

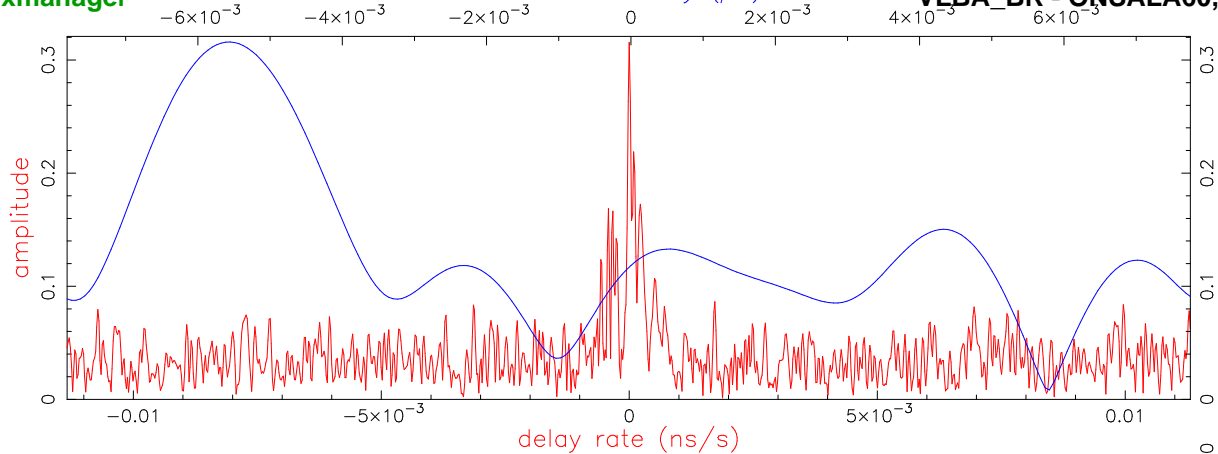
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, bX

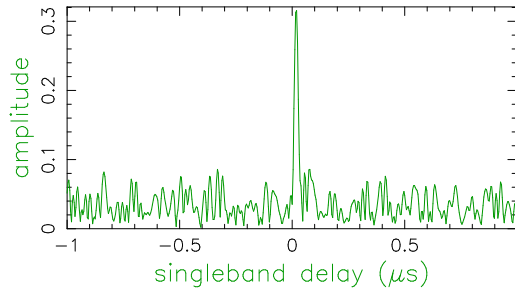
VLBA\_BR - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

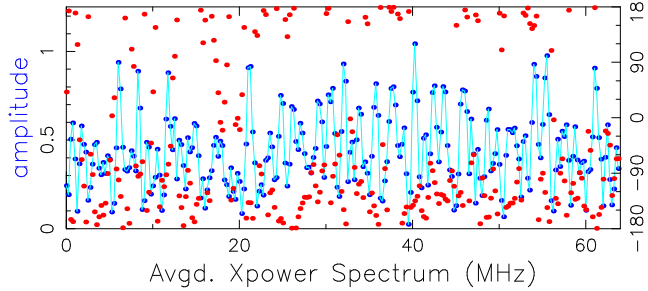


Fringe quality 9

SNR 11.8  
 Int time 179.959  
 Amp 0.321  
 Phase 127.9  
 PFD 1.3e-23  
 Delays (us)  
 SBD 0.017816  
 MBD -0.005625  
 Fringe rate (Hz)  
 0.000011  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

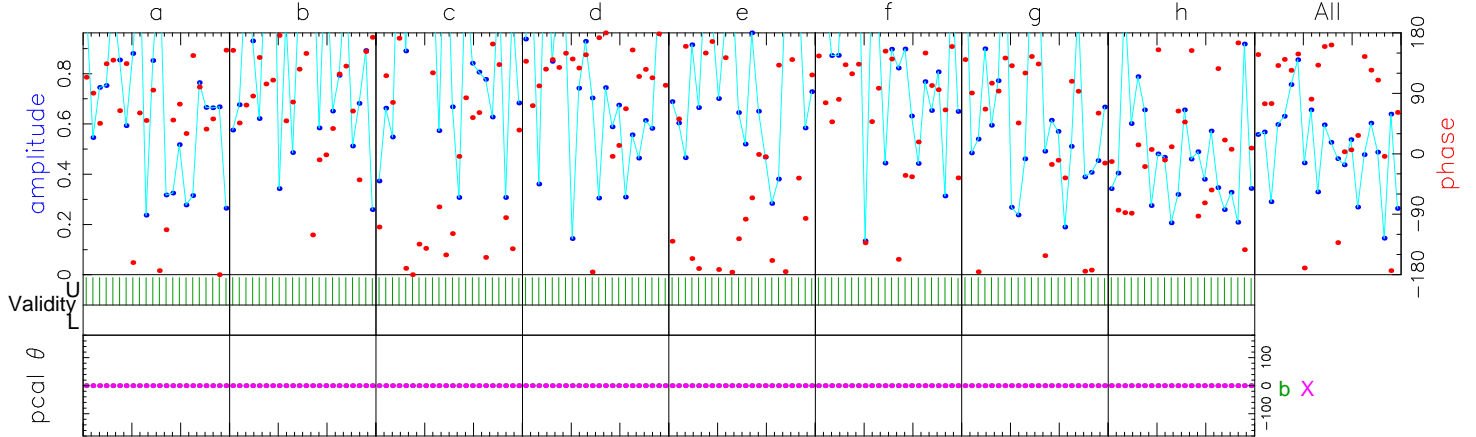


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:141958  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	106.3	100.5	174.4	129.1	-172.4	108.1	117.1	-41.6	Phase	127.9
	0.4	0.5	0.4	0.6	0.3	0.5	0.4	0.2	Ampl.	0.4
	262.0	262.2	260.9	260.8	260.2	260.8	259.9	259.3	Sbd box	261.6
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.32439523974E+03		Apriori delay (usec)		7.32436961437E+03		Resid mbdelay (usec)		-5.62462E-03	+/- 9.2E-05
Sband delay (usec)	7.32438743012E+03		Apriori clock (usec)		-5.0007050E+01		Resid sbdelay (usec)		1.78158E-02	+/- 7.3E-04
Phase delay (usec)	7.32436961849E+03		Apriori clockrate (us/s)		-5.2800001E-07		Resid phdelay (usec)		4.12375E-06	+/- 3.1E-07
Delay rate (us/s)	-5.95998339078E-01		Apriori rate (us/s)		-5.95998339211E-01		Resid rate (us/s)		1.33209E-10	+/- 3.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.86367755926E-05		Resid phase (deg)		127.9	+/- 9.7

ph/seg (deg) 64.4 22.8 Amplitude 0.321 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 77.6 39.8 Search (1024X32) 0.313 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 77.7 13.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 44.1 24.0 Inc. seg. avg. 0.469 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.398 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

b: az 310.1 el 52.6 pa 77.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 6495.425 -6718.765 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX.W.105.1HT0UR

Mk4/DiFX fourfit 3.21 rev 2937

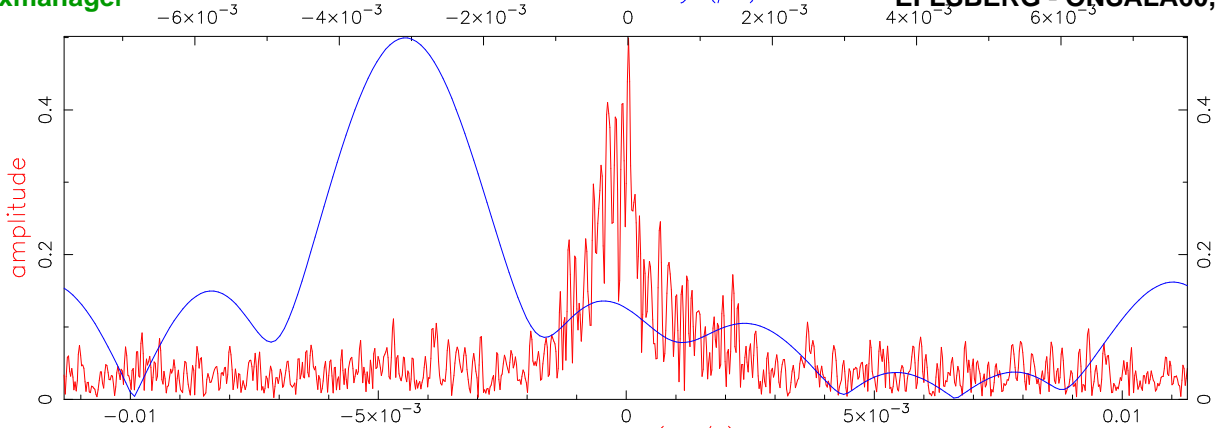
fxmanager

0102+584.1HT0UR, No0131, BX

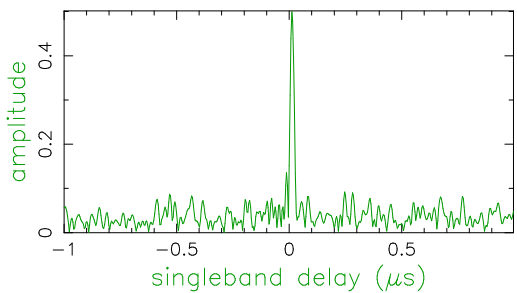
EFLSBERG - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

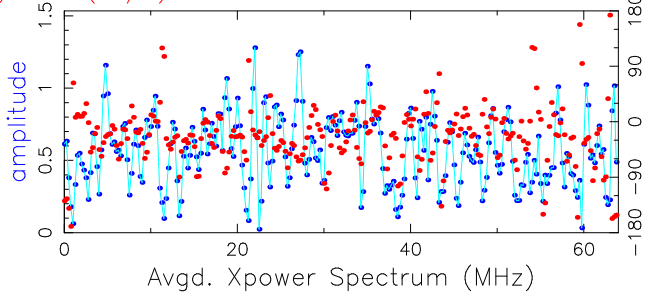
Fringe quality 9



SNR 18.4  
 Int time 179.763  
 Amp 0.502  
 Phase 155.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.012672  
 MBD -0.003036  
 Fringe rate (Hz) 0.003929  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

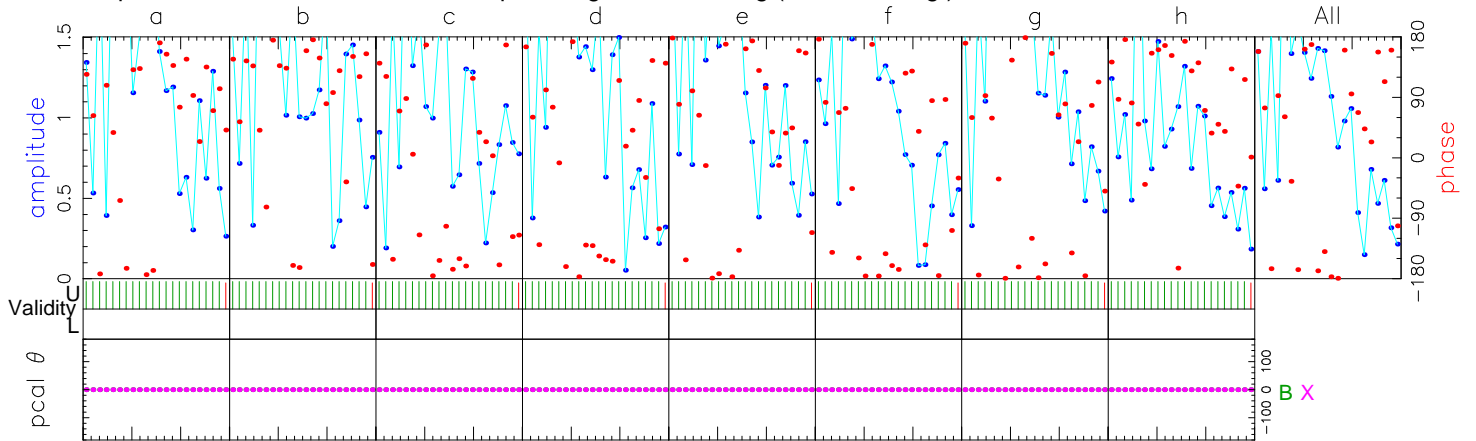


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:141959  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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	143.2	145.4	-172.3	171.2	153.2	174.3	152.9	122.8	Phase	155.4
B	0.6	0.6	0.4	0.5	0.5	0.5	0.6	0.5	Ampl.	0.5
X	260.1	260.2	261.6	260.3	260.6	260.5	260.5	258.4	Sbd box	260.2
B	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-2.49064918656E+03	Apriori delay (usec)	-2.49066177522E+03	Resid mbdelay (usec)	-3.03634E-03	+/-	5.9E-05
Sband delay (usec)	-2.49064910347E+03	Apriori clock (usec)	-3.8177029E+01	Resid sbdelay (usec)	1.26718E-02	+/-	4.7E-04
Phase delay (usec)	-2.49066177021E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	5.01221E-06	+/-	2.0E-07
Delay rate (us/s)	-2.42371279766E-02	Apriori rate (us/s)	-2.42371735878E-02	Resid rate (us/s)	4.56113E-08	+/-	1.9E-09
Total phase (deg)		Apriori accel (us/s/s)	6.24361460944E-06	Resid phase (deg)	155.4	+/-	6.2

ph/seg (deg)	RMS 71.4	Theor. 14.6	Amplitude Search (1024X32)	0.502 +/- 0.027	0.494	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	151.4	25.5	Interp.	0.000	0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	sb window (us) -1.000 1.000
ph/frq (deg)	22.2	8.8	Inc. seg. avg.	0.973	Sample rate(MISamp/s): 128	mb window (us)	-0.008 0.008
amp/frq (%)	13.0	15.4	Inc. frq. avg.	0.519	Data rate(Mb/s): 2048	dr window (ns/s)	-0.011 0.011
					nlags: 256	ion window (TEC)	0.00 0.00

B: az 5.2 el 19.3 pa -6.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 271.261 472.496 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX.W.110.1HT0UR

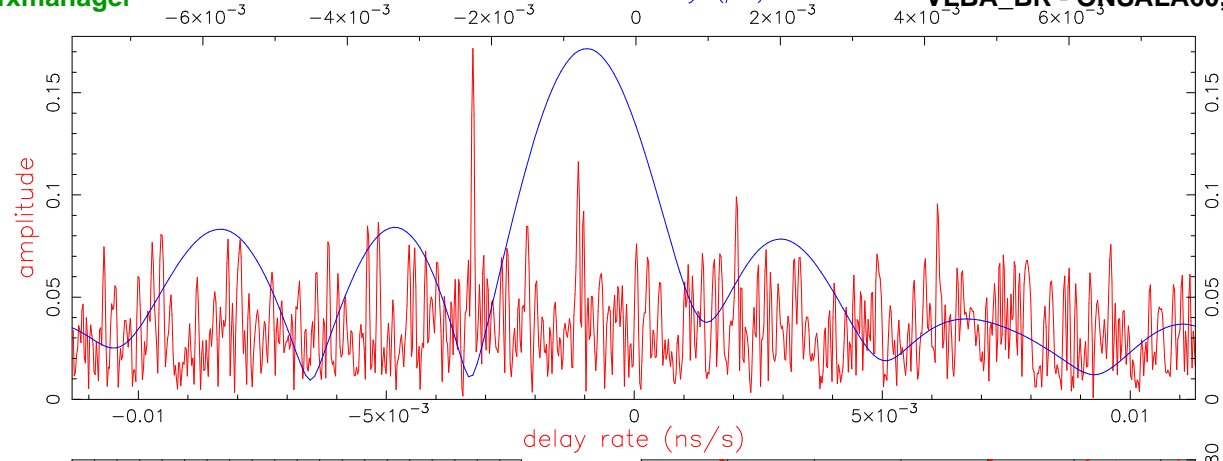
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, bX

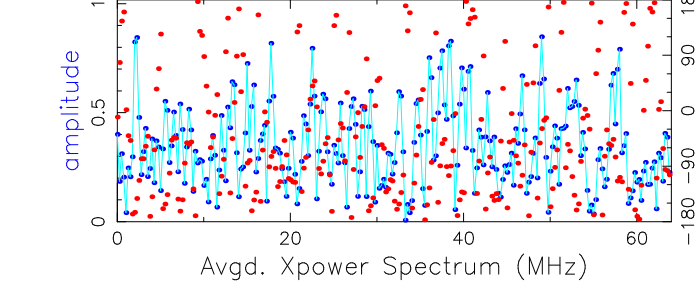
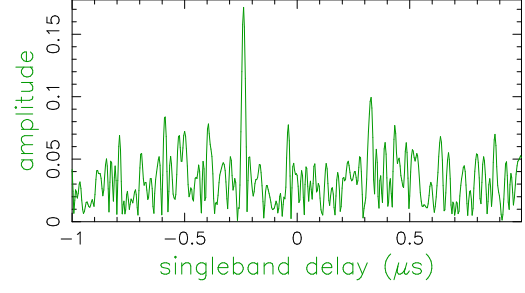
VLBA\_BR - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)



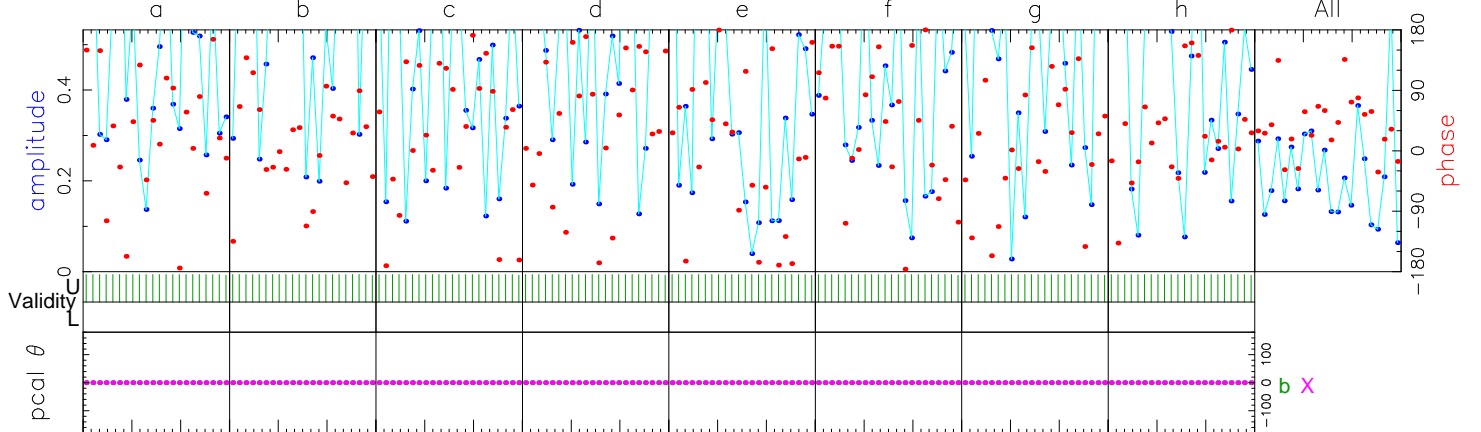
Fringe quality 0

SNR 6.3  
Int time 179.959  
Amp 0.178  
Phase 43.3  
PFD 4.1e-02  
Delays (us)  
SBD -0.238380  
MBD -0.000686  
Fringe rate (Hz)  
-0.280257  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142000  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:X	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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	7.32413455329E+03		Apriori delay (usec)		7.32436961437E+03		Resid mbdelay (usec)		-6.86080E-04	+/- 1.7E-04
Sband delay (usec)	7.32413123412E+03		Apriori clock (usec)		-5.0007050E+01		Resid sbdelay (usec)		-2.38380E-01	+/- 1.4E-03
Phase delay (usec)	7.32436961576E+03		Apriori clockrate (us/s)		-5.2800001E-07		Resid phdelay (usec)		1.39667E-06	+/- 5.9E-07
Delay rate (us/s)	-5.96001592712E-01		Apriori rate (us/s)		-5.95998339211E-01		Resid rate (us/s)		-3.25350E-06	+/- 5.6E-09
Total phase (deg)			252.6		Apriori accel (us/s/s)		-4.86367755926E-05		43.3	+/- 18.2

ph/seg (deg) 43.9 42.7 Search (1024X32) 0.169 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 71.6 74.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 24.5 25.7 Inc. seg. avg. 0.179 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 47.2 44.9 Inc. frq. avg. 0.172 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 310.1 el 52.6 pa 77.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 6495.425 -6718.765 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX.W.124.1HT0UR

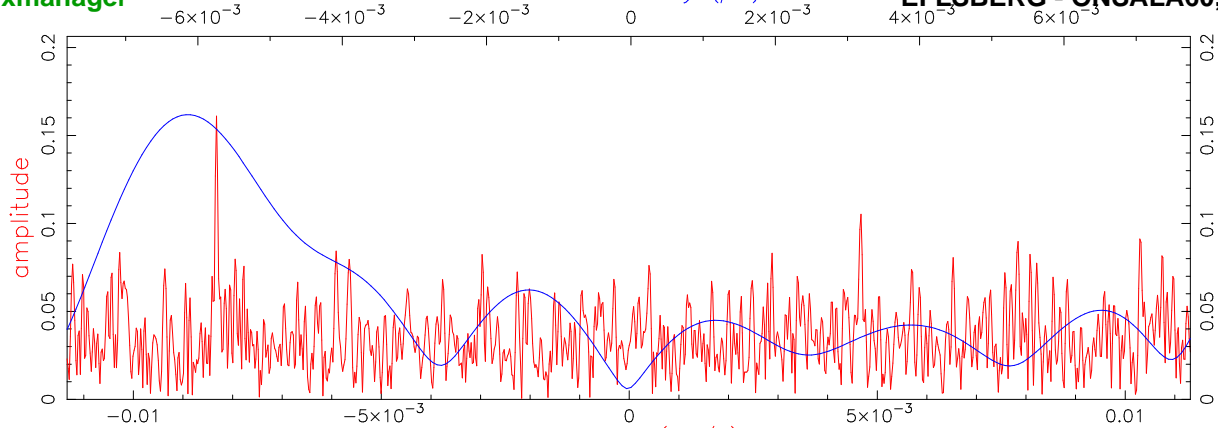
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, BX

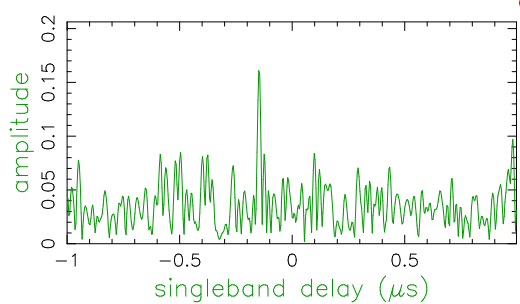
EFLSBERG - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

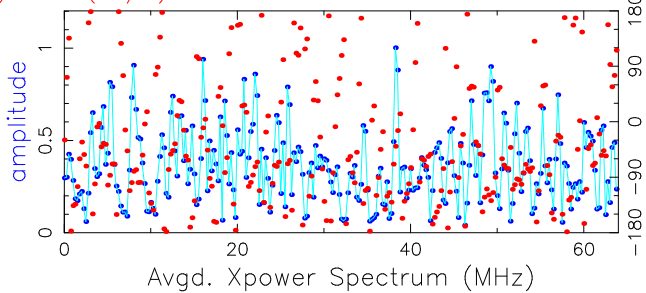


Fringe quality 0

SNR 6.0  
 Int time 179.763  
 Amp 0.206  
 Phase 96.6  
 PFD 2.3e-01  
 Delays (us)  
 SBD -0.146924  
 MBD -0.006016  
 Fringe rate (Hz)  
 -0.717528  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

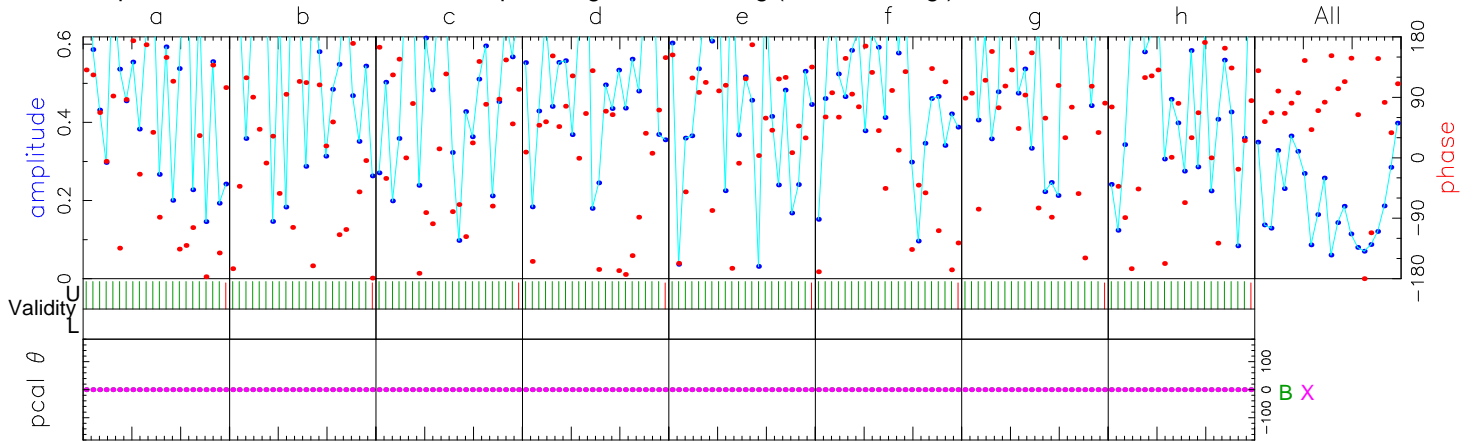


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142001  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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	137.1	-52.1	80.3	64.7	105.0	105.2	86.2	112.0	Phase	96.6
B	0.2	0.0	0.1	0.3	0.3	0.3	0.4	0.1	Ampl.	0.2
X	216.1	98.3	236.2	105.3	192.7	135.0	219.4	70.3	Sbd box	219.4
B	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	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)	-2.49080841611E+03		Apriori delay (usec)		-2.49066177522E+03		Resid mbdelay (usec)		-6.01589E-03	+/- 1.8E-04
Sband delay (usec)	-2.49080869897E+03		Apriori clock (usec)		-3.8177029E+01		Resid sbdelay (usec)		-1.46924E-01	+/- 1.4E-03
Phase delay (usec)	-2.49066177211E+03		Apriori clockrate (us/s)		-7.2800002E-07		Resid phdelay (usec)		3.11459E-06	+/- 6.2E-07
Delay rate (us/s)	-2.42455033714E-02		Apriori rate (us/s)		-2.42371735878E-02		Resid rate (us/s)		-8.32978E-06	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		6.24361460944E-06		Resid phase (deg)		96.6	+/- 19.1

	RMS	Theor.	Amplitude	0.206 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	50.0	44.8	Search (1024X32)	0.160	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	67.3	78.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	65.2	27.0	Inc. seg. avg.	0.192	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	53.2	47.2	Inc. frq. avg.	0.200	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

B: az 5.2 el 19.3 pa -6.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 271.261 472.496 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX.W.132.1HT0UR

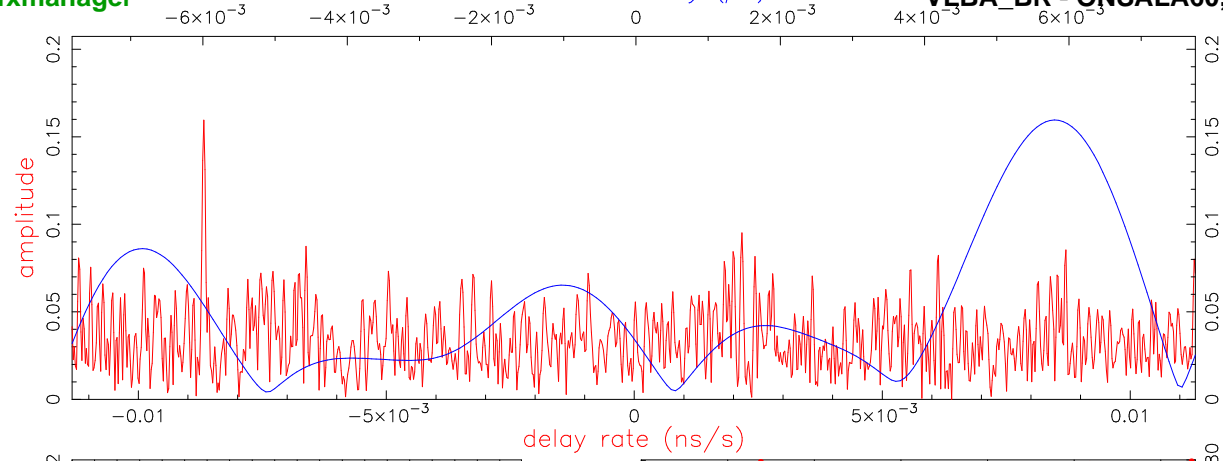
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

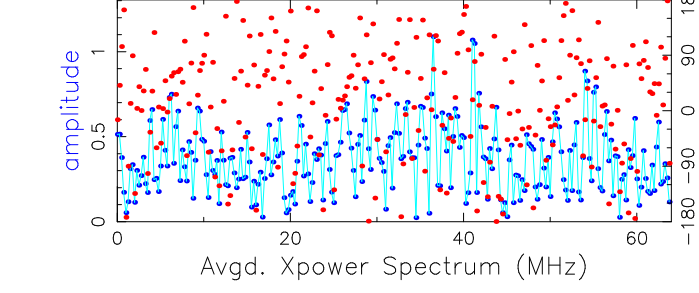
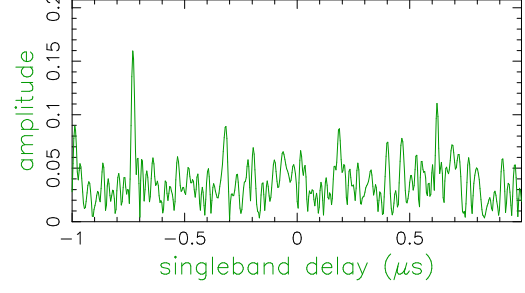
0102+584.1HT0UR, No0131, bX

VLBA\_BR - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

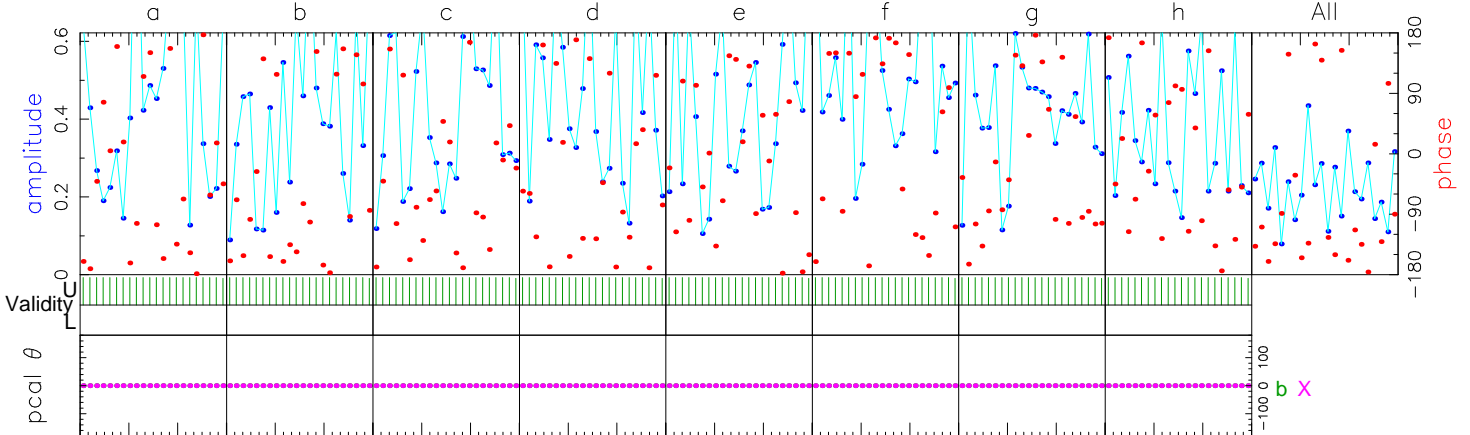


Fringe quality 0  
 SNR 5.9  
 Int time 179.959  
 Amp 0.207  
 Phase -147.7  
 PFD 3.8e-01  
 Delays (us)  
 SBD -0.729424  
 MBD 0.005835  
 Fringe rate (Hz) -0.749047  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142002  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-143.8	-150.7	-106.6	-166.6	-142.3	-175.0	-136.0	-117.0	Phase	-147.7
	0.3	0.3	0.2	0.2	0.1	0.4	0.1	0.1	Ampl.	0.2
	96.3	175.5	80.9	414.9	368.4	68.6	346.4	284.2	Sbd box	70.3
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	7.32364107476E+03					7.32436961437E+03			Resid mbdelay (usec)	5.83539E-03 +/- 1.8E-04
Sband delay (usec)	7.32364019087E+03					-5.0007050E+01			Resid sbdelay (usec)	-7.29424E-01 +/- 1.5E-03
Phase delay (usec)	7.32436960960E+03					-5.2800001E-07			Resid phdelay (usec)	-4.76257E-06 +/- 6.3E-07
Delay rate (us/s)	-5.96007034902E-01					-5.95998339211E-01			Resid rate (us/s)	-8.69569E-06 +/- 6.0E-09
Total phase (deg)			61.6			-4.86367755926E-05			Resid phase (deg)	-147.7 +/- 19.4
	RMS	Theor.	Amplitude	0.207 +/- 0.035					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	59.8	45.6	Search (1024X32)	0.153					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	68.8	79.6	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	25.6	27.5	Inc. seg. avg.	0.223					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	43.9	48.0	Inc. frq. avg.	0.199					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite

b: az 310.1 el 52.6 pa 77.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 6495.425 -6718.765 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX.W.140.1HT0UR



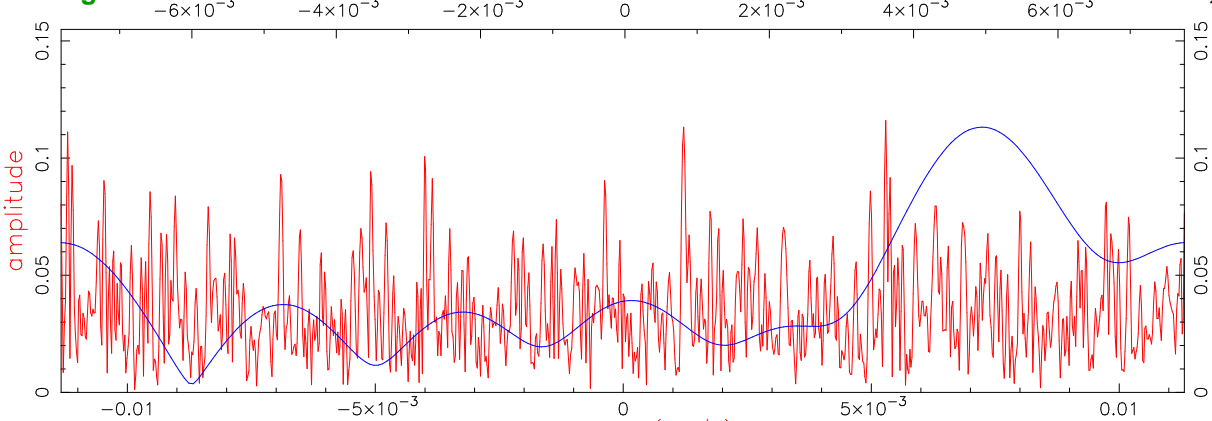
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, BX

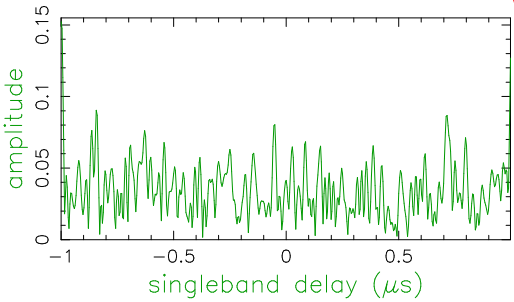
EFLSBERG - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

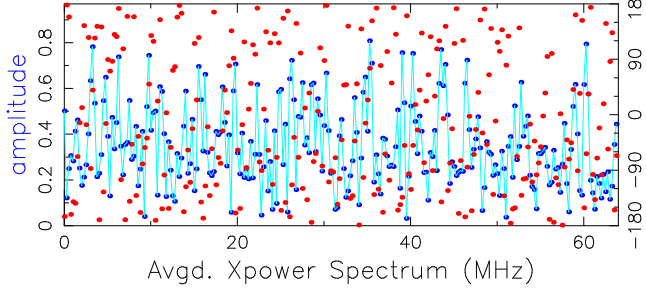


Fringe quality 0

SNR 5.7  
 Int time 179.763  
 Amp 0.155  
 Phase -177.7  
 PFD 8.5e-01  
 Delays (us)  
 SBD -0.998673  
 MBD 0.004944  
 Fringe rate (Hz)  
 0.105100  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

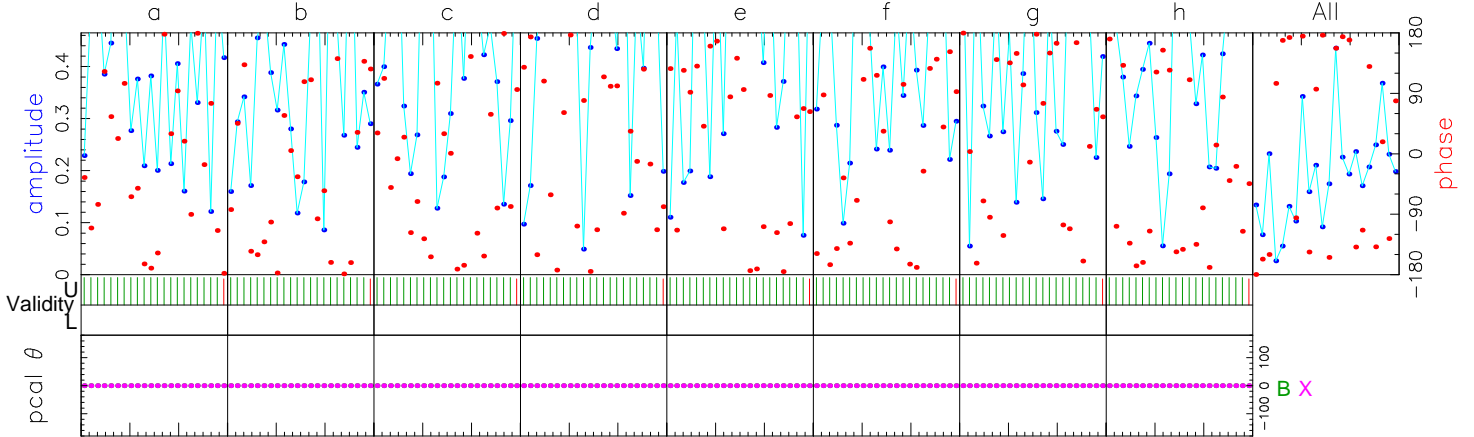


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142004  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-90.6	-176.5	-134.1	-172.1	140.6	155.6	177.9	-136.8	Phase	-177.7
	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	Ampl.	0.1
	243.7	442.1	343.1	62.6	347.1	416.2	400.3	124.7	Sbd box	1.3
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-2.49165683096E+03	Apriori delay (usec)	-2.49066177522E+03	Resid mbdelay (usec)	4.94426E-03	+/-	1.9E-04
Sband delay (usec)	-2.49166044822E+03	Apriori clock (usec)	-3.8177029E+01	Resid sbdelay (usec)	-9.98673E-01	+/-	1.5E-03
Phase delay (usec)	-2.49066178096E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	-5.73143E-06	+/-	6.5E-07
Delay rate (us/s)	-2.42359534800E-02	Apriori rate (us/s)	-2.42371735878E-02	Resid rate (us/s)	1.22011E-06	+/-	6.3E-09
Total phase (deg)	-292.2	Apriori accel (us/s/s)	6.24361460944E-06	Resid phase (deg)	-177.7	+/-	20.3

ph/seg (deg)	58.1	Theor.	47.5	Amplitude	0.155 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	68.3		83.0	Search (1024X32)	0.151	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	47.7		28.7	Inc. seg. avg.	0.145	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	38.4		50.0	Inc. frq. avg.	0.121	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

B: az 5.2 el 19.3 pa -6.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 271.261 472.496 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX.W.156.1HT0UR

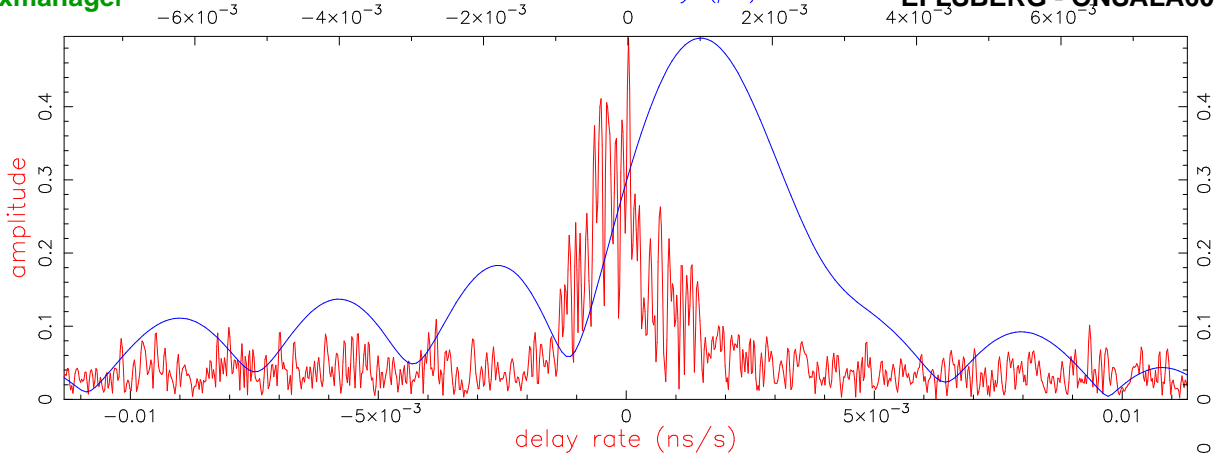
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, BX

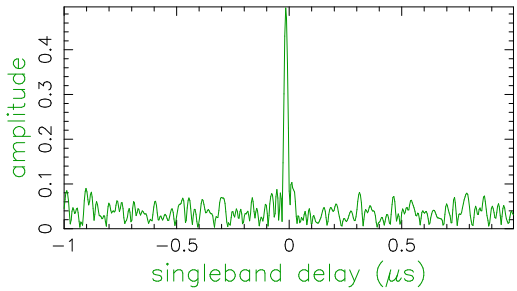
EFLSBERG - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

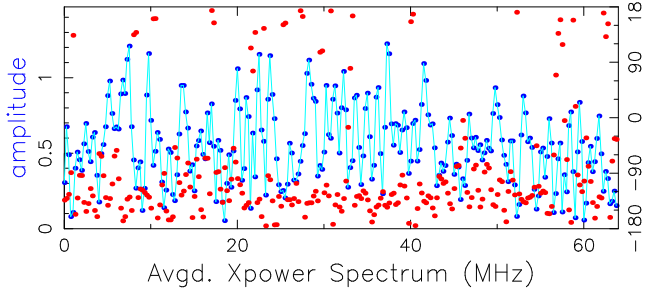


Fringe quality 8

SNR 18.2  
Int time 179.763  
Amp 0.496  
Phase 46.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.014702  
MBD 0.001038  
Fringe rate (Hz) 0.003663  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

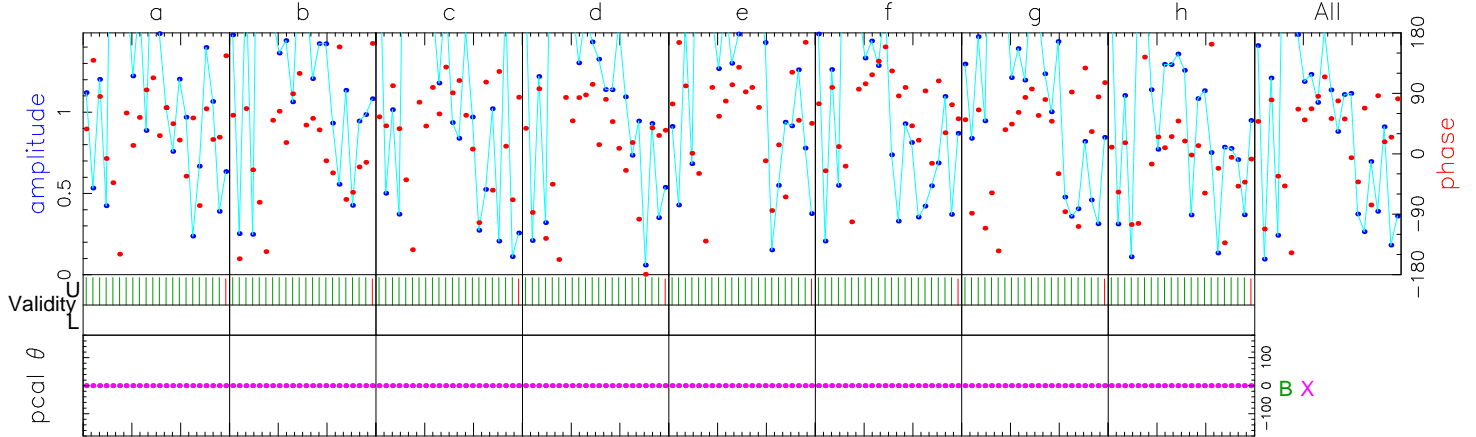


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:141956  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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
	42.4	26.4	53.8	44.9	73.4	79.7	47.4	-1.5	Phase	46.8
	0.6	0.5	0.6	0.6	0.6	0.5	0.5	0.5	Ampl.	0.5
	253.6	252.4	253.5	253.4	253.3	253.8	252.8	252.1	Sbd box	253.2
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-2.49067636272E+03	Apriori delay (usec)	-2.49066177522E+03	Resid mbdelay (usec)	1.03751E-03	+/-	6.0E-05
Sband delay (usec)	-2.49067647722E+03	Apriori clock (usec)	-3.8177029E+01	Resid sbdelay (usec)	-1.47020E-02	+/-	4.7E-04
Phase delay (usec)	-2.49066177372E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	1.50905E-06	+/-	2.0E-07
Delay rate (us/s)	-2.42371310645E-02	Apriori rate (us/s)	-2.42371735878E-02	Resid rate (us/s)	4.25234E-08	+/-	2.0E-09
Total phase (deg)	-67.6	Apriori accel (us/s/s)	6.24361460944E-06	Resid phase (deg)	46.8	+/-	6.3

ph/seg (deg)	RMS 70.0	Theor. 14.8	Amplitude Search (1024X32)	0.493	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	153.9	25.8	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)	27.7	8.9	Inc. seg. avg.	0.932	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	13.1	15.5	Inc. frq. avg.	0.530	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

B: az 5.2 el 19.3 pa -6.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 271.261 472.496 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/BX.W.84.1HT0UR

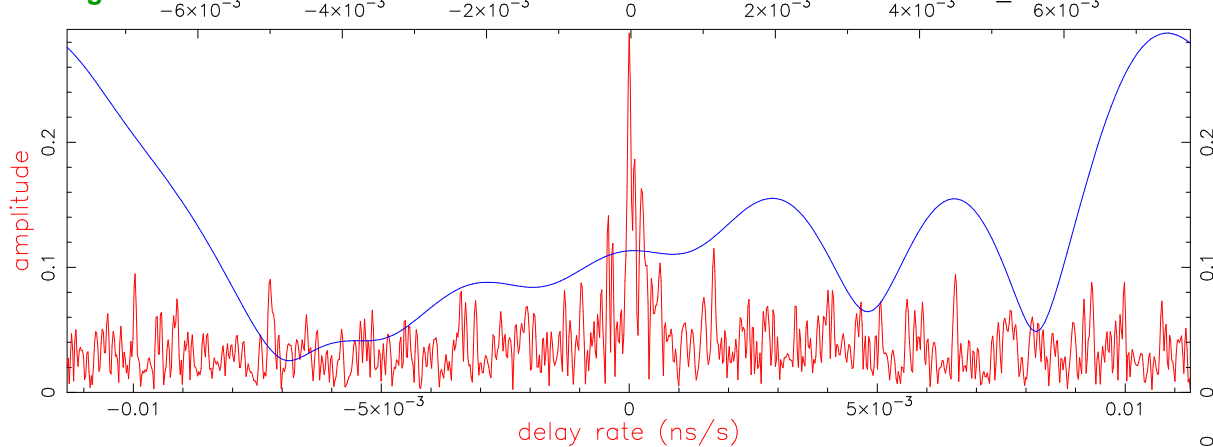
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, bX

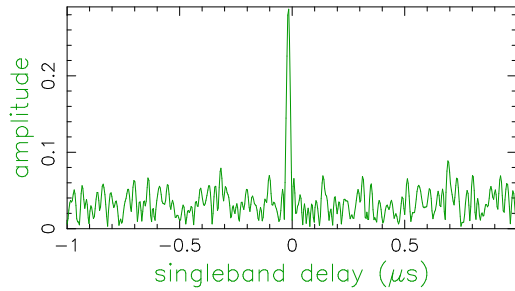
VLBA\_BR - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

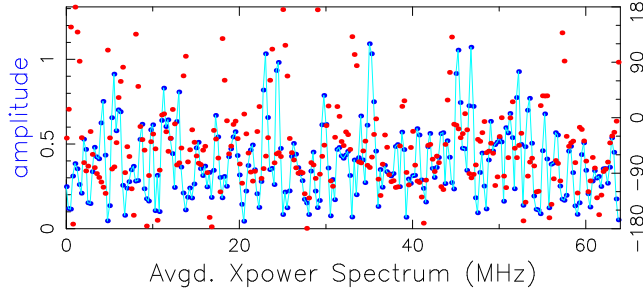


Fringe quality 9

SNR 10.6  
 Int time 179.959  
 Amp 0.290  
 Phase 22.2  
 PFD 4.0e-18  
 Delays (us)  
 SBD -0.016960  
 MBD 0.007403  
 Fringe rate (Hz)  
 -0.000170  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

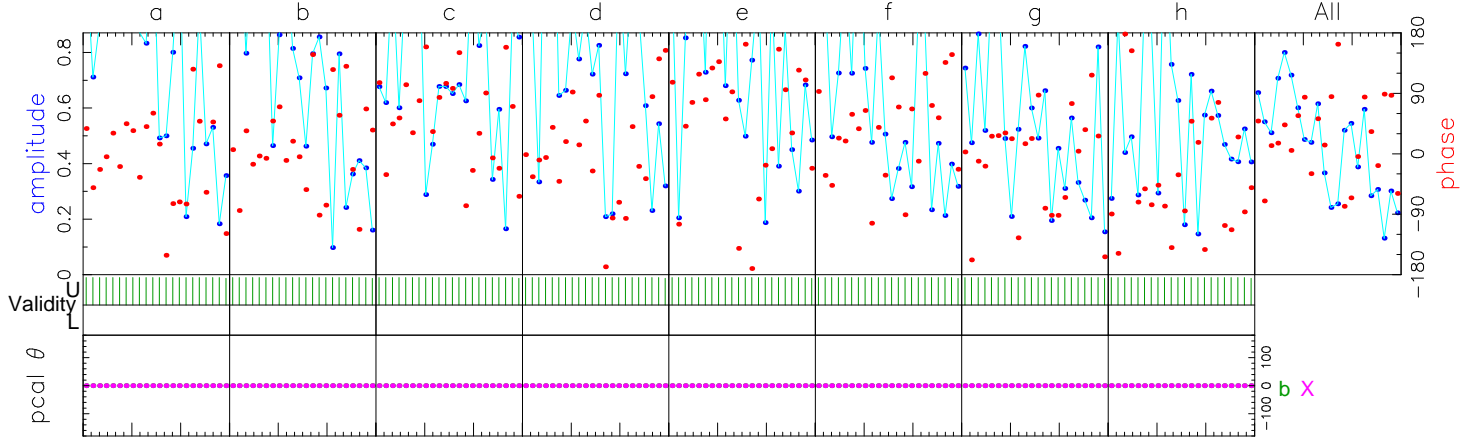


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:141956  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:X	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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	7.32434576755E+03	Apriori delay (usec)	7.32436961437E+03	Resid mbdelay (usec)	7.40319E-03	+/-	1.0E-04
Sband delay (usec)	7.32435265437E+03	Apriori clock (usec)	-5.0007050E+01	Resid sbdelay (usec)	-1.69600E-02	+/-	8.1E-04
Phase delay (usec)	7.32436961508E+03	Apriori clockrate (us/s)	-5.2800001E-07	Resid phdelay (usec)	7.16979E-07	+/-	3.5E-07
Delay rate (us/s)	-5.95998341184E-01	Apriori rate (us/s)	-5.95998339211E-01	Resid rate (us/s)	-1.97262E-09	+/-	3.3E-09
Total phase (deg)	231.5	Apriori accel (us/s/s)	-4.86367755926E-05	Resid phase (deg)	22.2	+/-	10.8

ph/seg (deg)	61.0	Theor.	25.2	Amplitude	0.290 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	87.0		44.1	Search (1024X32)	0.286	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	57.3		15.2	Inc. seg. avg.	0.426	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	42.9		26.6	Inc. frq. 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

b: az 310.1 el 52.6 pa 77.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 6495.425 -6718.765 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/bX.W.87.1HT0UR



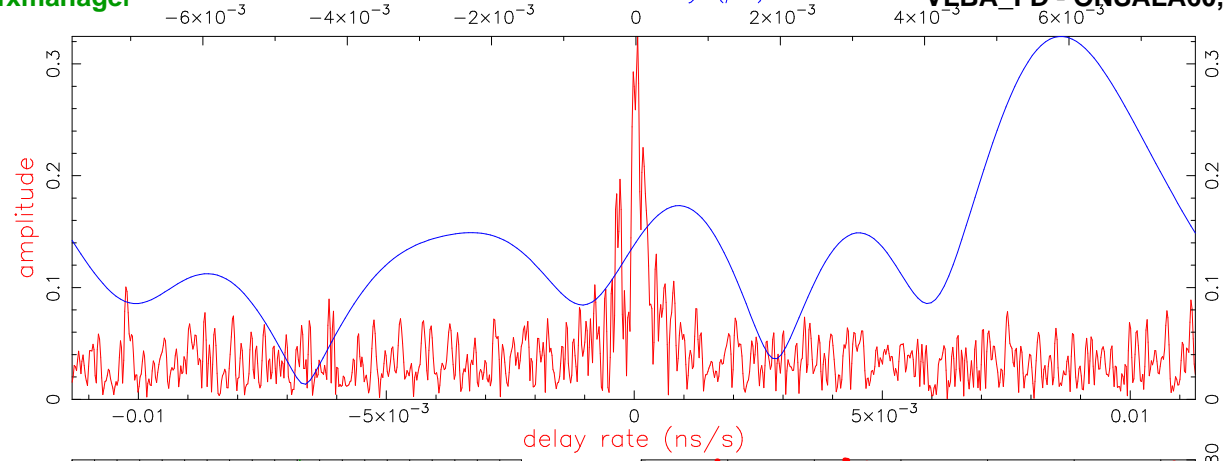
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

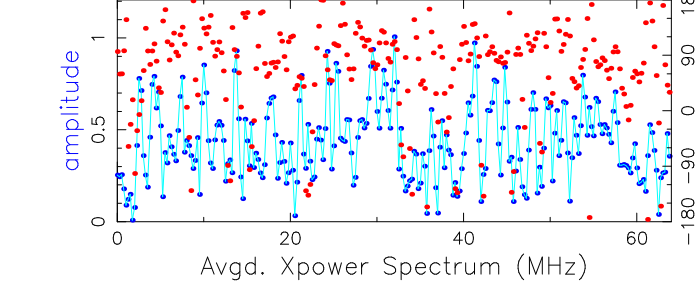
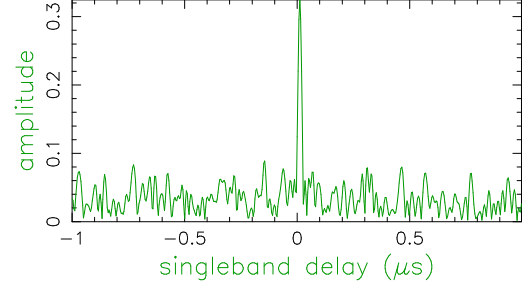
0102+584.1HT0UR, No0131, fX

VLBA\_FD - ONSALA60, fgroup W, pol RR

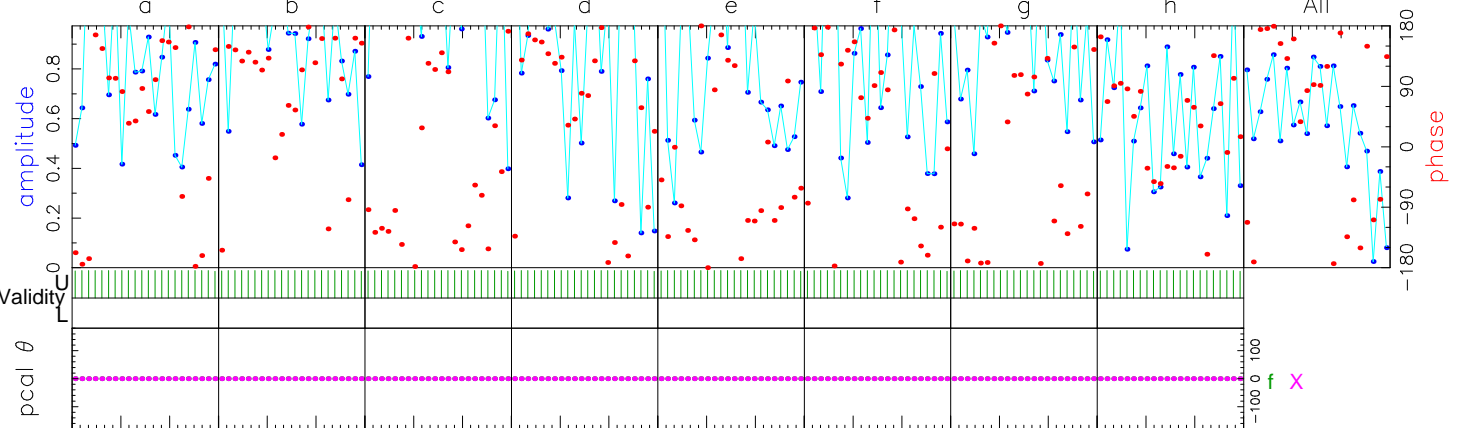
multiband delay ( $\mu$ s)



Fringe quality 9  
 SNR 11.9  
 Int time 179.846  
 Amp 0.325  
 Phase 162.3  
 PFD 2.8e-24  
 Delays (us)  
 SBD 0.011781  
 MBD 0.005891  
 Fringe rate (Hz) 0.005384  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:141959  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.56598455059E+03			1.56597865966E+03				5.89093E-03	+/- 9.1E-05
Sband delay (usec)		1.56599044066E+03			-4.0457096E+01				1.17810E-02	+/- 7.2E-04
Phase delay (usec)		1.56597866489E+03			-1.2800004E-07				5.23243E-06	+/- 3.1E-07
Delay rate (us/s)		-7.97294201508E-01			-7.97294264015E-01				6.25075E-08	+/- 3.0E-09
Total phase (deg)			69.8		-4.05765346865E-05				162.3	+/- 9.6
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
RMS	63.0	22.6			0.325 +/- 0.027					
Theor.										
Amplitude										
Search (1024X32)					0.323					
Interp.					0.000					
Inc. seg. avg.					0.545					
Inc. frq. avg.					0.424					
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)									-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
PC period (AP's)					5, 5					
SampCntNorm:					enabled					
nlags:					256					
t_cohere					infinite					

f: az 323.1 el 31.6 pa 82.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8710.460 -6782.449 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX.W.109.1HT0UR

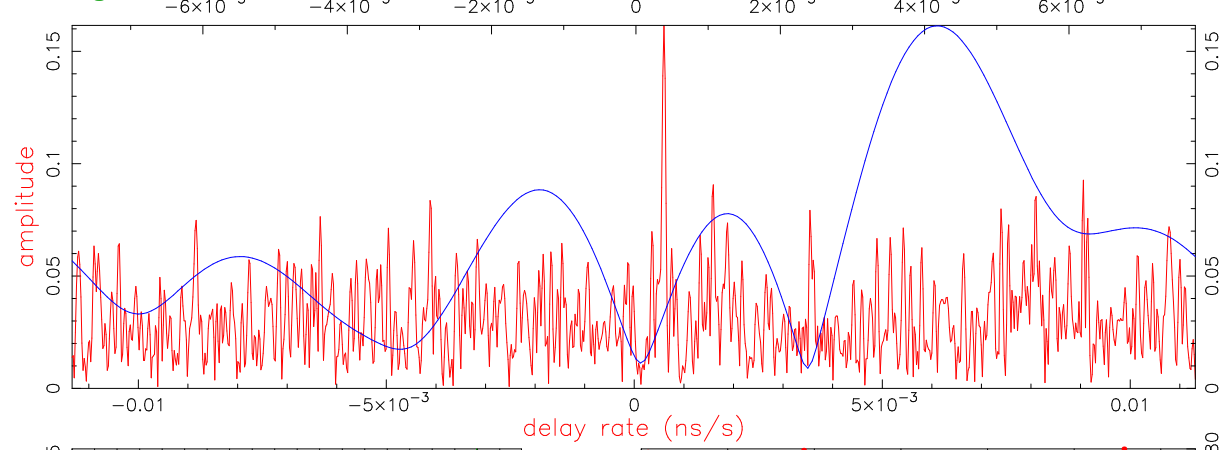
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

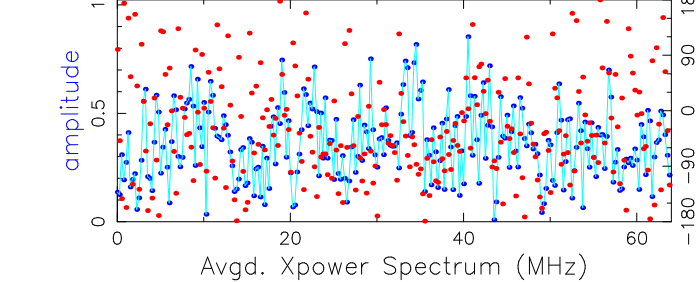
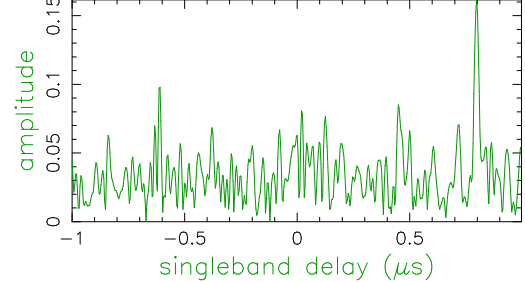
0102+584.1HT0UR, No0131, fX

VLBA\_FD - ONSALA60, fgroup W, pol LR

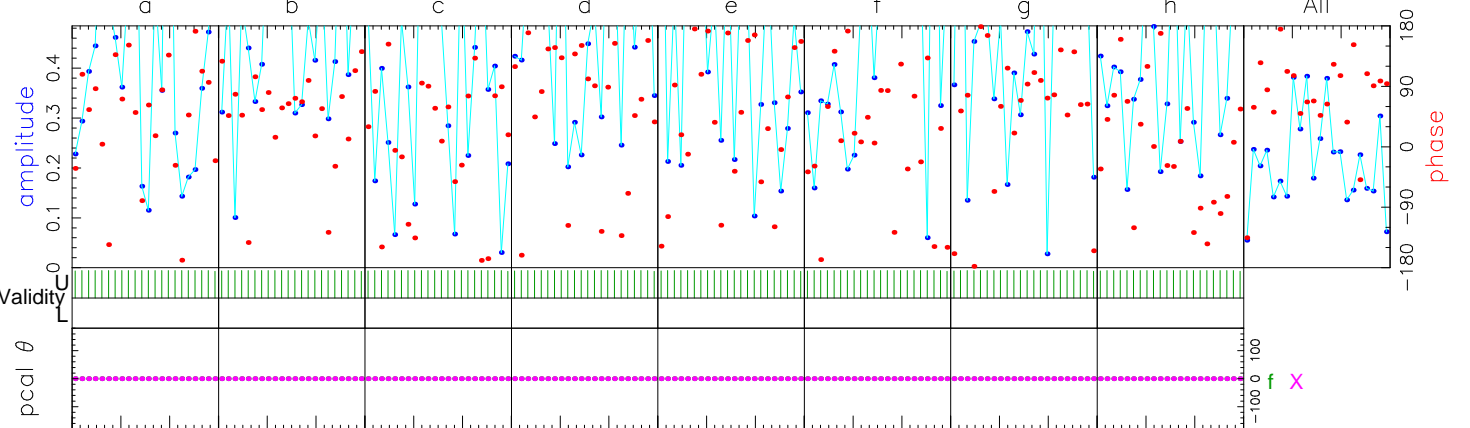
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.9  
 Int time 179.846  
 Amp 0.162  
 Phase 84.8  
 PFD 3.4e-01  
 Delays (us)  
 SBD 0.796846  
 MBD 0.004175  
 Fringe rate (Hz) 0.052294  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142001  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	1.56677970922E+03	Apriori delay (usec)	1.56597865966E+03	Resid mbdelay (usec)	4.17456E-03	+/-	1.8E-04
Sband delay (usec)	1.56677550541E+03	Apriori clock (usec)	-4.0457096E+01	Resid sbdelay (usec)	7.96846E-01	+/-	1.5E-03
Phase delay (usec)	1.56597866239E+03	Apriori clockrate (us/s)	-1.2800004E-07	Resid phdelay (usec)	2.73420E-06	+/-	6.2E-07
Delay rate (us/s)	-7.97293656929E-01	Apriori rate (us/s)	-7.97294264015E-01	Resid rate (us/s)	6.07087E-07	+/-	6.0E-09
Total phase (deg)	352.3	Apriori accel (us/s/s)	-4.05765346865E-05	Resid phase (deg)	84.8	+/-	19.4

ph/seg (deg)	53.7	Theor.	45.4	Amplitude	0.162 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	64.4		79.3	Search (1024X32)	0.154	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	46.5		27.4	Inc. seg. avg.	0.164	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	61.4		47.8	Inc. frq. avg.	0.170	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	
						Data rate (Mb/s):	2048	ion window (TEC)	0.00 0.00	

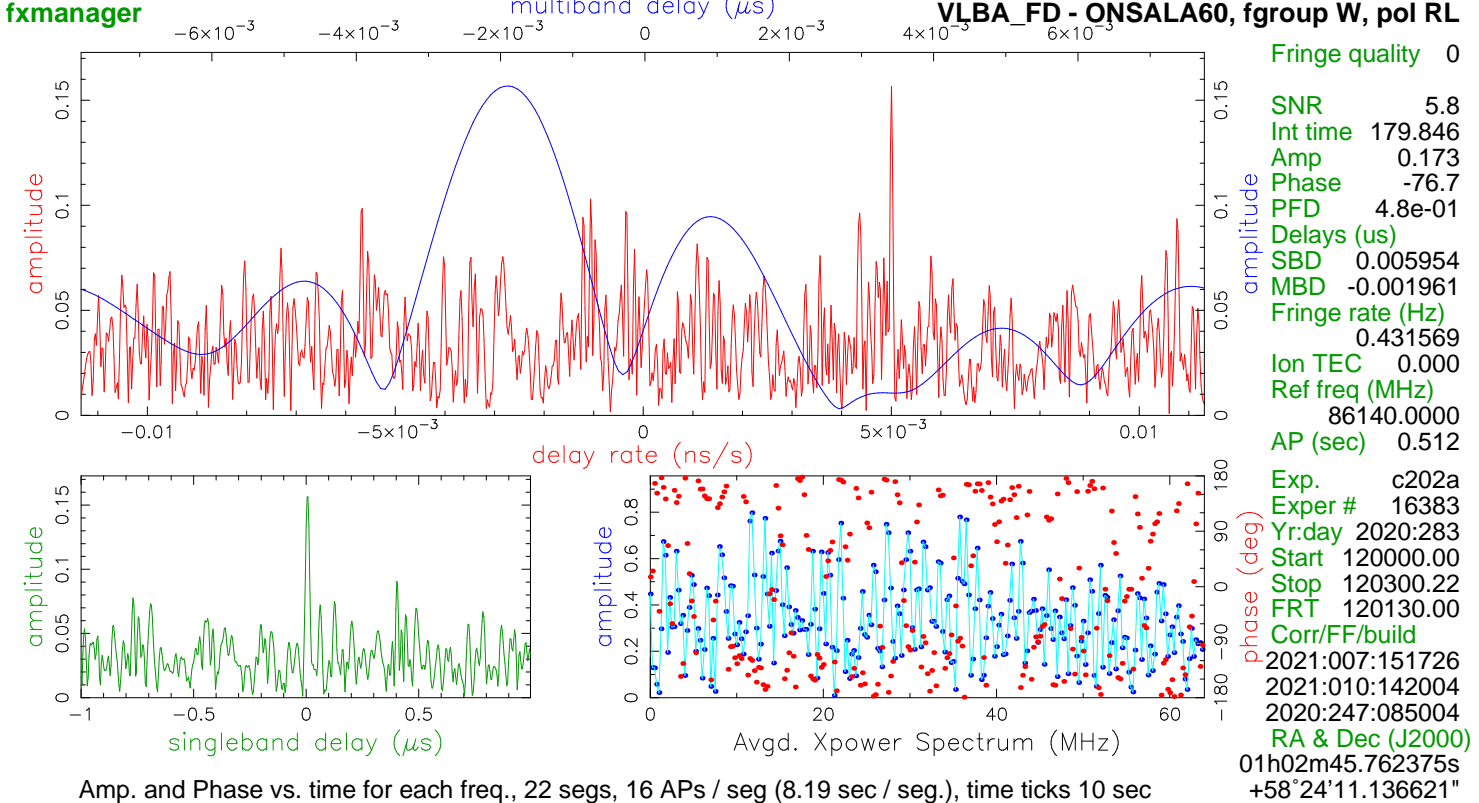
f: az 323.1 el 31.6 pa 82.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8710.460 -6782.449 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX.W.134.1HT0UR

Mk4/DiFX fourfit 3.21 rev 2937

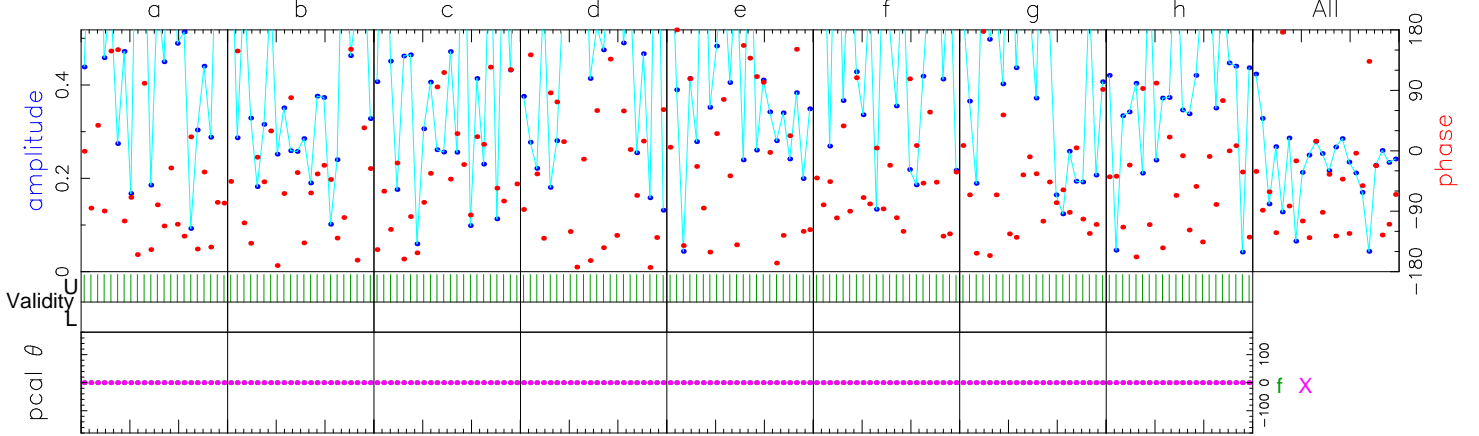
fxmanager

0102+584.1HT0UR, No0131, fX

VLBA\_FD - ONSALA60, 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
-89.8	-67.8	-56.9	-110.9	168.8	-71.1	-83.6	-59.6	Phase	-76.7
0.2	0.2	0.2	0.1	0.0	0.3	0.2	0.2	Ampl.	0.2
59.4	251.4	142.4	436.9	210.1	258.9	206.8	206.9	Sbd box	258.5
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	
X 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:X 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:X 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	
X 1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks

Group delay (usec)(sbd)	1.56599232360E+03	Apriori delay (usec)	1.56597865966E+03	Resid mbdelay (usec)	-1.96106E-03	+/-	1.9E-04
Sband delay (usec)	1.56598461391E+03	Apriori clock (usec)	-4.0457096E+01	Resid sbdelay (usec)	5.95425E-03	+/-	1.5E-03
Phase delay (usec)	1.56597865719E+03	Apriori clockrate (us/s)	-1.2800004E-07	Resid phdelay (usec)	-2.47252E-06	+/-	6.3E-07
Delay rate (us/s)	-7.97289253925E-01	Apriori rate (us/s)	-7.97294264015E-01	Resid rate (us/s)	5.01009E-06	+/-	6.1E-09
Total phase (deg)	190.8	Apriori accel (us/s/s)	-4.05765346865E-05	Resid phase (deg)	-76.7	+/-	19.6

ph/seg (deg)	58.3	Theor.	46.0	Amplitude	0.173 +/- 0.030	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	67.0		80.3	Search (1024X32)	0.153	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	50.5		27.7	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	49.4		48.4	Inc. seg. avg.	0.188	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.164	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

f: az 323.1 el 31.6 pa 82.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8710.460 -6782.449 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX.W.157.1HT0UR

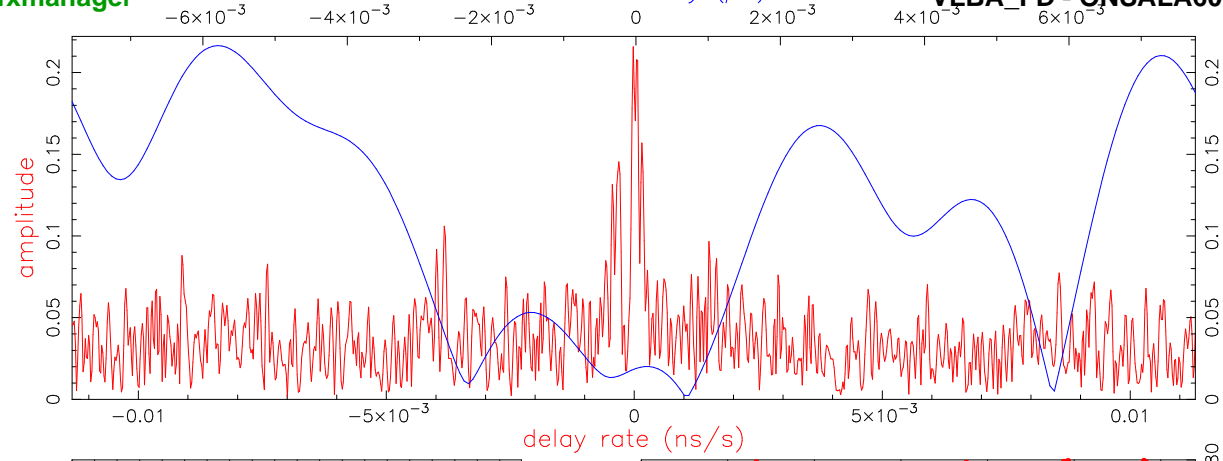
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, fX

VLBA\_FD - ONSALA60, fgroup W, pol LL

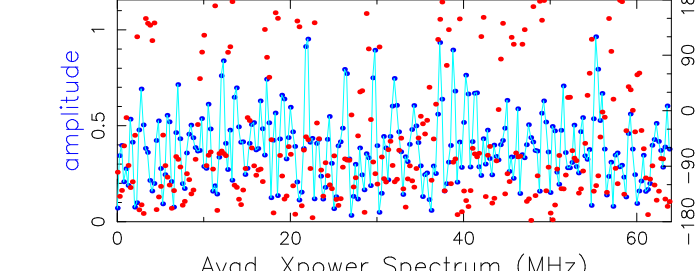
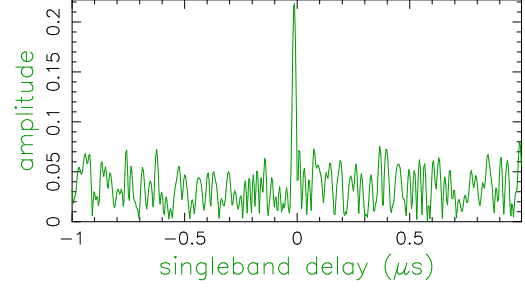
multiband delay ( $\mu$ s)



Fringe quality 9

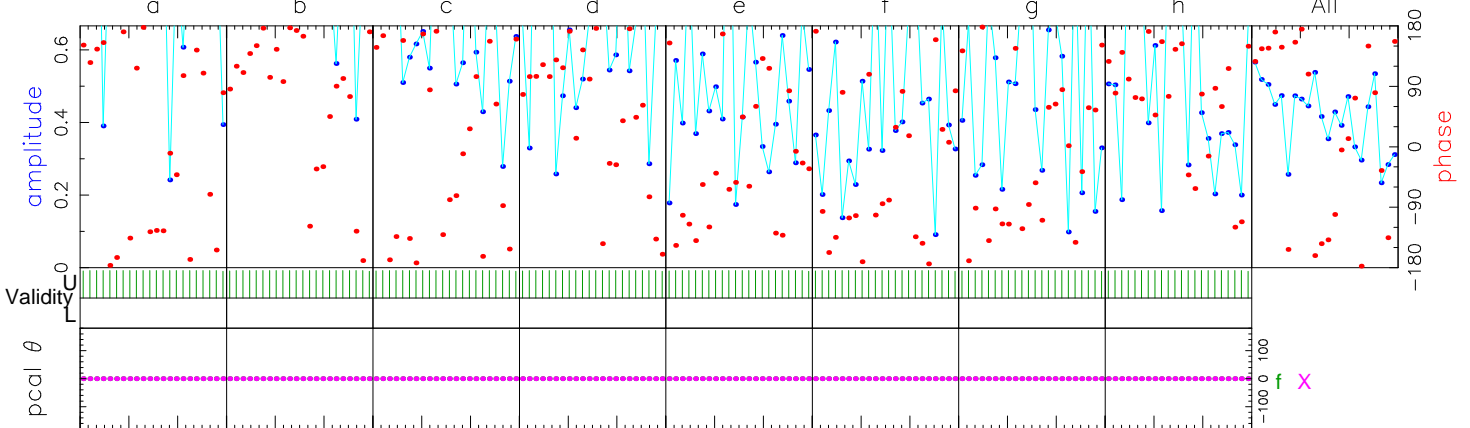
SNR 8.1  
 Int time 179.846  
 Amp 0.222  
 Phase 158.8  
 PFD 6.5e-08  
 Delays (us)  
 SBD -0.013458  
 MBD -0.005695  
 Fringe rate (Hz)  
 -0.001700  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:141957  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	178.1	130.3	-179.8	113.2	-79.2	-117.4	-140.8	98.6	Phase	158.8
	0.6	0.6	0.3	0.3	0.2	0.1	0.1	0.3	Ampl.	0.3
	253.6	252.9	253.0	252.7	33.4	61.8	179.1	251.6	Sbd box	253.6
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.56597296505E+03		Apriori delay (usec)		1.56597865966E+03		Resid mbdelay (usec)		-5.69461E-03	+/- 1.3E-04
Sband delay (usec)	1.56596520166E+03		Apriori clock (usec)		-4.0457096E+01		Resid sbdelay (usec)		-1.34580E-02	+/- 1.1E-03
Phase delay (usec)	1.56597866478E+03		Apriori clockrate (us/s)		-1.2800004E-07		Resid phdelay (usec)		5.12129E-06	+/- 4.5E-07
Delay rate (us/s)	-7.97294283749E-01		Apriori rate (us/s)		-7.97294264015E-01		Resid rate (us/s)		-1.97333E-08	+/- 4.4E-09
Total phase (deg)	66.3		Apriori accel (us/s/s)		-4.05765346865E-05		Resid phase (deg)		158.8	+/- 14.1

ph/seg (deg) 73.9 33.0 Search (1024X32) 0.216 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 97.9 57.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 74.0 19.9 Inc. seg. avg. 0.359 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 92.2 34.7 Inc. frq. avg. 0.303 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 323.1 el 31.6 pa 82.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8710.460 -6782.449 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/fX.W.92.1HT0UR

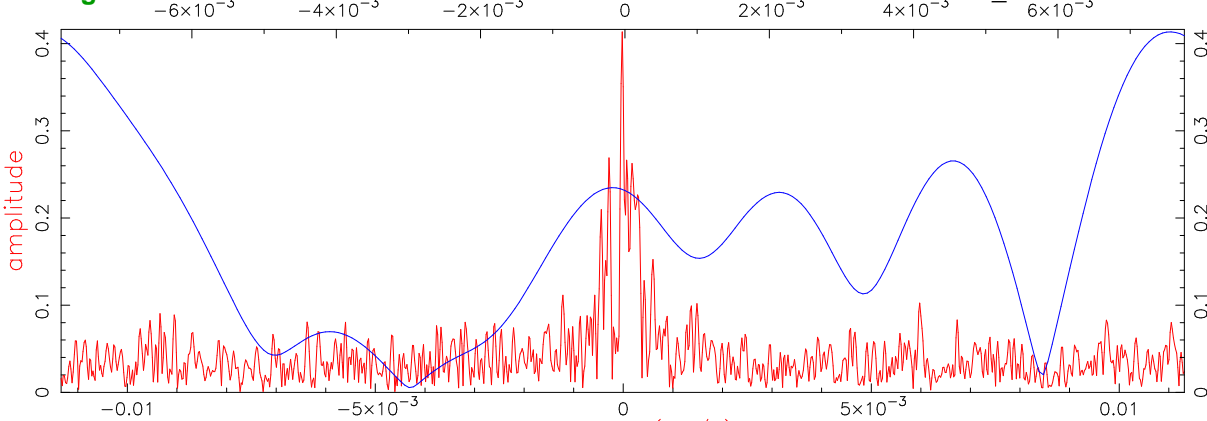
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, kX

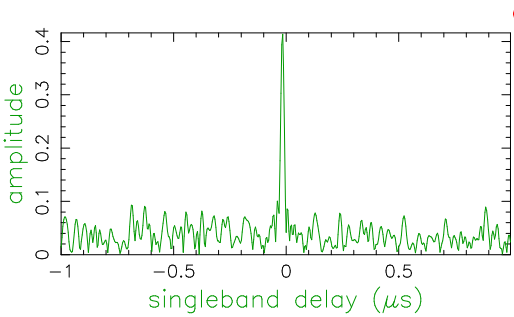
VLBA\_KP - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

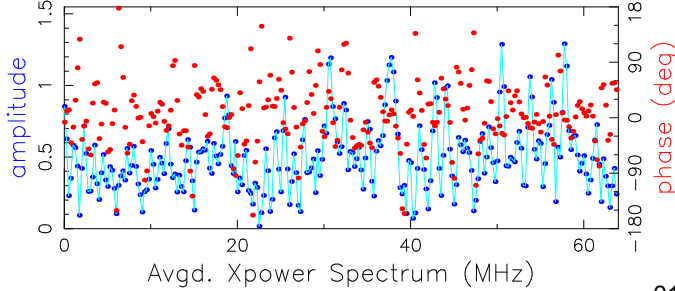


Fringe quality 7

SNR 15.3  
 Int time 179.893  
 Amp 0.416  
 Phase 84.5  
 PFD 3.8e-44  
 Delays (us)  
 SBD -0.016634  
 MBD 0.007560  
 Fringe rate (Hz)  
 -0.002318  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

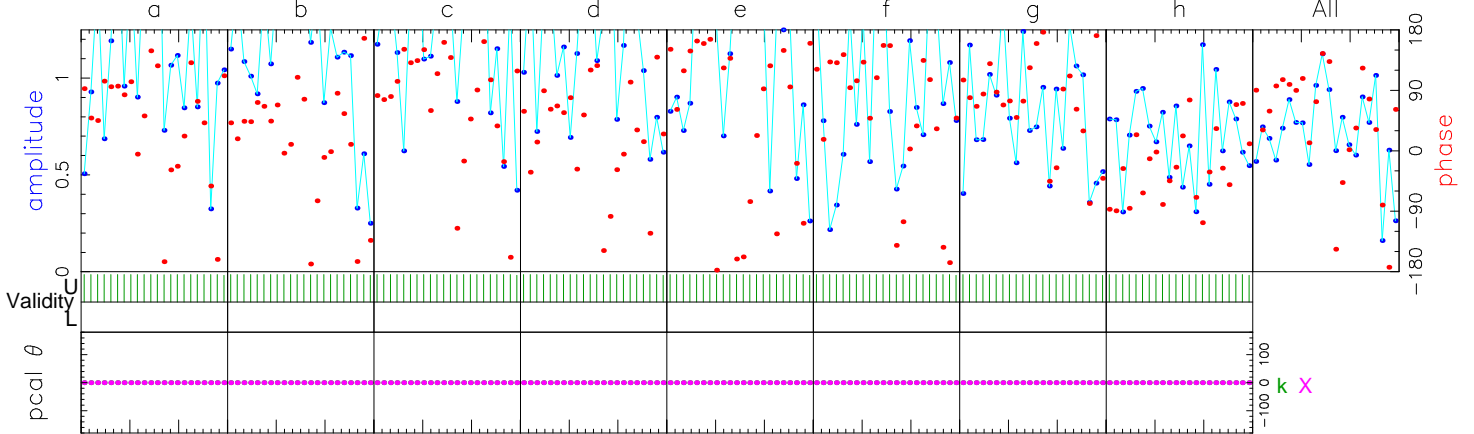


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142007  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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)	3.10991169642E+03	Apriori delay (usec)		3.10993538597E+03	Resid mbdelay (usec)		7.56045E-03	+/- 7.1E-05	
Sband delay (usec)	3.10991875197E+03	Apriori clock (usec)		-4.7967560E+01	Resid sbdelay (usec)		-1.66340E-02	+/- 5.6E-04	
Phase delay (usec)	3.10993538869E+03	Apriori clockrate (us/s)		-4.2800003E-07	Resid phdelay (usec)		2.72392E-06	+/- 2.4E-07	
Delay rate (us/s)	-7.64238352820E-01	Apriori rate (us/s)		-7.64238325910E-01	Resid rate (us/s)		-2.69096E-08	+/- 2.3E-09	
Total phase (deg)	137.4		Apriori accel (us/s/s)		-4.69301890202E-05	Resid phase (deg)		84.5	+/- 7.5

	RMS	Theor.	Amplitude	0.416 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	68.2	17.6	Search (1024X32)	0.404	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	89.3	30.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	60.4	10.6	Inc. seg. avg.	0.684	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	47.0	18.5	Inc. frq. avg.	0.571	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

k: az 322.1 el 36.6 pa 87.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8342.682 -7504.367 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX.W.168.1HT0UR



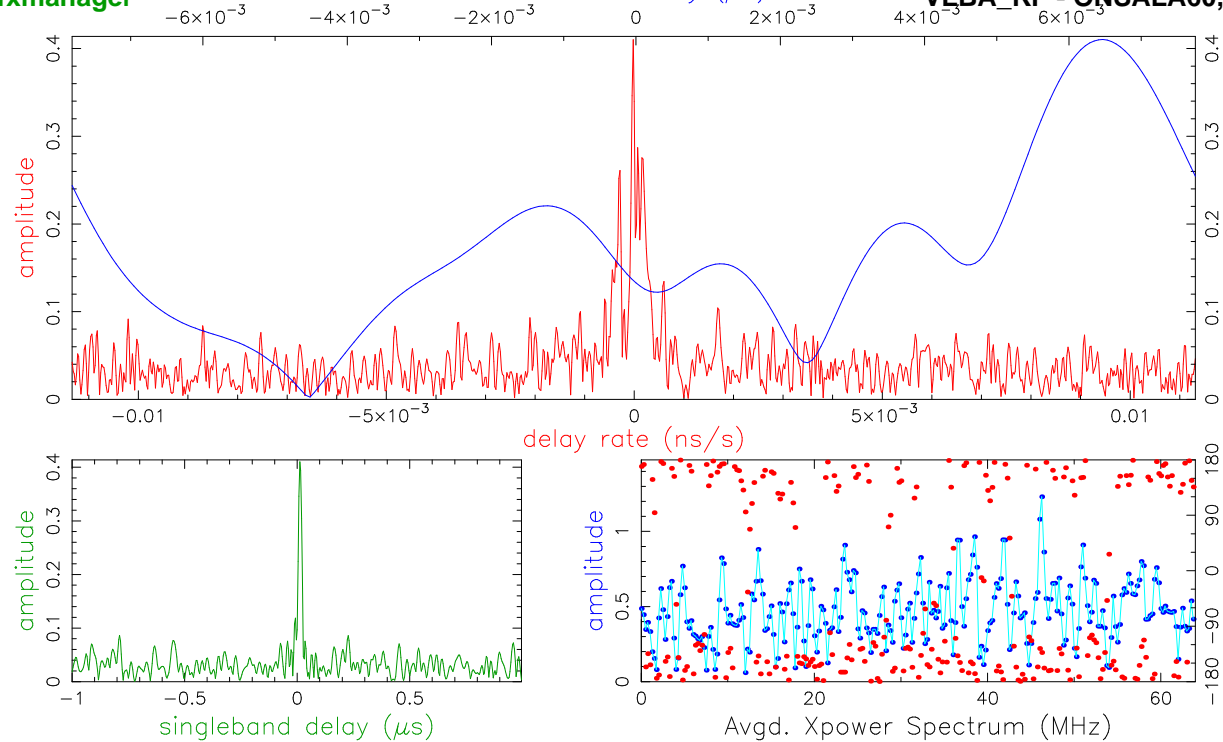
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, kX

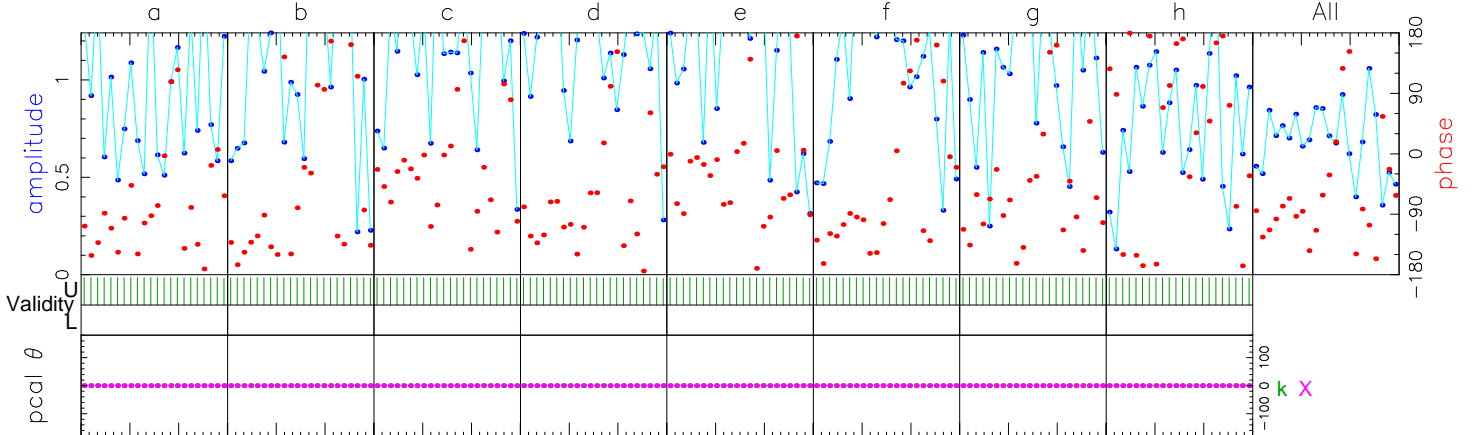
VLBA\_KP - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)



Fringe quality 7  
 SNR 15.2  
 Int time 179.893  
 Amp 0.414  
 Phase -96.2  
 PFD 1.5e-43  
 Delays (us)  
 SBD 0.012886  
 MBD 0.006494  
 Fringe rate (Hz) -0.001610  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142009  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-109.6	-140.6	-40.3	-95.6	-44.0	-116.1	-92.1	167.3	Phase	-96.2
	0.5	0.6	0.5	0.7	0.7	0.6	0.5	0.3	Ampl.	0.5
	260.1	260.8	260.7	259.5	259.3	260.3	259.0	257.2	Sbd box	260.3
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd) 3.10994188001E+03 Apriori delay (usec) 3.10993538597E+03 Resid mbdelay (usec) 6.49404E-03 +/- 7.1E-05  
 Sband delay (usec) 3.10994827172E+03 Apriori clock (usec) -4.7967560E+01 Resid sbdelay (usec) 1.28858E-02 +/- 5.7E-04  
 Phase delay (usec) 3.10993538286E+03 Apriori clockrate (us/s) -4.2800003E-07 Resid phdelay (usec) -3.10165E-06 +/- 2.4E-07  
 Delay rate (us/s) -7.64238344606E-01 Apriori rate (us/s) -7.64238325910E-01 Resid rate (us/s) -1.86960E-08 +/- 2.3E-09  
 Total phase (deg) -43.2 Apriori accel (us/s/s) -4.69301890202E-05 Resid phase (deg) -96.2 +/- 7.5

RMS Theor. Amplitude 0.414 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 64.3 17.7 Search (1024X32) 0.407 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 78.9 30.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 54.3 10.7 Inc. seg. avg. 0.661 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 40.1 18.6 Inc. frq. avg. 0.530 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

k: az 322.1 el 36.6 pa 87.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8342.682 -7504.367 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX.W.191.1HT0UR

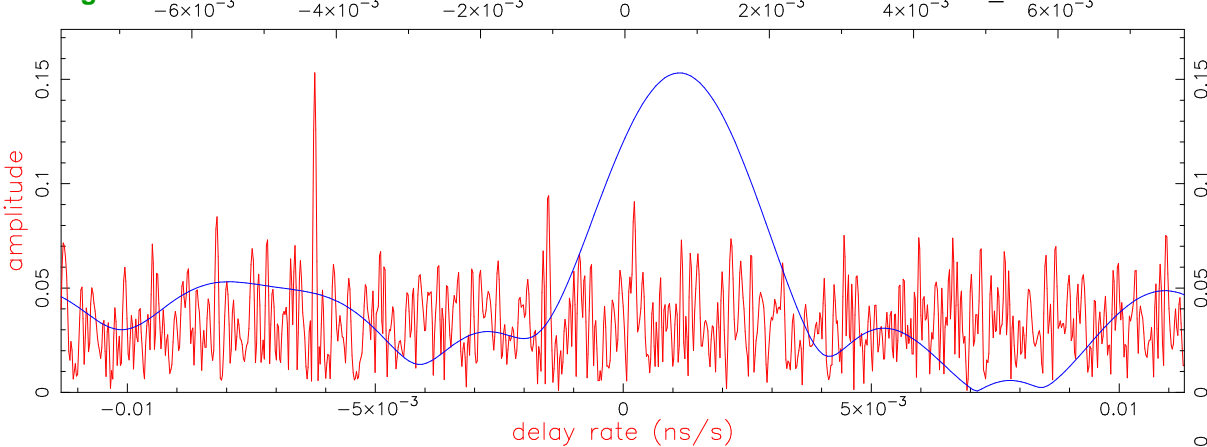
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, kX

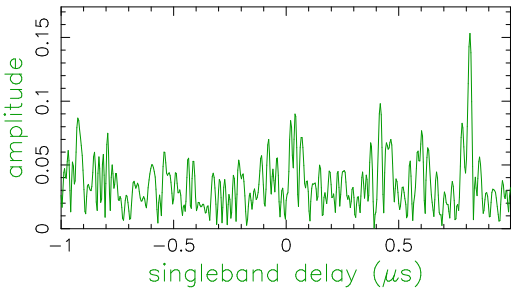
VLBA\_KP - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

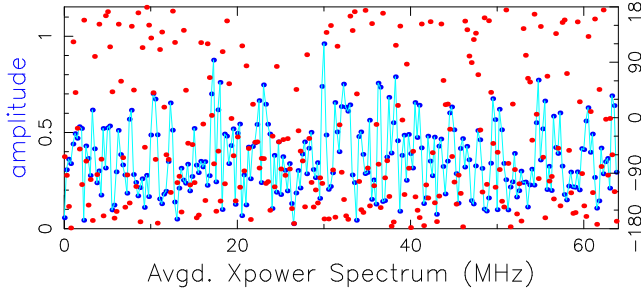


Fringe quality 0

SNR 5.6  
 Int time 179.893  
 Amp 0.174  
 Phase -92.6  
 PFD 9.0e-01  
 Delays (us)  
 SBD 0.816133  
 MBD 0.000744  
 Fringe rate (Hz)  
 -0.536355  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

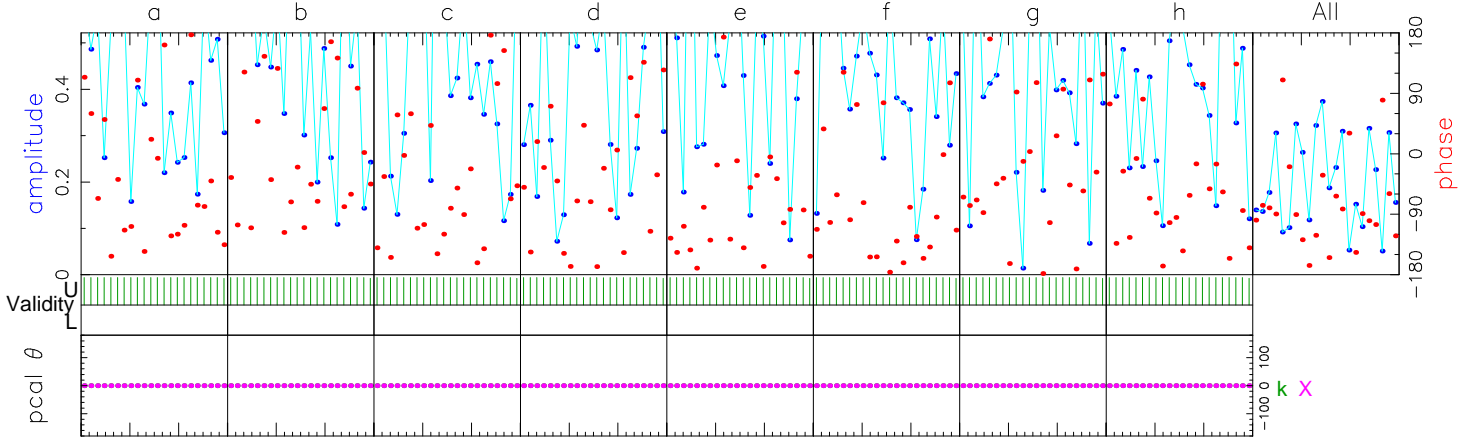


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142011  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-86.8	-68.0	-105.1	-71.7	-109.3	-116.2	-60.7	-83.8	Phase	-92.6
	0.1	0.1	0.3	0.1	0.3	0.2	0.1	0.2	Ampl.	0.2
	7.9	206.5	122.7	237.3	229.7	101.2	363.0	233.9	Sbd box	465.9
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	
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	Manl 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	
									Tracks	
Group delay (usec)(sbd)	3.11074863011E+03		Apriori delay (usec)		3.10993538597E+03		Resid mbdelay (usec)		7.44142E-04	+/- 1.9E-04
Sband delay (usec)	3.11075151922E+03		Apriori clock (usec)		-4.7967560E+01		Resid sbdelay (usec)		8.16133E-01	+/- 1.5E-03
Phase delay (usec)	3.10993538298E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-2.98668E-06	+/- 6.6E-07
Delay rate (us/s)	-7.6424452461E-01		Apriori rate (us/s)		-7.64238325910E-01		Resid rate (us/s)		-6.22655E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.69301890202E-05		Resid phase (deg)		-92.6	+/- 20.4

	RMS	Theor.	Amplitude	0.174 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000 1.000
ph/seg (deg)	66.3	47.8	Search (1024X32)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/seg (%)	71.2	83.5	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011 0.011
ph/frq (deg)	23.0	28.8	Inc. seg. avg.	0.170	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00 0.00
amp/frq (%)	38.9	50.3	Inc. frq. avg.	0.163				

k: az 322.1 el 36.6 pa 87.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8342.682 -7504.367 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX.W.210.1HT0UR

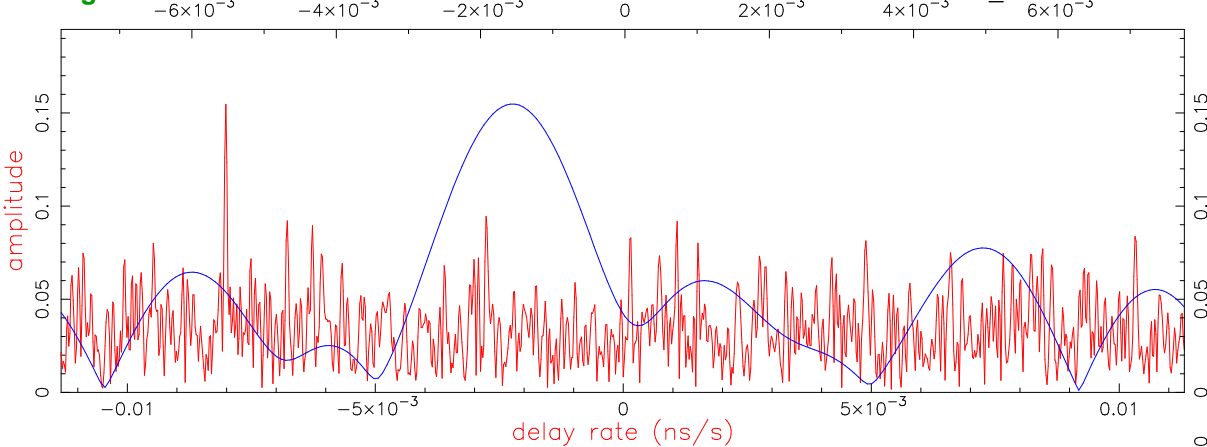
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, kX

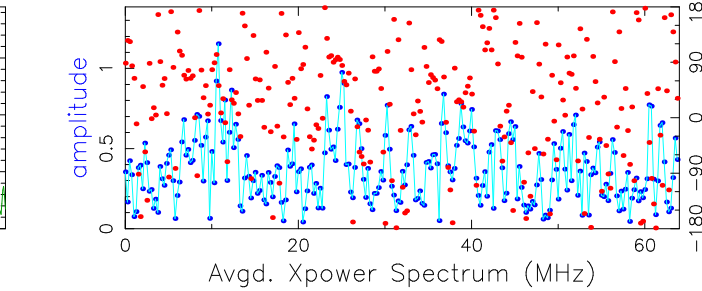
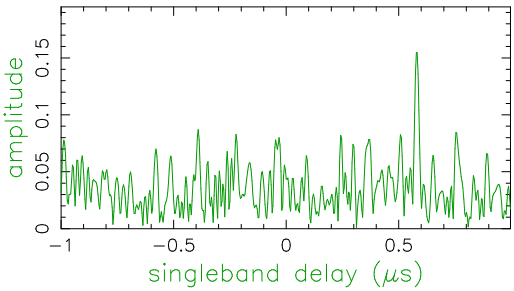
VLBA\_KP - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)



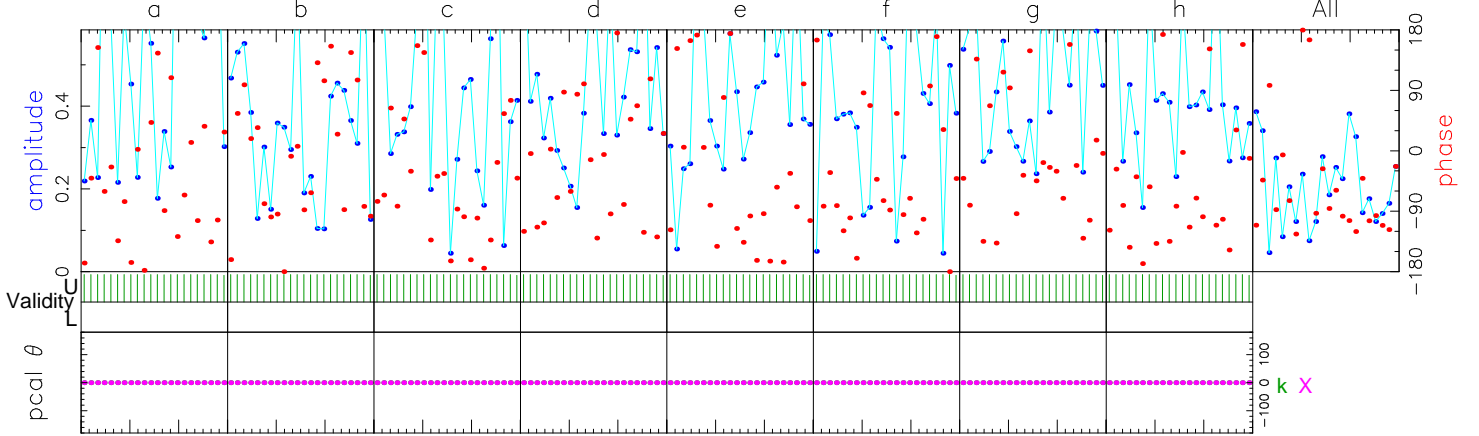
Fringe quality 0

SNR 5.8  
 Int time 179.893  
 Amp 0.195  
 Phase -87.7  
 PFD 6.5e-01  
 Delays (us)  
 SBD 0.580023  
 MBD -0.001512  
 Fringe rate (Hz)  
 -0.692394  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142014  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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		

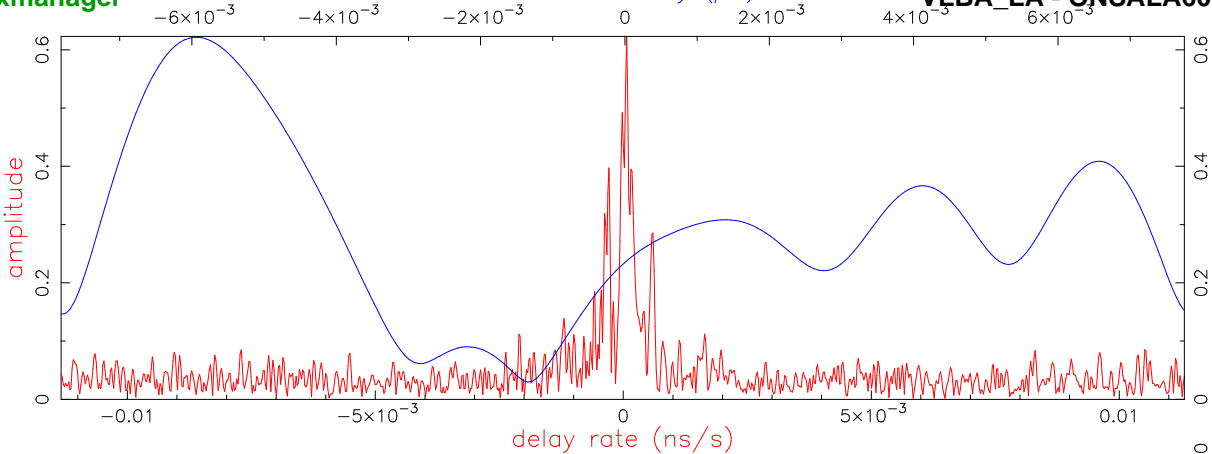
Group delay (usec)(sbd)	3.11051199929E+03	Apriori delay (usec)	3.10993538597E+03	Resid mbdelay (usec)	-1.51168E-03	+/-	1.9E-04
Sband delay (usec)	3.11051540922E+03	Apriori clock (usec)	-4.7967560E+01	Resid sbdelay (usec)	5.80023E-01	+/-	1.5E-03
Phase delay (usec)	3.10993538314E+03	Apriori clockrate (us/s)	-4.2800003E-07	Resid phdelay (usec)	-2.82806E-06	+/-	6.4E-07
Delay rate (us/s)	-7.64246363924E-01	Apriori rate (us/s)	-7.64238325910E-01	Resid rate (us/s)	-8.03801E-06	+/-	6.2E-09
Total phase (deg)		Apriori accel (us/s/s)	-4.69301890202E-05	Resid phase (deg)	-87.7	+/-	19.9

ph/seg (deg)	58.6	Theor.	46.7	Amplitude	0.195 +/- 0.034	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	68.7		81.4	Search (1024X32)	0.152	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	33.7		28.1	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	41.6		49.1	Inc. seg. avg.	0.192	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.187	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 322.1 el 36.6 pa 87.0 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8342.682 -7504.367 simultaneous interpolator

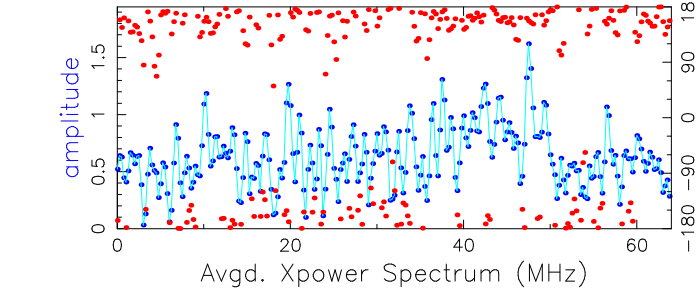
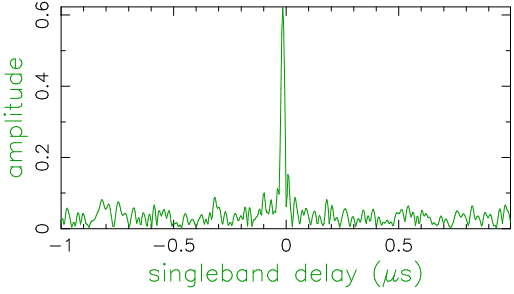
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/kX.W.233.1HT0UR

multiband delay ( $\mu$ s)



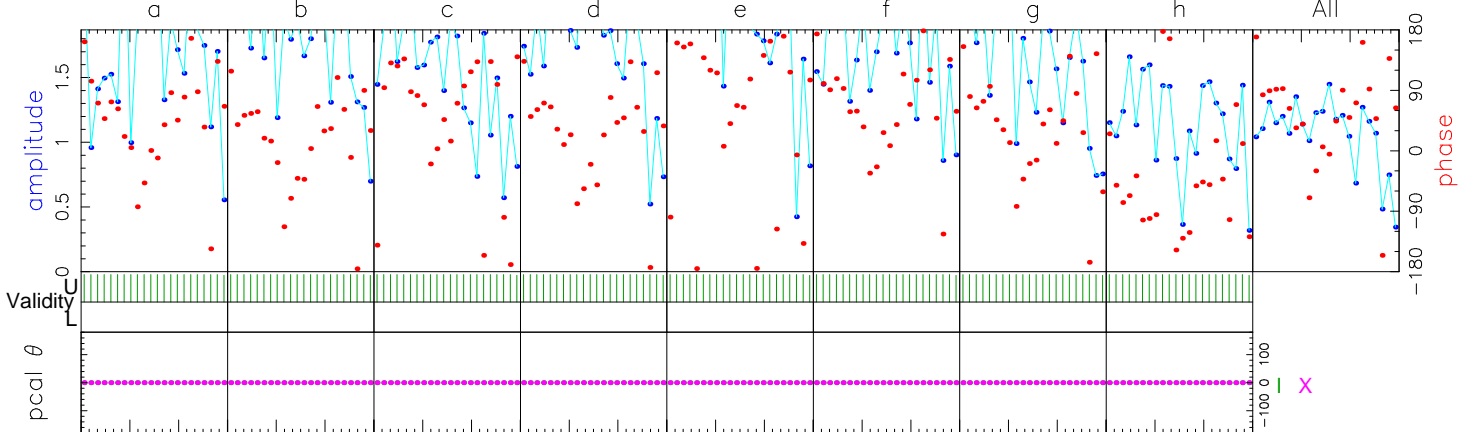
Fringe quality 7

SNR 22.9  
 Int time 179.959  
 Amp 0.623  
 Phase 64.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.014992  
 MBD -0.005942  
 Fringe rate (Hz) 0.005384  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142008  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)		3.16554374791E+03			3.16556531532E+03					
Sband delay (usec)		3.16555032282E+03			-4.8685539E+01					
Phase delay (usec)		3.16556531738E+03			-6.2800004E-07					
Delay rate (us/s)		-7.52829681357E-01			-7.52829743863E-01					
Total phase (deg)			158.2							
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)									64.0	+/- 5.0
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)										-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
PC period (AP's) 5, 5										
PC freqs										
PC phase										
ManI PC										
PC amp										
Chan ids										
Tracks										
Chan ids										
Tracks										
RMS	62.9	11.8								
Theor.										
Amplitude					0.623 +/- 0.027					
Search (1024X32)					0.617					
Interp.					0.000					
Inc. seg. avg.					1.047					
Inc. frq. avg.					0.902					
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										
u,v (fr/asec) 8221.418 -6603.981										
simultaneous interpolator										

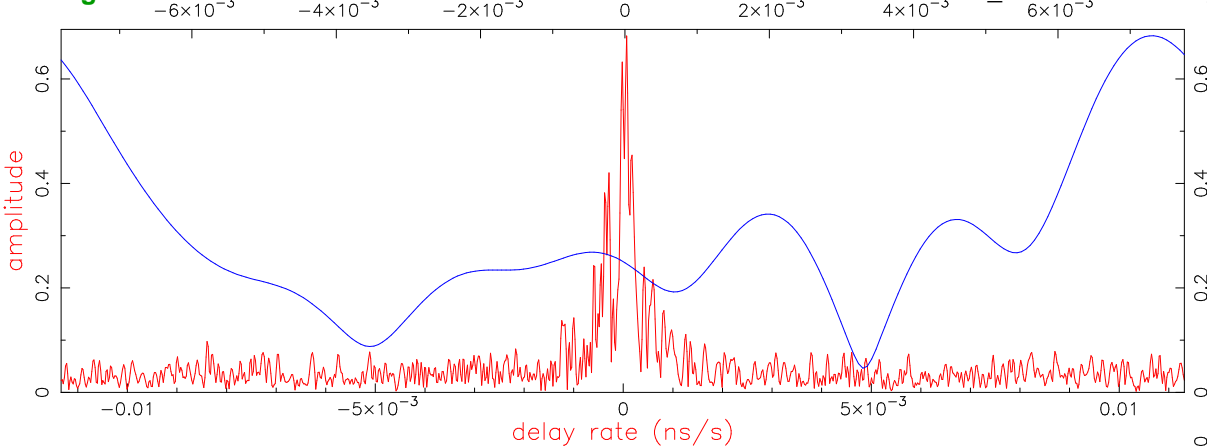
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, IX

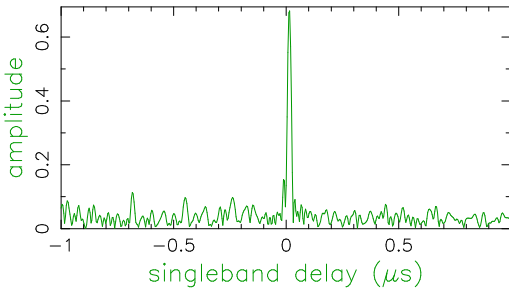
VLBA\_LA - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

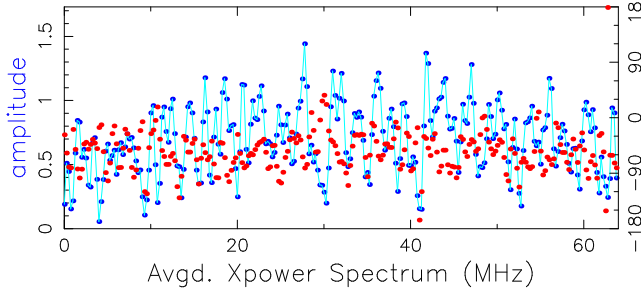


Fringe quality 5

SNR 25.5  
 Int time 179.959  
 Amp 0.695  
 Phase 19.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.013871  
 MBD 0.007258  
 Fringe rate (Hz) 0.005319  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

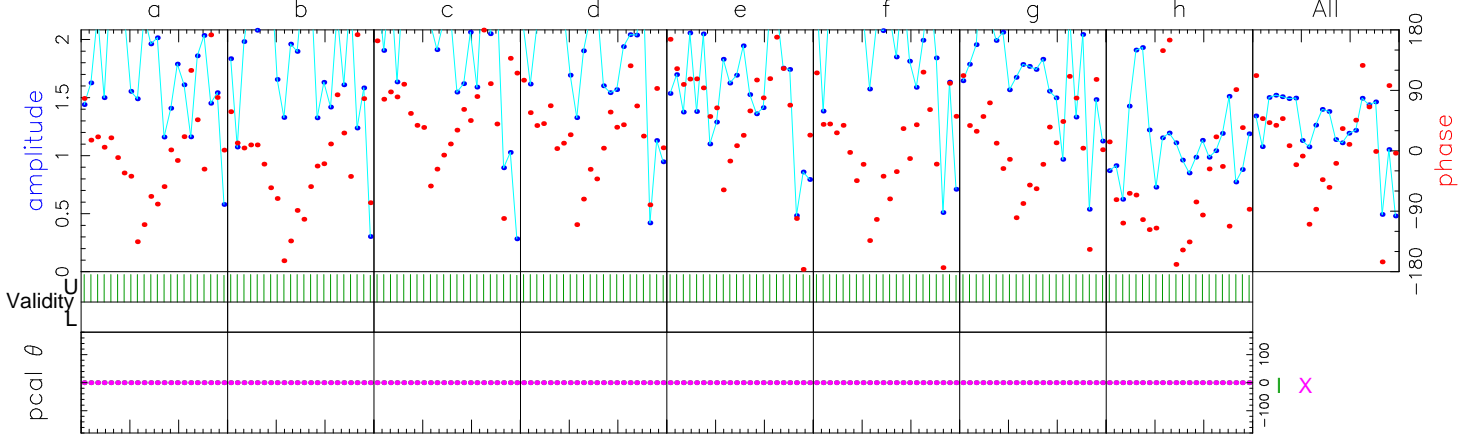


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142010  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-10.1	-24.4	59.6	28.7	87.6	12.2	19.2	-91.4		19.2
	0.9	0.9	1.1	1.2	0.9	1.0	0.9	0.6		0.9
	260.4	261.0	260.6	260.2	259.9	260.3	259.5	257.9		260.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks

Group delay (usec)(sbd)	3.16557257359E+03	Apriori delay (usec)	3.16556531532E+03	Resid mbdelay (usec)	7.25827E-03	+/-	4.3E-05
Sband delay (usec)	3.16557918582E+03	Apriori clock (usec)	-4.8685539E+01	Resid sbdelay (usec)	1.38705E-02	+/-	3.4E-04
Phase delay (usec)	3.16556531594E+03	Apriori clockrate (us/s)	-6.2800004E-07	Resid phdelay (usec)	6.18904E-07	+/-	1.4E-07
Delay rate (us/s)	-7.52829682114E-01	Apriori rate (us/s)	-7.52829743863E-01	Resid rate (us/s)	6.17494E-08	+/-	1.4E-09
Total phase (deg)	113.4	Apriori accel (us/s/s)	-4.19086226675E-05	Resid phase (deg)	19.2	+/-	4.5

ph/seg (deg)	69.0	RMS	10.5	Theor.	10.5	Amplitude	0.695 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	88.7	Search (1024X32)	0.676	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)	59.8	Inc. seg. avg.	1.220	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 (%)	41.2	Inc. frq. avg.	0.920										

I: az 320.7 el 36.8 pa 80.3 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8221.418 -6603.981 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/IX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/IX.W.201.1HT0UR



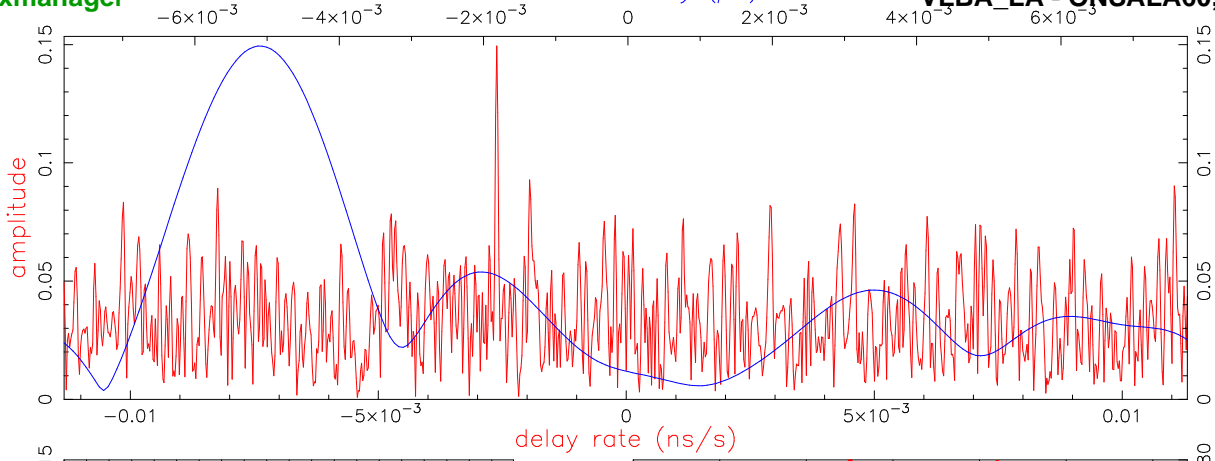
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, IX

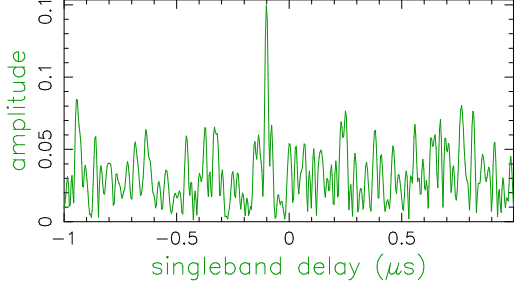
VLBA\_LA - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

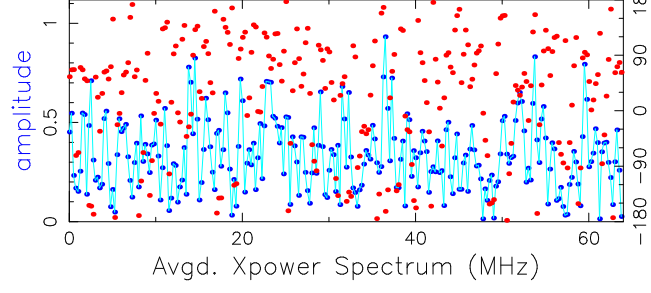


Fringe quality 0

SNR 5.5  
 Int time 179.959  
 Amp 0.153  
 Phase 61.7  
 PFD 9.9e-01  
 Delays (us)  
 SBD -0.100749  
 MBD -0.005095  
 Fringe rate (Hz)  
 -0.225137  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

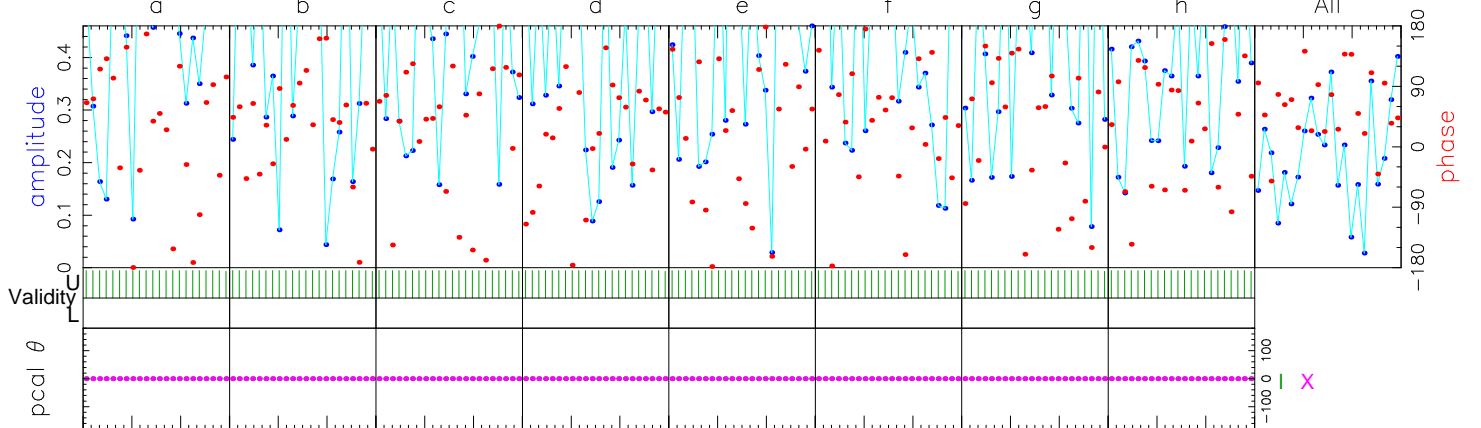


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142014  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
I	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
I	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd) 3.16546647009E+03 Apriori delay (usec) 3.16556531532E+03 Resid mbdelay (usec) -5.09523E-03 +/- 2.0E-04  
 Sband delay (usec) 3.16546456607E+03 Apriori clock (usec) -4.8685539E+01 Resid sbdelay (usec) -1.00749E-01 +/- 1.6E-03  
 Phase delay (usec) 3.16556531731E+03 Apriori clockrate (us/s) -6.2800004E-07 Resid phdelay (usec) 1.99086E-06 +/- 6.7E-07  
 Delay rate (us/s) -7.52832357475E-01 Apriori rate (us/s) -7.52829743863E-01 Resid rate (us/s) -2.61361E-06 +/- 6.4E-09  
 Total phase (deg) 155.9 Apriori accel (us/s/s) -4.19086226675E-05 Resid phase (deg) 61.7 +/- 20.8

ph/seg (deg) 50.4 48.8 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 77.8 85.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 18.1 29.4 Inc. seg. avg. 0.161 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 36.7 51.4 Inc. frq. avg. 0.141 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 I: az 320.7 el 36.8 pa 80.3 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 8221.418 -6603.981 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/IX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/IX.W.234.1HT0UR



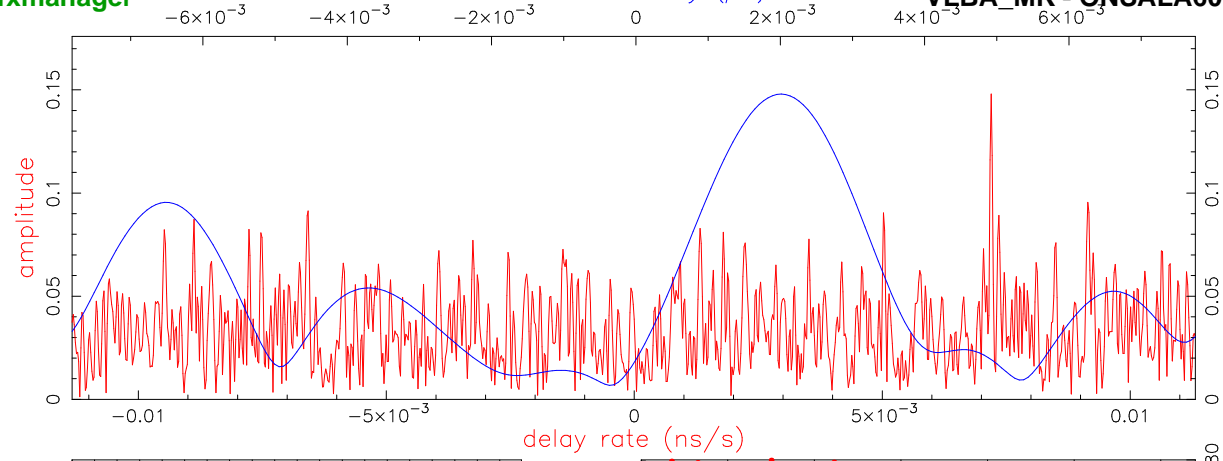
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, mX

VLBA\_MK - ONSALA60, fgroup W, pol LL

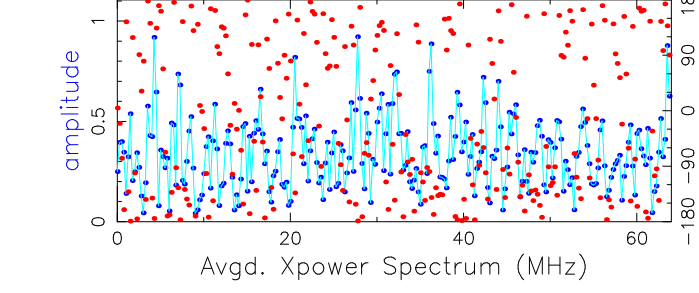
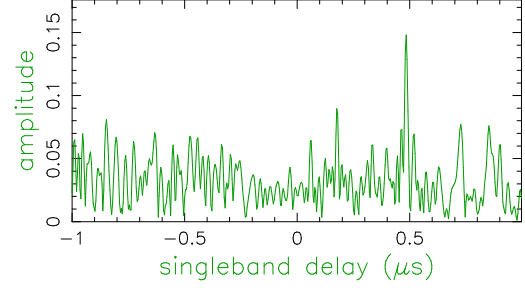
multiband delay ( $\mu$ s)



Fringe quality 0

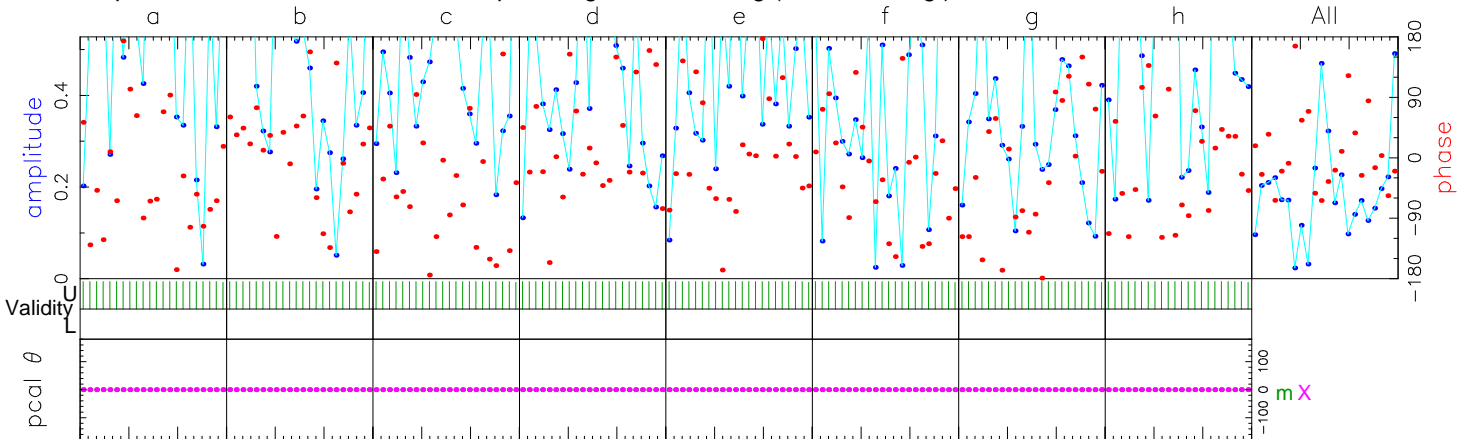
SNR 5.4  
 Int time 179.959  
 Amp 0.176  
 Phase -18.9  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.483945  
 MBD 0.001992  
 Fringe rate (Hz) 0.620221  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142015  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-59.6	24.2	-59.7	-2.0	-11.7	-17.3	-97.5	-18.6		-18.9
	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	77.0	55.7	76.6	367.7	229.7	207.6	118.9	55.6	Sbd box	380.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.94504577818E+03		Apriori delay (usec)		5.94455941095E+03		Resid mbdelay (usec)		1.99223E-03	+/- 2.0E-04
Sband delay (usec)	5.94504335595E+03		Apriori clock (usec)		-3.4937561E+01		Resid sbdelay (usec)		4.83945E-01	+/- 1.6E-03
Phase delay (usec)	5.94455941034E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-6.08883E-07	+/- 6.8E-07
Delay rate (us/s)	-4.64193002055E-01		Apriori rate (us/s)		-4.64200202208E-01		Resid rate (us/s)		7.20015E-06	+/- 6.5E-09
Total phase (deg)	218.4		Apriori accel (us/s/s)		-8.02215491025E-05		Resid phase (deg)		-18.9	+/- 21.1

ph/seg (deg) 64.1 49.4 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 81.5 86.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 44.2 29.8 Inc. seg. avg. 0.168 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 45.4 52.0 Inc. frq. avg. 0.180 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 339.8 el 46.6 pa 141.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 5026.536 -12638.272 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX.W.243.1HT0UR

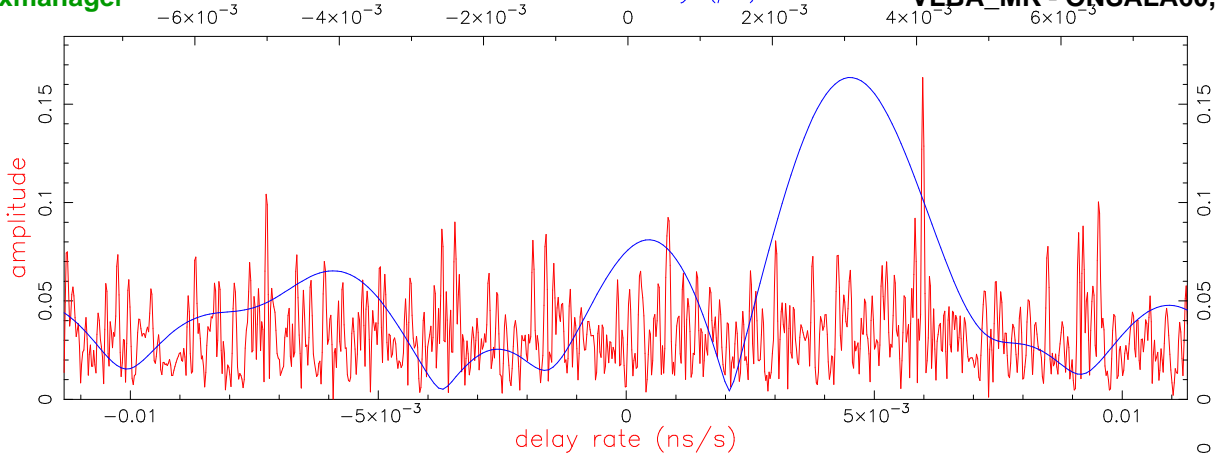
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, mX

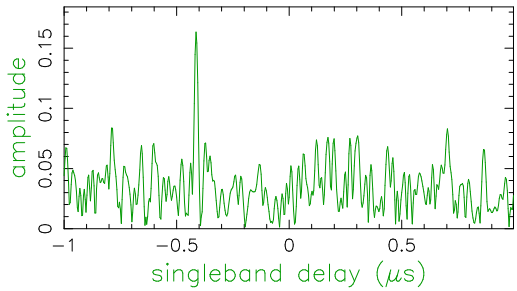
VLBA\_MK - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

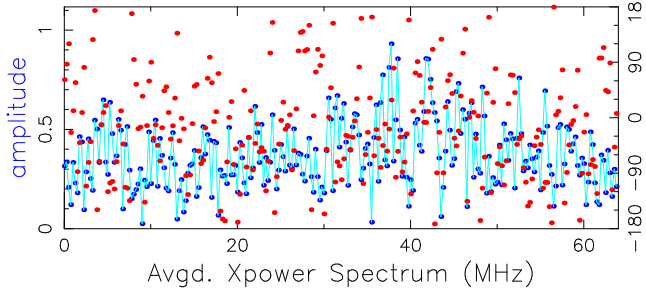


Fringe quality 0

SNR 6.0  
 Int time 179.959  
 Amp 0.184  
 Phase -145.5  
 PFD 2.1e-01  
 Delays (us)  
 SBD -0.413388  
 MBD 0.003103  
 Fringe rate (Hz)  
 0.516440  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

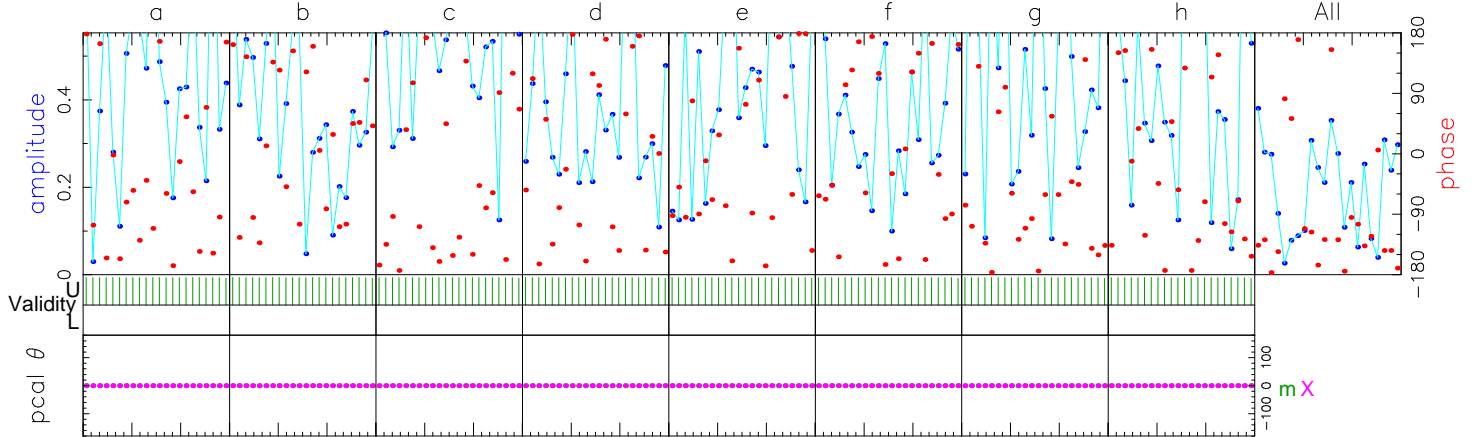


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142017  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-117.3	165.6	-157.3	174.4	-125.0	-142.0	-137.9	-150.6	Phase	-145.5
	0.2	0.1	0.3	0.1	0.2	0.2	0.3	0.2	Ampl.	0.2
	369.6	86.8	418.1	501.3	218.9	485.8	56.2	151.3	Sbd box	151.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.94414063925E+03		Apriori delay (usec)		5.94455941095E+03		Resid mbdelay (usec)		3.10330E-03	+/- 1.8E-04
Sband delay (usec)	5.94414602345E+03		Apriori clock (usec)		-3.4937561E+01		Resid sbdelay (usec)		-4.13388E-01	+/- 1.4E-03
Phase delay (usec)	5.94455940626E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-4.69202E-06	+/- 6.1E-07
Delay rate (us/s)	-4.64194206851E-01		Apriori rate (us/s)		-4.64200202208E-01		Resid rate (us/s)		5.99536E-06	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		-8.02215491025E-05		Resid phase (deg)		-145.5	+/- 19.1

	RMS	Theor.	Amplitude	0.184 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	61.5	44.7	Search (1024X32)	0.161	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
amp/seg (%)	68.4	78.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	30.1	26.9	Inc. seg. avg.	0.171	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	38.4	47.0	Inc. frq. avg.	0.178	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

m: az 339.8 el 46.6 pa 141.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 5026.536 -12638.272 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX.W.250.1HT0UR

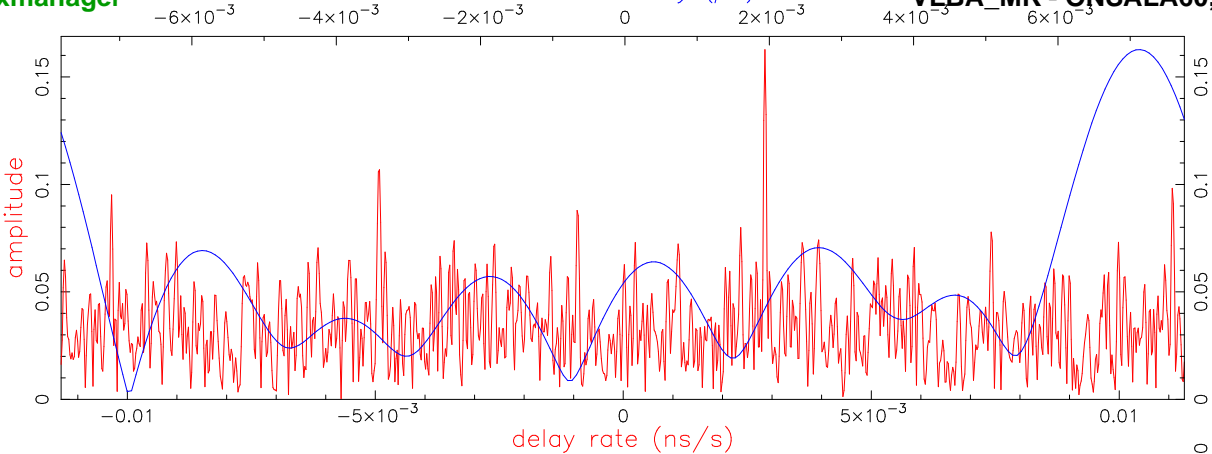
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, mX

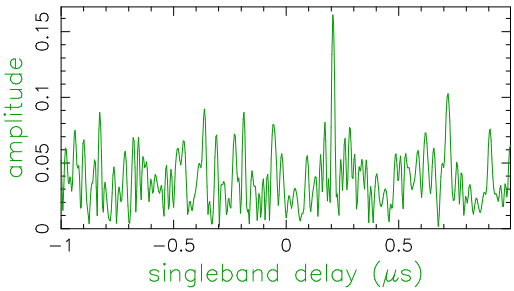
VLBA\_MK - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

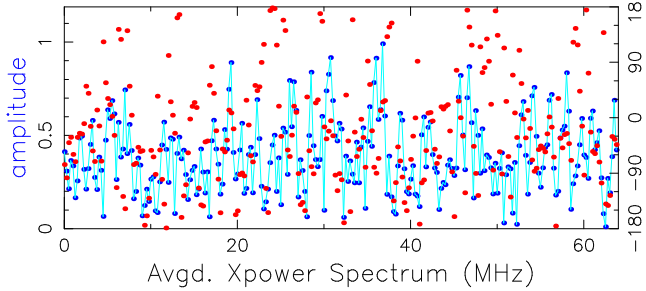


Fringe quality 0

SNR 6.0  
 Int time 179.959  
 Amp 0.169  
 Phase 119.4  
 PFD 1.9e-01  
 Delays (us)  
 SBD 0.208214  
 MBD 0.007146  
 Fringe rate (Hz)  
 0.246100  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

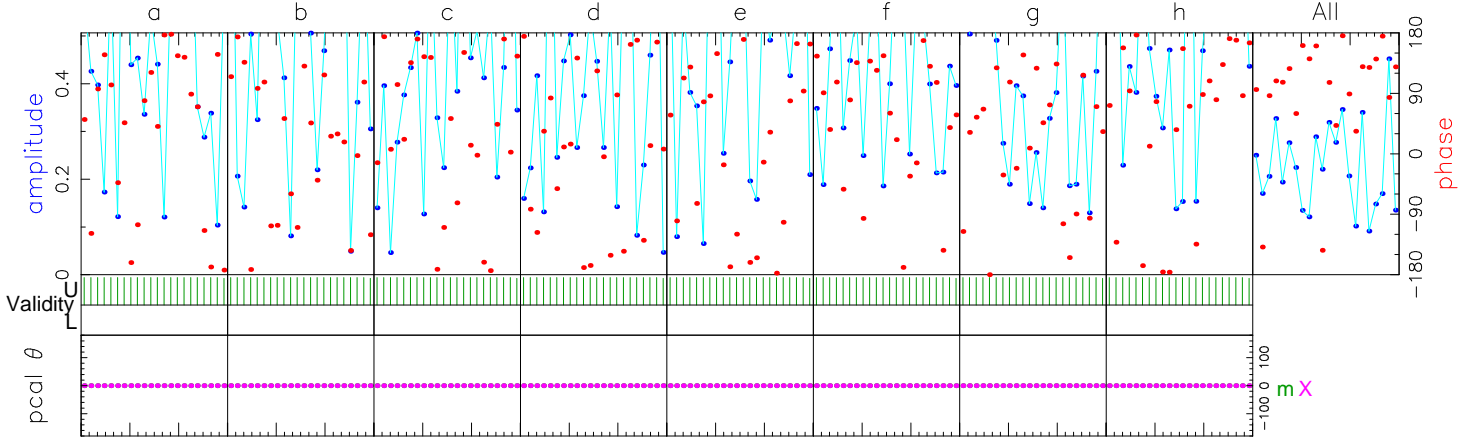


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142019  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	123.9	89.6	129.2	165.1	134.6	98.7	82.7	125.4	Phase	119.4
	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.3	Ampl.	0.2
	149.8	143.7	140.1	273.9	5.8	84.5	7.9	310.5	Sbd box	310.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	5.94476968201E+03	Apriori delay (usec)	5.94455941095E+03	Resid mbdelay (usec)	7.14606E-03	+/-	1.8E-04
Sband delay (usec)	5.94476762495E+03	Apriori clock (usec)	-3.4937561E+01	Resid sbdelay (usec)	2.08214E-01	+/-	1.4E-03
Phase delay (usec)	5.94455941480E+03	Apriori clockrate (us/s)	-4.2800003E-07	Resid phdelay (usec)	3.85118E-06	+/-	6.1E-07
Delay rate (us/s)	-4.64197345234E-01	Apriori rate (us/s)	-4.64200202208E-01	Resid rate (us/s)	2.85697E-06	+/-	5.9E-09
Total phase (deg)	356.7	Apriori accel (us/s/s)	-8.02215491025E-05	Resid phase (deg)	119.4	+/-	19.0

ph/seg (deg)	48.6	Theor.	44.5	Amplitude	0.169 +/- 0.028	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	67.3	Search (1024X32)	0.161	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	29.3	Inc. seg. avg.	0.179	Inc. frq. avg.	0.162	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008		
amp/frq (%)	37.8	Inc. frq. avg.	0.162			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

m: az 339.8 el 46.6 pa 141.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 5026.536 -12638.272 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX.W.271.1HT0UR



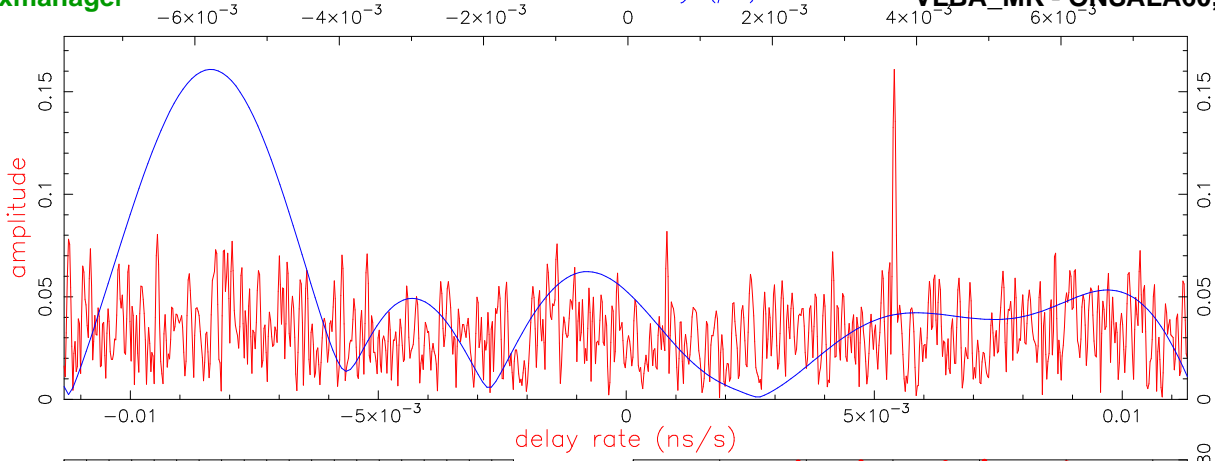
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

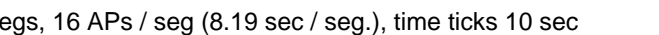
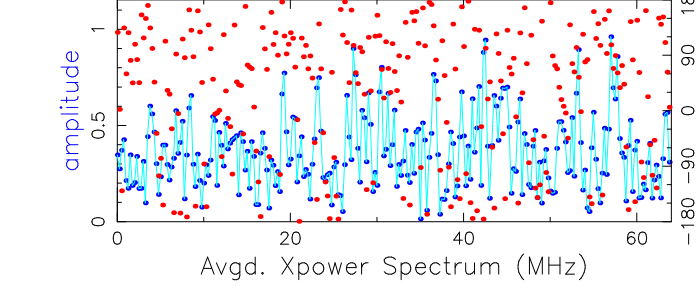
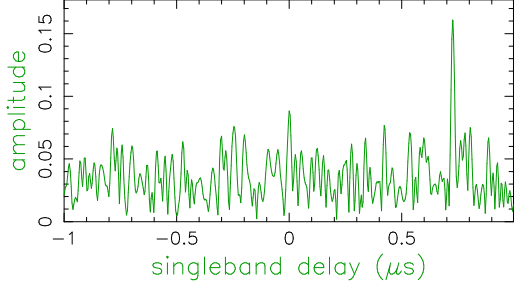
0102+584.1HT0UR, No0131, mX

VLBA\_MK - ONSALA60, fgroup W, pol RL

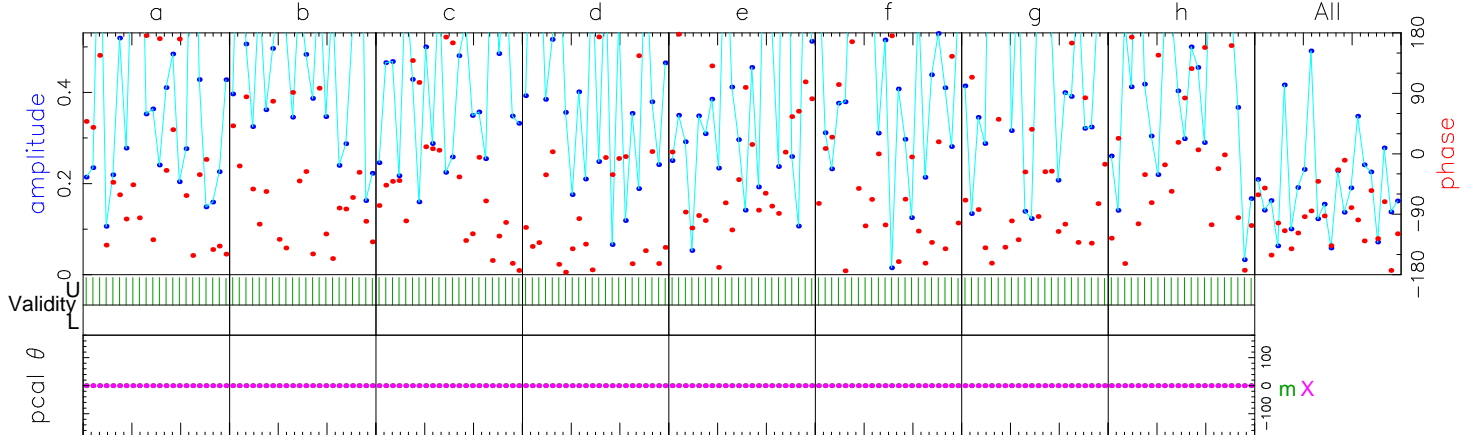
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.9  
 Int time 179.959  
 Amp 0.177  
 Phase -91.6  
 PFD 3.7e-01  
 Delays (us)  
 SBD 0.726623  
 MBD -0.005780  
 Fringe rate (Hz) 0.465758  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142021  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-104.0	-61.5	-92.2	-126.6	-41.7	-97.8	-102.3	-74.0	Phase	-91.6
	0.2	0.2	0.2	0.2	0.1	0.2	0.3	0.1	Ampl.	0.2
	140.2	309.1	427.2	241.4	283.9	344.2	457.3	331.1	Sbd box	443.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.94528800597E+03		Apriori delay (usec)		5.94455941095E+03		Resid mbdelay (usec)		-5.77998E-03	+/- 1.8E-04
Sband delay (usec)	5.94528603420E+03		Apriori clock (usec)		-3.4937561E+01		Resid sbdelay (usec)		7.26623E-01	+/- 1.5E-03
Phase delay (usec)	5.94455940799E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-2.95448E-06	+/- 6.3E-07
Delay rate (us/s)	-4.64194795219E-01		Apriori rate (us/s)		-4.64200202208E-01		Resid rate (us/s)		5.40699E-06	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-8.02215491025E-05		Resid phase (deg)		-91.6	+/- 19.4

ph/seg (deg) 41.5 45.5 Amplitude 0.177 +/- 0.030 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 70.4 79.5 Search (1024X32) 0.159 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 29.5 27.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 25.8 47.9 Inc. seg. avg. 0.166 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 m: az 339.8 el 46.6 pa 141.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 5026.536 -12638.272 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/mX.W.286.1HT0UR

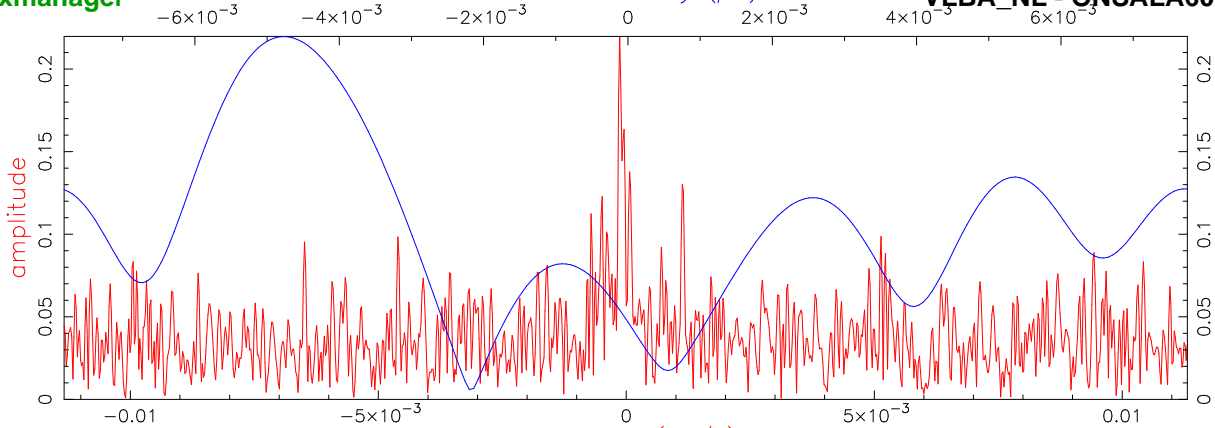
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, nX

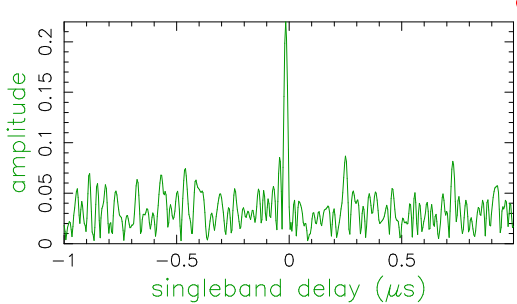
VLBA\_NL - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

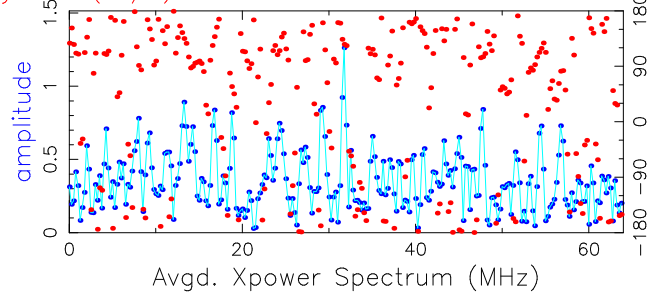


Fringe quality 9

SNR 8.1  
Int time 179.959  
Amp 0.220  
Phase 6.4  
PFD 1.3e-07  
Delays (us)  
SBD -0.015373  
MBD -0.004752  
Fringe rate (Hz)  
-0.012066  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

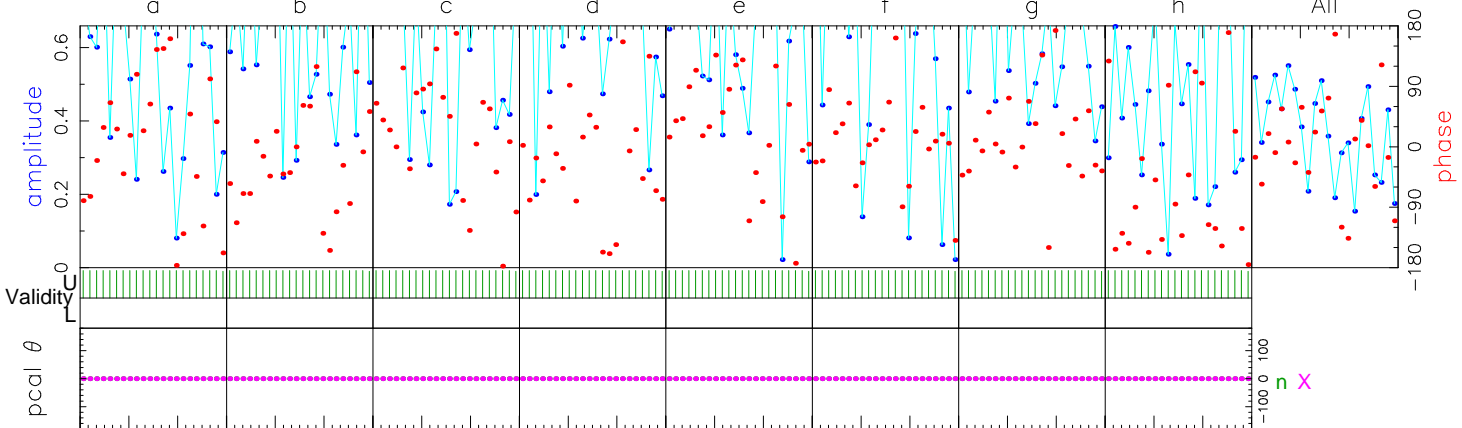


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142018  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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		
n	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
n	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)		2.36296751282E+03			2.36298788993E+03					
Sband delay (usec)		2.36297251693E+03			-4.8160606E+01					
Phase delay (usec)		2.36298789013E+03			-2.8000009E-08					
Delay rate (us/s)		-7.17255109214E-01			-7.17254969135E-01					
Total phase (deg)			308.2							
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										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal $\theta$										
n X										

ph/seg (deg) 72.1 33.3 Search (1024X32) 0.214 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 89.3 58.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 69.5 20.1 Inc. seg. avg. 0.319 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 55.6 35.1 Inc. frq. avg. 0.298 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 n: az 320.9 el 34.2 pa 64.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 7840.869 -4673.858 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX.W.258.1HT0UR

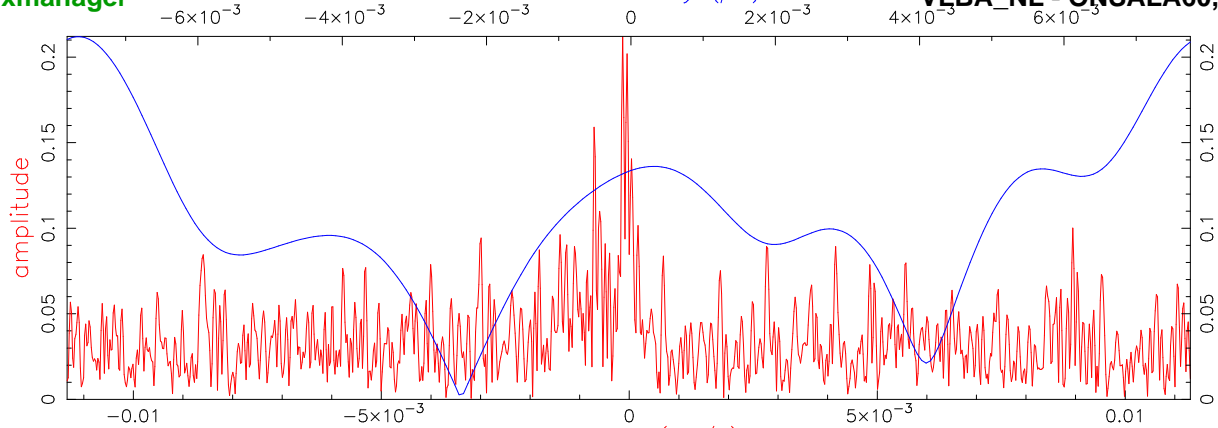
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, nX

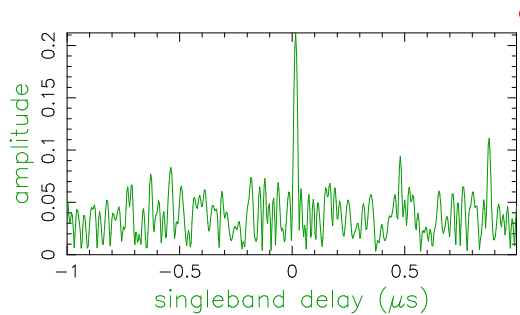
VLBA\_NL - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

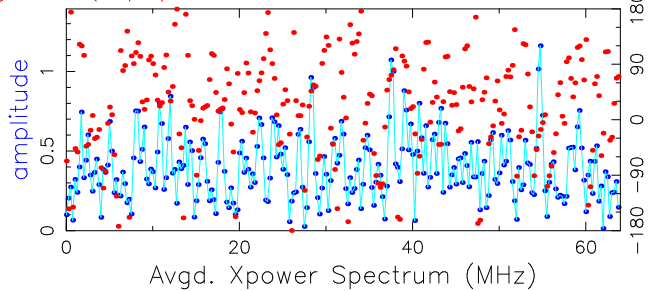


Fringe quality 9

SNR 7.8  
 Int time 179.959  
 Amp 0.212  
 Phase -55.0  
 PFD 1.2e-06  
 Delays (us)  
 SBD 0.015226  
 MBD -0.007664  
 Fringe rate (Hz)  
 -0.011323  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

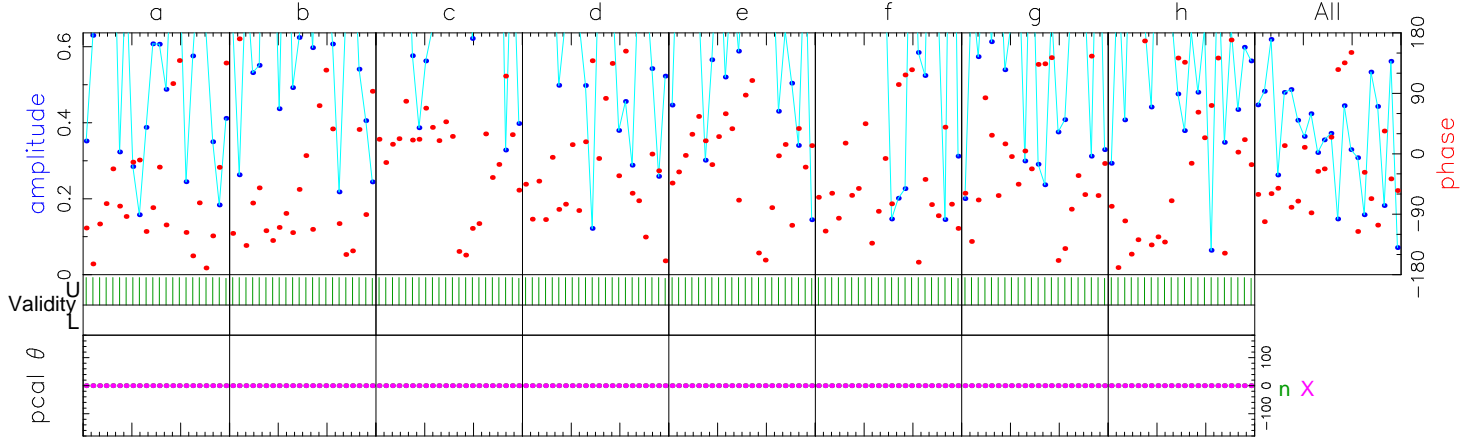


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142021  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-101.5	-106.8	11.4	-49.7	7.6	-74.2	-45.9	-141.5	Phase	-55.0
	0.3	0.3	0.5	0.3	0.3	0.4	0.3	0.2	Ampl.	0.3
	392.4	260.5	261.0	260.4	259.8	261.0	259.5	482.1	Sbd box	260.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.36299585108E+03		Apriori delay (usec)		2.36298788993E+03		Resid mbdelay (usec)		-7.66384E-03	+/- 1.4E-04
Sband delay (usec)	2.36300311568E+03		Apriori clock (usec)		-4.8160606E+01		Resid sbdelay (usec)		1.52258E-02	+/- 1.1E-03
Phase delay (usec)	2.36298788816E+03		Apriori clockrate (us/s)		-2.8000009E-08		Resid phdelay (usec)		-1.77209E-06	+/- 4.7E-07
Delay rate (us/s)	-7.17255100581E-01		Apriori rate (us/s)		-7.17254969135E-01		Resid rate (us/s)		-1.31446E-07	+/- 4.6E-09
Total phase (deg)			Apriori accel (us/s/s)		-2.98071149038E-05		Resid phase (deg)		-55.0	+/- 14.7

	RMS	Theor.	Amplitude	0.212 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	74.3	34.5	Search (1024X32)	0.209	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	100.0	60.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	59.4	20.8	Inc. seg. avg.	0.316	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	63.6	36.3	Inc. frq. avg.	0.299	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
n: az 320.9 el 34.2 pa 64.4	X: az 8.4 el 26.5 pa -8.8		u,v (fr/asec) 7840.869 -4673.858		simultaneous interpolator	

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX.W.287.1HT0UR

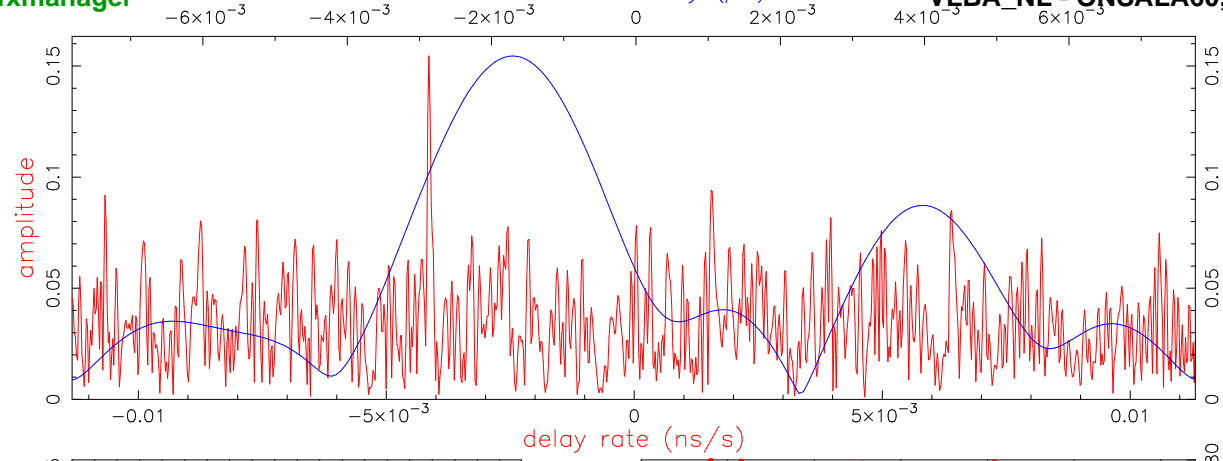
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

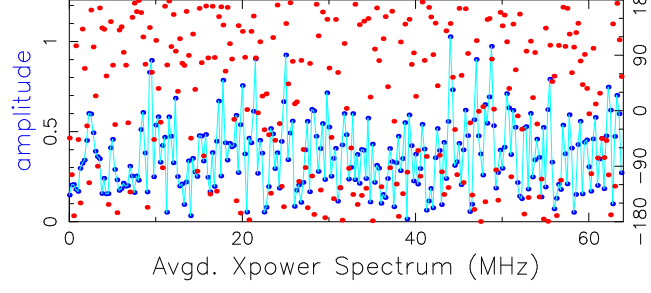
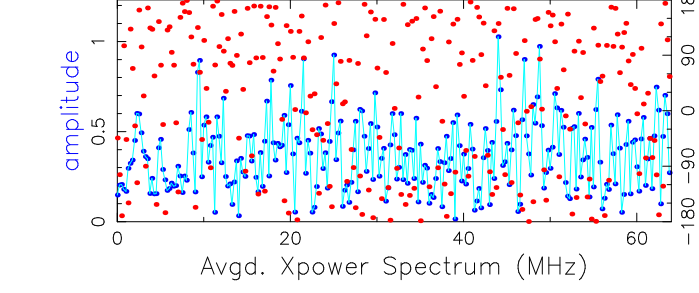
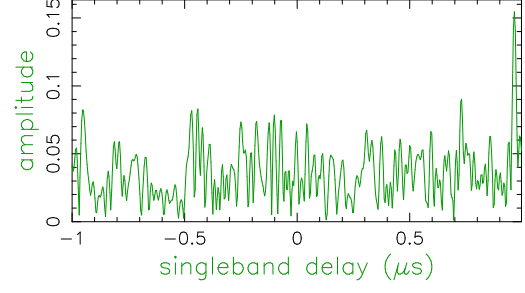
0102+584.1HT0UR, No0131, nX

VLBA\_NL - ONSALA60, fgroup W, pol LR

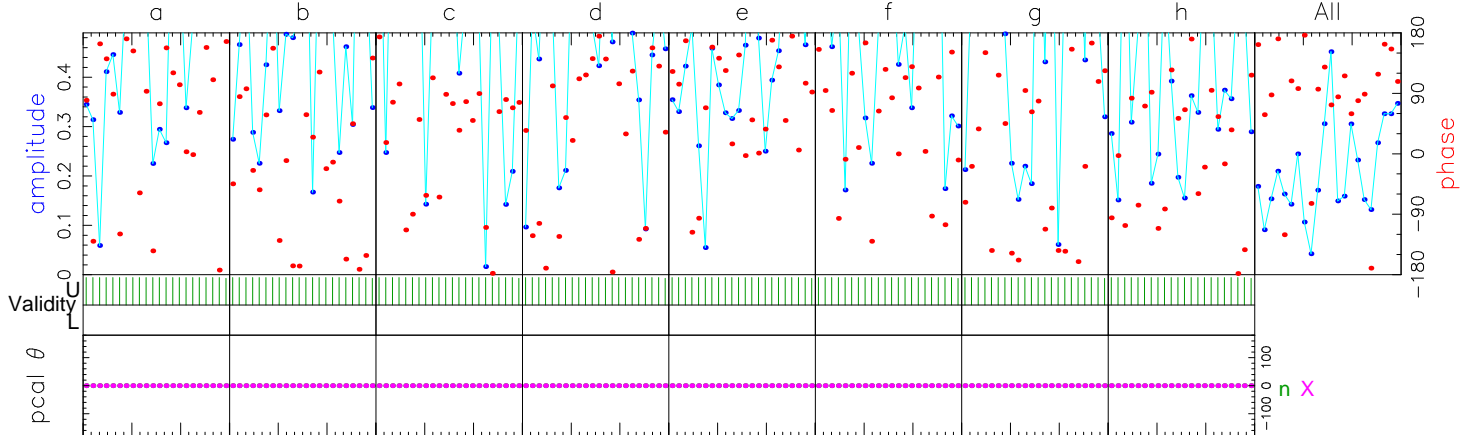
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.7  
 Int time 179.959  
 Amp 0.163  
 Phase 115.7  
 PFD 8.3e-01  
 Delays (us)  
 SBD 0.964669  
 MBD -0.001713  
 Fringe rate (Hz)  
 -0.356380  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142023  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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			
n	1000	1000	1000	1000	1000	1000	1000	1000			
X	1000	1000	1000	1000	1000	1000	1000	1000			
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
n	1000	1000	1000	1000	1000	1000	1000	1000			
X	1000	1000	1000	1000	1000	1000	1000	1000			
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
Group delay (usec)(sbd)		2.36395492674E+03			2.36298788993E+03				Resid mbdelay (usec)	-1.71319E-03	+/- 1.9E-04
Sband delay (usec)		2.36395255843E+03			-4.8160606E+01				Resid sbdelay (usec)	9.64669E-01	+/- 1.5E-03
Phase delay (usec)		2.36298789366E+03			-2.8000009E-08				Resid phdelay (usec)	3.73106E-06	+/- 6.5E-07
Delay rate (us/s)		-7.17259106357E-01			-7.17254969135E-01				Resid rate (us/s)	-4.13722E-06	+/- 6.3E-09
Total phase (deg)			57.5		-2.98071149038E-05				Resid phase (deg)	115.7	+/- 20.2
RMS	58.8	47.4		0.163 +/- 0.029					PCal mode: MANUAL, MANUAL		
ph/seg (deg)	58.8	47.4		0.152					PCal rate: 0.000E+00, 0.000E+00 (us/s)		
amp/seg (%)	73.0	82.7		0.000					Bits/sample: 2x2		
ph/frq (deg)	64.3	28.6		0.167					SampCntNorm: enabled		
amp/frq (%)	52.0	49.9		0.164					Sample rate(MISamp/s): 128		
									Data rate(Mb/s): 2048		
									nlags: 256		
									t_cohere infinite		
n: az 320.9 el 34.2 pa 64.4									ion window (TEC)	0.00	0.00
X: az 8.4 el 26.5 pa -8.8											
u,v (fr/asec)					7840.869	-4673.858					simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX.W.304.1HT0UR

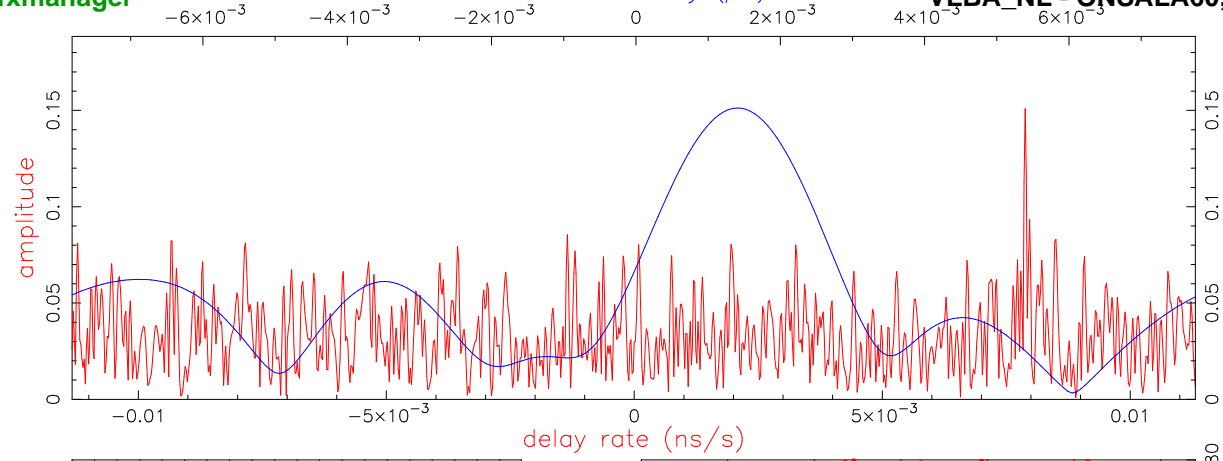
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, nX

VLBA\_NL - ONSALA60, fgroup W, pol RL

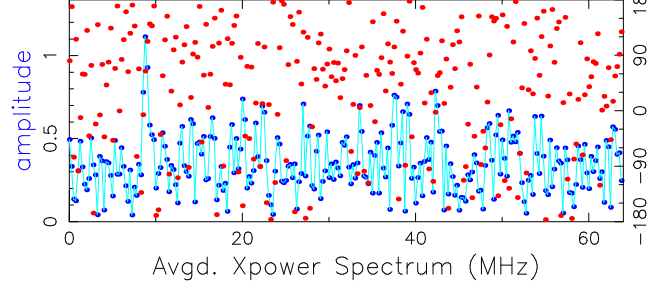
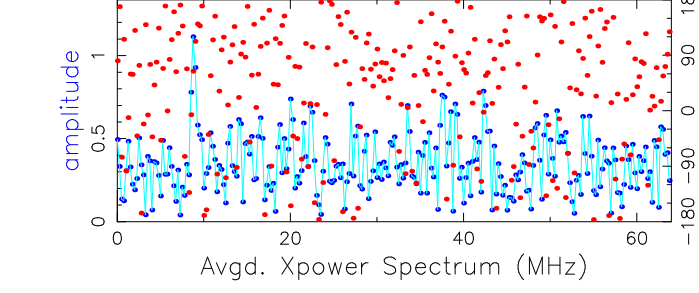
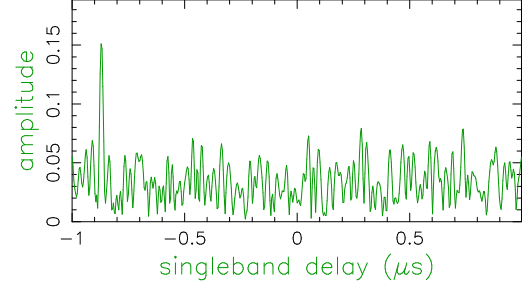
multiband delay ( $\mu$ s)



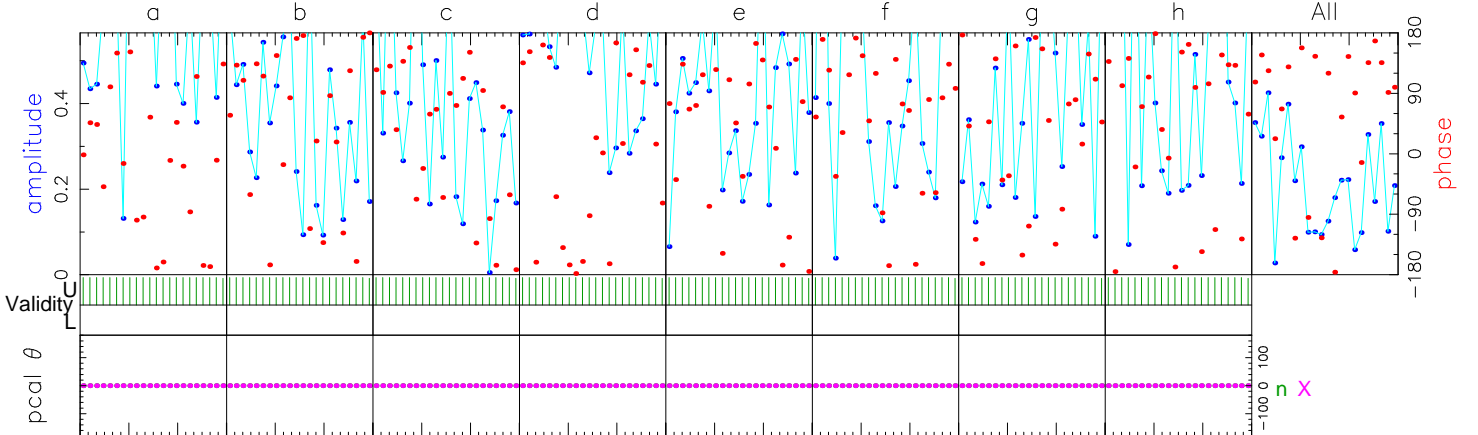
Fringe quality 0

SNR 5.6  
 Int time 179.959  
 Amp 0.188  
 Phase 130.8  
 PFD 9.1e-01  
 Delays (us)  
 SBD -0.869690  
 MBD 0.001487  
 Fringe rate (Hz) 0.680899  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142024  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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

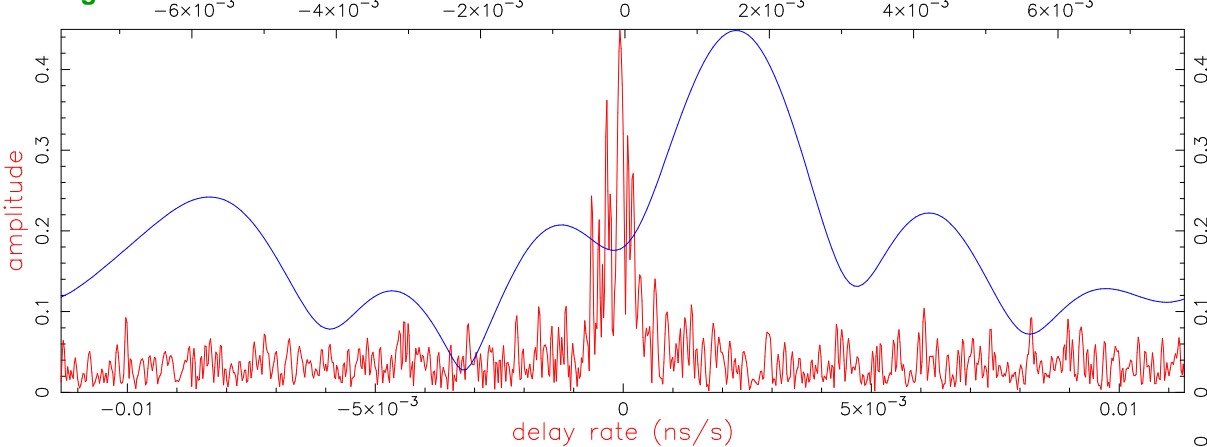


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	172.4	126.7	105.2	177.4	120.5	122.7	100.2	135.6	Phase	130.8
	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.3	Ampl.	0.2
	26.0	288.2	79.8	249.6	400.5	497.0	335.9	34.6	Sbd box	34.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.36211437675E+03		Apriori delay (usec)		2.36298788993E+03		Resid mbdelay (usec)		1.48682E-03	+/- 1.9E-04
Sband delay (usec)	2.36211819993E+03		Apriori clock (usec)		-4.8160606E+01		Resid sbdelay (usec)		-8.69690E-01	+/- 1.5E-03
Phase delay (usec)	2.36298789414E+03		Apriori clockrate (us/s)		-2.8000009E-08		Resid phdelay (usec)		4.21671E-06	+/- 6.6E-07
Delay rate (us/s)	-7.17247064569E-01		Apriori rate (us/s)		-7.17254969135E-01		Resid rate (us/s)		7.90457E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-2.98071149038E-05		Resid phase (deg)		130.8	+/- 20.4

ph/seg (deg) 64.9 47.9 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 84.7 83.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 30.8 28.9 Inc. seg. avg. 0.194 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 51.5 50.4 Inc. frq. avg. 0.178 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 n: az 320.9 el 34.2 pa 64.4 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 7840.869 -4673.858 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/nX.W.319.1HT0UR

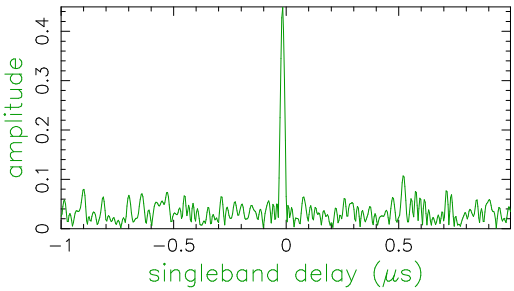


multiband delay ( $\mu$ s)

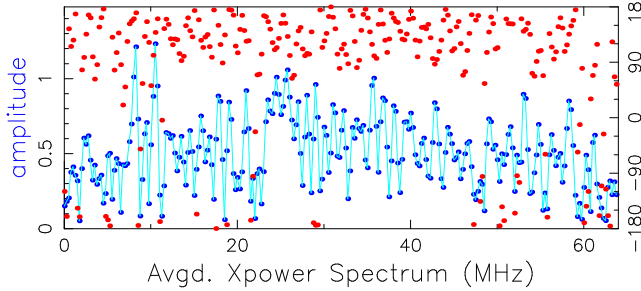


Fringe quality 8

SNR 16.5  
 Int time 179.893  
 Amp 0.450  
 Phase -69.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.016386  
 MBD 0.001527  
 Fringe rate (Hz)  
 -0.005487  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

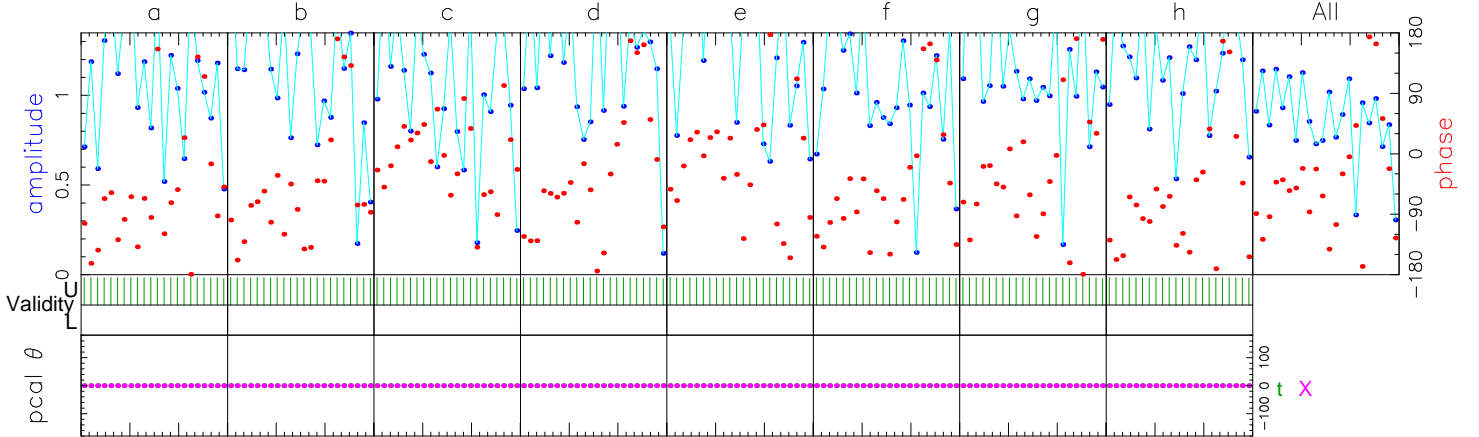


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142017  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-103.5	-101.7	-1.8	-75.3	-10.6	-86.1	-67.0	-100.2	Phase	-69.2
	0.6	0.7	0.7	0.4	0.6	0.6	0.6	0.6	Ampl.	0.6
	254.9	252.4	253.0	252.1	252.2	252.2	252.2	252.6	Sbd box	252.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	6.33866785639E+03	Apriori delay (usec)		6.33868195469E+03	Resid mbdelay (usec)		1.52669E-03	+/-	6.6E-05	
Sband delay (usec)	6.33866556869E+03	Apriori clock (usec)		-4.6922562E+01	Resid sbdelay (usec)		-1.63860E-02	+/-	5.2E-04	
Phase delay (usec)	6.33868195246E+03	Apriori clockrate (us/s)		-4.2800003E-07	Resid phdelay (usec)		-2.23056E-06	+/-	2.2E-07	
Delay rate (us/s)	4.11889144446E-01	Apriori rate (us/s)		4.11889208145E-01	Resid rate (us/s)		-6.36993E-08	+/-	2.2E-09	
Total phase (deg)		138.6	Apriori accel (us/s/s)		-6.22224754436E-05	Resid phase (deg)		-69.2	+/-	6.9

ph/seg (deg)	RMS 66.0	Theor. 16.3	Amplitude Search (1024X32)	0.450 +/- 0.027	0.447	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
amp/seg (%)	104.5	28.4	Interp.	0.000	0.832	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
ph/frq (deg)	43.8	9.8	Inc. seg. avg.	0.832	0.569	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	33.0	17.2	Inc. frq. avg.	0.569		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

t: az 37.3 el 48.0 pa -103.7 X: az 8.4 el 26.5 pa -8.8 u, v (fr/asec) -4565.786 -9318.230 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX.W.257.1HT0UR

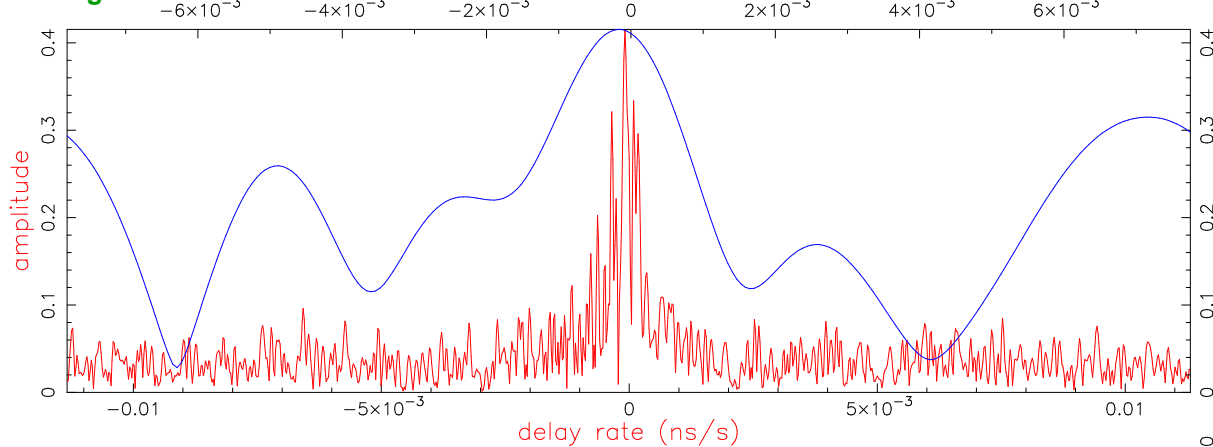
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, tX

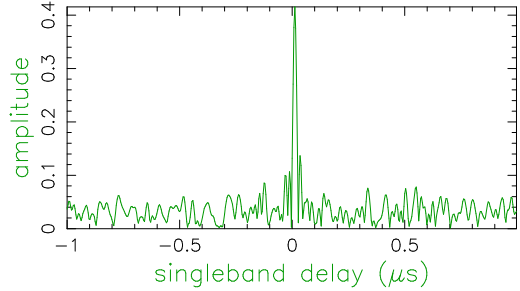
KVNTN - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

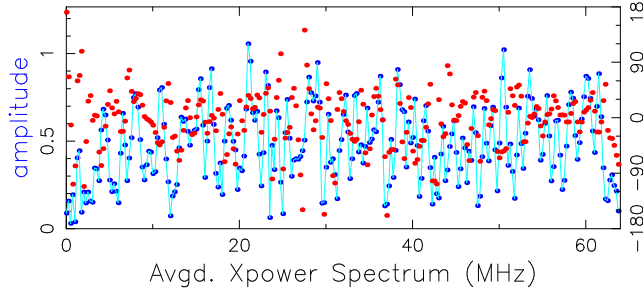


Fringe quality 7

SNR 15.2  
 Int time 179.893  
 Amp 0.416  
 Phase 136.6  
 PFD 6.2e-44  
 Delays (us)  
 SBD 0.011681  
 MBD -0.000166  
 Fringe rate (Hz)  
 -0.007078  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

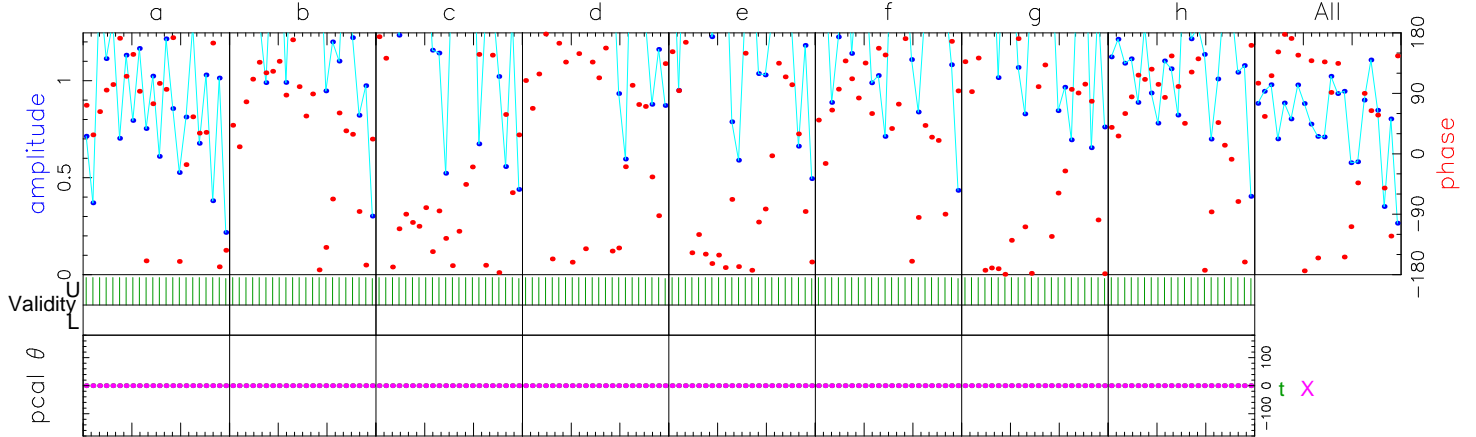


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142019  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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			
t	1000	1000	1000	1000	1000	1000	1000	1000			
X	1000	1000	1000	1000	1000	1000	1000	1000			
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
t	1000	1000	1000	1000	1000	1000	1000	1000			
X	1000	1000	1000	1000	1000	1000	1000	1000			
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
Group delay (usec)(sbd)		6.33869741352E+03			6.33868195469E+03				Resid mbdelay (usec)	-1.66167E-04	+/- 7.1E-05
Sband delay (usec)		6.33869363594E+03			-4.6922562E+01				Resid sbdelay (usec)	1.16813E-02	+/- 5.7E-04
Phase delay (usec)		6.33868195910E+03			-4.2800003E-07				Resid phdelay (usec)	4.40497E-06	+/- 2.4E-07
Delay rate (us/s)		4.11889125972E-01			4.11889208145E-01				Resid rate (us/s)	-8.21728E-08	+/- 2.3E-09
Total phase (deg)			344.4		-6.22224754436E-05				Resid phase (deg)	136.6	+/- 7.5
ph/seg (deg)	RMS 75.3	Theor. 17.6	Amplitude 0.416 +/- 0.027	Search (1024X32) 0.408	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			sb window (us)	-1.000	1.000
amp/seg (%)	104.6	30.8	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)	59.6	10.6	Inc. seg. avg. 0.764	0.764	Bits/sample: 2x2	Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011	0.011
amp/frq (%)	57.7	18.6	Inc. frq. avg. 0.626	0.626	Data rate(Mb/s): 2048	nlags: 256			ion window (TEC)	0.00	0.00

t: az 37.3 el 48.0 pa -103.7 X: az 8.4 el 26.5 pa -8.8 u, v (fr/asec) -4565.786 -9318.230 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX.W.274.1HT0UR

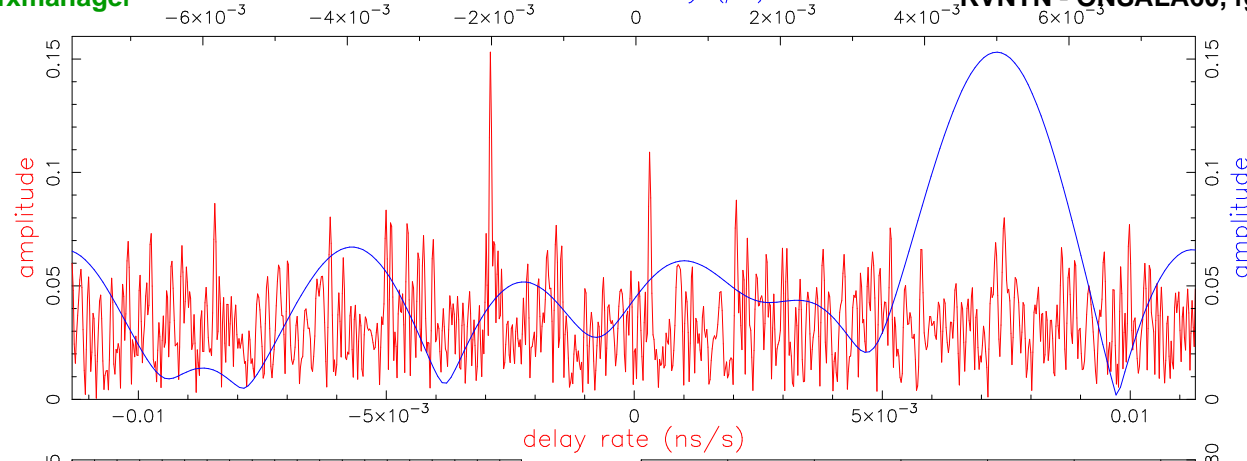
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

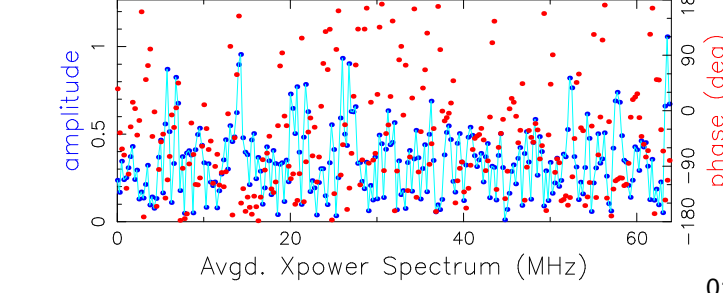
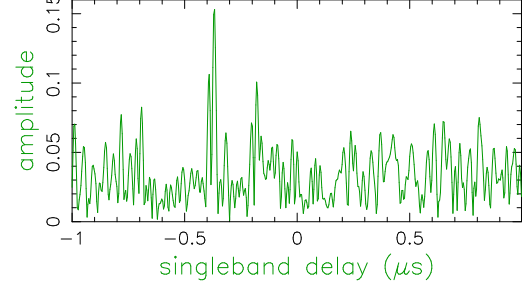
0102+584.1HT0UR, No0131, tX

KVNTN - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

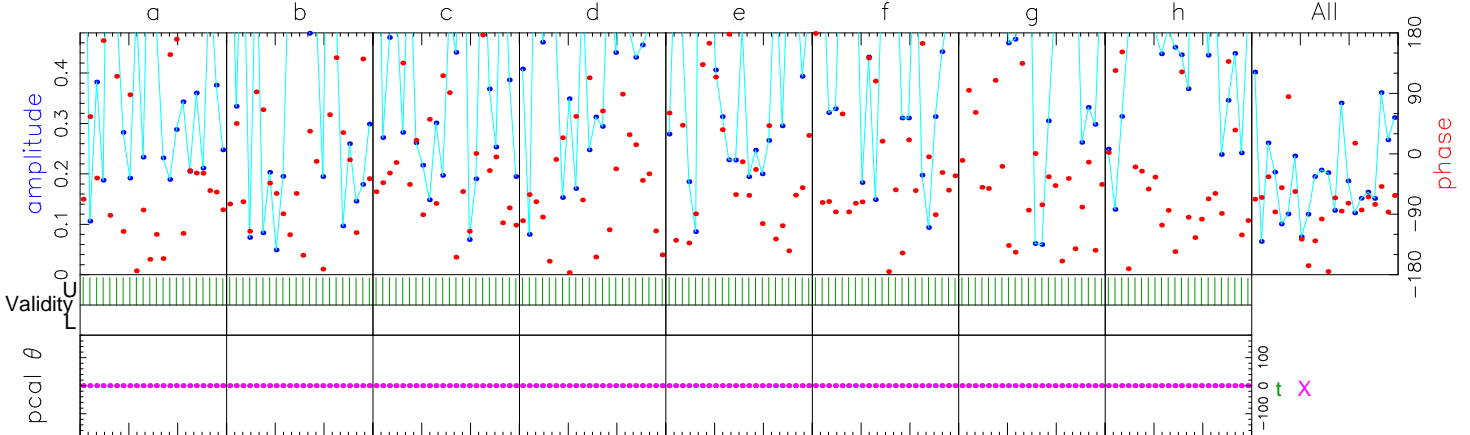


Fringe quality 0  
 SNR 5.7  
 Int time 179.893  
 Amp 0.160  
 Phase -74.9  
 PFD 7.5e-01  
 Delays (us)  
 SBD -0.368742  
 MBD 0.004986  
 Fringe rate (Hz)  
 -0.250196  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142021  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-100.0	-35.7	-58.8	-72.5	-148.9	-67.7	-60.9	-86.0	Phase	-74.9
	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	Ampl.	0.2
	246.5	24.3	252.0	212.3	107.9	325.4	64.5	381.8	Sbd box	162.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd) 6.33831194034E+03 Apriori delay (usec) 6.33868195469E+03 Resid mbdelay (usec) 4.98565E-03 +/- 1.9E-04  
 Sband delay (usec) 6.33831321319E+03 Apriori clock (usec) -4.6922562E+01 Resid sbdelay (usec) -3.68742E-01 +/- 1.5E-03  
 Phase delay (usec) 6.33868195228E+03 Apriori clockrate (us/s) -4.2800003E-07 Resid phdelay (usec) -2.41631E-06 +/- 6.5E-07  
 Delay rate (us/s) 4.11886303613E-01 Apriori rate (us/s) 4.11889208145E-01 Resid rate (us/s) -2.90453E-06 +/- 6.2E-09  
 Total phase (deg) 132.9 Apriori accel (us/s/s) -6.22224754436E-05 Resid phase (deg) -74.9 +/- 20.1

RMS Theor. Amplitude 0.160 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 53.5 47.1 Search (1024X32) 0.149 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 64.6 82.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 37.2 28.4 Inc. seg. avg. 0.153 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 40.2 49.5 Inc. frq. avg. 0.151 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

t: az 37.3 el 48.0 pa -103.7 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4565.786 -9318.230 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX.W.291.1HT0UR

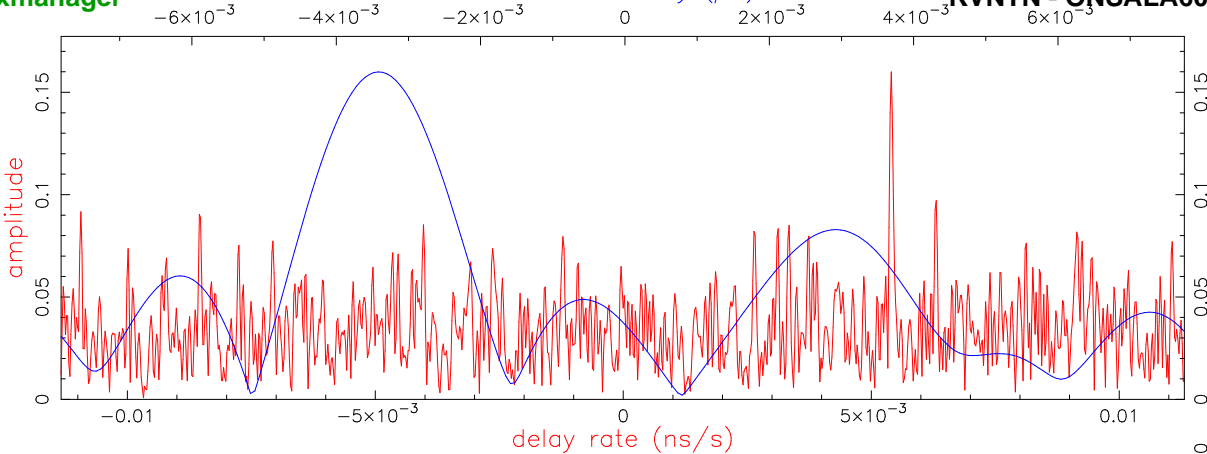
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, tX

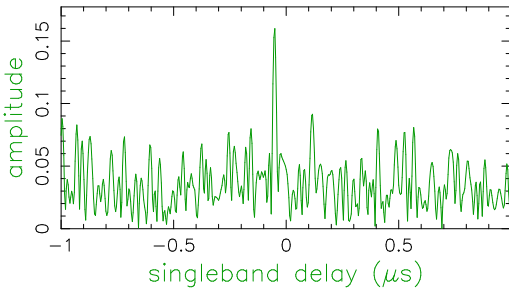
KVNTN - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

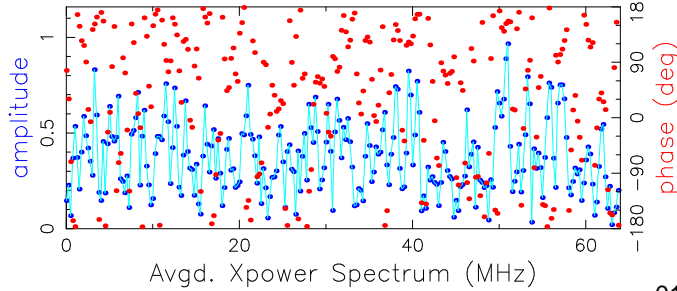


Fringe quality 0

SNR 5.9  
 Int time 179.893  
 Amp 0.177  
 Phase -73.8  
 PFD 3.5e-01  
 Delays (us)  
 SBD -0.051849  
 MBD -0.003395  
 Fringe rate (Hz)  
 0.466126  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

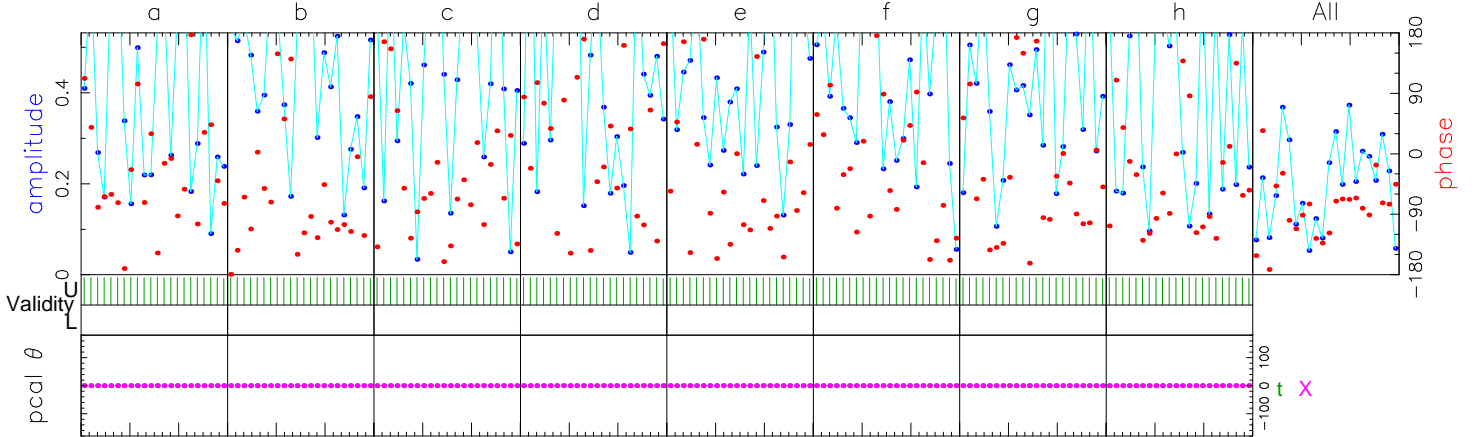


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142023  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-43.9	-105.9	-59.0	-80.4	-85.1	-44.6	-89.6	-67.8	Phase	-73.8
	0.2	0.2	0.2	0.0	0.2	0.1	0.2	0.2	Ampl.	0.2
	170.7	241.8	280.2	422.9	161.6	461.8	80.5	286.5	Sbd box	243.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.33863168443E+03		Apriori delay (usec)		6.33868195469E+03		Resid mbdelay (usec)		-3.39526E-03	+/- 1.8E-04
Sband delay (usec)	6.33863010569E+03		Apriori clock (usec)		-4.6922562E+01		Resid sbdelay (usec)		-5.18490E-02	+/- 1.5E-03
Phase delay (usec)	6.33868195231E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-2.37998E-06	+/- 6.3E-07
Delay rate (us/s)	4.11894619404E-01		Apriori rate (us/s)		4.11889208145E-01		Resid rate (us/s)		5.41126E-06	+/- 6.0E-09
Total phase (deg)	134.0		Apriori accel (us/s/s)		-6.22224754436E-05		Resid phase (deg)		-73.8	+/- 19.4

ph/seg (deg) 45.3 45.5 Search (1024X32) 0.156 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 64.8 79.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 24.0 27.4 Inc. seg. avg. 0.168 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 40.2 47.9 Inc. frq. avg. 0.169 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 t: az 37.3 el 48.0 pa -103.7 X: az 8.4 el 26.5 pa -8.8 u, v (fr/asec) -4565.786 -9318.230 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/tX.W.305.1HT0UR

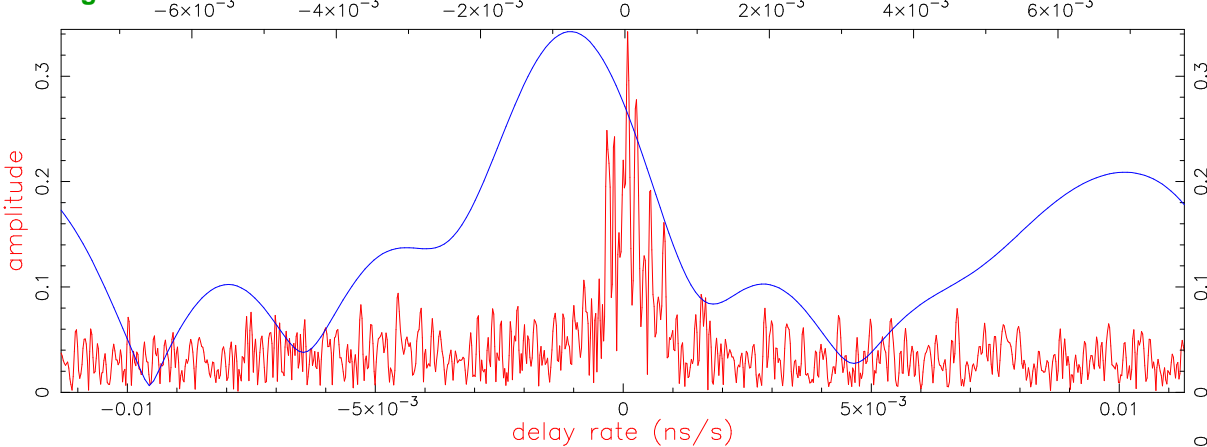
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, uX

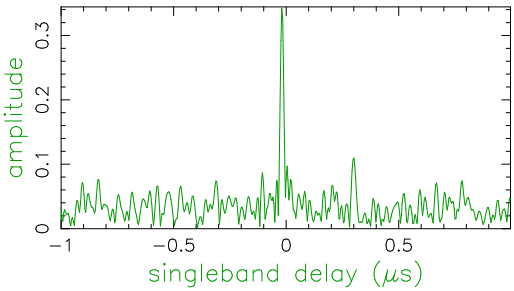
KVNUS - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

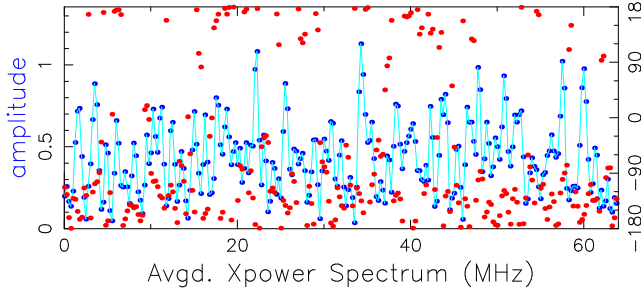


Fringe quality 9

SNR 12.6  
 Int time 179.959  
 Amp 0.344  
 Phase 8.1  
 PFD 3.7e-28  
 Delays (us)  
 SBD -0.018566  
 MBD -0.000726  
 Fringe rate (Hz)  
 0.007993  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

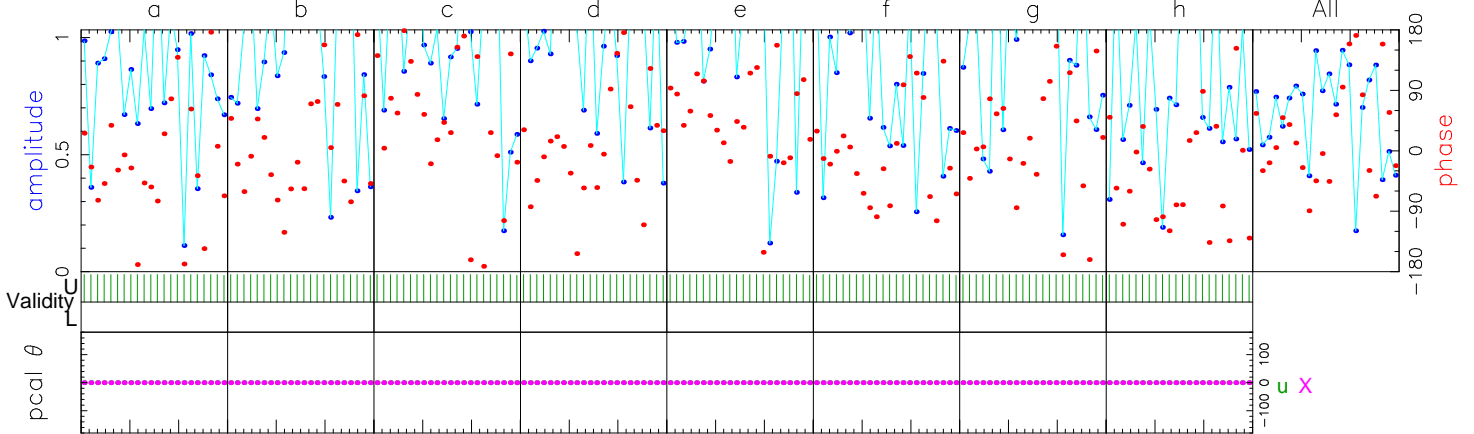


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142025  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-23.6	-19.3	85.1	0.1	57.0	-26.6	25.1	-35.4		8.1
	0.3	0.5	0.4	0.5	0.6	0.4	0.4	0.4		0.4
	254.8	252.5	251.7	252.0	251.4	251.4	251.9	252.1		252.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		APs used
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
u	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks

Group delay (usec)(sbd)	7.10384421955E+03	Apriori delay (usec)	7.10386057064E+03	Resid mbdelay (usec)	-7.26083E-04	+/-	8.6E-05
Sband delay (usec)	7.10384200514E+03	Apriori clock (usec)	-4.5771095E+01	Resid sbdelay (usec)	-1.85655E-02	+/-	6.8E-04
Phase delay (usec)	7.10386057090E+03	Apriori clockrate (us/s)	-1.2800004E-07	Resid phdelay (usec)	2.60664E-07	+/-	2.9E-07
Delay rate (us/s)	3.76981882398E-01	Apriori rate (us/s)	3.76981789604E-01	Resid rate (us/s)	9.27941E-08	+/-	2.8E-09
Total phase (deg)	207.8	Apriori accel (us/s/s)	-6.31641103054E-05	Resid phase (deg)	8.1	+/-	9.1

ph/seg (deg)	74.3	Theor.	21.3	Amplitude	0.344 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	113.1	Search (1024X32)	0.334	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
ph/frq (deg)	47.5	Inc. seg. avg.	0.636	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/frq (%)	38.6	Inc. frq. avg.	0.435	Sample rate (MSamp/s):	128	nlags: 256	dr window (ns/s)	-0.011	0.011
				Data rate (Mb/s):	2048	t_cohere infinite	ion window (TEC)	0.00	0.00

u: az 38.4 el 51.2 pa -105.1 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4183.987 -9290.559 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX.W.323.1HT0UR



Mk4/DiFX fourfit 3.21 rev 2937

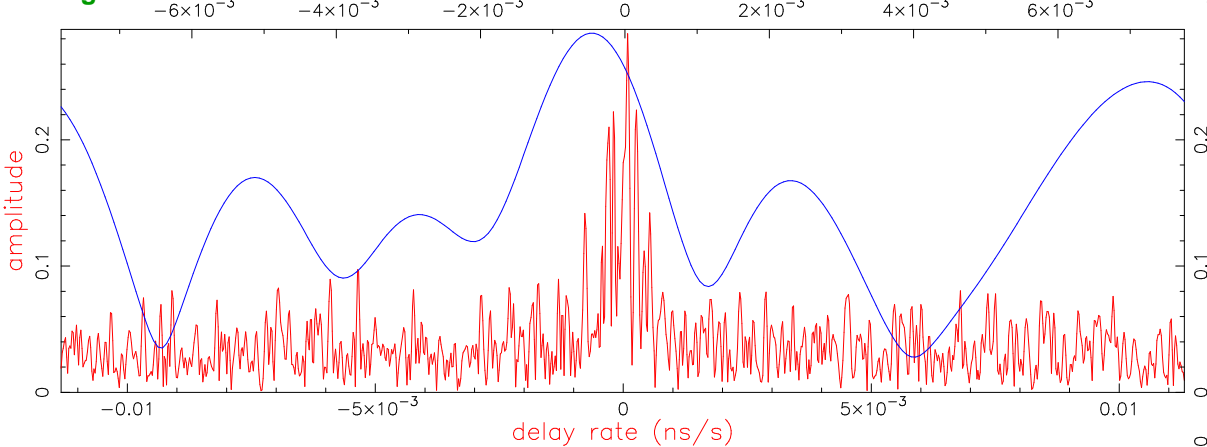
fxmanager

0102+584.1HT0UR, No0131, uX

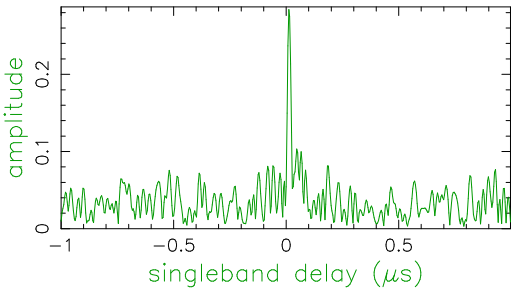
KVNUS - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

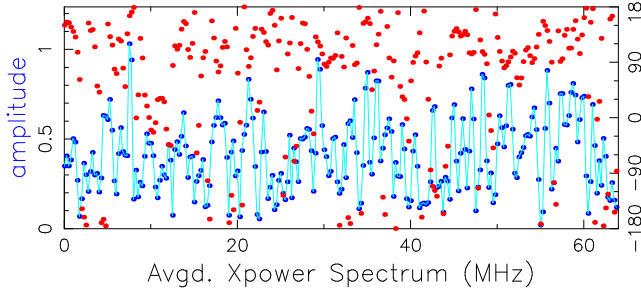
Fringe quality 9



SNR 10.5  
 Int time 179.959  
 Amp 0.287  
 Phase -81.5  
 PFD 1.2e-17  
 Delays (us)  
 SBD 0.013049  
 MBD -0.000397  
 Fringe rate (Hz)  
 0.008502  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

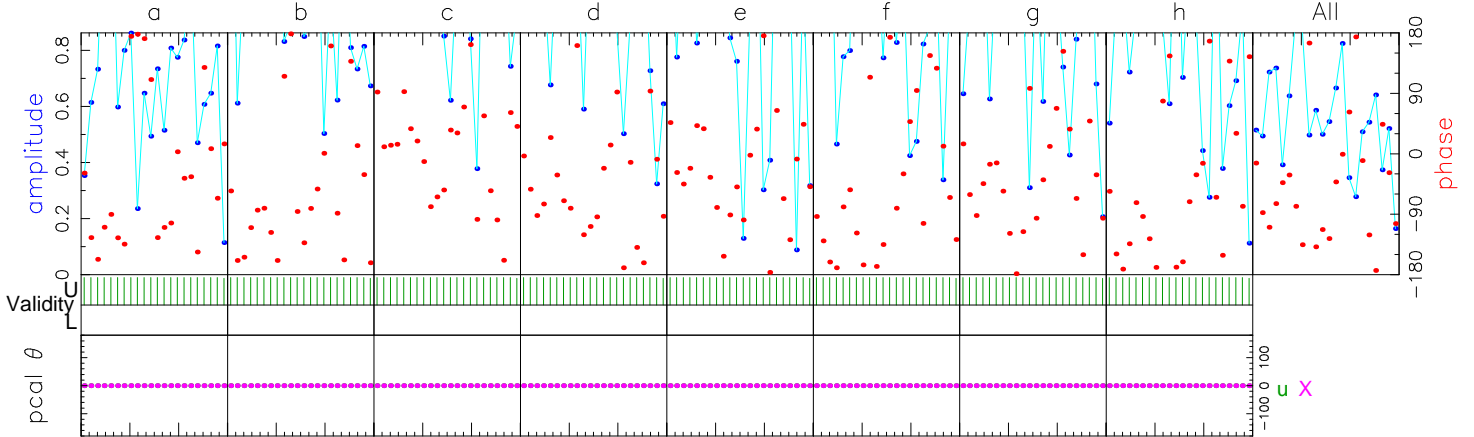


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142027  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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



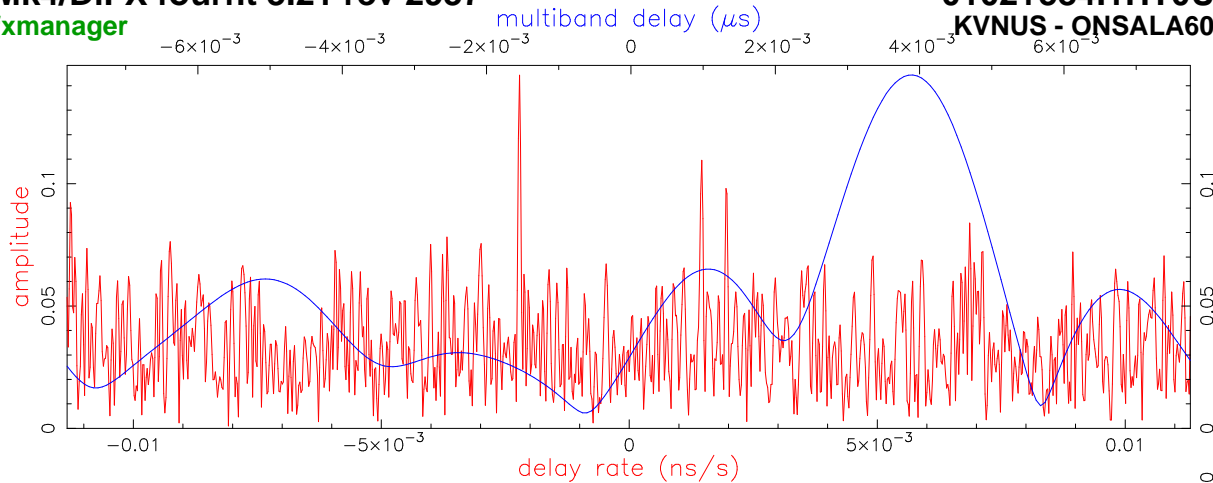
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-105.2	-115.7	19.9	-72.5	-17.4	-137.6	-56.9	-122.4	Phase	-81.5
	0.4	0.6	0.5	0.5	0.4	0.5	0.4	0.4	Ampl.	0.4
	261.6	261.5	260.1	259.5	259.5	260.2	259.8	260.4	Sbd box	260.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	7.10387579852E+03	Apriori delay (usec)	7.10386057064E+03	Resid mbdelay (usec)	-3.97114E-04	+/-	1.0E-04
Sband delay (usec)	7.10387361964E+03	Apriori clock (usec)	-4.5771095E+01	Resid sbdelay (usec)	1.30490E-02	+/-	8.2E-04
Phase delay (usec)	7.10386056801E+03	Apriori clockrate (us/s)	-1.2800004E-07	Resid phdelay (usec)	-2.62677E-06	+/-	3.5E-07
Delay rate (us/s)	3.76981888308E-01	Apriori rate (us/s)	3.76981789604E-01	Resid rate (us/s)	9.87035E-08	+/-	3.4E-09
Total phase (deg)	118.2	Apriori accel (us/s/s)	-6.31641103054E-05	Resid phase (deg)	-81.5	+/-	10.9

ph/seg (deg)	RMS 69.2	Theor. 25.5	Amplitude Search (1024X32)	0.287 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	113.9	44.5	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)	60.0	15.4	Inc. seg. avg.	0.509	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
amp/frq (%)	61.8	26.8	Inc. frq. avg.	0.435	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00

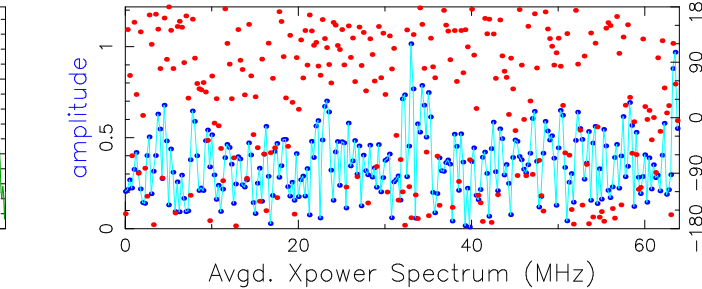
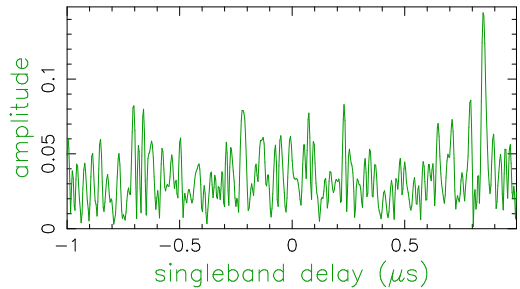
u: az 38.4 el 51.2 pa -105.1 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4183.987 -9290.559 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX.W.335.1HT0UR



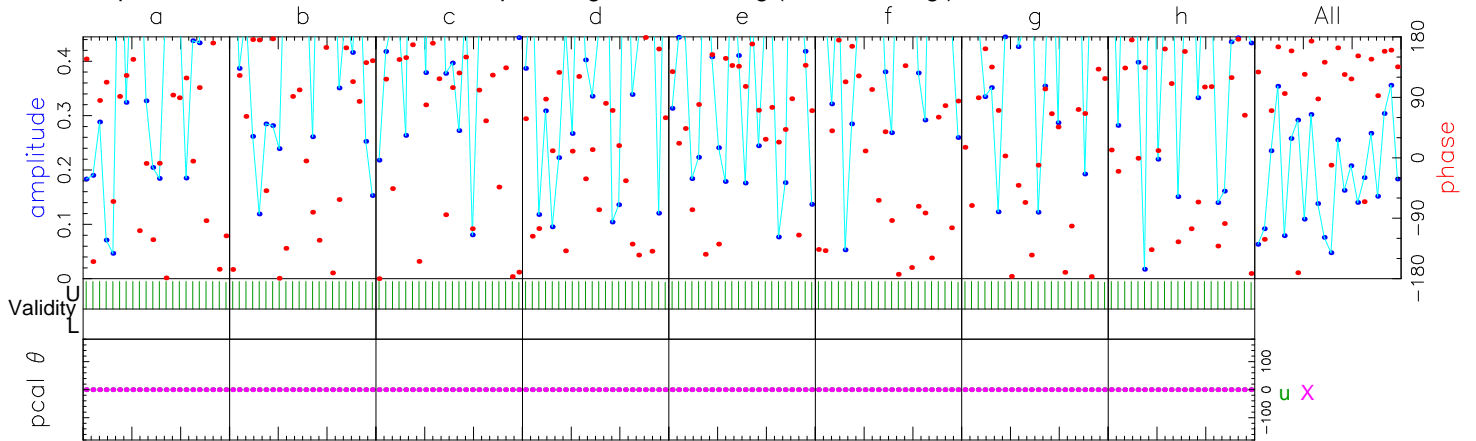
Fringe quality 0

SNR 5.4  
Int time 179.959  
Amp 0.148  
Phase 148.6  
PFD 1.0e+00  
Delays (us)  
SBD 0.849179  
MBD 0.003916  
Fringe rate (Hz)  
-0.190319  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142029  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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		
u	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	7.10470823698E+03					7.10386057064E+03			3.91635E-03	+/- 2.0E-04
Sband delay (usec)	7.10470974989E+03					-4.5771095E+01			8.49179E-01	+/- 1.6E-03
Phase delay (usec)	7.10386057543E+03					-1.2800004E-07			4.79077E-06	+/- 6.9E-07
Delay rate (us/s)	3.76979580194E-01					3.76981789604E-01			-2.20941E-06	+/- 6.6E-09
Total phase (deg)			348.2			-6.31641103054E-05			148.6	+/- 21.4
ph/seg (deg)	59.1	50.2								
amp/seg (%)	71.9	87.6								
ph/frq (deg)	24.2	30.3								
amp/frq (%)	55.3	52.8								
u: az 38.4 el 51.2 pa -105.1										
X: az 8.4 el 26.5 pa -8.8										
u,v (fr/asec)										

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX.W.351.1HT0UR

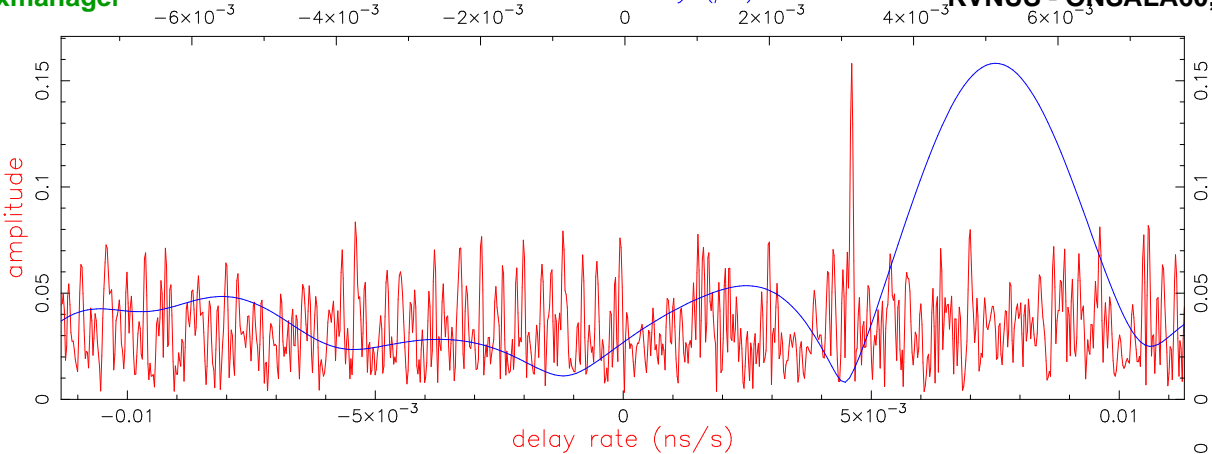
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, uX

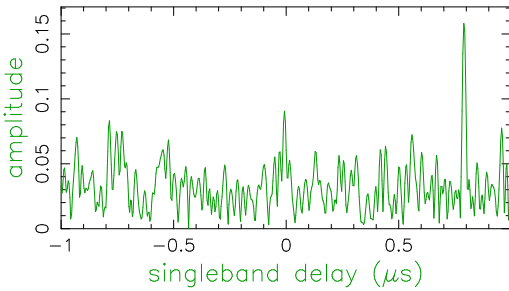
KVNUS - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

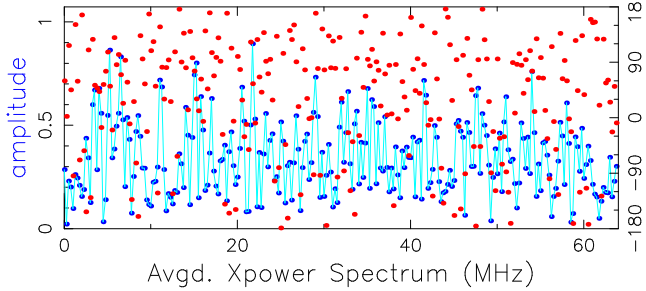


Fringe quality 0

SNR 5.8  
 Int time 179.959  
 Amp 0.171  
 Phase 121.0  
 PFD 4.7e-01  
 Delays (us)  
 SBD 0.790194  
 MBD 0.005172  
 Fringe rate (Hz)  
 0.398252  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

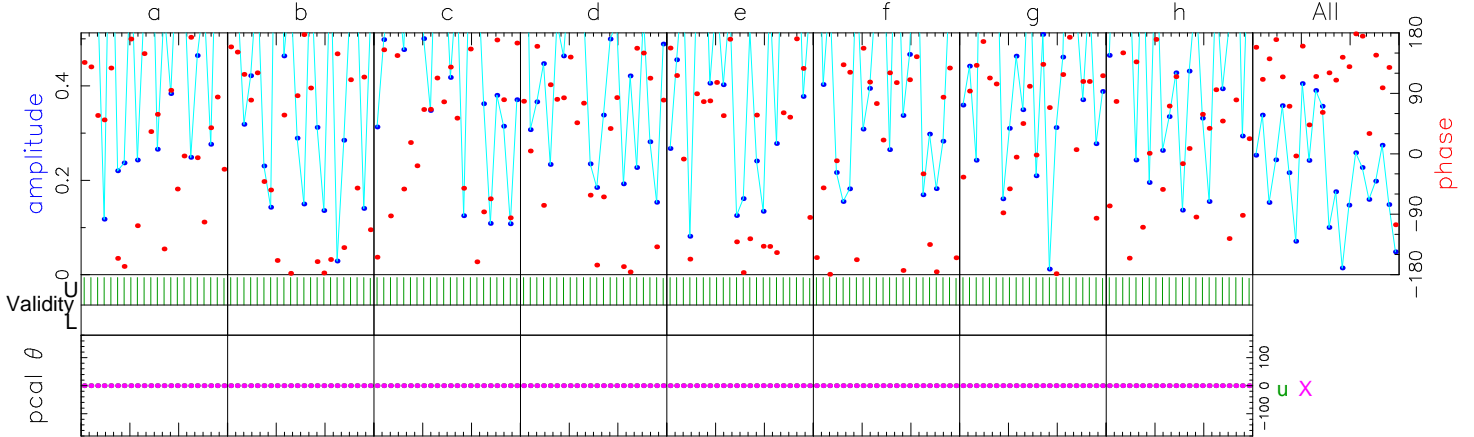


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142031  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	97.5	159.7	107.0	96.1	114.3	147.0	117.2	99.2	Phase	121.0
	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	Ampl.	0.2
	71.2	108.6	10.1	340.0	399.7	153.4	255.2	232.2	Sbd box	459.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.10464699304E+03		Apriori delay (usec)		7.10386057064E+03		Resid mbdelay (usec)		5.17241E-03	+/- 1.9E-04
Sband delay (usec)	7.10465076439E+03		Apriori clock (usec)		-4.5771095E+01		Resid sbdelay (usec)		7.90194E-01	+/- 1.5E-03
Phase delay (usec)	7.10386057454E+03		Apriori clockrate (us/s)		-1.2800004E-07		Resid phdelay (usec)		3.90323E-06	+/- 6.3E-07
Delay rate (us/s)	3.76986412918E-01		Apriori rate (us/s)		3.76981789604E-01		Resid rate (us/s)		4.62331E-06	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		-6.31641103054E-05		Resid phase (deg)		121.0	+/- 19.6

ph/seg (deg) 55.3 46.0 Search (1024X32) 0.154 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 76.2 80.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 26.1 27.7 Inc. seg. avg. 0.176 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.0 48.4 Inc. frq. avg. 0.165 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 38.4 el 51.2 pa -105.1 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4183.987 -9290.559 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/uX.W.369.1HT0UR

Mk4/DiFX fourfit 3.21 rev 2937

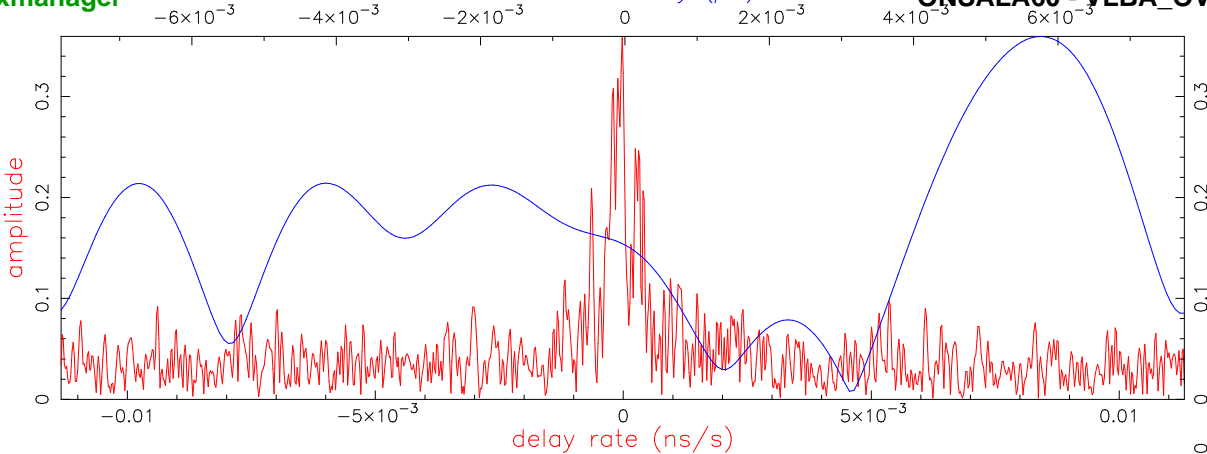
fxmanager

0102+584.1HT0UR, No0131, Xo

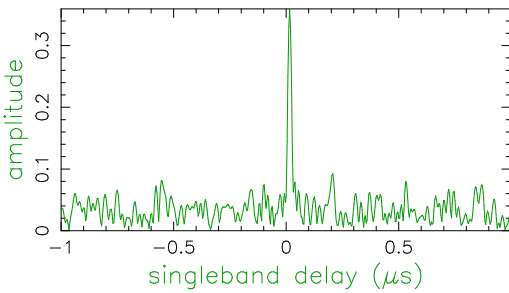
ONSALA60 - VLBA\_OV, fgroup W, pol LL

multiband delay ( $\mu$ s)

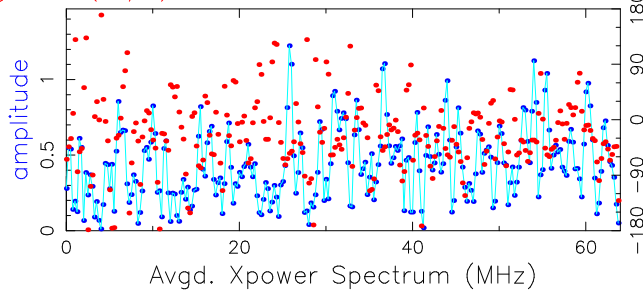
Fringe quality 9



SNR 13.2  
 Int time 179.959  
 Amp 0.360  
 Phase 83.1  
 PFD 2.7e-31  
 Delays (us)  
 SBD 0.015411  
 MBD 0.005758  
 Fringe rate (Hz)  
 -0.002299  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

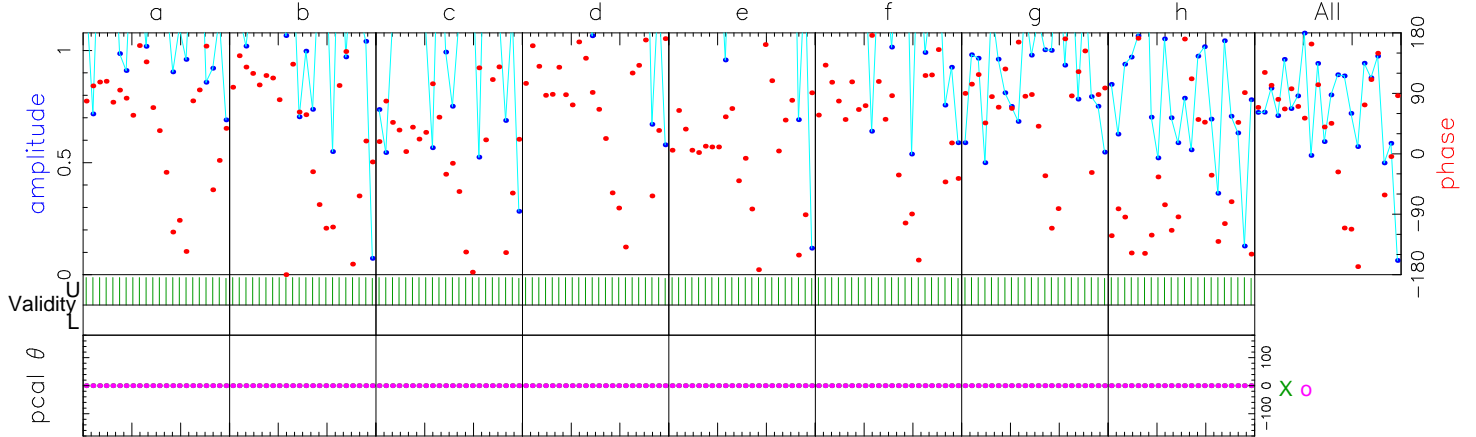


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142026  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	84.0	120.5	33.8	113.0	26.5	89.3	94.7	-117.0	Phase	83.1
	0.6	0.5	0.4	0.6	0.7	0.6	0.5	0.3	Ampl.	0.5
	260.5	261.2	261.4	261.1	261.6	262.2	261.2	263.0	Sbd box	260.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-5.26911296316E+03	Apriori delay (usec)	-5.26913434615E+03	Resid mbdelay (usec)	5.75798E-03	+/-	8.2E-05
Sband delay (usec)	-5.26911893540E+03	Apriori clock (usec)	2.6892540E+01	Resid sbdelay (usec)	1.54108E-02	+/-	6.5E-04
Phase delay (usec)	-5.26913434347E+03	Apriori clockrate (us/s)	6.2800004E-07	Resid phdelay (usec)	2.67909E-06	+/-	2.8E-07
Delay rate (us/s)	6.96027873684E-01	Apriori rate (us/s)	6.96027900370E-01	Resid rate (us/s)	-2.66857E-08	+/-	2.7E-09
Total phase (deg)	-124.6	Apriori accel (us/s/s)	5.10197932000E-05	Resid phase (deg)	83.1	+/-	8.7

ph/seg (deg)	75.8	Theor.	20.4	Amplitude	0.360 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	123.4	Search (1024X32)	0.357	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	74.9	Inc. seg. avg.	0.704	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	54.7	Inc. frq. avg.	0.513	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

X: az 8.4 el 26.5 pa -8.8 o: az 319.0 el 44.1 pa 88.5 u,v (fr/asec) -7591.007 7675.335 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo.W.331.1HT0UR

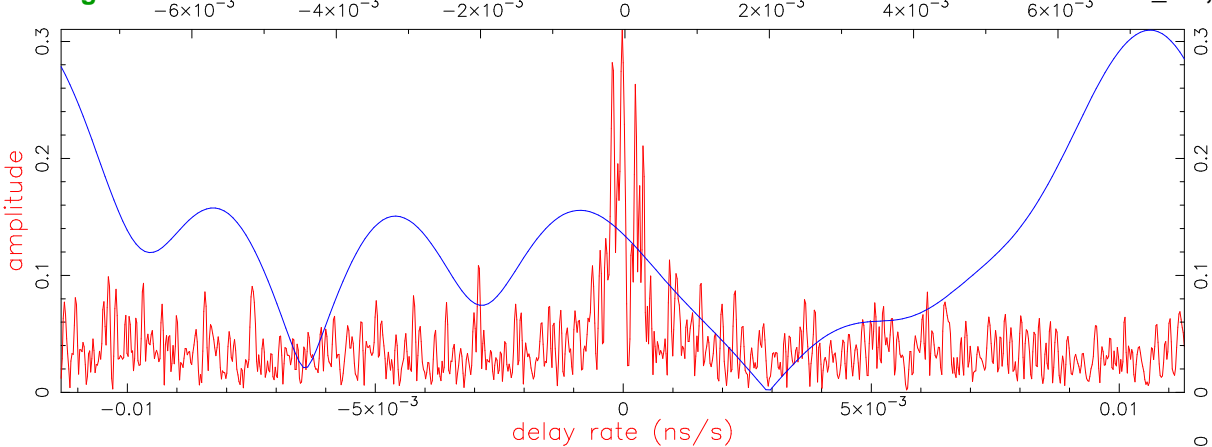
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, Xo

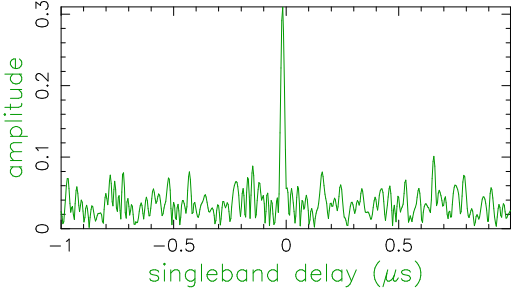
ONSALA60 - VLBA\_OV, fgroup W, pol RR

multiband delay ( $\mu$ s)

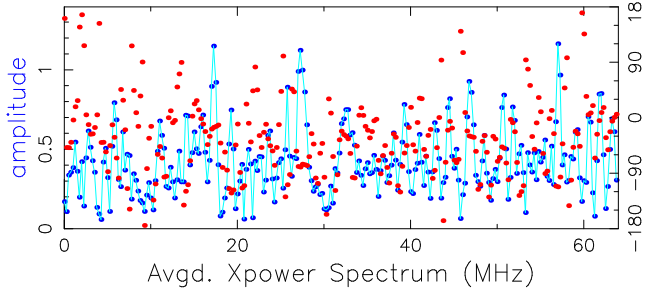


Fringe quality 9

SNR 11.4  
 Int time 179.959  
 Amp 0.310  
 Phase 49.1  
 PFD 1.2e-21  
 Delays (us)  
 SBD -0.016240  
 MBD 0.007257  
 Fringe rate (Hz)  
 -0.002430  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

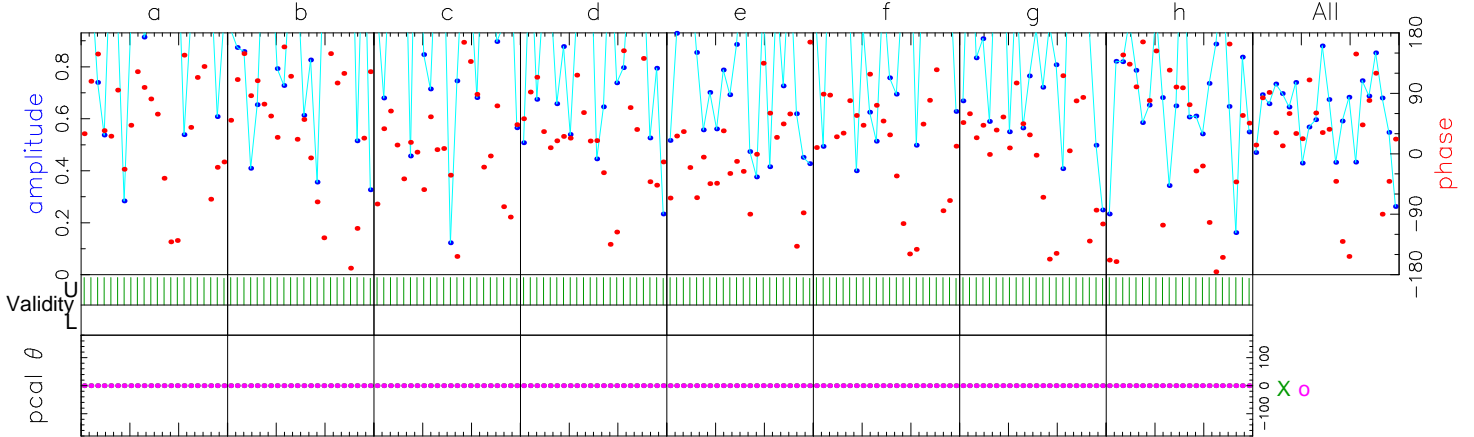


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142027  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

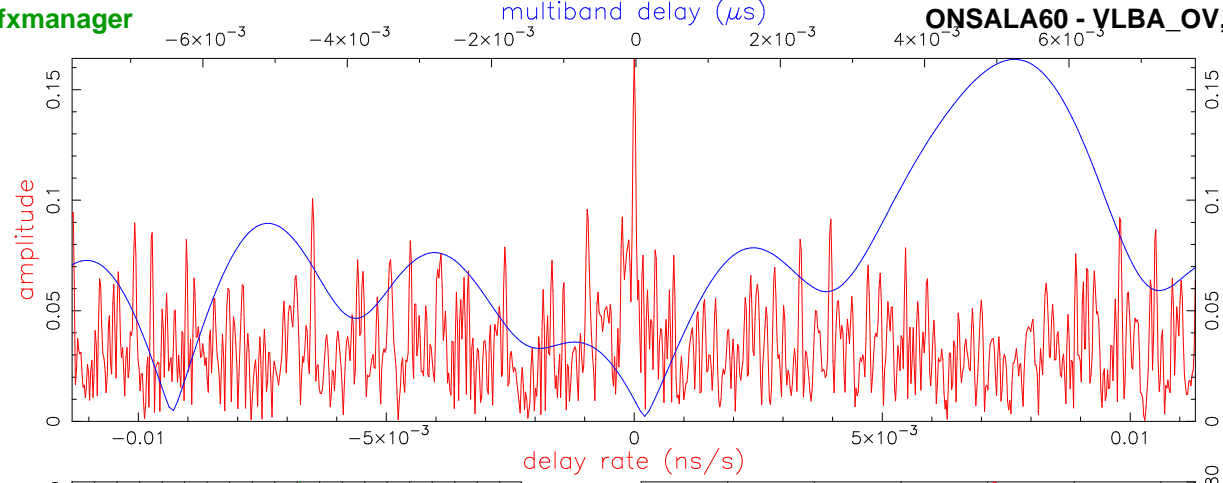
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



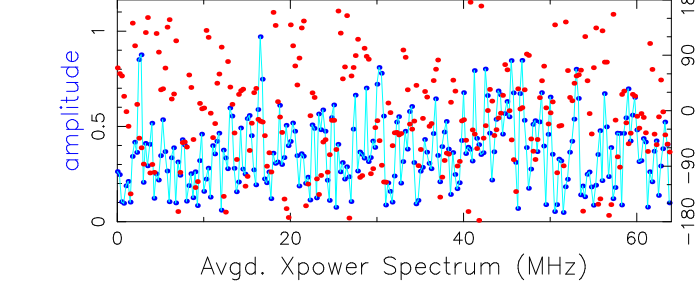
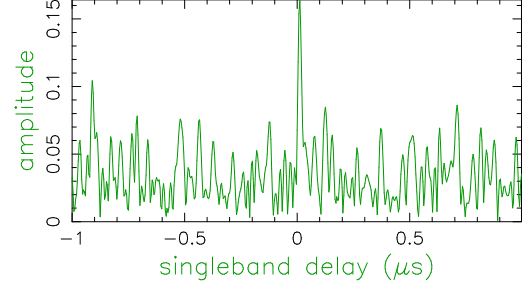
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-5.26915833870E+03				-5.26913434615E+03				7.25745E-03	+/- 9.5E-05
Sband delay (usec)	-5.26915058615E+03				2.6892540E+01				-1.62400E-02	+/- 7.6E-04
Phase delay (usec)	-5.26913434456E+03				6.2800004E-07				1.58422E-06	+/- 3.2E-07
Delay rate (us/s)	6.96027872158E-01				6.96027900370E-01				-2.82119E-08	+/- 3.1E-09
Total phase (deg)			-158.6		5.10197932000E-05				49.1	+/- 10.1
	RMS	Theor.	Amplitude	0.310 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	74.1	23.6	Search (1024X32)	0.307	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	111.1	41.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	51.0	14.2	Inc. seg. avg.	0.575	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	35.7	24.8	Inc. frq. avg.	0.397	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 8.4 el 26.5 pa -8.8 o: az 319.0 el 44.1 pa 88.5 u,v (fr/asec) -7591.007 7675.335 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo.W.340.1HT0UR

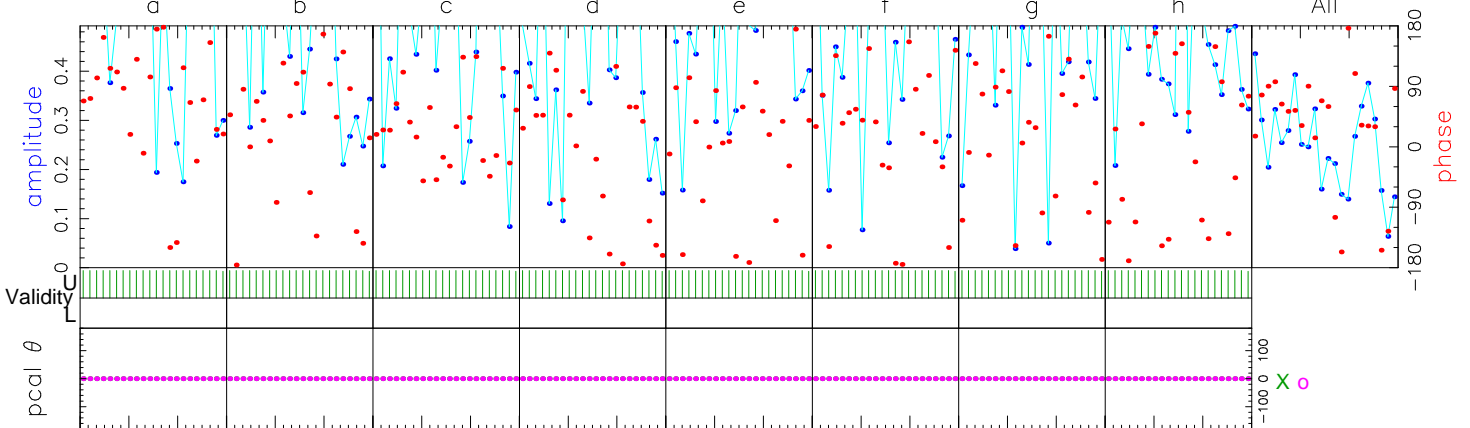




Fringe quality 0  
SNR 6.0  
Int time 179.959  
Amp 0.164  
Phase 57.5  
PFD 2.0e-01  
Delays (us)  
SBD 0.011039  
MBD 0.005269  
Fringe rate (Hz) -0.000860  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142030  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"



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
	88.8	85.0	12.9	49.6	26.7	65.3	62.2	-161.9	Phase	57.5
	0.3	0.2	0.4	0.2	0.2	0.2	0.2	0.1	Ampl.	0.2
	259.1	312.1	260.4	479.6	224.7	21.3	261.6	212.1	Sbd box	259.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-5.26912907765E+03		Apriori delay (usec)		-5.26913434615E+03		Resid mbdelay (usec)		5.26850E-03	+/- 1.8E-04
Sband delay (usec)	-5.26912330740E+03		Apriori clock (usec)		2.6892540E+01		Resid sbdelay (usec)		1.10388E-02	+/- 1.4E-03
Phase delay (usec)	-5.26913434429E+03		Apriori clockrate (us/s)		6.2800004E-07		Resid phdelay (usec)		1.85439E-06	+/- 6.1E-07
Delay rate (us/s)	6.96027890386E-01		Apriori rate (us/s)		6.96027900370E-01		Resid rate (us/s)		-9.98358E-09	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		5.10197932000E-05		Resid phase (deg)		57.5	+/- 19.0

ph/seg (deg) 76.8 44.6 Search (1024X32) 0.158 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 77.0 77.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 64.0 26.9 Inc. seg. avg. 0.193 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 56.5 47.0 Inc. frq. avg. 0.200 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
X: az 8.4 el 26.5 pa -8.8 o: az 319.0 el 44.1 pa 88.5 u,v (fr/asec) -7591.007 7675.335 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo.W.359.1HT0UR

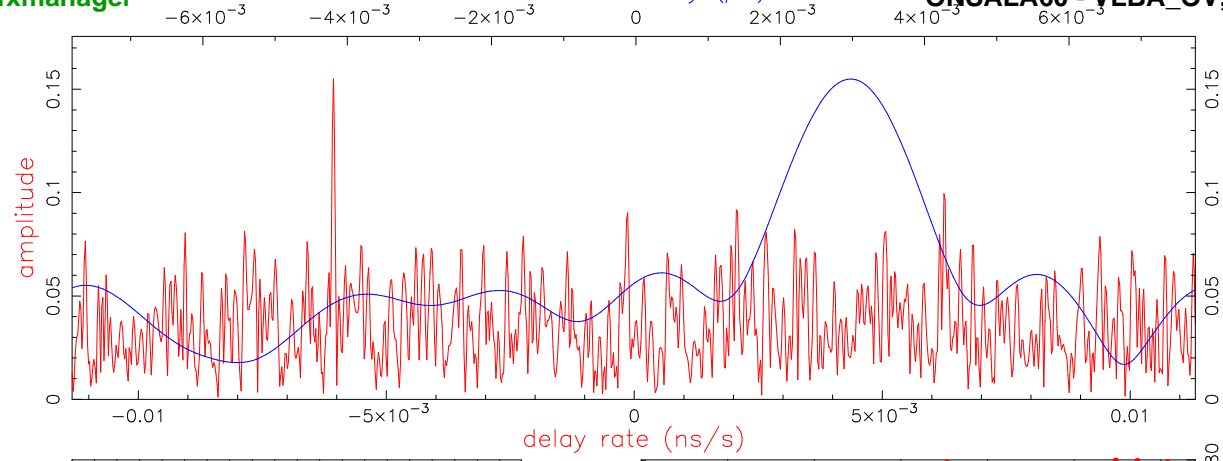
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, Xo

ONSALA60 - VLBA\_OV, fgroup W, pol RL

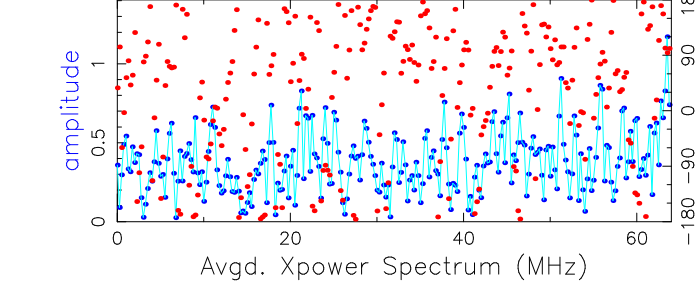
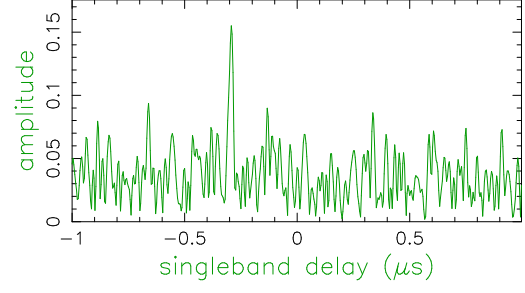
multiband delay ( $\mu$ s)



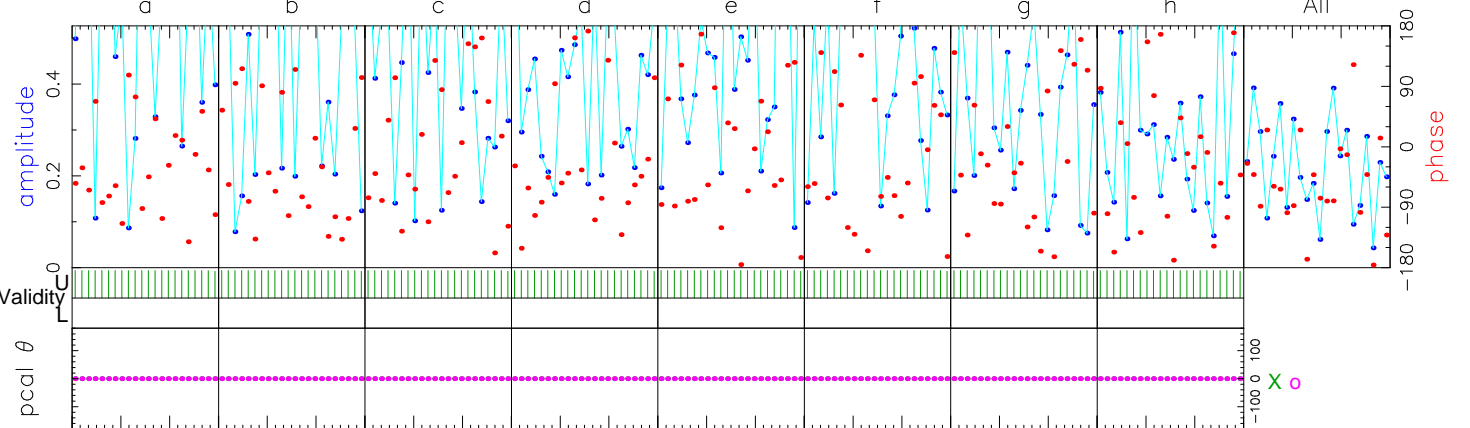
Fringe quality 0

SNR 5.7  
 Int time 179.959  
 Amp 0.176  
 Phase -55.6  
 PFD 7.6e-01  
 Delays (us)  
 SBD -0.292109  
 MBD 0.002988  
 Fringe rate (Hz)  
 -0.523948  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142032  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-51.1	-66.7	-47.7	-60.6	-27.5	-78.8	-57.1	-49.3	Phase	-55.6
	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.1	Ampl.	0.2
	180.5	183.2	86.3	335.1	422.6	469.7	483.6	154.8	Sbd box	182.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-5.26942823302E+03		Apriori delay (usec)		-5.26913434615E+03		Resid mbdelay (usec)		2.98813E-03	+/- 1.9E-04
Sband delay (usec)	-5.26942645490E+03		Apriori clock (usec)		2.6892540E+01		Resid sbdelay (usec)		-2.92109E-01	+/- 1.5E-03
Phase delay (usec)	-5.26913434794E+03		Apriori clockrate (us/s)		6.2800004E-07		Resid phdelay (usec)		-1.79190E-06	+/- 6.5E-07
Delay rate (us/s)	6.96021817847E-01		Apriori rate (us/s)		6.96027900370E-01		Resid rate (us/s)		-6.08252E-06	+/- 6.2E-09
Total phase (deg)			Apriori accel (us/s/s)		5.10197932000E-05		Resid phase (deg)		-55.6	+/- 20.1

ph/seg (deg) 65.9 47.1 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 77.3 82.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 16.3 28.4 Inc. seg. avg. 0.188 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 64.1 49.6 Inc. frq. avg. 0.159 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 8.4 el 26.5 pa -8.8 o: az 319.0 el 44.1 pa 88.5 u,v (fr/asec) -7591.007 7675.335 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xo.W.380.1HT0UR

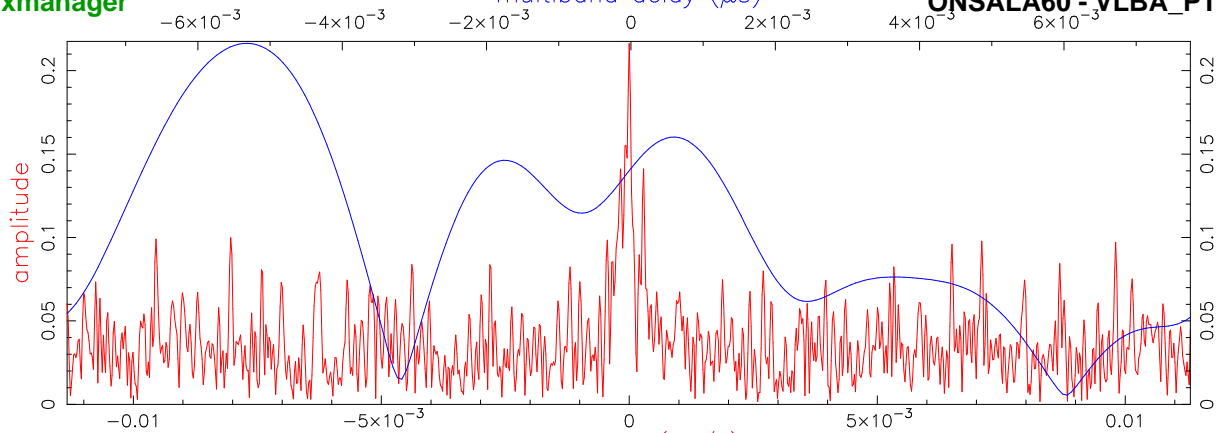
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, Xp

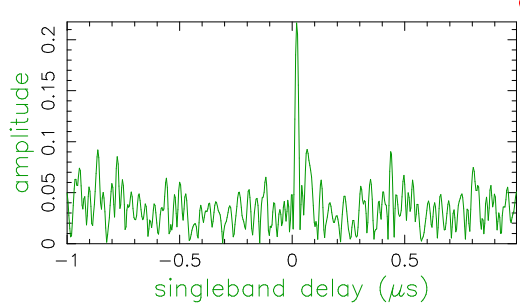
ONSALA60 - VLBA\_PT, fgroup W, pol LL

multiband delay ( $\mu$ s)

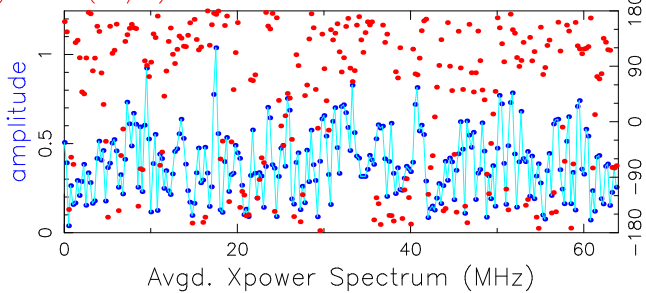


Fringe quality 9

SNR 8.0  
 Int time 179.959  
 Amp 0.218  
 Phase 73.7  
 PFD 2.5e-07  
 Delays (us)  
 SBD 0.020467  
 MBD -0.005273  
 Fringe rate (Hz)  
 0.000423  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

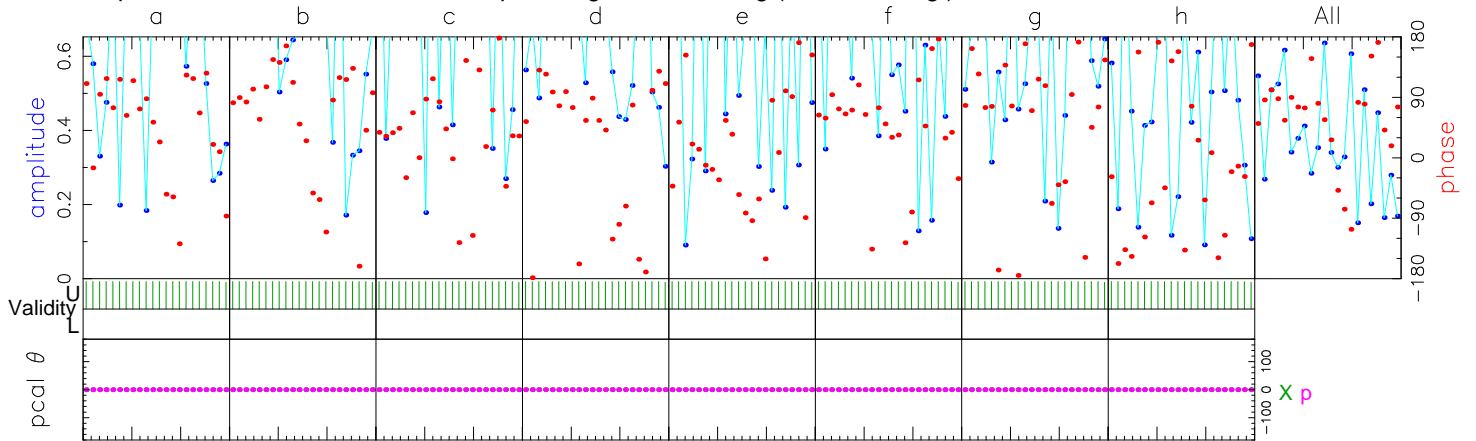


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142026  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	70.3	94.0	53.4	111.4	-16.0	58.6	118.2	-94.2	Phase	73.7
	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.2	Ampl.	0.3
	261.3	262.3	263.2	262.7	262.7	263.6	263.1	264.3	Sbd box	262.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-3.11479005477E+03	Apriori delay (usec)	-3.11481603205E+03	Resid mbdelay (usec)	-5.27272E-03	+/-	1.4E-04
Sband delay (usec)	-3.11479556455E+03	Apriori clock (usec)	4.8246094E+01	Resid sbdelay (usec)	2.04675E-02	+/-	1.1E-03
Phase delay (usec)	-3.11481602967E+03	Apriori clockrate (us/s)	1.2800004E-07	Resid phdelay (usec)	2.37767E-06	+/-	4.6E-07
Delay rate (us/s)	7.59082885142E-01	Apriori rate (us/s)	7.59082880231E-01	Resid rate (us/s)	4.91030E-09	+/-	4.4E-09
Total phase (deg)		Apriori accel (us/s/s)	4.36589229515E-05	Resid phase (deg)	73.7	+/-	14.4

ph/seg (deg)	67.4	Theor.	33.7	Amplitude	0.218 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	101.2		58.8	Search (1024X32)	0.215	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	82.4		20.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	59.5		35.4	Inc. seg. avg.	0.325	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.306	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 8.4 el 26.5 pa -8.8 p: az 321.2 el 36.6 pa 82.3 u,v (fr/asec) -8288.662 6925.996 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp.W.332.1HT0UR

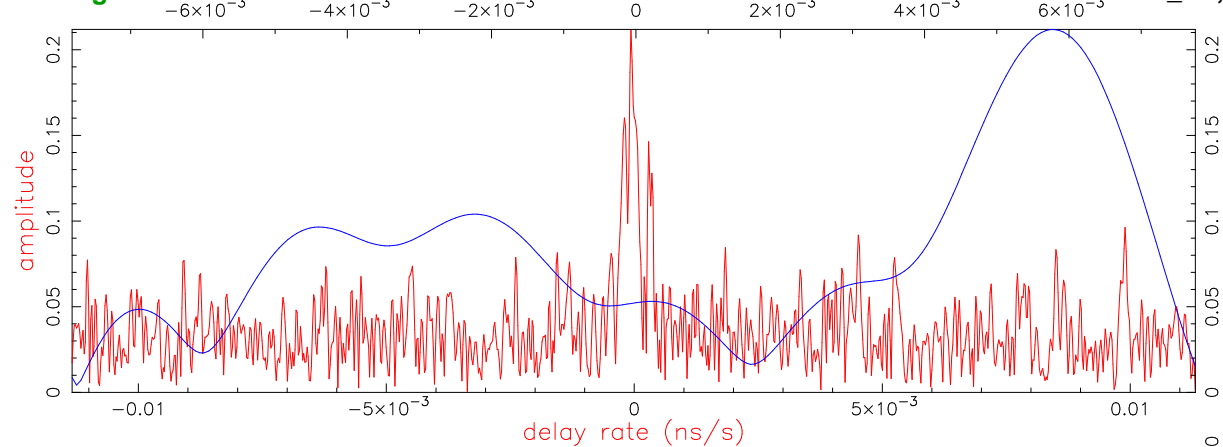
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, Xp

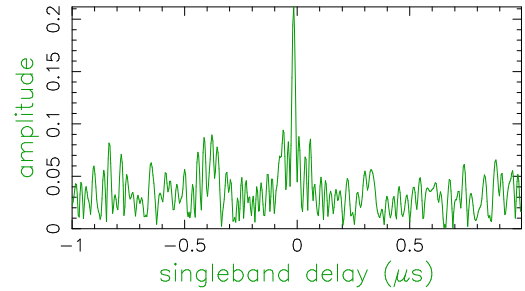
ONSALA60 - VLBA\_PT, fgroup W, pol RR

multiband delay ( $\mu$ s)

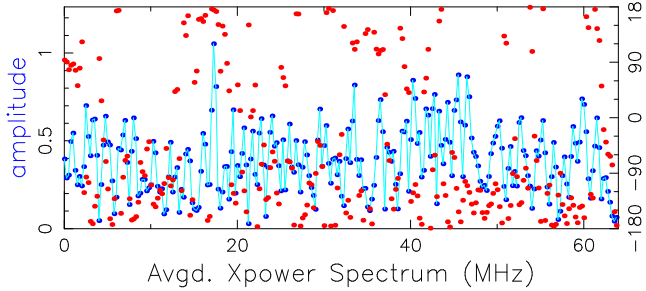


Fringe quality 9

SNR 7.8  
 Int time 179.959  
 Amp 0.212  
 Phase -35.2  
 PFD 1.3e-06  
 Delays (us)  
 SBD -0.015825  
 MBD 0.005777  
 Fringe rate (Hz)  
 -0.005651  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

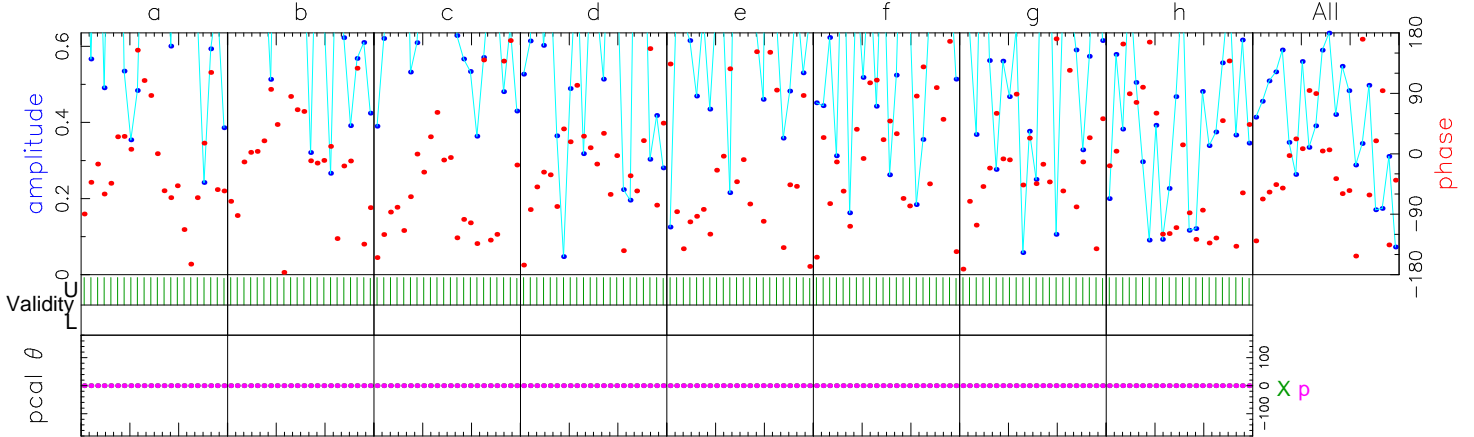


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142028  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-36.3	4.3	-76.3	-24.6	-87.7	0.2	-36.2	43.5		-35.2
	0.4	0.3	0.3	0.4	0.2	0.2	0.2	0.0	Ampl.	0.2
	253.1	252.1	254.0	253.0	326.9	495.3	254.8	340.9	Sbd box	252.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

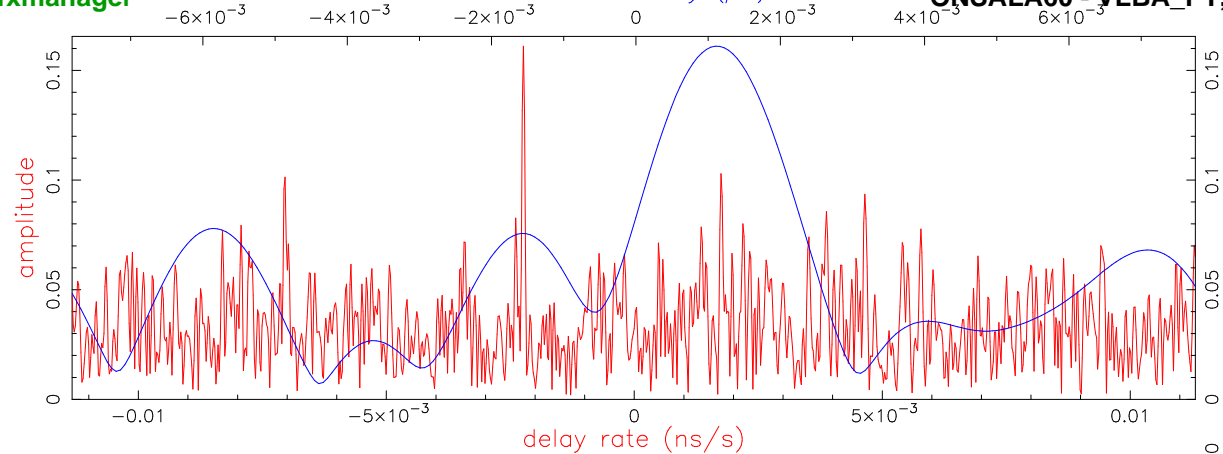
Group delay (usec)(sbd)	-3.11482588032E+03	Apriori delay (usec)	-3.11481603205E+03	Resid mbdelay (usec)	5.77673E-03	+/-	1.4E-04
Sband delay (usec)	-3.11483185705E+03	Apriori clock (usec)	4.8246094E+01	Resid sbdelay (usec)	-1.58250E-02	+/-	1.1E-03
Phase delay (usec)	-3.11481603318E+03	Apriori clockrate (us/s)	1.2800004E-07	Resid phdelay (usec)	-1.13547E-06	+/-	4.8E-07
Delay rate (us/s)	7.59082814628E-01	Apriori rate (us/s)	7.59082880231E-01	Resid rate (us/s)	-6.56039E-08	+/-	4.6E-09
Total phase (deg)		Apriori accel (us/s/s)	4.36589229515E-05	Resid phase (deg)	-35.2	+/-	14.7

ph/seg (deg)	RMS 74.3	Theor. 34.6	Amplitude Search (1024X32)	0.212 +/- 0.027	0.211	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	115.5	60.4	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)	47.6	20.9	Inc. seg. avg.	0.344	0.344	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	53.3	36.4	Inc. frq. avg.	0.234	0.234	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

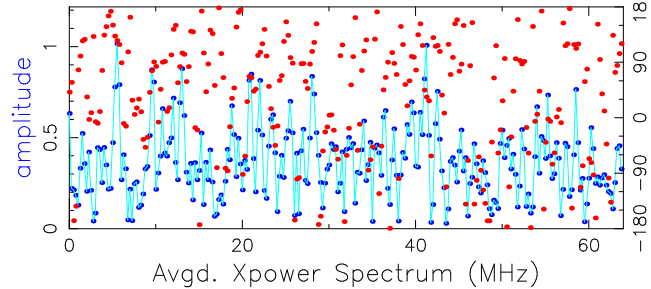
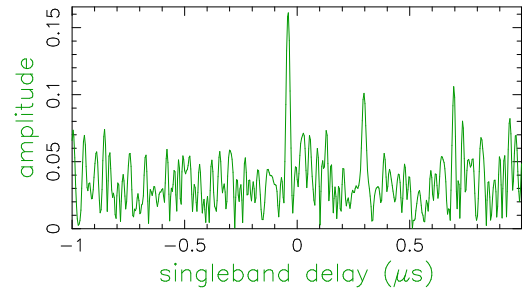
X: az 8.4 el 26.5 pa -8.8 p: az 321.2 el 36.6 pa 82.3 u,v (fr/asec) -8288.662 6925.996 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp.W.342.1HT0UR

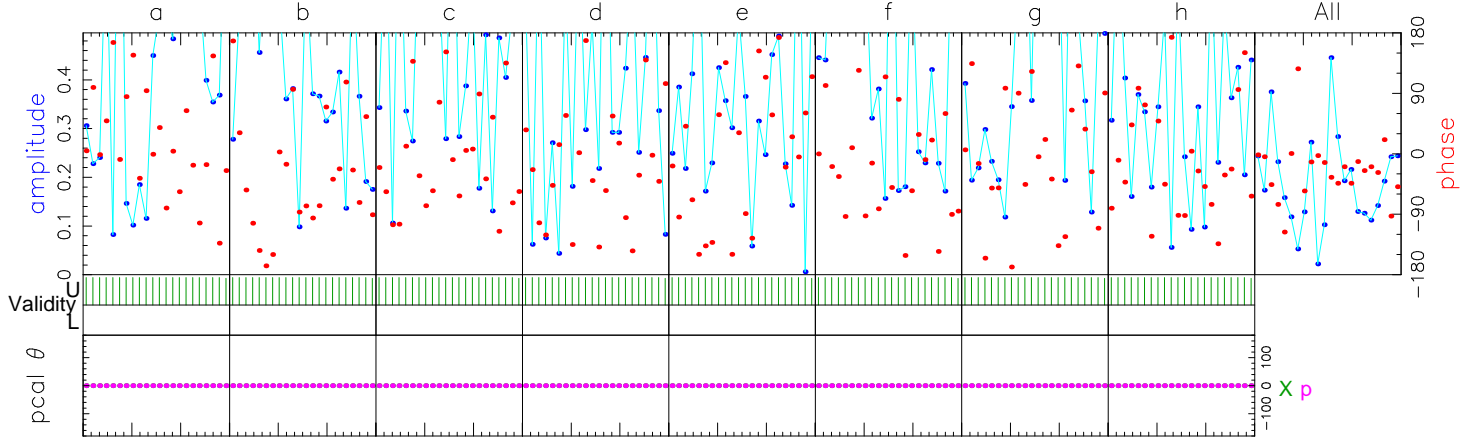
multiband delay ( $\mu$ s)



Fringe quality 0  
SNR 6.0  
Int time 179.959  
Amp 0.166  
Phase -34.4  
PFD 2.6e-01  
Delays (us)  
SBD -0.040553  
MBD 0.001109  
Fringe rate (Hz)  
-0.192436  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142029  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"



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
	-8.4	-66.8	-43.1	-35.6	69.0	-43.8	12.3	-38.6		Phase
	0.3	0.2	0.3	0.2	0.0	0.2	0.1	0.2		Ampl.
	333.9	9.2	246.5	500.1	111.1	15.5	434.4	167.0		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		246.6
X	1000	1000	1000	1000	1000	1000	1000	1000		APs used
p	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
X	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
p	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Chan ids
										Tracks
Group delay (usec)(sbd)	-3.11486179837E+03				-3.11481603205E+03				1.10867E-03	+/- 1.8E-04
Sband delay (usec)	-3.11485658505E+03				4.8246094E+01				-4.05530E-02	+/- 1.4E-03
Phase delay (usec)	-3.11481603316E+03				1.2800004E-07				-1.10941E-06	+/- 6.2E-07
Delay rate (us/s)	7.59080646237E-01				7.59082880231E-01				-2.23399E-06	+/- 5.9E-09
Total phase (deg)			-34.6		4.36589229515E-05				-34.4	+/- 19.2
ph/seg (deg)	46.7	45.0			0.158					
amp/seg (%)	62.0	78.5			0.000					
ph/frq (deg)	49.6	27.1			0.149					
amp/frq (%)	50.1	47.3			0.159					
X: az 8.4 el 26.5 pa -8.8										
p: az 321.2 el 36.6 pa 82.3										
u,v (fr/asec)					-8288.662	6925.996				simultaneous interpolator
Control file: cf_1234_gmva										
Input file: /Exps/c202a/v1/v1_3mm/1234/No0131/Xp..1HT0UR										
Output file: /Exps/c202a/v1/v1_3mm/1234/No0131/Xp.W.356.1HT0UR										

RMS Theor. Amplitude 0.166 +/- 0.028  
Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
Bits/sample: 2x2 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



Mk4/DiFX fourfit 3.21 rev 2937

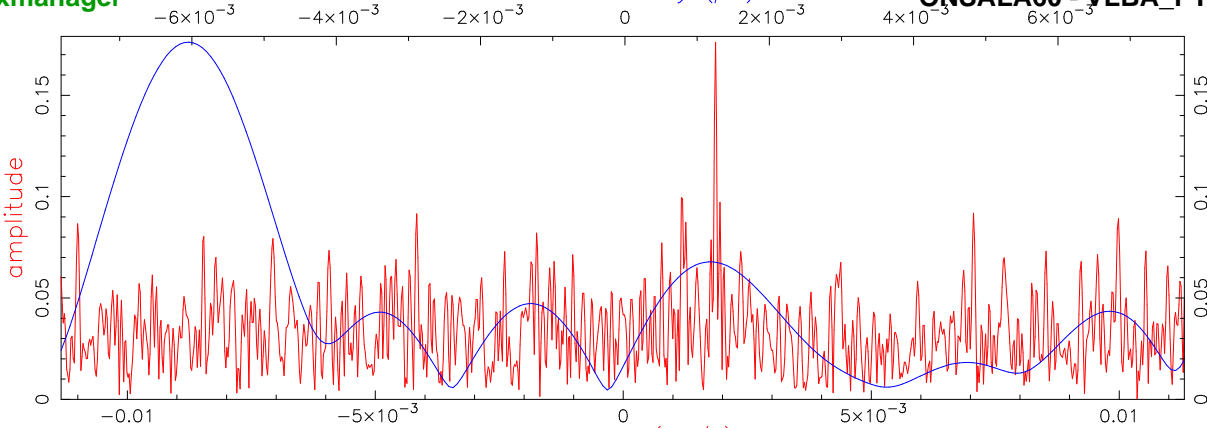
fxmanager

0102+584.1HT0UR, No0131, Xp

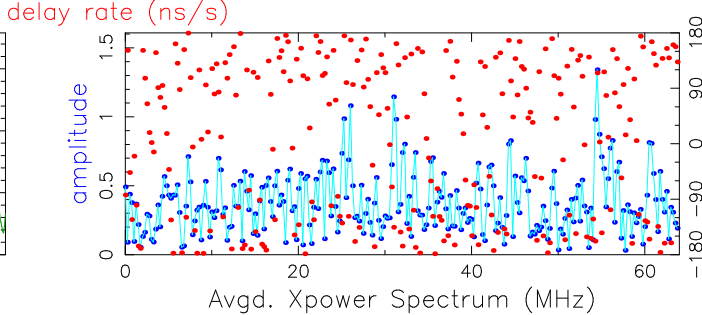
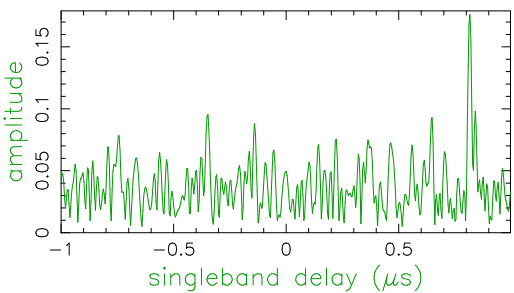
ONSALA60 - VLBA\_PT, fgroup W, pol RL

multiband delay ( $\mu$ s)

Fringe quality 0

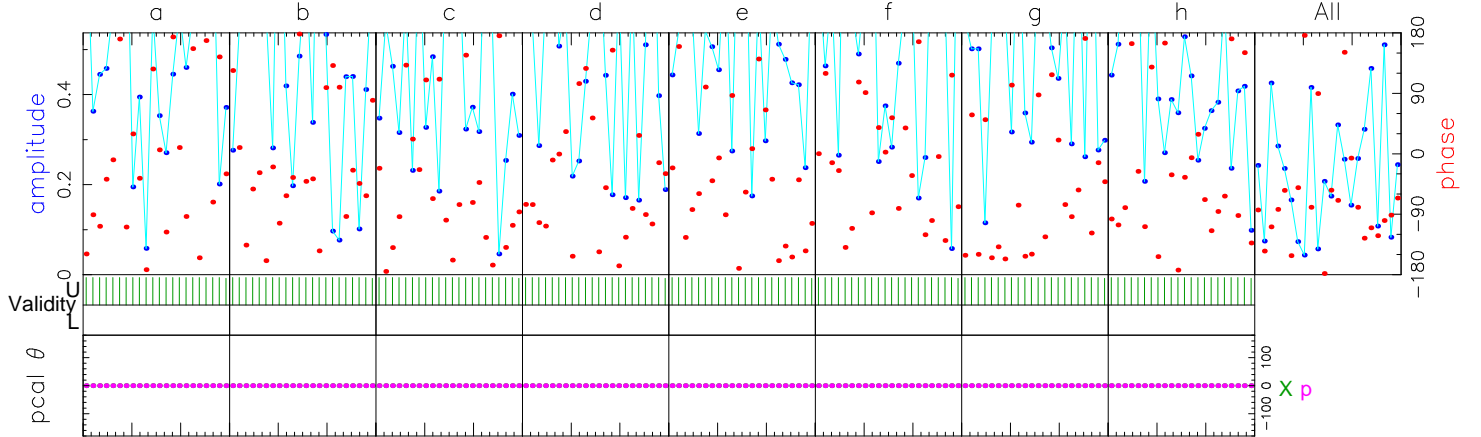


SNR 6.5  
 Int time 179.959  
 Amp 0.179  
 Phase -96.9  
 PFD 1.1e-02  
 Delays (us)  
 SBD 0.815423  
 MBD -0.006085  
 Fringe rate (Hz)  
 0.160239  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



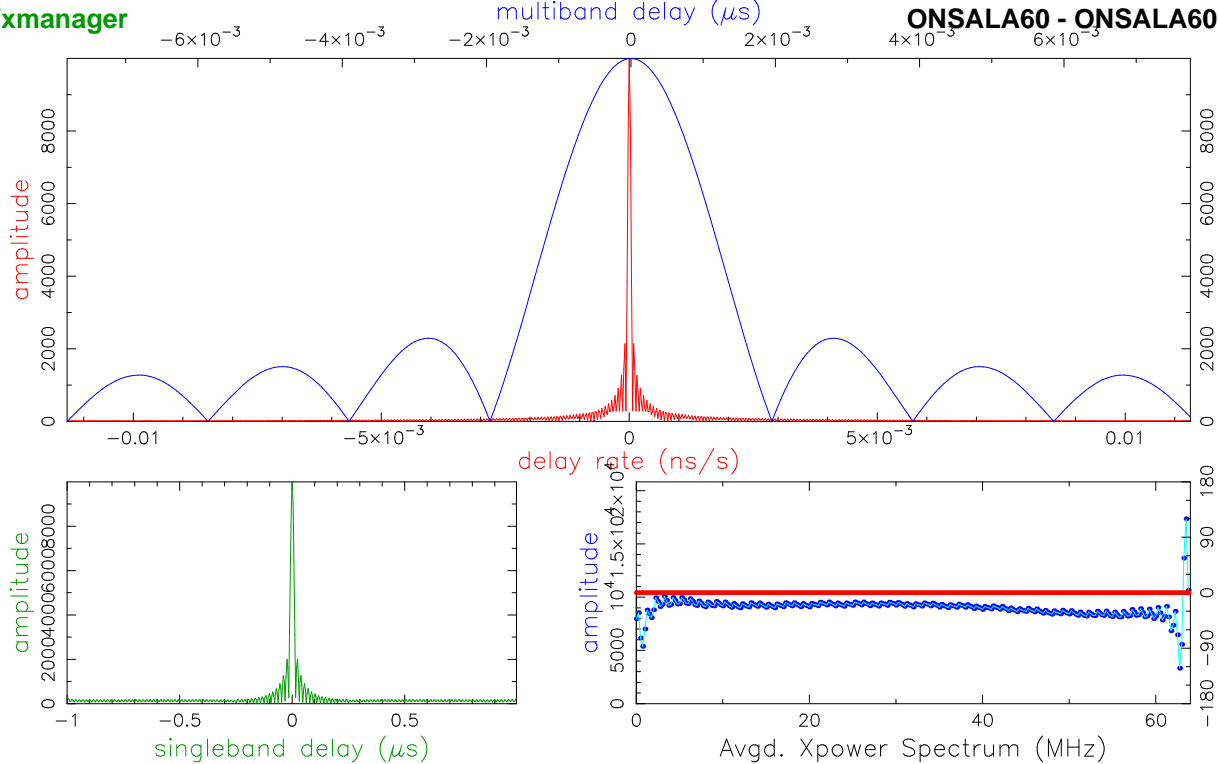
Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142032  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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



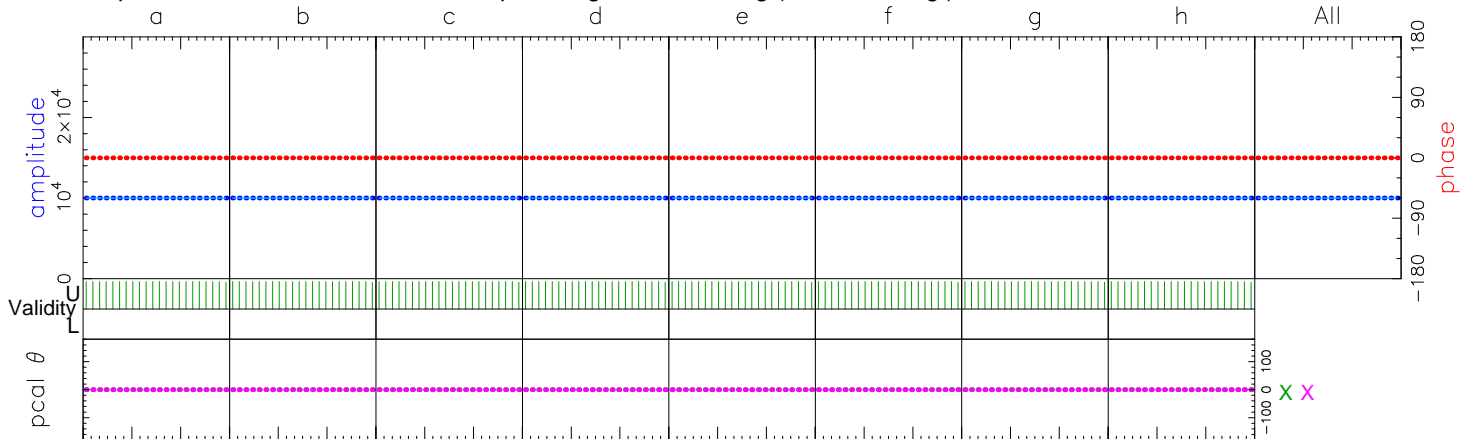
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-120.8	-79.4	-113.5	-75.1	-101.1	-58.9	-121.6	-99.9	Phase	-96.9
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	156.2	333.8	458.4	226.9	265.2	65.8	218.4	434.1	Sbd box	465.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.11399399222E+03		Apriori delay (usec)		-3.11481603205E+03		Resid mbdelay (usec)		-6.08517E-03	+/- 1.7E-04
Sband delay (usec)	-3.11400060905E+03		Apriori clock (usec)		4.8246094E+01		Resid sbdelay (usec)		8.15423E-01	+/- 1.3E-03
Phase delay (usec)	-3.11481603517E+03		Apriori clockrate (us/s)		1.2800004E-07		Resid phdelay (usec)		-3.12506E-06	+/- 5.7E-07
Delay rate (us/s)	7.59084740446E-01		Apriori rate (us/s)		7.59082880231E-01		Resid rate (us/s)		1.86021E-06	+/- 5.5E-09
Total phase (deg)			Apriori accel (us/s/s)		4.36589229515E-05		Resid phase (deg)		-96.9	+/- 17.6

RMS Theor. Amplitude 0.179 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 60.6 41.4 Search (1024X32) 0.174 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 81.7 72.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 24.9 24.9 Inc. seg. avg. 0.187 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 8.6 43.5 Inc. frq. avg. 0.175 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 X: az 8.4 el 26.5 pa -8.8 p: az 321.2 el 36.6 pa 82.3 u,v (fr/asec) -8288.662 6925.996 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/Xp.W.377.1HT0UR



Fringe quality 9  
SNR 366846.7  
Int time 179.959  
Amp 9999.998  
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  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142025  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

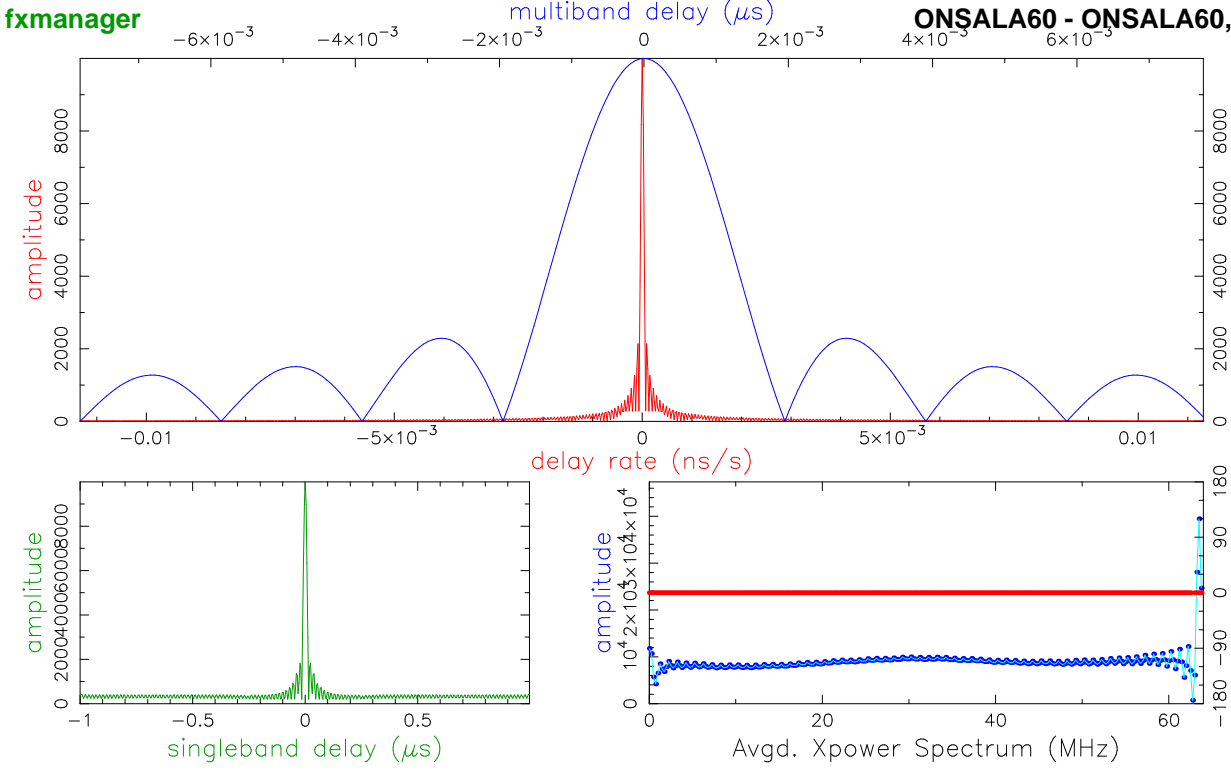
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

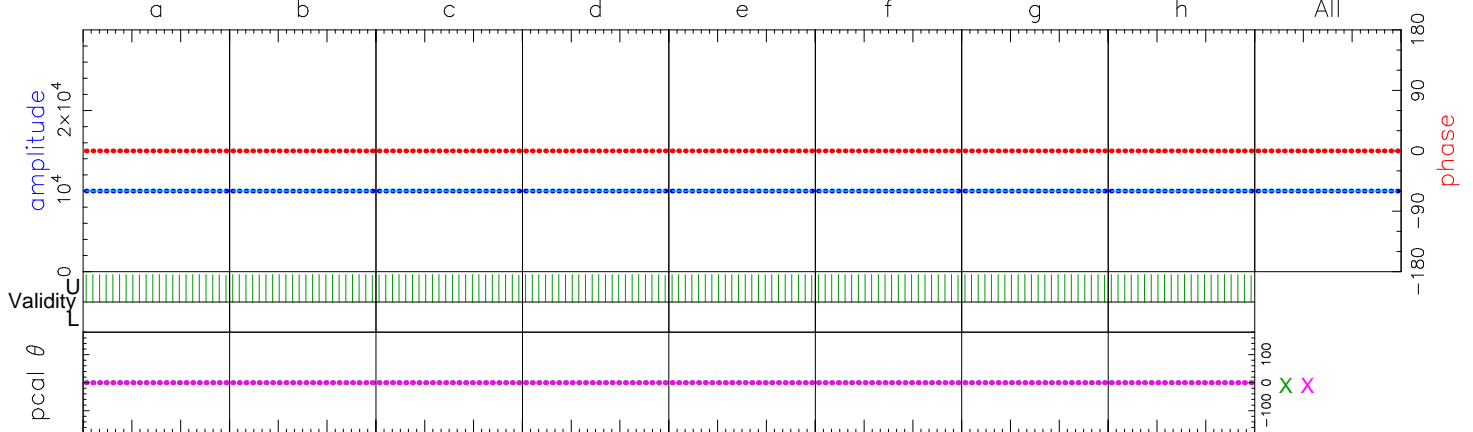
Group delay (usec)(sbd)	0.000000000000E+00	Apriori delay (usec)	0.000000000000E+00	Resid mbdelay (usec)	0.000000E+00	+/-	3.0E-09
Sband delay (usec)	0.000000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.000000E+00	+/-	2.3E-08
Phase delay (usec)	0.000000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.000000E+00	+/-	1.0E-11
Delay rate (us/s)	0.000000000000E+00	Apriori rate (us/s)	0.000000000000E+00	Resid rate (us/s)	0.000000E+00	+/-	9.7E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.000000000000E+00	Resid phase (deg)	0.0	+/-	0.0

ph/seg (deg)	0.0	Theor.	Amplitude	9999.998 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	0.0	0.0	Search (1024X32)	9999.998	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011 0.011	
			Inc. frq. avg.	9999.998	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00



Fringe quality 9  
SNR 366846.7  
Int time 179.959  
Amp 9999.998  
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  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142027  
2020:247:085004  
RA & Dec (J2000) 01h02m45.762375s +58°24'11.136621"

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
X	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	10000.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Sbd box	257.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Mani PC	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	PC amp	
									Chan ids	
									Tracks	
									Chan ids	
									Tracks	

Group delay (usec)(sbd)	0.000000000000E+00	Apriori delay (usec)	0.000000000000E+00	Resid mbdelay (usec)	0.000000E+00	+/-	3.0E-09
Sband delay (usec)	0.000000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.000000E+00	+/-	2.3E-08
Phase delay (usec)	0.000000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.000000E+00	+/-	1.0E-11
Delay rate (us/s)	0.000000000000E+00	Apriori rate (us/s)	0.000000000000E+00	Resid rate (us/s)	0.000000E+00	+/-	9.7E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.000000000000E+00	Resid phase (deg)	0.0	+/-	0.0

ph/seg (deg)	0.0	RMS	Theor.	Amplitude	9999.998 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	0.0	0.0	0.0	Search (1024X32)	9999.998	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	0.0	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
amp/frq (%)	0.0	0.0	0.0	Inc. seg. avg.	10000.000	SampCntNorm: enabled	dr window (ns/s) -0.011 0.011
				Inc. frq. avg.	9999.998	Sample rate(MISamp/s): 128	ion window (TEC) 0.00 0.00
						Data rate(Mb/s): 2048	
						nlags: 256 t_cohere infinite	

Mk4/DiFX fourfit 3.21 rev 2937

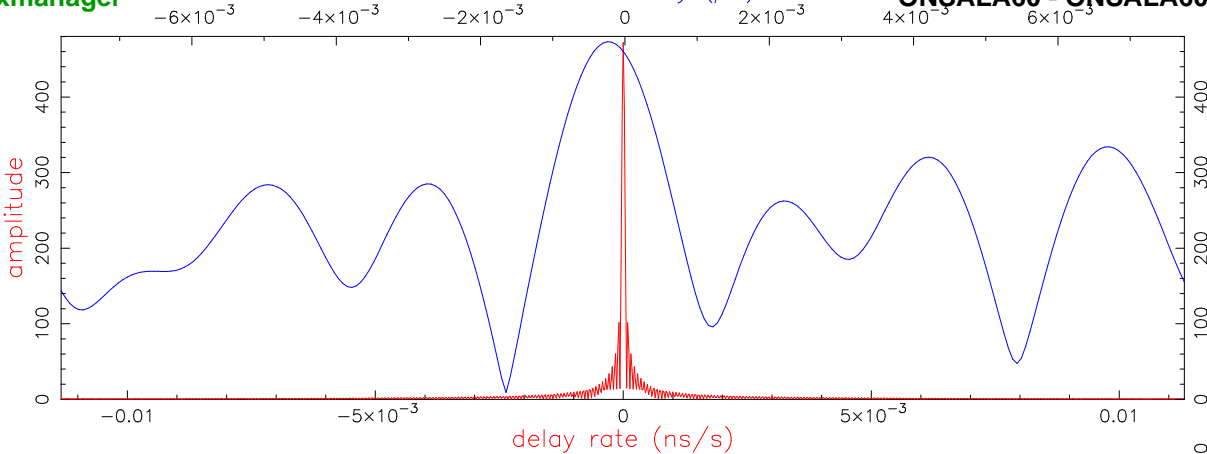
fxmanager

0102+584.1HT0UR, No0131, XX

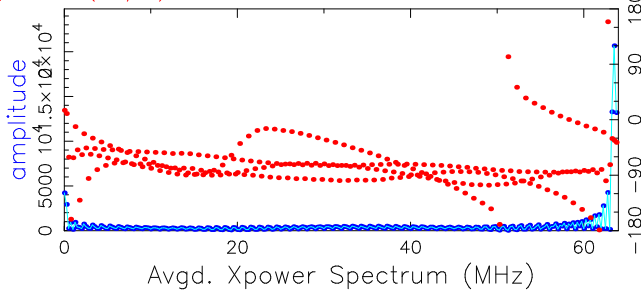
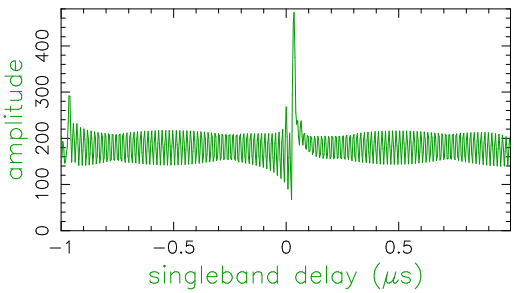
ONSALA60 - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

Fringe quality 5

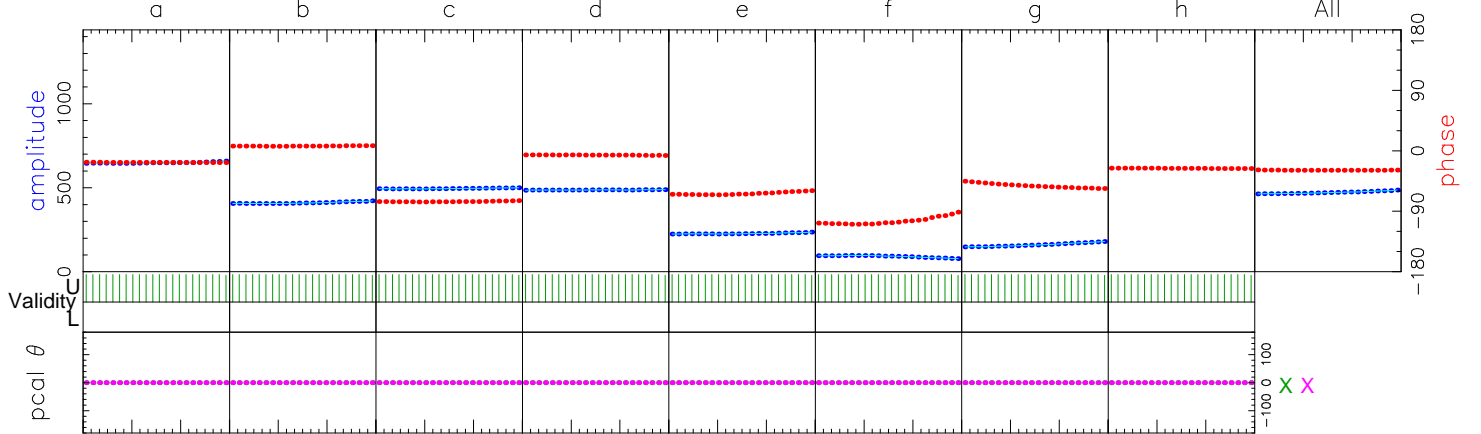


SNR 17615.7  
 Int time 179.959  
 Amp 480.192  
 Phase -28.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.033812  
 MBD -0.000171  
 Fringe rate (Hz)  
 0.000023  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142029  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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	
	-17.3	7.1	-75.5	-6.4	-63.4	-104.8	-52.1	-26.1		Phase	-28.9
	649.1	410.9	495.9	487.0	227.8	90.6	160.6	1662.5		Ampl.	523.0
	265.9	264.0	265.3	265.7	263.7	262.7	263.6	261.9		Sbd box	265.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	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)	3.10791875000E-02		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		-1.70813E-04	+/-	6.2E-08
Sband delay (usec)	3.38122500000E-02		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		3.38123E-02	+/-	4.9E-07
Phase delay (usec)	-9.33145719812E-07		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-9.33146E-07	+/-	2.1E-10
Delay rate (us/s)	2.66417664964E-10		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		2.66418E-10	+/-	2.0E-12
Total phase (deg)			Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		-28.9	+/-	0.0

ph/seg (deg) 0.2 0.0 Theor. Amplitude 480.192 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 2.2 0.0 Search (1024X32) 457.383 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 44.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 97.4 0.0 Inc. seg. avg. 472.117 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 X: az 8.4 el 26.5 pa -8.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/XX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/XX.W.357.1HT0UR

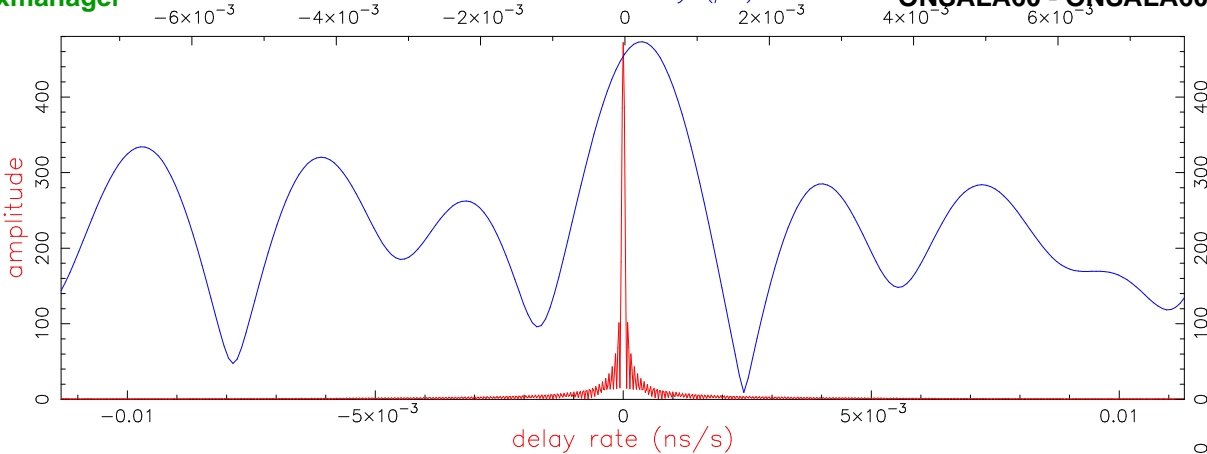
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, XX

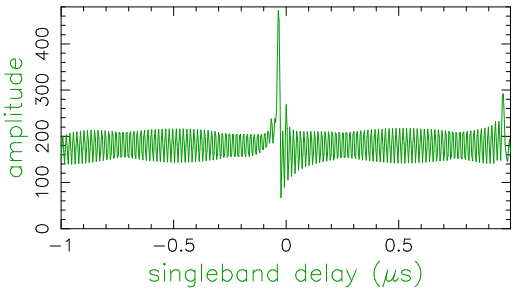
ONSALA60 - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

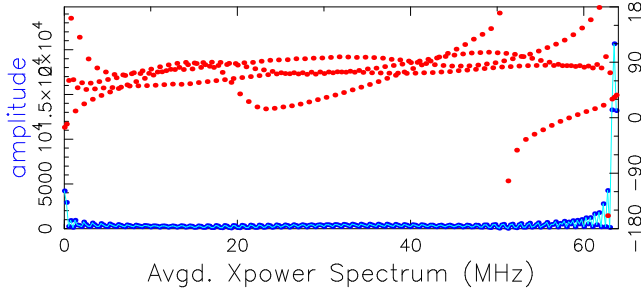


Fringe quality 5

SNR 17615.7  
 Int time 179.959  
 Amp 480.192  
 Phase 28.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.033812  
 MBD 0.000171  
 Fringe rate (Hz)  
 -0.000023  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

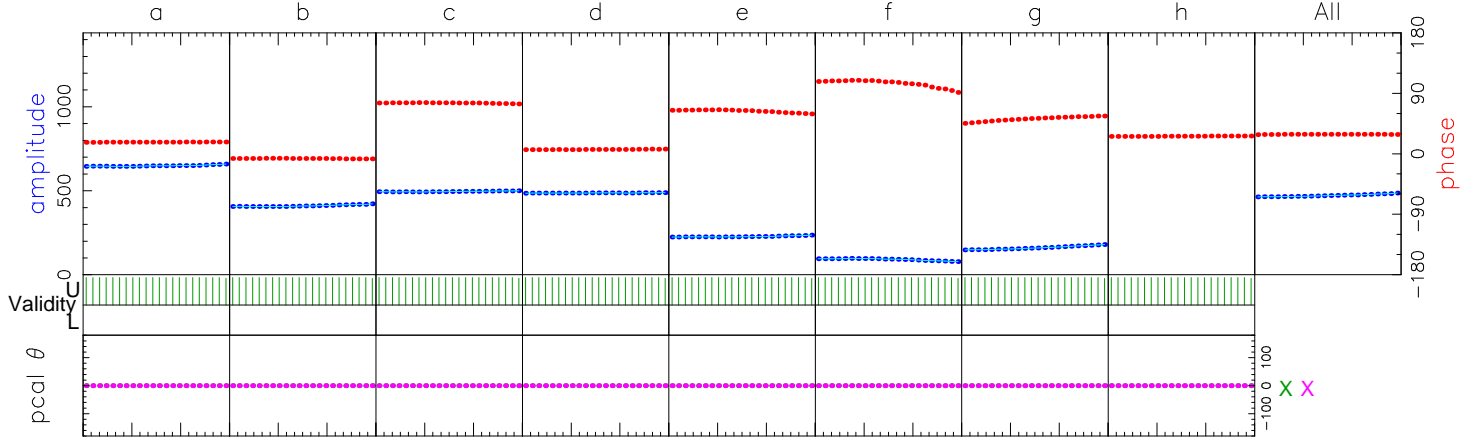


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142031  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	17.3	-7.1	75.5	6.4	63.4	104.8	52.1	26.1	Phase	28.9
	649.1	410.9	495.9	487.0	227.8	90.6	160.6	1662.5	Ampl.	523.0
	248.1	250.0	248.7	248.3	250.3	251.3	250.4	252.1	Sbd box	248.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-3.10791875000E-02	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	1.70813E-04	+/-	6.2E-08
Sband delay (usec)	-3.38122500000E-02	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-3.38123E-02	+/-	4.9E-07
Phase delay (usec)	9.33145719721E-07	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	9.33146E-07	+/-	2.1E-10
Delay rate (us/s)	-2.66417664964E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-2.66418E-10	+/-	2.0E-12
Total phase (deg)		Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	28.9	+/-	0.0

ph/seg (deg)	0.2	Theor.	Amplitude	480.192 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	2.2	0.0	Search (1024X32)	457.383	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	44.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	97.4	0.0	Inc. seg. avg.	472.117	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011 0.011	
X: az 8.4 el 26.5 pa -8.8		X: az 8.4 el 26.5 pa -8.8	Inc. frq. avg.	523.039	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00
Control file: cf_1234_gmva		Input file: /Exps/c202a/v1/v1_3mm/1234/No0131/XX..1HT0UR	u, v (fr/asec)	0.000 0.000			simultaneous interpolator	
					Output file: /Exps/c202a/v1/v1_3mm/1234/No0131/XX.W.371.1HT0UR			



Mk4/DiFX fourfit 3.21 rev 2937

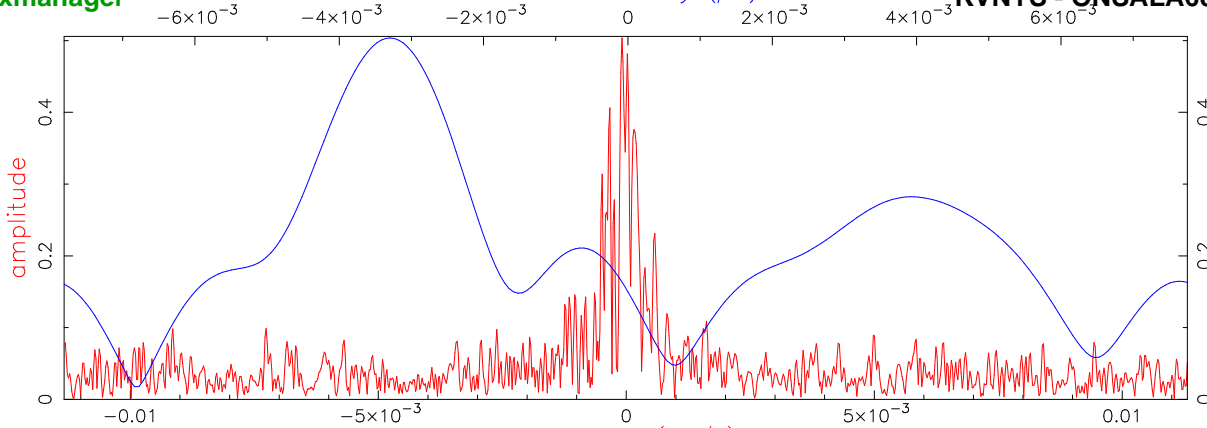
fxmanager

0102+584.1HT0UR, No0131, yX

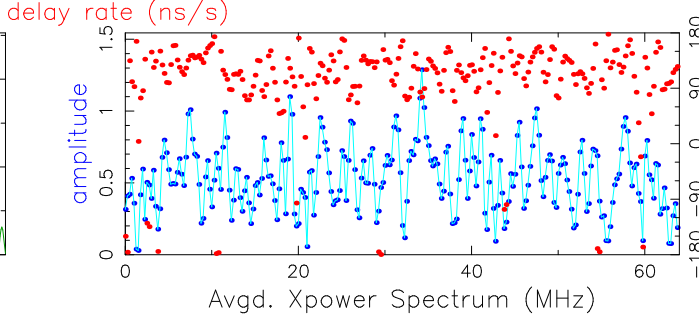
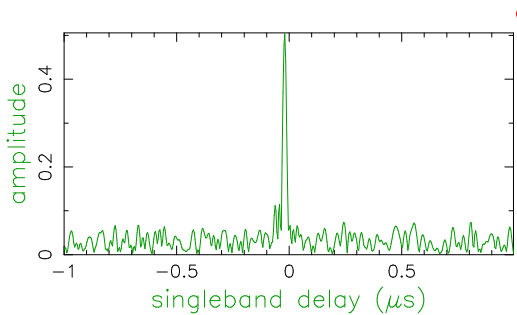
KVNYS - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

Fringe quality 8

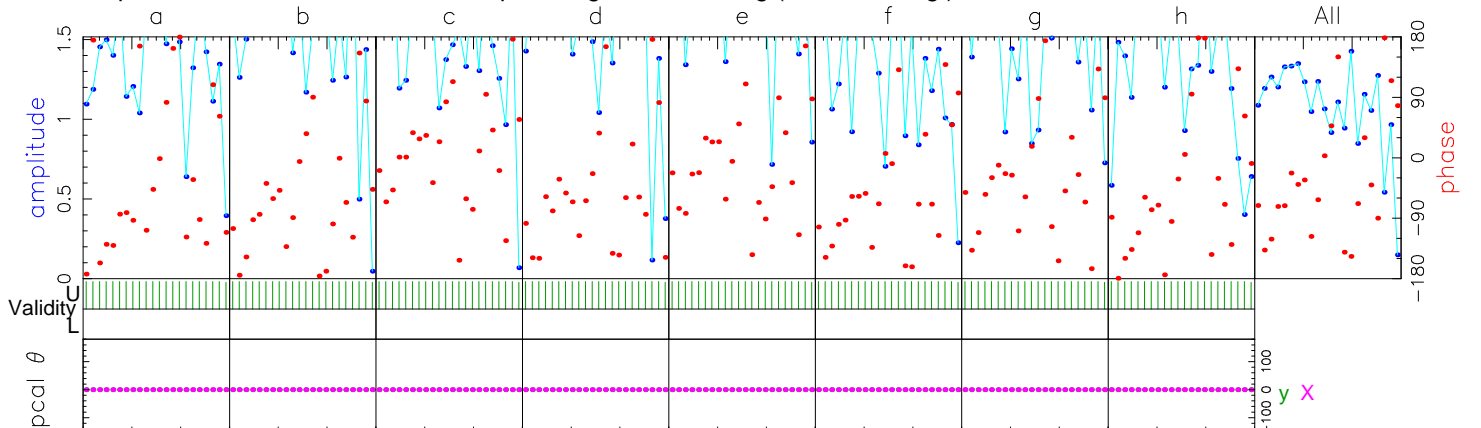


SNR 18.6  
 Int time 179.955  
 Amp 0.506  
 Phase -74.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.020393  
 MBD -0.003321  
 Fringe rate (Hz)  
 -0.007164  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



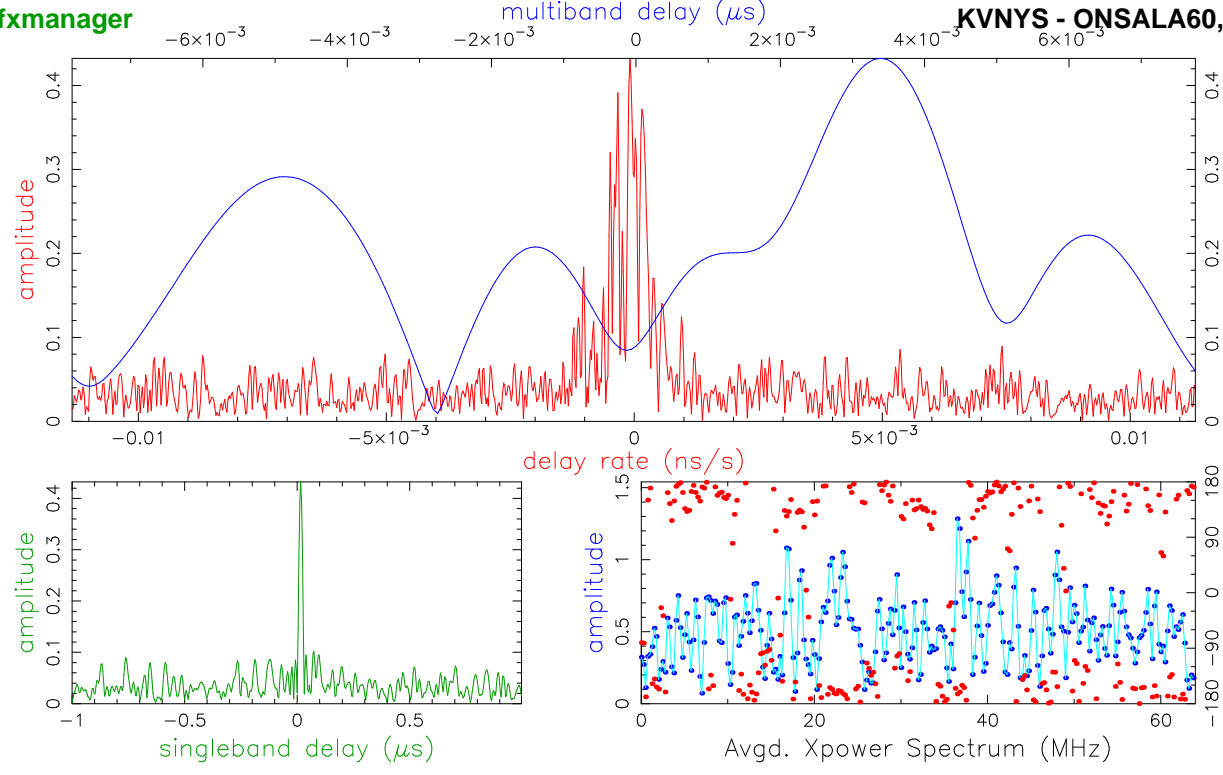
Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142029  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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



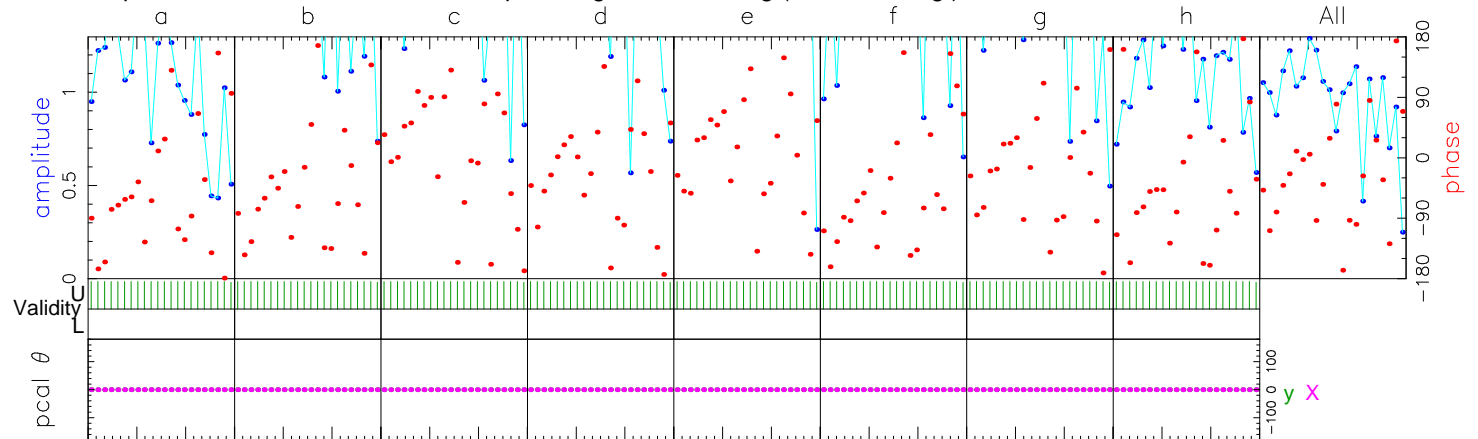
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-124.7	-91.8	0.1	-83.5	-12.7	-96.0	-63.2	-108.8	Phase	-74.2
	0.5	0.7	0.6	0.8	0.7	0.6	0.6	0.6	Ampl.	0.7
	253.5	251.3	251.4	251.7	251.7	251.1	251.1	251.6	Sbd box	251.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.19029614100E+03			Apriori delay (usec)	7.19031508698E+03			Resid mbdelay (usec)	-3.32098E-03	+/- 5.8E-05
Sband delay (usec)	7.19029469423E+03			Apriori clock (usec)	-4.7056561E+01			Resid sbdelay (usec)	-2.03927E-02	+/- 4.6E-04
Phase delay (usec)	7.19031508459E+03			Apriori clockrate (us/s)	-4.2800003E-07			Resid phdelay (usec)	-2.39173E-06	+/- 2.0E-07
Delay rate (us/s)	3.81418690037E-01			Apriori rate (us/s)	3.81418773205E-01			Resid rate (us/s)	-8.31677E-08	+/- 1.9E-09
Total phase (deg)		139.2		Apriori accel (us/s/s)	-6.09081185383E-05			Resid phase (deg)	-74.2	+/- 6.2

ph/seg (deg) 79.2 14.5 Search (1024X32) 0.497 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 126.3 25.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 48.4 8.7 Inc. seg. avg. 1.047 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.2 15.2 Inc. frq. avg. 0.650 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 40.4 el 51.6 pa -100.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4230.938 -8870.118 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX.W.349.1HT0UR



Fringe quality 7  
SNR 15.9  
Int time 179.955  
Amp 0.432  
Phase -40.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.015581  
MBD 0.003387  
Fringe rate (Hz)  
-0.007663  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202a  
Yr:day 16383  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142031  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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	
	-84.6	-74.3	45.9	-26.0	9.0	-87.0	-19.7	-81.6		-40.6	
	0.4	0.8	0.6	0.7	0.6	0.6	0.7	0.5		0.6	
	261.7	261.7	261.4	260.4	260.2	260.7	260.8	261.2		261.0	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
y	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000			
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks	
										Tracks	
Group delay (usec)(sbd)	7.19033409928E+03		Apriori delay (usec)		7.19031508698E+03		Resid mbdelay (usec)		3.38730E-03	+/- 6.8E-05	
Sband delay (usec)	7.19033066823E+03		Apriori clock (usec)		-4.7056561E+01		Resid sbdelay (usec)		1.55813E-02	+/- 5.4E-04	
Phase delay (usec)	7.19031508567E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-1.30862E-06	+/- 2.3E-07	
Delay rate (us/s)	3.81418684247E-01		Apriori rate (us/s)		3.81418773205E-01		Resid rate (us/s)		-8.89580E-08	+/- 2.2E-09	
Total phase (deg)			172.8		Apriori accel (us/s/s)		-6.09081185383E-05		Resid phase (deg)	-40.6	+/- 7.2

ph/seg (deg) 73.3 16.9 Search (1024X32) 0.432 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 134.7 29.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 54.0 10.2 Inc. seg. avg. 0.921 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 47.8 17.8 Inc. frq. avg. 0.601 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 40.4 el 51.6 pa -100.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4230.938 -8870.118 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX.W.372.1HT0UR

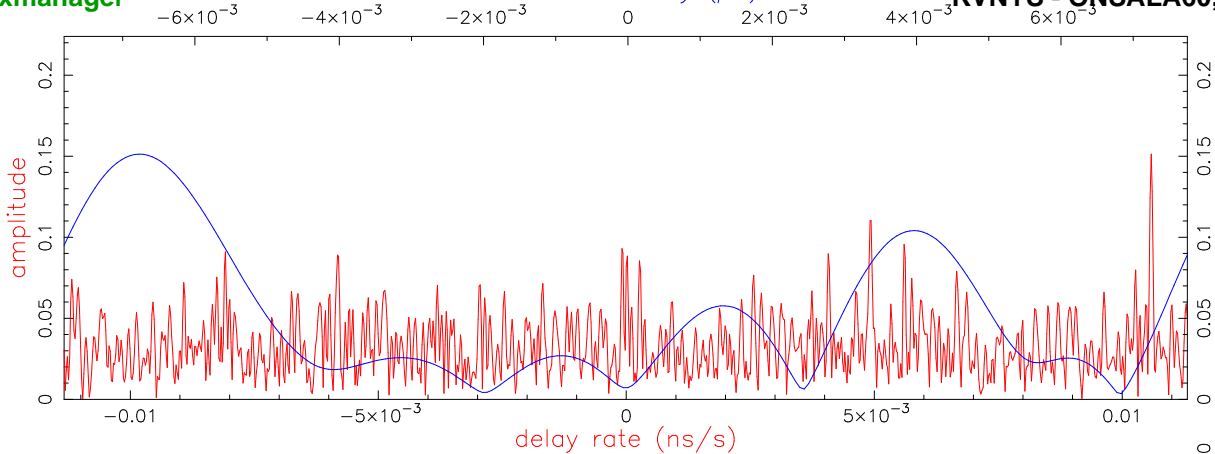
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, yX

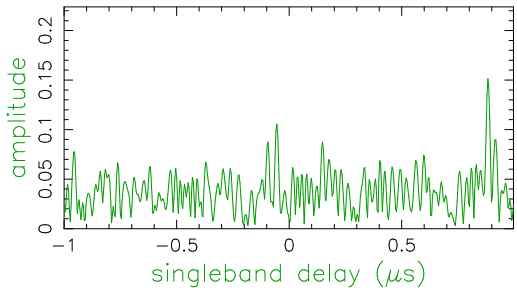
KVNYS - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

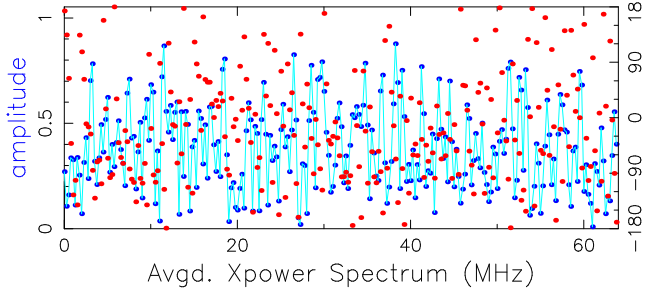


Fringe quality 0

SNR 5.6  
 Int time 179.955  
 Amp 0.224  
 Phase 126.1  
 PFD 9.6e-01  
 Delays (us)  
 SBD 0.883591  
 MBD -0.006763  
 Fringe rate (Hz)  
 0.912323  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

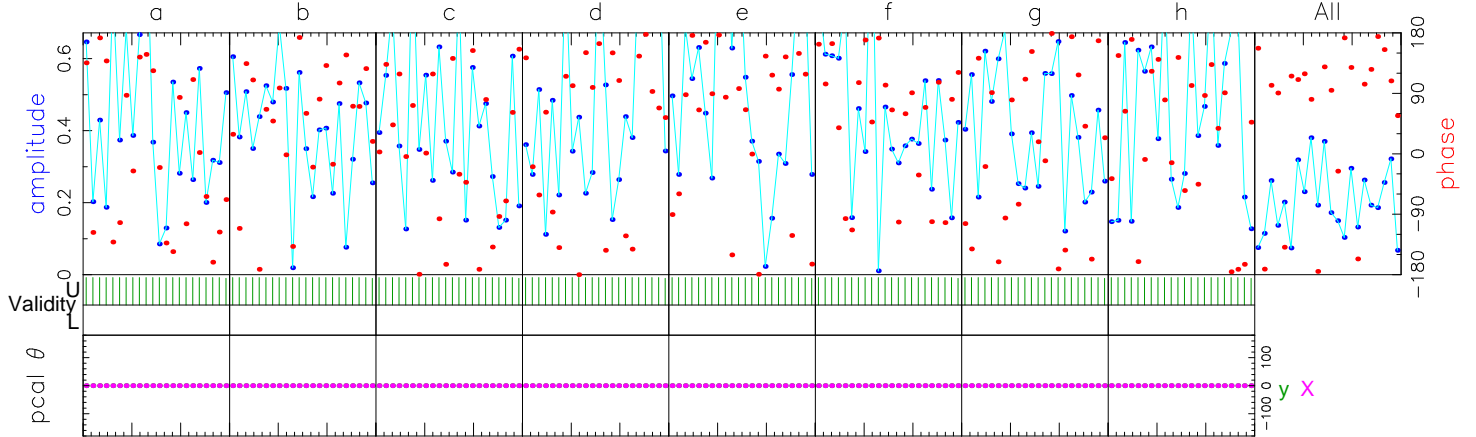


delay rate (ns/s)



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142033  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	-178.5	86.5	86.2	145.5	131.7	100.3	-175.3	114.2	Phase	126.1
	0.2	0.3	0.1	0.3	0.4	0.3	0.2	0.3	Ampl.	0.2
	325.7	48.3	114.2	233.2	483.4	403.7	51.1	12.0	Sbd box	483.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	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)	7.19119894918E+03		Apriori delay (usec)		7.19031508698E+03		Resid mbdelay (usec)		-6.76280E-03	+/- 1.9E-04
Sband delay (usec)	7.19119867773E+03		Apriori clock (usec)		-4.7056561E+01		Resid sbdelay (usec)		8.83591E-01	+/- 1.5E-03
Phase delay (usec)	7.19031509105E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		4.06565E-06	+/- 6.6E-07
Delay rate (us/s)	3.81429364375E-01		Apriori rate (us/s)		3.81418773205E-01		Resid rate (us/s)		1.05912E-05	+/- 6.4E-09
Total phase (deg)			Apriori accel (us/s/s)		-6.09081185383E-05		Resid phase (deg)		126.1	+/- 20.6

ph/seg (deg) 53.3 48.3 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 70.2 84.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 42.6 29.1 Inc. seg. avg. 0.223 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 40.6 50.8 Inc. frq. avg. 0.234 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 40.4 el 51.6 pa -100.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4230.938 -8870.118 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX.W.386.1HT0UR

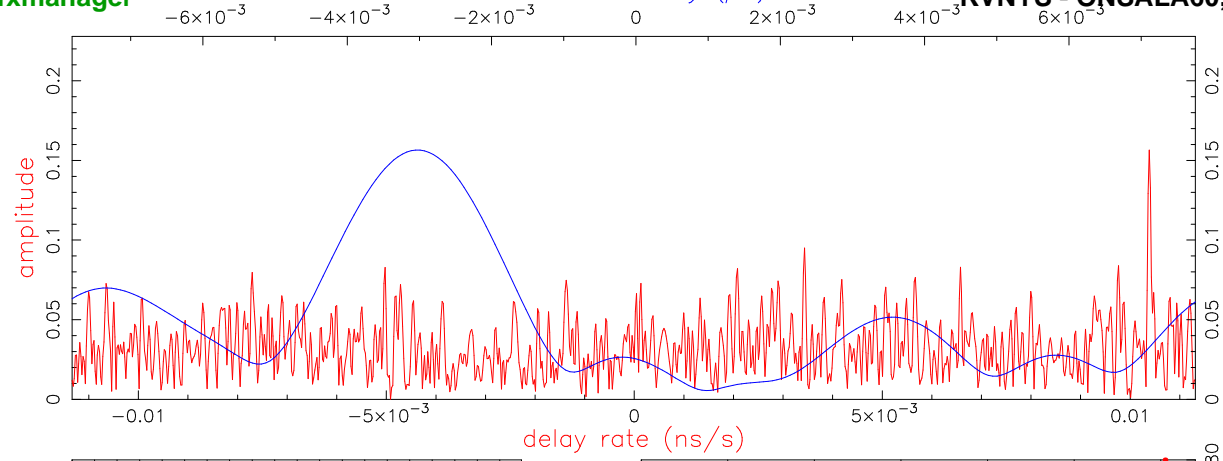
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, yX

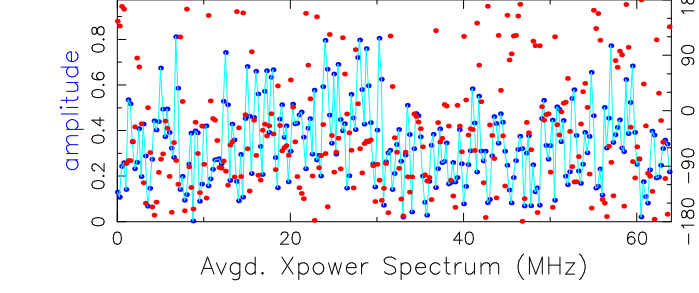
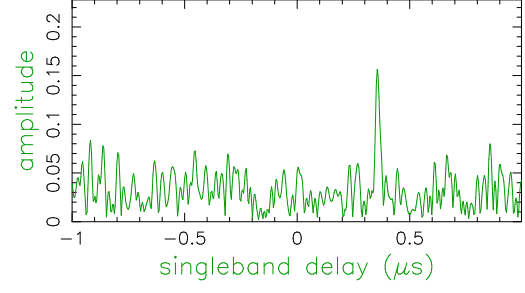
KVNYS - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)



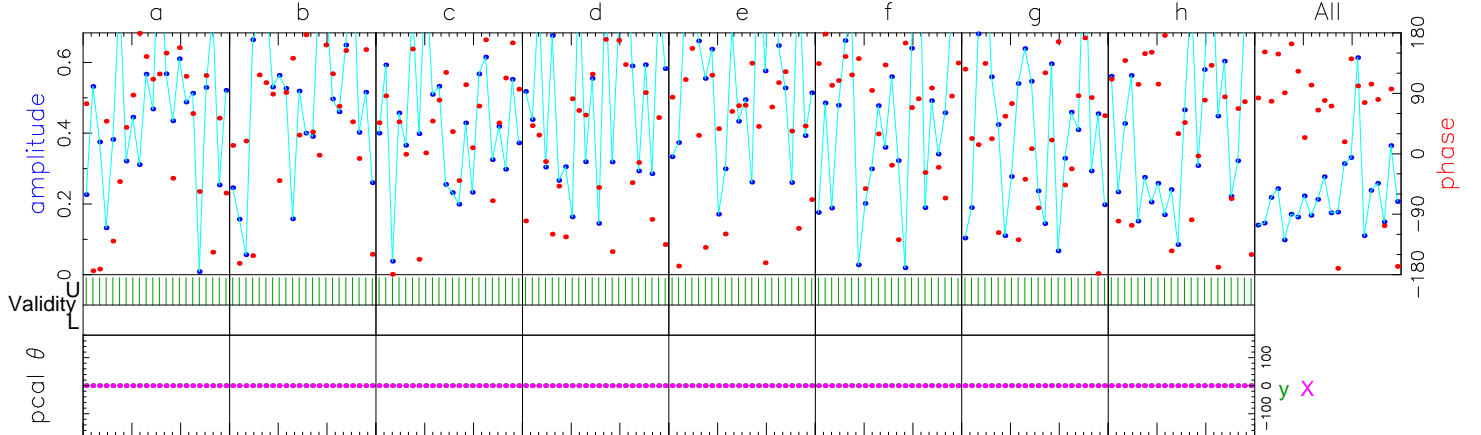
Fringe quality 0

SNR 5.8  
 Int time 179.955  
 Amp 0.228  
 Phase 101.5  
 PFD 6.6e-01  
 Delays (us)  
 SBD 0.356267  
 MBD -0.002996  
 Fringe rate (Hz)  
 0.894969  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142034  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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
	134.9	96.6	79.2	106.6	97.2	100.0	47.5	132.0	Phase	101.5
	0.2	0.3	0.3	0.1	0.3	0.4	0.1	0.2	Ampl.	0.2
	169.3	328.9	313.9	351.9	347.9	347.0	52.4	3.7	Sbd box	348.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.19067146552E+03		Apriori delay (usec)		7.19031508698E+03		Resid mbdelay (usec)		-2.99646E-03	+/- 1.9E-04
Sband delay (usec)	7.19067135373E+03		Apriori clock (usec)		-4.7056561E+01		Resid sbdelay (usec)		3.56267E-01	+/- 1.5E-03
Phase delay (usec)	7.19031509025E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		3.27149E-06	+/- 6.4E-07
Delay rate (us/s)	3.81429162903E-01		Apriori rate (us/s)		3.81418773205E-01		Resid rate (us/s)		1.03897E-05	+/- 6.2E-09
Total phase (deg)	314.8		Apriori accel (us/s/s)		-6.09081185383E-05		Resid phase (deg)		101.5	+/- 19.9

ph/seg (deg) 55.3 46.7 Search (1024X32) 0.153 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 82.3 81.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 30.3 28.1 Inc. seg. avg. 0.248 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 39.7 49.1 Inc. frq. avg. 0.218 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 40.4 el 51.6 pa -100.8 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -4230.938 -8870.118 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/yX.W.400.1HT0UR

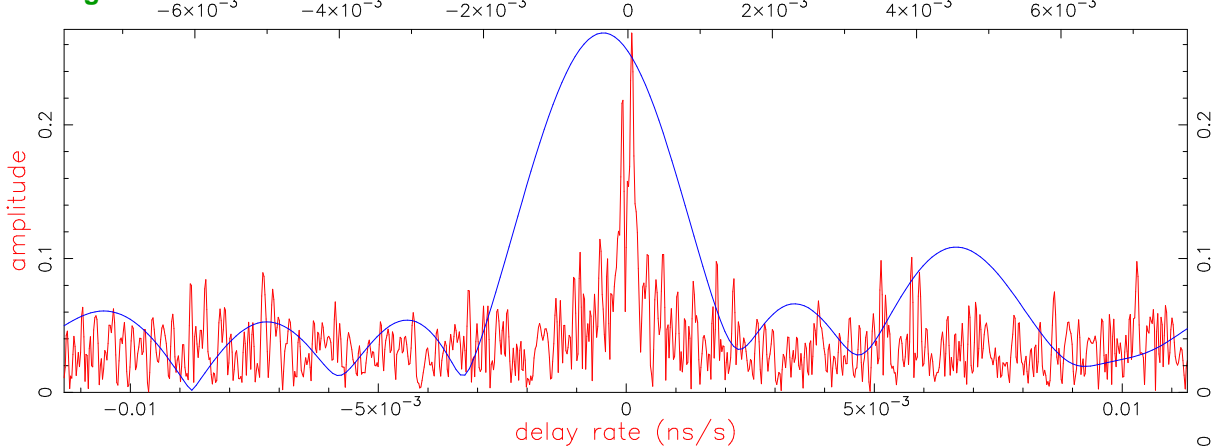
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, ZX

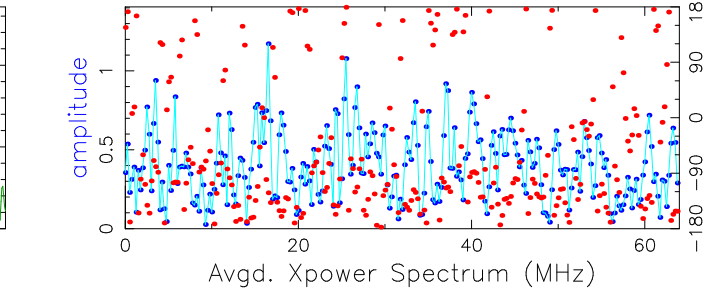
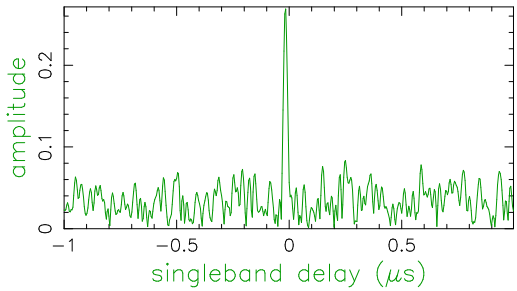
METSAHOV - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)



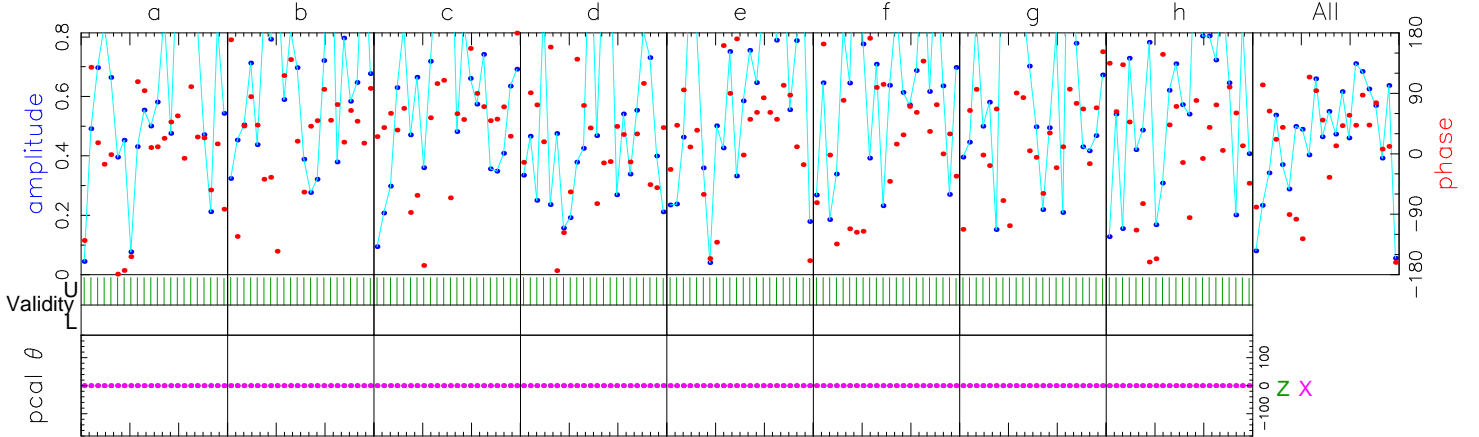
Fringe quality 9

SNR 10.0  
 Int time 179.858  
 Amp 0.271  
 Phase 42.2  
 PFD 5.2e-15  
 Delays (us)  
 SBD -0.017021  
 MBD -0.000360  
 Fringe rate (Hz)  
 0.009912  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142033  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"

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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.29999385682E+03	Apriori delay (usec)	1.30000984167E+03	Resid mbdelay (usec)	-3.59845E-04	+/-	1.1E-04
Sband delay (usec)	1.29999282042E+03	Apriori clock (usec)	-4.8150063E+01	Resid sbdelay (usec)	-1.70212E-02	+/-	8.7E-04
Phase delay (usec)	1.30000984303E+03	Apriori clockrate (us/s)	-5.1200000E-07	Resid phdelay (usec)	1.35973E-06	+/-	3.7E-07
Delay rate (us/s)	7.29999434780E-02	Apriori rate (us/s)	7.29998284054E-02	Resid rate (us/s)	1.15073E-07	+/-	3.6E-09
Total phase (deg)	316.2	Apriori accel (us/s/s)	-4.70626341504E-06	Resid phase (deg)	42.2	+/-	11.5

ph/seg (deg)	76.6	Theor.	27.0	Amplitude	0.271 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	95.4	Search (1024X32)	0.264	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	16.0	Inc. seg. avg.	0.416	Inc. frq. avg.	0.266	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	26.4	Inc. frq. avg.	0.266			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

Z: az 16.0 el 30.6 pa -15.2 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -804.429 -481.492 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX.W.393.1HT0UR



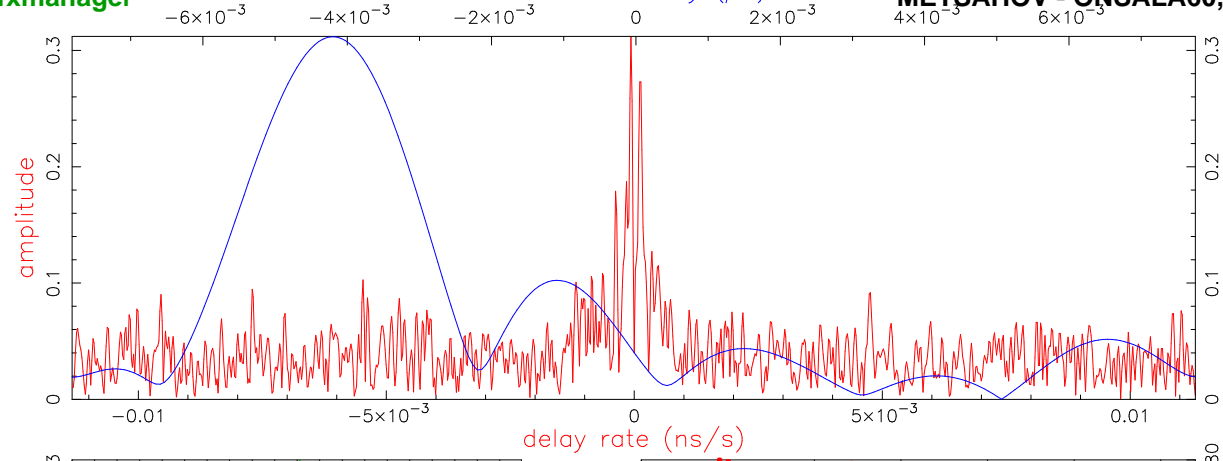
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, ZX

METSAHOV - ONSALA60, fgroup W, pol RR

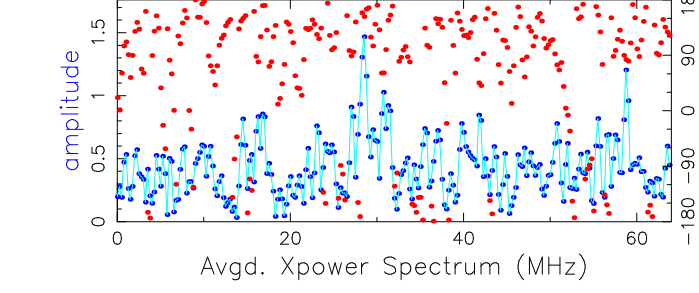
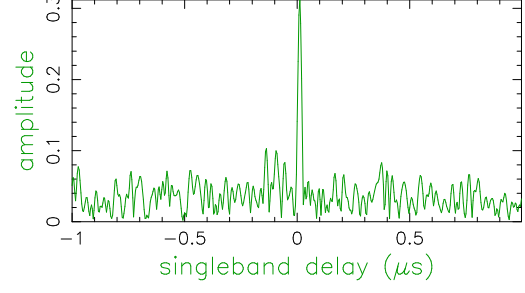
multiband delay ( $\mu$ s)



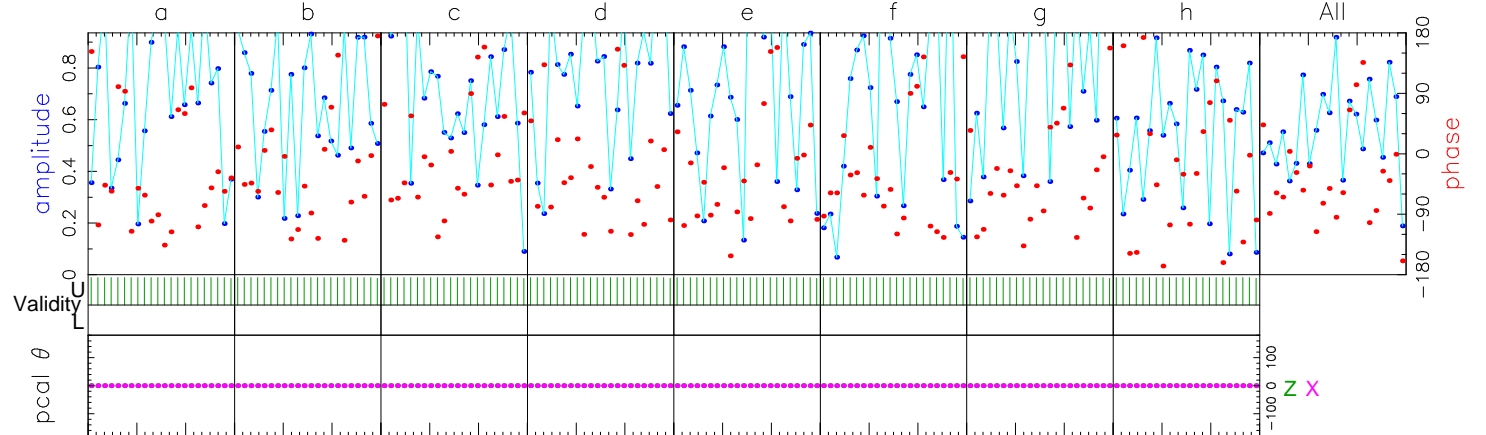
Fringe quality 9

SNR 11.4  
 Int time 179.858  
 Amp 0.312  
 Phase -52.8  
 PFD 6.0e-22  
 Delays (us)  
 SBD 0.011316  
 MBD -0.004205  
 Fringe rate (Hz)  
 -0.005985  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142035  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-78.2	-47.6	-32.6	-46.8	-59.6	-60.2	-50.4	-60.2	Phase	-52.8
	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.1	Ampl.	0.3
	485.1	260.4	260.2	260.5	259.2	259.7	259.5	99.4	Sbd box	259.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.30002126174E+03		Apriori delay (usec)		1.30000984167E+03		Resid mbdelay (usec)		-4.20493E-03	+/- 9.5E-05
Sband delay (usec)	1.30002115767E+03		Apriori clock (usec)		-4.8150063E+01		Resid sbdelay (usec)		1.13160E-02	+/- 7.5E-04
Phase delay (usec)	1.30000983997E+03		Apriori clockrate (us/s)		-5.1200000E-07		Resid phdelay (usec)		-1.70173E-06	+/- 3.2E-07
Delay rate (us/s)	7.29997589271E-02		Apriori rate (us/s)		7.29998284054E-02		Resid rate (us/s)		-6.94783E-08	+/- 3.1E-09
Total phase (deg)	221.3		Apriori accel (us/s/s)		-4.70626341504E-06		Resid phase (deg)		-52.8	+/- 10.0

ph/seg (deg) 69.9 23.5 Search (1024X32) 0.306 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 97.5 41.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.6 14.2 Inc. seg. avg. 0.521 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 25.3 24.7 Inc. frq. avg. 0.310 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 Z: az 16.0 el 30.6 pa -15.2 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -804.429 -481.492 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX.W.406.1HT0UR

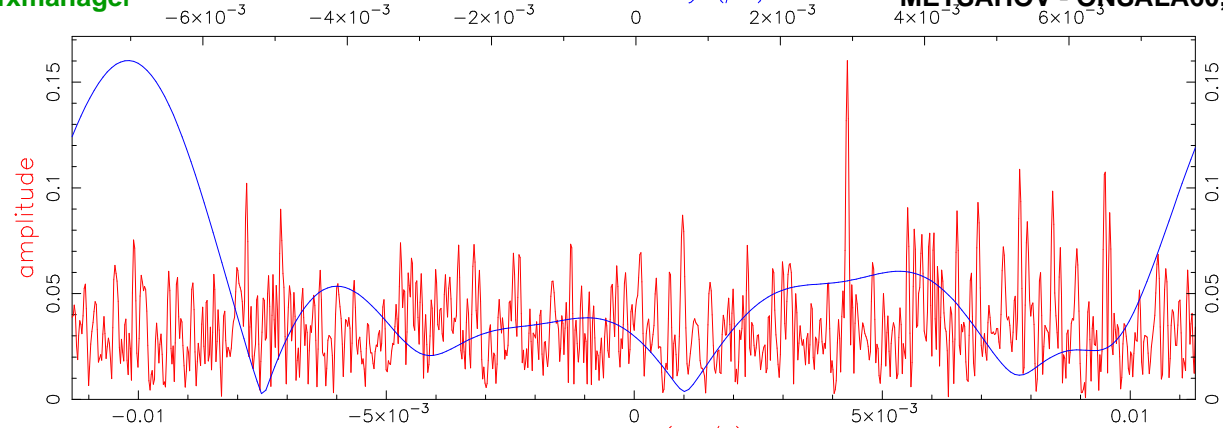
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

0102+584.1HT0UR, No0131, ZX

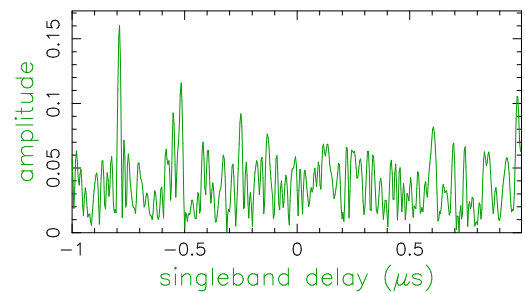
METSAHOV - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

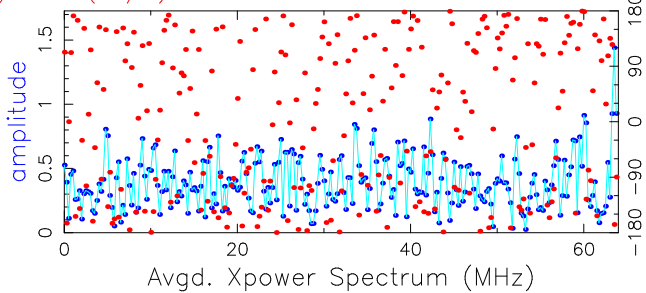


Fringe quality 0

SNR 5.9  
Int time 179.858  
Amp 0.172  
Phase 149.1  
PFD 3.2e-01  
Delays (us)  
SBD -0.790120  
MBD -0.007053  
Fringe rate (Hz)  
0.370643  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

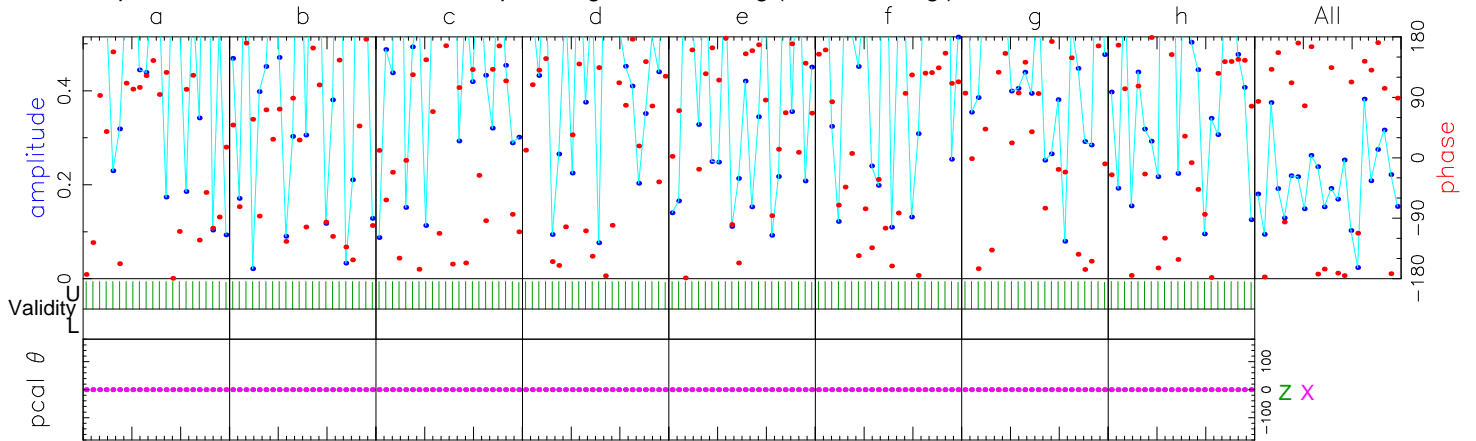


delay rate (ns/s)



Exp. c202a  
Exper # 16383  
Yr:day 2020:283  
Start 120000.00  
Stop 120300.22  
FRT 120130.00  
Corr/FF/build  
2021:007:151726  
2021:010:142037  
2020:247:085004  
RA & Dec (J2000)  
01h02m45.762375s  
+58°24'11.136621"

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
	140.7	108.1	-158.6	153.5	124.4	163.5	132.6	154.4	Phase	149.1
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	123.6	153.5	344.3	107.0	292.2	225.1	242.0	508.2	Sbd box	54.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	1.29922153871E+03	Apriori delay (usec)	1.30000984167E+03	Resid mbdelay (usec)	-7.05296E-03	+/-	1.8E-04	
Sband delay (usec)	1.29921972167E+03	Apriori clock (usec)	-4.8150063E+01	Resid sbdelay (usec)	-7.90120E-01	+/-	1.5E-03	
Phase delay (usec)	1.30000984648E+03	Apriori clockrate (us/s)	-5.1200000E-07	Resid phdelay (usec)	4.80771E-06	+/-	6.2E-07	
Delay rate (us/s)	7.30041312066E-02	Apriori rate (us/s)	7.29998284054E-02	Resid rate (us/s)	4.30280E-06	+/-	6.0E-09	
Total phase (deg)		63.2	Apriori accel (us/s/s)	-4.70626341504E-06	Resid phase (deg)	149.1	+/-	19.3

ph/seg (deg)	48.6	Theor.	45.3	Amplitude	0.172 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	58.8		79.1	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	30.6		27.3	Inc. seg. avg.	0.166	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	17.0		47.7	Inc. frq. avg.	0.171	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
Z: az 16.0 el 30.6 pa -15.2		X: az 8.4 el 26.5 pa -8.8		u,v (fr/asec)	-804.429 -481.492	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX.W.412.1HT0UR simultaneous interpolator

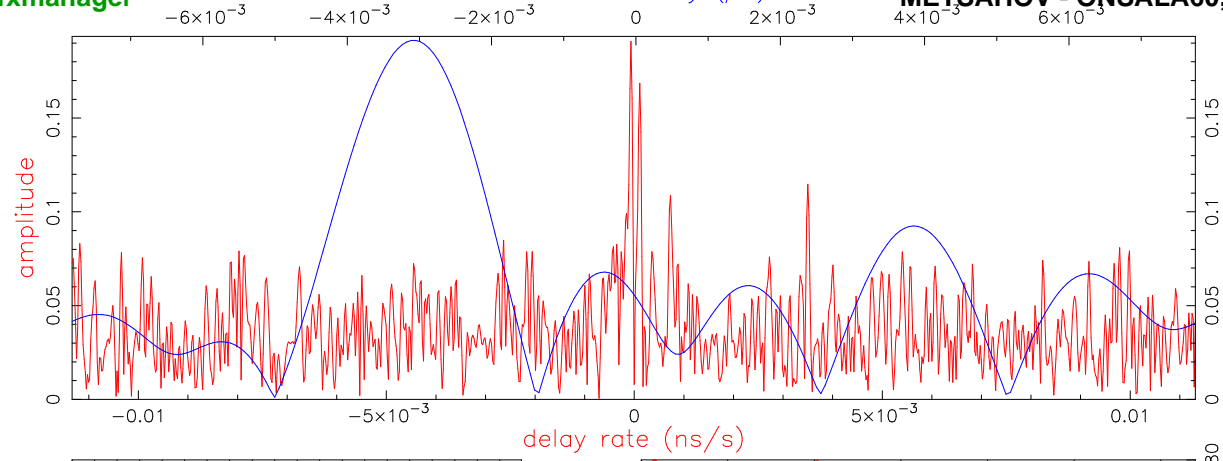
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

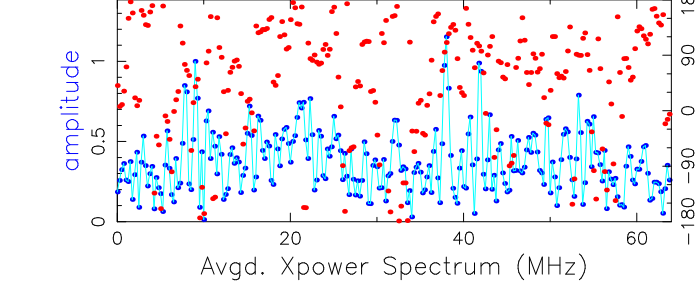
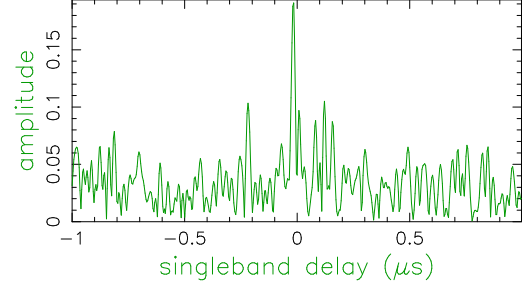
0102+584.1HT0UR, No0131, ZX

METSAHOV - ONSALA60, fgroup W, pol RL

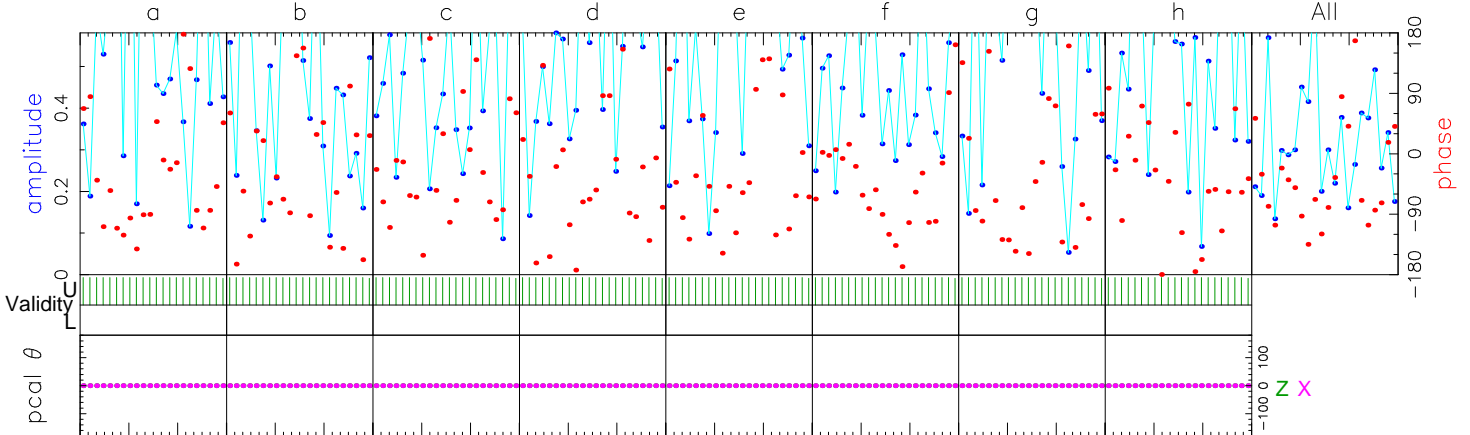
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 7.1  
 Int time 179.858  
 Amp 0.194  
 Phase -66.6  
 PFD 1.9e-04  
 Delays (us)  
 SBD -0.017190  
 MBD -0.003159  
 Fringe rate (Hz)  
 -0.005697  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202a  
 Exper # 16383  
 Yr:day 2020:283  
 Start 120000.00  
 Stop 120300.22  
 FRT 120130.00  
 Corr/FF/build  
 2021:007:151726  
 2021:010:142038  
 2020:247:085004  
 RA & Dec (J2000)  
 01h02m45.762375s  
 +58°24'11.136621"



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
	-77.5	-53.0	-54.8	-61.7	-87.7	-51.5	-101.7	-41.1	Phase	-66.6
	0.4	0.1	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	253.1	373.2	48.8	474.0	378.5	120.9	280.2	85.9	Sbd box	252.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.29999105730E+03		Apriori delay (usec)		1.30000984167E+03		Resid mbdelay (usec)		-3.15937E-03	+/- 1.5E-04
Sband delay (usec)	1.29999265117E+03		Apriori clock (usec)		-4.8150063E+01		Resid sbdelay (usec)		-1.71905E-02	+/- 1.2E-03
Phase delay (usec)	1.30000983952E+03		Apriori clockrate (us/s)		-5.1200000E-07		Resid phdelay (usec)		-2.14788E-06	+/- 5.2E-07
Delay rate (us/s)	7.29997622743E-02		Apriori rate (us/s)		7.29998284054E-02		Resid rate (us/s)		-6.61311E-08	+/- 5.0E-09
Total phase (deg)	207.5		Apriori accel (us/s/s)		-4.70626341504E-06		Resid phase (deg)		-66.6	+/- 16.1

ph/seg (deg) 67.4 37.9 Amplitude 0.194 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 98.5 66.1 Search (1024X32) 0.189 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 22.4 22.8 Inc. seg. avg. 0.266 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 38.4 39.8 Inc. frq. avg. 0.187 Data rate (Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 Z: az 16.0 el 30.6 pa -15.2 X: az 8.4 el 26.5 pa -8.8 u,v (fr/asec) -804.429 -481.492 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX..1HT0UR Output file: /Exps/c202a/v1/v1\_3mm/1234/No0131/ZX.W.415.1HT0UR