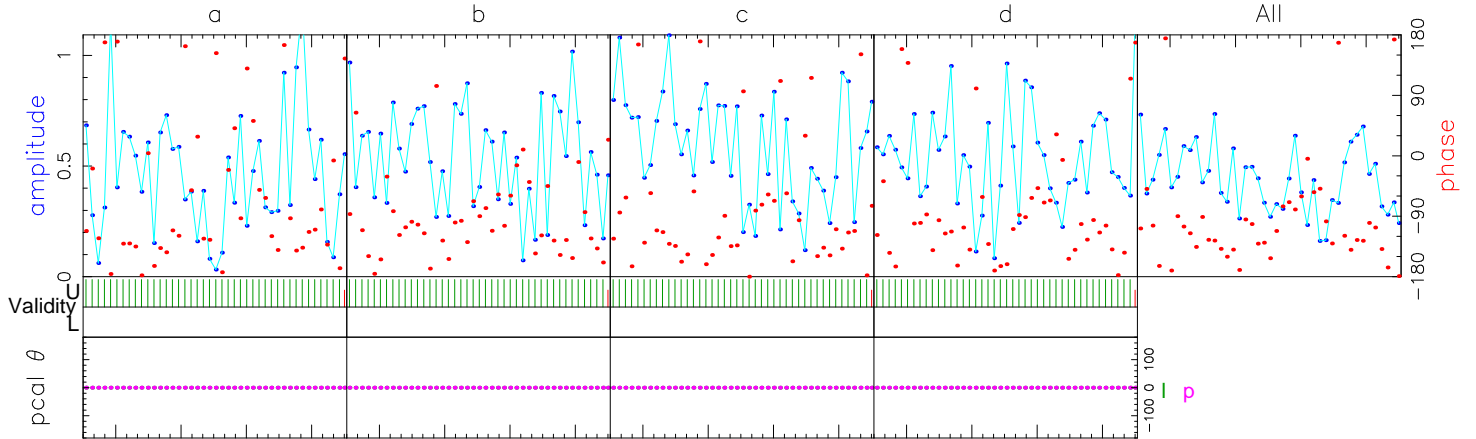
Fringe quality 9

SNR 15.4
 Int time 239.982
 Amp 0.364
 Phase -119.8
 PFD 2.8e-45
 Delays (us)
 SBD -0.002360
 MBD -0.001936
 Fringe rate (Hz)
 0.000025
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211500
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-129.3	-108.7	-124.4	-119.3	Phase	-119.8
	0.3	0.4	0.4	0.4	Ampl.	0.4
	511.4	512.2	511.2	512.1	Sbd box	511.8
U/L	469/0	469/0	469/0	469/0	APs used	
l	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
l:p	0:0	0:0	0:0	0:0	PC phase	
lp	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
l	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

	4.88727163287E+01	Apriori delay (usec)	4.88746523287E+01	Resid mbdelay (usec)	-1.93600E-03	+/- 7.2E-05
Group delay (usec)(sbd)	4.88722919537E+01	Apriori clock (usec)	-4.9851418E-01	Resid sbdelay (usec)	-2.36037E-03	+/- 2.8E-04
Sband delay (usec)	4.88746445994E+01	Apriori clockrate (us/s)	-5.0000000E-07	Resid phdelay (usec)	-7.72925E-06	+/- 4.8E-07
Phase delay (usec)	-4.66523585584E-02	Apriori rate (us/s)	-4.66523591341E-02	Resid rate (us/s)	5.75750E-10	+/- 3.5E-09
Delay rate (us/s)		Apriori accel (us/s/s)	1.66308908488E-07	Resid phase (deg)	-119.8	+/- 7.4
Total phase (deg)	-106.7					

	RMS	Theor.	Amplitude	0.364 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	40.9	24.3	Search (1024X16)	0.363	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	46.2	42.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	10.8	7.4	Inc. seg. avg.	0.408	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	15.0	13.0	Inc. frq. avg.	0.363	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 135.936 92.268 simultaneous interpolator

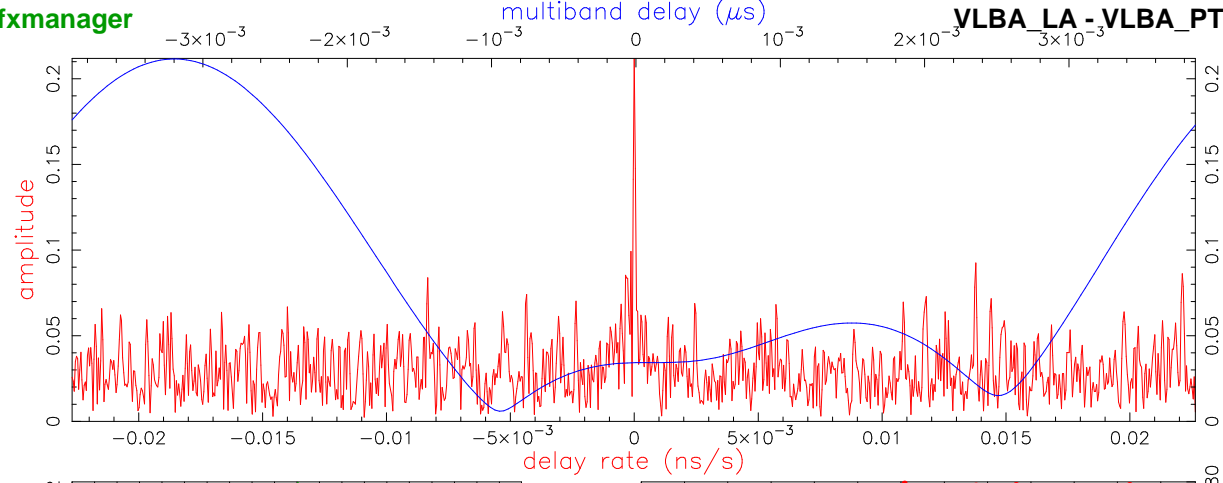
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp.Q.191.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

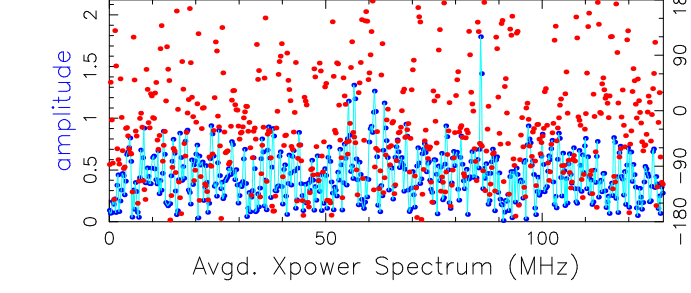
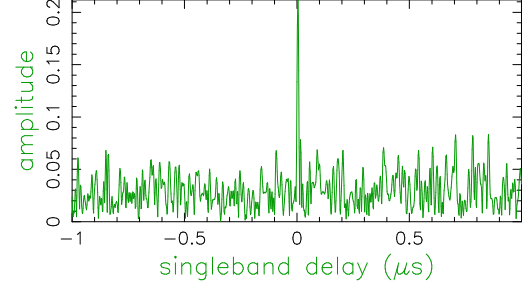
fxmanager

1502+106.1J2DGP, No0154, lp

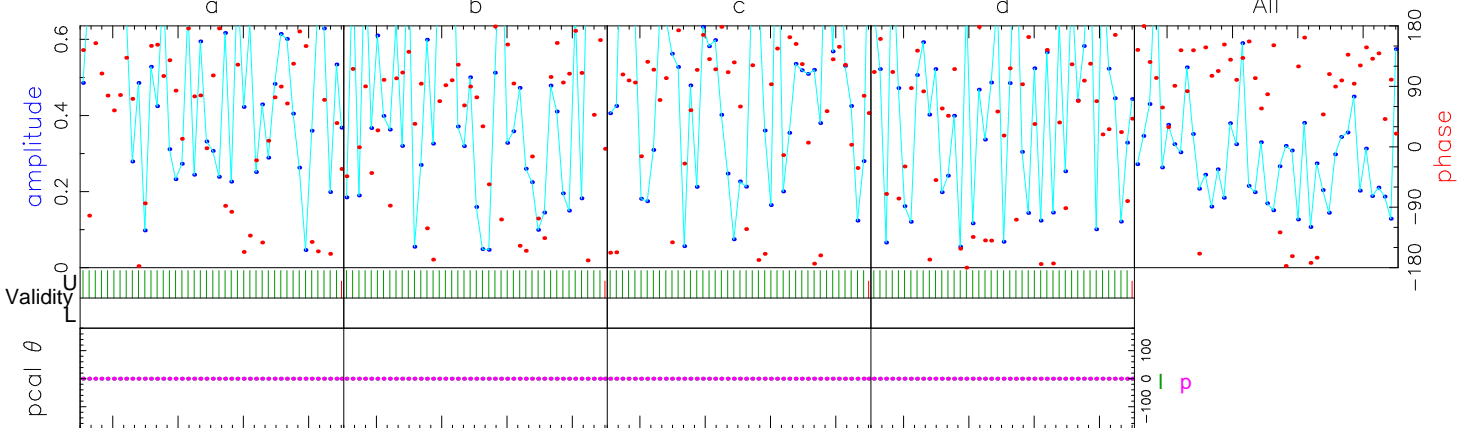
VLBA_LA - VLBA_PT, fgroup Q, pol RL



Fringe quality 9
 SNR 9.0
 Int time 239.982
 Amp 0.212
 Phase 120.5
 PFD 5.3e-11
 Delays (us)
 SBD 0.004170
 MBD -0.003183
 Fringe rate (Hz)
 -0.000093
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512
 Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211502
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	121.1	117.3	125.7	113.5	Phase	120.5
	0.2	0.2	0.3	0.1	Ampl.	0.2
	515.2	515.0	515.4	374.4	Sbd box	515.1
U/L	469/0	469/0	469/0	469/0	APs used	
l	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
l:p	0:0	0:0	0:0	0:0	PC phase	
lp	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
l	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

	4.88792817349E+01	Apriori delay (usec)	4.88746523287E+01	Resid mbdelay (usec)	-3.18309E-03	+/- 1.2E-04
Group delay (usec)(sbd)	4.88792817349E+01	Apriori clock (usec)	-4.9851418E-01	Resid sbdelay (usec)	4.17025E-03	+/- 4.8E-04
Sband delay (usec)	4.88788225787E+01	Apriori clockrate (us/s)	-5.0000000E-07	Resid phdelay (usec)	7.77684E-06	+/- 8.2E-07
Phase delay (usec)	4.88746601055E+01	Apriori rate (us/s)	-4.66523591341E-02	Resid rate (us/s)	-2.16686E-09	+/- 5.9E-09
Delay rate (us/s)	-4.66523613010E-02	Apriori accel (us/s/s)	1.66308908488E-07	Resid phase (deg)	120.5	+/- 12.8
Total phase (deg)	133.5					

	RMS	Theor.	Amplitude	0.212 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	46.9	41.9	Search (1024X16)	0.208	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	76.0	73.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	6.6	12.8	Inc. seg. avg.	0.233	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	24.8	22.3	Inc. frq. avg.	0.207	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

l: az 131.0 el 55.5 pa -38.1 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 135.936 92.268 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/lp.Q.209.1J2DGP