

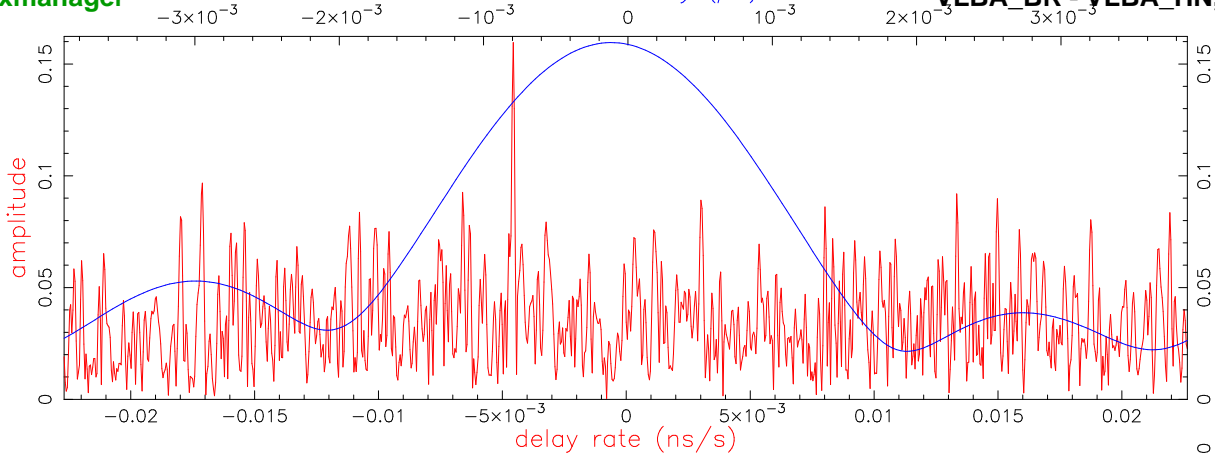
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, bh

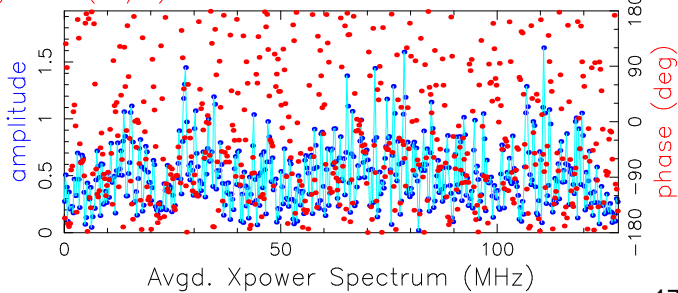
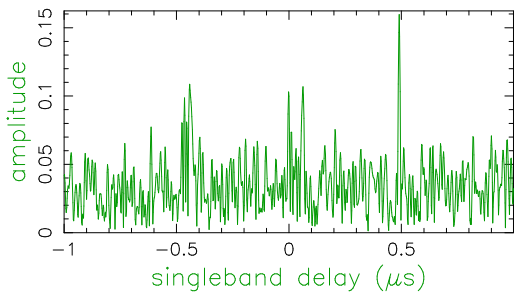
VLBA_BR - VLBA_HN, fgroup Q, pol RR

multiband delay (μ s)



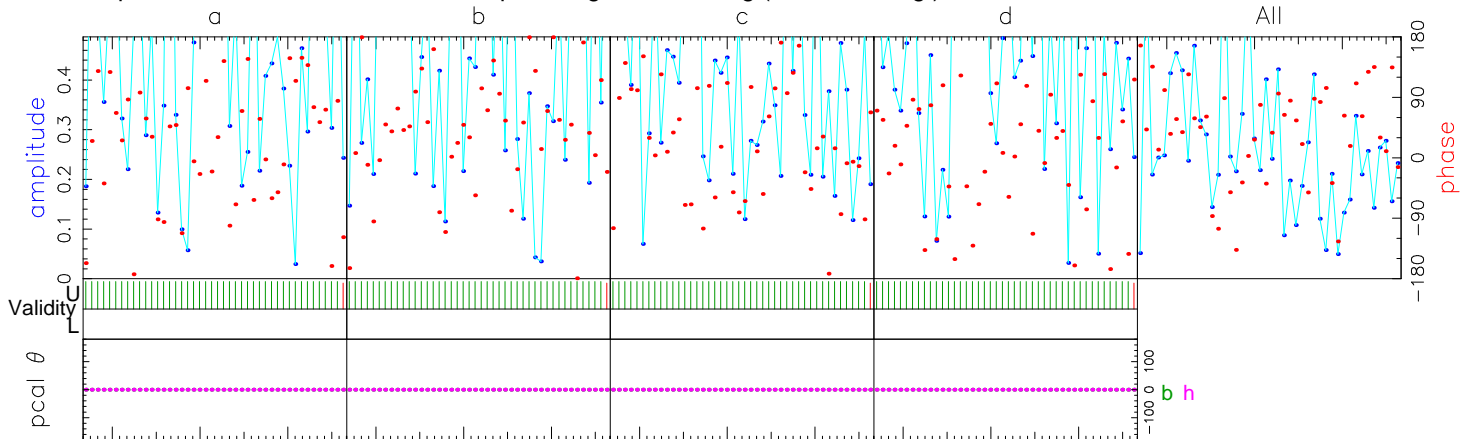
Fringe quality 0

SNR 5.9
 Int time 179.972
 Amp 0.162
 Phase 48.4
 PFD 4.5e-01
 Delays (us)
 SBD 0.490136
 MBD -0.000116
 Fringe rate (Hz)
 -0.197912
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164245
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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	ManI 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)	4.69542059999E+03	Apriori delay (usec)	4.69492852870E+03	Resid mbdelay (usec)	-1.16209E-04	+/- 1.9E-04
Sband delay (usec)	4.69541866458E+03	Apriori clock (usec)	-2.2555999E+00	Resid sbdelay (usec)	4.90136E-01	+/- 7.4E-04
Phase delay (usec)	4.69492853183E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	3.12436E-06	+/- 1.3E-06
Delay rate (us/s)	4.98968865714E-01	Apriori rate (us/s)	4.98973464041E-01	Resid rate (us/s)	-4.59833E-06	+/- 1.2E-08
Total phase (deg)	3.5	Apriori accel (us/s/s)	-1.94642340570E-05	Resid phase (deg)	48.4	+/- 19.6

ph/seg (deg)	RMS 71.4	Theor. 64.9	Amplitude Search (1024X16)	0.162 +/- 0.028	0.155	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	119.5	113.3	Interp.	0.000	0.155	PCal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	4.4	19.6	Inc. seg. avg.	0.169	0.154	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	27.8	34.2	Inc. frq. avg.	0.154	0.154	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
b: az 291.8 el 83.3 pa 104.6	h: az 301.3 el 50.9 pa 77.8	u,v (fr/asec)	-2244.386 -713.606	simultaneous interpolator						

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh.Q.30.1HPKOY

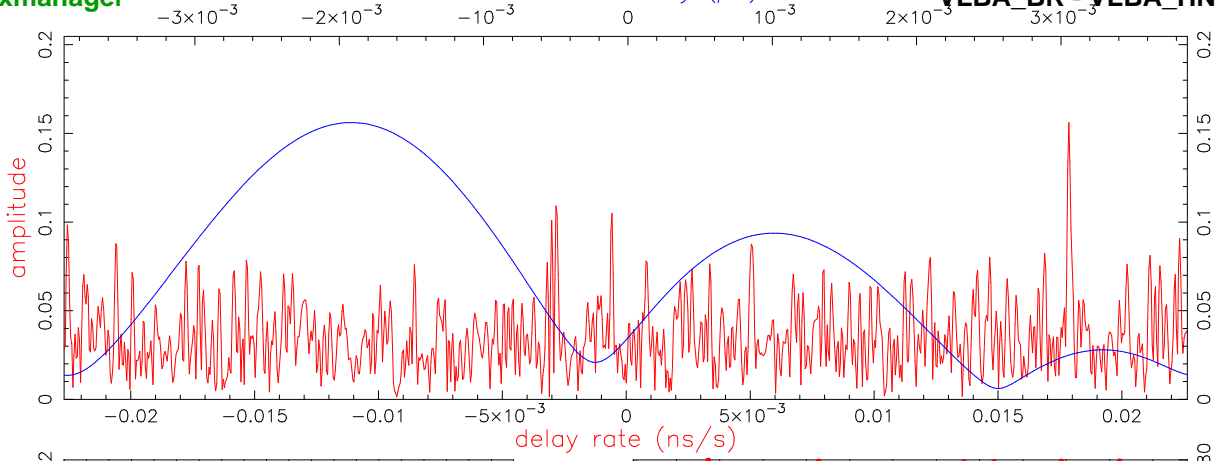
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, bh

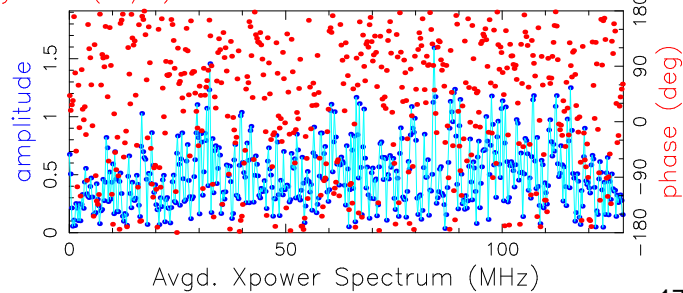
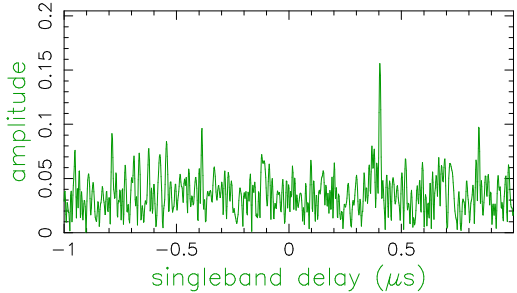
VLBA_BR - VLBA_HN, fgroup Q, pol LR

multiband delay (μ s)



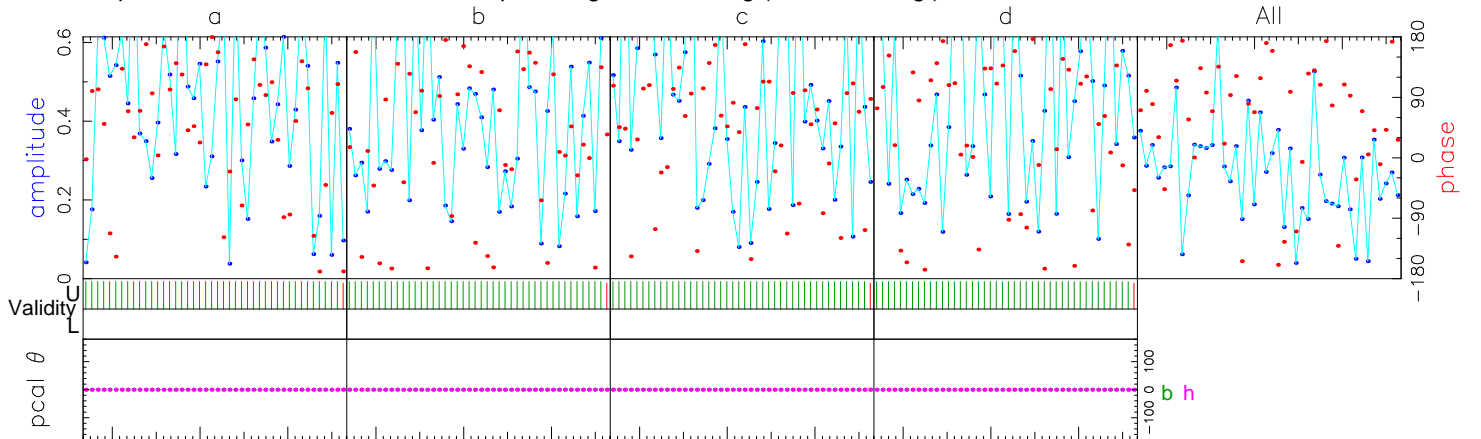
Fringe quality 0

SNR 5.7
 Int time 179.972
 Amp 0.205
 Phase 100.8
 PFD 7.2e-01
 Delays (us)
 SBD 0.404390
 MBD -0.001914
 Fringe rate (Hz)
 0.770939
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164248
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000		
h	1000	1000	1000	1000		
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)	4.69533286462E+03	Apriori delay (usec)	4.69492852870E+03	Resid mbdelay (usec)	-1.91408E-03	+/-	1.9E-04
Sband delay (usec)	4.69533291820E+03	Apriori clock (usec)	-2.2555999E+00	Resid sbdelay (usec)	4.04390E-01	+/-	7.5E-04
Phase delay (usec)	4.69492853520E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	6.50340E-06	+/-	1.3E-06
Delay rate (us/s)	4.98991376185E-01	Apriori rate (us/s)	4.98973464041E-01	Resid rate (us/s)	1.79121E-05	+/-	1.2E-08
Total phase (deg)	55.9	Apriori accel (us/s/s)	-1.94642340570E-05	Resid phase (deg)	100.8	+/-	20.0

ph/seg (deg)	RMS 71.5	Theor. 66.4	Amplitude Search (1024X16)	0.205 +/- 0.036	0.153	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	71.5	66.4	Interp.	0.000	0.153	PCal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	108.9	115.8	Inc. seg. avg.	0.214	0.153	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	26.6	20.0	Inc. frq. avg.	0.204	0.153	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
	19.9	34.9			0.153					

b: az 291.8 el 83.3 pa 104.6 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -2244.386 -713.606 simultaneous interpolator

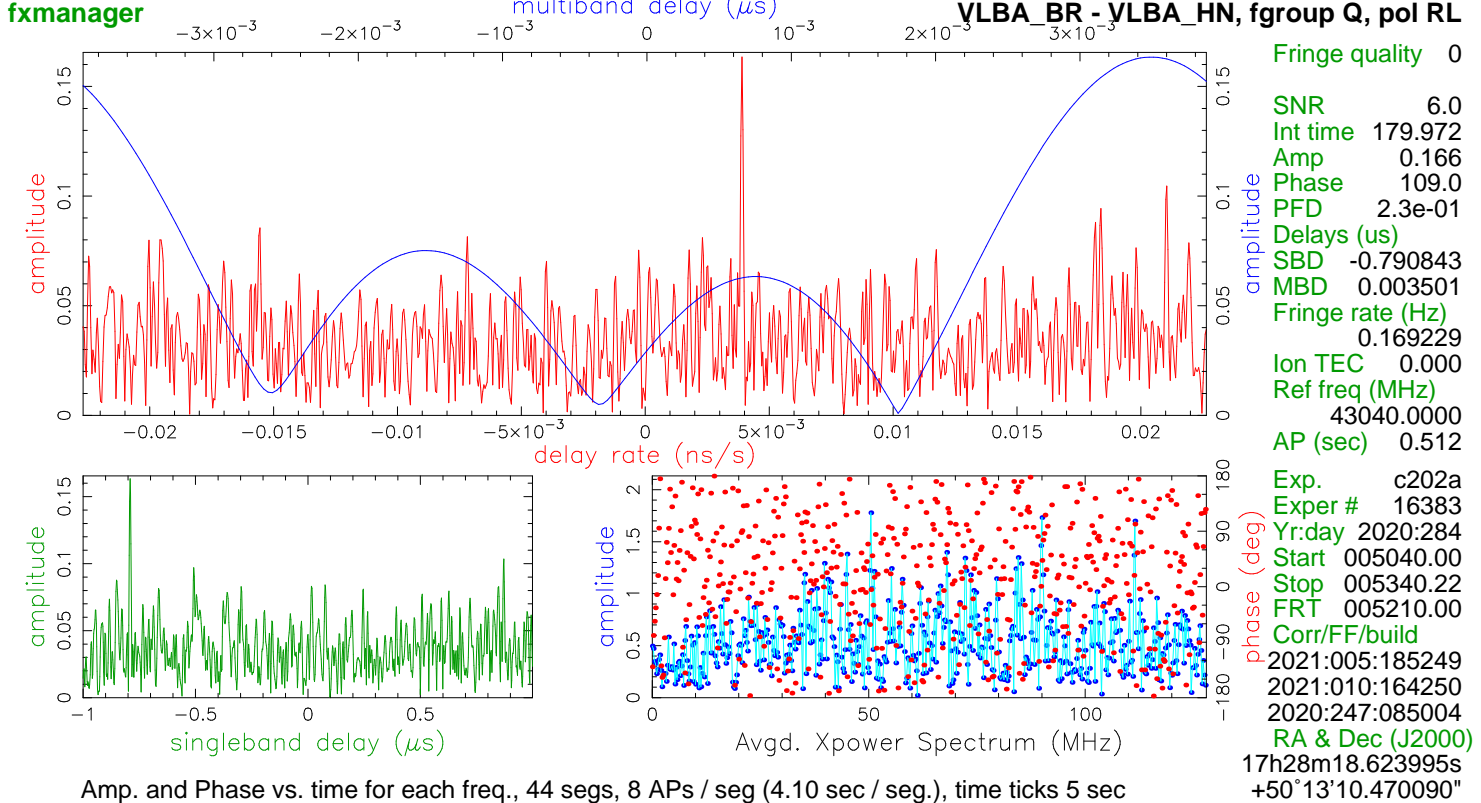
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh.Q.55.1HPKOY

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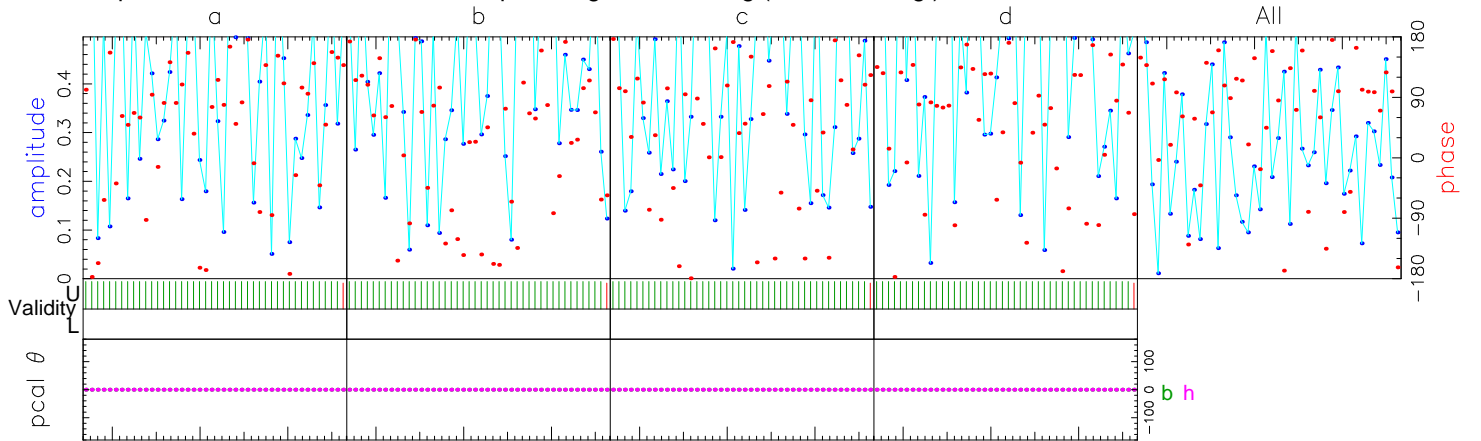
fxmanager

OT546.1HPKOY, No0233, bh

VLBA_BR - VLBA_HN, fgroup Q, pol RL



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
111.0	110.9	99.6	112.1	Phase	109.0
0.2	0.1	0.1	0.2	Ampl.	0.2
361.2	393.8	945.9	109.0	Sbd box	108.1
U/L 352/0	352/0	352/0	352/0	APs used	
b 1000	1000	1000	1000	PC freqs	
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	ManI PC	
b 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
b Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	4.69413515500E+03	Apriori delay (usec)	4.69492852870E+03	Resid mbdelay (usec)	3.50130E-03	+/-	1.9E-04
Sband delay (usec)	4.69413768520E+03	Apriori clock (usec)	-2.255599E+00	Resid sbdelay (usec)	-7.90843E-01	+/-	7.2E-04
Phase delay (usec)	4.69492853574E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	7.03796E-06	+/-	1.2E-06
Delay rate (us/s)	4.98977395936E-01	Apriori rate (us/s)	4.98973464041E-01	Resid rate (us/s)	3.93189E-06	+/-	1.2E-08
Total phase (deg)	64.1	Apriori accel (us/s/s)	-1.94642340570E-05	Resid phase (deg)	109.0	+/-	19.1

ph/seg (deg)	RMS 72.6	Theor. 63.4	Amplitude	0.166 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	108.6	110.6	Search (1024X16)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	7.3	19.1	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	21.7	33.3	Inc. seg. avg.	0.168	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
			Inc. frq. avg.	0.157					

b: az 291.8 el 83.3 pa 104.6 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -2244.386 -713.606 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh.Q.71.1HPKOY

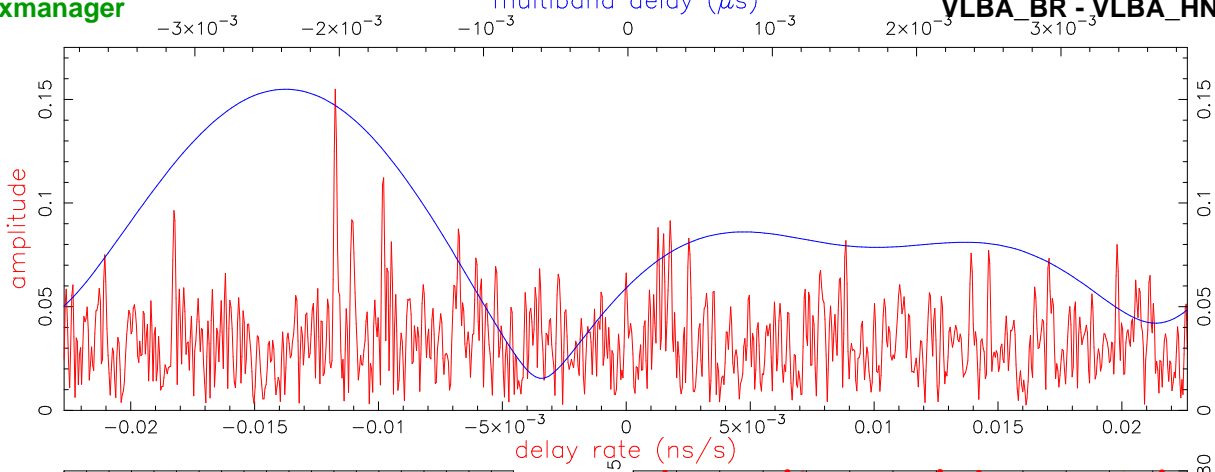
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

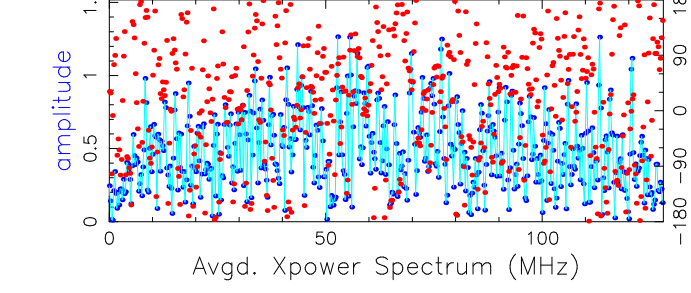
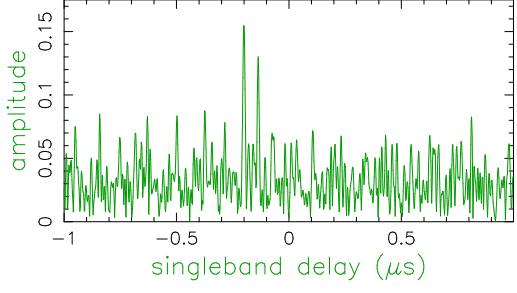
OT546.1HPKOY, No0233, bh

VLBA_BR - VLBA_HN, fgroup Q, pol LL

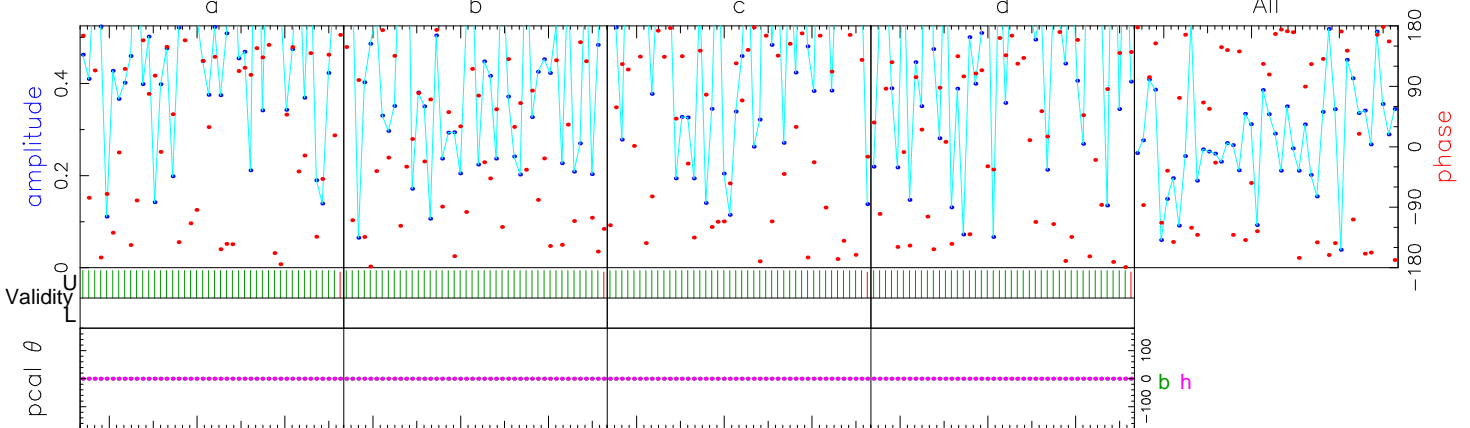
multiband delay (μ s)



Fringe quality 0
 SNR 5.7
 Int time 179.972
 Amp 0.175
 Phase 175.2
 PFD 7.0e-01
 Delays (us)
 SBD -0.200366
 MBD -0.002341
 Fringe rate (Hz)
 -0.507308
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164243
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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)	4.69473087508E+03	Apriori delay (usec)	4.69492852870E+03	Resid mbdelay (usec)	-2.34112E-03	+/-	1.9E-04
Sband delay (usec)	4.69472816258E+03	Apriori clock (usec)	-2.2555999E+00	Resid sbdelay (usec)	-2.00366E-01	+/-	7.5E-04
Phase delay (usec)	4.69492854001E+03	Apriori clockrate (us/s)	-2.2999999E-07	Resid phdelay (usec)	1.13103E-05	+/-	1.3E-06
Delay rate (us/s)	4.98961677143E-01	Apriori rate (us/s)	4.98973464041E-01	Resid rate (us/s)	-1.17869E-05	+/-	1.2E-08
Total phase (deg)	130.3	Apriori accel (us/s/s)	-1.94642340570E-05	Resid phase (deg)	175.2	+/-	20.0

	RMS	Theor.	Amplitude	0.175 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	67.5	66.3	Search (1024X16)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	108.9	115.7	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	48.8	20.0	Inc. seg. avg.	0.191	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
amp/frq (%)	49.5	34.9	Inc. frq. avg.	0.174					

b: az 291.8 el 83.3 pa 104.6 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -2244.386 -713.606 simultaneous interpolator

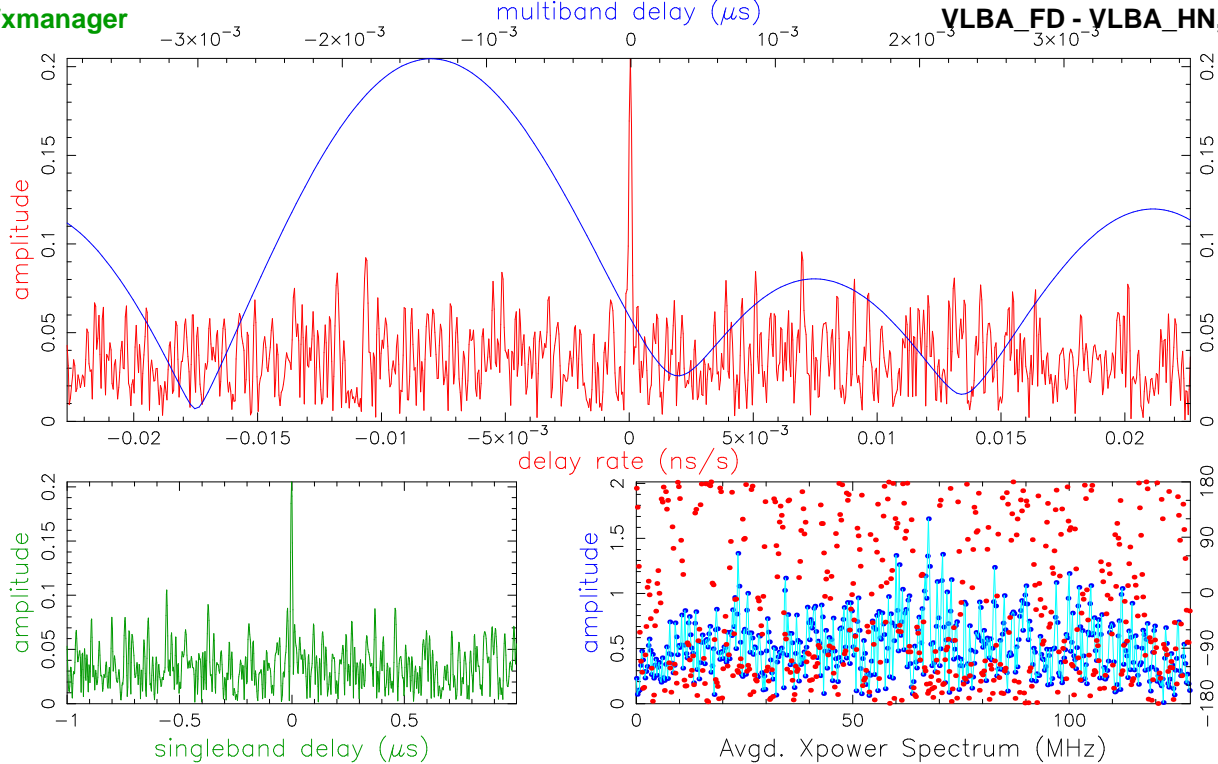
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/bh.Q.7.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

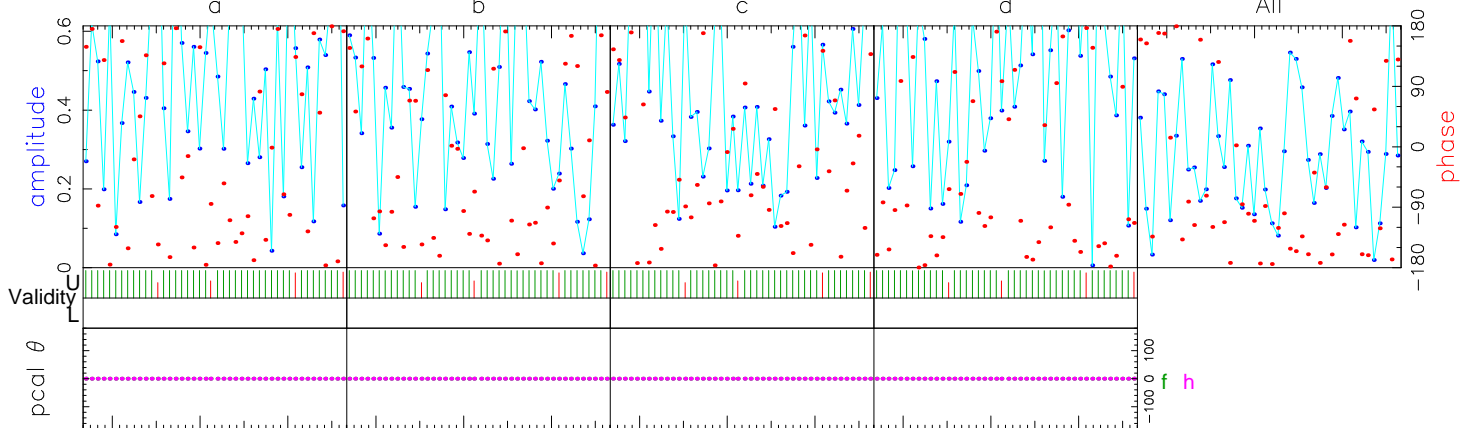
OT546.1HPKOY, No0233, fh

VLBA_FD - VLBA_HN, fgroup Q, pol RR



Fringe quality 9
 SNR 7.4
 Int time 176.200
 Amp 0.205
 Phase -154.5
 PFD 1.7e-05
 Delays (us)
 SBD -0.001727
 MBD -0.001377
 Fringe rate (Hz) 0.001938
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164244
 2020:247:085004
 RA & Dec (J2000) 17h28m18.623995s +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



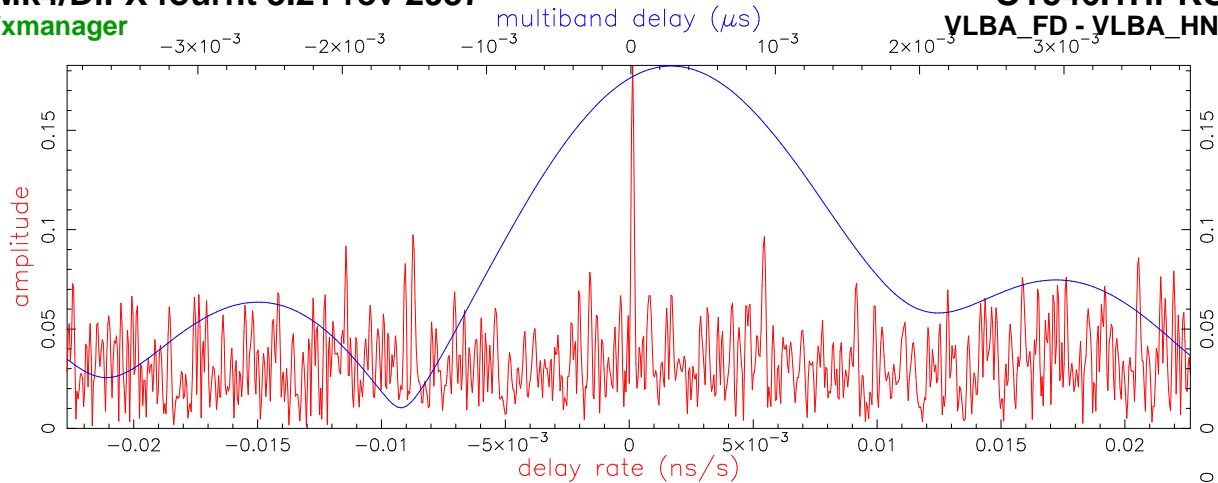
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-153.9	-164.1	-125.4	-161.9	Phase	-154.5
	0.3	0.2	0.1	0.3	Ampl.	0.2
	511.9	512.4	176.6	511.7	Sbd box	512.1
U/L	347/0	347/0	347/0	347/0	APs used	
f	1000	1000	1000	1000	PC freqs	
h	1000	1000	1000	1000	PC freqs	
f:h	0:0	0:0	0:0	0:0	PC phase	
f:h	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
h	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	2.45637760555E+03		Apriori delay (usec)	2.45637898248E+03	Resid mbdelay (usec)	-1.37693E-03 +/- 1.5E-04
Sband delay (usec)	2.45637725511E+03		Apriori clock (usec)	7.3128920E+00	Resid sbdelay (usec)	-1.72737E-03 +/- 5.8E-04
Phase delay (usec)	2.45637897251E+03		Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	-9.96991E-06 +/- 1.0E-06
Delay rate (us/s)	2.42347509554E-01		Apriori rate (us/s)	2.42347464518E-01	Resid rate (us/s)	4.50361E-08 +/- 9.7E-09
Total phase (deg)		-8.3	Apriori accel (us/s/s)	-2.78831232871E-05	Resid phase (deg)	-154.5 +/- 15.4
RMS	65.4	50.8	Amplitude	0.205 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	65.4	50.8	Search (1024X16)	0.204	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	86.8	88.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	22.3	15.4	Inc. seg. avg.	0.209	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	29.0	26.9	Inc. frq. avg.	0.202	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
f: az 323.1 el 62.7 pa 125.7		h: az 301.3 el 50.9 pa 77.8		u,v (fr/asec) -1105.200 -1788.028		simultaneous interpolator
Control file: cf_1234_gmva7mm		Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh..1HPKOY		Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh.Q.23.1HPKOY		

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

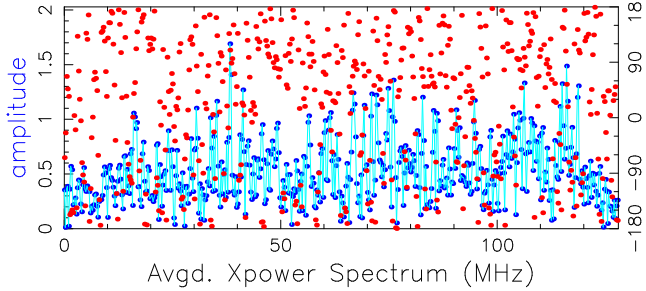
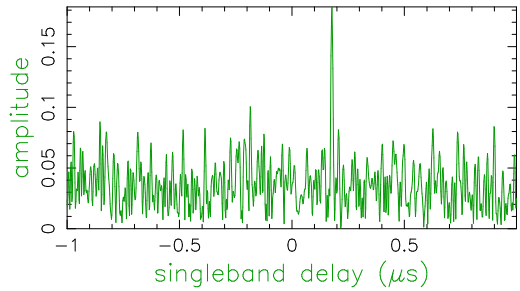
OT546.1HPKOY, No0233, fh

VLBA_FD - VLBA_HN, fgroup Q, pol LR



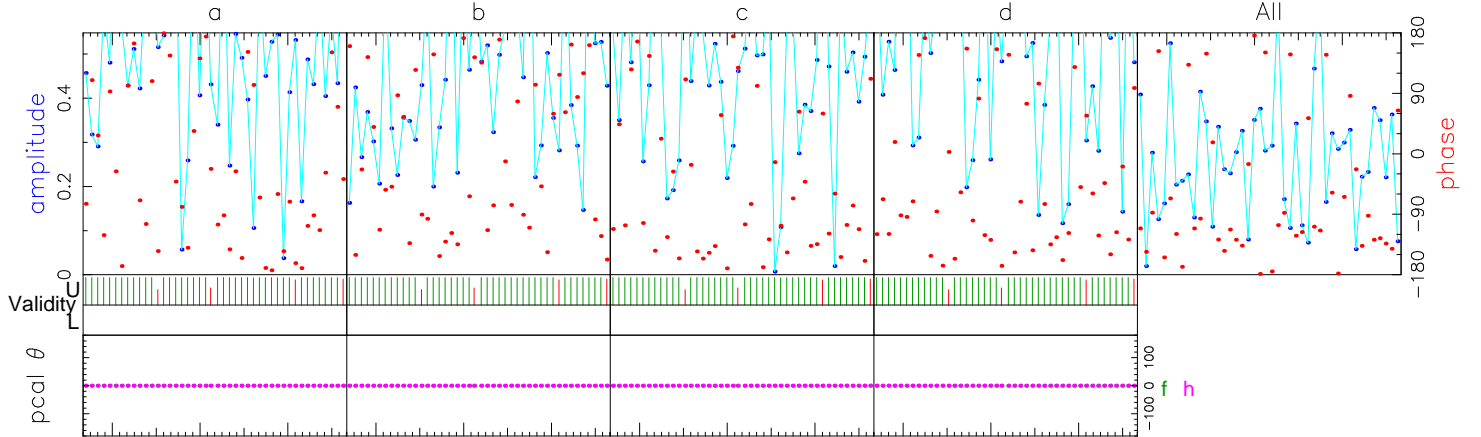
Fringe quality 0

SNR 6.6
 Int time 176.200
 Amp 0.183
 Phase -128.7
 PFD 4.7e-03
 Delays (us)
 SBD 0.177410
 MBD 0.000259
 Fringe rate (Hz)
 0.005611
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164248
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-117.1	-139.2	-142.6	-119.6	Phase	-128.7
	0.1	0.1	0.2	0.3	Ampl.	0.2
	89.6	602.0	684.5	603.9	Sbd box	603.8
U/L	347/0	347/0	347/0	347/0	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	ManI 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)	2.45655892941E+03	Apriori delay (usec)	2.45637898248E+03	Resid mbdelay (usec)	2.59431E-04	+/-	1.7E-04
Sband delay (usec)	2.45655639261E+03	Apriori clock (usec)	7.3128920E+00	Resid sbdelay (usec)	1.77410E-01	+/-	6.5E-04
Phase delay (usec)	2.45637897418E+03	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	-8.30707E-06	+/-	1.1E-06
Delay rate (us/s)	2.42347594890E-01	Apriori rate (us/s)	2.42347464518E-01	Resid rate (us/s)	1.30372E-07	+/-	1.1E-08
Total phase (deg)	17.5	Apriori accel (us/s/s)	-2.78831232871E-05	Resid phase (deg)	-128.7	+/-	17.3

ph/seg (deg)	RMS 66.1	Theor. 56.9	Amplitude	0.183 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	91.3	99.3	Search (1024X16)	0.179	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	16.2	17.3	Inc. seg. avg.	0.180	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	30.2	30.2	Inc. frq. avg.	0.178	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

f: az 323.1 el 62.7 pa 125.7 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -1105.200 -1788.028 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh.Q.53.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

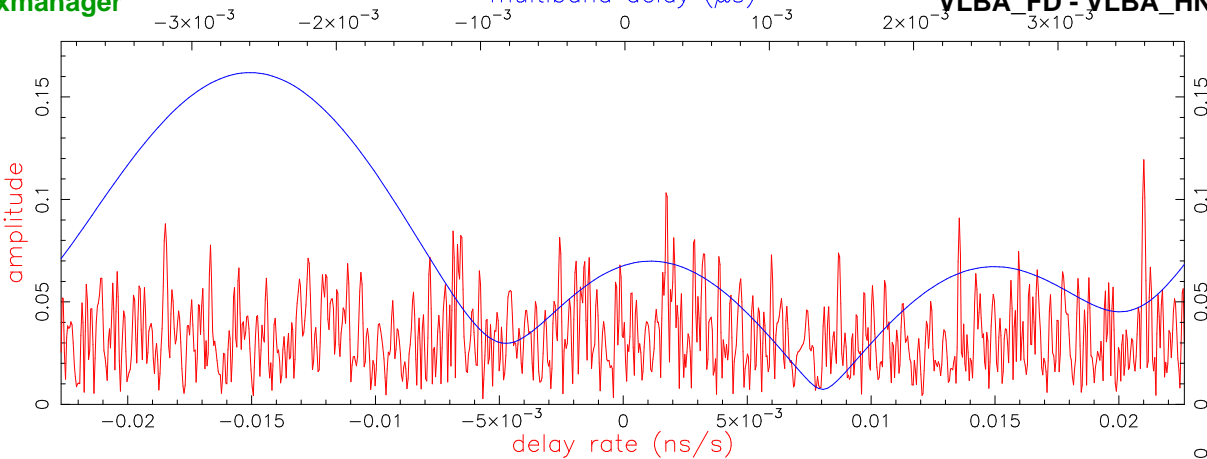
fxmanager

OT546.1HPKOY, No0233, fh

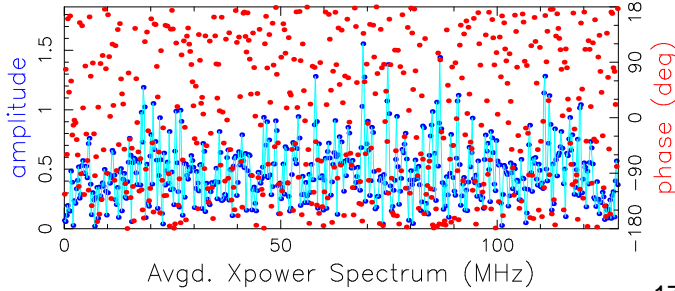
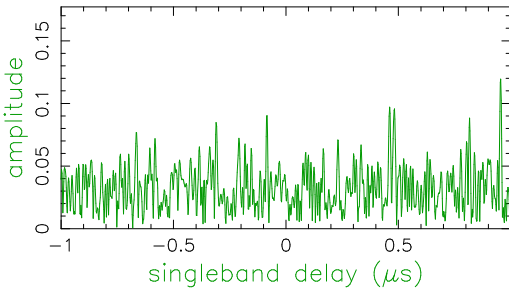
VLBA_FD - VLBA_HN, fgroup Q, pol RL

multiband delay (μ s)

Fringe quality 0

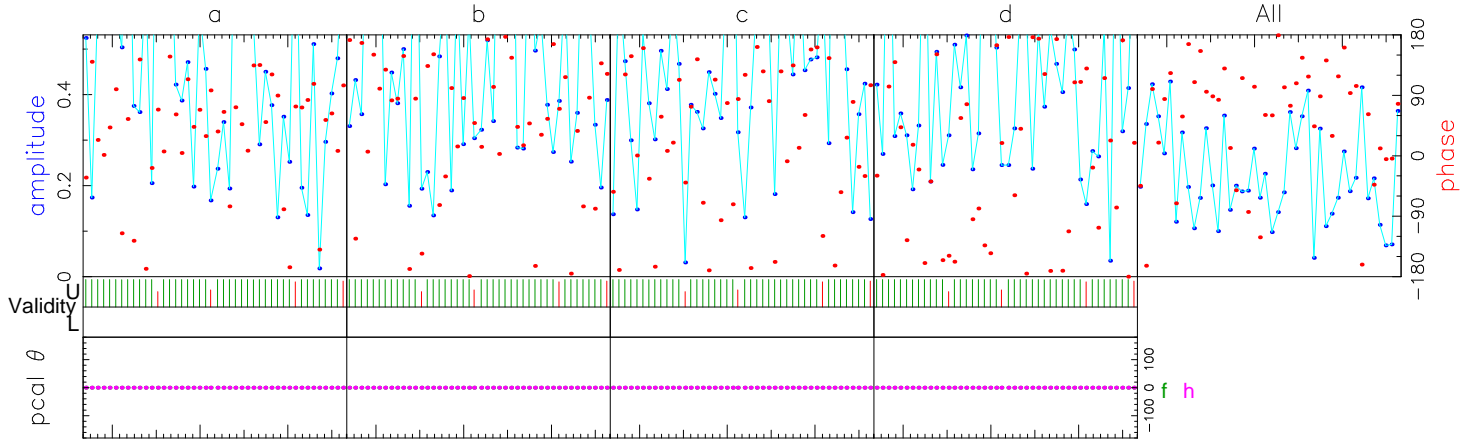


SNR 4.4
 Int time 176.200
 Amp 0.177
 Phase 103.3
 PFD 1.0e+00
 Delays (us)
 SBD 0.954358
 MBD 0.004395
 Fringe rate (Hz)
 0.906006
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164250
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	347/0	347/0	347/0	347/0		
f	1000	1000	1000	1000		
h	1000	1000	1000	1000		
f:h	0:0	0:0	0:0	0:0		
f:h	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000		
h	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR		
h	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	2.45733650201E+03	Apriori delay (usec)	2.45637898248E+03	Resid mbdelay (usec)	4.39453E-03	+/-	2.5E-04
Sband delay (usec)	2.45733334048E+03	Apriori clock (usec)	7.3128920E+00	Resid sbdelay (usec)	9.54358E-01	+/-	9.8E-04
Phase delay (usec)	2.45637898915E+03	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	6.66643E-06	+/-	1.7E-06
Delay rate (us/s)	2.42368514845E-01	Apriori rate (us/s)	2.42347464518E-01	Resid rate (us/s)	2.10503E-05	+/-	1.6E-08
Total phase (deg)	249.5	Apriori accel (us/s/s)	-2.78831232871E-05	Resid phase (deg)	103.3	+/-	26.1

ph/seg (deg)	RMS 76.2	Theor. 86.1	Amplitude Search (1024X16)	0.177 +/- 0.040	0.160	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	125.5	150.2	Interp.	0.000	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	64.1	26.1	Inc. seg. avg.	0.156	0.216	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	59.4	45.6	Inc. frq. avg.	0.216		Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

f: az 323.1 el 62.7 pa 125.7 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -1105.200 -1788.028 simultaneous interpolator

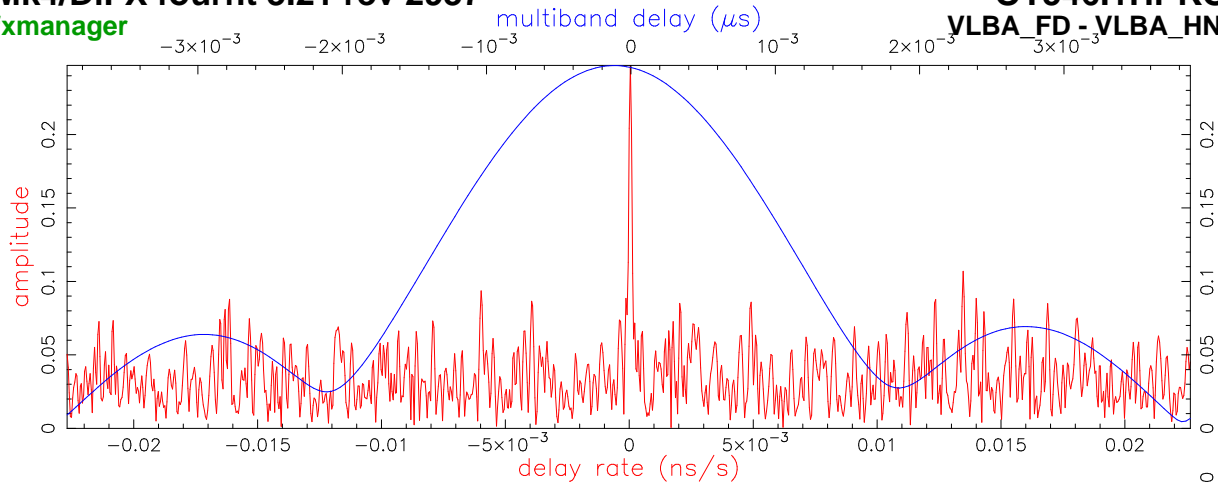
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh.Q.72.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

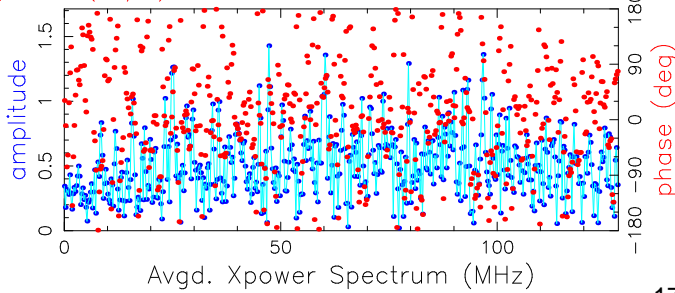
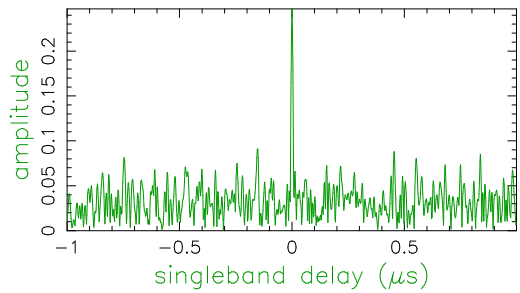
OT546.1HPKOY, No0233, fh

VLBA_FD - VLBA_HN, fgroup Q, pol LL



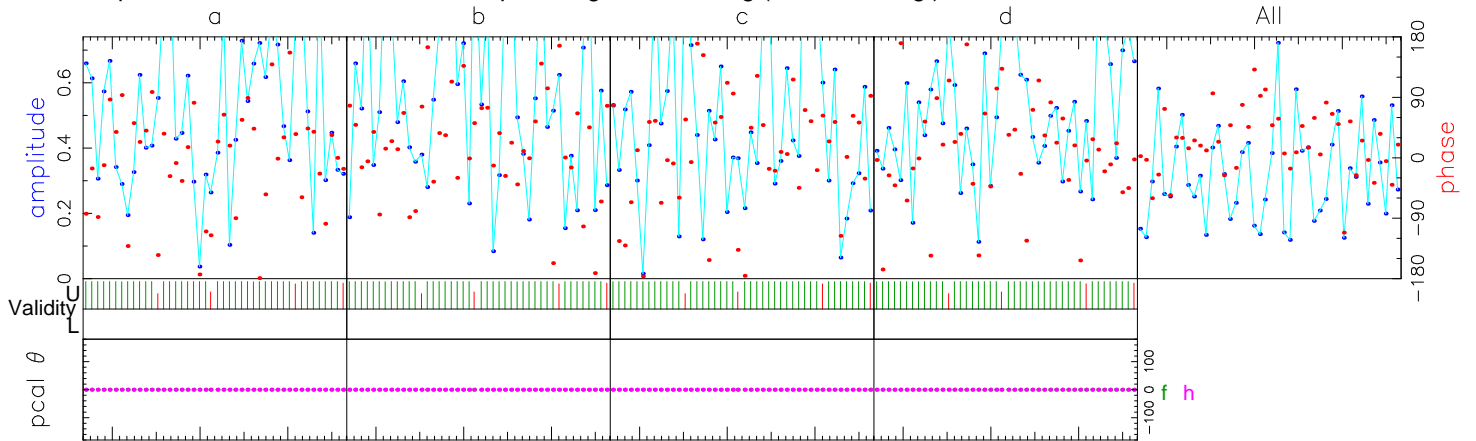
Fringe quality 9

SNR 9.0
 Int time 176.200
 Amp 0.247
 Phase 22.9
 PFD 5.8e-11
 Delays (us)
 SBD 0.000165
 MBD -0.000107
 Fringe rate (Hz)
 0.001934
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164243
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
14.5	31.6	30.4	13.8	Phase	22.9
0.2	0.3	0.3	0.2	Ampl.	0.2
513.2	513.1	512.3	513.4	Sbd box	513.1
U/L 347/0	347/0	347/0	347/0	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	ManI PC	
f 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	2.45637887565E+03	Apriori delay (usec)	2.45637898248E+03	Resid mbdelay (usec)	-1.06835E-04	+/- 1.2E-04
Sband delay (usec)	2.45637914711E+03	Apriori clock (usec)	7.3128920E+00	Resid sbdelay (usec)	1.64625E-04	+/- 4.8E-04
Phase delay (usec)	2.45637898396E+03	Apriori clockrate (us/s)	1.6999997E-07	Resid phdelay (usec)	1.47633E-06	+/- 8.2E-07
Delay rate (us/s)	2.42347509446E-01	Apriori rate (us/s)	2.42347464518E-01	Resid rate (us/s)	4.49283E-08	+/- 8.0E-09
Total phase (deg)	169.1	Apriori accel (us/s/s)	-2.78831232871E-05	Resid phase (deg)	22.9	+/- 12.8

ph/seg (deg)	RMS 46.6	Theor. 42.1	Amplitude	0.247 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	67.5	73.4	Search (1024X16)	0.245	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	11.9	12.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	4.1	22.3	Inc. seg. avg.	0.254	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
			Inc. frq. avg.	0.244	Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
					nlags: 512	t_cohere infinite
						ion window (TEC) 0.00 0.00

f: az 323.1 el 62.7 pa 125.7 h: az 301.3 el 50.9 pa 77.8 u,v (fr/asec) -1105.200 -1788.028 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/fh.Q.9.1HPKOY

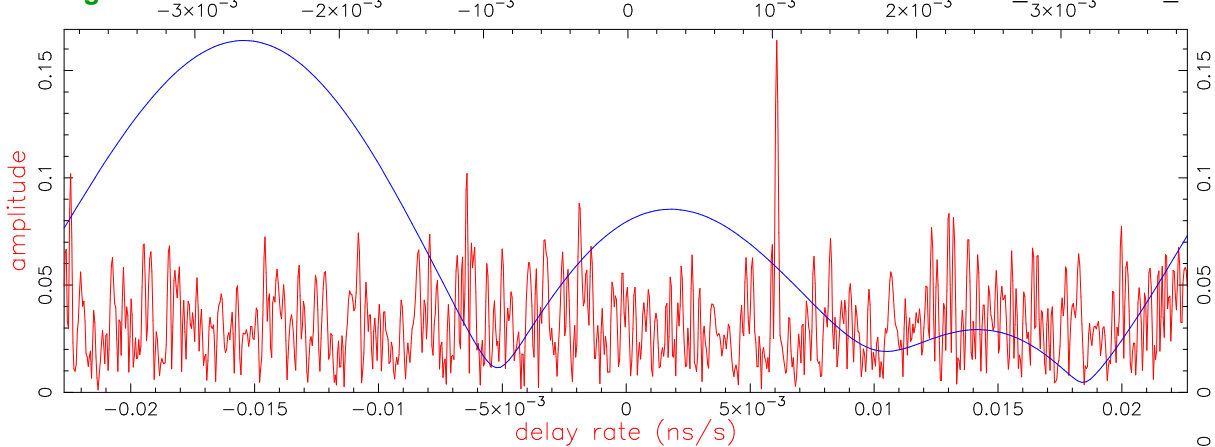
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hc

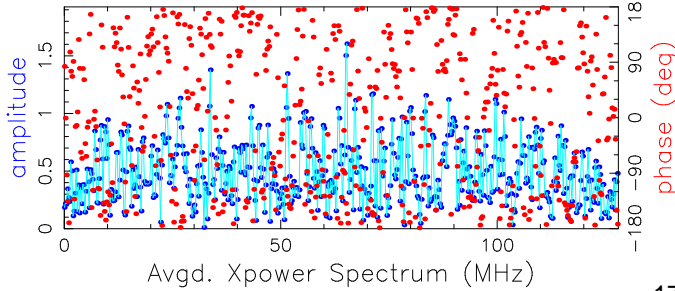
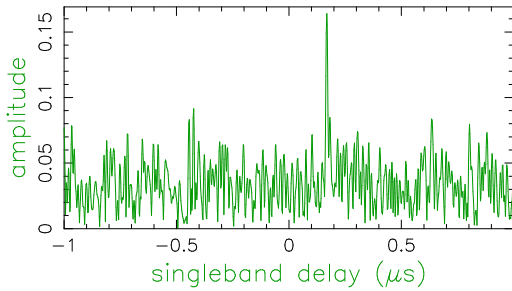
VLBA_HN - VLBA_SC, fgroup Q, pol LR

multiband delay (μ s)



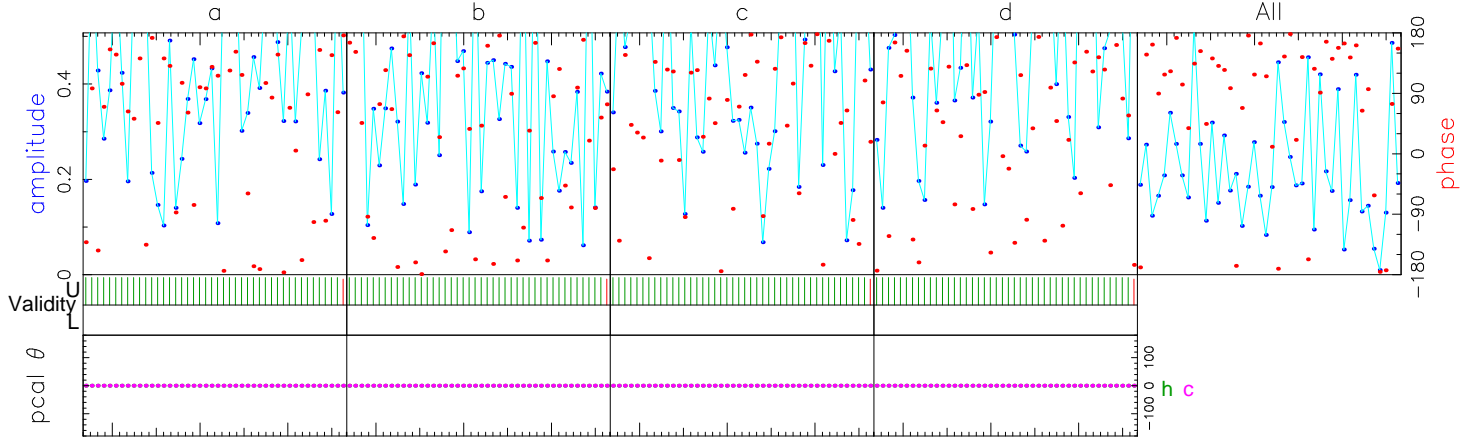
Fringe quality 0

SNR 6.0
 Int time 179.977
 Amp 0.169
 Phase 138.2
 PFD 2.0e-01
 Delays (us)
 SBD 0.168258
 MBD -0.002649
 Fringe rate (Hz)
 0.261277
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164254
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	6.00564605298E+03	Apriori delay (usec)	6.00547682709E+03	Resid mbdelay (usec)	-2.64911E-03	+/-	1.8E-04
Sband delay (usec)	6.00564508484E+03	Apriori clock (usec)	-7.9350052E+00	Resid sbdelay (usec)	1.68258E-01	+/-	7.1E-04
Phase delay (usec)	6.00547683601E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	8.91781E-06	+/-	1.2E-06
Delay rate (us/s)	2.42585105934E-01	Apriori rate (us/s)	2.42579035370E-01	Resid rate (us/s)	6.07056E-06	+/-	1.2E-08
Total phase (deg)		Apriori accel (us/s/s)	5.91211667804E-07	Resid phase (deg)	138.2	+/-	19.0

	RMS	Theor.	Amplitude	0.169 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	53.5	63.1	Search (1024X16)	0.160	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	83.0	110.1	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	22.4	19.0	Inc. seg. avg.	0.145	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	15.8	33.2	Inc. frq. avg.	0.166					

h: az 301.3 el 50.9 pa 77.8 c: az 318.2 el 29.6 pa 97.5 u,v (fr/asec) -1080.798 1103.523 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc.Q.102.1HPKOY

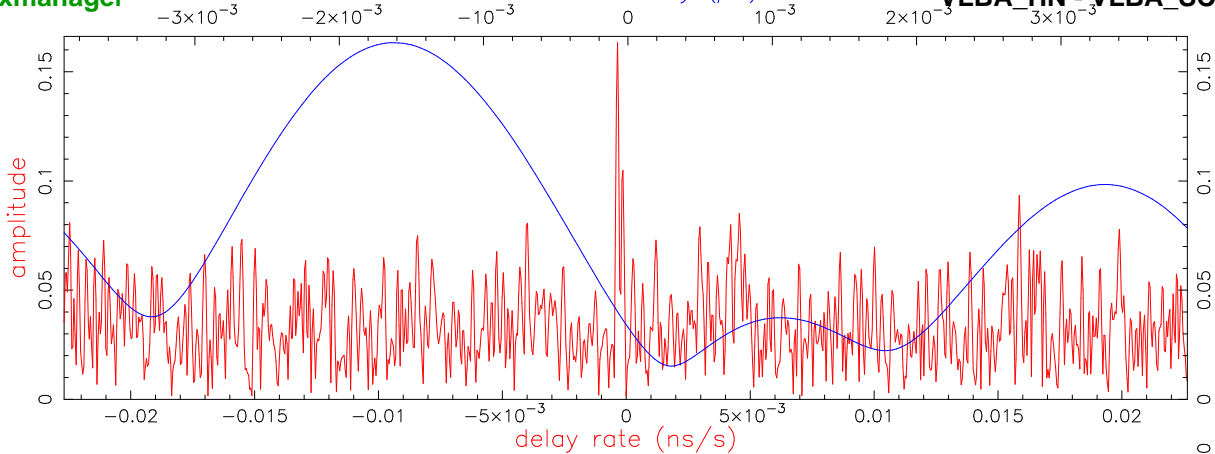
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hc

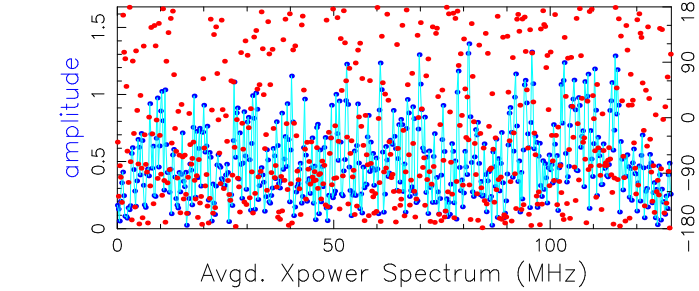
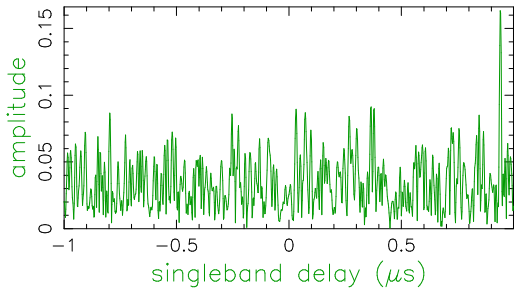
VLBA_HN - VLBA_SC, fgroup Q, pol RL

multiband delay (μ s)



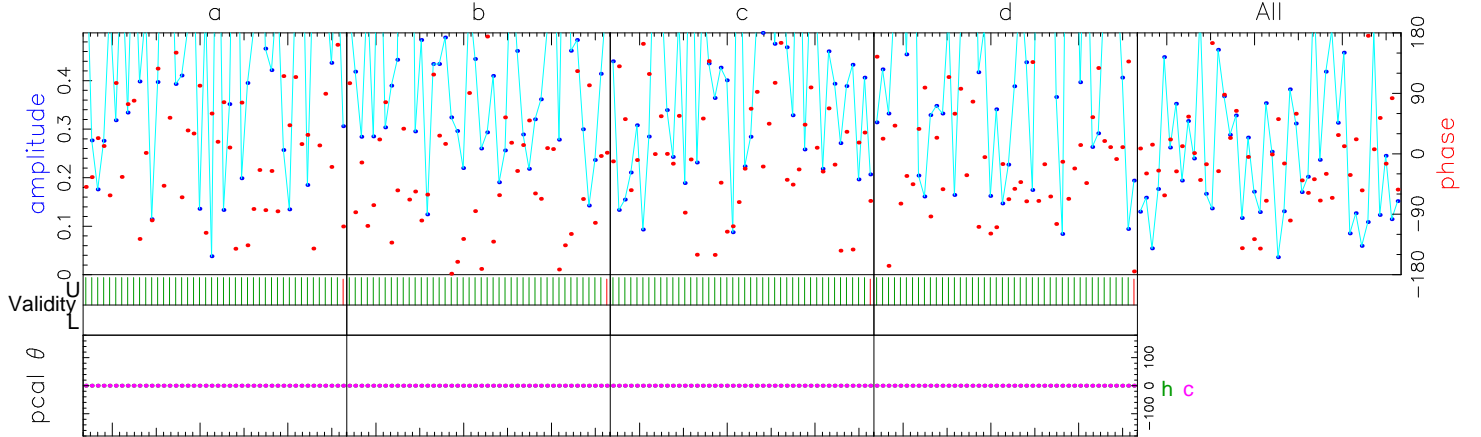
Fringe quality 0

SNR 6.1
 Int time 179.977
 Amp 0.166
 Phase -16.7
 PFD 1.3e-01
 Delays (us)
 SBD 0.940323
 MBD -0.001591
 Fringe rate (Hz)
 -0.015233
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164256
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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	Q00UR	Q01UR	Q02UR	Q03UR		
c	Q00UL	Q01UL	Q02UL	Q03UL		

	6.00642054880E+03	Apriori delay (usec)	6.00547682709E+03	Resid mbdelay (usec)	-1.59079E-03	+/- 1.8E-04
Group delay (usec)(sbd)	6.00641715021E+03	Apriori clock (usec)	-7.9350052E+00	Resid sbdelay (usec)	9.40323E-01	+/- 7.1E-04
Sband delay (usec)	6.00547682601E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-1.07514E-06	+/- 1.2E-06
Phase delay (usec)	2.42578681440E-01	Apriori rate (us/s)	2.42579035370E-01	Resid rate (us/s)	-3.53930E-07	+/- 1.2E-08
Delay rate (us/s)		Apriori accel (us/s/s)	5.91211667804E-07	Resid phase (deg)	-16.7	+/- 18.8
Total phase (deg)	213.0					

	RMS	Theor.	Amplitude	0.166 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	64.9	62.3	Search (1024X16)	0.161	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	101.3	108.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	26.2	18.8	Inc. seg. avg.	0.160	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	29.4	32.8	Inc. frq. avg.	0.163	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

h: az 301.3 el 50.9 pa 77.8 c: az 318.2 el 29.6 pa 97.5 u,v (fr/asec) -1080.798 1103.523 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc.Q.119.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

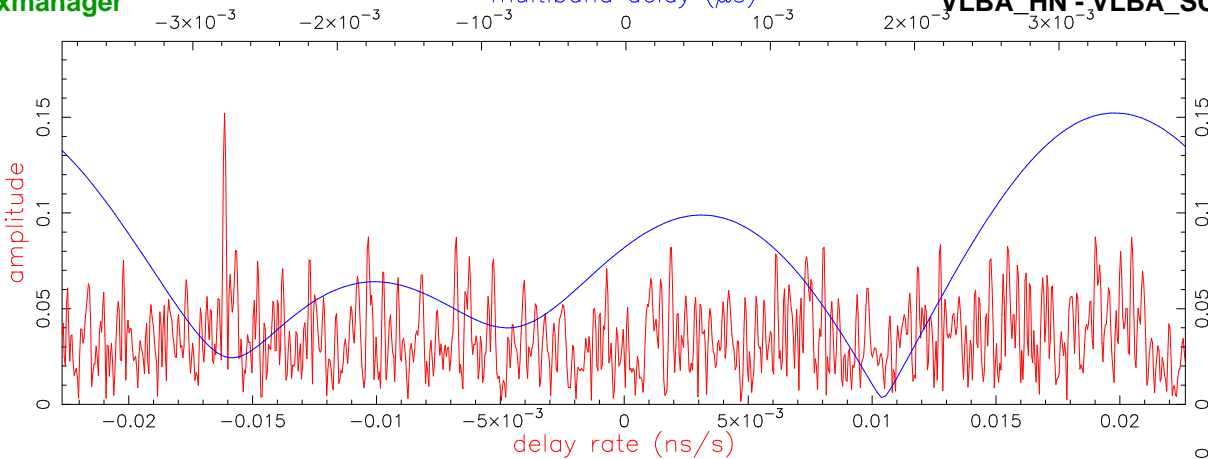
fxmanager

OT546.1HPKOY, No0233, hc

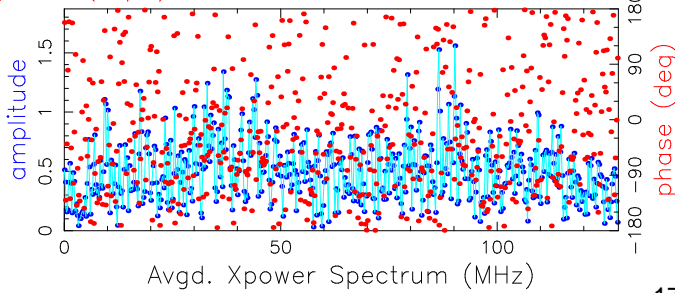
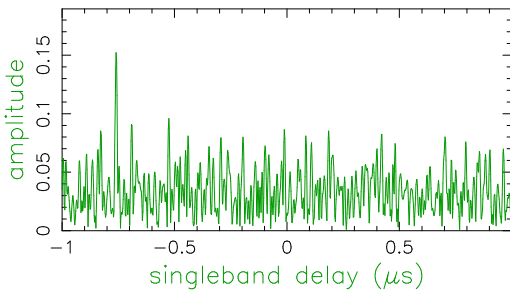
VLBA_HN - VLBA_SC, fgroup Q, pol LL

multiband delay (μ s)

Fringe quality 0

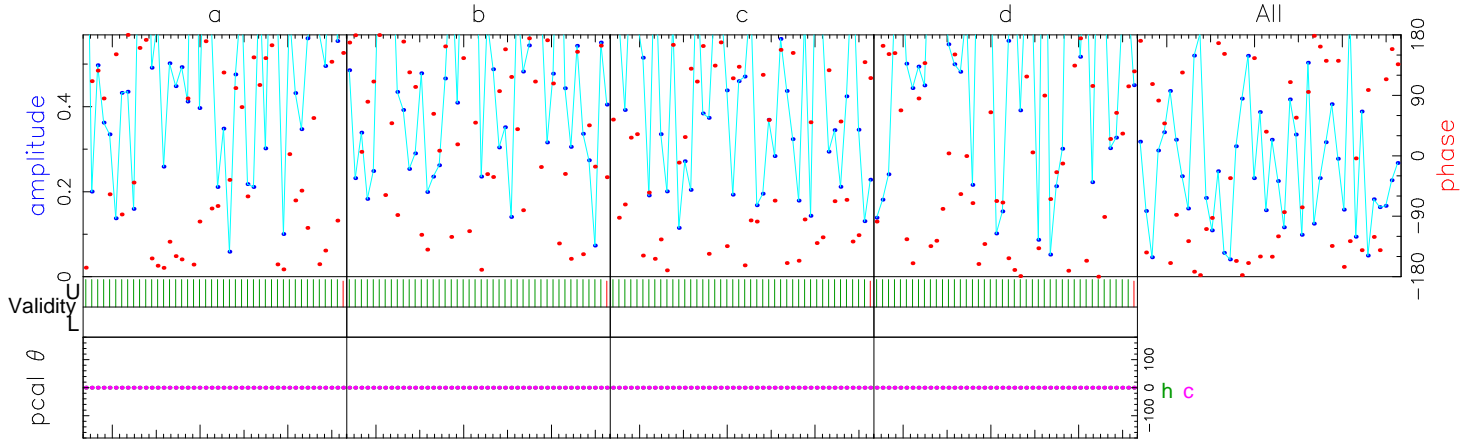


SNR 5.6
 Int time 179.977
 Amp 0.190
 Phase -177.4
 PFD 9.4e-01
 Delays (us)
 SBD -0.759471
 MBD -0.004395
 Fringe rate (Hz)
 -0.696436
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164250
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-177.5	173.5	-158.9	169.2	Phase	-177.4
	0.3	0.1	0.2	0.2	Ampl.	0.2
	123.4	286.9	872.6	347.5	Sbd box	124.2
U/L	352/0	352/0	352/0	352/0	APs used	
h	1000	1000	1000	1000	PC freqs	
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	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	6.00471462006E+03	Apriori delay (usec)	6.00547682709E+03	Resid mbdelay (usec)	-4.39453E-03	+/-	2.0E-04
Sband delay (usec)	6.00471735634E+03	Apriori clock (usec)	-7.9350052E+00	Resid sbdelay (usec)	-7.59471E-01	+/-	7.7E-04
Phase delay (usec)	6.00547681564E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-1.14496E-05	+/-	1.3E-06
Delay rate (us/s)	2.42562854225E-01	Apriori rate (us/s)	2.42579035370E-01	Resid rate (us/s)	-1.61811E-05	+/-	1.3E-08
Total phase (deg)	52.2	Apriori accel (us/s/s)	5.91211667804E-07	Resid phase (deg)	-177.4	+/-	20.5

ph/seg (deg)	RMS 70.5	Theor. 68.0	Amplitude	0.190 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	122.9	118.6	Search (1024X16)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	17.4	20.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	44.8	35.8	Inc. seg. avg.	0.195	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
			Inc. frq. avg.	0.182	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 301.3 el 50.9 pa 77.8 c: az 318.2 el 29.6 pa 97.5 u,v (fr/asec) -1080.798 1103.523 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc.Q.79.1HPKOY

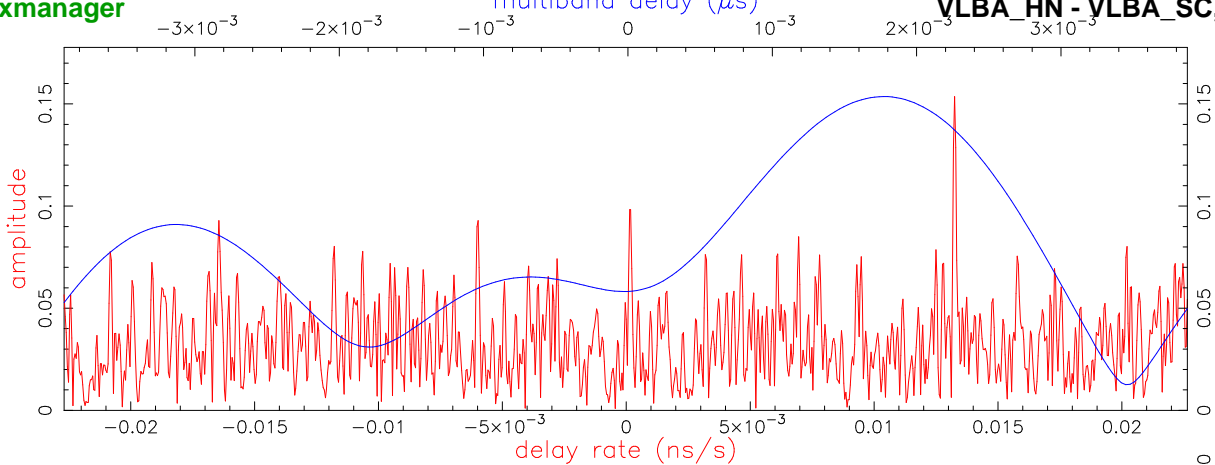
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hc

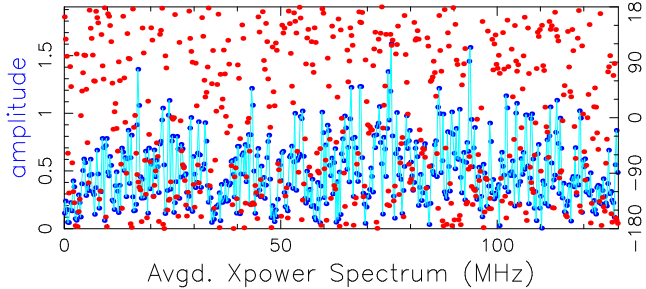
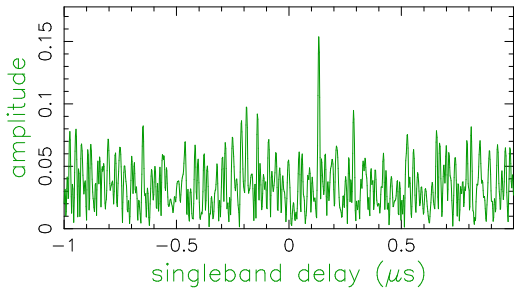
VLBA_HN - VLBA_SC, fgroup Q, pol RR

multiband delay (μ s)



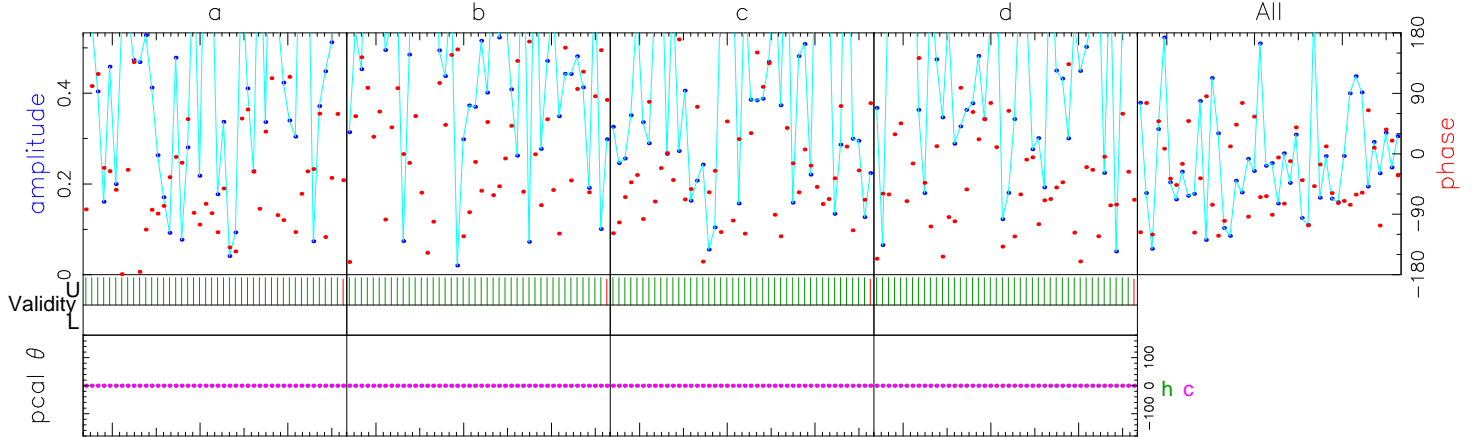
Fringe quality 0

SNR 5.6
 Int time 179.977
 Amp 0.178
 Phase -37.2
 PFD 8.8e-01
 Delays (us)
 SBD 0.132894
 MBD 0.001774
 Fringe rate (Hz)
 0.572074
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164252
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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	Q00UR	Q01UR	Q02UR	Q03UR		
c	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	6.00561141396E+03	Apriori delay (usec)	6.00547682709E+03	Resid mbdelay (usec)	1.77437E-03	+/-	2.0E-04
Sband delay (usec)	6.00560972134E+03	Apriori clock (usec)	-7.9350052E+00	Resid sbdelay (usec)	1.32894E-01	+/-	7.6E-04
Phase delay (usec)	6.00547682469E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-2.40176E-06	+/-	1.3E-06
Delay rate (us/s)	2.42592327062E-01	Apriori rate (us/s)	2.42579035370E-01	Resid rate (us/s)	1.32917E-05	+/-	1.3E-08
Total phase (deg)	192.4	Apriori accel (us/s/s)	5.91211667804E-07	Resid phase (deg)	-37.2	+/-	20.3

ph/seg (deg)	60.9	Theor.	67.4	Amplitude	0.178 +/- 0.032	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	102.7		117.7	Search (1024X16)	0.151	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	43.8		20.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	26.6		35.5	Inc. seg. avg.	0.175	Sample rate(MISamp/s):	256	dr window (ns/s)	-0.023 0.023		
				Inc. frq. avg.	0.185	Data rate(Mb/s):	2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 301.3 el 50.9 pa 77.8 c: az 318.2 el 29.6 pa 97.5 u,v (fr/asec) -1080.798 1103.523 simultaneous interpolator

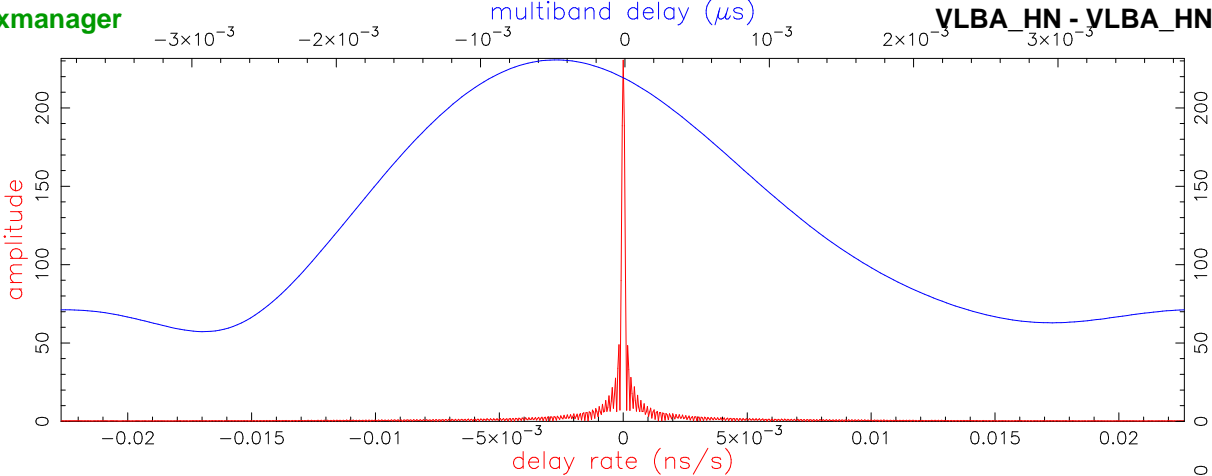
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hc.Q.84.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

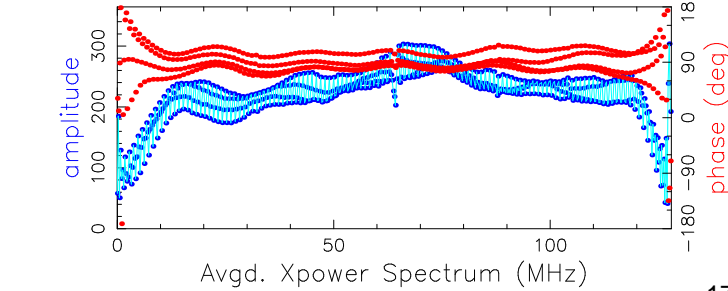
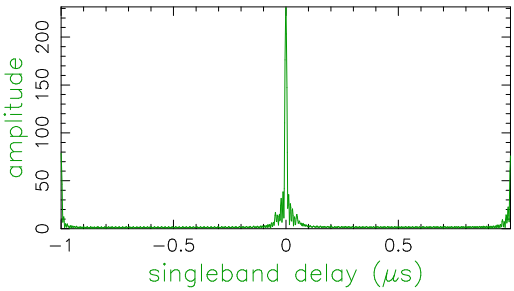
OT546.1HPKOY, No0233, hh

VLBA_HN - VLBA_HN, fgroup Q, pol RL



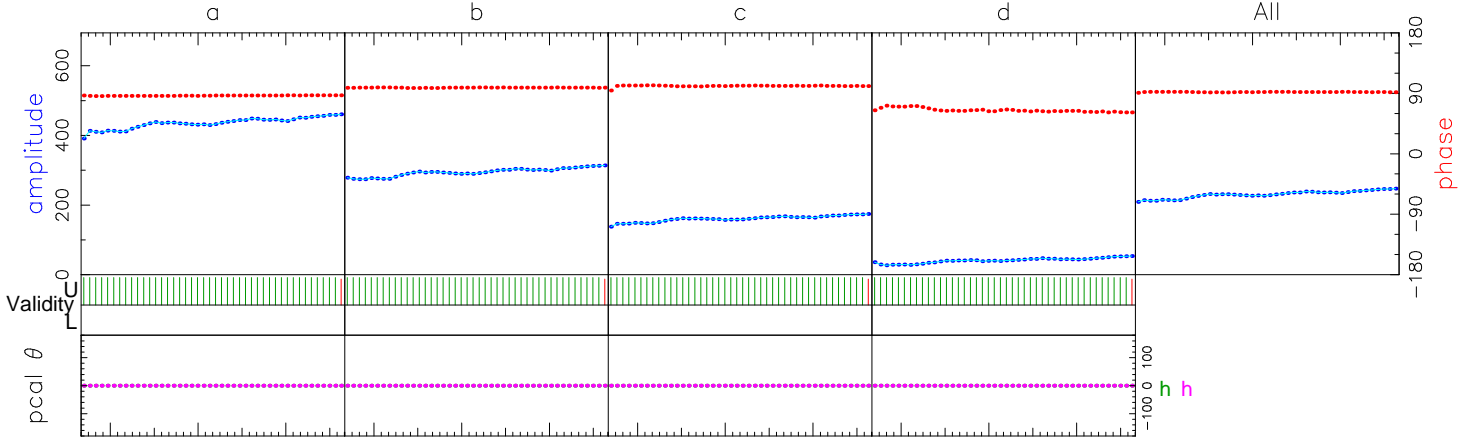
Fringe quality 6

SNR 8496.3
 Int time 179.977
 Amp 231.593
 Phase 91.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.000467
 MBD -0.000528
 Fringe rate (Hz)
 -0.000012
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164255
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec

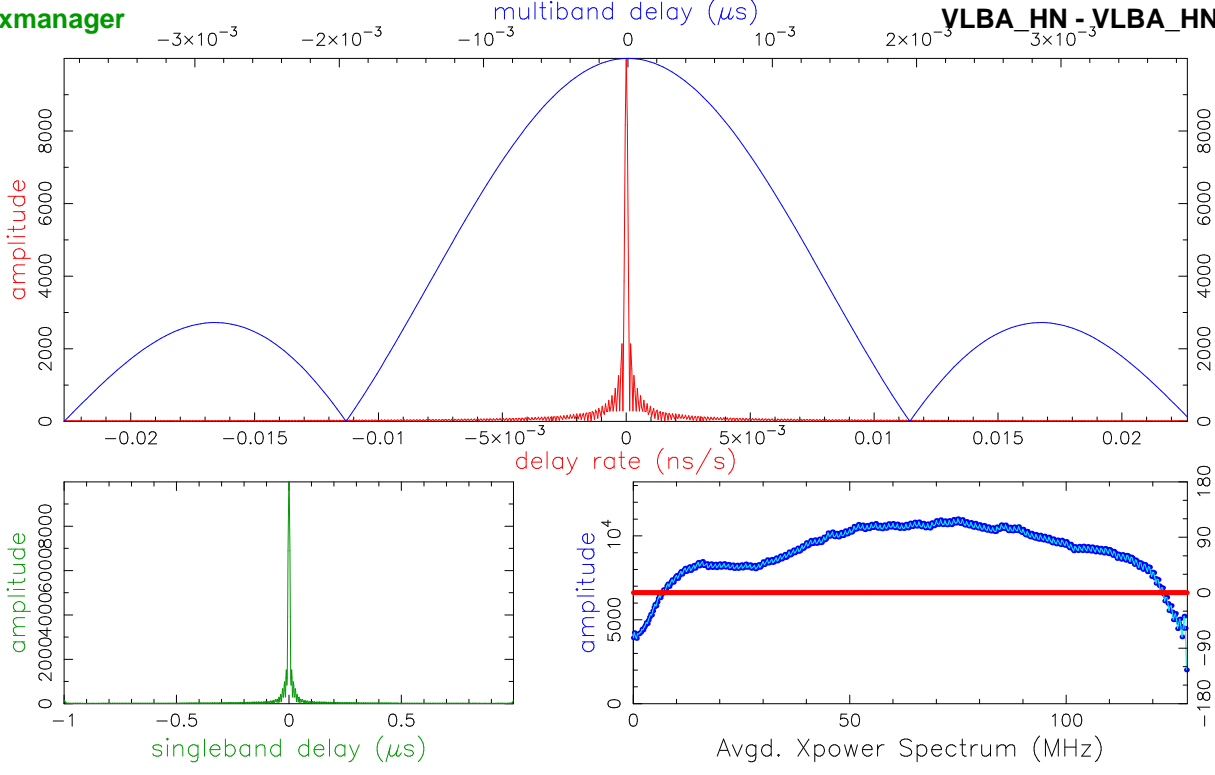


42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
86.5	98.4	100.9	64.5	Phase	91.8
435.7	294.8	160.8	41.1	Ampl.	233.1
512.9	512.7	512.8	1.4	Sbd box	512.8
U/L 352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	PC freqs	
h 1000	1000	1000	1000	PC freqs	
h:h 0:0	0:0	0:0	0:0	PC phase	
h:h 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
h 1000	1000	1000	1000		
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-5.28375000000E-04	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-5.28375E-04	+/-	1.3E-07
Sband delay (usec)	-4.66875000000E-04	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-4.66875E-04	+/-	5.1E-07
Phase delay (usec)	5.92713881818E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	5.92714E-06	+/-	8.7E-10
Delay rate (us/s)	-2.69439571020E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-2.69440E-10	+/-	8.4E-12
Total phase (deg)	91.8	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	91.8	+/-	0.0

ph/seg (deg)	0.3	Theor.	0.0	Amplitude	231.593 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	4.4	0.1	Search (1024X16)	230.628	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	21.2	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/frq (%)	63.7	0.0	Inc. seg. avg.	230.497	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023	
			Inc. frq. avg.	233.093	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
h: az 301.3 el 50.9 pa 77.8			h: az 301.3 el 50.9 pa 77.8		u,v (fr/asec)	0.000	0.000			simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hh..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hh.Q.109.1HPKOY

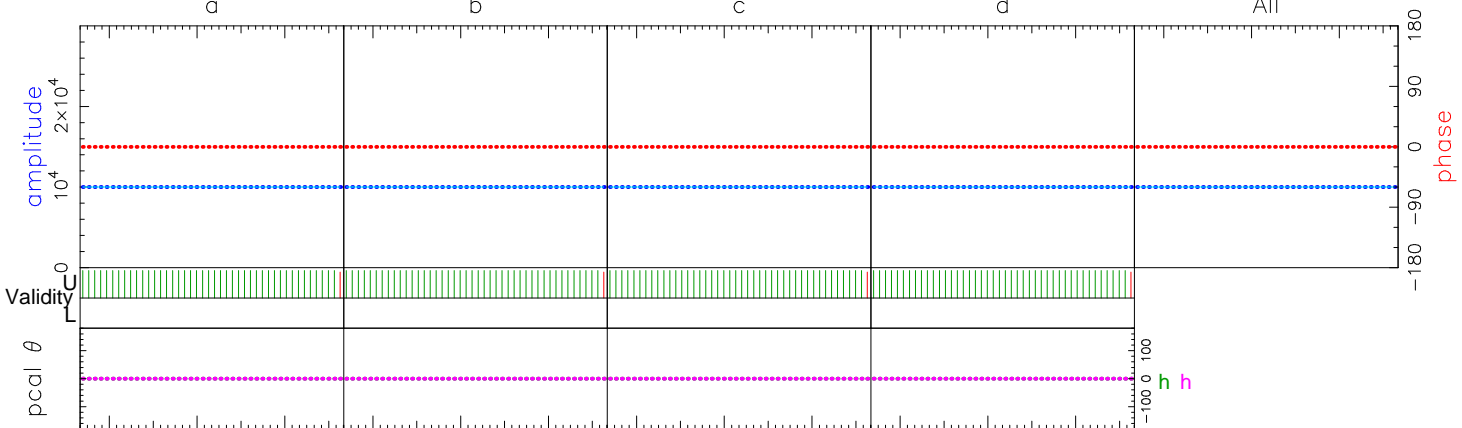


Fringe quality 9

SNR 366865.0
Int time 179.977
Amp 9999.999
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 005040.00
Stop 005340.22
FRT 005210.00
Corr/FF/build
2021:005:185249
2021:010:164250
2020:247:085004
RA & Dec (J2000) 17h28m18.623995s +50°13'10.470090"

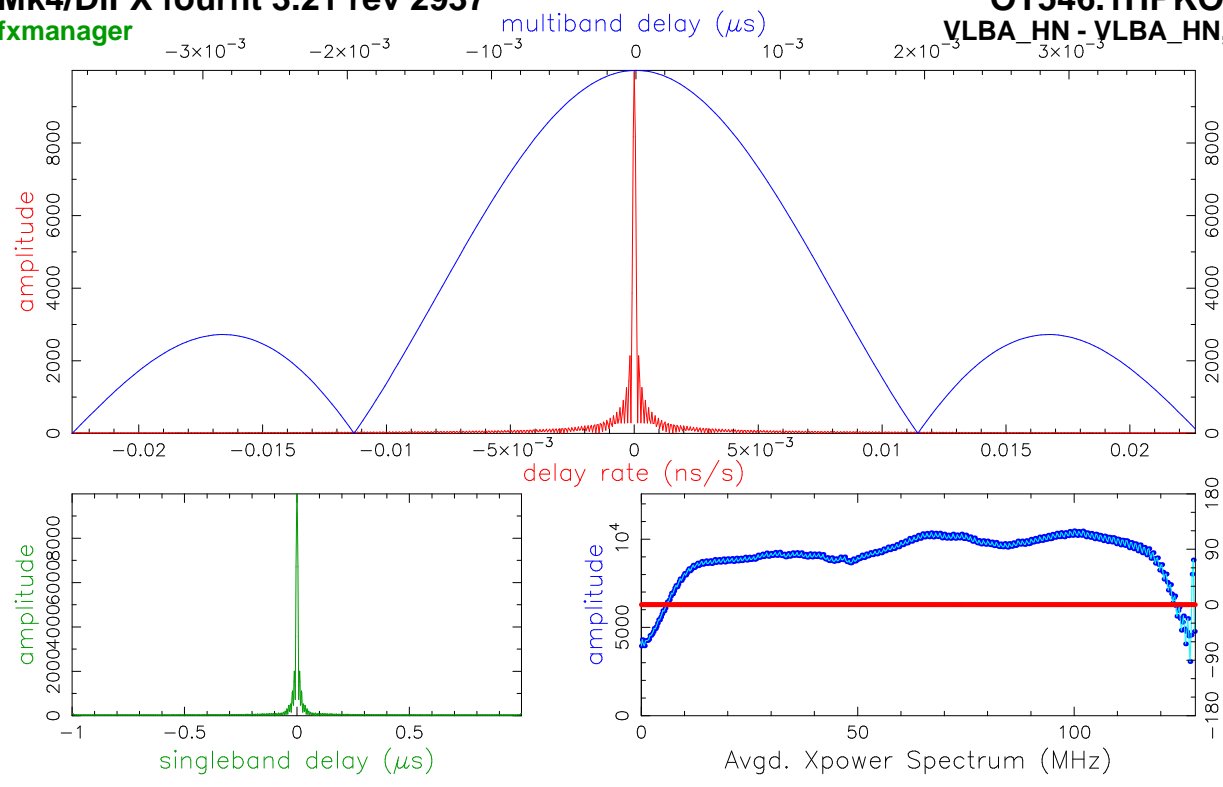
Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



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 352/0	352/0	352/0	352/0	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	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	0.0000000000E+00	Apriori delay (usec)	0.0000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	3.0E-09
Sband delay (usec)	0.0000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	1.2E-08
Phase delay (usec)	0.0000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	2.0E-11
Delay rate (us/s)	0.0000000000E+00	Apriori rate (us/s)	0.0000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	1.9E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.0000000000E+00	Resid phase (deg)	0.0	+/-	0.0

ph/seg (deg)	0.0	RMS	0.0	Theor.	0.0	Amplitude	9999.999 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5						
amp/seg (%)	0.0	0.0	0.0	Search (1024X16)	9999.999	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000						
ph/frq (deg)	0.0	0.0	0.0	Inc. seg. avg.	10000.000	Inc. frq. avg.	9999.999	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004					
amp/frq (%)	0.0	0.0	0.0	Inc. frq. avg.	9999.999	u,v (fr/asec)	0.000 0.000	Sample rate (MSamp/s):	256	Data rate (Mb/s):	2048	nlags:	512	t_cohere	infinite	ion window (TEC)	0.00 0.00

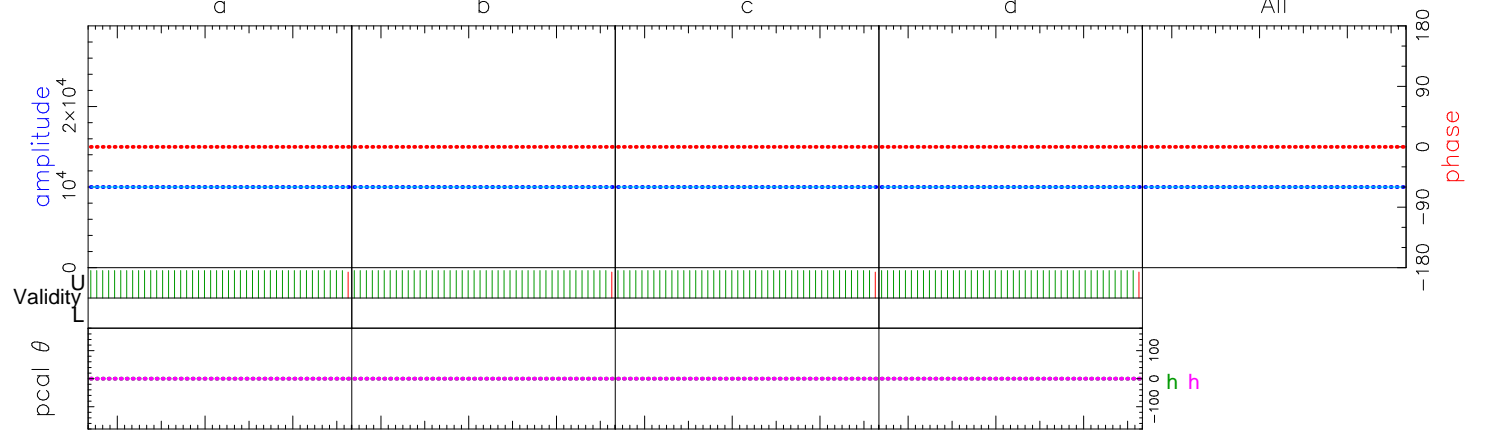


Fringe quality 9

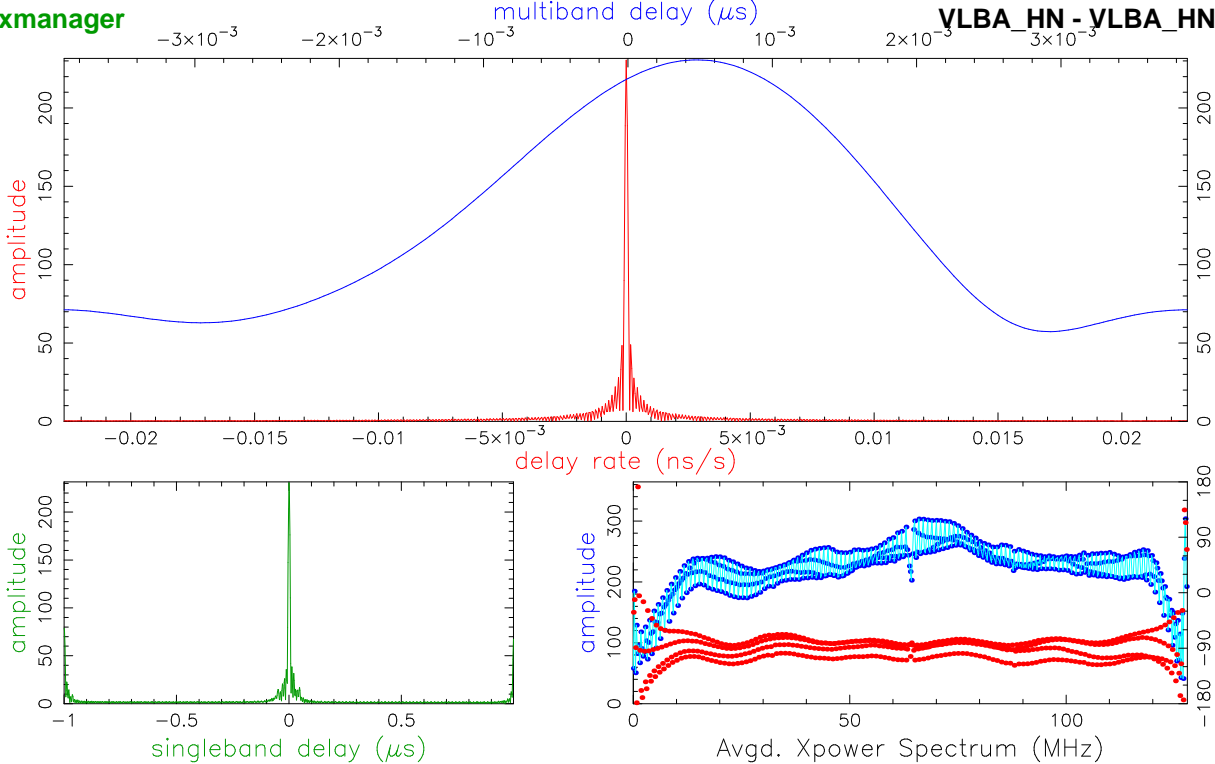
SNR 366865.0
Int time 179.977
Amp 9999.999
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 005040.00
Stop 005340.22
FRT 005210.00
Corr/FF/build
2021:005:185249
2021:010:164252
2020:247:085004
RA & Dec (J2000) 17h28m18.623995s +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 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 352/0	352/0	352/0	352/0	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 Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
h Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
Group delay (usec)(sbd)	0.0000000000E+00	Apriori delay (usec)	0.0000000000E+00	Resid mbdelay (usec)	0.00000E+00 +/- 3.0E-09
Sband delay (usec)	0.0000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00 +/- 1.2E-08
Phase delay (usec)	0.0000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00 +/- 2.0E-11
Delay rate (us/s)	0.0000000000E+00	Apriori rate (us/s)	0.0000000000E+00	Resid rate (us/s)	0.00000E+00 +/- 1.9E-13
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.0000000000E+00	Resid phase (deg)	0.0 +/- 0.0
RMS	Theor.	Amplitude	9999.999 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.0	Search (1024X16)	9999.999	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	0.0	Inc. frq. avg.	9999.999	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 301.3 el 50.9 pa 77.8	h: az 301.3 el 50.9 pa 77.8	u,v (fr/asec) 0.000 0.000			simultaneous interpolator
Control file: cf_1234_gmva7mm	Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hh..1HPKOY	Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hh.Q.82.1HPKOY			

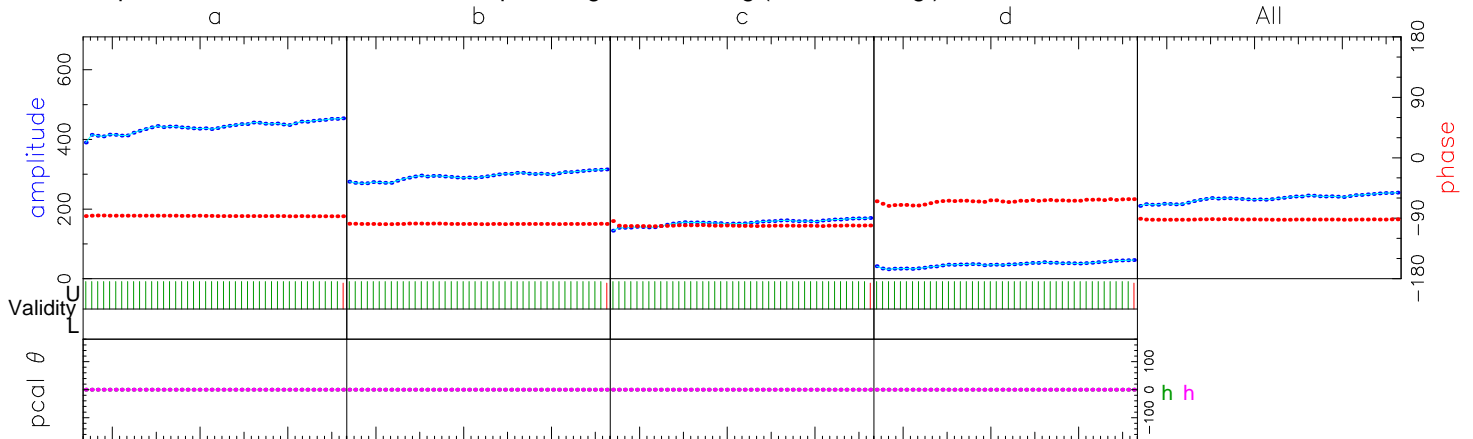


Fringe quality 6

SNR 8496.3
Int time 179.977
Amp 231.593
Phase -91.8
PFD 0.0e+00
Delays (us)
SBD 0.000467
MBD 0.000528
Fringe rate (Hz) 0.000012
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512

Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 005040.00
Stop 005340.22
FRT 005210.00
Corr/FF/build
2021:005:185249
2021:010:164253
2020:247:085004
RA & Dec (J2000)
17h28m18.623995s
+50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
h:h	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
h	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
h	Q00UR	Q01UR	Q02UR	Q03UR		
h						

	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
Group delay (usec)(sbd)	5.283750000000E-04					
Sband delay (usec)	4.668750000000E-04					
Phase delay (usec)	-5.92713881819E-06					
Delay rate (us/s)	2.69439571020E-10					
Total phase (deg)		-91.8				

	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
h:h	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
h	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
h	Q00UR	Q01UR	Q02UR	Q03UR		
h						

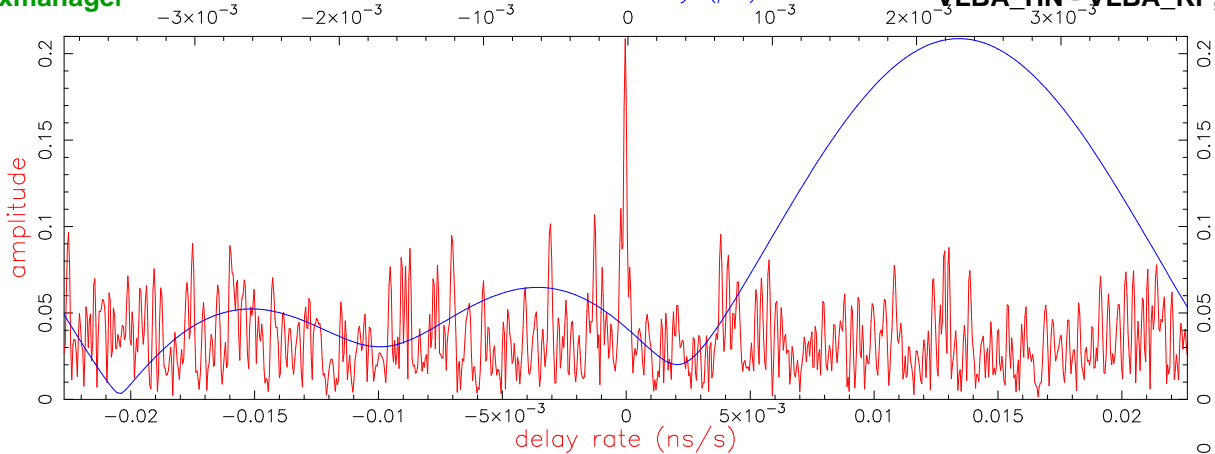
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hk

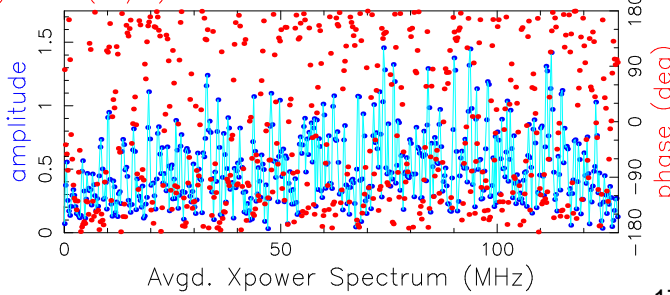
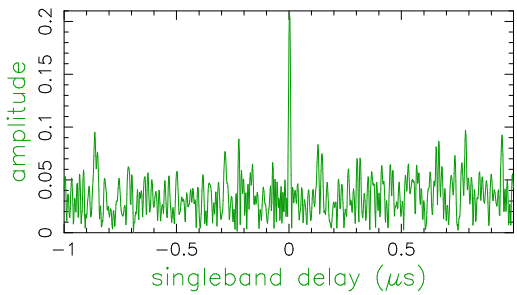
VLBA_HN - VLBA_KP, fgroup Q, pol RR

multiband delay (μ s)



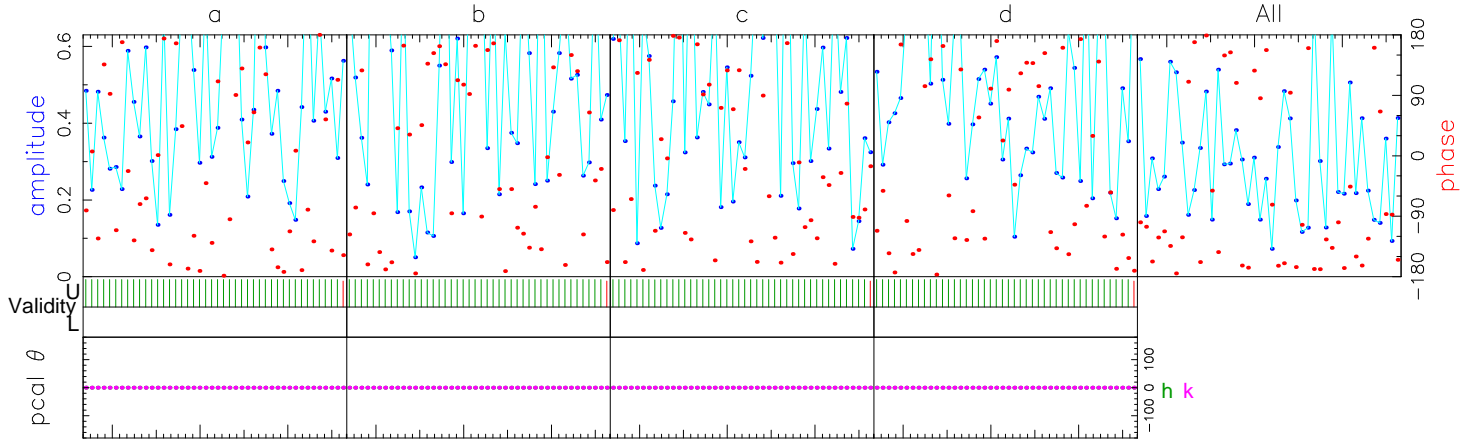
Fringe quality 9

SNR 7.7
 Int time 179.945
 Amp 0.210
 Phase -156.3
 PFD 2.2e-06
 Delays (us)
 SBD 0.002504
 MBD 0.002303
 Fringe rate (Hz)
 -0.001390
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164254
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-158.8	-156.7	-146.8	-161.9	Phase	-156.3
	0.2	0.2	0.2	0.2	Ampl.	0.2
	912.3	513.2	515.1	513.6	Sbd box	514.3
U/L	352/0	352/0	352/0	352/0	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	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.20784799505E+03	Apriori delay (usec)	-3.20785029791E+03	Resid mbdelay (usec)	2.30287E-03	+/-	1.4E-04
Sband delay (usec)	-3.20784779354E+03	Apriori clock (usec)	2.1144676E-01	Resid sbdelay (usec)	2.50438E-03	+/-	5.6E-04
Phase delay (usec)	-3.20785030800E+03	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-1.00905E-05	+/-	9.6E-07
Delay rate (us/s)	-3.51988170101E-01	Apriori rate (us/s)	-3.51988137797E-01	Resid rate (us/s)	-3.23044E-08	+/-	9.2E-09
Total phase (deg)	-92.3	Apriori accel (us/s/s)	3.02104566603E-05	Resid phase (deg)	-156.3	+/-	14.9

ph/seg (deg)	56.9	Theor.	49.3	Amplitude	0.210 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	89.9		86.1	Search (1024X16)	0.203	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	8.0		14.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	15.1		26.0	Inc. seg. avg.	0.225	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.203	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 301.3 el 50.9 pa 77.8 k: az 329.3 el 67.5 pa 137.2 u,v (fr/asec) 1596.904 1836.732 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk.Q.103.1HPKOY

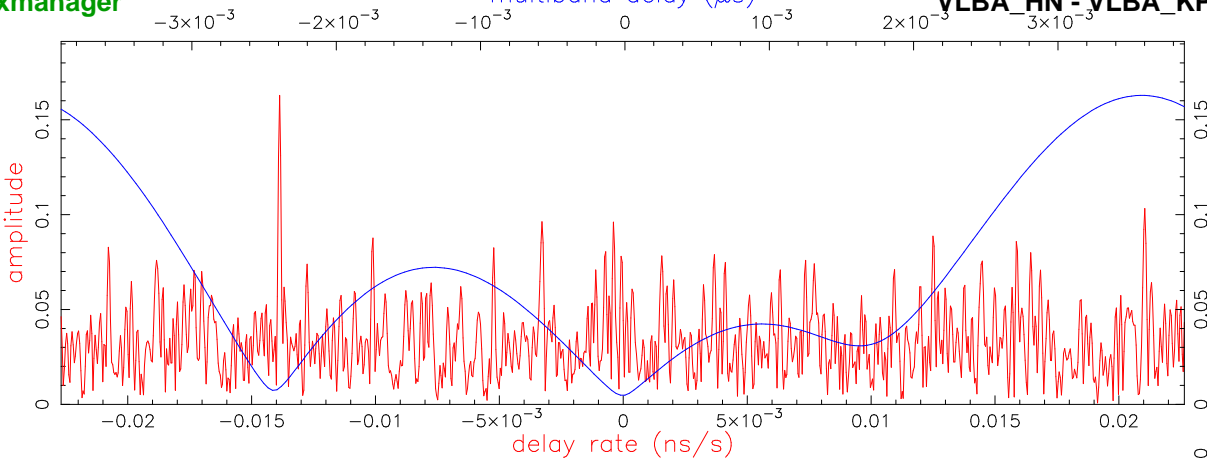
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hk

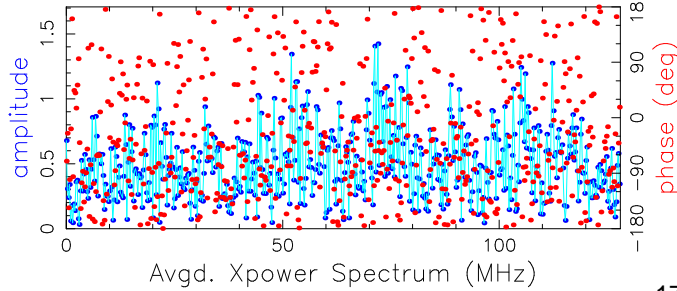
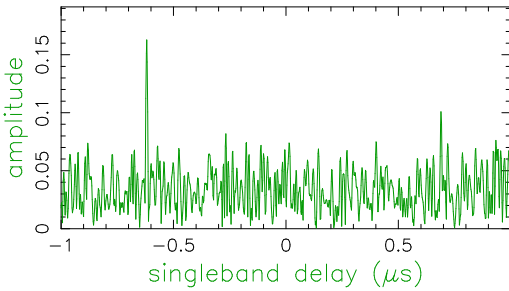
VLBA_HN - VLBA_KP, fgroup Q, pol LR

multiband delay (μ s)



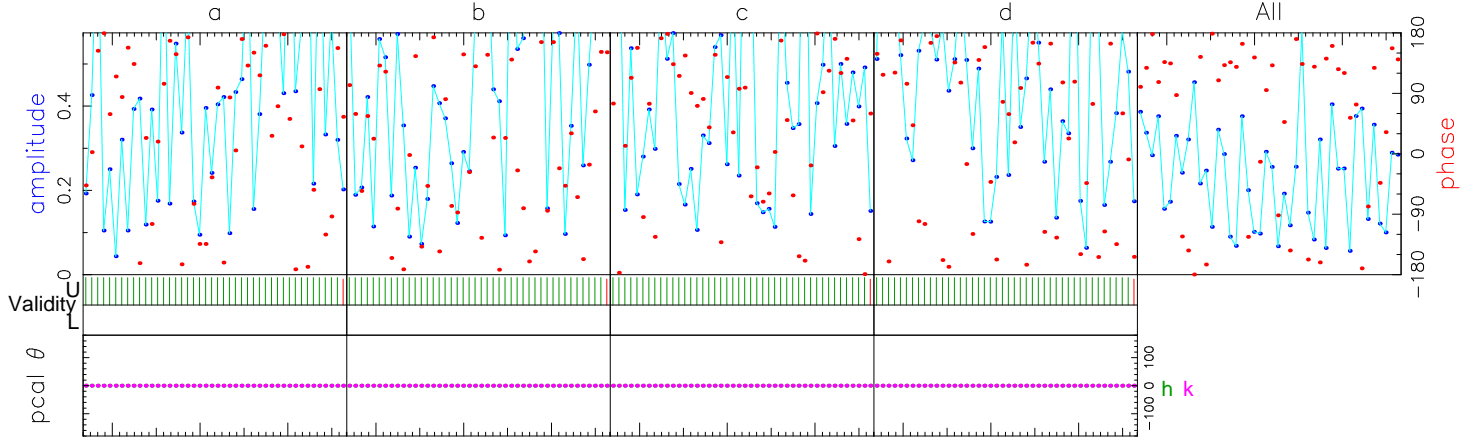
Fringe quality 0

SNR 6.0
 Int time 179.945
 Amp 0.191
 Phase 145.2
 PFD 2.5e-01
 Delays (us)
 SBD -0.619379
 MBD -0.004244
 Fringe rate (Hz)
 -0.598840
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164257
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	132.9	168.6	139.3	144.4	Phase	145.2
	0.2	0.2	0.2	0.2	Ampl.	0.2
	567.1	47.7	1003.4	196.5	Sbd box	195.9
U/L	352/0	352/0	352/0	352/0	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	ManI PC	
h	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.20847172944E+03	Apriori delay (usec)	-3.20785029791E+03	Resid mbdelay (usec)	-4.24403E-03	+/-	1.9E-04
Sband delay (usec)	-3.20846967729E+03	Apriori clock (usec)	2.1144676E-01	Resid sbdelay (usec)	-6.19379E-01	+/-	7.2E-04
Phase delay (usec)	-3.20785028854E+03	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	9.37434E-06	+/-	1.2E-06
Delay rate (us/s)	-3.52002051362E-01	Apriori rate (us/s)	-3.51988137797E-01	Resid rate (us/s)	-1.39136E-05	+/-	1.2E-08
Total phase (deg)	-150.7	Apriori accel (us/s/s)	3.02104566603E-05	Resid phase (deg)	145.2	+/-	19.2

ph/seg (deg)	RMS 63.9	Theor. 63.5	Amplitude Search (1024X16)	0.191 +/- 0.032	0.161	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	89.5	110.9	Interp.	0.000	0.175	PCal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	19.1	19.2	Inc. seg. avg.	0.175	0.185	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	15.4	33.4	Inc. frq. avg.	0.185		Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

h: az 301.3 el 50.9 pa 77.8 k: az 329.3 el 67.5 pa 137.2 u,v (fr/asec) 1596.904 1836.732 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk.Q.124.1HPKOY

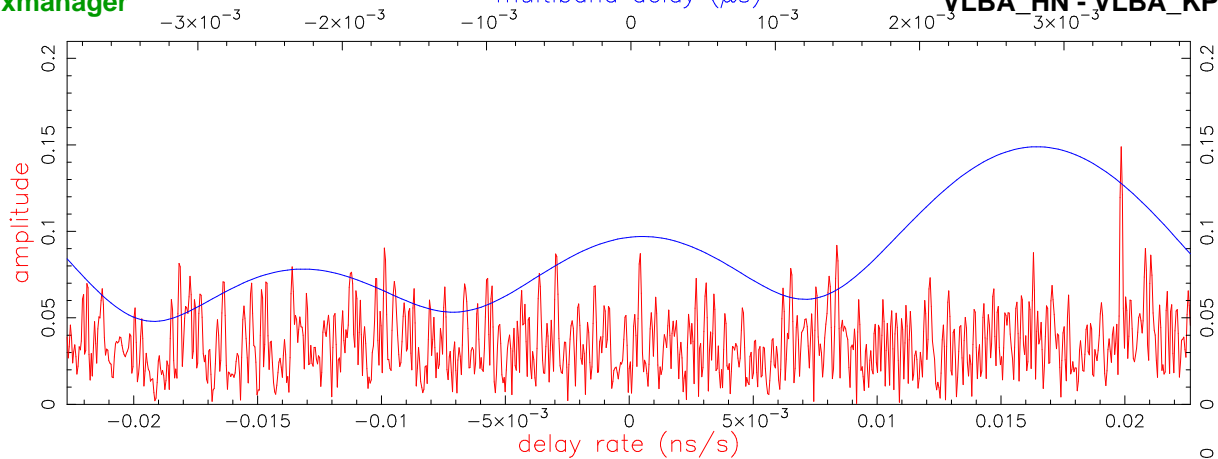
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hk

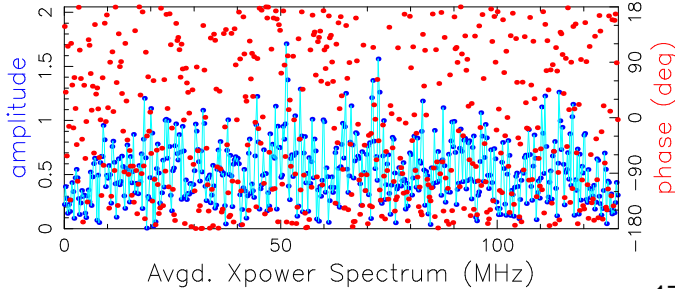
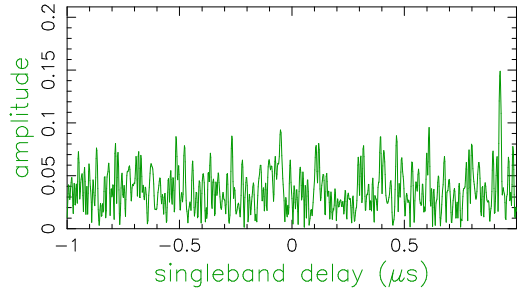
VLBA_HN - VLBA_KP, fgroup Q, pol RL

multiband delay (μ s)



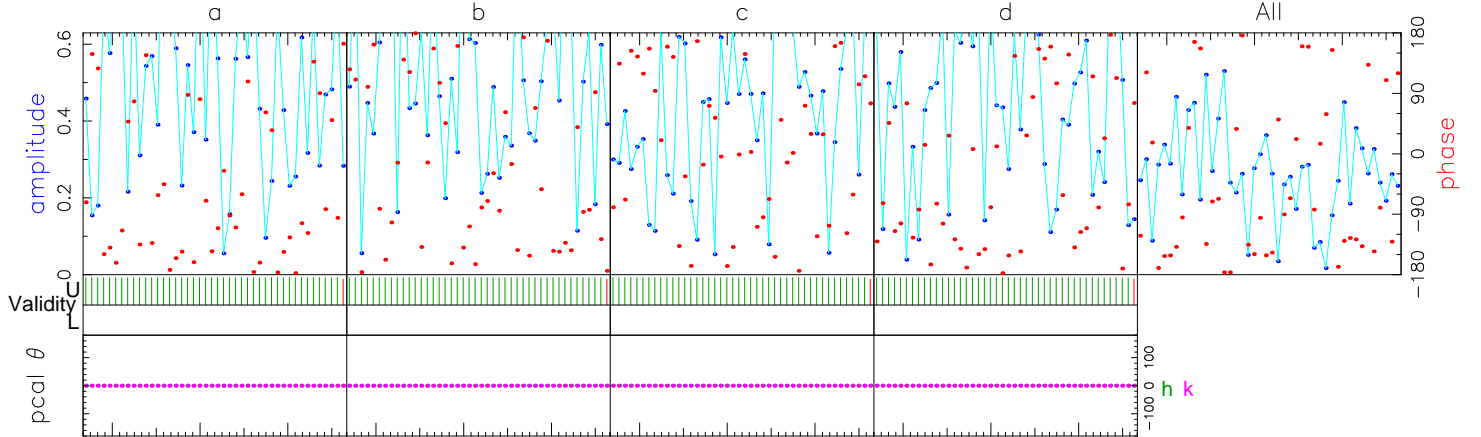
Fringe quality 0

SNR 5.5
 Int time 179.944
 Amp 0.210
 Phase -149.5
 PFD 9.9e-01
 Delays (us)
 SBD 0.925275
 MBD 0.002803
 Fringe rate (Hz)
 0.856223
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164258
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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		

	-3.20692561999E+03	Apriori delay (usec)	-3.20785029791E+03	Resid mbdelay (usec)	2.80292E-03	+/- 2.0E-04
Sband delay (usec)	-3.20692502329E+03	Apriori clock (usec)	2.1144676E-01	Resid sbdelay (usec)	9.25275E-01	+/- 7.9E-04
Phase delay (usec)	-3.20785030756E+03	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-9.64608E-06	+/- 1.3E-06
Delay rate (us/s)	-3.51968244140E-01	Apriori rate (us/s)	-3.51988137797E-01	Resid rate (us/s)	1.98937E-05	+/- 1.3E-08
Total phase (deg)	-85.4	Apriori accel (us/s/s)	3.02104566603E-05	Resid phase (deg)	-149.5	+/- 20.9

	RMS	Theor.	Amplitude	0.210 +/- 0.038	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	80.2	69.3	Search (1024X16)	0.148	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	112.1	120.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	126.9	20.9	Inc. seg. avg.	0.216	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	58.2	36.5	Inc. frq. avg.	0.211	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

h: az 301.3 el 50.9 pa 77.8 k: az 329.3 el 67.5 pa 137.2 u,v (fr/asec) 1596.904 1836.732 simultaneous interpolator

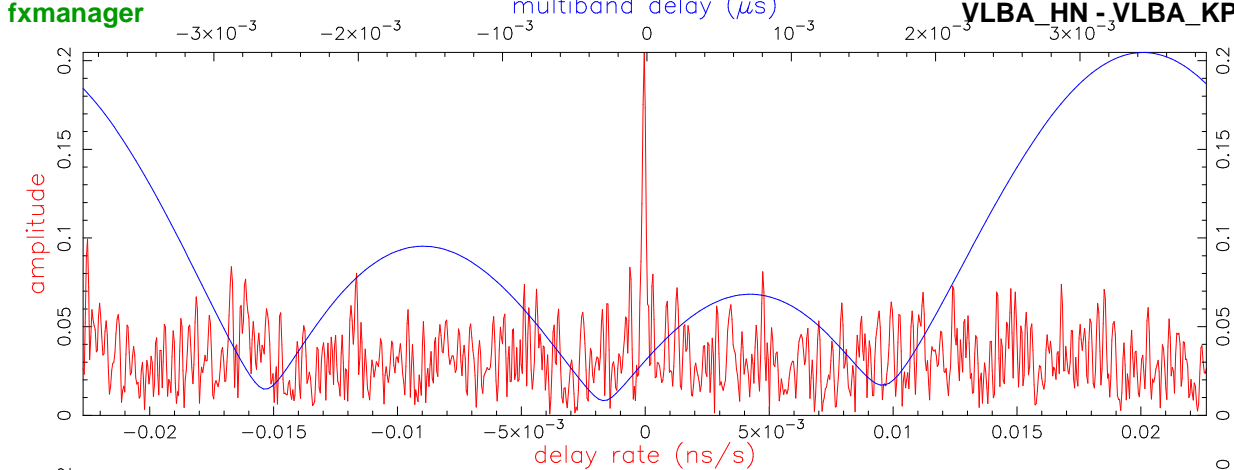
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk.Q.140.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

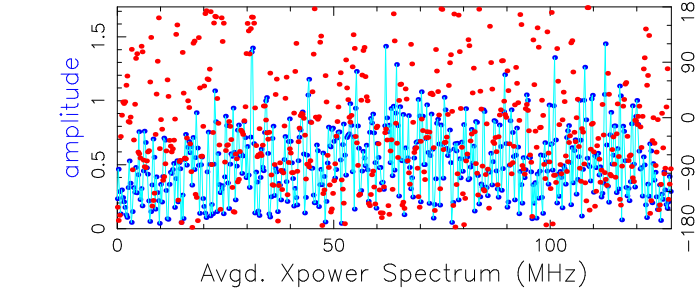
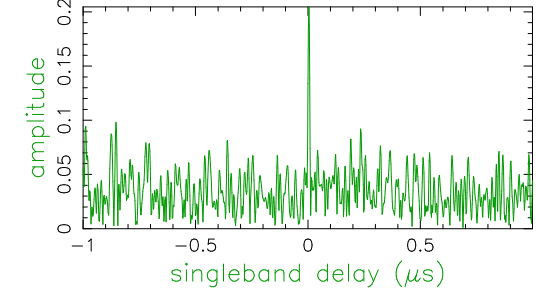
OT546.1HPKOY, No0233, hk

VLBA_HN - VLBA_KP, fgroup Q, pol LL



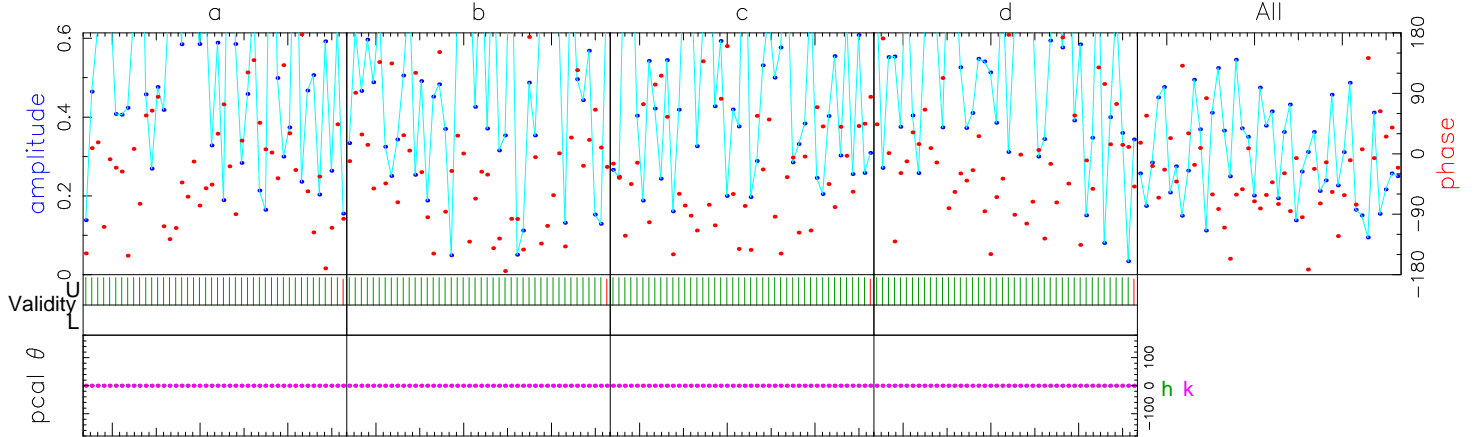
Fringe quality 9

SNR 7.5
 Int time 179.944
 Amp 0.205
 Phase -40.8
 PFD 9.7e-06
 Delays (us)
 SBD 0.004012
 MBD 0.003443
 Fringe rate (Hz) -0.001344
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164252
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-36.6	-40.3	-56.4	-32.8	Phase	-40.8
0.3	0.2	0.2	0.2	Ampl.	0.2
514.9	620.2	514.5	514.6	Sbd box	515.1
U/L 352/0	352/0	352/0	352/0	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	

Group delay (usec)(sbd)	-3.20784685467E+03	Apriori delay (usec)	-3.20785029791E+03	Resid mbdelay (usec)	3.44324E-03	+/- 1.5E-04
Sband delay (usec)	-3.20784628616E+03	Apriori clock (usec)	2.1144676E-01	Resid sbdelay (usec)	4.01175E-03	+/- 5.7E-04
Phase delay (usec)	-3.20785030054E+03	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-2.63014E-06	+/- 9.9E-07
Delay rate (us/s)	-3.51988169024E-01	Apriori rate (us/s)	-3.51988137797E-01	Resid rate (us/s)	-3.12266E-08	+/- 9.5E-09
Total phase (deg)	-336.7	Apriori accel (us/s/s)	3.02104566603E-05	Resid phase (deg)	-40.8	+/- 15.3

ph/seg (deg)	65.8	Theor.	50.6	Amplitude	0.205 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	77.5		88.4	Search (1024X16)	0.202	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	12.8		15.3	Inc. seg. avg.	0.221	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	17.6		26.6	Inc. frq. avg.	0.200	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
h: az 301.3 el 50.9 pa 77.8		k: az 329.3 el 67.5 pa 137.2		u,v (fr/asec)	1596.904 1836.732					simultaneous interpolator	

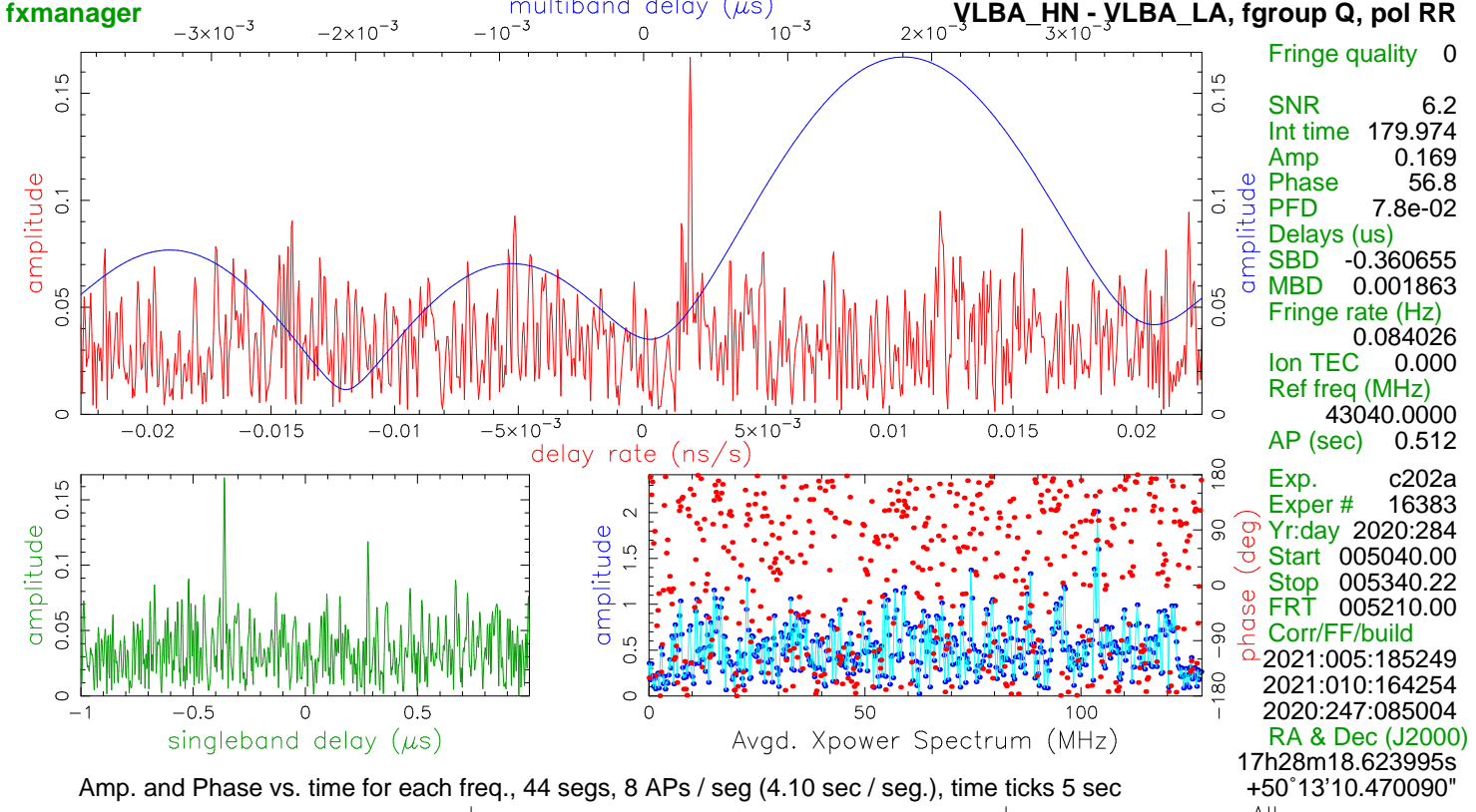
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hk.Q.85.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

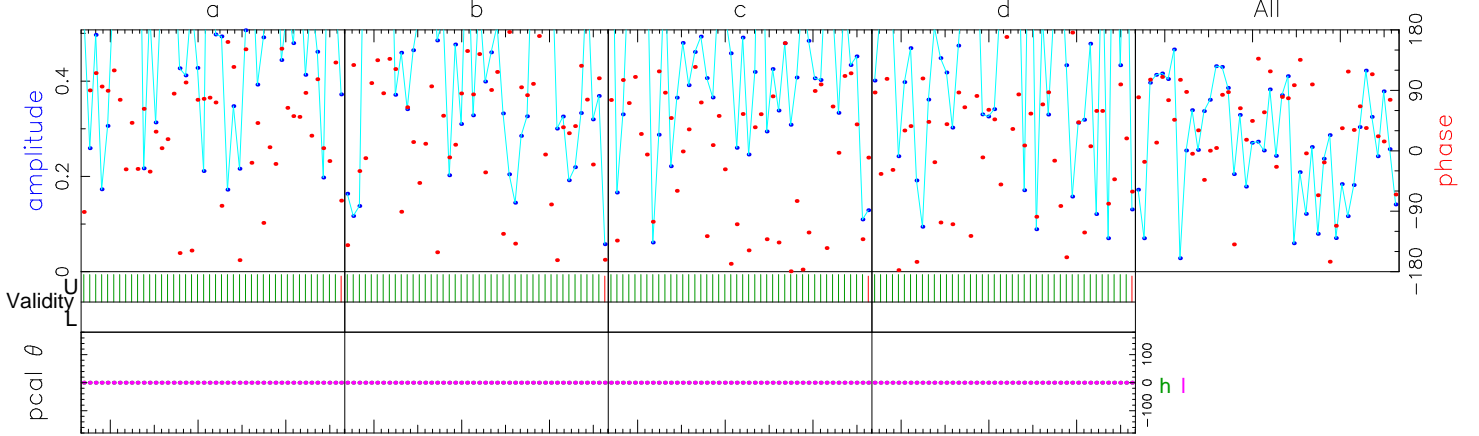
fxmanager

OT546.1HPKOY, No0233, hl

VLBA_HN - VLBA_LA, fgroup Q, pol RR



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
43.1	84.8	72.4	35.3	Phase	56.8
0.2	0.2	0.2	0.2	Ampl.	0.2
328.6	833.8	676.9	778.0	Sbd box	328.3
U/L 352/0	352/0	352/0	352/0	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	ManI PC	
h 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-3.25955749564E+03	Apriori delay (usec)	-3.25919998353E+03	Resid mbdelay (usec)	1.86290E-03	+/-	1.8E-04
Sband delay (usec)	-3.25956063891E+03	Apriori clock (usec)	9.3867302E-01	Resid sbdelay (usec)	-3.60655E-01	+/-	7.0E-04
Phase delay (usec)	-3.25919997987E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	3.66318E-06	+/-	1.2E-06
Delay rate (us/s)	-2.93015661567E-01	Apriori rate (us/s)	-2.93017613836E-01	Resid rate (us/s)	1.95227E-06	+/-	1.1E-08
Total phase (deg)	-48.1	Apriori accel (us/s/s)	2.56927811432E-05	Resid phase (deg)	56.8	+/-	18.5

ph/seg (deg)	RMS 66.3	Theor. 61.4	Amplitude Search (1024X16)	0.169 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	92.7	107.2	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)	29.0	18.5	Inc. seg. avg.	0.173	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	13.9	32.3	Inc. frq. avg.	0.169	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
h: az 301.3 el 50.9 pa 77.8		l: az 318.0 el 67.9 pa 121.6		u,v (fr/asec)	1329.496	1469.937				simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl.Q.100.1HPKOY

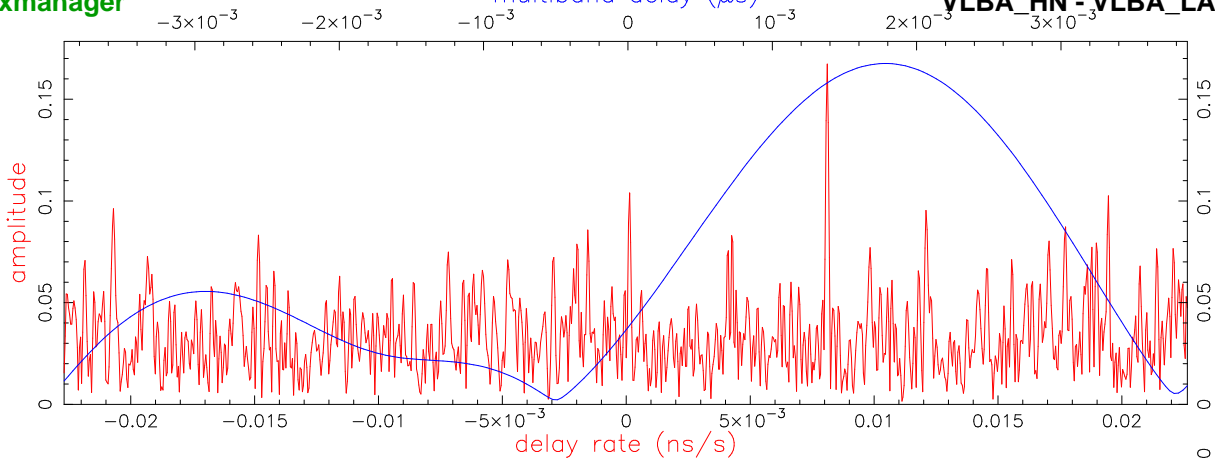
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hl

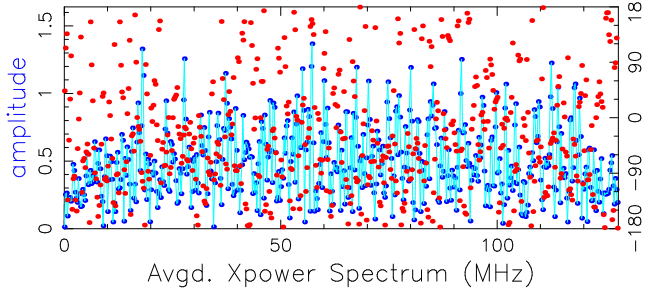
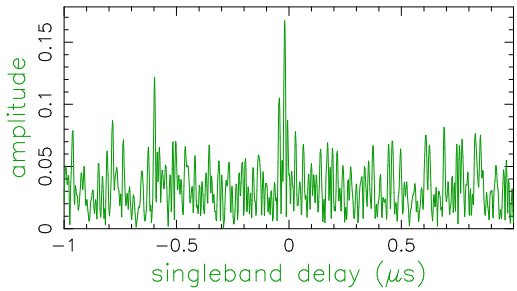
VLBA_HN - VLBA_LA, fgroup Q, pol LR

multiband delay (μ s)



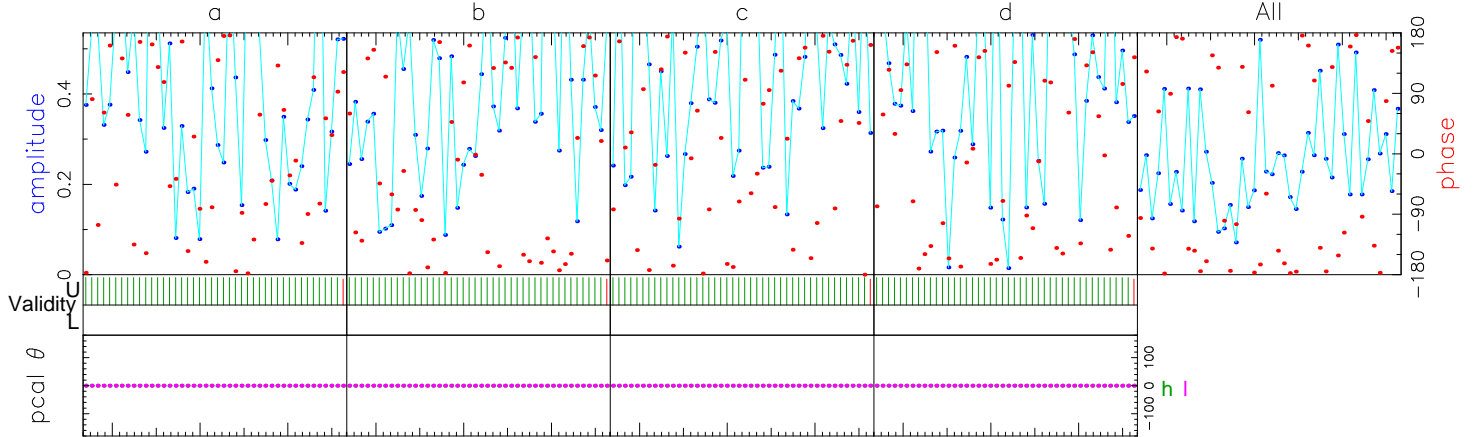
Fringe quality 0

SNR 6.2
 Int time 179.974
 Amp 0.178
 Phase -179.0
 PFD 7.1e-02
 Delays (us)
 SBD -0.018865
 MBD 0.001857
 Fringe rate (Hz)
 0.350609
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164257
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
l	1000	1000	1000	1000		
h:l	0:0	0:0	0:0	0:0		
h:l	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
l	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
l	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.25922156450E+03	Apriori delay (usec)	-3.25919998353E+03	Resid mbdelay (usec)	1.85653E-03	+/- 1.8E-04
Sband delay (usec)	-3.25921884841E+03	Apriori clock (usec)	9.3867302E-01	Resid sbdelay (usec)	-1.88649E-02	+/- 6.9E-04
Phase delay (usec)	-3.25919999509E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-1.15551E-05	+/- 1.2E-06
Delay rate (us/s)	-2.93009467727E-01	Apriori rate (us/s)	-2.93017613836E-01	Resid rate (us/s)	8.14611E-06	+/- 1.1E-08
Total phase (deg)	-283.9	Apriori accel (us/s/s)	2.56927811432E-05	Resid phase (deg)	-179.0	+/- 18.5

ph/seg (deg)	57.6	Theor.	61.3	Amplitude	0.178 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	83.7		106.9	Search (1024X16)	0.165	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	11.8		18.5	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	21.6		32.2	Inc. seg. avg.	0.171	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.170					
h: az 301.3 el 50.9 pa 77.8		l: az 318.0 el 67.9 pa 121.6		u,v (fr/asec)	1329.496 1469.937					simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl.Q.129.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

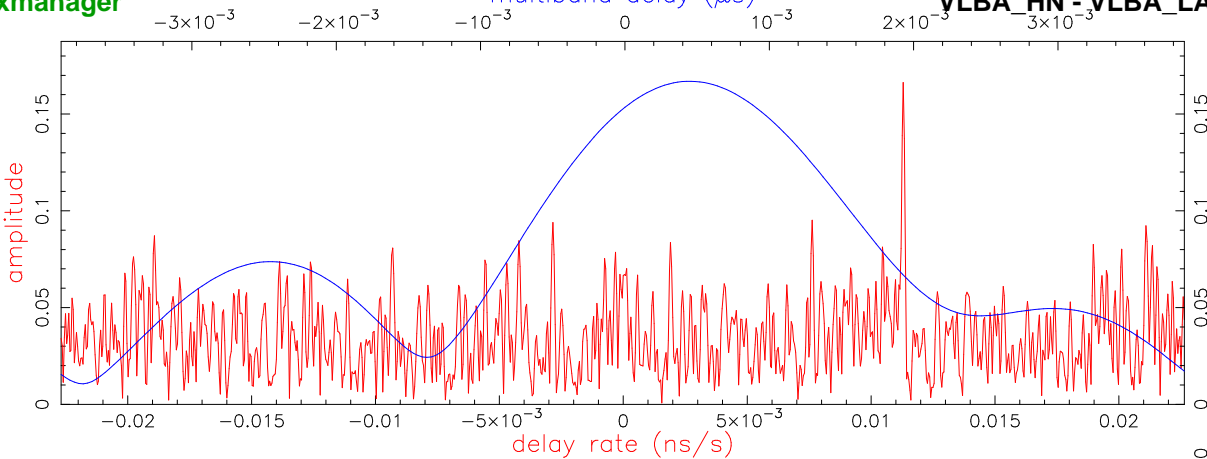
fxmanager

OT546.1HPKOY, No0233, hl

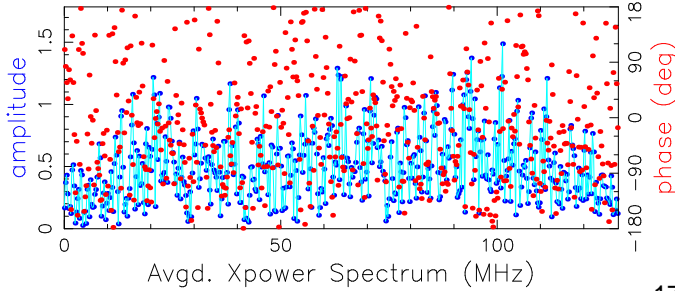
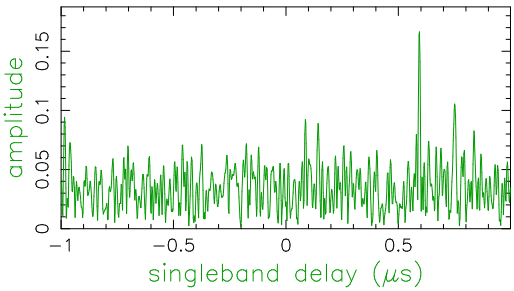
VLBA_HN - VLBA_LA, fgroup Q, pol RL

multiband delay (μ s)

Fringe quality 0

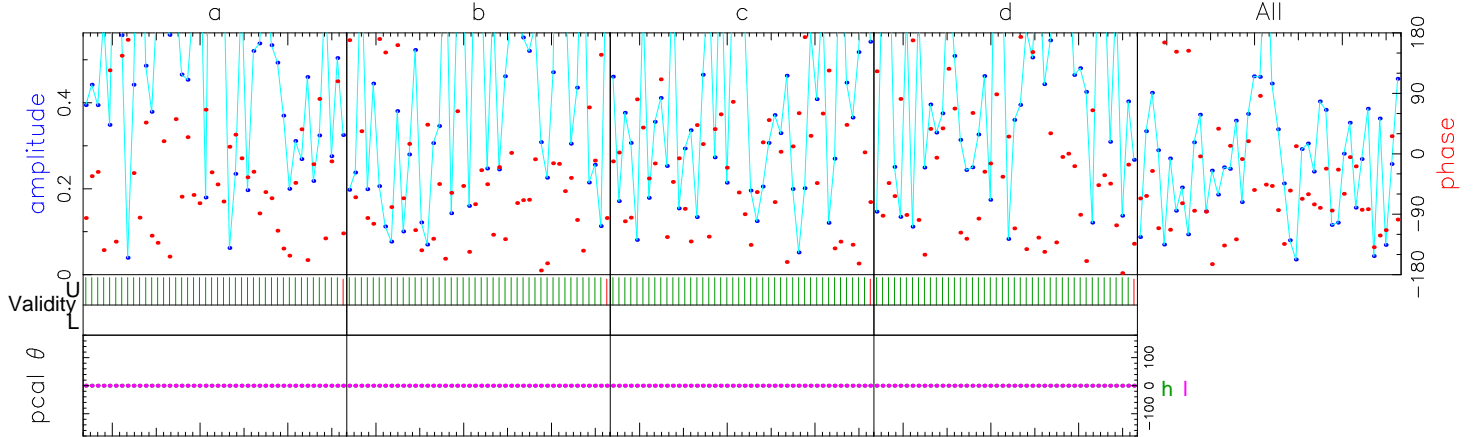


SNR 6.2
 Int time 179.974
 Amp 0.188
 Phase -61.5
 PFD 7.5e-02
 Delays (us)
 SBD 0.592946
 MBD 0.000355
 Fringe rate (Hz)
 0.488399
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164259
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
l	1000	1000	1000	1000		
h:l	0:0	0:0	0:0	0:0		
h:l	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
l	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
l	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	-3.25860587862E+03	Apriori delay (usec)	-3.25919998353E+03	Resid mbdelay (usec)	3.54911E-04	+/- 1.8E-04
Sband delay (usec)	-3.25860703741E+03	Apriori clock (usec)	9.3867302E-01	Resid sbdelay (usec)	5.92946E-01	+/- 7.0E-04
Phase delay (usec)	-3.25919998751E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-3.97128E-06	+/- 1.2E-06
Delay rate (us/s)	-2.93006266278E-01	Apriori rate (us/s)	-2.93017613836E-01	Resid rate (us/s)	1.13476E-05	+/- 1.1E-08
Total phase (deg)	-166.4	Apriori accel (us/s/s)	2.56927811432E-05	Resid phase (deg)	-61.5	+/- 18.5

ph/seg (deg)	64.2	Theor.	61.4	Amplitude	0.188 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	106.7	Search (1024X16)	0.166	Search	0.166	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	23.8	Inc. seg. avg.	0.191	Inc. seg. avg.	0.191	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	26.8	Inc. frq. avg.	0.181	Inc. frq. avg.	0.181	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
h: az 301.3 el 50.9 pa 77.8		l: az 318.0 el 67.9 pa 121.6		u, v (fr/asec)	1329.496 1469.937	Data rate(Mb/s): 2048	nlags: 512
Control file: cf_1234_gmva7mm		Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl..1HPKOY		Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl.Q.150.1HPKOY		ion window (TEC)	0.00 0.00

simultaneous interpolator

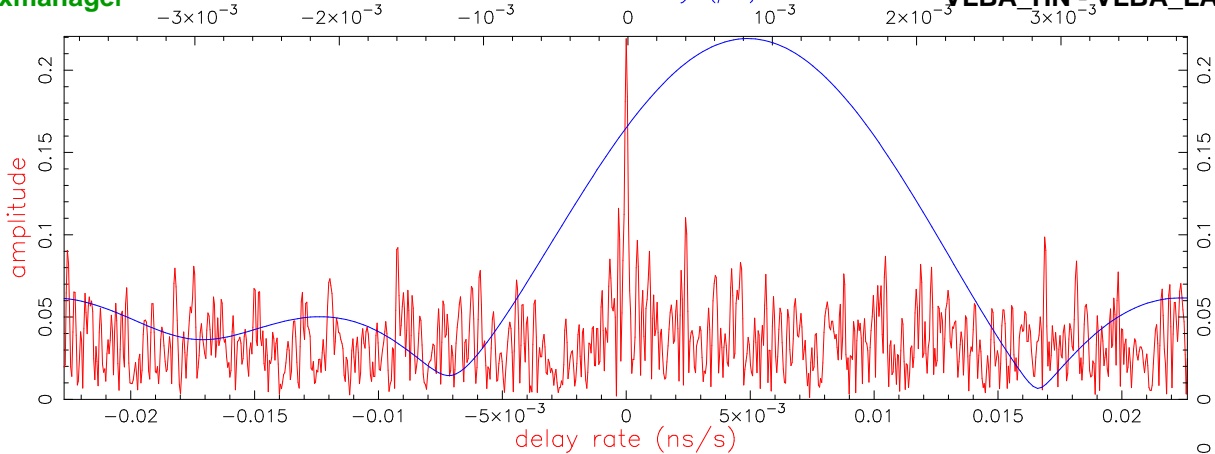
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hl

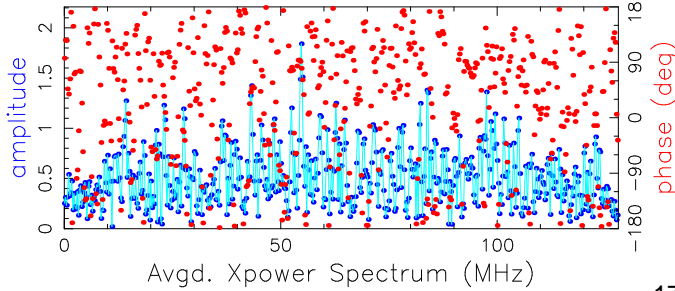
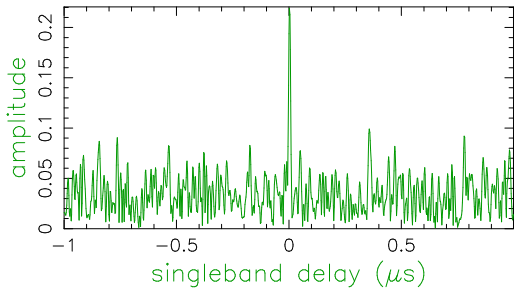
VLBA_HN - VLBA_LA, fgroup Q, pol LL

multiband delay (μ s)



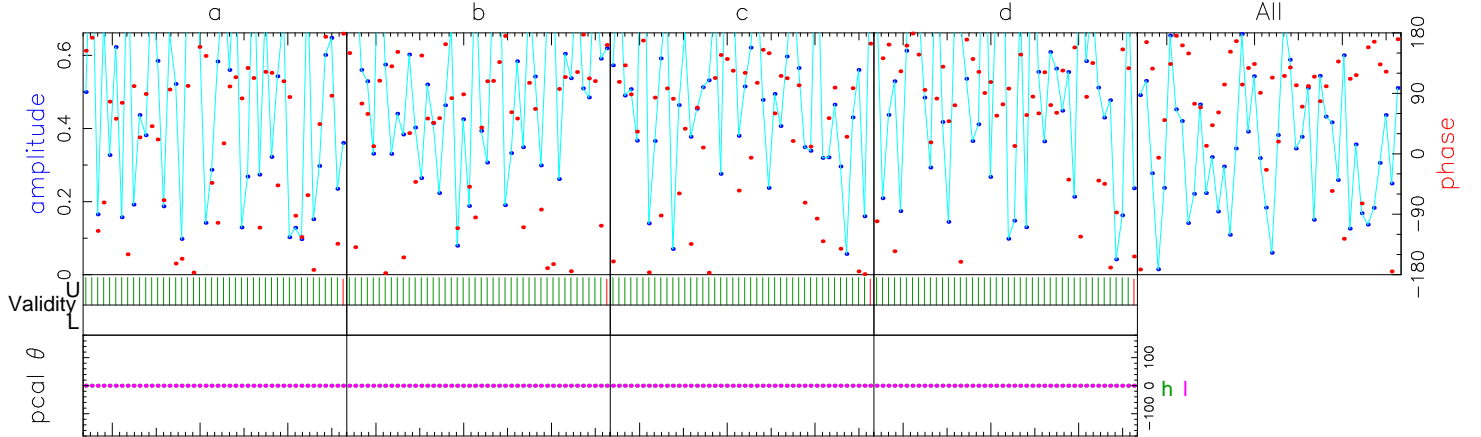
Fringe quality 9

SNR 8.1
 Int time 179.974
 Amp 0.221
 Phase 121.9
 PFD 1.0e-07
 Delays (us)
 SBD 0.002530
 MBD 0.000864
 Fringe rate (Hz)
 -0.000646
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164253
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
121.2	126.4	120.8	119.1	Phase	121.9
0.2	0.2	0.2	0.3	Ampl.	0.2
695.6	514.0	513.6	514.4	Sbd box	514.3
U/L 352/0	352/0	352/0	352/0	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)	-3.25919911963E+03	Apriori delay (usec)	-3.25919998353E+03	Resid mbdelay (usec)	8.63906E-04	+/-	1.4E-04
Sband delay (usec)	-3.25919745353E+03	Apriori clock (usec)	9.3867302E-01	Resid sbdelay (usec)	2.53000E-03	+/-	5.3E-04
Phase delay (usec)	-3.25919997566E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	7.86999E-06	+/-	9.1E-07
Delay rate (us/s)	-2.93017628853E-01	Apriori rate (us/s)	-2.93017613836E-01	Resid rate (us/s)	-1.50177E-08	+/-	8.8E-09
Total phase (deg)	17.1	Apriori accel (us/s/s)	2.56927811432E-05	Resid phase (deg)	121.9	+/-	14.2

ph/seg (deg)	64.7	Theor.	47.0	Amplitude	0.221 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	96.7		82.0	Search (1024X16)	0.214	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	3.8		14.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	19.2		24.7	Inc. seg. avg.	0.260	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.213	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 301.3 el 50.9 pa 77.8 l: az 318.0 el 67.9 pa 121.6 u,v (fr/asec) 1329.496 1469.937 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hl.Q.87.1HPKOY

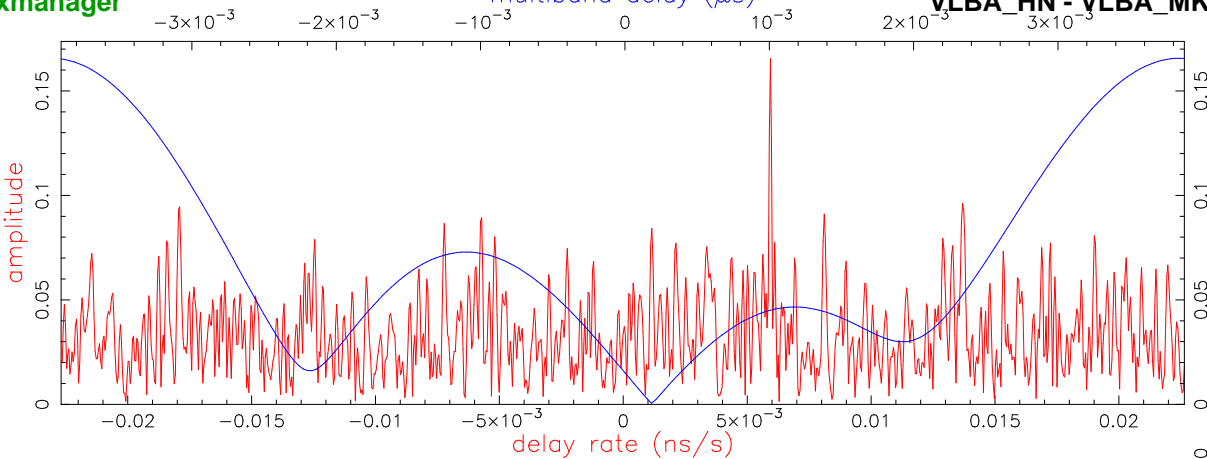
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hm

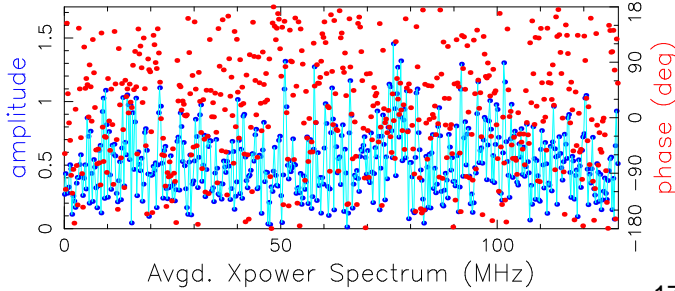
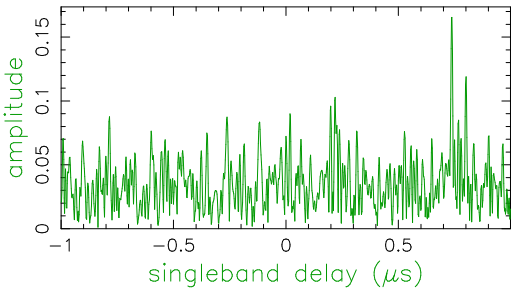
VLBA_HN - VLBA_MK, fgroup Q, pol RR

multiband delay (μ s)



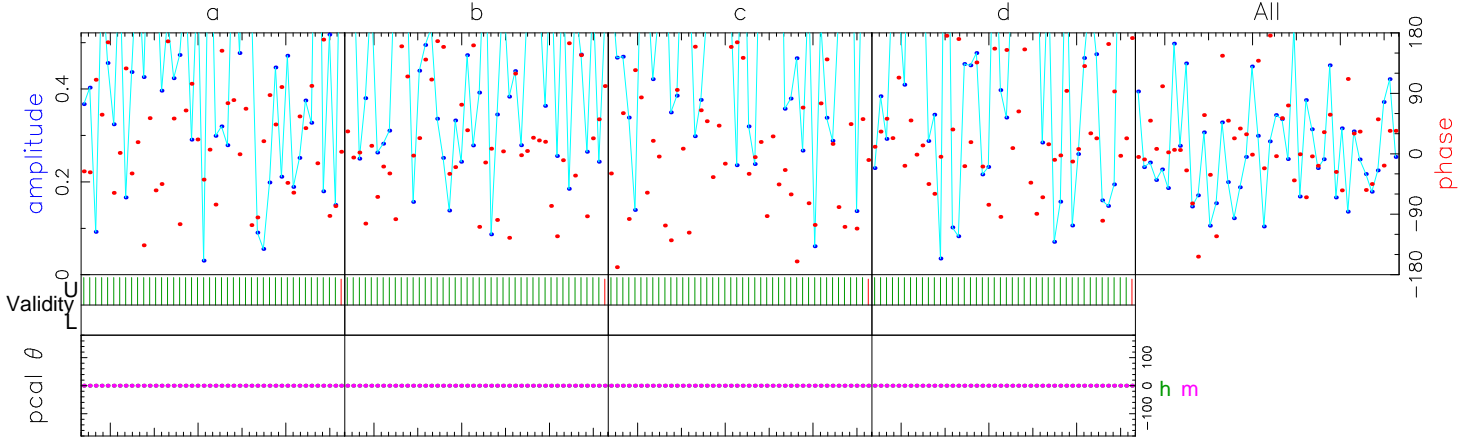
Fringe quality 0

SNR 6.2
 Int time 179.977
 Amp 0.174
 Phase 10.7
 PFD 7.5e-02
 Delays (us)
 SBD 0.737315
 MBD 0.003783
 Fringe rate (Hz)
 0.255524
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164256
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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 freqs	
h:m	0:0	0:0	0:0	0:0	PC phase	
h	1000	1000	1000	1000	ManI PC	
m	1000	1000	1000	1000	PC amp	
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-7.12659465228E+02	Apriori delay (usec)	-7.13397623603E+02	Resid mbdelay (usec)	3.78338E-03	+/-	1.8E-04
Sband delay (usec)	-7.12660308728E+02	Apriori clock (usec)	-1.2818553E+01	Resid sbdelay (usec)	7.37315E-01	+/-	7.0E-04
Phase delay (usec)	-7.13397622913E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	6.90429E-07	+/-	1.2E-06
Delay rate (us/s)	-1.02001326218E+00	Apriori rate (us/s)	-1.02001919907E+00	Resid rate (us/s)	5.93689E-06	+/-	1.1E-08
Total phase (deg)	-248.5	Apriori accel (us/s/s)	3.33547014286E-05	Resid phase (deg)	10.7	+/-	18.5

	RMS	Theor.	Amplitude	0.174 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	63.7	61.4	Search (1024X16)	0.163	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	87.4	107.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	20.4	18.5	Inc. seg. avg.	0.177	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	9.2	32.3	Inc. frq. avg.	0.167	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 301.3 el 50.9 pa 77.8 m: az 28.0 el 53.2 pa -136.4 u,v (fr/asec) 4587.567 2492.339 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm.Q.118.1HPKOY

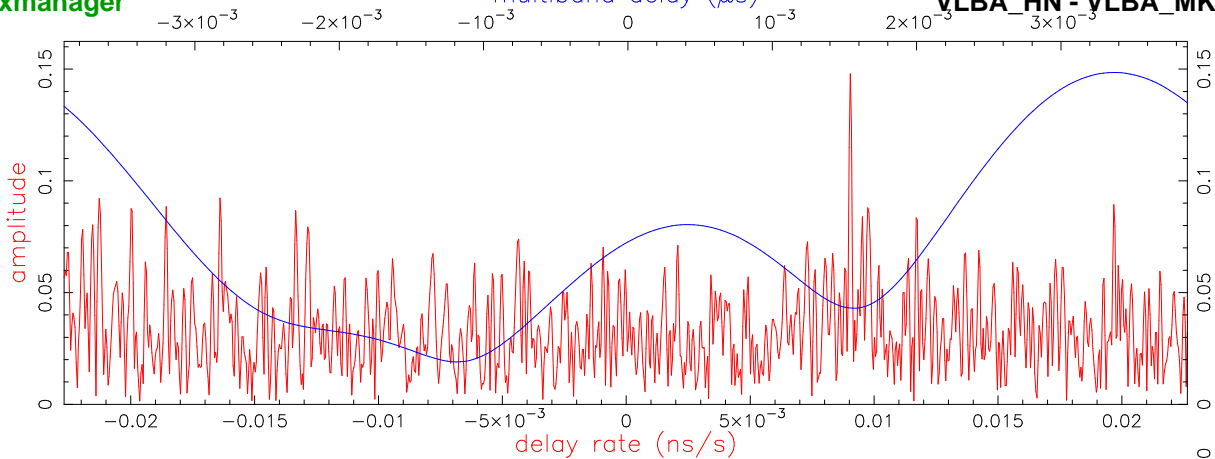
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hm

VLBA_HN - VLBA_MK, fgroup Q, pol LR

multiband delay (μ s)



Fringe quality 0

SNR 5.6

Int time 179.977

Ampl 0.162

Phase -17.7

PFD 9.5e-01

Delays (us)

SBD -0.096774

MBD 0.003264

Fringe rate (Hz)

0.390617

Ion TEC 0.000

Ref freq (MHz)

43040.0000

AP (sec) 0.512

Exp. c202a

Exper # 16383

Yr:day 2020:284

Start 005040.00

Stop 005340.22

FRT 005210.00

Corr/FF/build

2021:005:185249

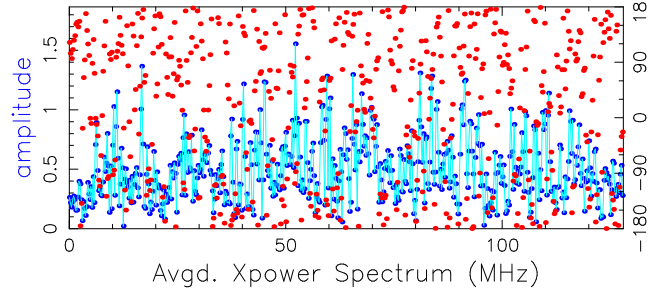
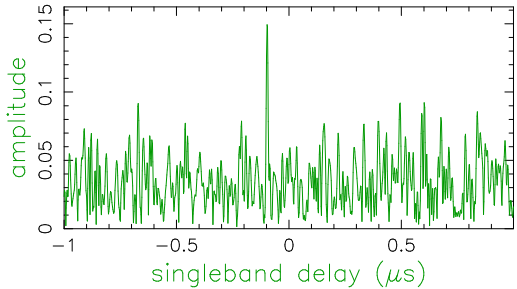
2021:010:164258

2020:247:085004

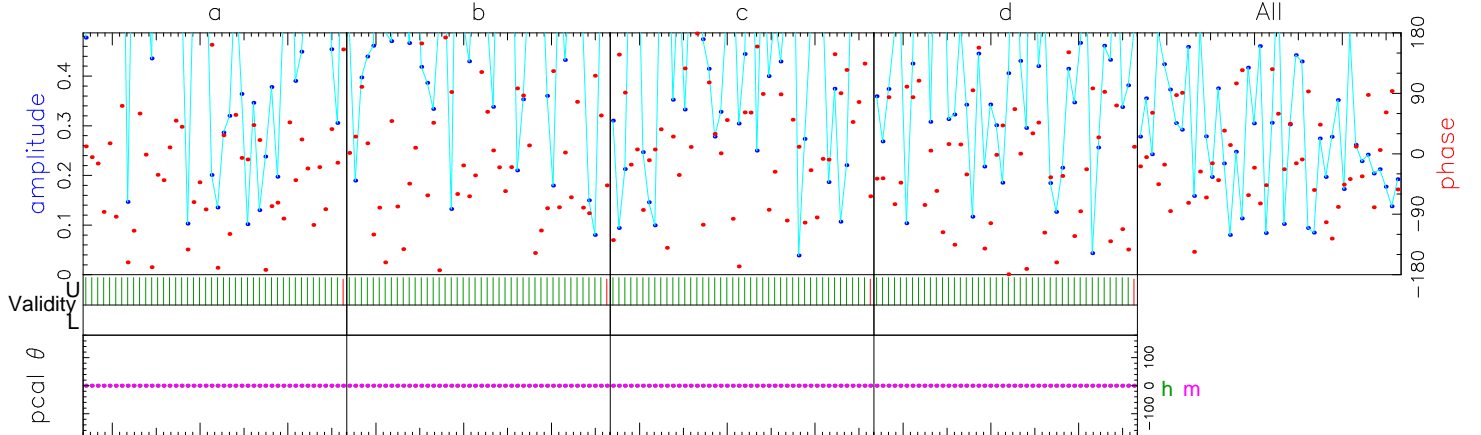
RA & Dec (J2000)

17h28m18.623995s

+50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



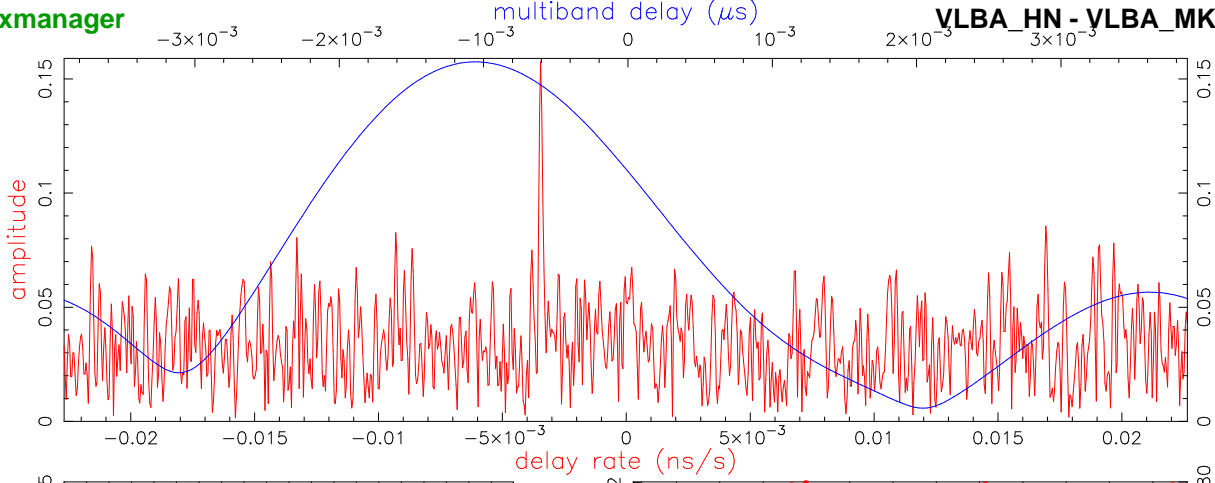
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h:m	0:0	0:0	0:0	0:0		
h:m	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
m	Q00UR	Q01UR	Q02UR	Q03UR		
					APs used	1000
					PC freqs	1000
					PC phase	0:0
					ManI PC	0:0
					PC amp	0:0
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-7.13495922022E+02	Apriori delay (usec)	-7.13397623603E+02	Resid mbdelay (usec)	3.26408E-03	+/-	2.0E-04
Sband delay (usec)	-7.13494397853E+02	Apriori clock (usec)	-1.2818553E+01	Resid sbdelay (usec)	-9.67743E-02	+/-	7.7E-04
Phase delay (usec)	-7.13397624744E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-1.14136E-06	+/-	1.3E-06
Delay rate (us/s)	-1.02001012339E+00	Apriori rate (us/s)	-1.02001919907E+00	Resid rate (us/s)	9.07568E-06	+/-	1.3E-08
Total phase (deg)	-276.8	Apriori accel (us/s/s)	3.33547014286E-05	Resid phase (deg)	-17.7	+/-	20.6

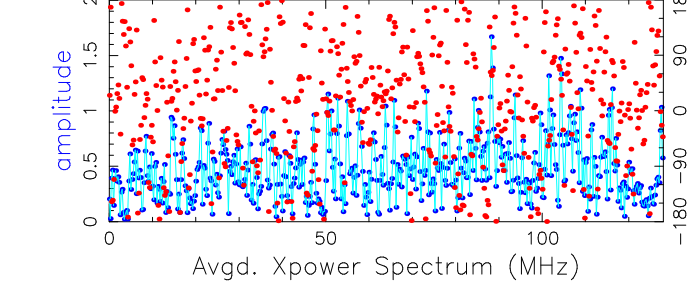
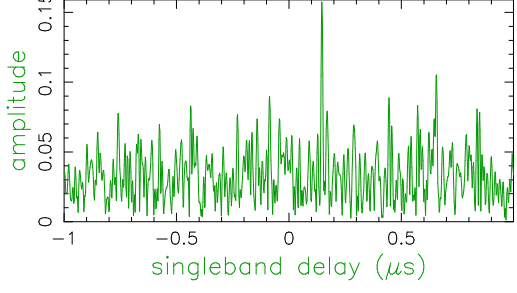
	RMS	Theor.	Amplitude	0.162 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	69.0	68.2	Search (1024X16)	0.147	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	122.2	119.0	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	26.5	20.6	Inc. seg. avg.	0.177	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	41.0	35.9	Inc. frq. avg.	0.155					

h: az 301.3 el 50.9 pa 77.8 m: az 28.0 el 53.2 pa -136.4 u,v (fr/asec) 4587.567 2492.339 simultaneous interpolator

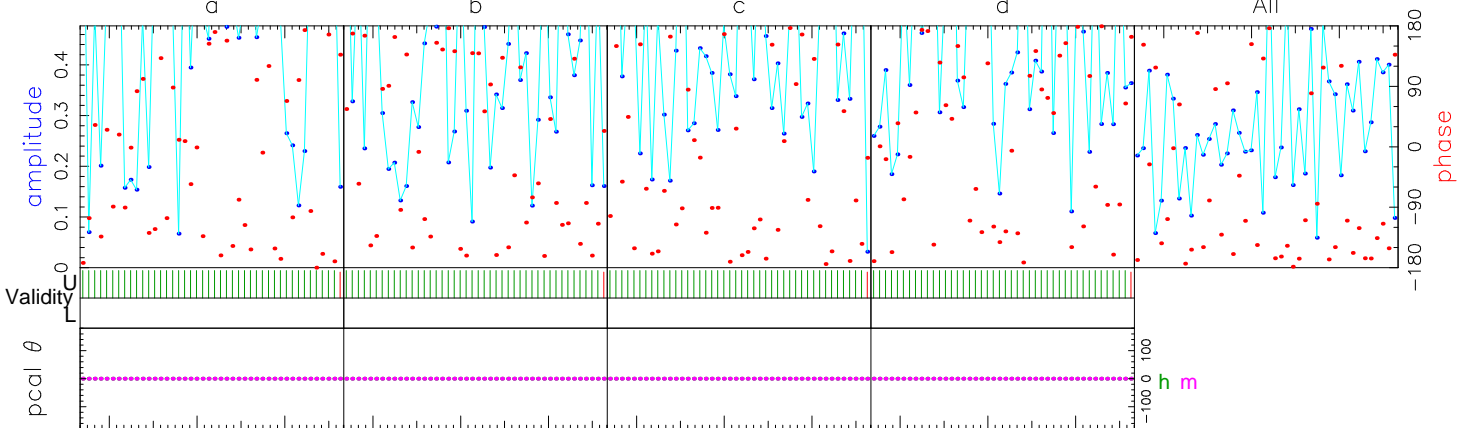
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm.Q.138.1HPKOY



Fringe quality 0
SNR 5.8
Int time 179.977
Amp 0.159
Phase -158.8
PFD 6.1e-01
Delays (us)
SBD 0.146522
MBD -0.001054
Fringe rate (Hz)
-0.148941
Ion TEC 0.000
Ref freq (MHz)
43040.0000
AP (sec) 0.512
Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 005040.00
Stop 005340.22
FRT 005210.00
Corr/FF/build
2021:005:185249
2021:010:164300
2020:247:085004
RA & Dec (J2000)
17h28m18.623995s
+50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
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	Q00UL	Q01UL	Q02UL	Q03UL		
Validity	[Validity bars]					
pcal θ	[pcal θ bars]					

Group delay (usec)(sbd)	-7.13250239939E+02	Apriori delay (usec)	-7.13397623603E+02	Resid mbdelay (usec)	-1.05384E-03	+/- 1.9E-04
Sband delay (usec)	-7.13251101603E+02	Apriori clock (usec)	-1.2818553E+01	Resid sbdelay (usec)	1.46522E-01	+/- 7.5E-04
Phase delay (usec)	-7.13397633849E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-1.02460E-05	+/- 1.3E-06
Delay rate (us/s)	-1.02002265959E+00	Apriori rate (us/s)	-1.02001919907E+00	Resid rate (us/s)	-3.46052E-06	+/- 1.2E-08
Total phase (deg)	-57.9	Apriori accel (us/s/s)	3.33547014286E-05	Resid phase (deg)	-158.8	+/- 19.8

ph/seg (deg)	63.6	Theor.	65.8	Amplitude	0.159 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	111.1	Search (1024X16)	0.154	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)	24.5	Inc. seg. avg.	0.170	Inc. frq. avg.	0.156	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	28.9	Inc. frq. avg.	0.156			Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

h: az 301.3 el 50.9 pa 77.8 m: az 28.0 el 53.2 pa -136.4 u,v (fr/asec) 4587.567 2492.339 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm.Q.156.1HPKOY

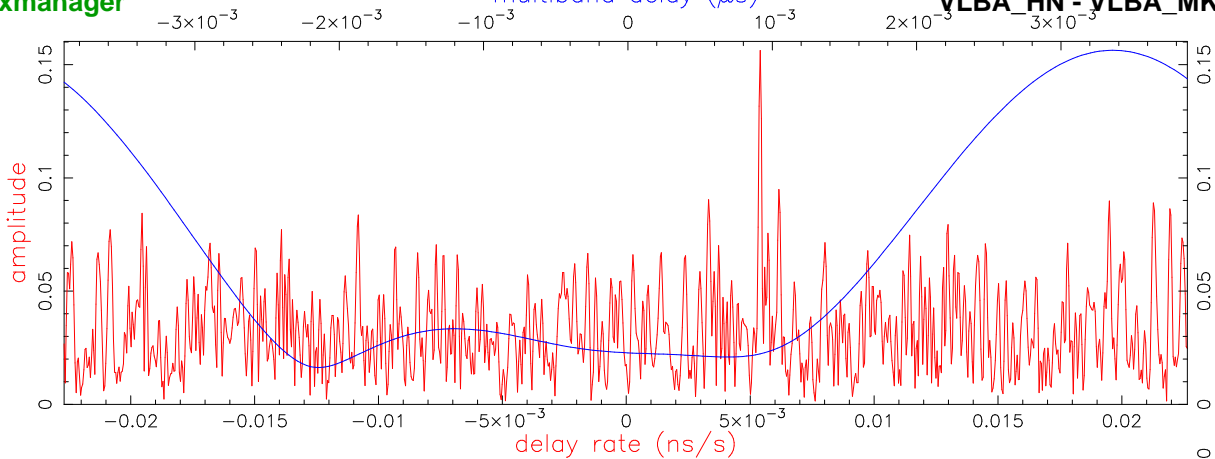
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hm

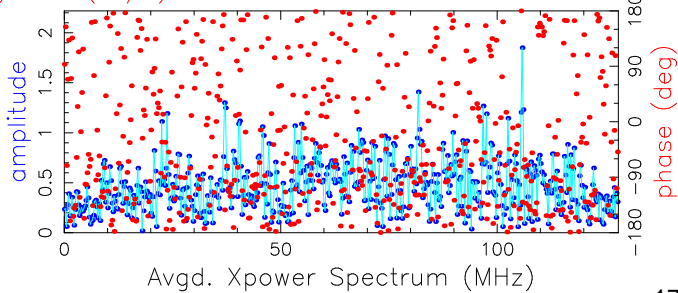
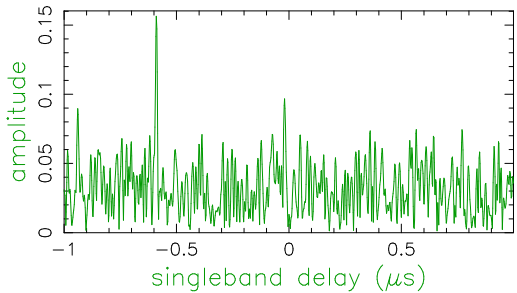
VLBA_HN - VLBA_MK, fgroup Q, pol LL

multiband delay (μ s)



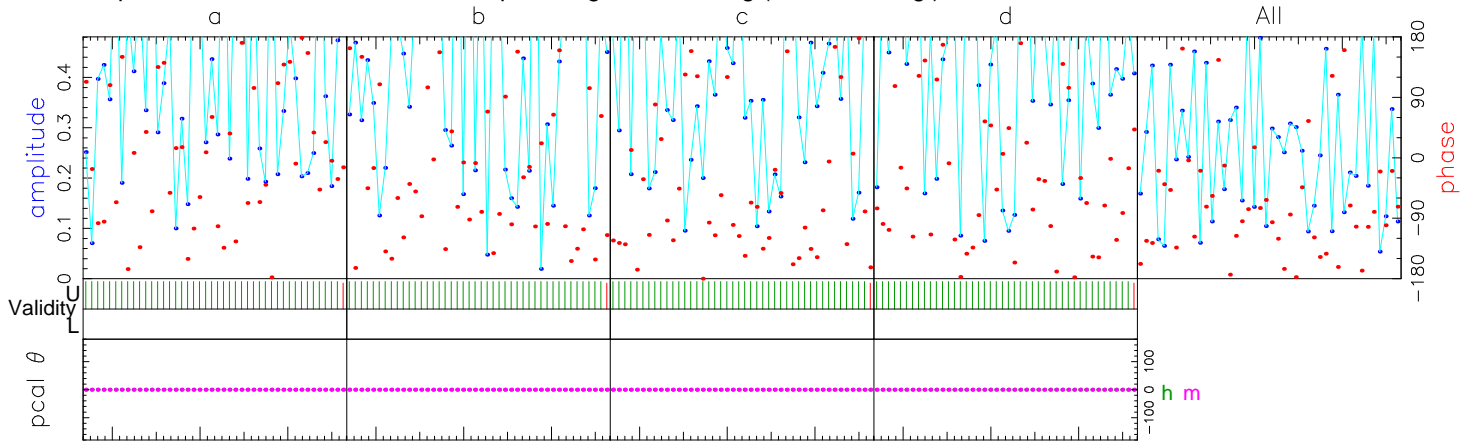
Fringe quality 0

SNR 5.7
 Int time 179.977
 Amp 0.160
 Phase -108.1
 PFD 6.9e-01
 Delays (us)
 SBD -0.589598
 MBD 0.003378
 Fringe rate (Hz)
 0.233927
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164252
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h:m	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
m	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL		
m	Q00UL	Q01UL	Q02UL	Q03UL		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-7.13987995548E+02	Apriori delay (usec)	-7.13397623603E+02	Resid mbdelay (usec)	3.37805E-03	+/- 1.9E-04
Sband delay (usec)	-7.13987221478E+02	Apriori clock (usec)	-1.2818553E+01	Resid sbdelay (usec)	-5.89598E-01	+/- 7.5E-04
Phase delay (usec)	-7.13397630578E+02	Apriori clockrate (us/s)	1.3000001E-07	Resid phdelay (usec)	-6.97475E-06	+/- 1.3E-06
Delay rate (us/s)	-1.02001376396E+00	Apriori rate (us/s)	-1.02001919907E+00	Resid rate (us/s)	5.43512E-06	+/- 1.2E-08
Total phase (deg)	-7.2	Apriori accel (us/s/s)	3.33547014286E-05	Resid phase (deg)	-108.1	+/- 20.0

	RMS	Theor.	Amplitude	0.160 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	65.5	66.2	Search (1024X16)	0.151	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	109.1	115.5	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	15.3	20.0	Inc. seg. avg.	0.159	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	31.8	34.8	Inc. frq. avg.	0.154					

h: az 301.3 el 50.9 pa 77.8 m: az 28.0 el 53.2 pa -136.4 u,v (fr/asec) 4587.567 2492.339 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hm.Q.86.1HPKOY

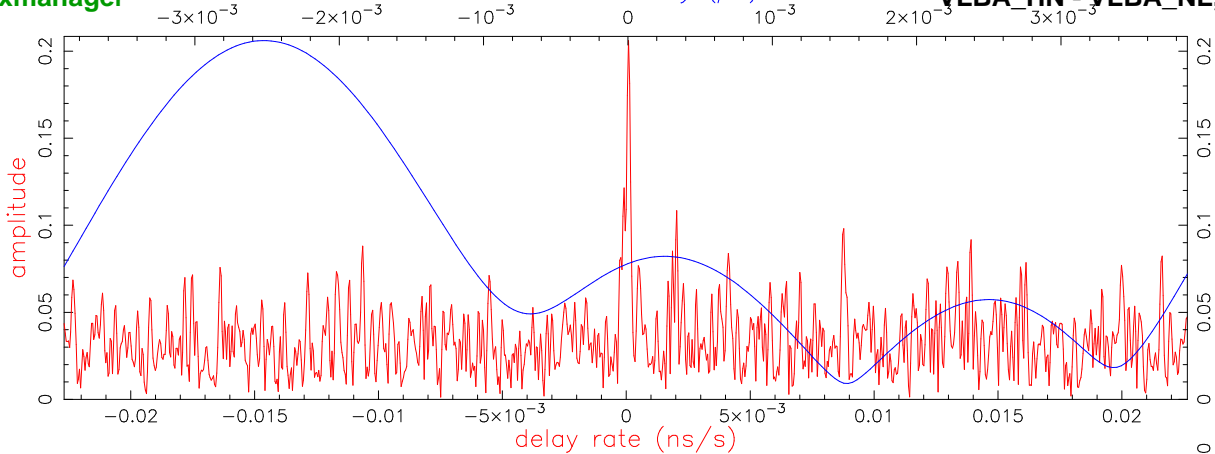
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hn

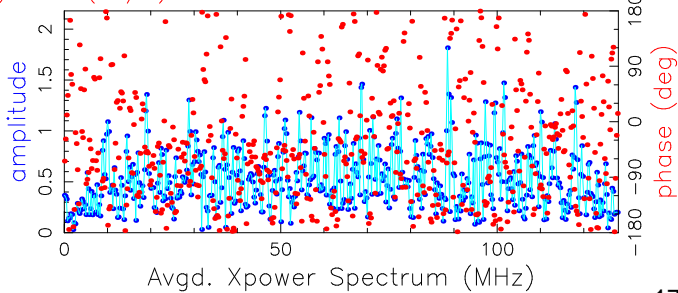
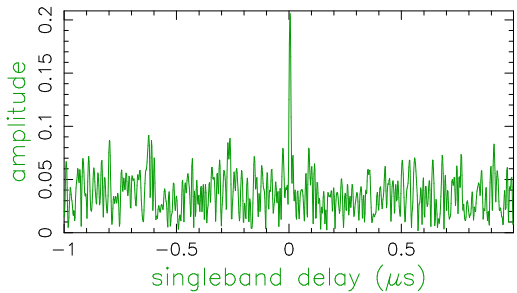
VLBA_HN - VLBA_NL, fgroup Q, pol RR

multiband delay (μ s)



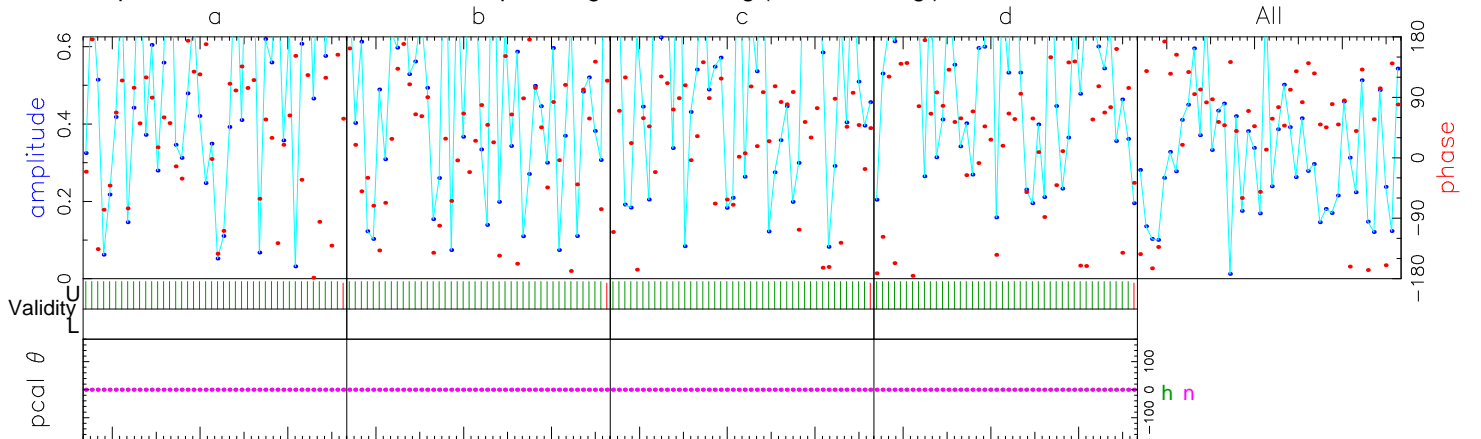
Fringe quality 9

SNR 7.6
 Int time 179.975
 Amp 0.209
 Phase 86.2
 PFD 3.3e-06
 Delays (us)
 SBD 0.004642
 MBD -0.002494
 Fringe rate (Hz)
 0.003877
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164254
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
n	1000	1000	1000	1000		
h:n	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
n	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
n	Q00UR	Q01UR	Q02UR	Q03UR		

	-2.43083483221E+03	Apriori delay (usec)	-2.43084015114E+03	Resid mbdelay (usec)	-2.49358E-03	+/-	1.5E-04
Sband delay (usec)	-2.43083550889E+03	Apriori clock (usec)	3.8599491E-01	Resid sbdelay (usec)	4.64225E-03	+/-	5.6E-04
Phase delay (usec)	-2.43084014558E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	5.56023E-06	+/-	9.7E-07
Delay rate (us/s)	-1.56864197054E-01	Apriori rate (us/s)	-1.56864287129E-01	Resid rate (us/s)	9.00751E-08	+/-	9.3E-09
Total phase (deg)	48.4	Apriori accel (us/s/s)	1.42289937283E-05	Resid phase (deg)	86.2	+/-	15.0

	RMS	Theor.	Amplitude	0.209 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	64.8	49.7	Search (1024X16)	0.205	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	93.7	86.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	18.8	15.0	Inc. seg. avg.	0.233	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	13.6	26.1	Inc. frq. avg.	0.205	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

h: az 301.3 el 50.9 pa 77.8 n: az 301.1 el 62.7 pa 93.6 u,v (fr/asec) 711.751 705.576 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn.Q.104.1HPKOY

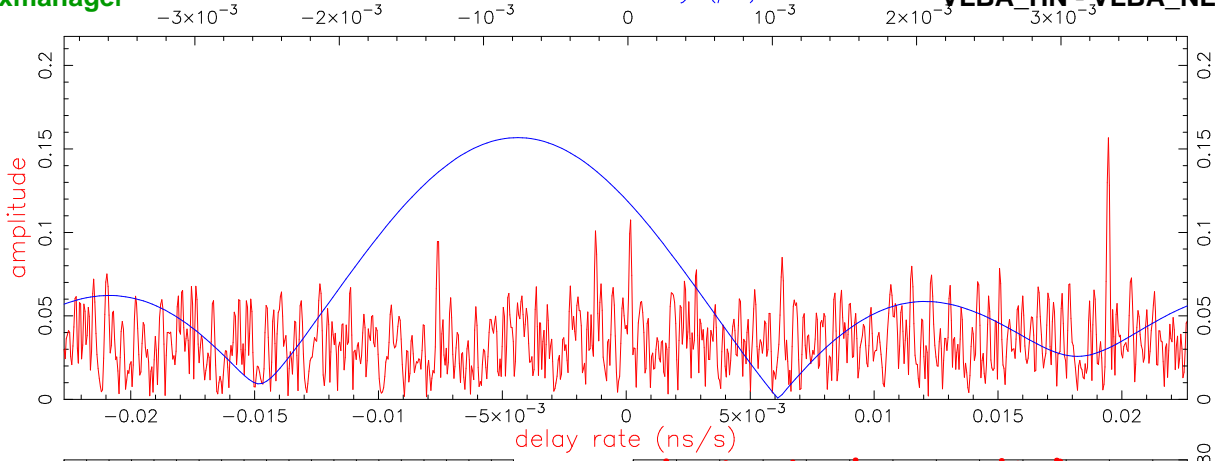
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hn

VLBA_HN - VLBA_NL, fgroup Q, pol LR

multiband delay (μ s)



Fringe quality 0

SNR 5.8

Int time 179.975

Amp 0.217

Phase 18.2

PFD 6.5e-01

Delays (us)

SBD -0.677492

MBD -0.000733

Fringe rate (Hz)

0.840682

Ion TEC 0.000

Ref freq (MHz)

43040.0000

AP (sec) 0.512

Exp. c202a

Exper # 16383

Yr:day 2020:284

Start 005040.00

Stop 005340.22

FRT 005210.00

Corr/FF/build

2021:005:185249

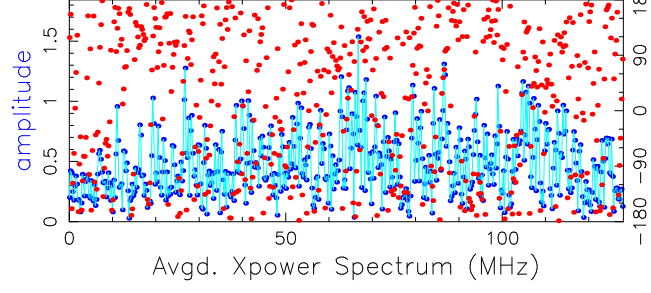
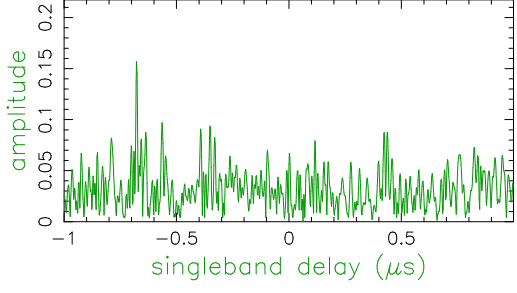
2021:010:164256

2020:247:085004

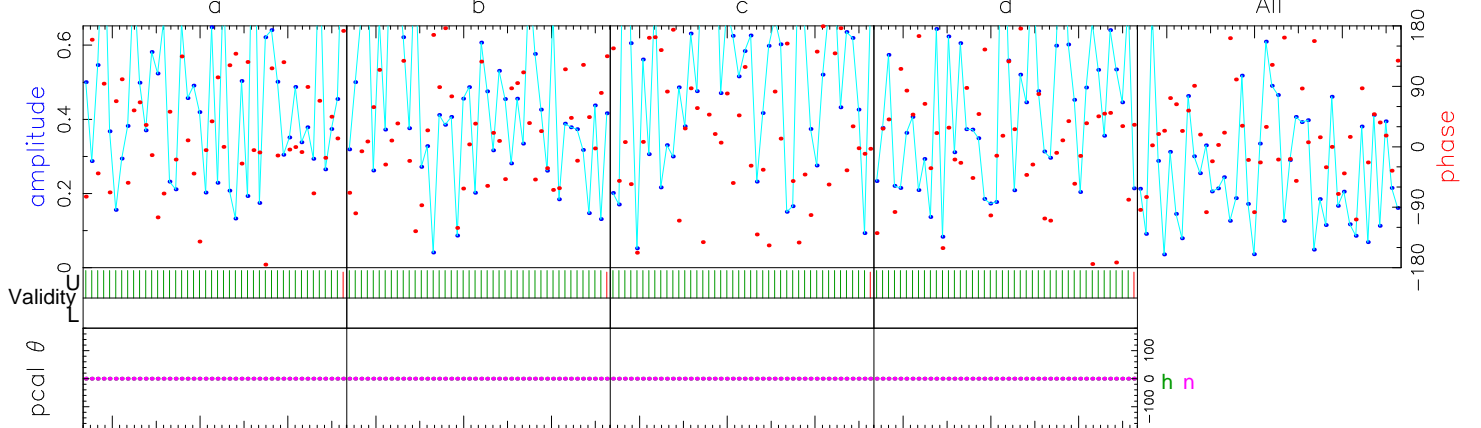
RA & Dec (J2000)

17h28m18.623995s

+50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	43296.00	Freq (MHz)	All
23.1	16.2	13.5	18.3	18.3	Phase	18.2
0.2	0.2	0.1	0.3	0.3	Ampl.	0.2
497.4	160.2	319.1	166.5	166.5	Sbd box	166.1
U/L 352/0	352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	1000	PC freqs	
h:n 0:0	0:0	0:0	0:0	0:0	PC phase	
h:n 0:0	0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000	1000		
h Q00UL	Q01UL	Q02UL	Q03UL	Q03UL	Chan ids	
n Q00UR	Q01UR	Q02UR	Q03UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-2.43152057115E+03	Apriori delay (usec)	-2.43084015114E+03	Resid mbdelay (usec)	-7.32518E-04	+/- 1.9E-04
Sband delay (usec)	-2.43151764314E+03	Apriori clock (usec)	3.8599491E-01	Resid sbdelay (usec)	-6.77492E-01	+/- 7.5E-04
Phase delay (usec)	-2.43084014996E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	1.17244E-06	+/- 1.3E-06
Delay rate (us/s)	-1.56844754564E-01	Apriori rate (us/s)	-1.56864287129E-01	Resid rate (us/s)	1.95326E-05	+/- 1.2E-08
Total phase (deg)	-19.6	Apriori accel (us/s/s)	1.42289937283E-05	Resid phase (deg)	18.2	+/- 19.9

	RMS	Theor.	Amplitude	0.217 +/- 0.038	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	68.7	66.0	Search (1024X16)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	122.1	115.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	5.0	19.9	Inc. seg. avg.	0.219	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023
amp/frq (%)	22.1	34.7	Inc. frq. avg.	0.205	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC) 0.00 0.00

h: az 301.3 el 50.9 pa 77.8 n: az 301.1 el 62.7 pa 93.6 u,v (fr/asec) 711.751 705.576 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn.Q.123.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

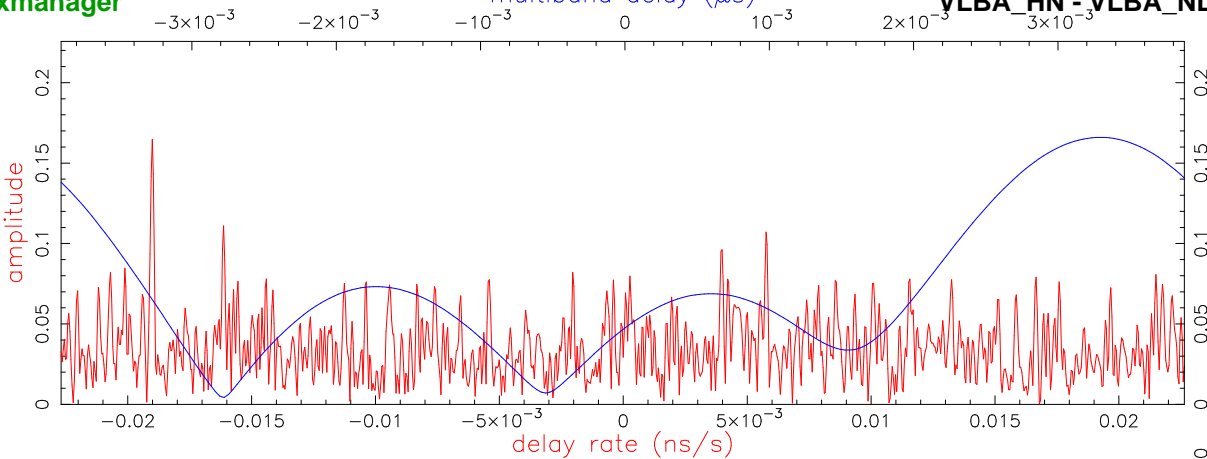
fxmanager

OT546.1HPKOY, No0233, hn

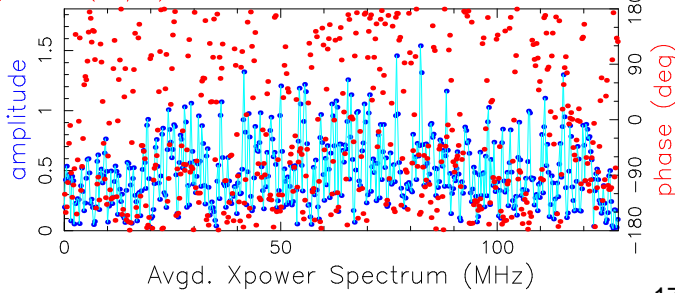
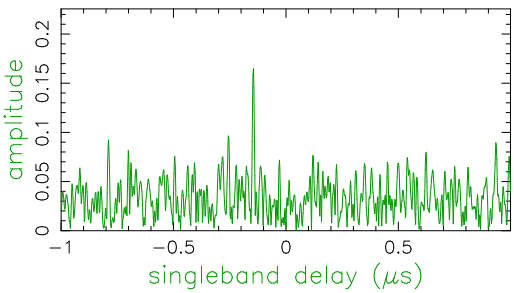
VLBA_HN - VLBA_NL, fgroup Q, pol RL

multiband delay (μ s)

Fringe quality 0

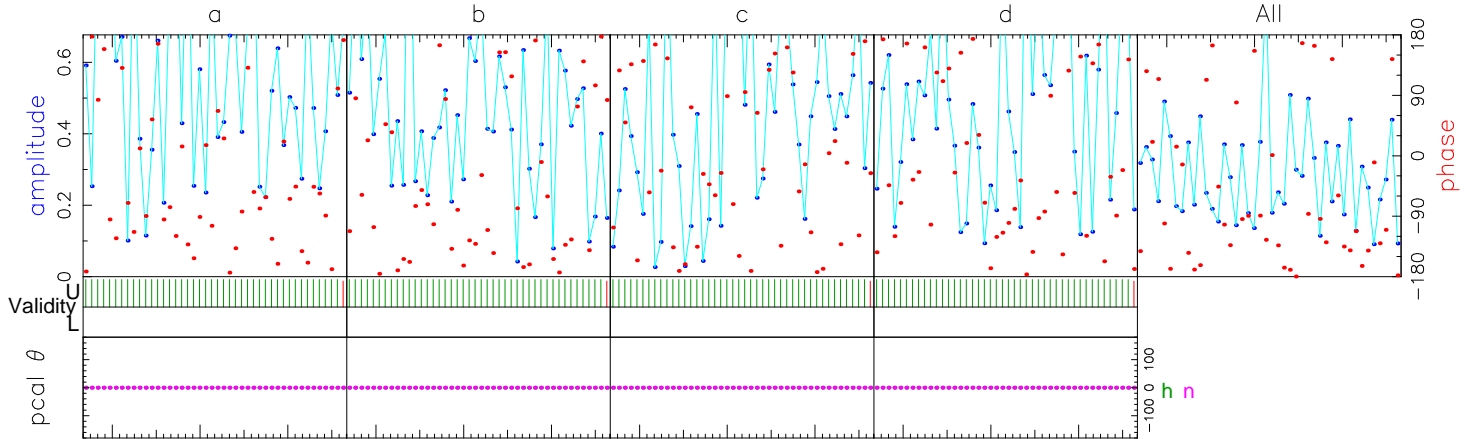


SNR 6.1
 Int time 179.975
 Amp 0.226
 Phase -141.3
 PFD 1.5e-01
 Delays (us)
 SBD -0.145010
 MBD -0.004395
 Fringe rate (Hz)
 -0.820967
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164258
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
n	1000	1000	1000	1000		
h:n	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
n	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
n	Q00UL	Q01UL	Q02UL	Q03UL		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-2.43098517067E+03	Apriori delay (usec)	-2.43084015114E+03	Resid mbdelay (usec)	-4.39453E-03	+/-	1.8E-04
Sband delay (usec)	-2.43098516089E+03	Apriori clock (usec)	3.8599491E-01	Resid sbdelay (usec)	-1.45010E-01	+/-	7.1E-04
Phase delay (usec)	-2.43084016025E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-9.11792E-06	+/-	1.2E-06
Delay rate (us/s)	-1.56883361639E-01	Apriori rate (us/s)	-1.56864287129E-01	Resid rate (us/s)	-1.90745E-05	+/-	1.2E-08
Total phase (deg)	-179.0	Apriori accel (us/s/s)	1.42289937283E-05	Resid phase (deg)	-141.3	+/-	18.9

ph/seg (deg)	RMS 70.6	Theor. 62.6	Amplitude Search (1024X16)	0.226 +/- 0.037	0.162	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	112.3	109.2	Interp.	0.000	0.248	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	18.3	18.9	Inc. seg. avg.	0.248	0.218	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	22.4	32.9	Inc. frq. avg.	0.218		Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
h: az 301.3	el 50.9	pa 77.8	n: az 301.1	el 62.7	pa 93.6	u, v (fr/asec)	711.751	705.576	simultaneous interpolator		

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn.Q.141.1HPKOY

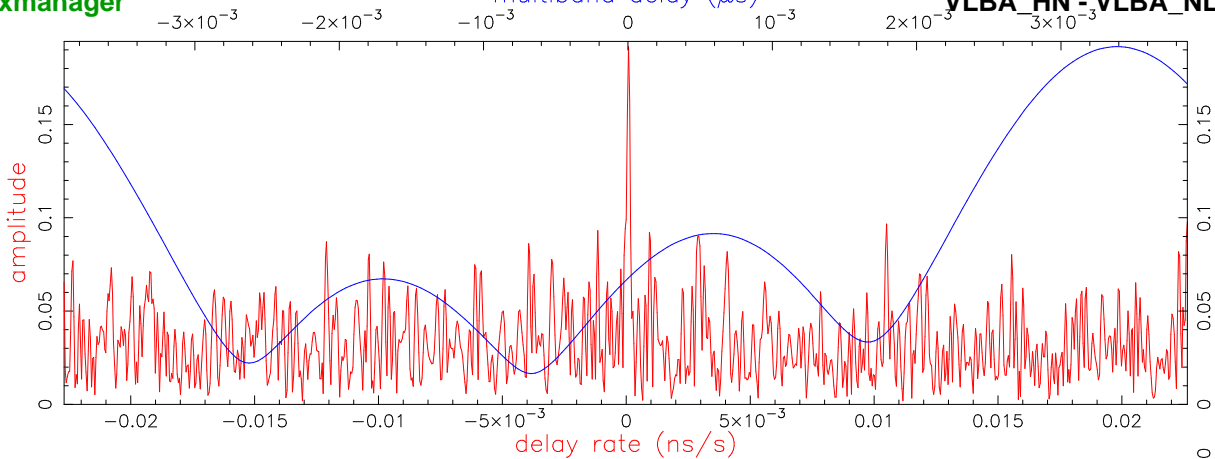
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hn

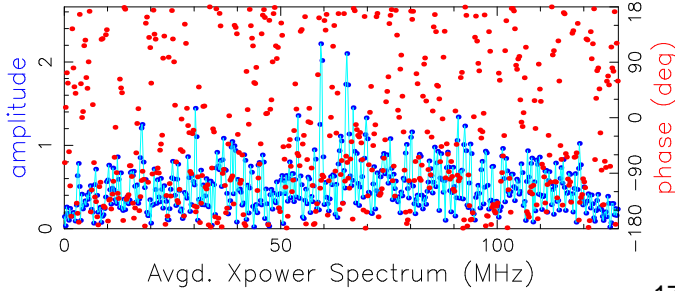
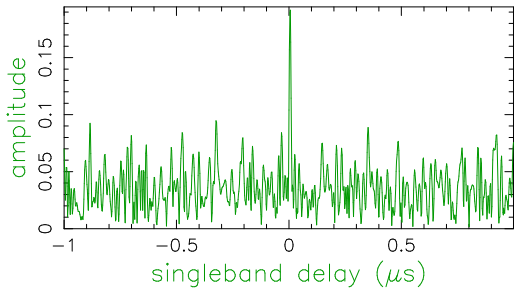
VLBA_HN - VLBA_NL, fgroup Q, pol LL

multiband delay (μ s)



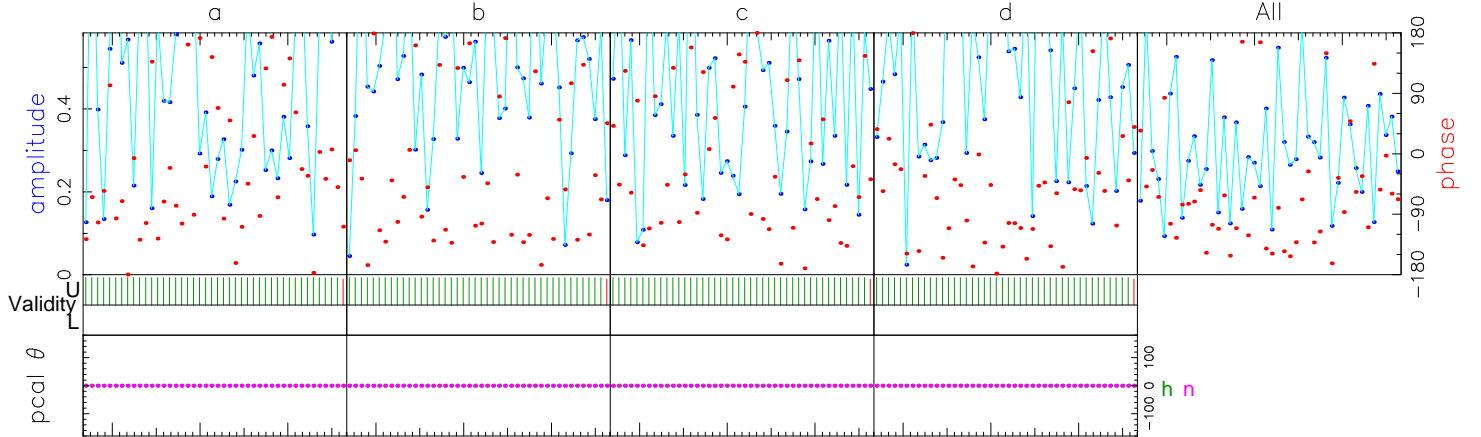
Fringe quality 0

SNR 7.1
 Int time 179.975
 Amp 0.195
 Phase -89.5
 PFD 1.5e-04
 Delays (us)
 SBD 0.005029
 MBD 0.003358
 Fringe rate (Hz) 0.003603
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164253
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-78.8	-106.7	-101.2	-78.0	Phase	-89.5
0.2	0.2	0.1	0.2	Ampl.	0.2
515.8	516.0	986.1	516.4	Sbd box	515.6
U/L 352/0	352/0	352/0	352/0	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)	-2.43083679293E+03	Apriori delay (usec)	-2.43084015114E+03	Resid mbdelay (usec)	3.35820E-03	+/- 1.6E-04
Sband delay (usec)	-2.43083512164E+03	Apriori clock (usec)	3.8599491E-01	Resid sbdelay (usec)	5.02950E-03	+/- 6.0E-04
Phase delay (usec)	-2.43084015692E+03	Apriori clockrate (us/s)	-2.7000001E-07	Resid phdelay (usec)	-5.77880E-06	+/- 1.0E-06
Delay rate (us/s)	-1.56864203413E-01	Apriori rate (us/s)	-1.56864287129E-01	Resid rate (us/s)	8.37163E-08	+/- 1.0E-08
Total phase (deg)	-127.3	Apriori accel (us/s/s)	1.42289937283E-05	Resid phase (deg)	-89.5	+/- 16.1

ph/seg (deg)	RMS 64.9	Theor. 53.2	Amplitude Search (1024X16)	0.191	0.195 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	91.5	92.9	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)	18.4	16.1	Inc. seg. avg.	0.216		Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	19.4	28.0	Inc. frq. avg.	0.189		Sample rate(MISamp/s): 256	Data rate(Mb/s): 2048	ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 301.3 el 50.9 pa 77.8 n: az 301.1 el 62.7 pa 93.6 u,v (fr/asec) 711.751 705.576 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hn.Q.91.1HPKOY

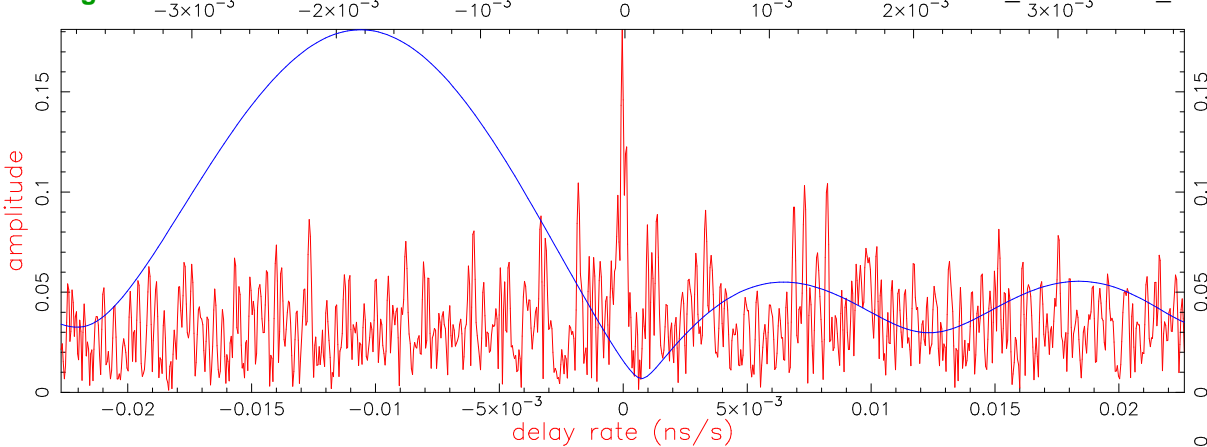
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, ho

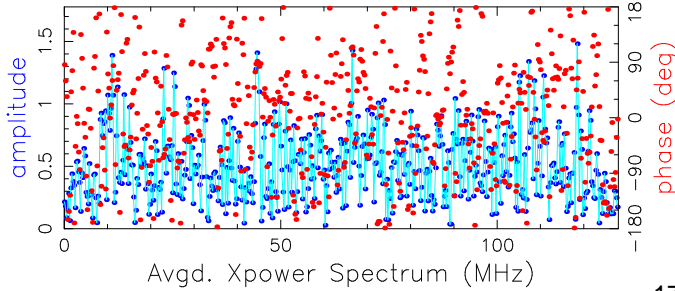
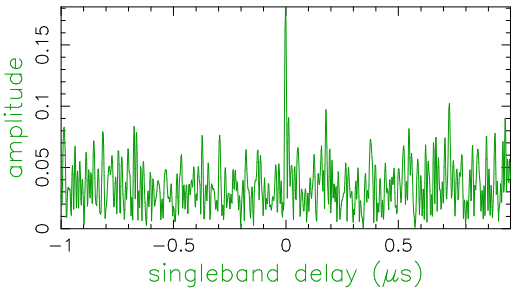
VLBA_HN - VLBA_OV, fgroup Q, pol RR

multiband delay (μ s)



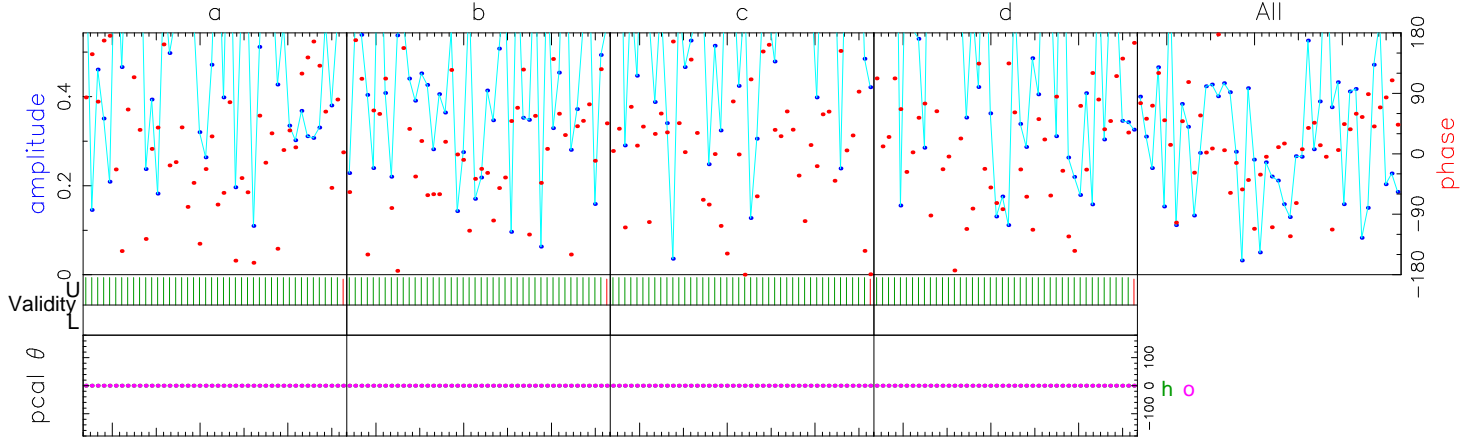
Fringe quality 0

SNR 6.6
 Int time 179.967
 Amp 0.181
 Phase 25.6
 PFD 4.3e-03
 Delays (us)
 SBD -0.001744
 MBD -0.001831
 Fringe rate (Hz)
 -0.002402
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164256
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
18.7	38.9	26.9	21.1	Phase	25.6
0.2	0.1	0.2	0.2	Ampl.	0.2
559.4	916.2	512.2	708.5	Sbd box	512.1
U/L 352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	PC freqs	
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 Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-4.11439020987E+03	Apriori delay (usec)	-4.11438837899E+03	Resid mbdelay (usec)	-1.83088E-03	+/- 1.7E-04
Sband delay (usec)	-4.11439012311E+03	Apriori clock (usec)	-2.0854328E+01	Resid sbdelay (usec)	-1.74413E-03	+/- 6.5E-04
Phase delay (usec)	-4.11438837733E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	1.65356E-06	+/- 1.1E-06
Delay rate (us/s)	-4.57175179570E-01	Apriori rate (us/s)	-4.57175123753E-01	Resid rate (us/s)	-5.58165E-08	+/- 1.1E-08
Total phase (deg)	-273.7	Apriori accel (us/s/s)	2.83594645794E-05	Resid phase (deg)	25.6	+/- 17.2

RMS	Theor.	Amplitude	0.181 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	67.4	Search (1024X16)	0.176	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	115.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	11.1	Inc. seg. avg.	0.210	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
amp/frq (%)	21.4	Inc. frq. avg.	0.174	Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
				nlags: 512	t_cohere infinite
h: az 301.3 el 50.9 pa 77.8	o: az 332.0 el 74.8 pa 143.8	u,v (fr/asec)	2065.179 1530.255		ion window (TEC) 0.00 0.00

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho.Q.114.1HPKOY simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

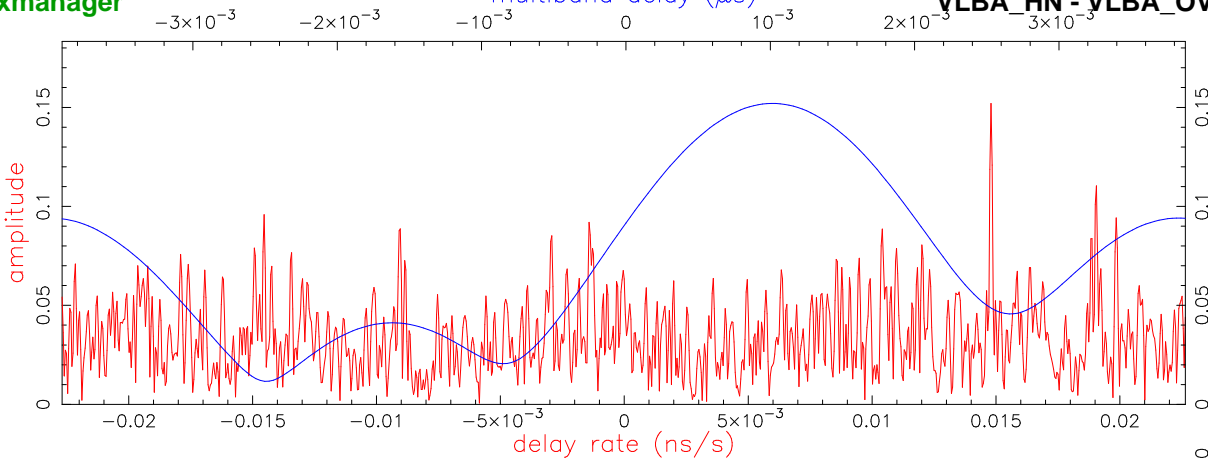
fxmanager

OT546.1HPKOY, No0233, ho

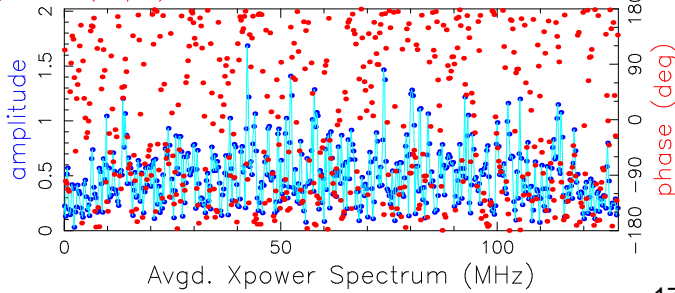
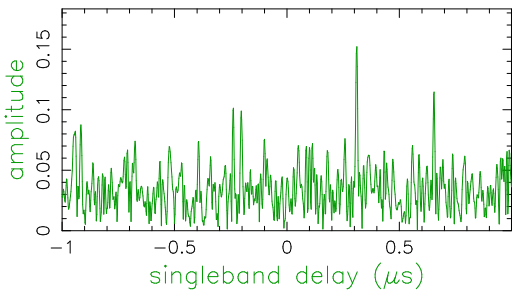
VLBA_HN - VLBA_OV, fgroup Q, pol LR

multiband delay (μ s)

Fringe quality 0

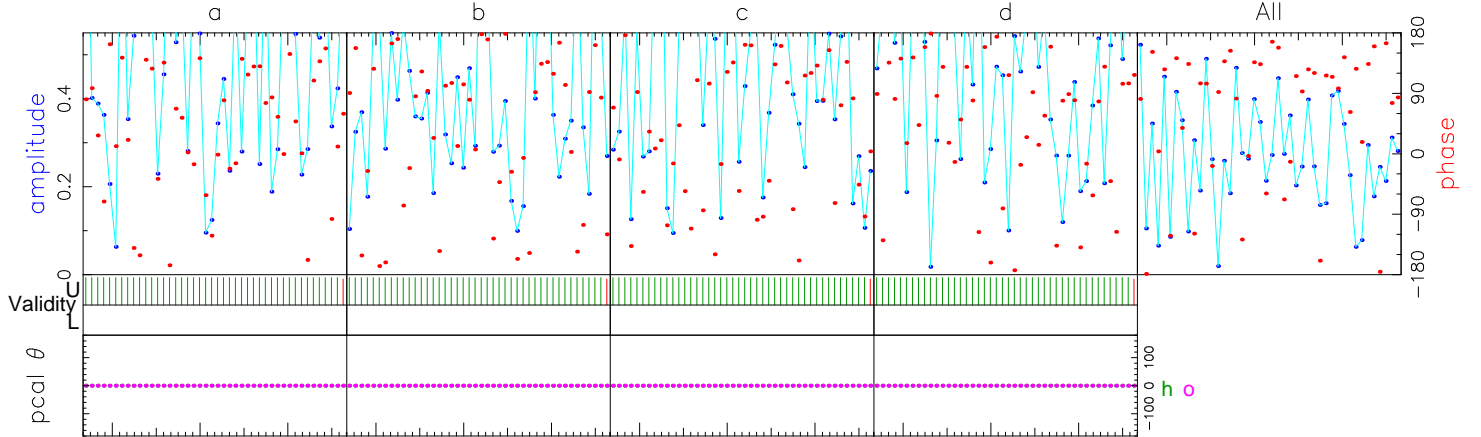


SNR 5.6
 Int time 179.967
 Amp 0.183
 Phase 120.0
 PFD 9.2e-01
 Delays (us)
 SBD 0.310061
 MBD 0.001015
 Fringe rate (Hz)
 0.639080
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164259
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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:h	0:0	0:0	0:0	0:0	ManI PC	
h	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-4.11407486376E+03	Apriori delay (usec)	-4.11438837899E+03	Resid mbdelay (usec)	1.01522E-03	+/-	2.0E-04
Sband delay (usec)	-4.11407831774E+03	Apriori clock (usec)	-2.0854328E+01	Resid sbdelay (usec)	3.10061E-01	+/-	7.7E-04
Phase delay (usec)	-4.11438837124E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	7.74663E-06	+/-	1.3E-06
Delay rate (us/s)	-4.57160275233E-01	Apriori rate (us/s)	-4.57175123753E-01	Resid rate (us/s)	1.48485E-05	+/-	1.3E-08
Total phase (deg)	-179.3	Apriori accel (us/s/s)	2.83594645794E-05	Resid phase (deg)	120.0	+/-	20.5

	RMS	Theor.	Amplitude	0.183 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	71.3	67.8	Search (1024X16)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
amp/seg (%)	112.8	118.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
ph/frq (deg)	29.1	20.5	Inc. seg. avg.	0.192	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
amp/frq (%)	24.9	35.7	Inc. frq. avg.	0.185	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 301.3 el 50.9 pa 77.8 o: az 332.0 el 74.8 pa 143.8 u,v (fr/asec) 2065.179 1530.255 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho.Q.142.1HPKOY

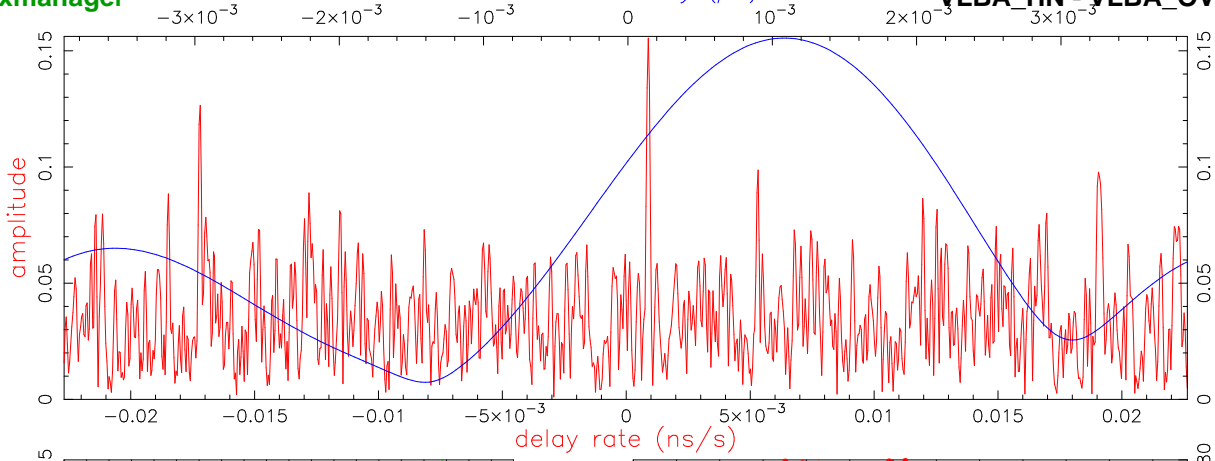
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, ho

VLBA_HN - VLBA_OV, fgroup Q, pol RL

multiband delay (μ s)



Fringe quality 0

SNR 5.7

Int time 179.967

Amp 0.156

Phase 147.3

PFD 7.2e-01

Delays (us)

SBD 0.681246

MBD 0.001057

Fringe rate (Hz)

0.039044

Ion TEC 0.000

Ref freq (MHz)

43040.0000

AP (sec) 0.512

Exp. c202a

Exper # 16383

Yr:day 2020:284

Start 005040.00

Stop 005340.22

FRT 005210.00

Corr/FF/build

2021:005:185249

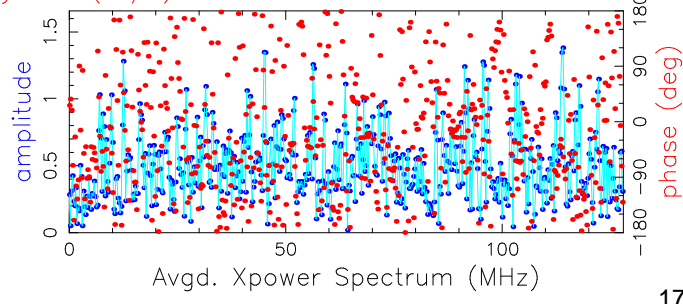
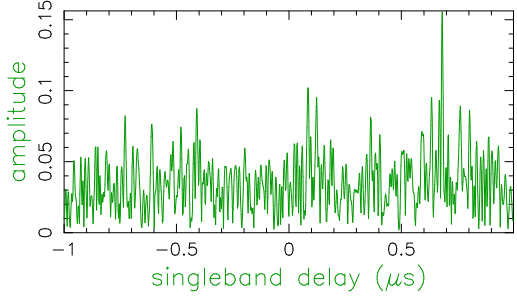
2021:010:164300

2020:247:085004

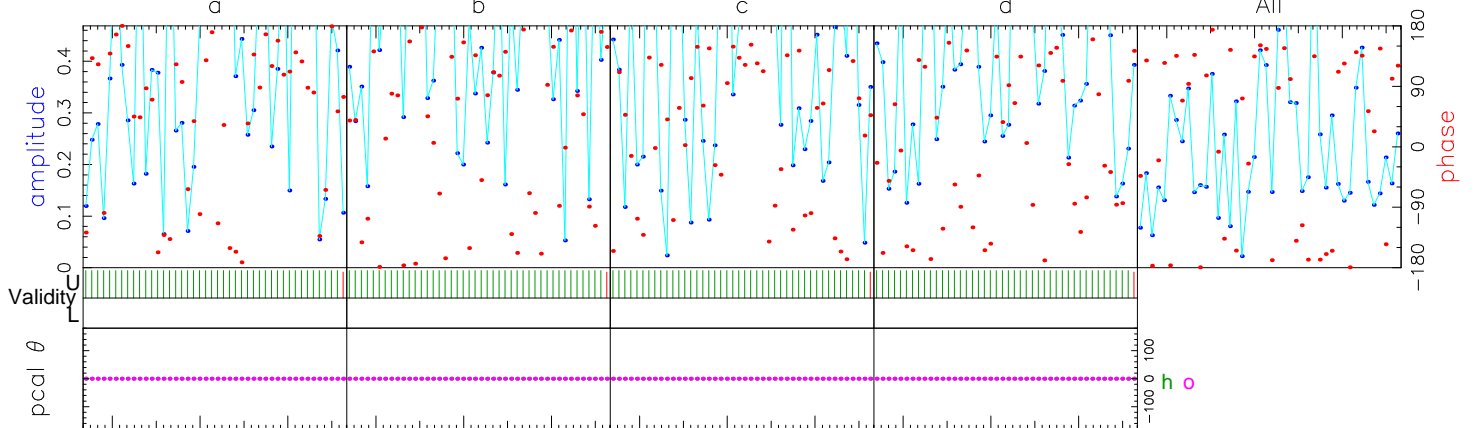
RA & Dec (J2000)

17h28m18.623995s

+50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
141.2	164.4	132.0	161.9	Phase	147.3
0.2	0.2	0.2	0.1	Ampl.	0.2
862.1	854.2	57.2	169.2	Sbd box	861.8
U/L 352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	PC freqs	
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	ManI 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	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-4.11370763441E+03	Apriori delay (usec)	-4.11438837899E+03	Resid mbdelay (usec)	1.05707E-03	+/-	1.9E-04
Sband delay (usec)	-4.11370713299E+03	Apriori clock (usec)	-2.0854328E+01	Resid sbdelay (usec)	6.81246E-01	+/-	7.5E-04
Phase delay (usec)	-4.11438836948E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	9.50864E-06	+/-	1.3E-06
Delay rate (us/s)	-4.57174216595E-01	Apriori rate (us/s)	-4.57175123753E-01	Resid rate (us/s)	9.07158E-07	+/-	1.2E-08
Total phase (deg)	-152.0	Apriori accel (us/s/s)	2.83594645794E-05	Resid phase (deg)	147.3	+/-	20.0

ph/seg (deg)	RMS 68.9	Theor. 66.4	Amplitude	0.156 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	103.0	115.8	Search (1024X16)	0.149	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	19.7	20.0	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	33.5	34.9	Inc. seg. avg.	0.142	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
h: az 301.3 el 50.9 pa 77.8	o: az 332.0 el 74.8 pa 143.8	u,v (fr/asec)	2065.179	1530.255	simultaneous interpolator				
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho.Q.158.1HPKOY									

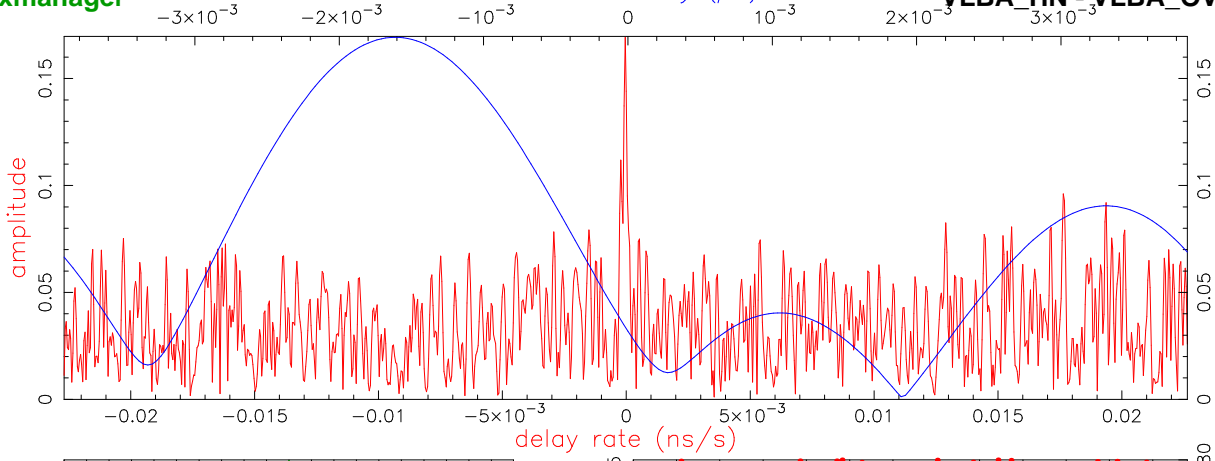
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

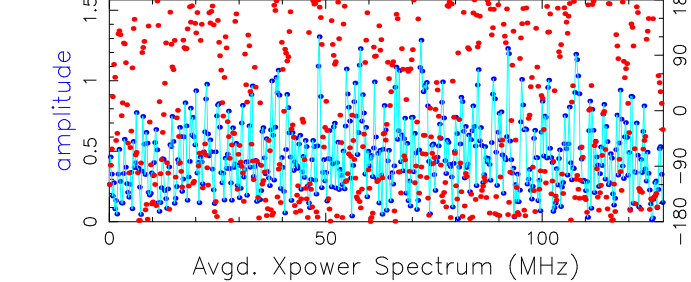
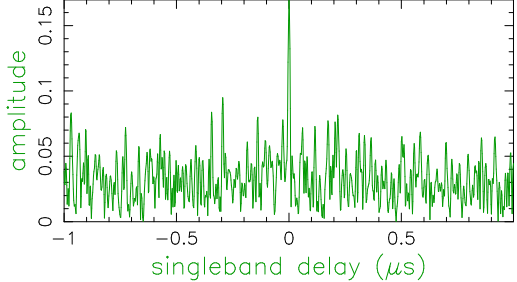
OT546.1HPKOY, No0233, ho

VLBA_HN - VLBA_OV, fgroup Q, pol LL

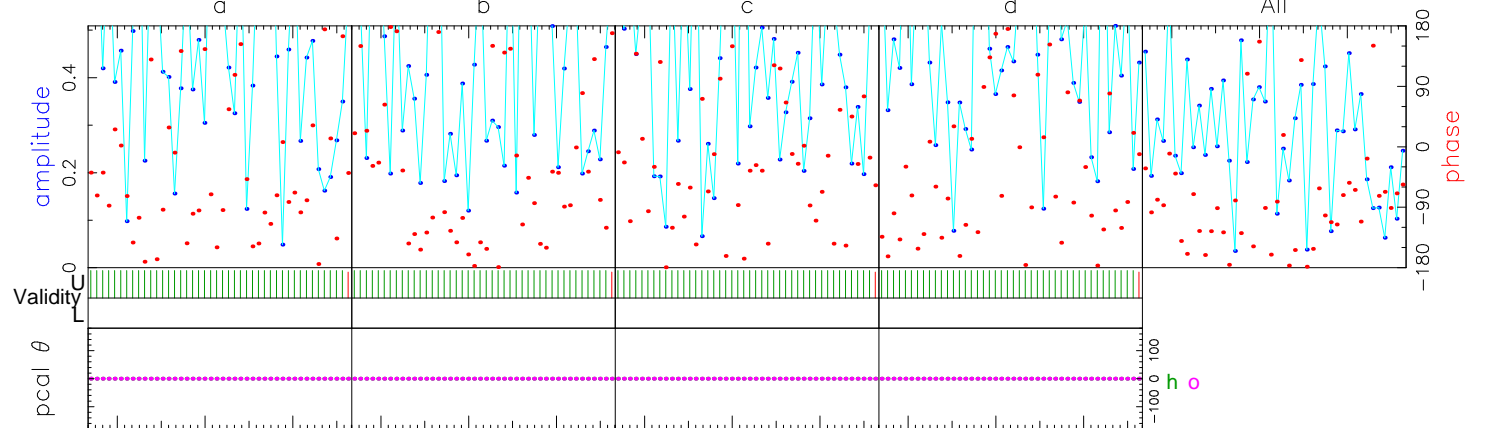
multiband delay (μ s)



Fringe quality 0
 SNR 6.2
 Int time 179.967
 Amp 0.170
 Phase -107.5
 PFD 6.2e-02
 Delays (us)
 SBD 0.000380
 MBD -0.001595
 Fringe rate (Hz)
 -0.002398
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164254
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-101.2	-125.5	-86.2	-113.7	Phase	-107.5
0.2	0.2	0.1	0.2	Ampl.	0.2
512.5	543.4	361.6	306.0	Sbd box	513.2
U/L 352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	PC freqs	
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	ManI PC	
h 1000	1000	1000	1000	PC amp	
o 1000	1000	1000	1000		
h Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-4.11438997409E+03	Apriori delay (usec)	-4.11438837899E+03	Resid mbdelay (usec)	-1.59510E-03	+/- 1.8E-04
Sband delay (usec)	-4.11438799936E+03	Apriori clock (usec)	-2.0854328E+01	Resid sbdelay (usec)	3.79625E-04	+/- 6.9E-04
Phase delay (usec)	-4.11438838593E+03	Apriori clockrate (us/s)	3.3000000E-07	Resid phdelay (usec)	-6.94102E-06	+/- 1.2E-06
Delay rate (us/s)	-4.57175179470E-01	Apriori rate (us/s)	-4.57175123753E-01	Resid rate (us/s)	-5.57173E-08	+/- 1.1E-08
Total phase (deg)	-46.9	Apriori accel (us/s/s)	2.83594645794E-05	Resid phase (deg)	-107.5	+/- 18.4

ph/seg (deg)	58.5	Theor.	61.0	Amplitude	0.170 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	112.7	Search (1024X16)	0.167	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)	20.7	Inc. seg. avg.	0.186	Inc. frq. avg.	0.166	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	17.4	Inc. frq. avg.	0.166			Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

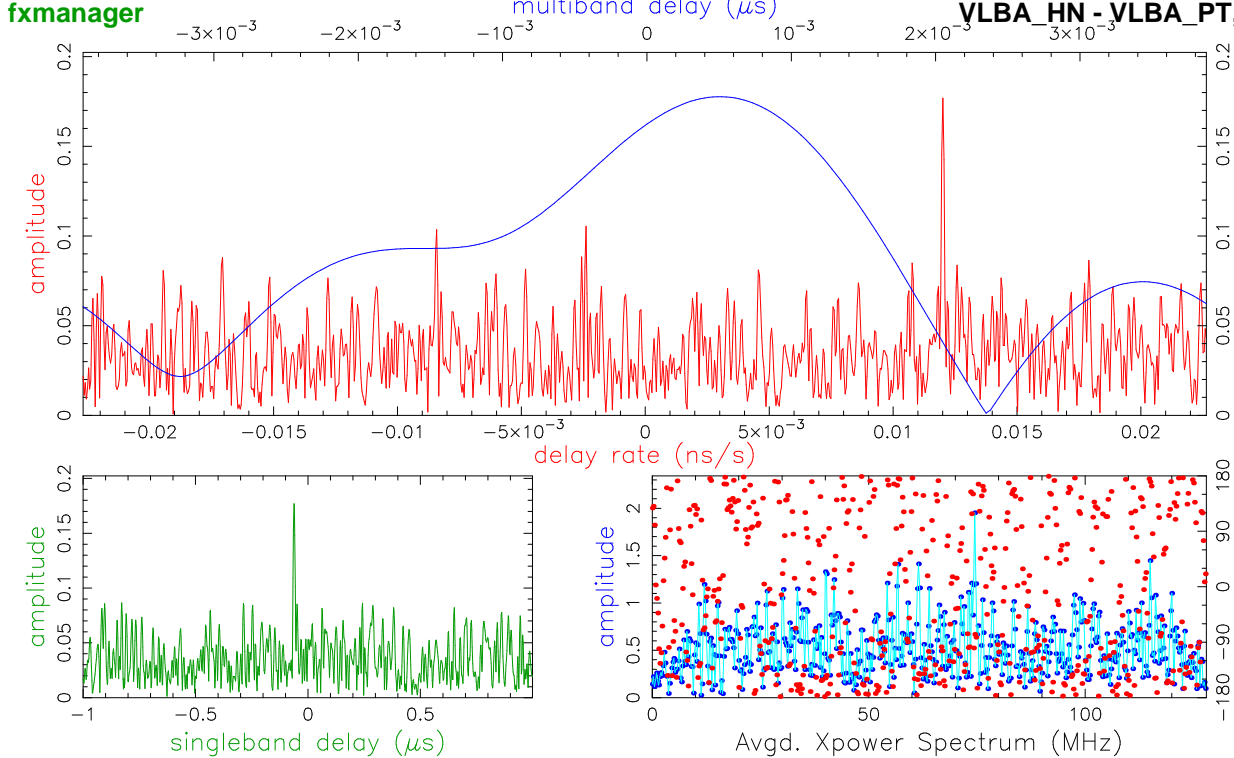
h: az 301.3 el 50.9 pa 77.8 o: az 332.0 el 74.8 pa 143.8 u,v (fr/asec) 2065.179 1530.255 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/ho.Q.97.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hp

VLBA_HN - VLBA_PT, fgroup Q, pol RR

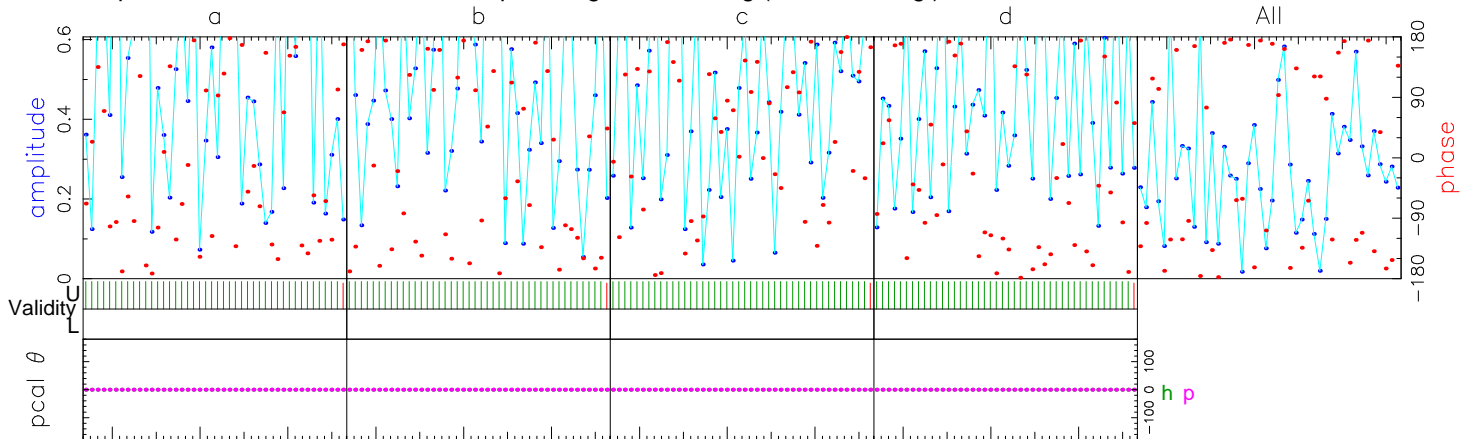


Fringe quality 0

SNR 6.6
 Int time 179.974
 Amp 0.202
 Phase -165.9
 PFD 6.1e-03
 Delays (us)
 SBD -0.061609
 MBD 0.000613
 Fringe rate (Hz) 0.518183
 Ion TEC 0.000
 Ref freq (MHz) 43040.0000
 AP (sec) 0.512

Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164255
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



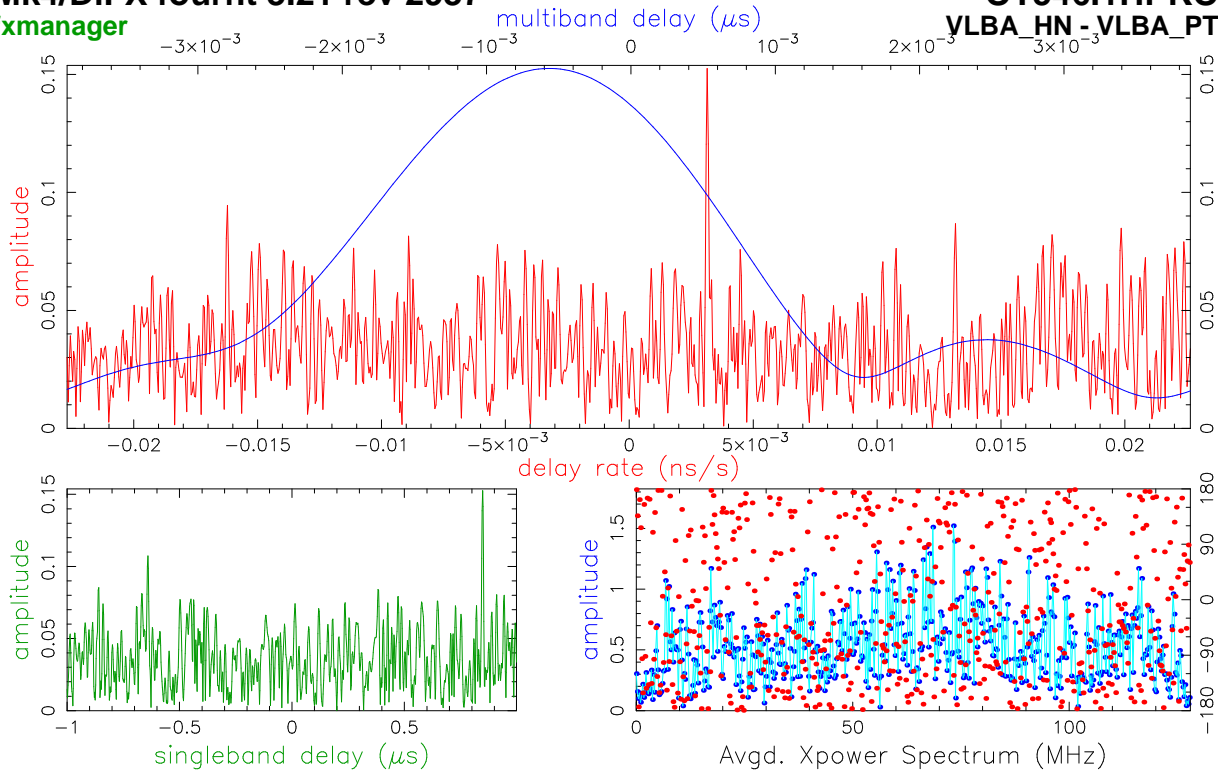
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000		
p	1000	1000	1000	1000		
h:p	0:0	0:0	0:0	0:0		
h:p	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
p	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
p	Q00UR	Q01UR	Q02UR	Q03UR		

	42912.00	43040.00	43168.00	43296.00	Resid mbdelay (usec)	6.12701E-04	+/- 1.7E-04
Group delay (usec)(sbd)	-3.24370209174E+03	-3.24370181344E+03	-3.24364021515E+03	-3.11881191281E-01	Apriori delay (usec)	-3.24364020444E+03	+/- 1.7E-04
Sband delay (usec)	-3.24370209174E+03	-3.24370181344E+03	-3.24364021515E+03	-3.11881191281E-01	Apriori clock (usec)	4.7610855E-01	+/- 6.5E-04
Phase delay (usec)	-3.24364021515E+03	-3.24364021515E+03	-3.24364021515E+03	-3.11881191281E-01	Apriori clockrate (us/s)	-1.6999997E-07	+/- 1.1E-06
Delay rate (us/s)	-3.11881191281E-01	-3.11881191281E-01	-3.11881191281E-01	-3.11881191281E-01	Apriori rate (us/s)	-3.11893230845E-01	+/- 1.1E-08
Total phase (deg)		-309.6			Apriori accel (us/s/s)	2.74299294362E-05	+/- 17.4

	RMS	Theor.	Amplitude	0.202 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	60.3	57.6	Search (1024X16)	0.172	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	102.8	100.6	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	41.6	17.4	Inc. seg. avg.	0.209	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	28.7	30.3	Inc. frq. avg.	0.212	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

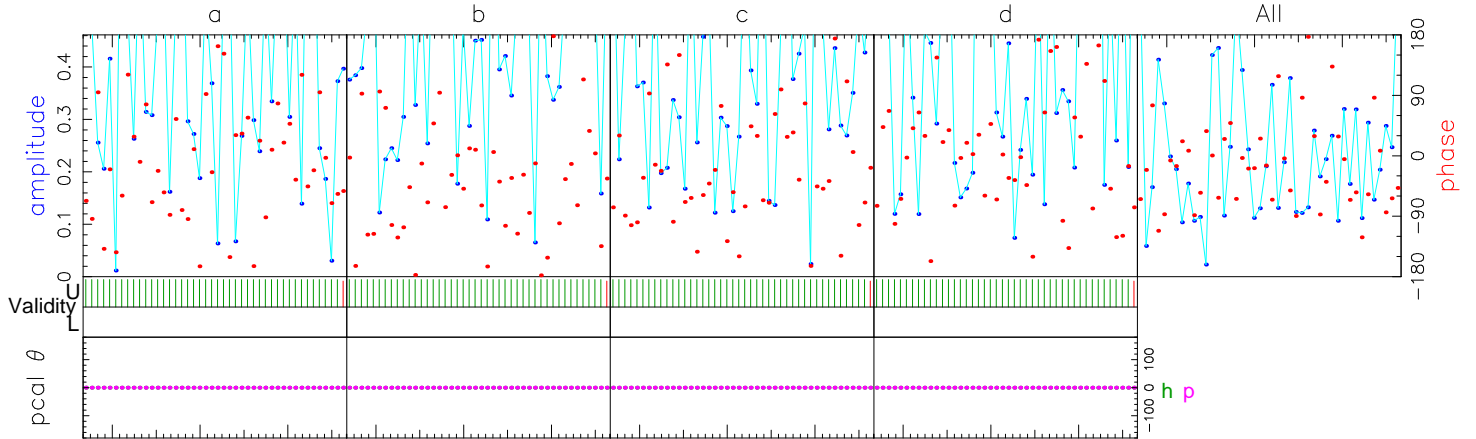
h: az 301.3 el 50.9 pa 77.8 p: az 322.1 el 67.8 pa 127.0 u,v (fr/asec) 1415.328 1610.459 simultaneous interpolator

Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp.Q.105.1HPKOY



Fringe quality 0
SNR 5.6
Int time 179.974
Amp 0.154
Phase -37.3
PFD 9.3e-01
Delays (us)
SBD 0.847794
MBD -0.000562
Fringe rate (Hz) 0.135240
Ion TEC 0.000
Ref freq (MHz) 43040.0000
AP (sec) 0.512
Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 005040.00
Stop 005340.22
FRT 005210.00
Corr/FF/build
2021:005:185249
2021:010:164256
2020:247:085004
RA & Dec (J2000)
17h28m18.623995s
+50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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		

Group delay (usec)(sbd)	-3.24278920351E+03	Apriori delay (usec)	-3.24364020444E+03	Resid mbdelay (usec)	-5.61566E-04	+/-	2.0E-04
Sband delay (usec)	-3.24279241007E+03	Apriori clock (usec)	4.7610855E-01	Resid sbdelay (usec)	8.47794E-01	+/-	7.7E-04
Phase delay (usec)	-3.24364020685E+03	Apriori clockrate (us/s)	-1.6999997E-07	Resid phdelay (usec)	-2.40612E-06	+/-	1.3E-06
Delay rate (us/s)	-3.11890088646E-01	Apriori rate (us/s)	-3.11893230845E-01	Resid rate (us/s)	3.14220E-06	+/-	1.3E-08
Total phase (deg)	-181.0	Apriori accel (us/s/s)	2.74299294362E-05	Resid phase (deg)	-37.3	+/-	20.5

ph/seg (deg)	66.3	Theor.	67.9	Amplitude	0.154 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	104.9		118.5	Search (1024X16)	0.151	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	21.7		20.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	25.8		35.7	Inc. seg. avg.	0.142	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.149	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

h: az 301.3 el 50.9 pa 77.8 p: az 322.1 el 67.8 pa 127.0 u,v (fr/asec) 1415.328 1610.459 simultaneous interpolator
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp.Q.121.1HPKOY

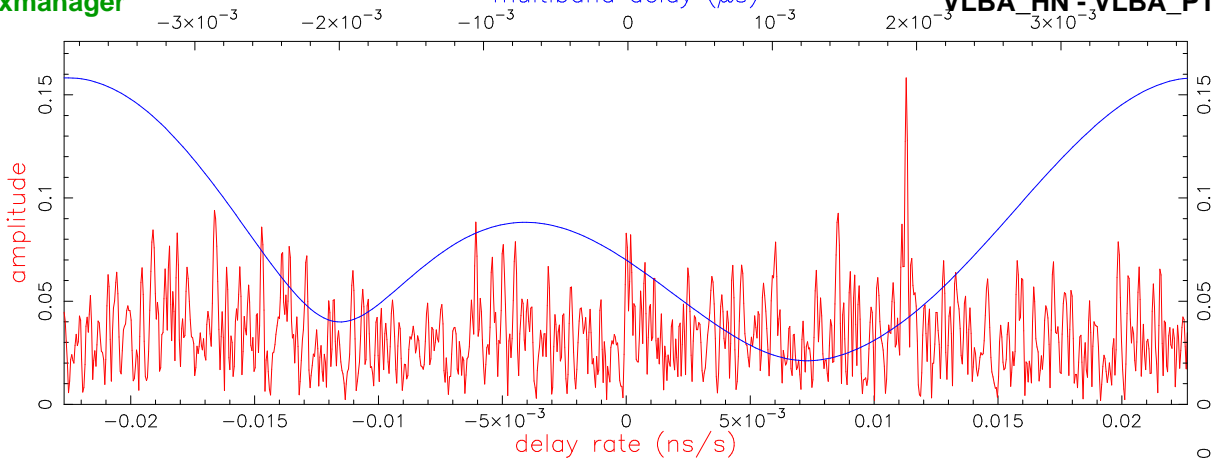
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

OT546.1HPKOY, No0233, hp

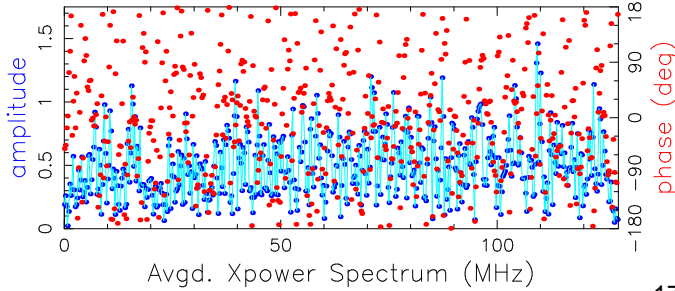
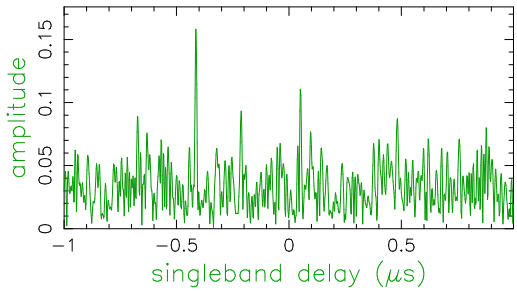
VLBA_HN - VLBA_PT, fgroup Q, pol RL

multiband delay (μ s)



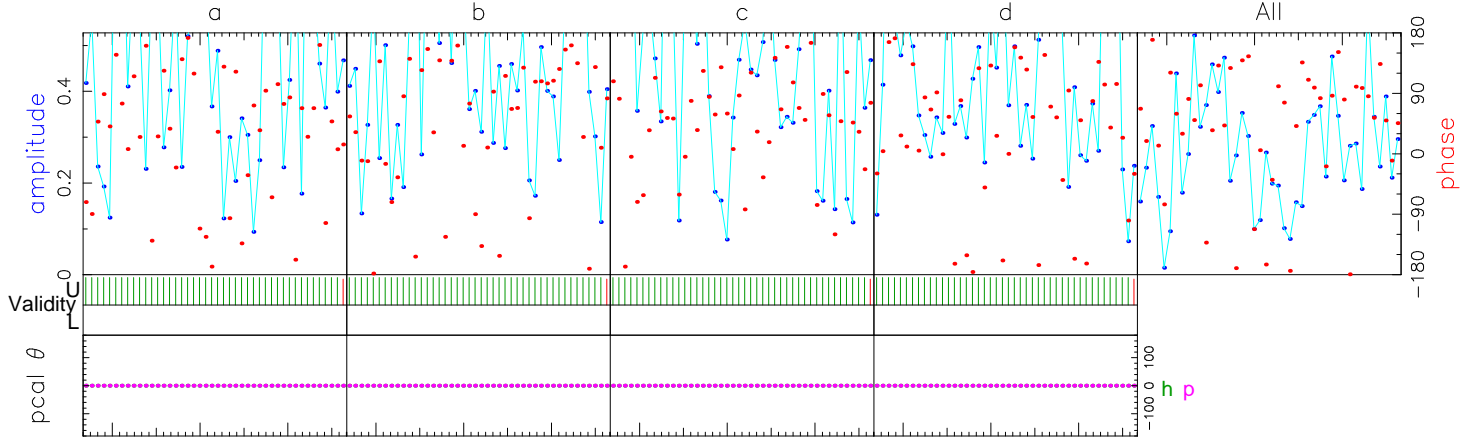
Fringe quality 0

SNR 5.8
 Int time 179.974
 Amp 0.176
 Phase 88.2
 PFD 5.4e-01
 Delays (us)
 SBD -0.413813
 MBD 0.003954
 Fringe rate (Hz)
 0.487435
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164258
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
h	1000	1000	1000	1000	APs used	1000
p	1000	1000	1000	1000	PC freqs	1000
h:p	0:0	0:0	0:0	0:0	PC phase	0:0
h:p	0:0	0:0	0:0	0:0	Manl PC	0:0
h	1000	1000	1000	1000	PC amp	1000
p	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

	-3.24405031322E+03	Apriori delay (usec)	-3.24364020444E+03	Resid mbdelay (usec)	3.95372E-03	+/- 1.9E-04
Sband delay (usec)	-3.24405401757E+03	Apriori clock (usec)	4.7610855E-01	Resid sbdelay (usec)	-4.13813E-01	+/- 7.4E-04
Phase delay (usec)	-3.24364019875E+03	Apriori clockrate (us/s)	-1.6999997E-07	Resid phdelay (usec)	5.69206E-06	+/- 1.3E-06
Delay rate (us/s)	-3.11881905681E-01	Apriori rate (us/s)	-3.11893230845E-01	Resid rate (us/s)	1.13252E-05	+/- 1.2E-08
Total phase (deg)	-55.5	Apriori accel (us/s/s)	2.74299294362E-05	Resid phase (deg)	88.2	+/- 19.7

	RMS	Theor.	Amplitude	0.176 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	69.2	65.4	Search (1024X16)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	108.6	114.1	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.004 0.004
ph/frq (deg)	33.4	19.7	Inc. seg. avg.	0.184	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	35.8	34.4	Inc. frq. avg.	0.182	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

h: az 301.3 el 50.9 pa 77.8 p: az 322.1 el 67.8 pa 127.0 u,v (fr/asec) 1415.328 1610.459 simultaneous interpolator

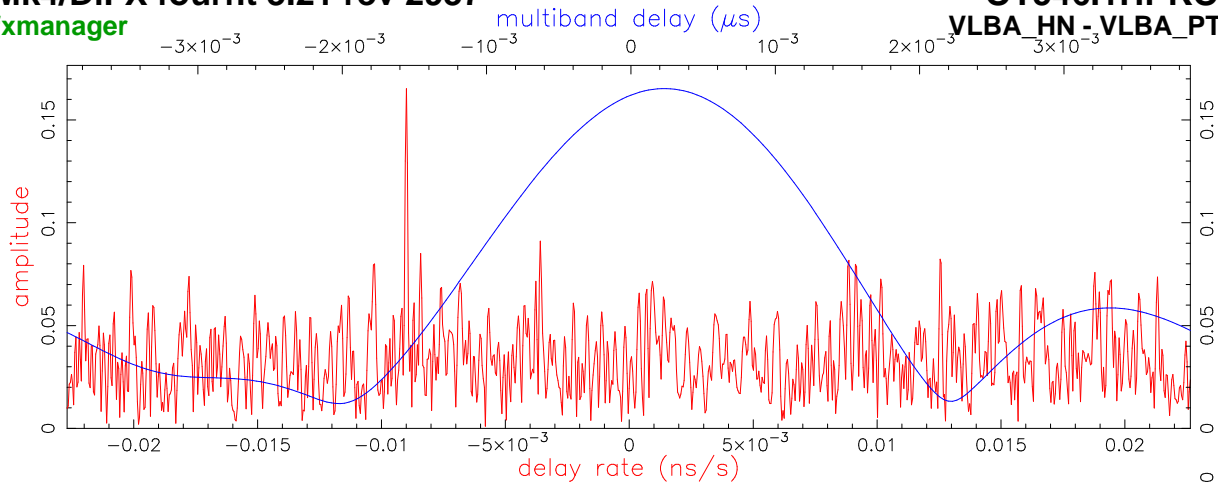
Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp.Q.139.1HPKOY

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

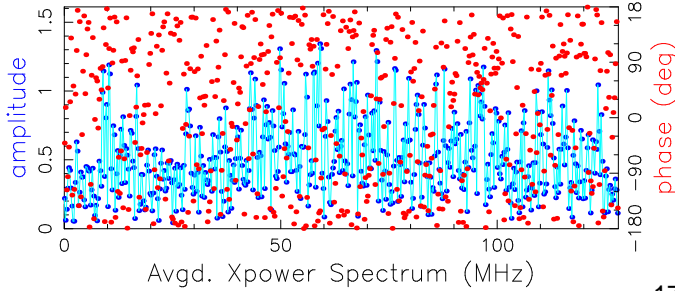
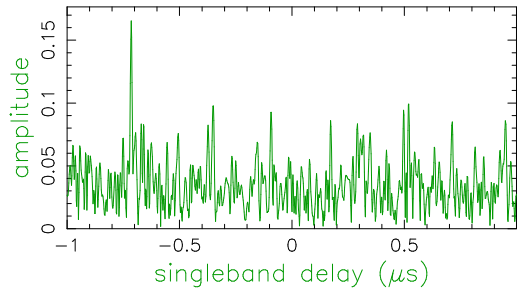
OT546.1HPKOY, No0233, hp

VLBA_HN - VLBA_PT, fgroup Q, pol LL



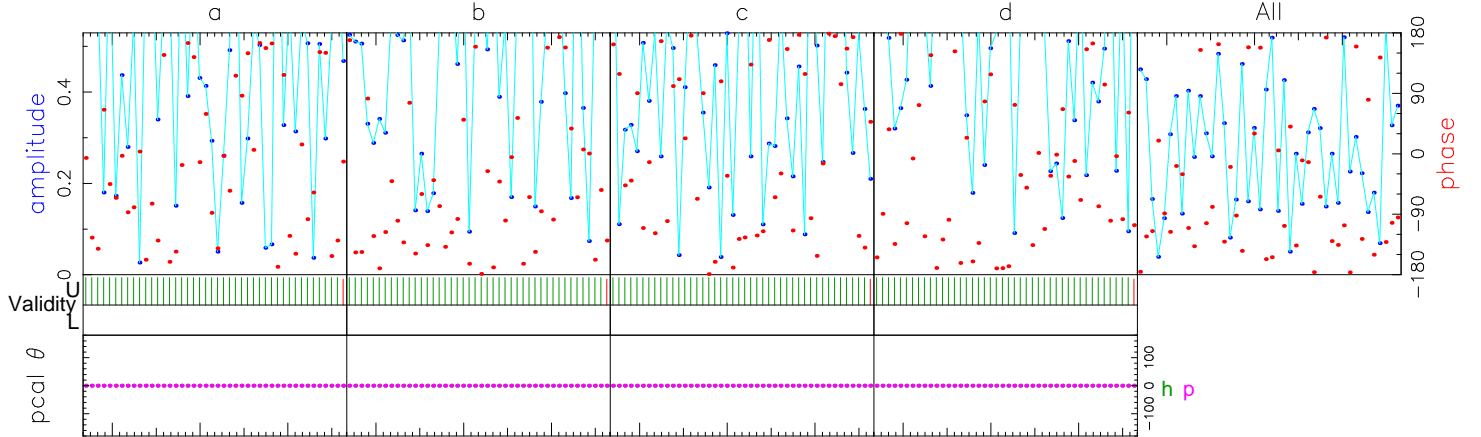
Fringe quality 0

SNR 6.1
 Int time 179.974
 Amp 0.177
 Phase -129.9
 PFD 1.6e-01
 Delays (us)
 SBD -0.714765
 MBD 0.000234
 Fringe rate (Hz)
 -0.388309
 Ion TEC 0.000
 Ref freq (MHz)
 43040.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 005040.00
 Stop 005340.22
 FRT 005210.00
 Corr/FF/build
 2021:005:185249
 2021:010:164253
 2020:247:085004
 RA & Dec (J2000)
 17h28m18.623995s
 +50°13'10.470090"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-130.7	-120.6	-149.7	-120.8	Phase	-129.9
0.1	0.2	0.2	0.2	Ampl.	0.2
778.5	144.9	930.2	1001.5	Sbd box	147.0
U/L 352/0	352/0	352/0	352/0	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 Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-3.24435872020E+03	Apriori delay (usec)	-3.24364020444E+03	Resid mbdelay (usec)	2.34240E-04	+/-	1.8E-04
Sband delay (usec)	-3.24435496944E+03	Apriori clock (usec)	4.7610855E-01	Resid sbdelay (usec)	-7.14765E-01	+/-	7.1E-04
Phase delay (usec)	-3.24364021283E+03	Apriori clockrate (us/s)	-1.6999997E-07	Resid phdelay (usec)	-8.38545E-06	+/-	1.2E-06
Delay rate (us/s)	-3.11902252887E-01	Apriori rate (us/s)	-3.11893230845E-01	Resid rate (us/s)	-9.02204E-06	+/-	1.2E-08
Total phase (deg)	-273.6	Apriori accel (us/s/s)	2.74299294362E-05	Resid phase (deg)	-129.9	+/-	18.9

ph/seg (deg)	RMS 73.8	Theor. 62.7	Amplitude Search (1024X16)	0.177 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	107.0	109.4	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)	16.8	18.9	Inc. seg. avg.	0.186	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	18.8	33.0	Inc. frq. avg.	0.171	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

h: az 301.3 el 50.9 pa 77.8 p: az 322.1 el 67.8 pa 127.0 u,v (fr/asec) 1415.328 1610.459 simultaneous interpolator
 Control file: cf_1234_gmva7mm Input file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp..1HPKOY Output file: /Exps/c202a/v1/v1_7mm/1234/No0233/hp.Q.90.1HPKOY