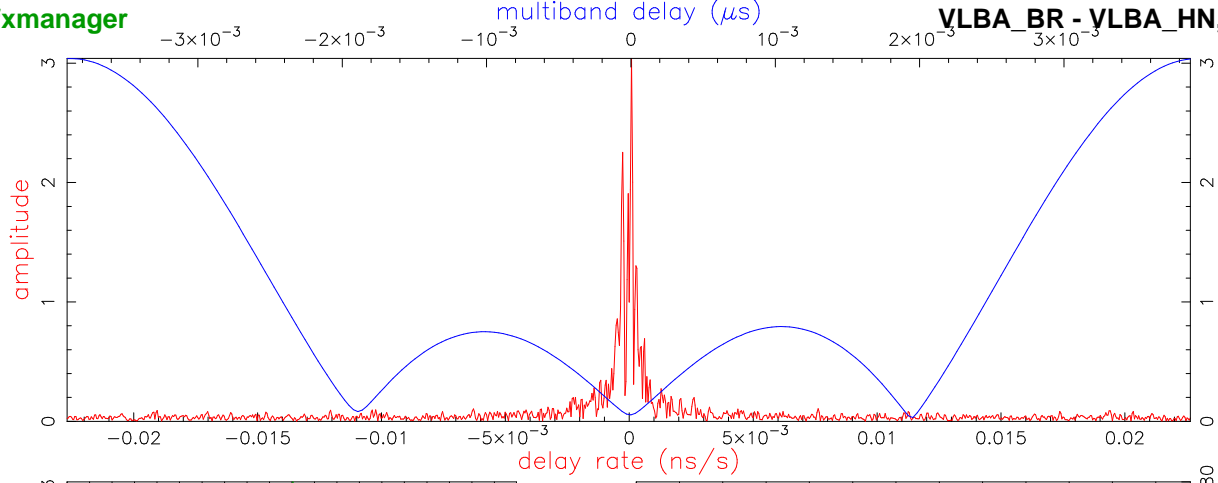


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, bh

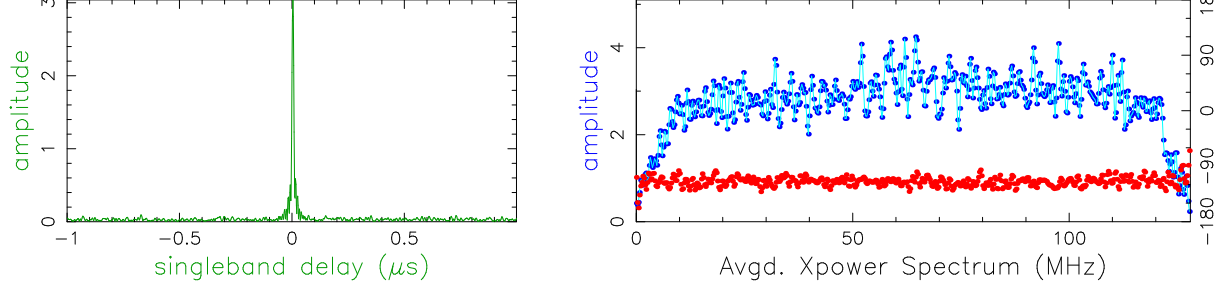
VLBA_BR - VLBA_HN, fgroup Q, pol RR



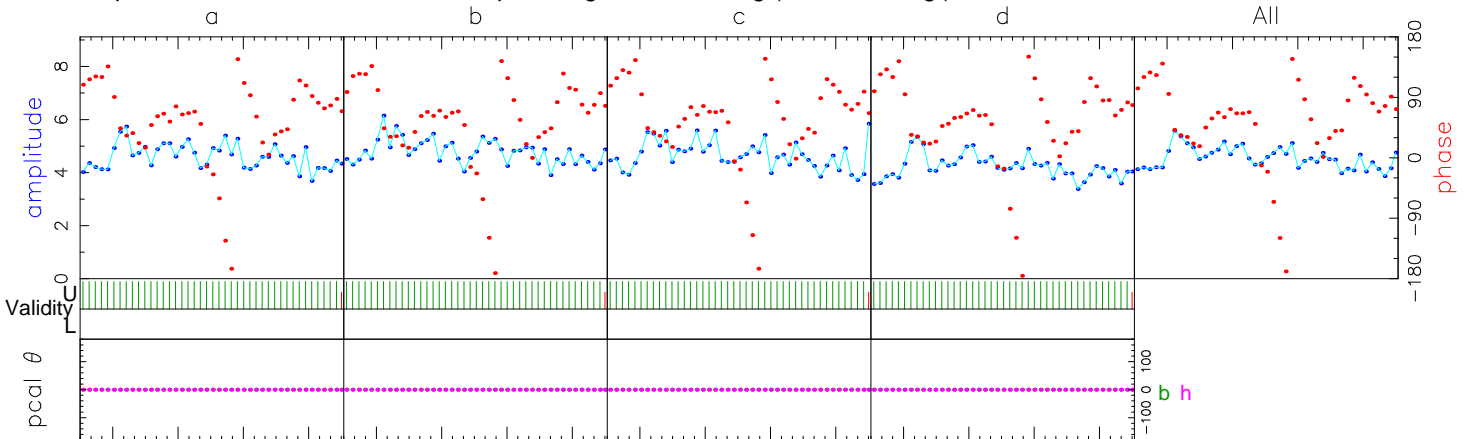
Fringe quality 5

SNR 128.8
 Int time 239.982
 Amp 3.040
 Phase 67.1
 PFD 0.0e+00
 Delays (us)
 SBD 0.004021
 MBD -0.003879
 Fringe rate (Hz) 0.003898
 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	469/0	469/0	469/0	469/0		
b	1000	1000	1000	1000	APs used	
h	1000	1000	1000	1000	PC freqs	
b:h	0:0	0:0	0:0	0:0	PC phase	
b:h	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
h	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.96704062642E+03	Apriori delay (usec)	-3.96704456010E+03	Resid mbdelay (usec)	-3.87882E-03	+/-	8.6E-06
Sband delay (usec)	-3.96704053885E+03	Apriori clock (usec)	-2.2707167E+00	Resid sbdelay (usec)	4.02125E-03	+/-	3.3E-05
Phase delay (usec)	-3.96704455577E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	4.33031E-06	+/-	5.7E-08
Delay rate (us/s)	8.13663162924E-01	Apriori rate (us/s)	8.13663072349E-01	Resid rate (us/s)	9.05742E-08	+/-	4.1E-10
Total phase (deg)	-244.9	Apriori accel (us/s/s)	2.23801012411E-05	Resid phase (deg)	67.1	+/-	0.9

	RMS	Theor.	Amplitude	3.040 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	54.6	2.9	Search (1024X16)	3.031	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	51.7	5.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	1.4	0.9	Inc. seg. avg.	4.556	Sample rate(MSamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	4.2	1.6	Inc. frq. avg.	3.039	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

b: az 125.7 el 40.0 pa -33.5 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2356.882 446.554 simultaneous interpolator

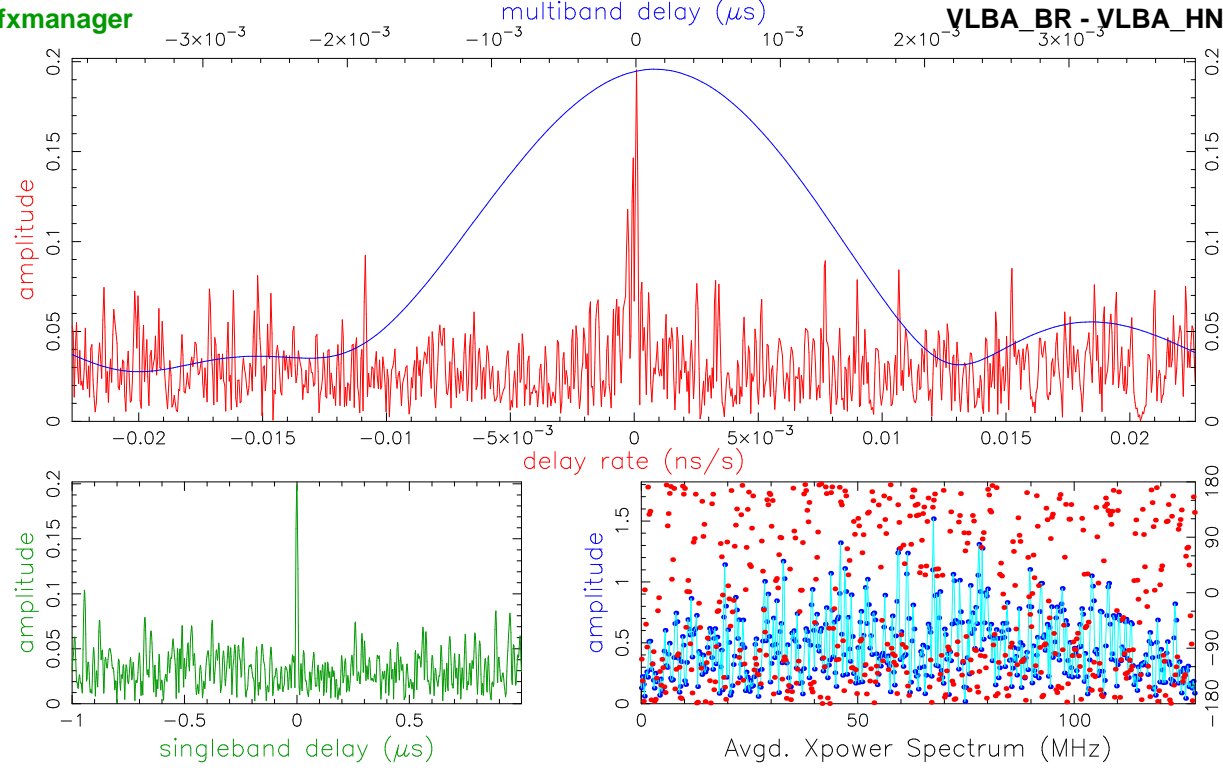
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh.Q.24.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, bh

VLBA_BR - VLBA_HN, fgroup Q, pol LR

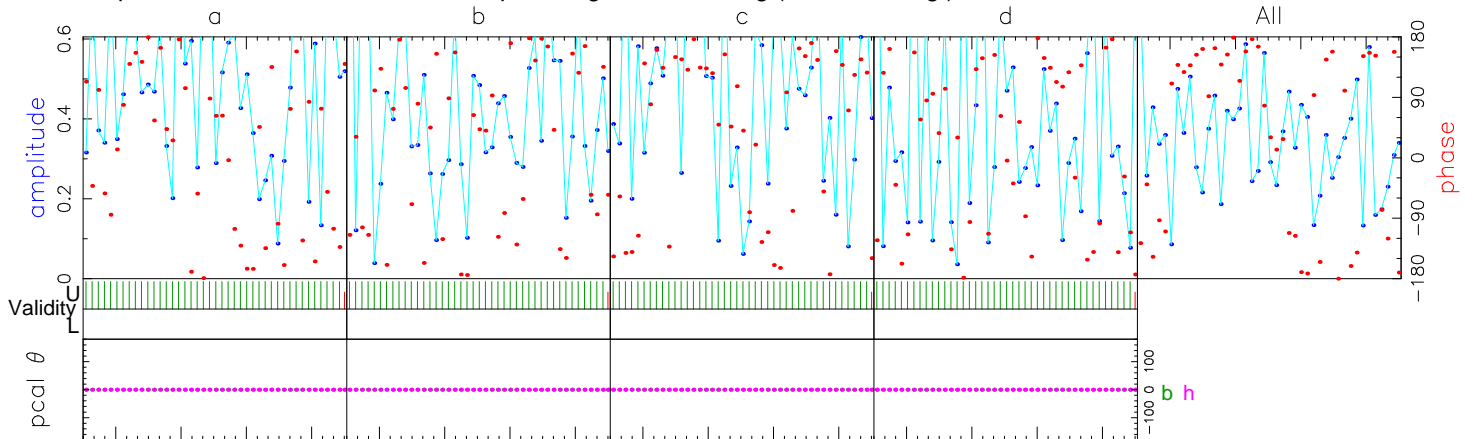


Fringe quality 9

SNR 8.6
 Int time 239.982
 Amp 0.202
 Phase 169.6
 PFD 2.2e-09
 Delays (us)
 SBD -0.000758
 MBD 0.000209
 Fringe rate (Hz) 0.004464
 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	469/0	469/0	469/0	469/0		
b	1000	1000	1000	1000		
h	1000	1000	1000	1000		
b:h	0:0	0:0	0:0	0:0		
b:h	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000		
h	1000	1000	1000	1000		
b	Q00UL	Q01UL	Q02UL	Q03UL		
h	Q00UR	Q01UR	Q02UR	Q03UR		

Group delay (usec)(sbd)	-3.96704435139E+03	Apriori delay (usec)	-3.96704456010E+03	Resid mbdelay (usec)	2.08707E-04	+/- 1.3E-04
Sband delay (usec)	-3.96704531760E+03	Apriori clock (usec)	-2.2707167E+00	Resid sbdelay (usec)	-7.57500E-04	+/- 5.0E-04
Phase delay (usec)	-3.96704454915E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	1.09464E-05	+/- 8.6E-07
Delay rate (us/s)	8.13663176072E-01	Apriori rate (us/s)	8.13663072349E-01	Resid rate (us/s)	1.03723E-07	+/- 6.2E-09
Total phase (deg)	-142.4	Apriori accel (us/s/s)	2.23801012411E-05	Resid phase (deg)	169.6	+/- 13.4

ph/seg (deg)	RMS 65.5	Theor. 43.9	Amplitude	0.202 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	98.1	76.7	Search (1024X16)	0.188	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	11.2	13.4	Interp.	0.000	Bits/sample: 2x2	Sample rate(MSamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	31.4	23.4	Inc. seg. avg.	0.268	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
			Inc. frq. avg.	0.192					

b: az 125.7 el 40.0 pa -33.5 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2356.882 446.554 simultaneous interpolator

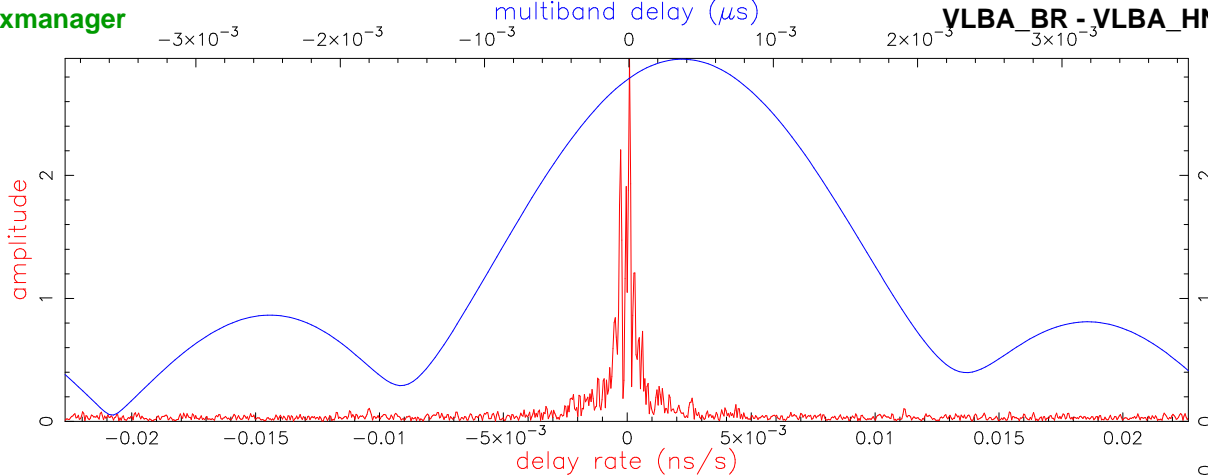
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh.Q.51.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

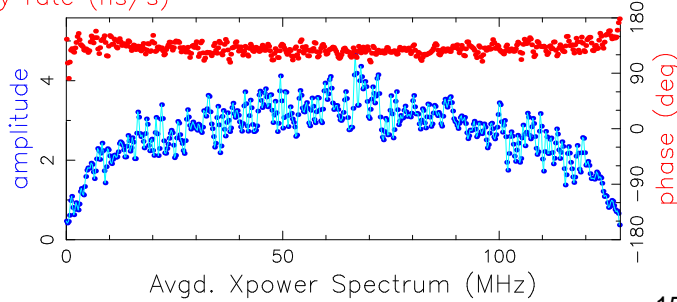
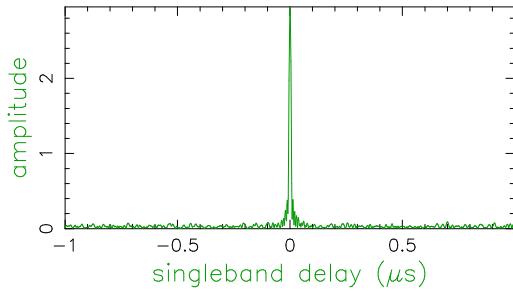
1502+106.1J2DGP, No0154, bh

VLBA_BR - VLBA_HN, fgroup Q, pol LL



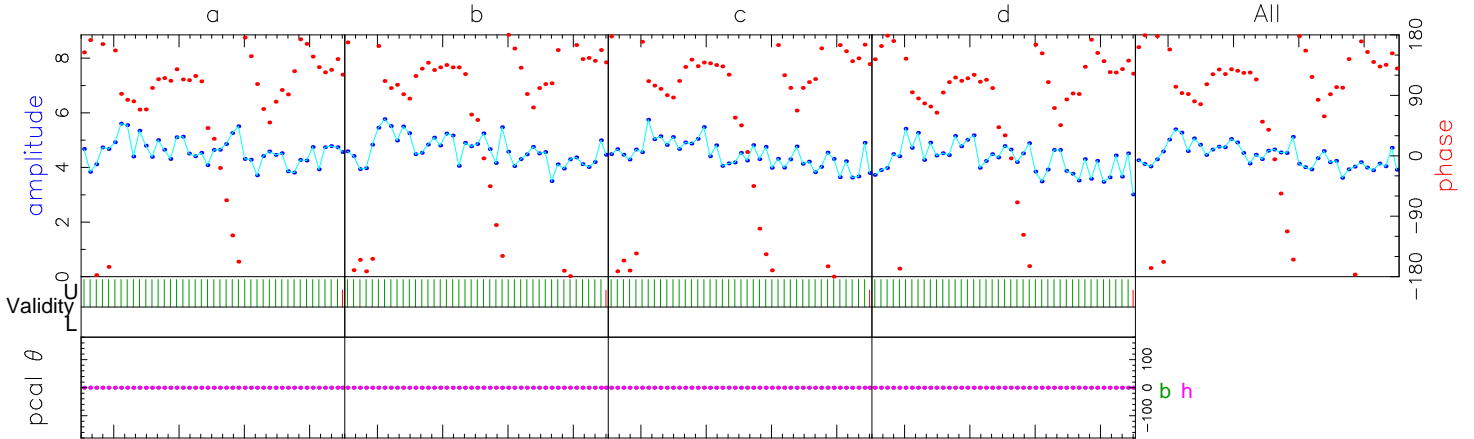
Fringe quality 4

SNR 125.1
 Int time 239.982
 Amp 2.952
 Phase 128.1
 PFD 0.0e+00
 Delays (us)
 SBD 0.000330
 MBD 0.000389
 Fringe rate (Hz)
 0.003848
 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
U/L	469/0	469/0	469/0	469/0		
b	1000	1000	1000	1000	APs used	
h	1000	1000	1000	1000	PC freqs	
b:h	0:0	0:0	0:0	0:0	PC phase	
b:h	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
h	1000	1000	1000	1000		
b	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.96704417111E+03	Apriori delay (usec)	-3.96704456010E+03	Resid mbdelay (usec)	3.88988E-04	+/-	8.9E-06
Sband delay (usec)	-3.96704423060E+03	Apriori clock (usec)	-2.2707167E+00	Resid sbdelay (usec)	3.29500E-04	+/-	3.4E-05
Phase delay (usec)	-3.96704455183E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	8.26523E-06	+/-	5.9E-08
Delay rate (us/s)	8.13663161761E-01	Apriori rate (us/s)	8.13663072349E-01	Resid rate (us/s)	8.94114E-08	+/-	4.3E-10
Total phase (deg)	-183.9	Apriori accel (us/s/s)	2.23801012411E-05	Resid phase (deg)	128.1	+/-	0.9

ph/seg (deg)	54.8	RMS	3.0	Theor.	3.0	Amplitude	2.952 +/- 0.024	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	52.5	Search (1024X16)	2.920	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	SampCntNorm:	enabled	mb window (us)	-0.004	0.004		
ph/frq (deg)	13.5	Inc. seg. avg.	4.439	Inc. frq. avg.	2.986	Bits/sample:	2x2	Sample rate (MSamp/s):	256	dr window (ns/s)	-0.023	0.023		
amp/frq (%)	3.1	Inc. frq. avg.	2.986	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 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2356.882 446.554 simultaneous interpolator

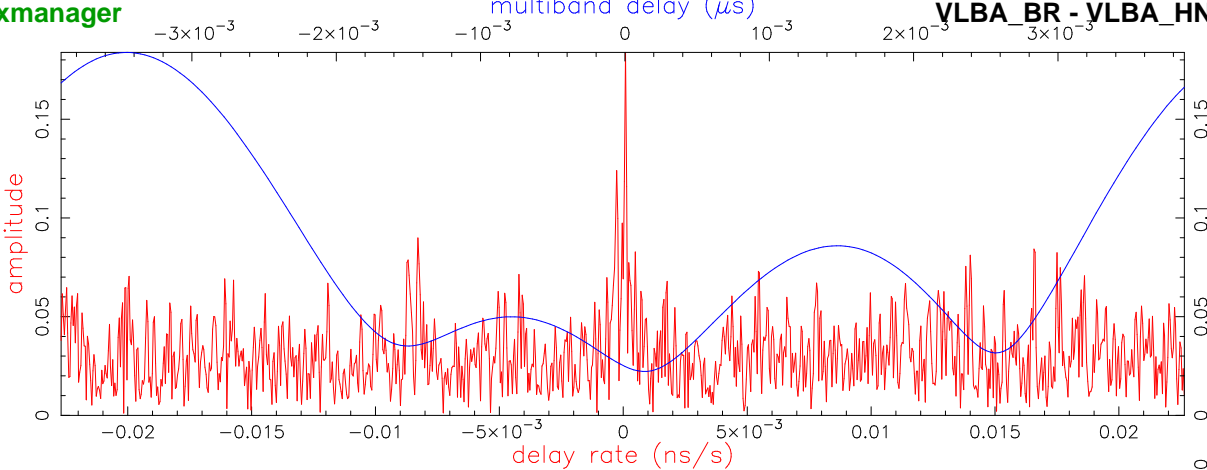
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh.Q.5.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

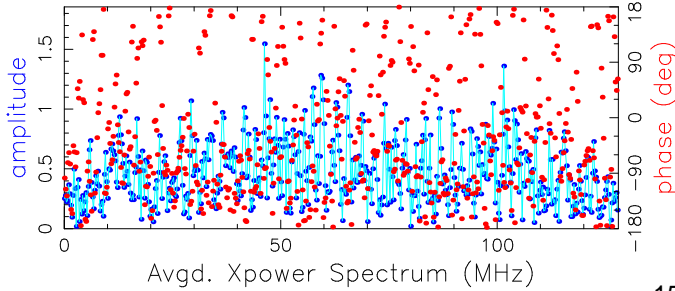
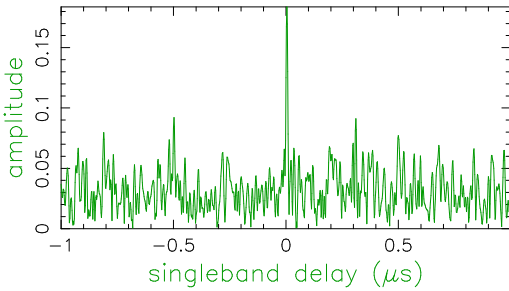
1502+106.1J2DGP, No0154, bh

VLBA_BR - VLBA_HN, fgroup Q, pol RL



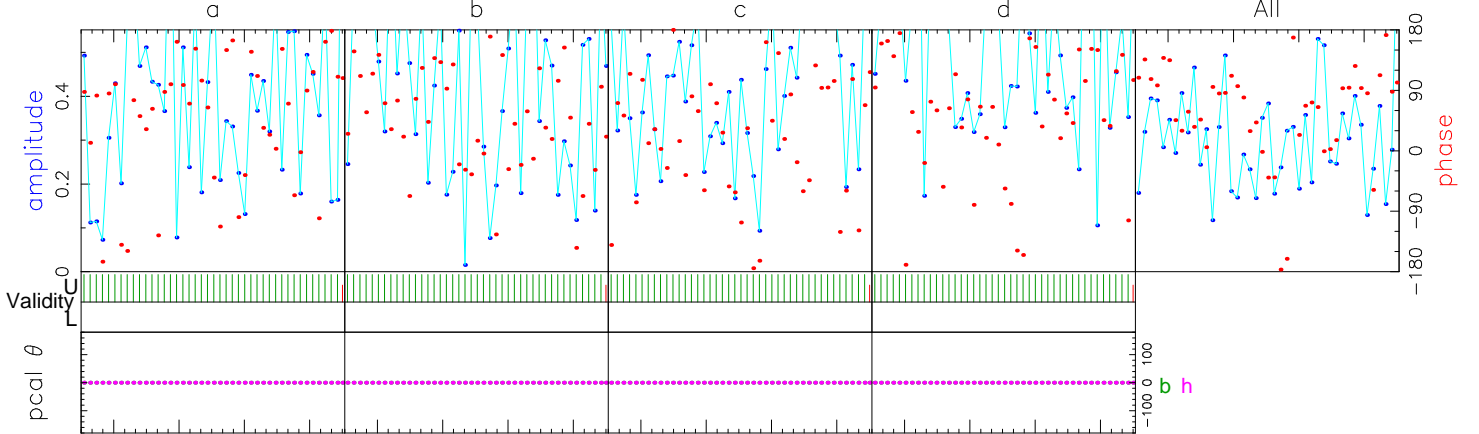
Fringe quality 9

SNR 7.8
 Int time 239.982
 Amp 0.184
 Phase 75.2
 PFD 1.1e-06
 Delays (us)
 SBD 0.003978
 MBD -0.003450
 Fringe rate (Hz)
 0.003778
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



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

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



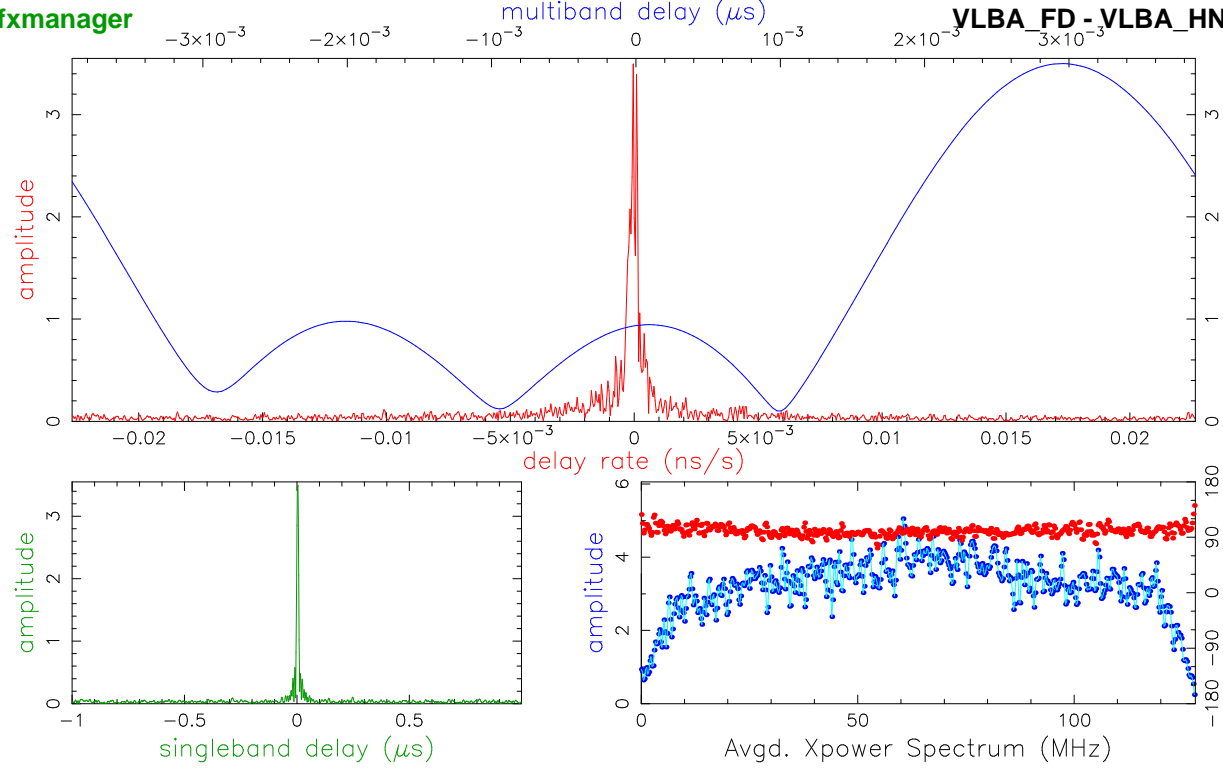
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
b	1000	1000	1000	1000		
h	1000	1000	1000	1000		
b:h	0:0	0:0	0:0	0:0		
b:h	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000		
h	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR		
h	Q00UL	Q01UL	Q02UL	Q03UL		
Validity						
pcal θ						

Group delay (usec)(sbd)	-3.96704019749E+03	Apriori delay (usec)	-3.96704456010E+03	Resid mbdelay (usec)	-3.44989E-03	+/- 1.4E-04
Sband delay (usec)	-3.96704058222E+03	Apriori clock (usec)	-2.2707167E+00	Resid sbdelay (usec)	3.97788E-03	+/- 5.5E-04
Phase delay (usec)	-3.96704455525E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	4.85077E-06	+/- 9.5E-07
Delay rate (us/s)	8.13663160130E-01	Apriori rate (us/s)	8.13663072349E-01	Resid rate (us/s)	8.77806E-08	+/- 6.8E-09
Total phase (deg)	-236.9	Apriori accel (us/s/s)	2.23801012411E-05	Resid phase (deg)	75.2	+/- 14.7

ph/seg (deg)	59.0	Theor.	48.2	Amplitude	0.184 +/- 0.024	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	90.7	Search (1024X16)	0.183	Search	0.183	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	22.3	Inc. seg. avg.	0.226	Inc. seg. avg.	0.226	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	19.4	Inc. frq. avg.	0.185	Inc. frq. avg.	0.185	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 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) -2356.882 446.554 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/bh.Q.66.1J2DGP

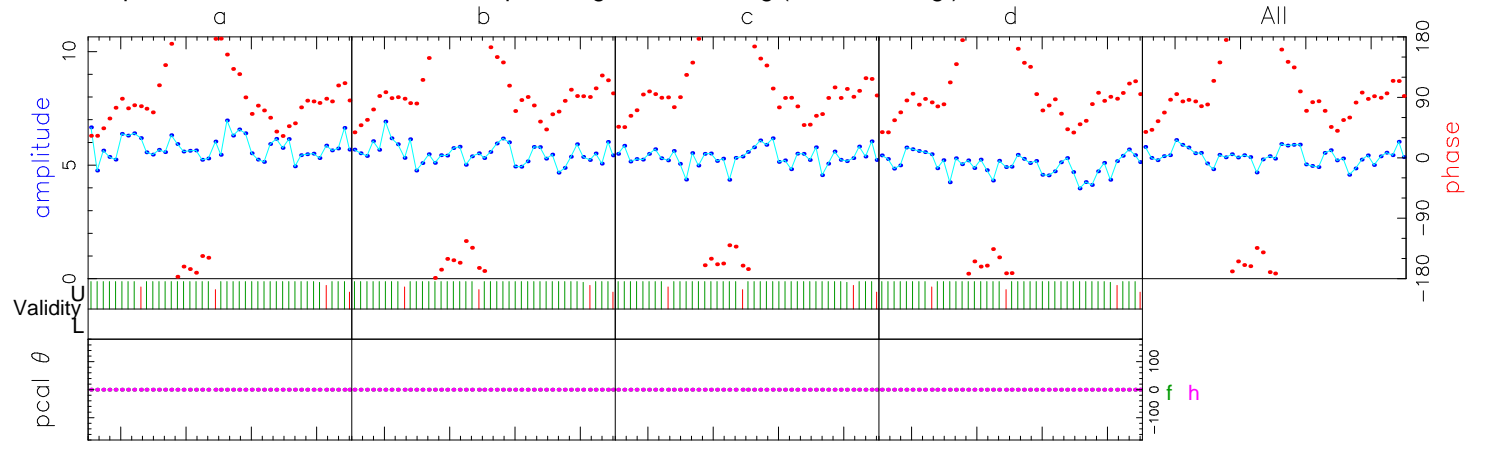


Fringe quality 5

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
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	Q00UL	Q01UL	Q02UL	Q03UL		
h	Q00UL	Q01UL	Q02UL	Q03UL		
Group delay (usec)(sbd)	8.13043129579E+02		8.13040225136E+02		2.90444E-03	+/- 7.5E-06
Sband delay (usec)	8.13043295761E+02		7.3220949E+00		3.07063E-03	+/- 2.9E-05
Phase delay (usec)	8.13040231800E+02		1.6999997E-07		6.66443E-06	+/- 5.0E-08
Delay rate (us/s)	6.87463732637E-01		6.87463754981E-01		-2.23436E-08	+/- 3.6E-10
Total phase (deg)		207.6			103.3	+/- 0.8
Apriori delay (usec)						
Apriori clock (usec)						
Apriori clockrate (us/s)						
Apriori rate (us/s)						
Apriori accel (us/s/s)						
Resid mbdelay (usec)						
Resid sbdelay (usec)						
Resid phdelay (usec)						
Resid rate (us/s)						
Resid phase (deg)						
Pcal mode: MANUAL, MANUAL						
Pcal rate: 0.000E+00, 0.000E+00 (us/s)						
Bits/sample: 2x2						
Sample rate(MISamp/s): 256						
Data rate(Mb/s): 2048						
nlags: 512						
t_cohere infinite						
PC period (AP's) 5, 5						
sb window (us)					-1.000	1.000
mb window (us)					-0.004	0.004
dr window (ns/s)					-0.023	0.023
ion window (TEC)					0.00	0.00
pcal θ						

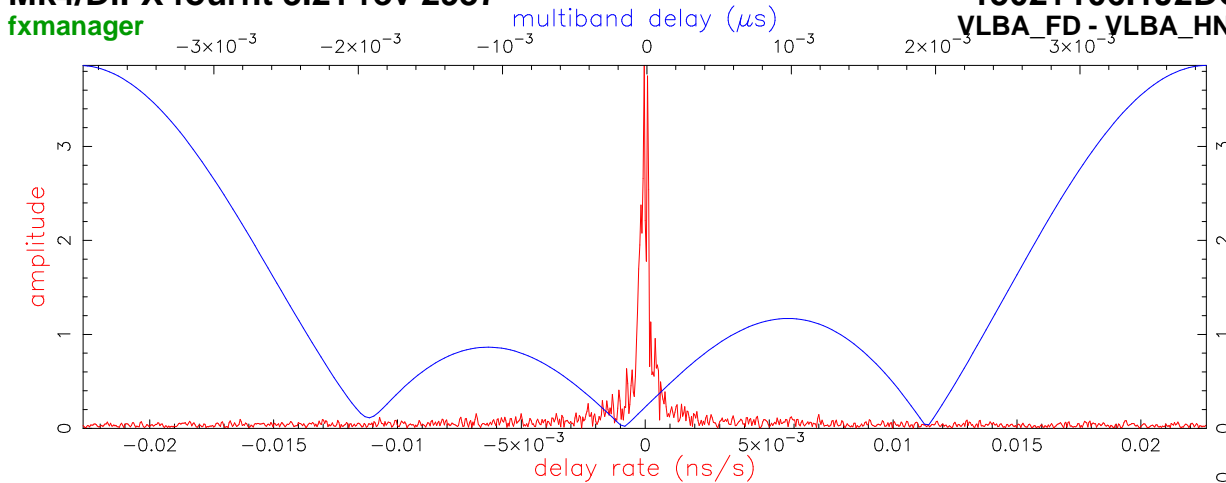
ph/seg (deg) 53.6 2.5 Search (1024X16) 3.159 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 53.0 4.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 7.0 0.8 Inc. seg. avg. 5.392 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
amp/frq (%) 5.2 1.3 Inc. frq. avg. 3.509 Sample rate(MISamp/s): 256 dr window (ns/s) -0.023 0.023
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 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/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.10.1J2DGP simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

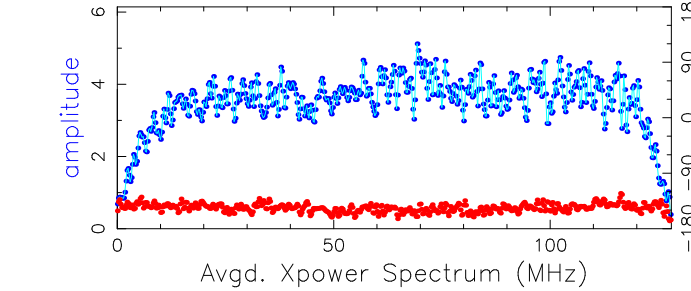
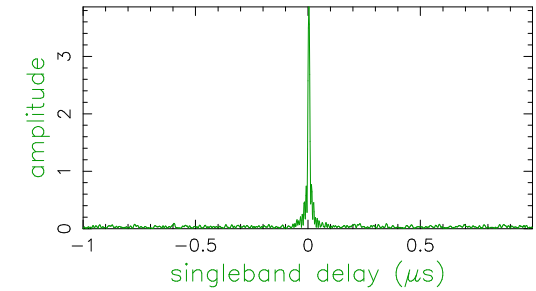
1502+106.1J2DGP, No0154, fh

VLBA_FD - VLBA_HN, fgroup Q, pol RR



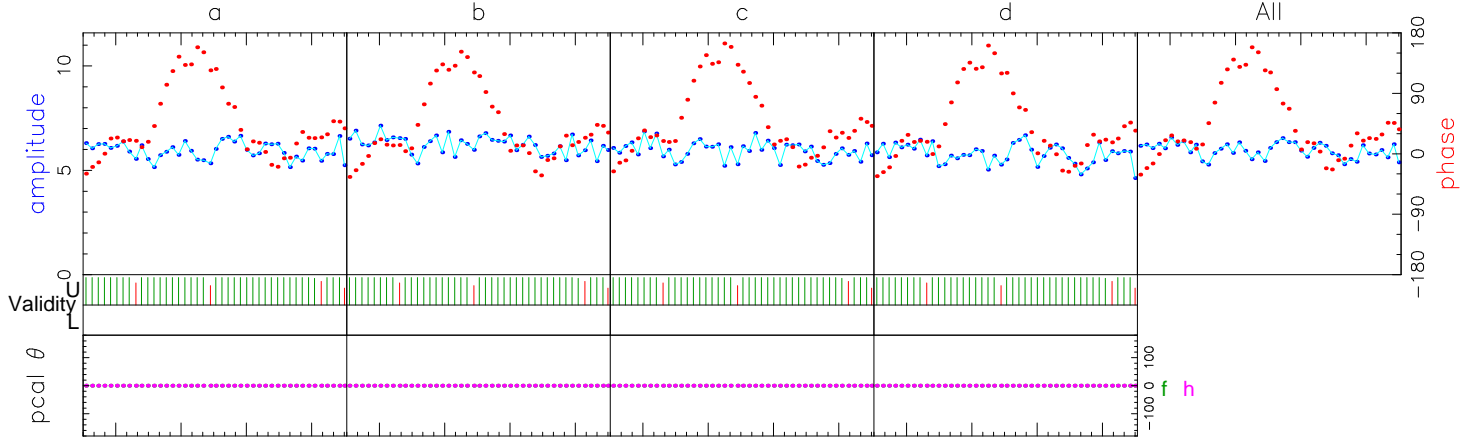
Fringe quality 5

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		
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	RMS	53.3	Theor.	2.3	Amplitude	3.863 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	55.4	Search (1024X16)	3.517	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		SampCntNorm: enabled		mb window (us)	-0.004	0.004	
ph/frq (deg)	4.9	Inc. seg. avg.	5.971	Inc. frq. avg.	3.869	Bits/sample: 2x2		Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023	
amp/frq (%)	2.9	Inc. frq. avg.	3.869			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

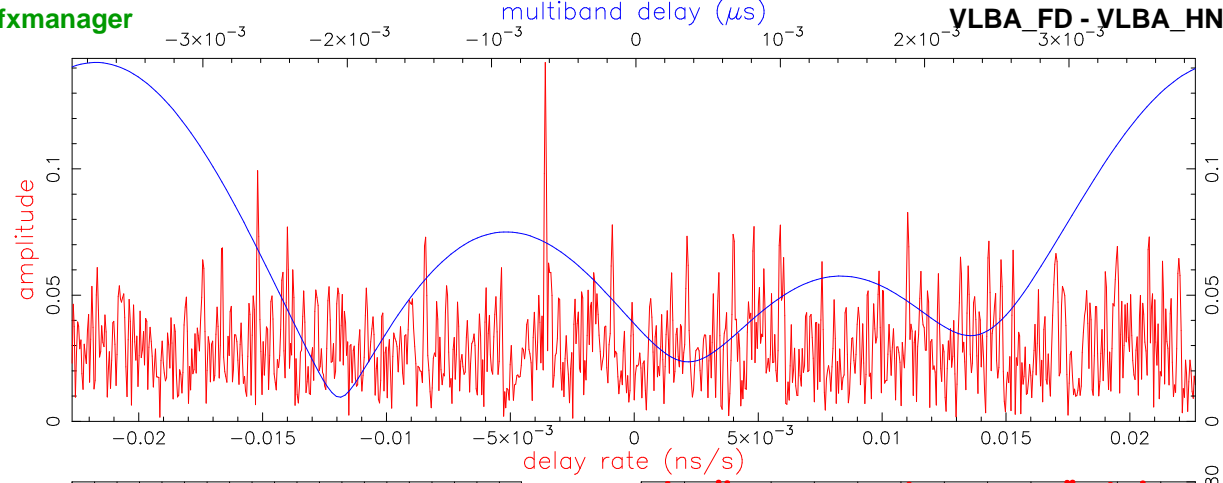
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.36.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

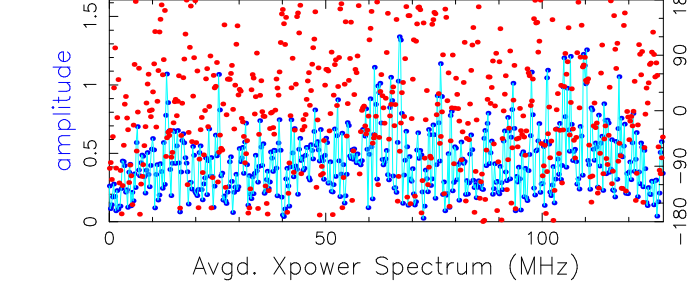
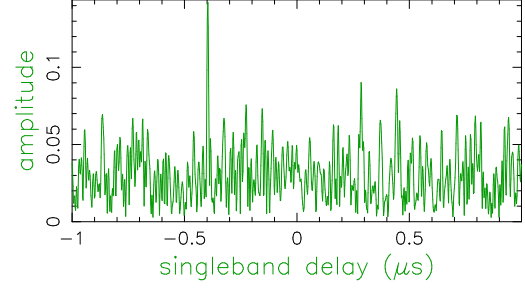
fxmanager

1502+106.1J2DGP, No0154, fh

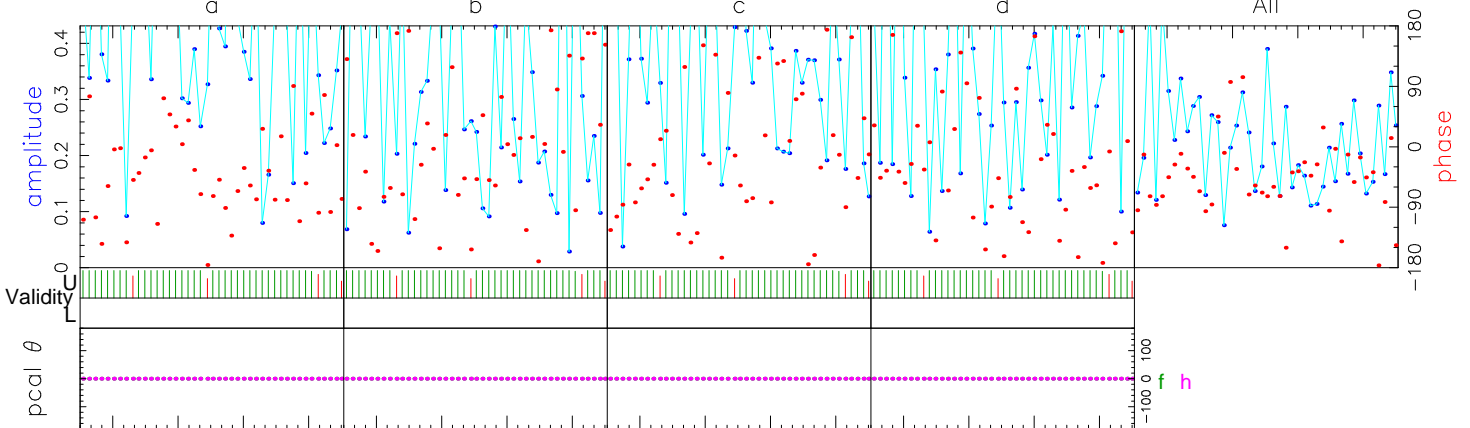
VLBA_FD - VLBA_HN, fgroup Q, pol LR



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
	-49.7	-54.8	-70.3	-39.6	Phase	-52.4
	0.2	0.1	0.1	0.1	Ampl.	0.1
	309.9	291.4	96.8	658.9	Sbd box	309.9
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	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

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

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

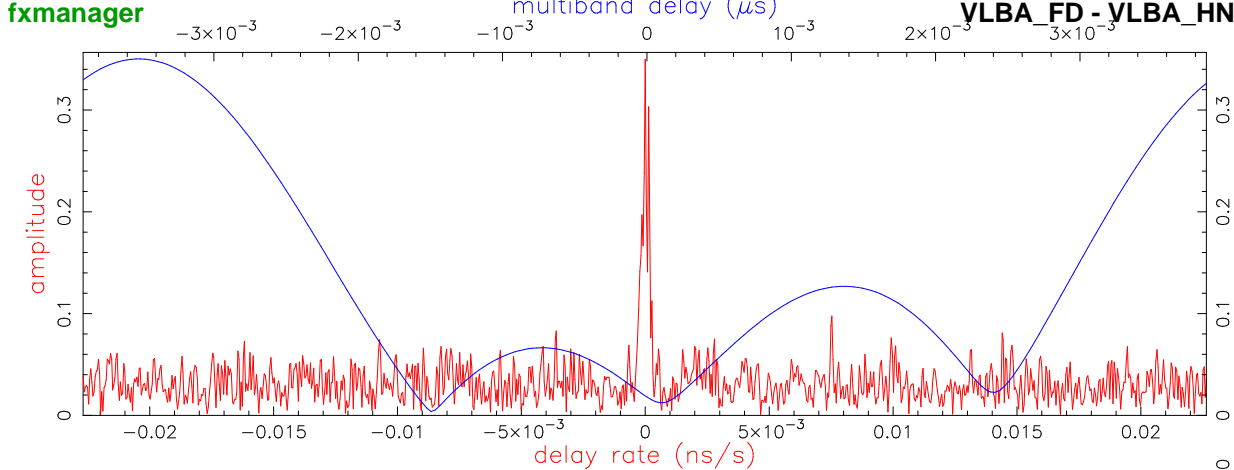
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.53.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

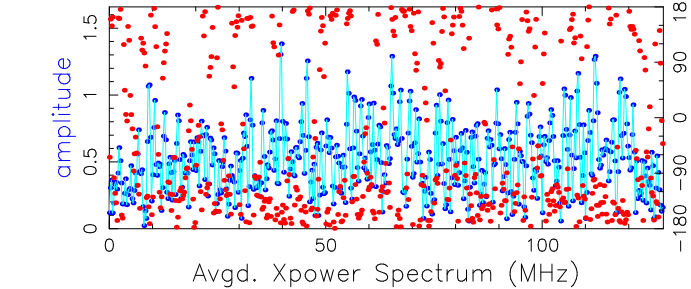
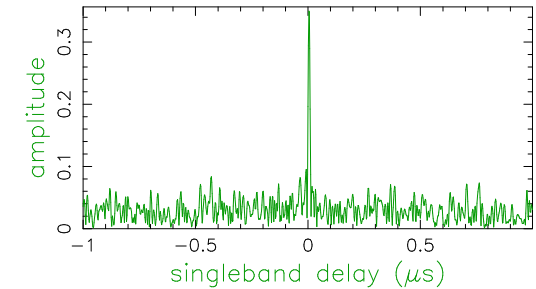
1502+106.1J2DGP, No0154, fh

VLBA_FD - VLBA_HN, fgroup Q, pol RL



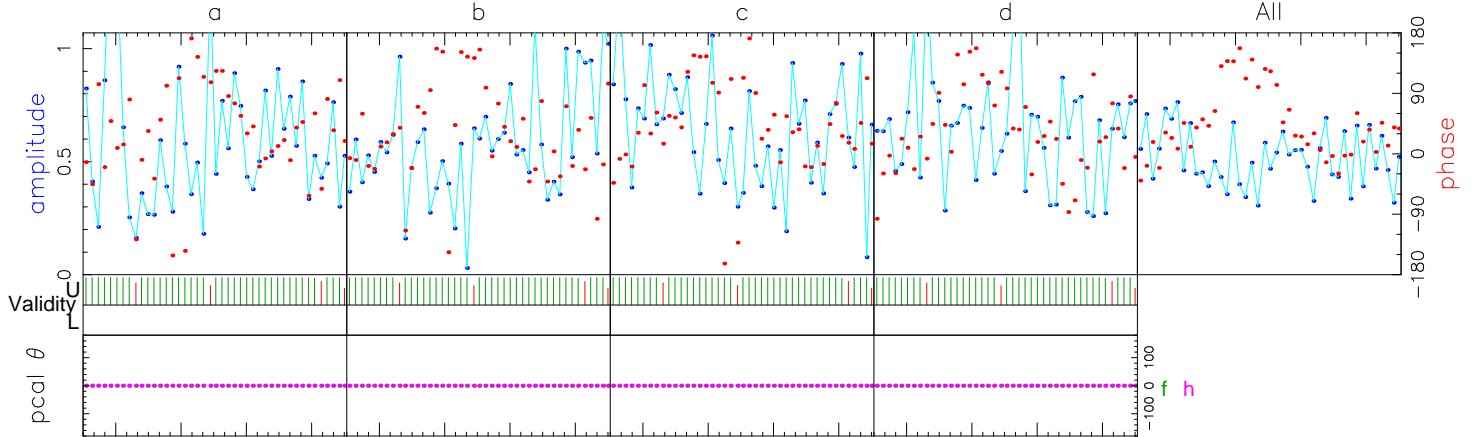
Fringe quality 9

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	APs used	
h	1000	1000	1000	1000	PC freqs	
f:h	0:0	0:0	0:0	0:0	PC phase	
f	1000	1000	1000	1000	ManI PC	
h	1000	1000	1000	1000	PC amp	
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	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
ph/frq (deg)	10.6	7.6	Inc. seg. avg.	0.471	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
amp/frq (%)	7.3	13.3	Inc. frq. avg.	0.350	Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
					nlags: 512	t_cohere infinite
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		ion window (TEC) 0.00 0.00

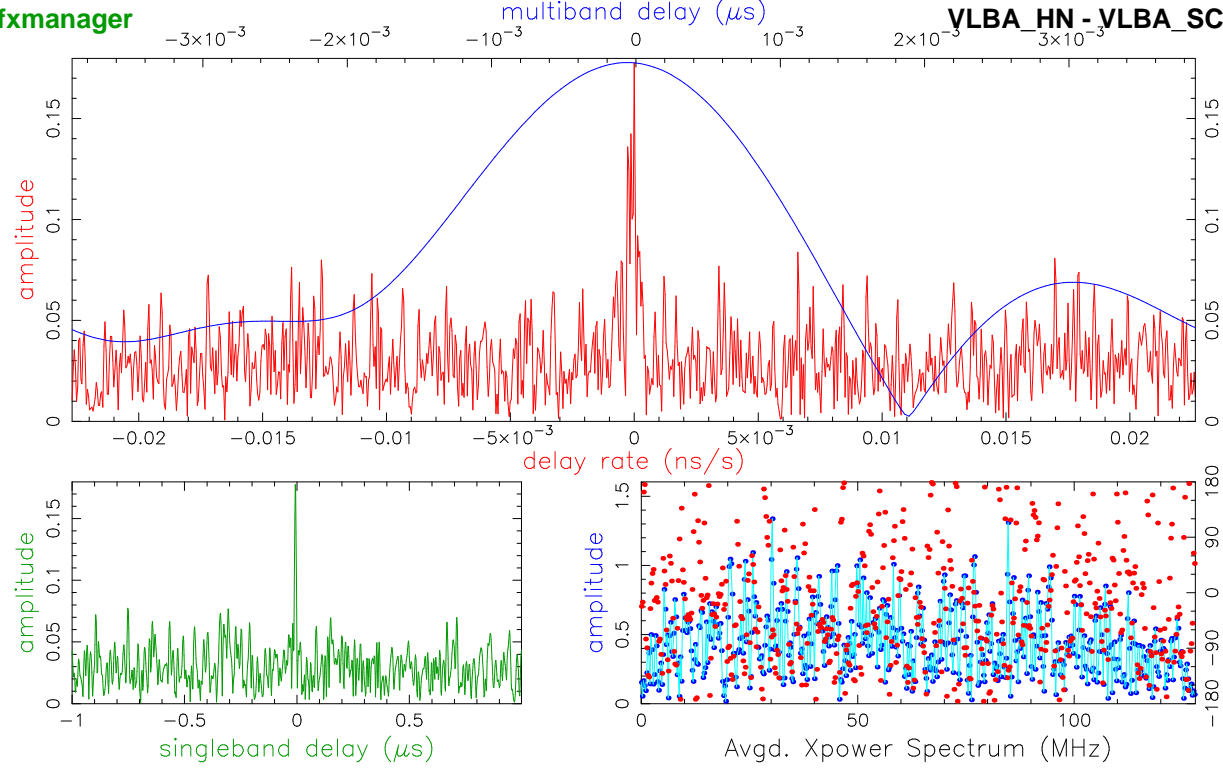
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/fh.Q.74.1J2DGP simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, hc

VLBA_HN - VLBA_SC, fgroup Q, pol LR

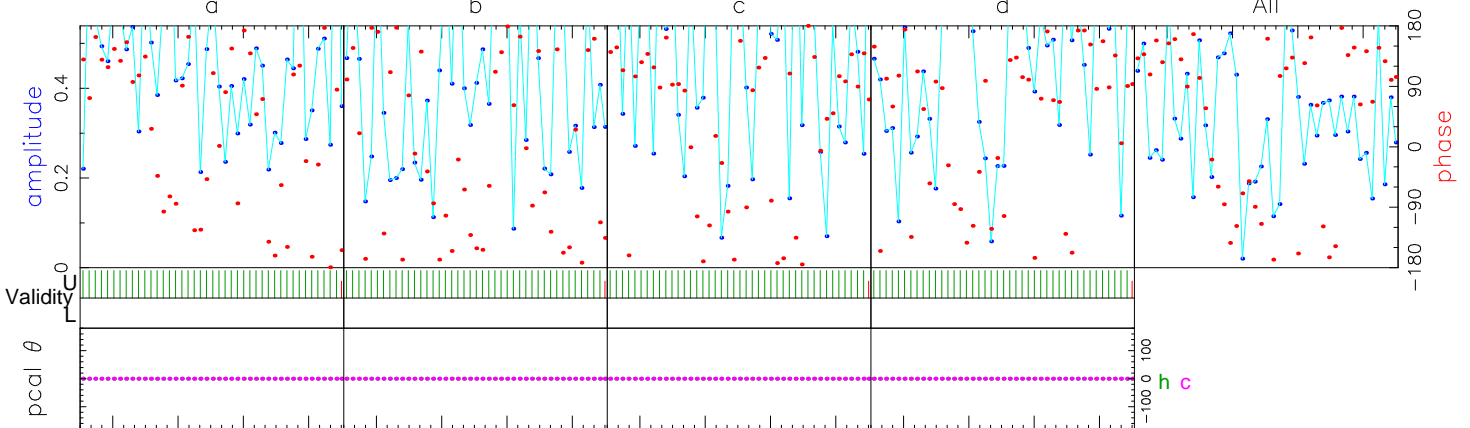


Fringe quality 9

SNR 7.6
 Int time 239.976
 Amp 0.180
 Phase 150.5
 PFD 4.3e-06
 Delays (us)
 SBD -0.007141
 MBD -0.000023
 Fringe rate (Hz)
 0.000603
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

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

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



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

Group delay (usec)(sbd)	-2.52619569743E+03	Apriori delay (usec)	-2.52618786180E+03	Resid mbdelay (usec)	-2.31250E-05	+/-	1.5E-04
Sband delay (usec)	-2.52619500243E+03	Apriori clock (usec)	-7.9577980E+00	Resid sbdelay (usec)	-7.14062E-03	+/-	5.7E-04
Phase delay (usec)	-2.52618785209E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	9.71001E-06	+/-	9.7E-07
Delay rate (us/s)	2.36123796730E-01	Apriori rate (us/s)	2.36123782719E-01	Resid rate (us/s)	1.40109E-08	+/-	7.0E-09
Total phase (deg)	-55.5	Apriori accel (us/s/s)	2.10549290867E-05	Resid phase (deg)	150.5	+/-	15.0

	RMS	Theor.	Amplitude	0.180 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	71.3	49.3	Search (1024X16)	0.169	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	113.4	86.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	27.8	15.0	Inc. seg. avg.	0.241	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	23.1	26.3	Inc. frq. avg.	0.181	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 195.3 el 56.6 pa 11.8 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -675.205 1790.116 simultaneous interpolator

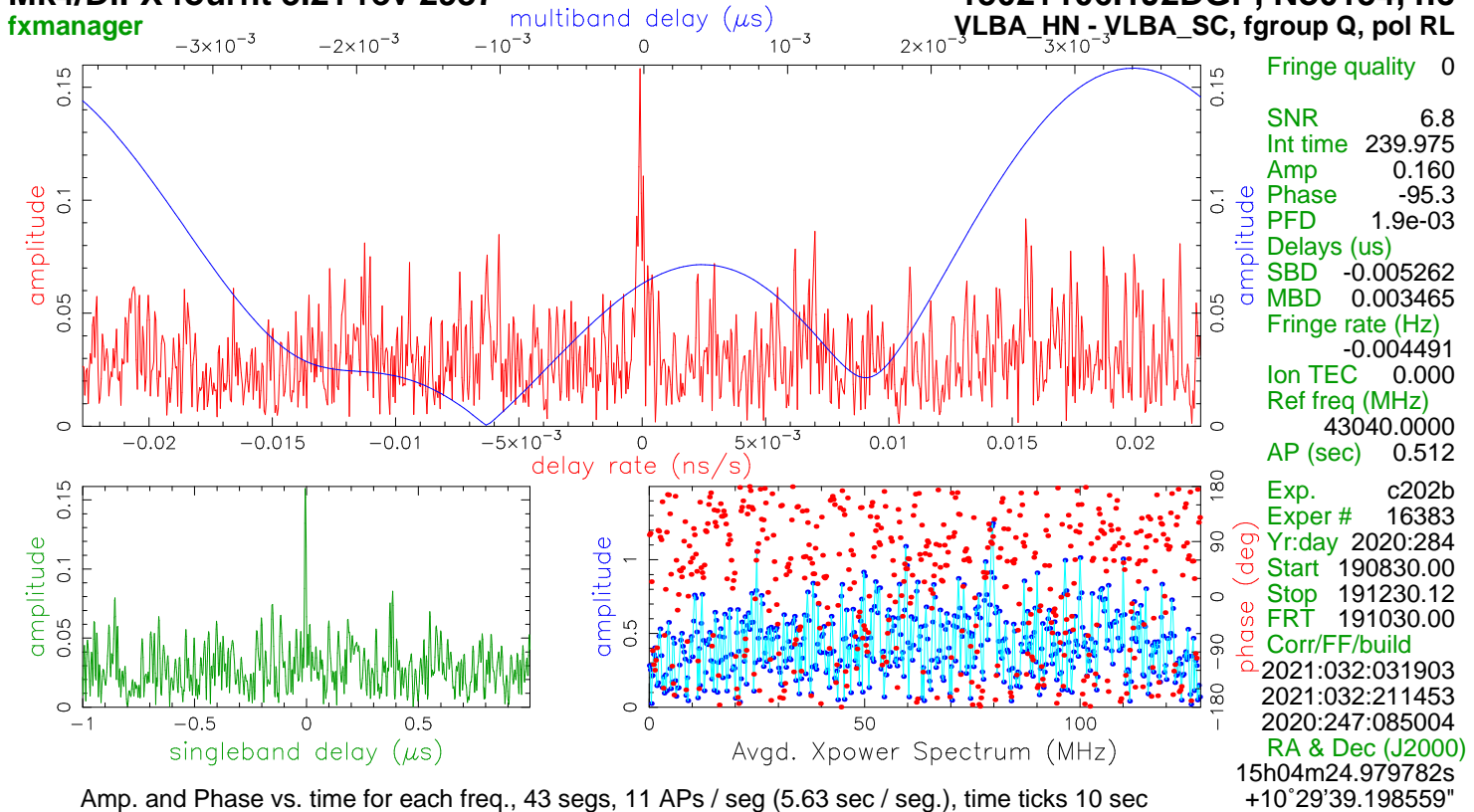
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc.Q.127.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

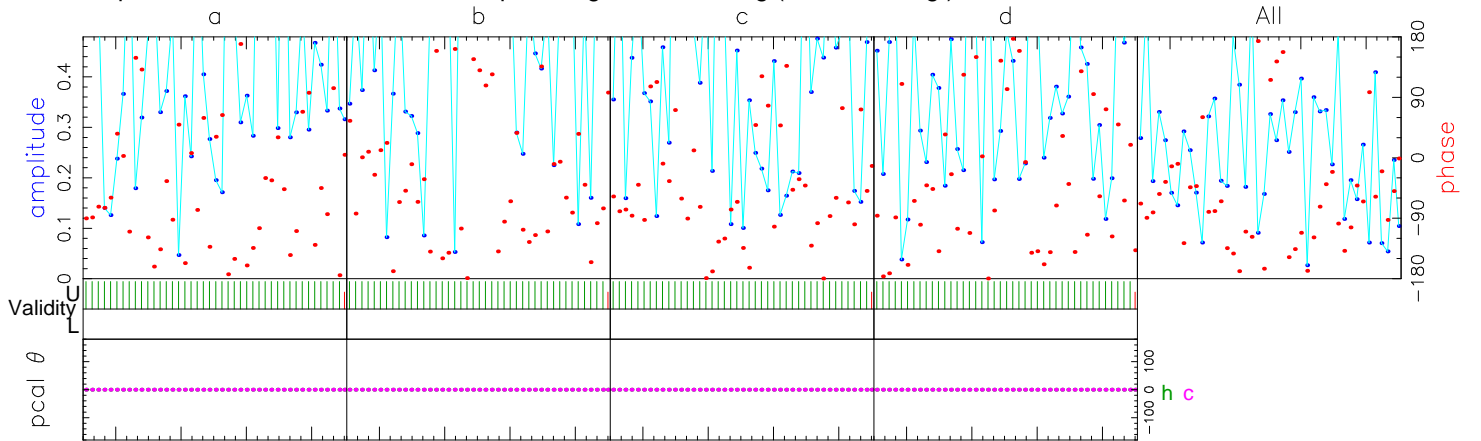
fxmanager

1502+106.1J2DGP, No0154, hc

VLBA_HN - VLBA_SC, fgroup Q, pol RL



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

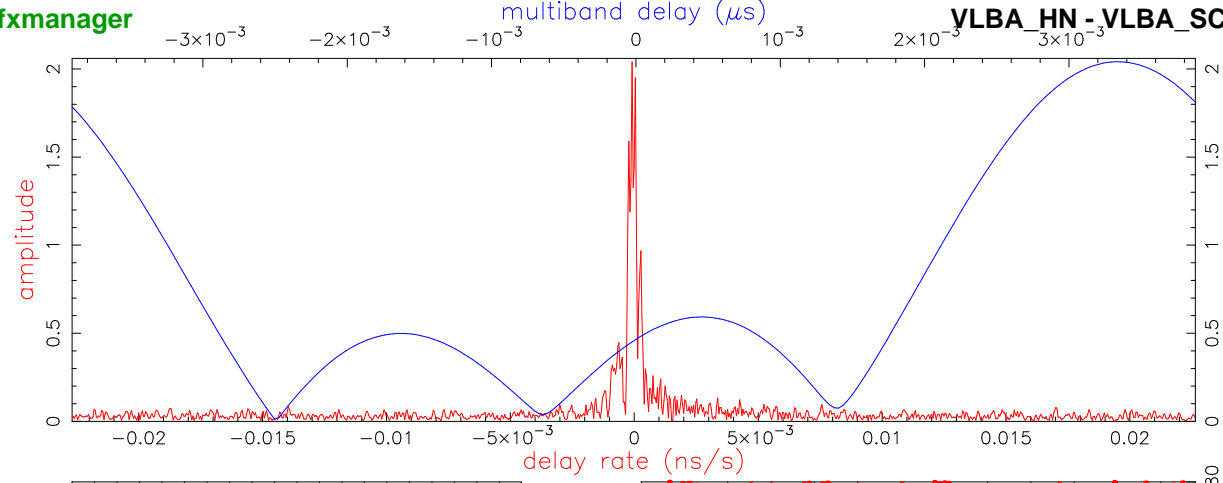


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000	APs used	
c	1000	1000	1000	1000	PC freqs	
h:c	0:0	0:0	0:0	0:0	PC phase	
h:c	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c	Q00UL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

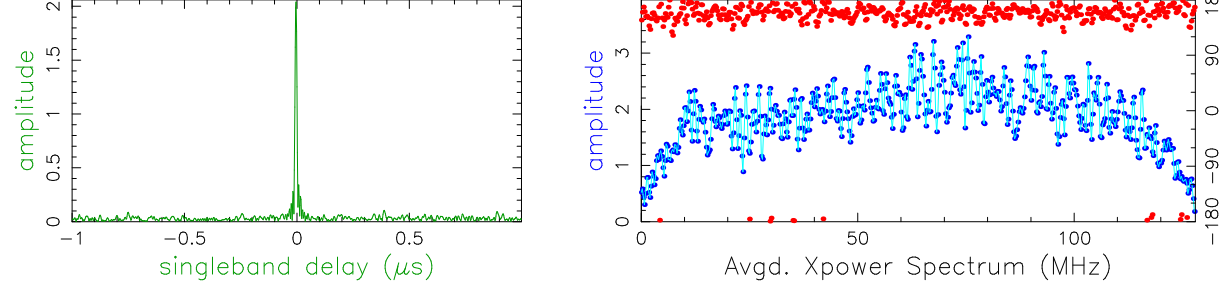
Group delay (usec)(sbd)	-2.52619220970E+03	Apriori delay (usec)	-2.52618786180E+03	Resid mbdelay (usec)	3.46461E-03	+/-	1.6E-04
Sband delay (usec)	-2.52619312380E+03	Apriori clock (usec)	-7.9577980E+00	Resid sbdelay (usec)	-5.26200E-03	+/-	6.4E-04
Phase delay (usec)	-2.52618786795E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-6.14829E-06	+/-	1.1E-06
Delay rate (us/s)	2.36123678384E-01	Apriori rate (us/s)	2.36123782719E-01	Resid rate (us/s)	-1.04336E-07	+/-	7.9E-09
Total phase (deg)	-301.2	Apriori accel (us/s/s)	2.10549290867E-05	Resid phase (deg)	-95.3	+/-	16.9

ph/seg (deg)	67.2	Theor.	55.5	Amplitude	0.160 +/- 0.024	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	103.3	Search (1024X16)	0.150	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	24.7	Inc. seg. avg.	0.176	Inc. seg. avg.	0.176	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004		
amp/frq (%)	15.5	Inc. frq. avg.	0.159	Inc. frq. avg.	0.159	Sample rate(MISamp/s):	256	nlags:	512	t_cohere infinite	dr window (ns/s)	-0.023 0.023
h: az 195.3 el 56.6 pa 11.8		c: az 246.7 el 72.9 pa 62.7		u,v (fr/asec)	-675.205 1790.116	Data rate(Mb/s):	2048	ion window (TEC)	0.00	0.00	simultaneous interpolator	

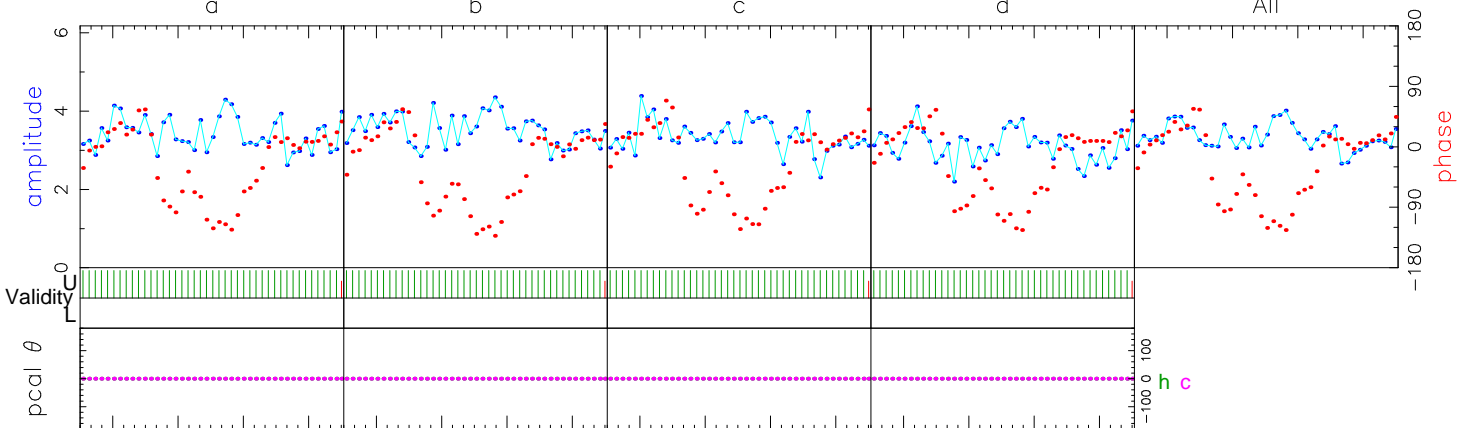
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc.Q.147.1J2DGP



Fringe quality 5
SNR 87.3
Int time 239.975
Amp 2.060
Phase -22.4
PFD 0.0e+00
Delays (us)
SBD -0.004555
MBD 0.003306
Fringe rate (Hz)
-0.004654
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211446
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"



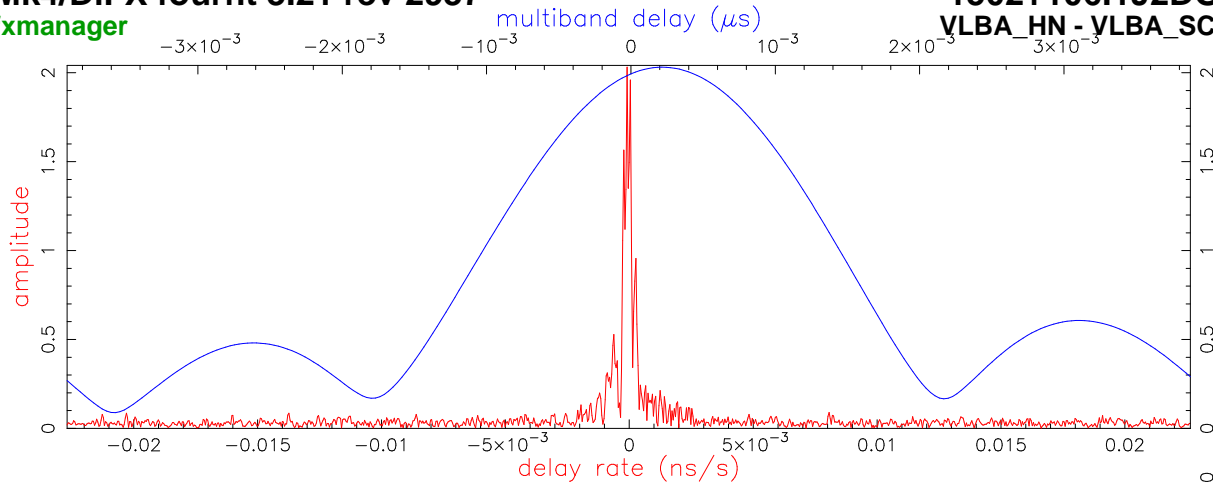
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

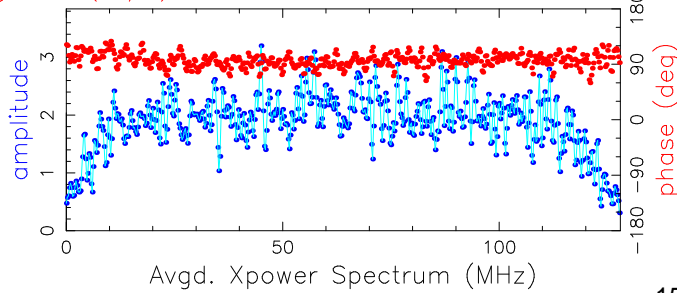
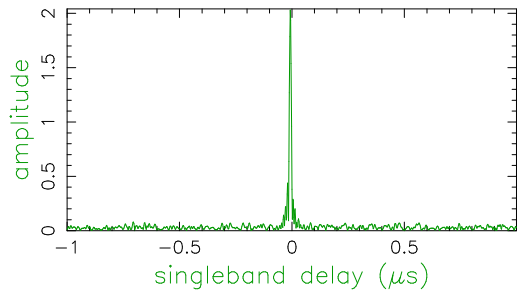
Group delay (usec)(sbd)	-2.52619236863E+03	Apriori delay (usec)	-2.52618786180E+03	Resid mbdelay (usec)	3.30567E-03	+/-	1.3E-05
Sband delay (usec)	-2.52619241705E+03	Apriori clock (usec)	-7.9577980E+00	Resid sbdelay (usec)	-4.55525E-03	+/-	4.9E-05
Phase delay (usec)	-2.52618786325E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-1.44320E-06	+/-	8.5E-08
Delay rate (us/s)	2.36123674595E-01	Apriori rate (us/s)	2.36123782719E-01	Resid rate (us/s)	-1.08125E-07	+/-	6.1E-10
Total phase (deg)	-228.3	Apriori accel (us/s/s)	2.10549290867E-05	Resid phase (deg)	-22.4	+/-	1.3

ph/seg (deg) 53.0 4.3 Search (1024X16) 1.863 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 64.2 7.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 4.1 1.3 Inc. seg. avg. 3.335 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
amp/frq (%) 3.4 2.3 Inc. frq. avg. 2.042 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t_coherence infinite dr window (ns/s) -0.023 0.023
h: az 195.3 el 56.6 pa 11.8 c: az 246.7 el 72.9 pa 62.7 u,v (fr/asec) -675.205 1790.116 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hc.Q.77.1J2DGP



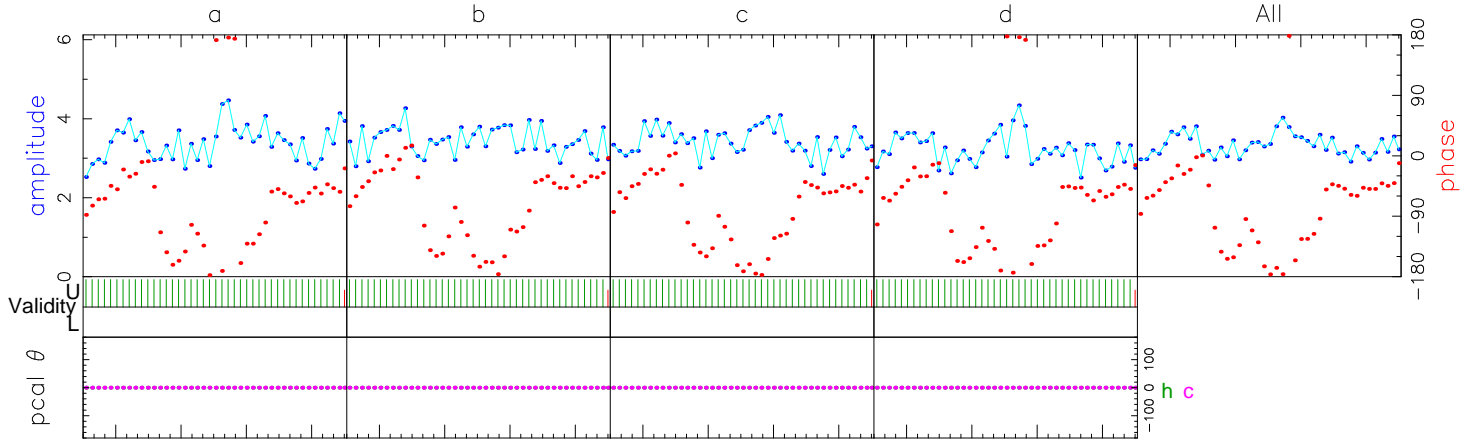
Fringe quality 5

SNR 86.5
Int time 239.976
Amp 2.042
Phase -79.2
PFD 0.0e+00
Delays (us)
SBD -0.007369
MBD 0.000236
Fringe rate (Hz)
-0.004600
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512



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

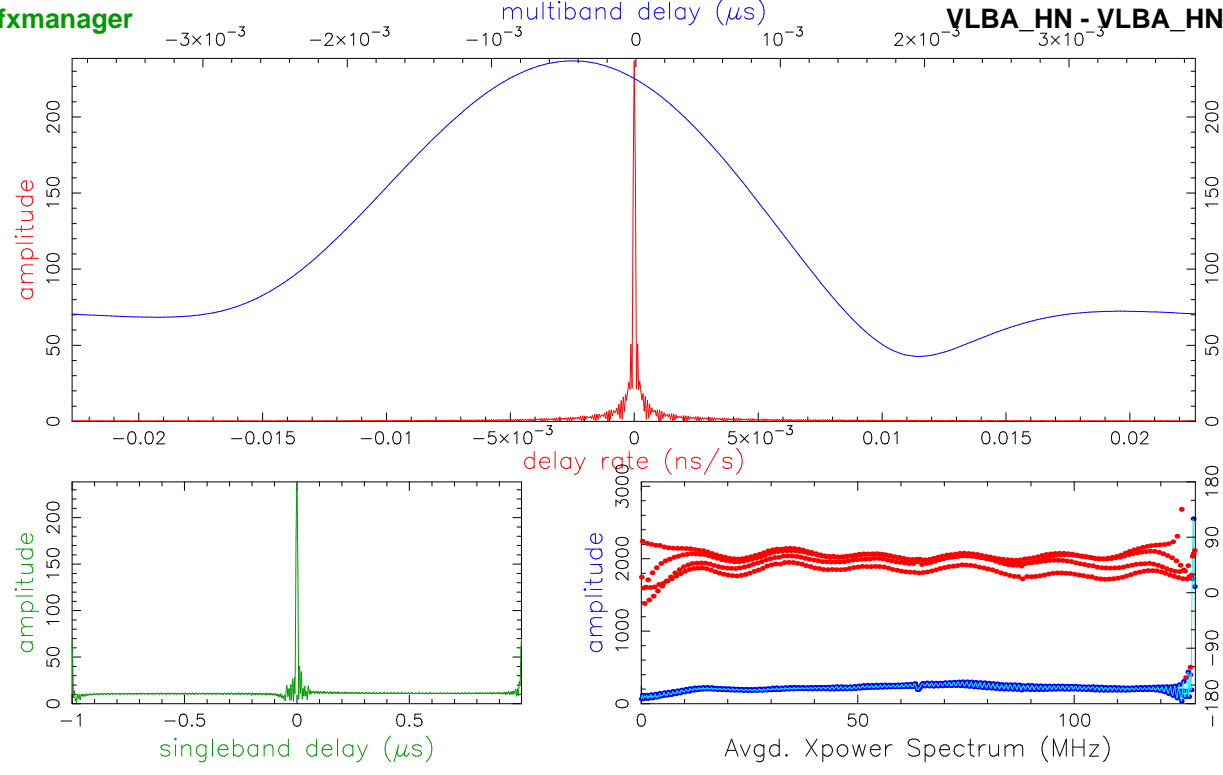
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

Group delay (usec)(sbd)	-2.52619543854E+03	Apriori delay (usec)	-2.52618786180E+03	Resid mbdelay (usec)	2.35762E-04	+/-	1.3E-05
Sband delay (usec)	-2.52619523118E+03	Apriori clock (usec)	-7.9577980E+00	Resid sbdelay (usec)	-7.36937E-03	+/-	5.0E-05
Phase delay (usec)	-2.52618786691E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-5.10980E-06	+/-	8.6E-08
Delay rate (us/s)	2.36123675834E-01	Apriori rate (us/s)	2.36123782719E-01	Resid rate (us/s)	-1.06885E-07	+/-	6.2E-10
Total phase (deg)	-285.1	Apriori accel (us/s/s)	2.10549290867E-05	Resid phase (deg)	-79.2	+/-	1.3

ph/seg (deg)	53.4	RMS	4.3	Theor.	4.3	Amplitude	2.042 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	65.0	Search (1024X16)	1.839	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	10.5	Inc. seg. avg.	3.331	Inc. frq. avg.	2.048	Sample rate(MISamp/s): 256		Sample rate(Mb/s): 2048	nlags: 512	t_cohere infinite	dr window (ns/s)	-0.023	0.023
amp/frq (%)	4.1	h: az 195.3 el 56.6 pa 11.8		c: az 246.7 el 72.9 pa 62.7		Data rate(Mb/s): 2048		u,v (fr/asec)	-675.205 1790.116	ion window (TEC)	0.00	0.00	

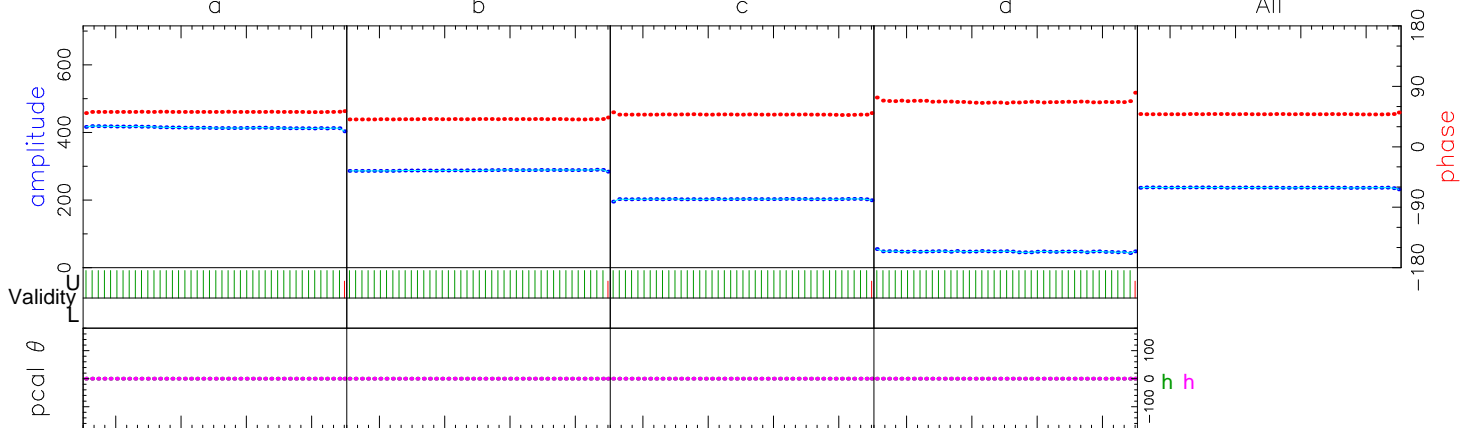


Fringe quality 6

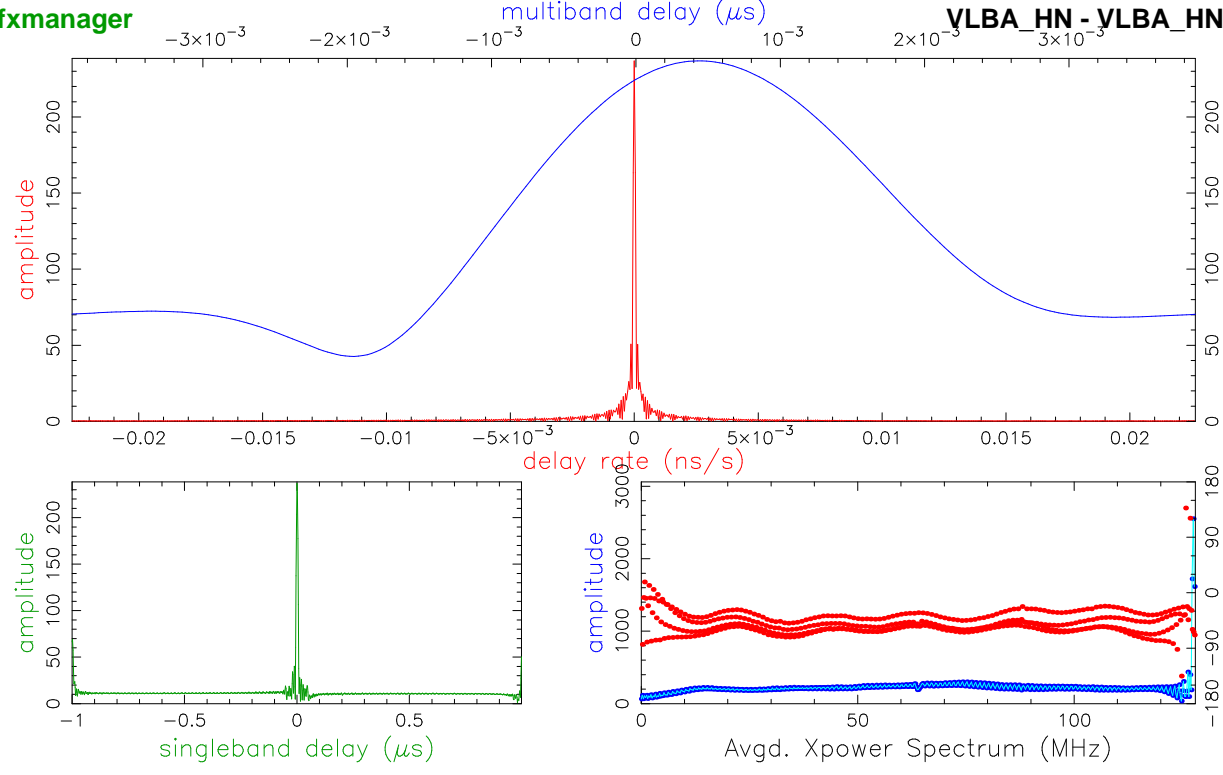
SNR 10102.9
Int time 239.982
Amp 238.485
Phase 48.6
PFD 0.0e+00
Delays (us)
SBD -0.000523
MBD -0.000447
Fringe rate (Hz)
-0.000014
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

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

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



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
51.9	41.1	48.0	67.2	Phase	48.6
414.5	288.0	202.7	47.9	Ampl.	238.3
512.5	512.9	512.4	1.3	Sbd box	512.7
U/L 469/0	469/0	469/0	469/0	APs used	
h 1000	1000	1000	1000	PC freqs	
h 1000	1000	1000	1000	PC freqs	
h:h 0:0	0:0	0:0	0:0	PC phase	
h:h 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
h Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	-4.46937500000E-04	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-4.46938E-04 +/- 1.1E-07
Sband delay (usec)	-5.22625000000E-04	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-5.22625E-04 +/- 4.3E-07
Phase delay (usec)	3.13342263023E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	3.13342E-06 +/- 7.3E-10
Delay rate (us/s)	-3.17655073202E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-3.17655E-10 +/- 5.3E-12
Total phase (deg)	48.6	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	48.6 +/- 0.0
RMS	Theor.	Amplitude	238.485 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
0.3	0.0	Search (1024X16)	236.718	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
0.8	0.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
14.4	0.0	Inc. seg. avg.	236.872	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
55.9	0.0	Inc. frq. avg.	238.285	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8	h: az 195.3 el 56.6 pa 11.8	u,v (fr/asec) 0.000 0.000			simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh.Q.113.1J2DGP			

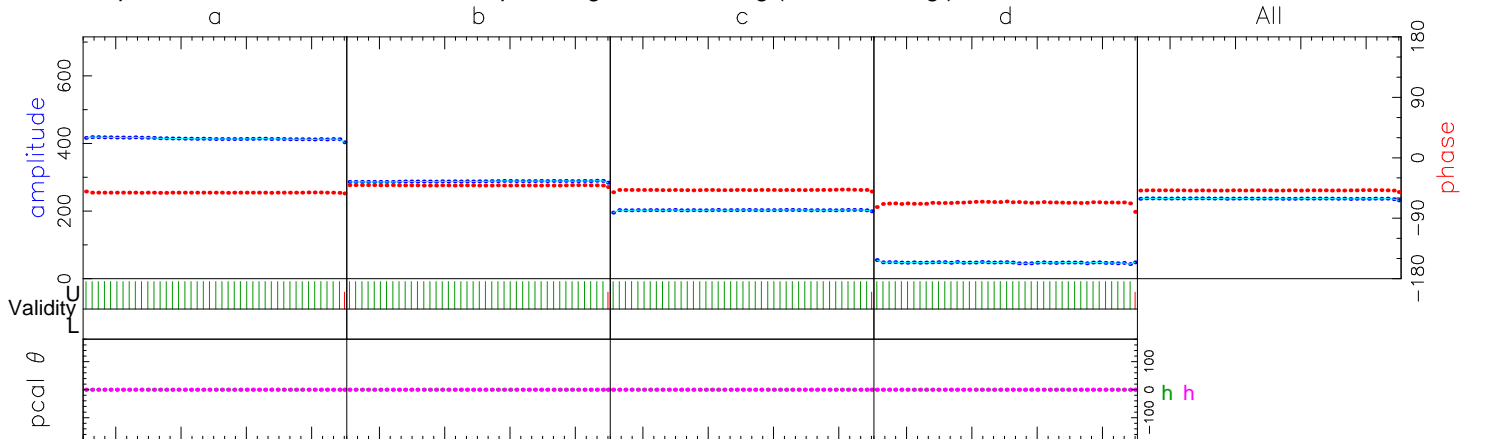


Fringe quality 6

SNR 10102.9
Int time 239.982
Amp 238.485
Phase -48.6
PFD 0.0e+00
Delays (us)
SBD 0.000523
MBD 0.000447
Fringe rate (Hz) 0.000014
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

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

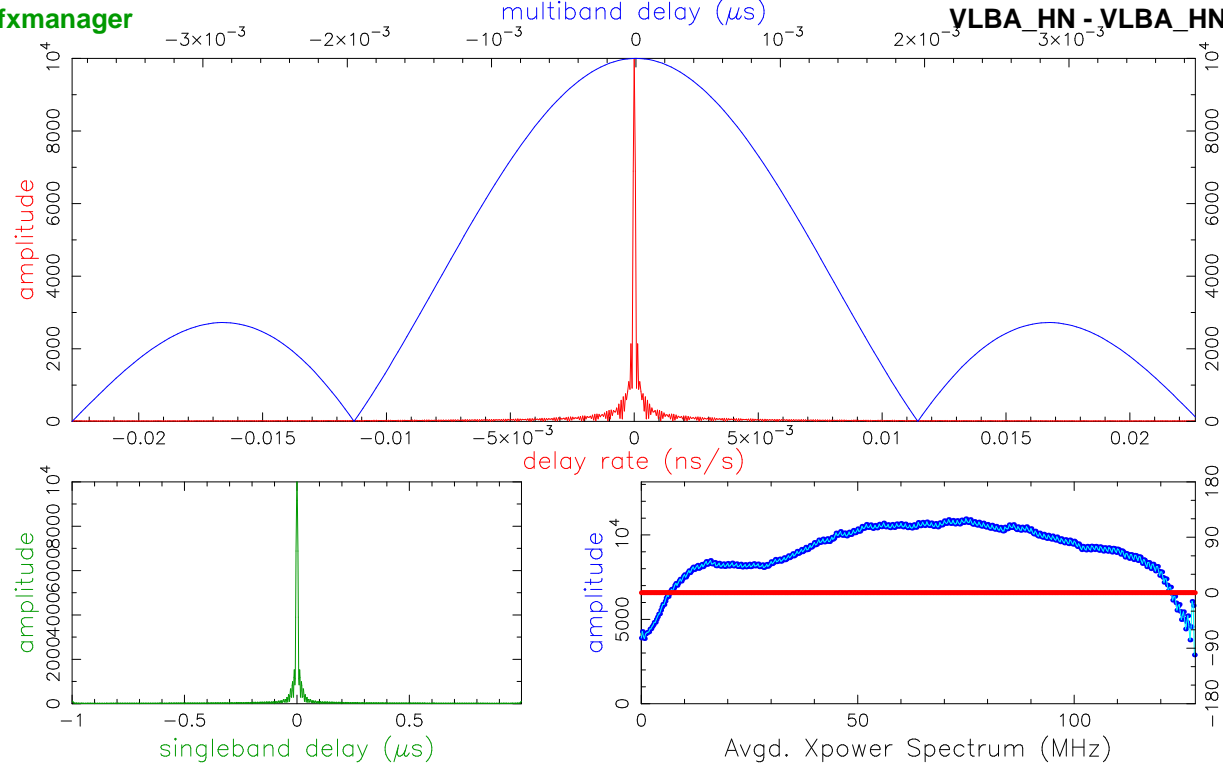
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

Group delay (usec)(sbd)	4.46937500000E-04	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	4.46938E-04	+/-	1.1E-07
Sband delay (usec)	5.22625000000E-04	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	5.22625E-04	+/-	4.3E-07
Phase delay (usec)	-3.13342263034E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-3.13342E-06	+/-	7.3E-10
Delay rate (us/s)	3.17655073202E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	3.17655E-10	+/-	5.3E-12
Total phase (deg)	-48.6	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-48.6	+/-	0.0

ph/seg (deg) 0.3 0.0 Amplitude 238.485 +/- 0.024 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 0.8 0.1 Search (1024X16) 236.718 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 14.4 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004
amp/frq (%) 55.9 0.0 Inc. seg. avg. 236.872 Sample rate(MISamp/s): 256 dr window (ns/s) -0.023 0.023
h: az 195.3 el 56.6 pa 11.8 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh.Q.135.1J2DGP

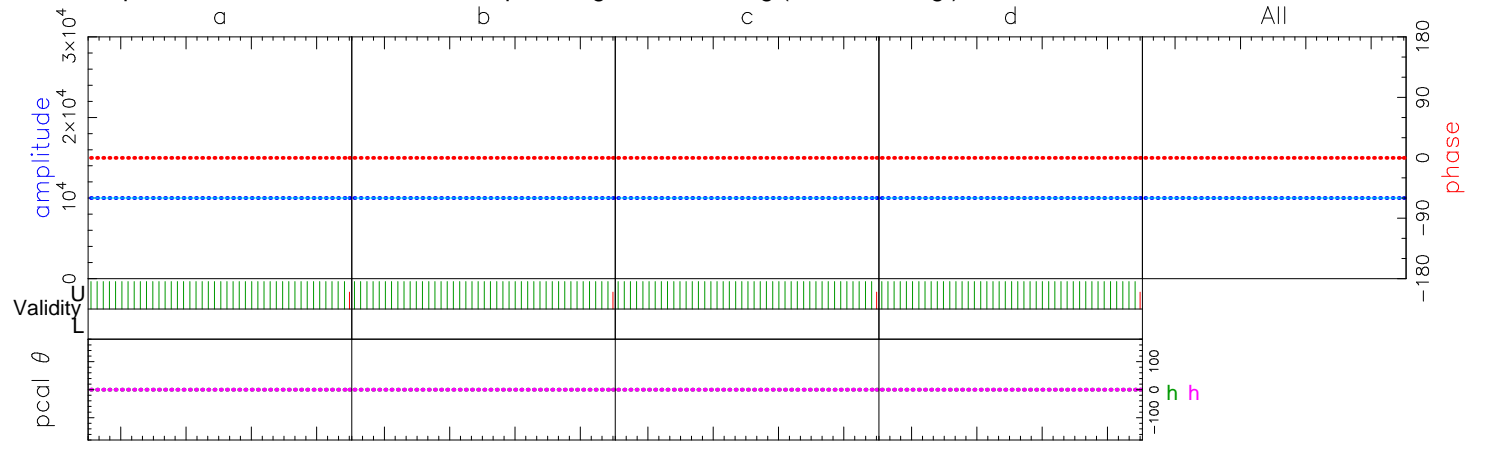


Fringe quality 9

SNR 423630.4
Int time 239.982
Amp 10000.000
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz)
0.000000
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211446
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

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



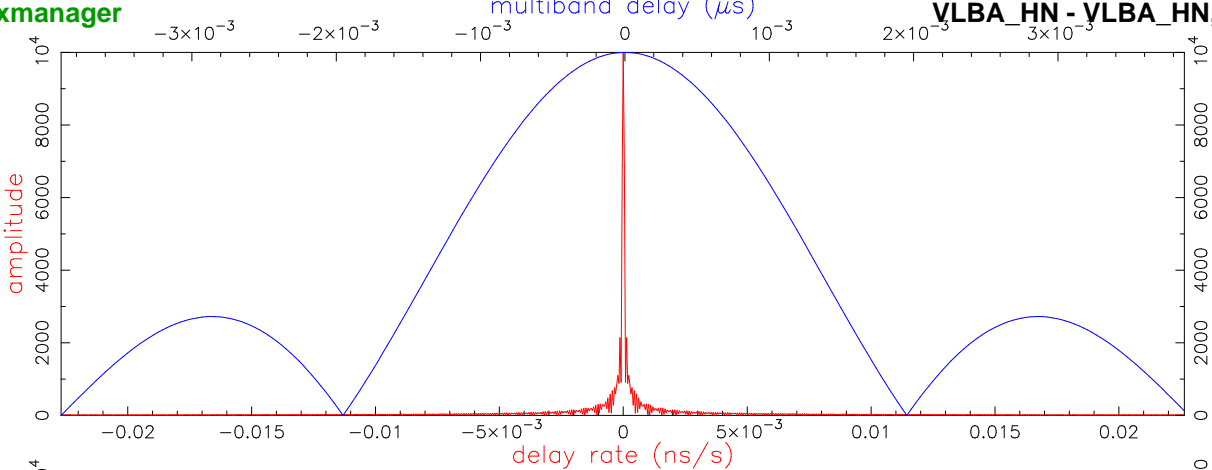
42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
0.0	0.0	0.0	0.0	Phase	0.0
10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
513.0	513.0	513.0	513.0	Sbd box	513.0
U/L 469/0	469/0	469/0	469/0	APs used	
h 1000	1000	1000	1000	PC freqs	
h 1000	1000	1000	1000	PC freqs	
h:h 0:0	0:0	0:0	0:0	PC phase	
h:h 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
h Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
h Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00 +/- 2.6E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00 +/- 1.0E-08
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00 +/- 1.7E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00 +/- 1.3E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0 +/- 0.0
RMS	Theor.	Amplitude	10000.000 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.0	Search (1024X16)	10000.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	0.0	Inc. seg. avg.	10000.000	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	0.0	Inc. frq. avg.	10000.000	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8	h: az 195.3 el 56.6 pa 11.8	u,v (fr/asec) 0.000 0.000			simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh.Q.78.1J2DGP			

Mk4/DiFX fourfit 3.21 rev 2937

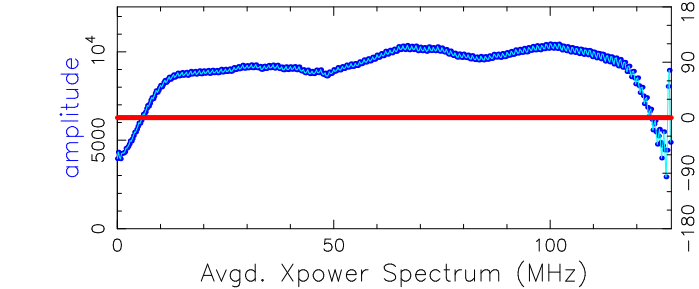
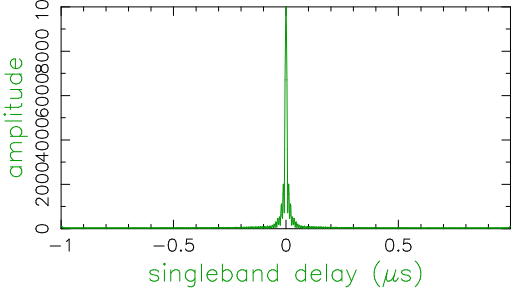
fxmanager

1502+106.1J2DGP, No0154, hh

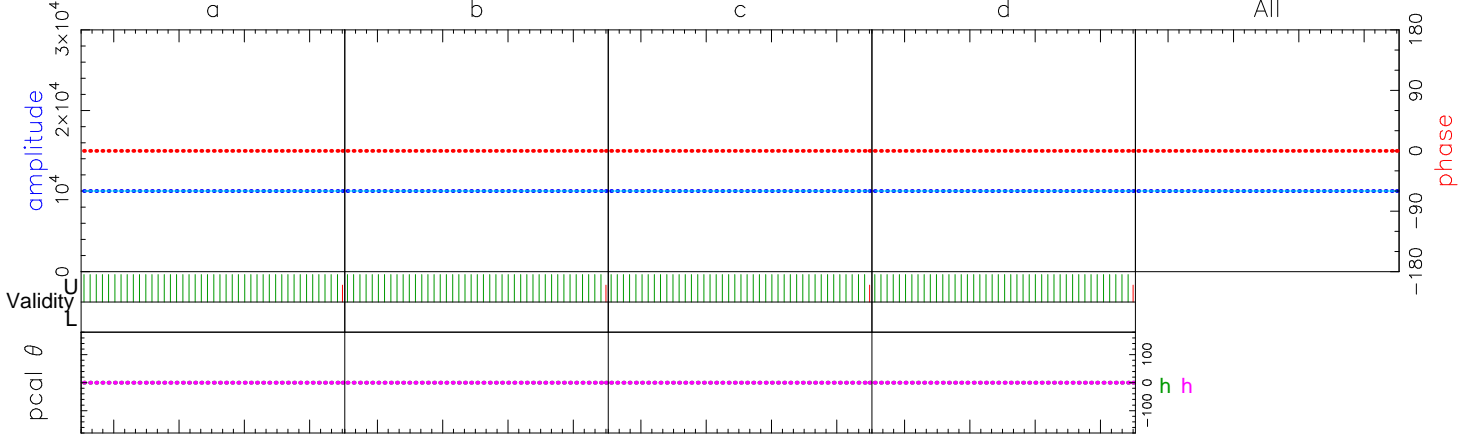
VLBA_HN - VLBA_HN, fgroup Q, pol RR



Fringe quality 9
 SNR 423630.4
 Int time 239.982
 Amp 10000.000
 Phase 0.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.000000
 MBD 0.000000
 Fringe rate (Hz) 0.000000
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512
 Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211448
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



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



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000	APs used	
h:h	0:0	0:0	0:0	0:0	PC freqs	
h:h	0:0	0:0	0:0	0:0	PC phase	
h	1000	1000	1000	1000	ManI PC	
h	1000	1000	1000	1000	PC amp	
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h	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	+/- 1.7E-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	10000.000 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.0	0.0	Search (1024X16)	10000.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	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	Inc. frq. avg.	10000.000	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

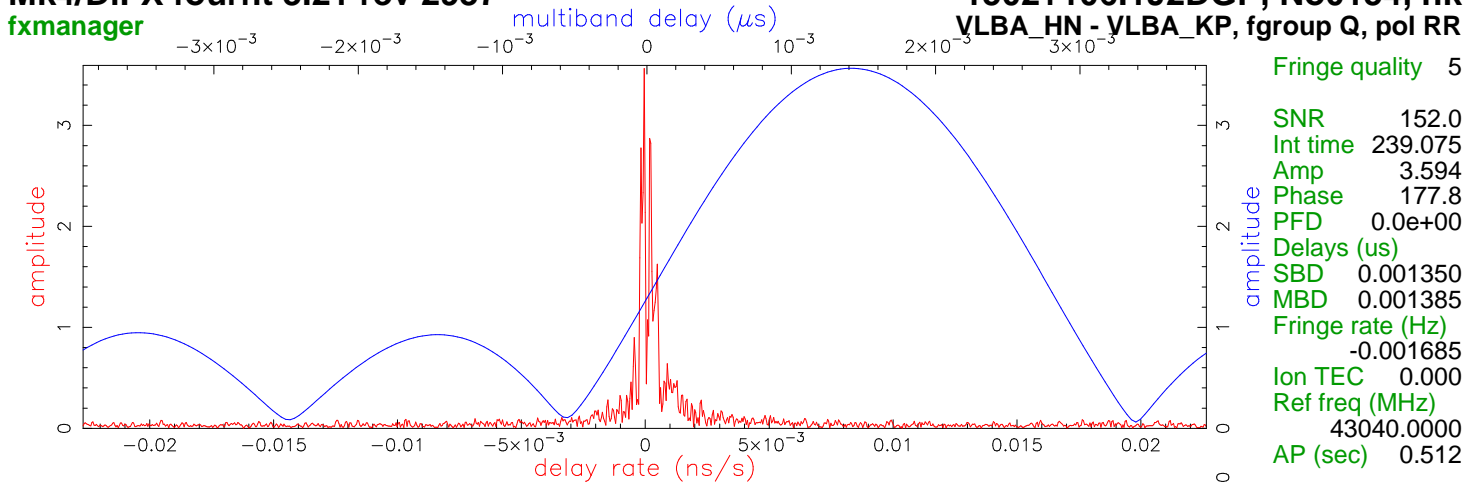
h: az 195.3 el 56.6 pa 11.8 h: az 195.3 el 56.6 pa 11.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hh.Q.92.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, hk

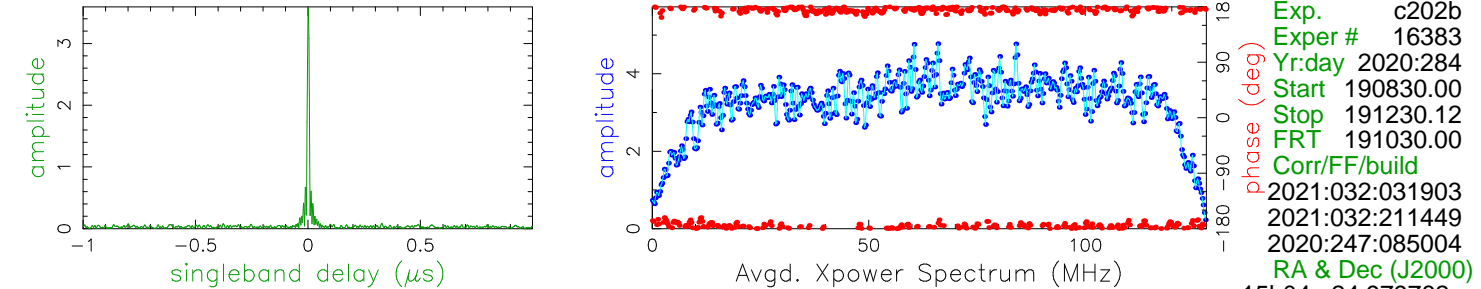
VLBA_HN - VLBA_KP, fgroup Q, pol RR



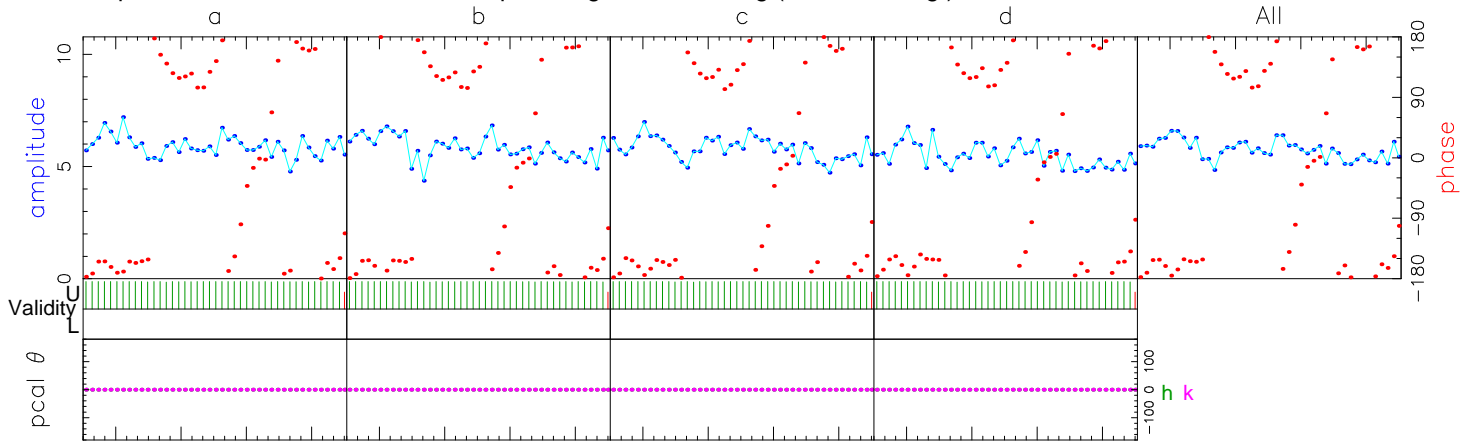
Fringe quality 5

SNR 152.0
 Int time 239.075
 Amp 3.594
 Phase 177.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.001350
 MBD 0.001385
 Fringe rate (Hz)
 -0.001685
 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	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000		
k	1000	1000	1000	1000		
h:k	0:0	0:0	0:0	0:0		
h:k	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
k	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
k	Q00UR	Q01UR	Q02UR	Q03UR		

Group delay (usec)(sbd)	4.14738163586E+02	Apriori delay (usec)	4.14736778674E+02	Resid mbdelay (usec)	1.38491E-03	+/- 7.3E-06
Sband delay (usec)	4.14738129049E+02	Apriori clock (usec)	2.2001457E-01	Resid sbdelay (usec)	1.35038E-03	+/- 2.8E-05
Phase delay (usec)	4.14736790150E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	1.14765E-05	+/- 4.9E-08
Delay rate (us/s)	-8.35333533876E-01	Apriori rate (us/s)	-8.35333494725E-01	Resid rate (us/s)	-3.91510E-08	+/- 3.5E-10
Total phase (deg)	161.3	Apriori accel (us/s/s)	8.90657630545E-07	Resid phase (deg)	177.8	+/- 0.8

ph/seg (deg)	64.2	RMS	2.5	Theor.	3.594 +/- 0.024	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	61.4	Search (1024X16)	3.539	Amplitude		PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	2.4	Inc. seg. avg.	5.755	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	4.4	Inc. frq. avg.	3.565	Inc. seg. avg.	5.755	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
h: az 195.3 el 56.6 pa 11.8		k: az 119.9 el 54.1 pa -48.3		u,v (fr/asec)	2431.660 658.652	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite
Control file: cf_1234_gmva7mm		Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk..1J2DGP		Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk.Q.107.1J2DGP		ion window (TEC)	0.00 0.00

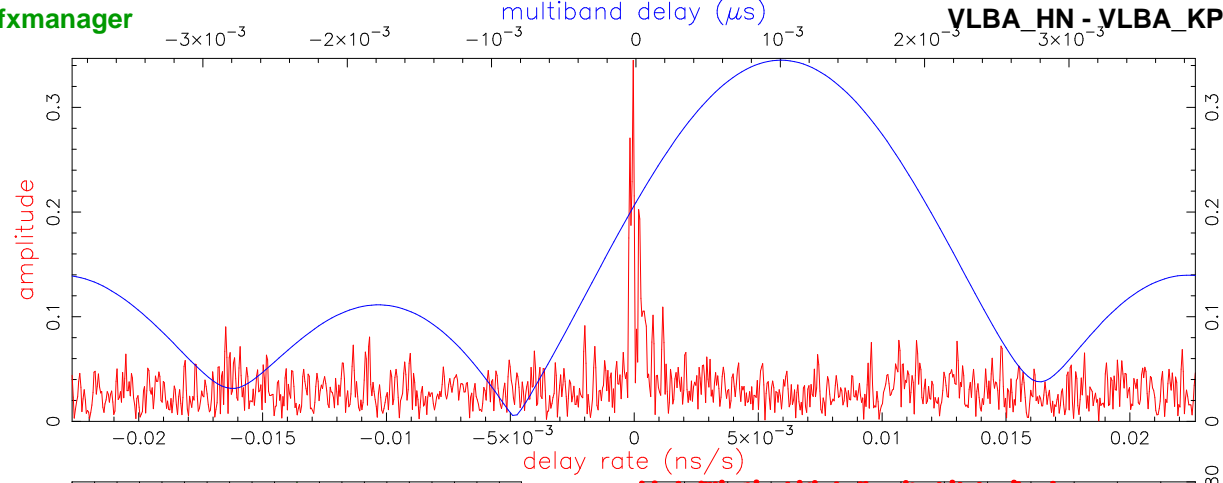
simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

1502+106.1J2DGP, No0154, hk

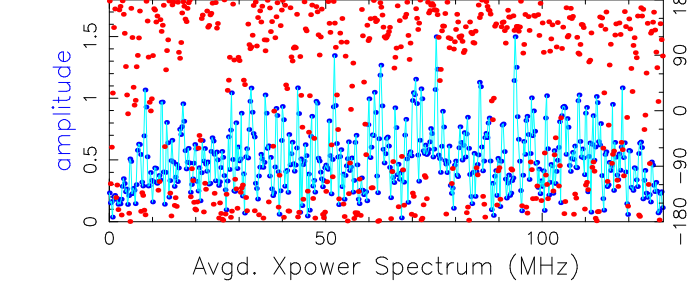
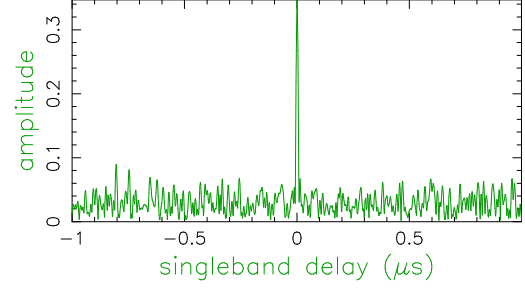
VLBA_HN - VLBA_KP, fgroup Q, pol LR



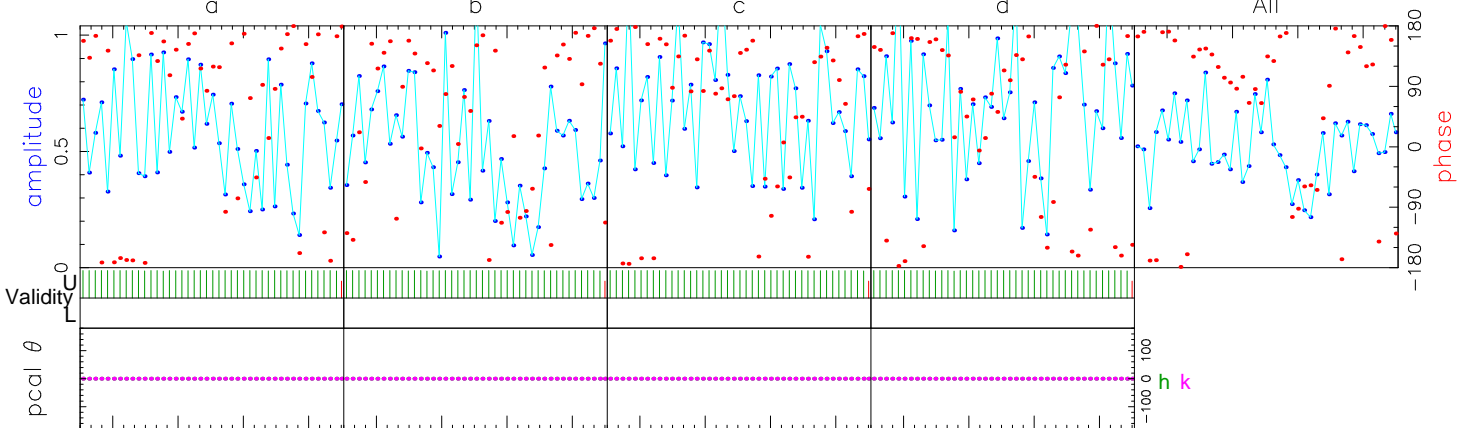
Fringe quality 9

SNR 14.7
 Int time 239.075
 Amp 0.347
 Phase 148.9
 PFD 3.4e-40
 Delays (us)
 SBD 0.000488
 MBD 0.001027
 Fringe rate (Hz)
 -0.001665
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512

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



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



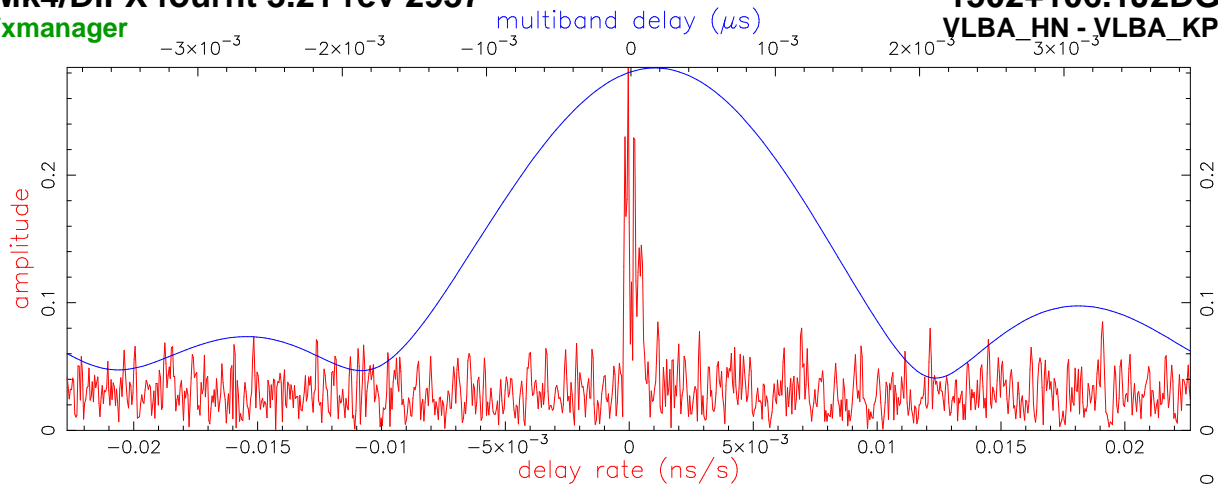
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0	APs used	1000
h	1000	1000	1000	1000	PC freqs	1000
k	1000	1000	1000	1000	PC phase	1000
h:k	0:0	0:0	0:0	0:0	Manl PC	1000
h	1000	1000	1000	1000	PC amp	1000
k	1000	1000	1000	1000	Chan ids	Q00UL
h	Q00UL	Q01UL	Q02UL	Q03UL	Tracks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

Group delay (usec)(sbd)	4.14737806149E+02	Apriori delay (usec)	4.14736778674E+02	Resid mbdelay (usec)	1.02747E-03	+/- 7.6E-05
Sband delay (usec)	4.14737266924E+02	Apriori clock (usec)	2.2001457E-01	Resid sbdelay (usec)	4.88250E-04	+/- 2.9E-04
Phase delay (usec)	4.14736788285E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	9.61062E-06	+/- 5.0E-07
Delay rate (us/s)	-8.35333533411E-01	Apriori rate (us/s)	-8.35333494725E-01	Resid rate (us/s)	-3.86859E-08	+/- 3.6E-09
Total phase (deg)	132.4	Apriori accel (us/s/s)	8.90657630545E-07	Resid phase (deg)	148.9	+/- 7.8

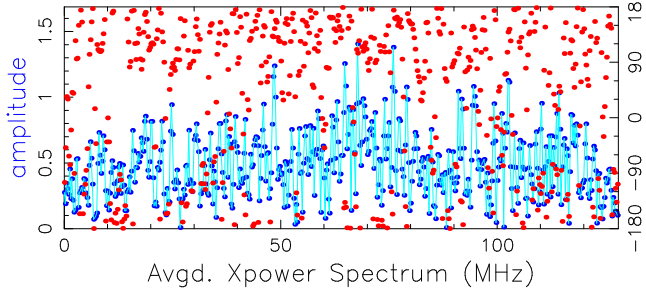
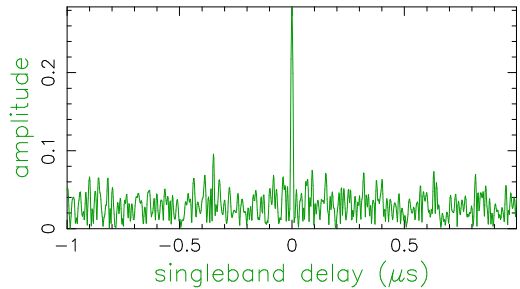
ph/seg (deg)	62.0	Theor.	25.6	Amplitude	0.347 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	65.8	Search (1024X16)	0.342	Search	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	8.0	Inc. seg. avg.	0.475	Inc. seg. avg.	0.475	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	16.8	Inc. frq. avg.	0.344	Inc. frq. avg.	0.344	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
						nlags: 512	t_cohere infinite

h: az 195.3 el 56.6 pa 11.8 k: az 119.9 el 54.1 pa -48.3 u,v (fr/asec) 2431.660 658.652 simultaneous interpolator

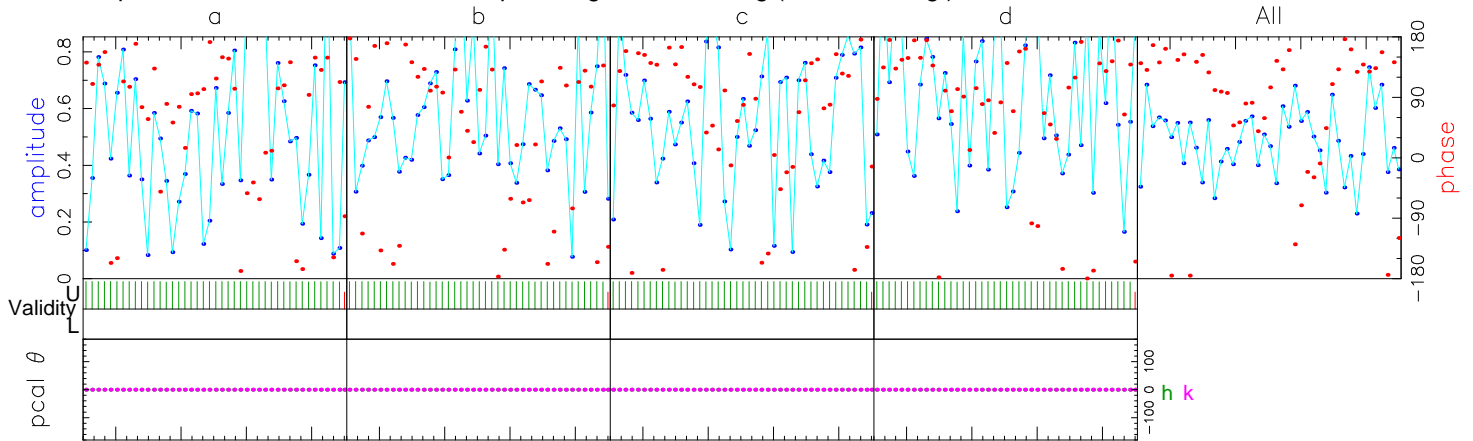
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk.Q.129.1J2DGP



Fringe quality 9
SNR 12.0
Int time 239.075
Amp 0.284
Phase 130.9
PFD 6.6e-25
Delays (us)
SBD -0.000261
MBD 0.000158
Fringe rate (Hz) -0.001623
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202b
Yr:day 16383
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211453
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"



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



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

Group delay (usec)(sbd)	4.14736936586E+02	Apriori delay (usec)	4.14736778674E+02	Resid mbdelay (usec)	1.57912E-04	+/-	9.2E-05
Sband delay (usec)	4.14736517299E+02	Apriori clock (usec)	2.2001457E-01	Resid sbdelay (usec)	-2.61375E-04	+/-	3.6E-04
Phase delay (usec)	4.14736787125E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	8.45125E-06	+/-	6.1E-07
Delay rate (us/s)	-8.35333532436E-01	Apriori rate (us/s)	-8.35333494725E-01	Resid rate (us/s)	-3.77102E-08	+/-	4.4E-09
Total phase (deg)	114.4	Apriori accel (us/s/s)	8.90657630545E-07	Resid phase (deg)	130.9	+/-	9.5

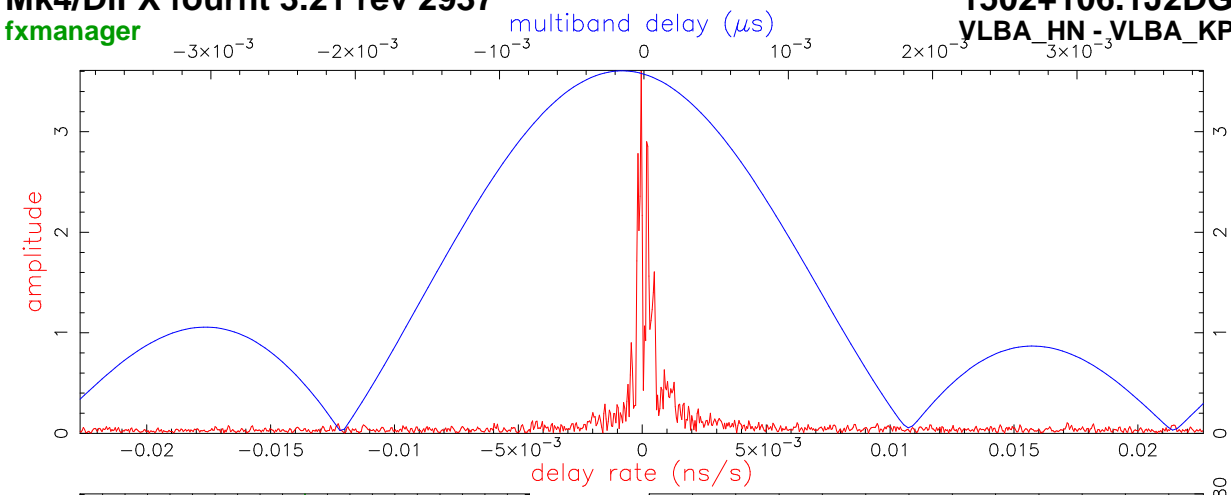
ph/seg (deg)	63.5	Theor.	31.2	Amplitude	0.284 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	82.9	Search (1024X16)	0.278	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	6.0	Inc. seg. avg.	0.426	Inc. frq. avg.	0.281	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	27.8	Inc. frq. avg.	0.281			Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
h: az 195.3 el 56.6 pa 11.8		k: az 119.9 el 54.1 pa -48.3		u,v (fr/asec)	2431.660 658.652	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, hk

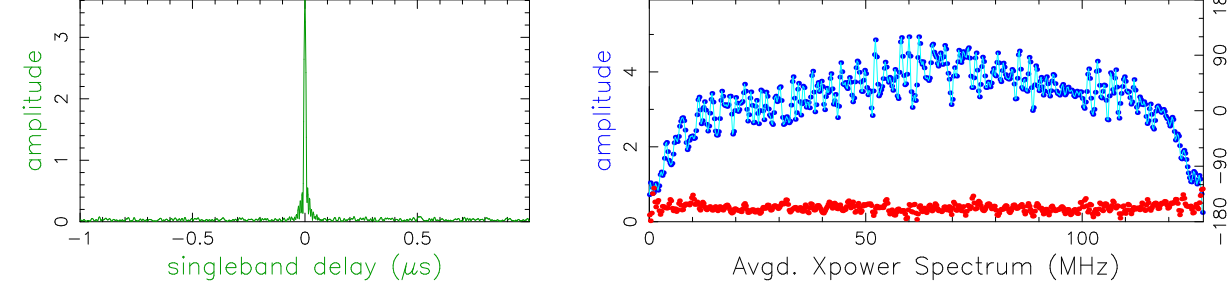
VLBA_HN - VLBA_KP, fgroup Q, pol LL



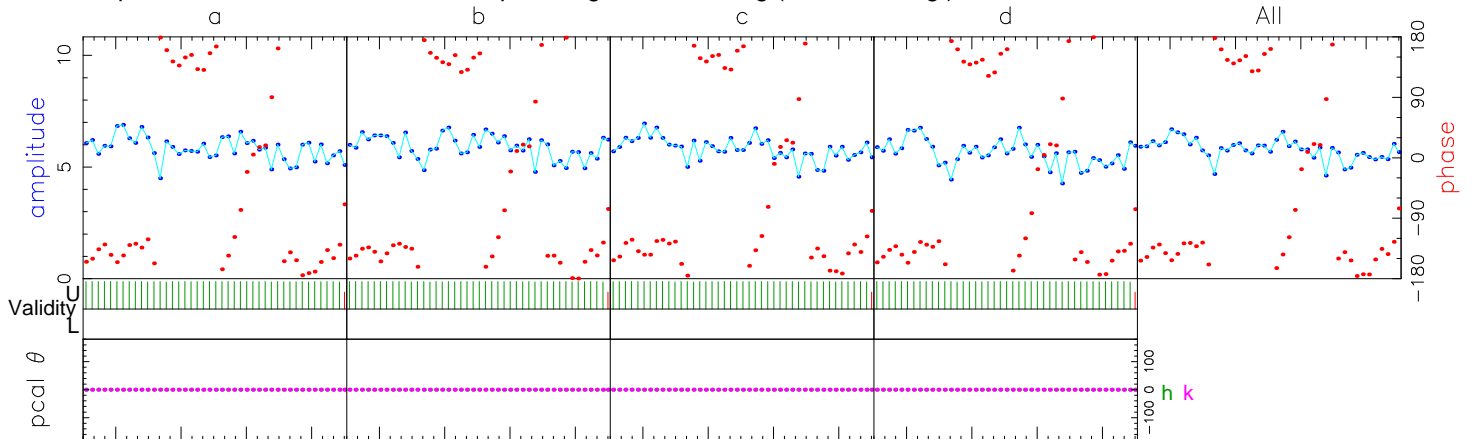
Fringe quality 5

SNR 152.7
 Int time 239.075
 Amp 3.610
 Phase -159.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.000219
 MBD -0.000161
 Fringe rate (Hz)
 -0.001654
 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
	-159.7	-161.6	-155.3	-160.3	Phase	-159.2
	3.6	3.6	3.6	3.5	Ampl.	3.6
	512.7	513.0	512.8	513.0	Sbd box	512.9
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
h:k	0:0	0:0	0:0	0:0	PC phase	
h:k	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

	4.14736617274E+02	Apriori delay (usec)	4.14736778674E+02	Resid mbdelay (usec)	-1.61400E-04	+/- 7.3E-06
Group delay (usec)(sbd)	4.14736617274E+02	Apriori clock (usec)	2.2001457E-01	Resid sbdelay (usec)	-2.19125E-04	+/- 2.8E-05
Sband delay (usec)	4.14736559549E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-1.02770E-05	+/- 4.8E-08
Phase delay (usec)	4.14736768397E+02	Apriori rate (us/s)	-8.35333494725E-01	Resid rate (us/s)	-3.84192E-08	+/- 3.5E-10
Delay rate (us/s)	-8.35333533145E-01	Apriori accel (us/s/s)	8.90657630545E-07	Resid phase (deg)	-159.2	+/- 0.8
Total phase (deg)	184.3					

	RMS	Theor.	Amplitude	3.610 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	64.4	2.5	Search (1024X16)	3.546	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	61.7	4.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	3.3	0.8	Inc. seg. avg.	5.786	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	1.5	1.3	Inc. frq. avg.	3.609	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8			k: az 119.9 el 54.1 pa -48.3			u,v (fr/asec) 2431.660 658.652
Control file: cf_1234_gmva7mm			Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk..1J2DGP			Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hk.Q.85.1J2DGP

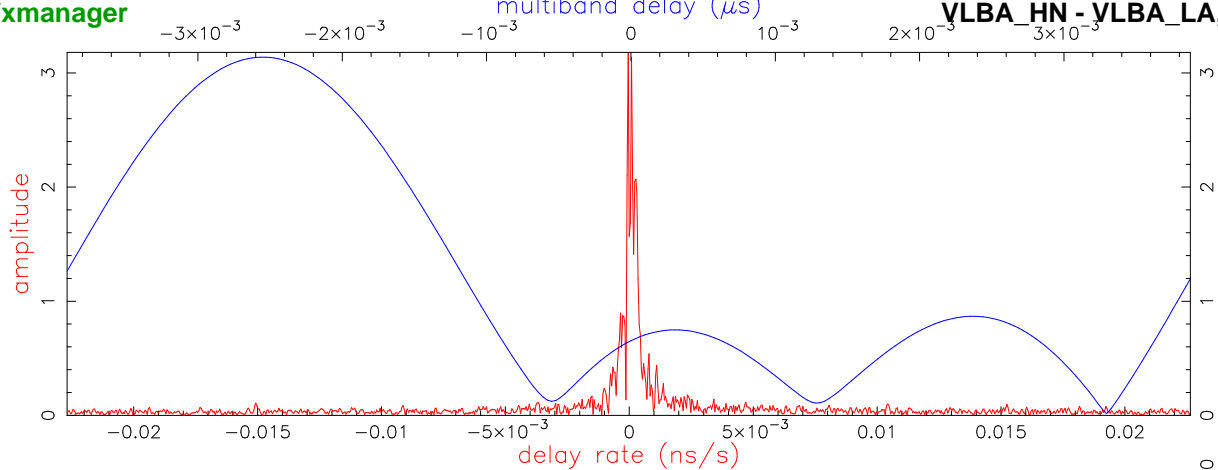
simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

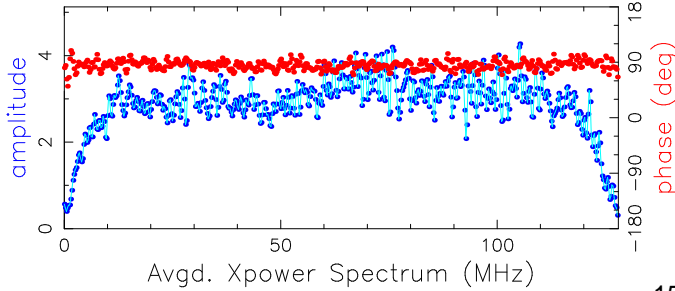
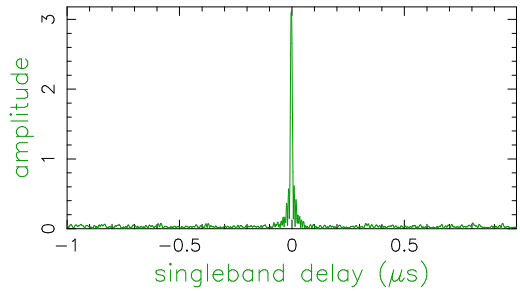
1502+106.1J2DGP, No0154, hl

VLBA_HN - VLBA_LA, fgroup Q, pol RR



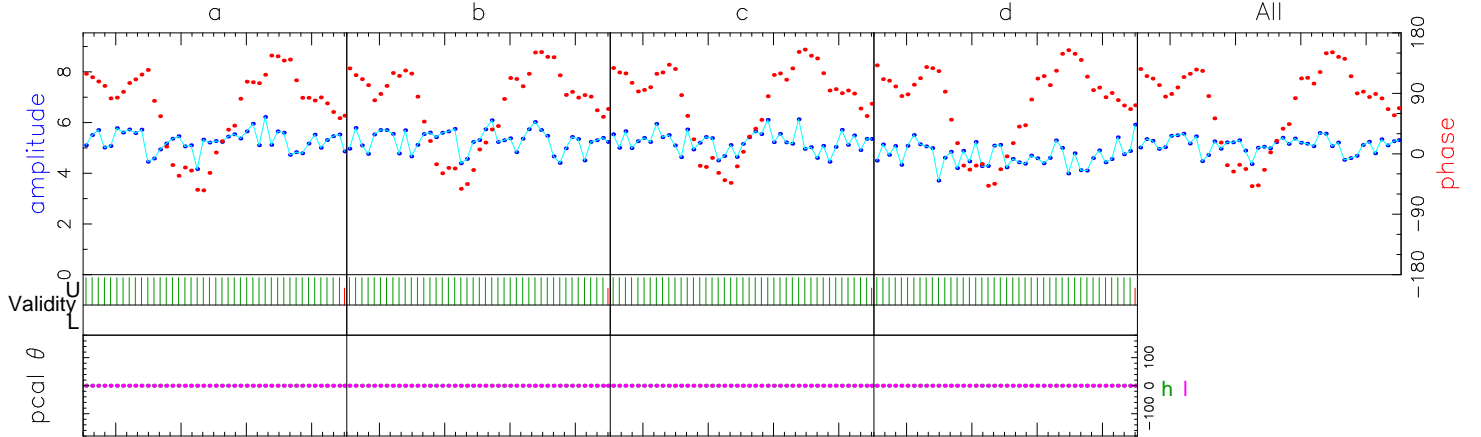
Fringe quality 5

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



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

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



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

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

	RMS	Theor.	Amplitude	3.180 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	57.2	2.8	Search (1024X16)	2.981	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	61.7	4.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	4.5	0.9	Inc. seg. avg.	5.116	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	5.4	1.5	Inc. frq. avg.	3.141	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

h: az 195.3 el 56.6 pa 11.8 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 2049.408 422.032 simultaneous interpolator

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

Mk4/DiFX fourfit 3.21 rev 2937

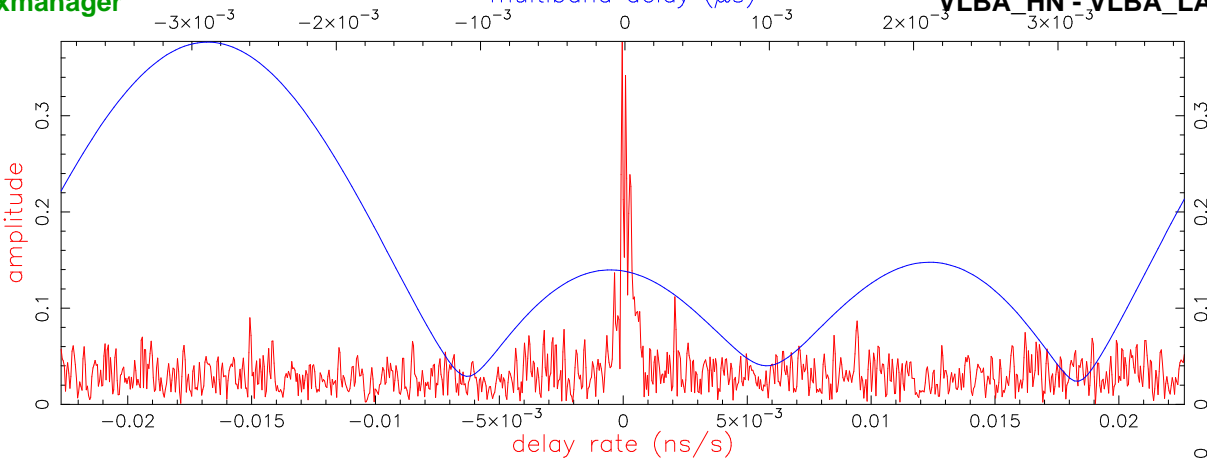
fxmanager

1502+106.1J2DGP, No0154, hl

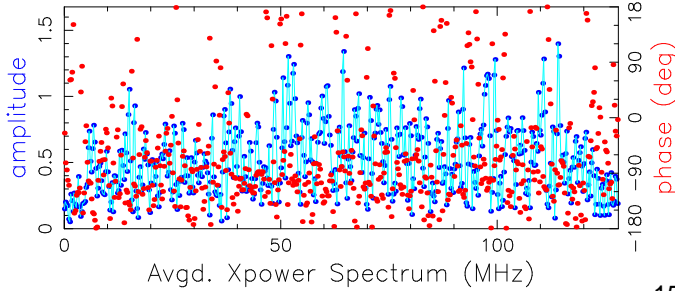
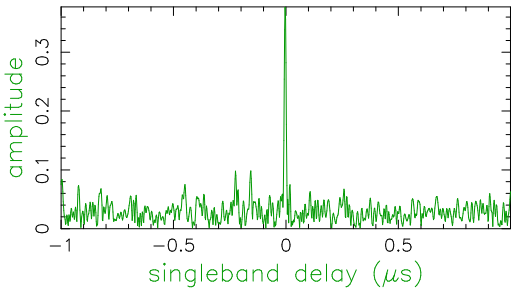
VLBA_HN - VLBA_LA, fgroup Q, pol LR

multiband delay (μ s)

Fringe quality 9

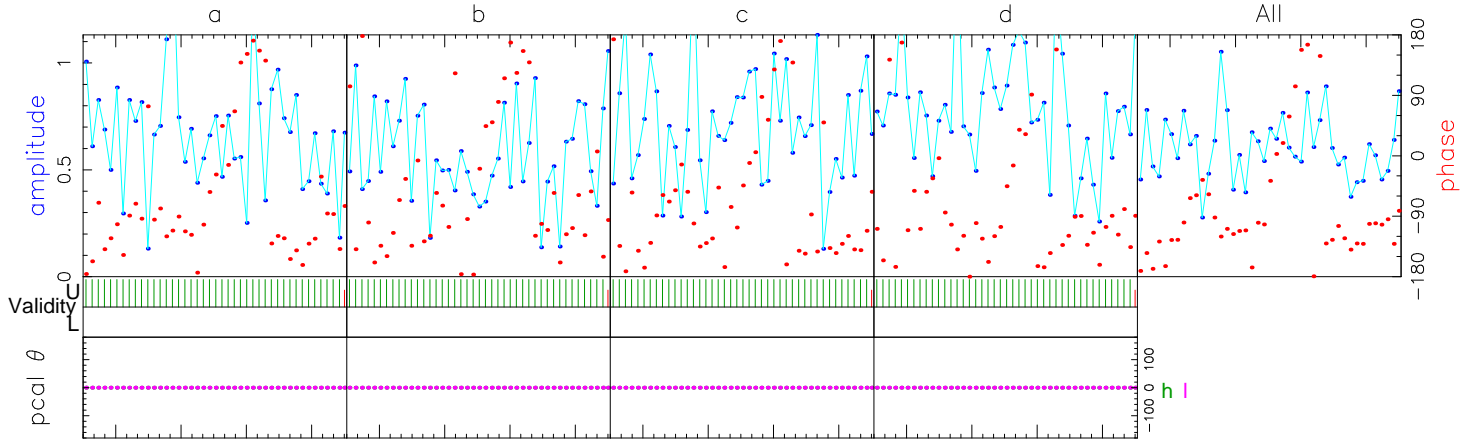


SNR 16.0
 Int time 239.982
 Amp 0.377
 Phase -119.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.003607
 MBD -0.002875
 Fringe rate (Hz)
 -0.002641
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



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

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



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-117.3	-122.2	-119.0	-120.6	Phase	-119.5
	0.4	0.2	0.4	0.4	Ampl.	0.4
	510.9	511.8	511.1	511.0	Sbd box	511.2
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	PC freqs	
h:l	0:0	0:0	0:0	0:0	PC phase	
h:l	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.27889532474E+02	Apriori delay (usec)	1.27892407312E+02	Resid mbdelay (usec)	-2.87484E-03	+/-	7.0E-05
Sband delay (usec)	1.27888800812E+02	Apriori clock (usec)	9.6541977E-01	Resid sbdelay (usec)	-3.60650E-03	+/-	2.7E-04
Phase delay (usec)	1.27892399599E+02	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-7.71212E-06	+/-	4.6E-07
Delay rate (us/s)	-7.04007109568E-01	Apriori rate (us/s)	-7.04007048203E-01	Resid rate (us/s)	-6.13642E-08	+/-	3.3E-09
Total phase (deg)	-43.6	Apriori accel (us/s/s)	1.29159585858E-06	Resid phase (deg)	-119.5	+/-	7.2

ph/seg (deg)	59.2	Theor.	23.5	Amplitude	0.377 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	72.9		41.0	Search (1024X16)	0.351	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	2.6		7.2	Inc. seg. avg.	0.559	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	20.5		12.5	Inc. frq. avg.	0.374	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
h: az 195.3 el 56.6 pa 11.8		l: az 131.0 el 55.5 pa -38.1		u,v (fr/asec)	2049.408 422.032					

Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl.Q.116.1J2DGP

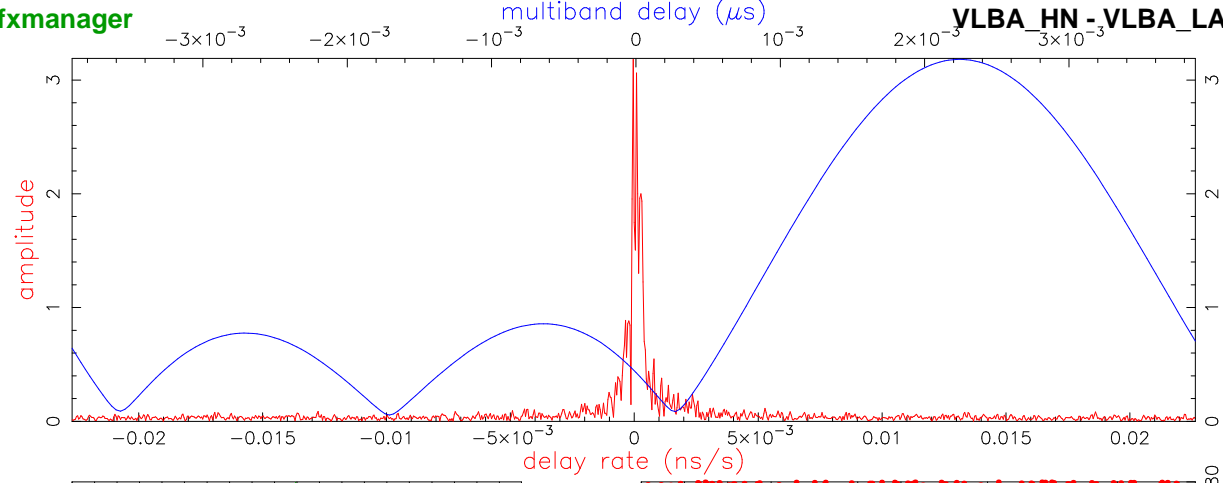
simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

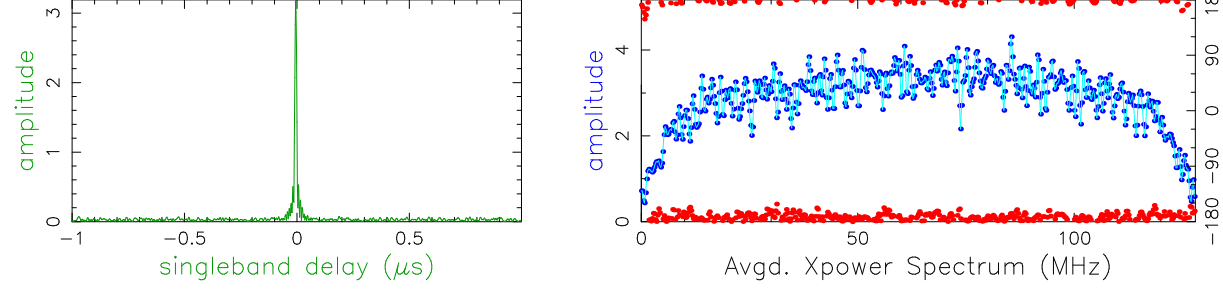
1502+106.1J2DGP, No0154, hl

VLBA_HN - VLBA_LA, fgroup Q, pol LL



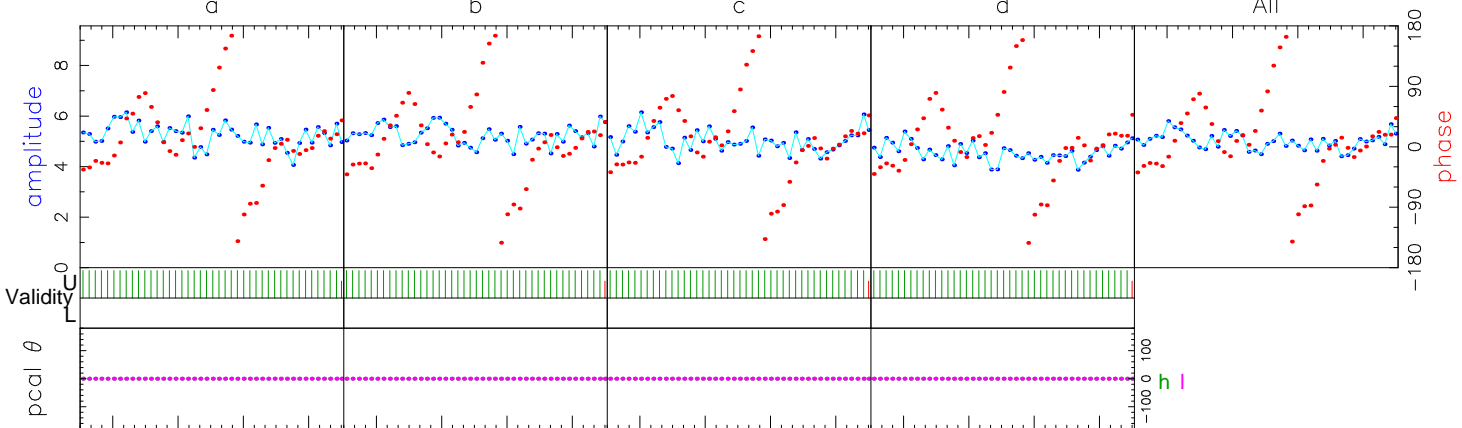
Fringe quality 5

SNR 135.1
 Int time 239.982
 Amp 3.190
 Phase 6.6
 PFD 0.0e+00
 Delays (us)
 SBD -0.005535
 MBD 0.002257
 Fringe rate (Hz)
 -0.002568
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211446
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"

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



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
7.9	5.6	7.7	4.9	Phase	6.6
3.3	3.3	3.2	2.9	Ampl.	3.2
510.2	510.1	510.1	510.3	Sbd box	510.2
U/L 469/0	469/0	469/0	469/0	APs used	
h 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
h:l 0:0	0:0	0:0	0:0	PC phase	
h:l 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
h Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.27886852224E+02	Apriori delay (usec)	1.27892407312E+02	Resid mbdelay (usec)	2.25741E-03	+/-	8.2E-06
Sband delay (usec)	1.27886872562E+02	Apriori clock (usec)	9.6541977E-01	Resid sbdelay (usec)	-5.53475E-03	+/-	3.2E-05
Phase delay (usec)	1.27892407735E+02	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	4.23679E-07	+/-	5.5E-08
Delay rate (us/s)	-7.04007107874E-01	Apriori rate (us/s)	-7.04007048203E-01	Resid rate (us/s)	-5.96709E-08	+/-	3.9E-10
Total phase (deg)	82.4	Apriori accel (us/s/s)	1.29159585858E-06	Resid phase (deg)	6.6	+/-	0.8

RMS	Theor.	Amplitude	3.190 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	58.7	Search (1024X16)	2.950	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
amp/seg (%)	58.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
ph/frq (deg)	1.9	Inc. seg. avg.	5.013	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
amp/frq (%)	4.9	Inc. frq. avg.	3.182	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 195.3 el 56.6 pa 11.8 l: az 131.0 el 55.5 pa -38.1 u,v (fr/asec) 2049.408 422.032 simultaneous interpolator

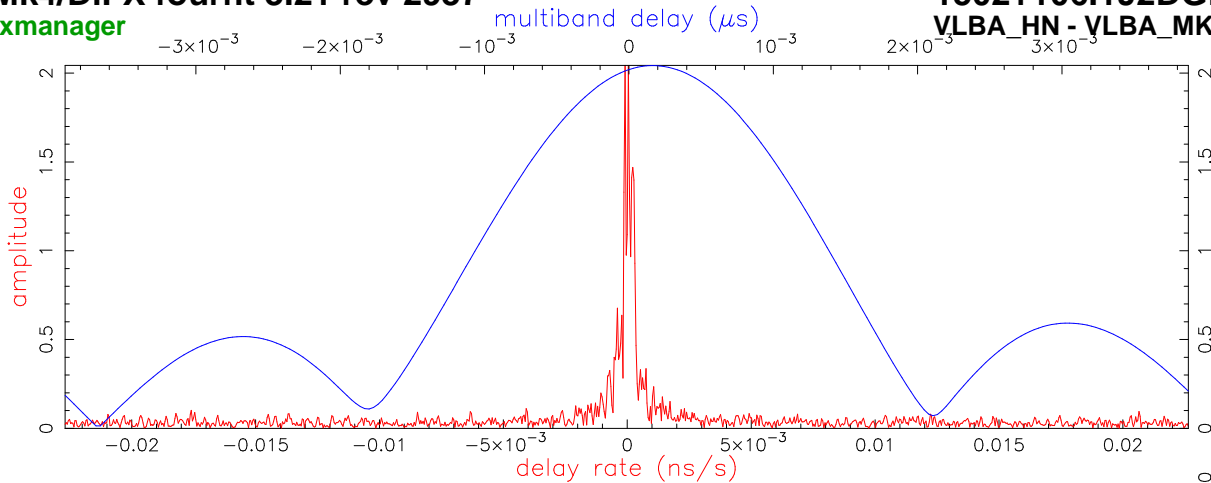
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hl.Q.82.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

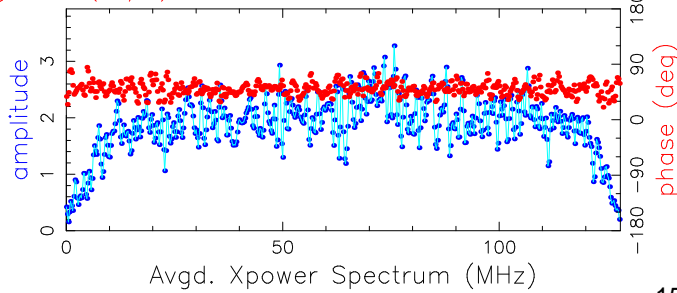
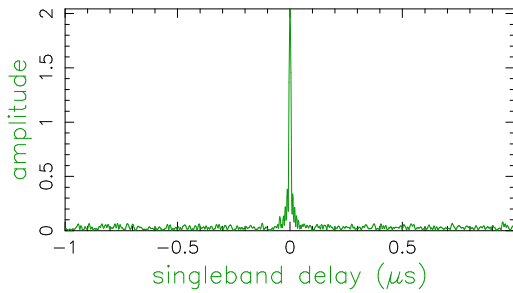
1502+106.1J2DGP, No0154, hm

VLBA_HN - VLBA_MK, fgroup Q, pol RR



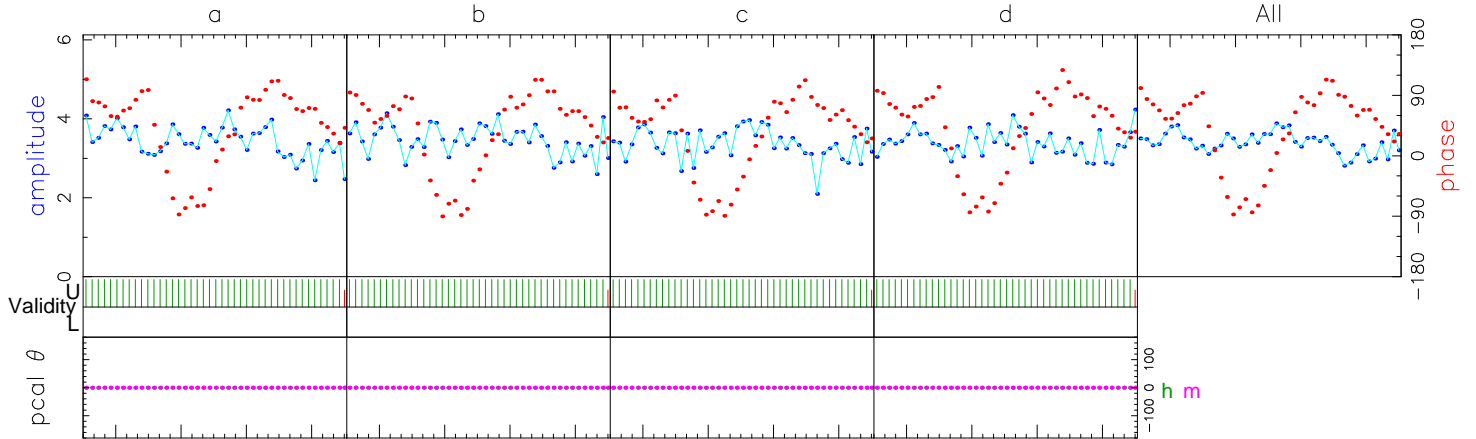
Fringe quality 5

SNR 86.6
 Int time 239.982
 Amp 2.044
 Phase 49.7
 PFD 0.0e+00
 Delays (us)
 SBD 0.000155
 MBD 0.000175
 Fringe rate (Hz) 0.001818
 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

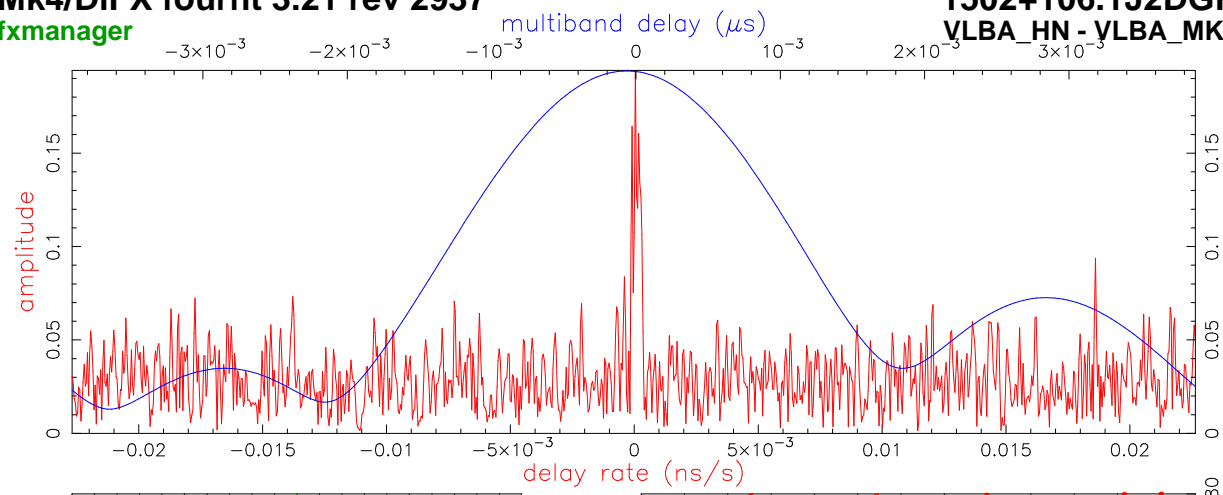


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h:m	0:0	0:0	0:0	0:0		
h:m	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
m	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks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

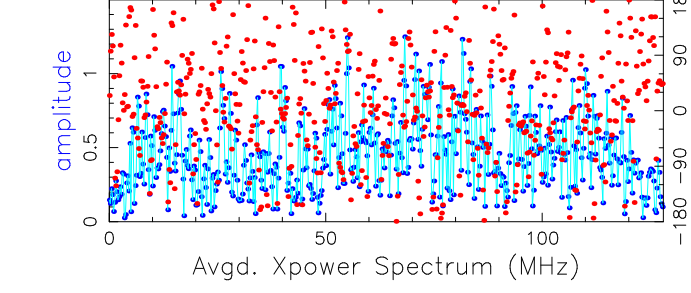
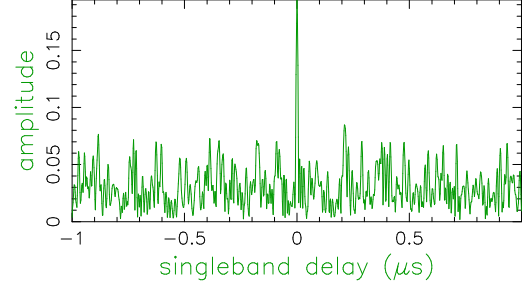
	1.11268592121E+04	Apriori delay (usec)	1.11268590370E+04	Resid mbdelay (usec)	1.75119E-04	+/- 1.3E-05
Group delay (usec)(sbd)	1.11268592121E+04	Apriori clock (usec)	-1.2809986E+01	Resid sbdelay (usec)	1.54625E-04	+/- 5.0E-05
Sband delay (usec)	1.11268591916E+04	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	3.20706E-06	+/- 8.5E-08
Phase delay (usec)	1.11268590402E+04	Apriori rate (us/s)	-1.56127266403E+00	Resid rate (us/s)	4.22283E-08	+/- 6.2E-10
Delay rate (us/s)	-1.56127262180E+00	Apriori accel (us/s/s)	-5.22610945567E-05	Resid phase (deg)	49.7	+/- 1.3
Total phase (deg)	32.0					

	RMS	Theor.	Amplitude	2.044 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.8	4.3	Search (1024X16)	2.017	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	67.8	7.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	5.6	1.3	Inc. seg. avg.	3.395	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	1.3	2.3	Inc. frq. avg.	2.047	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8			m: az 85.0 el 17.5 pa -72.4			u,v (fr/asec) 4521.240 1095.502
Control file: cf_1234_gmva7mm			Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm..1J2DGP			Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm.Q.109.1J2DGP

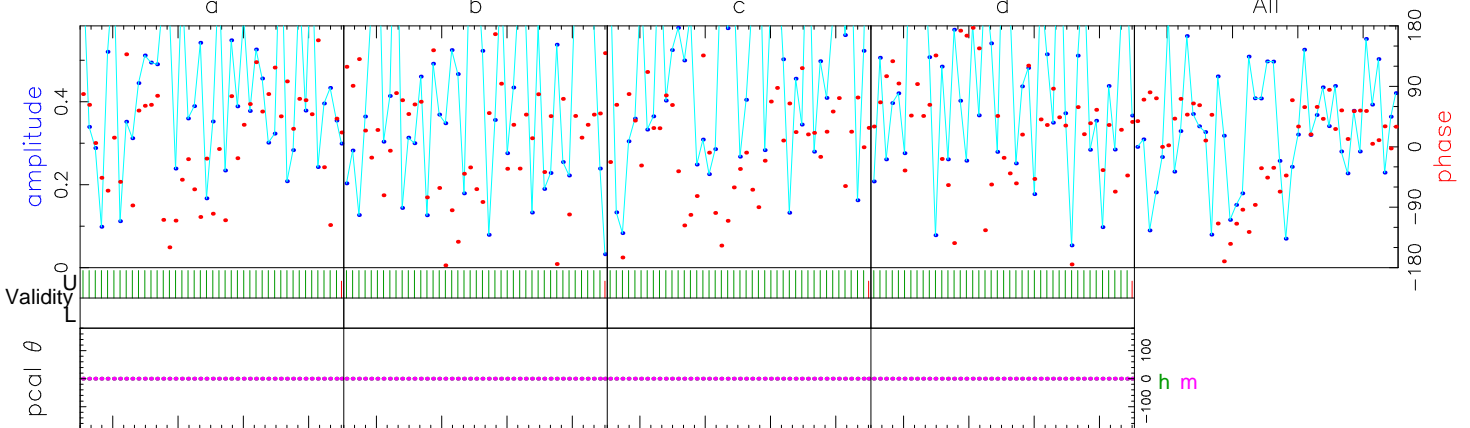
simultaneous interpolator



Fringe quality 9
SNR 8.2
Int time 239.982
Amp 0.194
Phase 23.2
PFD 3.2e-08
Delays (us)
SBD 0.000246
MBD -0.000057
Fringe rate (Hz) 0.001660
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211452
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"



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

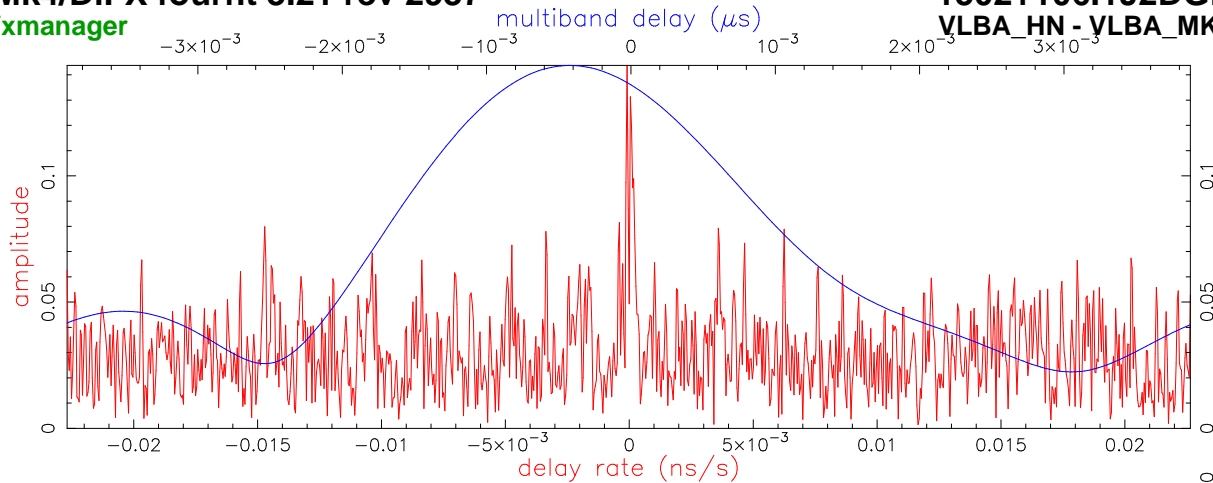


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000	APs used	
m	1000	1000	1000	1000	PC freqs	
h:m	0:0	0:0	0:0	0:0	PC phase	
h:m	0:0	0:0	0:0	0:0	ManI PC	
h	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UR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

Group delay (usec)(sbd)	1.11268589798E+04	Apriori delay (usec)	1.11268590370E+04	Resid mbdelay (usec)	-5.71622E-05	+/-	1.4E-04
Sband delay (usec)	1.11268592827E+04	Apriori clock (usec)	-1.2809986E+01	Resid sbdelay (usec)	2.45750E-04	+/-	5.2E-04
Phase delay (usec)	1.11268590385E+04	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	1.49879E-06	+/-	9.0E-07
Delay rate (us/s)	-1.56127262547E+00	Apriori rate (us/s)	-1.56127266403E+00	Resid rate (us/s)	3.85611E-08	+/-	6.5E-09
Total phase (deg)	5.5	Apriori accel (us/s/s)	-5.22610945567E-05	Resid phase (deg)	23.2	+/-	13.9

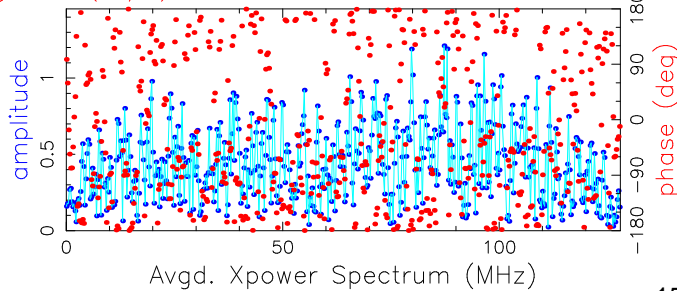
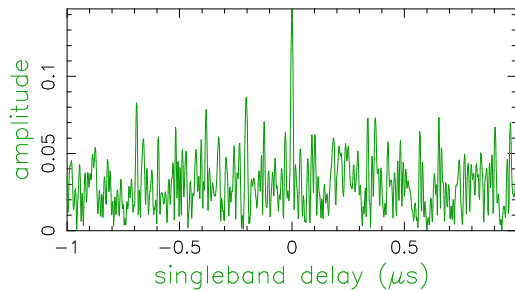
	RMS	Theor.	Amplitude	0.194 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	67.7	45.6	Search (1024X16)	0.192	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	100.1	79.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	17.5	13.9	Inc. seg. avg.	0.255	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	11.2	24.3	Inc. frq. avg.	0.193	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 195.3 el 56.6 pa 11.8 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 4521.240 1095.502 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm.Q.133.1J2DGP



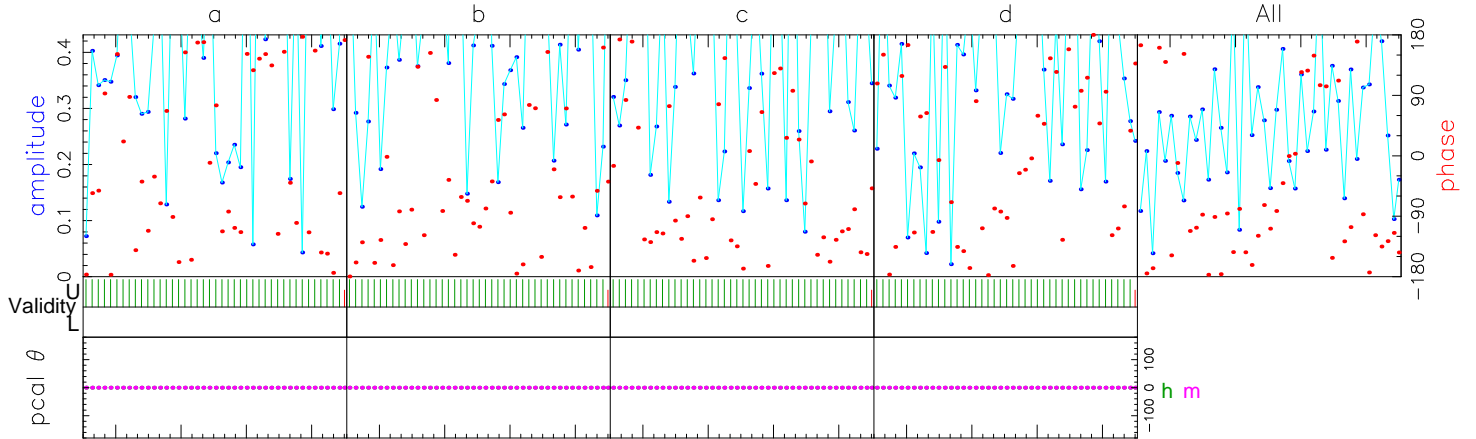
Fringe quality 0

SNR 6.1
Int time 239.982
Amp 0.144
Phase -142.6
PFD 1.4e-01
Delays (us)
SBD -0.000116
MBD -0.000429
Fringe rate (Hz)
-0.003888
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512



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

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

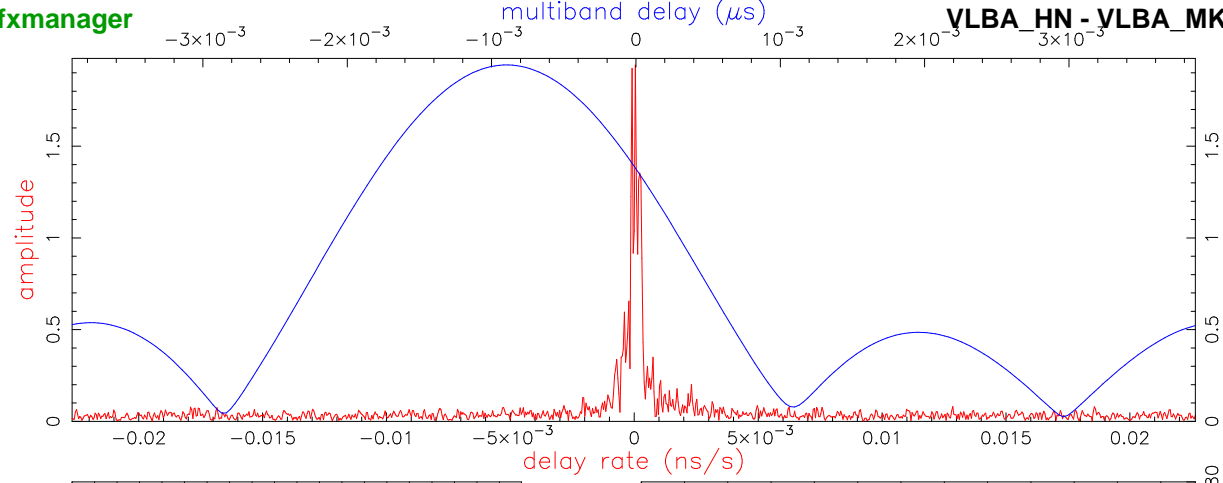


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-159.9	-123.6	-130.7	-178.6	Phase	-142.6
	0.2	0.2	0.2	0.1	Ampl.	0.1
	172.9	976.0	426.3	181.4	Sbd box	512.9
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
h:m	0:0	0:0	0:0	0:0	PC phase	
h:m	0:0	0:0	0:0	0:0	ManI PC	
h	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

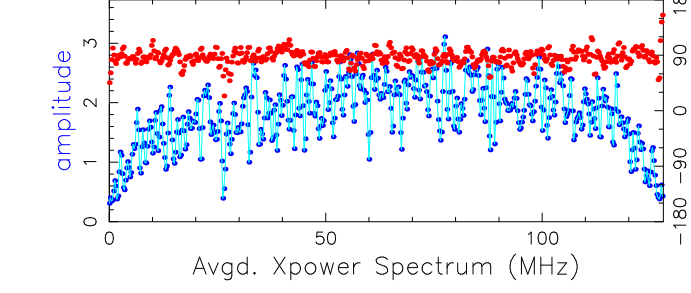
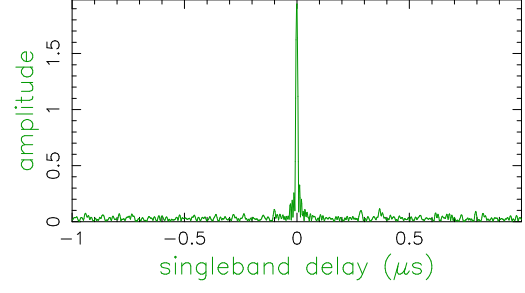
Group delay (usec)(sbd)	1.11268586081E+04	Apriori delay (usec)	1.11268590370E+04	Resid mbdelay (usec)	-4.28832E-04	+/-	1.8E-04
Sband delay (usec)	1.11268589211E+04	Apriori clock (usec)	-1.2809986E+01	Resid sbdelay (usec)	-1.15875E-04	+/-	7.1E-04
Phase delay (usec)	1.11268590278E+04	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-9.20622E-06	+/-	1.2E-06
Delay rate (us/s)	-1.56127275437E+00	Apriori rate (us/s)	-1.56127266403E+00	Resid rate (us/s)	-9.03417E-08	+/-	8.8E-09
Total phase (deg)	199.7	Apriori accel (us/s/s)	-5.22610945567E-05	Resid phase (deg)	-142.6	+/-	18.8

ph/seg (deg)	RMS 65.6	Theor. 61.7	Amplitude Search (1024X16)	0.143	0.144 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	124.6	107.7	Interp.	0.000		Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	32.4	18.8	Inc. seg. avg.	0.174		Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	32.1	32.8	Inc. frq. avg.	0.145		Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

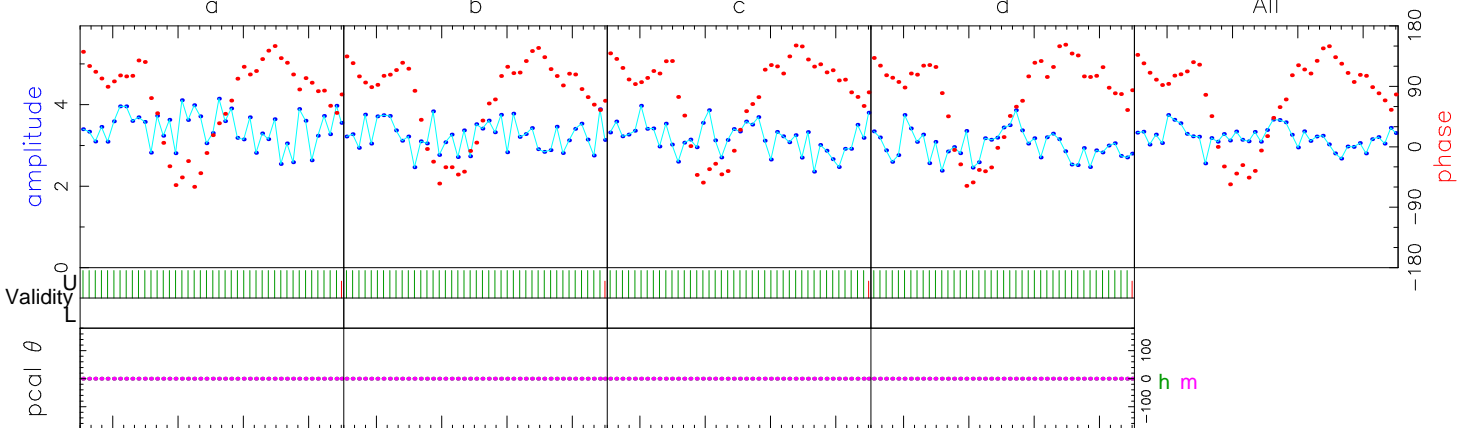
h: az 195.3 el 56.6 pa 11.8 m: az 85.0 el 17.5 pa -72.4 u,v (fr/asec) 4521.240 1095.502 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hm.Q.151.1J2DGP



Fringe quality 5
SNR 83.8
Int time 239.982
Amp 1.979
Phase 86.4
PFD 0.0e+00
Delays (us)
SBD -0.000931
MBD -0.000937
Fringe rate (Hz) 0.001802
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211448
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"



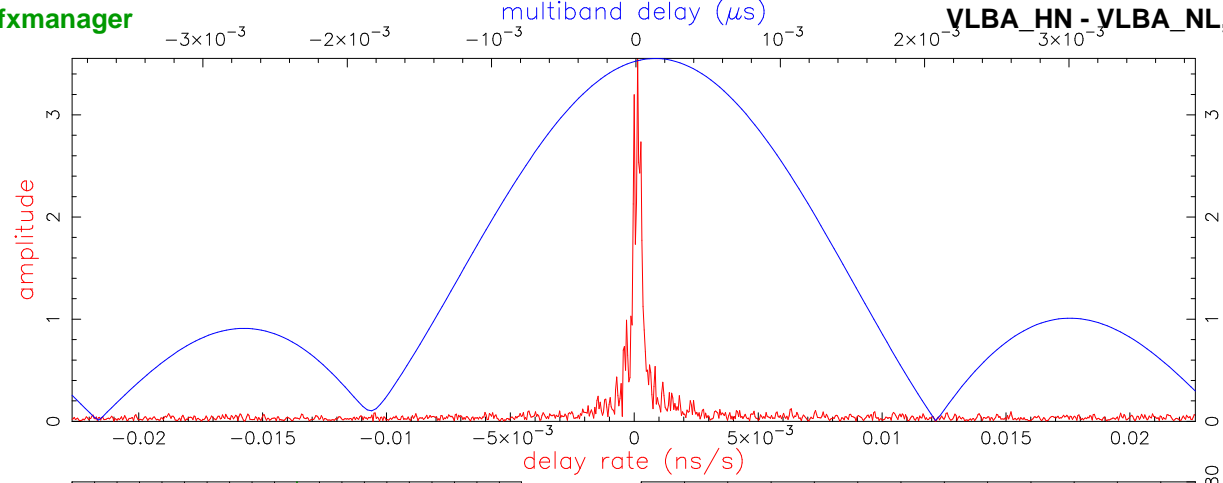
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	83.4	84.8	89.8	88.0	Phase	86.4
	2.0	2.0	1.9	1.8	Ampl.	1.9
	512.4	512.6	512.4	512.8	Sbd box	512.5
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
h:m	0:0	0:0	0:0	0:0	PC phase	
h:m	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.11268581000E+04	Apriori delay (usec)	1.11268590370E+04	Resid mbdelay (usec)	-9.36943E-04	+/-	1.3E-05
Sband delay (usec)	1.11268581063E+04	Apriori clock (usec)	-1.2809986E+01	Resid sbdelay (usec)	-9.30625E-04	+/-	5.1E-05
Phase delay (usec)	1.11268590425E+04	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	5.57635E-06	+/-	8.8E-08
Delay rate (us/s)	-1.56127262216E+00	Apriori rate (us/s)	-1.56127266403E+00	Resid rate (us/s)	4.18709E-08	+/-	6.4E-10
Total phase (deg)	68.7	Apriori accel (us/s/s)	-5.22610945567E-05	Resid phase (deg)	86.4	+/-	1.4

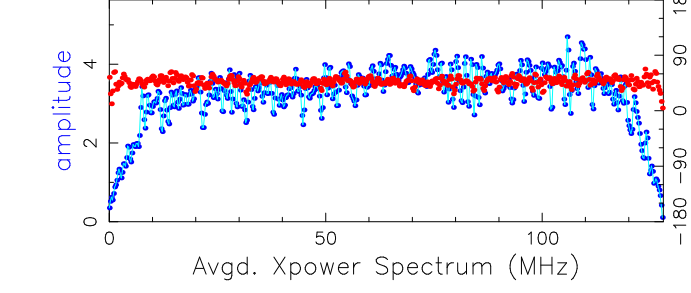
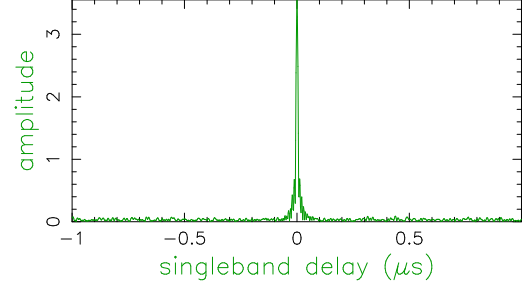
ph/seg (deg)	59.0	Theor.	4.5	Amplitude	1.979 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	63.1		7.8	Search (1024X16)	1.933	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	3.6		1.4	Inc. seg. avg.	3.192	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	5.0		2.4	Inc. frq. avg.	1.943	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
						nlags: 512	t_cohere infinite



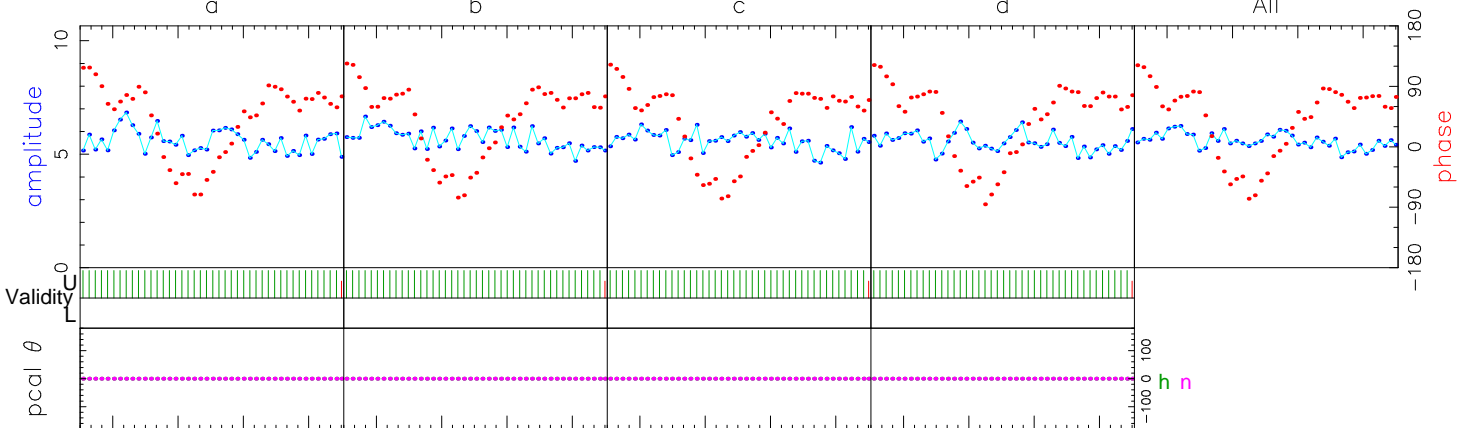
Fringe quality 5

SNR 150.5
Int time 239.982
Amp 3.553
Phase 46.7
PFD 0.0e+00
Delays (us)
SBD 0.000101
MBD 0.000139
Fringe rate (Hz) 0.005960
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	469/0	469/0	469/0	469/0	APs used	1000
h	1000	1000	1000	1000	PC freqs	1000
n	1000	1000	1000	1000	PC freqs	1000
h:n	0:0	0:0	0:0	0:0	PC phase	0:0
h:n	0:0	0:0	0:0	0:0	Manl PC	0:0
h	1000	1000	1000	1000	PC amp	1000
n	1000	1000	1000	1000		1000
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
n	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-1.62427388270E+02	Apriori delay (usec)	-1.62427527189E+02	Resid mbdelay (usec)	1.38920E-04	+/- 7.4E-06
Sband delay (usec)	-1.62427426314E+02	Apriori clock (usec)	3.7520218E-01	Resid sbdelay (usec)	1.00875E-04	+/- 2.9E-05
Phase delay (usec)	-1.62427524178E+02	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	3.01135E-06	+/- 4.9E-08
Delay rate (us/s)	-3.84410089830E-01	Apriori rate (us/s)	-3.84410228311E-01	Resid rate (us/s)	1.38481E-07	+/- 3.5E-10
Total phase (deg)	-230.6	Apriori accel (us/s/s)	1.17176844239E-06	Resid phase (deg)	46.7	+/- 0.8

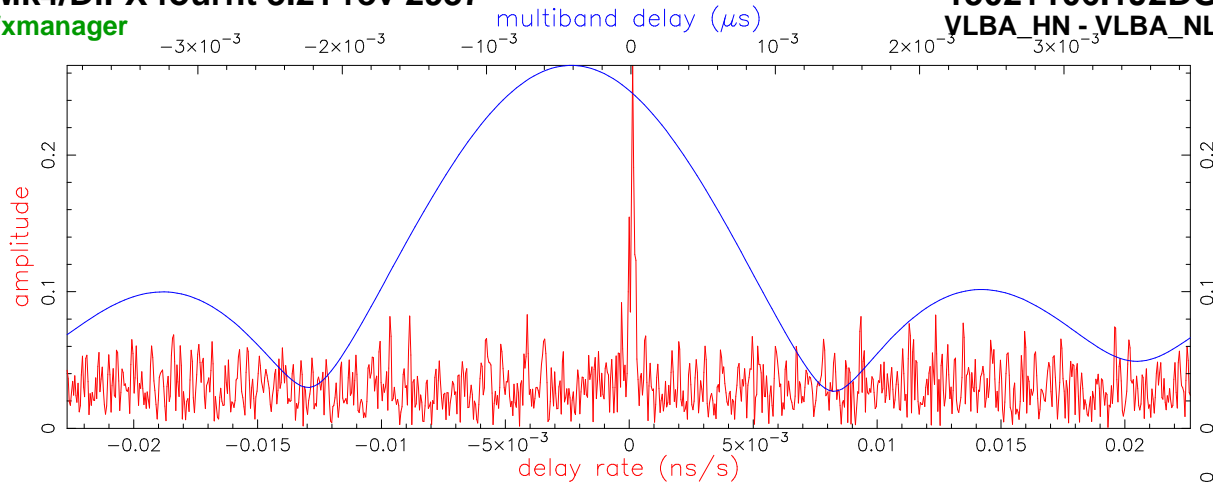
ph/seg (deg)	54.2	2.5	Search (1024X16)	3.497	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	58.4	4.4	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	2.5	0.8	Inc. seg. avg.	5.596	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	2.0	1.3	Inc. frq. avg.	3.553	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8	n: az 159.6 el 57.2 pa -15.1	u,v (fr/asec)	1119.008 69.950			simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

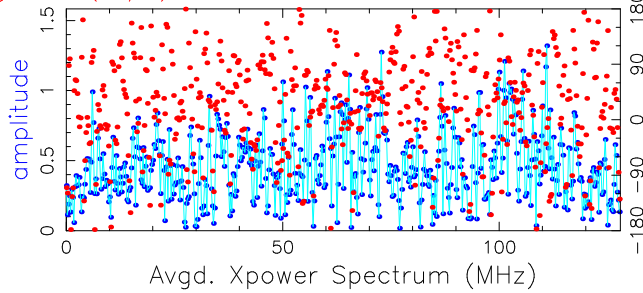
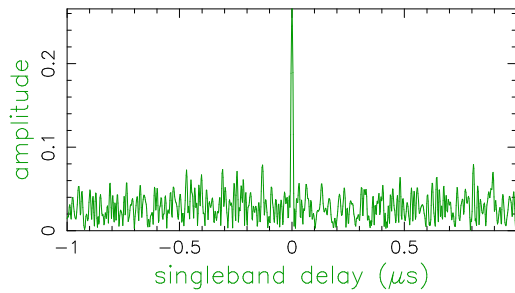
1502+106.1J2DGP, No0154, hn

VLBA_HN - VLBA_NL, fgroup Q, pol LR



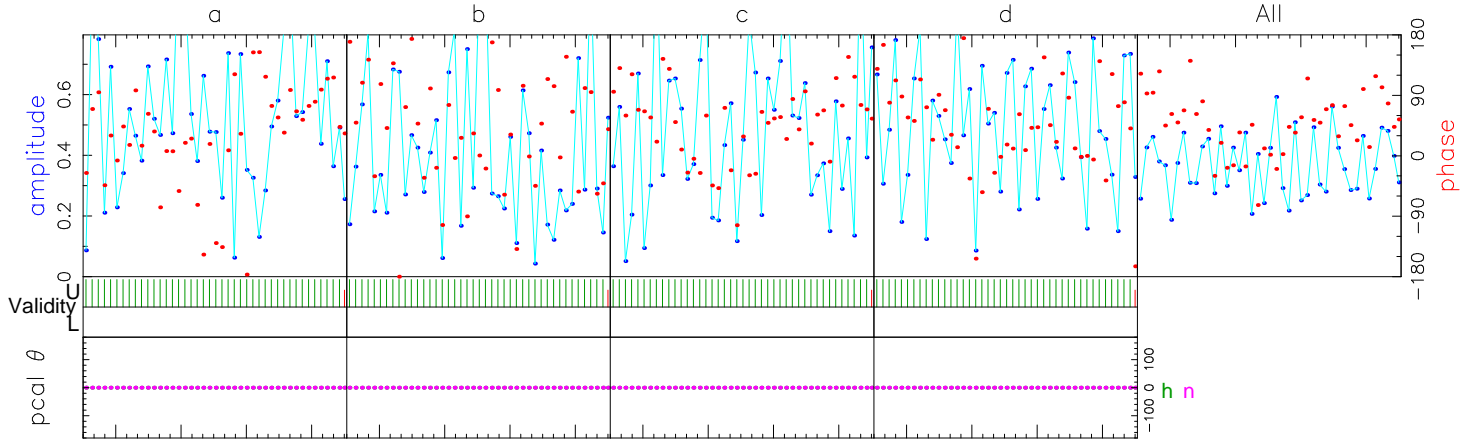
Fringe quality 9

SNR 11.3
 Int time 239.982
 Amp 0.266
 Phase 49.9
 PFD 5.4e-21
 Delays (us)
 SBD 0.000011
 MBD -0.000412
 Fringe rate (Hz)
 0.006264
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



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

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



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

Group delay (usec)(sbd)	-1.62427939488E+02	Apriori delay (usec)	-1.62427527189E+02	Resid mbdelay (usec)	-4.12299E-04	+/-	9.9E-05
Sband delay (usec)	-1.62427516564E+02	Apriori clock (usec)	3.7520218E-01	Resid sbdelay (usec)	1.06250E-05	+/-	3.8E-04
Phase delay (usec)	-1.62427523968E+02	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	3.22097E-06	+/-	6.6E-07
Delay rate (us/s)	-3.84410082782E-01	Apriori rate (us/s)	-3.84410228311E-01	Resid rate (us/s)	1.45529E-07	+/-	4.7E-09
Total phase (deg)	-227.4	Apriori accel (us/s/s)	1.17176844239E-06	Resid phase (deg)	49.9	+/-	10.2

	RMS	Theor.	Amplitude	0.266 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	46.2	33.4	Search (1024X16)	0.257	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	54.7	58.3	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	1.5	10.2	Inc. seg. avg.	0.317	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
amp/frq (%)	26.7	17.8	Inc. frq. avg.	0.261					

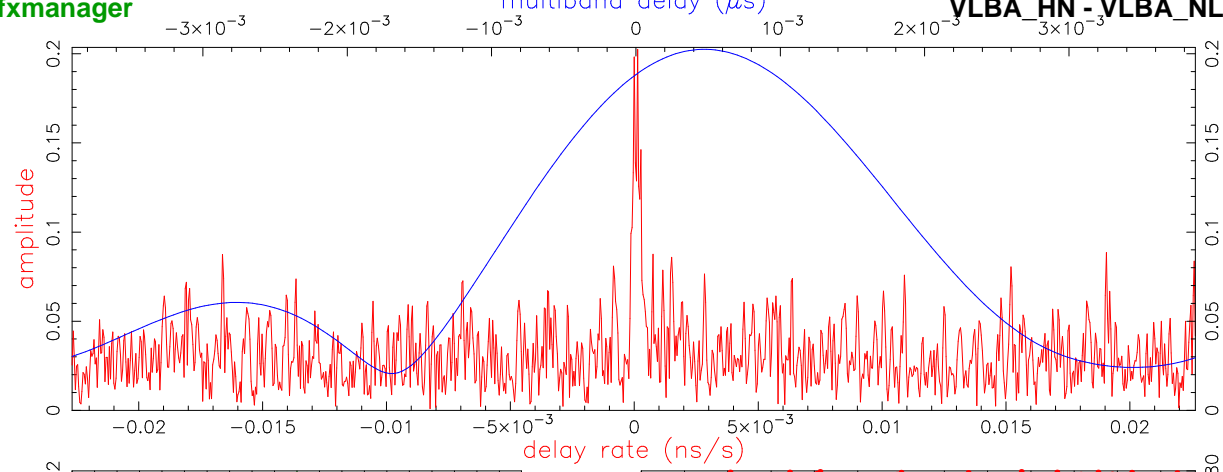
h: az 195.3 el 56.6 pa 11.8 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) 1119.008 69.950 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn.Q.122.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

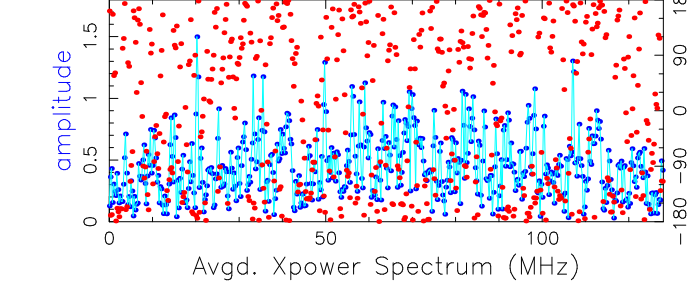
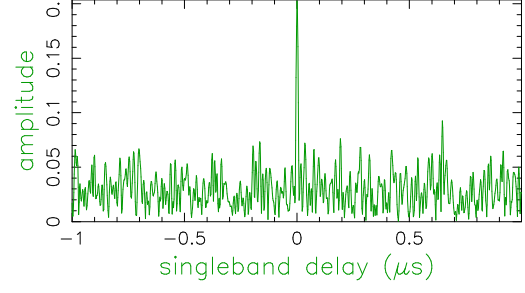
fxmanager

1502+106.1J2DGP, No0154, hn

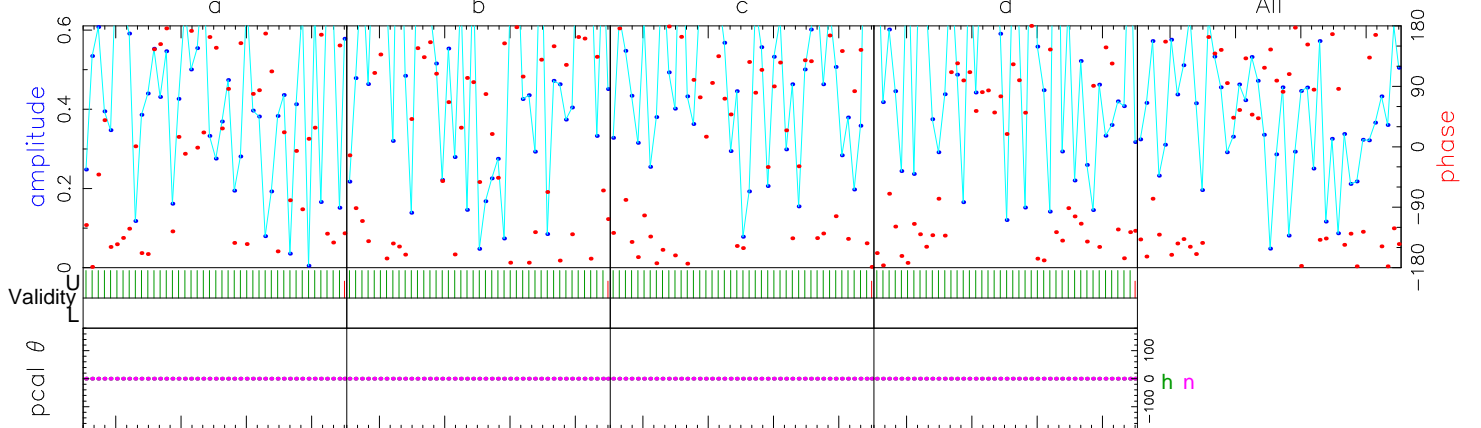
VLBA_HN - VLBA_NL, fgroup Q, pol RL



Fringe quality 9
 SNR 8.6
 Int time 239.982
 Amp 0.204
 Phase 177.1
 PFD 1.2e-09
 Delays (us)
 SBD 0.000515
 MBD 0.000484
 Fringe rate (Hz) 0.005720
 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
-155.5	167.8	168.0	-174.0	Phase	177.1
0.1	0.3	0.2	0.2	Ampl.	0.2
817.6	513.6	513.8	512.5	Sbd box	513.3
U/L 469/0	469/0	469/0	469/0	APs used	
h 1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	PC freqs	
h:n 0:0	0:0	0:0	0:0	PC phase	
h:n 0:0	0:0	0:0	0:0	ManI PC	
h 1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000		
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
n Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.62427043270E+02	Apriori delay (usec)	-1.62427527189E+02	Resid mbdelay (usec)	4.83920E-04	+/-	1.3E-04
Sband delay (usec)	-1.62427012314E+02	Apriori clock (usec)	3.7520218E-01	Resid sbdelay (usec)	5.14875E-04	+/-	5.0E-04
Phase delay (usec)	-1.62427515760E+02	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	1.14288E-05	+/-	8.6E-07
Delay rate (us/s)	-3.84410095415E-01	Apriori rate (us/s)	-3.84410228311E-01	Resid rate (us/s)	1.32896E-07	+/-	6.2E-09
Total phase (deg)	-100.2	Apriori accel (us/s/s)	1.17176844239E-06	Resid phase (deg)	177.1	+/-	13.3

ph/seg (deg)	62.2	Theor.	43.6	Amplitude	0.204 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	111.8	Search (1024X16)	0.202	Search	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	22.4	Inc. seg. avg.	0.291	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	33.0	Inc. frq. avg.	0.202	Inc. seg. avg.	0.291	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
				Inc. frq. avg.	0.202	Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
						nlags: 512	t_cohere infinite
h: az 195.3 el 56.6 pa 11.8	n: az 159.6 el 57.2 pa -15.1	u, v (fr/asec)	1119.008 69.950				ion window (TEC) 0.00 0.00

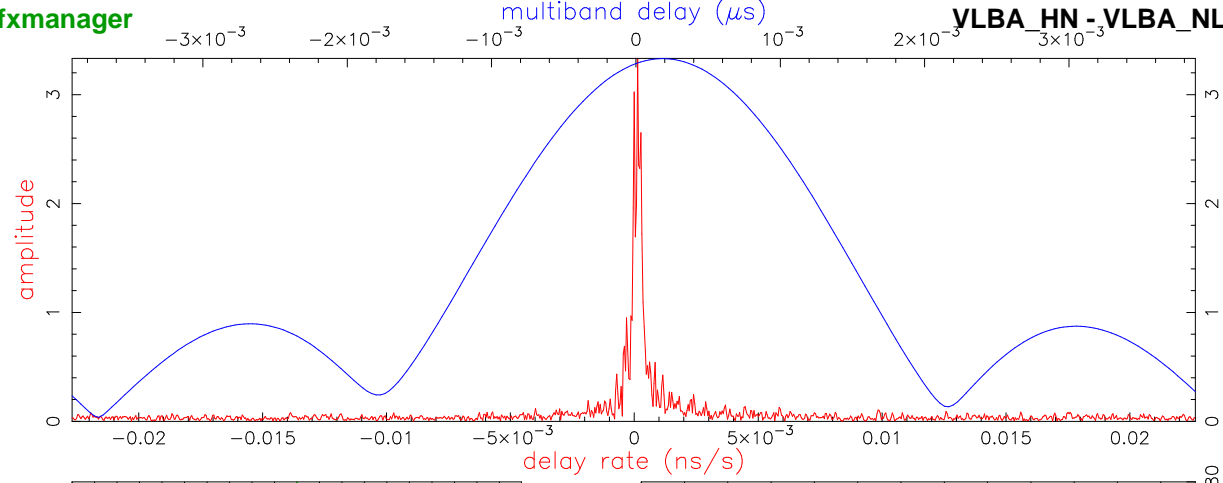
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn.Q.144.1J2DGP simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

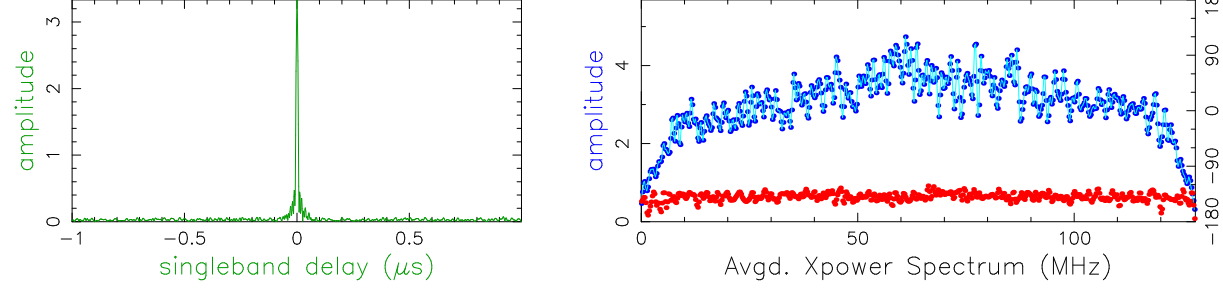
fxmanager

1502+106.1J2DGP, No0154, hn

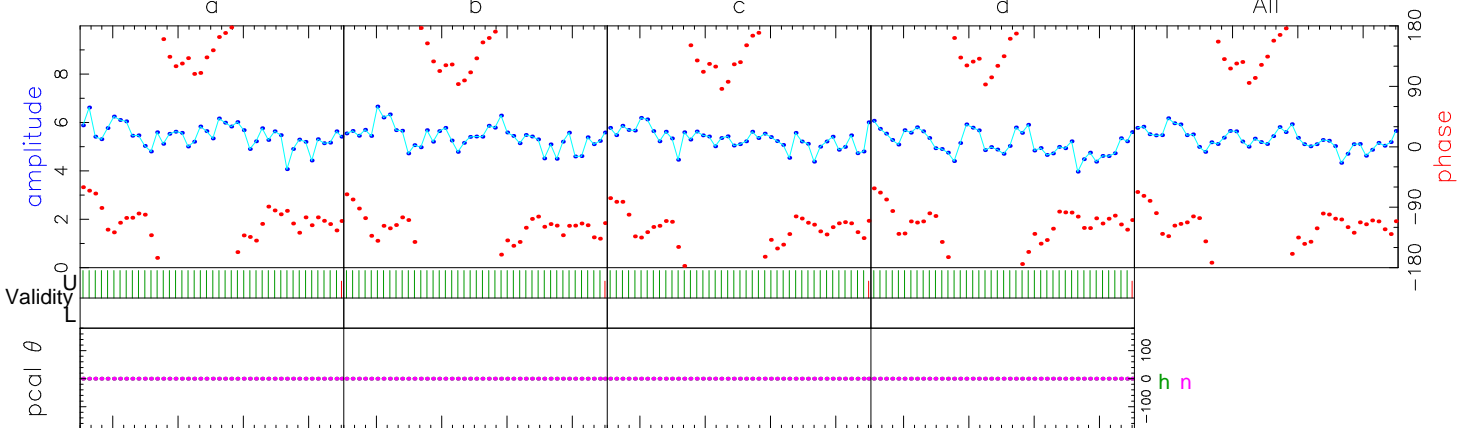
VLBA_HN - VLBA_NL, fgroup Q, pol LL



Fringe quality 5
 SNR 141.2
 Int time 239.982
 Amp 3.333
 Phase -139.9
 PFD 0.0e+00
 Delays (us)
 SBD 0.000169
 MBD 0.000194
 Fringe rate (Hz) 0.005923
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512
 Exp. c202b
 Exper # 16383
 Yr:day 2020:284
 Start 190830.00
 Stop 191230.12
 FRT 191030.00
 Corr/FF/build
 2021:032:031903
 2021:032:211446
 2020:247:085004
 RA & Dec (J2000)
 15h04m24.979782s
 +10°29'39.198559"



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



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-134.8	-144.4	-144.2	-135.8	Phase	-139.9
	3.4	3.4	3.4	3.2	Ampl.	3.3
	512.8	513.1	513.1	513.3	Sbd box	513.1
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	PC freqs	
h:n	0:0	0:0	0:0	0:0	PC phase	
h:n	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
n	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

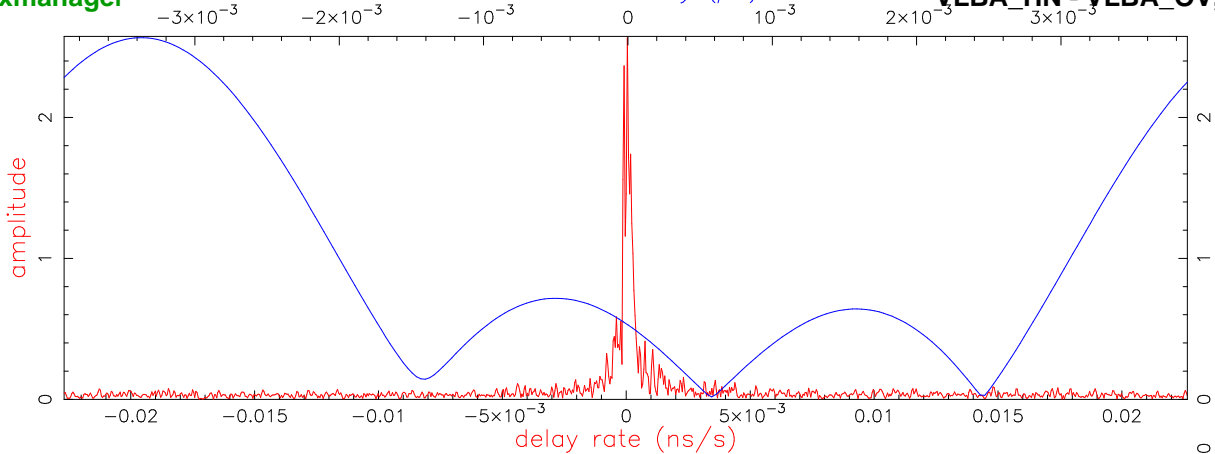
Group delay (usec)(sbd)	-1.62427333363E+02	Apriori delay (usec)	-1.62427527189E+02	Resid mbdelay (usec)	1.93826E-04	+/- 7.9E-06
Sband delay (usec)	-1.62427358689E+02	Apriori clock (usec)	3.7520218E-01	Resid sbdelay (usec)	1.68500E-04	+/- 3.1E-05
Phase delay (usec)	-1.62427536216E+02	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-9.02685E-06	+/- 5.2E-08
Delay rate (us/s)	-3.84410090687E-01	Apriori rate (us/s)	-3.84410228311E-01	Resid rate (us/s)	1.37624E-07	+/- 3.8E-10
Total phase (deg)	-57.1	Apriori accel (us/s/s)	1.17176844239E-06	Resid phase (deg)	-139.9	+/- 0.8

ph/seg (deg)	54.7	Theor.	2.7	Amplitude	3.333 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	60.5		4.6	Search (1024X16)	3.266	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	6.4		0.8	Inc. seg. avg.	5.306	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	3.1		1.4	Inc. frq. avg.	3.340	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 195.3 el 56.6 pa 11.8 n: az 159.6 el 57.2 pa -15.1 u,v (fr/asec) 1119.008 69.950 simultaneous interpolator

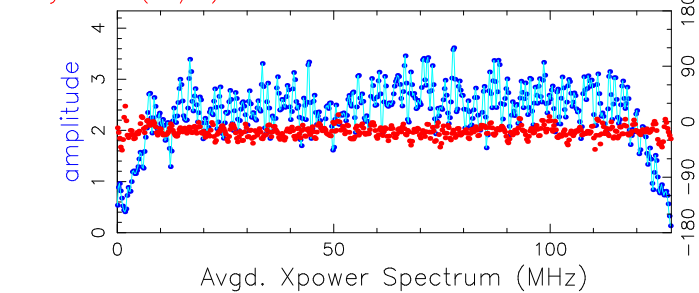
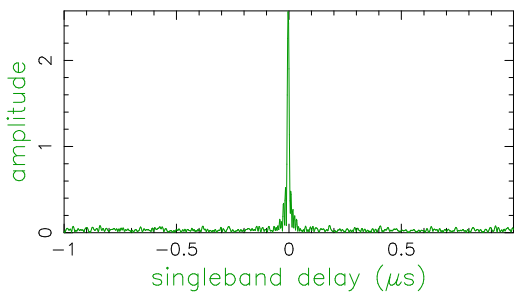
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hn.Q.80.1J2DGP

multiband delay (μ s)



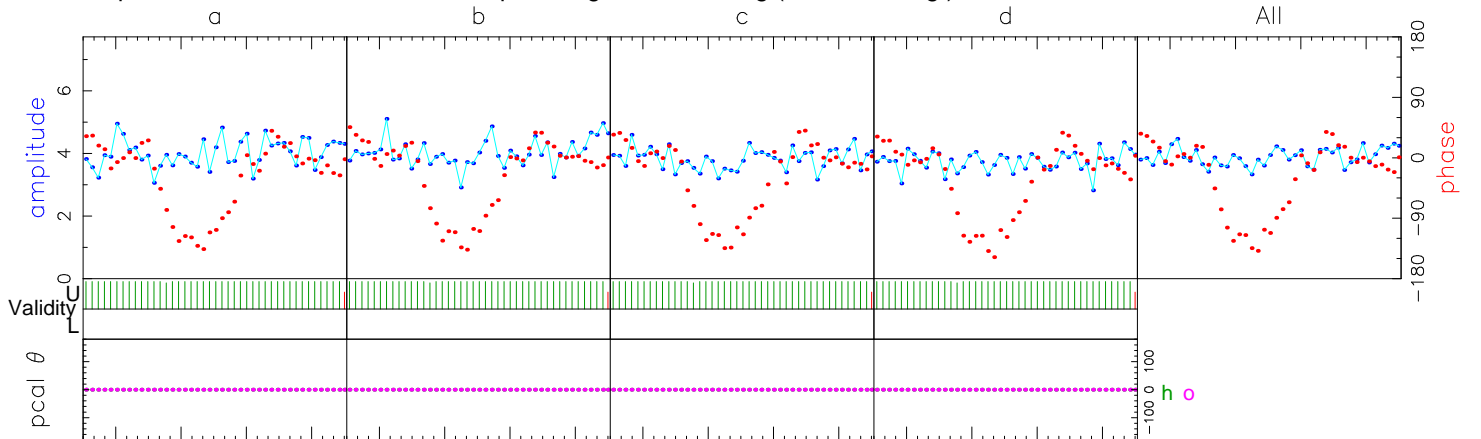
Fringe quality 5

SNR 109.0
Int time 239.711
Amp 2.575
Phase -19.3
PFD 0.0e+00
Delays (us)
SBD -0.003507
MBD -0.003350
Fringe rate (Hz)
0.001618
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	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	PC freqs	
h:o	0:0	0:0	0:0	0:0	PC phase	
h	1000	1000	1000	1000	Manl PC	
o	1000	1000	1000	1000	PC amp	
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
o	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

Group delay (usec)(sbd)	2.12382475183E+03	Apriori delay (usec)	2.12382810174E+03	Resid mbdelay (usec)	-3.34991E-03	+/-	1.0E-05
Sband delay (usec)	2.12382459437E+03	Apriori clock (usec)	-2.0835579E+01	Resid sbdelay (usec)	-3.50738E-03	+/-	4.0E-05
Phase delay (usec)	2.12382810049E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-1.24680E-06	+/-	6.8E-08
Delay rate (us/s)	-9.12431917617E-01	Apriori rate (us/s)	-9.12431955220E-01	Resid rate (us/s)	3.76024E-08	+/-	4.9E-10
Total phase (deg)	160.3	Apriori accel (us/s/s)	-9.85300242695E-06	Resid phase (deg)	-19.3	+/-	1.1

	RMS	Theor.	Amplitude	2.575 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	52.9	3.4	Search (1024X16)	2.535	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	52.3	6.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	4.2	1.1	Inc. seg. avg.	3.887	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	3.8	1.8	Inc. frq. avg.	2.568	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

Mk4/DiFX fourfit 3.21 rev 2937

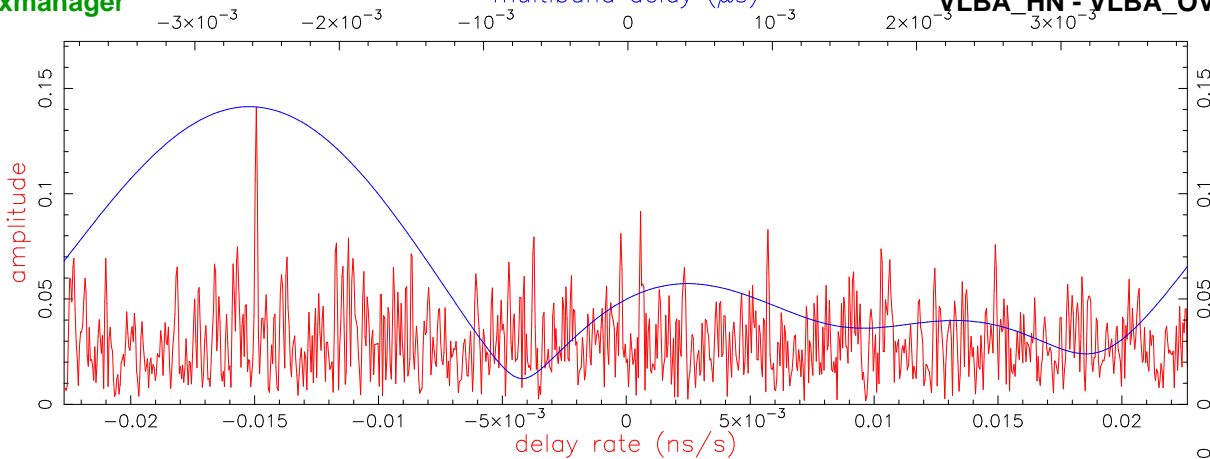
fxmanager

1502+106.1J2DGP, No0154, ho

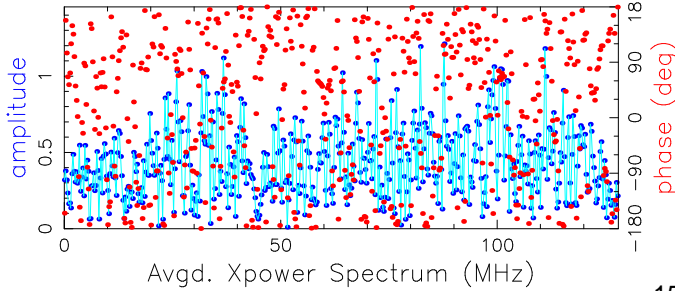
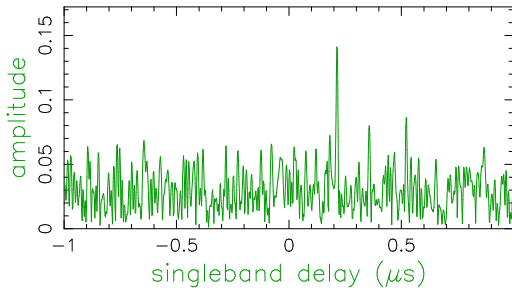
VLBA_HN - VLBA_OV, fgroup Q, pol LR

multiband delay (μ s)

Fringe quality 0

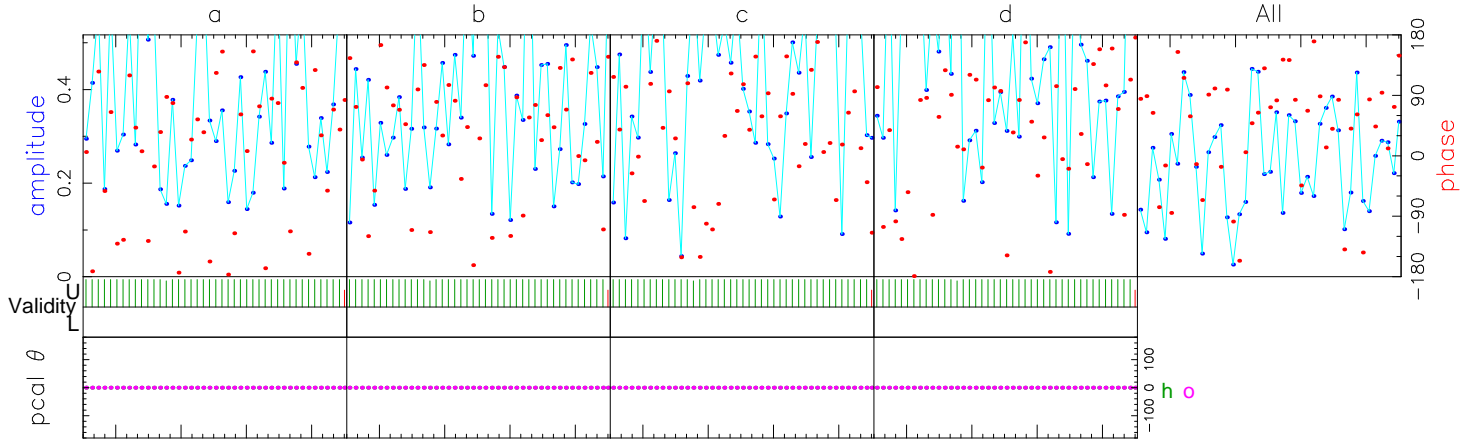


SNR 6.1
 Int time 239.711
 Amp 0.172
 Phase 71.3
 PFD 1.7e-01
 Delays (us)
 SBD 0.213693
 MBD -0.002552
 Fringe rate (Hz)
 -0.644621
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



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

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



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

Group delay (usec)(sbd)	2.12404429988E+03	Apriori delay (usec)	2.12382810174E+03	Resid mbdelay (usec)	-2.55186E-03	+/-	1.8E-04
Sband delay (usec)	2.12404179524E+03	Apriori clock (usec)	-2.0835579E+01	Resid sbdelay (usec)	2.13693E-01	+/-	7.1E-04
Phase delay (usec)	2.12382810634E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	4.59857E-06	+/-	1.2E-06
Delay rate (us/s)	-9.12446932478E-01	Apriori rate (us/s)	-9.12431955220E-01	Resid rate (us/s)	-1.49773E-05	+/-	8.8E-09
Total phase (deg)	250.9	Apriori accel (us/s/s)	-9.85300242695E-06	Resid phase (deg)	71.3	+/-	18.9

ph/seg (deg)	RMS 75.8	Theor. 62.0	Amplitude Search (1024X16)	0.172 +/- 0.028	0.140	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	105.6	108.3	Interp.	0.000	0.187	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	24.6	18.9	Inc. seg. avg.	0.187	0.168	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	19.7	33.0	Inc. frq. avg.	0.168		Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00

h: az 195.3 el 56.6 pa 11.8 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 2650.704 250.880 simultaneous interpolator

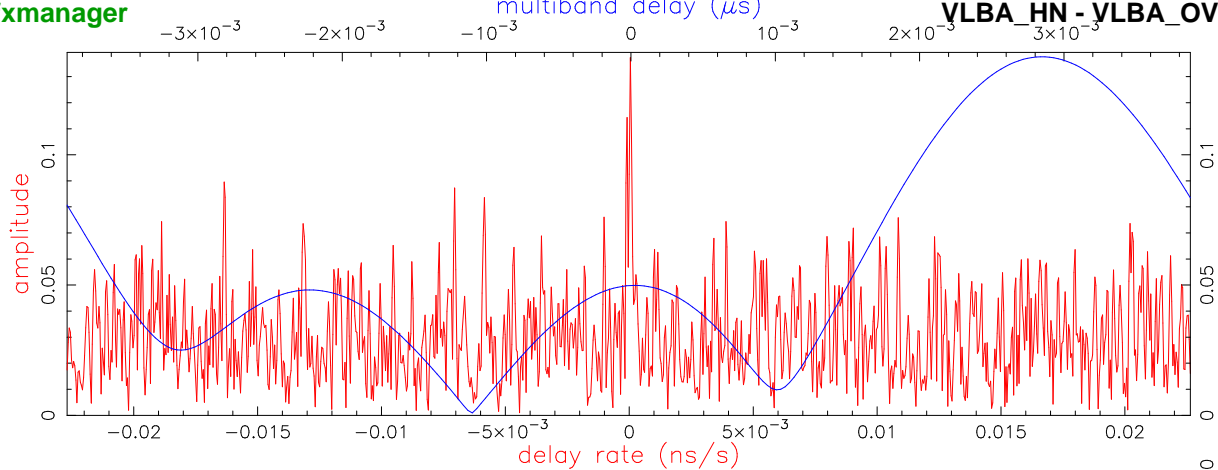
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ho..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ho.Q.118.1J2DGP

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

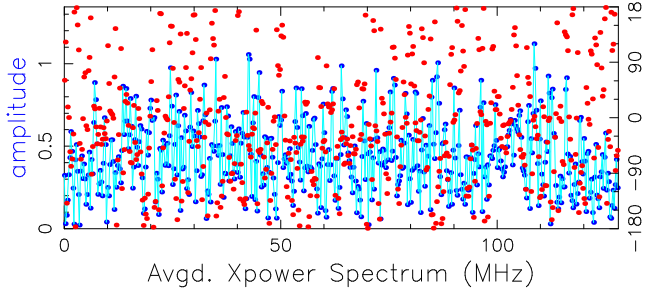
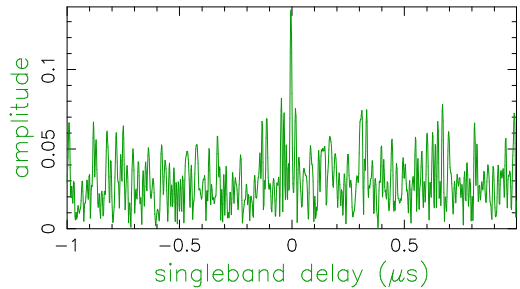
1502+106.1J2DGP, No0154, ho

VLBA_HN - VLBA_OV, fgroup Q, pol RL



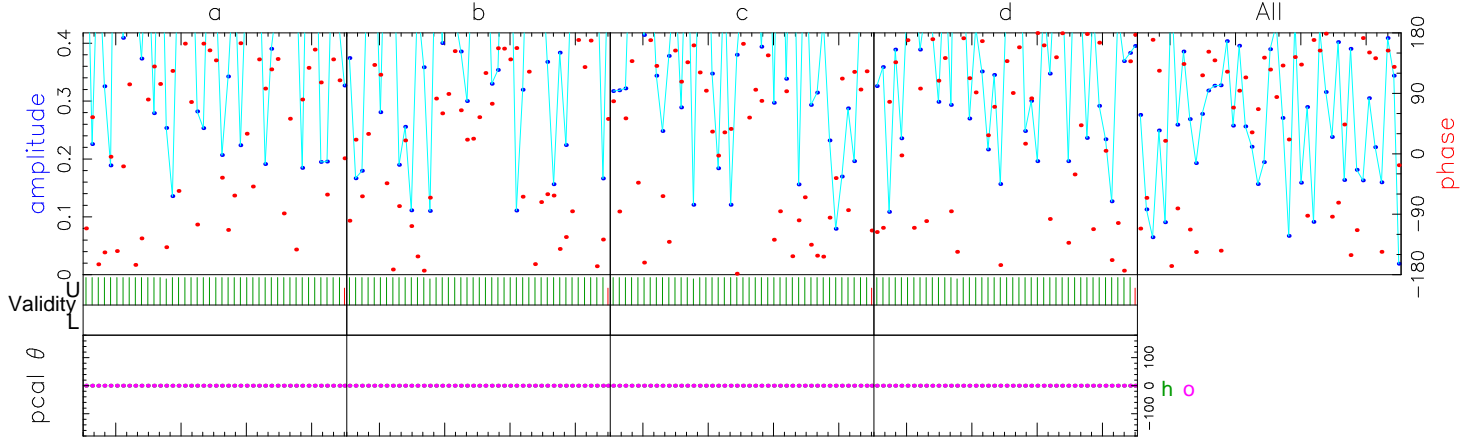
Fringe quality 0

SNR 5.9
 Int time 239.711
 Amp 0.139
 Phase 154.2
 PFD 3.7e-01
 Delays (us)
 SBD -0.004714
 MBD 0.002770
 Fringe rate (Hz)
 0.002286
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



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

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



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

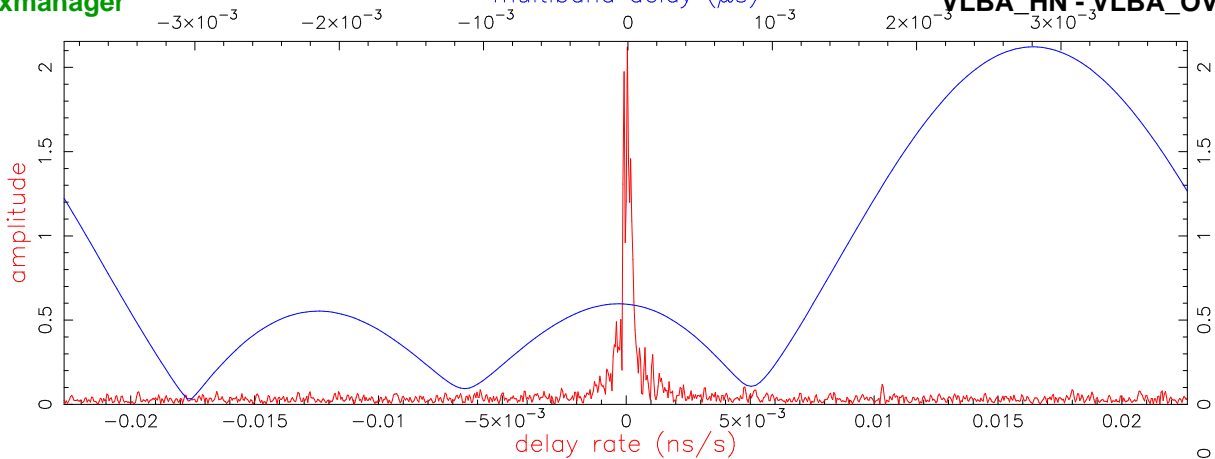
Group delay (usec)(sbd)	2.12382305917E+03	Apriori delay (usec)	2.12382810174E+03	Resid mbdelay (usec)	2.76993E-03	+/-	1.9E-04
Sband delay (usec)	2.12382338737E+03	Apriori clock (usec)	-2.0835579E+01	Resid sbdelay (usec)	-4.71437E-03	+/-	7.3E-04
Phase delay (usec)	2.12382811170E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	9.95473E-06	+/-	1.3E-06
Delay rate (us/s)	-9.12431902103E-01	Apriori rate (us/s)	-9.12431955220E-01	Resid rate (us/s)	5.31165E-08	+/-	9.0E-09
Total phase (deg)	333.9	Apriori accel (us/s/s)	-9.85300242695E-06	Resid phase (deg)	154.2	+/-	19.4

ph/seg (deg)	RMS 74.2	Theor. 63.7	Amplitude Search (1024X16)	0.139 +/- 0.024	0.134	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	123.5	111.2	Interp.	0.000	0.134	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	16.5	19.4	Inc. seg. avg.	0.165	0.134	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	10.7	33.9	Inc. frq. avg.	0.133	0.133	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

h: az 195.3 el 56.6 pa 11.8 o: az 118.4 el 46.7 pa -45.1 u,v (fr/asec) 2650.704 250.880 simultaneous interpolator

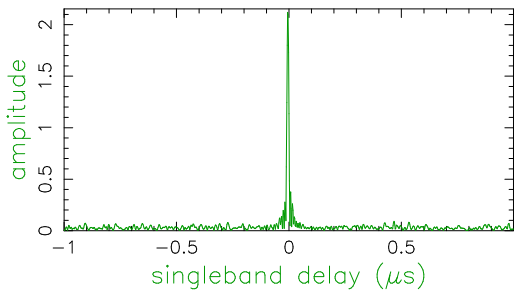
Control file: cf_1234_gmva7mm Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/ho..1J2DGP Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/ho.Q.140.1J2DGP

multiband delay (μ s)

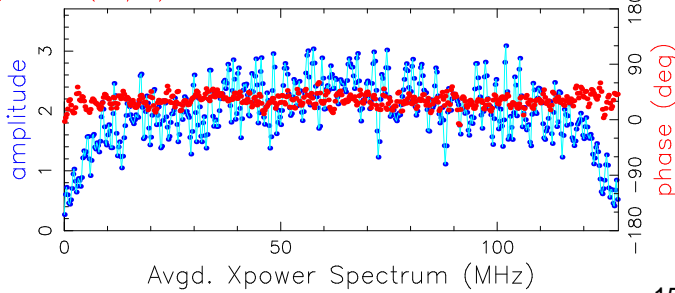


Fringe quality 5

SNR 91.2
Int time 239.711
Amp 2.154
Phase -149.9
PFD 0.0e+00
Delays (us)
SBD -0.005013
MBD 0.002851
Fringe rate (Hz)
0.001584
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512



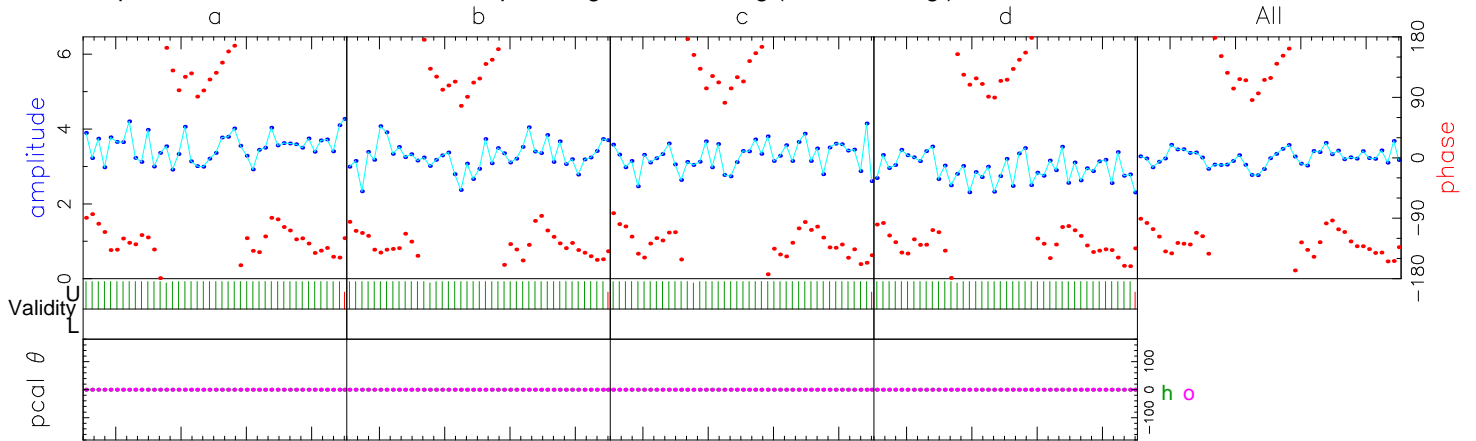
singleband delay (μ s)



Avgd. Xpower Spectrum (MHz)

Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211446
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

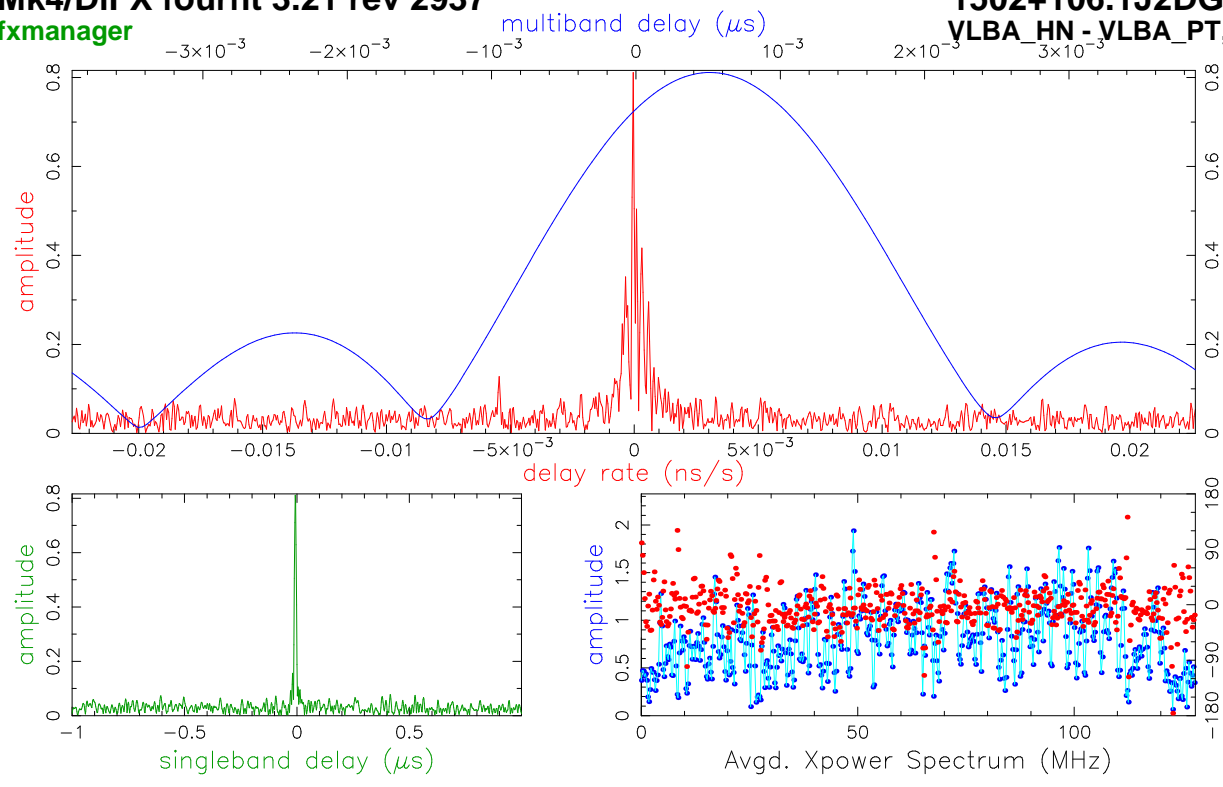
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

Group delay (usec)(sbd)	2.12382314008E+03	Apriori delay (usec)	2.12382810174E+03	Resid mbdelay (usec)	2.85084E-03	+/-	1.2E-05
Sband delay (usec)	2.12382308912E+03	Apriori clock (usec)	-2.0835579E+01	Resid sbdelay (usec)	-5.01262E-03	+/-	4.7E-05
Phase delay (usec)	2.12382809207E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-9.67413E-06	+/-	8.1E-08
Delay rate (us/s)	-9.12431918423E-01	Apriori rate (us/s)	-9.12431955220E-01	Resid rate (us/s)	3.67969E-08	+/-	5.8E-10
Total phase (deg)	29.7	Apriori accel (us/s/s)	-9.85300242695E-06	Resid phase (deg)	-149.9	+/-	1.3

ph/seg (deg)	53.8	RMS	4.1	Theor.	4.1	Amplitude	2.154 +/- 0.024	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000		
amp/seg (%)	51.4	Search (1024X16)	2.080	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	Bits/sample:	2x2	SampCntNorm:	enabled	mb window (us)	-0.004	0.004		
ph/frq (deg)	3.9	Inc. seg. avg.	3.232	Inc. frq. avg.	2.122	Sample rate (MSamp/s):	256	Data rate (Mb/s):	2048	nlags:	512	t_coherence	infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	6.4	h: az 195.3 el 56.6 pa 11.8		o: az 118.4 el 46.7 pa -45.1		u,v (fr/asec)	2650.704 250.880									simultaneous interpolator

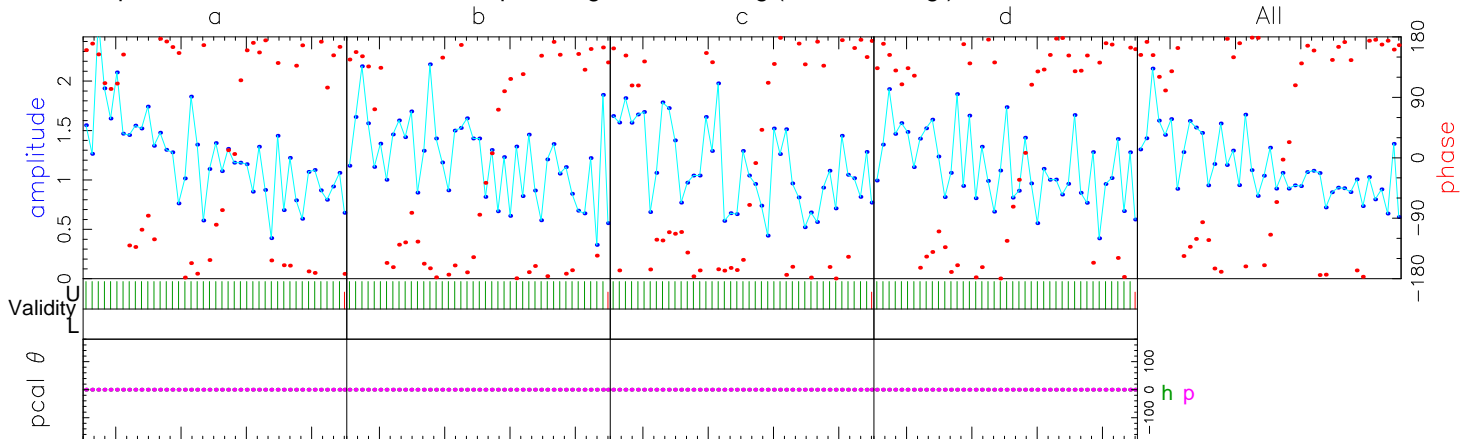


Fringe quality 7

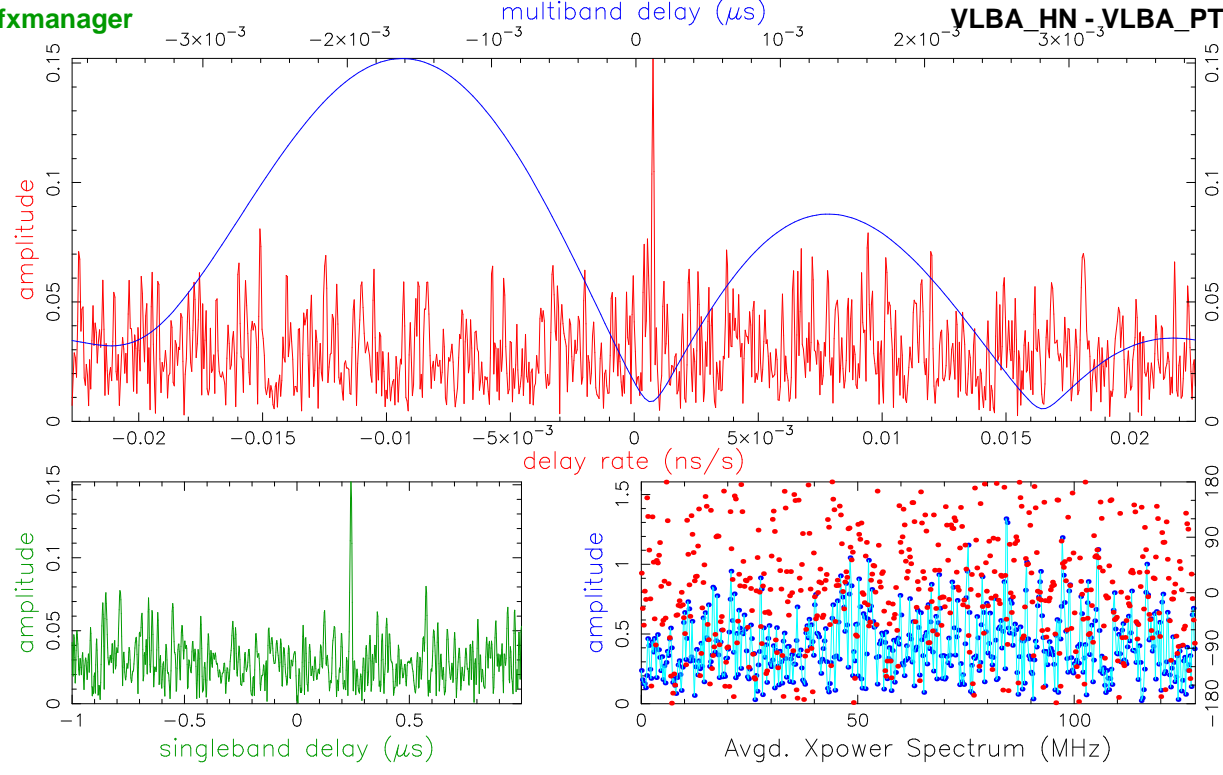
SNR 34.6
Int time 239.982
Amp 0.816
Phase 176.1
PFD 0.0e+00
Delays (us)
SBD -0.007293
MBD 0.000536
Fringe rate (Hz)
-0.002775
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512

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

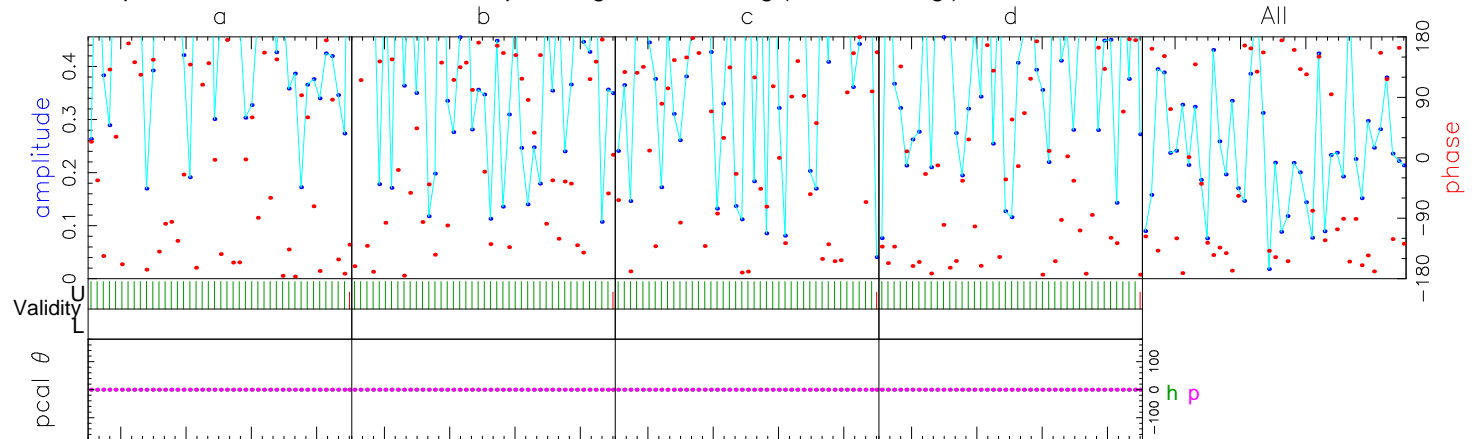


42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
175.0	178.4	-179.5	170.6	Phase	176.1
0.8	0.8	0.8	0.8	Ampl.	0.8
509.3	509.2	509.4	509.1	Sbd box	509.3
U/L 469/0	469/0	469/0	469/0	APs used	
h 1000	1000	1000	1000	PC freqs	
p 1000	1000	1000	1000	PC freqs	
h:p 0:0	0:0	0:0	0:0	PC phase	
h:p 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
p 1000	1000	1000	1000		
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	
Group delay (usec)(sbd)	1.76759783240E+02	Apriori delay (usec)	1.76767059640E+02	Resid mbdelay (usec)	5.36100E-04 +/- 3.2E-05
Sband delay (usec)	1.76759766390E+02	Apriori clock (usec)	4.6690559E-01	Resid sbdelay (usec)	-7.29325E-03 +/- 1.2E-04
Phase delay (usec)	1.76767071008E+02	Apriori clockrate (us/s)	-1.6999997E-07	Resid phdelay (usec)	1.13675E-05 +/- 2.1E-07
Delay rate (us/s)	-7.50659471810E-01	Apriori rate (us/s)	-7.50659407338E-01	Resid rate (us/s)	-6.44726E-08 +/- 1.5E-09
Total phase (deg)	265.0	Apriori accel (us/s/s)	1.45790476707E-06	Resid phase (deg)	176.1 +/- 3.3
RMS	Theor.	Amplitude	0.816 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
52.5	10.9	Search (1024X16)	0.741	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
55.5	19.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
5.3	3.3	Inc. seg. avg.	1.120	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
2.0	5.8	Inc. frq. avg.	0.812	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 195.3 el 56.6 pa 11.8	p: az 126.8 el 55.3 pa -41.9	u, v (fr/asec)	2185.344 514.300		simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hp..1J2DGP	Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hp.Q.105.1J2DGP			



Fringe quality 0
SNR 6.4
Int time 239.982
Amp 0.152
Phase -174.2
PFD 1.7e-02
Delays (us)
SBD 0.240228
MBD -0.001618
Fringe rate (Hz)
0.032580
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202b
Exper # 16383
Yr:day 2020:284
Start 190830.00
Stop 191230.12
FRT 191030.00
Corr/FF/build
2021:032:031903
2021:032:211451
2020:247:085004
RA & Dec (J2000)
15h04m24.979782s
+10°29'39.198559"

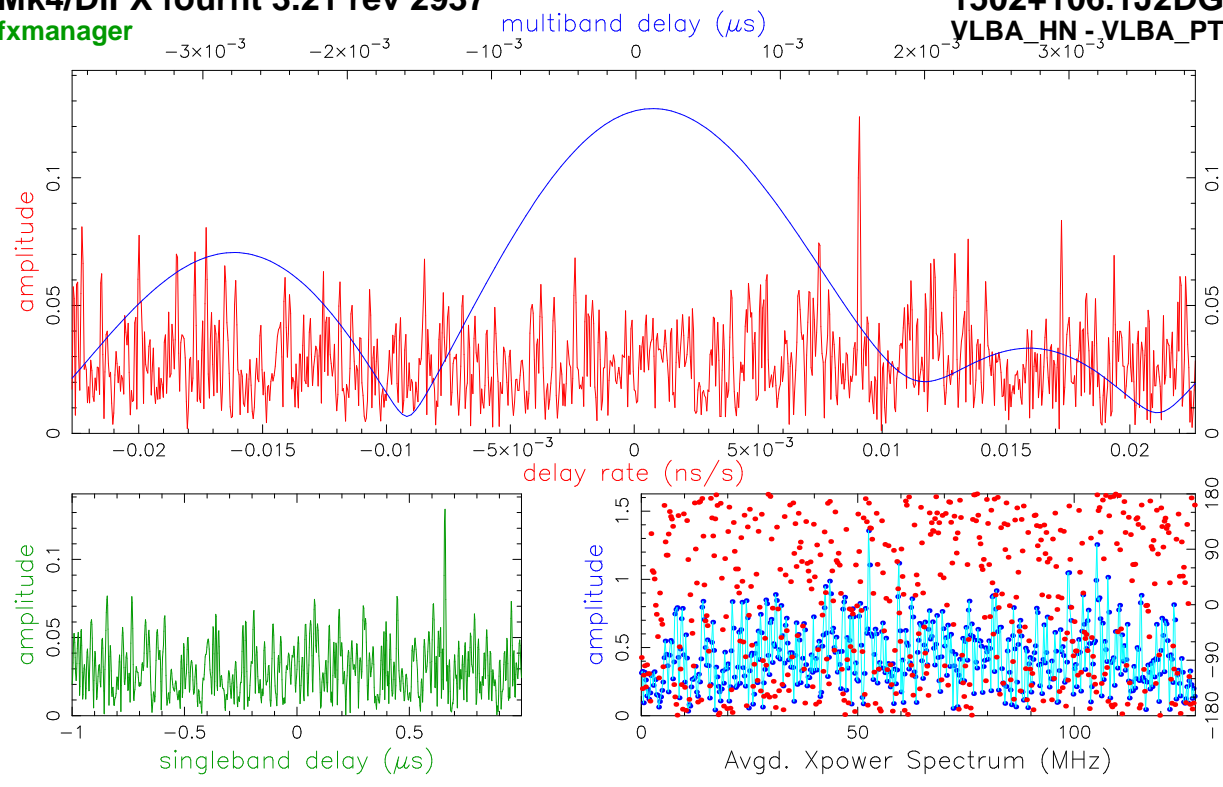
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



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

	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
Group delay (usec)(sbd)	1.77007628695E+02			1.76767059640E+02		-174.2
Sband delay (usec)	1.77007287765E+02			4.6690559E-01		0.2
Phase delay (usec)	1.76767048398E+02			-1.6999997E-07		635.7
Delay rate (us/s)	-7.50658650360E-01			-7.50659407338E-01		0.1
Total phase (deg)		-85.3		1.45790476707E-06		0.2

	RMS	Theor.	Amplitude	0.152 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	61.2	58.4	Search (1024X16)	0.146	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	98.6	101.9	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	27.4	17.8	Inc. seg. avg.	0.160	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	19.5	31.1	Inc. frq. avg.	0.153	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

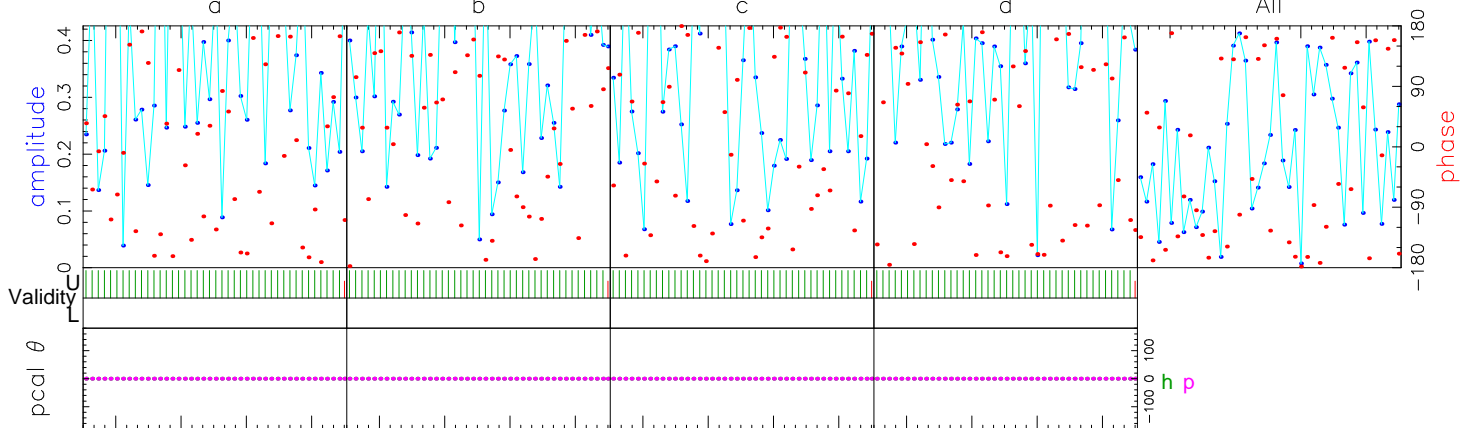


Fringe quality 0

SNR 5.6
Int time 239.982
Amp 0.142
Phase -163.3
PFD 9.0e-01
Delays (us)
SBD 0.657794
MBD 0.000355
Fringe rate (Hz)
0.391637
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"

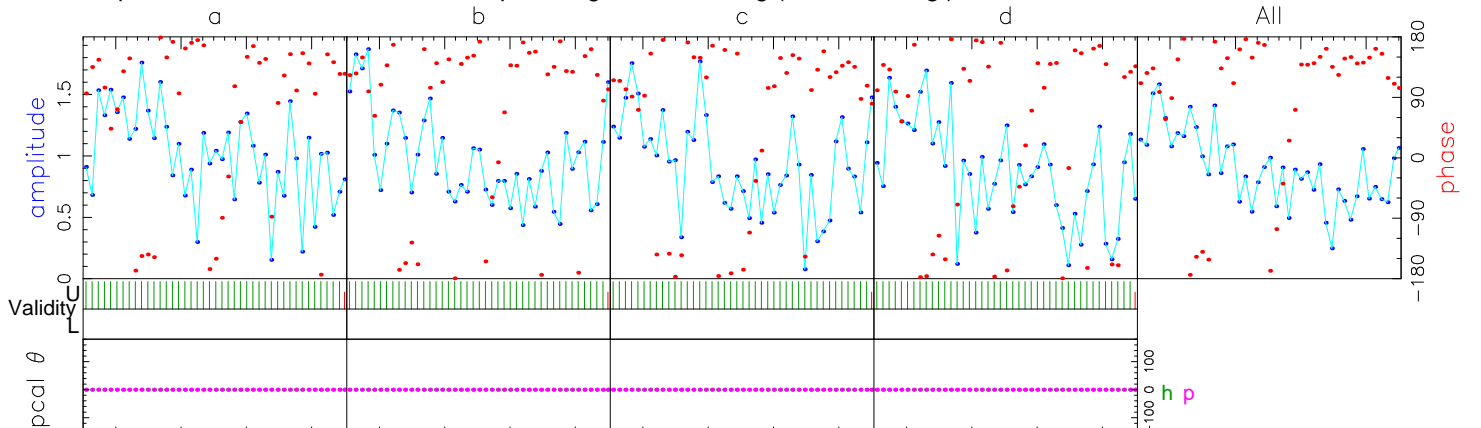
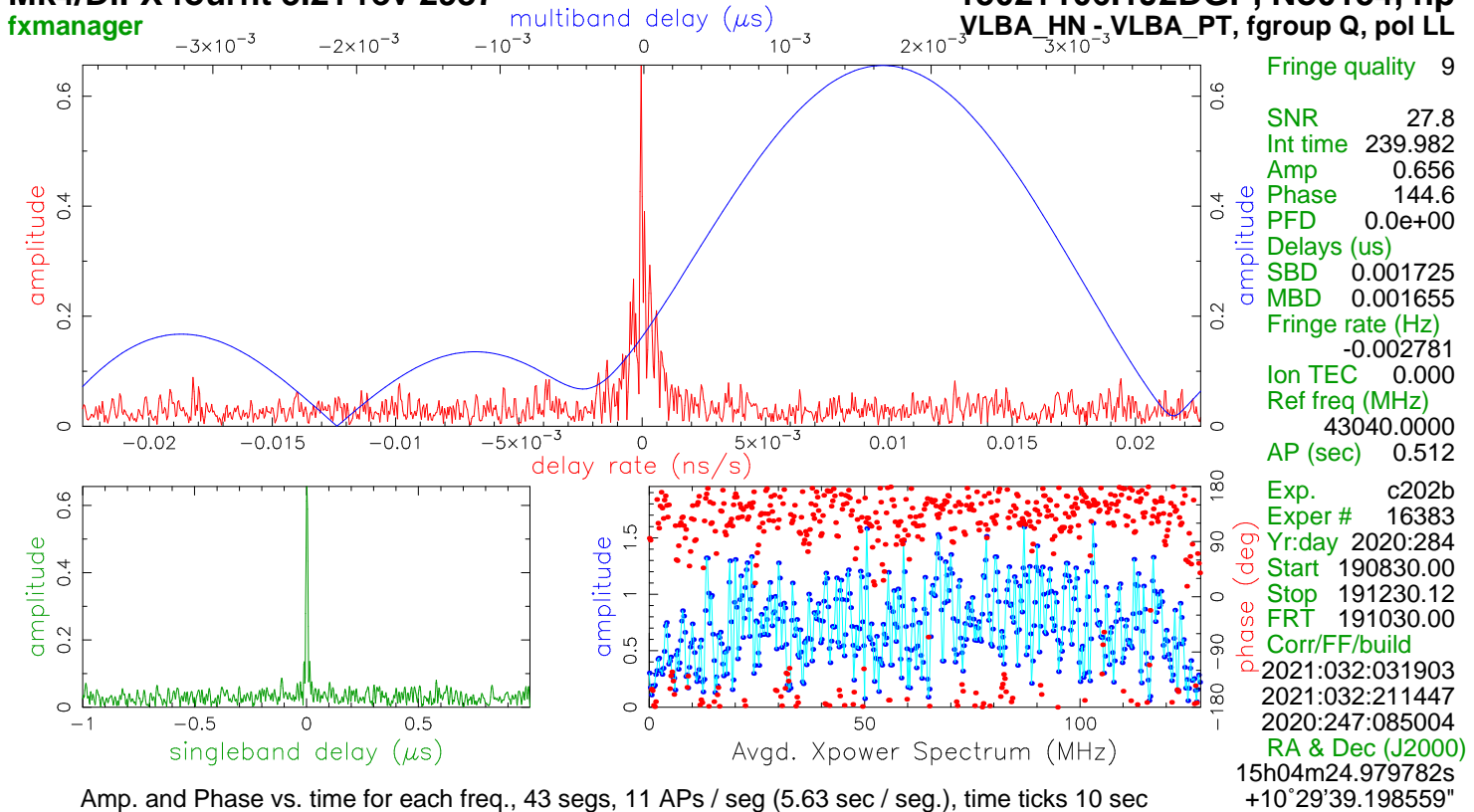
Amp. and Phase vs. time for each freq., 43 segs, 11 APs / seg (5.63 sec / seg.), time ticks 10 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-131.7	170.0	-156.7	-176.7	Phase	-163.3
	0.2	0.1	0.1	0.2	Ampl.	0.1
	1001.9	552.8	169.3	272.0	Sbd box	849.8
U/L	469/0	469/0	469/0	469/0	APs used	
h	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	PC freqs	
h:p	0:0	0:0	0:0	0:0	PC phase	
h:p	0:0	0:0	0:0	0:0	ManI PC	
h	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

Group delay (usec)(sbd)	1.77423664637E+02	Apriori delay (usec)	1.76767059640E+02	Resid mbdelay (usec)	3.54997E-04	+/-	2.0E-04
Sband delay (usec)	1.77424854140E+02	Apriori clock (usec)	4.6690559E-01	Resid sbdelay (usec)	6.57794E-01	+/-	7.7E-04
Phase delay (usec)	1.76767049101E+02	Apriori clockrate (us/s)	-1.6999997E-07	Resid phdelay (usec)	-1.05393E-05	+/-	1.3E-06
Delay rate (us/s)	-7.50650307955E-01	Apriori rate (us/s)	-7.50659407338E-01	Resid rate (us/s)	9.09938E-06	+/-	9.5E-09
Total phase (deg)	-74.4	Apriori accel (us/s/s)	1.45790476707E-06	Resid phase (deg)	-163.3	+/-	20.4

ph/seg (deg)	RMS 74.6	Theor. 66.8	Amplitude	0.142 +/- 0.025	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	74.6	66.8	Search (1024X16)	0.124	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	107.8	116.6	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	31.1	20.4	Inc. seg. avg.	0.135	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
	11.6	35.6	Inc. frq. avg.	0.134					



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	469/0	469/0	469/0	469/0		
h	1000	1000	1000	1000		
p	1000	1000	1000	1000		
h:p	0:0	0:0	0:0	0:0		
h:p	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
p	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
p	Q00UL	Q01UL	Q02UL	Q03UL		
Group delay (usec)(sbd)	1.76768715084E+02			1.76767059640E+02	1.65544E-03	+/- 4.0E-05
Sband delay (usec)	1.76768785015E+02			4.6690559E-01	1.72537E-03	+/- 1.5E-04
Phase delay (usec)	1.76767068973E+02			-1.6999997E-07	9.33302E-06	+/- 2.7E-07
Delay rate (us/s)	-7.50659471961E-01			-7.50659407338E-01	Resid rate (us/s)	-6.46230E-08 +/- 1.9E-09
Total phase (deg)		233.5		1.45790476707E-06	Resid phase (deg)	144.6 +/- 4.1
RMS	49.8	13.5	0.589	0.589		
ph/seg (deg)	49.8	13.5	0.589	0.589		
amp/seg (%)	58.6	23.6	0.000	0.000		
ph/frq (deg)	8.4	4.1	0.878	0.878		
amp/frq (%)	9.2	7.2	0.657	0.657		
h: az 195.3 el 56.6 pa 11.8		p: az 126.8 el 55.3 pa -41.9		u,v (fr/asec) 2185.344 514.300		simultaneous interpolator
Control file: cf_1234_gmva7mm		Input file: /Exps/c202b/v1/v1_7mm/1234/No0154/hp..1J2DGP		Output file: /Exps/c202b/v1/v1_7mm/1234/No0154/hp.Q.88.1J2DGP		