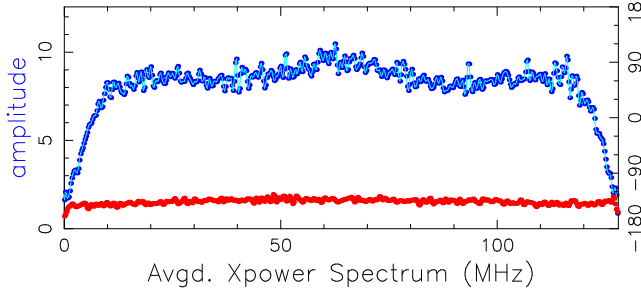
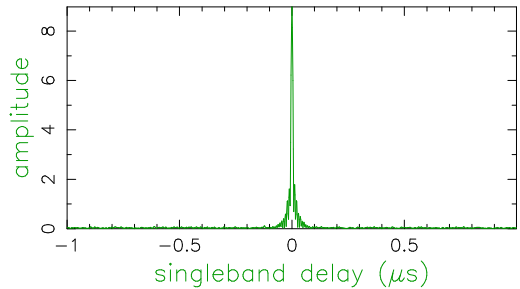
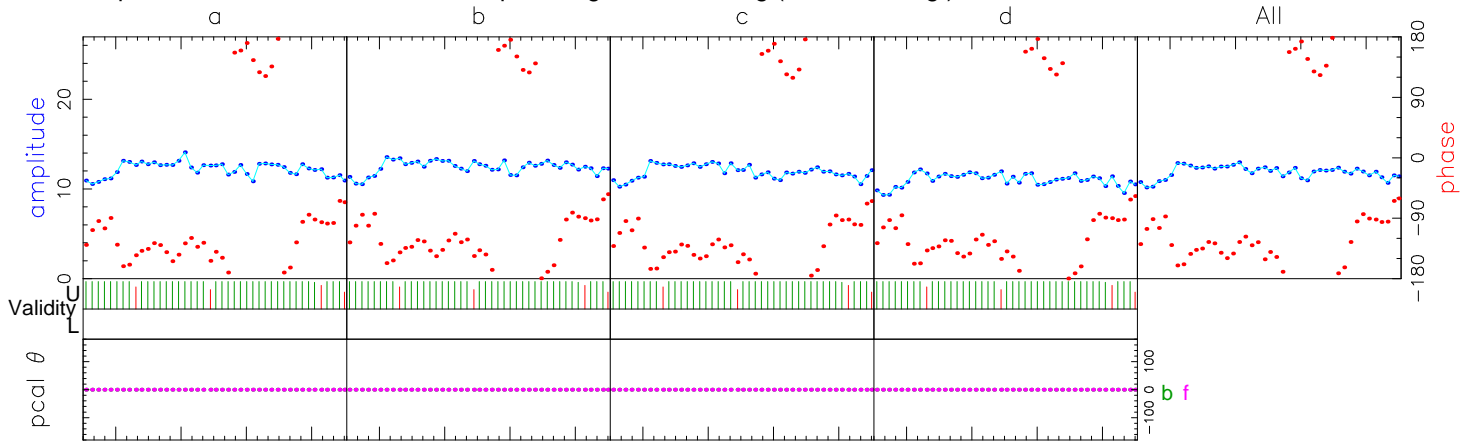


Fringe quality 6
SNR 377.6
Int time 236.233
Amp 8.984
Phase -138.6
PFD 0.0e+00
Delays (us)
SBD -0.000077
MBD 0.000041
Fringe rate (Hz)
-0.001273
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
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
	-140.1	-135.3	-142.0	-137.0	Phase	-138.6
	9.2	9.4	9.0	8.3	Ampl.	9.0
	512.6	513.0	512.8	513.6	Sbd box	513.0
U/L	465/0	465/0	465/0	465/0	APs used	
b	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	PC freqs	
b:f	0:0	0:0	0:0	0:0	PC phase	
b:f	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
f	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
f	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-4.78008474376E+03	Apriori delay (usec)	-4.78008478524E+03	Resid mbdelay (usec)	4.14747E-05	+/- 2.9E-06
Sband delay (usec)	-4.78008486211E+03	Apriori clock (usec)	-9.5928116E+00	Resid sbdelay (usec)	-7.68750E-05	+/- 1.1E-05
Phase delay (usec)	-4.78008479418E+03	Apriori clockrate (us/s)	-3.9999997E-07	Resid phdelay (usec)	-8.94639E-06	+/- 2.0E-08
Delay rate (us/s)	1.26199287792E-01	Apriori rate (us/s)	1.26199317368E-01	Resid rate (us/s)	-2.95760E-08	+/- 1.4E-10
Total phase (deg)	-195.0	Apriori accel (us/s/s)	3.01614407038E-05	Resid phase (deg)	-138.6	+/- 0.3

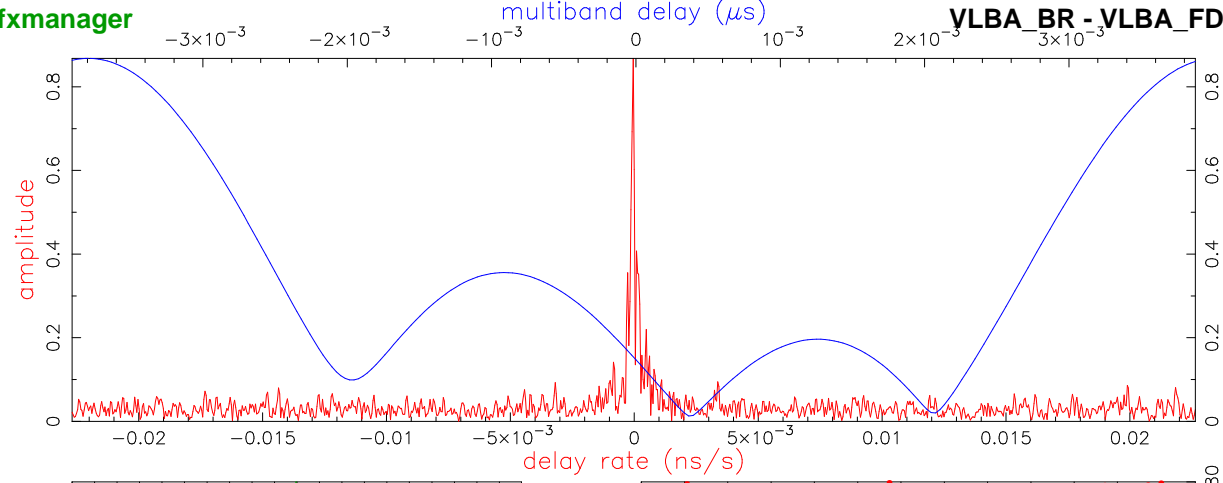
	RMS	Theor.	Amplitude	8.984 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	43.0	1.0	Search (1024X16)	8.685	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	33.1	1.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	3.7	0.3	Inc. seg. avg.	11.874	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	4.6	0.5	Inc. frq. avg.	8.995	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, bf

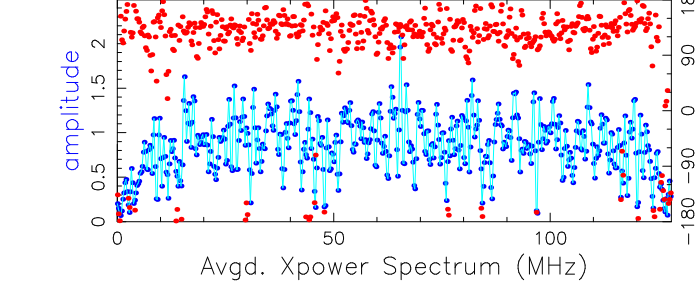
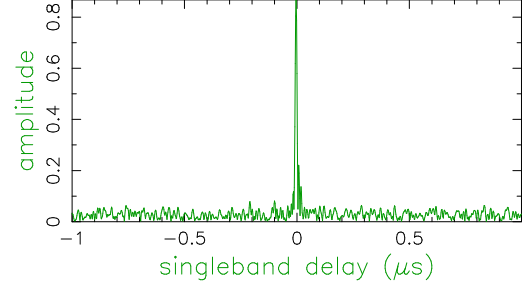
VLBA_BR - VLBA_FD, fgroup Q, pol LR



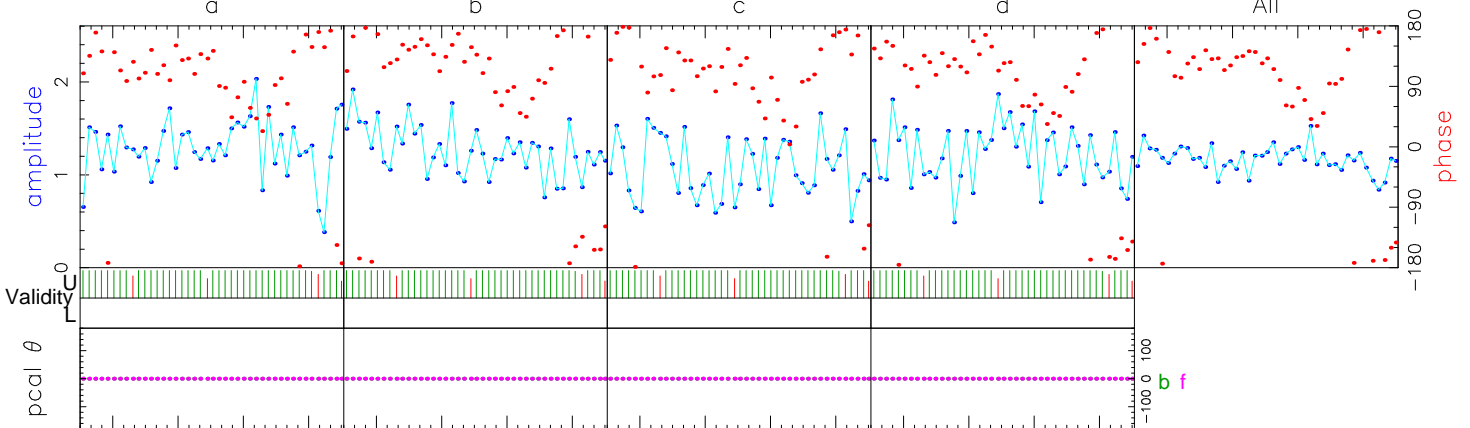
Fringe quality 7

SNR 36.5
 Int time 236.233
 Amp 0.868
 Phase 127.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.004025
 MBD -0.003801
 Fringe rate (Hz)
 -0.001476
 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
 2021:032:211440
 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		
b	1000	1000	1000	1000		
f	1000	1000	1000	1000		
b:f	0:0	0:0	0:0	0:0		
b:f	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000		
f	1000	1000	1000	1000		
b	Q00UL	Q01UL	Q02UL	Q03UL		
f	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-4.78008858595E+03	Apriori delay (usec)	-4.78008478524E+03	Resid mbdelay (usec)	-3.80072E-03	+/-	3.0E-05
Sband delay (usec)	-4.78008881061E+03	Apriori clock (usec)	-9.5928116E+00	Resid sbdelay (usec)	-4.02538E-03	+/-	1.2E-04
Phase delay (usec)	-4.78008477703E+03	Apriori clockrate (us/s)	-3.9999997E-07	Resid phdelay (usec)	8.20359E-06	+/-	2.0E-07
Delay rate (us/s)	1.26199283084E-01	Apriori rate (us/s)	1.26199317368E-01	Resid rate (us/s)	-3.42841E-08	+/-	1.5E-09
Total phase (deg)	70.8	Apriori accel (us/s/s)	3.01614407038E-05	Resid phase (deg)	127.1	+/-	3.1

ph/seg (deg)	43.7	Theor.	10.3	Amplitude	0.868 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	38.2	Search (1024X16)	0.850	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	12.3	Inc. seg. avg.	1.152	Inc. frq. avg.	0.877	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	10.0	Inc. frq. avg.	0.877			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

b: az 125.7 el 40.0 pa -33.5 f: az 127.9 el 60.3 pa -43.4 u,v (fr/asec) -352.239 1242.231 simultaneous interpolator

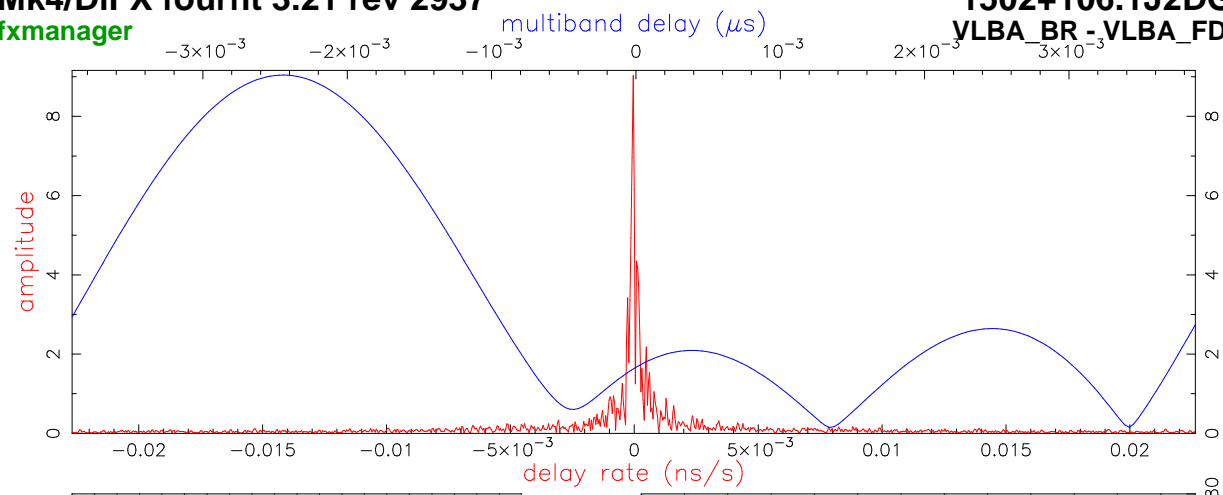
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf.Q.40.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, bf

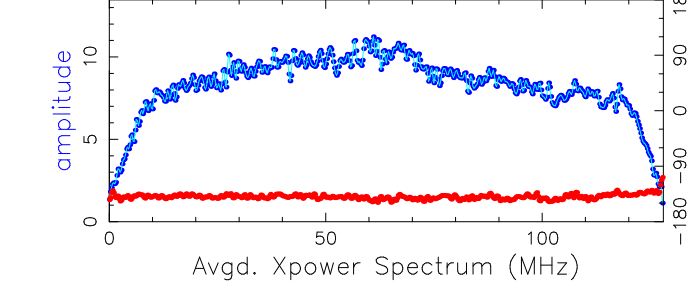
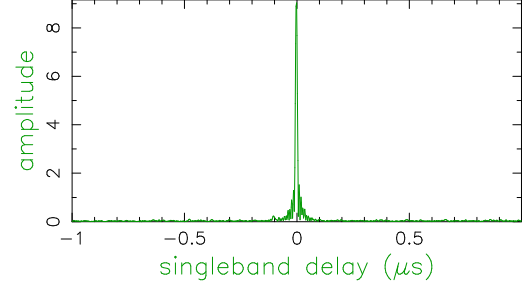
VLBA_BR - VLBA_FD, fgroup Q, pol LL



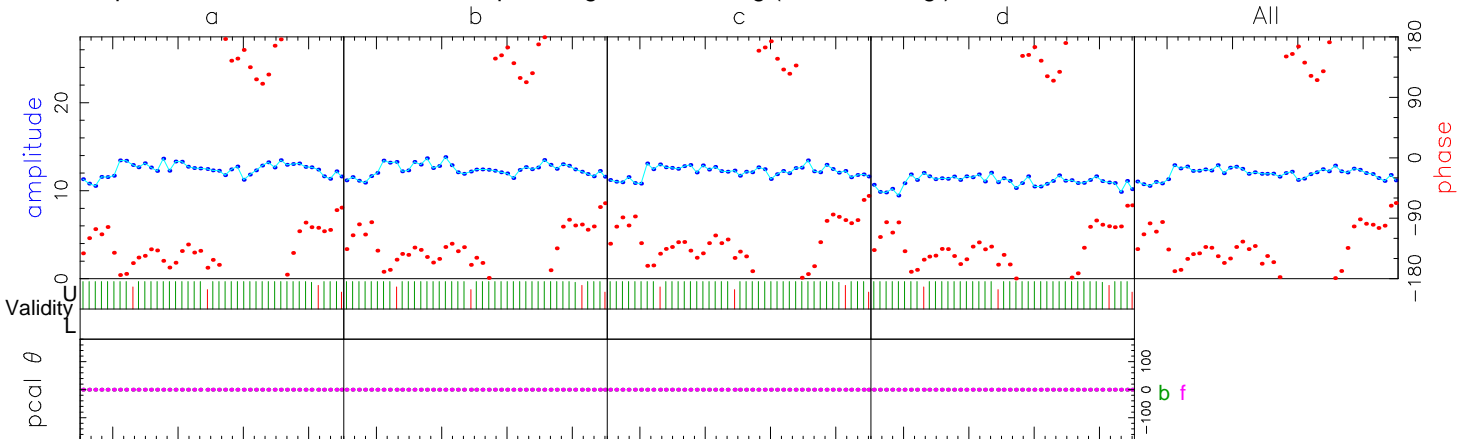
Fringe quality 6

SNR 385.0
 Int time 236.233
 Amp 9.160
 Phase -145.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.002758
 MBD -0.002500
 Fringe rate (Hz)
 -0.001293
 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
	-151.3	-146.7	-137.4	-146.6	Phase	-145.5
	9.4	9.4	9.2	8.4	Ampl.	9.1
	511.7	511.9	511.5	511.1	Sbd box	511.6
U/L	465/0	465/0	465/0	465/0	APs used	
b	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	PC freqs	
b:f	0:0	0:0	0:0	0:0	PC phase	
b:f	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
f	1000	1000	1000	1000		
b	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
f	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	-4.78008728504E+03		Apriori delay (usec)	-4.78008478524E+03	Resid mbdelay (usec)	-2.49981E-03 +/- 2.9E-06
Sband delay (usec)	-4.78008754374E+03		Apriori clock (usec)	-9.5928116E+00	Resid sbdelay (usec)	-2.75850E-03 +/- 1.1E-05
Phase delay (usec)	-4.78008479463E+03		Apriori clockrate (us/s)	-3.9999997E-07	Resid phdelay (usec)	-9.39293E-06 +/- 1.9E-08
Delay rate (us/s)	1.26199287333E-01		Apriori rate (us/s)	1.26199317368E-01	Resid rate (us/s)	-3.00354E-08 +/- 1.4E-10
Total phase (deg)		-201.9	Apriori accel (us/s/s)	3.01614407038E-05	Resid phase (deg)	-145.5 +/- 0.3

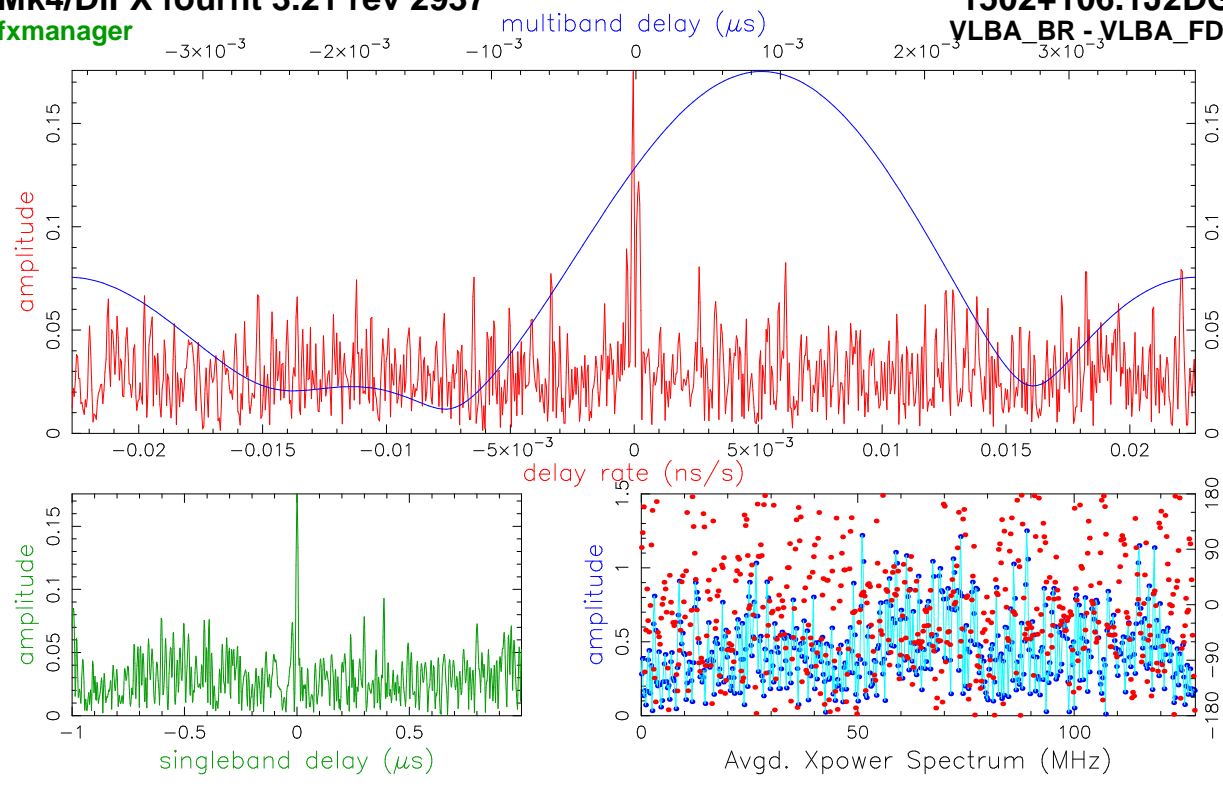
ph/seg (deg) 42.9 1.0 Theor. Amplitude 9.160 +/- 0.024
 amp/seg (%) 31.2 1.7 Search (1024X16) 8.761 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/frq (deg) 7.1 0.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/frq (%) 4.6 0.5 Inc. seg. avg. 11.950 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
 b: az 125.7 el 40.0 pa -33.5 f: az 127.9 el 60.3 pa -43.4 u,v (fr/asec) -352.239 1242.231 Sample rate(MISamp/s): 256 dr window (ns/s) -0.023 0.023
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf.Q.6.1J2DGP simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, bf

VLBA_BR - VLBA_FD, fgroup Q, pol RL

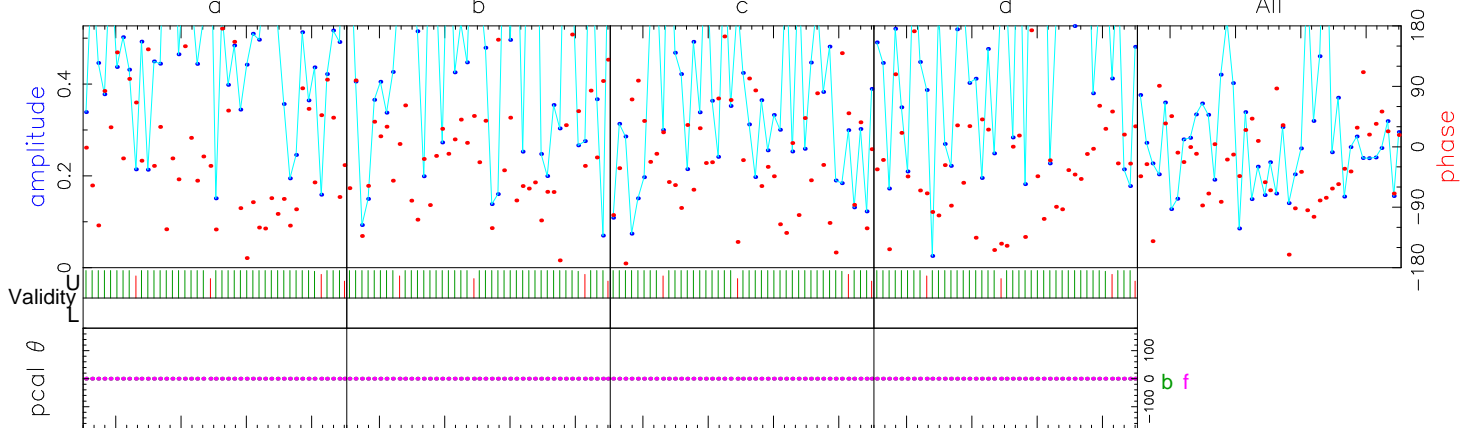


Fringe quality 9

SNR 7.4
 Int time 236.233
 Amp 0.176
 Phase -31.9
 PFD 2.4e-05
 Delays (us)
 SBD 0.000391
 MBD 0.000883
 Fringe rate (Hz)
 -0.001877
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

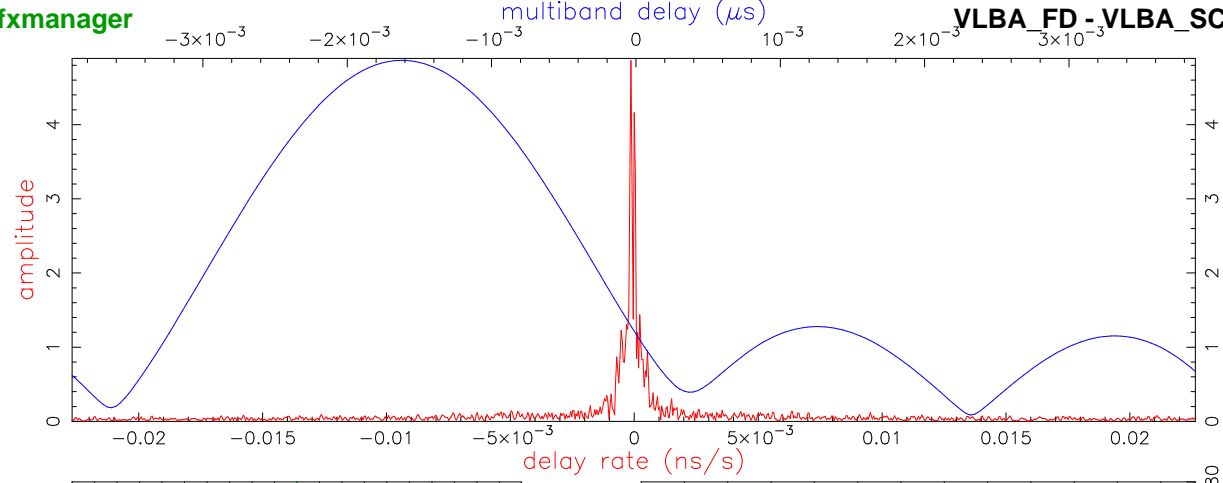
Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211443
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

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

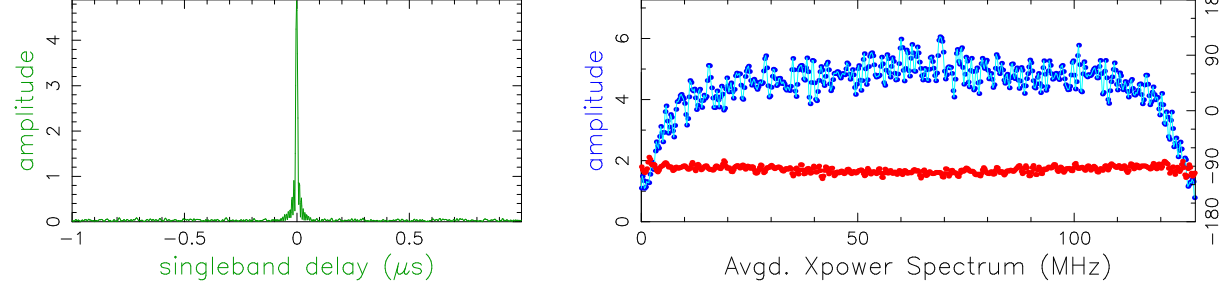


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-47.4	-15.3	-36.7	-37.0	Phase	-31.9
	0.1	0.2	0.1	0.2	Ampl.	0.2
	663.1	513.3	511.4	514.6	Sbd box	513.2
U/L	465/0	465/0	465/0	465/0	APs used	
b	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	PC freqs	
b:f	0:0	0:0	0:0	0:0	PC phase	
b:f	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
f	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
f	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	-4.78008390223E+03		Apriori delay (usec)	-4.78008478524E+03	Resid mbdelay (usec)	8.83006E-04 +/- 1.5E-04
Sband delay (usec)	-4.78008439424E+03		Apriori clock (usec)	-9.5928116E+00	Resid sbdelay (usec)	3.91000E-04 +/- 5.8E-04
Phase delay (usec)	-4.78008478730E+03		Apriori clockrate (us/s)	-3.9999997E-07	Resid phdelay (usec)	-2.06160E-06 +/- 1.0E-06
Delay rate (us/s)	1.26199273762E-01		Apriori rate (us/s)	1.26199317368E-01	Resid rate (us/s)	-4.36067E-08 +/- 7.3E-09
Total phase (deg)		-88.3	Apriori accel (us/s/s)	3.01614407038E-05	Resid phase (deg)	-31.9 +/- 15.5
	RMS	Theor.	Amplitude	0.176 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	61.1	50.7	Search (1024X16)	0.174	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	102.3	88.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	16.8	15.5	Inc. seg. avg.	0.208	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	22.0	27.1	Inc. frq. avg.	0.173	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			f: az 127.9 el 60.3 pa -43.4			u,v (fr/asec) -352.239 1242.231
Control file: cf_1234_gmva7mm			Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf..1J2DGP			Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bf.Q.68.1J2DGP

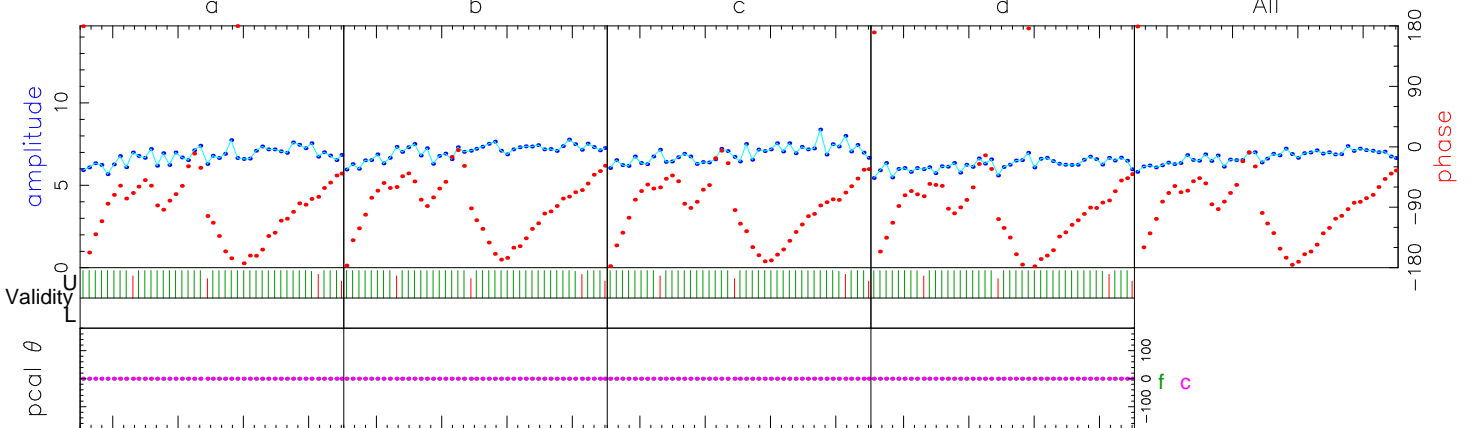
simultaneous interpolator



Fringe quality 6
SNR 205.6
Int time 236.227
Amp 4.893
Phase -92.6
PFD 0.0e+00
Delays (us)
SBD -0.001455
MBD -0.001590
Fringe rate (Hz)
-0.005753
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
	-95.7	-86.2	-90.3	-99.4	Phase	-92.6
	4.9	5.2	5.0	4.4	Ampl.	4.9
	512.4	512.3	512.2	512.1	Sbd box	512.3
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
c	1000	1000	1000	1000	PC freqs	
f:c	0:0	0:0	0:0	0:0	PC phase	
f:c	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

	Group delay (usec)(sbd)	-1.71314922709E+03	Apriori delay (usec)	-1.71314763667E+03	Resid mbdelay (usec)	-1.59042E-03	+/-	5.4E-06
	Sband delay (usec)	-1.71314909154E+03	Apriori clock (usec)	-6.3570309E-01	Resid sbdelay (usec)	-1.45487E-03	+/-	2.1E-05
	Phase delay (usec)	-1.71314764265E+03	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-5.97906E-06	+/-	3.6E-08
	Delay rate (us/s)	9.23587404036E-01	Apriori rate (us/s)	9.23587537700E-01	Resid rate (us/s)	-1.33665E-07	+/-	2.6E-10
	Total phase (deg)	-194.2	Apriori accel (us/s/s)	1.32735896240E-05	Resid phase (deg)	-92.6	+/-	0.6

	RMS	Theor.	Amplitude	4.893 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	45.0	1.8	Search (1024X16)	4.815	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	38.1	3.2	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	7.1	0.6	Inc. seg. avg.	6.719	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	5.6	1.0	Inc. frq. avg.	4.884					

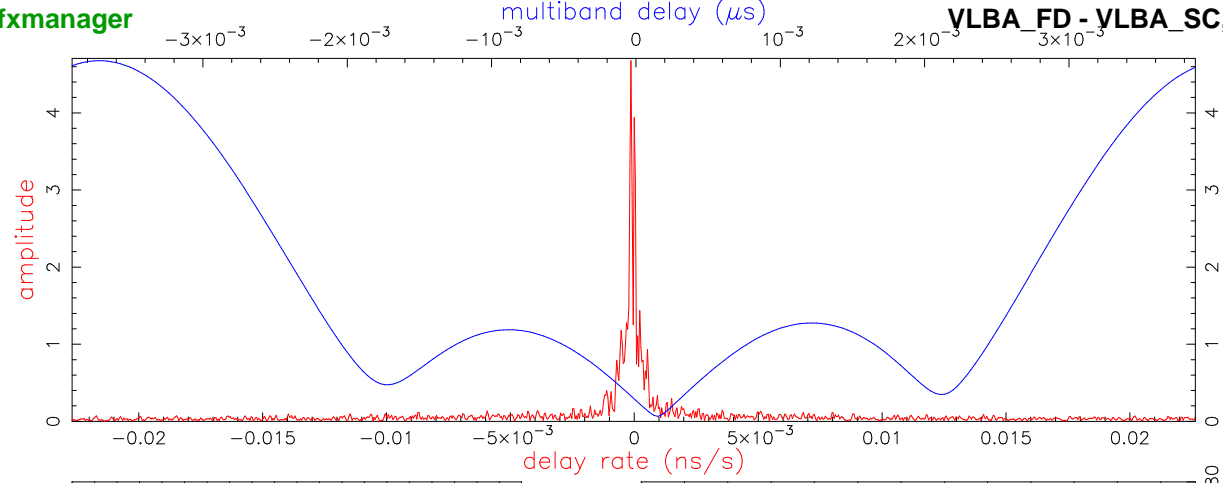
f: az 127.9 el 60.3 pa -43.4 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2679.848 994.439 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc.Q.14.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fc

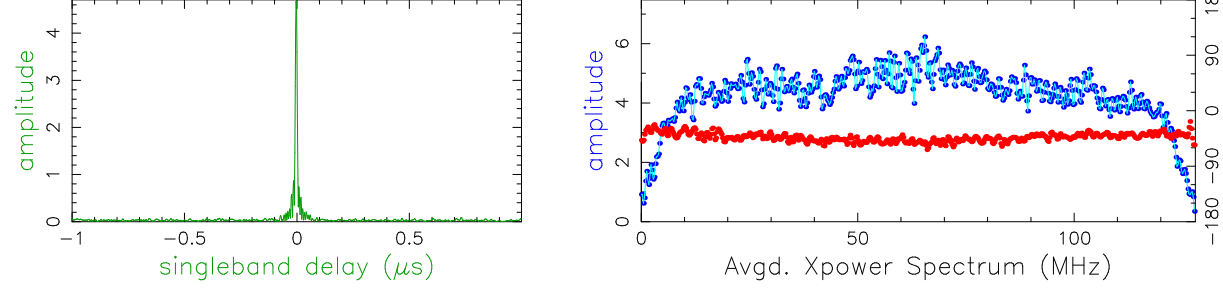
VLBA_FD - VLBA_SC, fgroup Q, pol RR



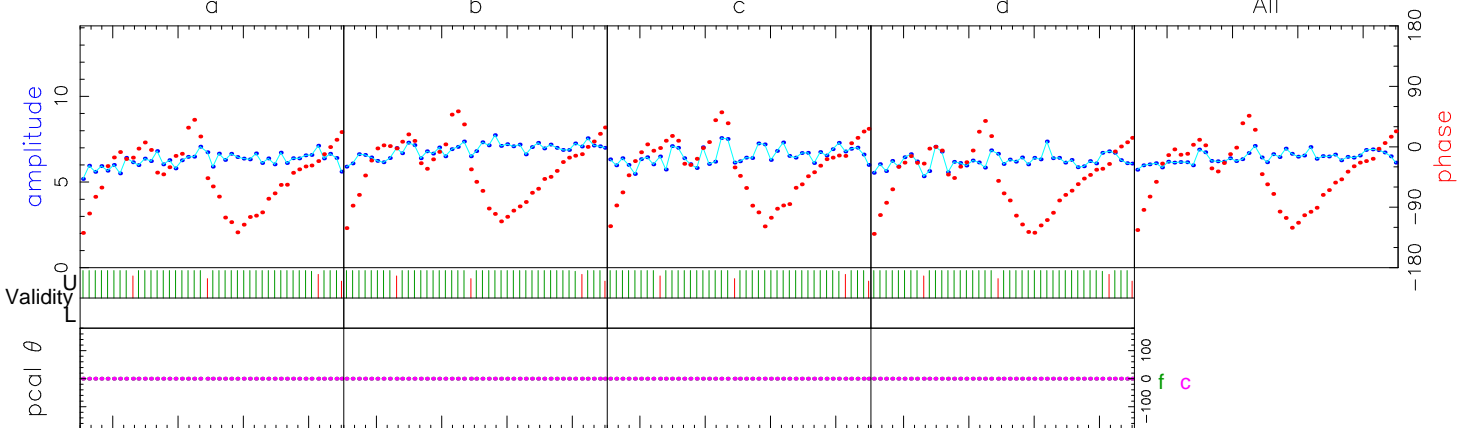
Fringe quality 6

SNR 197.8
 Int time 236.227
 Amp 4.707
 Phase -36.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.003369
 MBD -0.003698
 Fringe rate (Hz)
 -0.005736
 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"

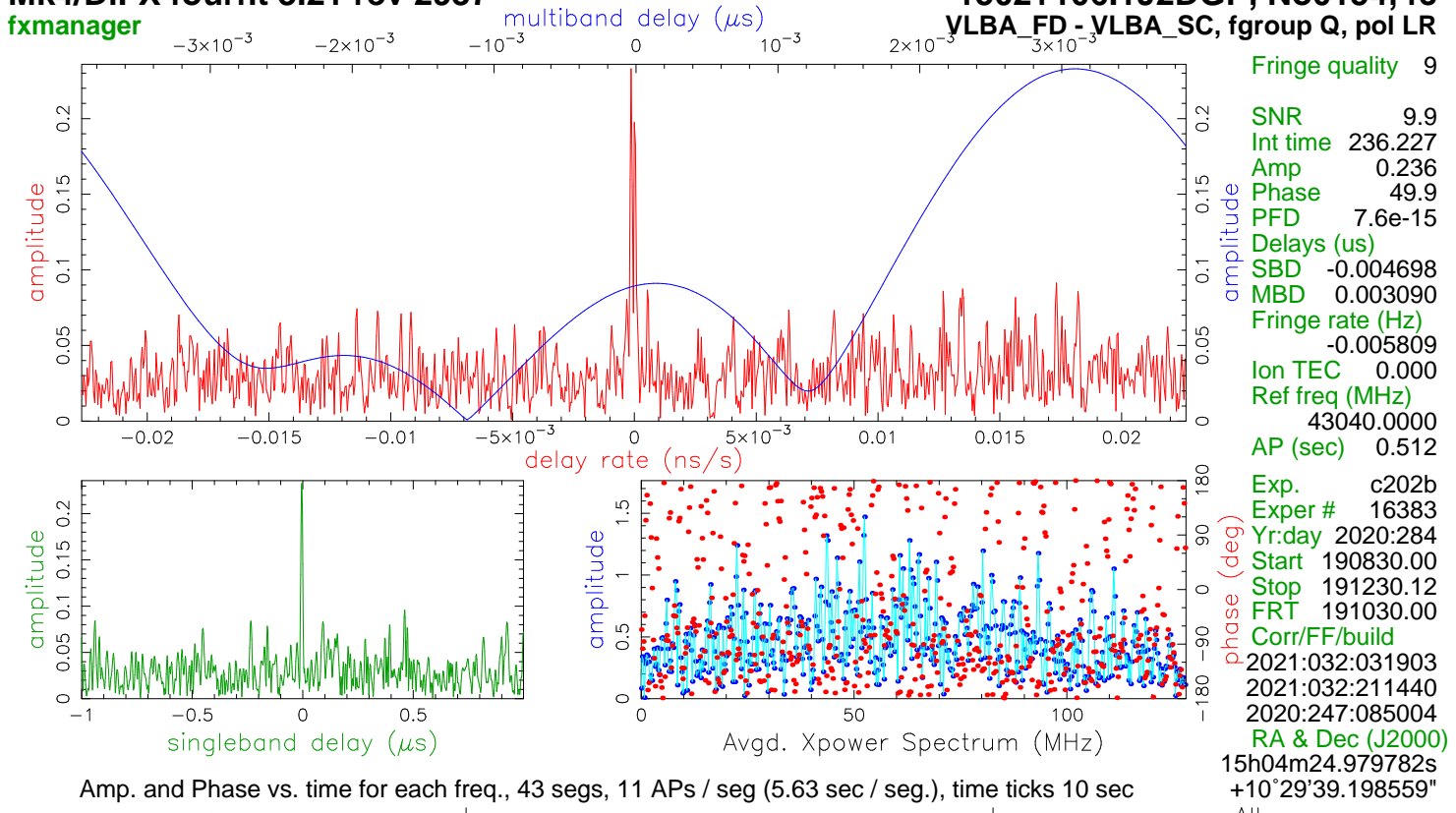


Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec

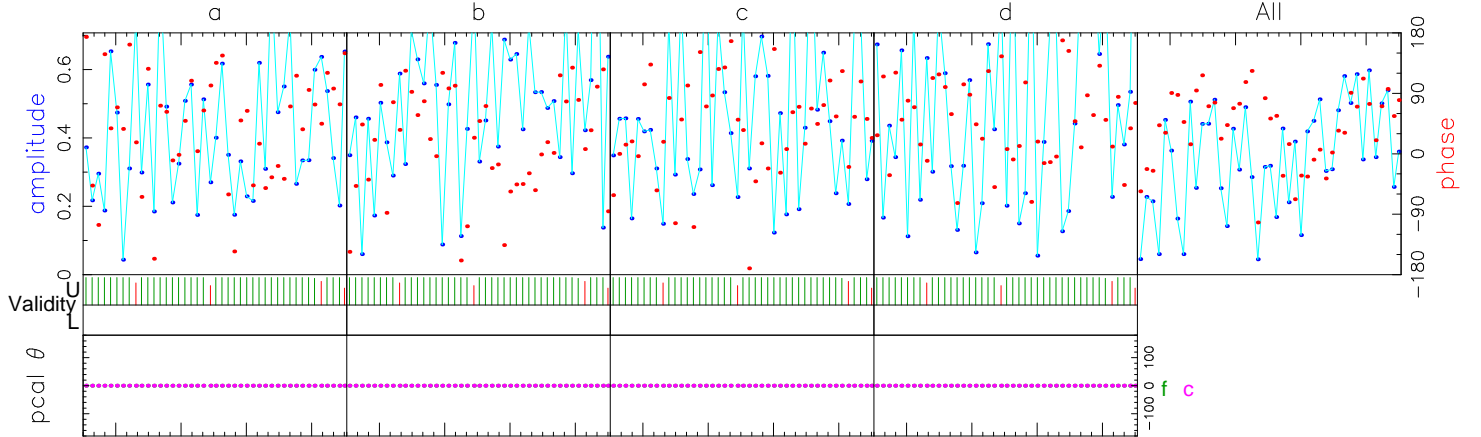


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-41.6	-30.9	-28.6	-45.8	Phase	-36.5
	4.6	5.0	4.8	4.5	Ampl.	4.7
	512.0	511.1	511.1	510.8	Sbd box	511.3
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
c	1000	1000	1000	1000	PC freqs	
f:c	0:0	0:0	0:0	0:0	PC phase	
f:c	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	-1.71315133423E+03		Apriori delay (usec)	-1.71314763667E+03	Resid mbdelay (usec)	-3.69756E-03 +/- 5.6E-06
Sband delay (usec)	-1.71315100554E+03		Apriori clock (usec)	-6.3570309E-01	Resid sbdelay (usec)	-3.36888E-03 +/- 2.2E-05
Phase delay (usec)	-1.71314763902E+03		Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-2.35443E-06 +/- 3.7E-08
Delay rate (us/s)	9.23587404418E-01		Apriori rate (us/s)	9.23587537700E-01	Resid rate (us/s)	-1.33282E-07 +/- 2.7E-10
Total phase (deg)		-138.1	Apriori accel (us/s/s)	1.32735896240E-05	Resid phase (deg)	-36.5 +/- 0.6

ph/seg (deg) 44.5 1.9 Search (1024X16) 4.589 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 37.3 3.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 10.2 0.6 Inc. seg. avg. 6.428 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
 amp/frq (%) 3.8 1.0 Inc. frq. avg. 4.713 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t_cohere infinite dr window (ns/s) -0.023 0.023
 f: az 127.9 el 60.3 pa -43.4 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2679.848 994.439 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc.Q.29.1J2DGP



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
58.7	31.7	58.5	49.3	Phase	49.9
0.2	0.2	0.3	0.3	Ampl.	0.2
510.6	510.7	510.4	510.5	Sbd box	510.6
U/L 465/0	465/0	465/0	465/0	APs used	
f 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
f:c 0:0	0:0	0:0	0:0	PC phase	
f:c 0:0	0:0	0:0	0:0	ManI PC	
f 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.71315235959E+03	Apriori delay (usec)	-1.71314763667E+03	Resid mbdelay (usec)	3.08958E-03	+/-	1.1E-04
Sband delay (usec)	-1.71315233429E+03	Apriori clock (usec)	-6.3570309E-01	Resid sbdelay (usec)	-4.69763E-03	+/-	4.3E-04
Phase delay (usec)	-1.71314763345E+03	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	3.22127E-06	+/-	7.5E-07
Delay rate (us/s)	9.23587402731E-01	Apriori rate (us/s)	9.23587537700E-01	Resid rate (us/s)	-1.34969E-07	+/-	5.4E-09
Total phase (deg)	-51.7	Apriori accel (us/s/s)	1.32735896240E-05	Resid phase (deg)	49.9	+/-	11.6

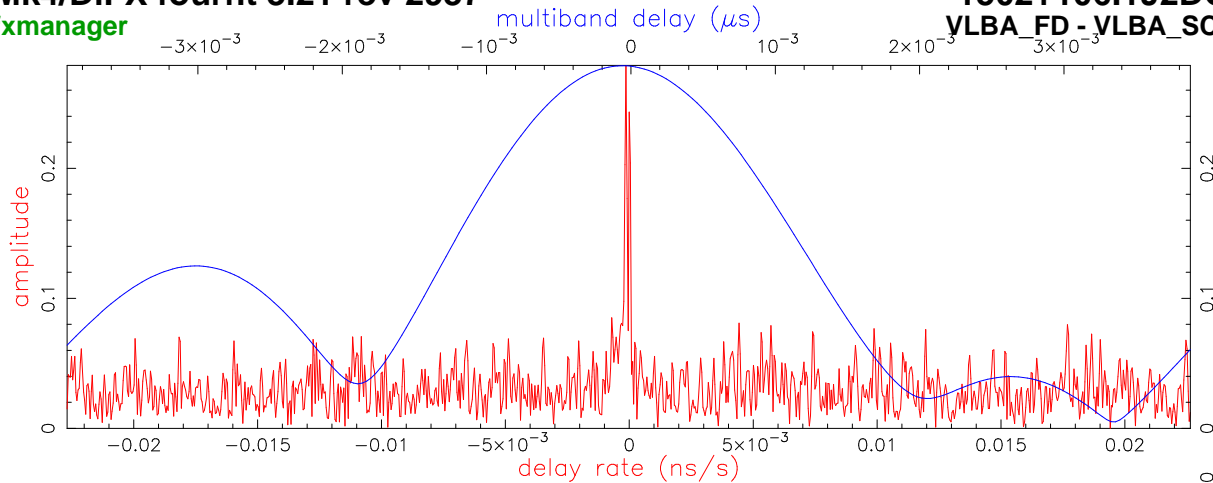
ph/seg (deg)	55.7	Theor.	37.7	Amplitude	0.236 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	79.9	Search (1024X16)	0.229	Search (1024X16)	0.229	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	15.5	Inc. seg. avg.	0.280	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/frq (%)	15.9	Inc. frq. avg.	0.232	Inc. seg. avg.	0.280	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023	
				Inc. frq. avg.	0.232	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

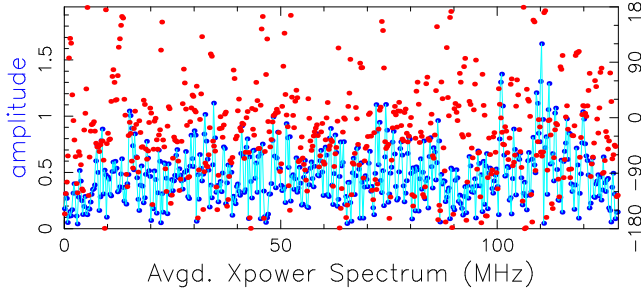
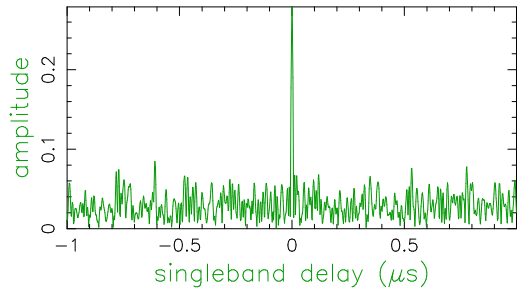
1502+106.1J2DGP, No0154, fc

VLBA_FD - VLBA_SC, fgroup Q, pol RL



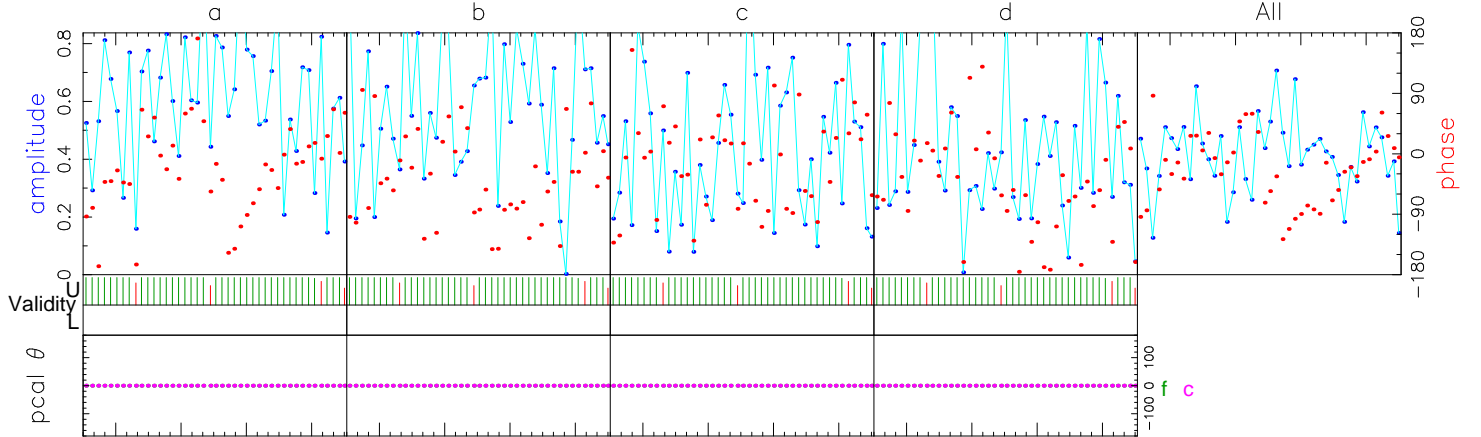
Fringe quality 9

SNR 11.7
 Int time 236.227
 Amp 0.279
 Phase -25.8
 PFD 2.2e-23
 Delays (us)
 SBD 0.000183
 MBD -0.000047
 Fringe rate (Hz)
 -0.006065
 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
-19.4	-42.1	-7.6	-32.3	Phase	-25.8
0.3	0.3	0.3	0.2	Ampl.	0.3
513.3	512.5	513.6	513.0	Sbd box	513.1
U/L 465/0	465/0	465/0	465/0	APs used	
f 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
f:c 0:0	0:0	0:0	0:0	PC phase	
f:c 0:0	0:0	0:0	0:0	Manl PC	
f 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
f Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.71314768356E+03	Apriori delay (usec)	-1.71314763667E+03	Resid mbdelay (usec)	-4.68884E-05	+/-	9.5E-05
Sband delay (usec)	-1.71314745379E+03	Apriori clock (usec)	-6.3570309E-01	Resid sbdelay (usec)	1.82875E-04	+/-	3.7E-04
Phase delay (usec)	-1.71314763833E+03	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-1.66755E-06	+/-	6.3E-07
Delay rate (us/s)	9.23587396783E-01	Apriori rate (us/s)	9.23587537700E-01	Resid rate (us/s)	-1.40917E-07	+/-	4.6E-09
Total phase (deg)	-127.4	Apriori accel (us/s/s)	1.32735896240E-05	Resid phase (deg)	-25.8	+/-	9.8

	RMS	Theor.	Amplitude	0.279 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	51.4	31.9	Search (1024X16)	0.275	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	67.3	55.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	18.4	9.8	Inc. seg. avg.	0.363	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	15.2	17.0	Inc. frq. avg.	0.282	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

f: az 127.9 el 60.3 pa -43.4 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -2679.848 994.439 simultaneous interpolator

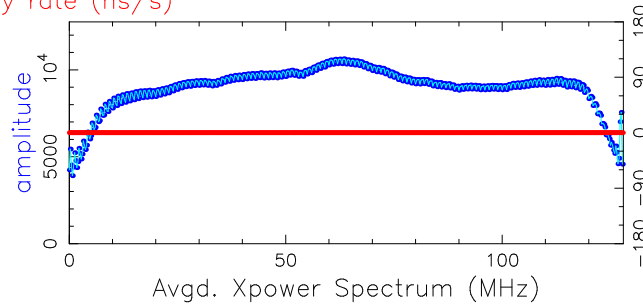
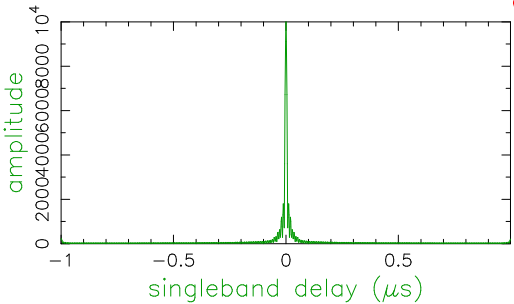
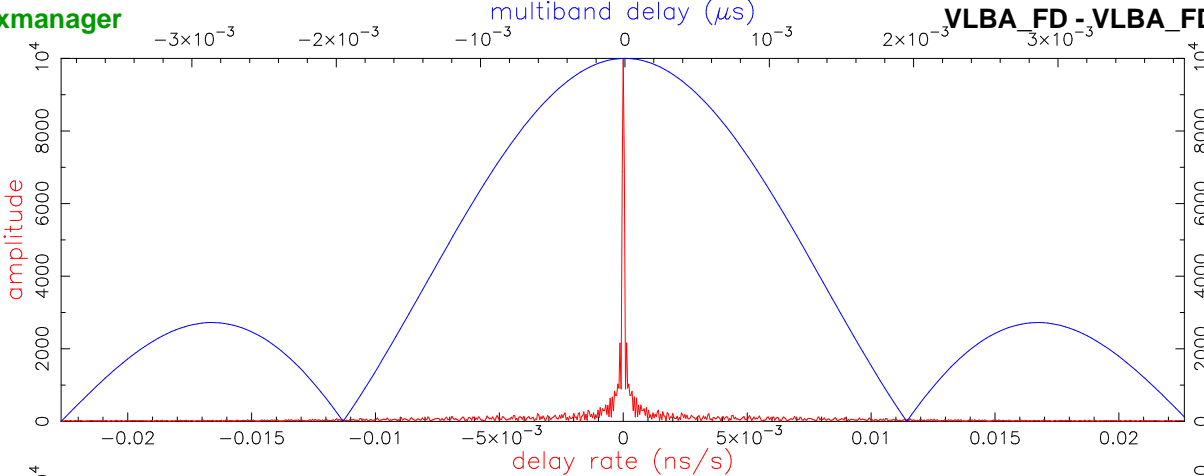
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fc.Q.59.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

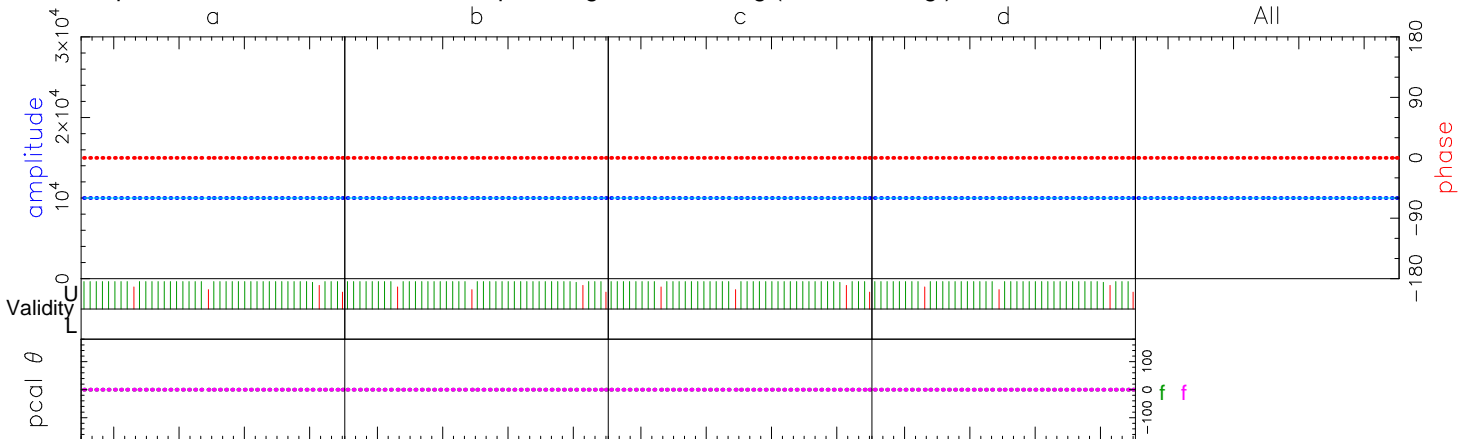
1502+106.1J2DGP, No0154, ff

VLBA_FD - VLBA_FD, fgroup Q, pol LL



Fringe quality 9
 SNR 420308.1
 Int time 236.233
 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
 2021:032:211437
 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	1000
f:f	0:0	0:0	0:0	0:0	PC freqs	1000
f:f	0:0	0:0	0:0	0:0	PC phase	1000
f	1000	1000	1000	1000	ManI PC	1000
f	1000	1000	1000	1000	PC amp	1000
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
f	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

Group delay (usec)(sbd)	0.000000000000E+00	Apriori delay (usec)	0.000000000000E+00	Resid mbdelay (usec)	0.000000E+00	+/-	2.6E-09
Sband delay (usec)	0.000000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.000000E+00	+/-	1.0E-08
Phase delay (usec)	0.000000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.000000E+00	+/-	1.8E-11
Delay rate (us/s)	0.000000000000E+00	Apriori rate (us/s)	0.000000000000E+00	Resid rate (us/s)	0.000000E+00	+/-	1.3E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.000000000000E+00	Resid phase (deg)	0.0	+/-	0.0

ph/seg (deg)	0.0	RMS	0.0	Theor.	0.0	Amplitude	10000.000 +/- 0.024	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000 1.000
amp/seg (%)	0.0	0.0	0.0	0.0	0.0	Search (1024X16)	10000.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled		mb window (us)	-0.004 0.004
ph/frq (deg)	0.0	0.0	0.0	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MSamp/s):	256			dr window (ns/s)	-0.023 0.023
amp/frq (%)	0.0	0.0	0.0	0.0	0.0	Inc. frq. avg.	10000.000	Data rate(Mb/s):	2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

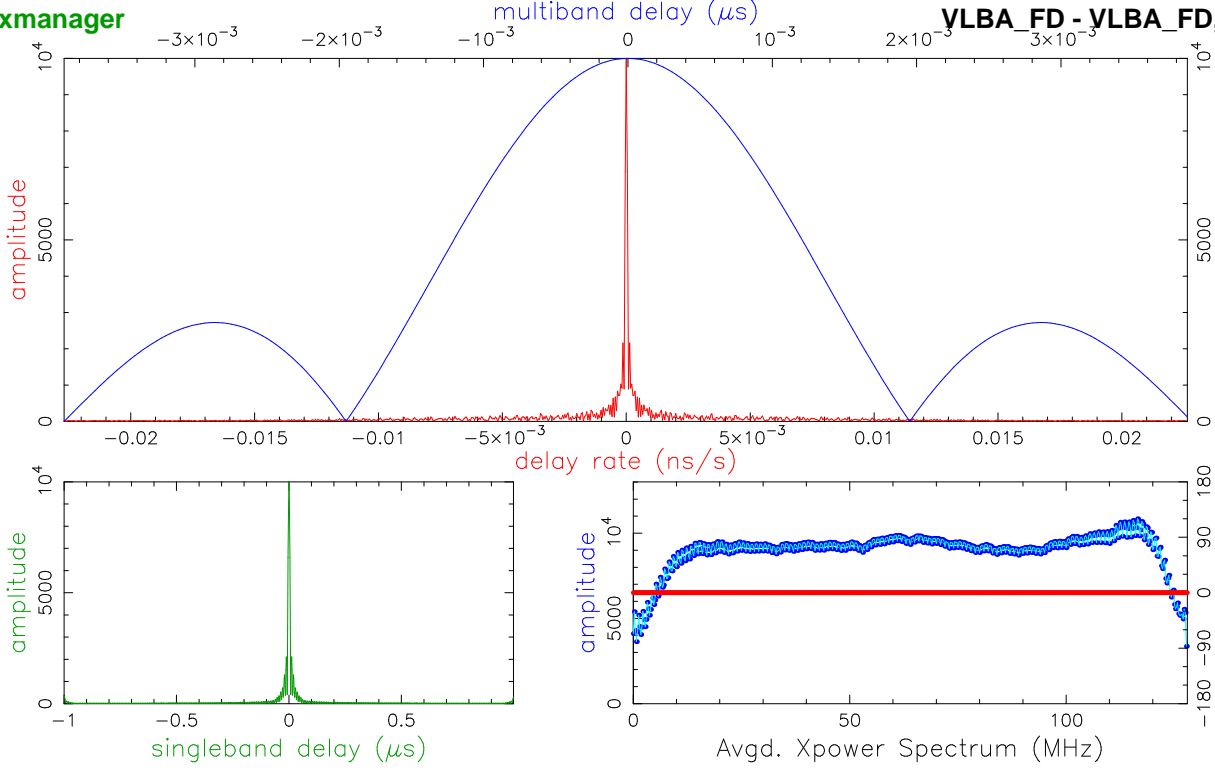
f: az 127.9 el 60.3 pa -43.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff.Q.15.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, ff

VLBA_FD - VLBA_FD, fgroup Q, pol RR

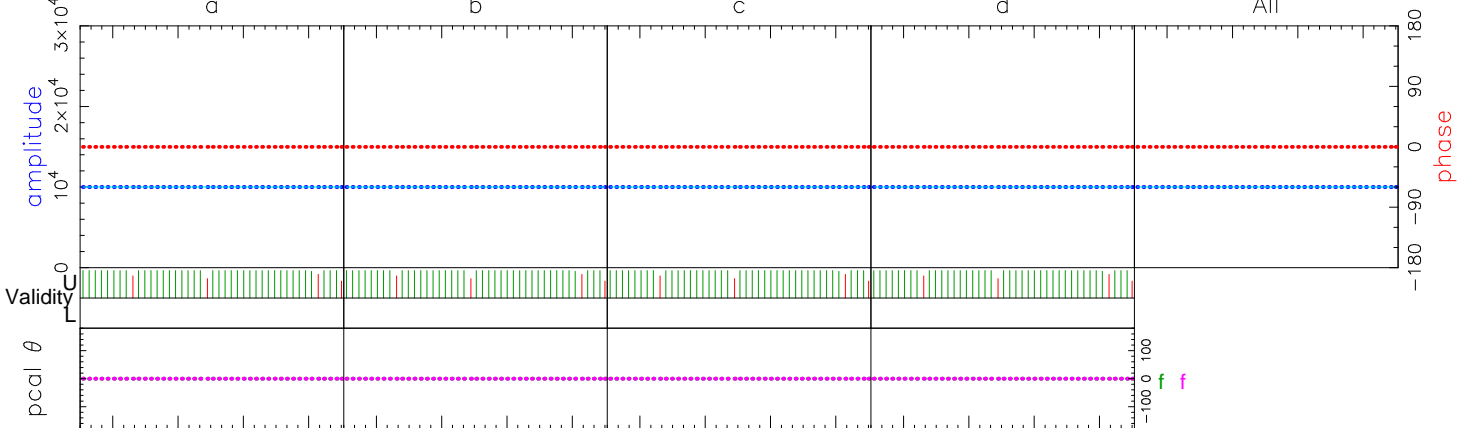


Fringe quality 9

SNR 420308.1
 Int time 236.233
 Amp 10000.001
 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
 2021:032:211439
 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	APs used	1000
f:f	0:0	0:0	0:0	0:0	PC freqs	1000
f:f	0:0	0:0	0:0	0:0	PC phase	1000
f	1000	1000	1000	1000	ManI PC	1000
f	1000	1000	1000	1000	PC amp	1000
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
f	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

Group delay (usec)(sbd)	0.000000000000E+00	Apriori delay (usec)	0.000000000000E+00	Resid mbdelay (usec)	0.000000E+00	+/-	2.6E-09
Sband delay (usec)	0.000000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.000000E+00	+/-	1.0E-08
Phase delay (usec)	0.000000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.000000E+00	+/-	1.8E-11
Delay rate (us/s)	0.000000000000E+00	Apriori rate (us/s)	0.000000000000E+00	Resid rate (us/s)	0.000000E+00	+/-	1.3E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.000000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.	Amplitude	10000.001 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.0	0.0	Search (1024X16)	10000.001	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.001	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

f: az 127.9 el 60.3 pa -43.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff.Q.34.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

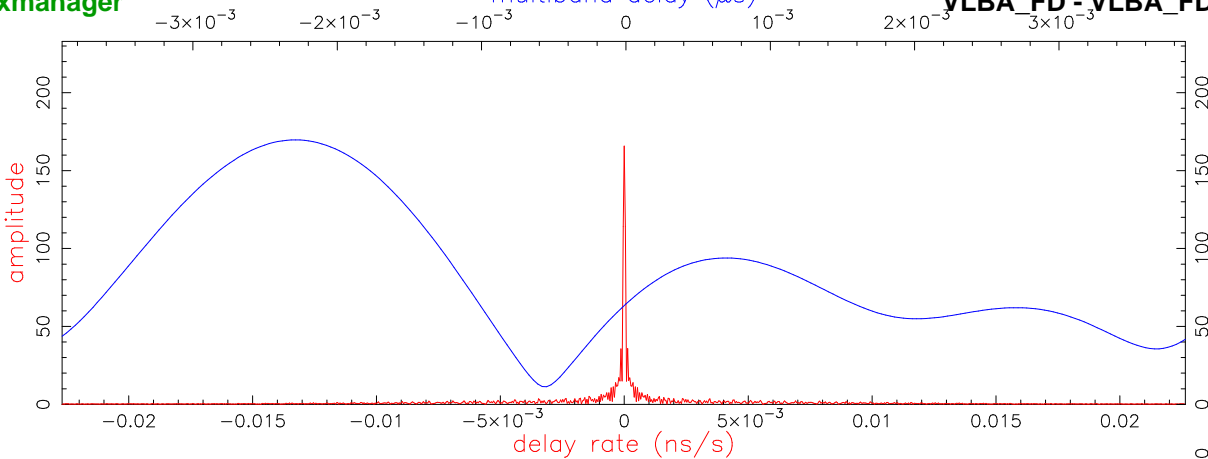
fxmanager

1502+106.1J2DGP, No0154, ff

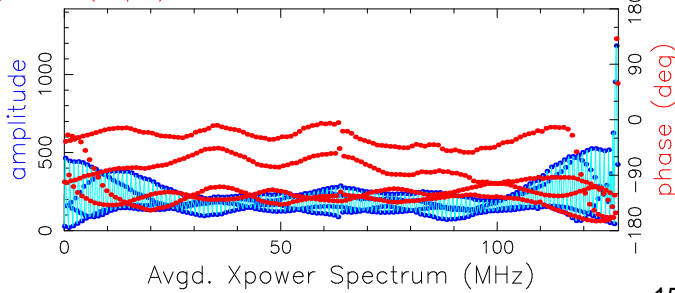
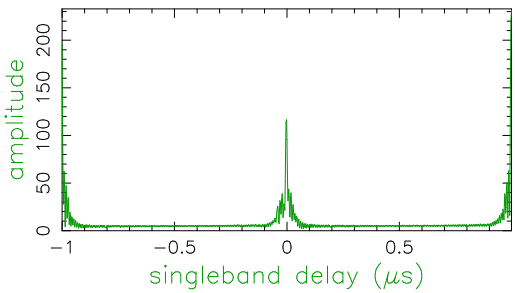
VLBA_FD - VLBA_FD, fgroup Q, pol LR

multiband delay (μ s)

Fringe quality 5

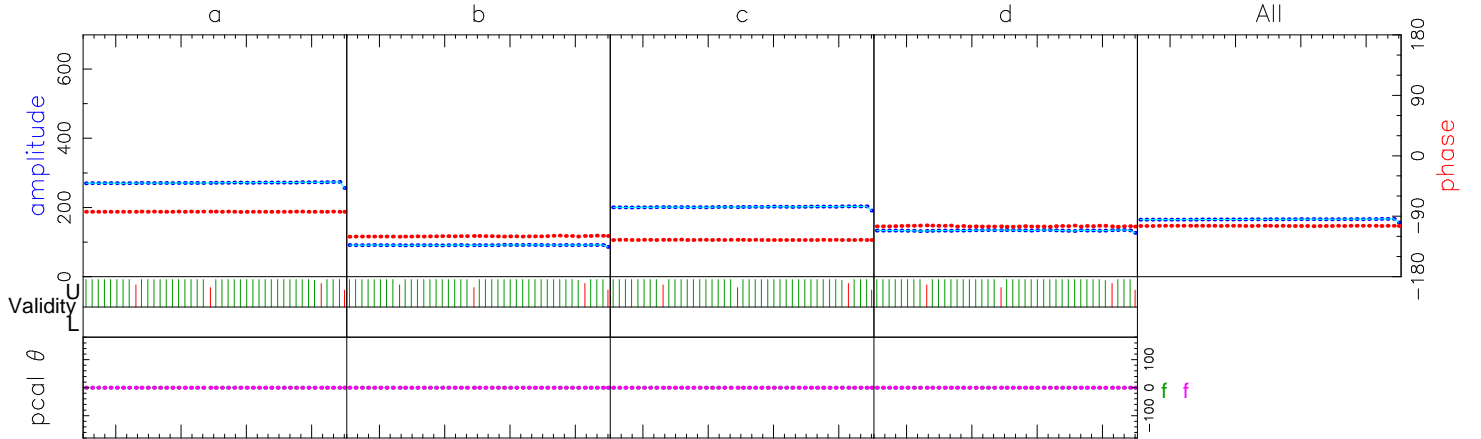


SNR 9789.5
 Int time 236.233
 Amp 232.912
 Phase -104.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.997527
 MBD -0.002060
 Fringe rate (Hz) 0.000005
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512



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

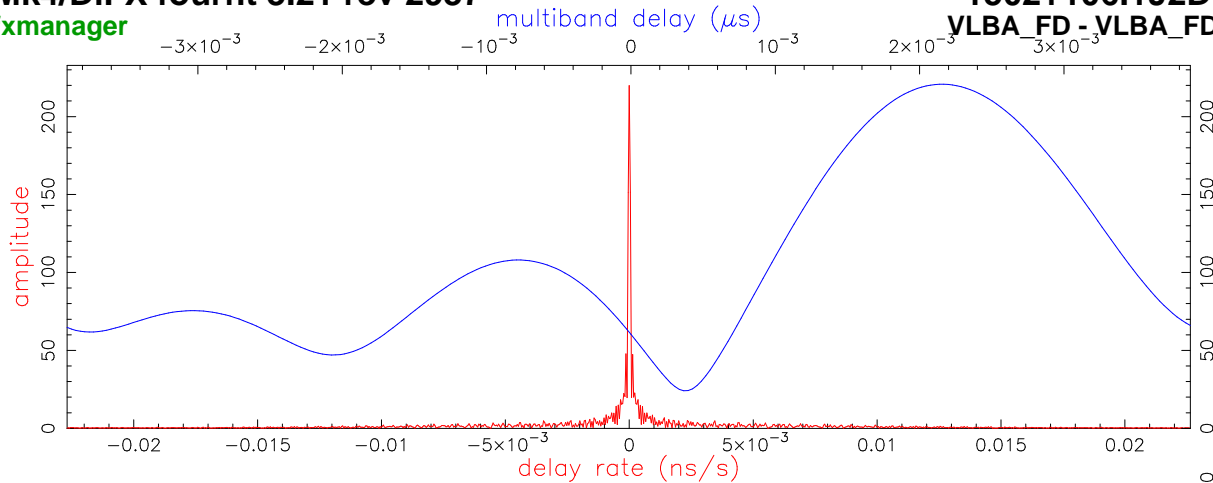


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-83.2	-119.8	-125.2	-104.8	Phase	-104.3
	271.2	91.4	201.4	133.7	Ampl.	174.4
	511.7	1.3	1023.4	1.4	Sbd box	1023.7
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	PC freqs	
f:f	0:0	0:0	0:0	0:0	PC phase	
f:f	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
f	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
f	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

	9.97939843750E-01	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-2.06016E-03	+/- 1.1E-07
Group delay (usec)(sbd)	9.97526875000E-01	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	9.97527E-01	+/- 4.4E-07
Sband delay (usec)	-6.72996830646E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-6.72997E-06	+/- 7.6E-10
Phase delay (usec)	1.27629270483E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	1.27629E-10	+/- 5.5E-12
Delay rate (us/s)		Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-104.3	+/- 0.0
Total phase (deg)						

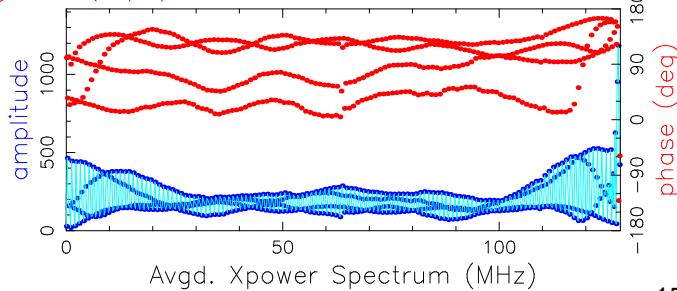
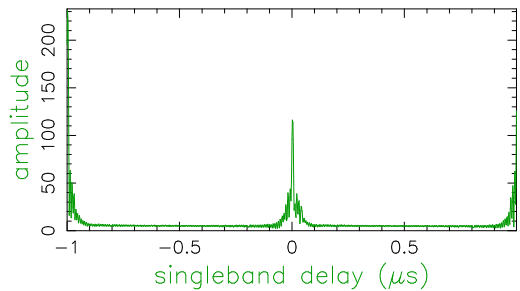
	RMS	Theor.	Amplitude	232.912 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.1	0.0	Search (1024X16)	230.849	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	28.8	0.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	23.7	0.0	Inc. seg. avg.	165.733	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	38.6	0.0	Inc. frq. avg.	174.405	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 f: az 127.9 el 60.3 pa -43.4 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ff.Q.48.1J2DGP



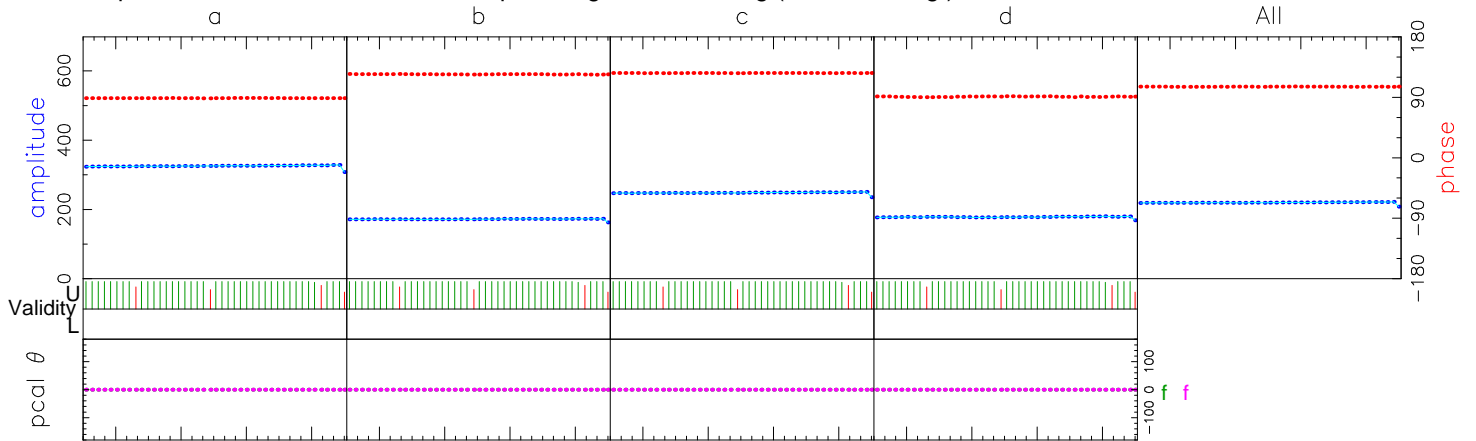
Fringe quality 6

SNR 9787.0
Int time 236.233
Amp 232.852
Phase 105.7
PFD 0.0e+00
Delays (us)
SBD -0.997532
MBD 0.002058
Fringe rate (Hz)
-0.000005
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"

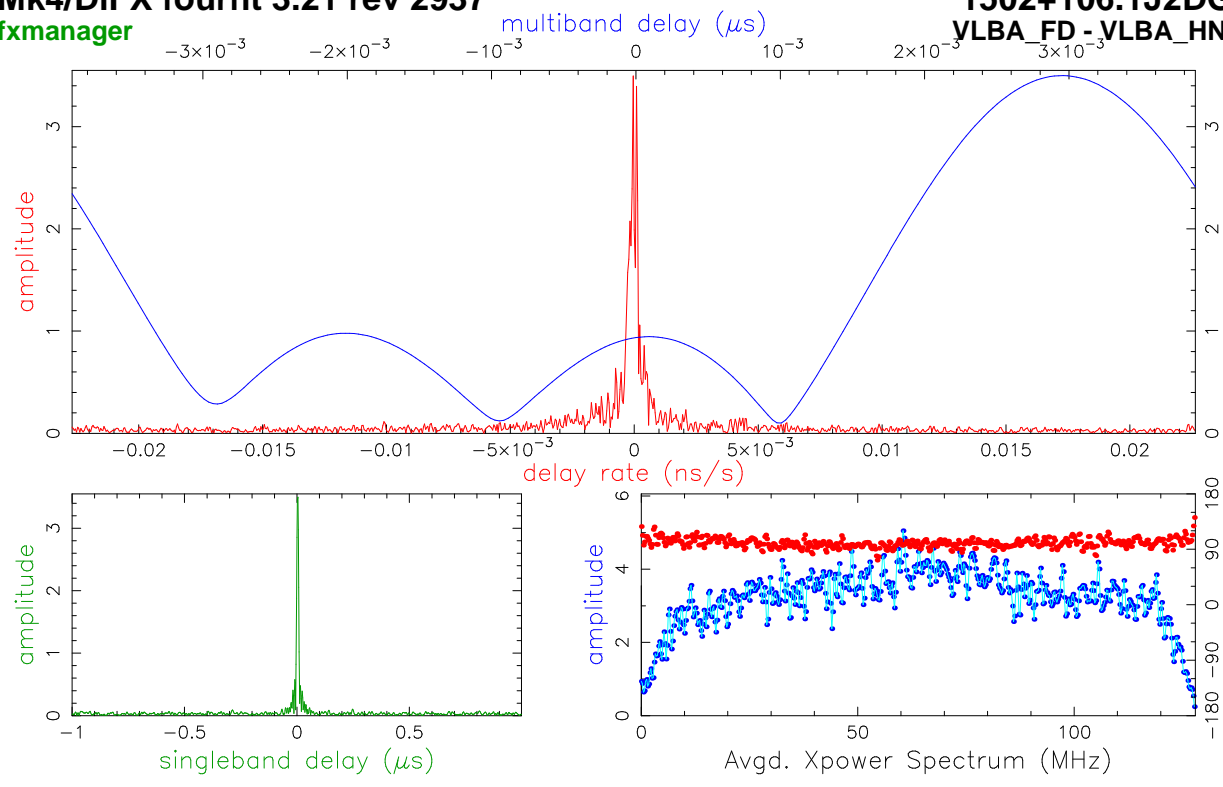
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

Group delay (usec)(sbd)	-9.97941593750E-01	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	2.05841E-03	+/-	1.1E-07
Sband delay (usec)	-9.97532250000E-01	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-9.97532E-01	+/-	4.4E-07
Phase delay (usec)	6.82473310206E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	6.82473E-06	+/-	7.6E-10
Delay rate (us/s)	-1.27629270483E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-1.27629E-10	+/-	5.5E-12
Total phase (deg)	105.7	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	105.7	+/-	0.0

ph/seg (deg)	0.1	Theor.	0.0	Amplitude	232.852 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	5.6	0.1	0.0	Search (1024X16)	230.849	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	25.2	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
amp/frq (%)	26.7	0.0	0.0	Inc. seg. avg.	219.920	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
				Inc. frq. avg.	231.059	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

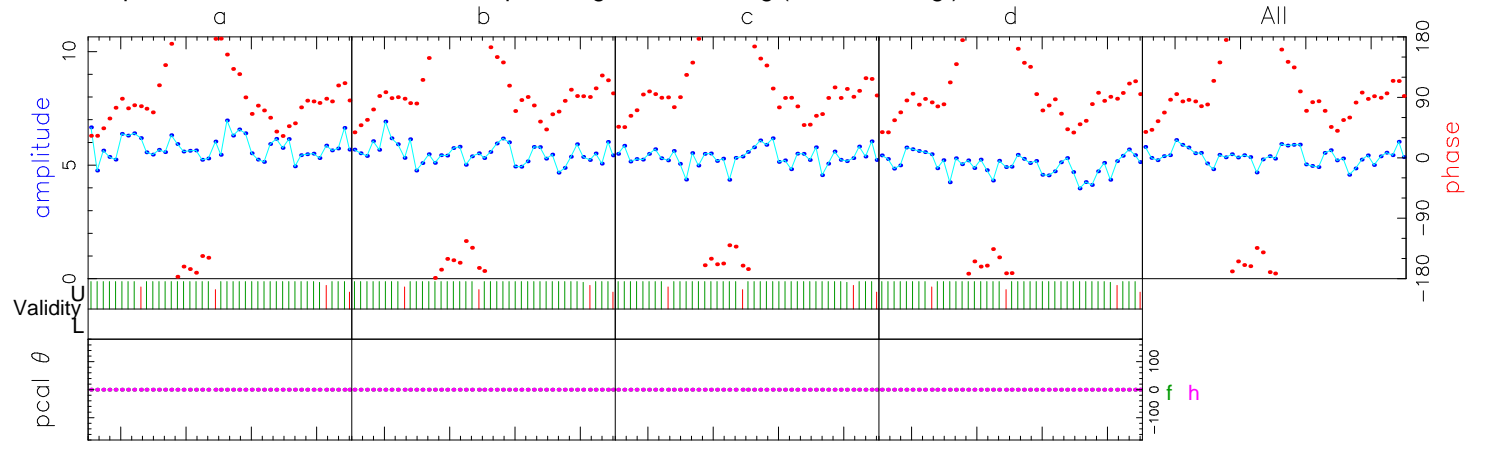


Fringe quality 5

SNR 149.2
Int time 236.233
Amp 3.550
Phase 103.3
PFD 0.0e+00
Delays (us)
SBD 0.003071
MBD 0.002904
Fringe rate (Hz)
-0.000962
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



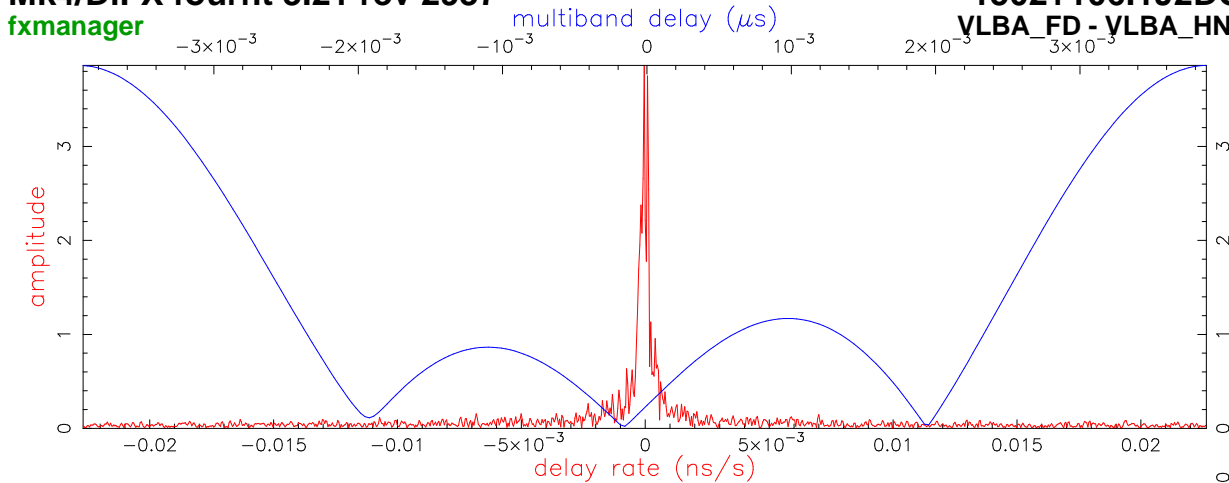
42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
95.7	107.4	108.2	102.2	Phase	103.3
3.8	3.5	3.5	3.2	Ampl.	3.5
515.0	514.5	514.4	514.4	Sbd box	514.6
U/L 465/0	465/0	465/0	465/0	APs used	
f 1000	1000	1000	1000	PC freqs	
h 1000	1000	1000	1000	PC freqs	
f:h 0:0	0:0	0:0	0:0	PC phase	
f:h 0:0	0:0	0:0	0:0	Manl PC	
f 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	8.13043129579E+02	Apriori delay (usec)	8.13040225136E+02	Resid mbdelay (usec)	2.90444E-03 +/- 7.5E-06
Sband delay (usec)	8.13043295761E+02	Apriori clock (usec)	7.3220949E+00	Resid sbdelay (usec)	3.07063E-03 +/- 2.9E-05
Phase delay (usec)	8.13040231800E+02	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	6.66443E-06 +/- 5.0E-08
Delay rate (us/s)	6.87463732637E-01	Apriori rate (us/s)	6.87463754981E-01	Resid rate (us/s)	-2.23436E-08 +/- 3.6E-10
Total phase (deg)	207.6	Apriori accel (us/s/s)	-7.78133946273E-06	Resid phase (deg)	103.3 +/- 0.8
RMS	Theor.	Amplitude	3.550 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	53.6	Search (1024X16)	3.159	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	53.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.0	Inc. seg. avg.	5.392	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	5.2	Inc. frq. avg.	3.509	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	h: az 195.3 el 56.6 pa 11.8	u,v (fr/asec)	-2004.643 -795.676		simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.10.1J2DGP			

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

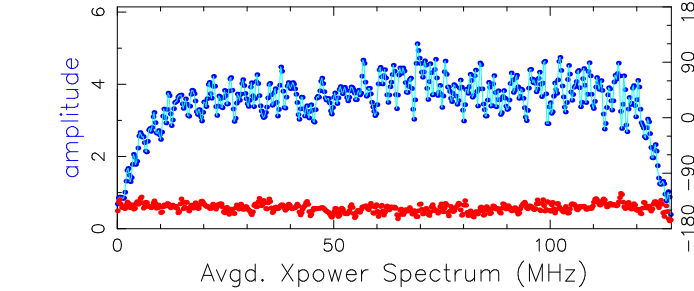
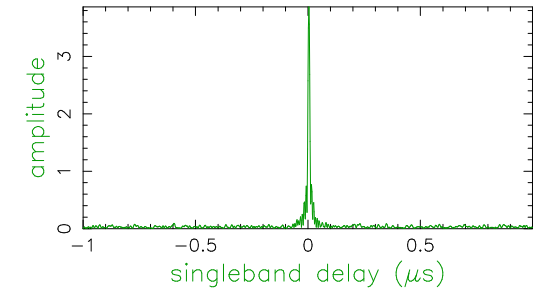
1502+106.1J2DGP, No0154, fh

VLBA_FD - VLBA_HN, fgroup Q, pol RR



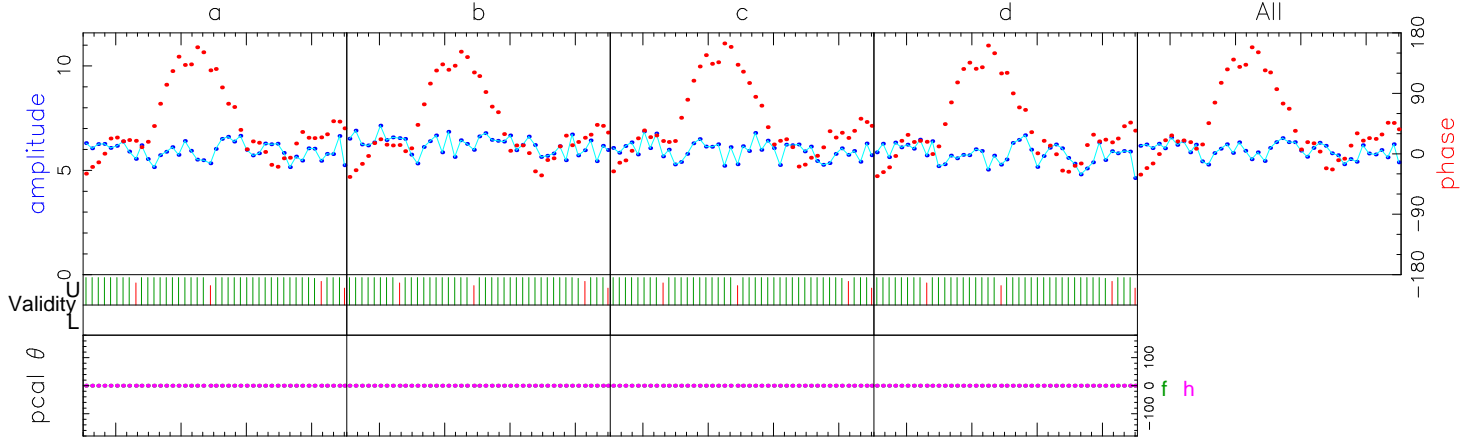
Fringe quality 5

SNR 162.4
 Int time 236.233
 Amp 3.863
 Phase 36.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.004004
 MBD -0.003928
 Fringe rate (Hz)
 -0.000998
 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	APs used	1000
h	1000	1000	1000	1000	PC freqs	1000
f:h	0:0	0:0	0:0	0:0	PC phase	0:0
f:h	0:0	0:0	0:0	0:0	ManI PC	0:0
f	1000	1000	1000	1000	PC amp	1000
h	1000	1000	1000	1000		1000
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	8.13044109636E+02	Apriori delay (usec)	8.13040225136E+02	Resid mbdelay (usec)	-3.92800E-03	+/-	6.8E-06
Sband delay (usec)	8.13044229636E+02	Apriori clock (usec)	7.3220949E+00	Resid sbdelay (usec)	4.00450E-03	+/-	2.7E-05
Phase delay (usec)	8.13040227480E+02	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	2.34439E-06	+/-	4.6E-08
Delay rate (us/s)	6.87463731784E-01	Apriori rate (us/s)	6.87463754981E-01	Resid rate (us/s)	-2.31973E-08	+/-	3.3E-10
Total phase (deg)	140.7	Apriori accel (us/s/s)	-7.78133946273E-06	Resid phase (deg)	36.3	+/-	0.7

ph/seg (deg)	53.3	2.3	RMS	3.863 +/- 0.024	PCal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	55.4	4.0	Theor.	3.517	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	4.9	0.7	Search (1024X16)	5.971	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	2.9	1.2	Inc. seg. avg.	3.869	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
			Inc. frq. avg.		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 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2004.643 -795.676 simultaneous interpolator

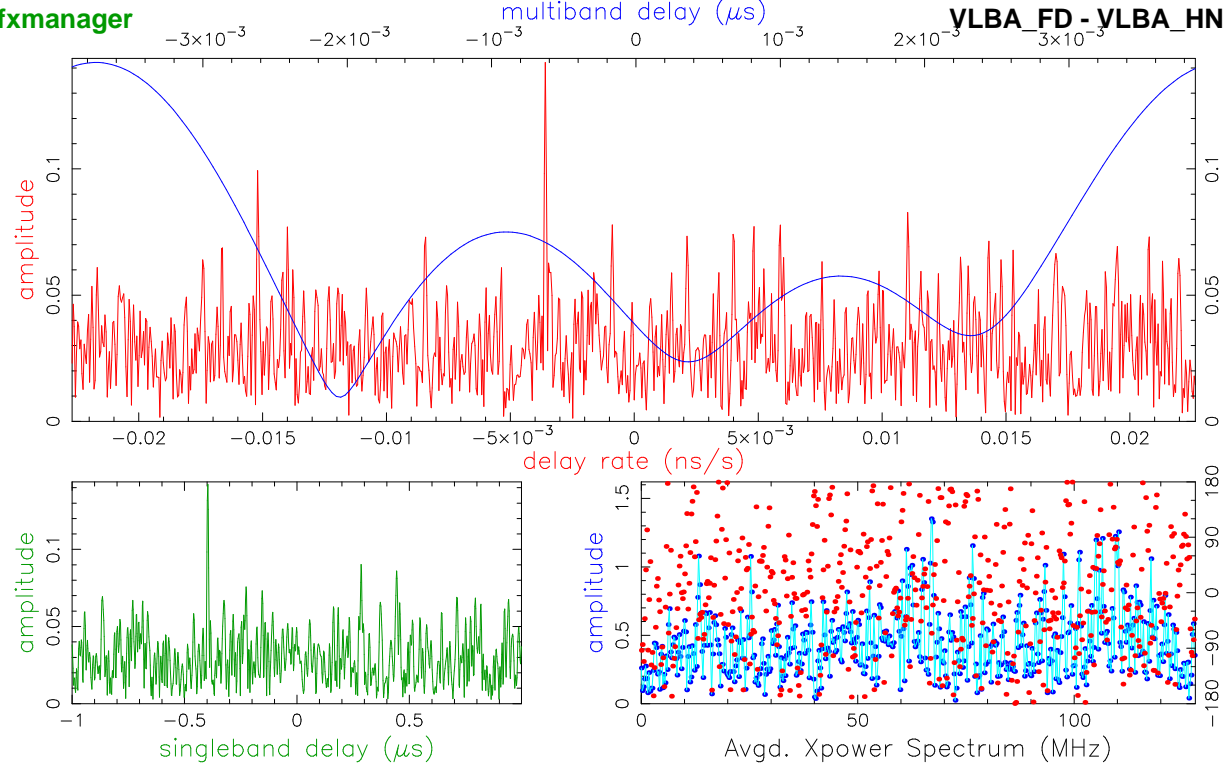
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.36.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fh

VLBA_FD - VLBA_HN, fgroup Q, pol LR

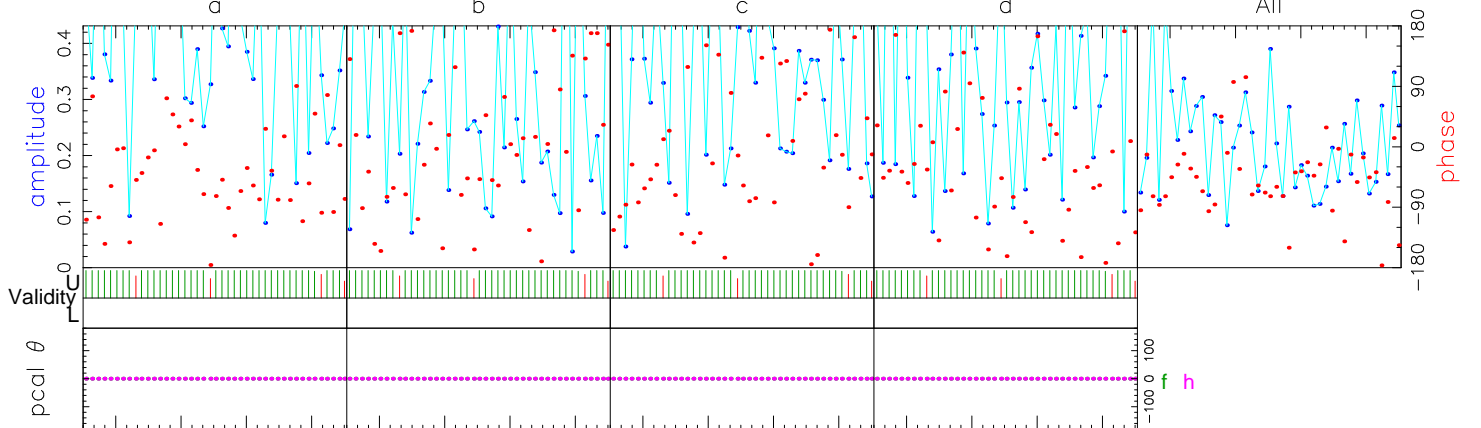


Fringe quality 0

SNR 6.0
 Int time 236.233
 Amp 0.144
 Phase -52.4
 PFD 2.5e-01
 Delays (us)
 SBD -0.396685
 MBD -0.003760
 Fringe rate (Hz)
 -0.155734
 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		
h	1000	1000	1000	1000		
f:h	0:0	0:0	0:0	0:0		
f:h	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
h	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL		
h	Q00UR	Q01UR	Q02UR	Q03UR		

	8.12645839718E+02	Apriori delay (usec)	8.13040225136E+02	Resid mbdelay (usec)	-3.76042E-03	+/- 1.9E-04
Group delay (usec)(sbd)	8.12645839718E+02	Apriori clock (usec)	7.3220949E+00	Resid sbdelay (usec)	-3.96685E-01	+/- 7.2E-04
Sband delay (usec)	8.12643540261E+02	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	-3.38094E-06	+/- 1.2E-06
Phase delay (usec)	8.13040221755E+02	Apriori rate (us/s)	6.87463754981E-01	Resid rate (us/s)	-3.61835E-06	+/- 9.0E-09
Delay rate (us/s)	6.87460136634E-01	Apriori accel (us/s/s)	-7.78133946273E-06	Resid phase (deg)	-52.4	+/- 19.2
Total phase (deg)	52.0					

	RMS	Theor.	Amplitude	0.144 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	55.8	62.6	Search (1024X16)	0.136	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	88.8	109.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	15.8	19.2	Inc. seg. avg.	0.143	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	35.2	33.4	Inc. frq. avg.	0.138	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 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2004.643 -795.676 simultaneous interpolator

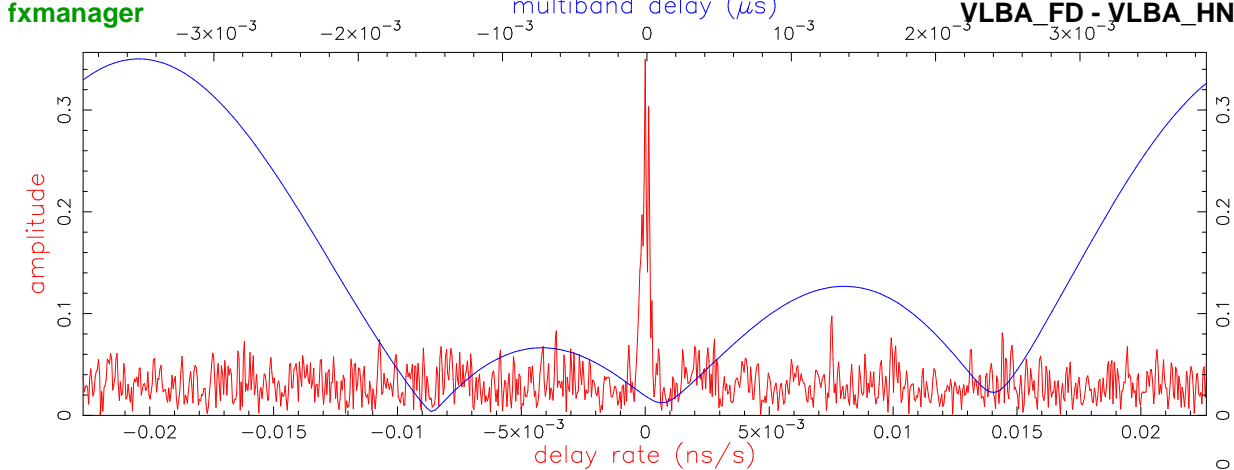
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.53.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

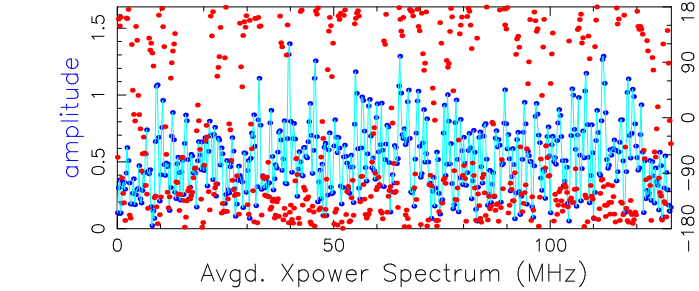
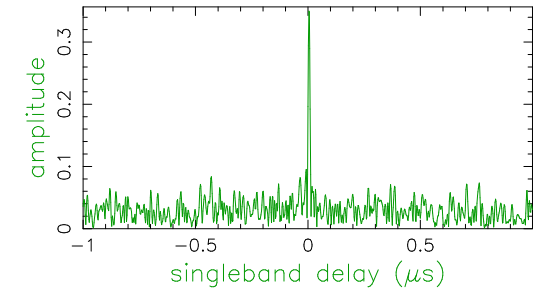
1502+106.1J2DGP, No0154, fh

VLBA_FD - VLBA_HN, fgroup Q, pol RL



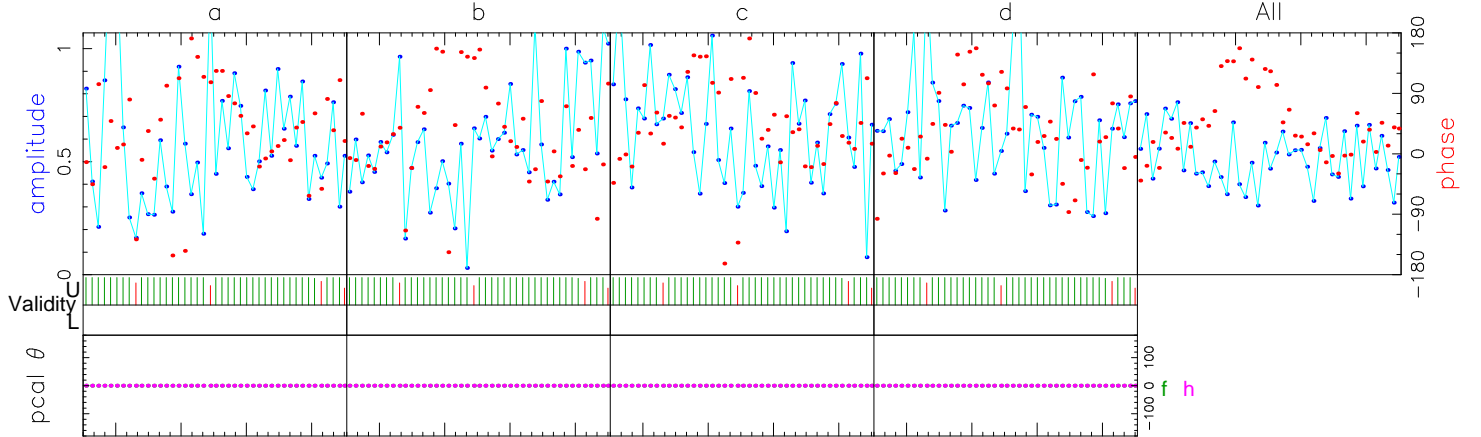
Fringe quality 9

SNR 15.0
 Int time 236.233
 Amp 0.357
 Phase 36.0
 PFD 2.7e-42
 Delays (us)
 SBD 0.004825
 MBD -0.003476
 Fringe rate (Hz)
 -0.000928
 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



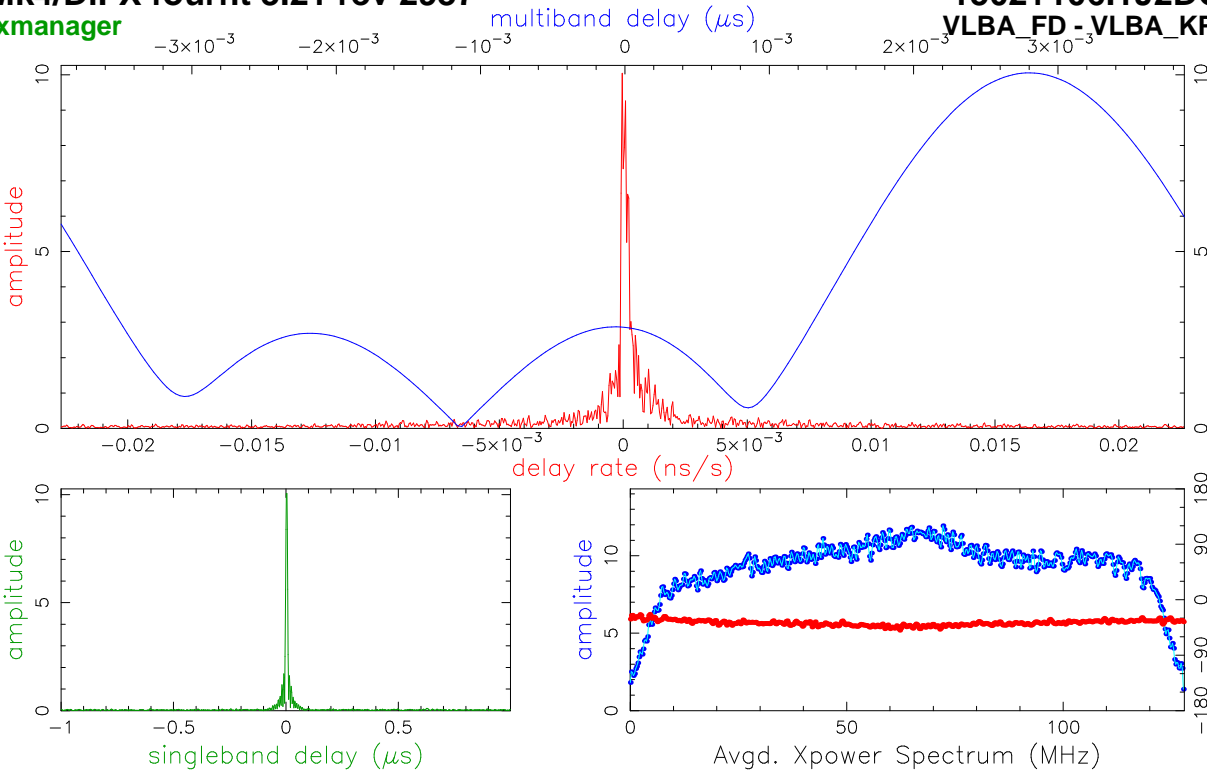
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
h	1000	1000	1000	1000		
f:h	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
h	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
h	Q00UL	Q01UL	Q02UL	Q03UL		

	8.13044561986E+02	Apriori delay (usec)	8.13040225136E+02	Resid mbdelay (usec)	-3.47565E-03	+/- 7.4E-05
Sband delay (usec)	8.13045050011E+02	Apriori clock (usec)	7.3220949E+00	Resid sbdelay (usec)	4.82487E-03	+/- 2.9E-04
Phase delay (usec)	8.13040227461E+02	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	2.32471E-06	+/- 4.9E-07
Delay rate (us/s)	6.87463733426E-01	Apriori rate (us/s)	6.87463754981E-01	Resid rate (us/s)	-2.15552E-08	+/- 3.6E-09
Total phase (deg)	140.4	Apriori accel (us/s/s)	-7.78133946273E-06	Resid phase (deg)	36.0	+/- 7.6

	RMS	Theor.	Amplitude	0.357 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	52.0	25.0	Search (1024X16)	0.313	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	56.5	43.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	10.6	7.6	Inc. seg. avg.	0.471	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	7.3	13.3	Inc. frq. avg.	0.350	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

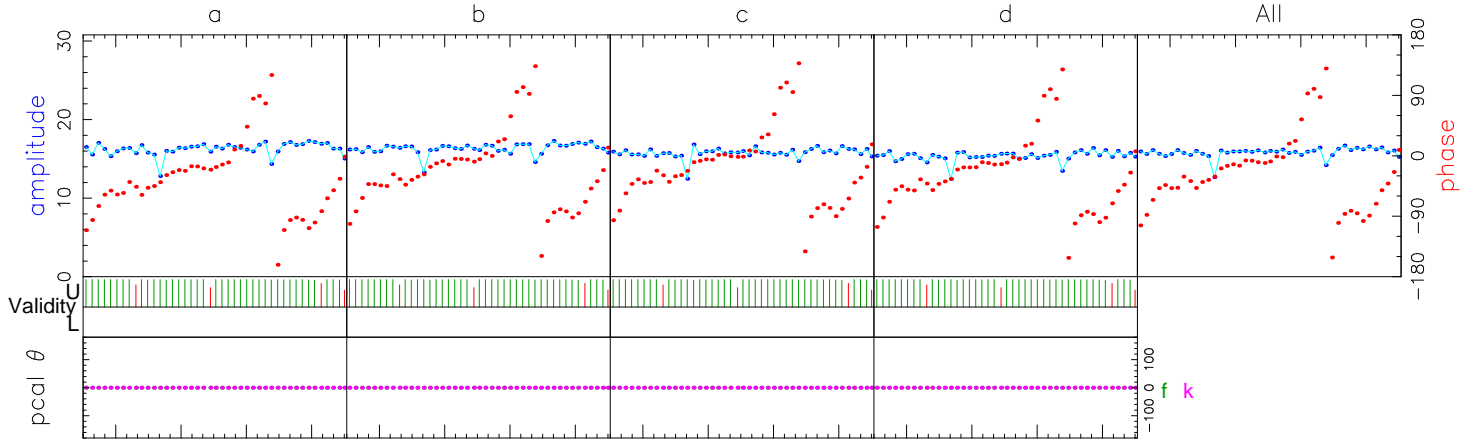
f: az 127.9 el 60.3 pa -43.4 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2004.643 -795.676 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.74.1J2DGP



Fringe quality 5
SNR 430.6
Int time 235.326
Amp 10.266
Phase -34.2
PFD 0.0e+00
Delays (us)
SBD 0.002929
MBD 0.002744
Fringe rate (Hz)
-0.002320
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"

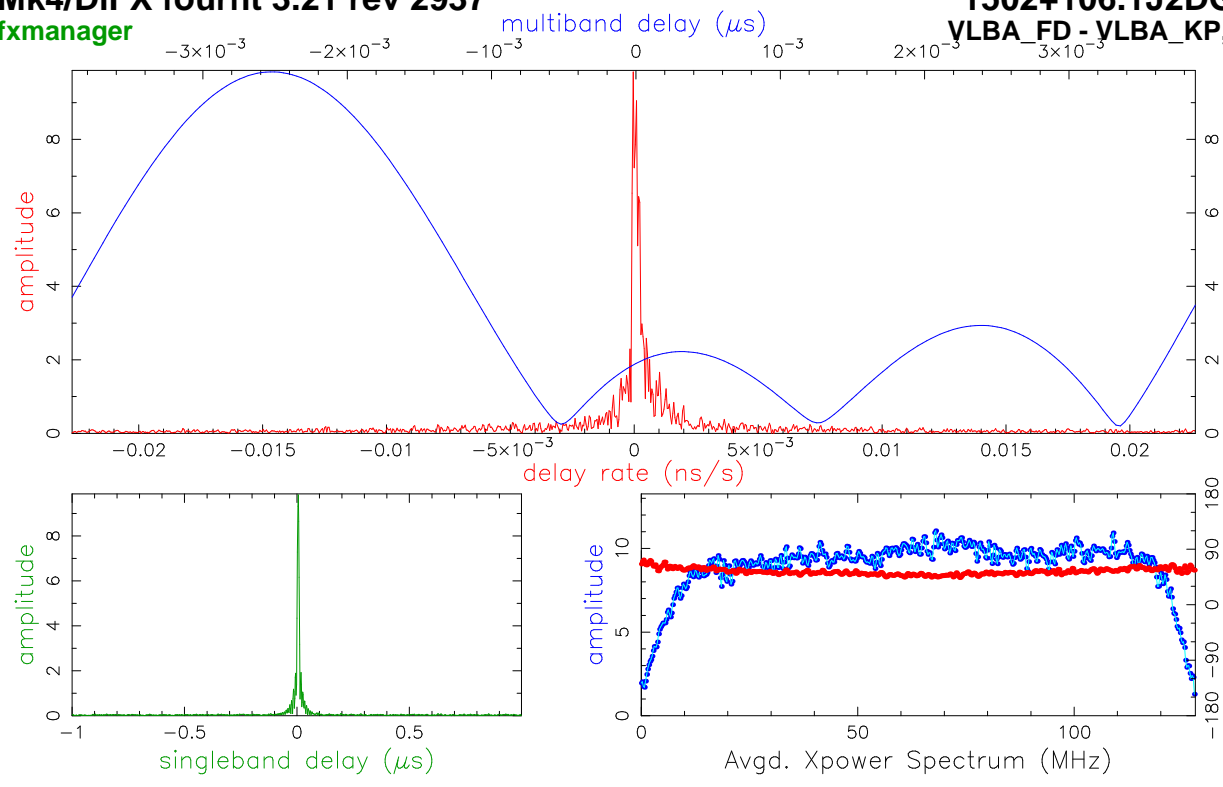
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-43.5	-30.9	-25.7	-36.8	Phase	-34.2
	10.3	10.4	10.0	9.8	Ampl.	10.1
	514.7	514.5	514.3	514.4	Sbd box	514.5
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.22777974813E+03	Apriori delay (usec)	1.22777700381E+03	Resid mbdelay (usec)	2.74432E-03	+/-	2.6E-06
Sband delay (usec)	1.22777993281E+03	Apriori clock (usec)	7.5421095E+00	Resid sbdelay (usec)	2.92900E-03	+/-	1.0E-05
Phase delay (usec)	1.22777700160E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-2.21002E-06	+/-	1.7E-08
Delay rate (us/s)	-1.47869793641E-01	Apriori rate (us/s)	-1.47869739745E-01	Resid rate (us/s)	-5.38964E-08	+/-	1.2E-10
Total phase (deg)	53.6	Apriori accel (us/s/s)	-6.89068183219E-06	Resid phase (deg)	-34.2	+/-	0.3

ph/seg (deg)	RMS 57.9	Theor. 0.9	Amplitude Search (1024X16)	10.266 +/- 0.024	9.817	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	54.6	1.5	Interp.	0.000	15.830	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	9.4	0.3	Inc. seg. avg.	10.109	10.109	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	2.7	0.5	Inc. frq. avg.	10.109	10.109	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	k: az 119.9 el 54.1 pa -48.3	u,v (fr/asec)	427.017	-137.025						simultaneous interpolator	

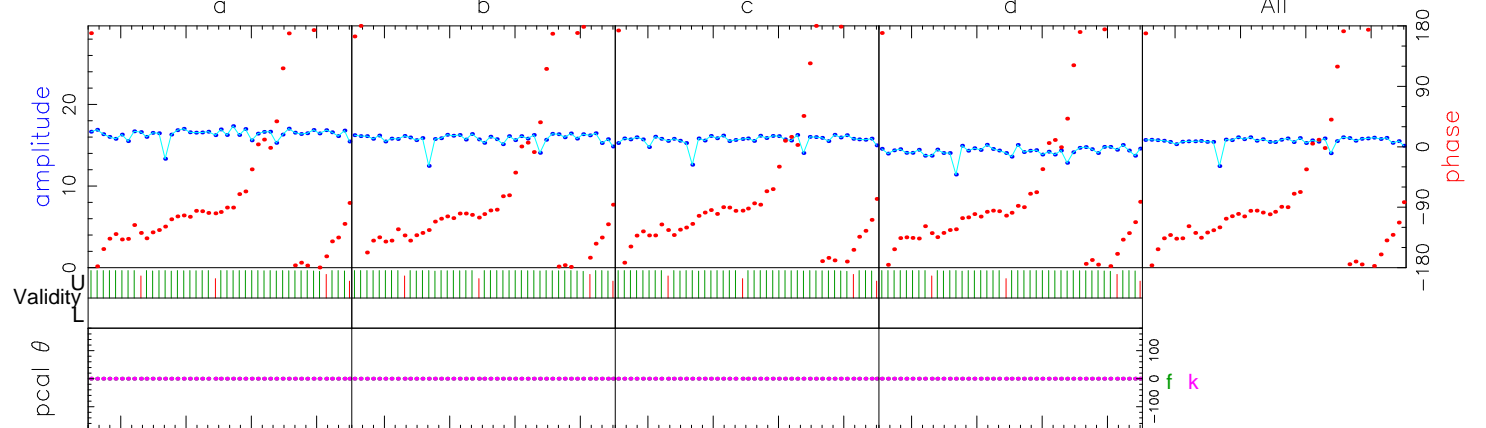


Fringe quality 5

SNR 414.4
Int time 235.325
Amp 9.878
Phase -122.5
PFD 0.0e+00
Delays (us)
SBD 0.005459
MBD -0.002545
Fringe rate (Hz)
-0.002319
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
	-123.0	-126.7	-117.6	-122.6	Phase	-122.5
	10.3	10.0	10.0	9.1	Ampl.	9.9
	516.2	515.6	516.1	515.1	Sbd box	515.8
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	1.22778227097E+03		Apriori delay (usec)	1.22777700381E+03	Resid mbdelay (usec)	-2.54534E-03 +/- 2.7E-06
Sband delay (usec)	1.22778246281E+03		Apriori clock (usec)	7.5421095E+00	Resid sbdelay (usec)	5.45900E-03 +/- 1.0E-05
Phase delay (usec)	1.2277699591E+03		Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-7.90464E-06 +/- 1.8E-08
Delay rate (us/s)	-1.47869793627E-01		Apriori rate (us/s)	-1.47869739745E-01	Resid rate (us/s)	-5.38822E-08 +/- 1.3E-10
Total phase (deg)		-34.6	Apriori accel (us/s/s)	-6.89068183219E-06	Resid phase (deg)	-122.5 +/- 0.3

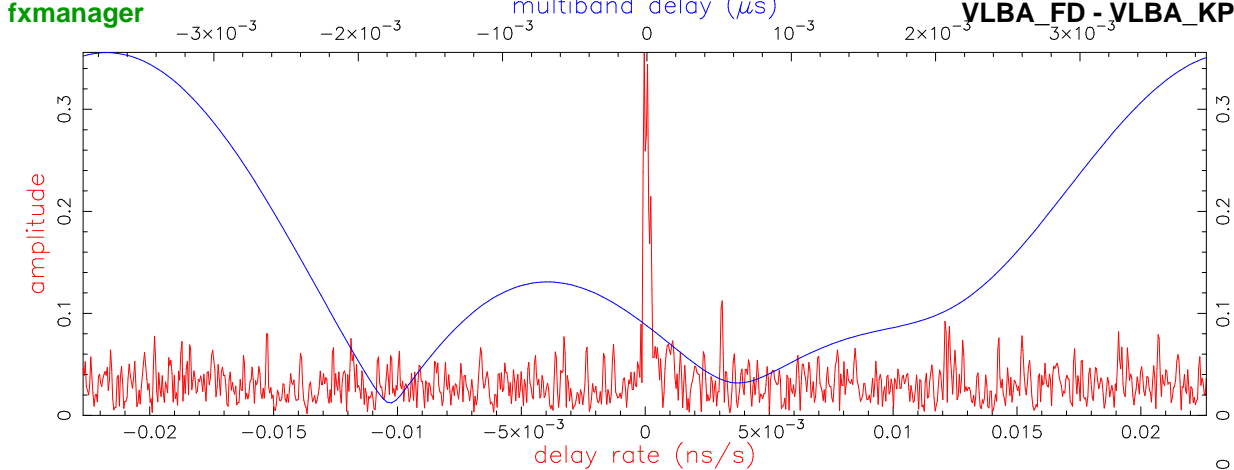
ph/seg (deg) 57.8 0.9 Amplitude 9.878 +/- 0.024 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 57.2 1.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 4.6 0.3 Inc. seg. avg. 15.500 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
amp/frq (%) 4.7 0.5 Inc. frq. avg. 9.851 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t_cohere infinite dr window (ns/s) -0.023 0.023
f: az 127.9 el 60.3 pa -43.4 k: az 119.9 el 54.1 pa -48.3 u,v (fr/asec) 427.017 -137.025 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk.Q.31.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

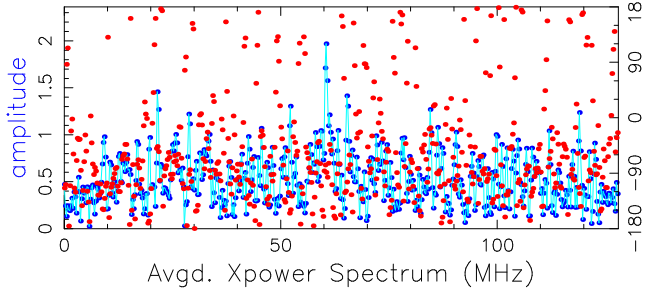
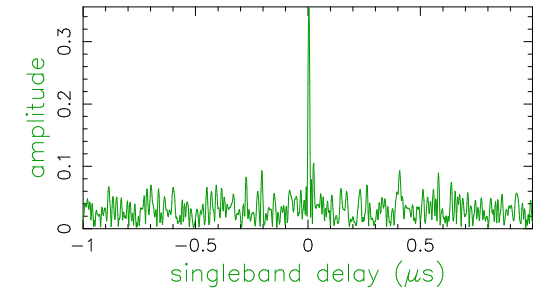
1502+106.1J2DGP, No0154, fk

VLBA_FD - VLBA_KP, fgroup Q, pol LR



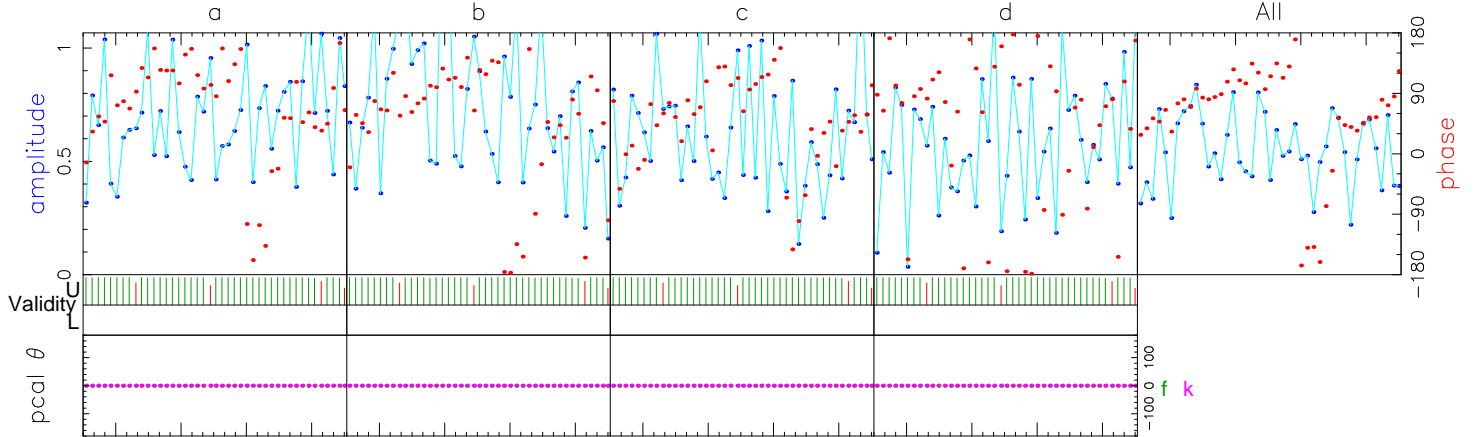
Fringe quality 8

SNR 14.9
 Int time 235.325
 Amp 0.356
 Phase 87.3
 PFD 6.9e-42
 Delays (us)
 SBD 0.003977
 MBD -0.003738
 Fringe rate (Hz)
 -0.002412
 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
 2021:032:211440
 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
93.3	91.3	60.0	110.0	Phase	87.3
0.4	0.4	0.4	0.3	Ampl.	0.4
515.3	514.8	514.9	515.5	Sbd box	515.0
U/L 465/0	465/0	465/0	465/0	APs used	
f 1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	PC freqs	
f:k 0:0	0:0	0:0	0:0	PC phase	
f:k 0:0	0:0	0:0	0:0	Manl PC	
f 1000	1000	1000	1000	PC amp	
k 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.22778107809E+03	Apriori delay (usec)	1.22777700381E+03	Resid mbdelay (usec)	-3.73822E-03	+/- 7.5E-05
Sband delay (usec)	1.22778098056E+03	Apriori clock (usec)	7.5421095E+00	Resid sbdelay (usec)	3.97675E-03	+/- 2.9E-04
Phase delay (usec)	1.22777700944E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	5.63254E-06	+/- 5.0E-07
Delay rate (us/s)	-1.47869795785E-01	Apriori rate (us/s)	-1.47869739745E-01	Resid rate (us/s)	-5.60406E-08	+/- 3.6E-09
Total phase (deg)	175.1	Apriori accel (us/s/s)	-6.89068183219E-06	Resid phase (deg)	87.3	+/- 7.7

ph/seg (deg)	RMS 58.5	Theor. 25.1	Amplitude	0.356 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	69.8	43.7	Search (1024X16)	0.343	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	25.6	7.7	Inc. seg. avg.	0.500	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	18.2	13.4	Inc. frq. avg.	0.369	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
f: az 127.9 el 60.3 pa -43.4	k: az 119.9 el 54.1 pa -48.3	u, v (fr/asec)	427.017 -137.025	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk.Q.47.1J2DGP				ion window (TEC) 0.00 0.00

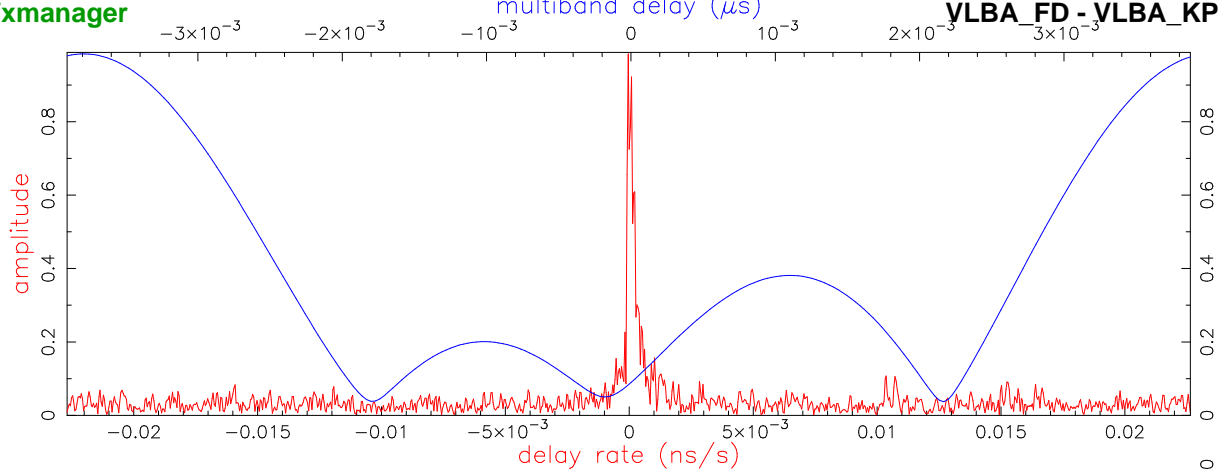
simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

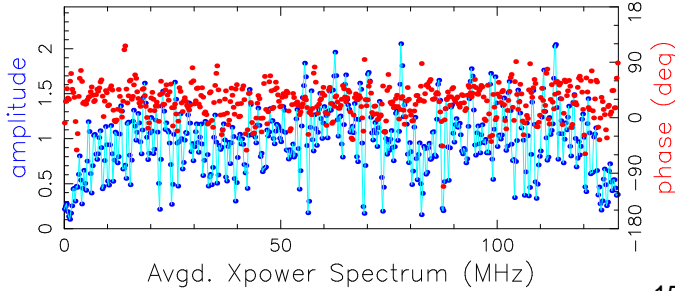
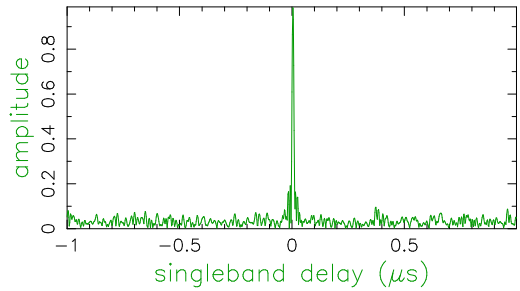
1502+106.1J2DGP, No0154, fk

VLBA_FD - VLBA_KP, fgroup Q, pol RL



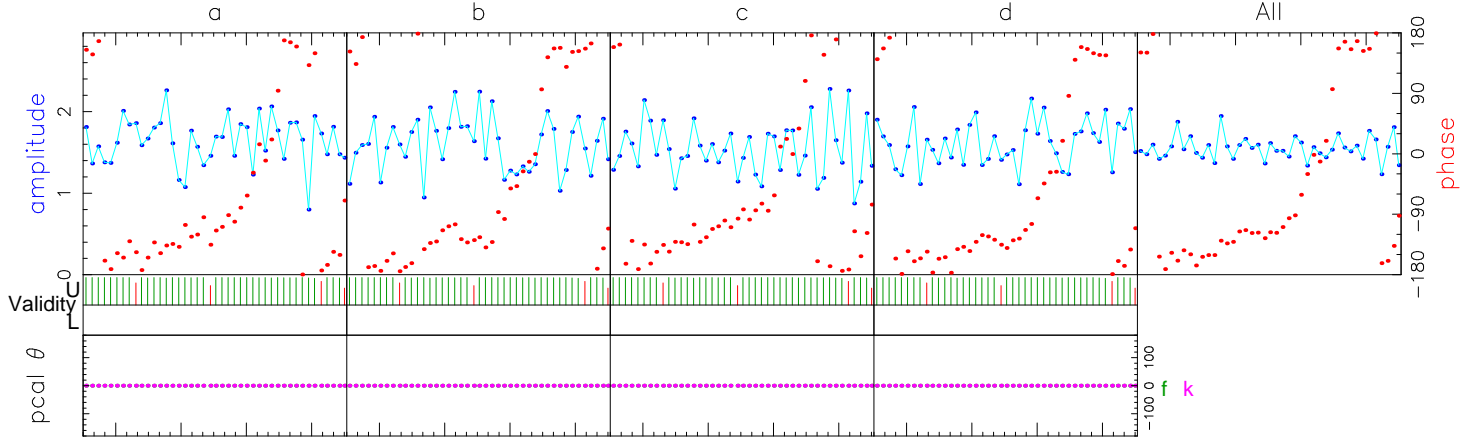
Fringe quality 6

SNR 41.5
 Int time 235.326
 Amp 0.989
 Phase -146.9
 PFD 0.0e+00
 Delays (us)
 SBD 0.004302
 MBD -0.003770
 Fringe rate (Hz)
 -0.002332
 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
	-144.6	-154.1	-132.8	-154.5	Phase	-146.9
	1.0	1.0	1.0	1.1	Ampl.	1.0
	515.3	515.1	515.6	514.6	Sbd box	515.2
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.22778104634E+03	Apriori delay (usec)	1.22777700381E+03	Resid mbdelay (usec)	-3.76997E-03	+/-	2.7E-05
Sband delay (usec)	1.22778130531E+03	Apriori clock (usec)	7.5421095E+00	Resid sbdelay (usec)	4.30150E-03	+/-	1.0E-04
Phase delay (usec)	1.22777699433E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-9.47768E-06	+/-	1.8E-07
Delay rate (us/s)	-1.47869793936E-01	Apriori rate (us/s)	-1.47869739745E-01	Resid rate (us/s)	-5.41914E-08	+/-	1.3E-09
Total phase (deg)	-59.0	Apriori accel (us/s/s)	-6.89068183219E-06	Resid phase (deg)	-146.9	+/-	2.8

ph/seg (deg)	59.0	RMS	59.0	Theor.	9.0	Amplitude	0.989 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	58.9		15.7			Search (1024X16)	0.962	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled		mb window (us)	-0.004	0.004
ph/frq (deg)	12.5		2.8			Inc. seg. avg.	1.535	Bits/sample: 2x2	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023
amp/frq (%)	4.1		4.8			Inc. frq. avg.	0.995	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 k: az 119.9 el 54.1 pa -48.3 u,v (fr/asec) 427.017 -137.025 simultaneous interpolator

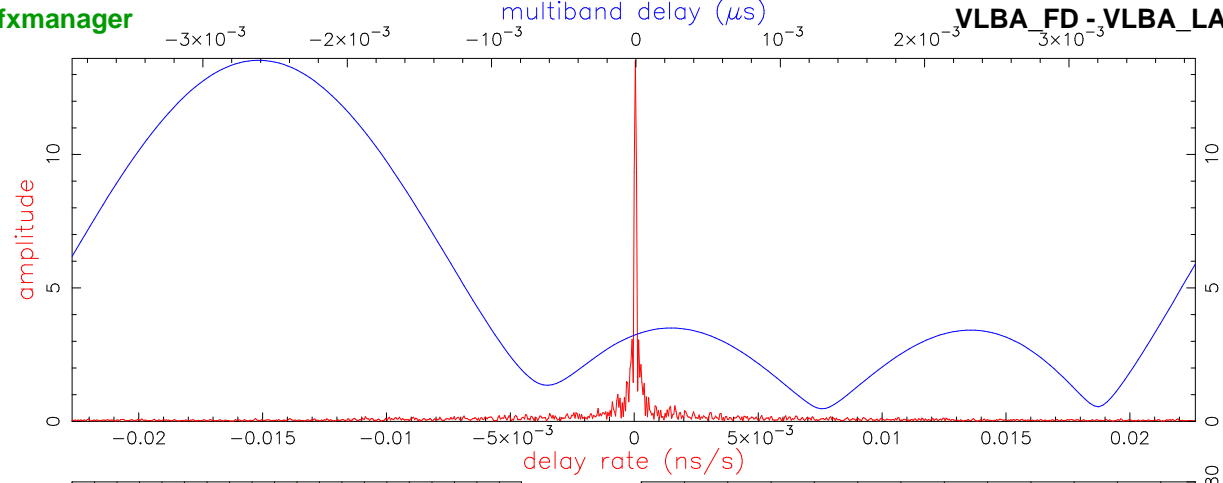
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fk.Q.64.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fl

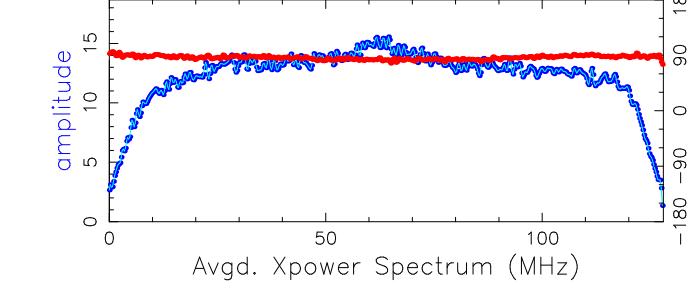
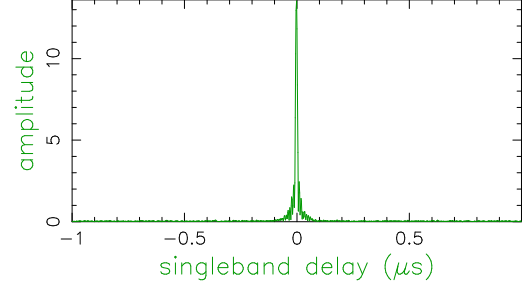
VLBA_FD - VLBA_LA, fgroup Q, pol LL



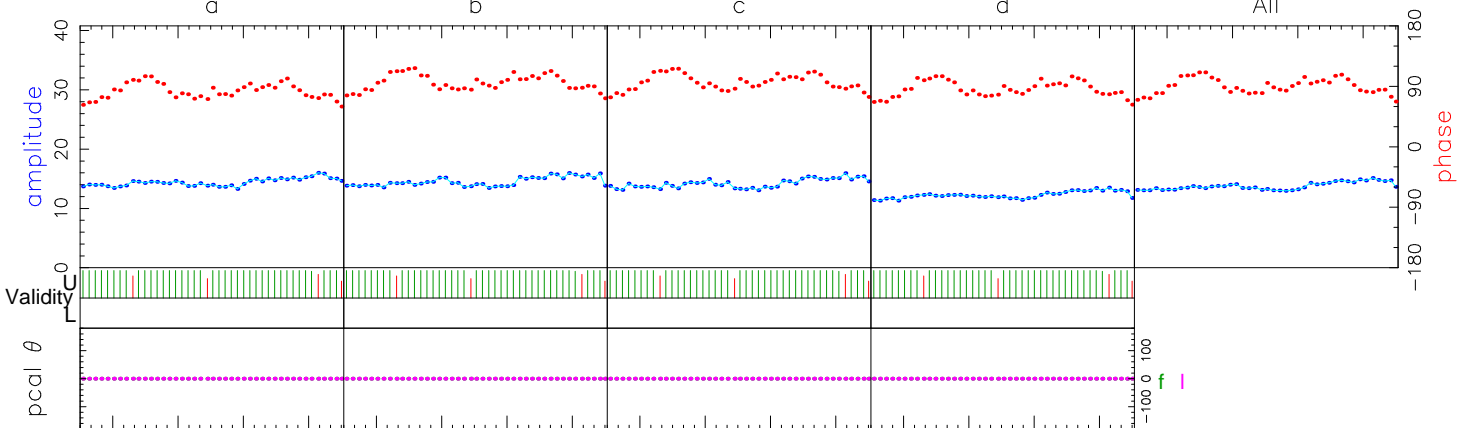
Fringe quality 9

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



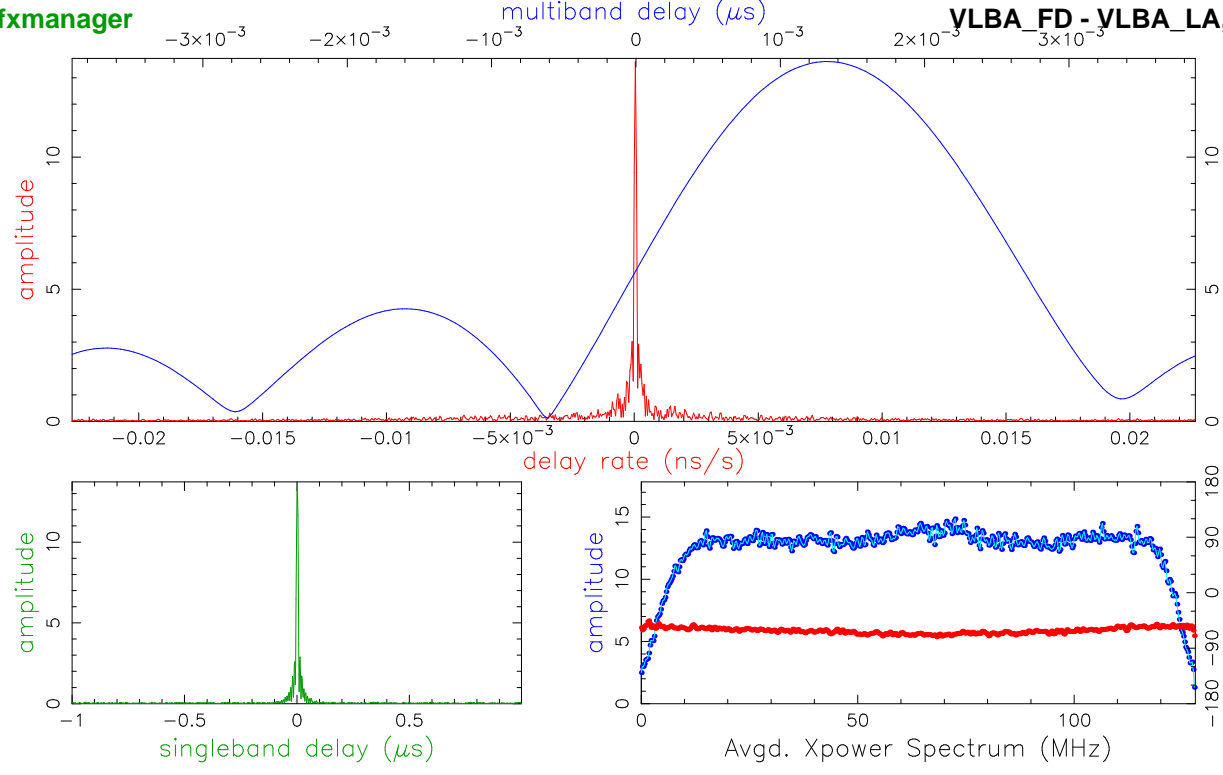
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000	APs used	
l	1000	1000	1000	1000	PC freqs	
f:l	0:0	0:0	0:0	0:0	PC phase	
f:l	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l	Q00UL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

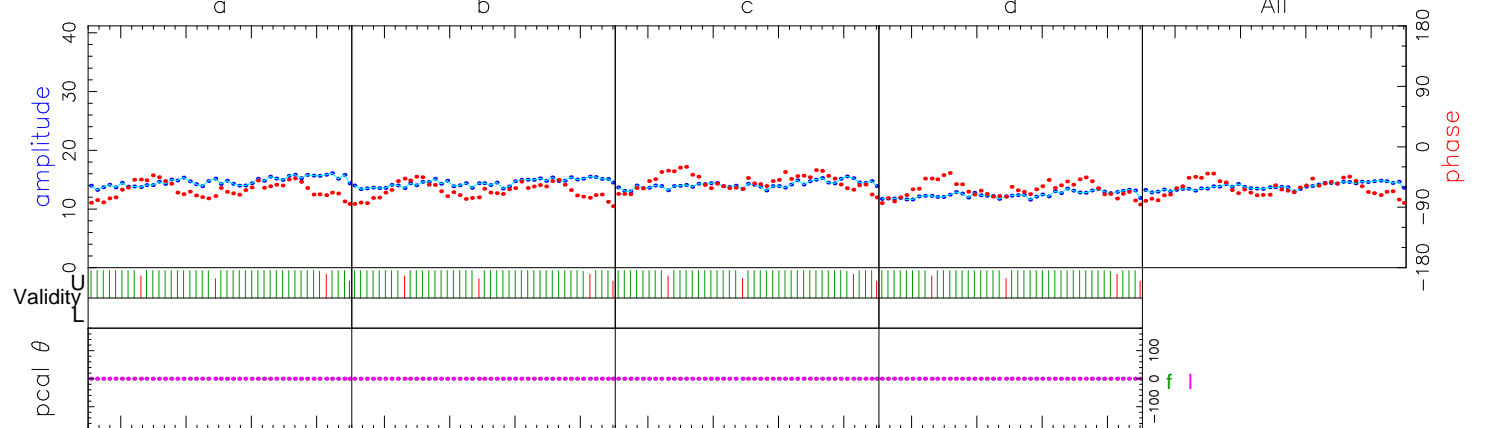


Fringe quality 9

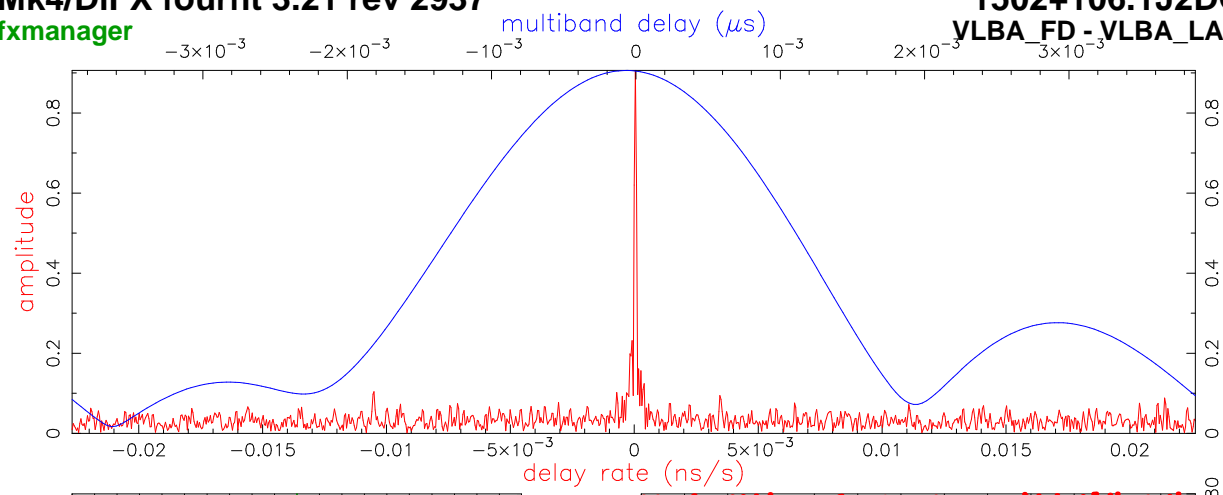
SNR 577.1
Int time 236.233
Amp 13.731
Phase -61.2
PFD 0.0e+00
Delays (us)
SBD 0.001322
MBD 0.001285
Fringe rate (Hz)
0.002322
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

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"

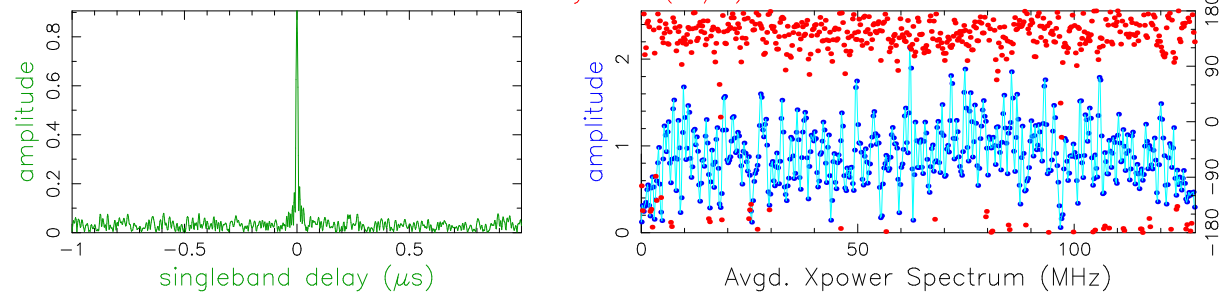
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



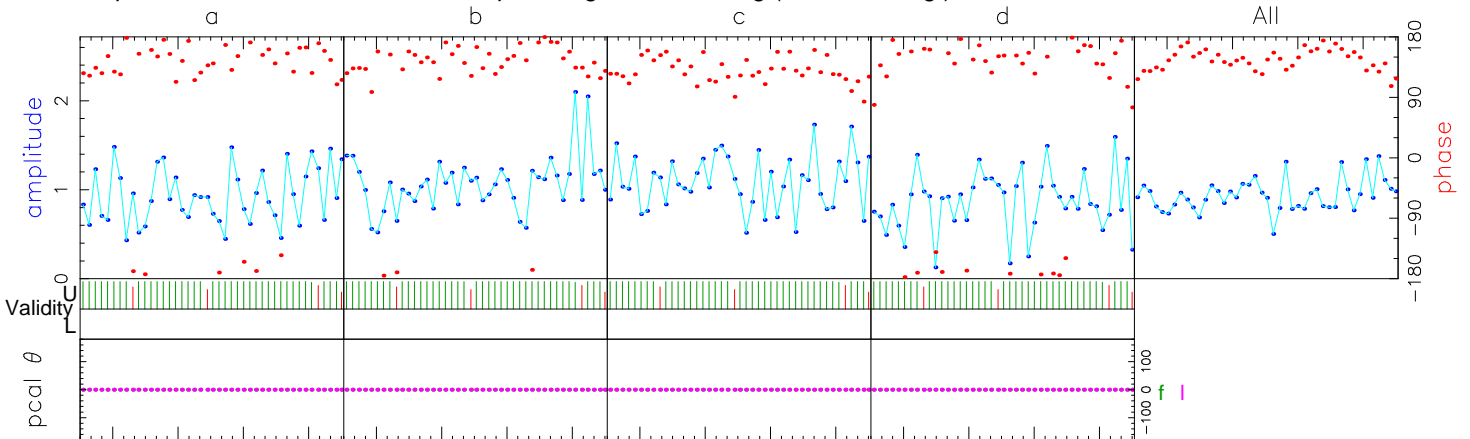
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-64.2	-65.6	-51.8	-63.1	Phase	-61.2
	14.4	14.2	13.9	12.2	Ampl.	13.7
	514.1	513.7	513.9	512.8	Sbd box	513.7
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	PC freqs	
f:l	0:0	0:0	0:0	0:0	PC phase	
f:l	0:0	0:0	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	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	9.40933917067E+02	Apriori delay (usec)	9.40932632448E+02	Resid mbdelay (usec)	1.28462E-03	+/- 1.9E-06
Sband delay (usec)	9.40933954448E+02	Apriori clock (usec)	8.2875147E+00	Resid sbdelay (usec)	1.32200E-03	+/- 7.5E-06
Phase delay (usec)	9.40932628499E+02	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-3.94874E-06	+/- 1.3E-08
Delay rate (us/s)	-1.65432392750E-02	Apriori rate (us/s)	-1.65432932225E-02	Resid rate (us/s)	5.39475E-08	+/- 9.3E-11
Total phase (deg)	119.0	Apriori accel (us/s/s)	-6.48974360416E-06	Resid phase (deg)	-61.2	+/- 0.2
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
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		ion window (TEC)	0.00 0.00
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				simultaneous interpolator



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	Phase	144.6
l	1000	1000	1000	1000	Ampl.	0.9
f:l	0:0	0:0	0:0	0:0	Sbd box	512.9
f:l	0:0	0:0	0:0	0:0	APs used	
f	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	PC freqs	
f	Q00UL	Q01UL	Q02UL	Q03UL	PC phase	
l	Q00UR	Q01UR	Q02UR	Q03UR	ManI PC	
					PC amp	
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

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

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

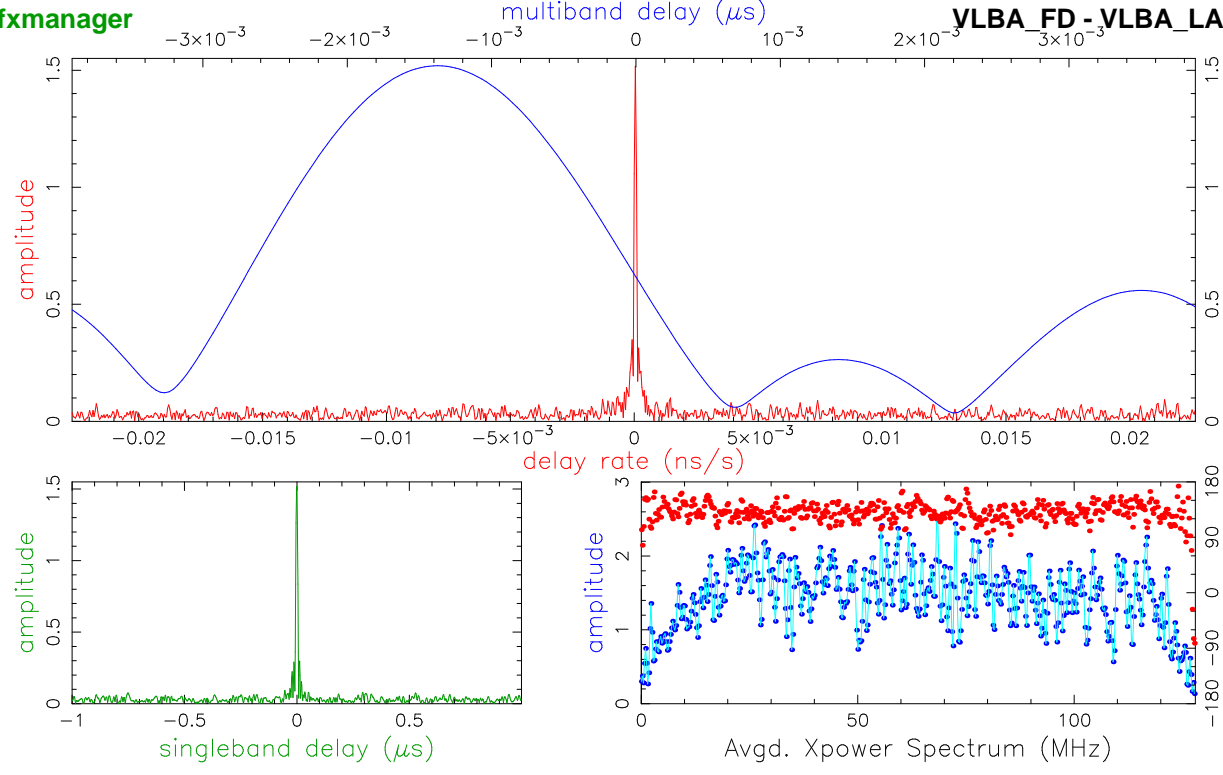
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fl.Q.49.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fl

VLBA_FD - VLBA_LA, fgroup Q, pol RL

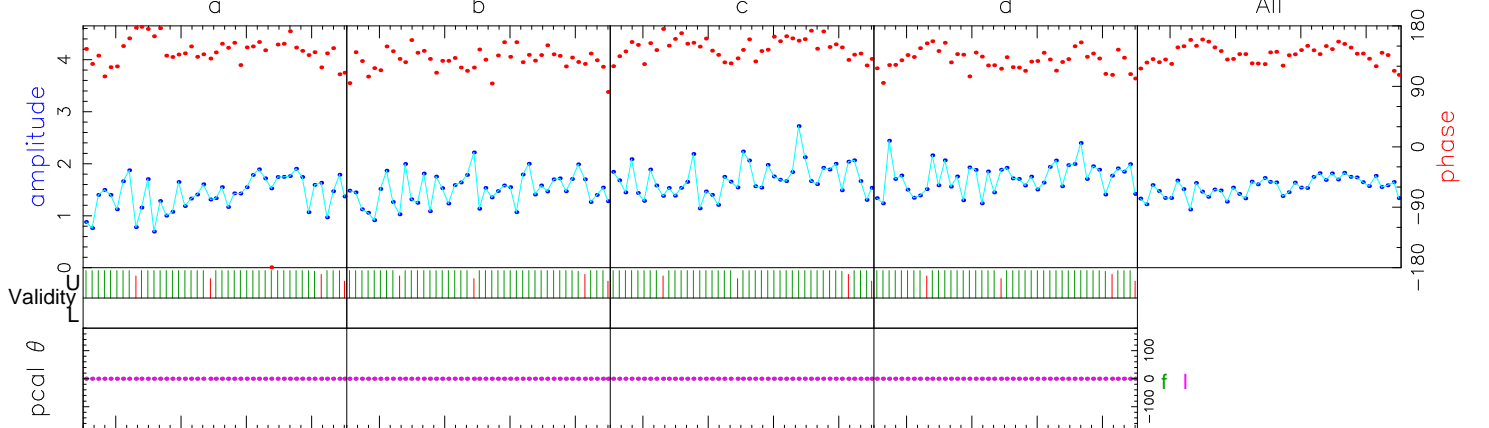


Fringe quality 8

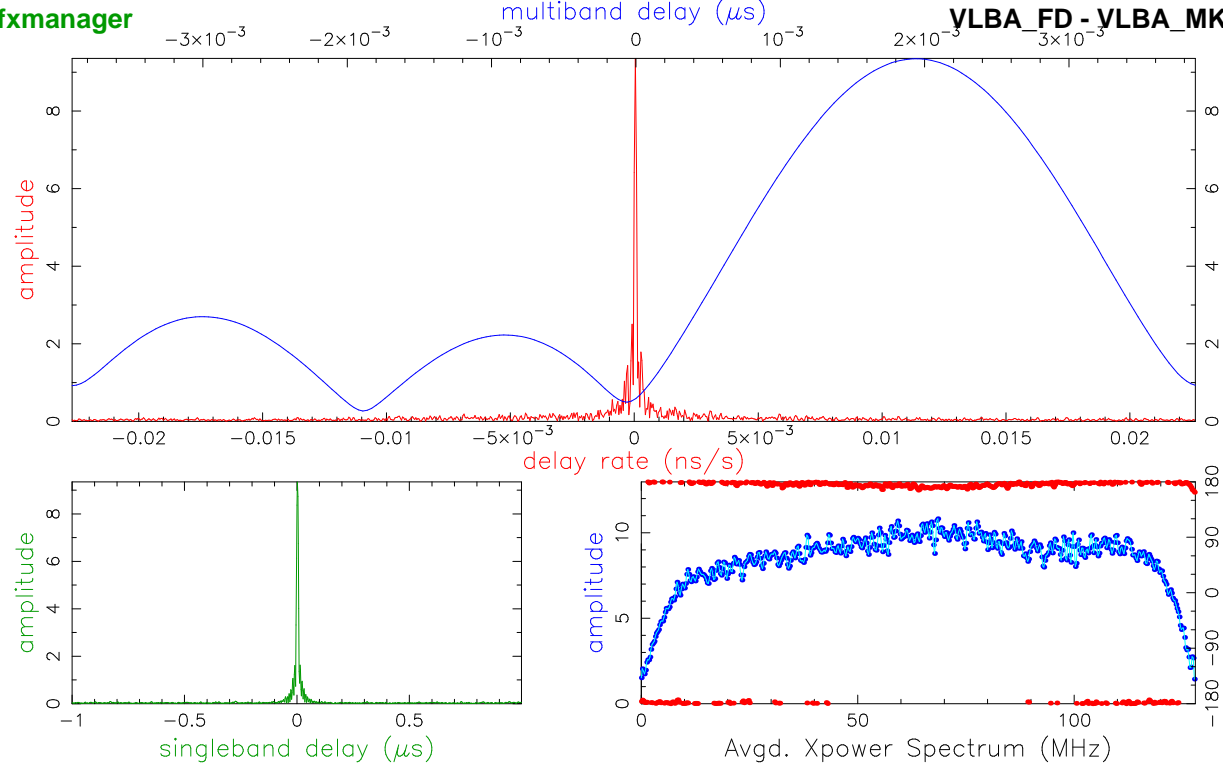
SNR 65.2
 Int time 236.233
 Amp 1.551
 Phase 137.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.000979
 MBD -0.001320
 Fringe rate (Hz) 0.002298
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

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
144.5	129.3	148.1	129.6	Phase	137.8
1.3	1.4	1.7	1.7	Ampl.	1.5
512.8	512.1	513.0	511.9	Sbd box	512.5
U/L 465/0	465/0	465/0	465/0	APs used	
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	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	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+00	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
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
10.8	10.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
12.1	1.8	Inc. seg. avg.	1.544	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
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			

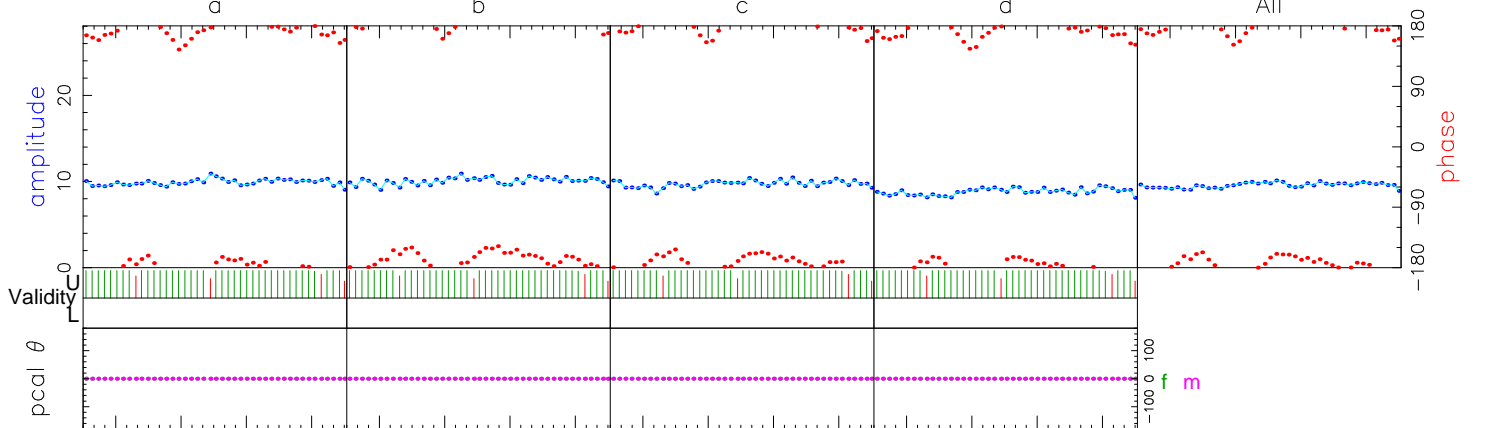


Fringe quality 8

SNR 393.2
Int time 236.233
Amp 9.354
Phase -177.9
PFD 0.0e+00
Delays (us)
SBD 0.002181
MBD 0.001953
Fringe rate (Hz)
0.000984
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		
m	1000	1000	1000	1000		
f:m	0:0	0:0	0:0	0:0		
f:m	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
m	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL		
m	Q00UL	Q01UL	Q02UL	Q03UL		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.19399012148E+04	Apriori delay (usec)	1.19398992621E+04	Resid mbdelay (usec)	1.95274E-03	+/-	2.8E-06
Sband delay (usec)	1.19399014436E+04	Apriori clock (usec)	-5.4878912E+00	Resid sbdelay (usec)	2.18150E-03	+/-	1.1E-05
Phase delay (usec)	1.19398992506E+04	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-1.14819E-05	+/-	1.9E-08
Delay rate (us/s)	-8.73808886189E-01	Apriori rate (us/s)	-8.73808909049E-01	Resid rate (us/s)	2.28598E-08	+/-	1.4E-10
Total phase (deg)	-91.2	Apriori accel (us/s/s)	-6.00424340194E-05	Resid phase (deg)	-177.9	+/-	0.3

ph/seg (deg) 12.9 1.0 Amplitude 9.354 +/- 0.024 Pcd mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 3.9 1.7 Search (1024X16) 8.609 Pcd rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 9.0 0.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004

amp/frq (%) 5.1 0.5 Inc. seg. avg. 9.580 Sample rate(MISamp/s): 256 dr window (ns/s) -0.023 0.023

f: az 127.9 el 60.3 pa -43.4 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2516.597 299.826 Data rate(Mb/s): 2048 nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

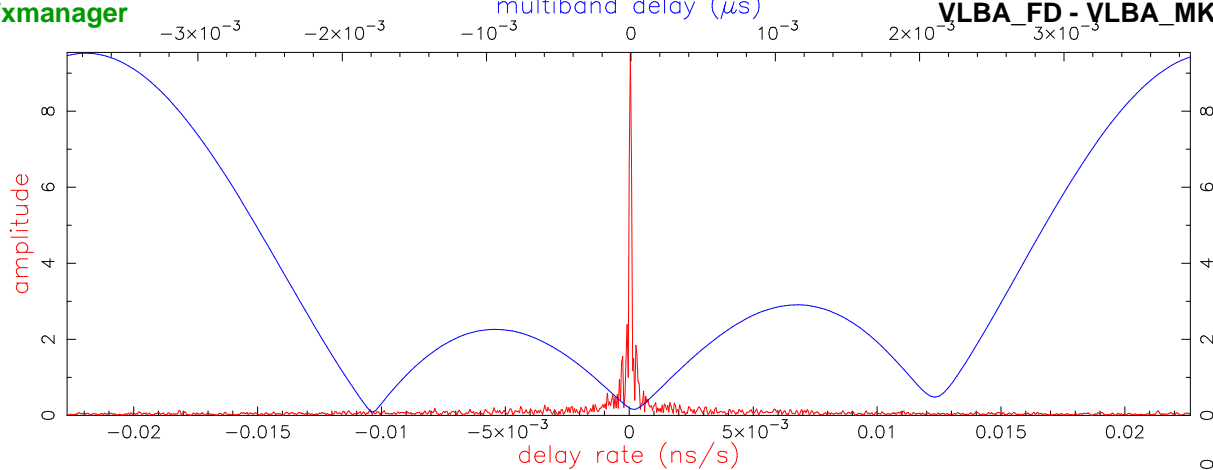
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm.Q.19.1J2DGP simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

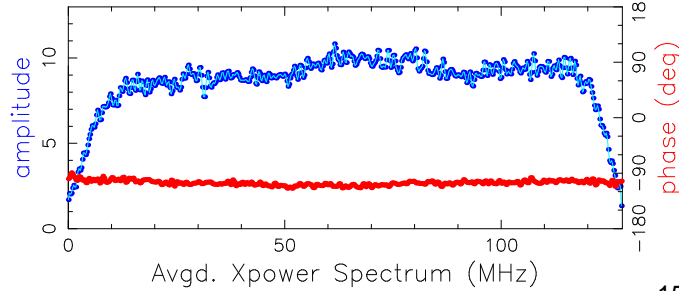
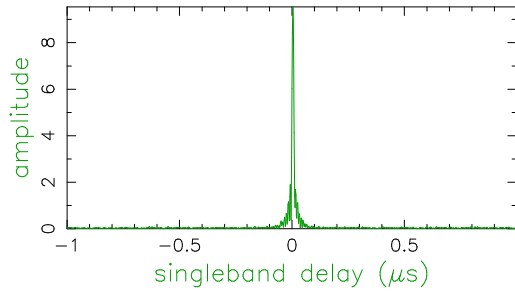
1502+106.1J2DGP, No0154, fm

VLBA_FD - VLBA_MK, fgroup Q, pol RR



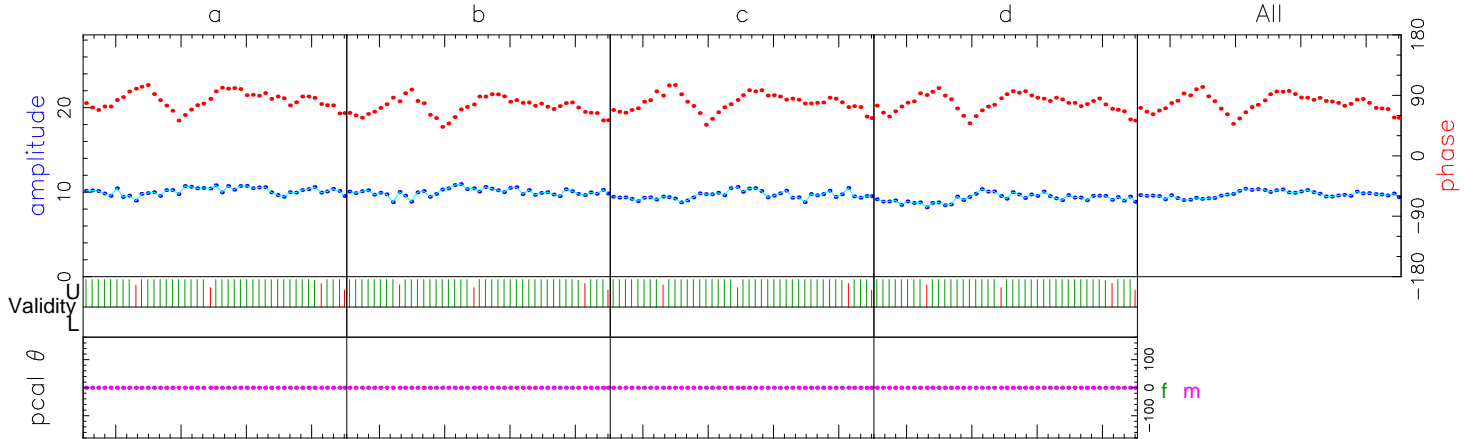
Fringe quality 8

SNR 401.1
 Int time 236.233
 Amp 9.543
 Phase 78.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.004231
 MBD -0.003756
 Fringe rate (Hz)
 0.000969
 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
 2021:032:211440
 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



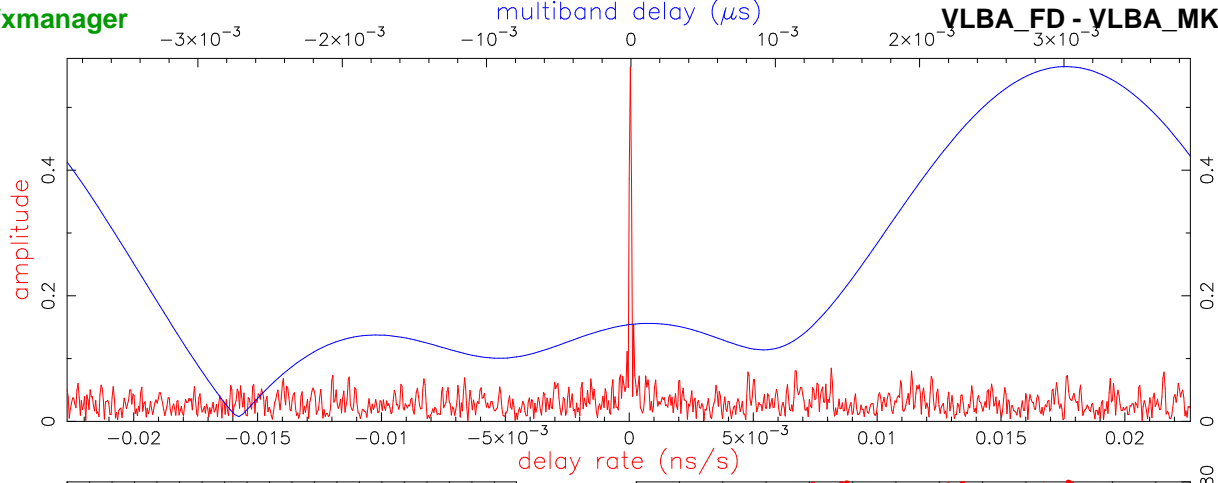
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
m	1000	1000	1000	1000		
f:m	0:0	0:0	0:0	0:0		
f:m	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
m	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
m	Q00UR	Q01UR	Q02UR	Q03UR		

	1.19399033181E+04	Apriori delay (usec)	1.19398992621E+04	Resid mbdelay (usec)	-3.75647E-03	+/- 2.8E-06
Group delay (usec)(sbd)	1.19399034930E+04	Apriori clock (usec)	-5.4878912E+00	Resid sbdelay (usec)	4.23088E-03	+/- 1.1E-05
Sband delay (usec)	1.19398992671E+04	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	5.05037E-06	+/- 1.8E-08
Phase delay (usec)	-8.73808886541E-01	Apriori rate (us/s)	-8.73808909049E-01	Resid rate (us/s)	2.25081E-08	+/- 1.3E-10
Delay rate (us/s)	164.9	Apriori accel (us/s/s)	-6.00424340194E-05	Resid phase (deg)	78.3	+/- 0.3
Total phase (deg)						

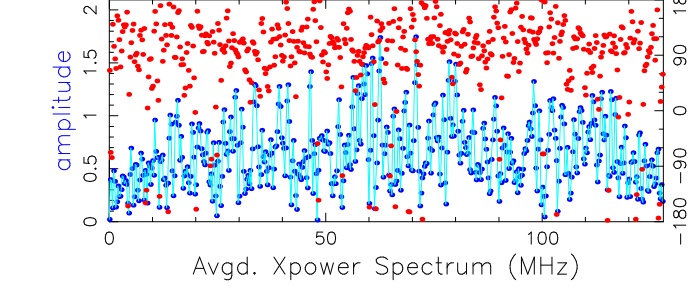
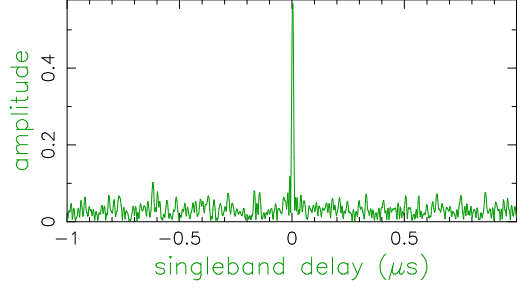
	RMS	Theor.	Amplitude	9.543 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	12.6	0.9	Search (1024X16)	8.700	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.3	1.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	5.2	0.3	Inc. seg. avg.	9.753	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	3.5	0.5	Inc. frq. avg.	9.540	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 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2516.597 299.826 simultaneous interpolator

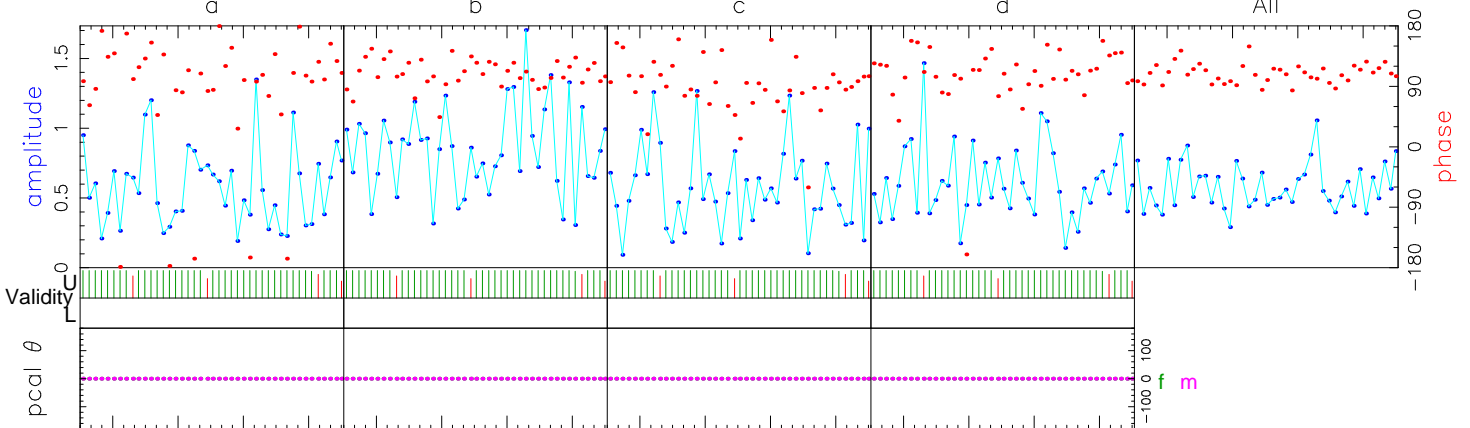
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm.Q.39.1J2DGP



Fringe quality 7
SNR 24.3
Int time 236.233
Amp 0.578
Phase 109.4
PFD 0.0e+00
Delays (us)
SBD 0.003011
MBD 0.003088
Fringe rate (Hz) 0.001020
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	43040.00	All
U/L	465/0	465/0	465/0	465/0	465/0	
f	1000	1000	1000	1000	1000	
m	1000	1000	1000	1000	1000	
f:m	0:0	0:0	0:0	0:0	0:0	
f:m	0:0	0:0	0:0	0:0	0:0	
f	1000	1000	1000	1000	1000	
m	1000	1000	1000	1000	1000	
f	Q00UL	Q01UL	Q02UL	Q03UL		
m	Q00UR	Q01UR	Q02UR	Q03UR		

	42912.00	43040.00	43168.00	43296.00	43040.00	All
Group delay (usec)(sbd)	1.19399023496E+04	1.19399022732E+04	1.19398992621E+04	1.19398992621E+04	3.08753E-03	+/- 4.6E-05
Sband delay (usec)	1.19399022732E+04	1.19398992692E+04	-5.4878912E+00	-5.4878912E+00	3.01112E-03	+/- 1.8E-04
Phase delay (usec)	1.19398992692E+04	1.19398992692E+04	2.9999999E-07	2.9999999E-07	7.05868E-06	+/- 3.0E-07
Delay rate (us/s)	-8.73808885350E-01	-8.73808885350E-01	-8.73808909049E-01	-8.73808909049E-01	2.36993E-08	+/- 2.2E-09
Total phase (deg)		196.0	-6.00424340194E-05	-6.00424340194E-05	109.4	+/- 4.7

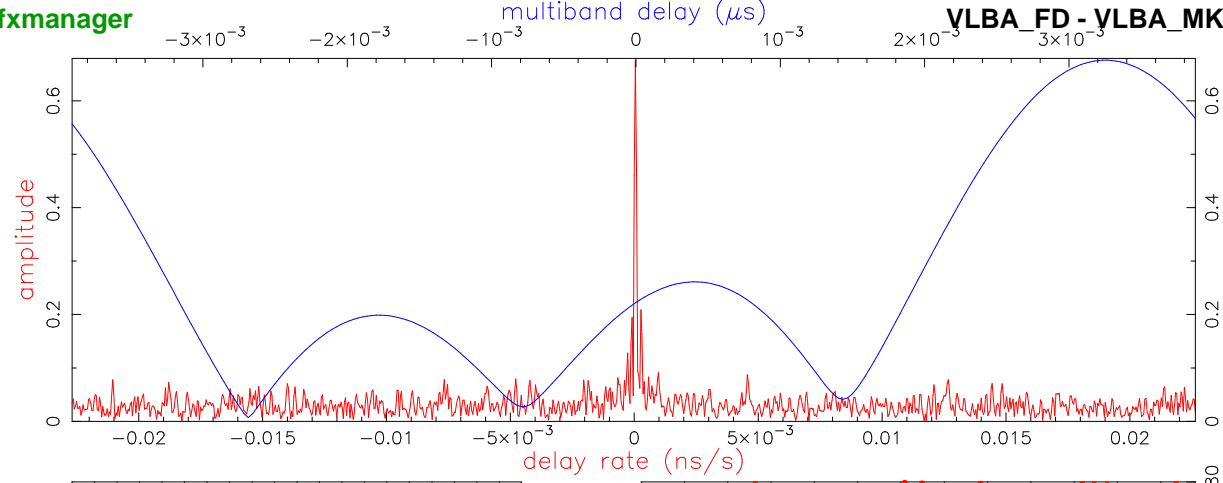
	RMS	Theor.	Amplitude	0.578 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	14.4	15.4	Search (1024X16)	0.521	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	27.4	26.9	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	15.5	4.7	Inc. seg. avg.	0.560	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	22.7	8.2	Inc. frq. avg.	0.571	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fm

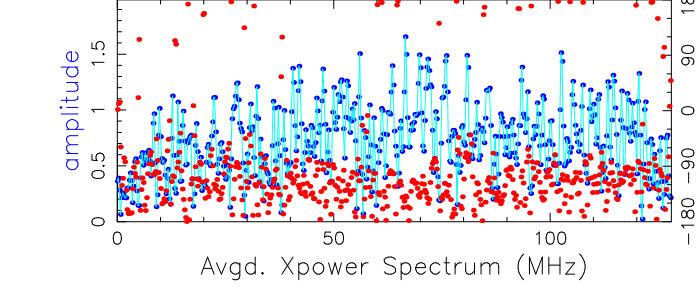
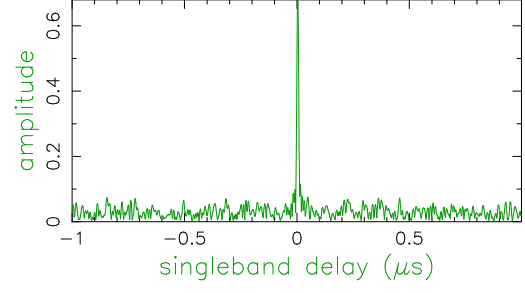
VLBA_FD - VLBA_MK, fgroup Q, pol RL



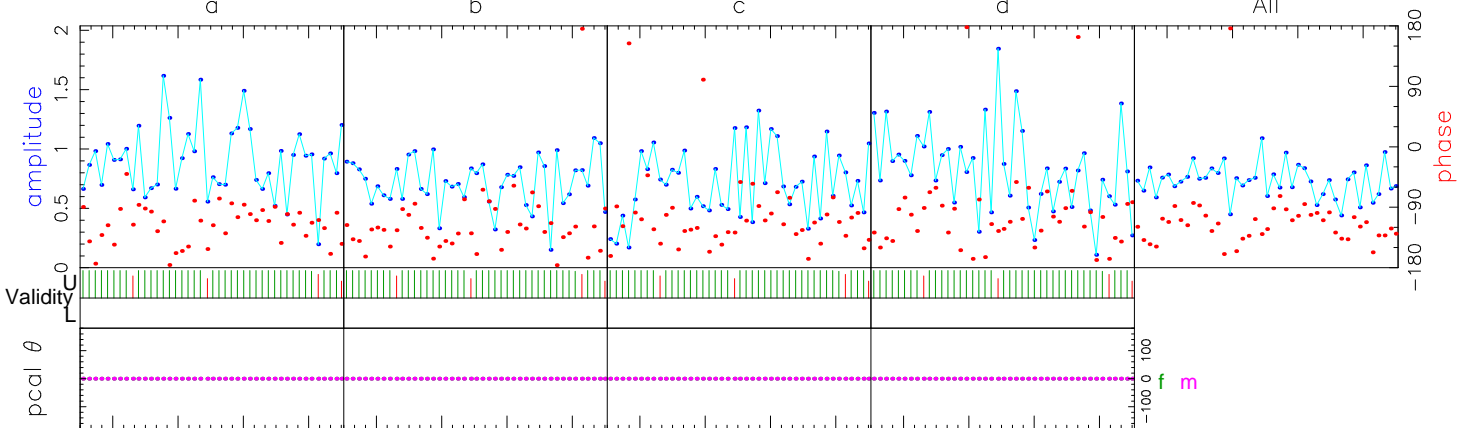
Fringe quality 9

SNR 28.6
 Int time 236.233
 Amp 0.679
 Phase -116.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.003417
 MBD 0.003225
 Fringe rate (Hz) 0.001033
 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		
m	1000	1000	1000	1000		
f:m	0:0	0:0	0:0	0:0		
f:m	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
m	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
m	Q00UL	Q01UL	Q02UL	Q03UL		

	1.19399024868E+04	Apriori delay (usec)	1.19398992621E+04	Resid mbdelay (usec)	3.22471E-03	+/- 3.9E-05
Group delay (usec)(sbd)						
Sband delay (usec)	1.19399026788E+04	Apriori clock (usec)	-5.4878912E+00	Resid sbdelay (usec)	3.41675E-03	+/- 1.5E-04
Phase delay (usec)	1.19398992546E+04	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-7.53771E-06	+/- 2.6E-07
Delay rate (us/s)	-8.73808885044E-01	Apriori rate (us/s)	-8.73808909049E-01	Resid rate (us/s)	2.40056E-08	+/- 1.9E-09
Total phase (deg)	-30.1	Apriori accel (us/s/s)	-6.00424340194E-05	Resid phase (deg)	-116.8	+/- 4.0

	RMS	Theor.	Amplitude	0.679 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	23.2	13.1	Search (1024X16)	0.623	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	21.2	22.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.1	4.0	Inc. seg. avg.	0.712	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	11.1	7.0	Inc. frq. avg.	0.677	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 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 2516.597 299.826 simultaneous interpolator

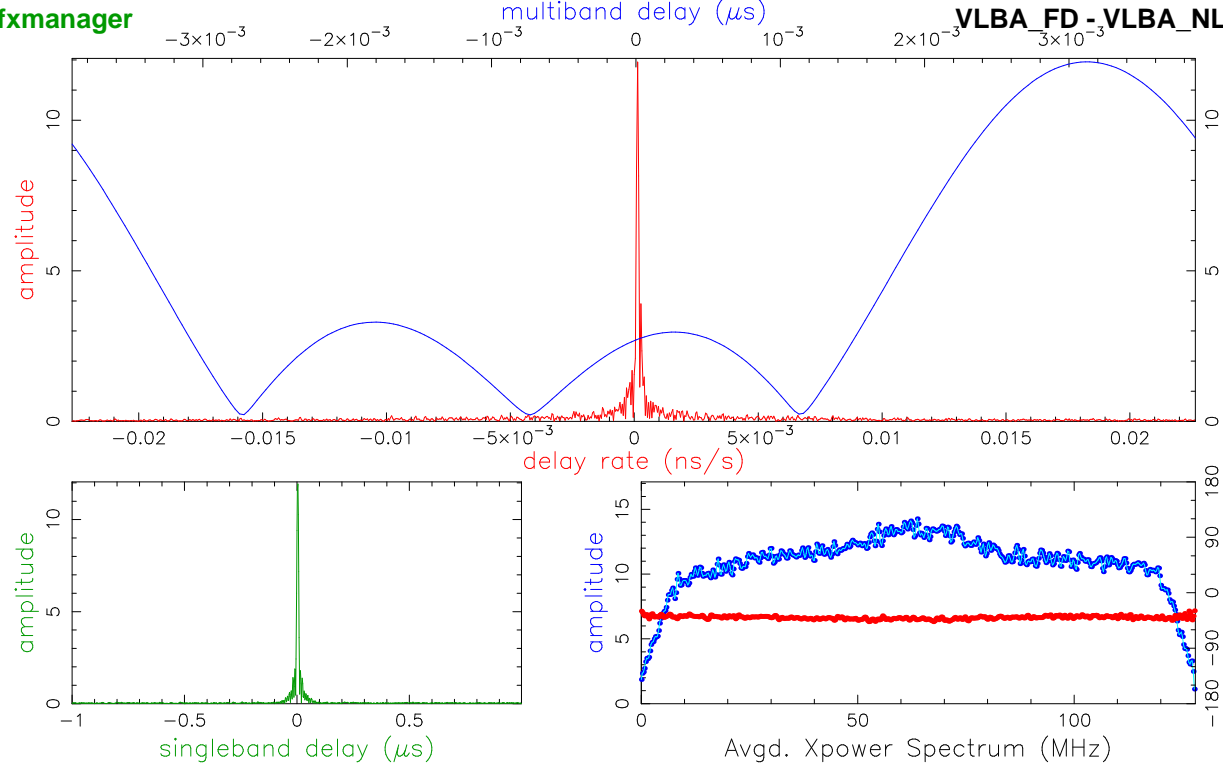
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fm.Q.75.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, fn

VLBA_FD - VLBA_NL, fgroup Q, pol LL

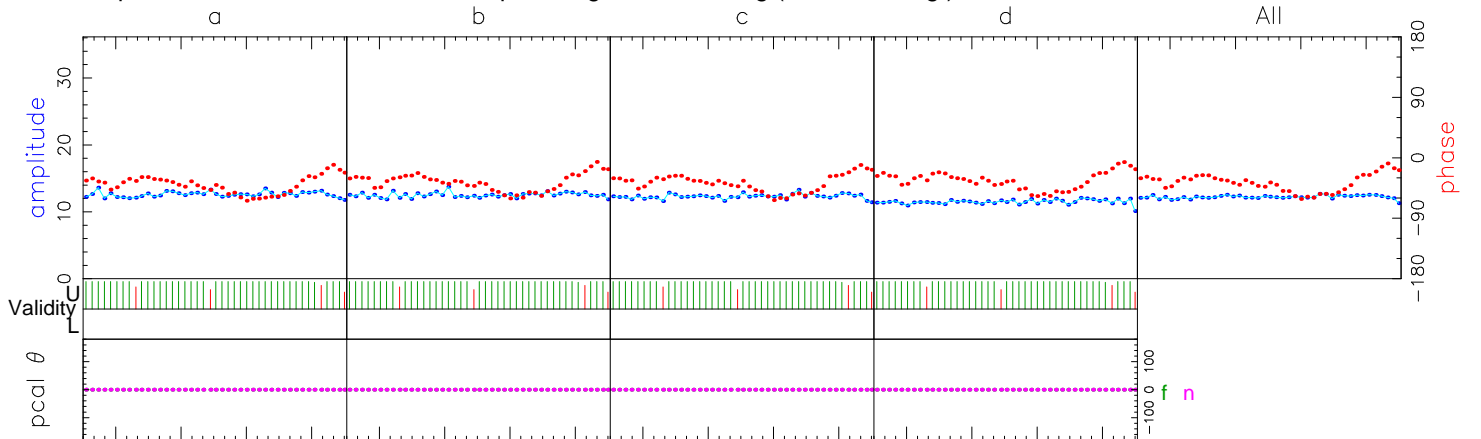


Fringe quality 8

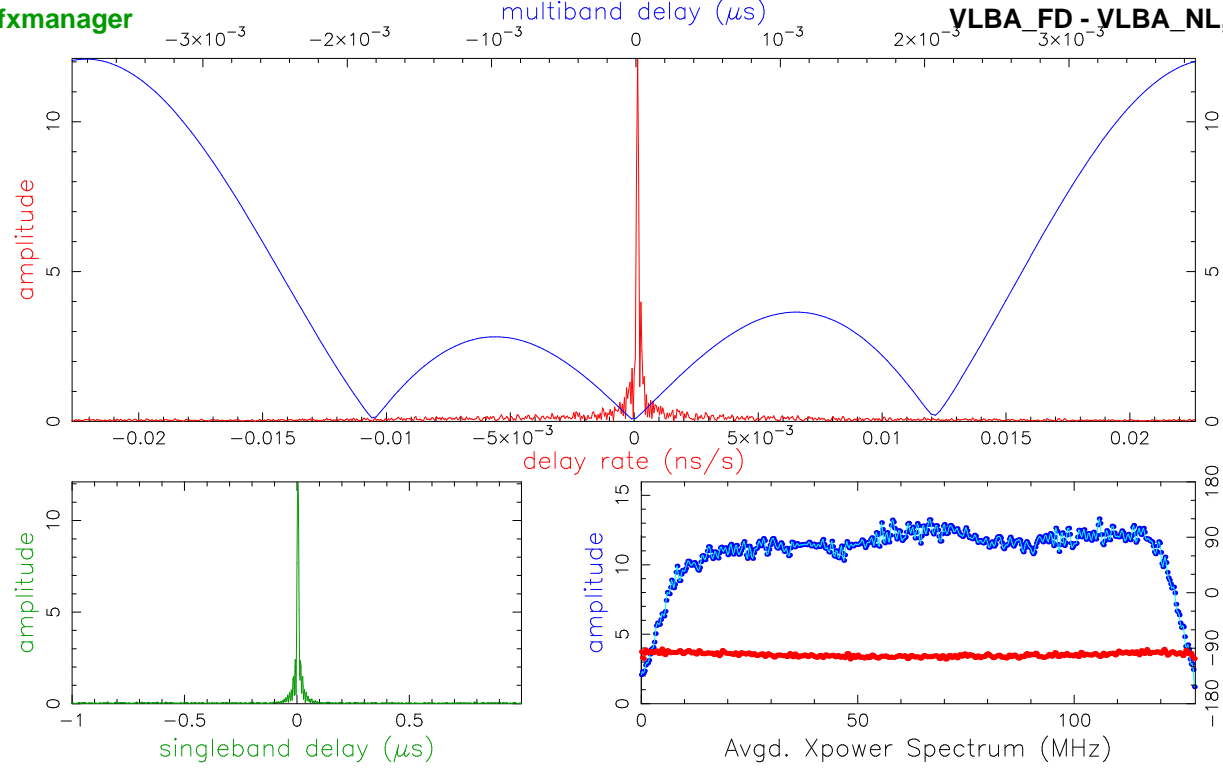
SNR 506.6
 Int time 236.233
 Amp 12.053
 Phase -37.1
 PFD 0.0e+00
 Delays (us)
 SBD 0.003237
 MBD 0.003087
 Fringe rate (Hz) 0.004935
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

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
-40.0	-36.4	-37.8	-33.8	Phase	-37.1
12.3	12.2	12.0	11.2	Ampl.	11.9
514.8	514.6	514.6	514.7	Sbd box	514.7
U/L 465/0	465/0	465/0	465/0	APs used	
f 1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	PC freqs	
f:n 0:0	0:0	0:0	0:0	PC phase	
f:n 0:0	0:0	0:0	0:0	ManI PC	
f 1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
n Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	6.50615784491E+02	Apriori delay (usec)	6.50612697947E+02	Resid mbdelay (usec)	3.08654E-03 +/- 2.2E-06
Sband delay (usec)	6.50615934697E+02	Apriori clock (usec)	7.6972971E+00	Resid sbdelay (usec)	3.23675E-03 +/- 8.5E-06
Phase delay (usec)	6.50612695555E+02	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-2.39174E-06 +/- 1.5E-08
Delay rate (us/s)	3.03053641326E-01	Apriori rate (us/s)	3.03053526670E-01	Resid rate (us/s)	1.14656E-07 +/- 1.1E-10
Total phase (deg)	150.0	Apriori accel (us/s/s)	-6.60957102034E-06	Resid phase (deg)	-37.1 +/- 0.2
RMS	Theor.	Amplitude	12.053 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
12.8	0.7	Search (1024X16)	11.075	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
2.5	1.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
3.2	0.2	Inc. seg. avg.	12.233	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
3.6	0.4	Inc. frq. avg.	11.942	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	n: az 159.6 el 57.2 pa -15.1	u,v (fr/asec) -885.635 -725.726			simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn.Q.16.1J2DGP			

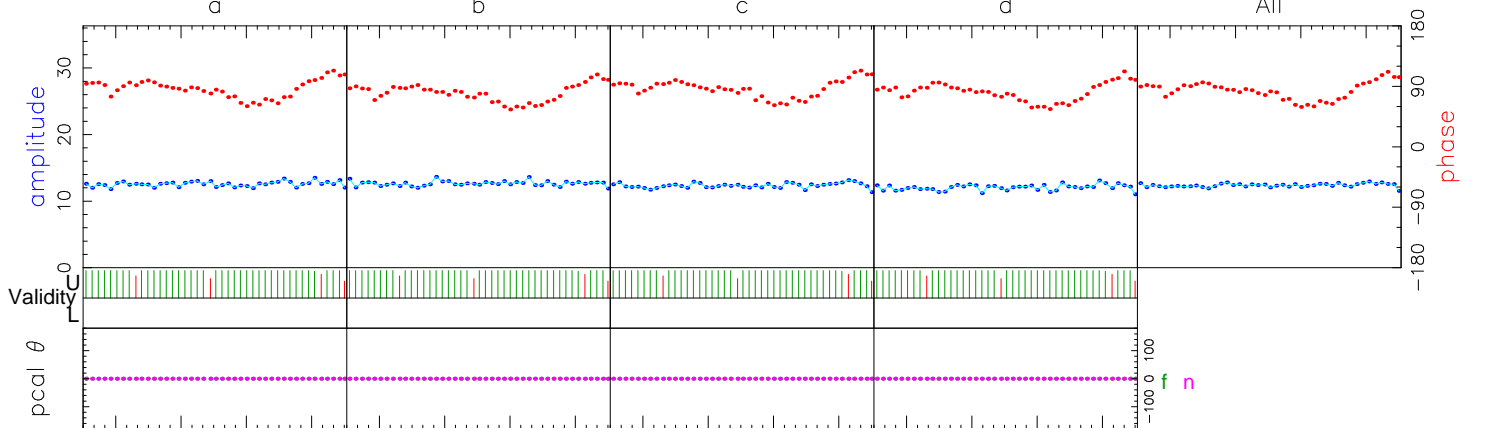


Fringe quality 8

SNR 509.1
Int time 236.233
Amp 12.113
Phase 83.5
PFD 0.0e+00
Delays (us)
SBD 0.004211
MBD -0.003793
Fringe rate (Hz) 0.004928
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
2021:032:211440
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



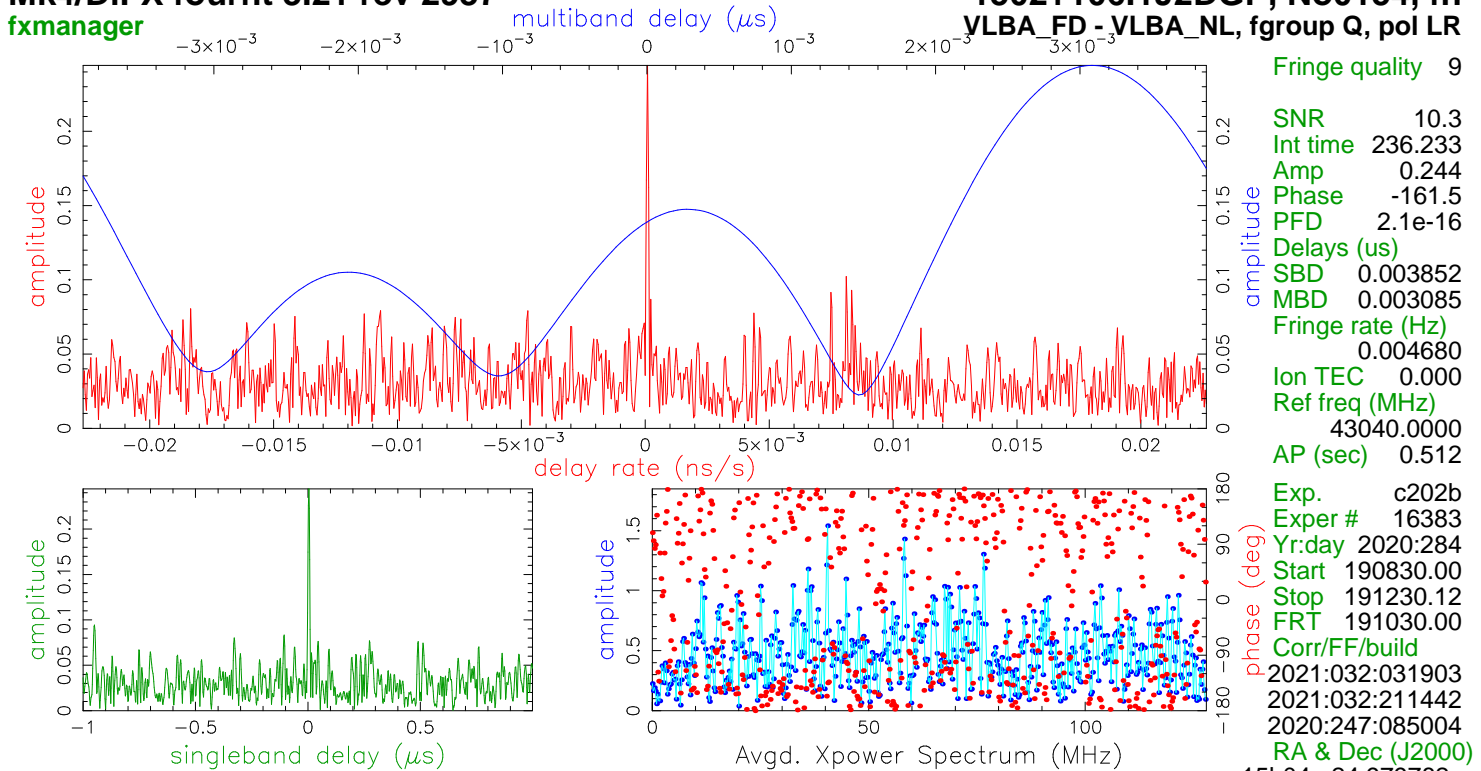
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
n	1000	1000	1000	1000		
f:n	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
n	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
n	Q00UR	Q01UR	Q02UR	Q03UR		
Group delay (usec)(sbd)	6.50616717398E+02			6.50612697947E+02	-3.79305E-03	+/- 2.2E-06
Sband delay (usec)	6.50616908822E+02			7.6972971E+00	4.21087E-03	+/- 8.5E-06
Phase delay (usec)	6.50612703339E+02			-1.0000003E-07	5.39184E-06	+/- 1.5E-08
Delay rate (us/s)	3.03053641179E-01			3.03053526670E-01	1.14509E-07	+/- 1.1E-10
Total phase (deg)		270.6		-6.60957102034E-06	83.5	+/- 0.2
RMS	12.9					
Theor.	0.7					
Amplitude		12.113 +/- 0.024				
Search (1024X16)		11.311				
Interp.		0.000				
Inc. seg. avg.		12.400				
Inc. frq. avg.		12.104				
Pcal mode:				MANUAL, MANUAL		PC period (AP's) 5, 5
Pcal rate:				0.000E+00, 0.000E+00 (us/s)		sb window (us) -1.000 1.000
Bits/sample:				2x2		SampCntNorm: enabled mb window (us) -0.004 0.004
Sample rate (MSamp/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
f: az 127.9 el 60.3 pa -43.4		n: az 159.6 el 57.2 pa -15.1		u,v (fr/asec) -885.635 -725.726		simultaneous interpolator
Control file: cf_1234_gmva7mm		Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn..1J2DGP		Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn.Q.41.1J2DGP		

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

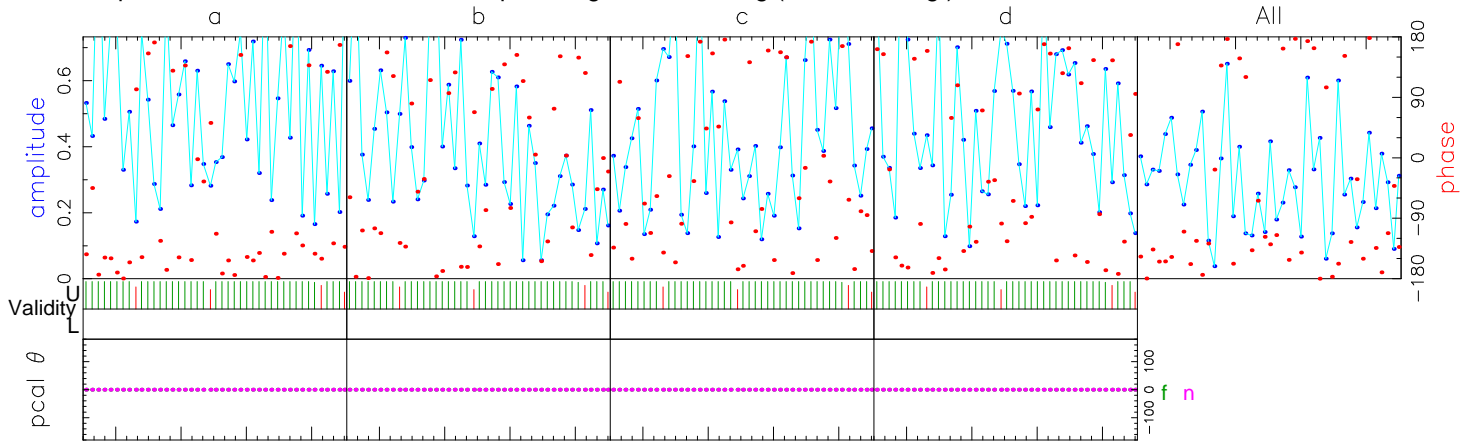
1502+106.1J2DGP, No0154, fn

VLBA_FD - VLBA_NL, fgroup Q, pol LR



Fringe quality 9
 SNR 10.3
 Int time 236.233
 Amp 0.244
 Phase -161.5
 PFD 2.1e-16
 Delays (us)
 SBD 0.003852
 MBD 0.003085
 Fringe rate (Hz)
 0.004680
 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	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
n	1000	1000	1000	1000		
f:n	0:0	0:0	0:0	0:0		
f:n	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
n	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL		
n	Q00UR	Q01UR	Q02UR	Q03UR		

Group delay (usec)(sbd)	6.50615782529E+02	Apriori delay (usec)	6.50612697947E+02	Resid mbdelay (usec)	3.08458E-03	+/-	1.1E-04
Sband delay (usec)	6.50616549447E+02	Apriori clock (usec)	7.6972971E+00	Resid sbdelay (usec)	3.85150E-03	+/-	4.2E-04
Phase delay (usec)	6.50612687525E+02	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-1.04219E-05	+/-	7.2E-07
Delay rate (us/s)	3.03053635402E-01	Apriori rate (us/s)	3.03053526670E-01	Resid rate (us/s)	1.08732E-07	+/-	5.2E-09
Total phase (deg)	25.6	Apriori accel (us/s/s)	-6.60957102034E-06	Resid phase (deg)	-161.5	+/-	11.2

ph/seg (deg)	50.9	RMS	36.4	Theor.	Amplitude	0.244 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	64.1	Search (1024X16)	0.224	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000			
ph/frq (deg)	16.1	Inc. seg. avg.	0.249	Inc. frq. avg.	0.243	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004		
amp/frq (%)	38.7	Inc. frq. avg.	0.243	Sample rate (MSamp/s):	256	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 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) -885.635 -725.726 simultaneous interpolator

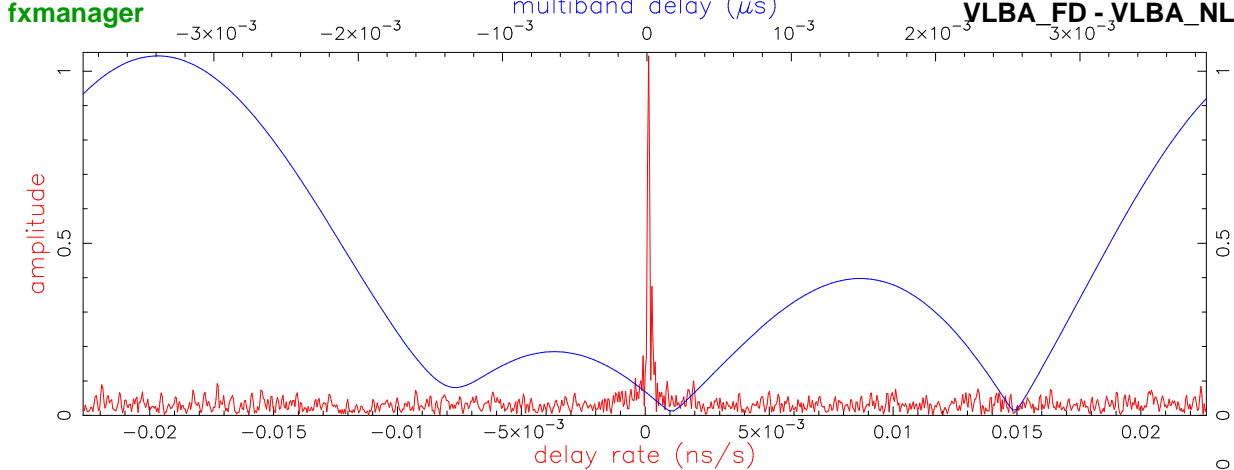
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn.Q.60.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

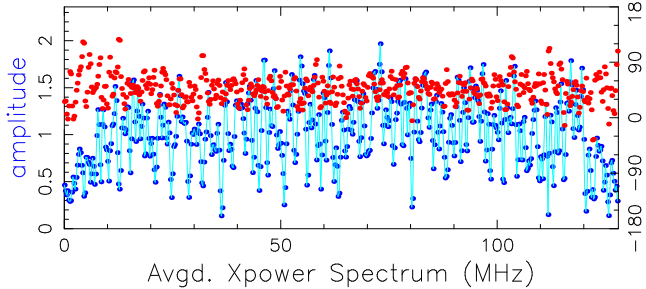
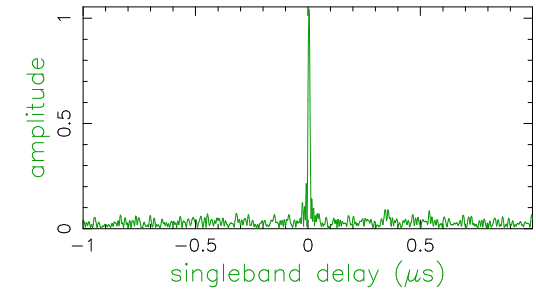
1502+106.1J2DGP, No0154, fn

VLBA_FD - VLBA_NL, fgroup Q, pol RL



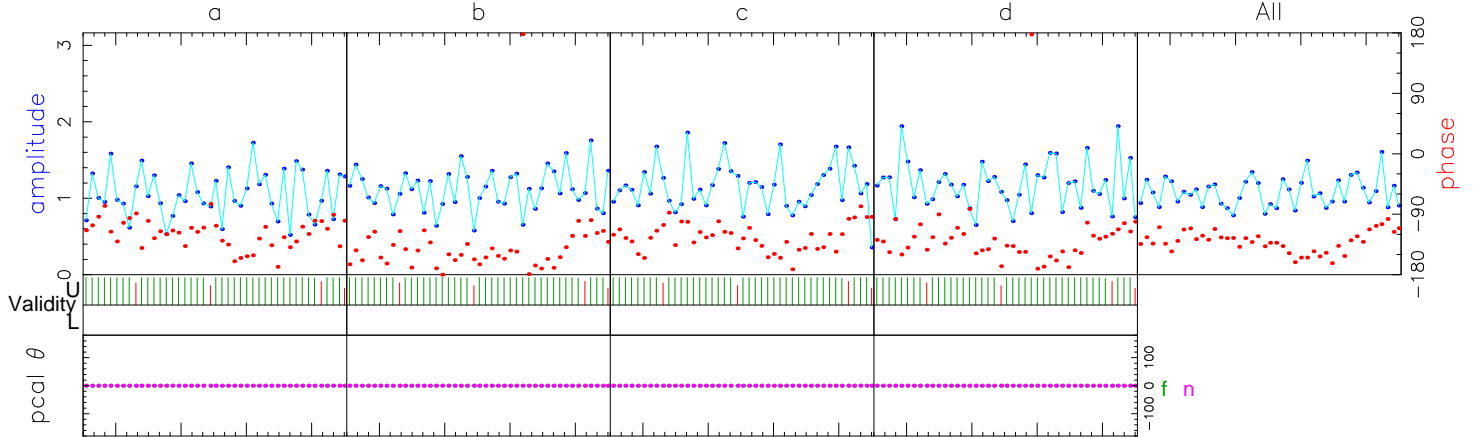
Fringe quality 8

SNR 44.3
 Int time 236.233
 Amp 1.055
 Phase -130.5
 PFD 0.0e+00
 Delays (us)
 SBD 0.004579
 MBD -0.003352
 Fringe rate (Hz)
 0.004930
 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
 2021:032:211444
 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



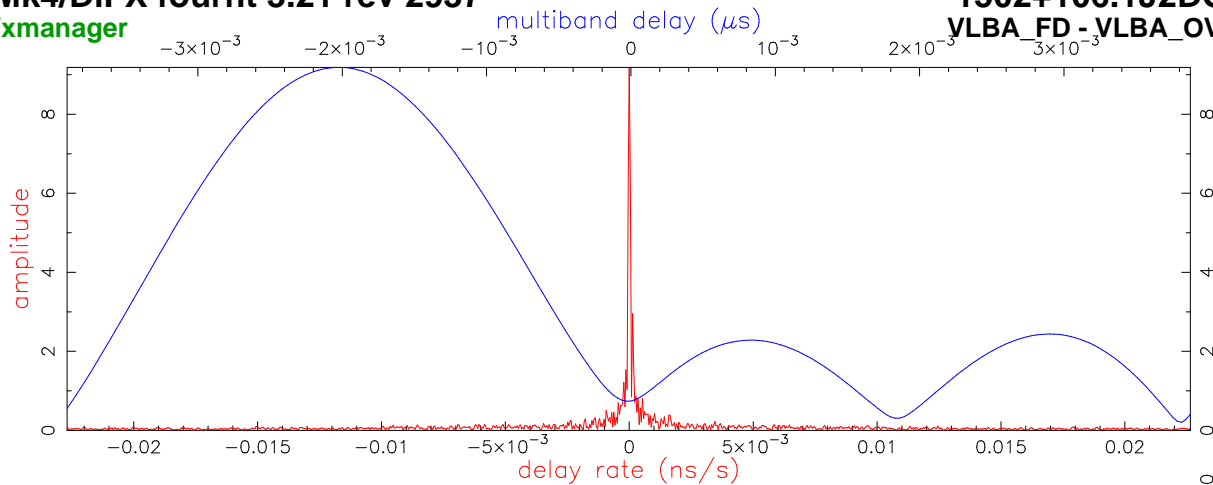
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-119.7	-145.3	-123.3	-133.2	Phase	-130.5
	1.0	1.0	1.1	1.1	Ampl.	1.1
	515.4	515.1	515.8	515.0	Sbd box	515.3
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	PC freqs	
f:n	0:0	0:0	0:0	0:0	PC phase	
f:n	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
n	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	6.50617158804E+02	Apriori delay (usec)	6.50612697947E+02	Resid mbdelay (usec)	-3.35164E-03	+/-	2.5E-05
Sband delay (usec)	6.50617276572E+02	Apriori clock (usec)	7.6972971E+00	Resid sbdelay (usec)	4.57862E-03	+/-	9.7E-05
Phase delay (usec)	6.50612689527E+02	Apriori clockrate (us/s)	-1.0000003E-07	Resid phdelay (usec)	-8.41990E-06	+/-	1.7E-07
Delay rate (us/s)	3.03053641216E-01	Apriori rate (us/s)	3.03053526670E-01	Resid rate (us/s)	1.14546E-07	+/-	1.2E-09
Total phase (deg)	56.6	Apriori accel (us/s/s)	-6.60957102034E-06	Resid phase (deg)	-130.5	+/-	2.6

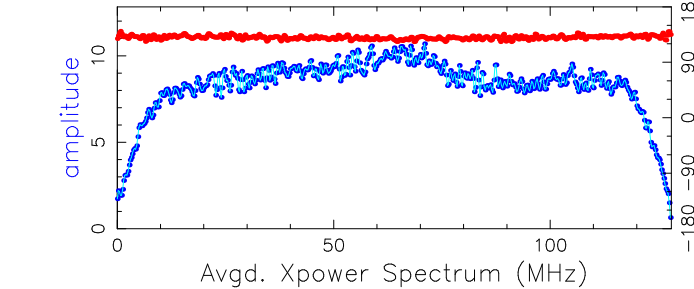
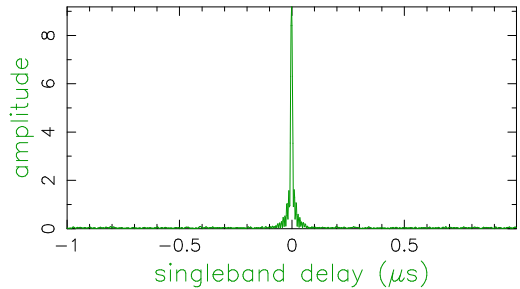
ph/seg (deg)	15.6	RMS	15.6	Theor.	8.4	Amplitude	1.055 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	17.9		17.9		14.7	Search (1024X16)	0.979	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled		mb window (us)	-0.004	0.004
ph/frq (deg)	14.0		14.0		2.6	Interp.	0.000	Bits/sample: 2x2			dr window (ns/s)	-0.023	0.023
amp/frq (%)	3.9		3.9		4.5	Inc. seg. avg.	1.071	Sample rate(MISamp/s): 256			ion window (TEC)	0.00	0.00
						Inc. frq. avg.	1.058	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite			

f: az 127.9 el 60.3 pa -43.4 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) -885.635 -725.726 simultaneous interpolator

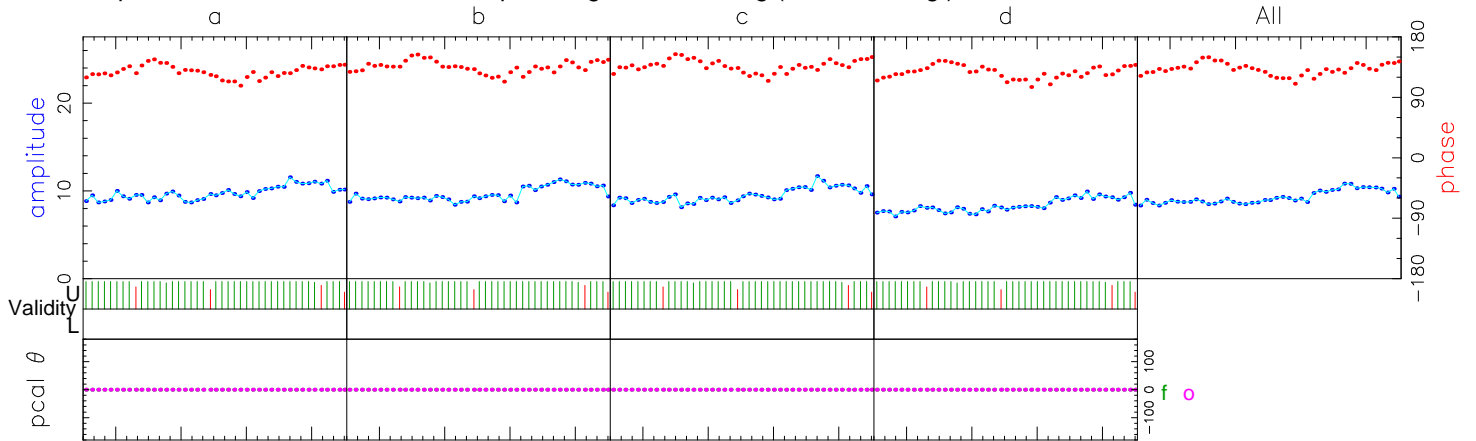
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fn.Q.76.1J2DGP



Fringe quality 9
SNR 385.8
Int time 235.961
Amp 9.185
Phase 131.9
PFD 0.0e+00
Delays (us)
SBD -0.001948
MBD -0.002023
Fringe rate (Hz) 0.000615
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

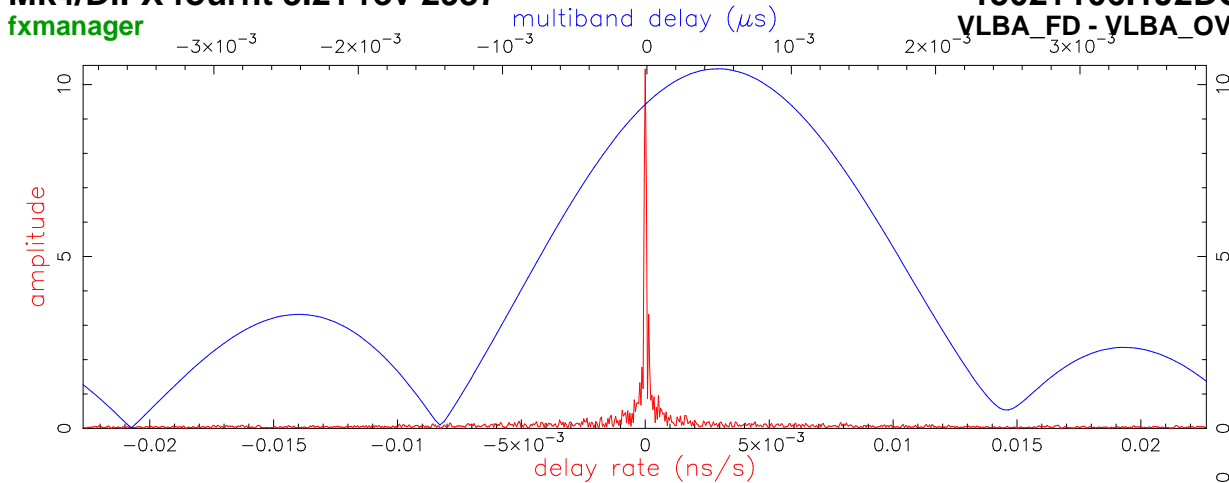


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0	APs used	131.9
f	1000	1000	1000	1000	PC freqs	9.2
o	1000	1000	1000	1000	PC freqs	512.0
f:0	0:0	0:0	0:0	0:0	PC phase	
f:0	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

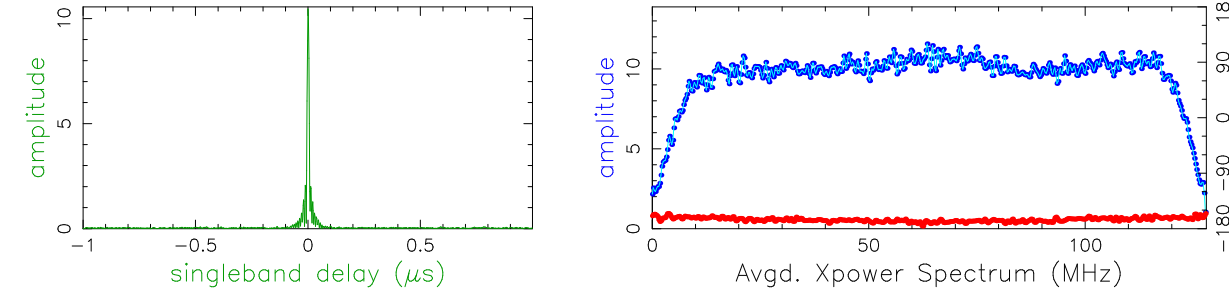
Group delay (usec)(sbd)	2.93686630344E+03	Apriori delay (usec)	2.93686832688E+03	Resid mbdelay (usec)	-2.02344E-03	+/-	2.9E-06
Sband delay (usec)	2.93686637913E+03	Apriori clock (usec)	-1.3513485E+01	Resid sbdelay (usec)	-1.94775E-03	+/-	1.1E-05
Phase delay (usec)	2.93686833539E+03	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	8.51182E-06	+/-	1.9E-08
Delay rate (us/s)	-2.24968185958E-01	Apriori rate (us/s)	-2.24968200239E-01	Resid rate (us/s)	1.42803E-08	+/-	1.4E-10
Total phase (deg)	55.9	Apriori accel (us/s/s)	-1.76343418897E-05	Resid phase (deg)	131.9	+/-	0.3

ph/seg (deg)	8.8	Theor.	1.0	Amplitude	9.185 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	8.1		1.7	Search (1024X16)	8.842	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	5.9		0.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	6.2		0.5	Inc. seg. avg.	9.292	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
				Inc. frq. avg.	9.211	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

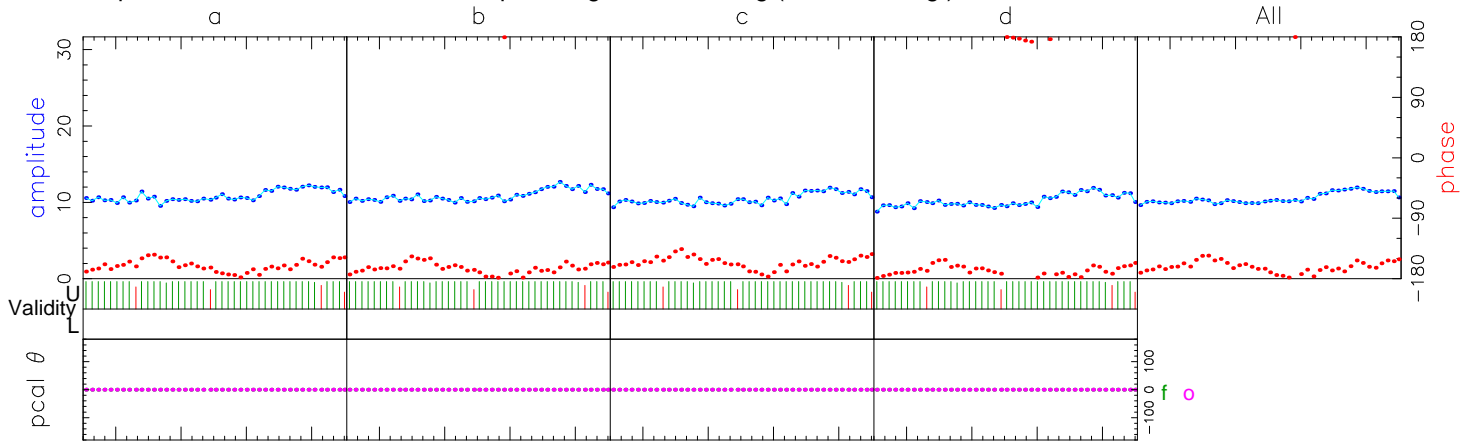
f: az 127.9 el 60.3 pa -43.4 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 646.061 -544.796 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fo.Q.20.1J2DGP



Fringe quality 9
SNR 443.5
Int time 235.961
Amp 10.559
Phase -162.6
PFD 0.0e+00
Delays (us)
SBD 0.000658
MBD 0.000530
Fringe rate (Hz)
0.000597
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



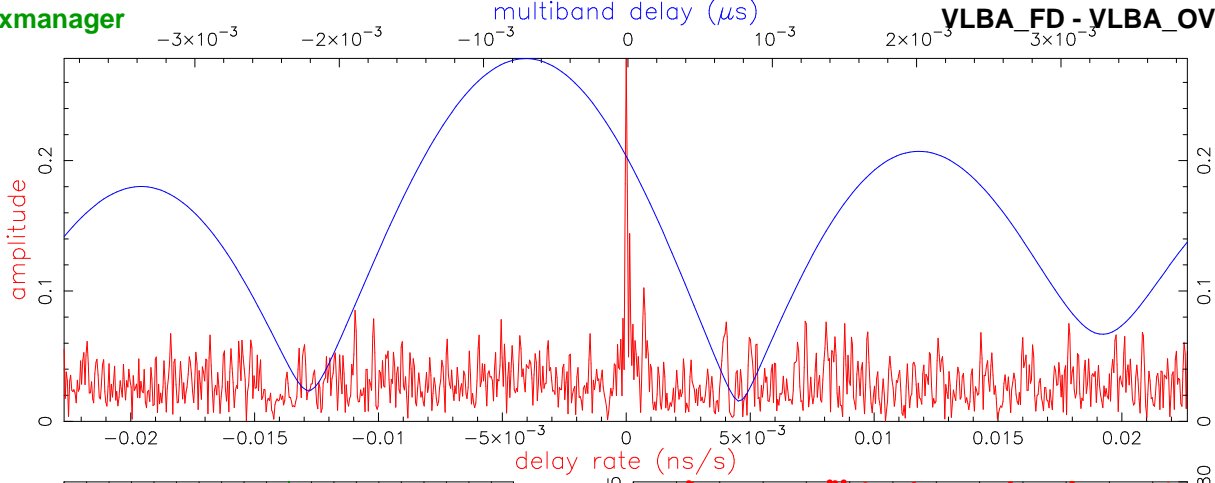
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000		
o	1000	1000	1000	1000		
f:0	0:0	0:0	0:0	0:0		
f:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
o	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
o	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks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

Group delay (usec)(sbd)	2.93686885638E+03	Apriori delay (usec)	2.93686832688E+03	Resid mbdelay (usec)	5.29500E-04	+/-	2.5E-06
Sband delay (usec)	2.93686898463E+03	Apriori clock (usec)	-1.3513485E+01	Resid sbdelay (usec)	6.57750E-04	+/-	9.7E-06
Phase delay (usec)	2.93686831639E+03	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-1.04913E-05	+/-	1.7E-08
Delay rate (us/s)	-2.24968186364E-01	Apriori rate (us/s)	-2.24968200239E-01	Resid rate (us/s)	1.38747E-08	+/-	1.2E-10
Total phase (deg)	121.4	Apriori accel (us/s/s)	-1.76343418897E-05	Resid phase (deg)	-162.6	+/-	0.3

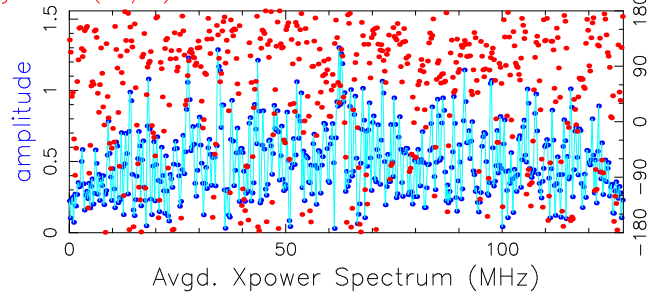
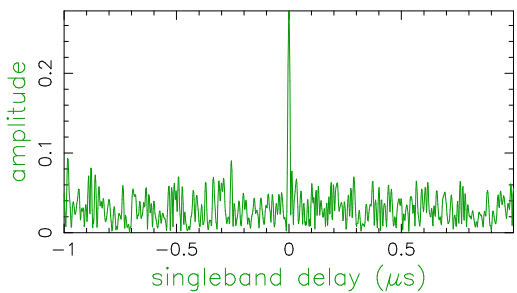
ph/seg (deg)	8.3	0.8	Amplitude	10.559 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	6.5	1.5	Search (1024X16)	10.107	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	7.3	0.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/frq (%)	2.8	0.5	Inc. seg. avg.	10.561	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023	
			Inc. frq. avg.	10.494	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 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 646.061 -544.796 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fo..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fo.Q.35.1J2DGP

Fringe quality 7

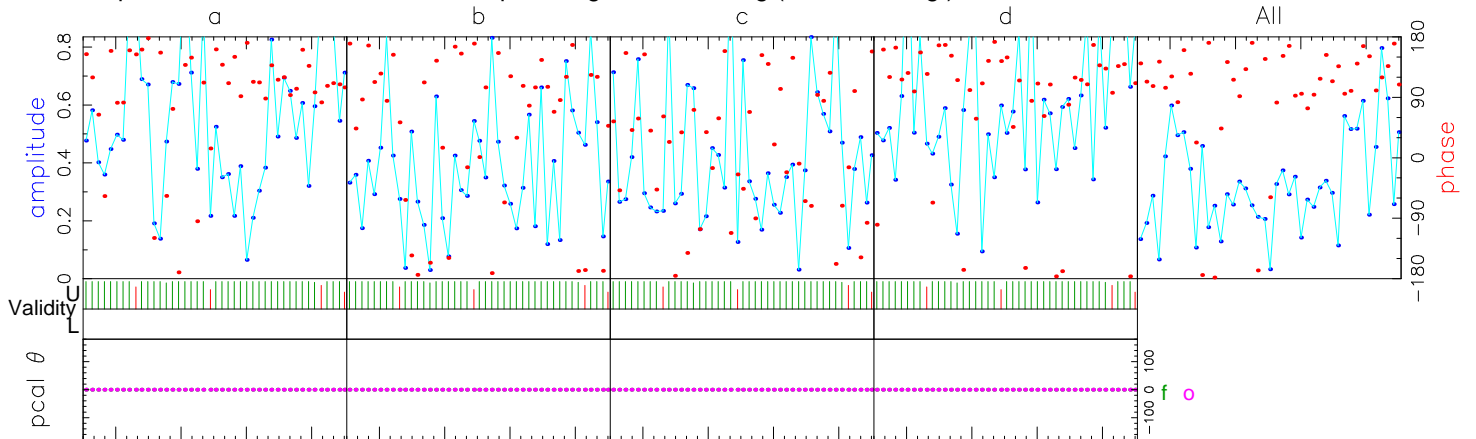


SNR 11.7
Int time 235.961
Amp 0.278
Phase 126.3
PFD 3.3e-23
Delays (us)
SBD -0.000168
MBD -0.000710
Fringe rate (Hz) 0.000824
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512



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

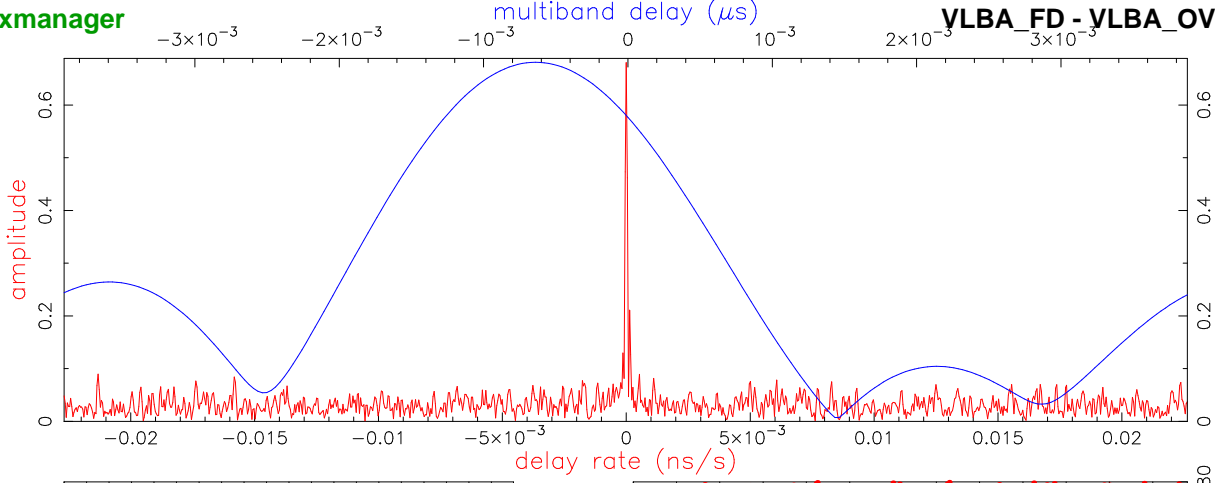


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0	APs used	126.3
f	1000	1000	1000	1000	PC freqs	0.3
o	1000	1000	1000	1000	PC freqs	512.9
f:0	0:0	0:0	0:0	0:0	PC phase	
f:0	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

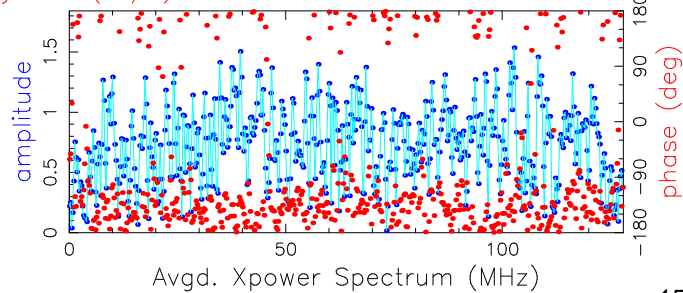
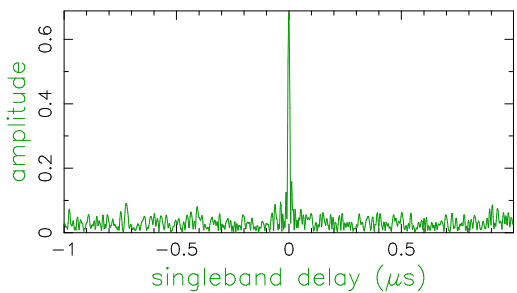
Group delay (usec)(sbd)	2.93686761732E+03	Apriori delay (usec)	2.93686832688E+03	Resid mbdelay (usec)	-7.09563E-04	+/-	9.5E-05
Sband delay (usec)	2.93686815850E+03	Apriori clock (usec)	-1.3513485E+01	Resid sbdelay (usec)	-1.68375E-04	+/-	3.7E-04
Phase delay (usec)	2.93686833503E+03	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	8.15402E-06	+/-	6.3E-07
Delay rate (us/s)	-2.24968181100E-01	Apriori rate (us/s)	-2.24968200239E-01	Resid rate (us/s)	1.91387E-08	+/-	4.6E-09
Total phase (deg)	50.3	Apriori accel (us/s/s)	-1.76343418897E-05	Resid phase (deg)	126.3	+/-	9.8

ph/seg (deg)	45.7	Theor.	32.0	Amplitude	0.278 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	63.1		55.8	Search (1024X16)	0.250	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	50.6		9.8	Inc. seg. avg.	0.286	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	58.8		17.1	Inc. frq. avg.	0.282	Sample rate(MSamp/s): 256		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

Fringe quality 8

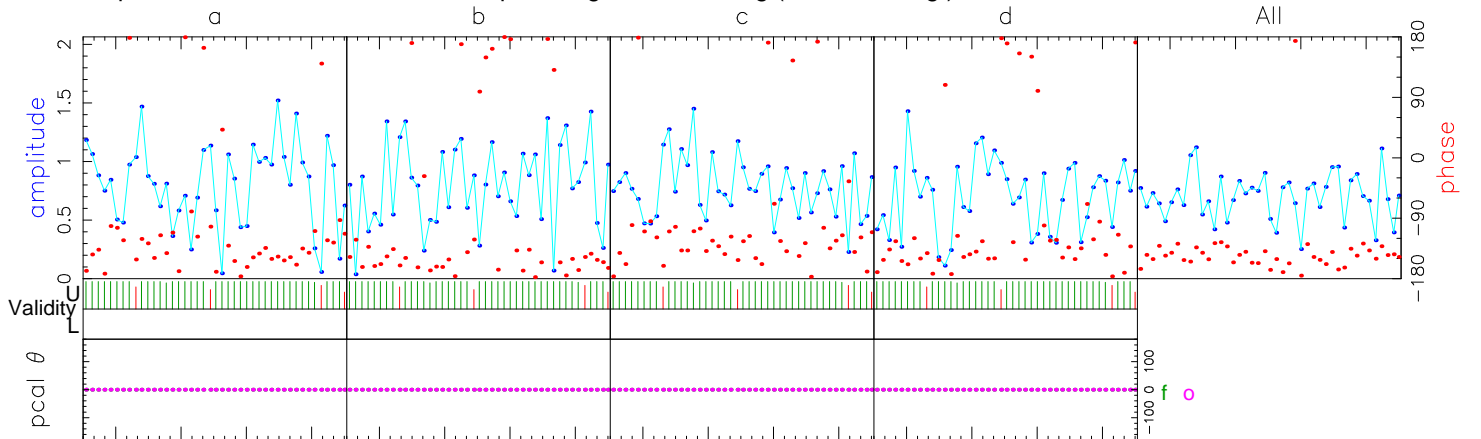


SNR 28.9
Int time 235.961
Amp 0.688
Phase -146.6
PFD 0.0e+00
Delays (us)
SBD -0.000702
MBD -0.000690
Fringe rate (Hz) 0.000630
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512



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
	-142.8	-163.4	-135.0	-144.4	Phase	-146.6
	0.7	0.7	0.7	0.6	Ampl.	0.7
	512.7	512.4	513.2	512.1	Sbd box	512.6
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	PC freqs	
f:o	0:0	0:0	0:0	0:0	PC phase	
f:o	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
o	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.93686763738E+03	Apriori delay (usec)	2.93686832688E+03	Resid mbdelay (usec)	-6.89500E-04	+/-	3.8E-05
Sband delay (usec)	2.93686762463E+03	Apriori clock (usec)	-1.3513485E+01	Resid sbdelay (usec)	-7.02250E-04	+/-	1.5E-04
Phase delay (usec)	2.93686831741E+03	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-9.46353E-06	+/-	2.6E-07
Delay rate (us/s)	-2.24968185610E-01	Apriori rate (us/s)	-2.24968200239E-01	Resid rate (us/s)	1.46292E-08	+/-	1.9E-09
Total phase (deg)	137.3	Apriori accel (us/s/s)	-1.76343418897E-05	Resid phase (deg)	-146.6	+/-	4.0

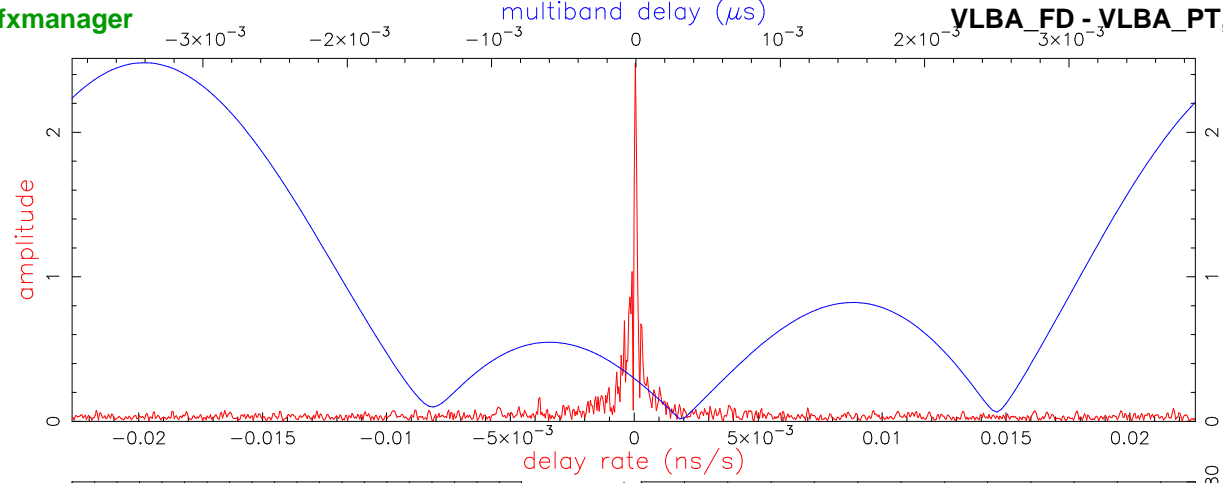
	RMS	Theor.	Amplitude	0.688 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	13.9	12.9	Search (1024X16)	0.650	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	28.6	22.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	14.8	4.0	Inc. seg. avg.	0.682	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023
amp/frq (%)	7.3	6.9	Inc. frq. avg.	0.691	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC) 0.00 0.00

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fxmanager

1502+106.1J2DGP, No0154, fp

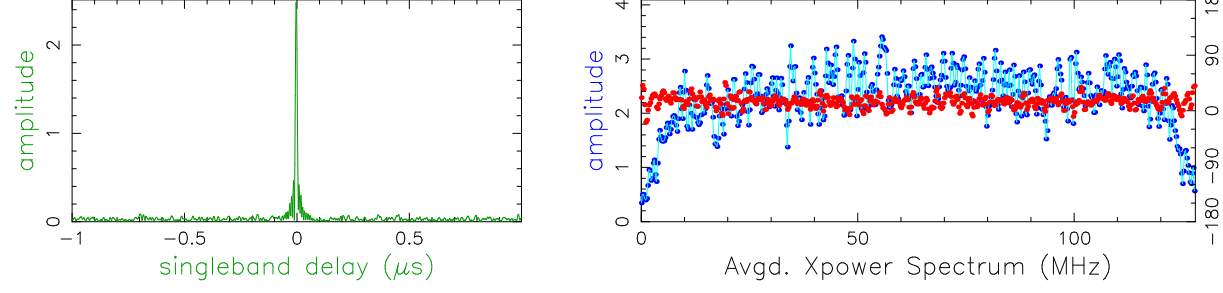
VLBA_FD - VLBA_PT, fgroup Q, pol RR



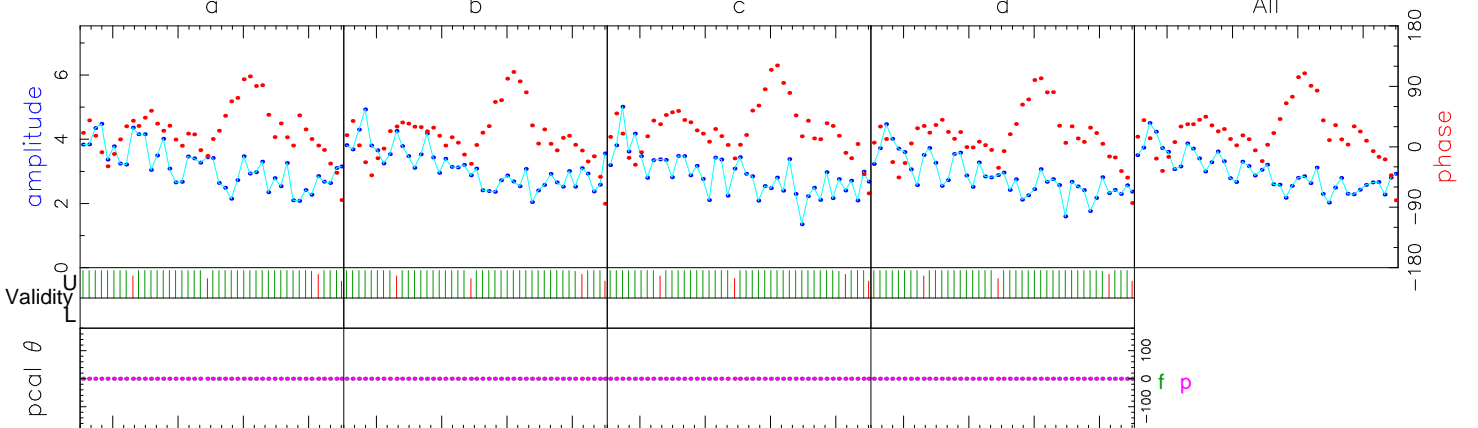
Fringe quality 6

SNR 105.5
 Int time 236.233
 Amp 2.511
 Phase 19.7
 PFD 0.0e+00
 Delays (us)
 SBD -0.003171
 MBD -0.003367
 Fringe rate (Hz)
 0.002263
 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
U/L	465/0	465/0	465/0	465/0	APs used	511.4
f	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
f:p	0:0	0:0	0:0	0:0	PC phase	
fp	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

	9.89803917958E+02	Apriori delay (usec)	9.89807284776E+02	Resid mbdelay (usec)	-3.36682E-03	+/- 1.1E-05
Group delay (usec)(sbd)	9.89804114151E+02	Apriori clock (usec)	7.7890005E+00	Resid sbdelay (usec)	-3.17063E-03	+/- 4.1E-05
Sband delay (usec)	9.89807286047E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	1.27098E-06	+/- 7.0E-08
Phase delay (usec)	-6.31955997819E-02	Apriori rate (us/s)	-6.31956523566E-02	Resid rate (us/s)	5.25748E-08	+/- 5.1E-10
Delay rate (us/s)		Apriori accel (us/s/s)	-6.32343469567E-06	Resid phase (deg)	19.7	+/- 1.1
Total phase (deg)	212.9					

	RMS	Theor.	Amplitude	2.511 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	36.1	3.5	Search (1024X16)	2.448	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	29.3	6.2	Inc. seg. avg.	2.984	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.4	1.1	Inc. frq. avg.	2.489	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	4.6	1.9			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 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 180.701 -281.376 simultaneous interpolator

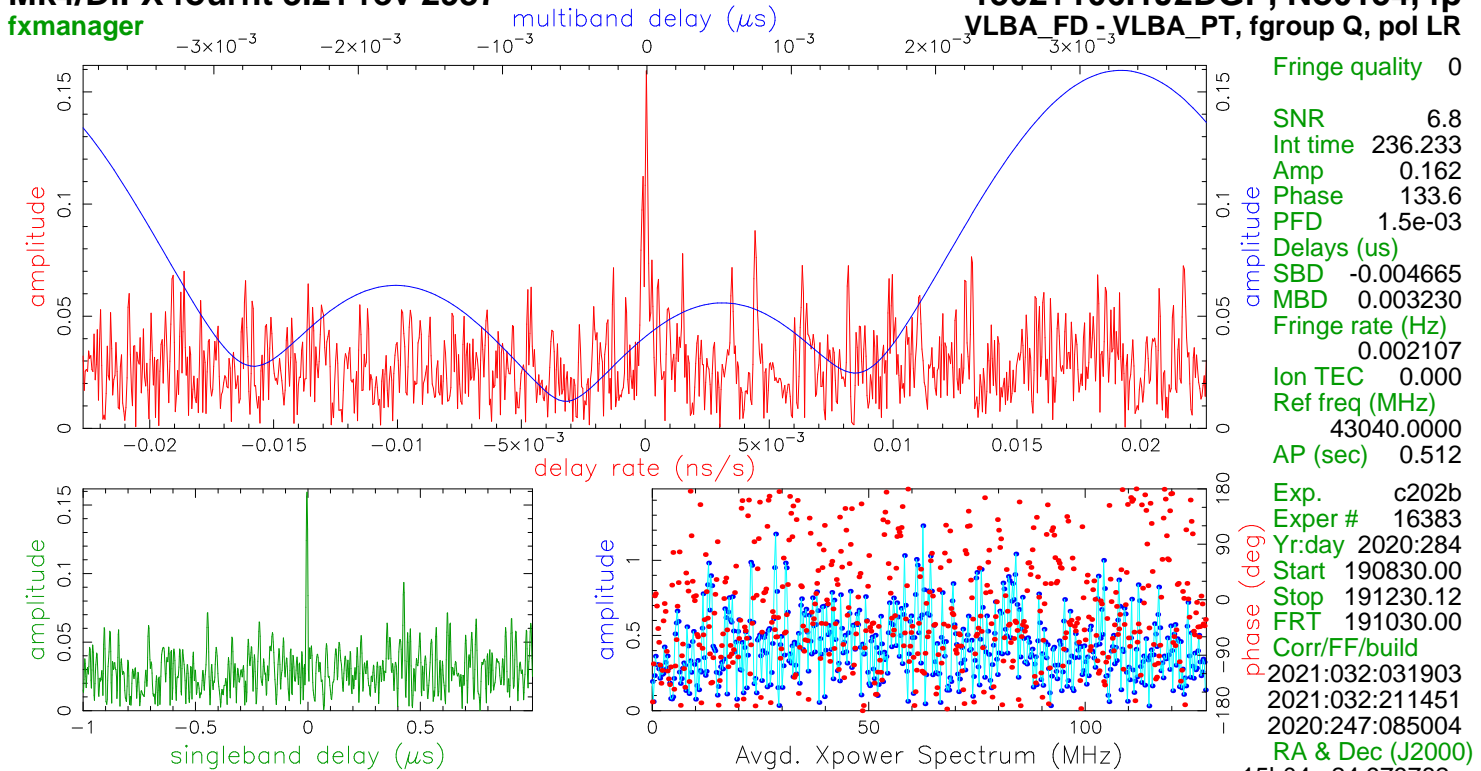
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp.Q.101.1J2DGP

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fxmanager

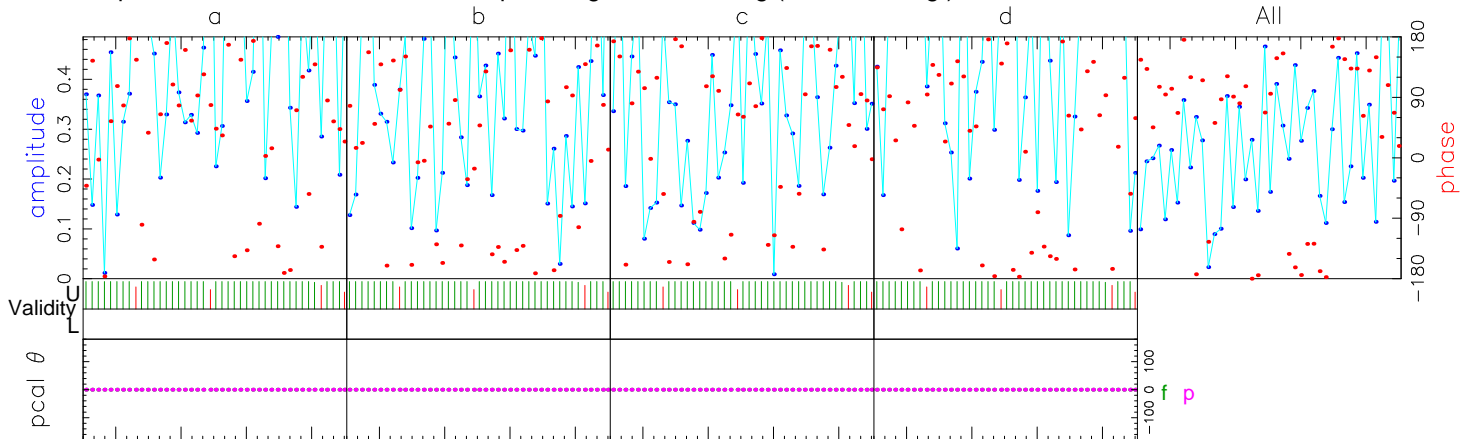
1502+106.1J2DGP, No0154, fp

VLBA_FD - VLBA_PT, fgroup Q, pol LR



Fringe quality 0
 SNR 6.8
 Int time 236.233
 Amp 0.162
 Phase 133.6
 PFD 1.5e-03
 Delays (us)
 SBD -0.004665
 MBD 0.003230
 Fringe rate (Hz)
 0.002107
 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



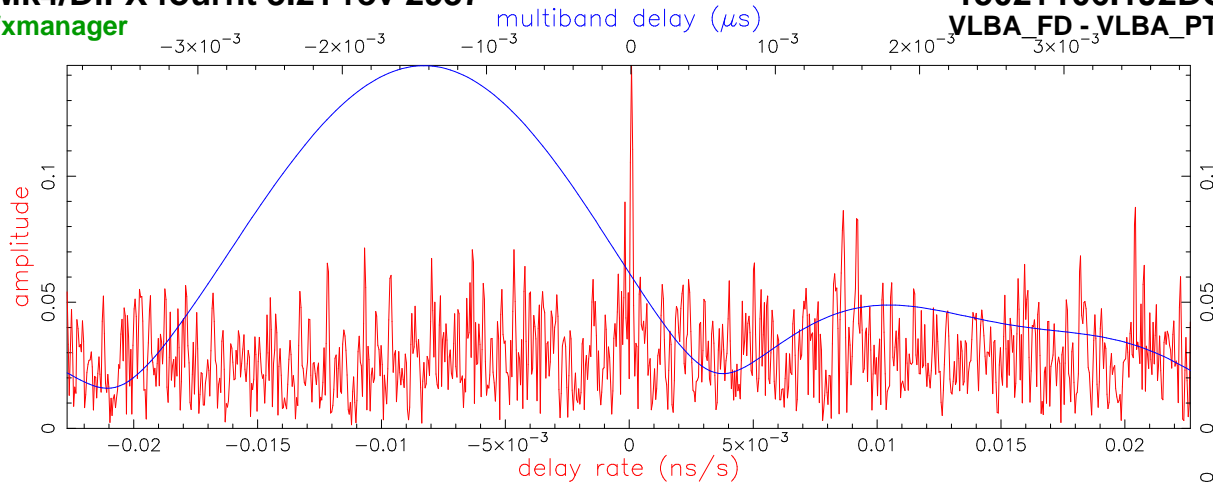
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	129.1	134.7	130.6	137.8	Phase	133.6
	0.1	0.1	0.2	0.2	Ampl.	0.2
	792.5	887.2	730.0	510.7	Sbd box	510.6
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
f:p	0:0	0:0	0:0	0:0	PC phase	
f:p	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	9.89802702364E+02	Apriori delay (usec)	9.89807284776E+02	Resid mbdelay (usec)	3.23009E-03	+/- 1.6E-04
Sband delay (usec)	9.89802619901E+02	Apriori clock (usec)	7.7890005E+00	Resid sbdelay (usec)	-4.66488E-03	+/- 6.3E-04
Phase delay (usec)	9.89807293398E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	8.62160E-06	+/- 1.1E-06
Delay rate (us/s)	-6.31956033924E-02	Apriori rate (us/s)	-6.31956523566E-02	Resid rate (us/s)	4.89643E-08	+/- 7.9E-09
Total phase (deg)		326.8	Apriori accel (us/s/s)	-6.32343469567E-06	Resid phase (deg)	133.6 +/- 16.9
	RMS	Theor.	Amplitude	0.162 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	54.9	55.0	Search (1024X16)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	101.3	96.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	4.9	16.9	Inc. seg. avg.	0.181	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	26.6	29.4	Inc. frq. avg.	0.153	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	p: az 126.8 el 55.3 pa -41.9	u,v (fr/asec)	180.701 -281.376	simultaneous interpolator		
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp.Q.123.1J2DGP						

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

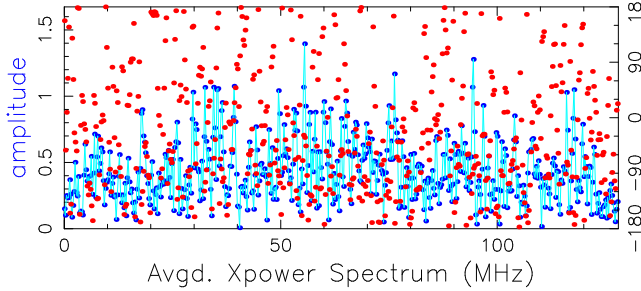
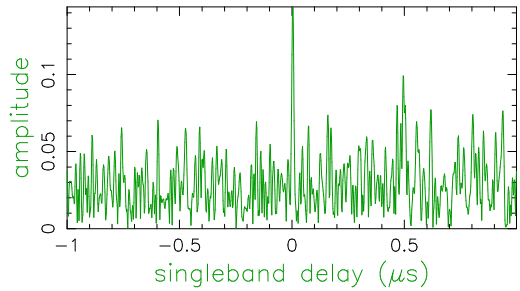
1502+106.1J2DGP, No0154, fp

VLBA_FD - VLBA_PT, fgroup Q, pol RL



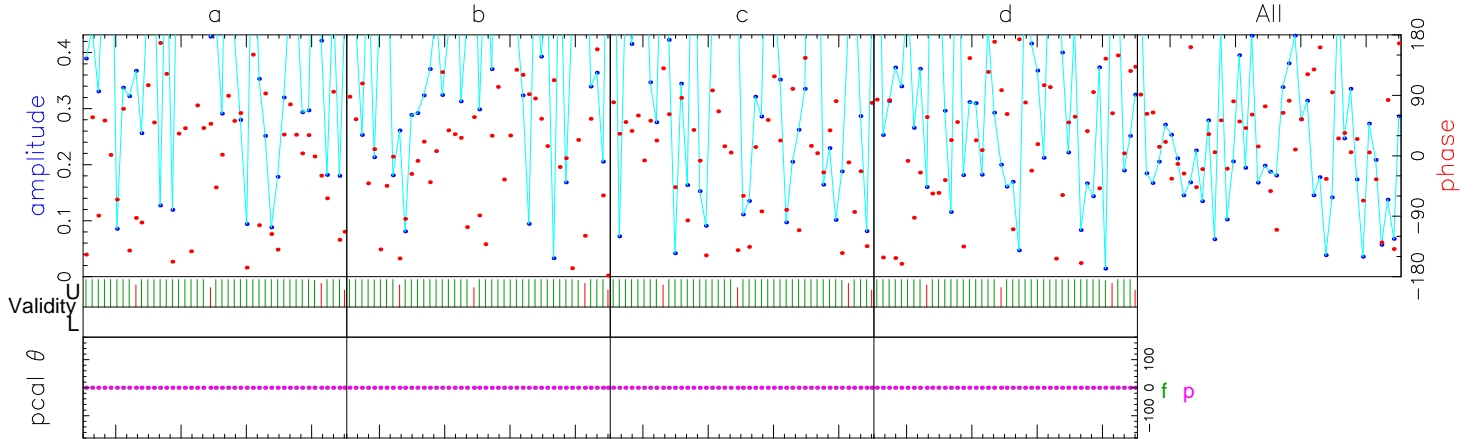
Fringe quality 0

SNR 6.0
 Int time 236.233
 Amp 0.144
 Phase 40.4
 PFD 1.7e-01
 Delays (us)
 SBD 0.003664
 MBD -0.001445
 Fringe rate (Hz)
 0.003451
 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



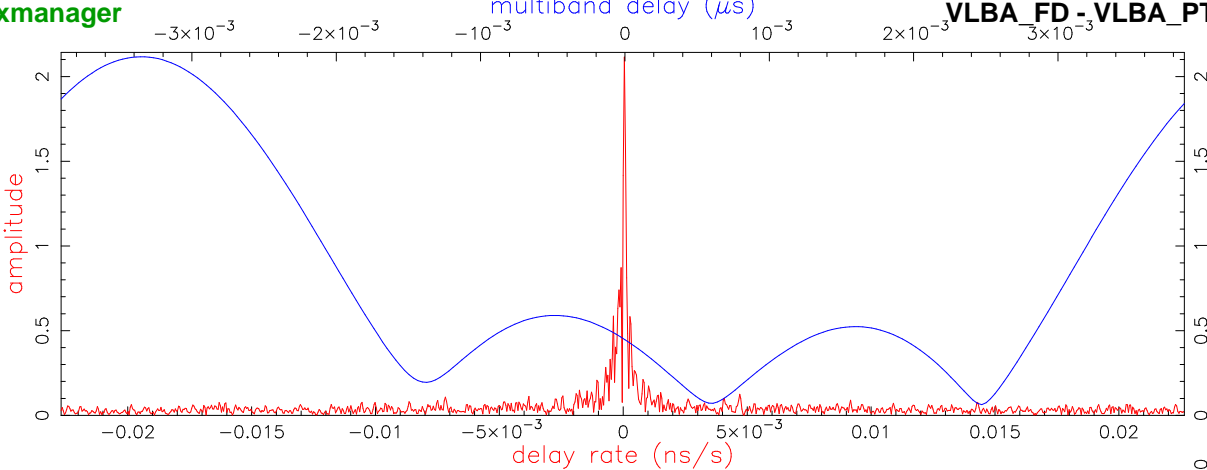
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	465/0	465/0	465/0	465/0		
f	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
f:p	0:0	0:0	0:0	0:0	PC phase	
f:p	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	9.89813652014E+02		9.89807284776E+02		Resid mbdelay (usec)	-1.44526E-03 +/- 1.8E-04
Sband delay (usec)	9.89810949026E+02		7.7890005E+00		Resid sbdelay (usec)	3.66425E-03 +/- 7.1E-04
Phase delay (usec)	9.89807287382E+02		0.0000000E+00		Resid phdelay (usec)	2.60579E-06 +/- 1.2E-06
Delay rate (us/s)	-6.31955721657E-02		-6.31956523566E-02		Resid rate (us/s)	8.01909E-08 +/- 8.9E-09
Total phase (deg)		233.6			Resid phase (deg)	40.4 +/- 18.9
	RMS	Theor.	Amplitude	0.144 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	71.3	61.8	Search (1024X16)	0.142	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	105.4	107.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	17.8	18.9	Inc. seg. avg.	0.146	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	31.8	33.1	Inc. frq. avg.	0.139	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		p: az 126.8 el 55.3 pa -41.9		u,v (fr/asec) 180.701 -281.376		simultaneous interpolator
Control file: cf_1234_gmva7mm		Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp..1J2DGP		Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp.Q.139.1J2DGP		

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

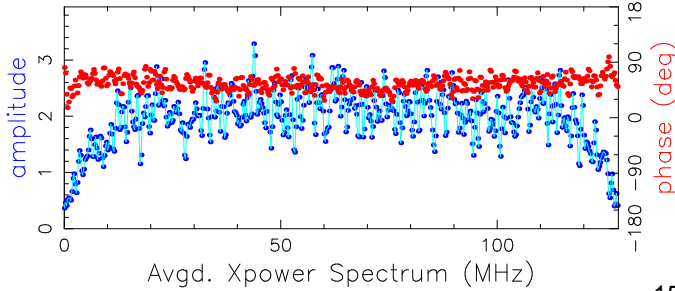
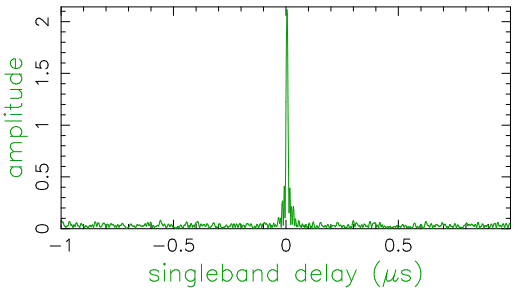
1502+106.1J2DGP, No0154, fp

VLBA_FD - VLBA_PT, fgroup Q, pol LL



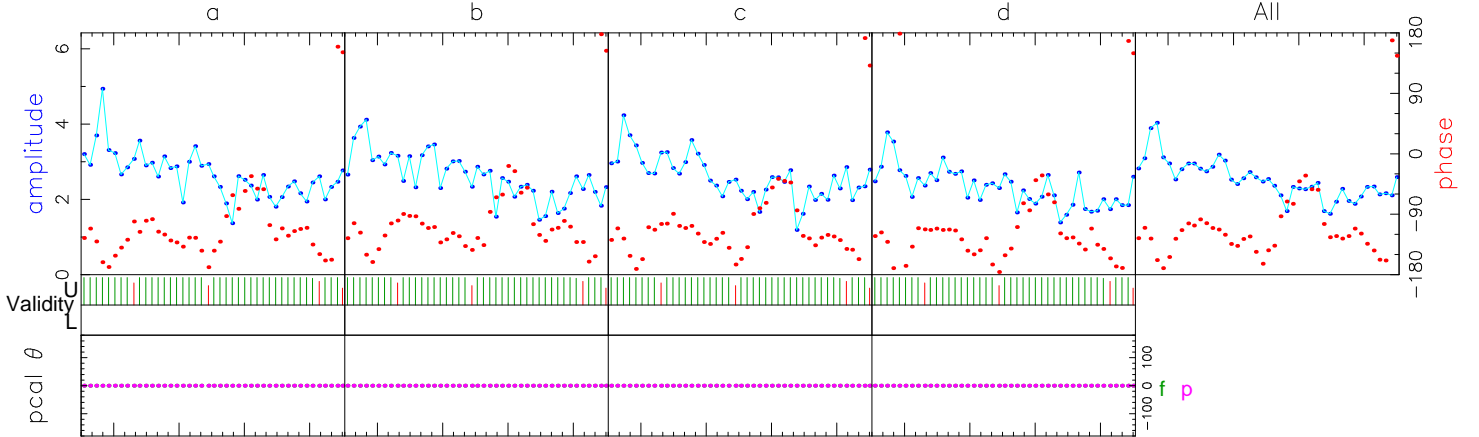
Fringe quality 6

SNR 90.1
 Int time 236.233
 Amp 2.143
 Phase -121.9
 PFD 0.0e+00
 Delays (us)
 SBD 0.004648
 MBD -0.003307
 Fringe rate (Hz)
 0.002295
 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
	-124.2	-114.5	-120.1	-129.7	Phase	-121.9
	2.2	2.2	2.1	1.9	Ampl.	2.1
	515.7	515.4	515.2	515.1	Sbd box	515.4
U/L	465/0	465/0	465/0	465/0	APs used	
f	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
f:p	0:0	0:0	0:0	0:0	PC phase	
f:p	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

	9.89811790145E+02	Apriori delay (usec)	9.89807284776E+02	Resid mbdelay (usec)	-3.30713E-03	+/- 1.2E-05
Group delay (usec)(sbd)	9.89811790145E+02	Apriori clock (usec)	7.7890005E+00	Resid sbdelay (usec)	4.64825E-03	+/- 4.8E-05
Sband delay (usec)	9.89811933026E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-7.86621E-06	+/- 8.2E-08
Phase delay (usec)	9.89807276910E+02	Apriori rate (us/s)	-6.31956523566E-02	Resid rate (us/s)	5.33292E-08	+/- 6.0E-10
Delay rate (us/s)	-6.31955990274E-02	Apriori accel (us/s/s)	-6.32343469567E-06	Resid phase (deg)	-121.9	+/- 1.3
Total phase (deg)	71.4					

	RMS	Theor.	Amplitude	2.143 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	35.5	4.2	Search (1024X16)	2.082	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	29.9	7.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.9	1.3	Inc. seg. avg.	2.519	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	6.0	2.2	Inc. frq. avg.	2.125	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 p: az 126.8 el 55.3 pa -41.9 u,v (fr/asec) 180.701 -281.376 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fp.Q.83.1J2DGP