

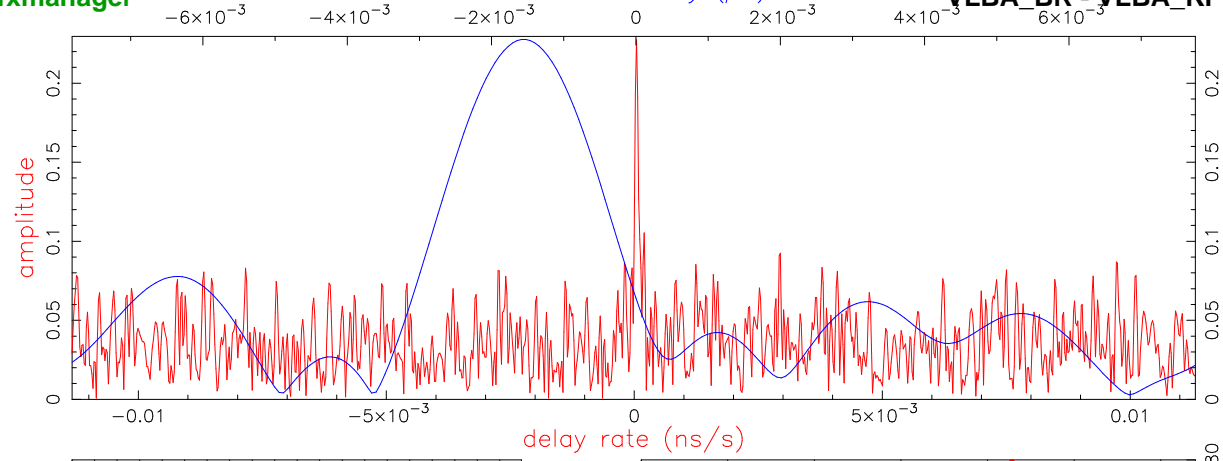
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, bk

VLBA\_BR - VLBA\_KP, fgroup W, pol LL

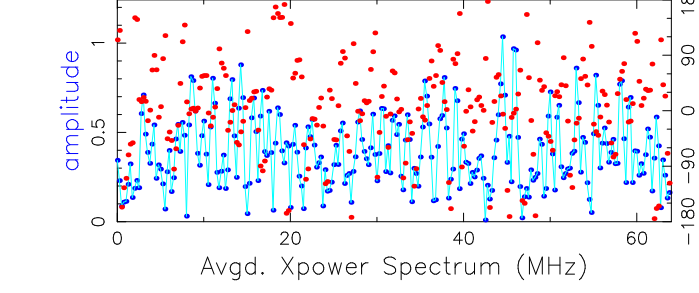
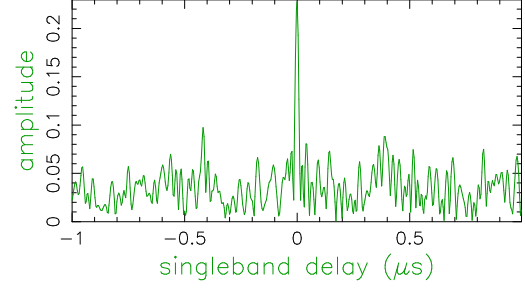
multiband delay ( $\mu$ s)



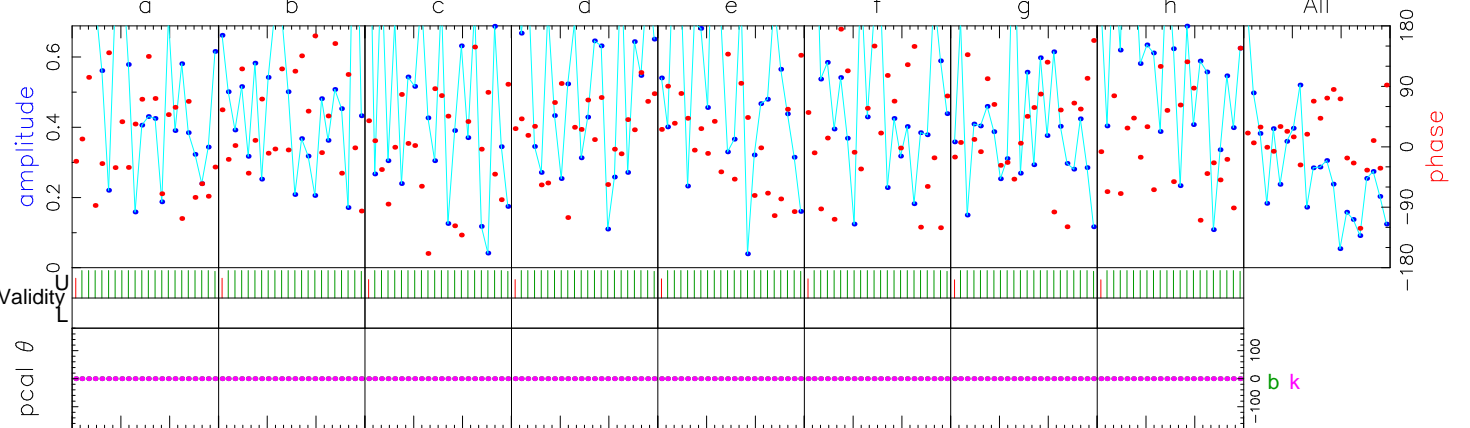
Fringe quality 9

SNR 8.4  
 Int time 177.402  
 Amp 0.230  
 Phase 15.4  
 PFD 1.1e-08  
 Delays (us)  
 SBD -0.001209  
 MBD -0.001603  
 Fringe rate (Hz)  
 0.003100  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145416  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
b	1000	1000	1000	1000	1000	1000	1000	1000			
k	1000	1000	1000	1000	1000	1000	1000	1000			
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
b	1000	1000	1000	1000	1000	1000	1000	1000			
k	1000	1000	1000	1000	1000	1000	1000	1000			
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
Group delay (usec)(sbd)	3.97783498853E+03		Apriori delay (usec)		3.97783659178E+03		Resid mbdelay (usec)		-1.60324E-03	+/- 1.3E-04	
Sband delay (usec)	3.97783538253E+03		Apriori clock (usec)		-2.0405693E-08		Resid sbdelay (usec)		-1.20925E-03	+/- 1.0E-03	
Phase delay (usec)	3.97783659228E+03		Apriori clockrate (us/s)		-9.9999991E-08		Resid phdelay (usec)		4.97904E-07	+/- 4.4E-07	
Delay rate (us/s)	2.02177419968E-01		Apriori rate (us/s)		2.02177383979E-01		Resid rate (us/s)		3.59891E-08	+/- 4.2E-09	
Total phase (deg)			21.2		Apriori accel (us/s/s)		-2.28010302403E-06		Resid phase (deg)	15.4	+/- 13.7

ph/seg (deg) 47.9 32.1 Search (1024X32) 0.221 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 67.6 56.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.3 19.4 Inc. seg. avg. 0.242 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 30.0 33.8 Inc. frq. avg. 0.220 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 298.9 el 49.9 pa 68.3 k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) -1845.101 982.827 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk.W.2.1HV1N7

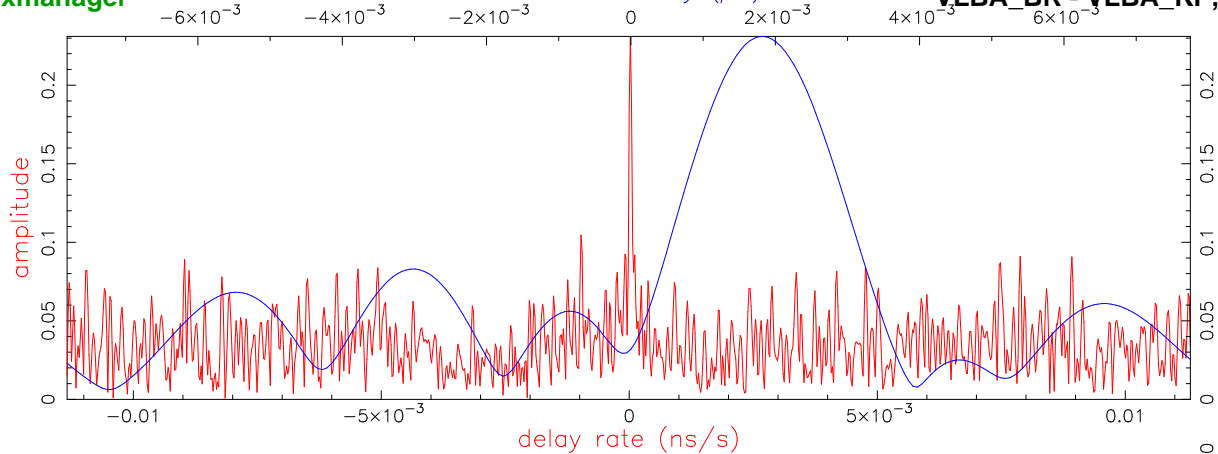
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, bk

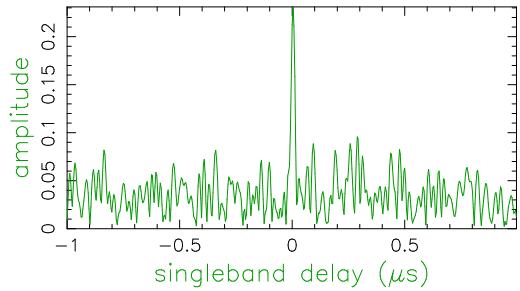
VLBA\_BR - VLBA\_KP, fgroup W, pol RR

multiband delay ( $\mu$ s)

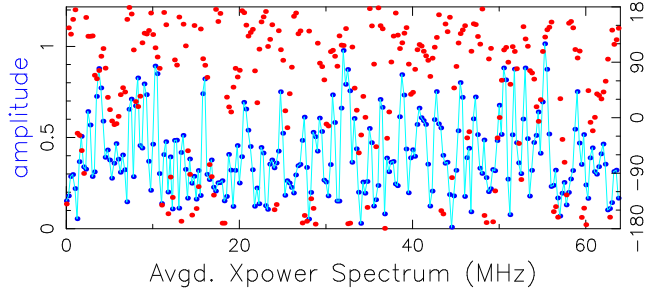


Fringe quality 9

SNR 8.4  
 Int time 177.403  
 Amp 0.231  
 Phase 143.2  
 PFD 7.0e-09  
 Delays (us)  
 SBD 0.003825  
 MBD 0.001816  
 Fringe rate (Hz) 0.002817  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

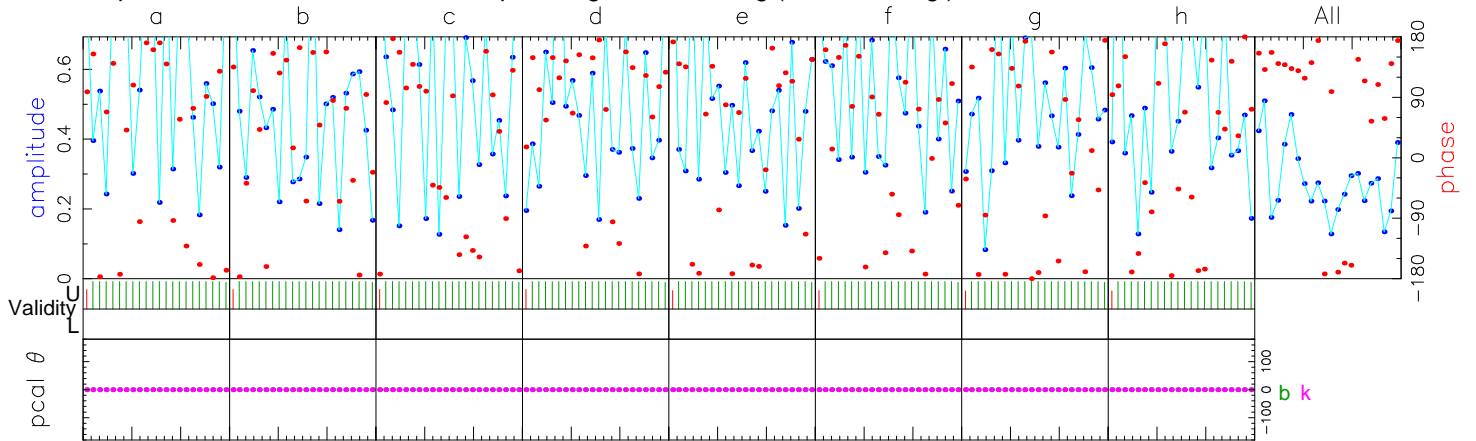


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145418  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	3.97783840788E+03	Apriori delay (usec)	3.97783659178E+03	Resid mbdelay (usec)	1.81610E-03	+/-	1.3E-04
Sband delay (usec)	3.97784041703E+03	Apriori clock (usec)	-2.0405693E+00	Resid sbdelay (usec)	3.82525E-03	+/-	1.0E-03
Phase delay (usec)	3.97783659640E+03	Apriori clockrate (us/s)	-9.9999991E-08	Resid phdelay (usec)	4.61913E-06	+/-	4.4E-07
Delay rate (us/s)	2.02177416682E-01	Apriori rate (us/s)	2.02177383979E-01	Resid rate (us/s)	3.27028E-08	+/-	4.2E-09
Total phase (deg)	149.0	Apriori accel (us/s/s)	-2.28010302403E-06	Resid phase (deg)	143.2	+/-	13.6

ph/seg (deg)	39.2	Theor.	31.9	Amplitude	0.231 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	47.9		55.7	Search (1024X32)	0.218	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	14.9		19.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	32.5		33.6	Inc. seg. avg.	0.242	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.225	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

b: az 298.9 el 49.9 pa 68.3 k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) -1845.101 982.827 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk.W.27.1HV1N7

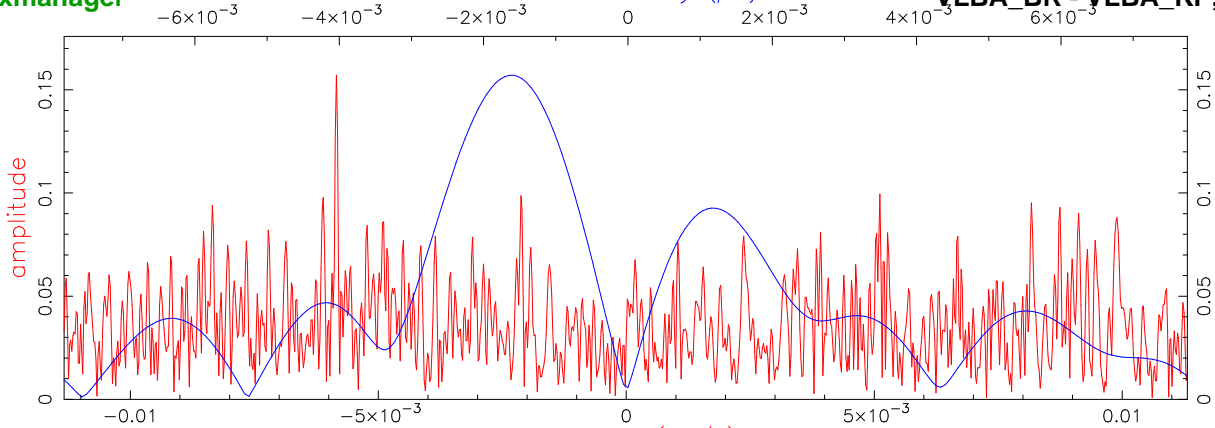
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, bk

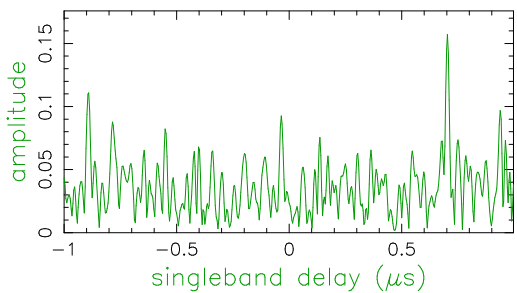
VLBA\_BR - VLBA\_KP, fgroup W, pol LR

multiband delay ( $\mu$ s)

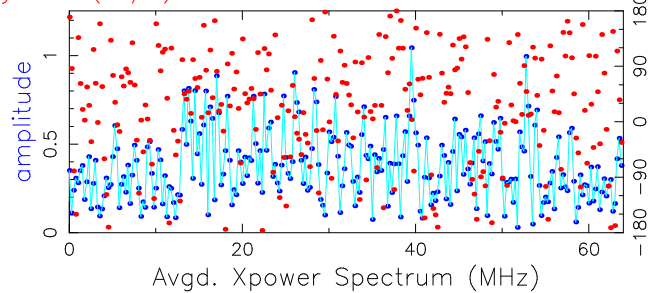


Fringe quality 0

SNR 5.7  
 Int time 177.402  
 Amp 0.176  
 Phase -111.3  
 PFD 7.2e-01  
 Delays (us)  
 SBD 0.702846  
 MBD -0.001622  
 Fringe rate (Hz)  
 -0.505177  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

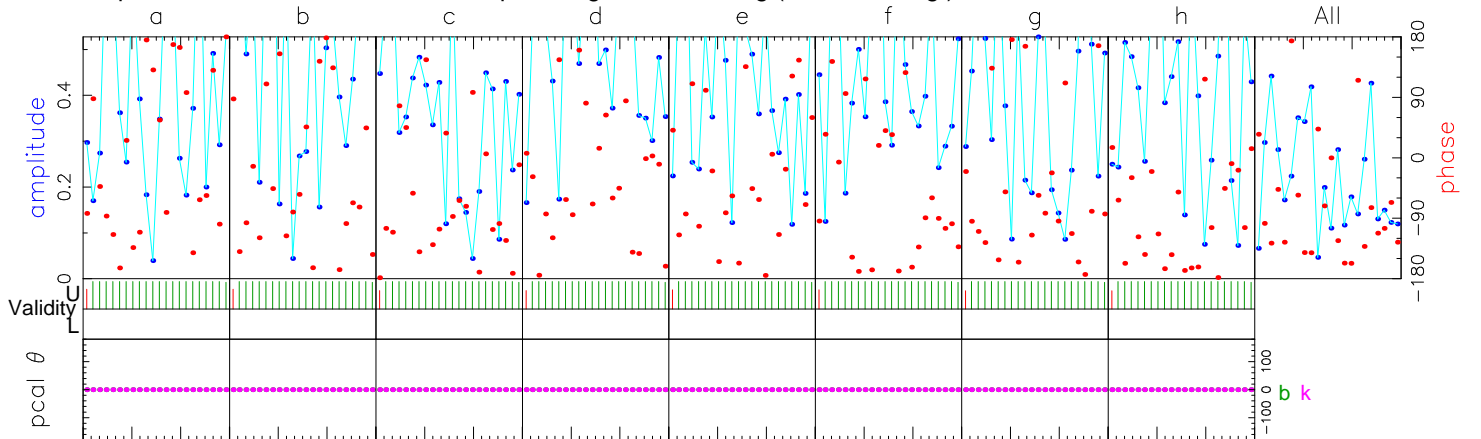


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145420  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-122.0	-121.3	-103.8	-64.1	-113.1	-139.5	-122.6	-100.8	Phase	-111.3
	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.3	Ampl.	0.2
	318.3	448.7	217.9	329.3	449.0	433.0	28.4	375.9	Sbd box	436.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	3.97853809503E+03	Apriori delay (usec)	3.97783659178E+03	Resid mbdelay (usec)	-1.62175E-03	+/-	1.9E-04
Sband delay (usec)	3.97853943778E+03	Apriori clock (usec)	-2.0405693E-08	Resid sbdelay (usec)	7.02846E-01	+/-	1.5E-03
Phase delay (usec)	3.97783658819E+03	Apriori clockrate (us/s)	-9.9999991E-08	Resid phdelay (usec)	-3.58990E-06	+/-	6.5E-07
Delay rate (us/s)	2.02171519371E-01	Apriori rate (us/s)	2.02177383979E-01	Resid rate (us/s)	-5.86461E-06	+/-	6.2E-09
Total phase (deg)		Apriori accel (us/s/s)	-2.28010302403E-06	Resid phase (deg)	-111.3	+/-	20.0

ph/seg (deg)	65.8	Theor.	46.9	Amplitude	0.176 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	85.1		81.9	Search (1024X32)	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	24.3		28.3	Inc. seg. avg.	0.188	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	37.8		49.4	Inc. frq. avg.	0.166	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

b: az 298.9 el 49.9 pa 68.3 k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) -1845.101 982.827 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk.W.46.1HV1N7

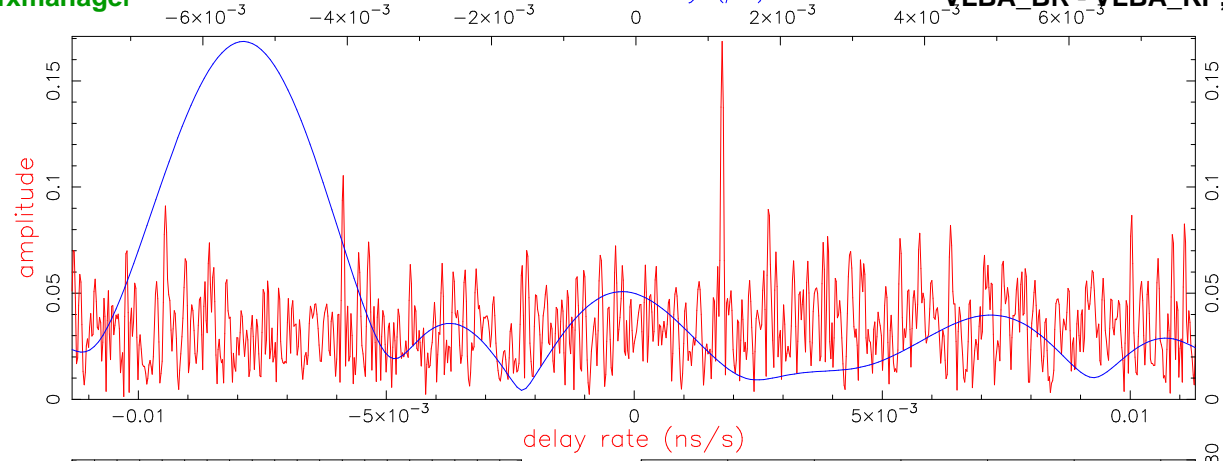
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, bk

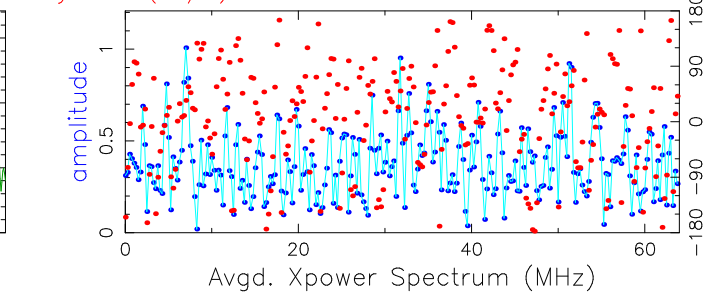
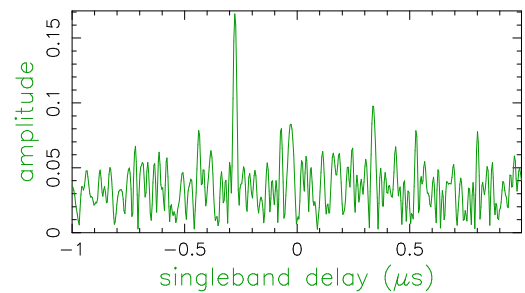
VLBA\_BR - VLBA\_KP, fgroup W, pol RL

multiband delay ( $\mu$ s)



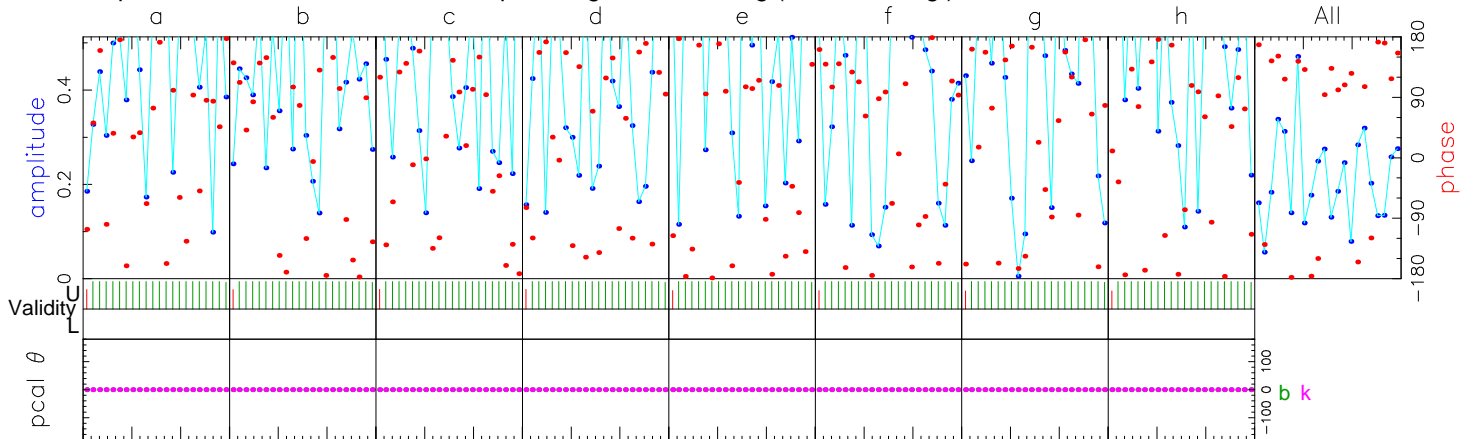
Fringe quality 0

SNR 6.2  
 Int time 177.403  
 Amp 0.171  
 Phase 146.9  
 PFD 9.0e-02  
 Delays (us)  
 SBD -0.276532  
 MBD -0.005435  
 Fringe rate (Hz)  
 0.153666  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



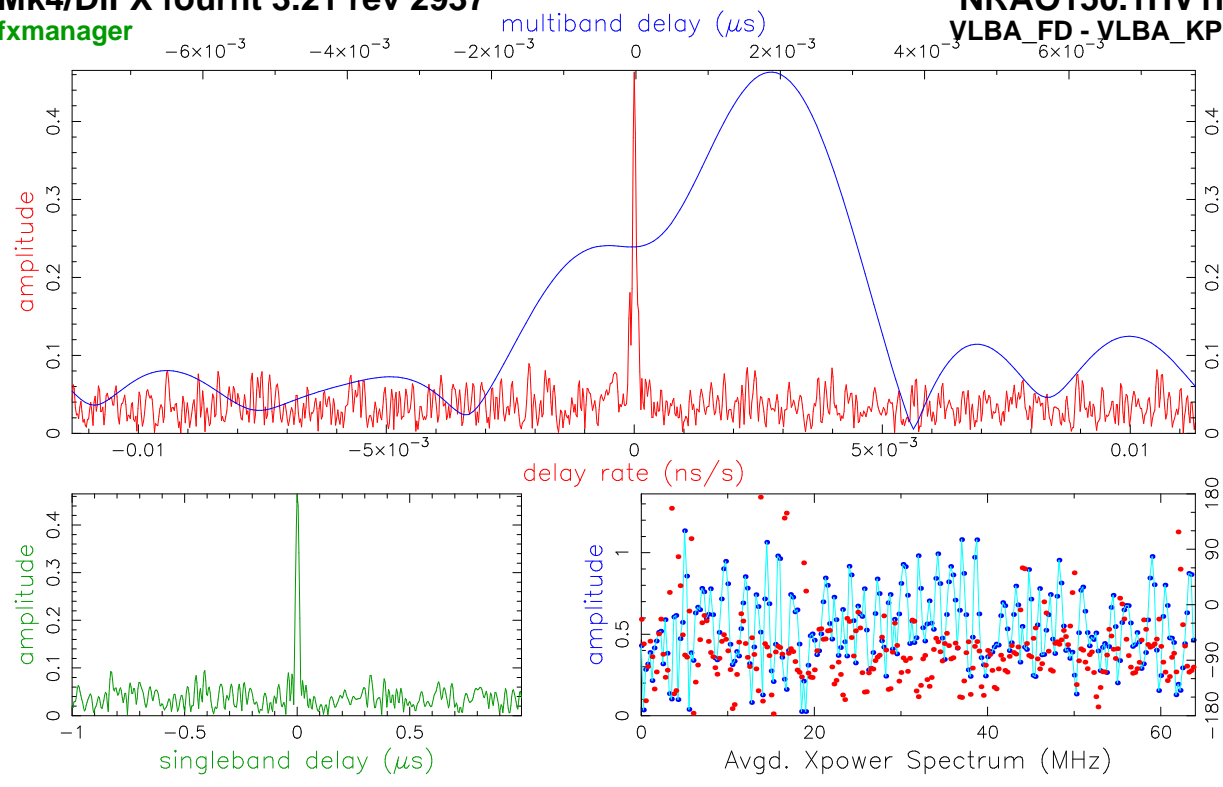
Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145423  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



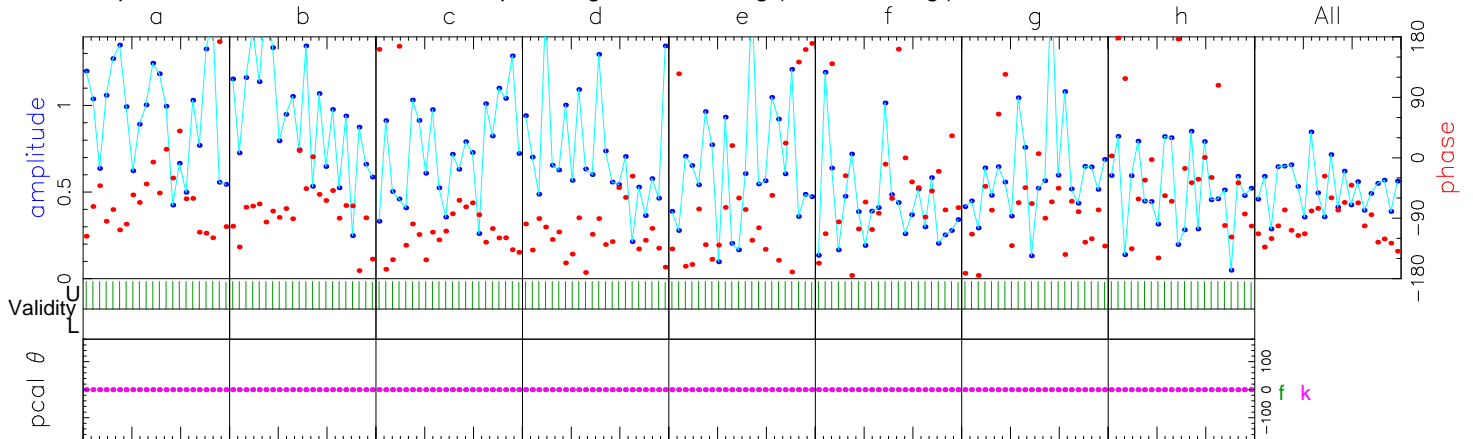
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	3.97756553211E+03		Apriori delay (usec)		3.97783659178E+03		Resid mbdelay (usec)		-5.43467E-03	+/- 1.8E-04
Sband delay (usec)	3.97756006003E+03		Apriori clock (usec)		-2.0405693E+00		Resid sbdelay (usec)		-2.76532E-01	+/- 1.4E-03
Phase delay (usec)	3.97783659652E+03		Apriori clockrate (us/s)		-9.9999991E-08		Resid phdelay (usec)		4.73719E-06	+/- 6.0E-07
Delay rate (us/s)	2.02179167883E-01		Apriori rate (us/s)		2.02177383979E-01		Resid rate (us/s)		1.78390E-06	+/- 5.8E-09
Total phase (deg)	152.6		Apriori accel (us/s/s)		-2.28010302403E-06		Resid phase (deg)		146.9	+/- 18.6

ph/seg (deg) 42.0 43.6 Search (1024X32) 0.158 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 63.3 76.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 13.6 26.3 Inc. seg. avg. 0.169 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.2 45.9 Inc. frq. avg. 0.157 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 298.9 el 49.9 pa 68.3 k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) -1845.101 982.827 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/bk.W.73.1HV1N7



Fringe quality 7  
SNR 17.1  
Int time 179.963  
Amp 0.465  
Phase -94.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.000875  
MBD 0.001888  
Fringe rate (Hz) 0.000840  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145417  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-75.5	-77.9	-118.4	-115.6	-129.6	-75.4	-86.8	-56.9	Phase	-94.1
	0.7	0.8	0.6	0.6	0.4	0.2	0.4	0.3	Ampl.	0.5
	257.5	256.9	257.4	257.2	257.2	53.0	256.9	257.9	Sbd box	257.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.76480715872E+03	Apriori delay (usec)	-1.76480904703E+03	Resid mbdelay (usec)	1.88831E-03	+/-	6.4E-05
Sband delay (usec)	-1.76480817153E+03	Apriori clock (usec)	7.5137062E+00	Resid sbdelay (usec)	8.75500E-04	+/-	5.0E-04
Phase delay (usec)	-1.76480905007E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-3.03439E-06	+/-	2.2E-07
Delay rate (us/s)	-3.82109060877E-02	Apriori rate (us/s)	-3.82109158446E-02	Resid rate (us/s)	9.75684E-09	+/-	2.1E-09
Total phase (deg)	-206.2	Apriori accel (us/s/s)	7.69568811699E-06	Resid phase (deg)	-94.1	+/-	6.7

ph/seg (deg)	29.9	RMS	15.7	Theor.	15.7	Amplitude	0.465 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	31.3	Search (1024X32)	0.446	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
ph/frq (deg)	28.0	Inc. seg. avg.	0.507	Inc. frq. avg.	0.496	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/frq (%)	41.8	Inc. frq. avg.	0.496	Sample rate (MSamp/s):	128	Data rate (Mb/s):	2048	nlags:	256	t_cohere	infinite
f: az 314.6 el 29.7 pa 76.6		k: az 312.9 el 35.3 pa 80.9		u,v (fr/asec)	352.288 636.236	ion window (TEC)	0.00	0.00			simultaneous interpolator

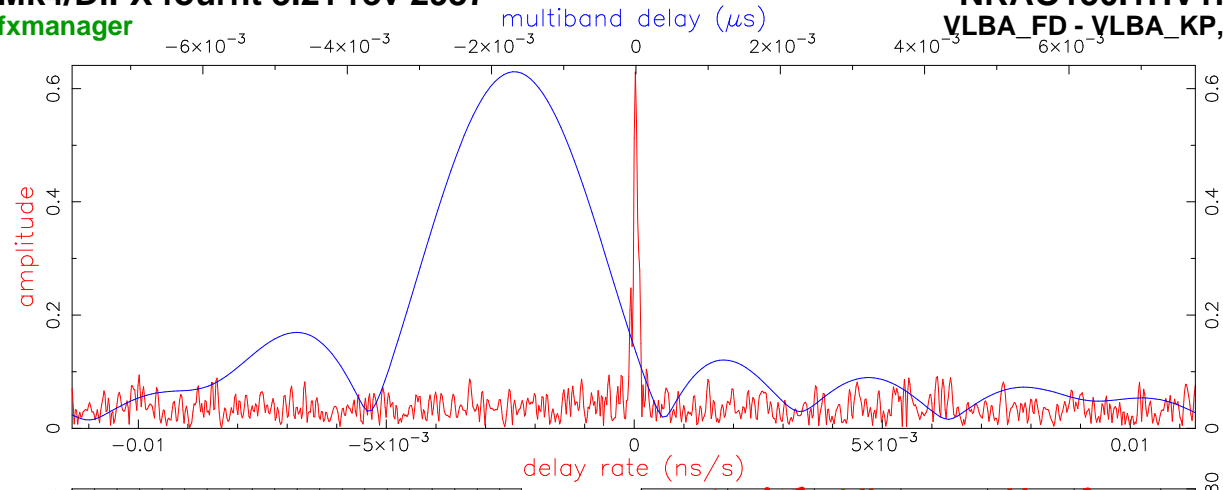


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, fk

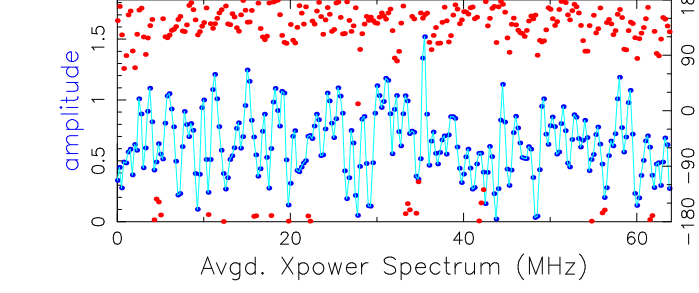
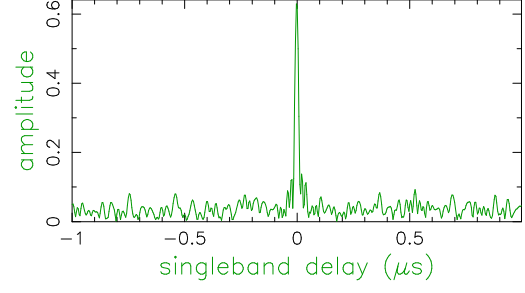
VLBA\_FD - VLBA\_KP, fgroup W, pol RR



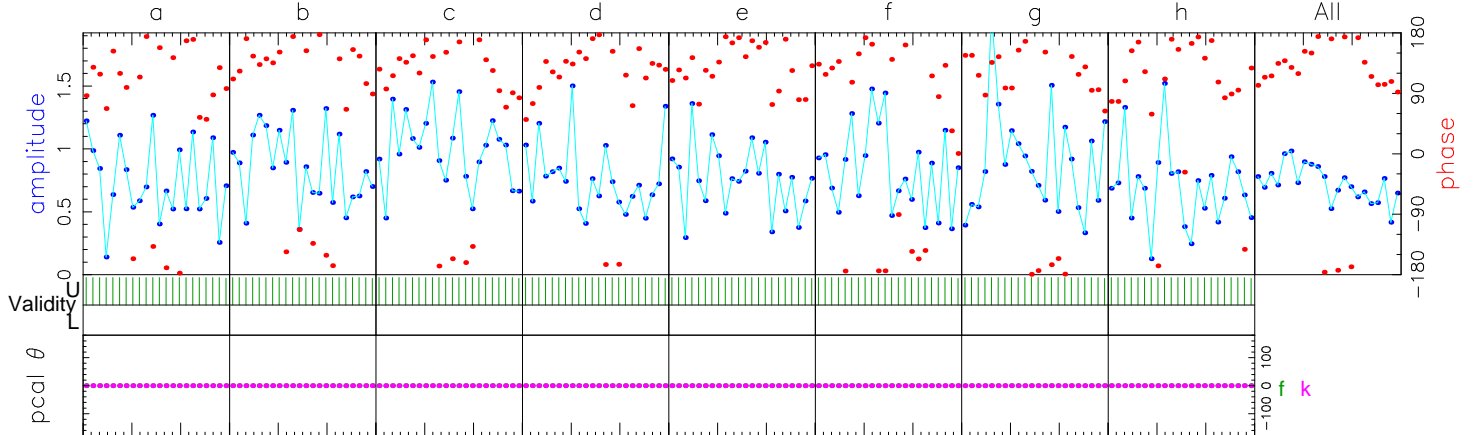
Fringe quality 8

SNR 23.5  
 Int time 179.963  
 Amp 0.641  
 Phase 140.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.002211  
 MBD -0.001650  
 Fringe rate (Hz) 0.001266  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build 2021:008:174658  
 2021:010:145419  
 2020:247:085004  
 RA & Dec (J2000) 03h59m29.747267s +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	PC freqs
k	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	PC phase
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	Manl PC
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	PC amp
f	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	Chan ids
k	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	Tracks
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	Tracks
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.76481069676E+03				-1.76480904703E+03				Resid mbdelay (usec)	-1.64973E-03 +/- 4.6E-05
Sband delay (usec)	-1.76481125778E+03				7.5137062E+00				Resid sbdelay (usec)	-2.21075E-03 +/- 3.7E-04
Phase delay (usec)	-1.76480904252E+03				2.9999999E-07				Resid phdelay (usec)	4.51355E-06 +/- 1.6E-07
Delay rate (us/s)	-3.82109011477E-02				-3.82109158446E-02				Resid rate (us/s)	1.46969E-08 +/- 1.5E-09
Total phase (deg)			27.9		7.69568811699E-06				Resid phase (deg)	140.0 +/- 4.9
	RMS	Theor.	Amplitude	0.641 +/- 0.027	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			sb window (us)	-1.000 1.000
ph/seg (deg)	31.2	11.4	Search (1024X32)	0.607	PCal rate: 0.000E+00, 0.000E+00 (us/s)				mb window (us)	-0.008 0.008
amp/seg (%)	25.5	19.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled			dr window (ns/s)	-0.011 0.011
ph/frq (deg)	10.2	6.9	Inc. seg. avg.	0.714	Sample rate(MISamp/s): 128				ion window (TEC)	0.00 0.00
amp/frq (%)	14.7	12.0	Inc. frq. avg.	0.632	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite				
f: az 314.6 el 29.7 pa 76.6			k: az 312.9 el 35.3 pa 80.9		u,v (fr/asec) 352.288 636.236					simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/fk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/fk.W.37.1HV1N7

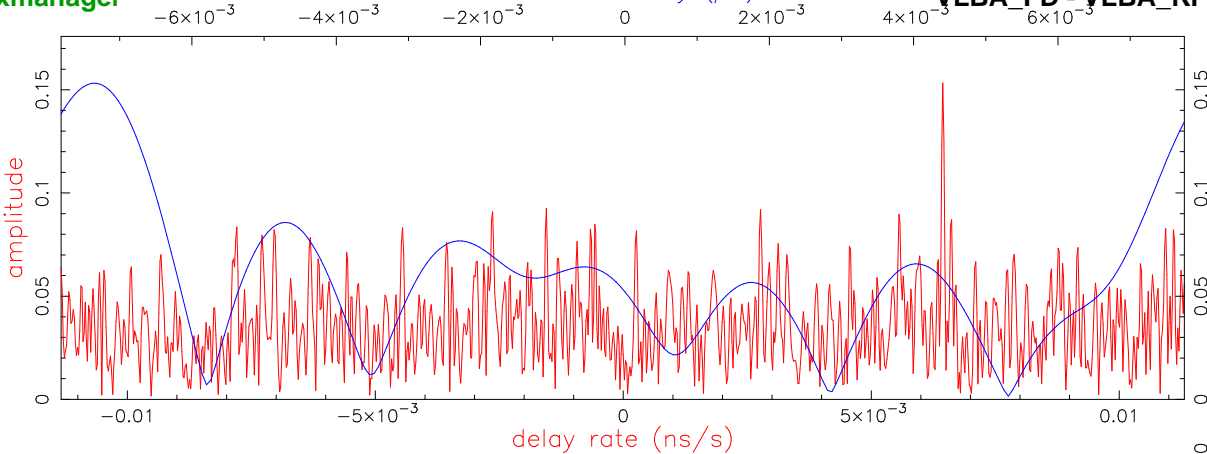
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, fk

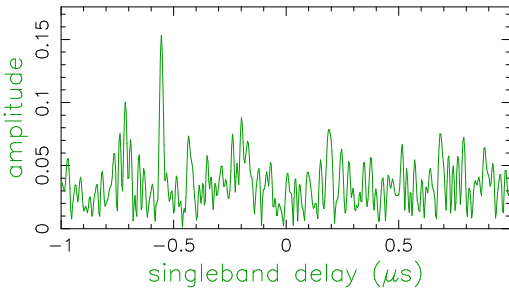
VLBA\_FD - VLBA\_KP, fgroup W, pol LR

multiband delay ( $\mu$ s)

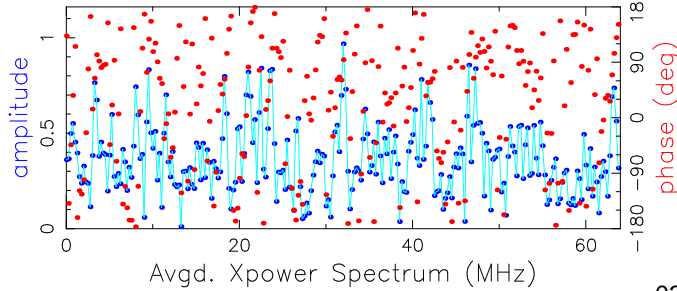


Fringe quality 0

SNR 5.6  
Int time 179.963  
Amp 0.176  
Phase -90.2  
PFD 9.0e-01  
Delays (us)  
SBD -0.554368  
MBD -0.007352  
Fringe rate (Hz) 0.556613  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

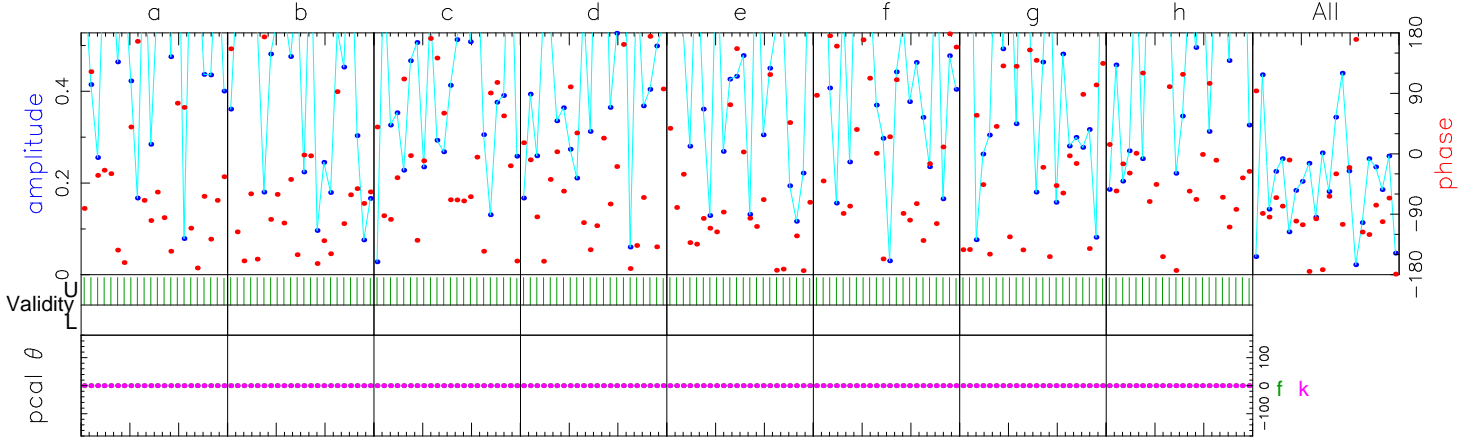


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145421  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-84.9	-96.1	-55.6	-92.9	-106.8	-128.8	-156.9	-48.4	Phase	-90.2
	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.3	Ampl.	0.2
	114.3	116.0	67.7	8.7	215.8	216.2	59.1	113.9	Sbd box	115.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-1.76536327391E+03	Apriori delay (usec)	-1.76480904703E+03	Resid mbdelay (usec)	-7.35188E-03	+/-	1.9E-04
Sband delay (usec)	-1.76536341478E+03	Apriori clock (usec)	7.5137062E+00	Resid sbdelay (usec)	-5.54368E-01	+/-	1.5E-03
Phase delay (usec)	-1.76480904994E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-2.90973E-06	+/-	6.6E-07
Delay rate (us/s)	-3.82044541236E-02	Apriori rate (us/s)	-3.82109158446E-02	Resid rate (us/s)	6.46172E-06	+/-	6.3E-09
Total phase (deg)	-202.3	Apriori accel (us/s/s)	7.69568811699E-06	Resid phase (deg)	-90.2	+/-	20.4

ph/seg (deg)	61.2	Theor.	47.8	Amplitude	0.176 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	78.6		83.4	Search (1024X32)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	39.2		28.8	Inc. seg. avg.	0.175	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
amp/frq (%)	44.9		50.3	Inc. frq. avg.	0.186	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00

f: az 314.6 el 29.7 pa 76.6

k: az 312.9 el 35.3 pa 80.9

u,v (fr/asec) 352.288 636.236

simultaneous interpolator

Control file: cf\_1234\_gmva

Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/fk..1HV1N7

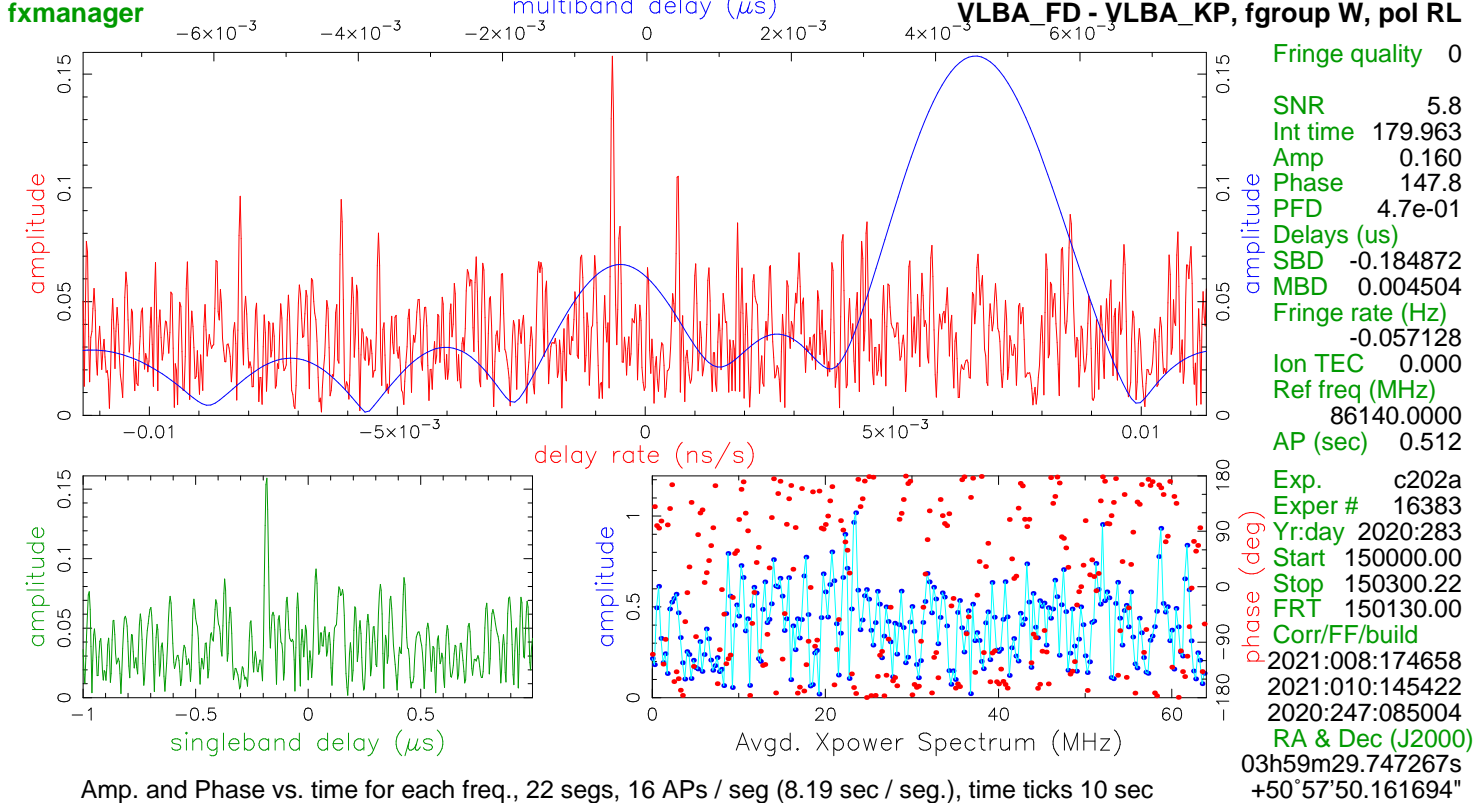
Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/fk.W.51.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

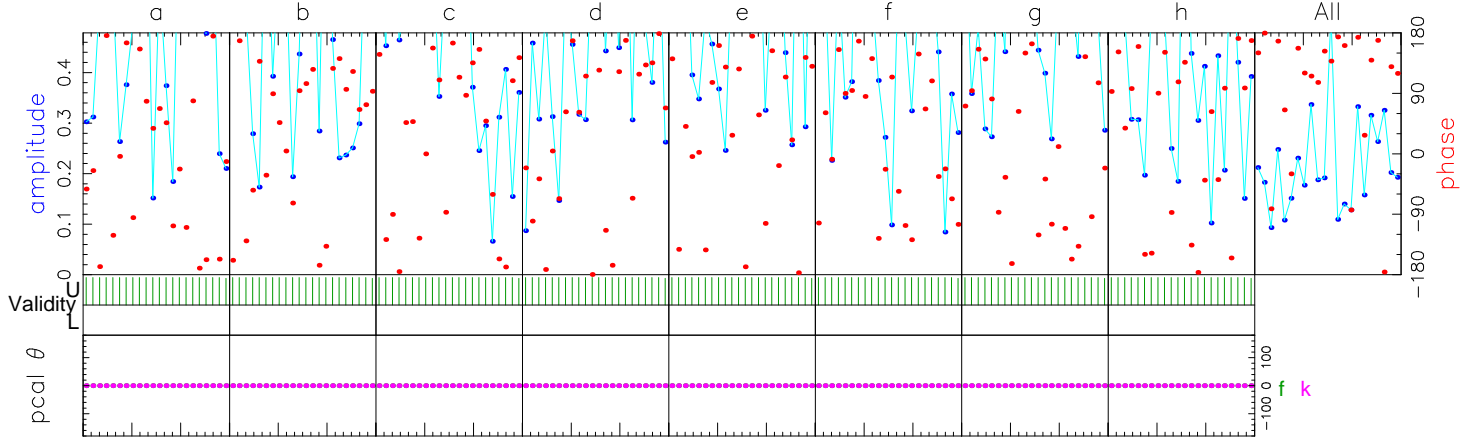
fxmanager

NRAO150.1HV1N7, No0150, fk

VLBA\_FD - VLBA\_KP, fgroup W, pol RL



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-177.1	117.4	148.1	153.1	132.9	138.5	171.5	150.7	Phase	147.8	
	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.2	Ampl.	0.1	
	469.8	201.1	441.0	450.3	422.2	450.6	506.1	279.5	Sbd box	209.7	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks		
									Tracks		
Group delay (usec)(sbd)	-1.76499204299E+03		Apriori delay (usec)		-1.76480904703E+03		Resid mbdelay (usec)		4.50404E-03	+/- 1.9E-04	
Sband delay (usec)	-1.76499391903E+03		Apriori clock (usec)		7.5137062E+00		Resid sbdelay (usec)		-1.84872E-01	+/- 1.5E-03	
Phase delay (usec)	-1.76480904227E+03		Apriori clockrate (us/s)		2.9999999E-07		Resid phdelay (usec)		4.76522E-06	+/- 6.3E-07	
Delay rate (us/s)	-3.82115790403E-02		Apriori rate (us/s)		-3.82109158446E-02		Resid rate (us/s)		-6.63196E-07	+/- 6.1E-09	
Total phase (deg)	35.7		Apriori accel (us/s/s)		7.69568811699E-06		Resid phase (deg)		147.8	+/- 19.6	
	RMS	Theor.	Amplitude	0.160 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
ph/seg (deg)	66.1	46.0	Search (1024X32)	0.154		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000 1.000	
amp/seg (%)	71.6	80.2	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)	-0.008 0.008
ph/frq (deg)	22.6	27.7	Inc. seg. avg.	0.166		Sample rate(MISamp/s): 128		Data rate(Mb/s): 2048		dr window (ns/s)	-0.011 0.011
amp/frq (%)	29.0	48.4	Inc. frq. avg.	0.149		nlags: 256		t_cohere infinite		ion window (TEC)	0.00 0.00
f: az 314.6 el 29.7 pa 76.6	k: az 312.9 el 35.3 pa 80.9		u,v (fr/asec) 352.288 636.236						simultaneous interpolator		
Control file: cf_1234_gmva	Input file: /Exps/c202a/v1/v1_3mm/1234/No0150/fk..1HV1N7		Output file: /Exps/c202a/v1/v1_3mm/1234/No0150/fk.W.66.1HV1N7								





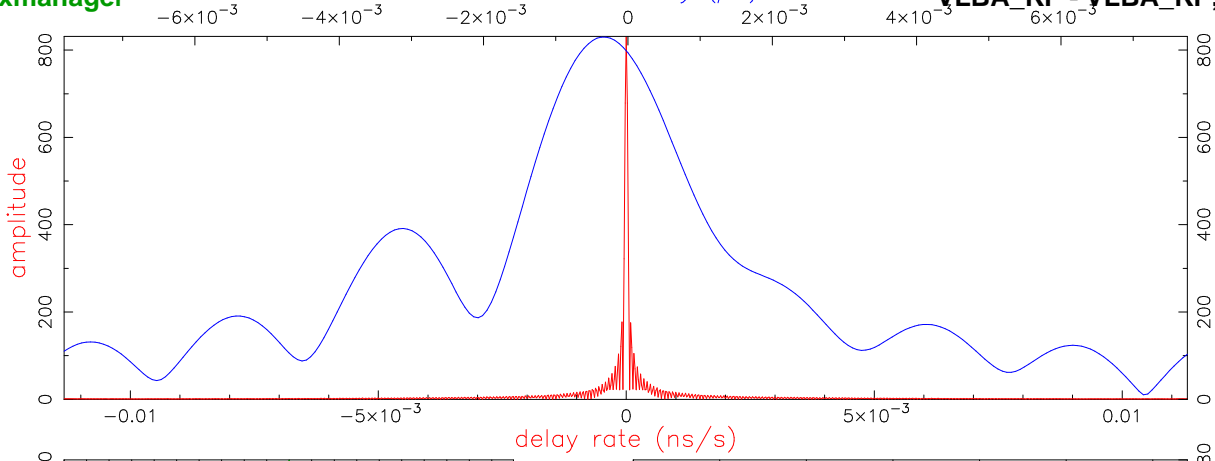
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

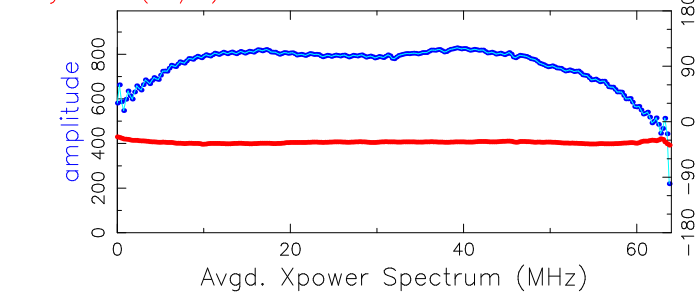
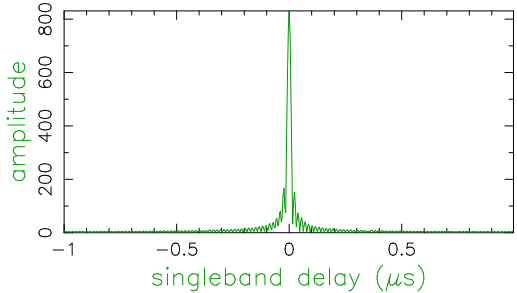
NRAO150.1HV1N7, No0150, kk

VLBA\_KP - VLBA\_KP, fgroup W, pol LR

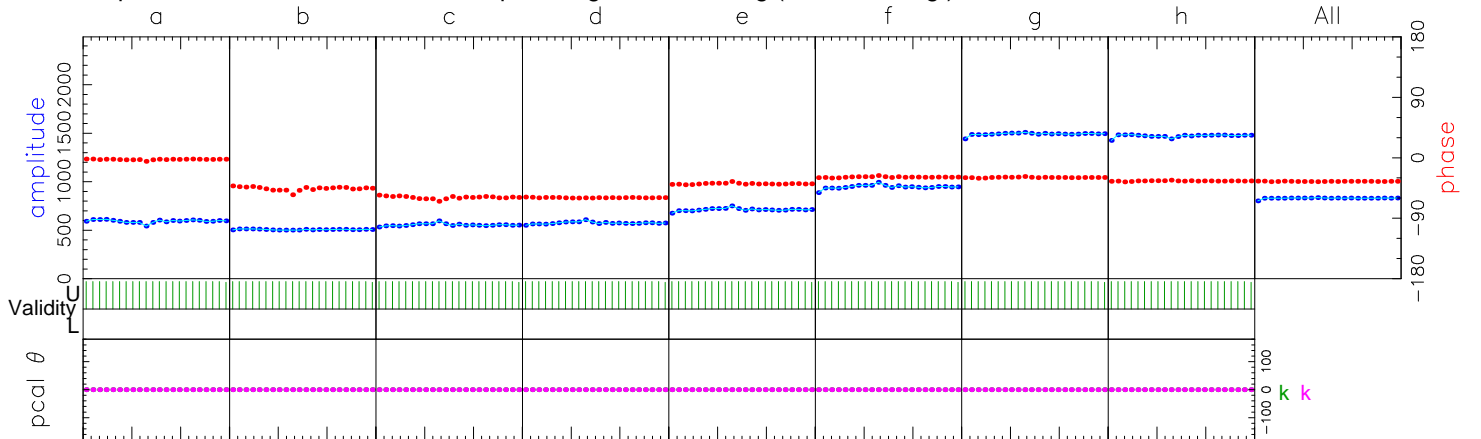
multiband delay ( $\mu$ s)



Fringe quality 6  
 SNR 30497.8  
 Int time 179.963  
 Amp 831.342  
 Phase -35.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.000509  
 MBD -0.000346  
 Fringe rate (Hz) -0.000002  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145429  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-2.5	-45.7	-59.0	-59.4	-38.6	-28.7	-29.3	-34.5	Phase	-35.2
	593.8	506.6	555.6	574.9	712.6	947.4	1492.3	1473.0	Ampl.	857.0
	256.8	256.5	256.9	256.9	257.3	256.7	257.0	256.6	Sbd box	256.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.45625000000E-04		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		-3.45625E-04	+/- 3.6E-08
Sband delay (usec)	-5.09500000000E-04		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		-5.09500E-04	+/- 2.8E-07
Phase delay (usec)	-1.13377146299E-06		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-1.13377E-06	+/- 1.2E-10
Delay rate (us/s)	-2.69251895442E-11		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		-2.69252E-11	+/- 1.2E-12
Total phase (deg)			Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		-35.2	+/- 0.0

ph/seg (deg) 0.2 0.0 Search (1024X32) 822.057 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.8 0.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 20.1 0.0 Inc. seg. avg. 830.033 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 46.2 0.0 Inc. frq. avg. 857.016 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk.W.115.1HV1N7

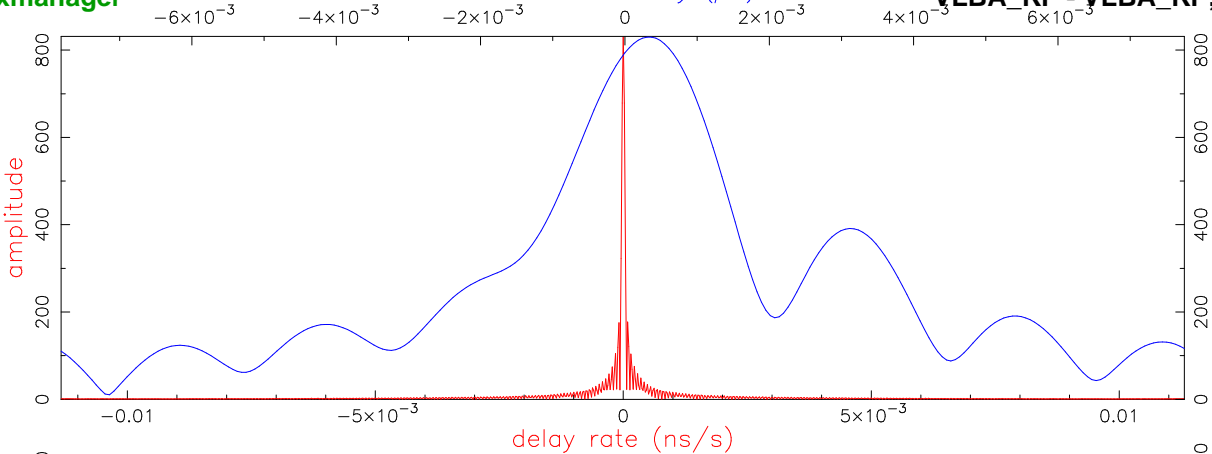
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kk

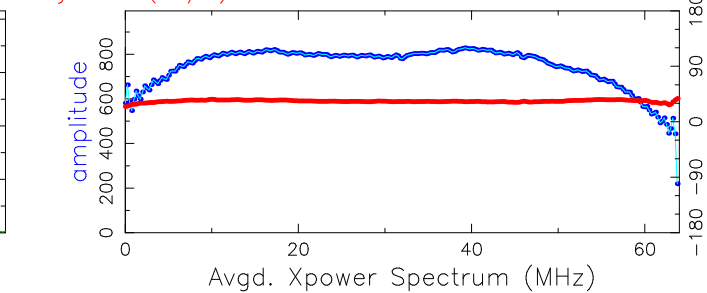
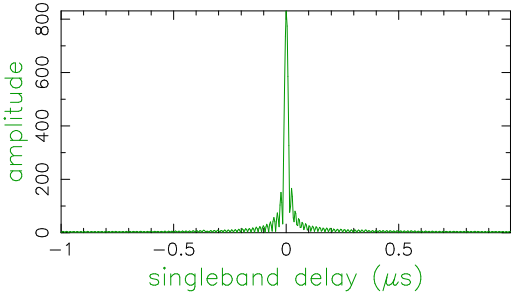
VLBA\_KP - VLBA\_KP, fgroup W, pol RL

multiband delay ( $\mu$ s)



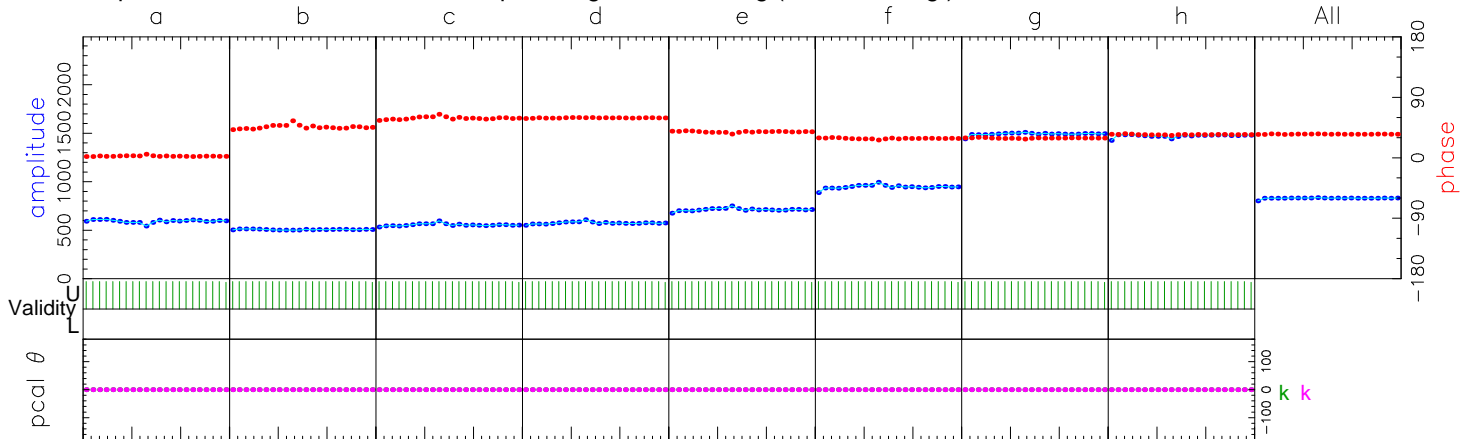
Fringe quality 6

SNR 30497.8  
 Int time 179.963  
 Amp 831.342  
 Phase 35.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000509  
 MBD 0.000346  
 Fringe rate (Hz) 0.000002  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145431  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)		3.45625000000E-04			0.00000000000E+00				3.45625E-04	+/- 3.6E-08
Sband delay (usec)		5.09500000000E-04			0.0000000E+00				5.09500E-04	+/- 2.8E-07
Phase delay (usec)		1.13377146303E-06			0.0000000E+00				1.13377E-06	+/- 1.2E-10
Delay rate (us/s)		2.69251895442E-11			0.00000000000E+00				2.69252E-11	+/- 1.2E-12
Total phase (deg)			35.2		0.00000000000E+00				35.2	+/- 0.0
	RMS	Theor.	Amplitude	831.342 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	0.2	0.0	Search (1024X32)	822.057	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	0.8	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	20.1	0.0	Inc. seg. avg.	830.032	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	46.2	0.0	Inc. frq. avg.	857.016	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

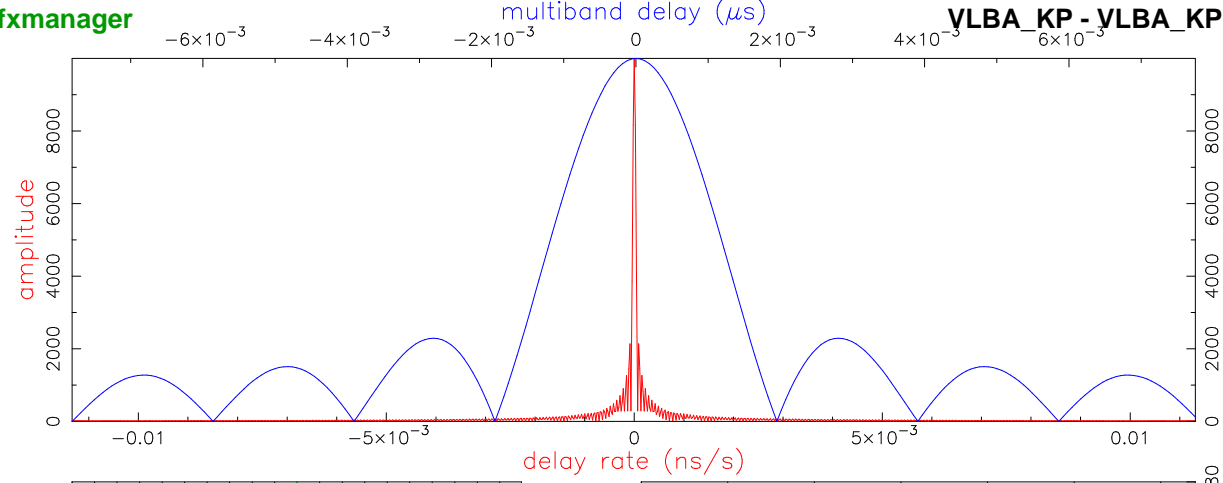
k: az 312.9 el 35.3 pa 80.9      k: az 312.9 el 35.3 pa 80.9      u,v (fr/asec) 0.000 0.000      simultaneous interpolator  
 Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk.W.128.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kk

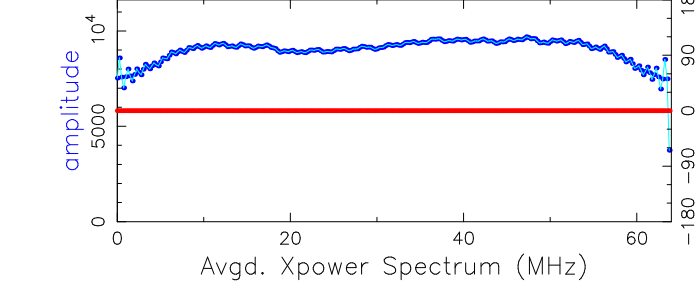
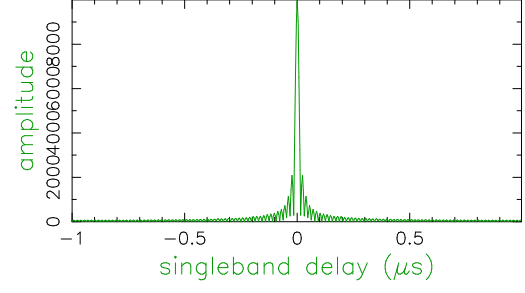
VLBA\_KP - VLBA\_KP, fgroup W, pol LL



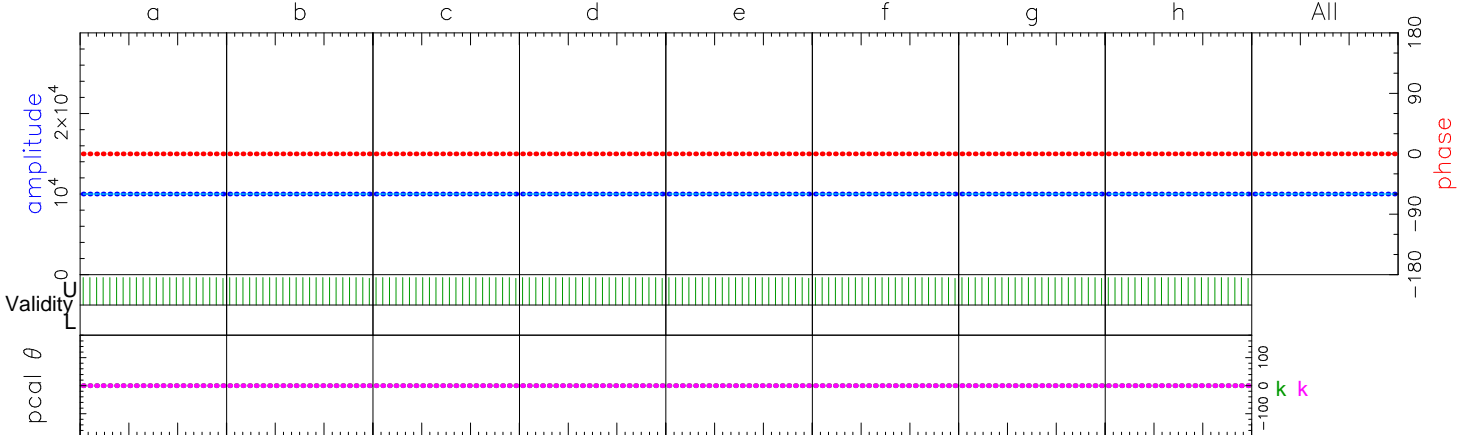
Fringe quality 9

SNR 366850.4  
 Int time 179.963  
 Amp 9999.999  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz) 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Yr:day 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145426  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	10000.0	10000.0
k	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	10000.0
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Sbd box	257.0
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Mani PC	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC amp	
									Chan ids	
									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 +/- 2.3E-08  
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 1.0E-11  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-14  
 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 0.0 Search (1024X32) 9999.999 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 9999.999 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kk.W.82.1HV1N7

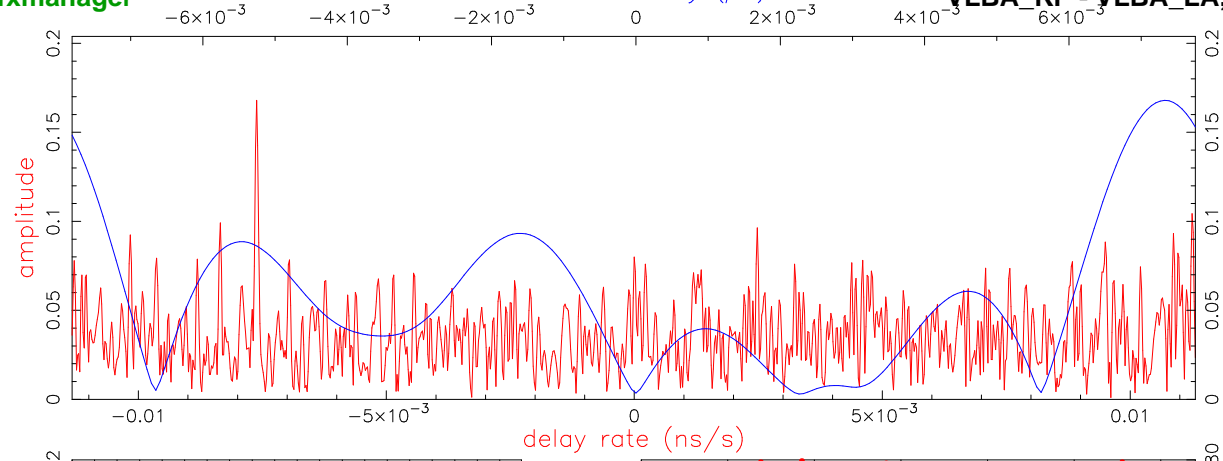
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

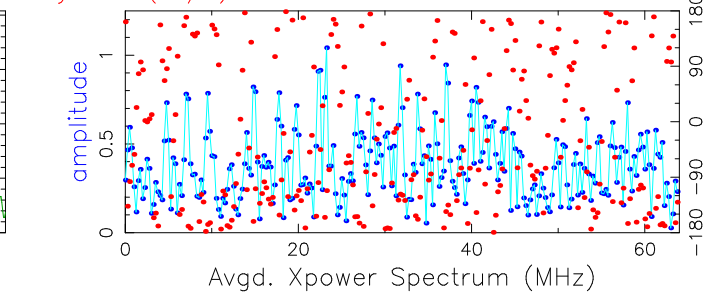
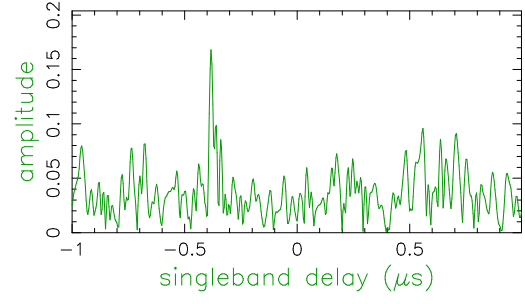
NRAO150.1HV1N7, No0150, kl

VLBA\_KP - VLBA\_LA, fgroup W, pol LR

multiband delay ( $\mu$ s)

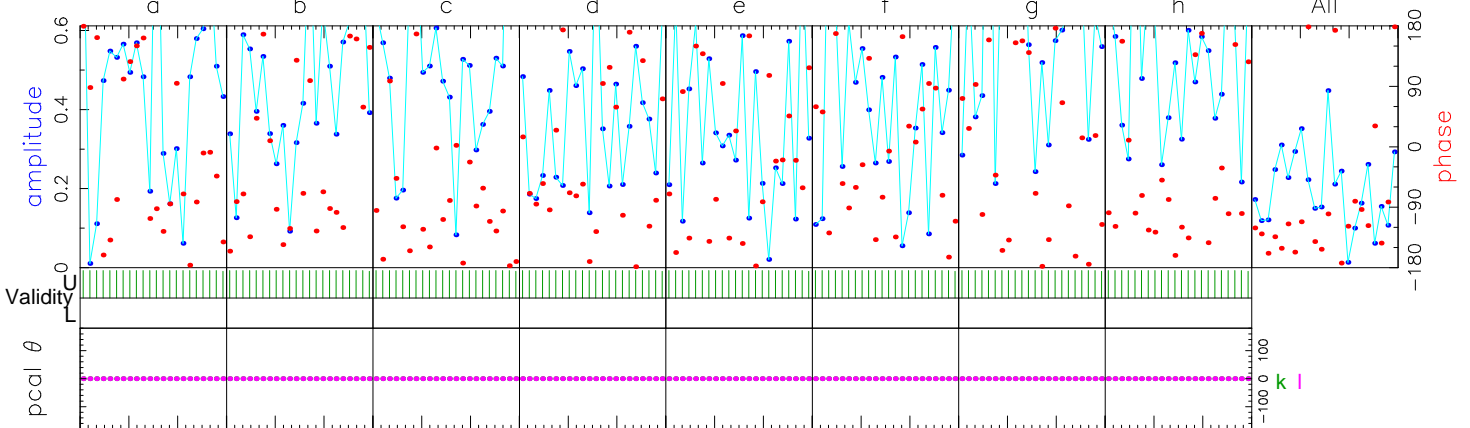


Fringe quality 0  
 SNR 6.2  
 Int time 179.963  
 Amp 0.204  
 Phase -136.6  
 PFD 9.0e-02  
 Delays (us)  
 SBD -0.382513  
 MBD -0.008281  
 Fringe rate (Hz)  
 -0.656740  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145429  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd) 2.22508122960E+02 Apriori delay (usec) 2.22891403897E+02 Resid mbdelay (usec) -8.28094E-03 +/- 1.8E-04  
 Sband delay (usec) 2.22508890397E+02 Apriori clock (usec) 7.2013855E-01 Resid sbdelay (usec) -3.82513E-01 +/- 1.4E-03  
 Phase delay (usec) 2.22891399493E+02 Apriori clockrate (us/s) 1.9999998E-07 Resid phdelay (usec) -4.40418E-06 +/- 6.0E-07  
 Delay rate (us/s) -1.50092217649E-02 Apriori rate (us/s) -1.50015976679E-02 Resid rate (us/s) -7.62410E-06 +/- 5.8E-09  
 Total phase (deg) 54.8 Apriori accel (us/s/s) -6.03206896316E-06 Resid phase (deg) -136.6 +/- 18.6

ph/seg (deg) 47.1 43.6 Search (1024X32) 0.161 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 62.4 76.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 27.3 26.3 Inc. seg. avg. 0.189 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 51.3 45.9 Inc. frq. avg. 0.199 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 l: az 311.8 el 34.6 pa 74.3 u,v (fr/asec) 134.197 -893.959 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl.W.114.1HV1N7



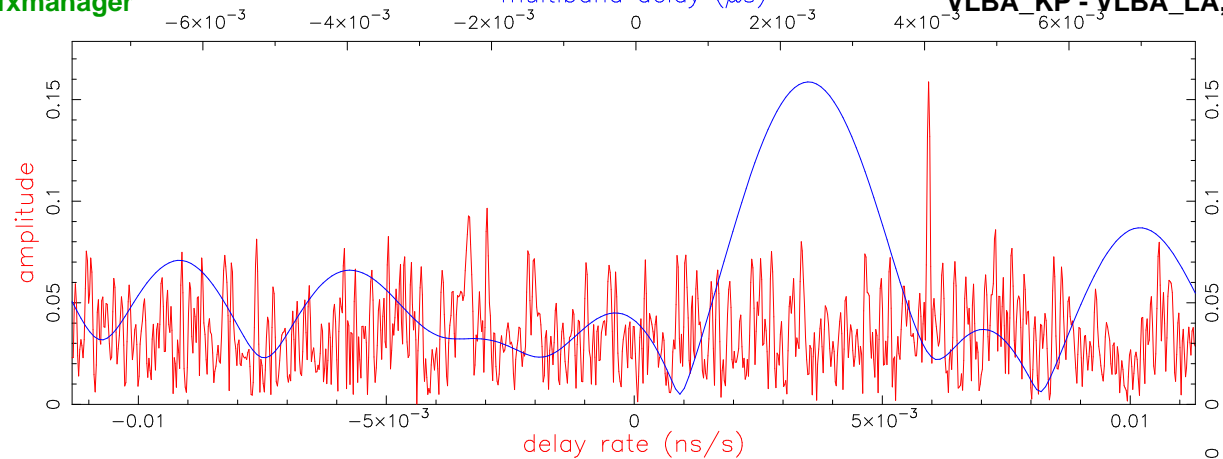
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kl

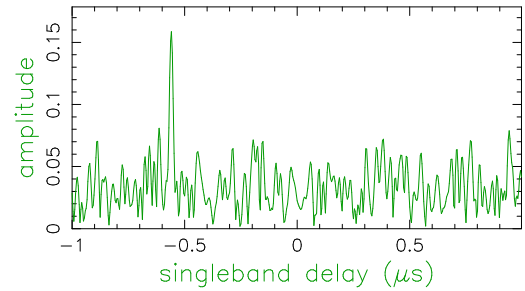
VLBA\_KP - VLBA\_LA, fgroup W, pol RL

multiband delay ( $\mu$ s)

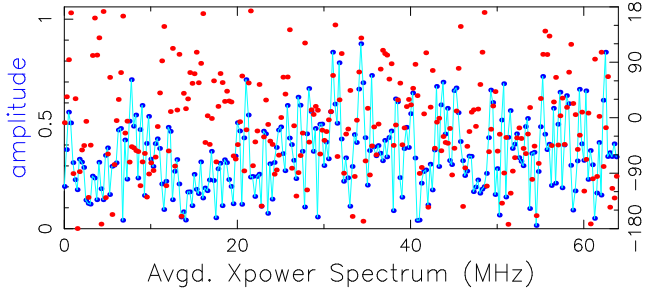


Fringe quality 0

SNR 5.8  
 Int time 179.963  
 Amp 0.179  
 Phase -10.2  
 PFD 4.9e-01  
 Delays (us)  
 SBD -0.559361  
 MBD 0.002375  
 Fringe rate (Hz)  
 0.511470  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

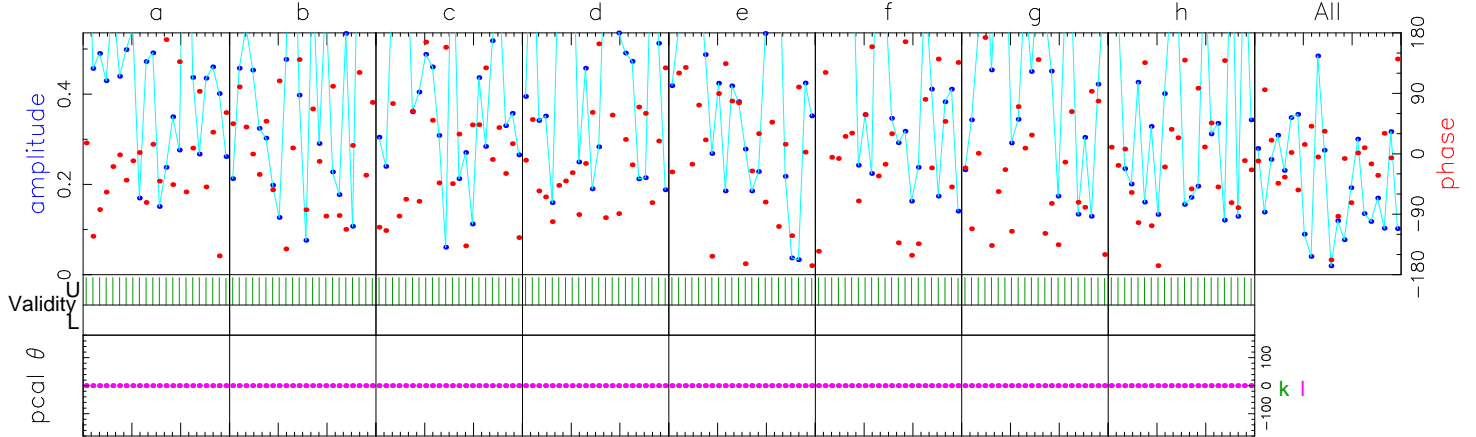


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145431  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)		2.22331278579E+02			2.22891403897E+02				2.37468E-03	+/- 1.9E-04
Sband delay (usec)		2.22332043397E+02			7.2013855E-01				-5.59361E-01	+/- 1.5E-03
Phase delay (usec)		2.22891403568E+02			1.9999998E-07				-3.29353E-07	+/- 6.3E-07
Delay rate (us/s)		-1.49956600089E-02			-1.50015976679E-02				5.93766E-06	+/- 6.1E-09
Total phase (deg)			181.2		-6.03206896316E-06				-10.2	+/- 19.6
	RMS	Theor.	Amplitude	0.179 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	59.8	46.0	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)		-1.000	1.000	
amp/seg (%)	78.9	80.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled		mb window (us)	-0.008	0.008
ph/frq (deg)	36.8	27.8	Inc. seg. avg.	0.172	Sample rate(MISamp/s): 128	dr window (ns/s)		-0.011	0.011	
amp/frq (%)	41.4	48.4	Inc. frq. avg.	0.178	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite		ion window (TEC)	0.00	0.00

k: az 312.9 el 35.3 pa 80.9 l: az 311.8 el 34.6 pa 74.3 u,v (fr/asec) 134.197 -893.959 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl.W.134.1HV1N7

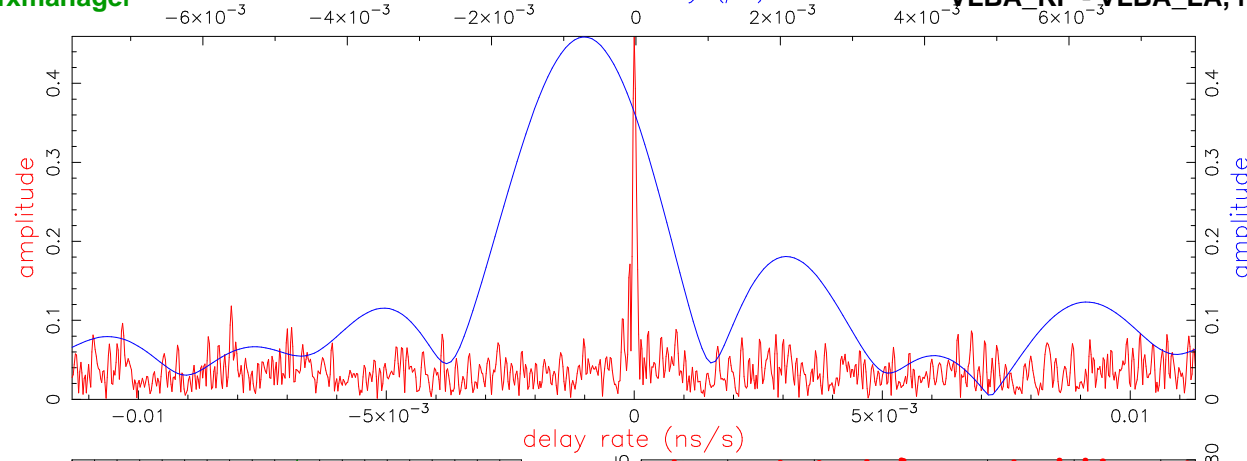
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kl

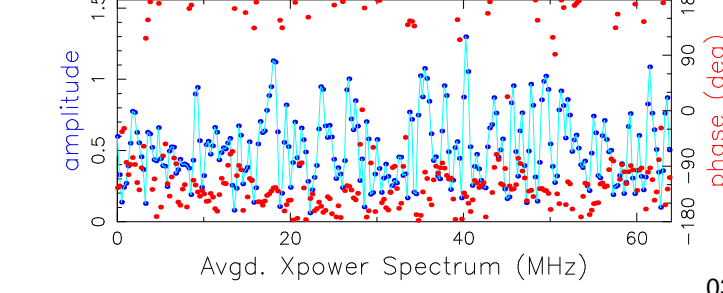
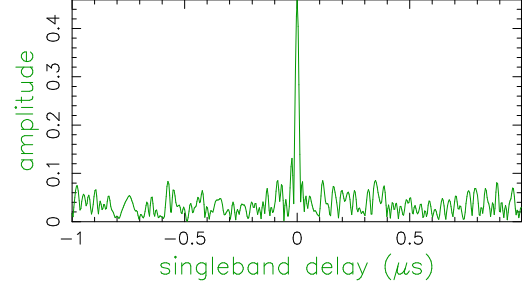
VLBA\_KP - VLBA\_LA, fgroup W, pol LL

multiband delay ( $\mu$ s)



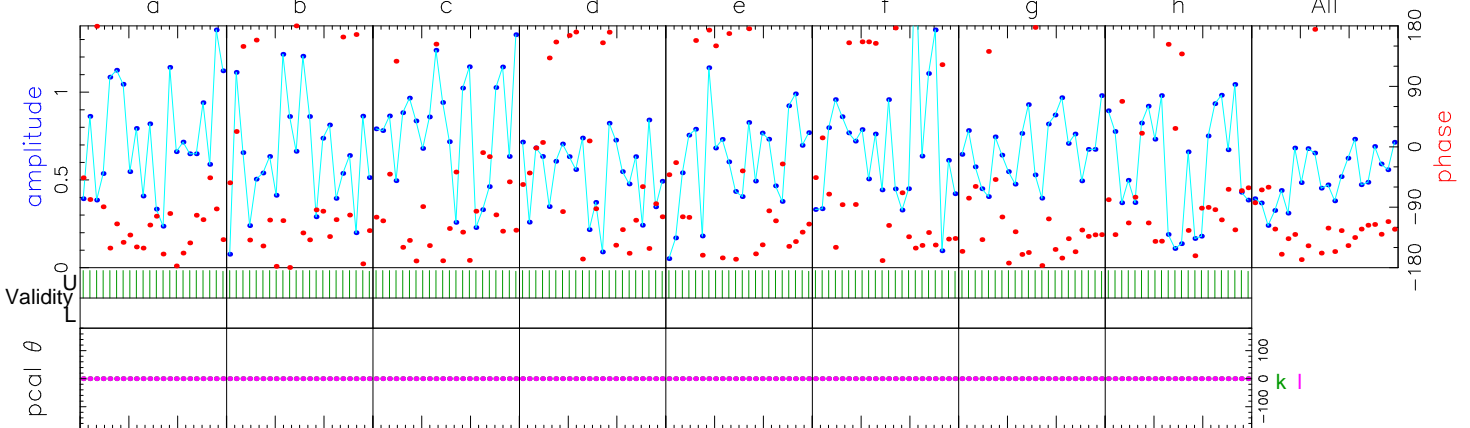
Fringe quality 9

SNR 16.9  
 Int time 179.963  
 Amp 0.459  
 Phase -131.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.000502  
 MBD -0.000729  
 Fringe rate (Hz)  
 -0.000219  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145426  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-121.1	-141.8	-128.9	-133.2	-147.4	-141.9	-136.9	-103.8	Phase	-131.7
	0.6	0.4	0.5	0.3	0.4	0.5	0.5	0.4	Ampl.	0.5
	256.7	256.8	257.5	350.2	256.9	256.6	256.4	256.9	Sbd box	256.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	2.22890674835E+02	Apriori delay (usec)	2.22891403897E+02	Resid mbdelay (usec)	-7.29062E-04	+/-	6.4E-05
Sband delay (usec)	2.22890901397E+02	Apriori clock (usec)	7.2013855E-01	Resid sbdelay (usec)	-5.02500E-04	+/-	5.1E-04
Phase delay (usec)	2.22891399650E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	-4.24729E-06	+/-	2.2E-07
Delay rate (us/s)	-1.50016002046E-02	Apriori rate (us/s)	-1.50015976679E-02	Resid rate (us/s)	-2.53664E-09	+/-	2.1E-09
Total phase (deg)	59.7	Apriori accel (us/s/s)	-6.03206896316E-06	Resid phase (deg)	-131.7	+/-	6.8

ph/seg (deg)	30.3	Theor.	15.9	Amplitude	0.459 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	32.6	Search (1024X32)	0.447	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	
ph/frq (deg)	15.2	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	23.3	Inc. seg. avg.	0.493	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
		Inc. frq. avg.	0.464	Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00	

k: az 312.9 el 35.3 pa 80.9 l: az 311.8 el 34.6 pa 74.3 u,v (fr/asec) 134.197 -893.959 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl.W.83.1HV1N7

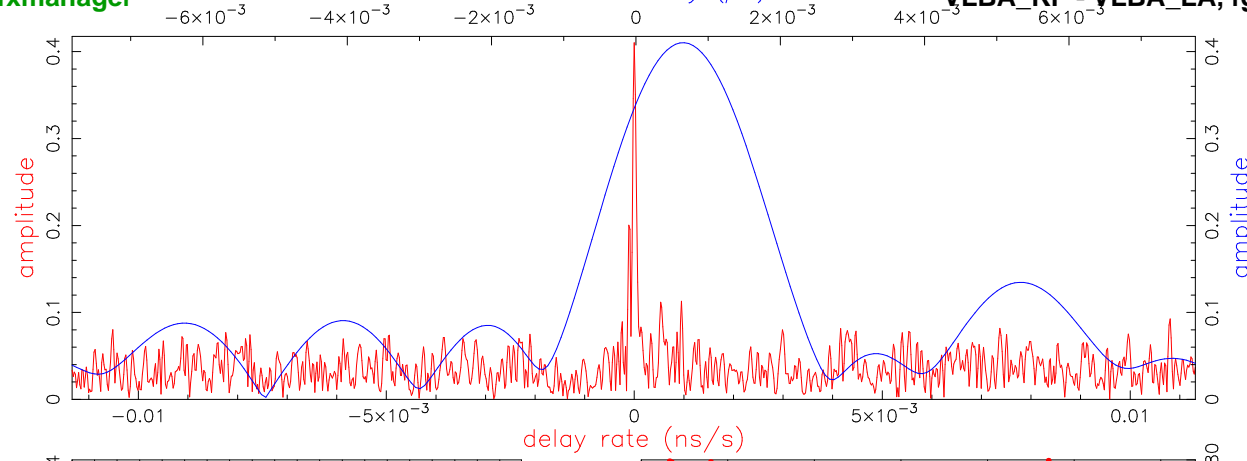
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

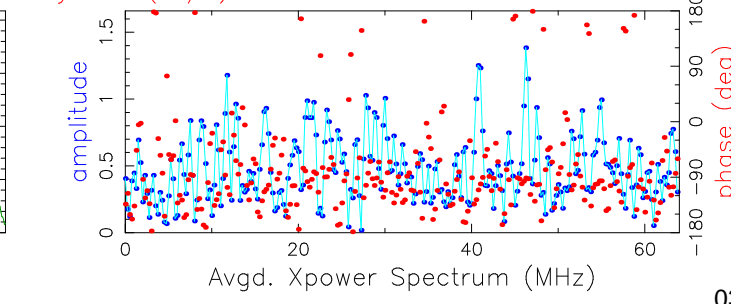
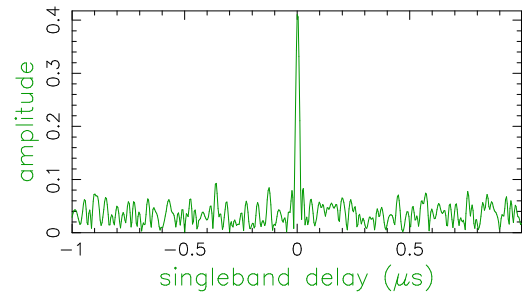
NRAO150.1HV1N7, No0150, kl

VLBA\_KP - VLBA\_LA, fgroup W, pol RR

multiband delay ( $\mu$ s)

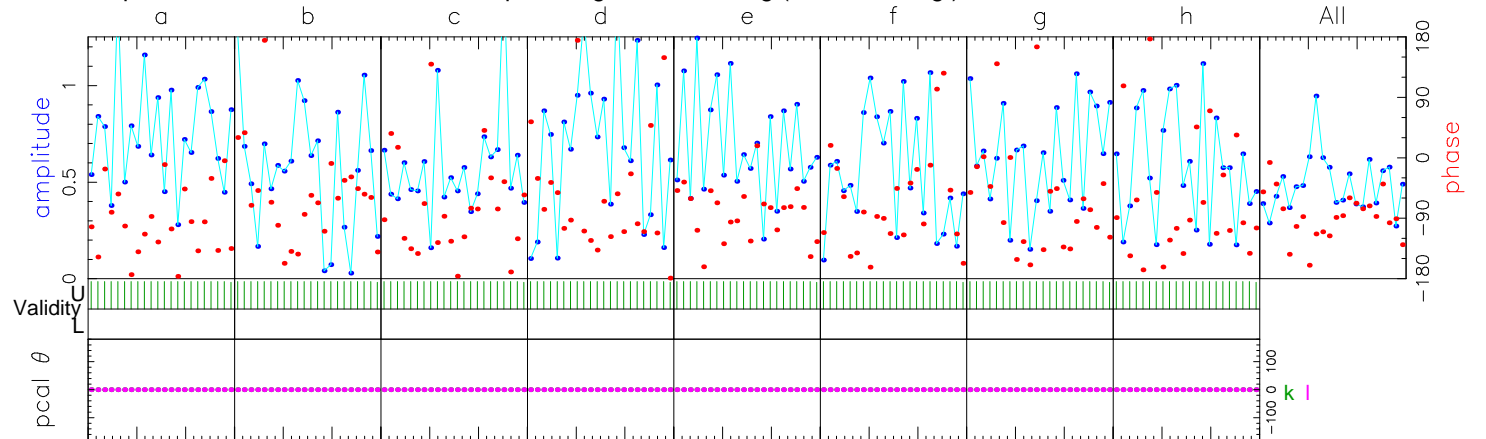


Fringe quality 9  
 SNR 15.3  
 Int time 179.963  
 Amp 0.418  
 Phase -90.0  
 PFD 2.0e-44  
 Delays (us)  
 SBD 0.001738  
 MBD 0.000689  
 Fringe rate (Hz) -0.000585  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145428  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

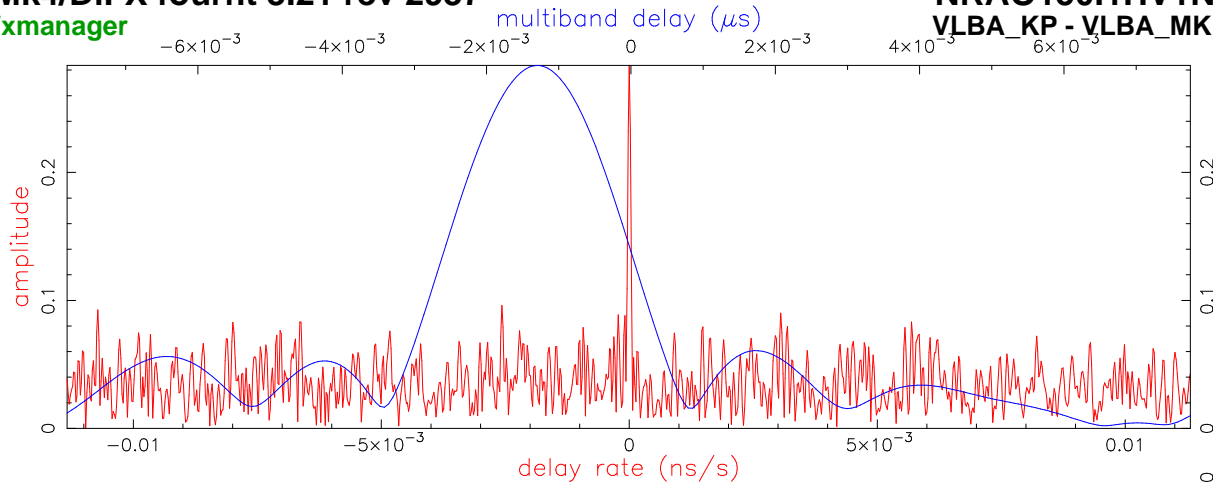
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-99.3	-72.2	-87.0	-96.9	-78.8	-81.3	-88.7	-109.4	Phase	-90.0
	0.5	0.3	0.3	0.5	0.5	0.3	0.4	0.4	Ampl.	0.4
	257.5	257.2	257.4	257.5	256.8	258.1	257.3	257.8	Sbd box	257.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.22892092554E+02		Apriori delay (usec)		2.22891403897E+02		Resid mbdelay (usec)		6.88656E-04	+/- 7.1E-05
Sband delay (usec)	2.22893141897E+02		Apriori clock (usec)		7.2013855E-01		Resid sbdelay (usec)		1.73800E-03	+/- 5.6E-04
Phase delay (usec)	2.22891400996E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		-2.90114E-06	+/- 2.4E-07
Delay rate (us/s)	-1.50016044630E-02		Apriori rate (us/s)		-1.50015976679E-02		Resid rate (us/s)		-6.79507E-09	+/- 2.3E-09
Total phase (deg)	101.5		Apriori accel (us/s/s)		-6.03206896316E-06		Resid phase (deg)		-90.0	+/- 7.5

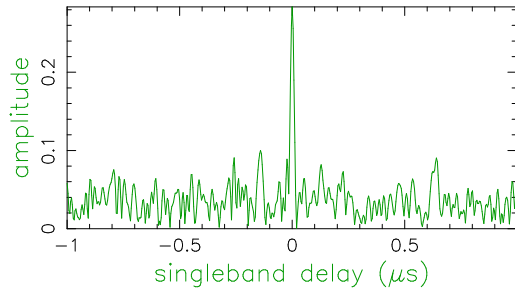
	RMS	Theor.	Amplitude	0.418 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	35.0	17.5	Search (1024X32)	0.399	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	38.5	30.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	13.2	10.6	Inc. seg. avg.	0.467	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	21.5	18.5	Inc. frq. avg.	0.411	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9 l: az 311.8 el 34.6 pa 74.3 u,v (fr/asec) 134.197 -893.959 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kl.W.99.1HV1N7

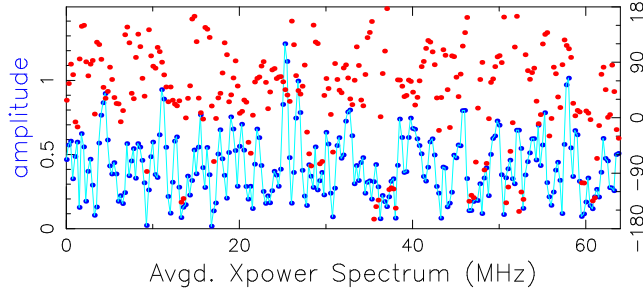


Fringe quality 9

SNR 10.4  
Int time 179.958  
Amp 0.284  
Phase 77.4  
PFD 5.1e-17  
Delays (us)  
SBD -0.000175  
MBD -0.001300  
Fringe rate (Hz)  
-0.000617  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

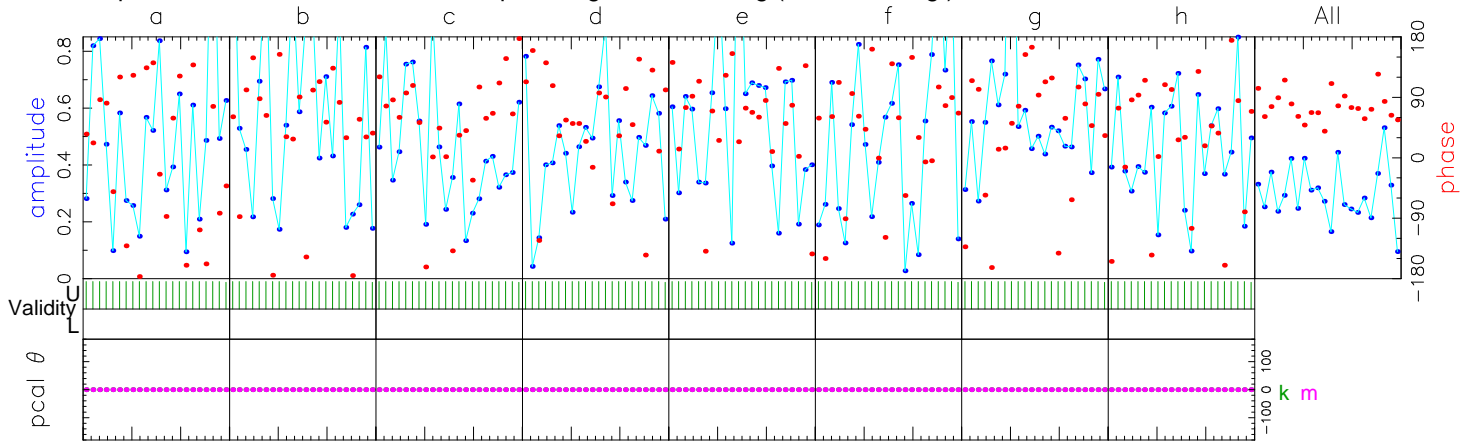


delay rate (ns/s)



Exp. c202a  
Yr:day 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145430  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
89.0	76.0	75.7	78.1	68.8	74.3	82.4	84.2	84.2	Phase	77.4
0.2	0.4	0.3	0.3	0.4	0.3	0.3	0.2	0.2	Ampl.	0.3
422.3	256.9	256.3	256.8	256.2	258.4	256.8	186.1	186.1	Sbd box	257.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.49305229039E+03		Apriori delay (usec)		-4.49305099014E+03		Resid mbdelay (usec)		-1.30025E-03	+/- 1.0E-04
Sband delay (usec)	-4.49305116539E+03		Apriori clock (usec)		-1.3030000E+01		Resid sbdelay (usec)		-1.75250E-04	+/- 8.3E-04
Phase delay (usec)	-4.49305098764E+03		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		2.49438E-06	+/- 3.6E-07
Delay rate (us/s)	-3.52956880280E-01		Apriori rate (us/s)		-3.52956873122E-01		Resid rate (us/s)		-7.15785E-09	+/- 3.4E-09
Total phase (deg)			Apriori accel (us/s/s)		4.04929158923E-05		Resid phase (deg)		77.4	+/- 11.0

	RMS	Theor.	Amplitude	0.284 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000 1.000
ph/seg (deg)	21.2	25.8	Search (1024X32)	0.277	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/seg (%)	34.5	45.1	Interp.	0.000	Sample rate(MISamp/s): 128	nlags: 256 t_cohere infinite	dr window (ns/s)	-0.011 0.011
ph/frq (deg)	7.0	15.6	Inc. seg. avg.	0.275	Data rate(Mb/s): 2048	ion window (TEC)	0.00 0.00	
amp/frq (%)	23.3	27.2	Inc. frq. avg.	0.275				

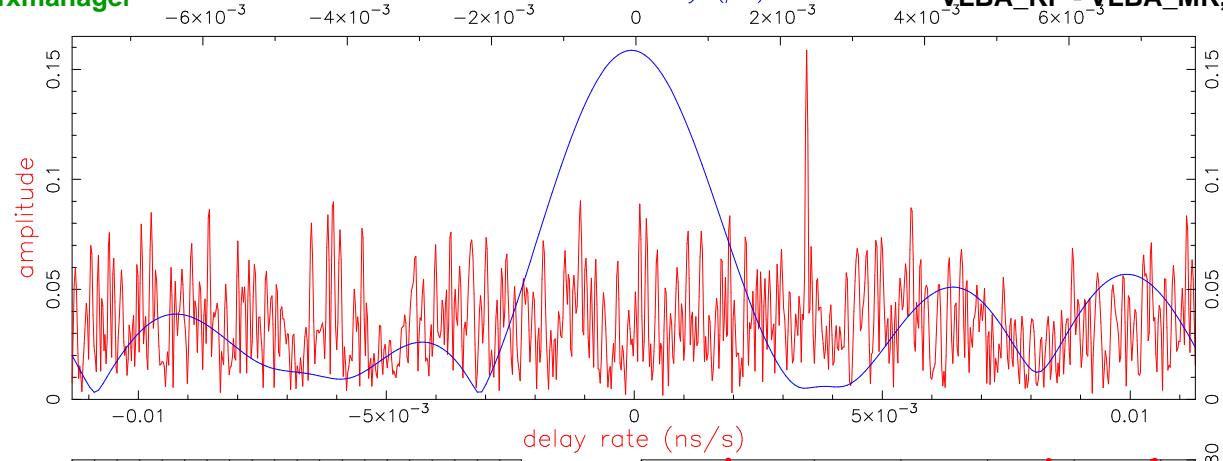
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

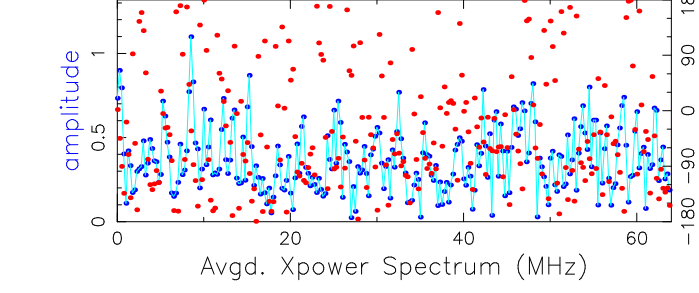
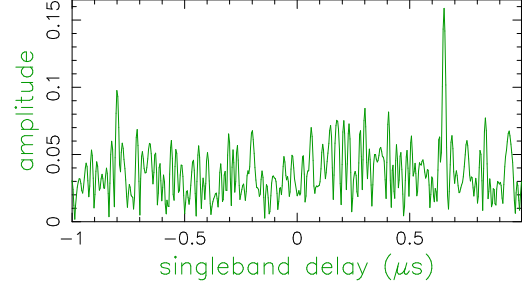
NRAO150.1HV1N7, No0150, km

VLBA\_KP - VLBA\_MK, fgroup W, pol LR

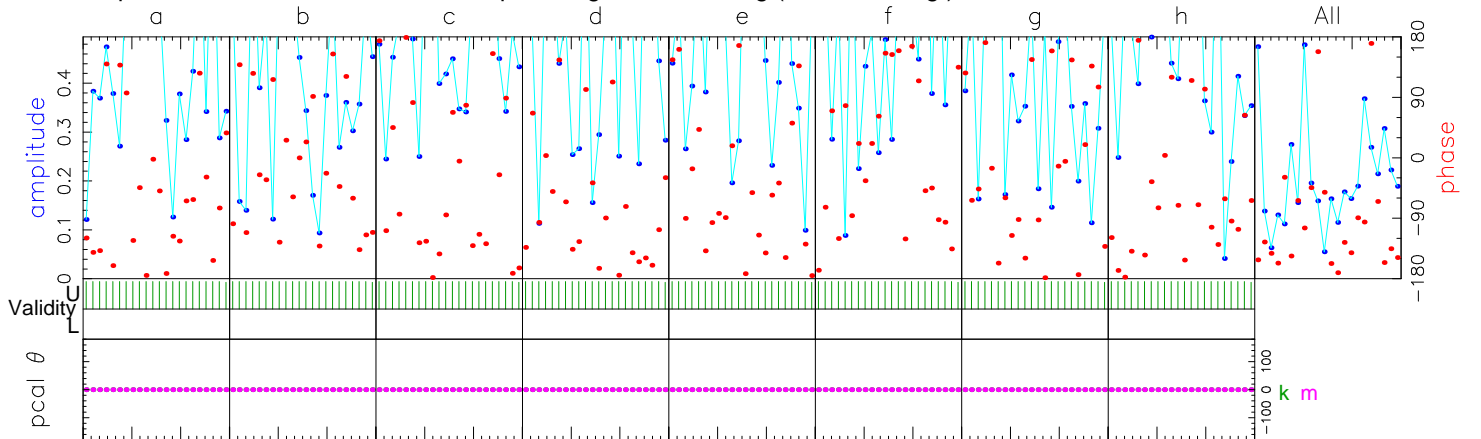
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.8  
 Int time 179.958  
 Amp 0.165  
 Phase -127.5  
 PFD 5.2e-01  
 Delays (us)  
 SBD 0.652219  
 MBD -0.000071  
 Fringe rate (Hz) 0.299522  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145432  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-131.1	-77.0	-153.9	-128.2	-122.0	-124.1	-134.5	-124.0	Phase	-127.5
	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	250.5	106.5	51.6	207.4	455.4	366.4	354.4	291.7	Sbd box	424.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.49239481150E+03		Apriori delay (usec)		-4.49305099014E+03		Resid mbdelay (usec)		-7.13612E-05	+/- 1.9E-04
Sband delay (usec)	-4.49239877139E+03		Apriori clock (usec)		-1.3030000E+01		Resid sbdelay (usec)		6.52219E-01	+/- 1.5E-03
Phase delay (usec)	-4.49305099425E+03		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-4.11112E-06	+/- 6.3E-07
Delay rate (us/s)	-3.52953395969E-01		Apriori rate (us/s)		-3.52956873122E-01		Resid rate (us/s)		3.47715E-06	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		4.04929158923E-05		Resid phase (deg)		-127.5	+/- 19.7

ph/seg (deg) 47.3 46.2 Amplitude 0.165 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 77.2 80.6 Search (1024X32) 0.157 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 23.7 27.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 27.9 48.6 Inc. seg. avg. 0.165 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 m: az 331.5 el 51.8 pa 134.8 u,v (fr/asec) 3231.865 4981.813 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km.W.140.1HV1N7



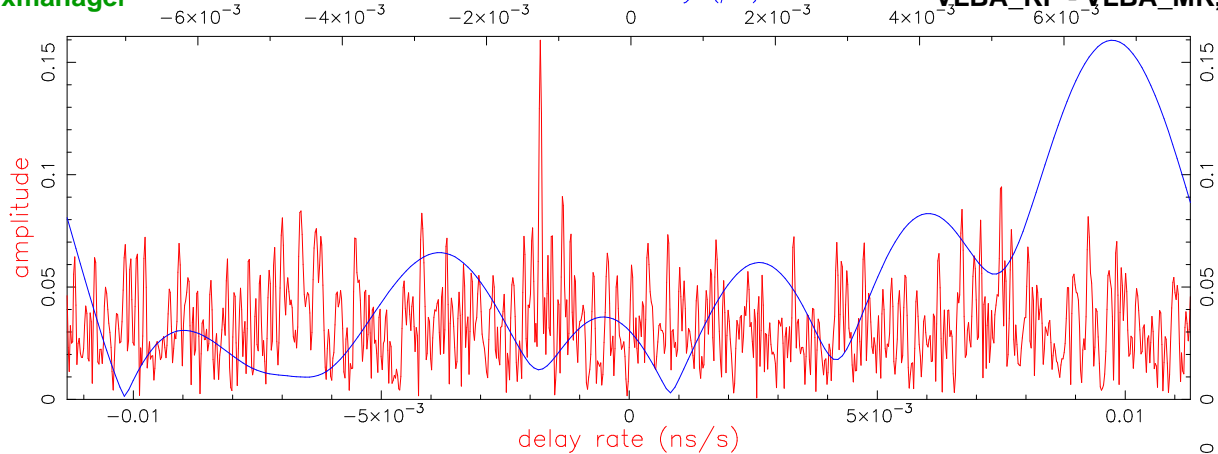
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

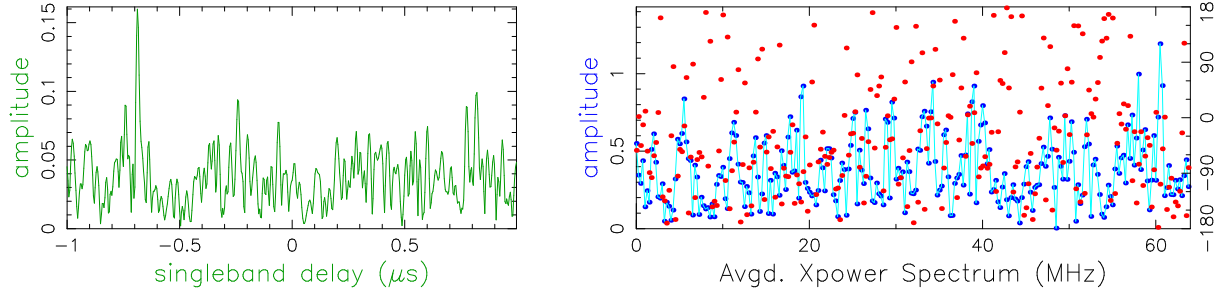
NRAO150.1HV1N7, No0150, km

VLBA\_KP - VLBA\_MK, fgroup W, pol RL

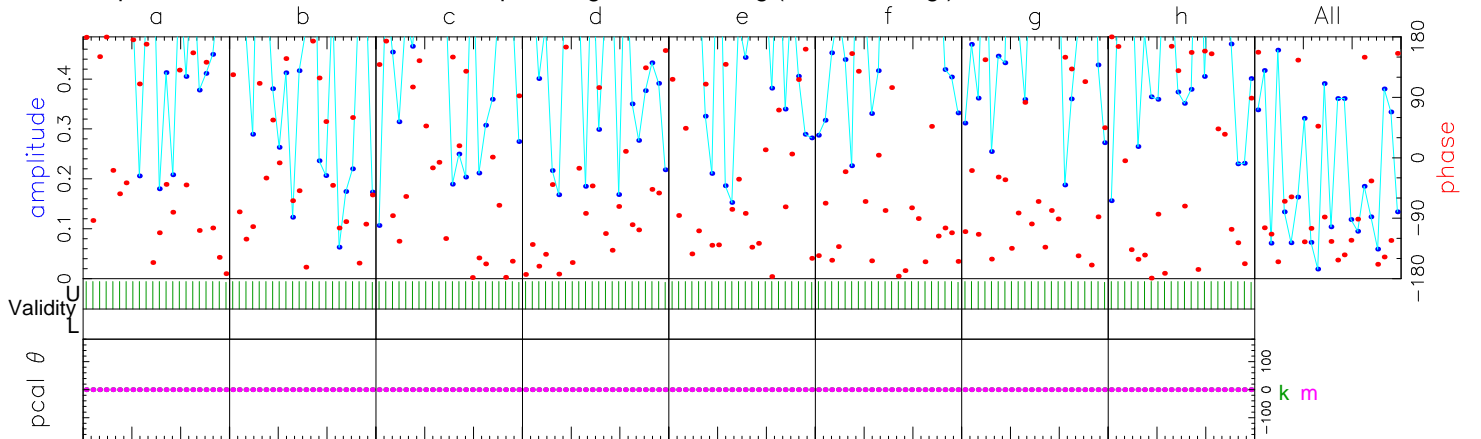
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.9  
 Int time 179.958  
 Amp 0.162  
 Phase -136.4  
 PFD 4.3e-01  
 Delays (us)  
 SBD -0.687238  
 MBD 0.006680  
 Fringe rate (Hz)  
 -0.154790  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145434  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-147.2	-148.6	-147.6	-117.3	-111.3	-127.7	-117.6	-177.9	Phase	-136.4
	0.2	0.1	0.1	0.2	0.1	0.2	0.3	0.2	Ampl.	0.2
	23.7	418.7	410.8	261.3	296.1	80.6	25.1	209.8	Sbd box	81.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-4.49373181047E+03	Apriori delay (usec)	-4.49305099014E+03	Resid mbdelay (usec)	6.67967E-03	+/-	1.9E-04
Sband delay (usec)	-4.49373822789E+03	Apriori clock (usec)	-1.3030000E+01	Resid sbdelay (usec)	-6.87238E-01	+/-	1.5E-03
Phase delay (usec)	-4.49305099454E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-4.39974E-06	+/-	6.3E-07
Delay rate (us/s)	-3.52958670078E-01	Apriori rate (us/s)	-3.52956873122E-01	Resid rate (us/s)	-1.79696E-06	+/-	6.1E-09
Total phase (deg)	-241.0	Apriori accel (us/s/s)	4.04929158923E-05	Resid phase (deg)	-136.4	+/-	19.5

ph/seg (deg)	61.2	Theor.	45.8	Amplitude	0.162 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	93.5		80.0	Search (1024X32)	0.158	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	24.3		27.6	Inc. seg. avg.	0.164	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	43.5		48.2	Inc. frq. avg.	0.155	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

k: az 312.9 el 35.3 pa 80.9      m: az 331.5 el 51.8 pa 134.8      u,v (fr/asec) 3231.865 4981.813      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km..1HV1N7      Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km.W.155.1HV1N7

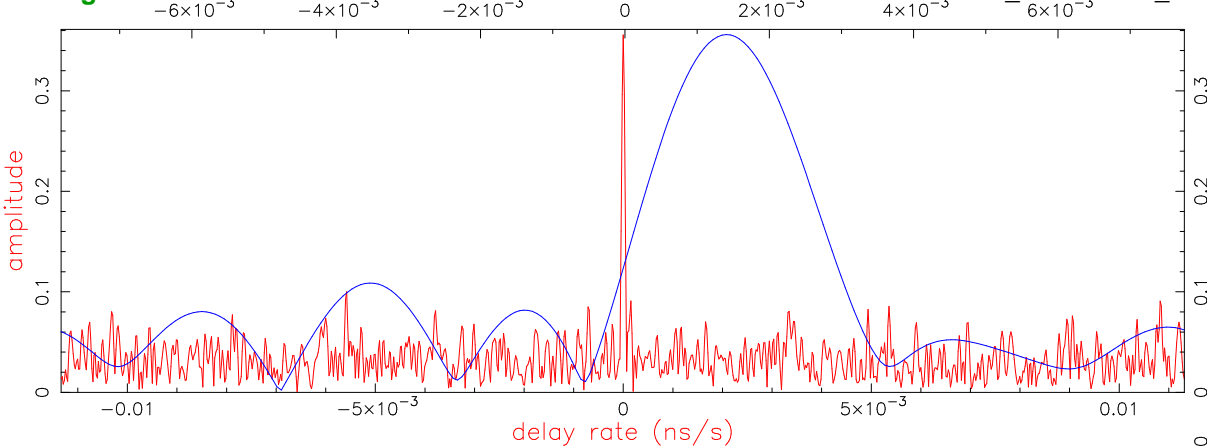
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, km

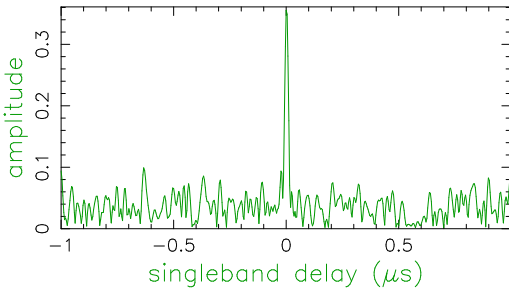
VLBA\_KP - VLBA\_MK, fgroup W, pol LL

multiband delay ( $\mu$ s)

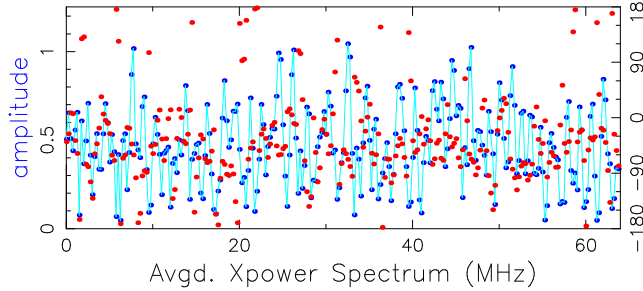


Fringe quality 9

SNR 13.2  
 Int time 179.958  
 Amp 0.361  
 Phase -48.9  
 PFD 1.3e-31  
 Delays (us)  
 SBD 0.001582  
 MBD 0.001467  
 Fringe rate (Hz)  
 -0.000683  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

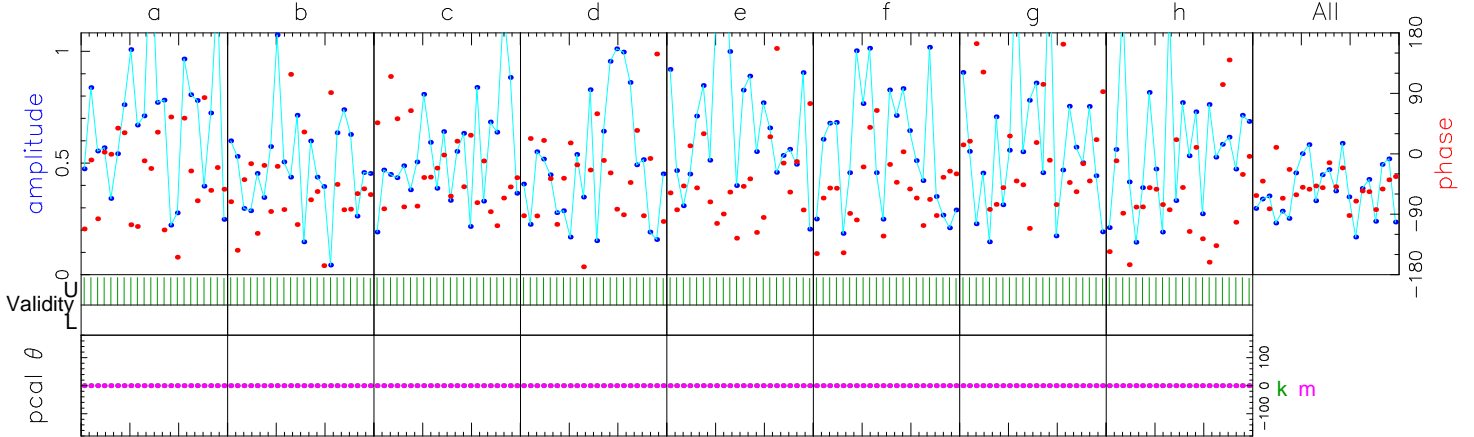


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145427  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-27.5	-69.9	-44.7	-48.3	-61.0	-47.8	-22.1	-74.1	Phase	-48.9
	0.4	0.3	0.4	0.3	0.5	0.4	0.4	0.3	Ampl.	0.4
	257.9	257.9	258.0	257.5	256.8	256.6	256.7	257.1	Sbd box	257.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-4.49304952345E+03	Apriori delay (usec)	-4.49305099014E+03	Resid mbdelay (usec)	1.46669E-03	+/-	8.2E-05
Sband delay (usec)	-4.49304940789E+03	Apriori clock (usec)	-1.3030000E+01	Resid sbdelay (usec)	1.58225E-03	+/-	6.5E-04
Phase delay (usec)	-4.49305099171E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-1.57791E-06	+/-	2.8E-07
Delay rate (us/s)	-3.52956881056E-01	Apriori rate (us/s)	-3.52956873122E-01	Resid rate (us/s)	-7.93443E-09	+/-	2.7E-09
Total phase (deg)	-153.4	Apriori accel (us/s/s)	4.04929158923E-05	Resid phase (deg)	-48.9	+/-	8.7

ph/seg (deg)	23.2	Theor.	20.3	Amplitude	0.361 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	33.3		35.4	Search (1024X32)	0.348	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	20.1		12.2	Inc. seg. avg.	0.358	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	15.4		21.4	Inc. frq. avg.	0.363	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

k: az 312.9 el 35.3 pa 80.9 m: az 331.5 el 51.8 pa 134.8 u,v (fr/asec) 3231.865 4981.813 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/km.W.88.1HV1N7

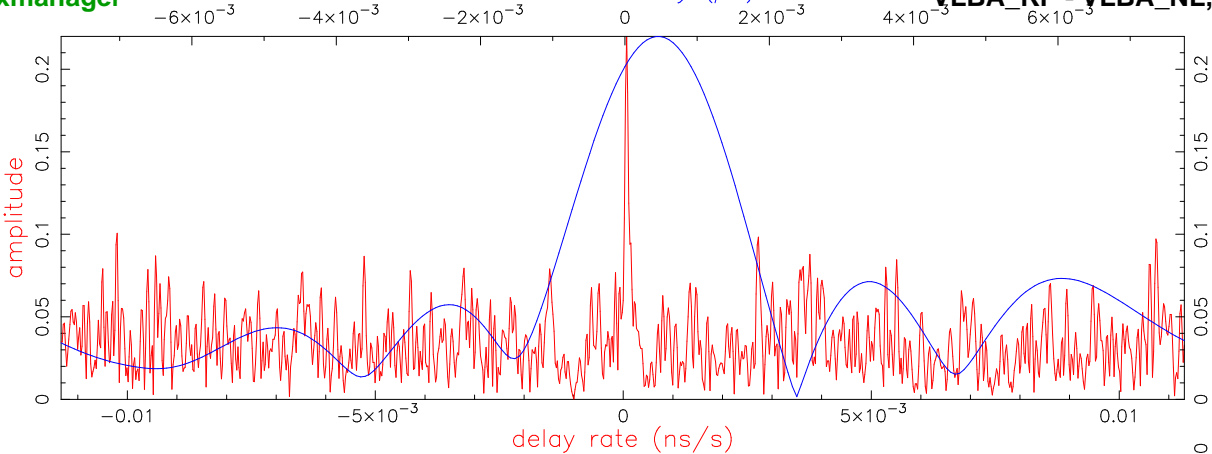
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kn

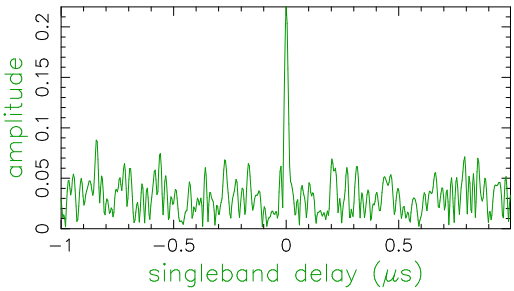
VLBA\_KP - VLBA\_NL, fgroup W, pol RR

multiband delay ( $\mu$ s)

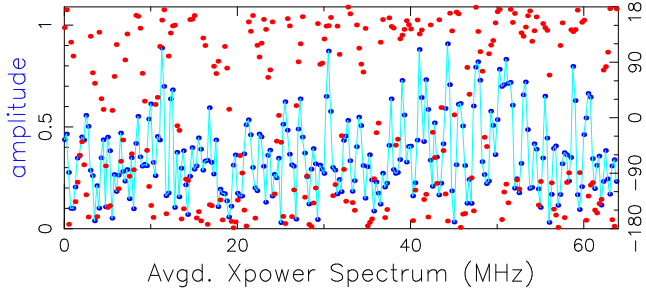


Fringe quality 9

SNR 8.1  
 Int time 179.963  
 Amp 0.220  
 Phase 170.9  
 PFD 1.2e-07  
 Delays (us)  
 SBD 0.000126  
 MBD 0.000461  
 Fringe rate (Hz) 0.005626  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

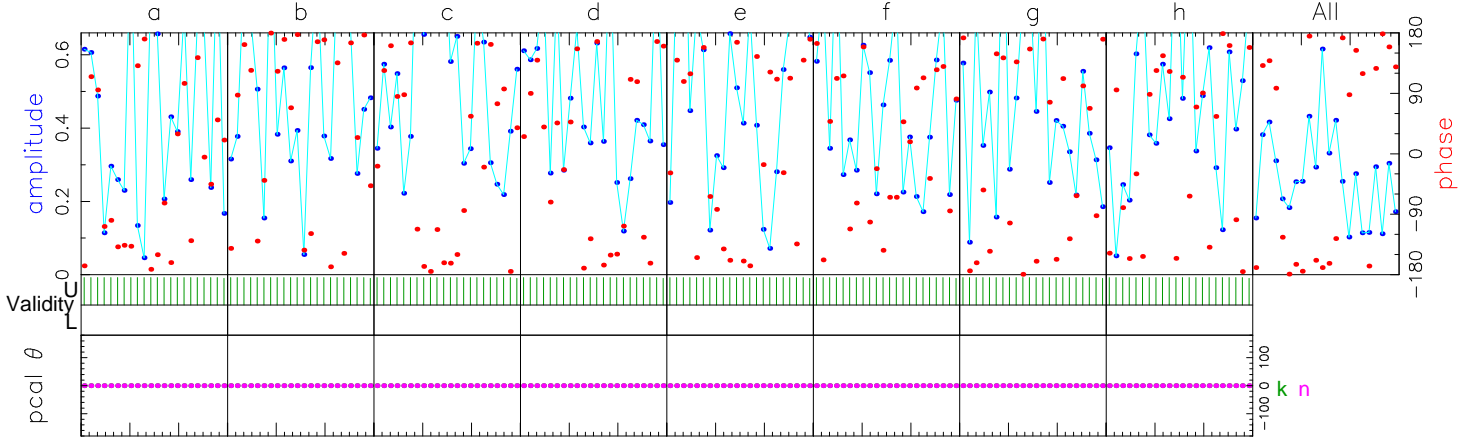


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145429  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	1.61161788102E+03	Apriori delay (usec)	1.61161742031E+03	Resid mbdelay (usec)	4.60711E-04	+/-	1.3E-04
Sband delay (usec)	1.61161754656E+03	Apriori clock (usec)	1.8872452E-01	Resid sbdelay (usec)	1.26250E-04	+/-	1.1E-03
Phase delay (usec)	1.61161742582E+03	Apriori clockrate (us/s)	-4.0000002E-07	Resid phdelay (usec)	5.51201E-06	+/-	4.6E-07
Delay rate (us/s)	-6.08856197687E-02	Apriori rate (us/s)	-6.08856850850E-02	Resid rate (us/s)	6.53163E-08	+/-	4.4E-09
Total phase (deg)	21.6	Apriori accel (us/s/s)	-2.05579707309E-05	Resid phase (deg)	170.9	+/-	14.2

ph/seg (deg)	RMS 39.1	Theor. 33.3	Amplitude Search (1024X32)	0.220 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	61.9	58.1	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	13.0	20.1	Inc. seg. avg.	0.233	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	37.9	35.1	Inc. frq. avg.	0.211	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 312.9 el 35.3 pa 80.9 n: az 313.3 el 30.2 pa 59.7 u,v (fr/asec) 545.377 -2758.277 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn.W.107.1HV1N7

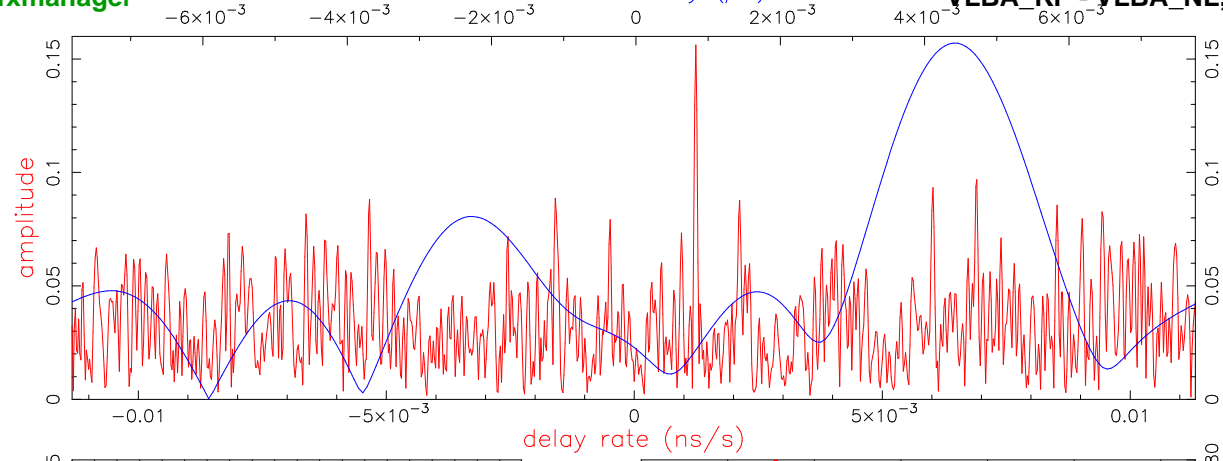
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

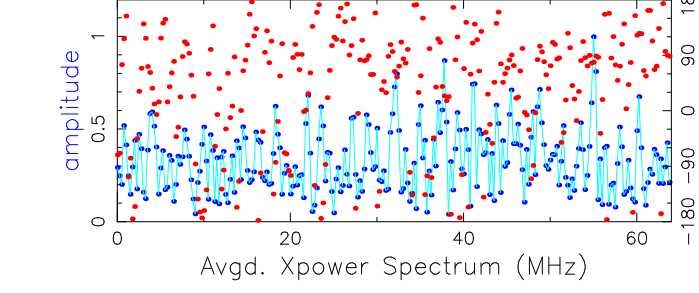
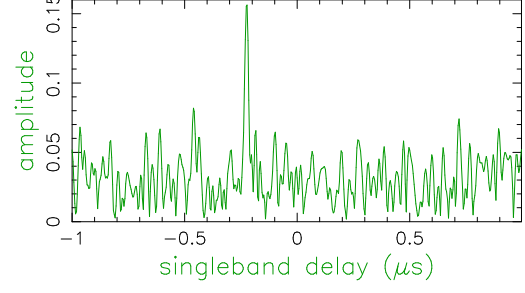
NRAO150.1HV1N7, No0150, kn

VLBA\_KP - VLBA\_NL, fgroup W, pol LR

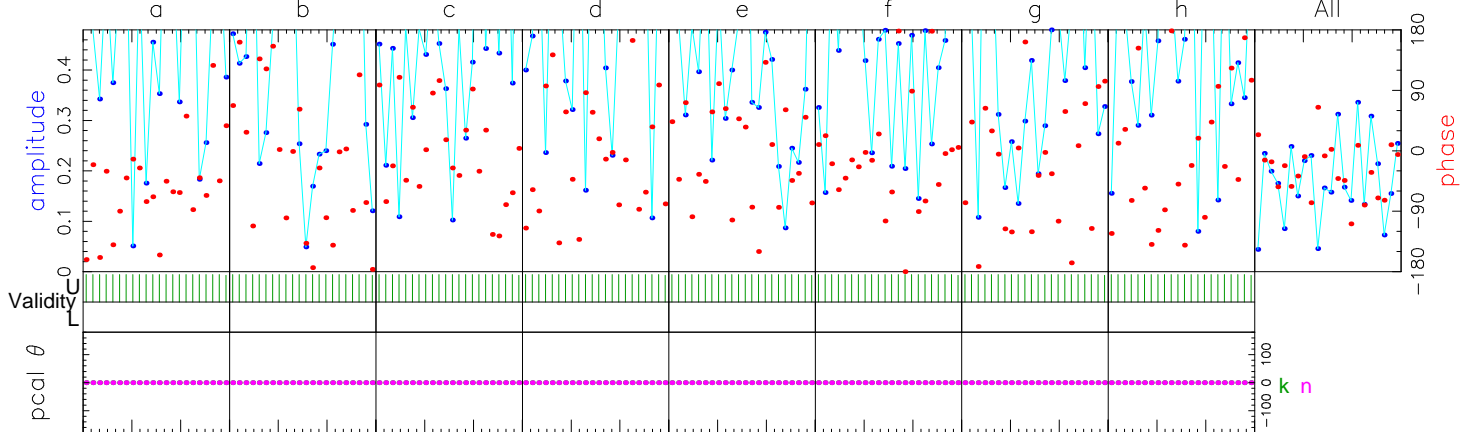
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.8  
 Int time 179.963  
 Amp 0.160  
 Phase -31.0  
 PFD 4.8e-01  
 Delays (us)  
 SBD -0.224485  
 MBD 0.004301  
 Fringe rate (Hz)  
 0.106747  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145430  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-57.2	-18.0	-16.7	-62.5	-1.9	-22.8	-0.8	-59.0	Phase	-31.0
	0.3	0.1	0.2	0.1	0.2	0.3	0.1	0.1	Ampl.	0.2
	198.9	453.3	503.6	184.2	90.7	199.6	476.8	421.8	Sbd box	199.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.61138734615E+03		Apriori delay (usec)		1.61161742031E+03		Resid mbdelay (usec)		4.30084E-03	+/- 1.9E-04
Sband delay (usec)	1.61139293531E+03		Apriori clock (usec)		1.8872452E-01		Resid sbdelay (usec)		-2.24485E-01	+/- 1.5E-03
Phase delay (usec)	1.61161741931E+03		Apriori clockrate (us/s)		-4.0000002E-07		Resid phdelay (usec)		-1.00020E-06	+/- 6.3E-07
Delay rate (us/s)	-6.08844458560E-02		Apriori rate (us/s)		-6.08856850850E-02		Resid rate (us/s)		1.23923E-06	+/- 6.1E-09
Total phase (deg)	179.7		Apriori accel (us/s/s)		-2.05579707309E-05		Resid phase (deg)		-31.0	+/- 19.6

ph/seg (deg) 39.3 46.0 Amplitude 0.160 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 52.5 80.3 Search (1024X32) 0.155 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 27.9 27.8 Inc. seg. avg. 0.140 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 42.8 48.4 Inc. frq. avg. 0.153 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 n: az 313.3 el 30.2 pa 59.7 u,v (fr/asec) 545.377 -2758.277 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn.W.122.1HV1N7

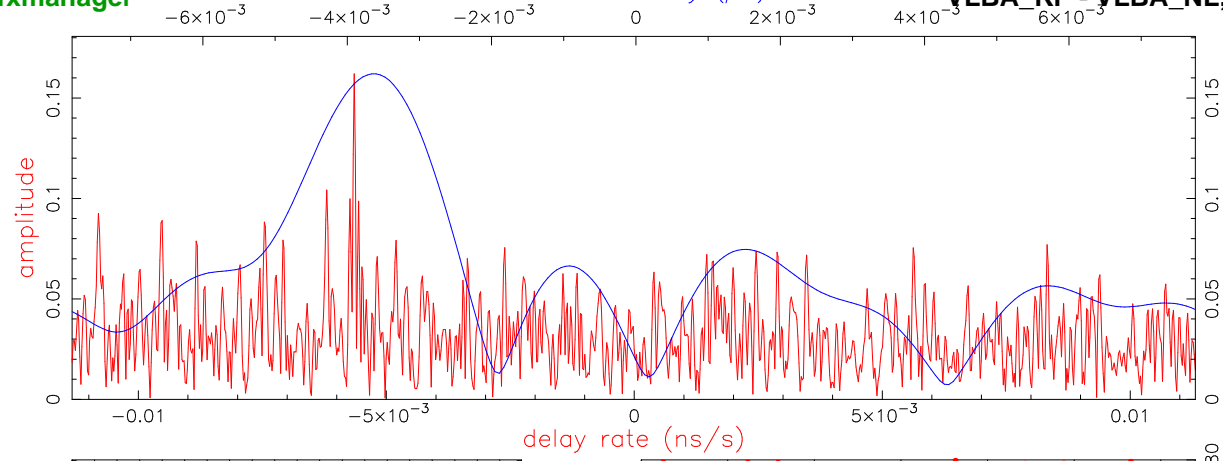
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kn

VLBA\_KP - VLBA\_NL, fgroup W, pol RL

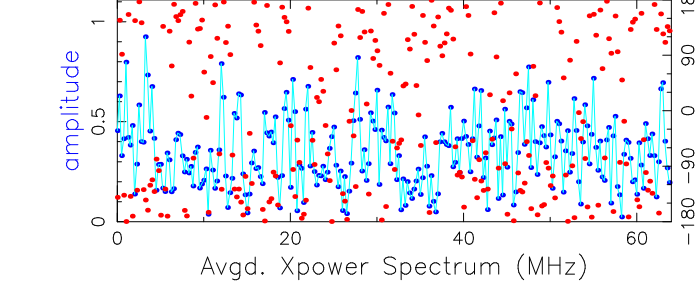
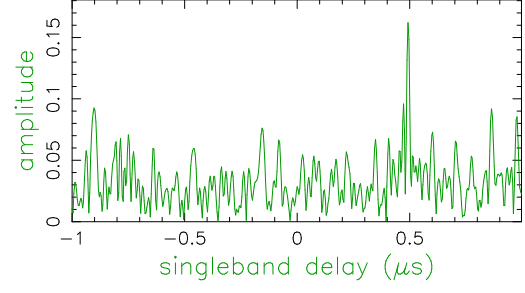
multiband delay ( $\mu$ s)



Fringe quality 0

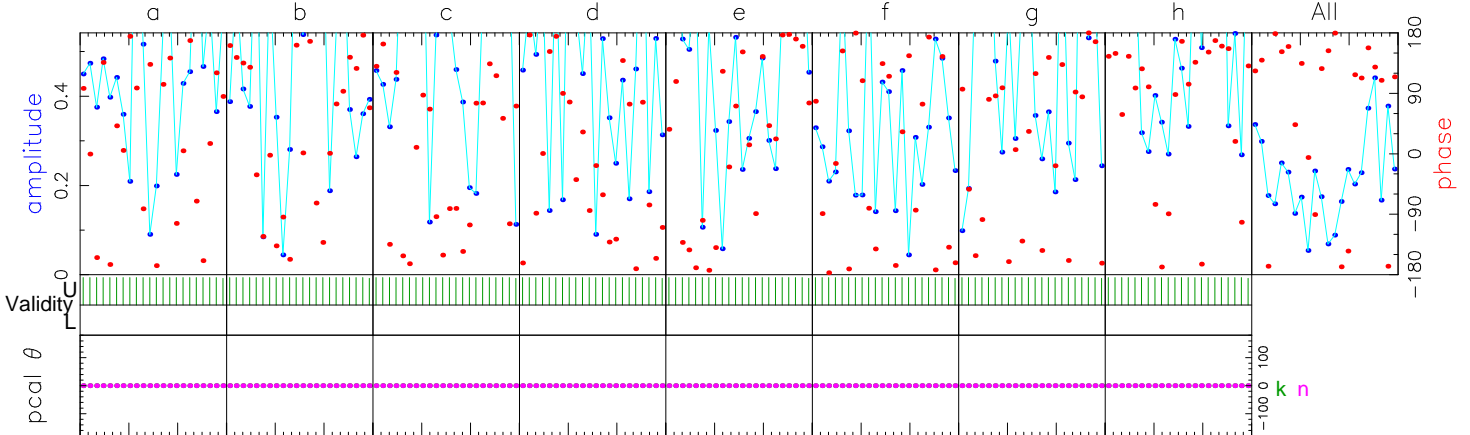
SNR 6.0  
 Int time 179.963  
 Amp 0.181  
 Phase 150.0  
 PFD 2.6e-01  
 Delays (us)  
 SBD 0.492918  
 MBD -0.003597  
 Fringe rate (Hz)  
 -0.486598  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145433  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.61211382330E+03	Apriori delay (usec)	1.61161742031E+03	Resid mbdelay (usec)	-3.59700E-03	+/-	1.8E-04
Sband delay (usec)	1.61211033881E+03	Apriori clock (usec)	1.8872452E-01	Resid sbdelay (usec)	4.92918E-01	+/-	1.4E-03
Phase delay (usec)	1.61161742514E+03	Apriori clockrate (us/s)	-4.0000002E-07	Resid phdelay (usec)	4.83706E-06	+/-	6.2E-07
Delay rate (us/s)	-6.08913340053E-02	Apriori rate (us/s)	-6.08856850850E-02	Resid rate (us/s)	-5.64892E-06	+/-	5.9E-09
Total phase (deg)	0.7	Apriori accel (us/s/s)	-2.05579707309E-05	Resid phase (deg)	150.0	+/-	19.2

ph/seg (deg)	55.9	Theor.	45.0	Amplitude	0.181 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	69.1		78.5	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	30.0		27.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	61.7		47.4	Inc. seg. avg.	0.185	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.171	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

k: az 312.9 el 35.3 pa 80.9 n: az 313.3 el 30.2 pa 59.7 u,v (fr/asec) 545.377 -2758.277 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn.W.144.1HV1N7



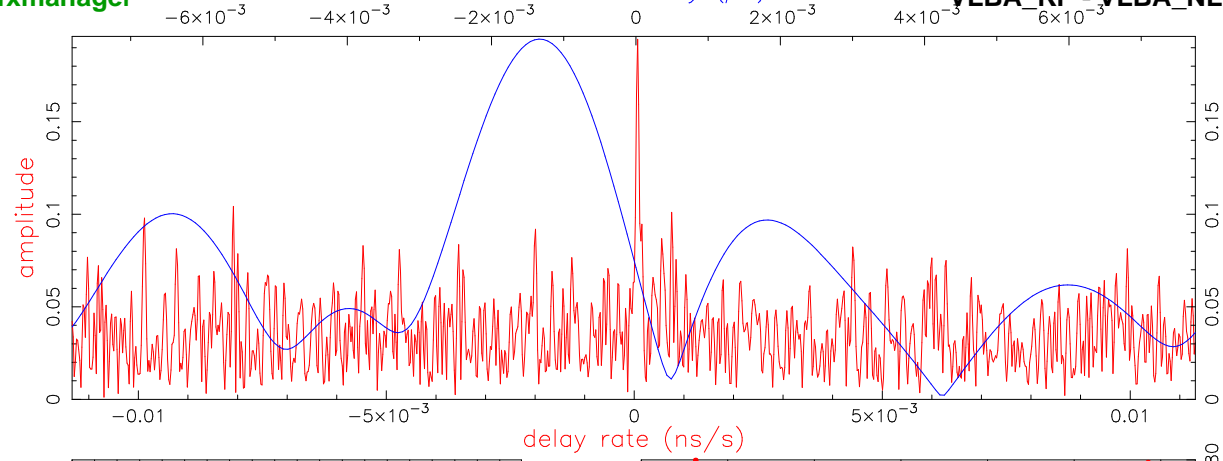
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kn

VLBA\_KP - VLBA\_NL, fgroup W, pol LL

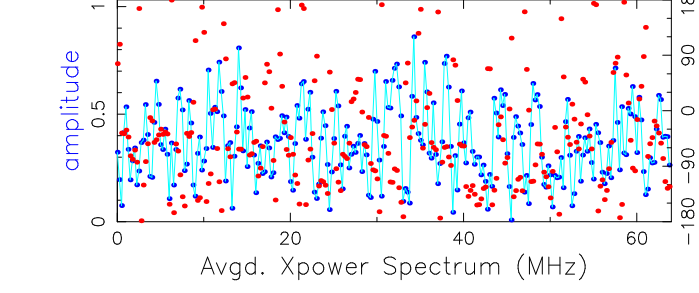
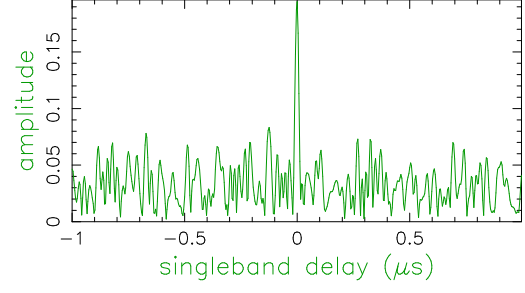
multiband delay ( $\mu$ s)



Fringe quality 9

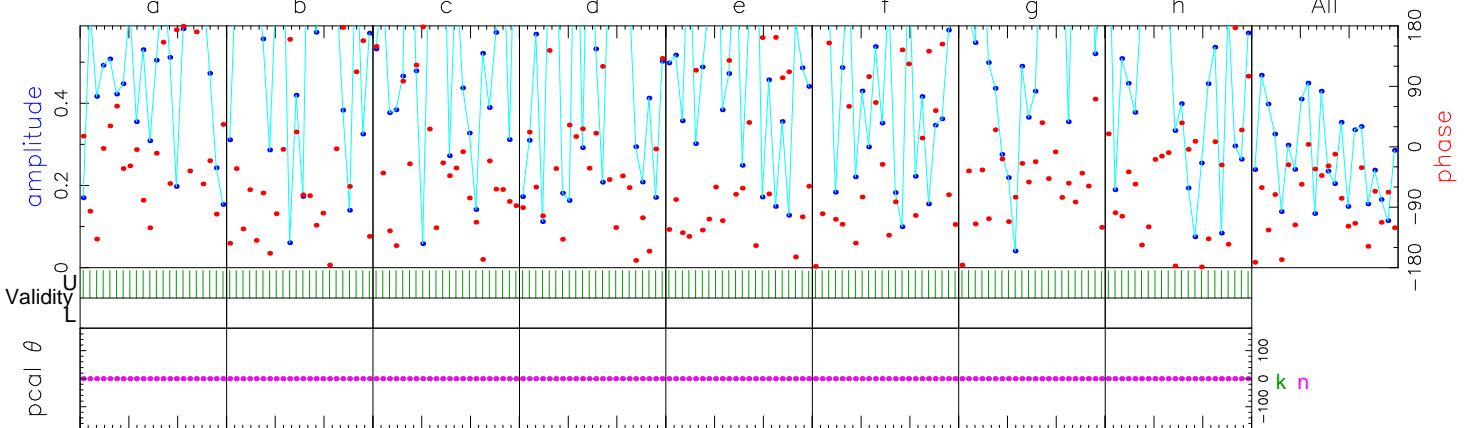
SNR 7.2  
 Int time 179.963  
 Amp 0.196  
 Phase -71.0  
 PFD 9.7e-05  
 Delays (us)  
 SBD -0.001154  
 MBD -0.001376  
 Fringe rate (Hz) 0.006267  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145427  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

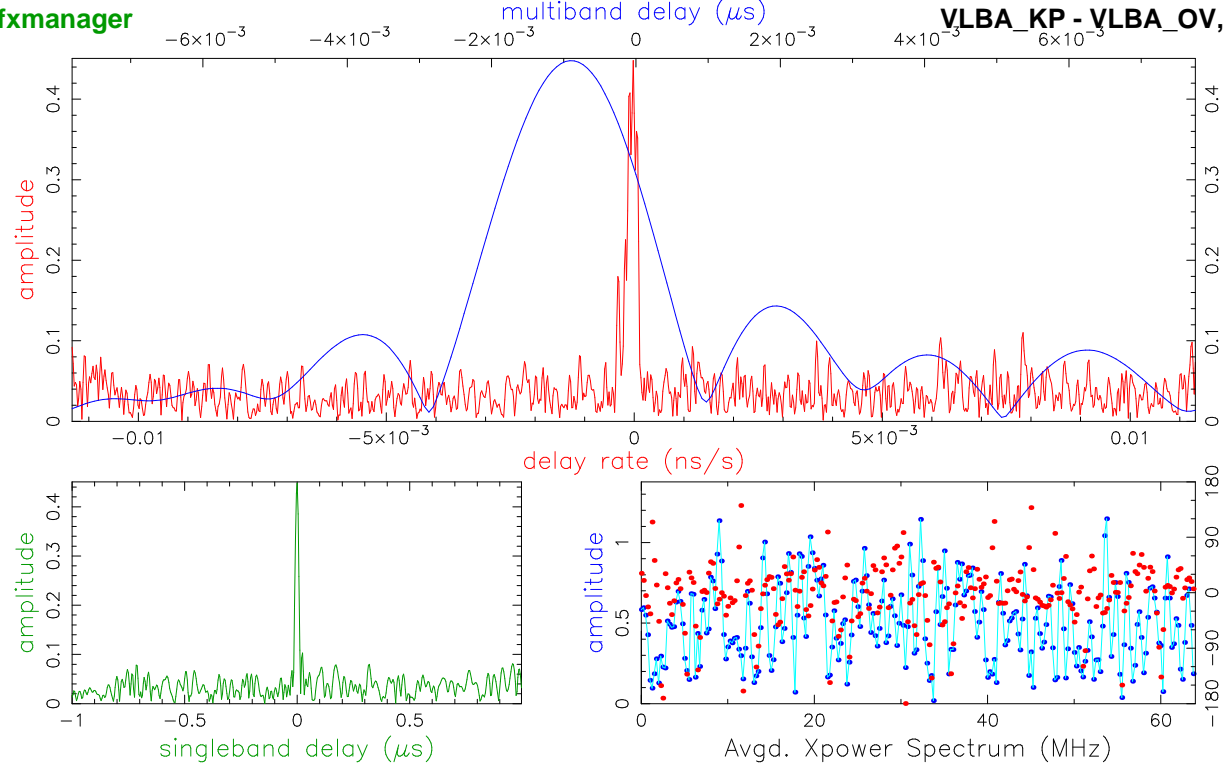


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-51.6	-97.3	-56.5	-40.6	-111.5	-147.4	-54.2	-50.0	Phase	-71.0
	0.2	0.3	0.3	0.2	0.3	0.1	0.4	0.1	Ampl.	0.2
	446.4	257.1	256.7	165.6	365.4	163.9	257.2	202.8	Sbd box	256.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 1.61161604424E+03 Apriori delay (usec) 1.61161742031E+03 Resid mbdelay (usec) -1.37607E-03 +/- 1.5E-04  
 Sband delay (usec) 1.61161626681E+03 Apriori clock (usec) 1.8872452E-01 Resid sbdelay (usec) -1.15350E-03 +/- 1.2E-03  
 Phase delay (usec) 1.61161741802E+03 Apriori clockrate (us/s) -4.0000002E-07 Resid phdelay (usec) -2.29035E-06 +/- 5.1E-07  
 Delay rate (us/s) -6.08856123360E-02 Apriori rate (us/s) -6.08856850850E-02 Resid rate (us/s) 7.27490E-08 +/- 4.9E-09  
 Total phase (deg) 139.6 Apriori accel (us/s/s) -2.05579707309E-05 Resid phase (deg) -71.0 +/- 15.9

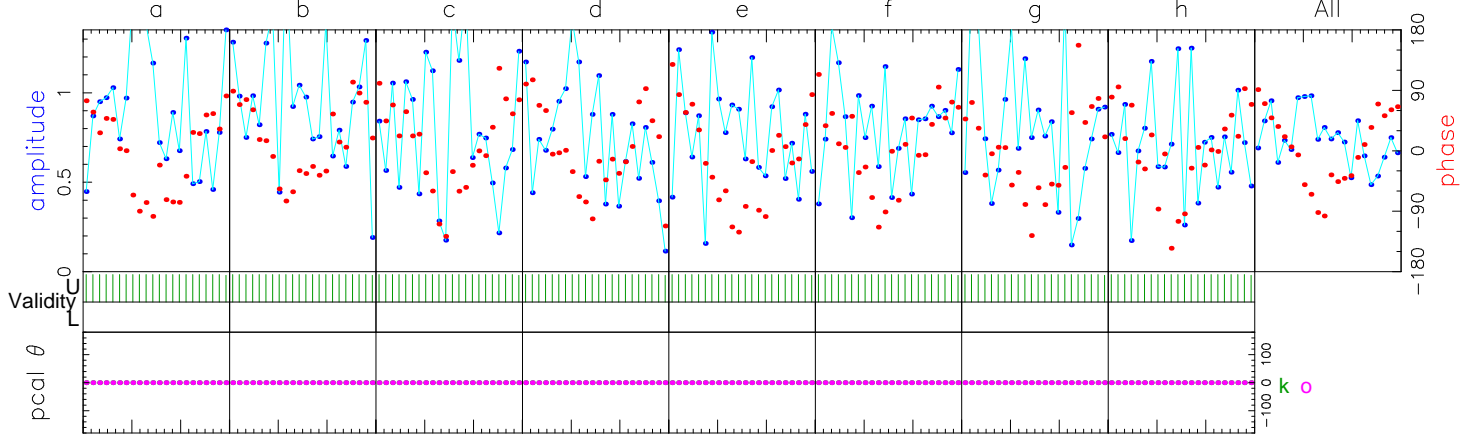
RMS Theor. Amplitude 0.196 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 50.3 37.4 Search (1024X32) 0.191 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 69.3 65.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 41.7 22.5 Inc. seg. avg. 0.229 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 43.3 39.3 Inc. frq. avg. 0.208 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9 n: az 313.3 el 30.2 pa 59.7 u,v (fr/asec) 545.377 -2758.277 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kn.W.90.1HV1N7



Fringe quality 9  
SNR 16.5  
Int time 179.961  
Amp 0.451  
Phase 1.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.000984  
MBD -0.000909  
Fringe rate (Hz)  
-0.002112  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145428  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-12.6	12.9	6.4	1.8	-11.7	13.7	-7.6	5.9	Phase	1.8
	0.5	0.6	0.5	0.4	0.4	0.5	0.5	0.4	Ampl.	0.4
	256.7	257.1	256.8	256.3	257.3	257.0	256.7	257.1	Sbd box	256.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-2.21239528185E+03			Apriori delay (usec)	-2.21239437271E+03			Resid mbdelay (usec)	-9.09143E-04	+/- 6.6E-05
Sband delay (usec)	-2.21239535671E+03			Apriori clock (usec)	-2.1072861E+01			Resid sbdelay (usec)	-9.84000E-04	+/- 5.2E-04
Phase delay (usec)	-2.21239437265E+03			Apriori clockrate (us/s)	1.9999998E-07			Resid phdelay (usec)	5.77654E-08	+/- 2.2E-07
Delay rate (us/s)	-8.11156383991E-02			Apriori rate (us/s)	-8.11156138830E-02			Resid rate (us/s)	-2.45161E-08	+/- 2.1E-09
Total phase (deg)			-93.6	Apriori accel (us/s/s)	5.01617346007E-06			Resid phase (deg)	1.8	+/- 6.9

ph/seg (deg) 54.4 16.3 Search (1024X32) 0.446 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 72.1 28.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 11.4 9.8 Inc. seg. avg. 0.714 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 12.8 17.1 Inc. frq. avg. 0.448 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
k: az 312.9 el 35.3 pa 80.9 o: az 308.8 el 42.9 pa 80.6 u,v (fr/asec) 742.307 63.442 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko.W.104.1HV1N7

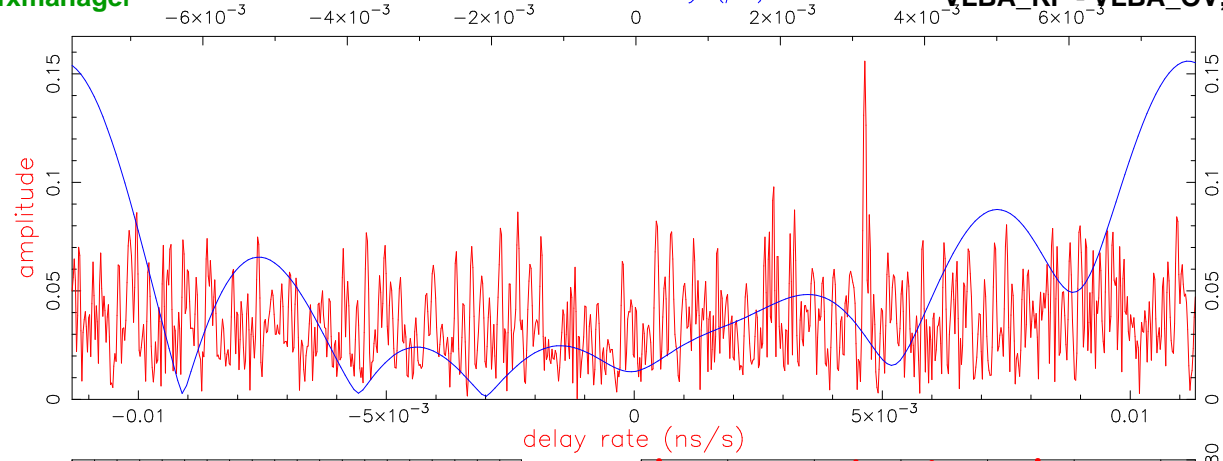
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

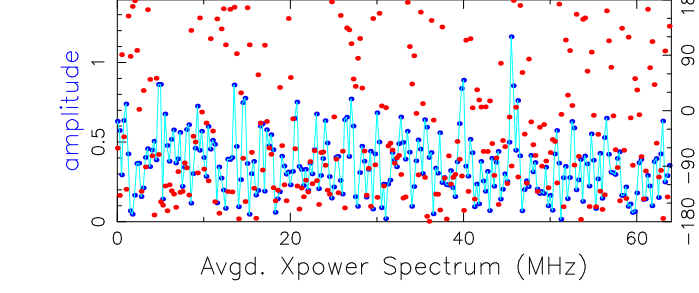
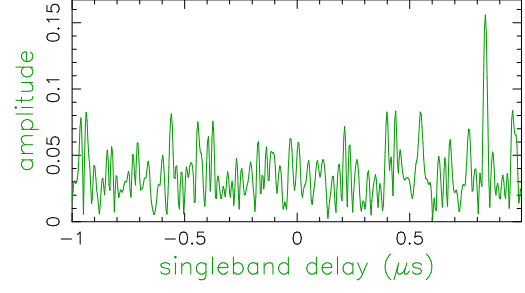
NRAO150.1HV1N7, No0150, ko

VLBA\_KP - VLBA\_OV, fgroup W, pol LR

multiband delay ( $\mu$ s)

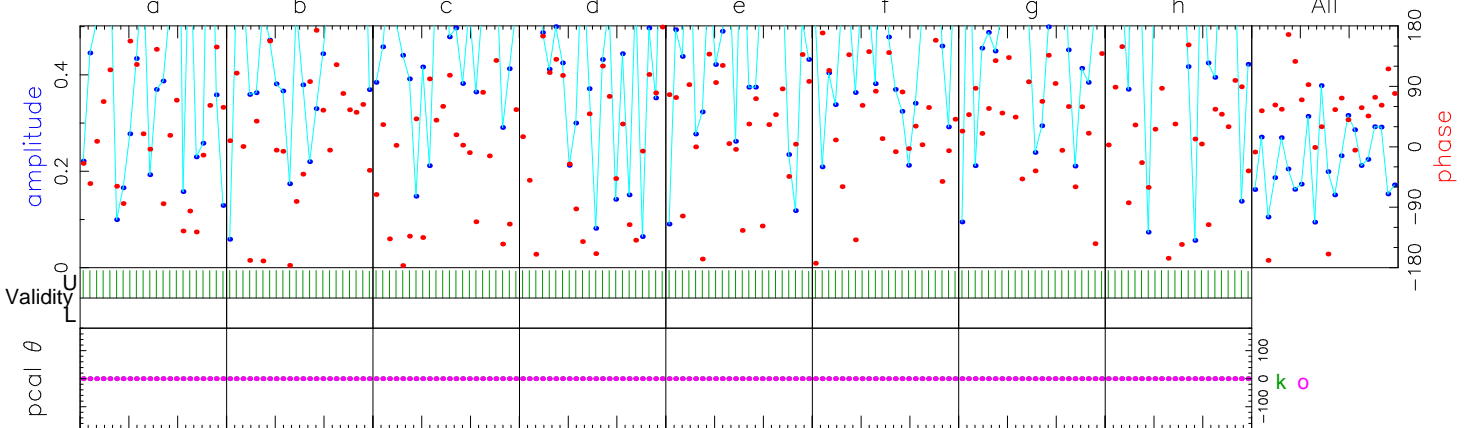


Fringe quality 0  
 SNR 5.7  
 Int time 179.961  
 Amp 0.167  
 Phase 62.6  
 PFD 7.3e-01  
 Delays (us)  
 SBD 0.835627  
 MBD 0.007647  
 Fringe rate (Hz) 0.400192  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145431  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-2.21155860034E+03								7.64736E-03	+/- 1.9E-04
Sband delay (usec)	-2.21155874596E+03								8.35627E-01	+/- 1.5E-03
Phase delay (usec)	-2.21239437069E+03								2.01840E-06	+/- 6.5E-07
Delay rate (us/s)	-8.11109680507E-02								4.64583E-06	+/- 6.2E-09
Total phase (deg)			-32.8						62.6	+/- 20.0
	RMS	Theor.	Amplitude	0.167 +/- 0.029					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	56.6	47.0	Search (1024X32)	0.153					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	62.1	82.0	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	35.4	28.3	Inc. seg. avg.	0.177					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	32.8	49.4	Inc. frq. avg.	0.163					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite

k: az 312.9 el 35.3 pa 80.9      o: az 308.8 el 42.9 pa 80.6      u,v (fr/asec) 742.307 63.442      simultaneous interpolator  
 Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko.W.131.1HV1N7

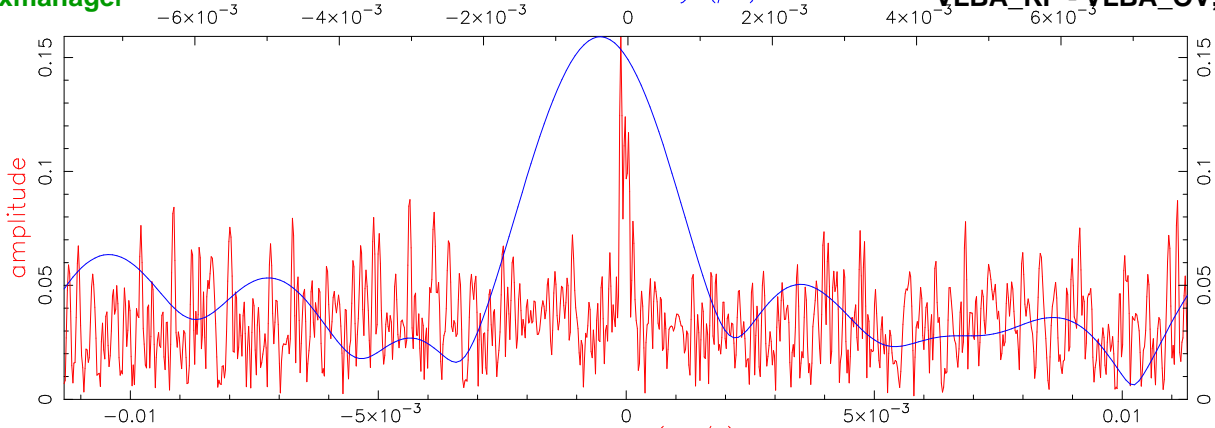
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ko

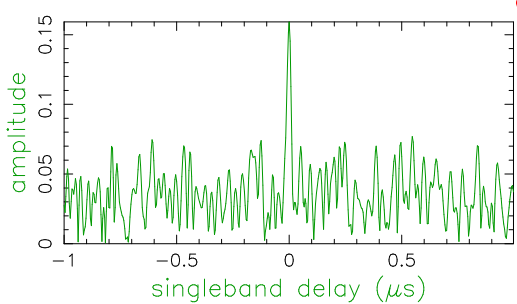
VLBA\_KP - VLBA\_OV, fgroup W, pol RL

multiband delay ( $\mu$ s)

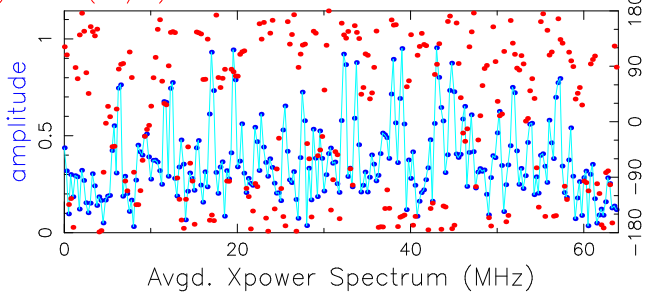


Fringe quality 0

SNR 5.8  
 Int time 179.961  
 Amp 0.159  
 Phase 147.5  
 PFD 4.8e-01  
 Delays (us)  
 SBD -0.000491  
 MBD -0.000394  
 Fringe rate (Hz)  
 -0.009012  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

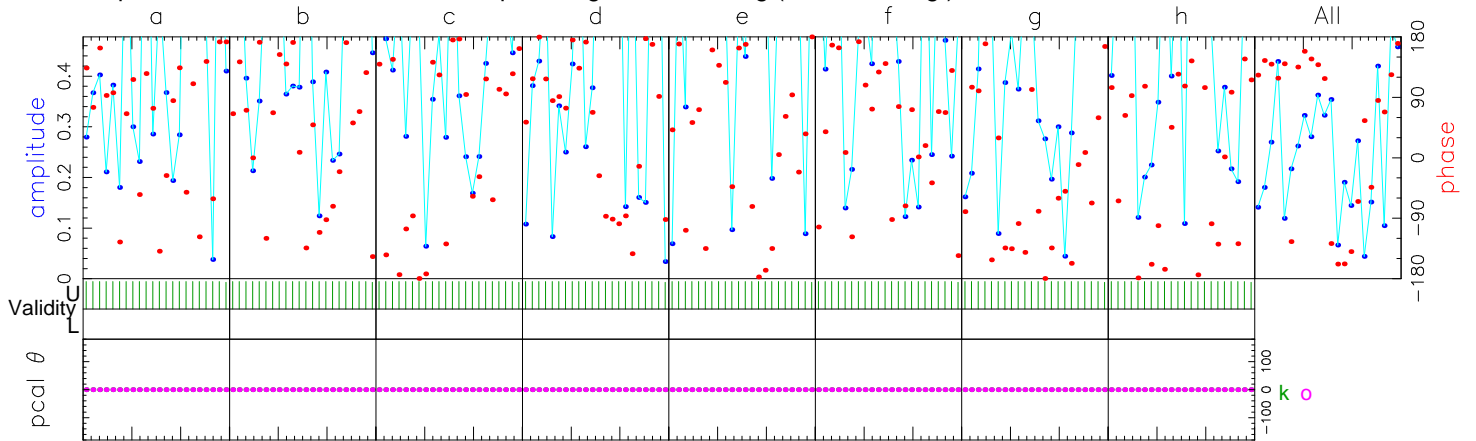


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145433  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-2.21239476624E+03									
Sband delay (usec)	-2.21239486346E+03									
Phase delay (usec)	-2.21239436795E+03									
Delay rate (us/s)	-8.11157184987E-02									
Total phase (deg)			52.1							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)									147.5	+/- 19.6
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

ph/seg (deg) 67.1 46.0 Search (1024X32) 0.156 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 100.1 80.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 31.5 27.7 Inc. seg. avg. 0.193 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 28.7 48.4 Inc. frq. avg. 0.154 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 o: az 308.8 el 42.9 pa 80.6 u,v (fr/asec) 742.307 63.442 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko.W.150.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

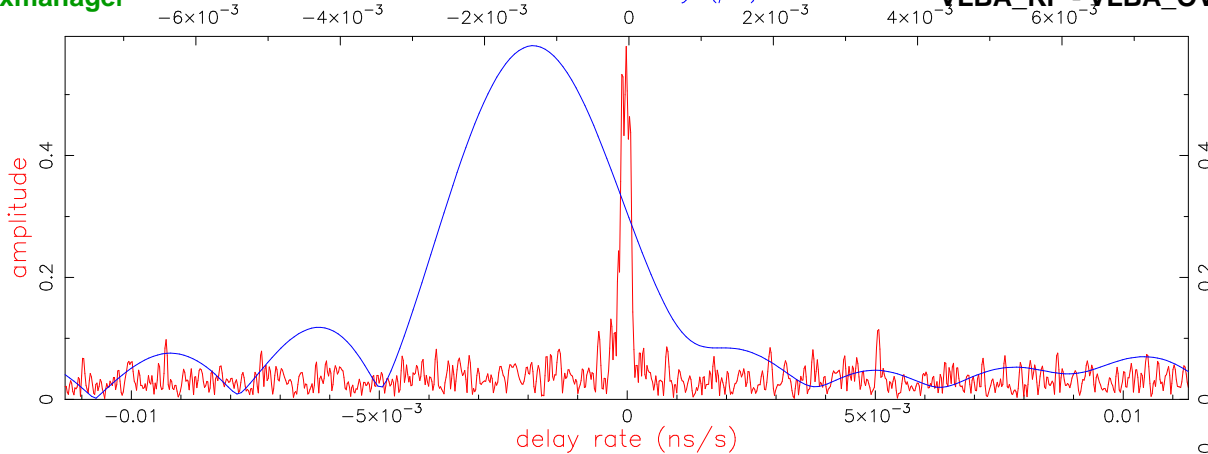
fxmanager

NRAO150.1HV1N7, No0150, ko

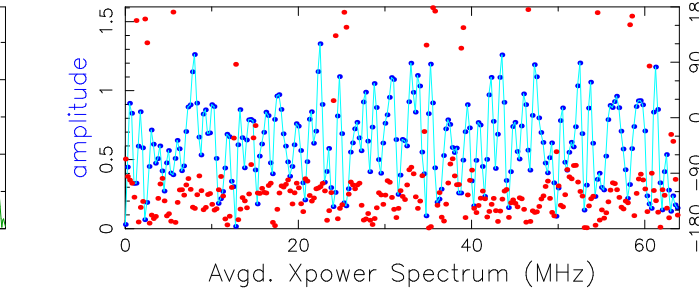
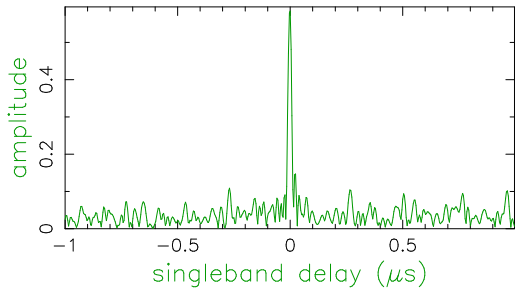
VLBA\_KP - VLBA\_OV, fgroup W, pol LL

multiband delay ( $\mu$ s)

Fringe quality 9

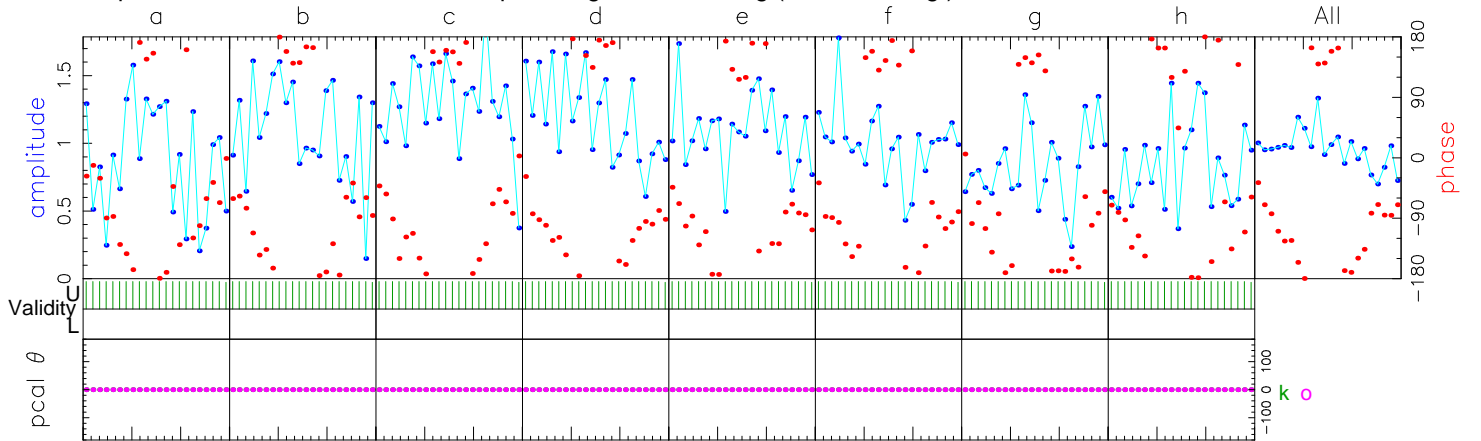


SNR 21.8  
 Int time 179.961  
 Amp 0.595  
 Phase -138.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001780  
 MBD -0.001252  
 Fringe rate (Hz)  
 -0.002221  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145426  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-128.5	-142.9	-138.7	-135.8	-130.8	-132.2	-138.6	-160.3	Phase	-138.3
	0.4	0.7	0.7	0.8	0.6	0.6	0.4	0.5	Ampl.	0.6
	256.7	256.6	256.6	256.6	256.6	256.2	256.5	256.6	Sbd box	256.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-2.21239562451E+03			Apriori delay (usec)	-2.21239437271E+03			Resid mbdelay (usec)	-1.25180E-03	+/- 5.0E-05
Sband delay (usec)	-2.21239615296E+03			Apriori clock (usec)	-2.1072861E+01			Resid sbdelay (usec)	-1.78025E-03	+/- 3.9E-04
Phase delay (usec)	-2.21239437716E+03			Apriori clockrate (us/s)	1.9999998E-07			Resid phdelay (usec)	-4.45906E-06	+/- 1.7E-07
Delay rate (us/s)	-8.11156396618E-02			Apriori rate (us/s)	-8.11156138830E-02			Resid rate (us/s)	-2.57787E-08	+/- 1.6E-09
Total phase (deg)		-233.6		Apriori accel (us/s/s)	5.01617346007E-06			Resid phase (deg)	-138.3	+/- 5.2

	RMS	Theor.	Amplitude	0.595 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	54.5	12.3	Search (1024X32)	0.575	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	65.5	21.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	10.8	7.4	Inc. seg. avg.	0.938	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	22.4	12.9	Inc. frq. avg.	0.581	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite
						ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9 o: az 308.8 el 42.9 pa 80.6 u,v (fr/asec) 742.307 63.442 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ko.W.85.1HV1N7

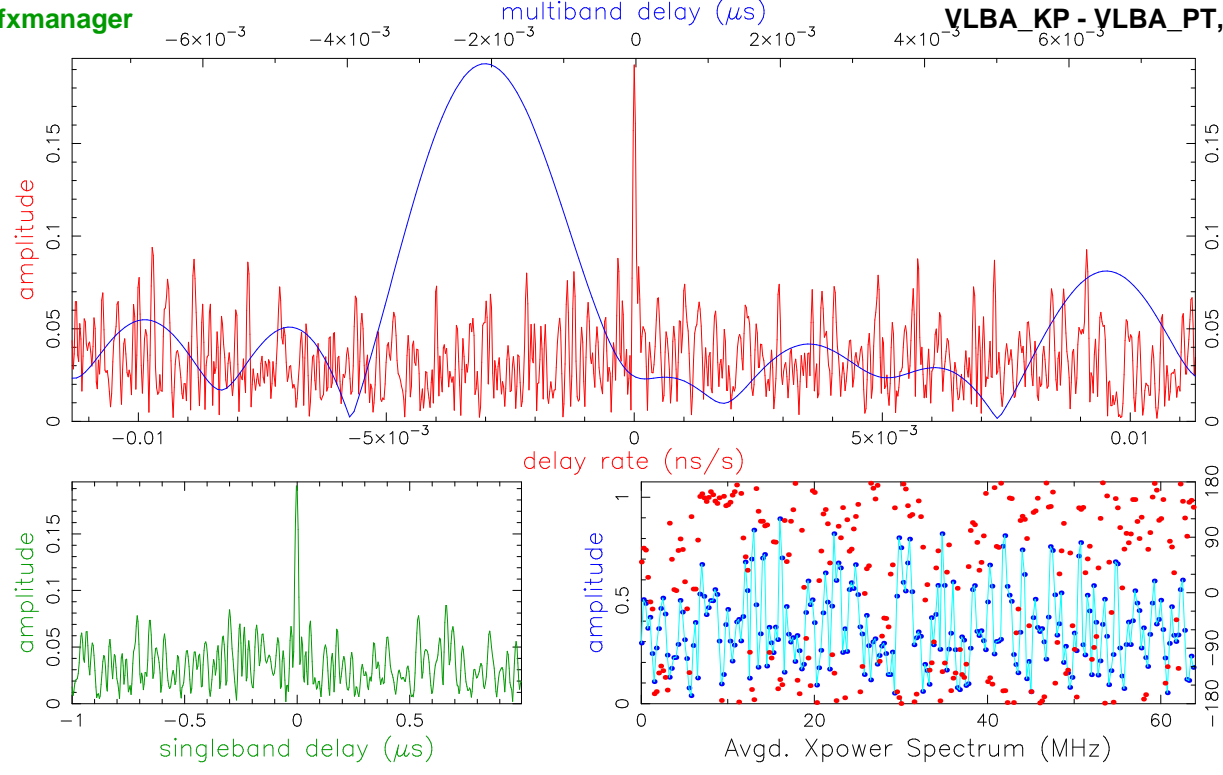


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kp

VLBA\_KP - VLBA\_PT, fgroup W, pol RR

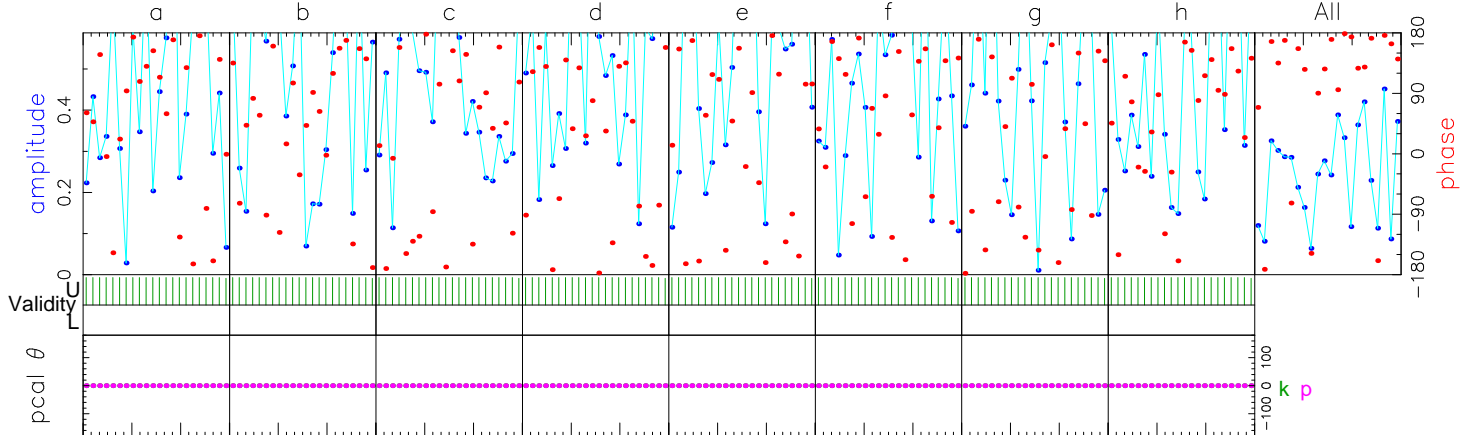


Fringe quality 0

SNR 7.2  
 Int time 179.963  
 Amp 0.196  
 Phase 149.3  
 PFD 1.0e-04  
 Delays (us)  
 SBD -0.002173  
 MBD -0.001999  
 Fringe rate (Hz)  
 -0.000147  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145430  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.74336267409E+02			1.74338266753E+02				Resid mbdelay (usec)	-1.99934E-03 +/- 1.5E-04
Sband delay (usec)		1.74336093753E+02			2.7529430E-01				Resid sbdelay (usec)	-2.17300E-03 +/- 1.2E-03
Phase delay (usec)		1.74338271566E+02			-2.9999999E-07				Resid phdelay (usec)	4.81358E-06 +/- 5.1E-07
Delay rate (us/s)		-7.03096485807E-03			-7.03096315044E-03				Resid rate (us/s)	-1.70762E-09 +/- 4.9E-09
Total phase (deg)			256.6		-3.93259646591E-06				Resid phase (deg)	149.3 +/- 15.9
ph/seg (deg)	RMS 45.9	Theor. 37.4	Amplitude 0.196 +/- 0.027	Search (1024X32) 0.191	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	64.3	65.2	Interp. 0.000	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	23.2	22.5	Inc. seg. avg. 0.205	0.205	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	22.8	39.3	Inc. frq. avg. 0.190	0.190	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00	
k: az 312.9 el 35.3 pa 80.9      p: az 312.2 el 34.7 pa 76.4      u,v (fr/asec) 62.430 -572.883      simultaneous interpolator										
Control file: cf_1234_gmva      Input file: /Exps/c202a/v1/v1_3mm/1234/No0150/kp..1HV1N7      Output file: /Exps/c202a/v1/v1_3mm/1234/No0150/kp.W.116.1HV1N7										

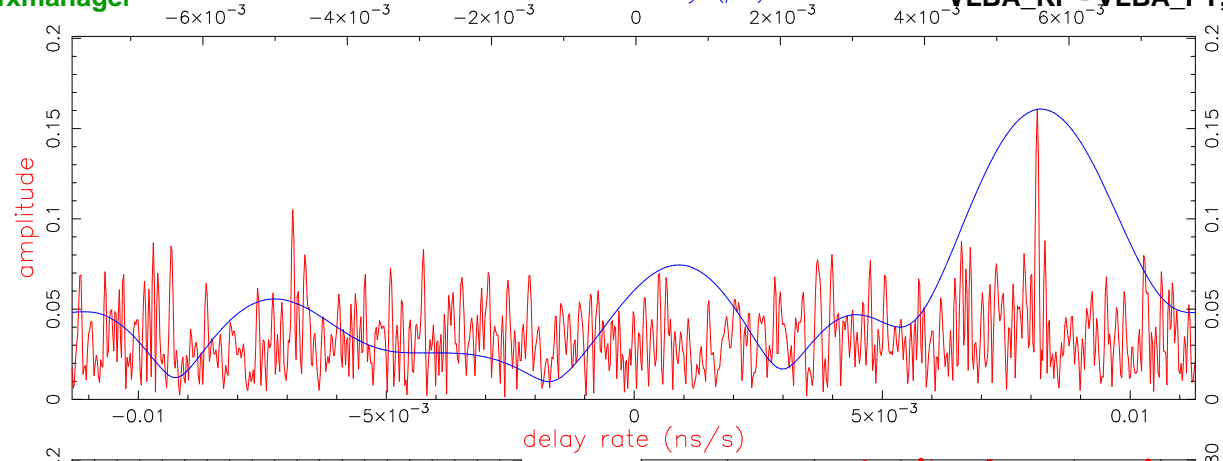
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

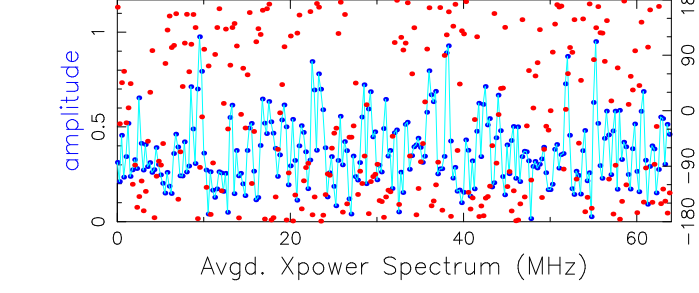
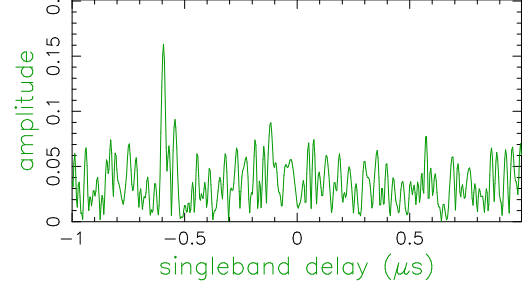
NRAO150.1HV1N7, No0150, kp

VLBA\_KP - VLBA\_PT, fgroup W, pol LR

multiband delay ( $\mu$ s)

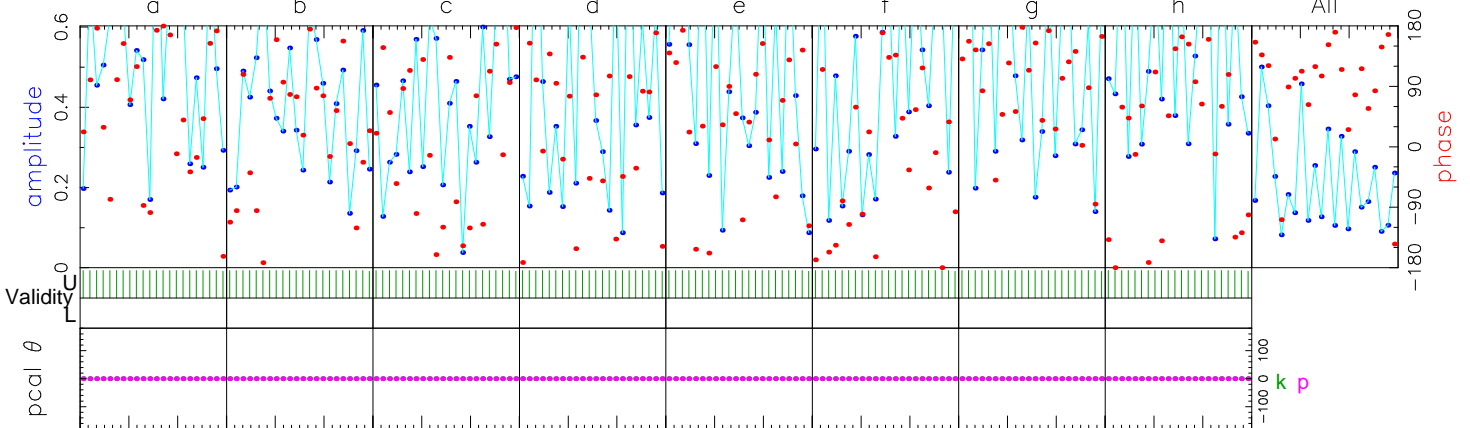


Fringe quality 0  
 SNR 5.9  
 Int time 179.963  
 Amp 0.201  
 Phase 115.9  
 PFD 3.6e-01  
 Delays (us)  
 SBD -0.594322  
 MBD 0.005599  
 Fringe rate (Hz) 0.701083  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145432  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	1.73750115430E+02	Apriori delay (usec)	1.74338266753E+02	Resid mbdelay (usec)	5.59868E-03	+/-	1.8E-04
Sband delay (usec)	1.73743944503E+02	Apriori clock (usec)	2.7529430E-01	Resid sbdelay (usec)	-5.94322E-01	+/-	1.5E-03
Phase delay (usec)	1.74338270489E+02	Apriori clockrate (us/s)	-2.9999999E-07	Resid phdelay (usec)	3.73649E-06	+/-	6.3E-07
Delay rate (us/s)	-7.02282426934E-03	Apriori rate (us/s)	-7.03096315044E-03	Resid rate (us/s)	8.13888E-06	+/-	6.0E-09
Total phase (deg)	223.2	Apriori accel (us/s/s)	-3.93259646591E-06	Resid phase (deg)	115.9	+/-	19.4

ph/seg (deg)	55.2	Theor.	45.5	Amplitude	0.201 +/- 0.034	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	83.0		79.4	Search (1024X32)	0.155	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	23.1		27.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	59.6		47.9	Inc. seg. avg.	0.208	Sample rate(MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.183	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9      p: az 312.2 el 34.7 pa 76.4      u,v (fr/asec) 62.430 -572.883      simultaneous interpolator  
 Control file: cf\_1234\_gmva      Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp..1HV1N7      Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp.W.138.1HV1N7

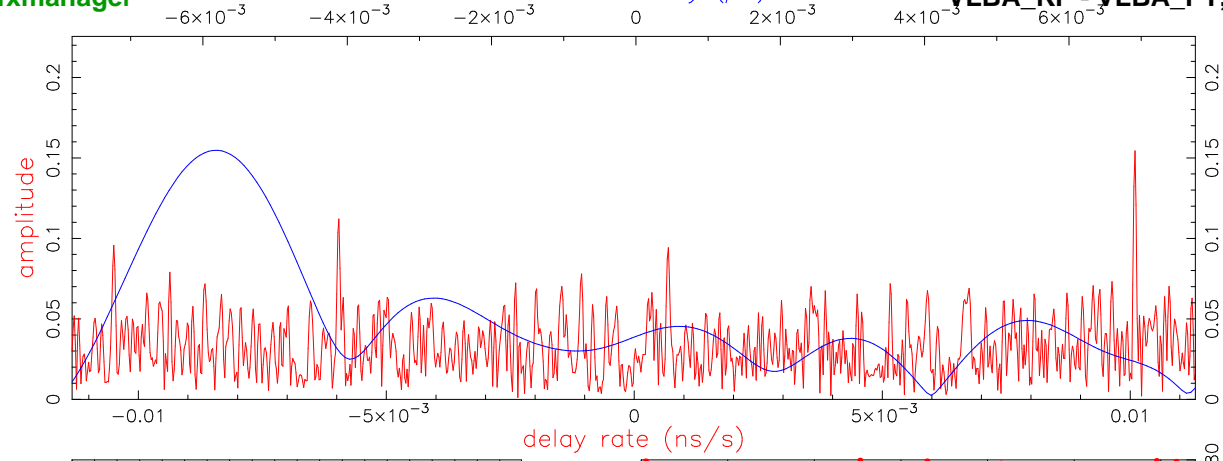
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

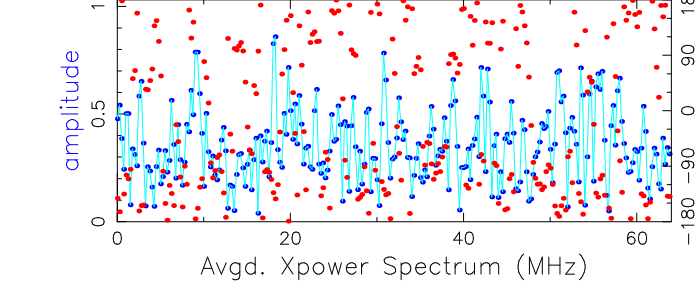
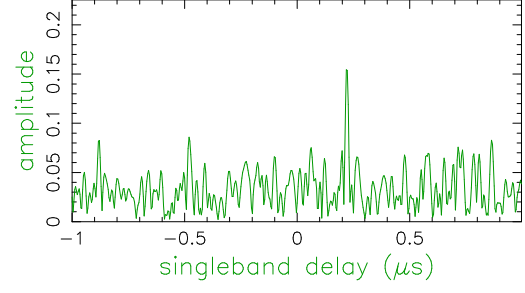
NRAO150.1HV1N7, No0150, kp

VLBA\_KP - VLBA\_PT, fgroup W, pol RL

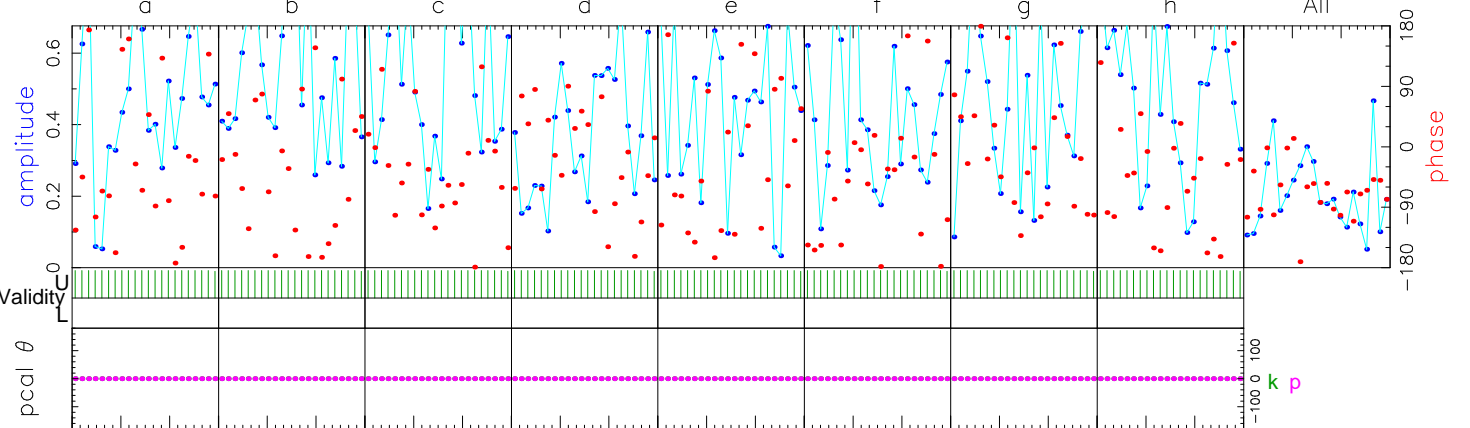
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.8  
 Int time 179.963  
 Amp 0.225  
 Phase -66.0  
 PFD 5.2e-01  
 Delays (us)  
 SBD 0.220614  
 MBD -0.005747  
 Fringe rate (Hz) 0.870308  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145434  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-88.0	-63.0	-48.2	-31.5	-105.6	-69.4	-48.6	-93.8	Phase	-66.0
	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	38.8	151.6	313.9	436.6	104.3	46.9	152.3	197.7	Sbd box	313.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.74551269799E+02		Apriori delay (usec)		1.74338266753E+02		Resid mbdelay (usec)		-5.74695E-03	+/- 1.9E-04
Sband delay (usec)	1.74558881003E+02		Apriori clock (usec)		2.7529430E-01		Resid sbdelay (usec)		2.20614E-01	+/- 1.5E-03
Phase delay (usec)	1.74338264625E+02		Apriori clockrate (us/s)		-2.9999999E-07		Resid phdelay (usec)		-2.12800E-06	+/- 6.3E-07
Delay rate (us/s)	-7.02085974232E-03		Apriori rate (us/s)		-7.03096315044E-03		Resid rate (us/s)		1.01034E-05	+/- 6.1E-09
Total phase (deg)	41.3		Apriori accel (us/s/s)		-3.93259646591E-06		Resid phase (deg)		-66.0	+/- 19.7

ph/seg (deg) 40.0 46.2 Search (1024X32) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 71.9 80.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 27.8 27.8 Inc. seg. avg. 0.220 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 31.4 48.6 Inc. frq. avg. 0.214 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 p: az 312.2 el 34.7 pa 76.4 u,v (fr/asec) 62.430 -572.883 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp.W.156.1HV1N7

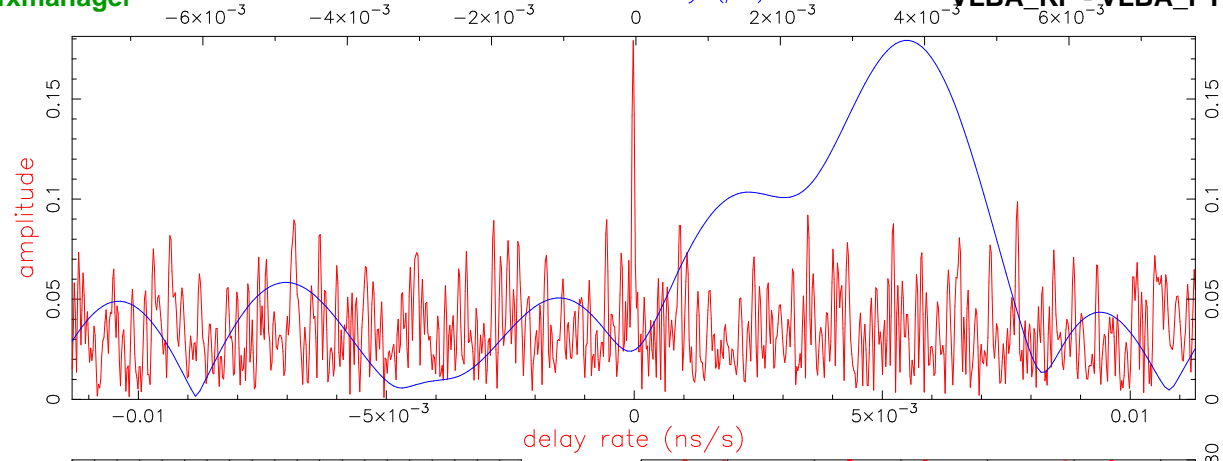
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

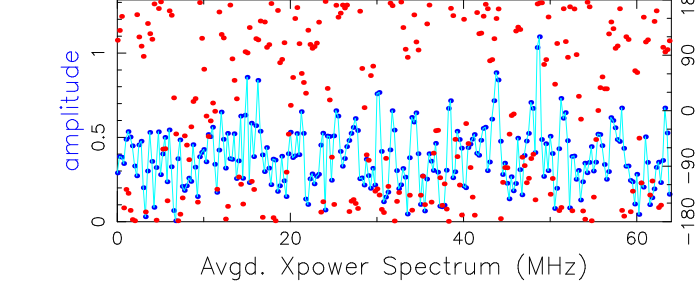
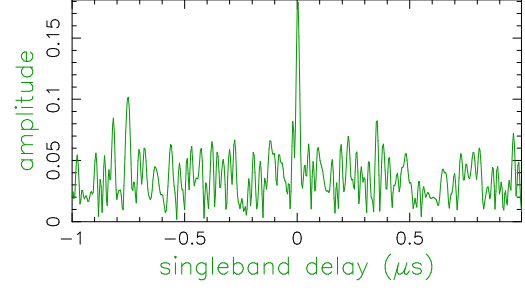
NRAO150.1HV1N7, No0150, kp

VLBA\_KP - VLBA\_PT, fgroup W, pol LL

multiband delay ( $\mu$ s)

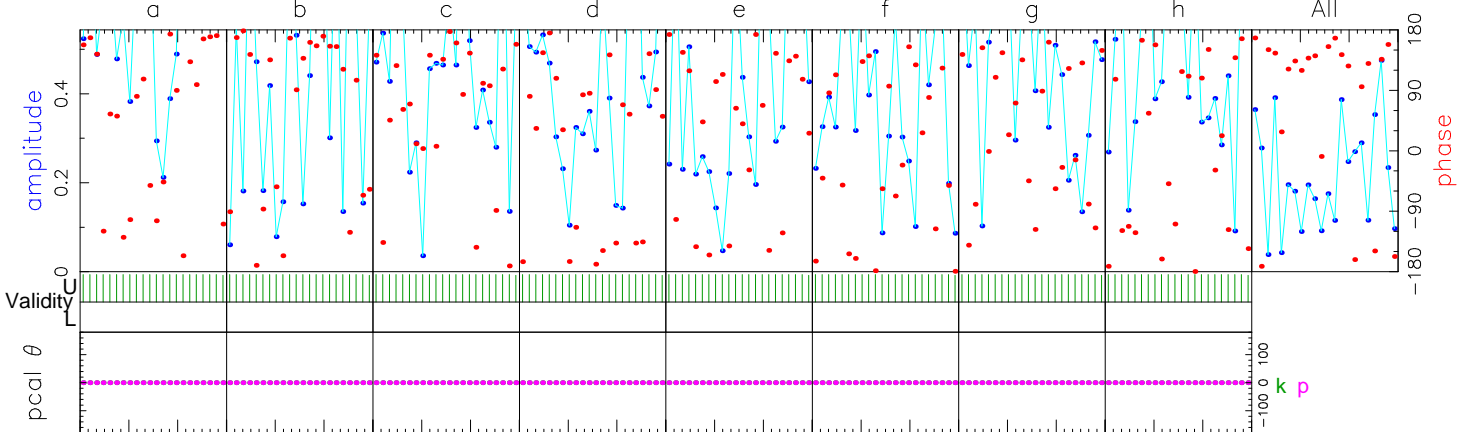


Fringe quality 0  
 SNR 6.6  
 Int time 179.963  
 Amp 0.181  
 Phase 150.9  
 PFD 4.2e-03  
 Delays (us)  
 SBD 0.002558  
 MBD 0.003703  
 Fringe rate (Hz) -0.001101  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145427  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.74341969453E+02	Apriori delay (usec)		1.74338266753E+02	Resid mbdelay (usec)		3.70270E-03	+/-	1.6E-04
Sband delay (usec)	1.74340825003E+02	Apriori clock (usec)		2.7529430E-01	Resid sbdelay (usec)		2.55825E-03	+/-	1.3E-03
Phase delay (usec)	1.74338271617E+02	Apriori clockrate (us/s)		-2.9999999E-07	Resid phdelay (usec)		4.86466E-06	+/-	5.6E-07
Delay rate (us/s)	-7.03097592999E-03	Apriori rate (us/s)		-7.03096315044E-03	Resid rate (us/s)		-1.27795E-08	+/-	5.3E-09
Total phase (deg)	258.2		Apriori accel (us/s/s)		-3.93259646591E-06		Resid phase (deg)		150.9 +/- 17.2

ph/seg (deg)	51.3	40.4	Search (1024X32)	0.170	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5						
amp/seg (%)	69.0	70.5	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000	1.000			
ph/frq (deg)	23.8	24.4	Inc. seg. avg.	0.175	Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)	-0.008	0.008		
amp/frq (%)	50.6	42.5	Inc. frq. avg.	0.177	Sample rate(MISamp/s): 128		Data rate(Mb/s): 2048		dr window (ns/s)	-0.011	0.011		
						nlags: 256		t_cohere infinite		ion window (TEC)		0.00	0.00

k: az 312.9 el 35.3 pa 80.9      p: az 312.2 el 34.7 pa 76.4      u,v (fr/asec) 62.430 -572.883      simultaneous interpolator  
 Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kp.W.95.1HV1N7

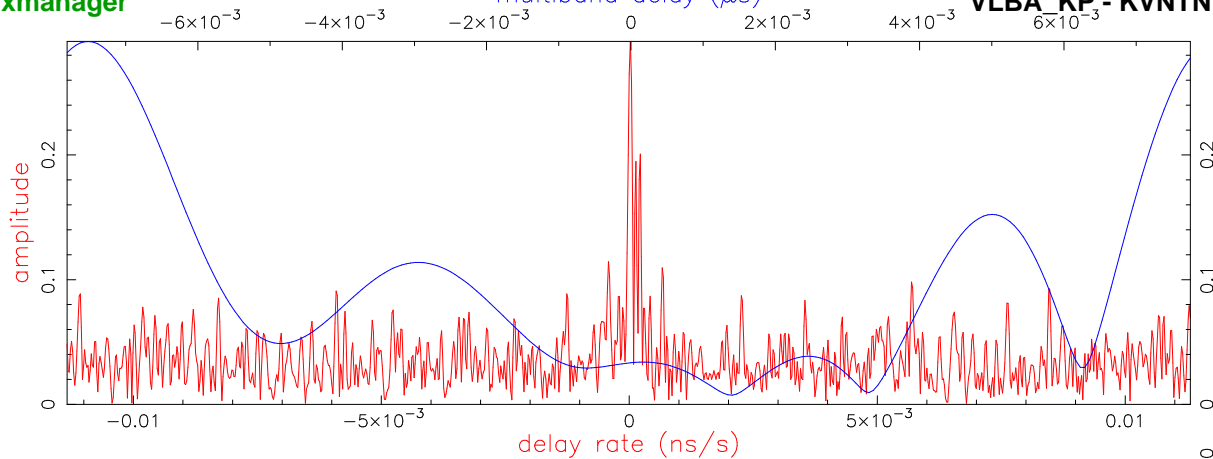
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kt

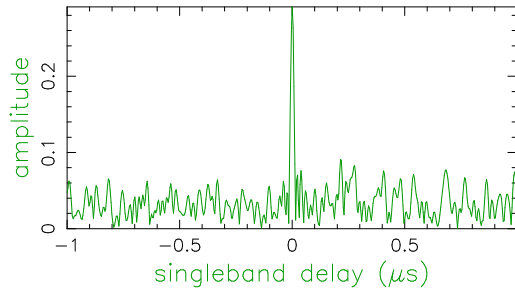
VLBA\_KP - KVNTN, fgroup W, pol RR

multiband delay ( $\mu$ s)

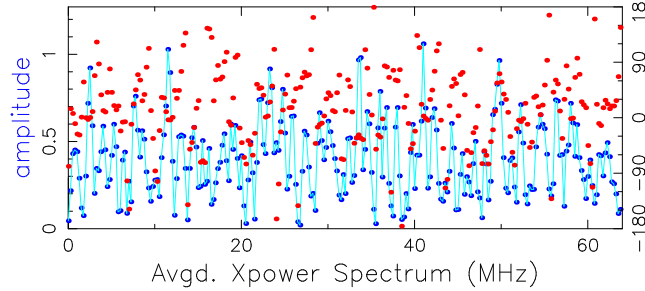


Fringe quality 9

SNR 10.7  
 Int time 179.959  
 Amp 0.291  
 Phase 110.8  
 PFD 2.9e-18  
 Delays (us)  
 SBD 0.000191  
 MBD -0.007514  
 Fringe rate (Hz) 0.001867  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

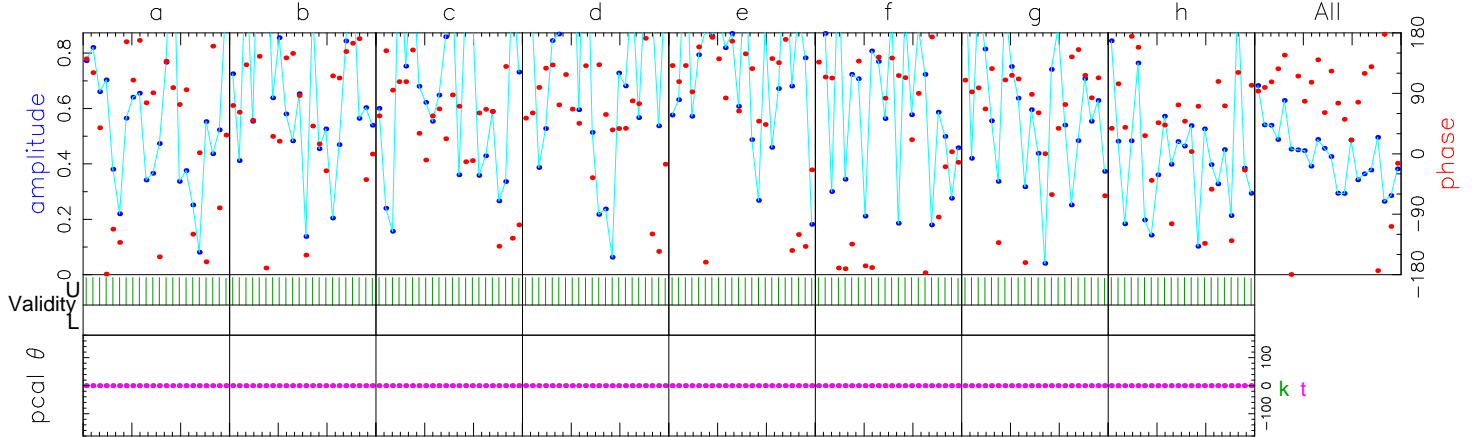


delay rate (ns/s)



Exp. c202a  
 Yr:day 16383  
 Start 2021:008:174658  
 Stop 2021:010:145429  
 FRT 2020:247:085004  
 RA & Dec (J2000) 03h59m29.747267s +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-4.08081391700E+03				-4.08080640348E+03				Resid mbdelay (usec)	-7.51351E-03 +/- 1.0E-04
Sband delay (usec)	-4.08080621248E+03				-1.0450001E+00				Resid sbdelay (usec)	1.91000E-04 +/- 8.1E-04
Phase delay (usec)	-4.08080639991E+03				0.0000000E+00				Resid phdelay (usec)	3.57203E-06 +/- 3.5E-07
Delay rate (us/s)	-1.41253081206E+00				-1.41253083373E+00				Resid rate (us/s)	2.16734E-08 +/- 3.3E-09
Total phase (deg)			-103.8		1.99884312562E-05				Resid phase (deg)	110.8 +/- 10.7
	RMS	Theor.	Amplitude	0.291 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	56.9	25.2	Search (1024X32)	0.287	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	61.6	43.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	34.0	15.2	Inc. seg. avg.	0.397	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	35.4	26.5	Inc. frq. avg.	0.321	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 312.9 el 35.3 pa 80.9 t: az 48.4 el 49.8 pa -96.1 u,v (fr/asec) 12869.893 1802.057 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt.W.111.1HV1N7



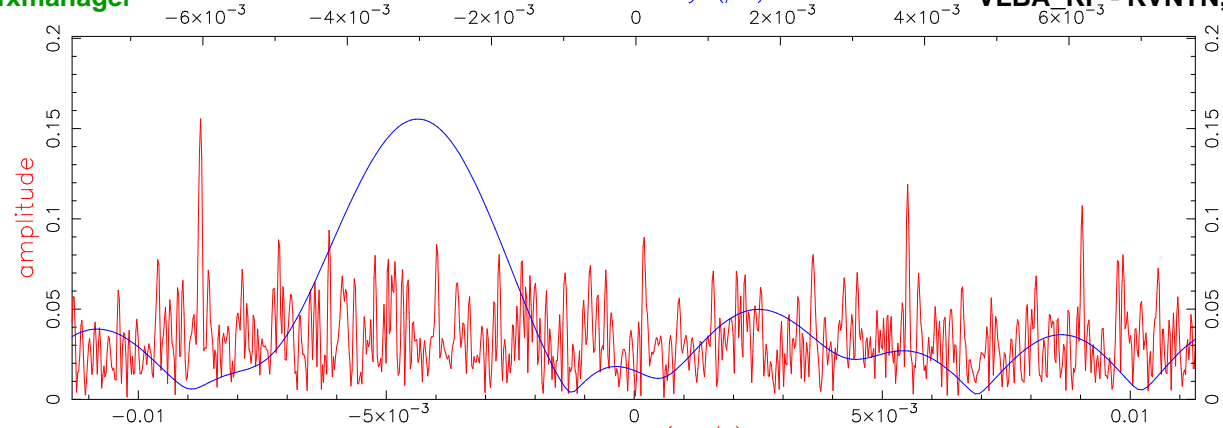
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kt

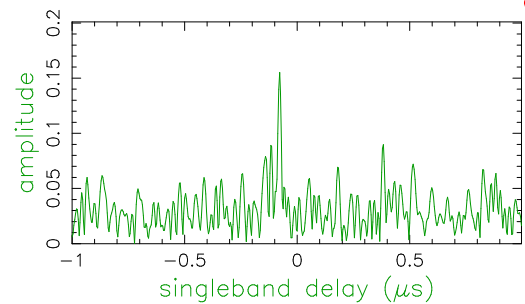
VLBA\_KP - KVNTN, fgroup W, pol LR

multiband delay ( $\mu$ s)

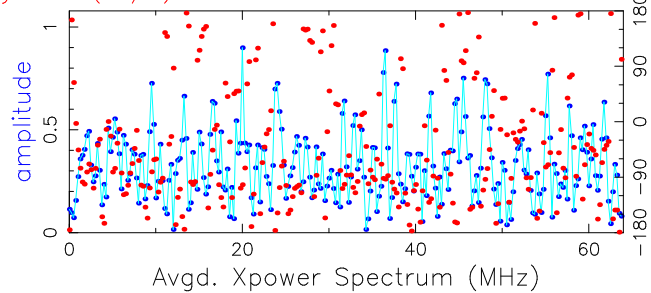


Fringe quality 0

SNR 5.7  
 Int time 179.959  
 Amp 0.201  
 Phase 118.4  
 PFD 7.8e-01  
 Delays (us)  
 SBD -0.078259  
 MBD -0.003023  
 Fringe rate (Hz)  
 -0.753675  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

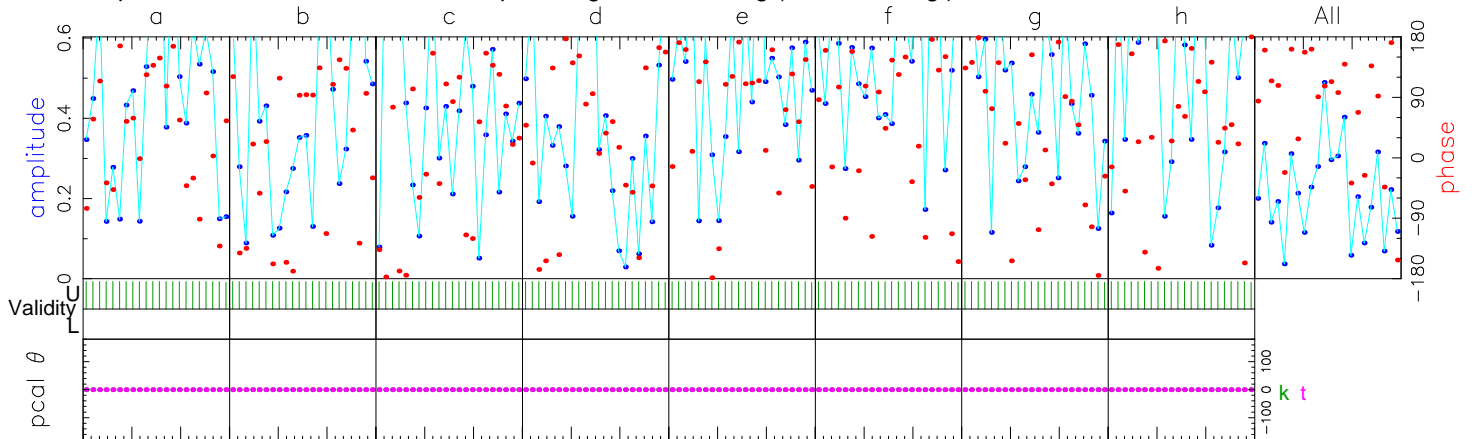


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145431  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-4.08088755156E+03	Apriori delay (usec)	-4.08080640348E+03	Resid mbdelay (usec)	-3.02308E-03	+/-	1.9E-04
Sband delay (usec)	-4.08088466273E+03	Apriori clock (usec)	-1.0450001E+00	Resid sbdelay (usec)	-7.82593E-02	+/-	1.5E-03
Phase delay (usec)	-4.08080639966E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	3.81755E-06	+/-	6.5E-07
Delay rate (us/s)	-1.41253958315E+00	Apriori rate (us/s)	-1.41253083373E+00	Resid rate (us/s)	-8.74942E-06	+/-	6.2E-09
Total phase (deg)	-96.2	Apriori accel (us/s/s)	1.99884312562E-05	Resid phase (deg)	118.4	+/-	20.1

ph/seg (deg)	75.0	Theor.	47.2	Amplitude	0.201 +/- 0.035	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	83.8		82.3	Search (1024X32)	0.151	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	17.1		28.4	Inc. seg. avg.	0.212	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	27.6		49.7	Inc. frq. avg.	0.185	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

k: az 312.9 el 35.3 pa 80.9 t: az 48.4 el 49.8 pa -96.1 u,v (fr/asec) 12869.893 1802.057 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt.W.133.1HV1N7

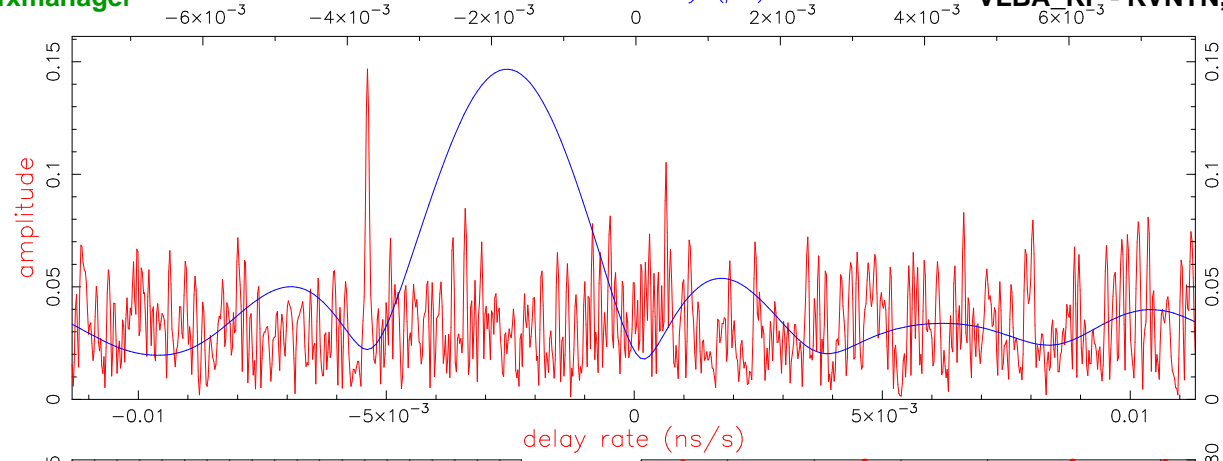
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kt

VLBA\_KP - KVNTN, fgroup W, pol RL

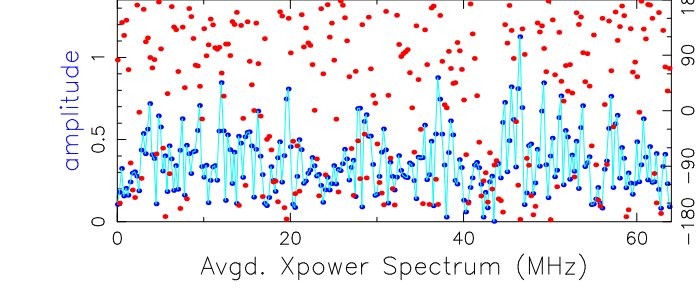
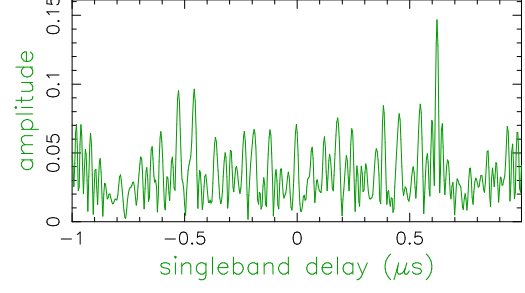
multiband delay ( $\mu\text{s}$ )



Fringe quality 0

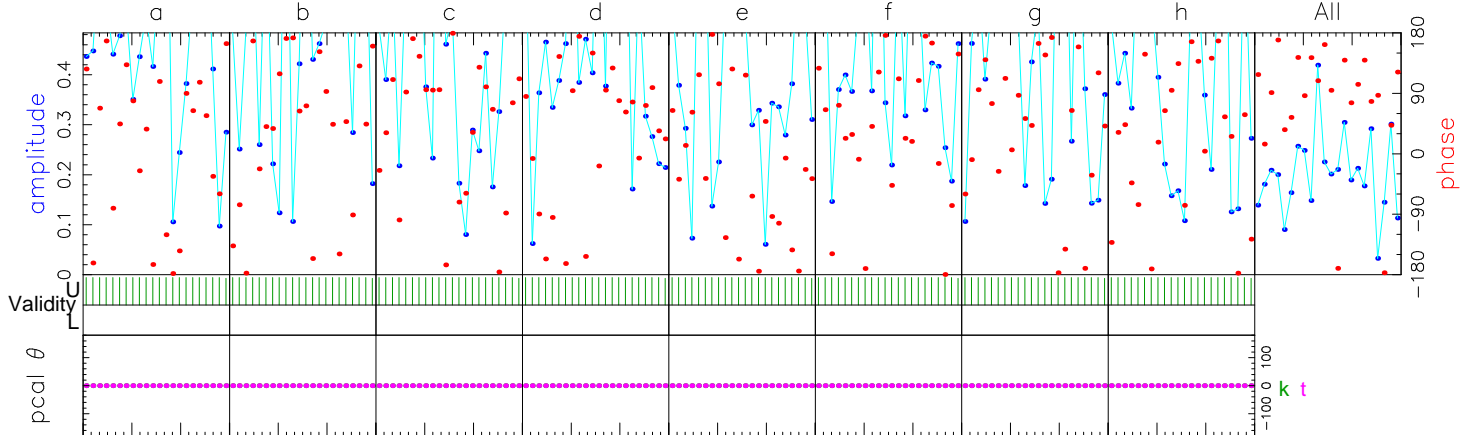
SNR 5.4  
 Int time 179.959  
 Amp 0.161  
 Phase 109.7  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.621006  
 MBD -0.001790  
 Fringe rate (Hz)  
 -0.463735  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145433  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.08018319395E+03				-4.08080640348E+03					
Sband delay (usec)	-4.08018539773E+03				-1.0450001E+00					
Phase delay (usec)	-4.08080639994E+03				0.0000000E+00					
Delay rate (us/s)	-1.41253621724E+00				-1.41253083373E+00					
Total phase (deg)			-104.8		1.99884312562E-05					
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
pcal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
simultaneous interpolator										

k: az 312.9 el 35.3 pa 80.9 t: az 48.4 el 49.8 pa -96.1 u,v (fr/asec) 12869.893 1802.057

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt.W.148.1HV1N7

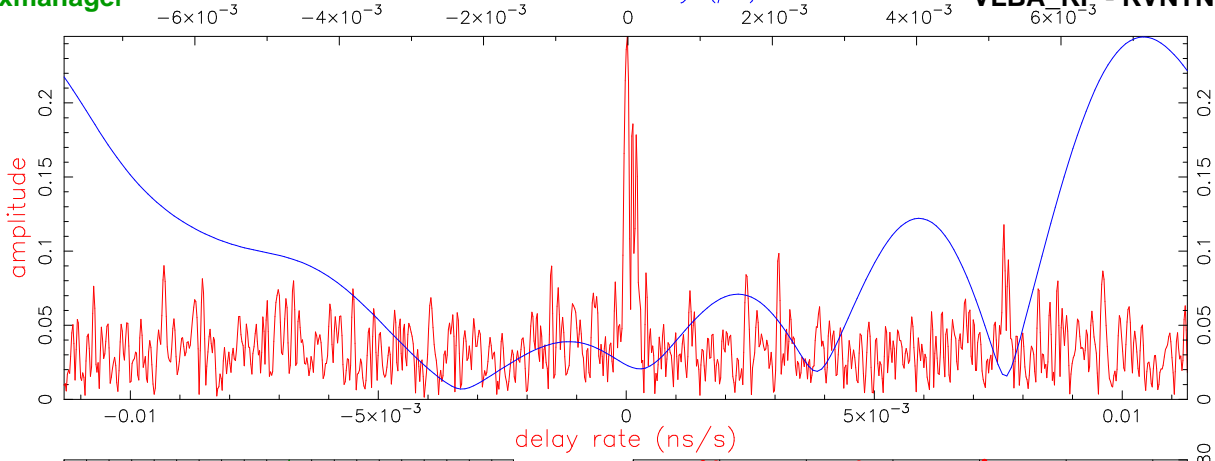
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kt

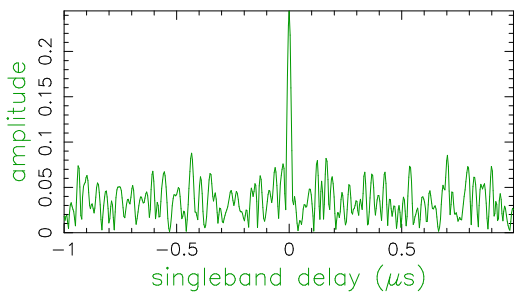
VLBA\_KP - KVNTN, fgroup W, pol LL

multiband delay ( $\mu$ s)

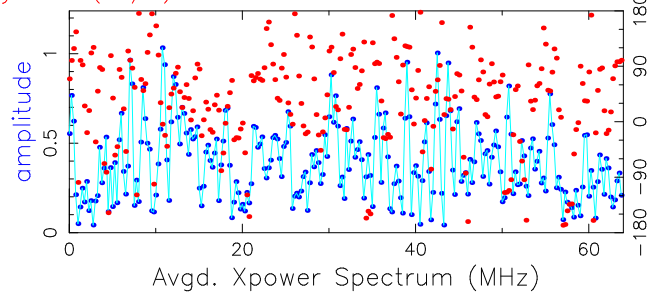


Fringe quality 9

SNR 9.0  
 Int time 179.959  
 Amp 0.245  
 Phase -32.8  
 PFD 5.0e-11  
 Delays (us)  
 SBD -0.000524  
 MBD 0.007131  
 Fringe rate (Hz) 0.002860  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

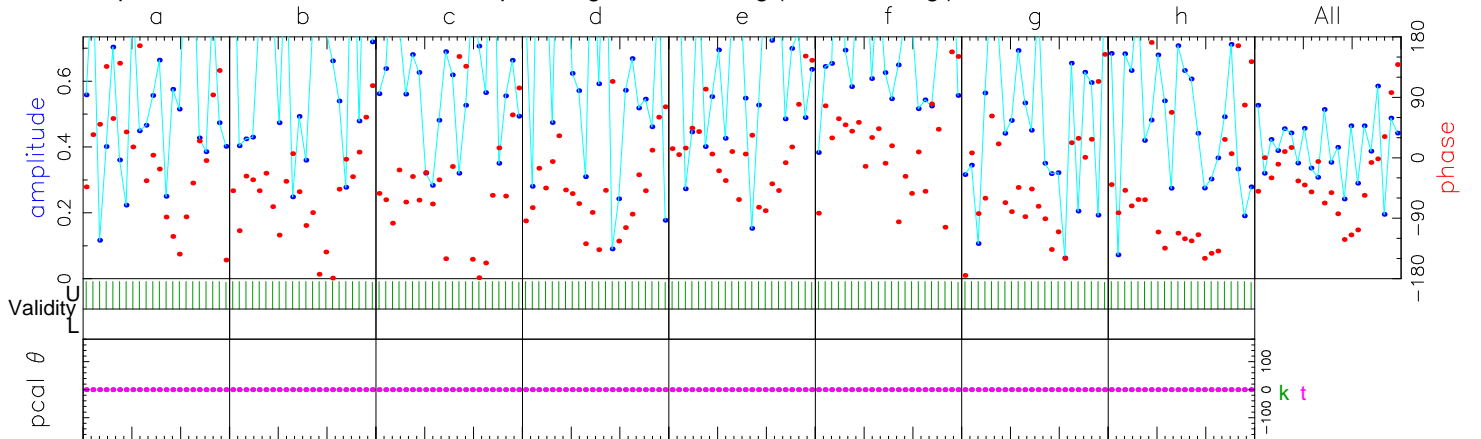


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145428  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:t	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
t	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-4.08079927253E+03	Apriori delay (usec)	-4.08080640348E+03	Resid mbdelay (usec)	7.13096E-03	+/-	1.2E-04
Sband delay (usec)	-4.08080692723E+03	Apriori clock (usec)	-1.0450001E+00	Resid sbdelay (usec)	-5.23750E-04	+/-	9.6E-04
Phase delay (usec)	-4.08080640454E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-1.05613E-06	+/-	4.1E-07
Delay rate (us/s)	-1.41253080053E+00	Apriori rate (us/s)	-1.41253083373E+00	Resid rate (us/s)	3.32030E-08	+/-	4.0E-09
Total phase (deg)	-247.3	Apriori accel (us/s/s)	1.99884312562E-05	Resid phase (deg)	-32.8	+/-	12.8

ph/seg (deg)	61.5	Theor.	29.9	Amplitude	0.245 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	74.5		52.2	Search (1024X32)	0.239	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	41.8		18.0	Inc. seg. avg.	0.353	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	44.5		31.5	Inc. frq. avg.	0.285	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9 t: az 48.4 el 49.8 pa -96.1 u,v (fr/asec) 12869.893 1802.057 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kt.W.97.1HV1N7

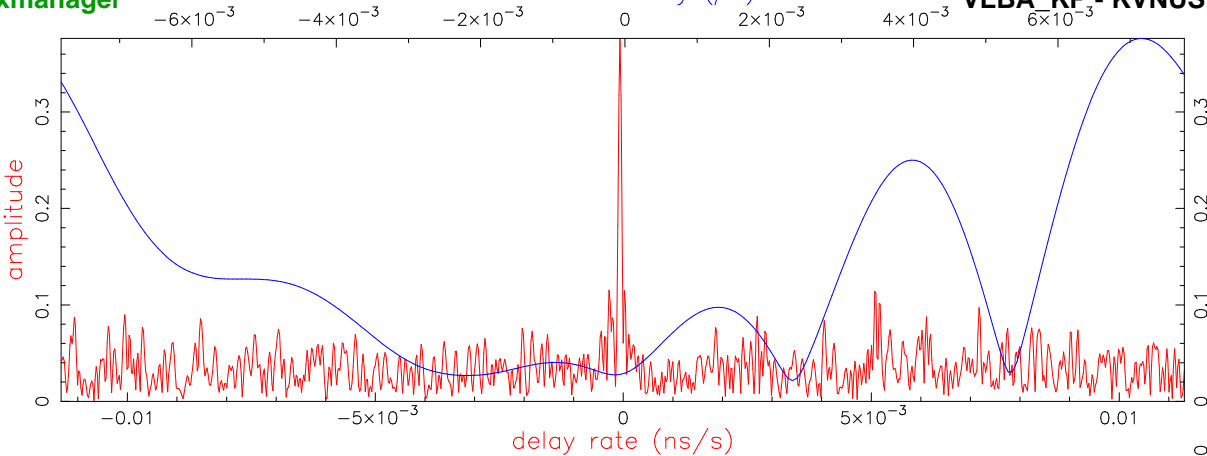
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ku

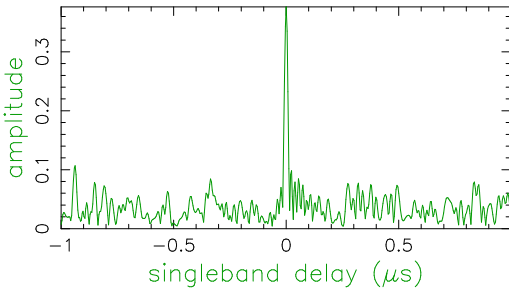
VLBA\_KP - KVNUS, fgroup W, pol RR

multiband delay ( $\mu$ s)

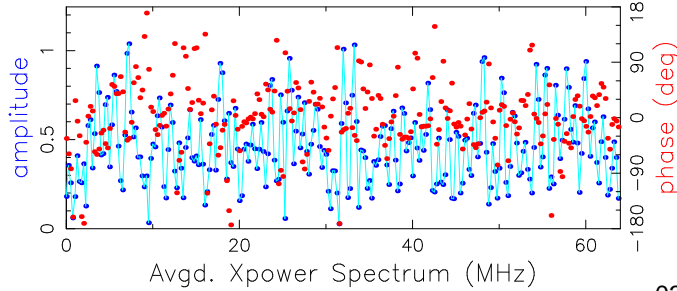


Fringe quality 9

SNR 13.8  
 Int time 179.958  
 Amp 0.376  
 Phase -85.4  
 PFD 7.0e-35  
 Delays (us)  
 SBD -0.000188  
 MBD 0.007147  
 Fringe rate (Hz)  
 -0.006341  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

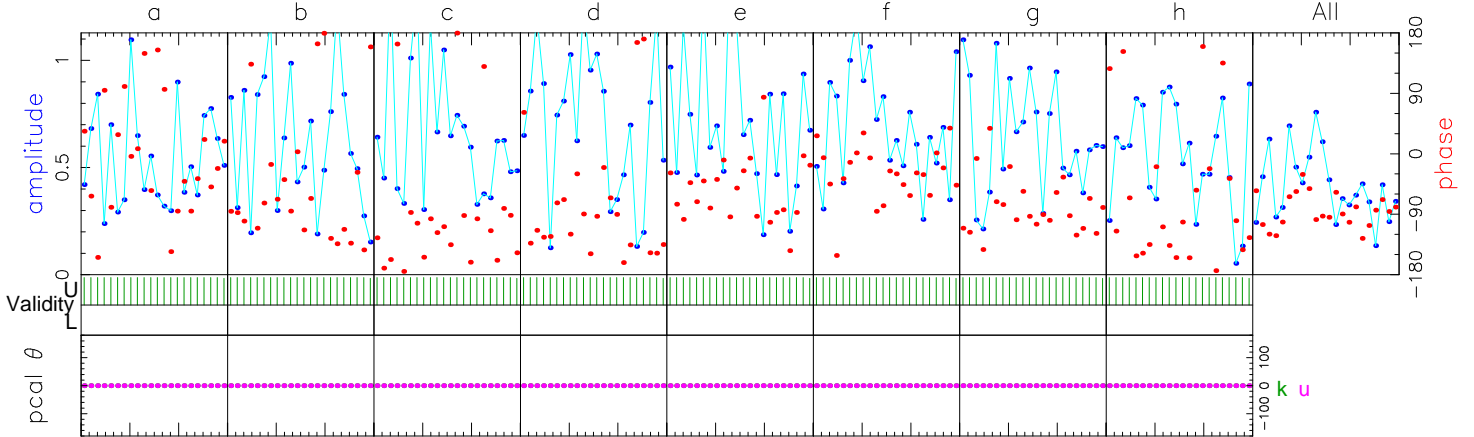


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145430  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-34.3	-93.0	-127.3	-111.3	-57.4	-29.6	-83.2	-137.5	Phase	-85.4
	0.2	0.4	0.5	0.5	0.6	0.5	0.5	0.4	Ampl.	0.5
	254.9	257.0	257.2	257.8	256.7	257.1	256.4	255.0	Sbd box	257.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ku	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.82147738928E+03		Apriori delay (usec)		-4.82148453644E+03		Resid mbdelay (usec)		7.14716E-03	+/- 7.9E-05
Sband delay (usec)	-4.82148472469E+03		Apriori clock (usec)		-2.1997066E+00		Resid sbdelay (usec)		-1.88250E-04	+/- 6.2E-04
Phase delay (usec)	-4.82148453920E+03		Apriori clockrate (us/s)		-2.9999999E-07		Resid phdelay (usec)		-2.75379E-06	+/- 2.7E-07
Delay rate (us/s)	-1.37025612894E+00		Apriori rate (us/s)		-1.37025605533E+00		Resid rate (us/s)		-7.36135E-08	+/- 2.6E-09
Total phase (deg)			Apriori accel (us/s/s)		2.10757447535E-05		Resid phase (deg)		-85.4	+/- 8.3

	RMS	Theor.	Amplitude	0.376 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000 1.000
ph/seg (deg)	24.6	19.5	Search (1024X32)	0.366	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008 0.008
amp/seg (%)	42.8	34.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011 0.011
ph/frq (deg)	44.2	11.7	Inc. seg. avg.	0.392	Sample rate(MISamp/s): 128		ion window (TEC)	0.00 0.00
amp/frq (%)	38.0	20.5	Inc. frq. avg.	0.457	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite		

k: az 312.9 el 35.3 pa 80.9      u: az 50.3 el 53.0 pa -96.4      u,v (fr/asec) 12486.137 1727.673      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku..1HV1N7      Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku.W.118.1HV1N7

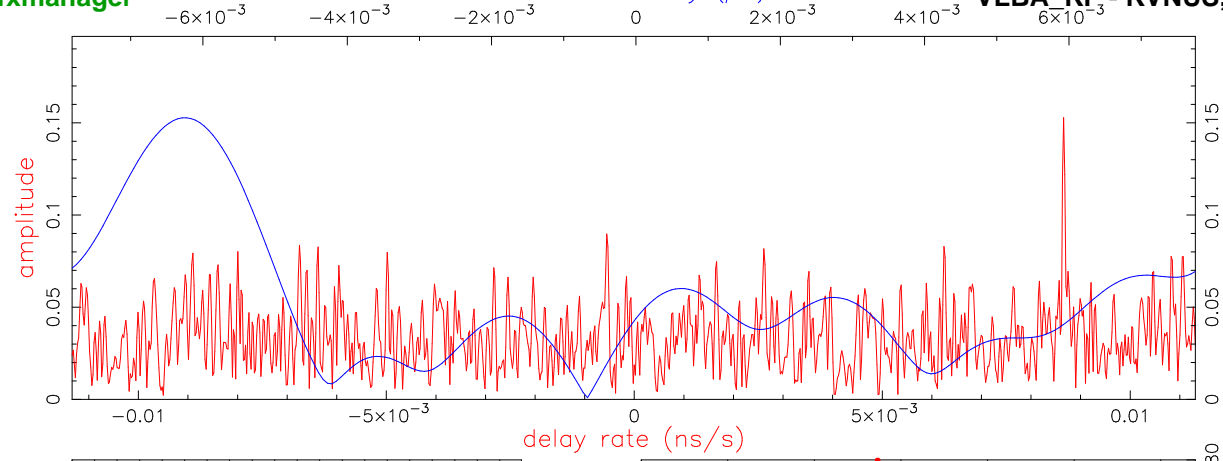
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ku

VLBA\_KP - KVNUS, fgroup W, pol LR

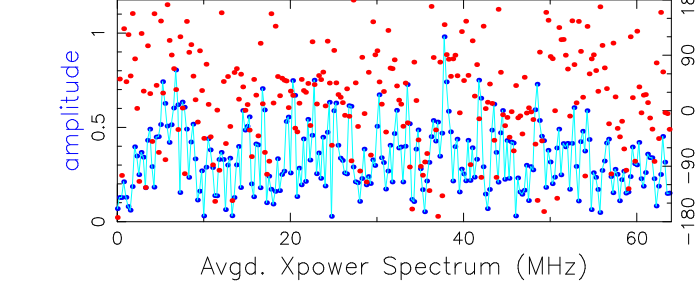
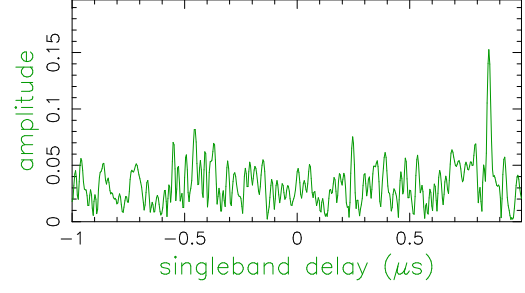
multiband delay ( $\mu$ s)



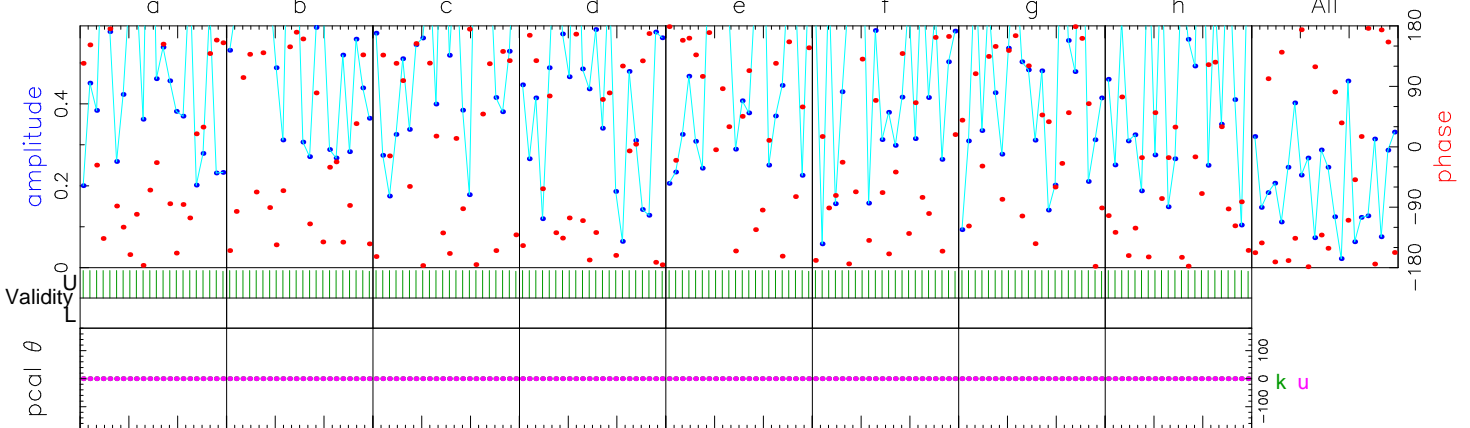
Fringe quality 0

SNR 5.6  
 Int time 179.958  
 Amp 0.197  
 Phase -164.4  
 PFD 9.2e-01  
 Delays (us)  
 SBD 0.851482  
 MBD -0.006254  
 Fringe rate (Hz) 0.747470  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145432  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000		
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
ku	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-4.82063141542E+03									
Sband delay (usec)	-4.82063305444E+03									
Phase delay (usec)	-4.82148454175E+03									
Delay rate (us/s)	-1.37024737794E+00									
Total phase (deg)			-153.4							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
PCal mode: MANUAL, MANUAL										
PCal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
ph/seg (deg)	71.0	48.0								
amp/seg (%)	83.4	83.7								
ph/frq (deg)	37.2	28.9								
amp/frq (%)	30.8	50.5								
Search (1024X32)										
Inc. seg. avg.										
Inc. frq. avg.										
0.197 +/- 0.035										
0.149										
0.000										
0.201										
0.203										
PCal mode: MANUAL, MANUAL										
PCal rate: 0.000E+00, 0.000E+00 (us/s)										
SampCntNorm: enabled										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								
simultaneous interpolator										



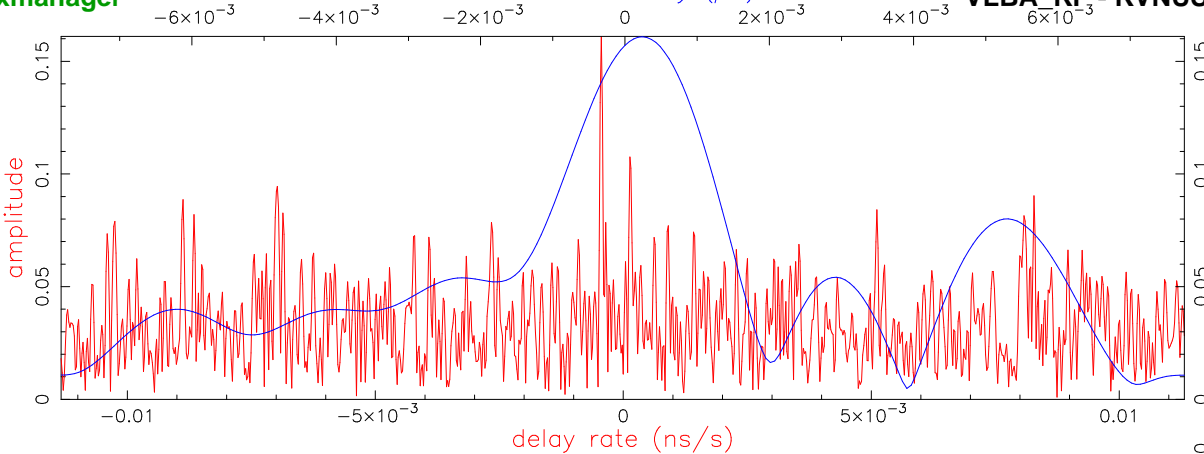
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ku

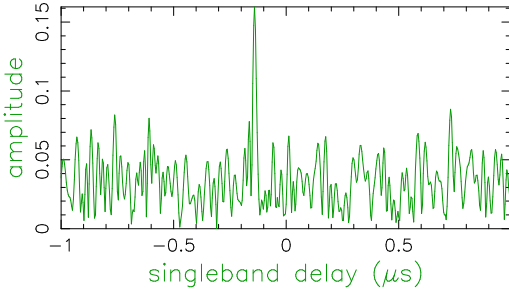
VLBA\_KP - KVNUS, fgroup W, pol RL

multiband delay ( $\mu$ s)

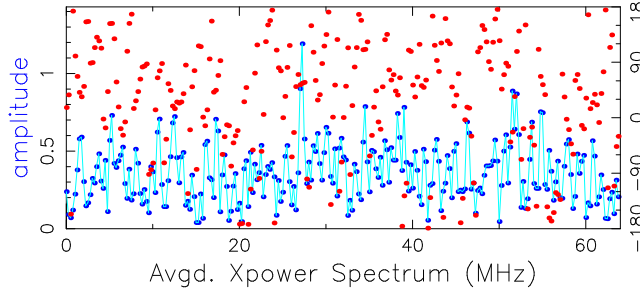


Fringe quality 0

SNR 5.9  
 Int time 179.958  
 Amp 0.161  
 Phase -126.2  
 PFD 3.6e-01  
 Delays (us)  
 SBD -0.140923  
 MBD 0.000227  
 Fringe rate (Hz)  
 -0.038005  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

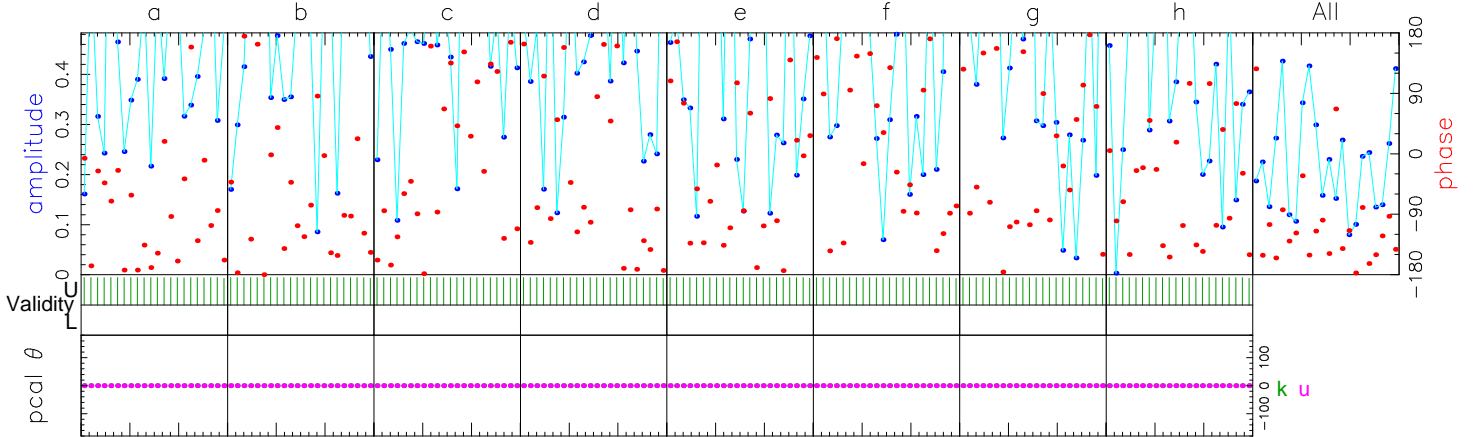


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145434  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-105.8	-120.4	-173.3	-141.7	-125.7	-150.5	-139.8	-70.9	Phase	-126.2
	0.2	0.3	0.1	0.2	0.1	0.1	0.2	0.1	Ampl.	0.2
	222.2	221.1	69.8	511.1	112.8	413.6	418.2	443.9	Sbd box	220.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ku	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.82162493462E+03		Apriori delay (usec)		-4.82148453644E+03		Resid mbdelay (usec)		2.26820E-04	+/- 1.8E-04
Sband delay (usec)	-4.82162545969E+03		Apriori clock (usec)		-2.1997066E+00		Resid sbdelay (usec)		-1.40923E-01	+/- 1.5E-03
Phase delay (usec)	-4.82148454051E+03		Apriori clockrate (us/s)		-2.9999999E-07		Resid phdelay (usec)		-4.06820E-06	+/- 6.3E-07
Delay rate (us/s)	-1.37025649652E+00		Apriori rate (us/s)		-1.37025605533E+00		Resid rate (us/s)		-4.41196E-07	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		2.10757447535E-05		Resid phase (deg)		-126.2	+/- 19.4

	RMS	Theor.	Amplitude	0.161 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	53.3	45.5	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	75.3	79.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	33.5	27.4	Inc. seg. avg.	0.171	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	38.0	47.9	Inc. frq. avg.	0.160	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9      u: az 50.3 el 53.0 pa -96.4      u,v (fr/asec) 12486.137 1727.673      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku.W.154.1HV1N7

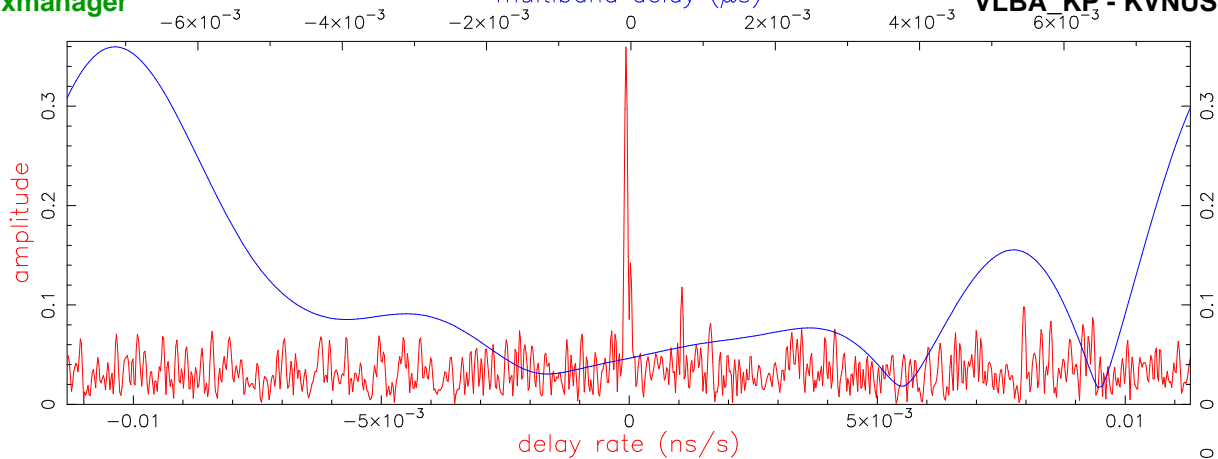
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ku

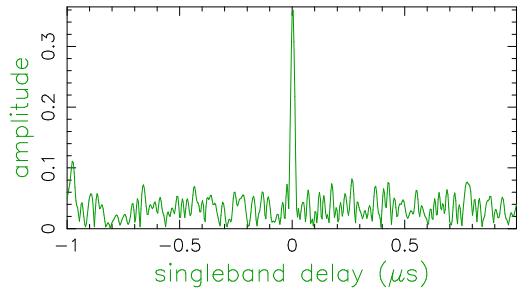
VLBA\_KP - KVNUS, fgroup W, pol LL

multiband delay ( $\mu$ s)

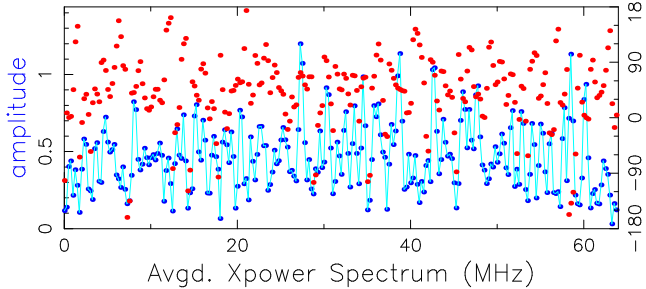


Fringe quality 9

SNR 13.4  
Int time 179.958  
Amp 0.365  
Phase 160.3  
PFD 1.8e-32  
Delays (us)  
SBD 0.002168  
MBD -0.007205  
Fringe rate (Hz)  
-0.006331  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

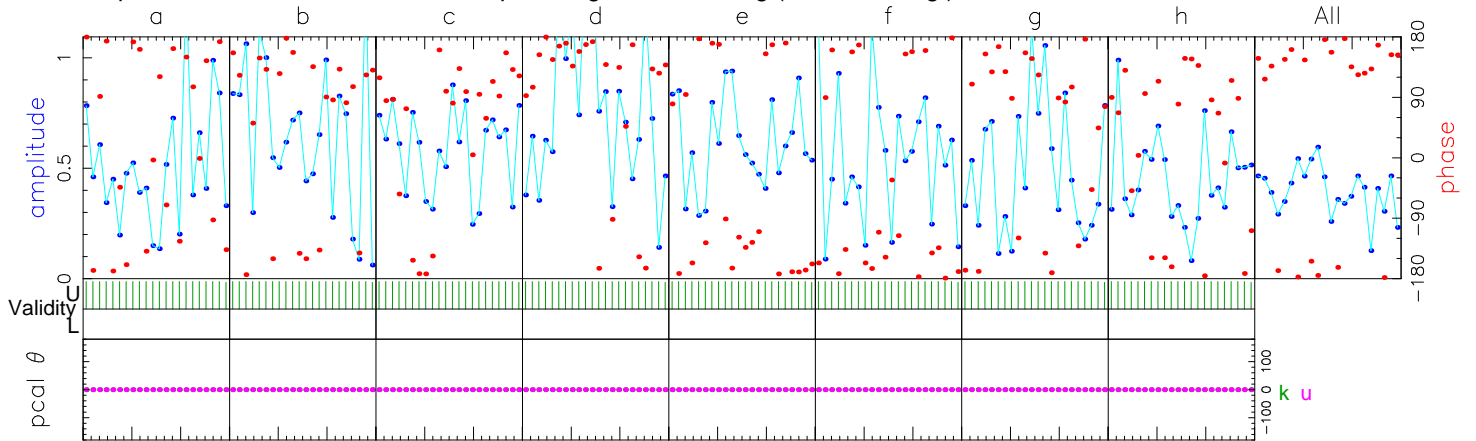


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145427  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-179.2	145.6	116.2	158.5	-166.2	-166.5	144.5	122.2	Phase	160.3
	0.3	0.5	0.4	0.6	0.5	0.5	0.3	0.2	Ampl.	0.4
	254.9	257.2	258.0	257.8	257.4	258.2	256.4	260.6	Sbd box	257.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ku	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-4.82147611662E+03	Apriori delay (usec)	-4.82148453644E+03	Resid mbdelay (usec)	-7.20518E-03	+/-	8.1E-05
Sband delay (usec)	-4.82148236894E+03	Apriori clock (usec)	-2.1997066E+00	Resid sbdelay (usec)	2.16750E-03	+/-	6.4E-04
Phase delay (usec)	-4.82148453127E+03	Apriori clockrate (us/s)	-2.9999999E-07	Resid phdelay (usec)	5.16986E-06	+/-	2.8E-07
Delay rate (us/s)	-1.37025612883E+00	Apriori rate (us/s)	-1.37025605533E+00	Resid rate (us/s)	-7.35001E-08	+/-	2.7E-09
Total phase (deg)	-188.6	Apriori accel (us/s/s)	2.10757447535E-05	Resid phase (deg)	160.3	+/-	8.6

ph/seg (deg)	24.9	RMS	24.9	Theor.	20.1	Amplitude	0.365 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	30.8	Search (1024X32)	0.350	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
ph/frq (deg)	32.9	Inc. seg. avg.	0.375	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
amp/frq (%)	37.2	Inc. frq. avg.	0.394										

k: az 312.9 el 35.3 pa 80.9      u: az 50.3 el 53.0 pa -96.4      u,v (fr/asec) 12486.137 1727.673      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ku.W.91.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

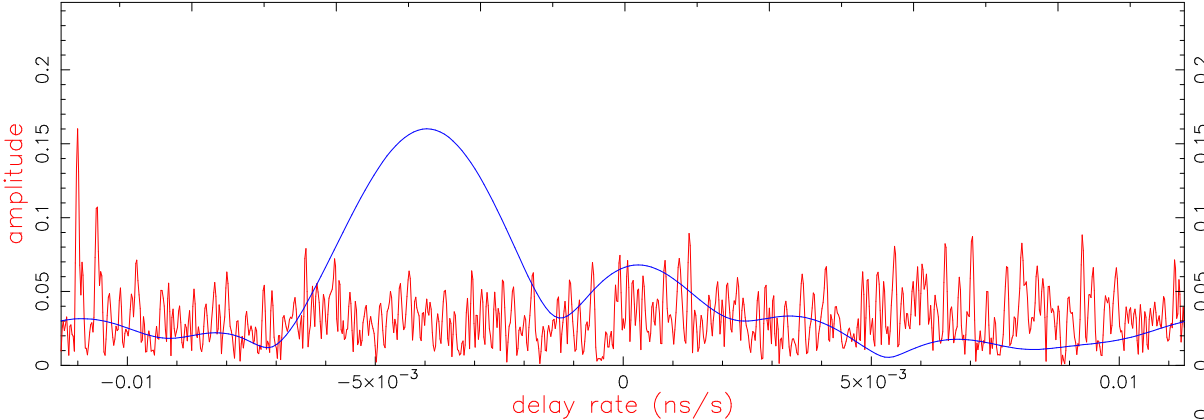
fxmanager

NRAO150.1HV1N7, No0150, kX

VLBA\_KP - ONSALA60, fgroup W, pol RR

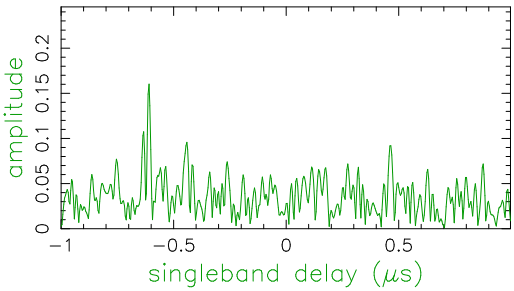
multiband delay ( $\mu$ s)

$-6 \times 10^{-3}$   $-4 \times 10^{-3}$   $-2 \times 10^{-3}$  0  $2 \times 10^{-3}$   $4 \times 10^{-3}$   $6 \times 10^{-3}$

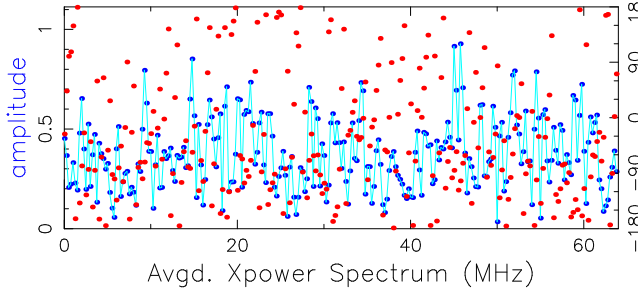


Fringe quality 0

SNR 5.9  
Int time 179.951  
Amp 0.246  
Phase 115.7  
PFD 3.7e-01  
Delays (us)  
SBD -0.610157  
MBD -0.002773  
Fringe rate (Hz)  
-0.948889  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

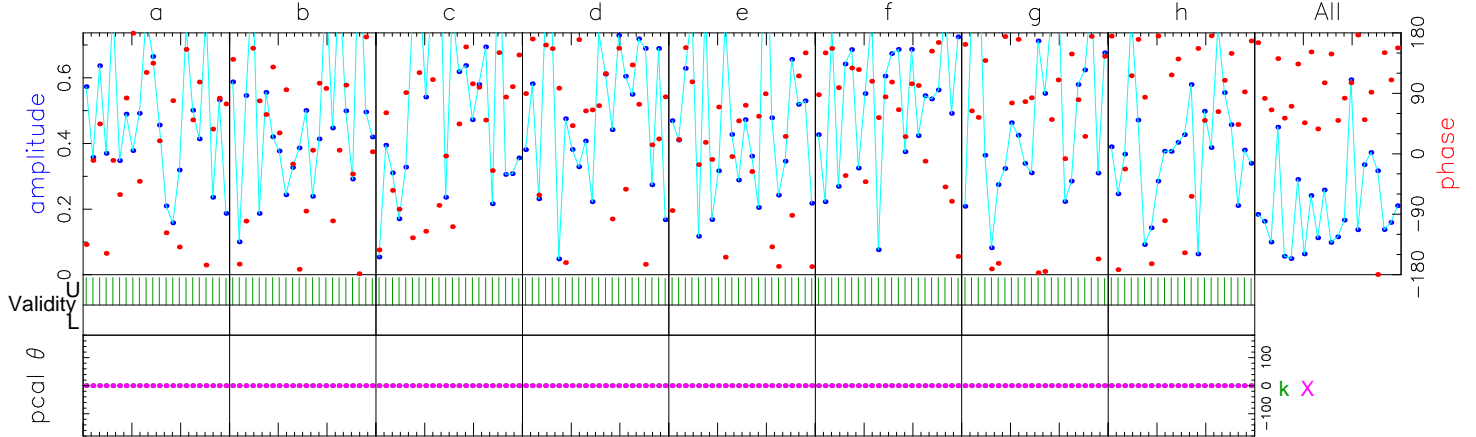


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145430  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	5.22114276993E+03		Apriori delay (usec)		5.22175491800E+03		Resid mbdelay (usec)		-2.77307E-03	+/- 1.8E-04
Sband delay (usec)	5.22114476050E+03		Apriori clock (usec)		-4.7972183E+01		Resid sbdelay (usec)		-6.10157E-01	+/- 1.5E-03
Phase delay (usec)	5.22175492173E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		3.73190E-06	+/- 6.3E-07
Delay rate (us/s)	-9.32160687014E-01		Apriori rate (us/s)		-9.32149671354E-01		Resid rate (us/s)		-1.10157E-05	+/- 6.0E-09
Total phase (deg)	344.8		Apriori accel (us/s/s)		-5.54949351280E-05		Resid phase (deg)		115.7	+/- 19.4

	RMS	Theor.	Amplitude	0.246 +/- 0.042	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	46.6	45.6	Search (1024X32)	0.151	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	89.2	79.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	17.1	27.5	Inc. seg. avg.	0.243	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	34.2	47.9	Inc. frq. avg.	0.226	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9 X: az 10.2 el 19.1 pa -8.8 u,v (fr/asec) 8460.868 -7150.981 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX.W.121.1HV1N7

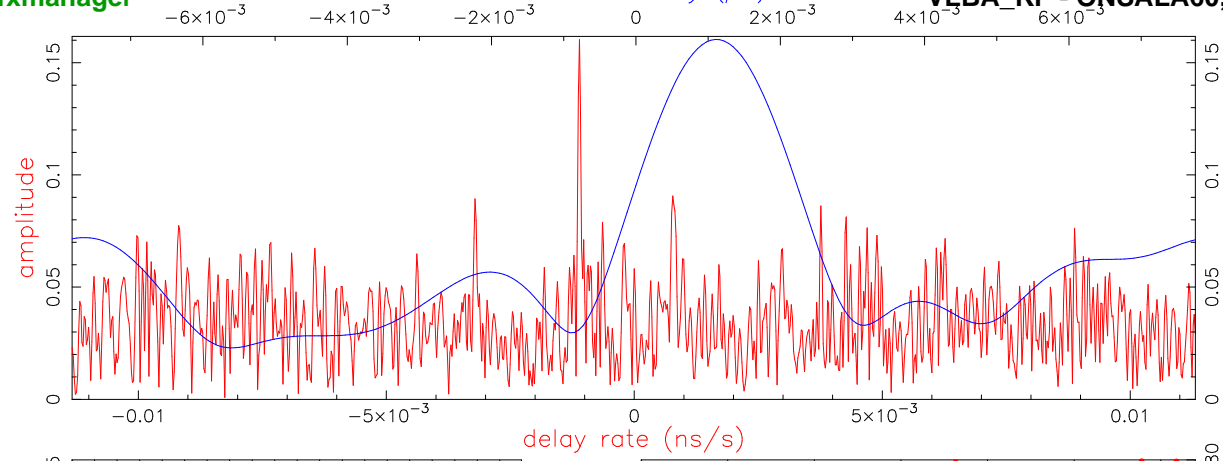
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

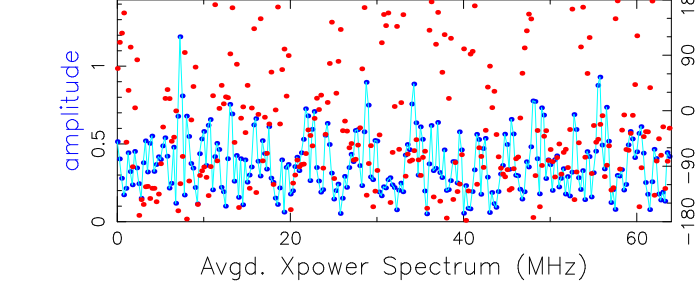
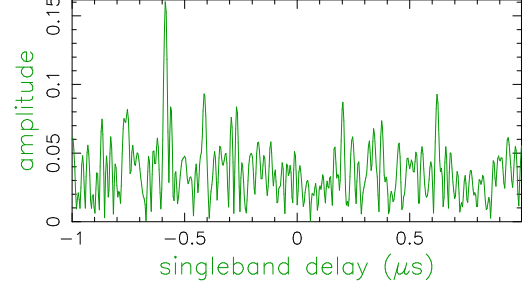
NRAO150.1HV1N7, No0150, kX

VLBA\_KP - ONSALA60, fgroup W, pol LR

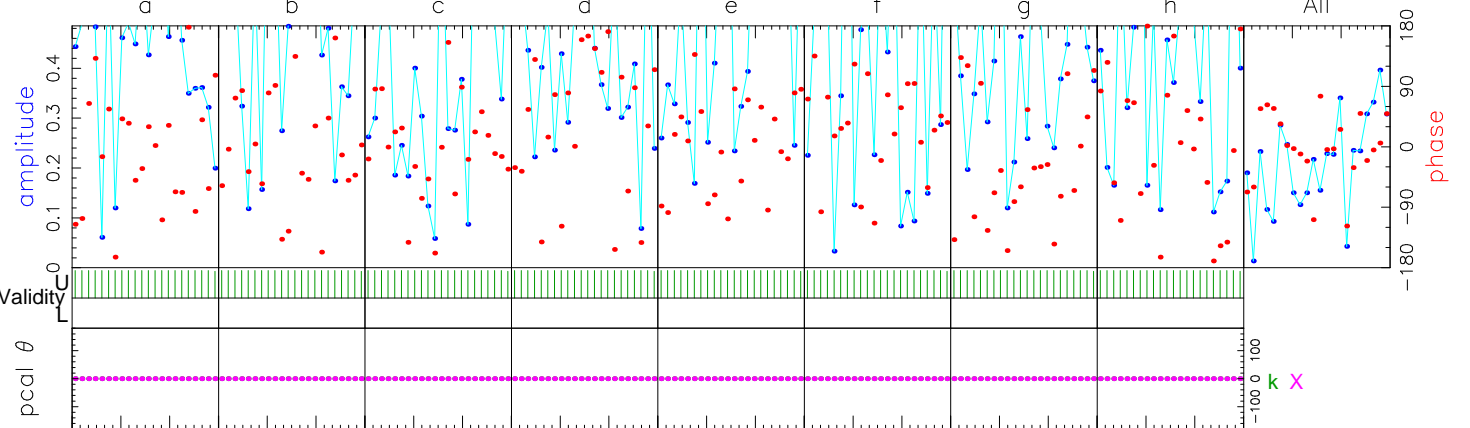
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.9  
 Int time 179.951  
 Amp 0.162  
 Phase 8.0  
 PFD 3.5e-01  
 Delays (us)  
 SBD -0.584993  
 MBD 0.001148  
 Fringe rate (Hz) -0.094641  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145433  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-16.4	9.7	10.1	110.7	7.2	32.3	-45.1	-2.3		8.0
	0.1	0.2	0.3	0.1	0.3	0.3	0.2	0.1	Ampl.	0.2
	59.4	6.1	212.5	354.0	106.1	107.5	378.8	343.8	Sbd box	107.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	5.22116231580E+03		Apriori delay (usec)		5.22175491800E+03		Resid mbdelay (usec)		1.14780E-03	+/- 1.8E-04
Sband delay (usec)	5.22116992450E+03		Apriori clock (usec)		-4.7972183E+01		Resid sbdelay (usec)		-5.84993E-01	+/- 1.5E-03
Phase delay (usec)	5.22175491825E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		2.57005E-07	+/- 6.3E-07
Delay rate (us/s)	-9.32150770044E-01		Apriori rate (us/s)		-9.32149671354E-01		Resid rate (us/s)		-1.09869E-06	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-5.54949351280E-05		Resid phase (deg)		8.0	+/- 19.4

ph/seg (deg) 52.5 45.5 Amplitude 0.162 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 67.0 79.4 Search (1024X32) 0.153 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 49.4 27.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 42.9 47.9 Inc. seg. avg. 0.161 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 X: az 10.2 el 19.1 pa -8.8 u,v (fr/asec) 8460.868 -7150.981 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX.W.145.1HV1N7

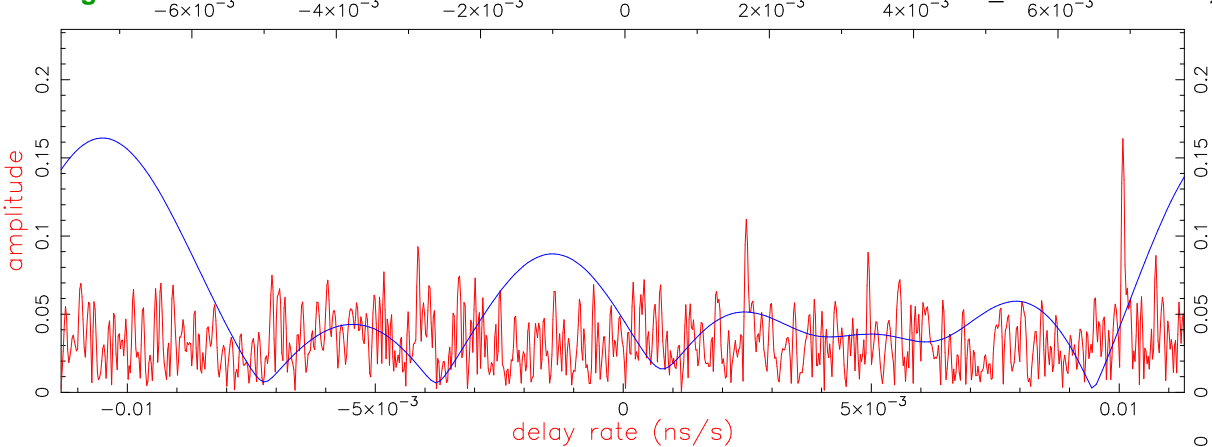
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kX

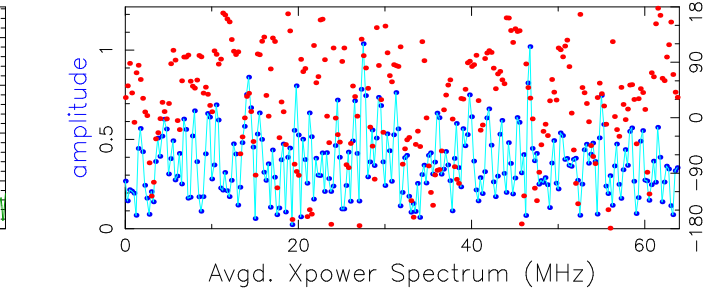
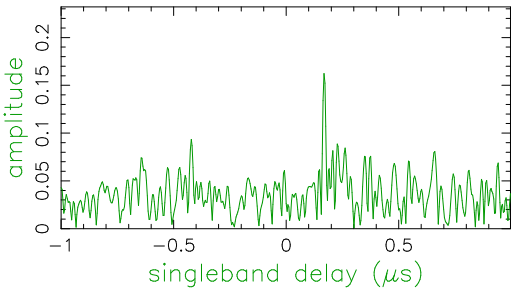
VLBA\_KP - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)



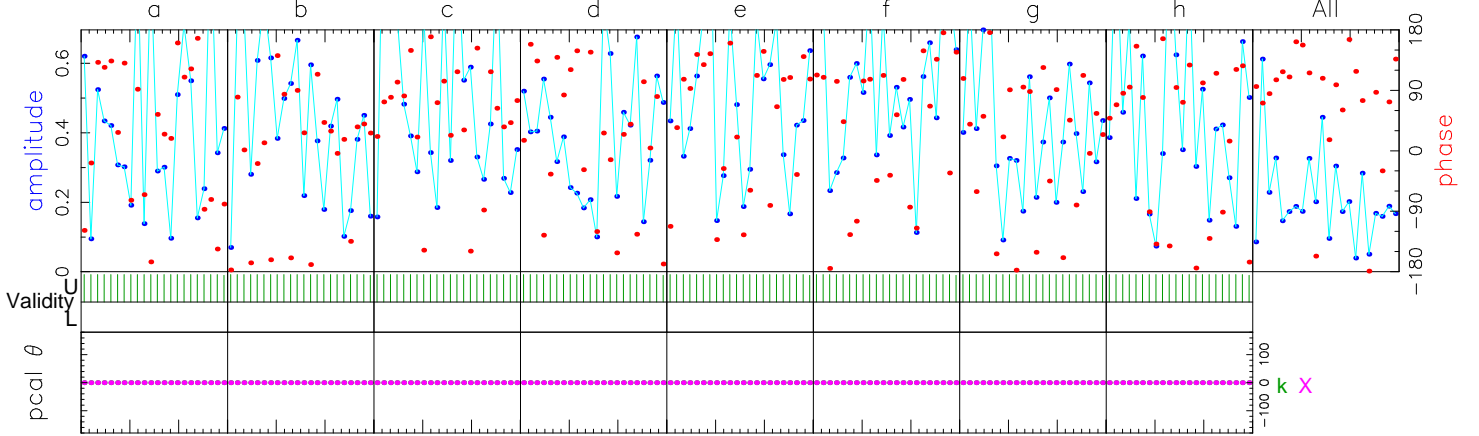
Fringe quality 0

SNR 6.0  
 Int time 179.951  
 Amp 0.232  
 Phase 102.6  
 PFD 2.3e-01  
 Delays (us)  
 SBD 0.168937  
 MBD 0.008301  
 Fringe rate (Hz) 0.869872  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145434  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	5.22191946878E+03	Apriori delay (usec)		5.22175491800E+03	Resid mbdelay (usec)		8.30078E-03	+/-	1.8E-04	
Sband delay (usec)	5.22192385525E+03	Apriori clock (usec)		-4.7972183E+01	Resid sbdelay (usec)		1.68937E-01	+/-	1.4E-03	
Phase delay (usec)	5.22175492130E+03	Apriori clockrate (us/s)		-4.2800003E-07	Resid phdelay (usec)		3.30844E-06	+/-	6.2E-07	
Delay rate (us/s)	-9.32139573003E-01	Apriori rate (us/s)		-9.32149671354E-01	Resid rate (us/s)		1.00984E-05	+/-	5.9E-09	
Total phase (deg)		331.6	Apriori accel (us/s/s)		-5.54949351280E-05	Resid phase (deg)		102.6	+/-	19.1

ph/seg (deg)	51.7	44.8	Search (1024X32)		0.160	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
amp/seg (%)	84.1	78.2	Interp.		0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
ph/frq (deg)	36.1	27.0	Inc. seg. avg.		0.234	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	46.0	47.2	Inc. frq. avg.		0.231	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011		
						Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9 X: az 10.2 el 19.1 pa -8.8 u,v (fr/asec) 8460.868 -7150.981 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX.W.161.1HV1N7



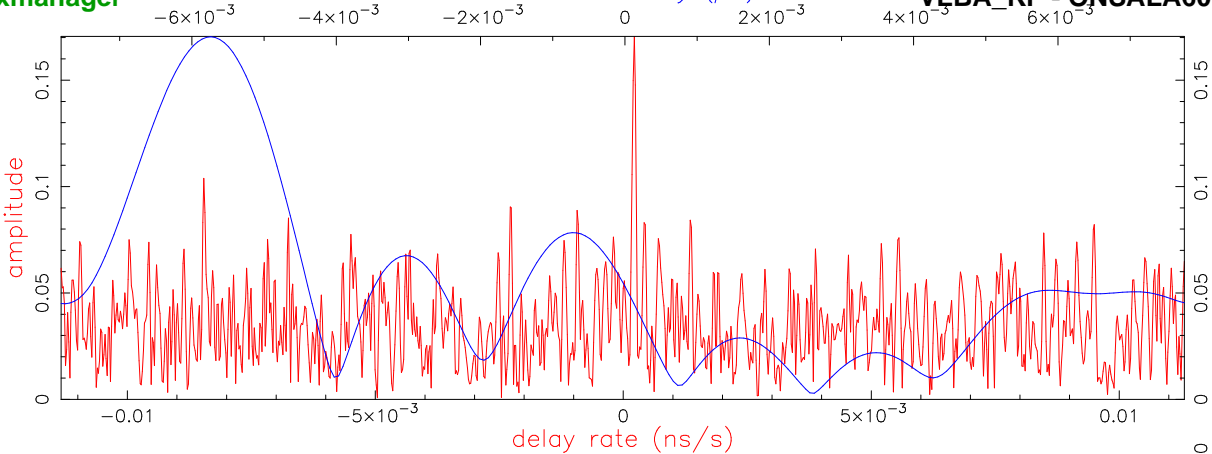
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, kX

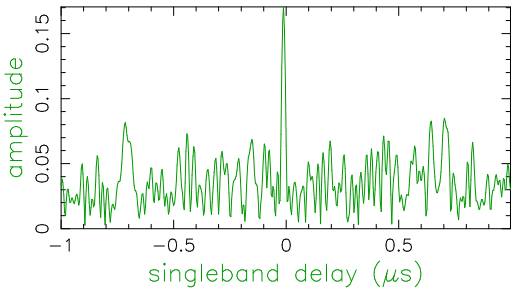
VLBA\_KP - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

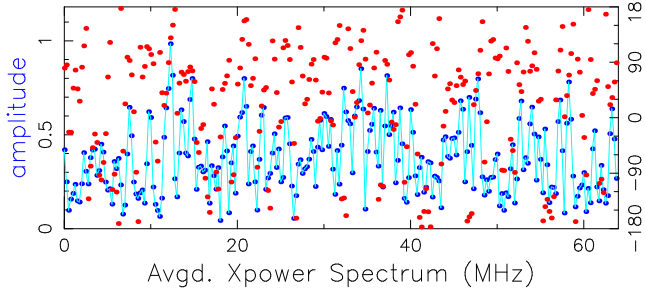


Fringe quality 0

SNR 6.3  
 Int time 179.951  
 Amp 0.171  
 Phase 3.4  
 PFD 5.2e-02  
 Delays (us)  
 SBD -0.012168  
 MBD -0.005745  
 Fringe rate (Hz)  
 0.019842  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

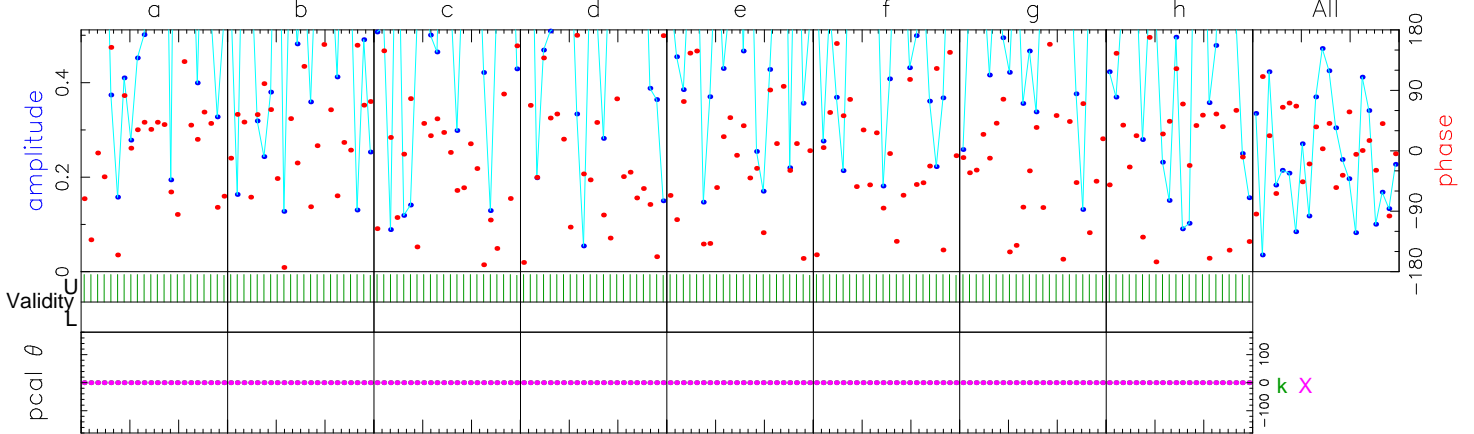


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145427  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	5.22174917349E+03	Apriori delay (usec)		5.22175491800E+03	Resid mbdelay (usec)		-5.74450E-03	+/-	1.7E-04	
Sband delay (usec)	5.22174275000E+03	Apriori clock (usec)		-4.7972183E+01	Resid sbdelay (usec)		-1.21680E-02	+/-	1.4E-03	
Phase delay (usec)	5.22175491811E+03	Apriori clockrate (us/s)		-4.2800003E-07	Resid phdelay (usec)		1.09110E-07	+/-	5.9E-07	
Delay rate (us/s)	-9.32149441004E-01	Apriori rate (us/s)		-9.32149671354E-01	Resid rate (us/s)		2.30349E-07	+/-	5.7E-09	
Total phase (deg)	232.4		Apriori accel (us/s/s)		-5.54949351280E-05	Resid phase (deg)		3.4	+/-	18.3

ph/seg (deg)	RMS 54.1	Theor. 43.0	Amplitude Search (1024X32)	0.171 +/- 0.027	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
amp/seg (%)	84.4	75.0	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
ph/frq (deg)	30.7	25.9	Inc. seg. avg.	0.190	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	30.7	45.2	Inc. frq. avg.	0.170	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011		
					Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9 X: az 10.2 el 19.1 pa -8.8 u,v (fr/asec) 8460.868 -7150.981 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kX.W.92.1HV1N7

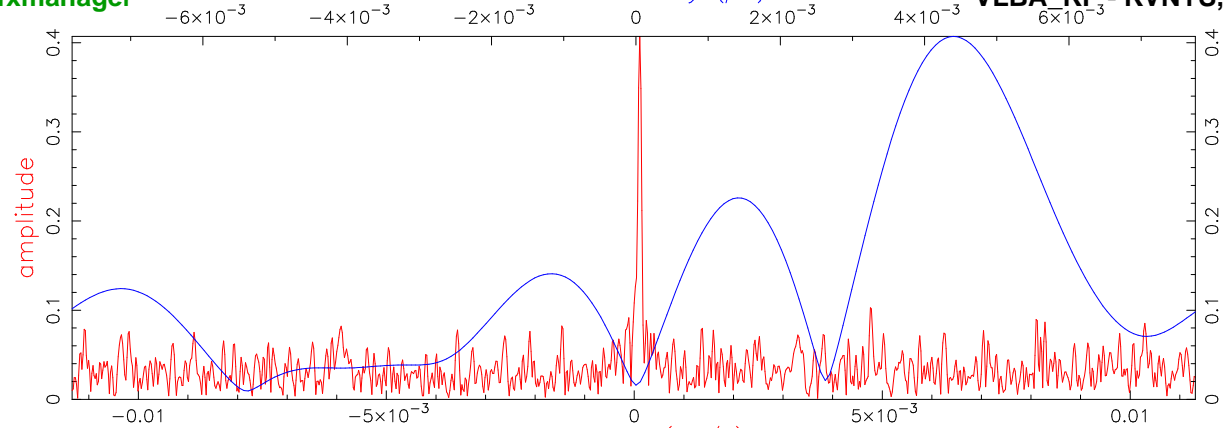
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ky

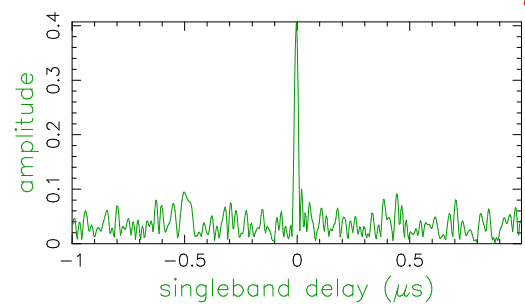
VLBA\_KP - KVNYS, fgroup W, pol RR

multiband delay ( $\mu$ s)

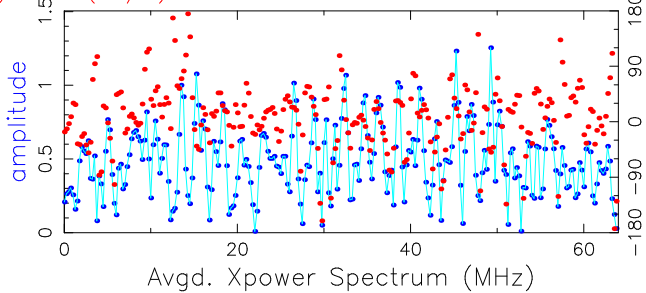


Fringe quality 8

SNR 14.9  
Int time 179.938  
Amp 0.407  
Phase -81.7  
PFD 6.3e-42  
Delays (us)  
SBD -0.003781  
MBD 0.004404  
Fringe rate (Hz) 0.009175  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

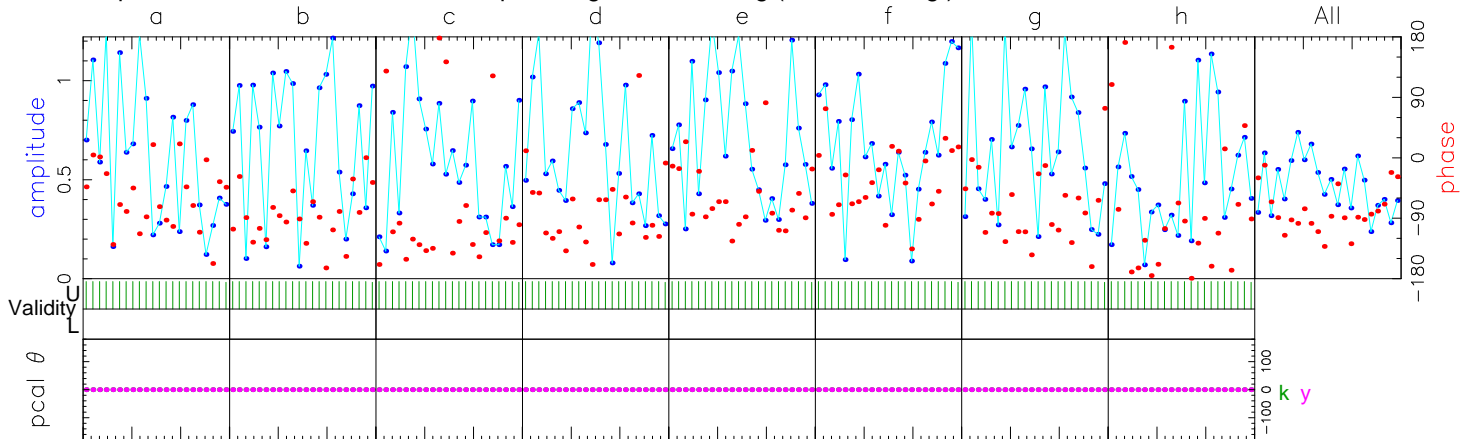


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145429  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-59.3	-86.9	-129.8	-88.9	-70.5	-25.8	-78.2	-131.2	Phase	-81.7
	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.3	Ampl.	0.5
	255.0	256.4	256.5	256.7	255.7	256.4	254.9	255.1	Sbd box	256.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ky	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.77712609430E+03					-4.77711487377E+03			Resid mbdelay (usec)	4.40447E-03 +/- 7.3E-05
Sband delay (usec)	-4.77711865477E+03					-9.1099930E-01			Resid sbdelay (usec)	-3.78100E-03 +/- 5.8E-04
Phase delay (usec)	-4.77711487640E+03					0.0000000E+00			Resid phdelay (usec)	-2.63475E-06 +/- 2.5E-07
Delay rate (us/s)	-1.37616655390E+00					-1.37616666041E+00			Resid rate (us/s)	1.06516E-07 +/- 2.4E-09
Total phase (deg)			-163.1			1.83648558031E-05			Resid phase (deg)	-81.7 +/- 7.7
	RMS	Theor.	Amplitude	0.407 +/- 0.027					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	33.0	18.0	Search (1024X32)	0.404					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	36.9	31.4	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	37.9	10.9	Inc. seg. avg.	0.451					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	24.6	18.9	Inc. frq. avg.	0.465					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite

k: az 312.9 el 35.3 pa 80.9 y: az 52.5 el 52.8 pa -91.8 u,v (fr/asec) 12538.935 1306.751 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky.W.113.1HV1N7

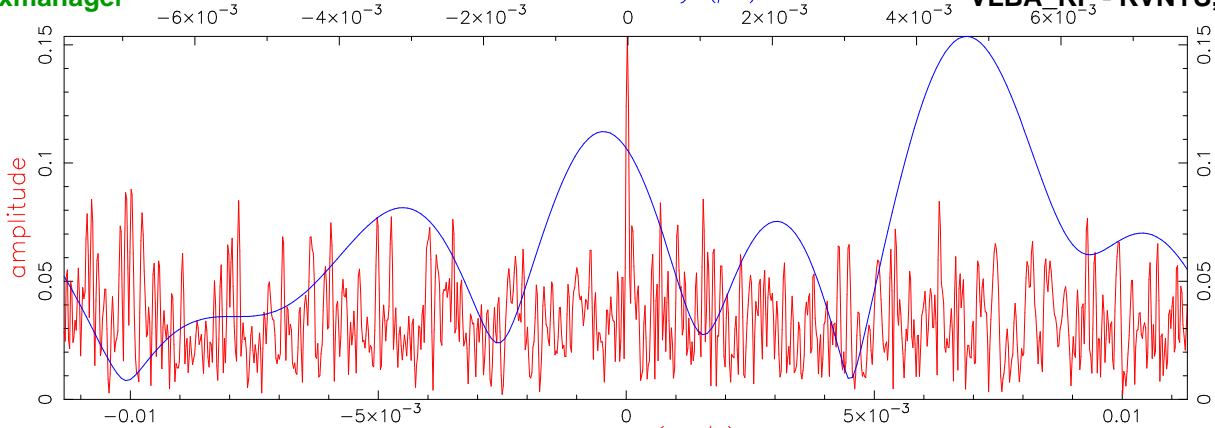
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

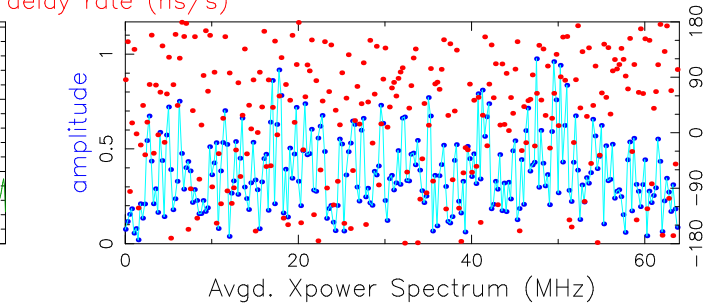
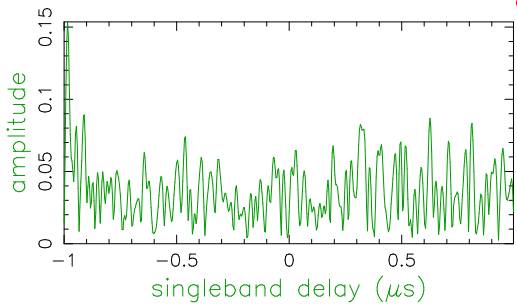
NRAO150.1HV1N7, No0150, ky

VLBA\_KP - KVNYS, fgroup W, pol LR

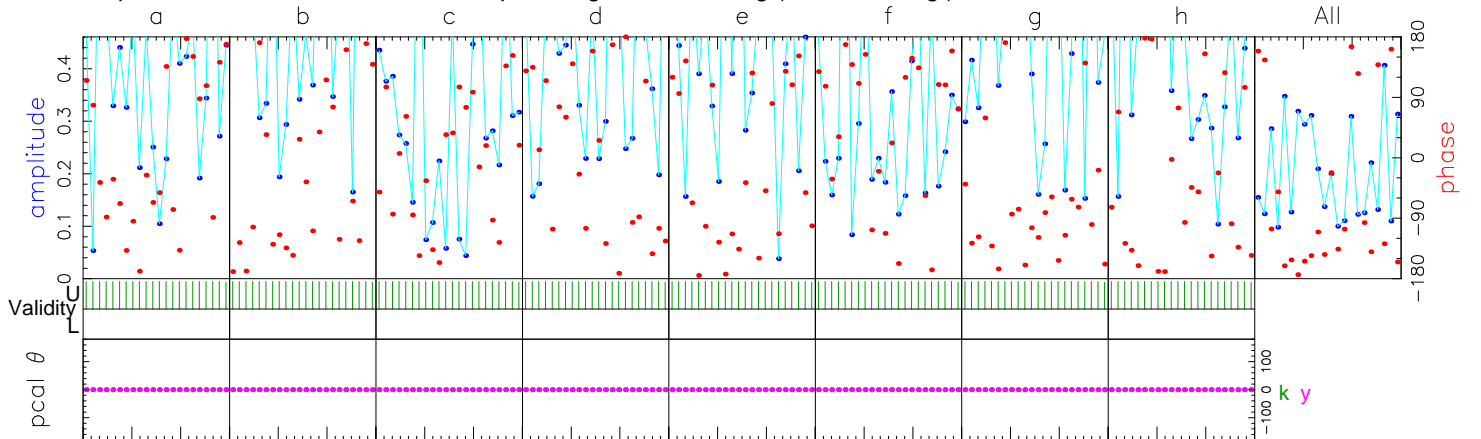
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.6  
 Int time 179.938  
 Amp 0.154  
 Phase -150.1  
 PFD 8.8e-01  
 Delays (us)  
 SBD -0.984360  
 MBD 0.004694  
 Fringe rate (Hz) 0.002103  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145432  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-105.4	-157.6	20.3	-177.2	-160.8	143.4	-106.7	-151.2	Phase	-150.1
	0.1	0.2	0.0	0.2	0.2	0.2	0.3	0.3	Ampl.	0.2
	238.1	313.0	290.3	7.6	363.3	464.8	4.6	4.1	Sbd box	5.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ky	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-4.77809455493E+03	Apriori delay (usec)	-4.77711487377E+03	Resid mbdelay (usec)	4.69383E-03	+/-	1.9E-04
Sband delay (usec)	-4.77809923377E+03	Apriori clock (usec)	-9.1099930E-01	Resid sbdelay (usec)	-9.84360E-01	+/-	1.5E-03
Phase delay (usec)	-4.77711487861E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.84047E-06	+/-	6.6E-07
Delay rate (us/s)	-1.37616663600E+00	Apriori rate (us/s)	-1.37616666041E+00	Resid rate (us/s)	2.44098E-08	+/-	6.3E-09
Total phase (deg)	-231.5	Apriori accel (us/s/s)	1.83648558031E-05	Resid phase (deg)	-150.1	+/-	20.3

ph/seg (deg)	52.0	Theor.	47.7	Amplitude	0.154 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	71.3	Search (1024X32)	0.150	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	79.8	Inc. seg. avg.	0.154	Inc. seg. avg.	0.154	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008		
amp/frq (%)	61.7	Inc. frq. avg.	0.169	Inc. frq. avg.	0.169	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011			
						Data rate (Mb/s):	2048	nlags:	256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9 y: az 52.5 el 52.8 pa -91.8 u,v (fr/asec) 12538.935 1306.751 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky.W.135.1HV1N7

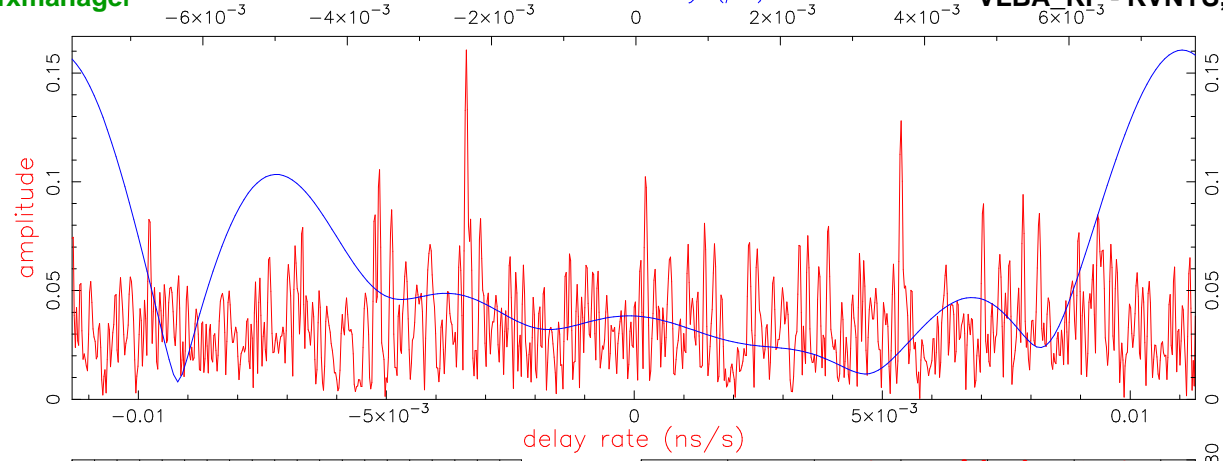
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

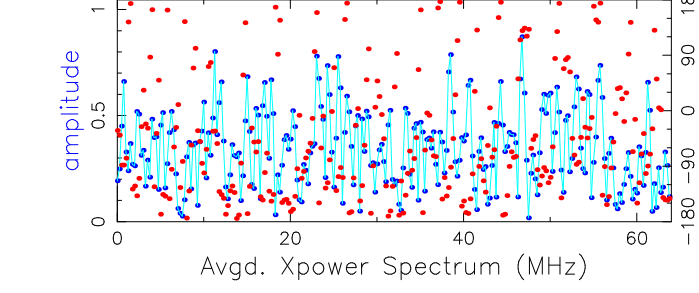
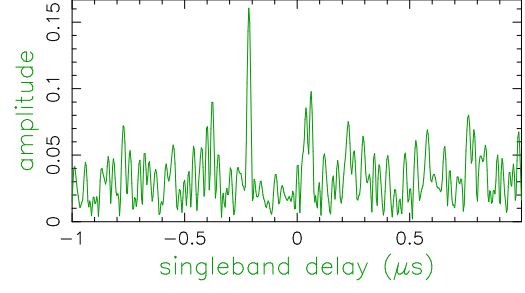
NRAO150.1HV1N7, No0150, ky

VLBA\_KP - KVNYS, fgroup W, pol RL

multiband delay ( $\mu$ s)

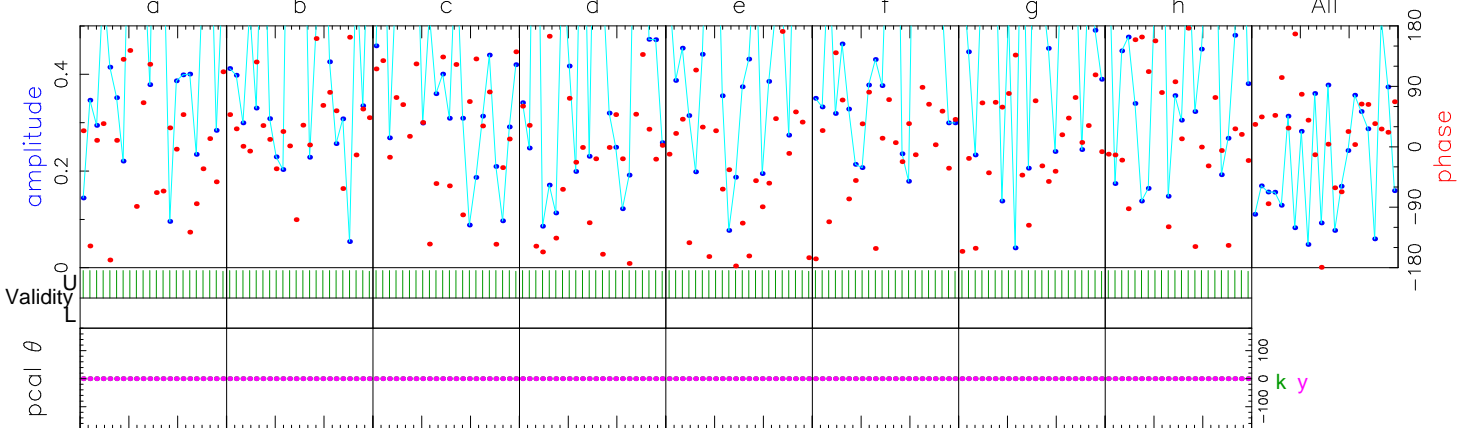


Fringe quality 0  
 SNR 5.9  
 Int time 179.938  
 Amp 0.167  
 Phase 28.2  
 PFD 3.8e-01  
 Delays (us)  
 SBD -0.214373  
 MBD -0.008057  
 Fringe rate (Hz)  
 -0.291831  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145434  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
k:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
ky	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.77732605564E+03									
Sband delay (usec)	-4.77732924677E+03									
Phase delay (usec)	-4.77711487286E+03									
Delay rate (us/s)	-1.37617004828E+00									
Total phase (deg)			-53.3							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
ph/seg (deg)	63.4	45.6								
amp/seg (%)	86.7	79.5								
ph/frq (deg)	33.1	27.5								
amp/frq (%)	49.8	48.0								
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
PCal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
PCal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
PCal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										

k: az 312.9 el 35.3 pa 80.9 y: az 52.5 el 52.8 pa -91.8 u,v (fr/asec) 12538.935 1306.751 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky.W.153.1HV1N7

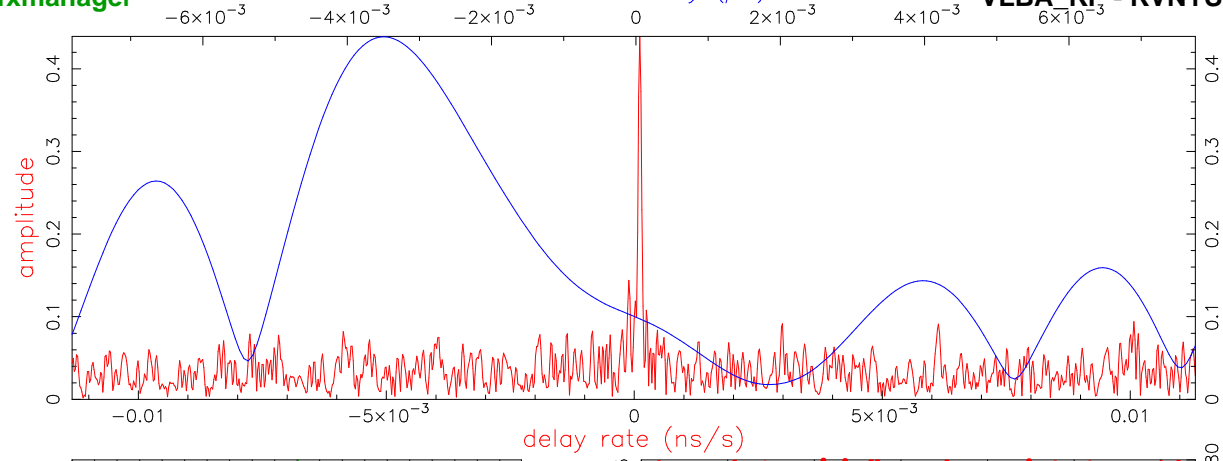
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

NRAO150.1HV1N7, No0150, ky

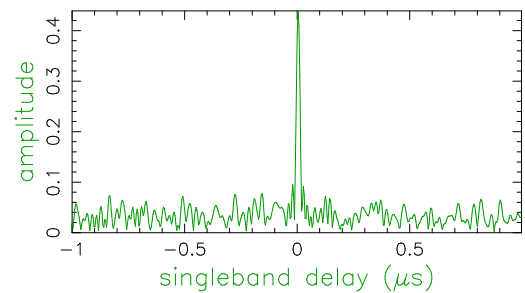
VLBA\_KP - KVNYS, fgroup W, pol LL

multiband delay ( $\mu$ s)

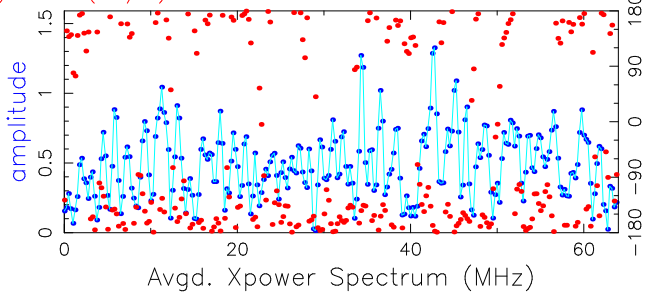


Fringe quality 8

SNR 16.1  
 Int time 179.938  
 Amp 0.439  
 Phase -75.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.004330  
 MBD -0.003475  
 Fringe rate (Hz)  
 0.009170  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

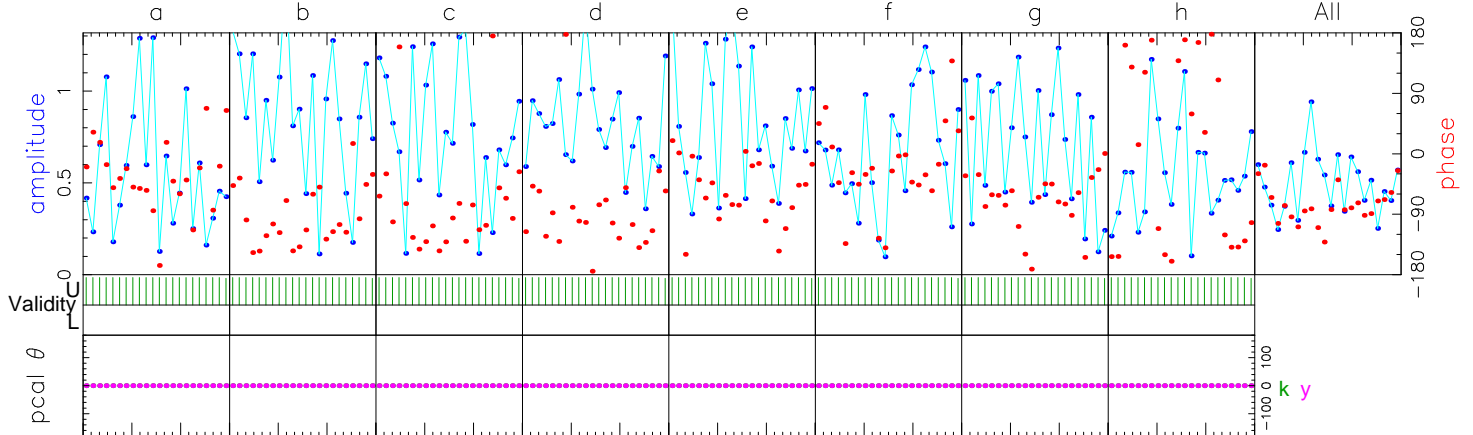


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145427  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-34.8	-94.6	-97.5	-99.9	-51.2	-19.1	-64.1	-173.9	Phase	-75.1
	0.4	0.7	0.6	0.6	0.6	0.5	0.6	0.3	Ampl.	0.5
	256.0	258.0	258.6	258.4	258.3	257.6	257.5	256.2	Sbd box	258.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ky	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-4.77711834886E+03	Apriori delay (usec)	-4.77711487377E+03	Resid mbdelay (usec)	-3.47510E-03	+/-	6.7E-05
Sband delay (usec)	-4.77711054402E+03	Apriori clock (usec)	-9.1099930E-01	Resid sbdelay (usec)	4.32975E-03	+/-	5.3E-04
Phase delay (usec)	-4.77711487619E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.42217E-06	+/-	2.3E-07
Delay rate (us/s)	-1.37616655396E+00	Apriori rate (us/s)	-1.37616666041E+00	Resid rate (us/s)	1.06458E-07	+/-	2.2E-09
Total phase (deg)	-156.5	Apriori accel (us/s/s)	1.83648558031E-05	Resid phase (deg)	-75.1	+/-	7.1

ph/seg (deg)	27.9	Theor.	16.7	Search (1024X32)	0.435	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	39.1		29.1	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	52.8		10.1	Inc. seg. avg.	0.477	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	36.7		17.6	Inc. frq. avg.	0.545	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

k: az 312.9 el 35.3 pa 80.9 y: az 52.5 el 52.8 pa -91.8 u,v (fr/asec) 12538.935 1306.751 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/ky.W.89.1HV1N7



Mk4/DiFX fourfit 3.21 rev 2937

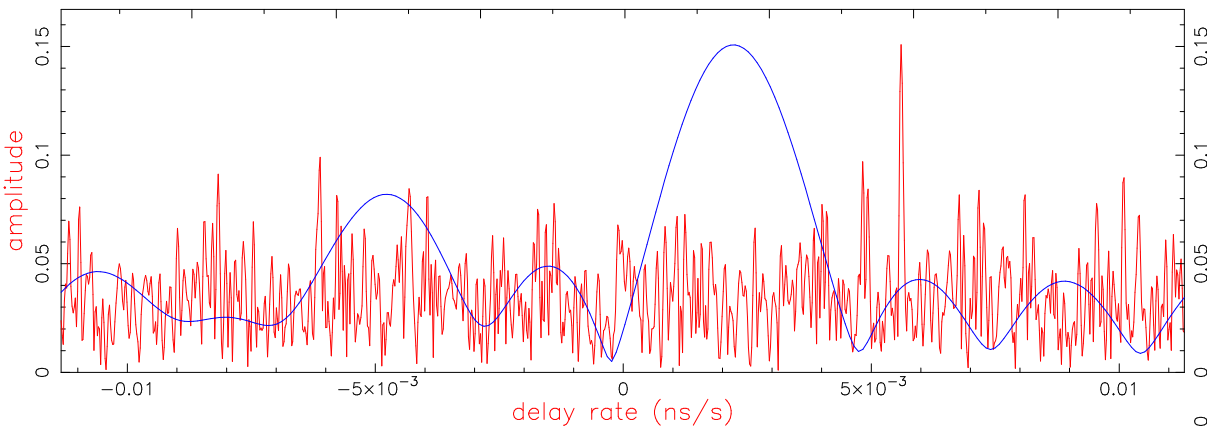
fxmanager

NRAO150.1HV1N7, No0150, kZ

VLBA\_KP - METSAHOV, fgroup W, pol RR

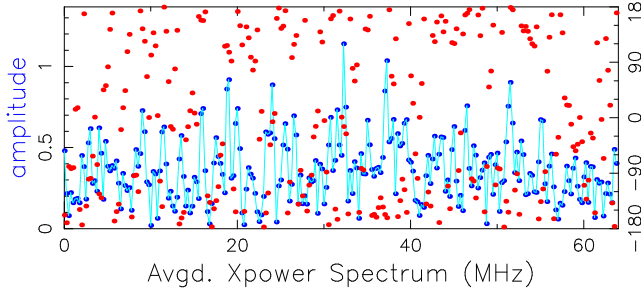
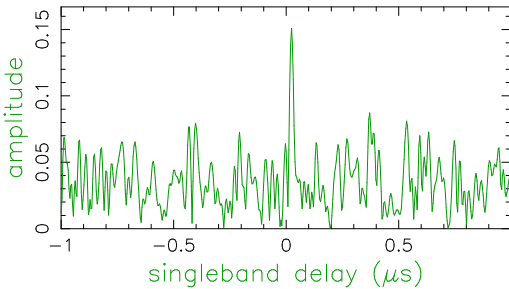
multiband delay ( $\mu$ s)

$-6 \times 10^{-3}$   $-4 \times 10^{-3}$   $-2 \times 10^{-3}$  0  $2 \times 10^{-3}$   $4 \times 10^{-3}$   $6 \times 10^{-3}$



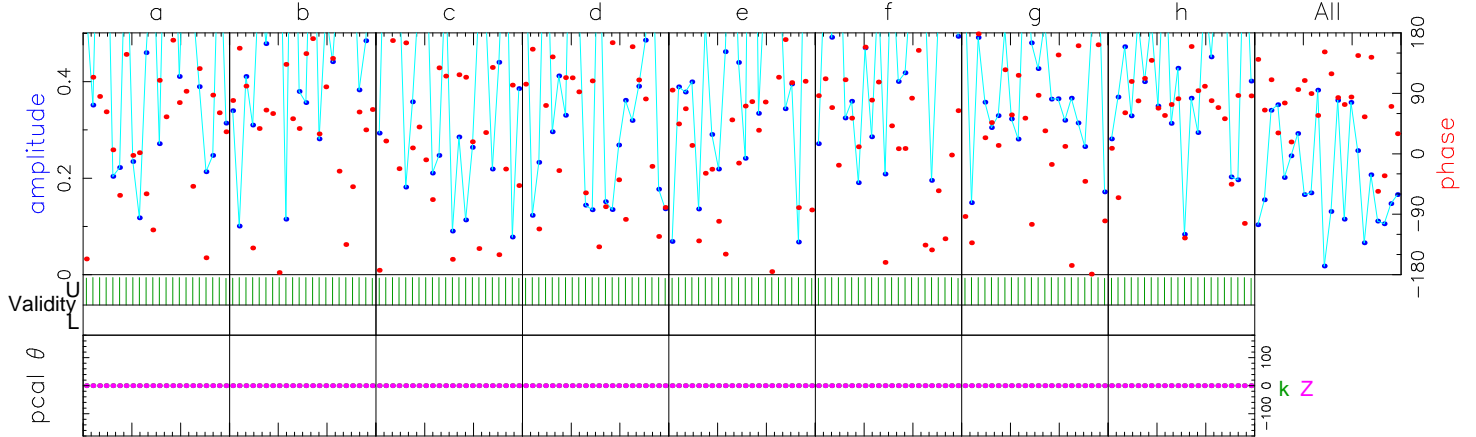
Fringe quality 0

SNR 5.5  
 Int time 179.684  
 Amp 0.167  
 Phase 79.4  
 PFD 9.8e-01  
 Delays (us)  
 SBD 0.023573  
 MBD 0.001506  
 Fringe rate (Hz)  
 0.482819  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145429  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	89.2	80.0	28.2	106.8	72.5	65.8	110.4	79.7	Phase	79.4
	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.3	Ampl.	0.2
	28.8	84.3	417.1	204.0	443.4	217.6	475.2	262.6	Sbd box	263.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	3.76357152952E+03		Apriori delay (usec)		3.76355439814E+03		Resid mbdelay (usec)		1.50637E-03	+/- 2.0E-04
Sband delay (usec)	3.76357797064E+03		Apriori clock (usec)		1.8340969E-01		Resid sbdelay (usec)		2.35725E-02	+/- 1.6E-03
Phase delay (usec)	3.76355440070E+03		Apriori clockrate (us/s)		8.3999986E-08		Resid phdelay (usec)		2.55986E-06	+/- 6.7E-07
Delay rate (us/s)	-1.01887237065E+00		Apriori rate (us/s)		-1.01887797570E+00		Resid rate (us/s)		5.60505E-06	+/- 6.4E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.97296905550E-05		Resid phase (deg)		79.4	+/- 20.7

ph/seg (deg) 53.2 48.6 Search (1024X32) 0.149 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 77.1 84.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 27.9 29.3 Inc. seg. avg. 0.165 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 40.0 51.2 Inc. frq. avg. 0.156 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 312.9 el 35.3 pa 80.9 Z: az 18.7 el 23.5 pa -14.7 u,v (fr/asec) 9253.892 -6735.925 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ..1HV1N7 Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ.W.112.1HV1N7

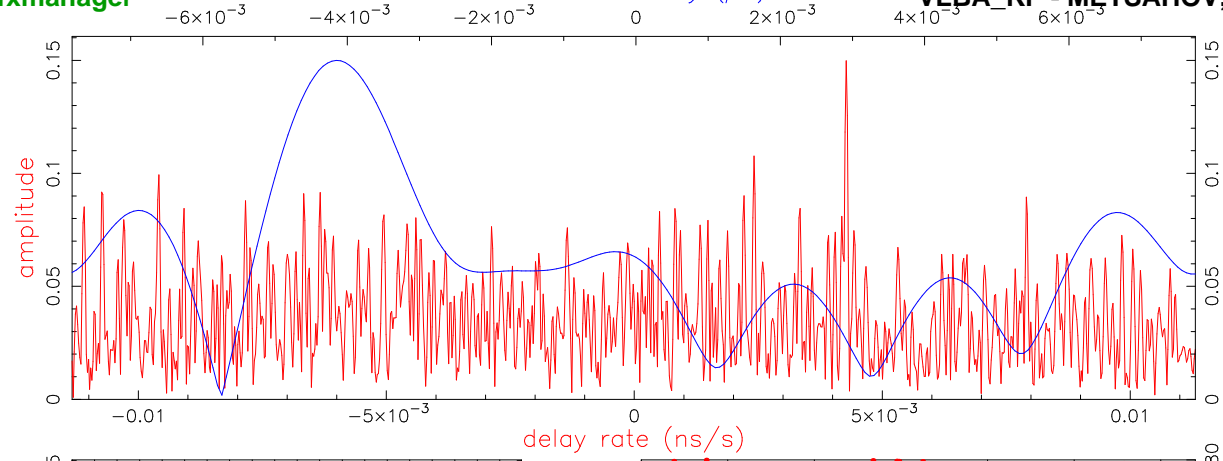
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

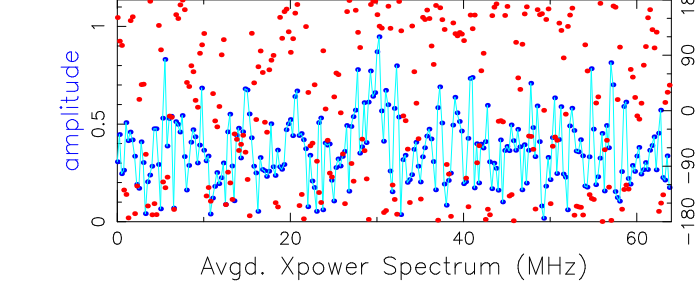
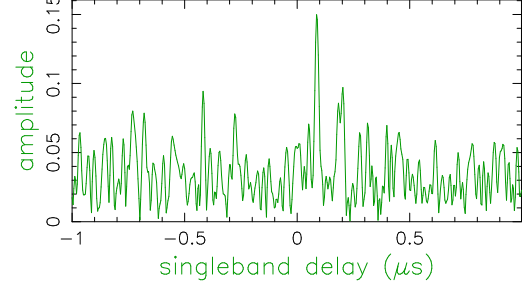
NRAO150.1HV1N7, No0150, kZ

VLBA\_KP - METSAHOV, fgroup W, pol LR

multiband delay ( $\mu$ s)

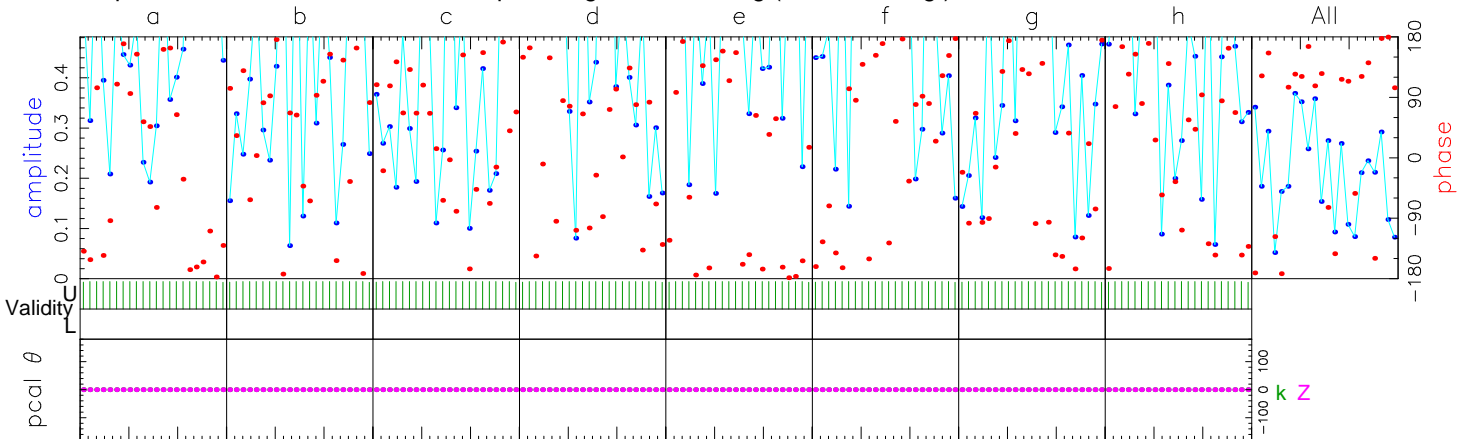


Fringe quality 0  
 SNR 5.5  
 Int time 179.684  
 Amp 0.161  
 Phase 148.1  
 PFD 9.7e-01  
 Delays (us)  
 SBD 0.087323  
 MBD -0.004101  
 Fringe rate (Hz) 0.367843  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145431  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-174.2	120.2	71.5	119.0	157.8	152.0	-169.0	133.8	Phase	148.1
	0.3	0.1	0.2	0.1	0.3	0.2	0.1	0.2	Ampl.	0.2
	280.1	438.9	458.2	134.9	280.1	59.4	37.3	385.9	Sbd box	279.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	3.76364404738E+03		Apriori delay (usec)		3.76355439814E+03		Resid mbdelay (usec)		-4.10076E-03	+/- 2.0E-04
Sband delay (usec)	3.76364172114E+03		Apriori clock (usec)		1.8340969E-01		Resid sbdelay (usec)		8.73230E-02	+/- 1.6E-03
Phase delay (usec)	3.76355440292E+03		Apriori clockrate (us/s)		8.3999986E-08		Resid phdelay (usec)		4.77677E-06	+/- 6.7E-07
Delay rate (us/s)	-1.01887370541E+00		Apriori rate (us/s)		-1.01887797570E+00		Resid rate (us/s)		4.27029E-06	+/- 6.4E-09
Total phase (deg)	96.3		Apriori accel (us/s/s)		-4.97296905550E-05		Resid phase (deg)		148.1	+/- 20.6

	RMS	Theor.	Amplitude	0.161 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	59.7	48.4	Search (1024X32)	0.148	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	75.8	84.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	43.0	29.2	Inc. seg. avg.	0.167	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	50.4	51.0	Inc. frq. avg.	0.172	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 312.9 el 35.3 pa 80.9      Z: az 18.7 el 23.5 pa -14.7      u,v (fr/asec) 9253.892 -6735.925      simultaneous interpolator

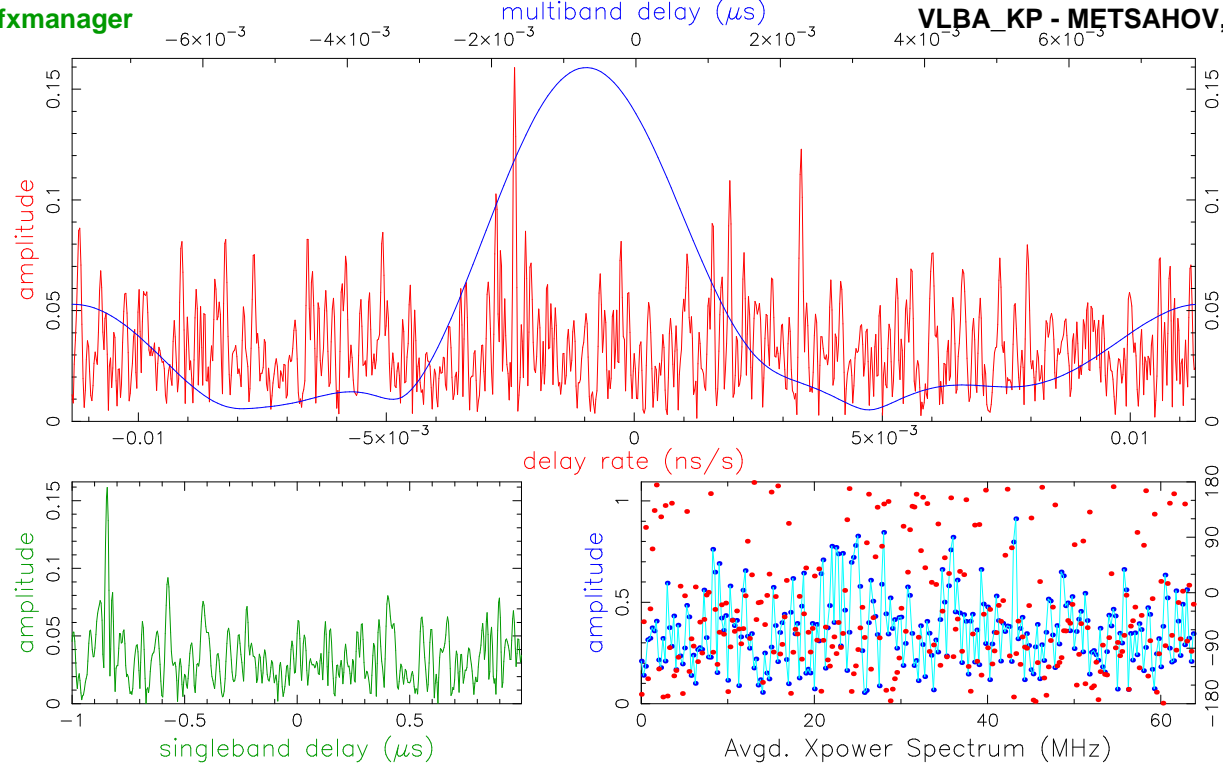
Control file: cf\_1234\_gmva      Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ..1HV1N7      Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ.W.126.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

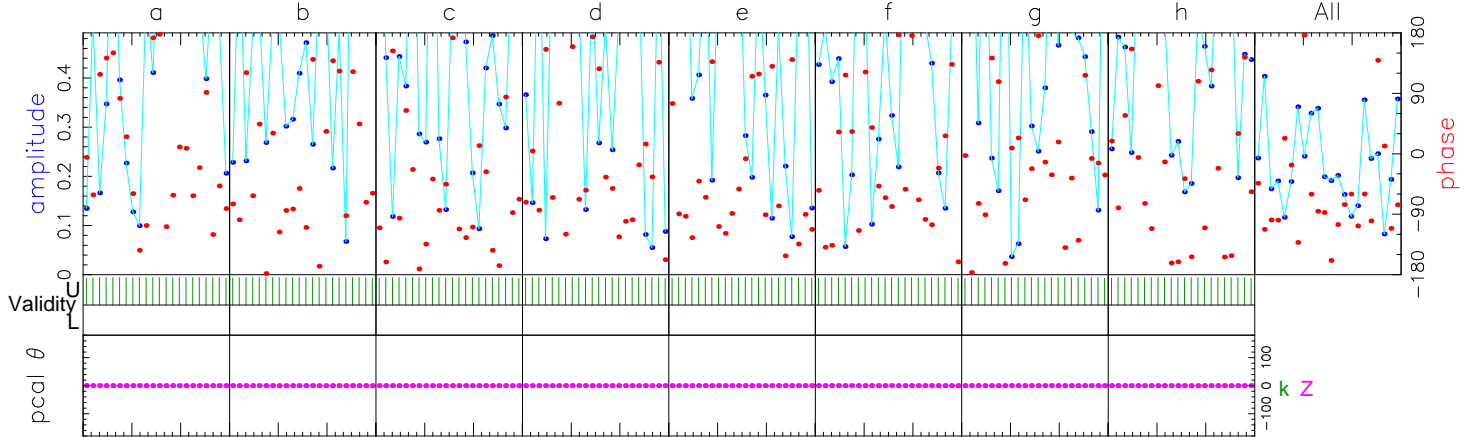
NRAO150.1HV1N7, No0150, kZ

VLBA\_KP - METSAHOV, fgroup W, pol RL



Fringe quality 0  
 SNR 5.9  
 Int time 179.684  
 Amp 0.164  
 Phase -92.4  
 PFD 3.7e-01  
 Delays (us)  
 SBD -0.844787  
 MBD -0.000672  
 Fringe rate (Hz)  
 -0.207312  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2021:008:174658  
 2021:010:145433  
 2020:247:085004  
 RA & Dec (J2000)  
 03h59m29.747267s  
 +50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-81.6	-61.9	-96.4	-101.8	-94.7	-107.0	-72.8	-95.2	Phase	-92.4
	0.1	0.1	0.3	0.2	0.3	0.2	0.2	0.1	Ampl.	0.1
	105.7	135.2	287.7	56.9	41.2	104.4	154.8	482.4	Sbd box	40.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	3.76270997579E+03	Apriori delay (usec)	3.76355439814E+03	Resid mbdelay (usec)	-6.72349E-04	+/-	1.8E-04
Sband delay (usec)	3.76270961064E+03	Apriori clock (usec)	1.8340969E-01	Resid sbdelay (usec)	-8.44787E-01	+/-	1.5E-03
Phase delay (usec)	3.76355439516E+03	Apriori clockrate (us/s)	8.3999986E-08	Resid phdelay (usec)	-2.97939E-06	+/-	6.3E-07
Delay rate (us/s)	-1.01888038239E+00	Apriori rate (us/s)	-1.01887797570E+00	Resid rate (us/s)	-2.40669E-06	+/-	6.0E-09
Total phase (deg)	215.7	Apriori accel (us/s/s)	-4.97296905550E-05	Resid phase (deg)	-92.4	+/-	19.4

ph/seg (deg)	55.6	Theor.	45.6	Amplitude	0.164 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	68.7	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
ph/frq (deg)	17.1	Inc. seg. avg.	0.177	Bits/sample: 2x2		mb window (us)	-0.008 0.008
amp/frq (%)	48.3	Inc. frq. avg.	0.149	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011
				Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00

k: az 312.9 el 35.3 pa 80.9      Z: az 18.7 el 23.5 pa -14.7      u,v (fr/asec) 9253.892 -6735.925      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ..1HV1N7    Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ.W.147.1HV1N7

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

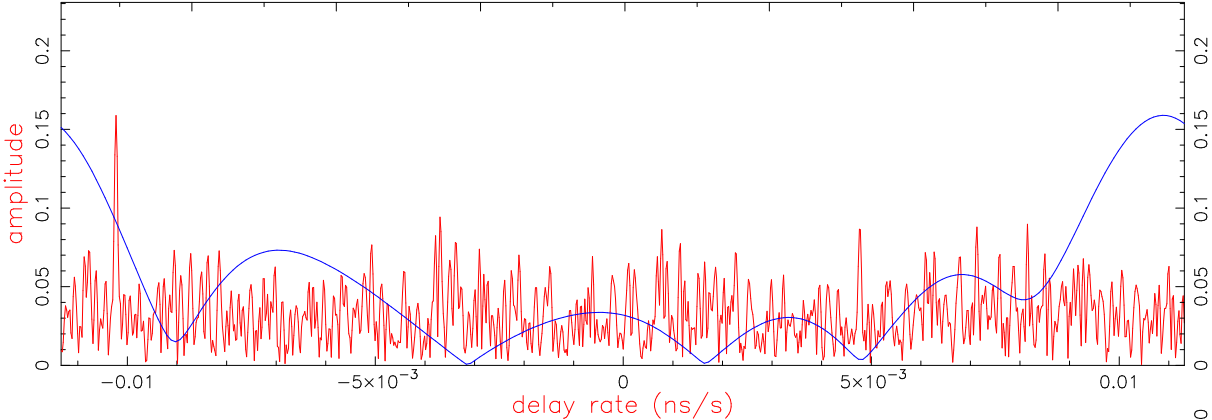
NRAO150.1HV1N7, No0150, kZ

VLBA\_KP - METSAHOV, fgroup W, pol LL

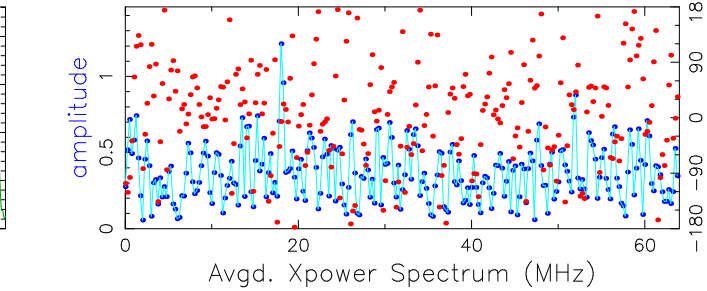
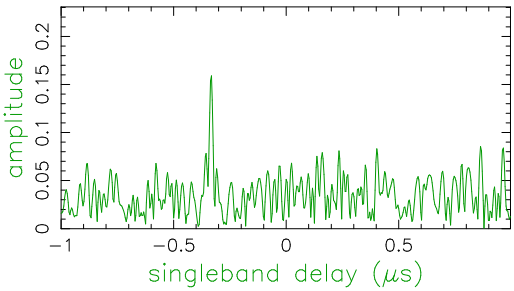
multiband delay ( $\mu$ s)

$-6 \times 10^{-3}$   $-4 \times 10^{-3}$   $-2 \times 10^{-3}$  0  $2 \times 10^{-3}$   $4 \times 10^{-3}$   $6 \times 10^{-3}$

Fringe quality 0

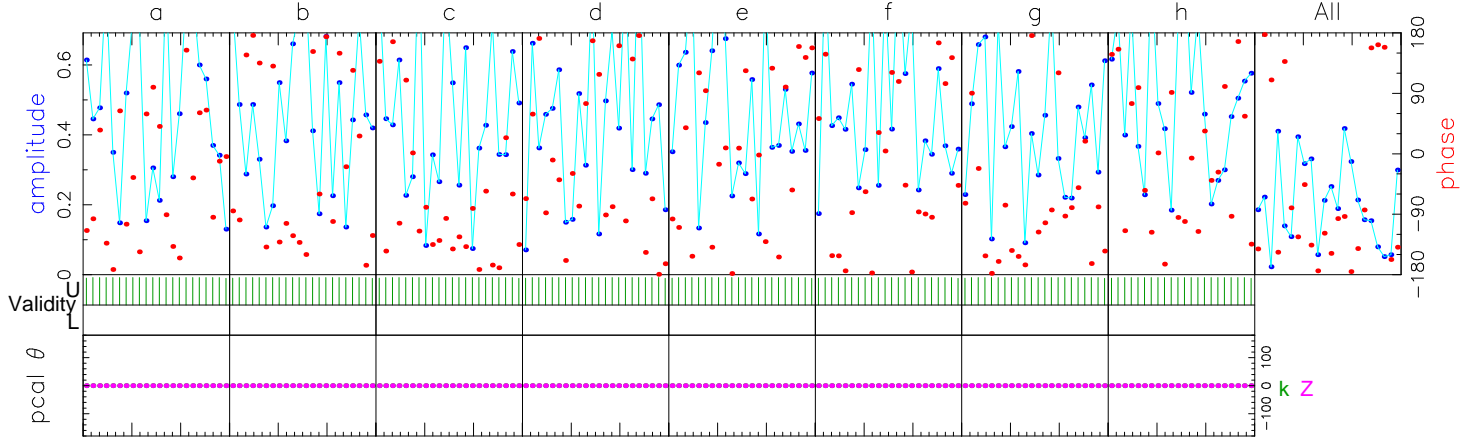


SNR 5.9  
Int time 179.684  
Amp 0.231  
Phase -134.9  
PFD 3.9e-01  
Delays (us)  
SBD -0.333327  
MBD -0.008127  
Fringe rate (Hz)  
-0.883175  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2021:008:174658  
2021:010:145427  
2020:247:085004  
RA & Dec (J2000)  
03h59m29.747267s  
+50°57'50.161694"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-98.7	-150.6	-131.2	-128.5	-145.7	-177.9	-121.8	-125.2	Phase	-134.9
	0.2	0.4	0.4	0.2	0.1	0.2	0.3	0.1	Ampl.	0.2
	505.8	466.2	359.6	36.3	340.0	4.2	229.1	243.3	Sbd box	171.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	3.76321814605E+03	Apriori delay (usec)	3.76355439814E+03	Resid mbdelay (usec)	-8.12709E-03	+/-	1.8E-04
Sband delay (usec)	3.76322107139E+03	Apriori clock (usec)	1.8340969E-01	Resid sbdelay (usec)	-3.33327E-01	+/-	1.5E-03
Phase delay (usec)	3.76355439379E+03	Apriori clockrate (us/s)	8.3999986E-08	Resid phdelay (usec)	-4.34980E-06	+/-	6.3E-07
Delay rate (us/s)	-1.01888822849E+00	Apriori rate (us/s)	-1.01887797570E+00	Resid rate (us/s)	-1.02528E-05	+/-	6.0E-09
Total phase (deg)	173.2	Apriori accel (us/s/s)	-4.97296905550E-05	Resid phase (deg)	-134.9	+/-	19.5

ph/seg (deg)	51.2	Theor.	45.7	Amplitude	0.231 +/- 0.039	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	80.2	Search (1024X32)	0.158	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	25.3	Inc. seg. avg.	0.228	Inc. frq. avg.	0.218	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	43.9					Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 312.9 el 35.3 pa 80.9      Z: az 18.7 el 23.5 pa -14.7      u,v (fr/asec) 9253.892 -6735.925      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ..1HV1N7      Output file: /Exps/c202a/v1/v1\_3mm/1234/No0150/kZ.W.94.1HV1N7