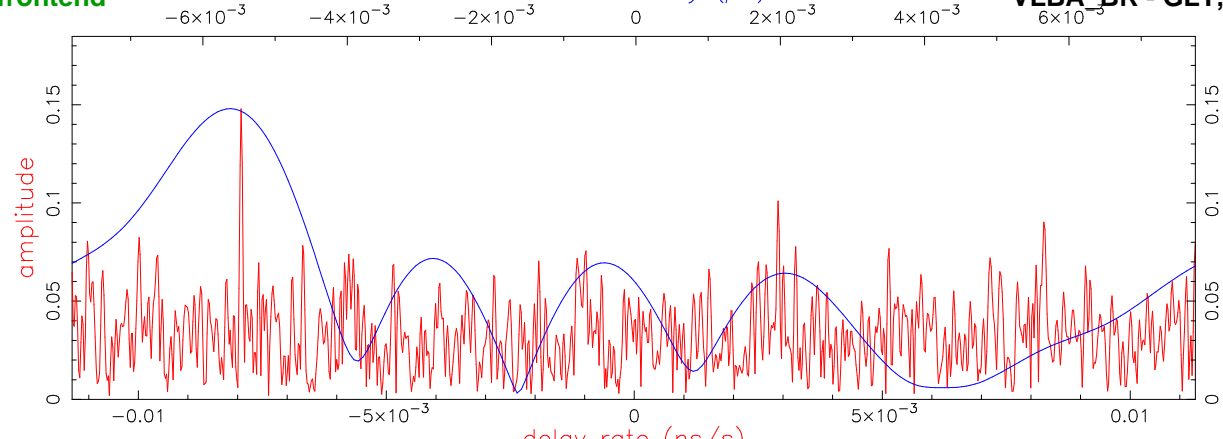
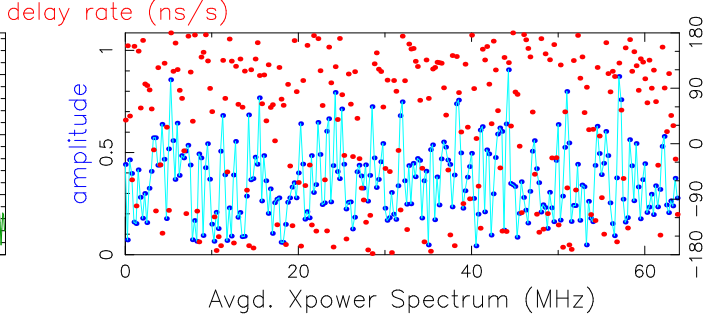
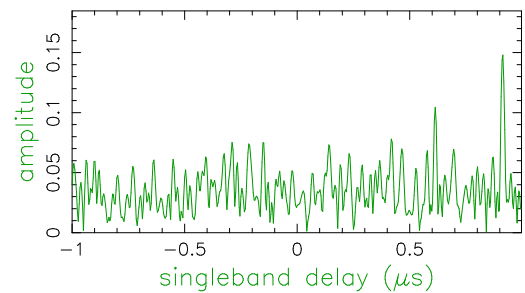


multiband delay ( $\mu$ s)

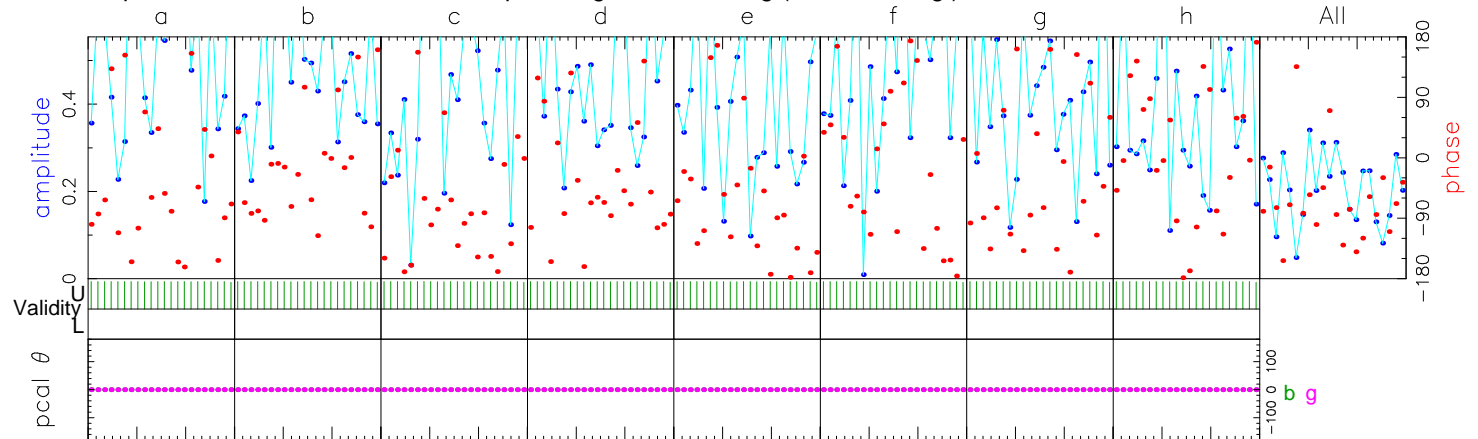


Fringe quality 0  
 SNR 5.5  
 Int time 179.574  
 Amp 0.185  
 Phase -78.0  
 PFD 9.9e-01  
 Delays (us)  
 SBD 0.912712  
 MBD -0.005632  
 Fringe rate (Hz)  
 -0.684608  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125106  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



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

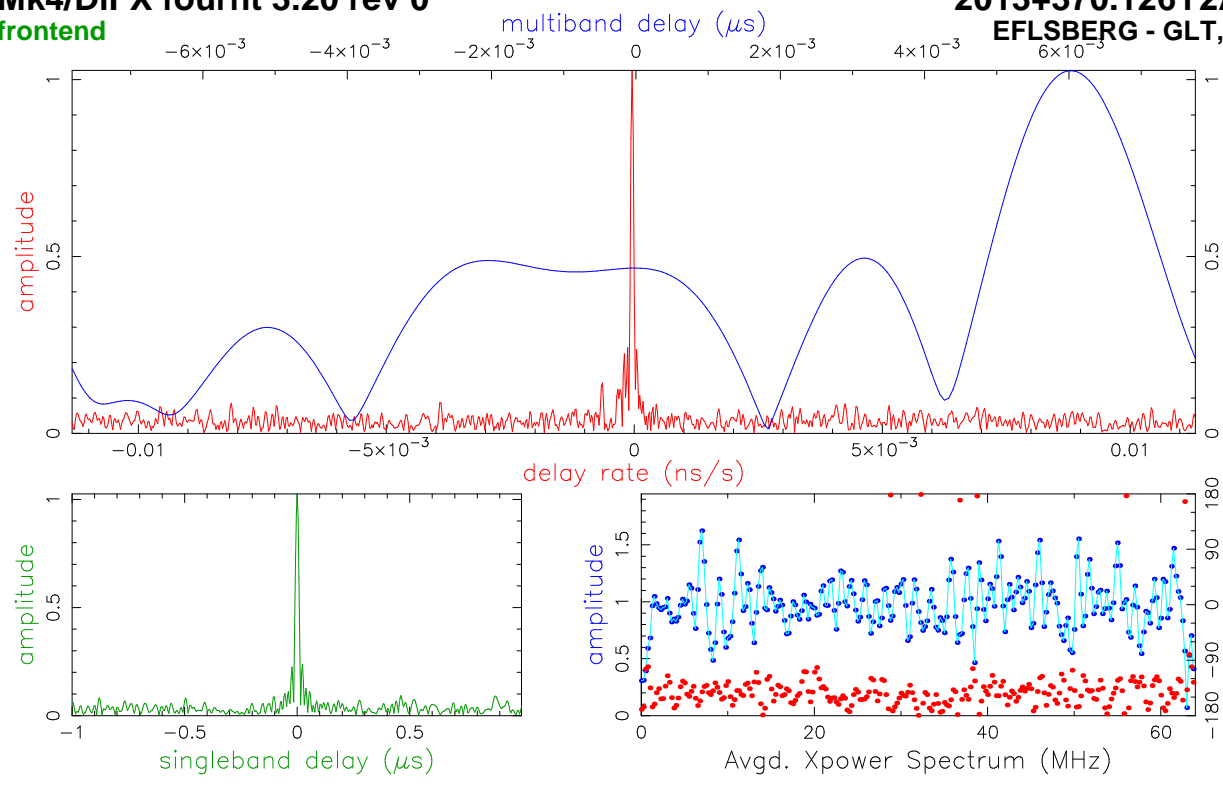


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-98.2	-36.0	-78.8	-77.2	-120.7	-165.7	-91.5	-19.6	Phase	-78.0
	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	Ampl.	0.2
	489.4	492.0	325.6	417.0	431.3	413.8	478.5	30.9	Sbd box	490.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	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	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-5.87269383968E+03		Apriori delay (usec)		-5.87361008229E+03		Resid mbdelay (usec)		-5.63239E-03	+/- 2.0E-04
Sband delay (usec)	-5.87269737054E+03		Apriori clock (usec)		-1.9228637E+00		Resid sbdelay (usec)		9.12712E-01	+/- 1.6E-03
Phase delay (usec)	-5.87361008480E+03		Apriori clockrate (us/s)		-3.1739506E-07		Resid phdelay (usec)		-2.51415E-06	+/- 6.7E-07
Delay rate (us/s)	6.47669767312E-01		Apriori rate (us/s)		6.47677714936E-01		Resid rate (us/s)		-7.94762E-06	+/- 6.5E-09
Total phase (deg)			Apriori accel (us/s/s)		1.56105983456E-05		Resid phase (deg)		-78.0	+/- 20.9

ph/seg (deg) 56.1 49.0 Search (1024X32) 0.185 +/- 0.034 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 65.5 85.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 50.5 29.6 Inc. seg. avg. 0.188 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 43.9 51.6 Inc. frq. avg. 0.195 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 63.4 el 27.1 pa -48.6 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) -4651.124 -652.656 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/bg.W.26.126Y2A

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126Y2A, No0048, Bg  
EFLSBERG - GLT, fgroup W, pol RR

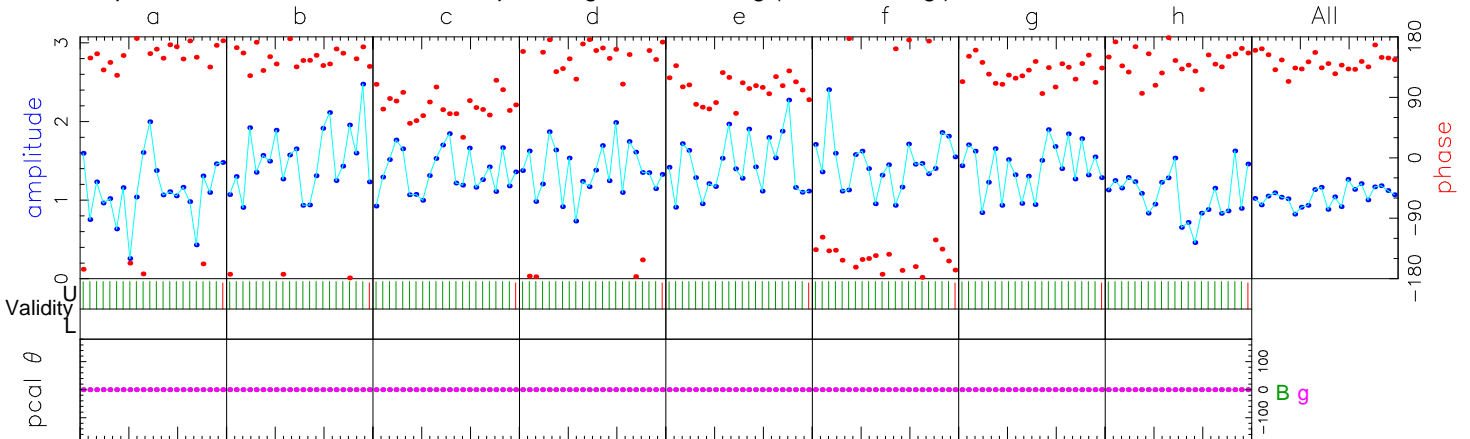


Fringe quality 6

SNR 37.6  
Int time 179.720  
Amp 1.026  
Phase 142.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.000345  
MBD 0.006013  
Fringe rate (Hz)  
-0.003920  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192c  
Yr:day 16383  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125106  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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	163.1	153.0	78.3	160.6	105.0	-155.0	128.0	143.5	Phase	142.1
B	1.1	1.4	1.3	1.3	1.4	1.4	1.3	1.0	Ampl.	1.3
B:g	255.6	256.9	257.8	257.8	257.7	257.6	257.3	255.6	Sbd box	256.9
B:g	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	
B:g	0	0	0	0	0	0	0	0	PC freqs	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B:g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	2.88089723578E+03		Apriori delay (usec)		2.88089122244E+03		Resid mbdelay (usec)		6.01334E-03	+/- 2.9E-05
Sband delay (usec)	2.88089087769E+03		Apriori clock (usec)		1.5498650E+01		Resid sbdelay (usec)		-3.44750E-04	+/- 2.3E-04
Phase delay (usec)	2.88089122703E+03		Apriori clockrate (us/s)		-2.7499999E-07		Resid phdelay (usec)		4.58131E-06	+/- 9.8E-08
Delay rate (us/s)	-6.56552091579E-01		Apriori rate (us/s)		-6.56552046069E-01		Resid rate (us/s)		-4.55107E-08	+/- 9.4E-10
Total phase (deg)			Apriori accel (us/s/s)		-2.89846979494E-05		Resid phase (deg)		142.1	+/- 3.0

ph/seg (deg) 12.8 7.1 Search (1024X32) 1.011 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 11.4 12.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 41.9 4.3 Inc. seg. avg. 1.043 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 27.8 7.5 Inc. frq. avg. 1.266 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 257.6 el 60.6 pa 51.1 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) 4698.979 -3178.893 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg.W.27.126Y2A

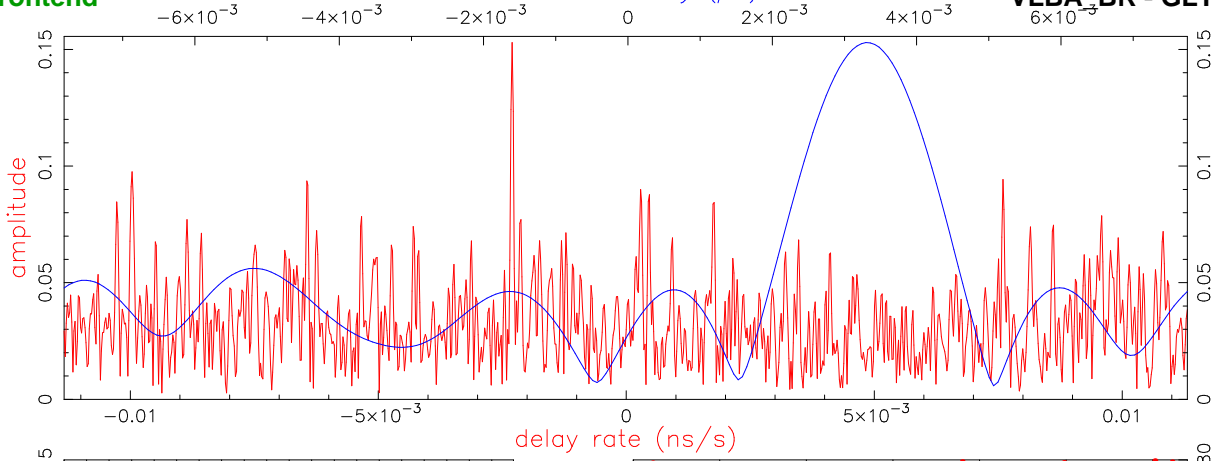
Mk4/DiFX fourfit 3.20 rev 0

frontend

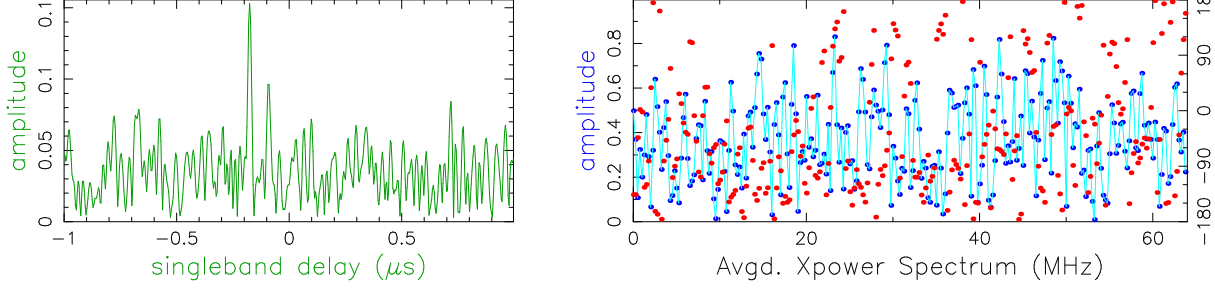
2013+370.126Y2A, No0048, bg

VLBA\_BR - GLT, fgroup W, pol LL

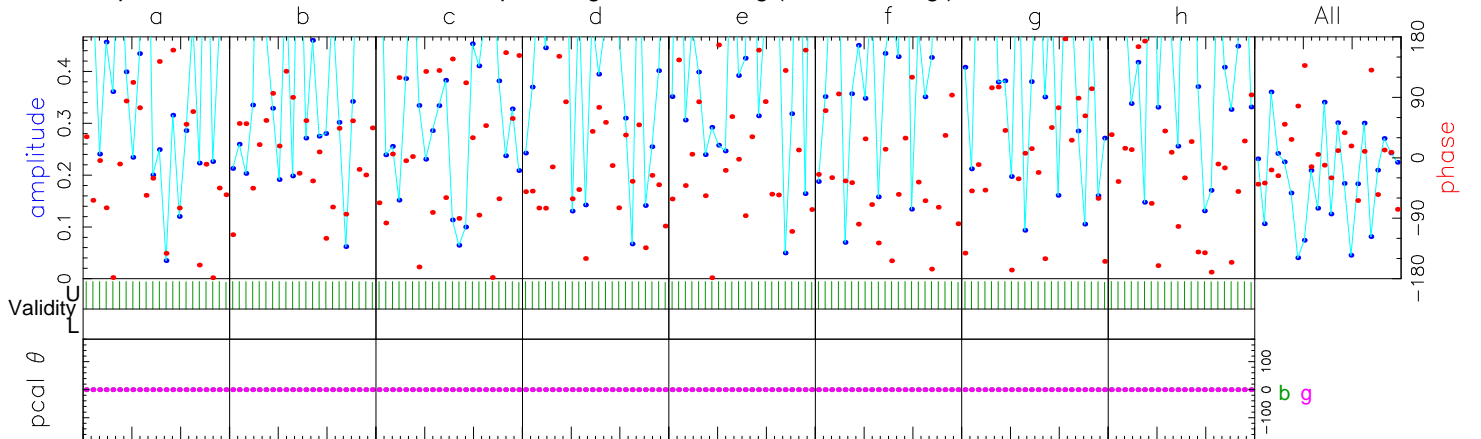
multiband delay ( $\mu$ s)



Fringe quality 0  
 SNR 5.6  
 Int time 179.589  
 Amp 0.156  
 Phase -7.2  
 PFD 9.2e-01  
 Delays (us)  
 SBD -0.175625  
 MBD 0.003316  
 Fringe rate (Hz) -0.197740  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125103  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



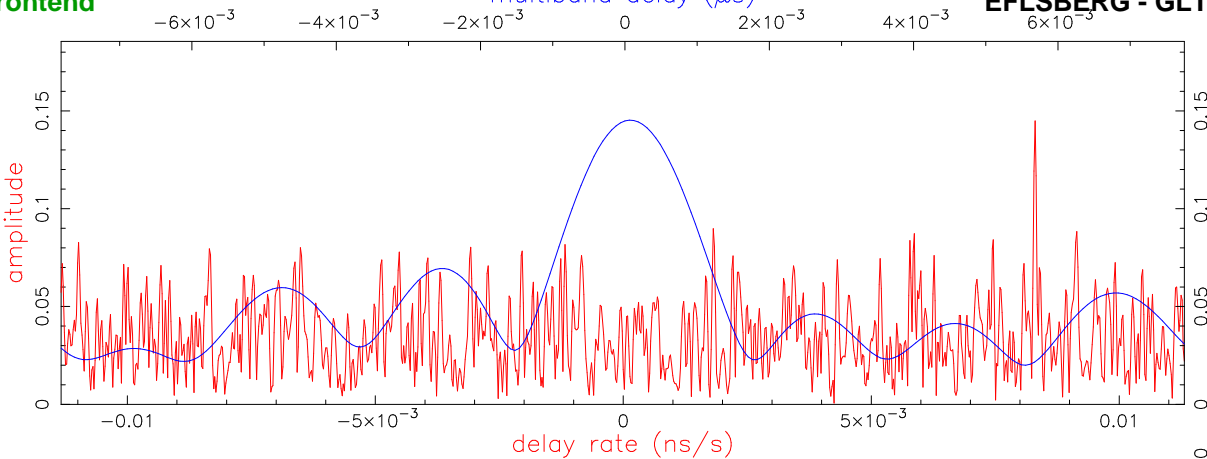
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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		
g	0	0	0	0	0	0	0	0		
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:g	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		
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-5.87377864161E+03									
Sband delay (usec)	-5.87378570754E+03									
Phase delay (usec)	-5.87361008252E+03									
Delay rate (us/s)	6.47675419375E-01									
Total phase (deg)			-183.1							
Apriori delay (usec)					-5.87361008229E+03				3.31568E-03	+/- 1.9E-04
Apriori clock (usec)					-1.9228637E+00				-1.75625E-01	+/- 1.5E-03
Apriori clockrate (us/s)					-3.1739506E-07				-2.33212E-07	+/- 6.6E-07
Apriori rate (us/s)					6.47677714936E-01				-2.29556E-06	+/- 6.3E-09
Apriori accel (us/s/s)					1.56105983456E-05				-7.2	+/- 20.4
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00
ph/seg (deg)	55.9	47.9		Search (1024X32)	0.148					
amp/seg (%)	64.7	83.7		Interp.	0.000					
ph/frq (deg)	20.8	28.9		Inc. seg. avg.	0.147					
amp/frq (%)	37.1	50.5		Inc. frq. avg.	0.143					
b: az 63.4 el 27.1 pa -48.6				g: az 133.2 el 47.2 pa -12.3						
				u,v (fr/asec) -4651.124 -652.656						
Control file: cf_1234_gmva				Input file: /Exps/c192c/v1_CygA2/1234/No0048/bg..126Y2A						
				Output file: /Exps/c192c/v1_CygA2/1234/No0048/bg.W.3.126Y2A						

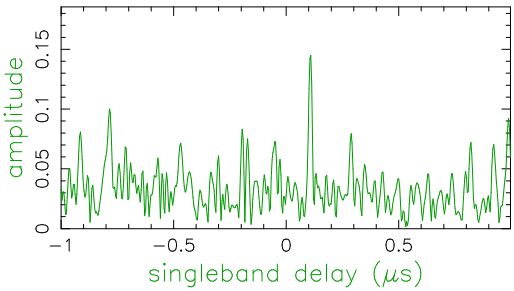
simultaneous interpolator

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

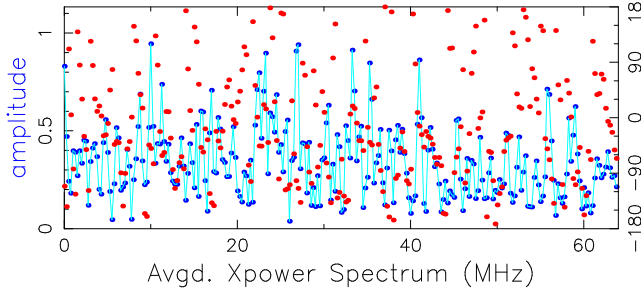


Fringe quality 0

SNR 5.4  
Int time 179.720  
Amp 0.186  
Phase 122.3  
PFD 1.0e+00  
Delays (us)  
SBD 0.107803  
MBD 0.000002  
Fringe rate (Hz) 0.716759  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

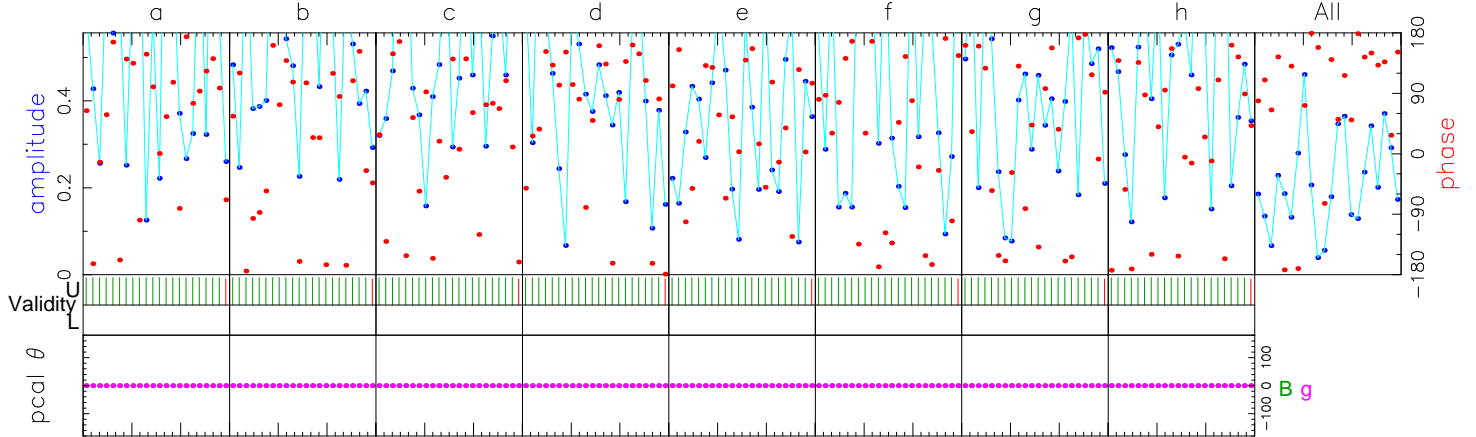


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125109  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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

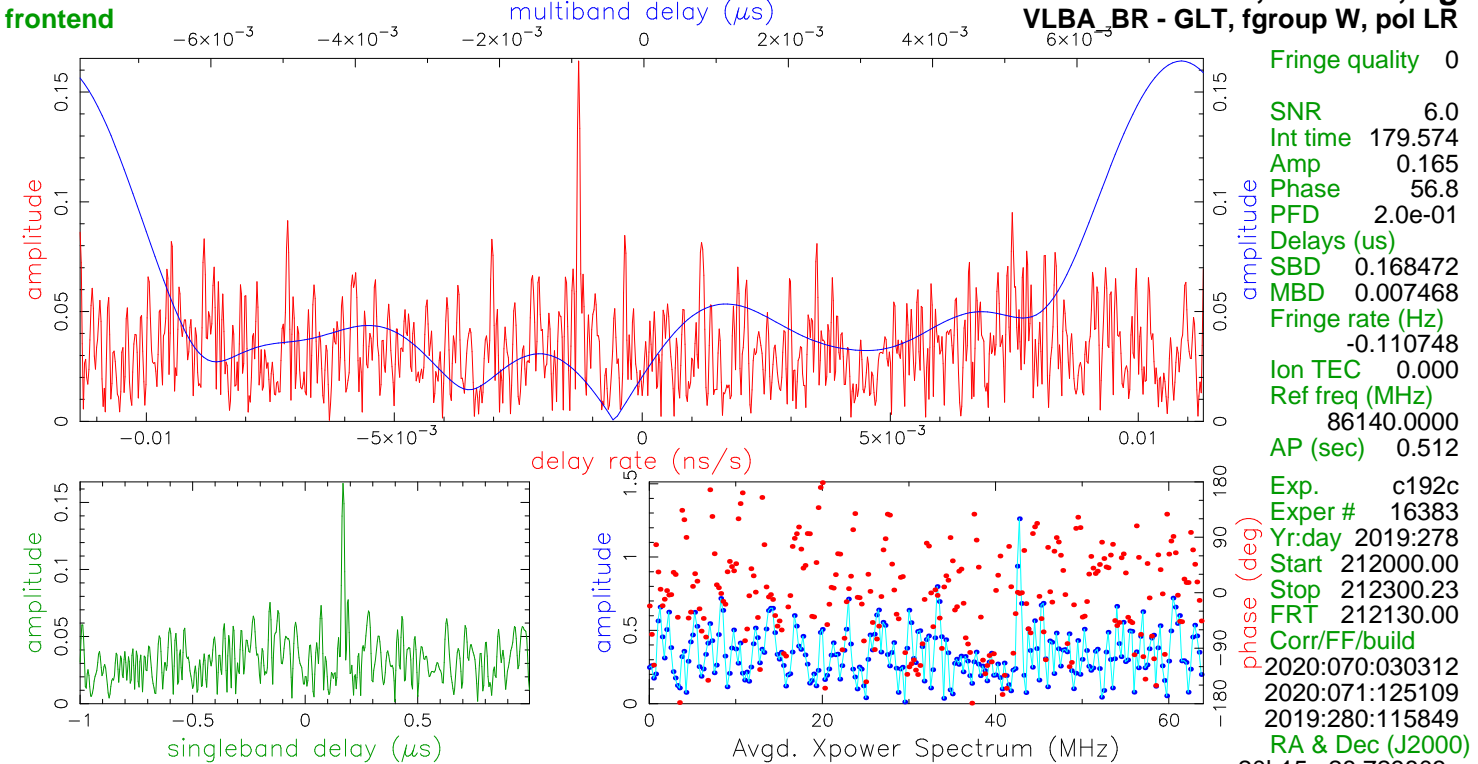


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	114.2	129.8	119.8	115.0	45.8	157.5	154.7	113.9	Phase	122.3
B	0.3	0.2	0.1	0.3	0.1	0.2	0.1	0.2	Ampl.	0.2
B:g	510.9	21.4	22.0	234.7	150.5	29.7	55.0	245.4	Sbd box	284.6
B:g	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B:g	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:g	0	0	0	0	0	0	0	0	PC freqs	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
B:g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B:g	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
B									Tracks	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g									Tracks	
Group delay (usec)(sbd)	2.88100059974E+03		Apriori delay (usec)		2.88089122244E+03		Resid mbdelay (usec)		2.29334E-06	+/- 2.0E-04
Sband delay (usec)	2.88099902519E+03		Apriori clock (usec)		1.5498650E+01		Resid sbdelay (usec)		1.07803E-01	+/- 1.6E-03
Phase delay (usec)	2.88089122639E+03		Apriori clockrate (us/s)		-2.7499999E-07		Resid phdelay (usec)		3.94386E-06	+/- 6.9E-07
Delay rate (us/s)	-6.56543725207E-01		Apriori rate (us/s)		-6.56552046069E-01		Resid rate (us/s)		8.32086E-06	+/- 6.6E-09
Total phase (deg)			Apriori accel (us/s/s)		-2.89846979494E-05		Resid phase (deg)		122.3	+/- 21.3

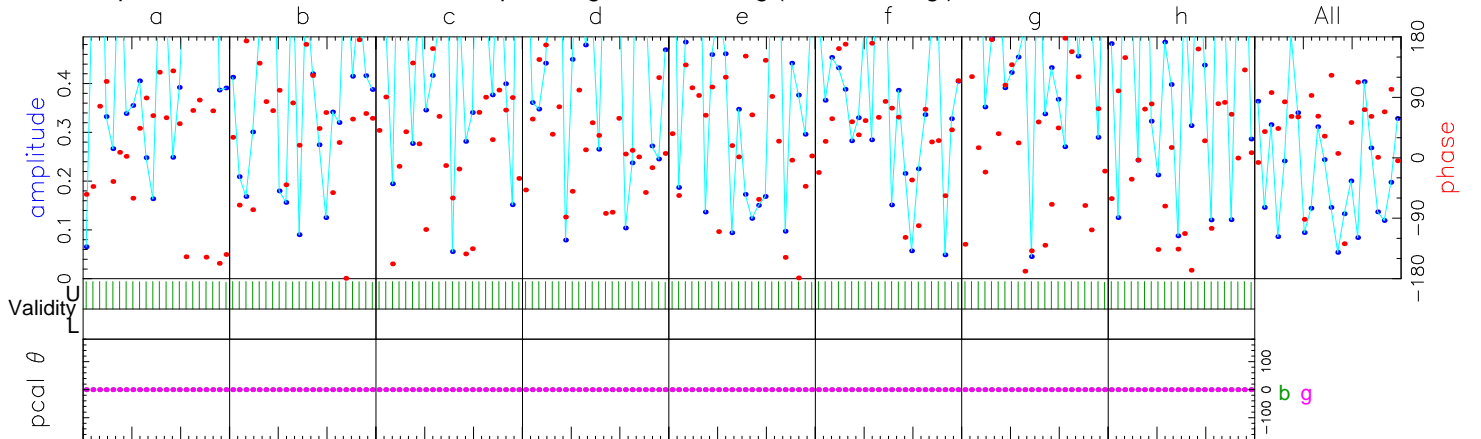
	RMS	Theor.	Amplitude	0.186 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000 1.000
ph/seg (deg)	57.9	49.8	Search (1024X32)	0.141	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/seg (%)	87.8	87.0	Interp.	0.000	Sample rate(MISamp/s): 128	nlags: 256 t_cohere infinite	dr window (ns/s)	-0.011 0.011
ph/frq (deg)	37.4	30.1	Inc. seg. avg.	0.198	Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00
amp/frq (%)	41.4	52.5	Inc. frq. avg.	0.174				

B: az 257.6 el 60.6 pa 51.1 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) 4698.979 -3178.893 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg.W.45.126Y2A



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
70.6	92.4	38.2	14.9	67.9	58.7	71.3	72.6	72.6	Phase	56.8
0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.1	Ampl.	0.2
110.6	439.5	299.9	207.5	42.9	228.6	405.0	178.1	178.1	Sbd box	300.1
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	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	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	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-5.87344636423E+03		Apriori delay (usec)		-5.87361008229E+03		Resid mbdelay (usec)		7.46806E-03	+/- 1.8E-04
Sband delay (usec)	-5.87344161029E+03		Apriori clock (usec)		-1.9228637E+00		Resid sbdelay (usec)		1.68472E-01	+/- 1.4E-03
Phase delay (usec)	-5.87361008046E+03		Apriori clockrate (us/s)		-3.1739506E-07		Resid phdelay (usec)		1.83084E-06	+/- 6.1E-07
Delay rate (us/s)	6.47676429267E-01		Apriori rate (us/s)		6.47677714936E-01		Resid rate (us/s)		-1.28567E-06	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		1.56105983456E-05		Resid phase (deg)		56.8	+/- 19.0

ph/seg (deg) 60.7 44.6 Search (1024X32) 0.160 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 79.2 77.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 26.3 26.9 Inc. seg. avg. 0.171 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 39.0 46.9 Inc. frq. avg. 0.163 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 63.4 el 27.1 pa -48.6 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) -4651.124 -652.656 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/bg.W.47.126Y2A



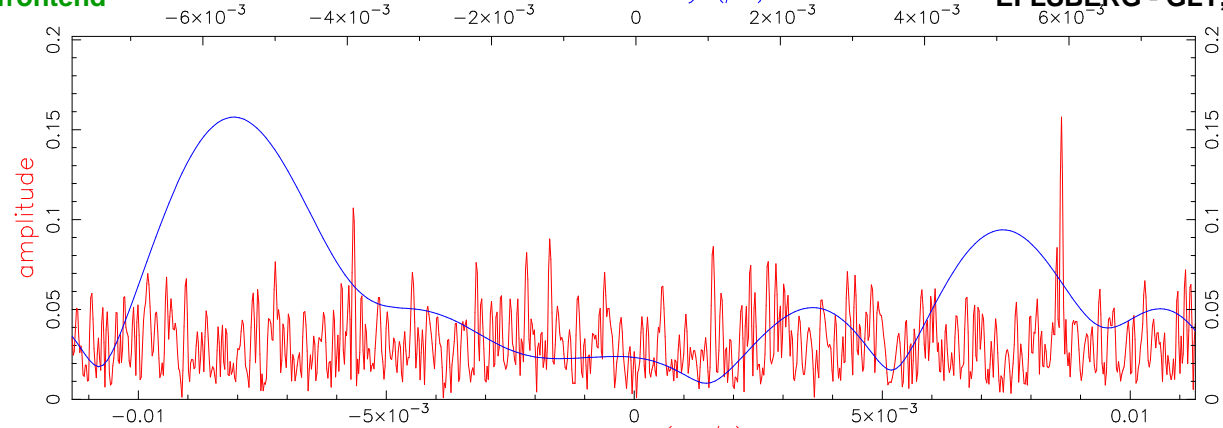
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, Bg

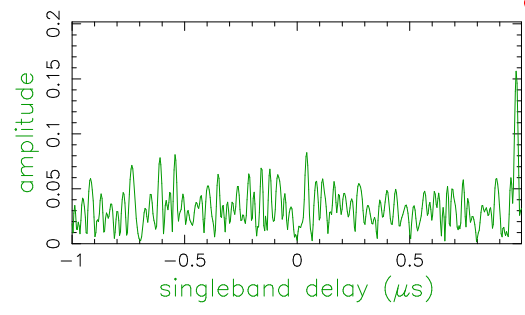
EFLSBERG - GLT, fgroup W, pol RL

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

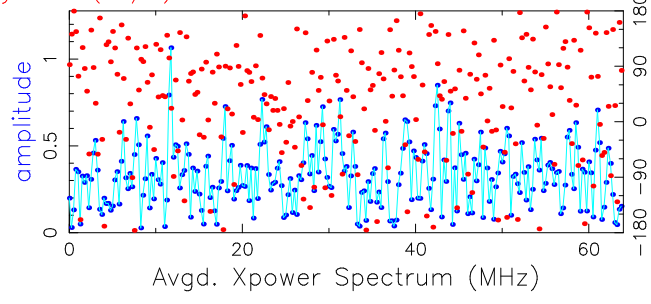


Fringe quality 0

SNR 5.8  
 Int time 179.736  
 Amp 0.202  
 Phase -174.8  
 PFD 6.4e-01  
 Delays (us)  
 SBD 0.973160  
 MBD -0.005556  
 Fringe rate (Hz)  
 0.742314  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

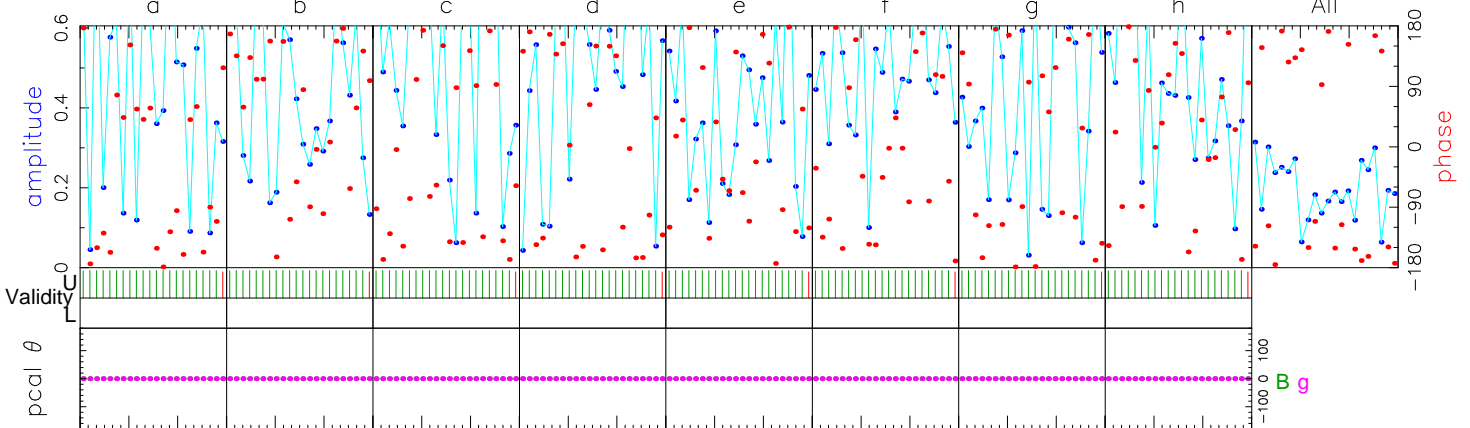


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125111  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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
	-178.0	136.9	-154.9	-172.5	-134.6	-130.2	-166.4	126.7	Phase	-174.8
	0.2	0.2	0.3	0.4	0.1	0.1	0.3	0.2	Ampl.	0.2
	161.2	201.5	402.5	505.8	216.1	70.2	505.1	338.5	Sbd box	506.1
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	
g	0	0	0	0	0	0	0	0	PC freqs	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B:g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	2.88187004104E+03	Apriori delay (usec)	2.88089122244E+03	Resid mbdelay (usec)	-5.55641E-03	+/-	1.9E-04
Sband delay (usec)	2.88186438244E+03	Apriori clock (usec)	1.5498650E+01	Resid sbdelay (usec)	9.73160E-01	+/-	1.5E-03
Phase delay (usec)	2.88089121681E+03	Apriori clockrate (us/s)	-2.7499999E-07	Resid phdelay (usec)	-5.63772E-06	+/-	6.4E-07
Delay rate (us/s)	-6.56543428543E-01	Apriori rate (us/s)	-6.56552046069E-01	Resid rate (us/s)	8.61753E-06	+/-	6.2E-09
Total phase (deg)	149.7	Apriori accel (us/s/s)	-2.89846979494E-05	Resid phase (deg)	-174.8	+/-	19.9

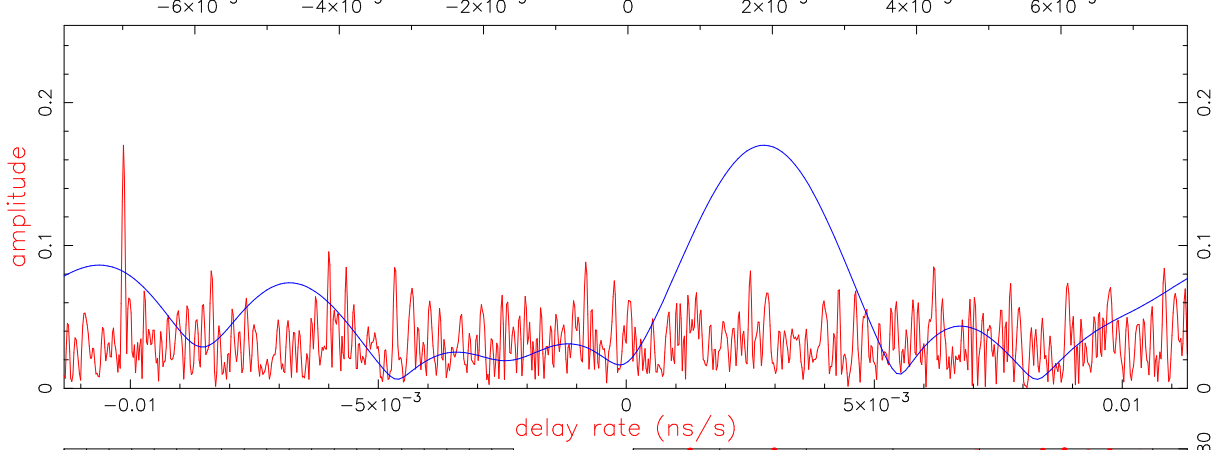
ph/seg (deg)	40.3	Theor.	46.6	Amplitude	0.202 +/- 0.035	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	52.2	Search (1024X32)	0.155	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	40.5	Inc. seg. avg.	0.191	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	46.4	Inc. frq. avg.	0.207	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 257.6 el 60.6 pa 51.1 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) 4698.979 -3178.893 simultaneous interpolator

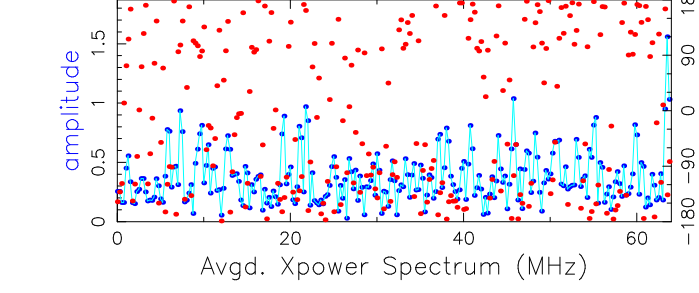
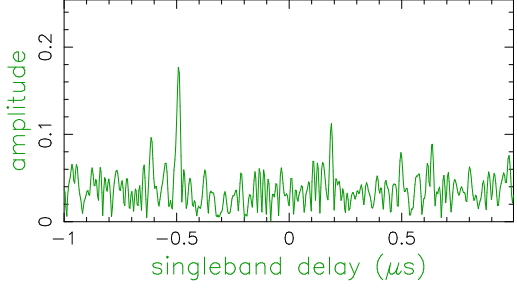
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg.W.63.126Y2A

multiband delay ( $\mu$ s)

Fringe quality 0

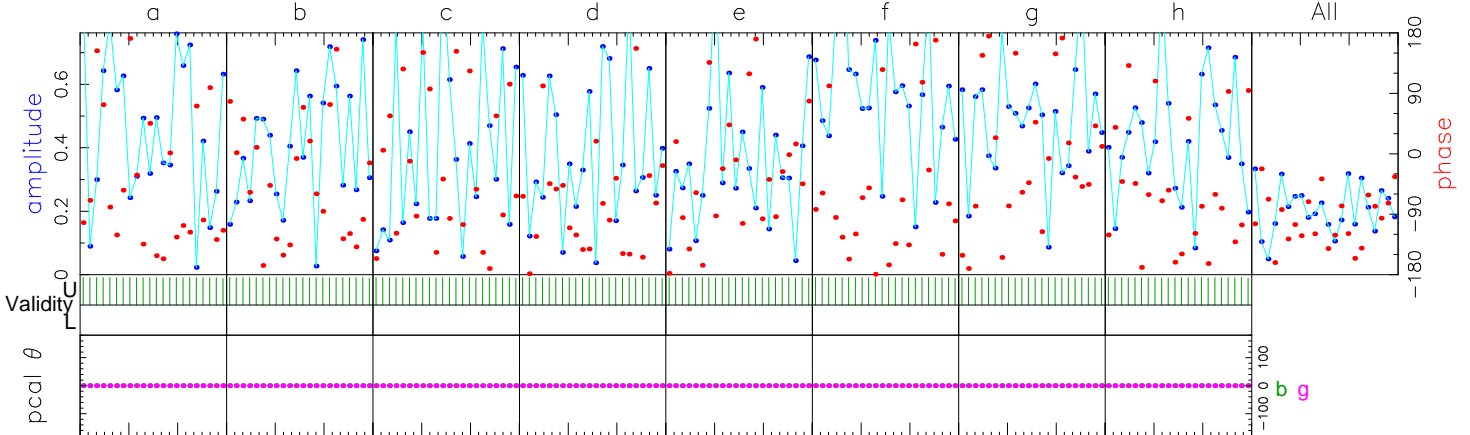


SNR 6.5  
 Int time 179.589  
 Amp 0.254  
 Phase -99.5  
 PFD 9.1e-03  
 Delays (us)  
 SBD -0.491024  
 MBD 0.001856  
 Fringe rate (Hz)  
 -0.874375  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125111  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

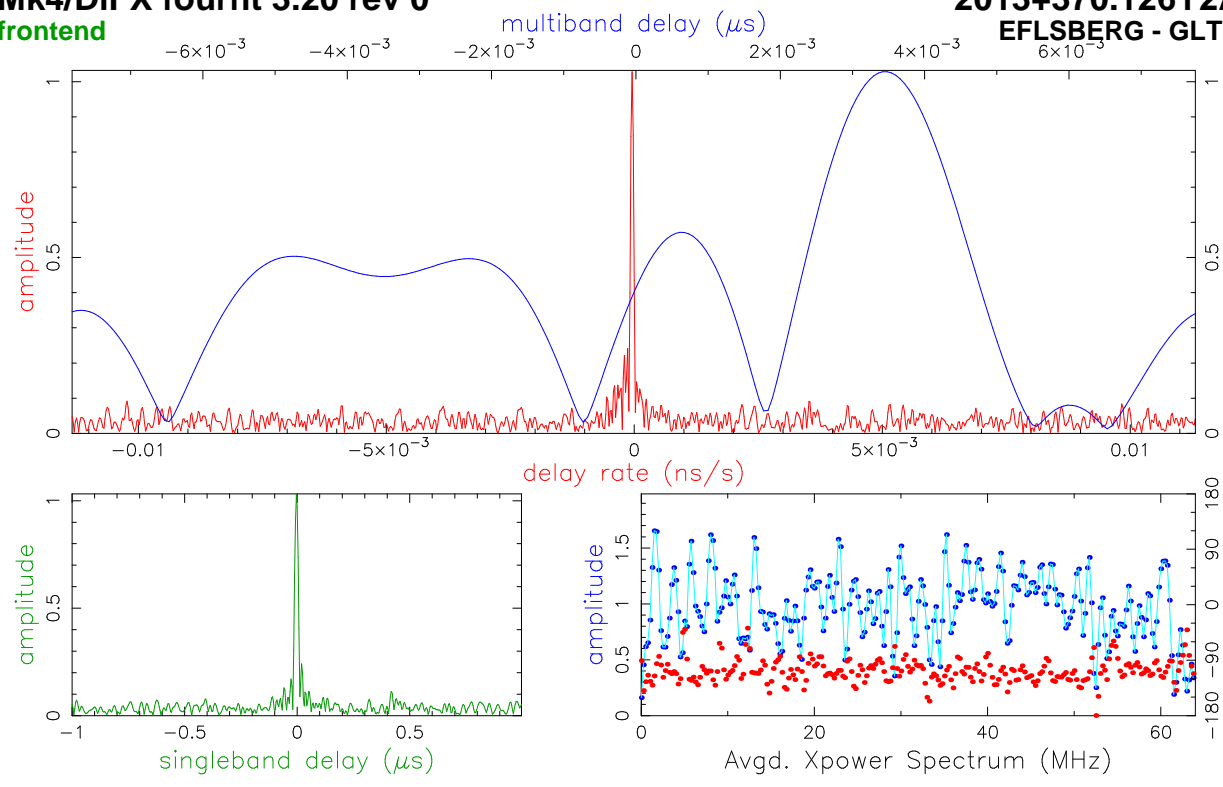


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-109.4	-59.7	-114.3	-95.3	-64.3	-115.7	-74.6	-98.6	Phase	-99.5
	0.4	0.1	0.2	0.3	0.1	0.5	0.1	0.2	Ampl.	0.2
	132.3	410.9	483.2	416.2	306.3	131.5	207.6	16.0	Sbd box	131.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	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	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -5.87410822606E+03 Apriori delay (usec) -5.87361008229E+03 Resid mbdelay (usec) 1.85623E-03 +/- 1.7E-04  
 Sband delay (usec) -5.87410110579E+03 Apriori clock (usec) -1.9228637E+00 Resid sbdelay (usec) -4.91024E-01 +/- 1.3E-03  
 Phase delay (usec) -5.87361008550E+03 Apriori clockrate (us/s) -3.1739506E-07 Resid phdelay (usec) -3.20796E-06 +/- 5.7E-07  
 Delay rate (us/s) 6.47667564304E-01 Apriori rate (us/s) 6.47677714936E-01 Resid rate (us/s) -1.01506E-05 +/- 5.4E-09  
 Total phase (deg) -275.3 Apriori accel (us/s/s) 1.56105983456E-05 Resid phase (deg) -99.5 +/- 17.5

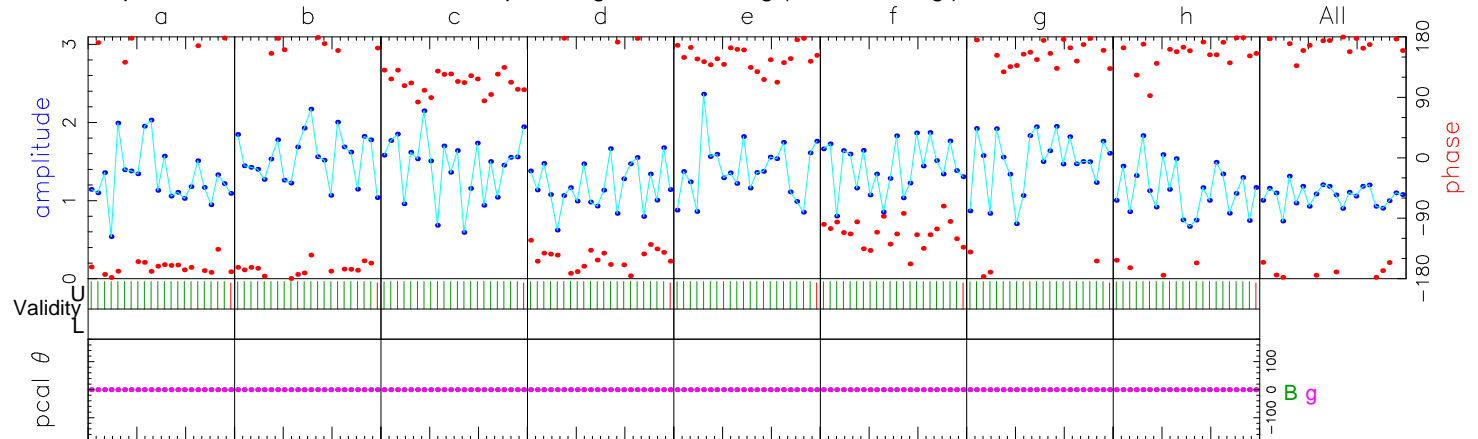
RMS Theor. Amplitude 0.254 +/- 0.039 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 38.2 41.1 Search (1024X32) 0.167 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 44.1 71.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 25.9 24.8 Inc. seg. avg. 0.234 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 48.1 43.3 Inc. frq. avg. 0.233 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

b: az 63.4 el 27.1 pa -48.6 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) -4651.124 -652.656 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/bg.W.65.126Y2A



Fringe quality 6  
 SNR 37.8  
 Int time 179.736  
 Amp 1.032  
 Phase 175.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.003153  
 MBD 0.003473  
 Fringe rate (Hz)  
 -0.003783  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125104  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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				
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
B:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
B:g	1000	1000	1000	1000	1000	1000	1000	1000				
g	1000	1000	1000	1000	1000	1000	1000	1000				
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL				
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL				
Group delay (usec)(sbd)	2.88089469556E+03					2.88089122244E+03			3.47312E-03	+/- 2.9E-05		
Sband delay (usec)	2.88088806894E+03					1.5498650E+01			-3.15350E-03	+/- 2.3E-04		
Phase delay (usec)	2.88089122810E+03					-2.7499999E-07			5.65498E-06	+/- 9.8E-08		
Delay rate (us/s)	-6.56552089985E-01					-6.56552046069E-01			-4.39164E-08	+/- 9.4E-10		
Total phase (deg)			139.9						175.4	+/- 3.0		
	RMS	Theor.	Amplitude	1.032 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	15.2	7.1	Search (1024X32)	1.027		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	12.9	12.4	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	44.3	4.3	Inc. seg. avg.	1.055		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	29.4	7.5	Inc. frq. avg.	1.298		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

B: az 257.6 el 60.6 pa 51.1 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) 4698.979 -3178.893 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/Bg.W.9.126Y2A





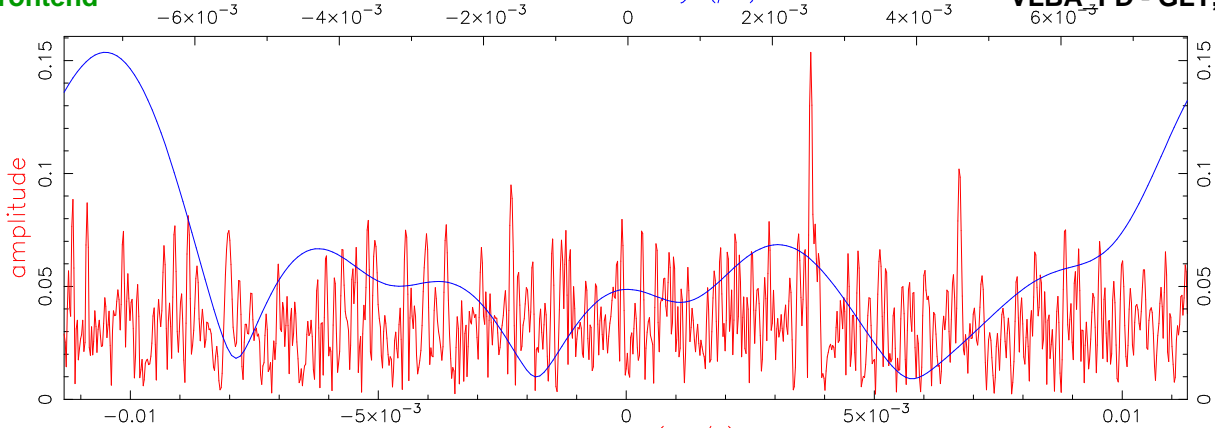
# Mk4/DiFX fourfit 3.20 rev 0

frontend

# 2013+370.126Y2A, No0048, fg

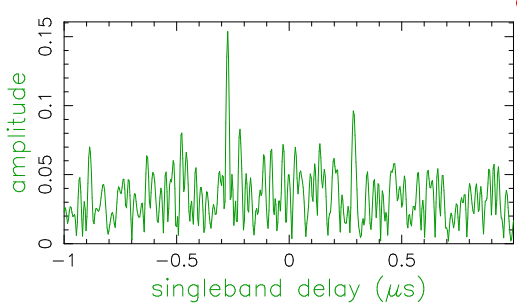
VLBA\_FD - GLT, fgroupp W, pol LR

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



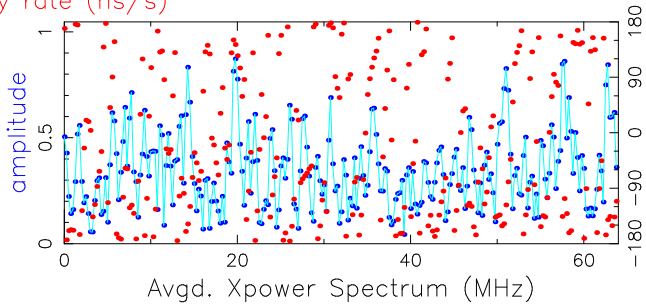
Fringe quality 0

SNR 5.6  
 Int time 179.228  
 Amp 0.161  
 Phase 19.6  
 PFD 8.9e-01  
 Delays (us)  
 SBD -0.273470  
 MBD -0.007242  
 Fringe rate (Hz)  
 0.320672  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



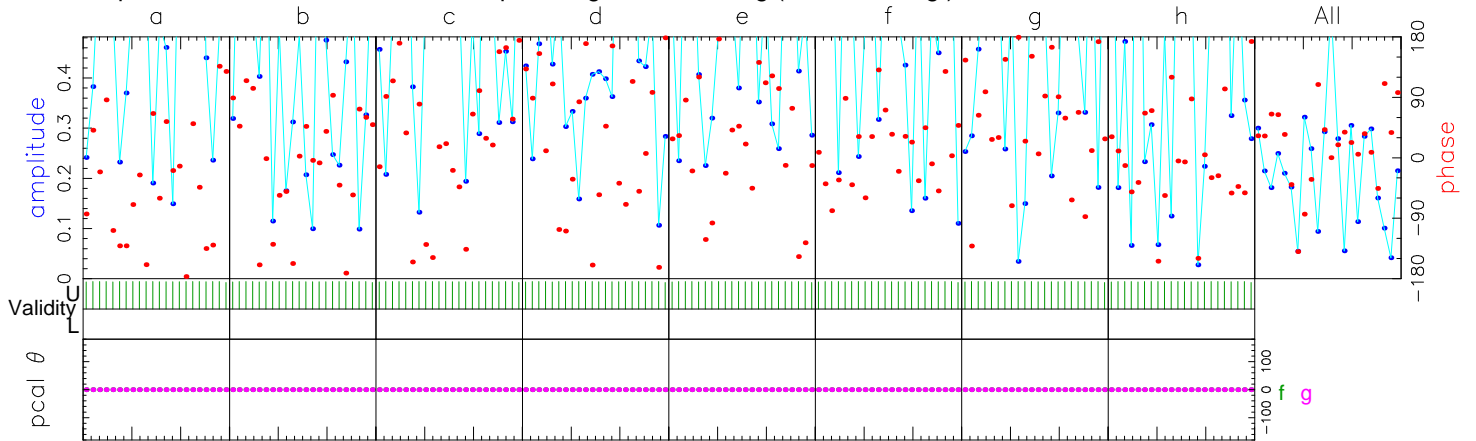
singleband delay ( $\mu\text{s}$ )

delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125121  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



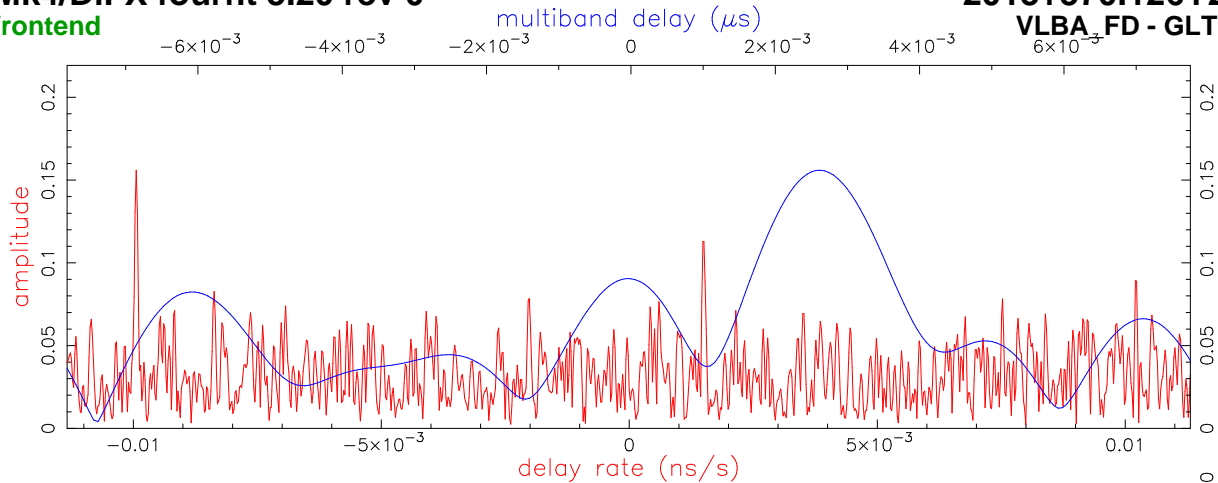
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-43.1	28.8	50.4	42.6	36.3	9.3	50.8	-1.2	Phase	19.6
	0.1	0.2	0.1	0.0	0.2	0.3	0.2	0.3	Ampl.	0.2
	283.6	29.1	180.5	135.0	271.1	187.0	67.4	187.5	Sbd box	187.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
f,g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
fg	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	
g	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.89189815565E+03		Apriori delay (usec)		-4.89162528852E+03		Resid mbdelay (usec)		-7.24213E-03	+/- 1.9E-04
Sband delay (usec)	-4.89189875852E+03		Apriori clock (usec)		-8.2868928E-01		Resid sbdelay (usec)		-2.73470E-01	+/- 1.5E-03
Phase delay (usec)	-4.89162528789E+03		Apriori clockrate (us/s)		-1.6594950E-07		Resid phdelay (usec)		6.33339E-07	+/- 6.6E-07
Delay rate (us/s)	8.41239919054E-01		Apriori rate (us/s)		8.41236196369E-01		Resid rate (us/s)		3.72269E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-5.65381477693E-06		Resid phase (deg)		19.6	+/- 20.4

ph/seg (deg) 58.6 47.8 Search (1024X32) 0.149 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 84.1 83.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 34.8 28.8 Inc. seg. avg. 0.168 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 57.8 50.3 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  
 f: az 61.9 el 30.0 pa -72.5 g: az 133.2 el 47.2 pa -12.3 u,v (fr/asec) -6063.018 -3571.979 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/fg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/fg.W.129.126Y2A



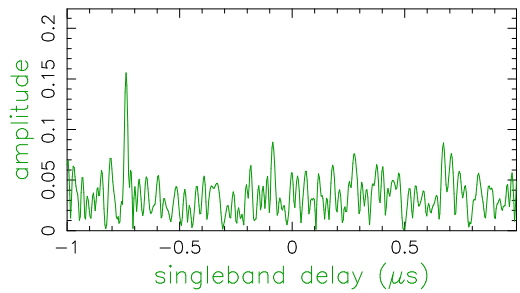
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126Y2A, No0048, fg  
VLBA\_FD - GLT, fgroup W, pol LL

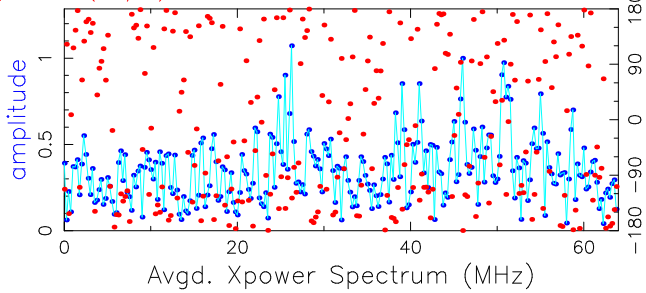


Fringe quality 0

SNR 5.7  
Int time 179.242  
Amp 0.219  
Phase -53.0  
PFD 7.4e-01  
Delays (us)  
SBD -0.737821  
MBD 0.002622  
Fringe rate (Hz)  
-0.856744  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

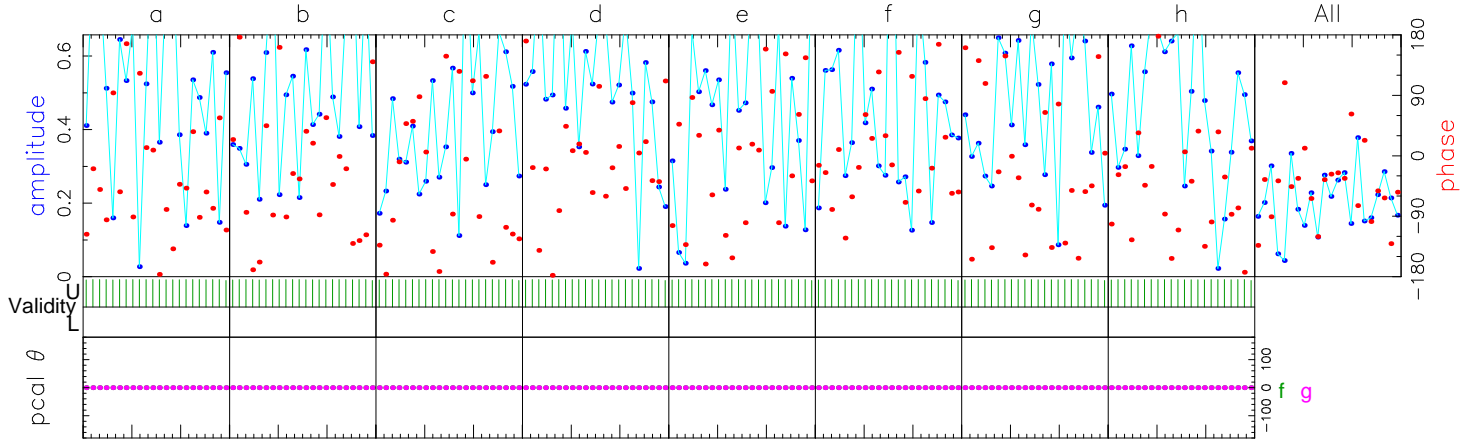


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125116  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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

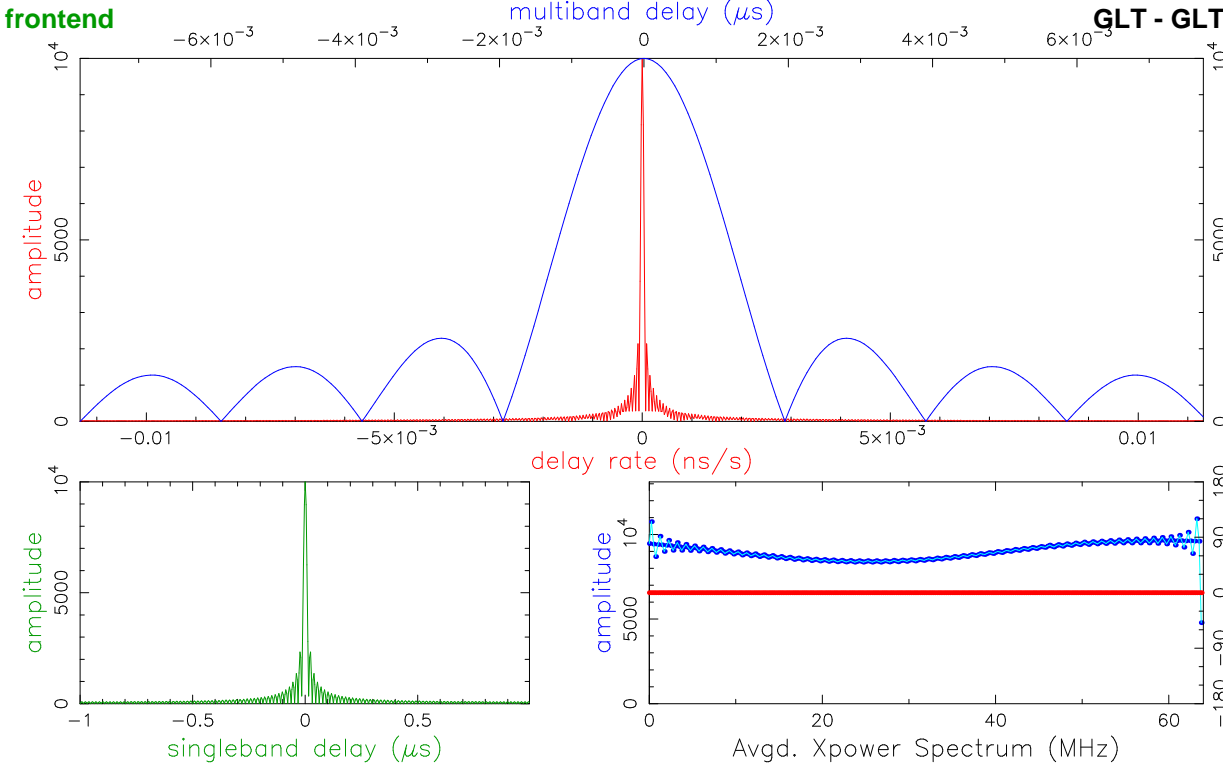


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
g	0	0	0	0	0	0	0	0		
f:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fg	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
g	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.89235704147E+03				-4.89162528852E+03				2.62205E-03	+/- 1.9E-04
Sband delay (usec)	-4.89236310902E+03				-8.2868928E-01				-7.37821E-01	+/- 1.5E-03
Phase delay (usec)	-4.89162529023E+03				-1.6594950E-07				-1.70927E-06	+/- 6.5E-07
Delay rate (us/s)	8.41226250424E-01				8.41236196369E-01				-9.94595E-06	+/- 6.2E-09
Total phase (deg)			-180.1		-5.65381477693E-06				-53.0	+/- 20.0
	RMS	Theor.	Amplitude	0.219 +/- 0.038	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	57.7	47.0	Search (1024X32)	0.153	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	61.9	82.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	38.1	28.3	Inc. seg. avg.	0.217	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	45.9	49.5	Inc. frq. avg.	0.228	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
f: az 61.9 el 30.0 pa -72.5			g: az 133.2 el 47.2 pa -12.3		u,v (fr/asec) -6063.018 -3571.979					simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/fg..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/fg.W.86.126Y2A

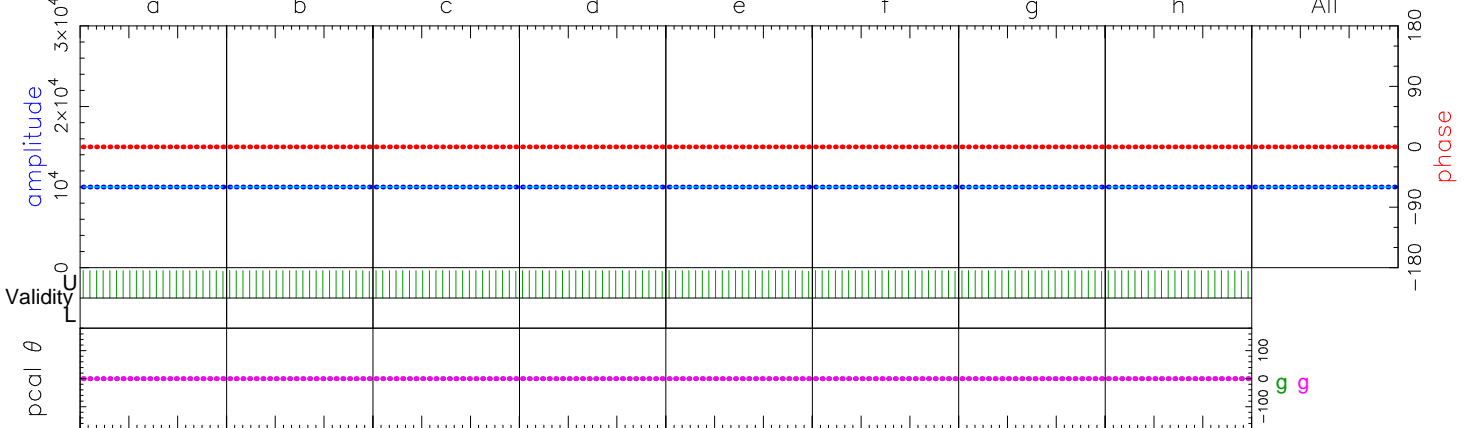
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126Y2A, No0048, gg  
 GLT - GLT, fgroup W, pol RR



Fringe quality 9  
 SNR 366807.1  
 Int time 179.920  
 Amp 10000.001  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz) 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125119  
 2019:280:115849  
 RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

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		
g	0	0	0	0	0	0	0	0		
g:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
g	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		
Sband delay (usec)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		
Phase delay (usec)	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20	9.68872325813E-20		
Delay rate (us/s)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		
Total phase (deg)			0.0							
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)										

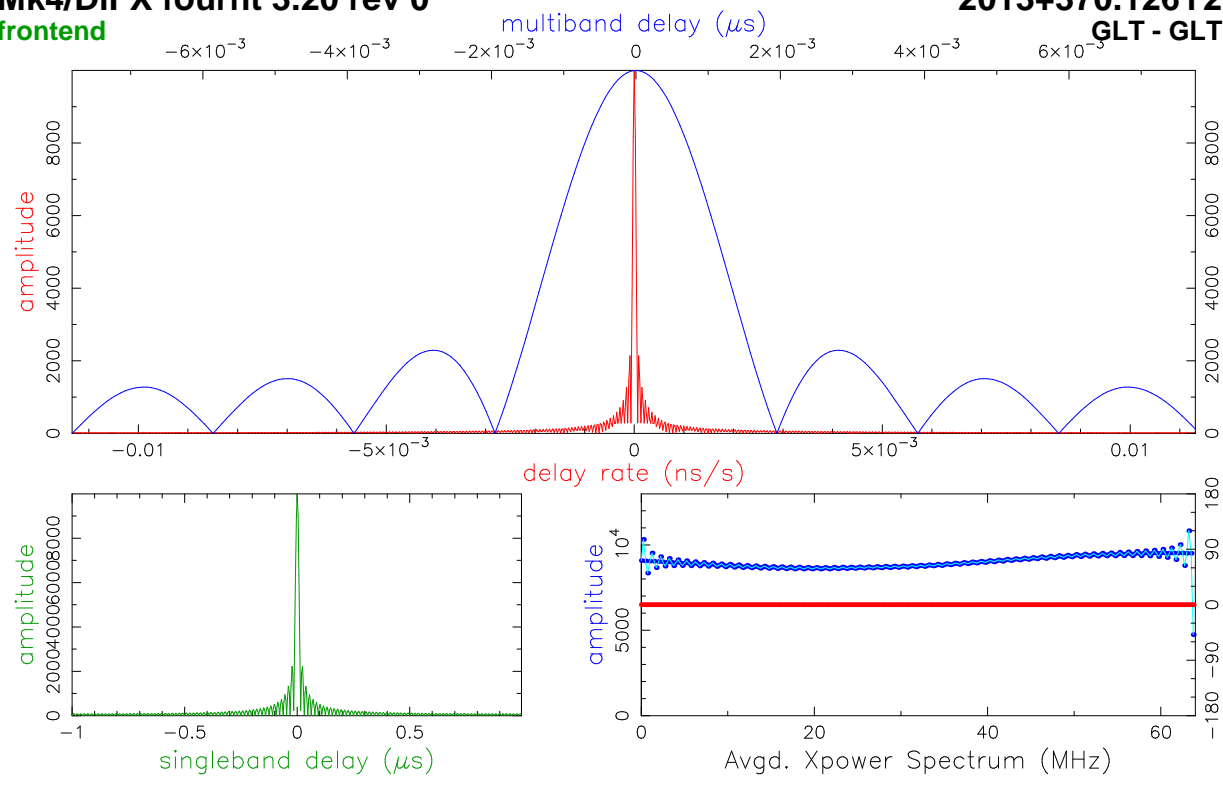
ph/seg (deg) 0.0 0.0  
 amp/seg (%) 0.0 0.0  
 ph/frq (deg) 0.0 0.0  
 amp/frq (%) 0.0 0.0  
 g: az 133.2 el 47.2 pa -12.3  
 Control file: cf\_1234\_gmva

Amplitude 10000.001 +/- 0.027  
 Search (1024X32) 10000.001  
 Interp. 0.000  
 Inc. seg. avg. 10000.000  
 Inc. frq. avg. 10000.001  
 u,v (fr/asec) 0.000 0.000  
 Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gg..126Y2A

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  
 SampCntNorm: enabled  
 nlags: 256 t\_cohere infinite  
 sb window (us) -1.000 1.000  
 mb window (us) -0.008 0.008  
 dr window (ns/s) -0.011 0.011  
 ion window (TEC) 0.00 0.00  
 simultaneous interpolator

Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gg.W.115.126Y2A



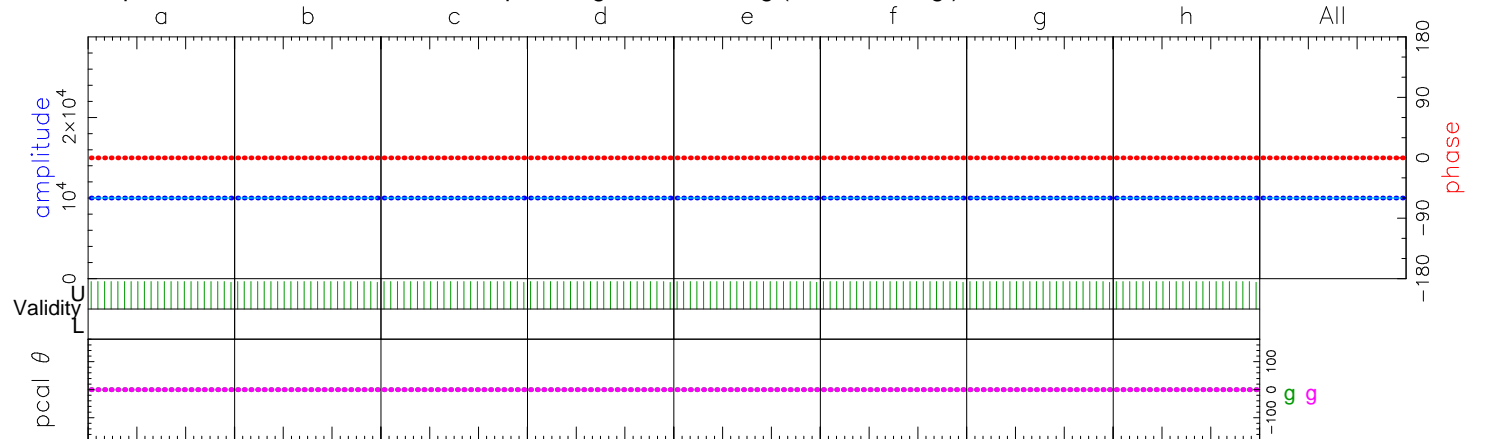


Fringe quality 9

SNR 366822.6  
Int time 179.936  
Amp 9999.991  
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. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125117  
2019:280:115849  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

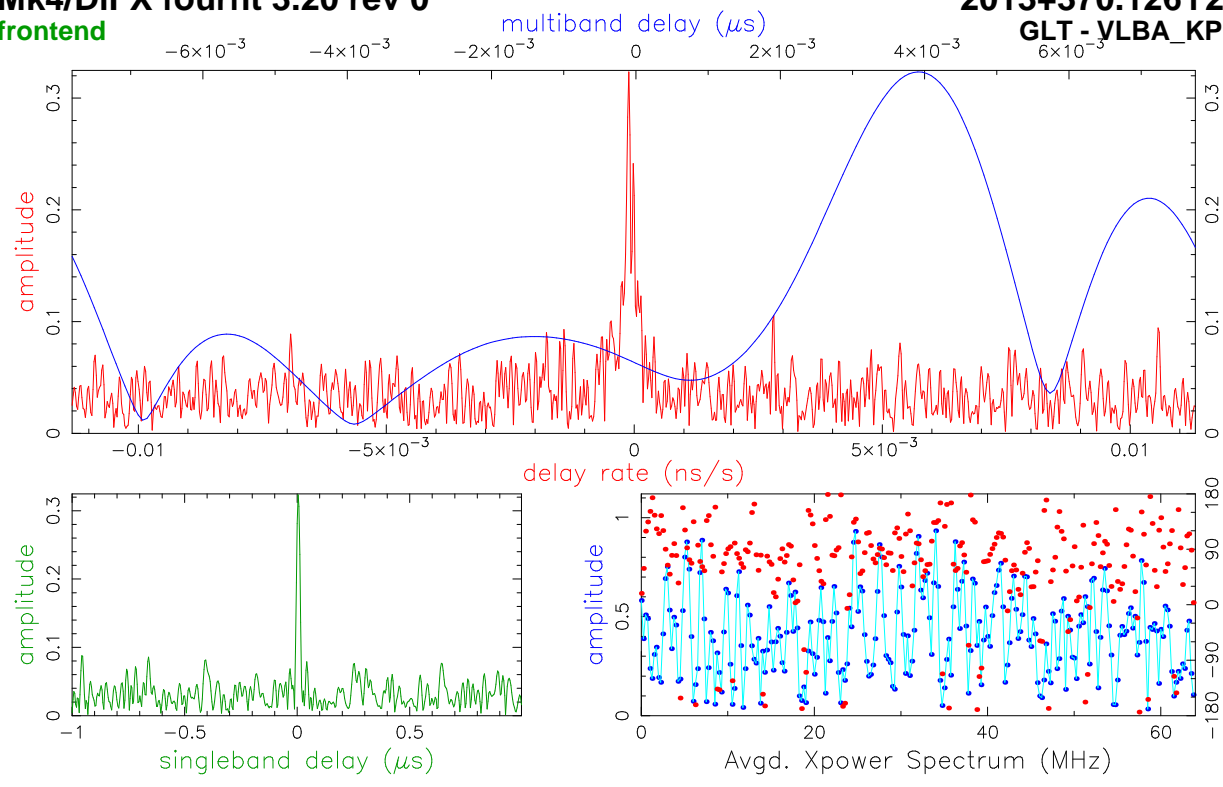
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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		
g	0	0	0	0	0	0	0	0		
g:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
g	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Sband delay (usec)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Phase delay (usec)	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20	-7.79875030399E-20		
Delay rate (us/s)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Total phase (deg)			-0.0							
RMS					9999.991 +/- 0.027					
Theor.										
Amplitude										
Search (1024X32)					9999.991					
Interp.					0.000					
Inc. seg. avg.					10000.000					
Inc. frq. avg.					9999.991					
PCal mode:					MANUAL, MANUAL					
PCal rate:					0.000E+00, 0.000E+00 (us/s)					
Bits/sample:					2x2					
Sample rate (MSamp/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

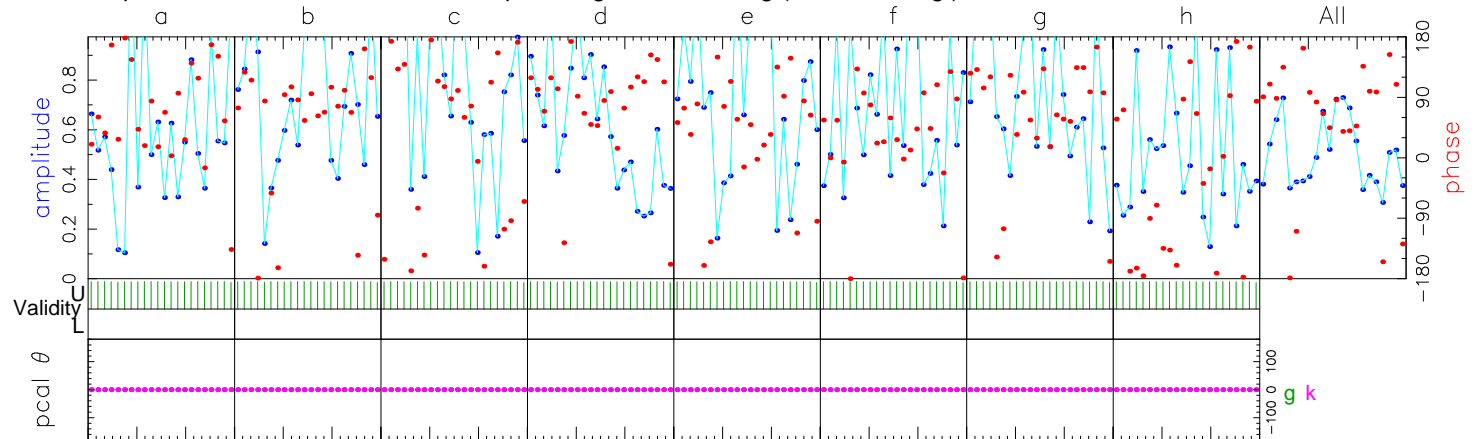
g: az 133.2 el 47.2 pa -12.3      g: az 133.2 el 47.2 pa -12.3      u,v (fr/asec) 0.000 0.000      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gg..126Y2A    Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gg.W.96.126Y2A



Fringe quality 9  
 SNR 11.9  
 Int time 179.121  
 Amp 0.325  
 Phase 97.1  
 PFD 3.5e-24  
 Delays (us)  
 SBD 0.004763  
 MBD 0.003949  
 Fringe rate (Hz)  
 -0.008978  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125117  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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
	83.5	101.3	151.2	101.8	51.7	60.3	104.2	170.8	Phase	97.1
	0.2	0.5	0.4	0.5	0.4	0.4	0.5	0.2	Ampl.	0.4
	260.1	257.9	258.6	257.7	257.9	257.3	258.9	320.1	Sbd box	258.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.57309829657E+03		Apriori delay (usec)		6.57309434728E+03		Resid mbdelay (usec)		3.94928E-03	+/- 9.1E-05
Sband delay (usec)	6.57309911003E+03		Apriori clock (usec)		1.7013429E+00		Resid sbdelay (usec)		4.76275E-03	+/- 7.2E-04
Phase delay (usec)	6.57309435042E+03		Apriori clockrate (us/s)		2.6957898E-07		Resid phdelay (usec)		3.13151E-06	+/- 3.1E-07
Delay rate (us/s)	-8.58244384302E-01		Apriori rate (us/s)		-8.58244280073E-01		Resid rate (us/s)		-1.04229E-07	+/- 3.0E-09
Total phase (deg)	124.1		Apriori accel (us/s/s)		-4.62848133173E-06		Resid phase (deg)		97.1	+/- 9.6

ph/seg (deg) 61.8 22.6 Search (1024X32) 0.319 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 69.4 39.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 44.8 13.6 Inc. seg. avg. 0.469 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 38.7 23.8 Inc. frq. avg. 0.377 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 k: az 60.2 el 24.9 pa -67.8 u, v (fr/asec) 6177.331 2818.155 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gk..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gk.W.100.126Y2A

Mk4/DiFX fourfit 3.20 rev 0

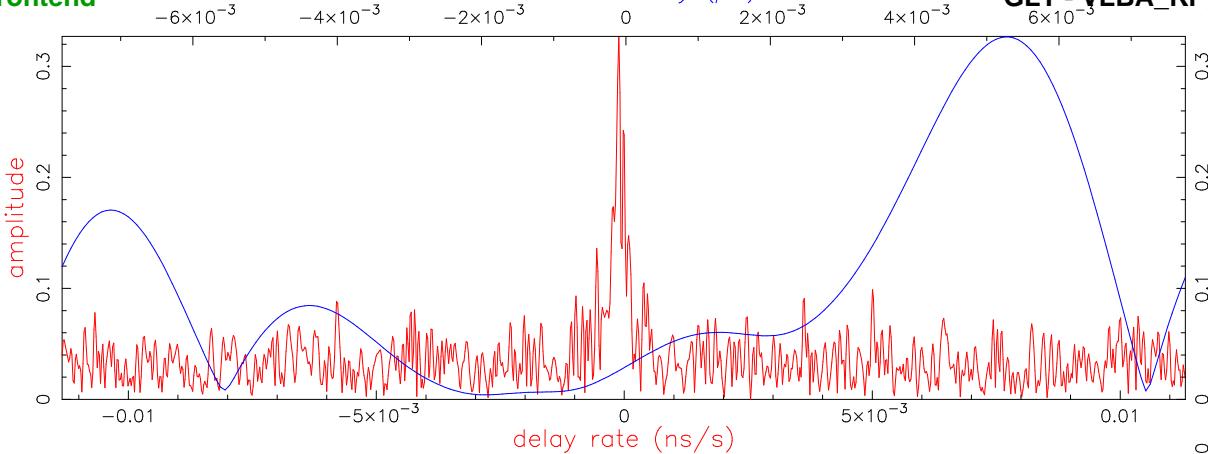
frontend

2013+370.126Y2A, No0048, gk

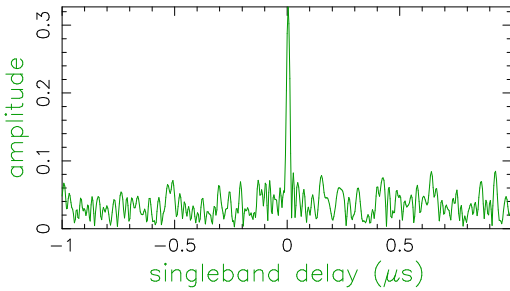
GLT - VLBA\_KP, fgroup W, pol RR

multiband delay ( $\mu$ s)

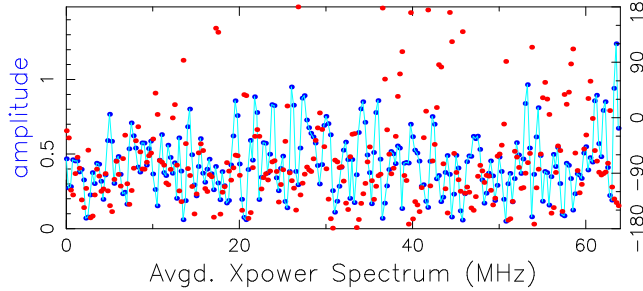
Fringe quality 9



SNR 12.0  
Int time 179.106  
Amp 0.327  
Phase -103.3  
PFD 1.3e-24  
Delays (us)  
SBD 0.004378  
MBD 0.005301  
Fringe rate (Hz)  
-0.009107  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

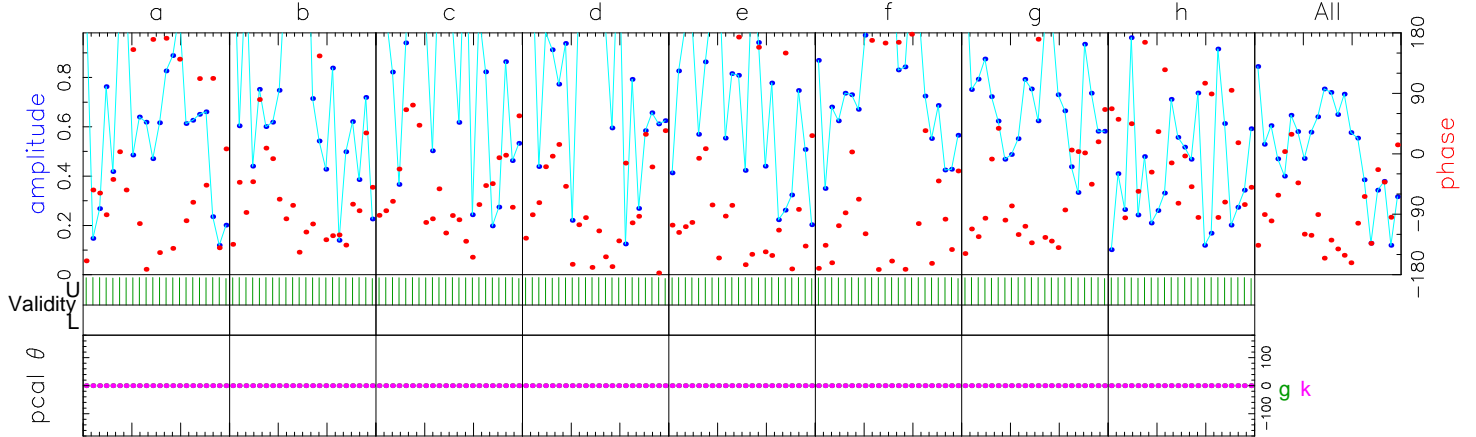


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125120  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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
	-125.8	-96.4	-66.6	-96.4	-123.1	-147.5	-97.6	-37.3	Phase	-103.3
	0.2	0.5	0.4	0.4	0.4	0.5	0.4	0.2	Ampl.	0.4
	260.1	257.9	257.5	258.0	258.7	258.0	258.8	260.6	Sbd box	258.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.57309964854E+03		Apriori delay (usec)		6.57309434728E+03		Resid mbdelay (usec)		5.30125E-03	+/- 9.1E-05
Sband delay (usec)	6.57309872578E+03		Apriori clock (usec)		1.7013429E+00		Resid sbdelay (usec)		4.37850E-03	+/- 7.2E-04
Phase delay (usec)	6.57309434395E+03		Apriori clockrate (us/s)		2.6957898E-07		Resid phdelay (usec)		-3.33140E-06	+/- 3.1E-07
Delay rate (us/s)	-8.58244385794E-01		Apriori rate (us/s)		-8.58244280073E-01		Resid rate (us/s)		-1.05721E-07	+/- 3.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.62848133173E-06		Resid phase (deg)		-103.3	+/- 9.6

	RMS	Theor.	Amplitude	0.327 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	57.4	22.5	Search (1024X32)	0.323	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	82.1	39.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	38.0	13.5	Inc. seg. avg.	0.483	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	34.3	23.6	Inc. frq. avg.	0.363	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

g: az 133.2 el 47.2 pa -12.3 k: az 60.2 el 24.9 pa -67.8 u, v (fr/asec) 6177.331 2818.155 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gk..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gk.W.120.126Y2A

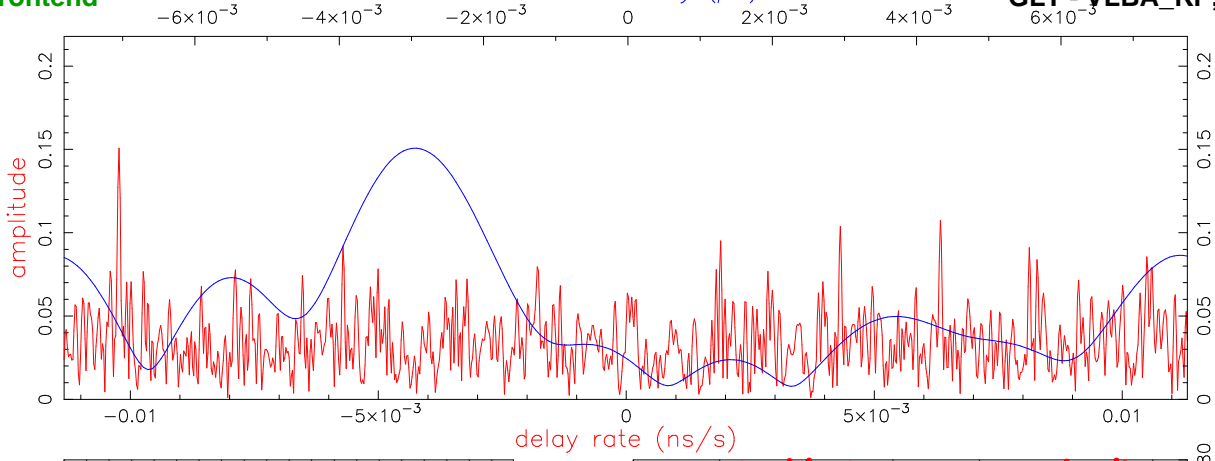
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gk

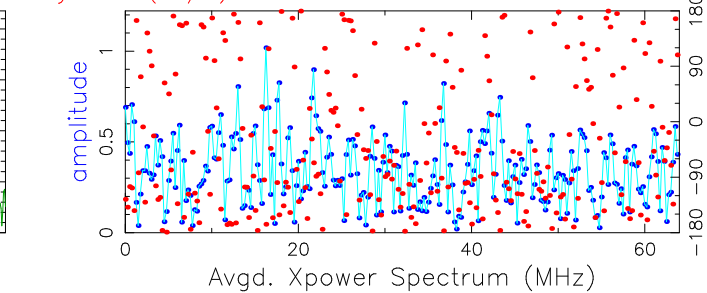
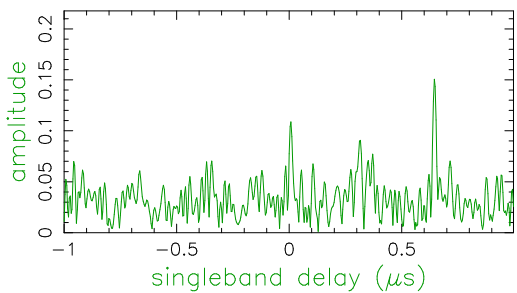
GLT - VLBA\_KP, fgroup W, pol LR

multiband delay ( $\mu$ s)



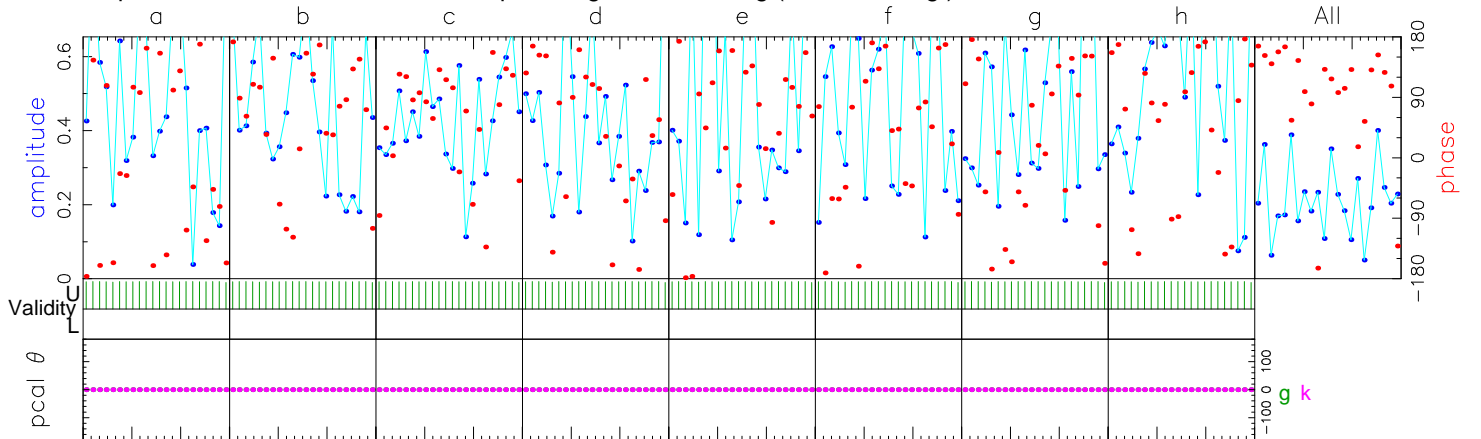
Fringe quality 0

SNR 5.5  
 Int time 179.122  
 Amp 0.218  
 Phase 126.0  
 PFD 9.7e-01  
 Delays (us)  
 SBD 0.645508  
 MBD -0.002984  
 Fringe rate (Hz)  
 -0.882979  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125122  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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		
g	0	0	0	0	0	0	0	0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	6.57374761326E+03		Apriori delay (usec)		6.57309434728E+03		Resid mbdelay (usec)		-2.98402E-03	+/- 2.0E-04
Sband delay (usec)	6.57373985528E+03		Apriori clock (usec)		1.7013429E+00		Resid sbdelay (usec)		6.45508E-01	+/- 1.6E-03
Phase delay (usec)	6.57309435135E+03		Apriori clockrate (us/s)		2.6957898E-07		Resid phdelay (usec)		4.06220E-06	+/- 6.7E-07
Delay rate (us/s)	-8.58254530589E-01		Apriori rate (us/s)		-8.58244280073E-01		Resid rate (us/s)		-1.02505E-05	+/- 6.4E-09
Total phase (deg)	153.0		Apriori accel (us/s/s)		-4.62848133173E-06		Resid phase (deg)		126.0	+/- 20.6

ph/seg (deg) 46.8 48.4 Search (1024X32) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 74.9 84.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 29.5 29.2 Inc. seg. avg. 0.228 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 46.7 51.0 Inc. frq. avg. 0.216 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 k: az 60.2 el 24.9 pa -67.8 u, v (fr/asec) 6177.331 2818.155 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gk..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gk.W.140.126Y2A

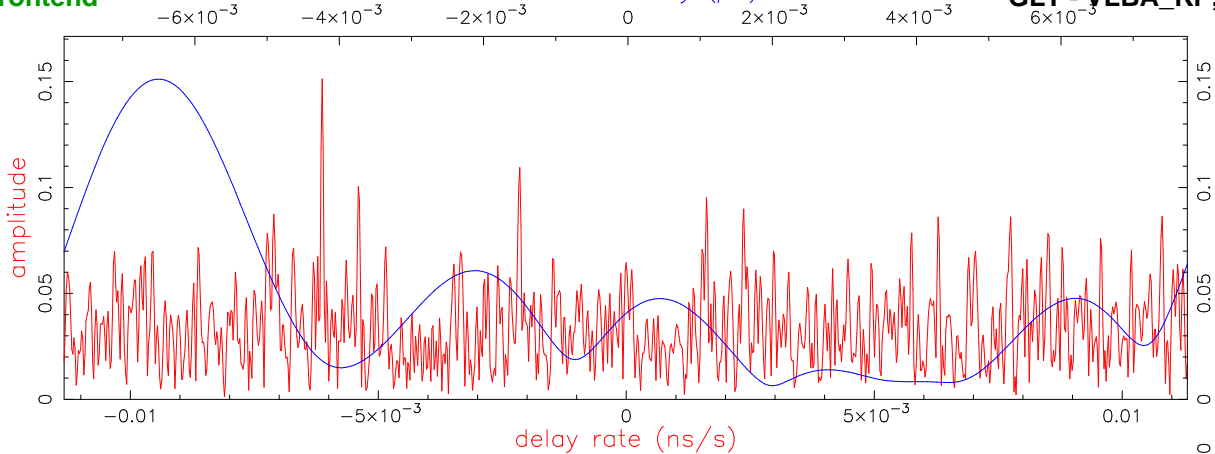
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gk

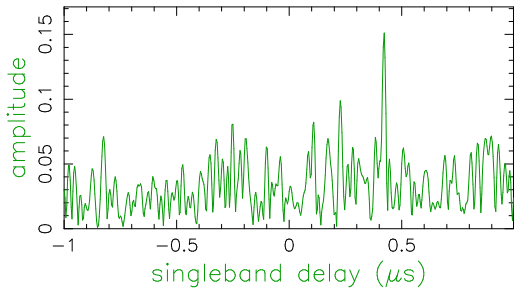
GLT - VLBA\_KP, fgroup W, pol RL

multiband delay ( $\mu$ s)

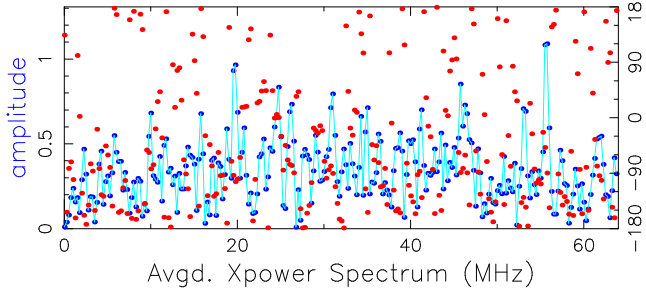


Fringe quality 0

SNR 5.5  
 Int time 179.106  
 Amp 0.171  
 Phase 138.2  
 PFD 9.7e-01  
 Delays (us)  
 SBD 0.421392  
 MBD -0.006521  
 Fringe rate (Hz)  
 -0.529088  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

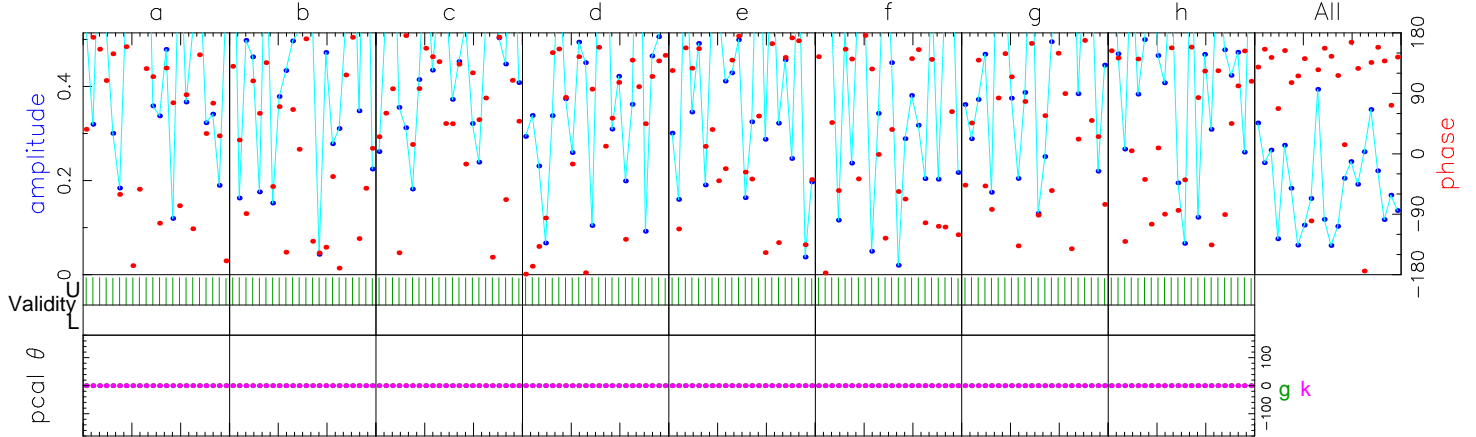


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125124  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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	153.0	165.3	106.2	131.5	146.2	171.3	119.0	146.5	Phase	138.2
g	0.2	0.1	0.3	0.3	0.1	0.2	0.1	0.2	Ampl.	0.2
k	263.8	300.8	365.9	339.8	314.6	259.8	191.6	419.8	Sbd box	364.9
g	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	0	0	0	0	0	0	0	0	PC freqs	
g:k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	6.57350970091E+03		Apriori delay (usec)		6.57309434728E+03		Resid mbdelay (usec)		-6.52138E-03	+/- 2.0E-04
Sband delay (usec)	6.57351573953E+03		Apriori clock (usec)		1.7013429E+00		Resid sbdelay (usec)		4.21392E-01	+/- 1.6E-03
Phase delay (usec)	6.57309435174E+03		Apriori clockrate (us/s)		2.6957898E-07		Resid phdelay (usec)		4.45752E-06	+/- 6.7E-07
Delay rate (us/s)	-8.5825042259E-01		Apriori rate (us/s)		-8.58244280073E-01		Resid rate (us/s)		-6.14219E-06	+/- 6.4E-09
Total phase (deg)	165.2		Apriori accel (us/s/s)		-4.62848133173E-06		Resid phase (deg)		138.2	+/- 20.7

ph/seg (deg) 46.1 48.5 Search (1024X32) 0.171 +/- 0.031 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 66.5 84.7 Interp. 0.144 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 24.5 29.3 Inc. seg. avg. 0.161 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 36.2 51.1 Inc. frq. avg. 0.162 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 k: az 60.2 el 24.9 pa -67.8 u,v (fr/asec) 6177.331 2818.155 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gk..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gk.W.157.126Y2A



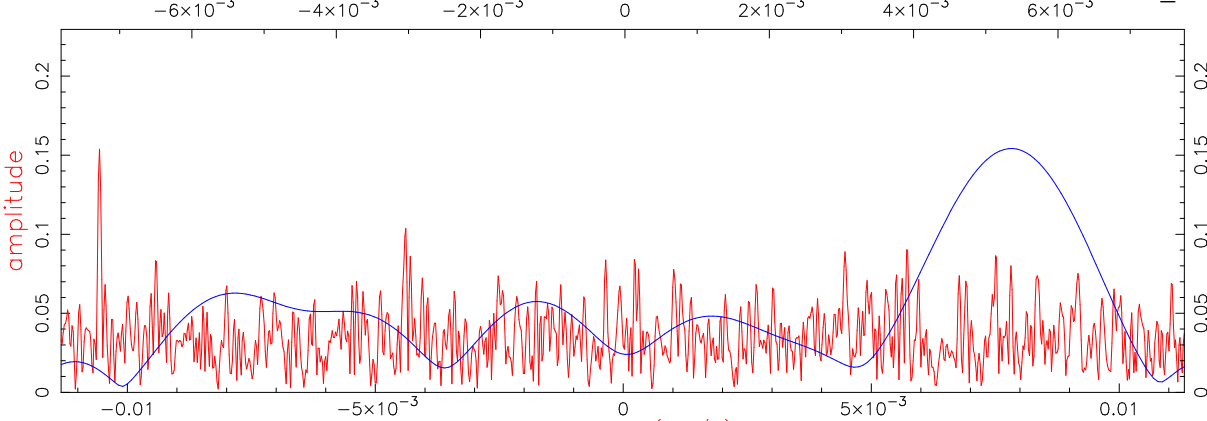
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gl

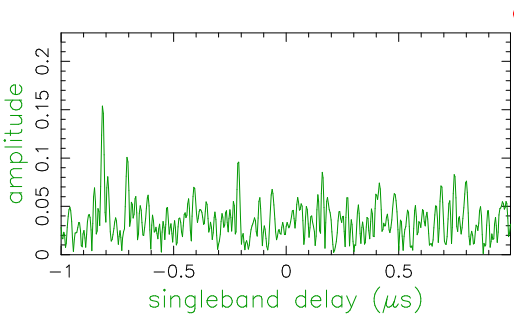
GLT - VLBA\_LA, fgroup W, pol LL

multiband delay ( $\mu$ s)

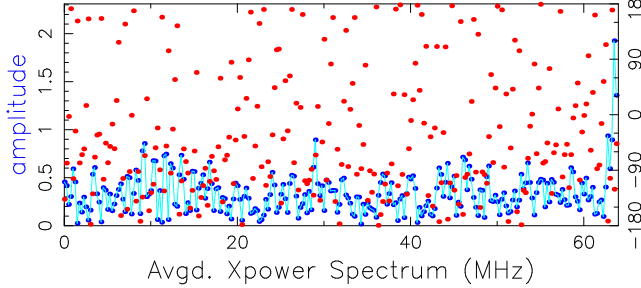


Fringe quality 0

SNR 5.7  
 Int time 179.673  
 Amp 0.230  
 Phase 173.2  
 PFD 7.6e-01  
 Delays (us)  
 SBD -0.815202  
 MBD 0.005268  
 Fringe rate (Hz)  
 -0.911996  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

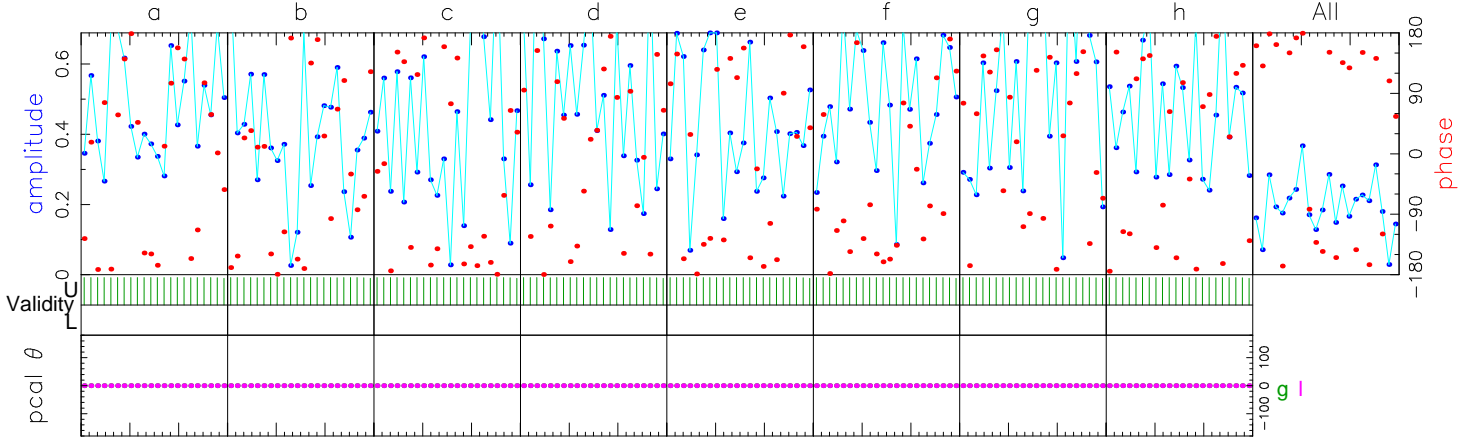


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125119  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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		
g	0	0	0	0	0	0	0	0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	4.69818098814E+03	Apriori delay (usec)	4.69900384481E+03	Resid mbdelay (usec)	5.26833E-03	+/-	1.9E-04
Sband delay (usec)	4.69818864231E+03	Apriori clock (usec)	2.0683692E+00	Resid sbdelay (usec)	-8.15202E-01	+/-	1.5E-03
Phase delay (usec)	4.69900385039E+03	Apriori clockrate (us/s)	4.2647201E-07	Resid phdelay (usec)	5.58650E-06	+/-	6.5E-07
Delay rate (us/s)	-7.94141717183E-01	Apriori rate (us/s)	-7.94131129811E-01	Resid rate (us/s)	-1.05874E-05	+/-	6.2E-09
Total phase (deg)	242.2	Apriori accel (us/s/s)	1.56186777637E-06	Resid phase (deg)	173.2	+/-	20.1

ph/seg (deg)	47.6	Theor.	47.1	Amplitude	0.230 +/- 0.040	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	55.3		82.2	Search (1024X32)	0.152	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	27.9		28.4	Inc. seg. avg.	0.219	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	41.1		49.6	Inc. frq. avg.	0.221	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

g: az 133.2 el 47.2 pa -12.3 l: az 63.9 el 30.6 pa -66.4 u,v (fr/asec) 5719.994 2800.493 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gl..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gl.W.112.126Y2A

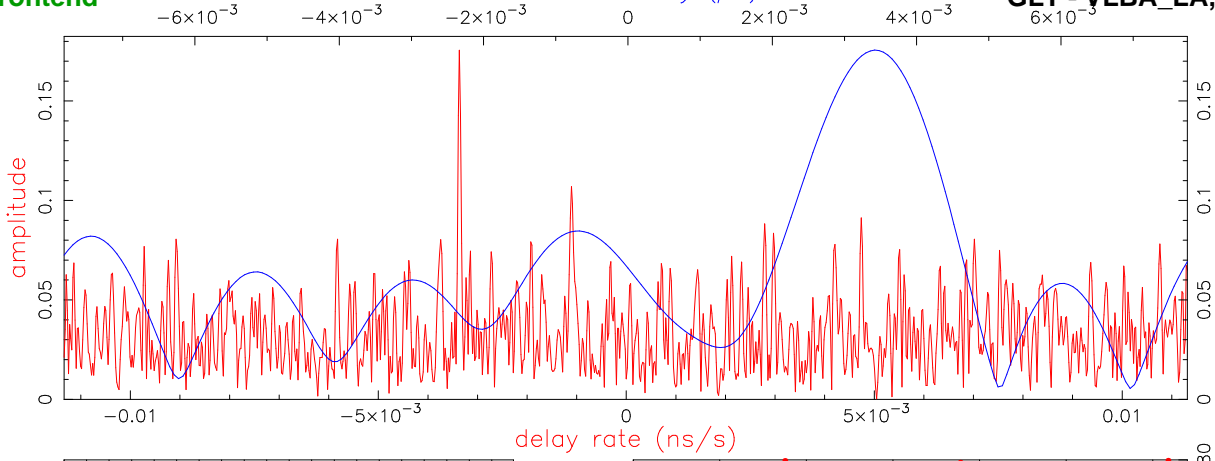
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gl

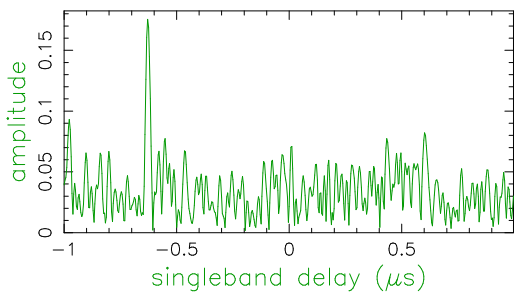
GLT - VLBA\_LA, fgroup W, pol RR

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



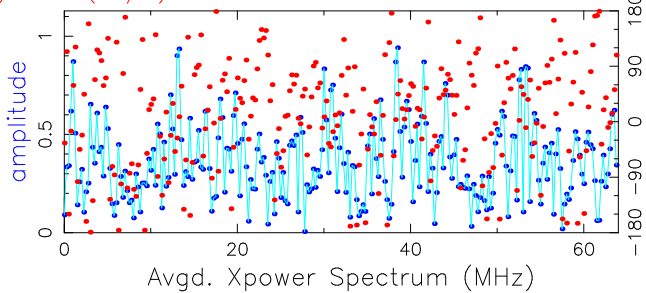
Fringe quality 0

SNR 6.4  
 Int time 179.657  
 Amp 0.182  
 Phase -45.4  
 PFD 1.6e-02  
 Delays (us)  
 SBD -0.628213  
 MBD 0.003448  
 Fringe rate (Hz)  
 -0.290998  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



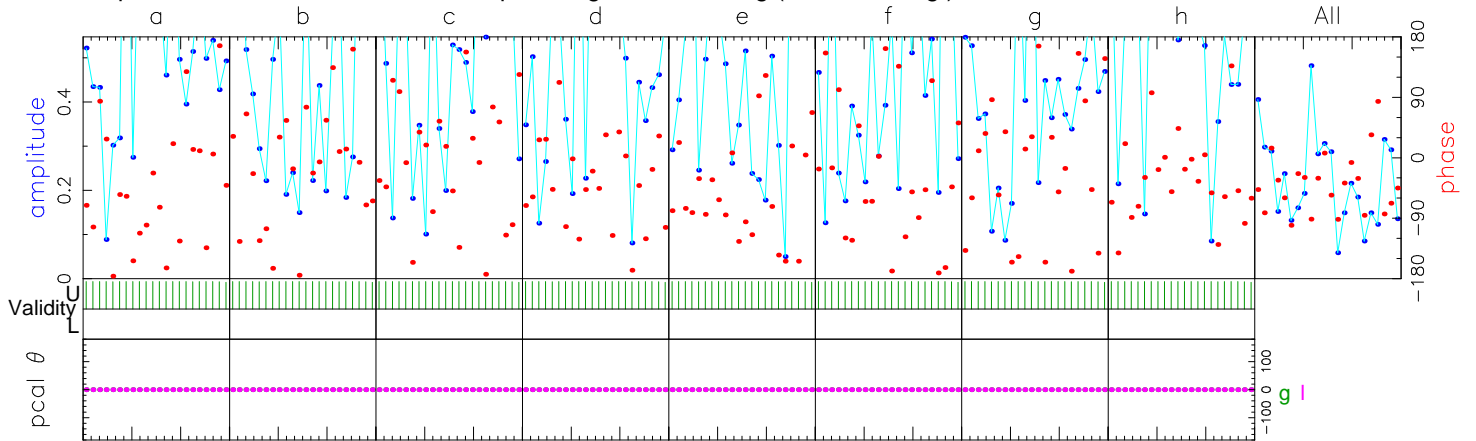
singleband delay ( $\mu\text{s}$ )

delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125121  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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
	-65.1	-1.0	-26.5	-40.9	-55.0	-94.6	-41.2	-35.8	Phase	-45.4
	0.2	0.2	0.1	0.3	0.2	0.2	0.0	0.3	Ampl.	0.2
	98.0	368.3	242.6	95.1	347.2	109.2	411.5	96.6	Sbd box	96.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	4.69838229312E+03		Apriori delay (usec)		4.69900384481E+03		Resid mbdelay (usec)		3.44831E-03	+/- 1.7E-04
Sband delay (usec)	4.69837563181E+03		Apriori clock (usec)		2.0683692E+00		Resid sbdelay (usec)		-6.28213E-01	+/- 1.3E-03
Phase delay (usec)	4.69900384334E+03		Apriori clockrate (us/s)		4.2647201E-07		Resid phdelay (usec)		-1.46375E-06	+/- 5.7E-07
Delay rate (us/s)	-7.94134508009E-01		Apriori rate (us/s)		-7.94131129811E-01		Resid rate (us/s)		-3.37820E-06	+/- 5.5E-09
Total phase (deg)			Apriori accel (us/s/s)		1.56186777637E-06		Resid phase (deg)		-45.4	+/- 17.8

	RMS	Theor.	Amplitude	0.182 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	45.1	41.7	Search (1024X32)	0.166	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/seg (%)	64.6	72.8	Interp.	0.000	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	29.9	25.1	Inc. seg. avg.	0.184	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	49.8	43.9	Inc. frq. avg.	0.181					

g: az 133.2 el 47.2 pa -12.3 l: az 63.9 el 30.6 pa -66.4 u,v (fr/asec) 5719.994 2800.493 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gl..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gl.W.132.126Y2A

Mk4/DiFX fourfit 3.20 rev 0

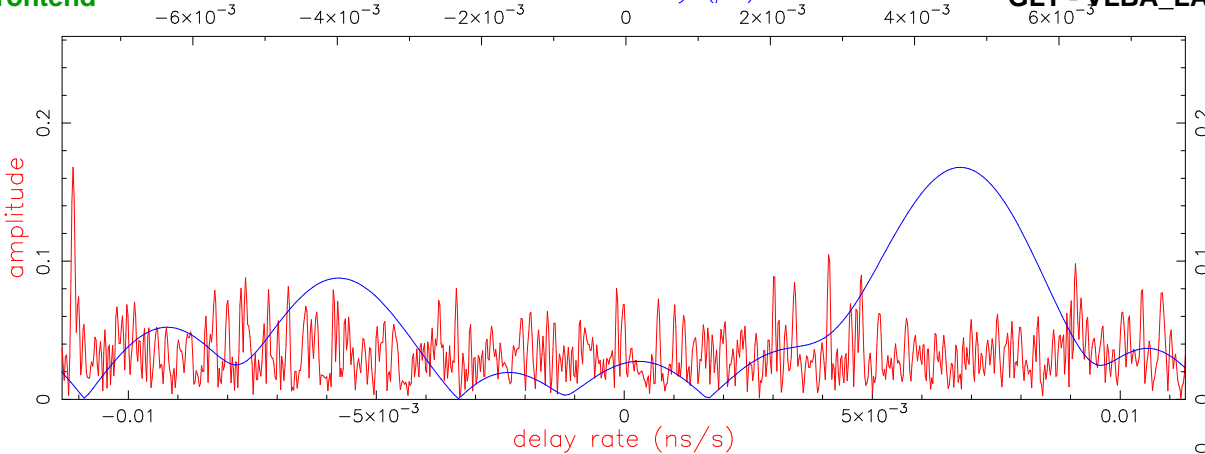
frontend

2013+370.126Y2A, No0048, gl

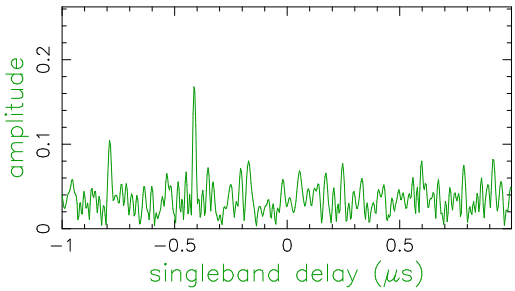
GLT - VLBA\_LA, fgroup W, pol LR

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

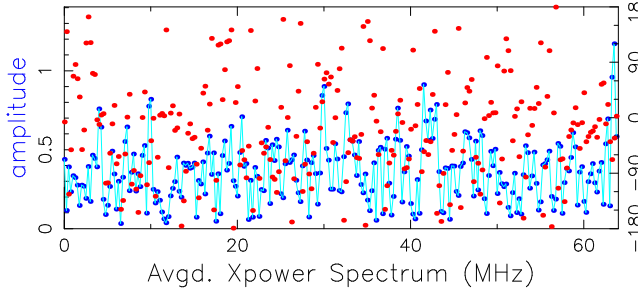
Fringe quality 0



SNR 6.2  
 Int time 179.673  
 Amp 0.263  
 Phase -154.6  
 PFD 5.8e-02  
 Delays (us)  
 SBD -0.412704  
 MBD 0.004671  
 Fringe rate (Hz)  
 -0.959222  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

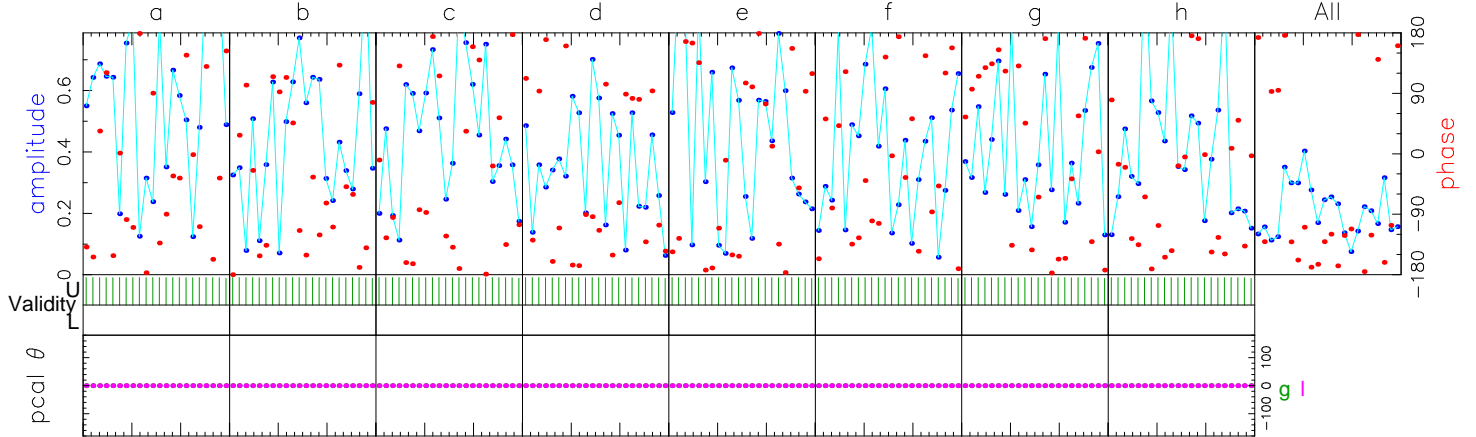


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125123  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

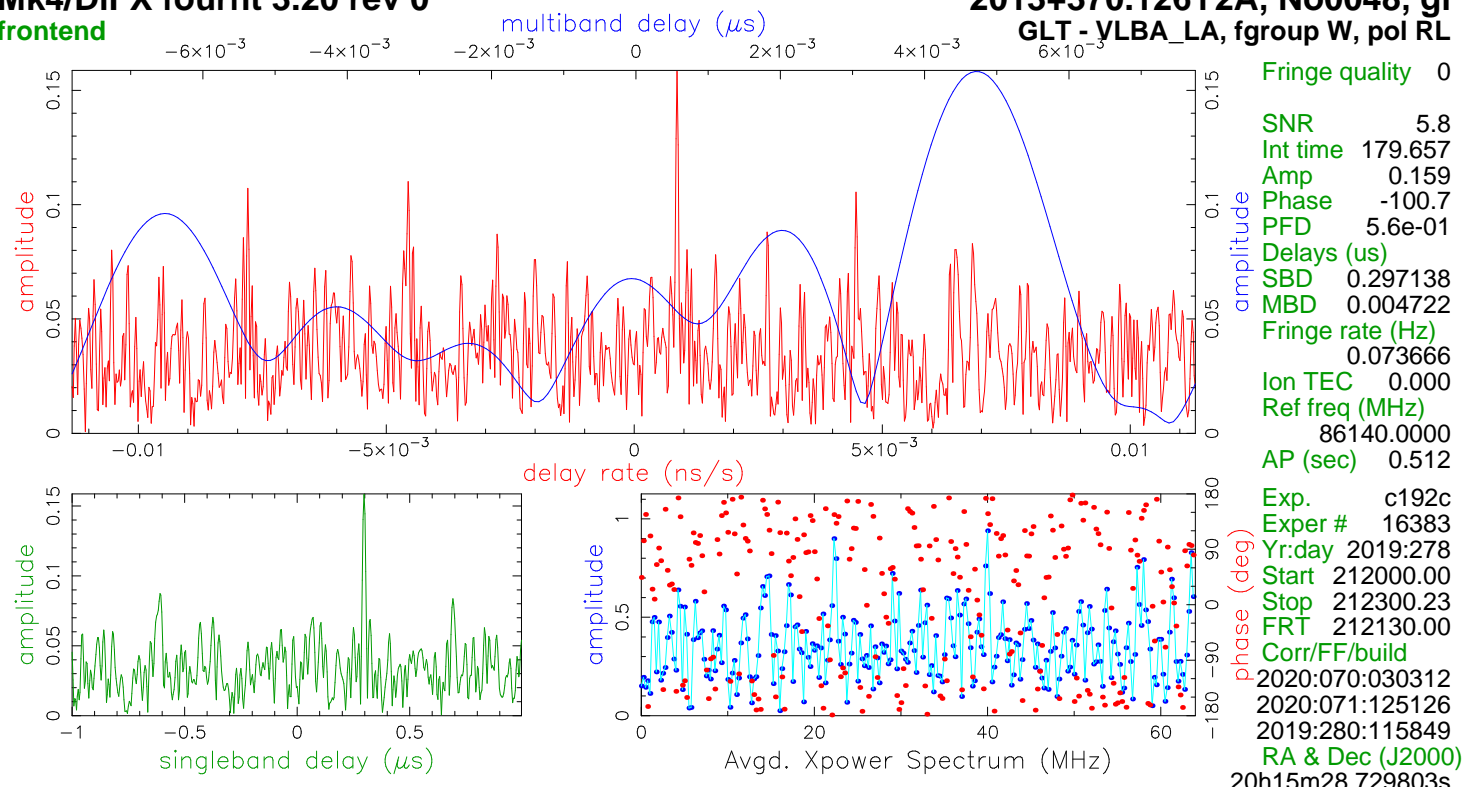


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g	0	0	0	0	0	0	0	0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		4.69858664080E+03			4.69900384481E+03			4.67099E-03		+/- 1.7E-04
Sband delay (usec)		4.69859114106E+03			2.0683692E+00			-4.12704E-01		+/- 1.4E-03
Phase delay (usec)		4.69900383982E+03			4.2647201E-07			-4.98594E-06		+/- 5.9E-07
Delay rate (us/s)		-7.94142265432E-01			-7.94131129811E-01			-1.11356E-05		+/- 5.7E-09
Total phase (deg)			-85.6		1.56186777637E-06			-154.6		+/- 18.4
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										-1.000 1.000
mb window (us)										-0.008 0.008
dr window (ns/s)										-0.011 0.011
ion window (TEC)										0.00 0.00
ph/seg (deg)	45.8	43.1		0.263 +/- 0.042						
amp/seg (%)	54.8	75.2		0.163						
ph/frq (deg)	27.2	26.0		0.000						
amp/frq (%)	32.5	45.3		0.253						
Search (1024X32)				0.256						
Inc. seg. avg.										
Inc. frq. avg.										
g: az 133.2 el 47.2 pa -12.3										
l: az 63.9 el 30.6 pa -66.4										
u,v (fr/asec) 5719.994 2800.493										
Control file: cf_1234_gmva										
Input file: /Exps/c192c/v1_CygA2/1234/No0048/gl..126Y2A										
Output file: /Exps/c192c/v1_CygA2/1234/No0048/gl.W.150.126Y2A										

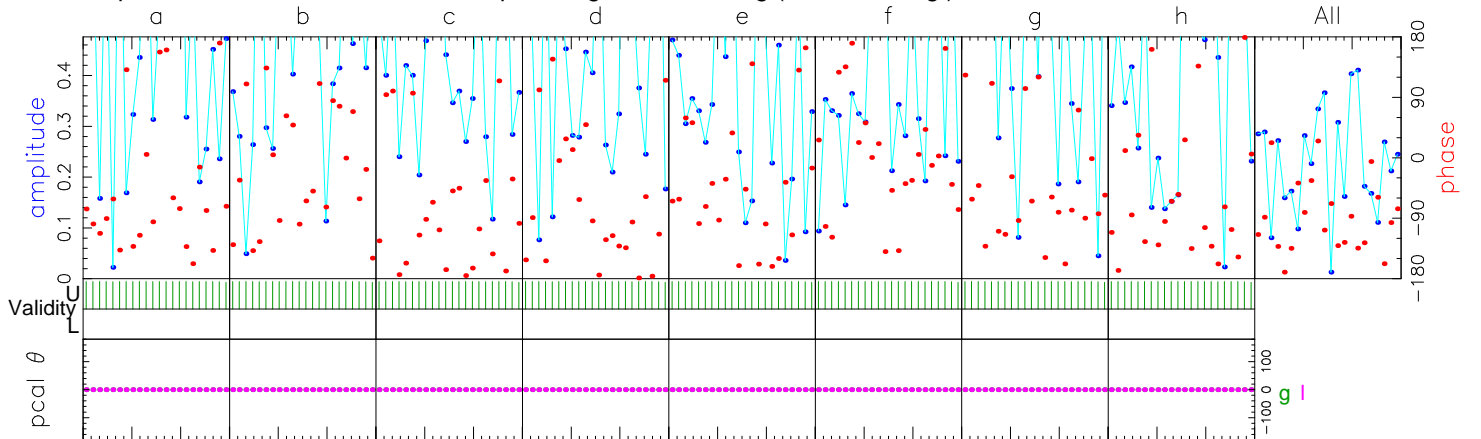
simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126Y2A, No0048, gl  
GLT - VLBA\_LA, 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
	-101.9	-51.9	-132.9	-125.6	-86.7	-23.4	-94.4	-125.9	Phase	-100.7
	0.3	0.1	0.2	0.2	0.1	0.2	0.2	0.2	Ampl.	0.2
	332.6	91.7	155.1	334.0	234.2	236.6	462.0	333.1	Sbd box	333.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	4.69930544193E+03		Apriori delay (usec)	4.69900384481E+03	Resid mbdelay (usec)	4.72212E-03	+/-	1.9E-04		
Sband delay (usec)	4.69930098256E+03		Apriori clock (usec)	2.0683692E+00	Resid sbdelay (usec)	2.97138E-01	+/-	1.5E-03		
Phase delay (usec)	4.69900384156E+03		Apriori clockrate (us/s)	4.2647201E-07	Resid phdelay (usec)	-3.24875E-06	+/-	6.4E-07		
Delay rate (us/s)	-7.94130274623E-01		Apriori rate (us/s)	-7.94131129811E-01	Resid rate (us/s)	8.55188E-07	+/-	6.1E-09		
Total phase (deg)		-31.7	Apriori accel (us/s/s)	1.56186777637E-06	Resid phase (deg)	-100.7	+/-	19.7		

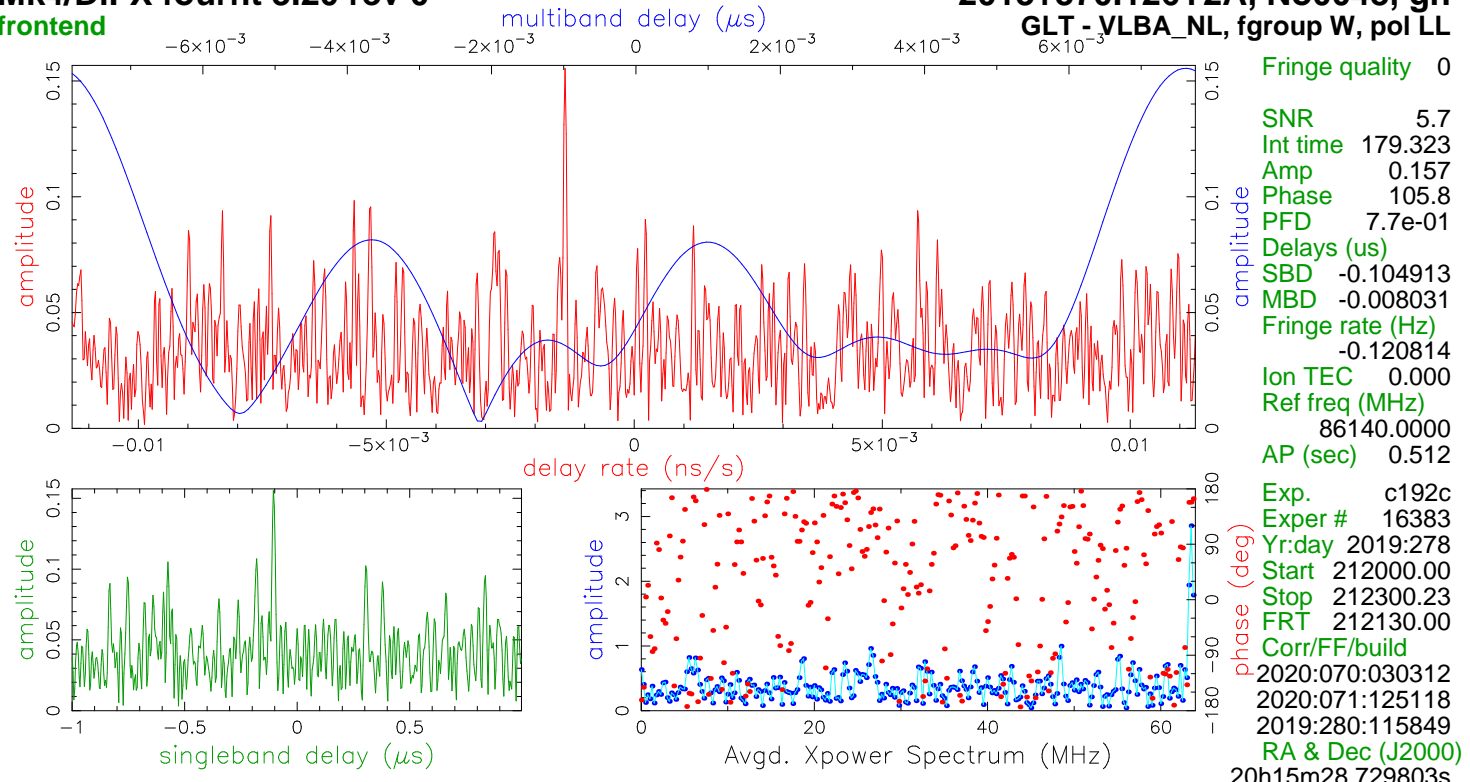
ph/seg (deg) 55.0 46.3 Amplitude 0.159 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 78.9 80.8 Search (1024X32) 0.149 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 42.6 27.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 44.5 48.7 Inc. seg. avg. 0.173 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
g: az 133.2 el 47.2 pa -12.3 l: az 63.9 el 30.6 pa -66.4 u,v (fr/asec) 5719.994 2800.493 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gl..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gl.W.159.126Y2A simultaneous interpolator

# Mk4/DiFX fourfit 3.20 rev 0

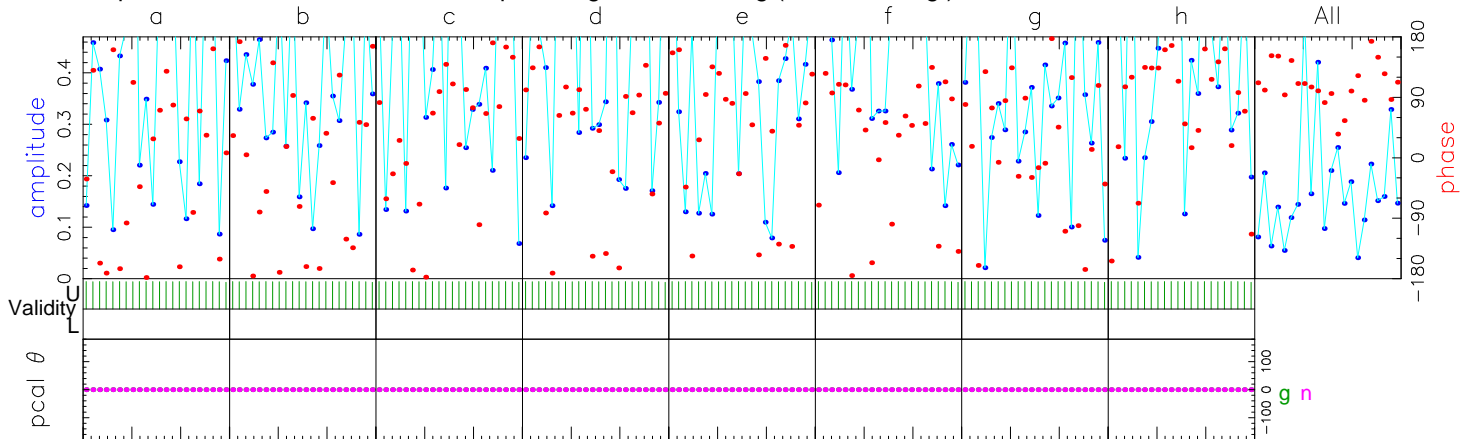
frontend

# 2013+370.126Y2A, No0048, gn

GLT - VLBA\_NL, fgroup W, pol LL



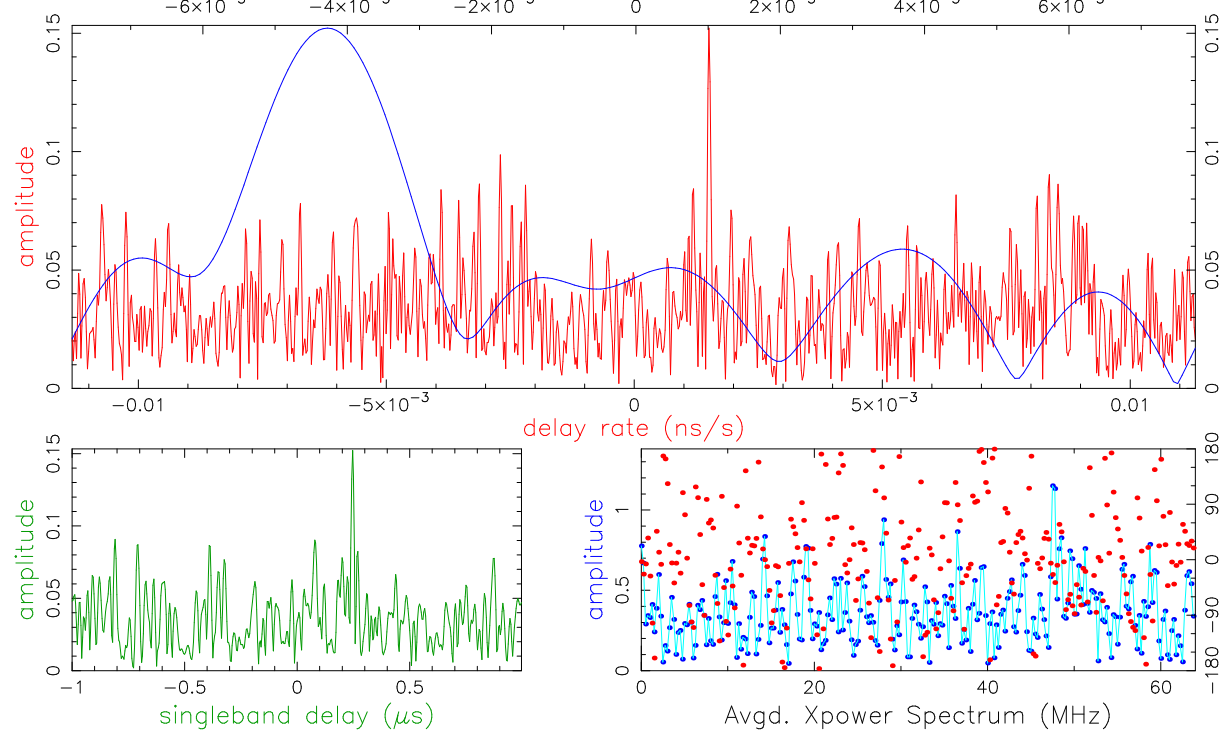
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
125.8	146.6	94.0	91.5	126.3	74.6	52.8	127.1	127.1	Phase	105.8
0.1	0.0	0.2	0.3	0.2	0.2	0.1	0.3	0.3	Ampl.	0.2
340.5	258.5	152.3	229.8	278.3	337.2	353.0	299.5	299.5	Sbd box	230.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	8.99112903939E+02		Apriori delay (usec)	8.99214685251E+02	Resid mbdelay (usec)	-8.03131E-03	+/-	1.9E-04		
Sband delay (usec)	8.99109772251E+02		Apriori clock (usec)	-2.5234045E+01	Resid sbdelay (usec)	-1.04913E-01	+/-	1.5E-03		
Phase delay (usec)	8.99214688663E+02		Apriori clockrate (us/s)	-5.9223514E-08	Resid phdelay (usec)	3.41173E-06	+/-	6.5E-07		
Delay rate (us/s)	-6.28719138410E-01		Apriori rate (us/s)	-6.28717735877E-01	Resid rate (us/s)	-1.40253E-06	+/-	6.2E-09		
Total phase (deg)		101.3	Apriori accel (us/s/s)	1.60636194967E-05	Resid phase (deg)	105.8	+/-	20.1		

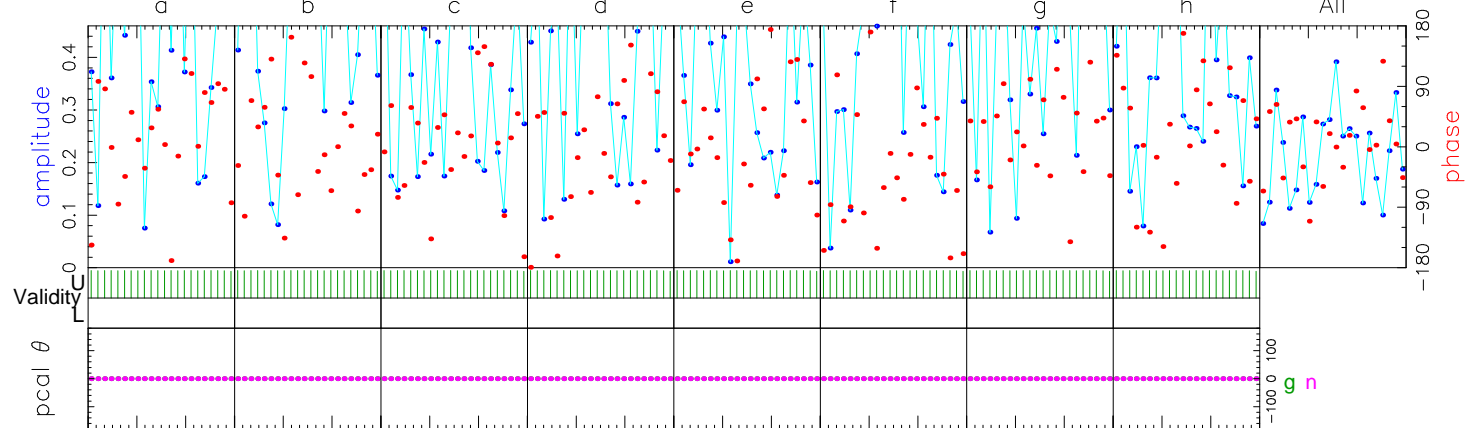
ph/seg (deg) 31.8 47.1 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 74.0 82.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 34.3 28.4 Inc. seg. avg. 0.136 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 60.5 49.6 Inc. frq. avg. 0.151 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 n: az 74.2 el 43.4 pa -64.3 u,v (fr/asec) 4539.765 3099.507 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gn..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gn.W.103.126Y2A





Fringe quality 0  
SNR 5.6  
Int time 179.308  
Amp 0.153  
Phase 7.1  
PFD 9.5e-01  
Delays (us)  
SBD 0.246229  
MBD -0.004271  
Fringe rate (Hz) 0.130216  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125120  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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		
	40.8	-11.1	5.6	-11.6	3.1	-49.3	33.7	31.7	Phase	7.1		
	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	Ampl.	0.2		
	93.4	403.8	320.4	489.2	308.3	223.1	371.0	241.1	Sbd box	320.0		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
g	0	0	0	0	0	0	0	0	PC freqs			
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
n	1000	1000	1000	1000	1000	1000	1000	1000				
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Tracks			
Group delay (usec)(sbd)	8.99460414440E+02		Apriori delay (usec)		8.99214685251E+02		Resid mbdelay (usec)		-4.27081E-03	+/- 1.9E-04		
Sband delay (usec)	8.99460914501E+02		Apriori clock (usec)		-2.5234045E+01		Resid sbdelay (usec)		2.46229E-01	+/- 1.5E-03		
Phase delay (usec)	8.99214685480E+02		Apriori clockrate (us/s)		-5.9223514E-08		Resid phdelay (usec)		2.29357E-07	+/- 6.6E-07		
Delay rate (us/s)	-6.28716224202E-01		Apriori rate (us/s)		-6.28717735877E-01		Resid rate (us/s)		1.51168E-06	+/- 6.4E-09		
Total phase (deg)			Apriori accel (us/s/s)		1.60636194967E-05		Resid phase (deg)		7.1	+/- 20.6		
	RMS	Theor.	Amplitude	0.153 +/- 0.028		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	54.1	48.2	Search (1024X32)	0.149		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	68.9	84.2	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	32.5	29.1	Inc. seg. avg.	0.160		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	32.7	50.7	Inc. frq. avg.	0.154		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 133.2 el 47.2 pa -12.3	n: az 74.2 el 43.4 pa -64.3		u,v (fr/asec) 4539.765 3099.507						simultaneous interpolator			
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0048/gn..126Y2A		Output file: /Exps/c192c/v1_CygA2/1234/No0048/gn.W.124.126Y2A									

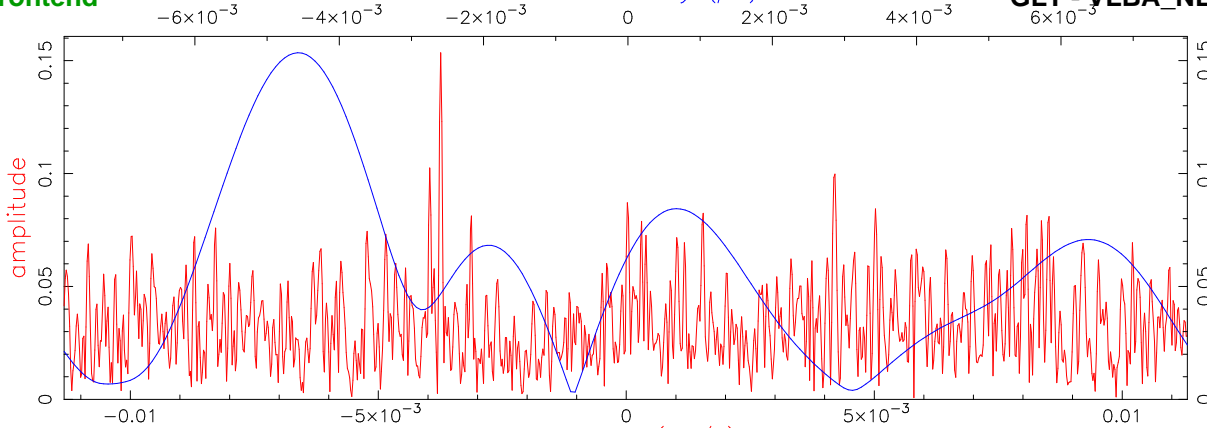
Mk4/DiFX fourfit 3.20 rev 0

frontend

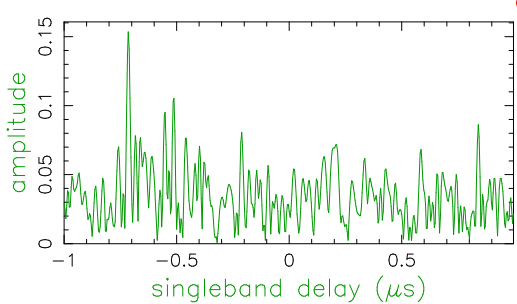
2013+370.126Y2A, No0048, gn

GLT - VLBA\_NL, fgroup W, pol LR

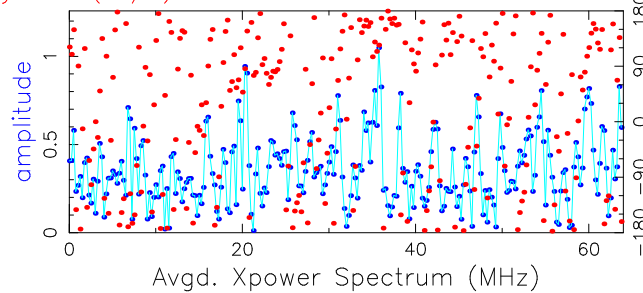
multiband delay ( $\mu$ s)



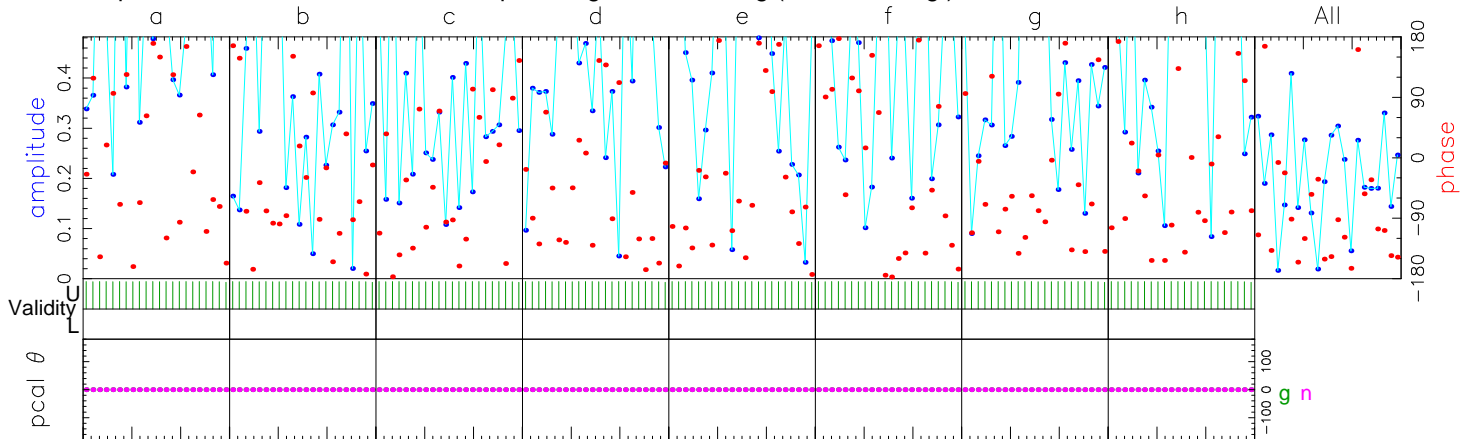
Fringe quality 0  
 SNR 5.6  
 Int time 179.324  
 Amp 0.161  
 Phase -118.8  
 PFD 9.0e-01  
 Delays (us)  
 SBD -0.714546  
 MBD -0.004572  
 Fringe rate (Hz)  
 -0.323269  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125123  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



delay rate (ns/s)



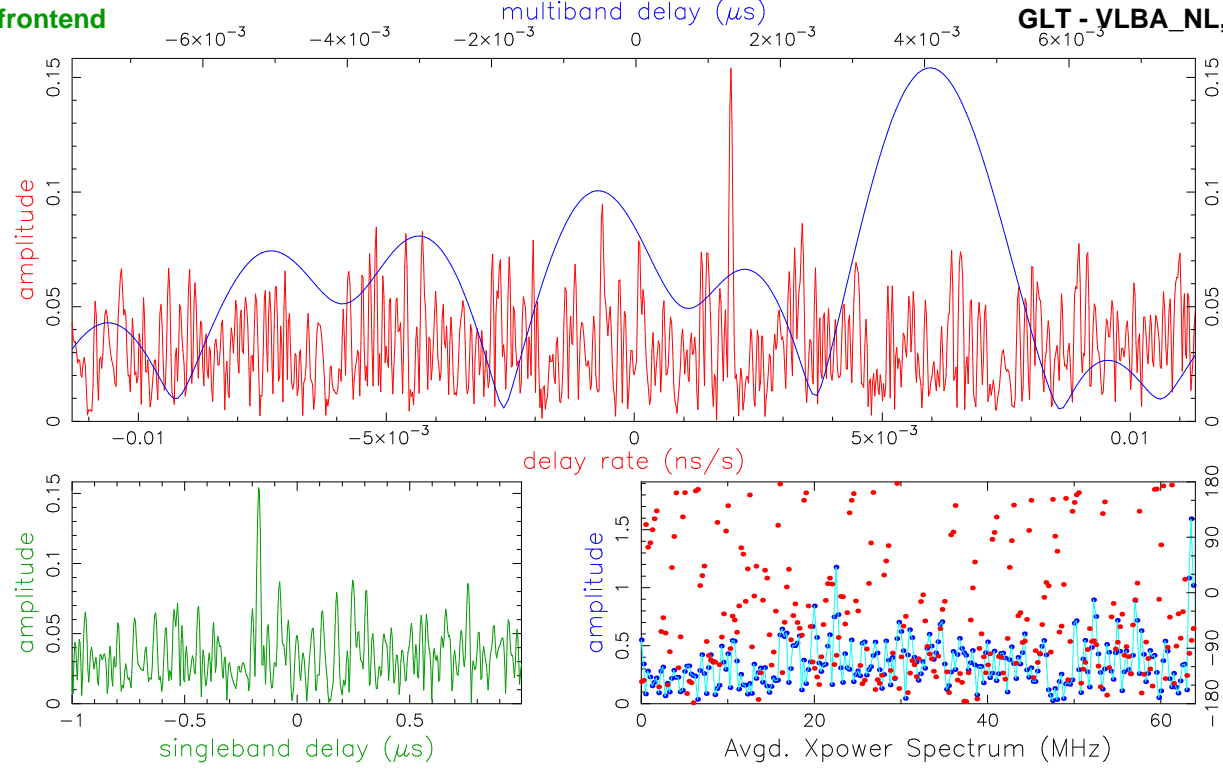
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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		
g	0	0	0	0	0	0	0	0		
n	1000	1000	1000	1000	1000	1000	1000	1000		
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		8.98506988673E+02			8.99214685251E+02				-4.57158E-03	+/- 1.9E-04
Sband delay (usec)		8.98500139251E+02			-2.5234045E+01				-7.14546E-01	+/- 1.5E-03
Phase delay (usec)		8.99214681420E+02			-5.9223514E-08				-3.83131E-06	+/- 6.6E-07
Delay rate (us/s)		-6.28721488710E-01			-6.28717735877E-01				-3.75283E-06	+/- 6.3E-09
Total phase (deg)			236.7		1.60636194967E-05				-118.8	+/- 20.4
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00
ph/seg (deg)	54.9	47.8		Search (1024X32)	0.144					
amp/seg (%)	73.8	83.4		Interp.	0.000					
ph/frq (deg)	48.8	28.8		Inc. seg. avg.	0.161					
amp/frq (%)	42.7	50.3		Inc. frq. avg.	0.168					
g: az 133.2 el 47.2 pa -12.3				n: az 74.2 el 43.4 pa -64.3						
				u,v (fr/asec) 4539.765 3099.507						simultaneous interpolator
Control file: cf_1234_gmva				Input file: /Exps/c192c/v1_CygA2/1234/No0048/gn..126Y2A						Output file: /Exps/c192c/v1_CygA2/1234/No0048/gn.W.145.126Y2A

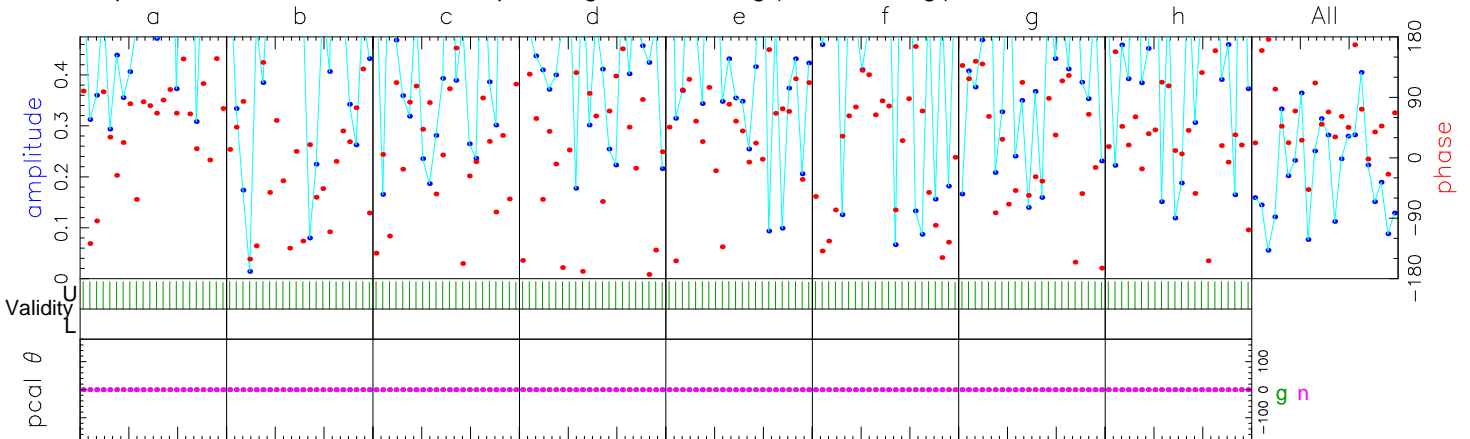
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126Y2A, No0048, gn  
 GLT - VLBA\_NL, fgroup W, pol RL

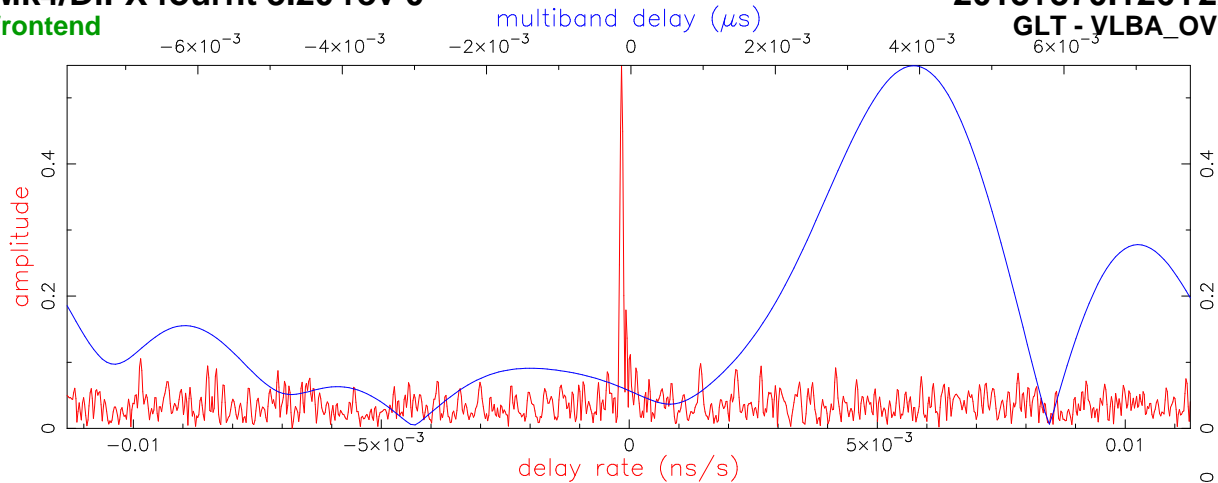


Fringe quality 0  
 SNR 5.7  
 Int time 179.308  
 Amp 0.158  
 Phase 56.5  
 PFD 7.2e-01  
 Delays (us)  
 SBD -0.170228  
 MBD 0.004117  
 Fringe rate (Hz)  
 0.168221  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125125  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

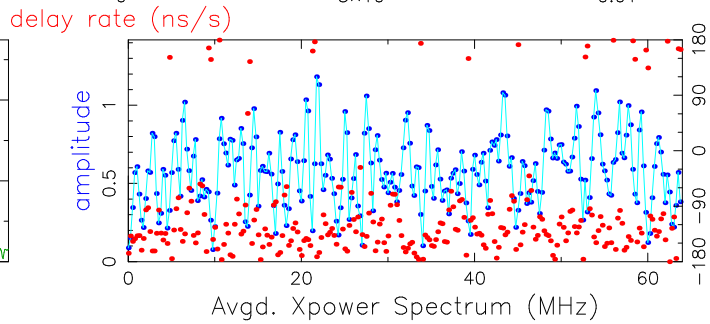
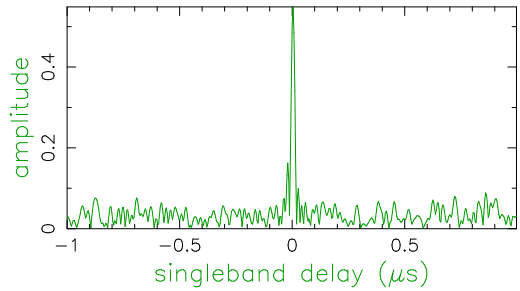


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	325/0	116.2	287.1	214.1	249.2	183.5	214.0	Sbd box	213.4
g	0	0	0	0	0	0	0	0	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.99046927464E+02		Apriori delay (usec)		8.99214685251E+02		Resid mbdelay (usec)		4.11721E-03	+/- 1.9E-04
Sband delay (usec)	8.99044457251E+02		Apriori clock (usec)		-2.5234045E+01		Resid sbdelay (usec)		-1.70228E-01	+/- 1.5E-03
Phase delay (usec)	8.99214687072E+02		Apriori clockrate (us/s)		-5.9223514E-08		Resid phdelay (usec)		1.82046E-06	+/- 6.5E-07
Delay rate (us/s)	-6.28715782998E-01		Apriori rate (us/s)		-6.28717735877E-01		Resid rate (us/s)		1.95288E-06	+/- 6.2E-09
Total phase (deg)			Apriori accel (us/s/s)		1.60636194967E-05		Resid phase (deg)		56.5	+/- 20.0
ph/seg (deg)	RMS 55.9	Theor. 46.9	Amplitude 0.158 +/- 0.028	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		sb window (us)		-1.000 1.000
amp/seg (%)	69.8	81.9	Search (1024X32) 0.153	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		SampCntNorm: enabled		mb window (us)		-0.008 0.008
ph/frq (deg)	35.9	28.3	Interp. 0.000	Bits/sample: 2x2		Sample rate(MISamp/s): 128		dr window (ns/s)		-0.011 0.011
amp/frq (%)	59.2	49.4	Inc. seg. avg. 0.160	Data rate(Mb/s): 2048		nlags: 256		ion window (TEC)		0.00 0.00
g: az 133.2 el 47.2 pa -12.3	n: az 74.2 el 43.4 pa -64.3		u,v (fr/asec) 4539.765 3099.507						simultaneous interpolator	
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0048/gn..126Y2A Output file: /Exps/c192c/v1_CygA2/1234/No0048/gn.W.158.126Y2A										



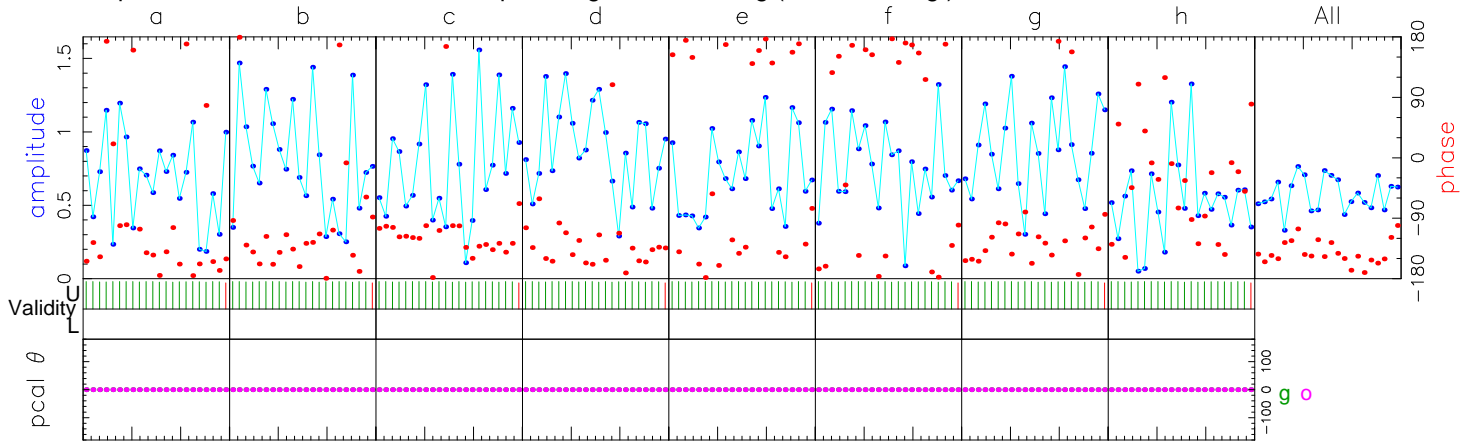
Fringe quality 8

SNR 20.1  
 Int time 178.517  
 Amp 0.549  
 Phase -139.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.003482  
 MBD 0.003892  
 Fringe rate (Hz)  
 -0.013478  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125124  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

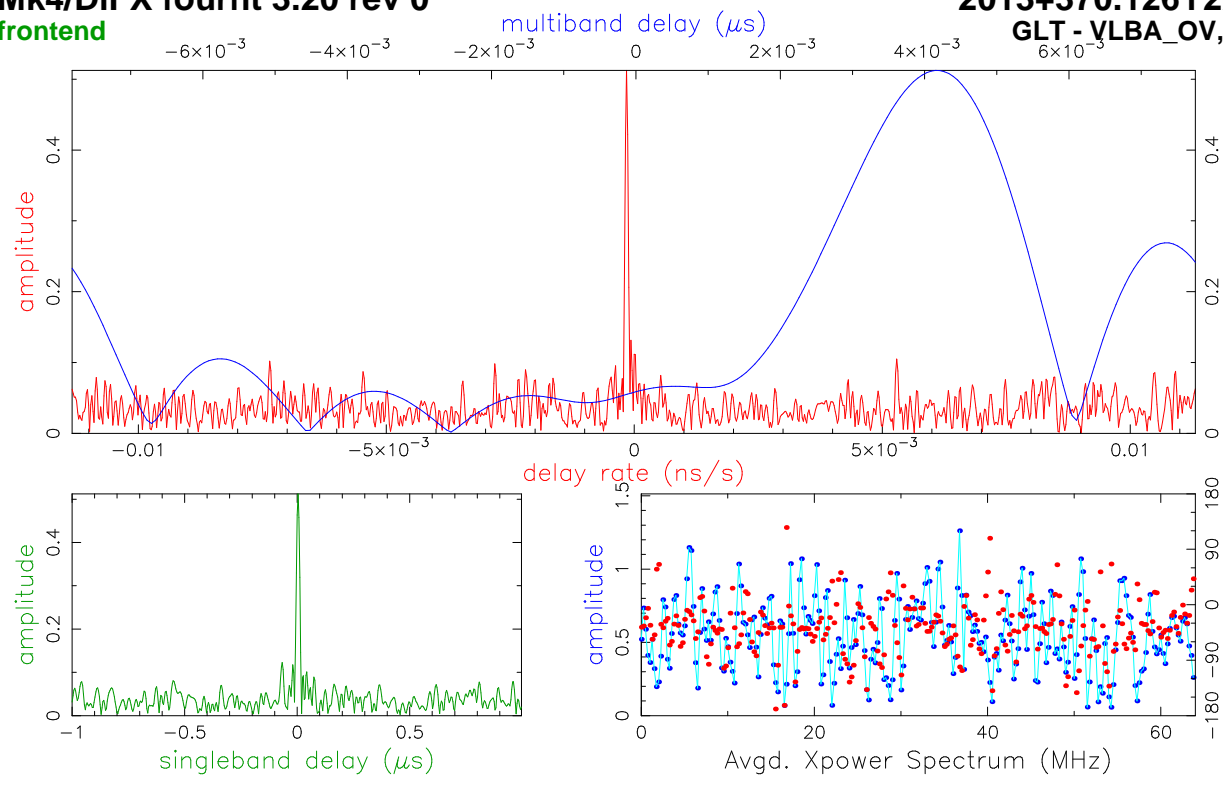


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g	0	0	0	0	0	0	0	0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000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

Group delay (usec)(sbd)	7.28424455346E+03	Apriori delay (usec)	7.28424066112E+03	Resid mbdelay (usec)	3.89234E-03	+/-	5.4E-05
Sband delay (usec)	7.28424414312E+03	Apriori clock (usec)	-1.5366121E+01	Resid sbdelay (usec)	3.48200E-03	+/-	4.3E-04
Phase delay (usec)	7.28424065661E+03	Apriori clockrate (us/s)	7.4018997E-08	Resid phdelay (usec)	-4.50879E-06	+/-	1.8E-07
Delay rate (us/s)	-8.05832714977E-01	Apriori rate (us/s)	-8.05832558509E-01	Resid rate (us/s)	-1.56468E-07	+/-	1.8E-09
Total phase (deg)	57.8	Apriori accel (us/s/s)	-1.36677095313E-05	Resid phase (deg)	-139.8	+/-	5.7

ph/seg (deg)	17.8	Theor.	13.4	Amplitude	0.549 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	20.9		23.4	Search (1024X32)	0.547	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	40.5		8.1	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	29.3		14.1	Inc. seg. avg.	0.561	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	
				Inc. frq. avg.	0.612	Data rate (Mb/s):	2048	ion window (TEC)	0.00 0.00	

g: az 133.2 el 47.2 pa -12.3 o: az 59.7 el 22.8 pa -59.7 u,v (fr/asec) 5792.366 1746.850 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/go..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/go.W.156.126Y2A

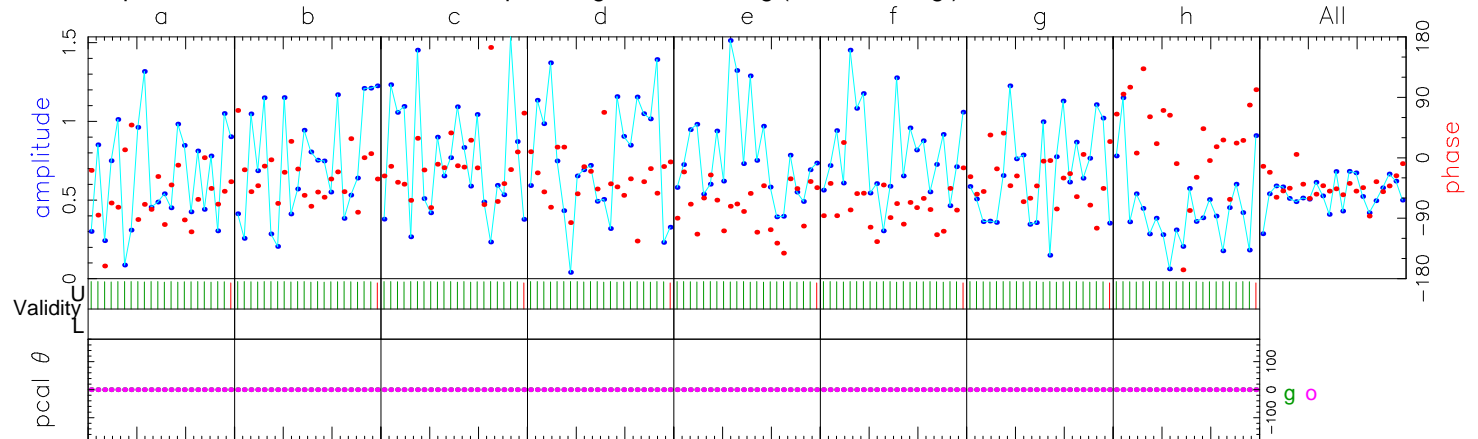


Fringe quality 8

SNR 18.7  
 Int time 178.500  
 Amp 0.512  
 Phase -42.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.003801  
 MBD 0.004166  
 Fringe rate (Hz)  
 -0.013349  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

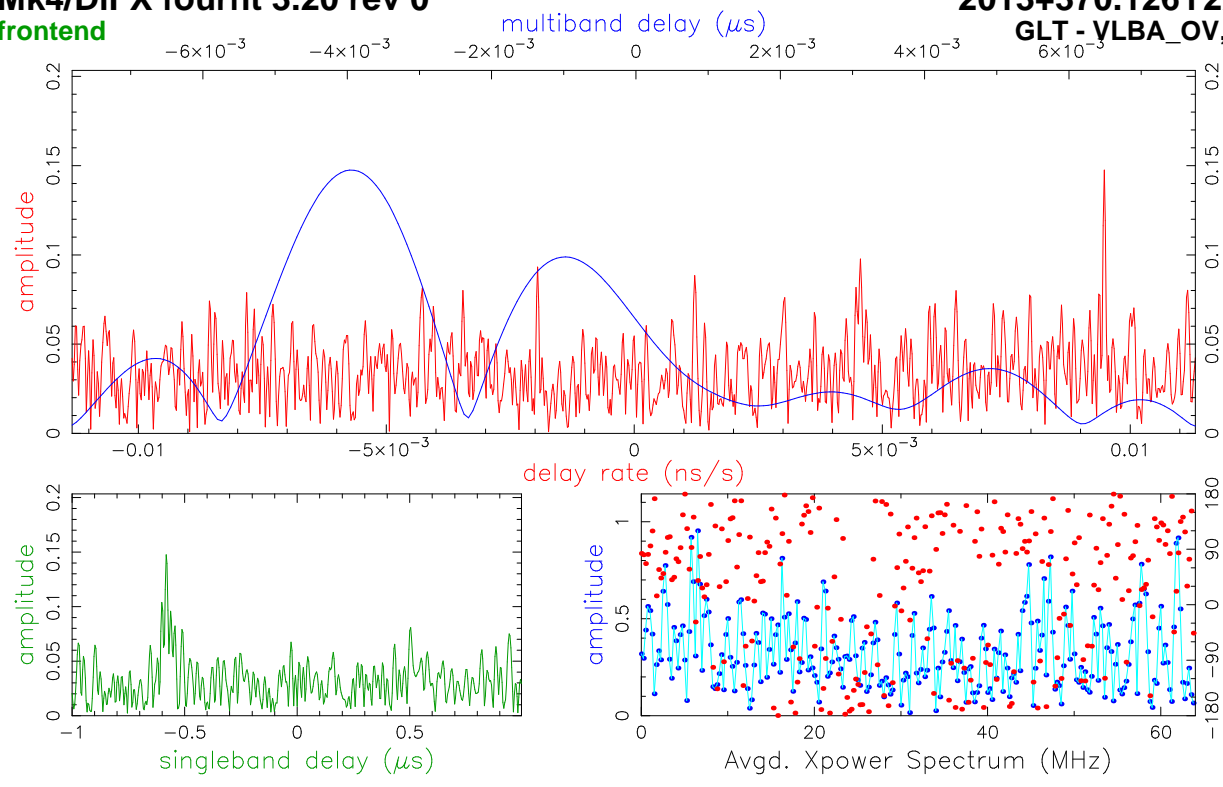
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125127  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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		
	-60.7	-27.3	-13.7	-36.8	-69.2	-70.6	-38.6	45.6	Phase	-42.0		
	0.5	0.6	0.7	0.6	0.7	0.7	0.6	0.3	Ampl.	0.6		
	259.9	257.5	257.9	258.0	258.1	258.1	258.4	261.0	Sbd box	258.0		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
g	0	0	0	0	0	0	0	0	PC freqs			
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC			
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
o	1000	1000	1000	1000	1000	1000	1000	1000				
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Chan ids			
									Tracks			
Group delay (usec)(sbd)	7.28424482696E+03		Apriori delay (usec)		7.28424066112E+03		Resid mbdelay (usec)		4.16584E-03	+/- 5.8E-05		
Sband delay (usec)	7.28424446237E+03		Apriori clock (usec)		-1.5366121E+01		Resid sbdelay (usec)		3.80125E-03	+/- 4.6E-04		
Phase delay (usec)	7.28424065977E+03		Apriori clockrate (us/s)		7.4018997E-08		Resid phdelay (usec)		-1.35573E-06	+/- 2.0E-07		
Delay rate (us/s)	-8.05832713472E-01		Apriori rate (us/s)		-8.05832558509E-01		Resid rate (us/s)		-1.54963E-07	+/- 1.9E-09		
Total phase (deg)	155.6		Apriori accel (us/s/s)		-1.36677095313E-05		Resid phase (deg)		-42.0	+/- 6.1		
	RMS	Theor.	Amplitude	0.512 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	19.2	14.4	Search (1024X32)	0.504		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	19.7	25.1	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	42.1	8.7	Inc. seg. avg.	0.521		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	29.0	15.1	Inc. frq. avg.	0.572		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 133.2 el 47.2 pa -12.3	o: az 59.7 el 22.8 pa -59.7		u, v (fr/asec) 5792.366 1746.850						simultaneous interpolator			
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0048/go..126Y2A Output file: /Exps/c192c/v1_CygA2/1234/No0048/go.W.162.126Y2A												



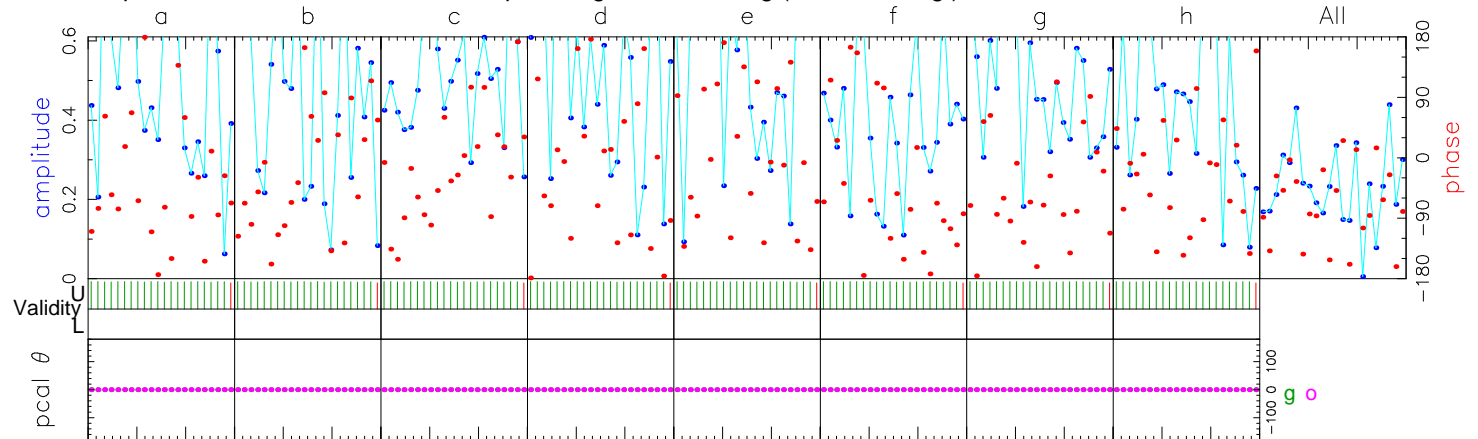


Fringe quality 0

SNR 5.5  
 Int time 178.516  
 Amp 0.203  
 Phase -57.5  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.580834  
 MBD -0.003929  
 Fringe rate (Hz)  
 0.818064  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125130  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

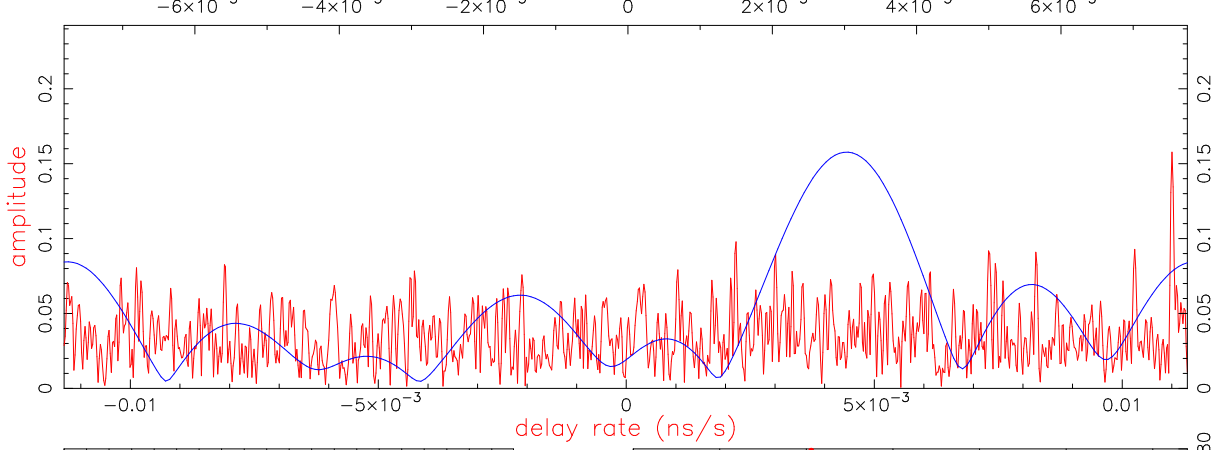
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



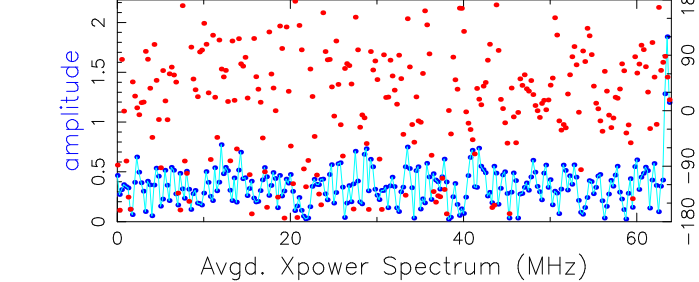
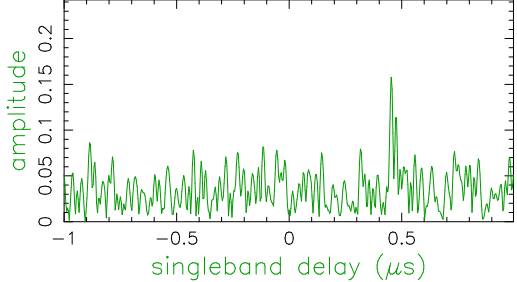
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		108.3		
g	0	0	0	0	0	0	0	0				
o	1000	1000	1000	1000	1000	1000	1000	1000				
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
g	1000	1000	1000	1000	1000	1000	1000	1000				
o	1000	1000	1000	1000	1000	1000	1000	1000				
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL				
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR				
Group delay (usec)(sbd)	7.28365860686E+03		Apriori delay (usec)		7.28424066112E+03		Resid mbdelay (usec)		-3.92926E-03	+/- 2.0E-04		
Sband delay (usec)	7.28365982737E+03		Apriori clock (usec)		-1.5366121E+01		Resid sbdelay (usec)		-5.80834E-01	+/- 1.6E-03		
Phase delay (usec)	7.28424065927E+03		Apriori clockrate (us/s)		7.4018997E-08		Resid phdelay (usec)		-1.85559E-06	+/- 6.8E-07		
Delay rate (us/s)	-8.05823061596E-01		Apriori rate (us/s)		-8.05832558509E-01		Resid rate (us/s)		9.49691E-06	+/- 6.5E-09		
Total phase (deg)	140.1		Apriori accel (us/s/s)		-1.36677095313E-05		Resid phase (deg)		-57.5	+/- 21.0		
ph/seg (deg)	RMS 58.1	Theor. 49.2	Amplitude Search (1024X32)		0.203 +/- 0.037		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
amp/seg (%)	87.5	85.8	Interp.		0.000		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
ph/frq (deg)	23.8	29.7	Inc. seg. avg.		0.231		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	42.5	51.8	Inc. frq. avg.		0.189		Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011 0.011	
g: az 133.2 el 47.2 pa -12.3	o: az 59.7 el 22.8 pa -59.7		u,v (fr/asec) 5792.366 1746.850				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/c192c/v1_CygA2/1234/No0048/go..126Y2A Output file: /Exps/c192c/v1_CygA2/1234/No0048/go.W.187.126Y2A												

multiband delay ( $\mu$ s)

Fringe quality 0

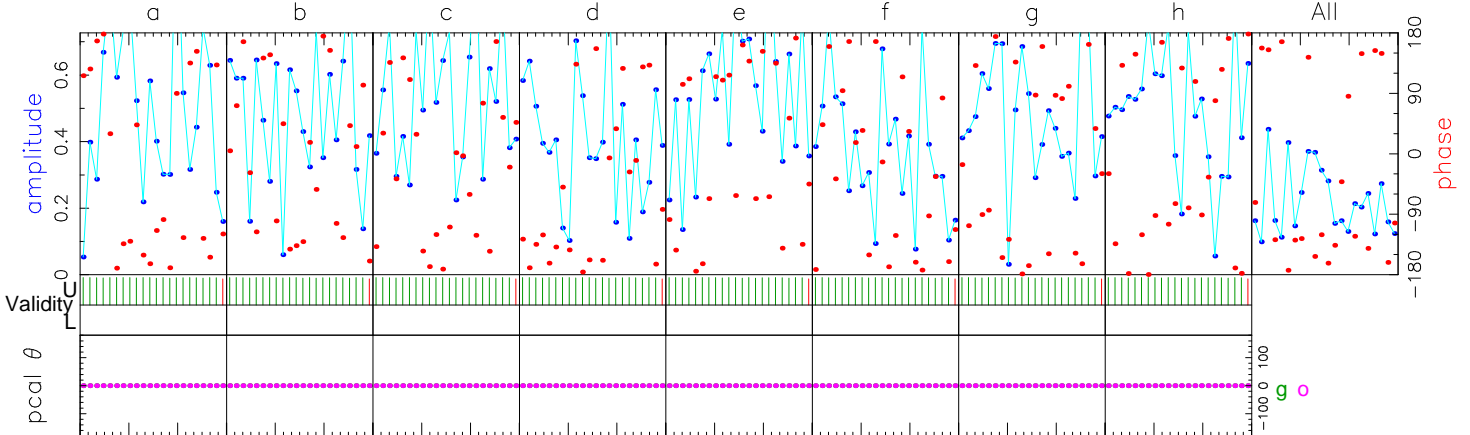


SNR 5.8  
 Int time 178.500  
 Amp 0.242  
 Phase -163.5  
 PFD 5.8e-01  
 Delays (us)  
 SBD 0.453882  
 MBD 0.003038  
 Fringe rate (Hz) 0.949566  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125132  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

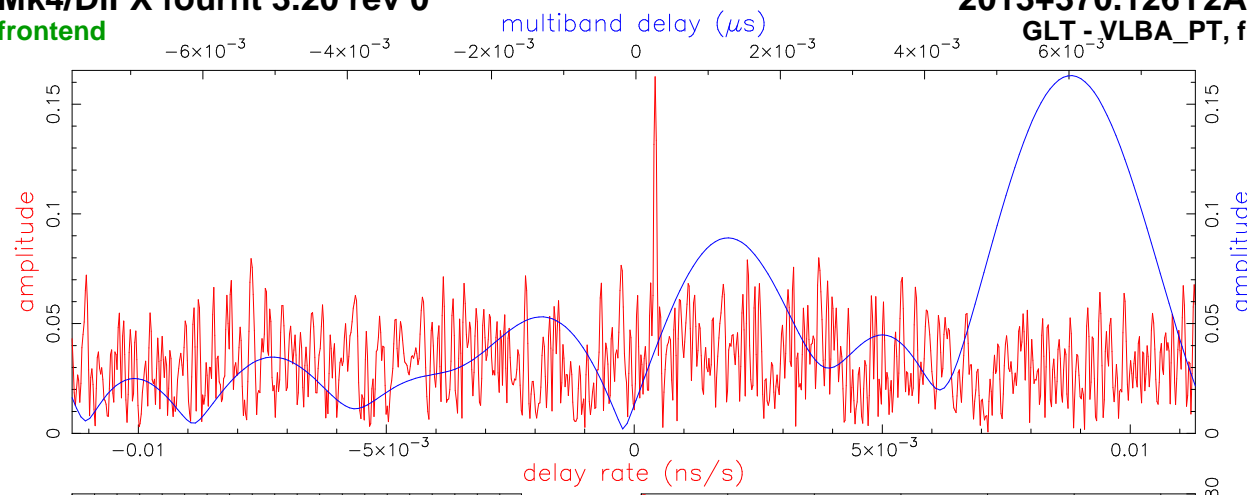


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-172.0	-137.7	-150.6	-160.0	-170.6	162.9	-177.4	-152.5	Phase	-163.5
	0.4	0.2	0.1	0.3	0.2	0.1	0.3	0.4	Ampl.	0.2
	201.0	39.5	196.2	180.2	257.2	29.2	17.4	282.3	Sbd box	373.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

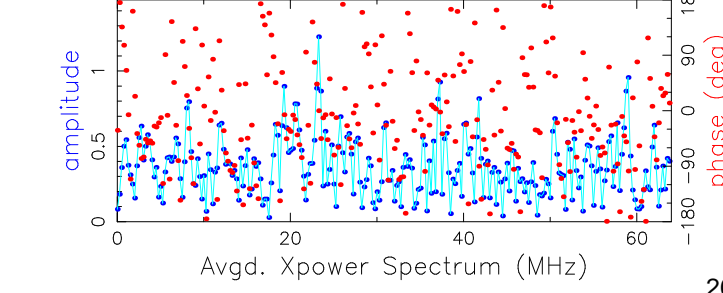
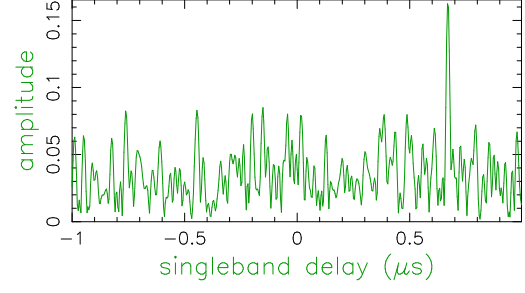
Group delay (usec)(sbd) 7.28469682450E+03 Apriori delay (usec) 7.28424066112E+03 Resid mbdelay (usec) 3.03838E-03 +/- 1.9E-04  
 Sband delay (usec) 7.28469454362E+03 Apriori clock (usec) -1.5366121E+01 Resid sbdelay (usec) 4.53882E-01 +/- 1.5E-03  
 Phase delay (usec) 7.28424065585E+03 Apriori clockrate (us/s) 7.4018997E-08 Resid phdelay (usec) -5.27185E-06 +/- 6.4E-07  
 Delay rate (us/s) -8.05821534988E-01 Apriori rate (us/s) -8.05832558509E-01 Resid rate (us/s) 1.10235E-05 +/- 6.1E-09  
 Total phase (deg) 34.2 Apriori accel (us/s/s) -1.36677095313E-05 Resid phase (deg) -163.5 +/- 19.8

ph/seg (deg) RMS Theor. Amplitude 0.242 +/- 0.042 Pcd mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 52.7 46.4 Search (1024X32) 0.156 Pcd rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 74.5 81.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 20.1 28.0 Inc. seg. avg. 0.256 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 amp/frq (%) 47.2 48.8 Inc. frq. avg. 0.221 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

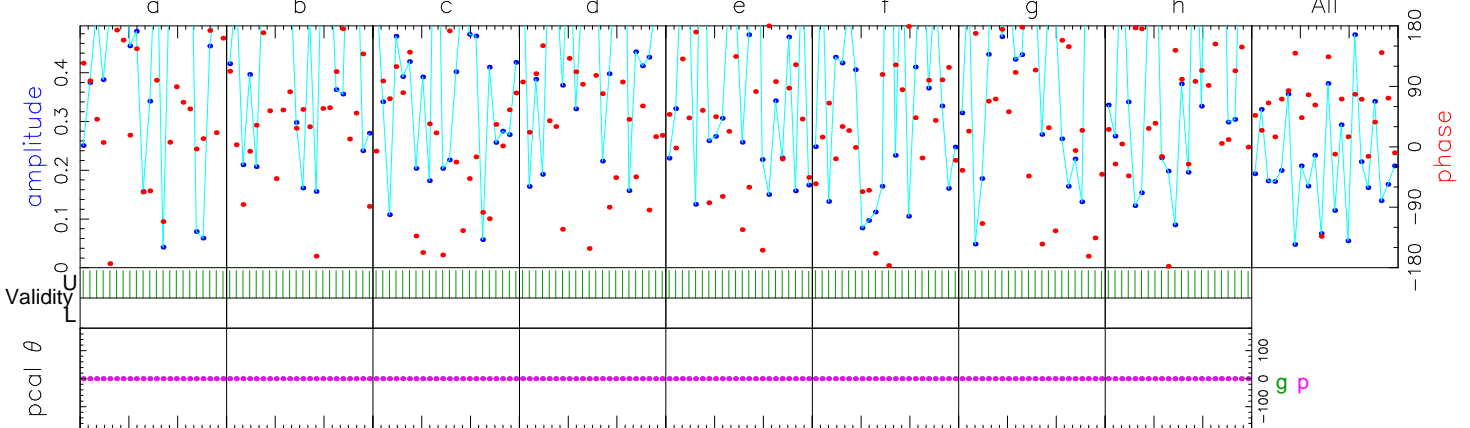
g: az 133.2 el 47.2 pa -12.3 o: az 59.7 el 22.8 pa -59.7 u,v (fr/asec) 5792.366 1746.850 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/go..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/go.W.204.126Y2A



Fringe quality 0  
 SNR 6.1  
 Int time 179.715  
 Amp 0.165  
 Phase 60.8  
 PFD 1.6e-01  
 Delays (us)  
 SBD 0.669591  
 MBD 0.006111  
 Fringe rate (Hz) 0.037204  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125127  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



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

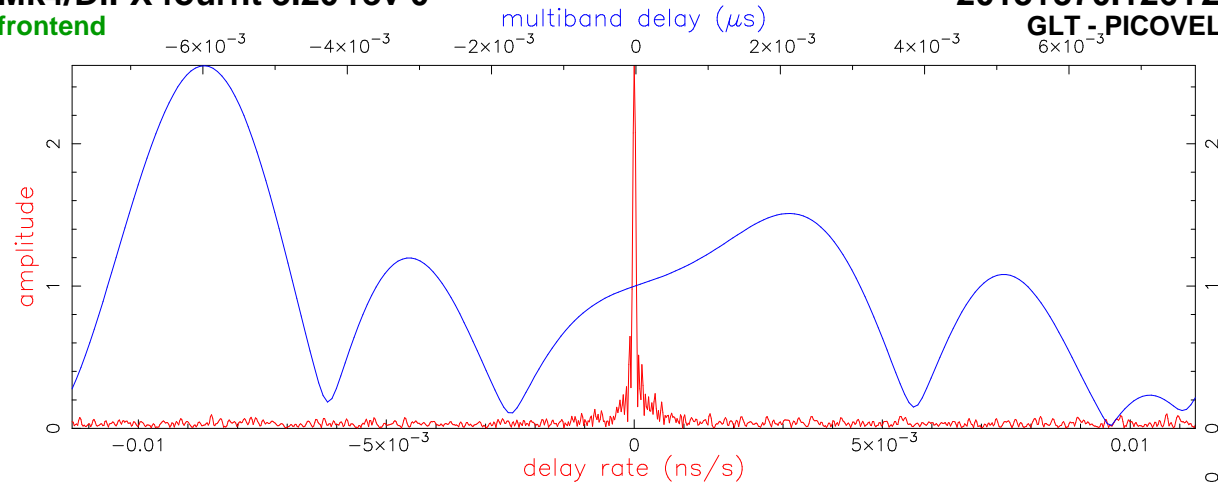


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		428.4
g	0	0	0	0	0	0	0	0	Ampl.	0.2
p	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
p	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC amp	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
									Tracks	
									Tracks	
Group delay (usec)(sbd)		5.34057824136E+03			5.33991588026E+03				6.11110E-03	+/- 1.8E-04
Sband delay (usec)		5.34058547176E+03			-1.0679354E+01				6.69591E-01	+/- 1.4E-03
Phase delay (usec)		5.33991588222E+03			-1.2888659E-07				1.96047E-06	+/- 6.1E-07
Delay rate (us/s)		-8.19552179818E-01			-8.19552611719E-01				4.31901E-07	+/- 5.9E-09
Total phase (deg)			34.1		-4.78397846029E-07				60.8	+/- 18.9
	RMS	Theor.	Amplitude	0.165 +/- 0.027						
ph/seg (deg)	56.0	44.3	Search (1024X32)	0.154						
amp/seg (%)	71.1	77.4	Interp.	0.000						
ph/frq (deg)	24.6	26.7	Inc. seg. avg.	0.165						
amp/frq (%)	41.0	46.7	Inc. frq. avg.	0.154						
g: az 133.2 el 47.2 pa -12.3			p: az 62.4 el 28.6 pa -67.1							
				u,v (fr/asec) 5901.631 2825.832						simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gp..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gp.W.160.126Y2A

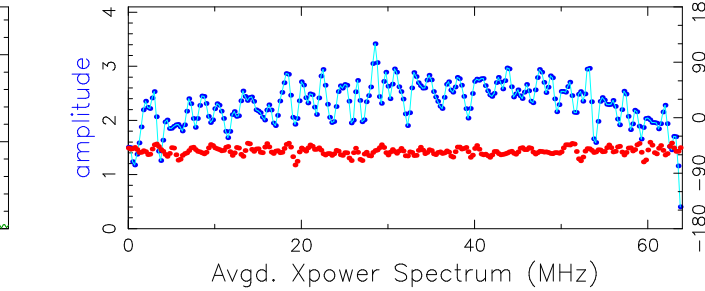
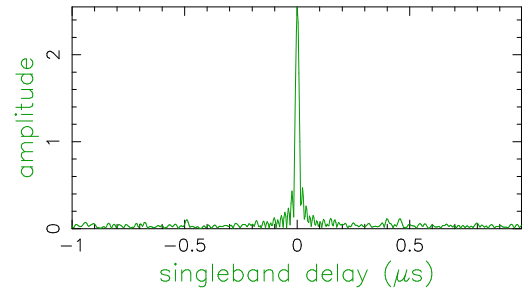
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126Y2A, No0048, gP  
GLT - PICOVEL, fgroup W, pol LL



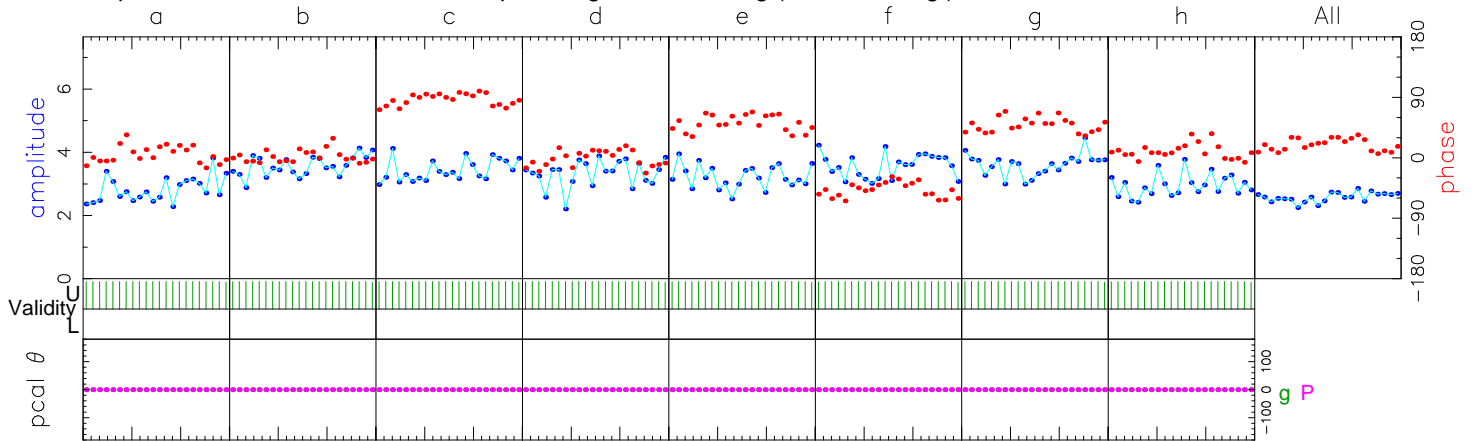
Fringe quality 6

SNR 93.5  
Int time 179.741  
Amp 2.551  
Phase 19.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.000414  
MBD -0.005975  
Fringe rate (Hz)  
-0.000177  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



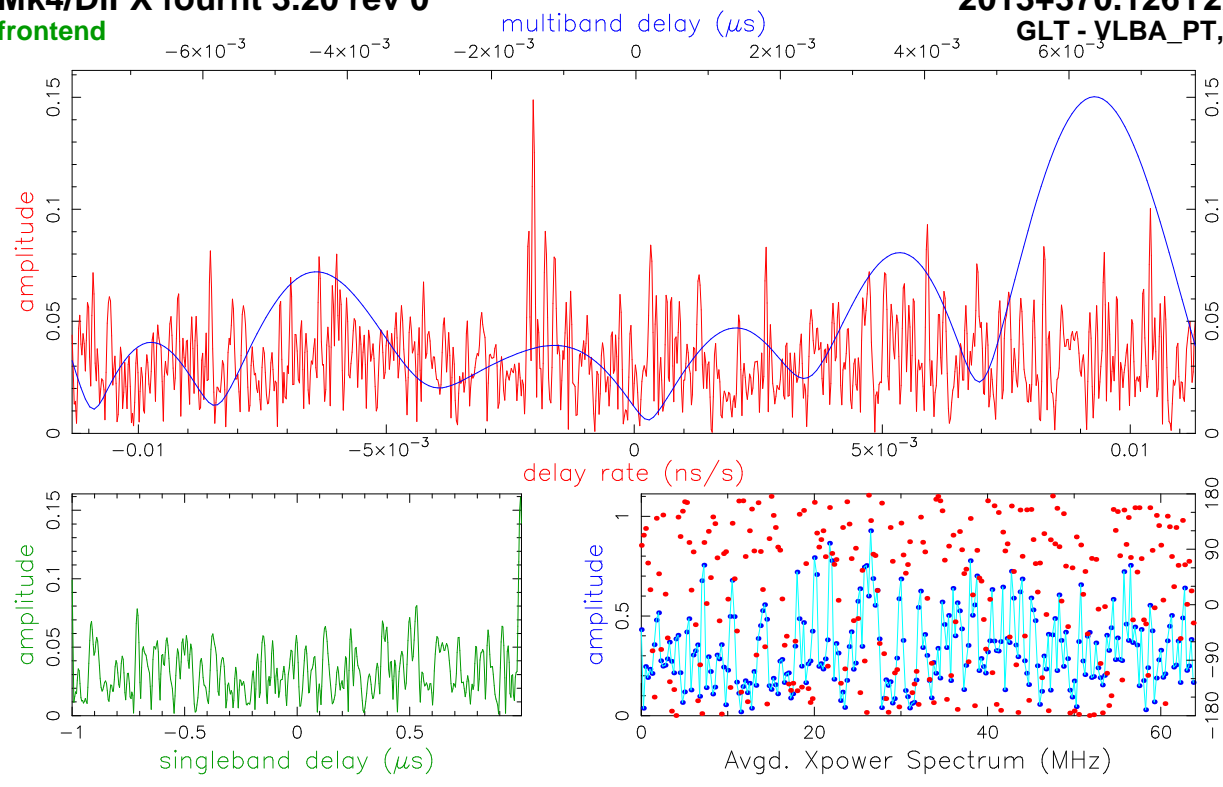
Exp. c192c  
Yr:day 16383  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125127  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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



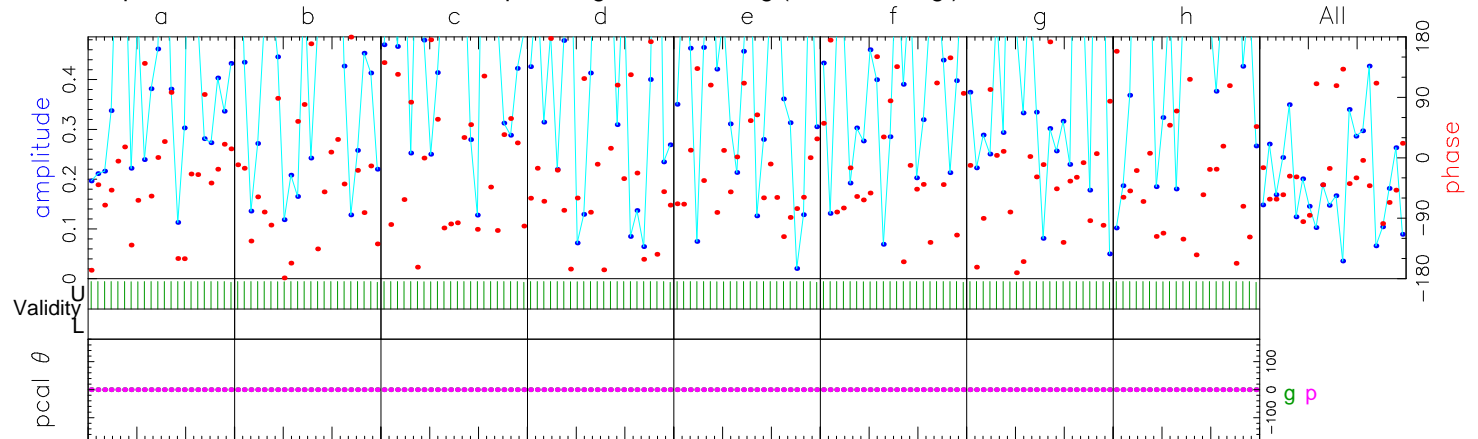
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Ampl.	3.3
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Sbd box	257.1
g	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC phase	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Mani PC	
									PC amp	
									Chan ids	
									Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.16976583813E+03		Apriori delay (usec)	-4.169759862294E+03	Resid mbdelay (usec)	-5.97519E-03	+/-	1.2E-05		
Sband delay (usec)	-4.16975944919E+03		Apriori clock (usec)	1.4503626E+00	Resid sbdelay (usec)	4.13750E-04	+/-	9.2E-05		
Phase delay (usec)	-4.16975986232E+03		Apriori clockrate (us/s)	4.2799997E-07	Resid phdelay (usec)	6.23871E-07	+/-	4.0E-08		
Delay rate (us/s)	6.29004856483E-01		Apriori rate (us/s)	6.29004858539E-01	Resid rate (us/s)	-2.05623E-09	+/-	3.8E-10		
Total phase (deg)		-194.4	Apriori accel (us/s/s)	4.74739786229E-05	Resid phase (deg)	19.3	+/-	1.2		

ph/seg (deg) 8.8 2.9 Search (1024X32) 2.526 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 5.9 5.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 44.7 1.7 Inc. seg. avg. 2.576 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 29.8 3.0 Inc. frq. avg. 3.257 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
g: az 133.2 el 47.2 pa -12.3 P: az 278.7 el 68.7 pa 82.3 u,v (fr/asec) -4484.482 5474.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gP..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gP.W.161.126Y2A



Fringe quality 0  
 SNR 5.9  
 Int time 179.699  
 Amp 0.162  
 Phase -39.9  
 PFD 4.4e-01  
 Delays (us)  
 SBD 0.991640  
 MBD 0.006492  
 Fringe rate (Hz)  
 -0.175725  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Yr:day 16383  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125129  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	-12.7	-33.1	-78.7	-84.5	-17.6	-68.0	-43.3	-47.1	Phase	-39.9		
	0.3	0.2	0.1	0.1	0.2	0.0	0.2	0.2	Ampl.	0.1		
	509.7	111.3	188.6	293.0	393.2	415.6	510.9	112.0	Sbd box	510.9		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
g	0	0	0	0	0	0	0	0	PC freqs			
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
p	1000	1000	1000	1000	1000	1000	1000	1000				
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Chan ids			
									Tracks			
Group delay (usec)(sbd)	5.34090674754E+03		Apriori delay (usec)		5.33991588026E+03		Resid mbdelay (usec)		6.49228E-03	+/- 1.9E-04		
Sband delay (usec)	5.34090752026E+03		Apriori clock (usec)		-1.0679354E+01		Resid sbdelay (usec)		9.91640E-01	+/- 1.5E-03		
Phase delay (usec)	5.33991587898E+03		Apriori clockrate (us/s)		-1.2888659E-07		Resid phdelay (usec)		-1.28684E-06	+/- 6.3E-07		
Delay rate (us/s)	-8.19554651709E-01		Apriori rate (us/s)		-8.19552611719E-01		Resid rate (us/s)		-2.03999E-06	+/- 6.1E-09		
Total phase (deg)	293.4		Apriori accel (us/s/s)		-4.78397846029E-07		Resid phase (deg)		-39.9	+/- 19.6		
	RMS	Theor.	Amplitude	0.162 +/- 0.028		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	71.9	45.9	Search (1024X32)	0.156		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	66.0	80.0	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	30.6	27.7	Inc. seg. avg.	0.152		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	39.3	48.3	Inc. frq. avg.	0.148		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 133.2 el 47.2 pa -12.3	p: az 62.4 el 28.6 pa -67.1		u, v (fr/asec) 5901.631 2825.832						simultaneous interpolator			
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0048/gp..126Y2A Output file: /Exps/c192c/v1_CygA2/1234/No0048/gp.W.176.126Y2A												

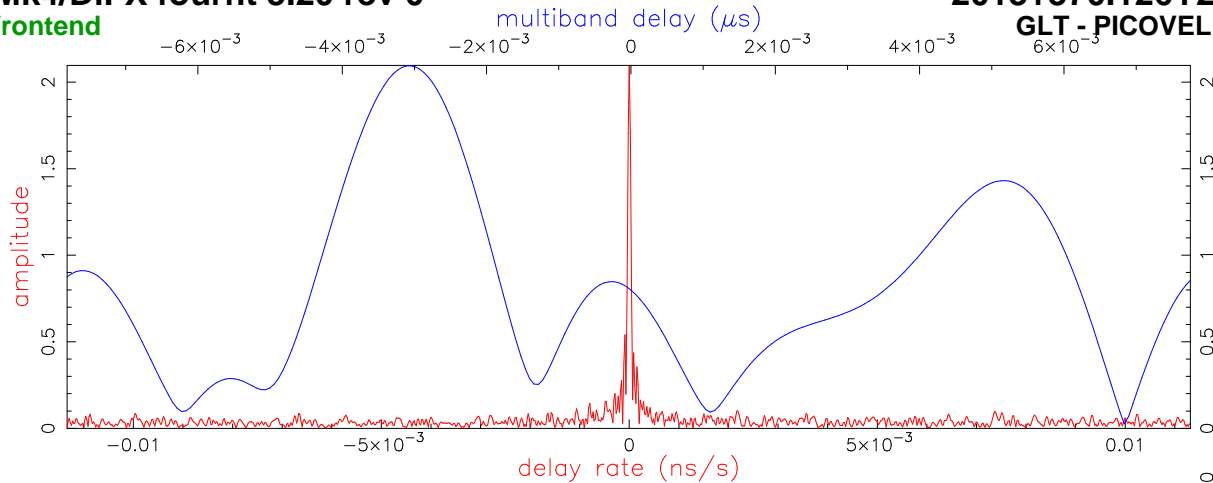


Mk4/DiFX fourfit 3.20 rev 0

frontend

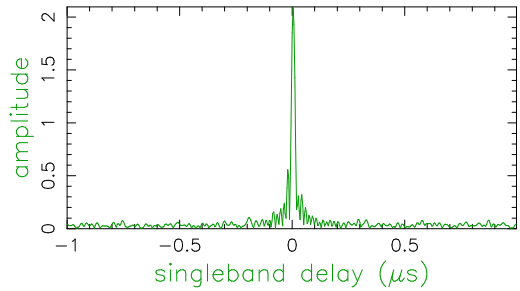
2013+370.126Y2A, No0048, gP

GLT - PICOVEL, fgroup W, pol RR

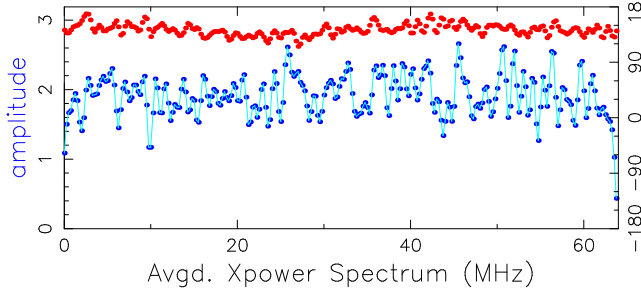


Fringe quality 6

SNR 76.9  
Int time 179.725  
Amp 2.096  
Phase -132.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.004291  
MBD -0.003060  
Fringe rate (Hz)  
-0.000230  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

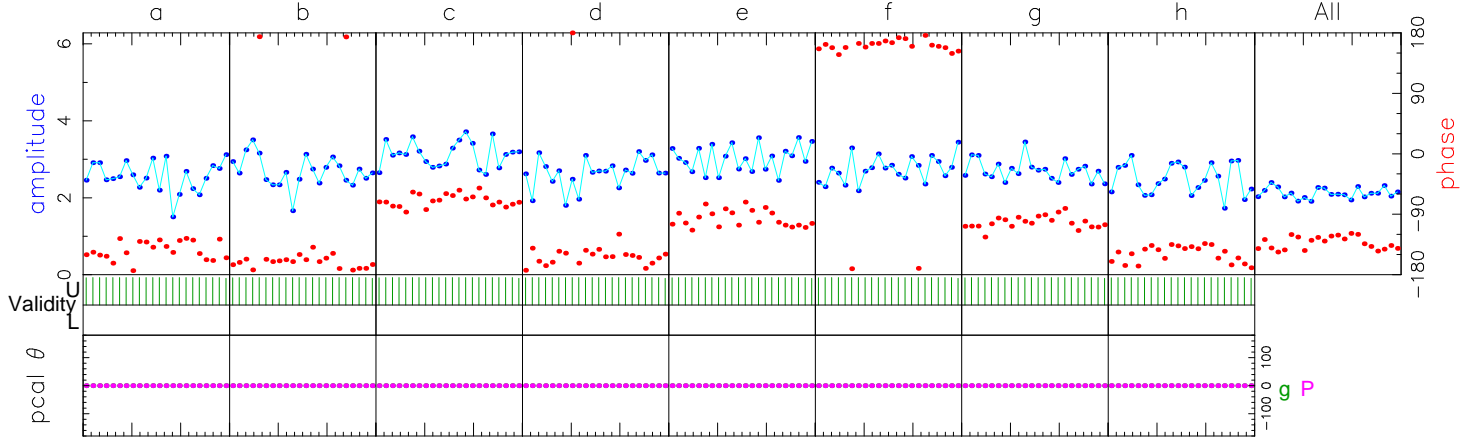


delay rate (ns/s)



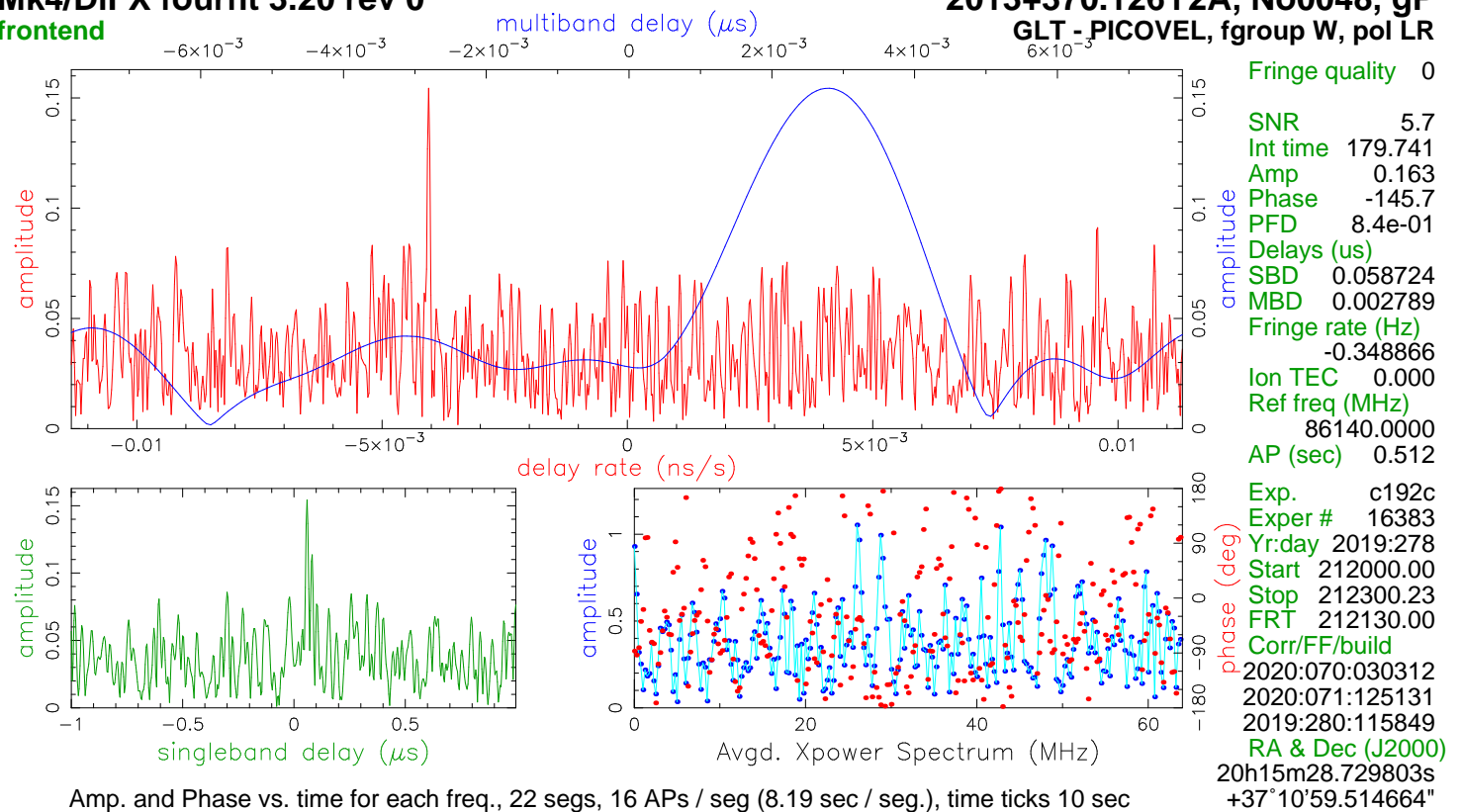
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125129  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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

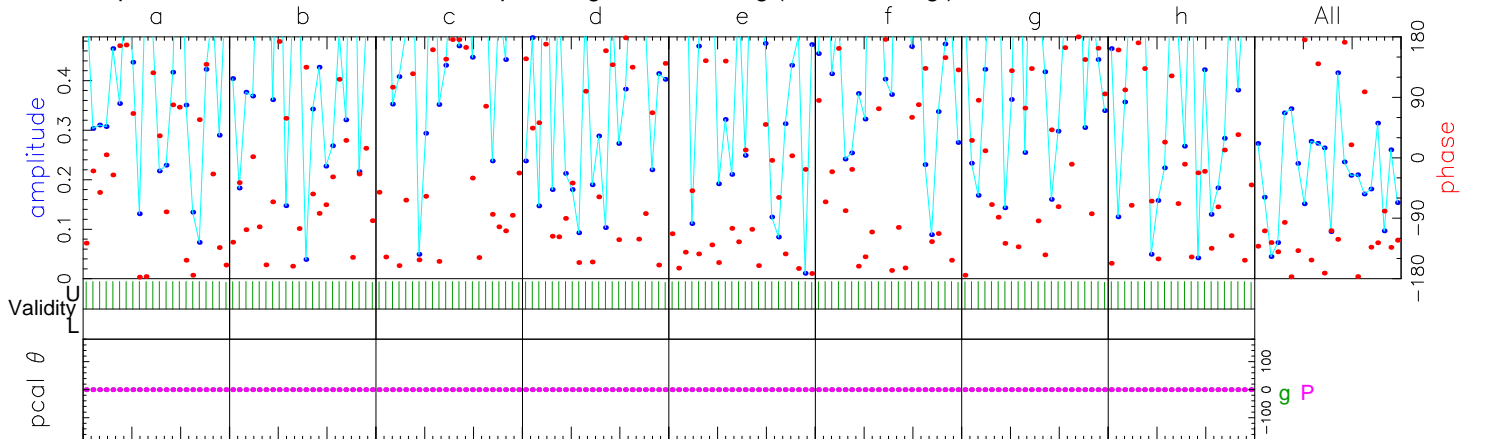


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-4.16976292294E+03	-4.16975557169E+03	-4.16975986722E+03	-4.16975986722E+03	-4.16975986294E+03	-4.16975986294E+03	-4.16975986294E+03	-4.16975986294E+03	-3.06000E-03	+/- 1.4E-05
Sband delay (usec)	-143.6	-162.9	-69.2	-154.6	-96.3	164.0	-101.9	-148.9	4.29125E-03	+/- 1.1E-04
Phase delay (usec)	2.5	2.6	3.1	2.6	3.0	2.7	2.7	2.4	-4.27299E-06	+/- 4.8E-08
Delay rate (us/s)	259.2	257.6	257.3	257.0	257.3	257.5	257.7	257.9	-2.66985E-09	+/- 4.6E-10
Total phase (deg)			-346.3						-132.5	+/- 1.5
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)										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
nlags: 256										
t_cohere infinite										
simultaneous interpolator										

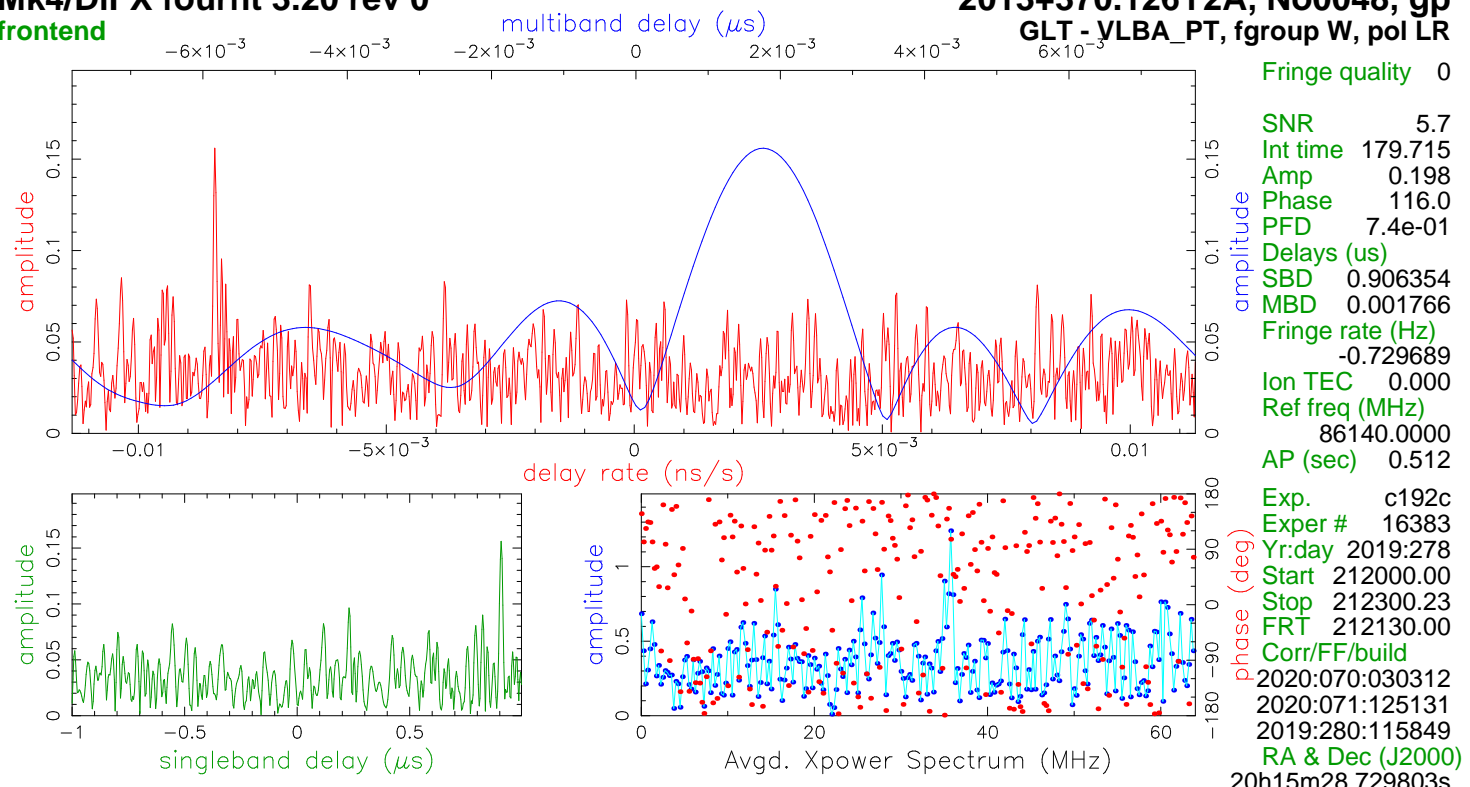
ph/seg (deg) 9.2 3.5  
amp/seg (%) 6.4 6.1  
ph/frq (deg) 44.9 2.1  
amp/frq (%) 30.5 3.7  
RMS Theor. Amplitude 2.096 +/- 0.027  
Search (1024X32) 2.070  
Inc. seg. avg. 2.118  
Inc. frq. avg. 2.698  
Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
SampCntNorm: enabled  
Sample rate(MISamp/s): 128  
Data rate(Mb/s): 2048  
nlags: 256 t\_cohere infinite  
sb window (us) -1.000 1.000  
mb window (us) -0.008 0.008  
dr window (ns/s) -0.011 0.011  
ion window (TEC) 0.00 0.00  
g: az 133.2 el 47.2 pa -12.3 P: az 278.7 el 68.7 pa 82.3 u,v (fr/asec) -4484.482 5474.439 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gP..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gP.W.177.126Y2A



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
154.8	-112.5	-143.9	-173.2	-145.2	-152.8	-148.7	-148.7	-125.9	Phase	-145.7
0.1	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	Ampl.	0.2
503.8	375.2	304.7	325.8	272.6	179.2	120.8	120.8	102.0	Sbd box	272.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
P	0	0	0	0	0	0	0	0	PC freqs	
g:P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-4.16969457403E+03		Apriori delay (usec)	-4.16975986294E+03	Resid mbdelay (usec)	2.78891E-03	+/-	1.9E-04		
Sband delay (usec)	-4.16970113869E+03		Apriori clock (usec)	1.4503626E+00	Resid sbdelay (usec)	5.87243E-02	+/-	1.5E-03		
Phase delay (usec)	-4.16975986764E+03		Apriori clockrate (us/s)	4.2799997E-07	Resid phdelay (usec)	-4.69742E-06	+/-	6.5E-07		
Delay rate (us/s)	6.29000808546E-01		Apriori rate (us/s)	6.29004858539E-01	Resid rate (us/s)	-4.04999E-06	+/-	6.3E-09		
Total phase (deg)		-359.4	Apriori accel (us/s/s)	4.74739786229E-05	Resid phase (deg)	-145.7	+/-	20.2		
ph/seg (deg)	54.1	47.5	Search (1024X32)	0.151	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	72.4	82.8	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)	31.2	28.6	Inc. seg. avg.	0.171	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	41.0	50.0	Inc. frq. avg.	0.156	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 133.2 el 47.2 pa -12.3		P: az 278.7 el 68.7 pa 82.3		u,v (fr/asec) -4484.482 5474.439						simultaneous interpolator
Control file: cf_1234_gmva		Input file: /Exps/c192c/v1_CygA2/1234/No0048/gP..126Y2A		Output file: /Exps/c192c/v1_CygA2/1234/No0048/gP.W.196.126Y2A						



Fringe quality 0

SNR 5.7

Int time 179.715

Amp 0.198

Phase 116.0

PFD 7.4e-01

Delays (us)

SBD 0.906354

MBD 0.001766

Fringe rate (Hz)

-0.729689

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192c

Exper # 16383

Yr:day 2019:278

Start 212000.00

Stop 212300.23

FRT 212130.00

Corr/FF/build

2020:070:030312

2020:071:125131

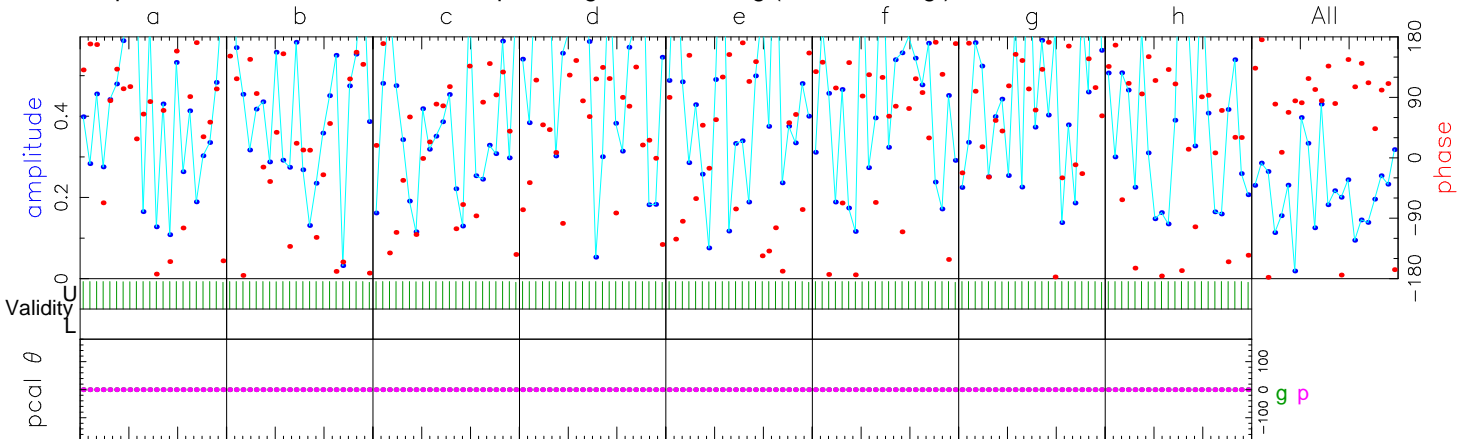
2019:280:115849

RA & Dec (J2000)

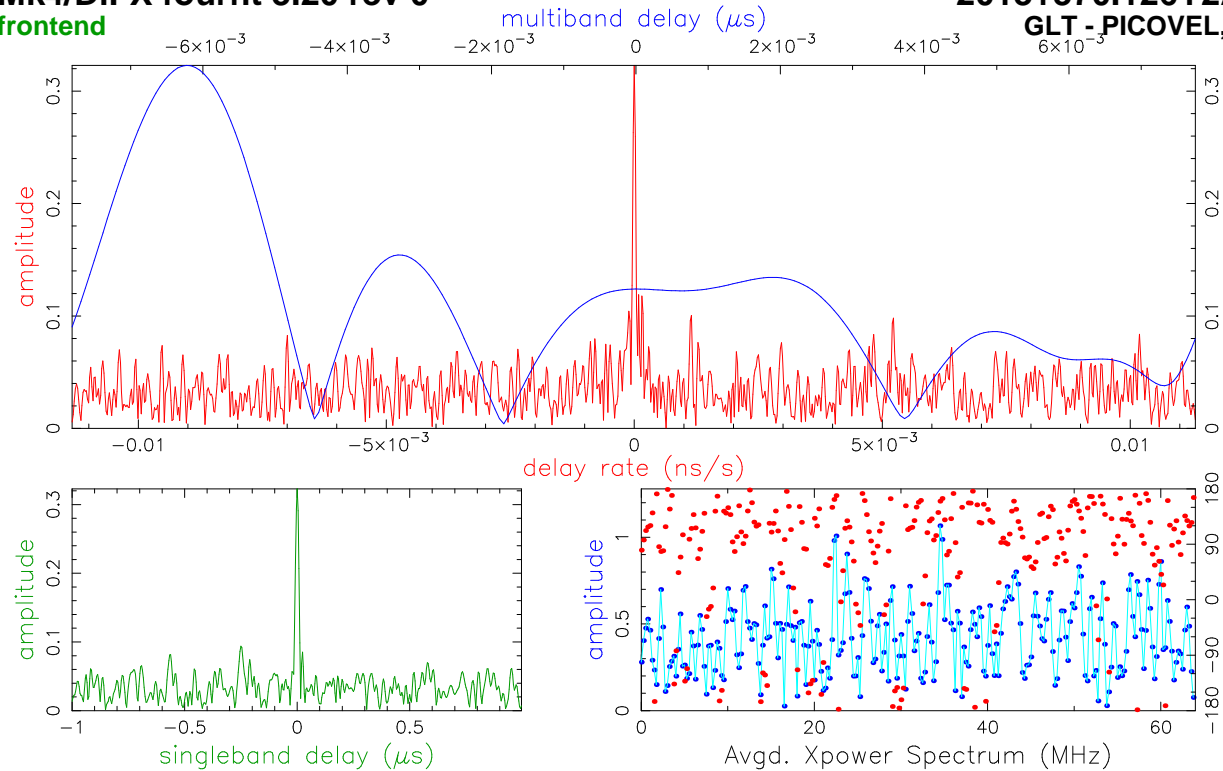
20h15m28.729803s

+37°10'59.514664"

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		
g	0	0	0	0	0	0	0	0	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
g	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)		5.34082389578E+03			5.33991588026E+03				Resid mbdelay (usec)	1.76552E-03 +/- 1.9E-04
Sband delay (usec)		5.34082223476E+03			-1.0679354E+01				Resid sbdelay (usec)	9.06354E-01 +/- 1.5E-03
Phase delay (usec)		5.33991588401E+03			-1.2888659E-07				Resid phdelay (usec)	3.74206E-06 +/- 6.5E-07
Delay rate (us/s)		-8.19561082685E-01			-8.19552611719E-01				Resid rate (us/s)	-8.47097E-06 +/- 6.2E-09
Total phase (deg)			89.4		-4.78397846029E-07				Resid phase (deg)	116.0 +/- 20.0
	RMS	Theor.	Amplitude	0.198 +/- 0.035					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	46.0	47.0	Search (1024X32)	0.149					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	73.1	82.0	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	36.5	28.3	Inc. seg. avg.	0.208					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	34.8	49.5	Inc. frq. avg.	0.198					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
g: az 133.2 el 47.2 pa -12.3									nlags: 256	t_cohere infinite
p: az 62.4 el 28.6 pa -67.1										simultaneous interpolator
u,v (fr/asec) 5901.631 2825.832										

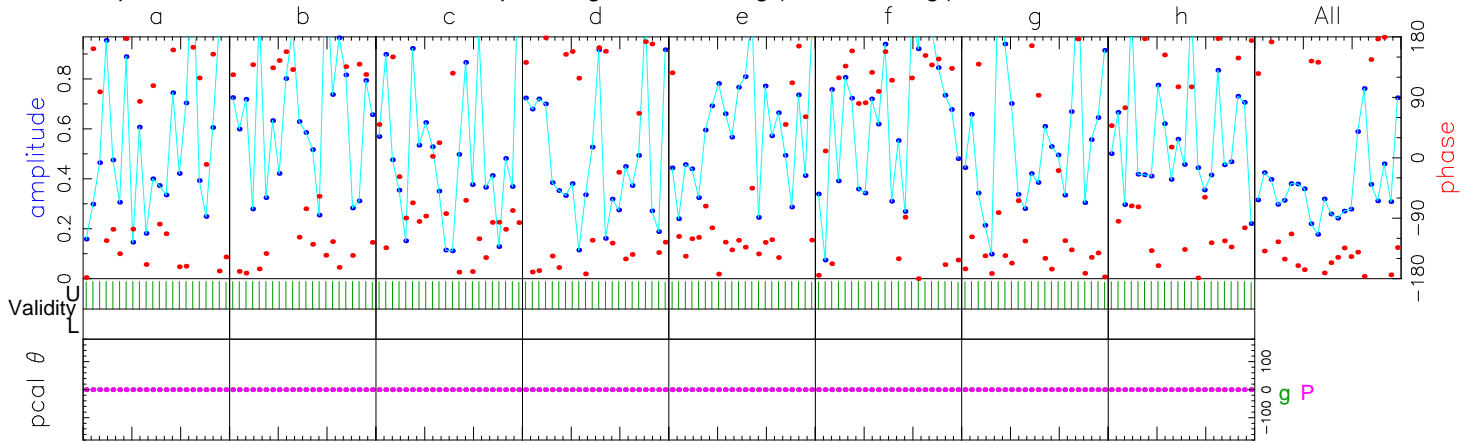


Fringe quality 9

SNR 11.8  
 Int time 179.725  
 Amp 0.323  
 Phase -163.2  
 PFD 6.2e-24  
 Delays (us)  
 SBD -0.000062  
 MBD -0.006219  
 Fringe rate (Hz)  
 -0.000179  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

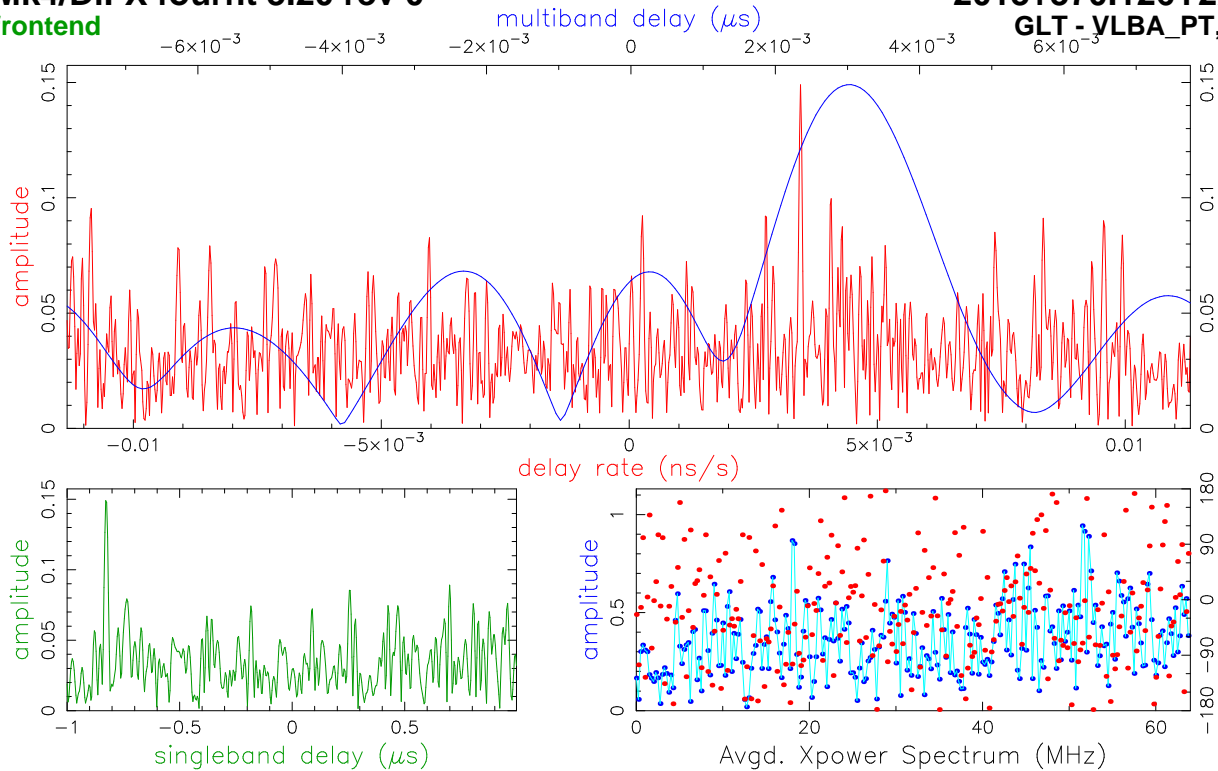
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125133  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



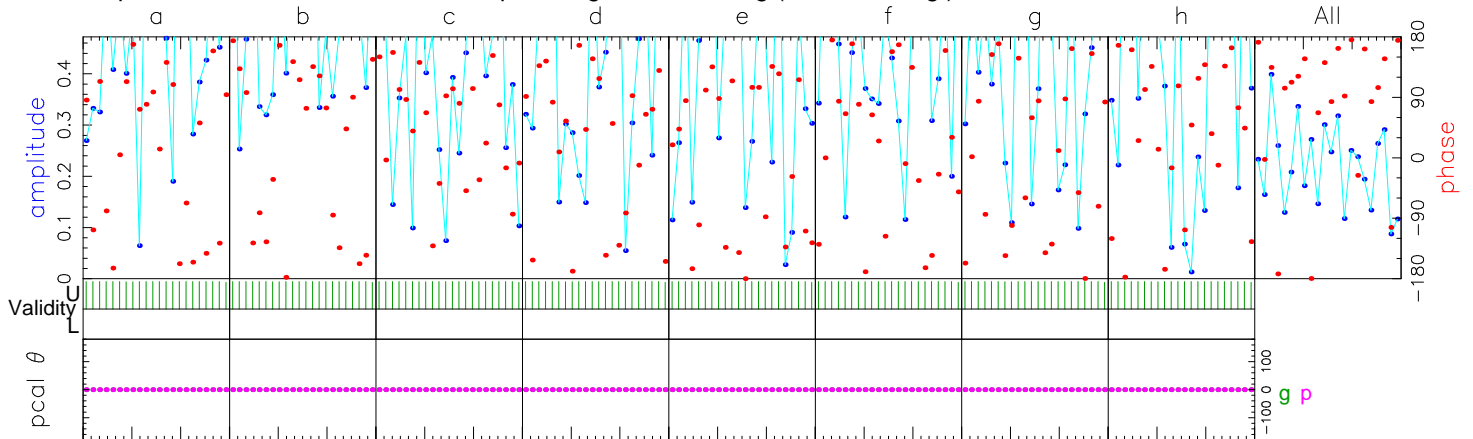
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.16976608213E+03	-4.16975992494E+03	-4.16975986821E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03		
Sband delay (usec)	-4.16975992494E+03	-4.16975986821E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03		
Phase delay (usec)	-4.16975986821E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03	-4.1697598294E+03		
Delay rate (us/s)	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01	6.29004856462E-01		
Total phase (deg)			-17.0							
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)										

ph/seg (deg) 32.1 22.7 Search (1024X32) 0.323 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 47.3 39.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 37.3 13.7 Inc. seg. avg. 0.344 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 31.7 23.9 Inc. frq. avg. 0.369 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 P: az 278.7 el 68.7 pa 82.3 u,v (fr/asec) -4484.482 5474.439 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gP..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gP.W.214.126Y2A



Fringe quality 0  
SNR 5.6  
Int time 179.699  
Amp 0.157  
Phase 137.7  
PFD 9.7e-01  
Delays (us)  
SBD -0.826385  
MBD 0.002988  
Fringe rate (Hz) 0.297311  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125134  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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



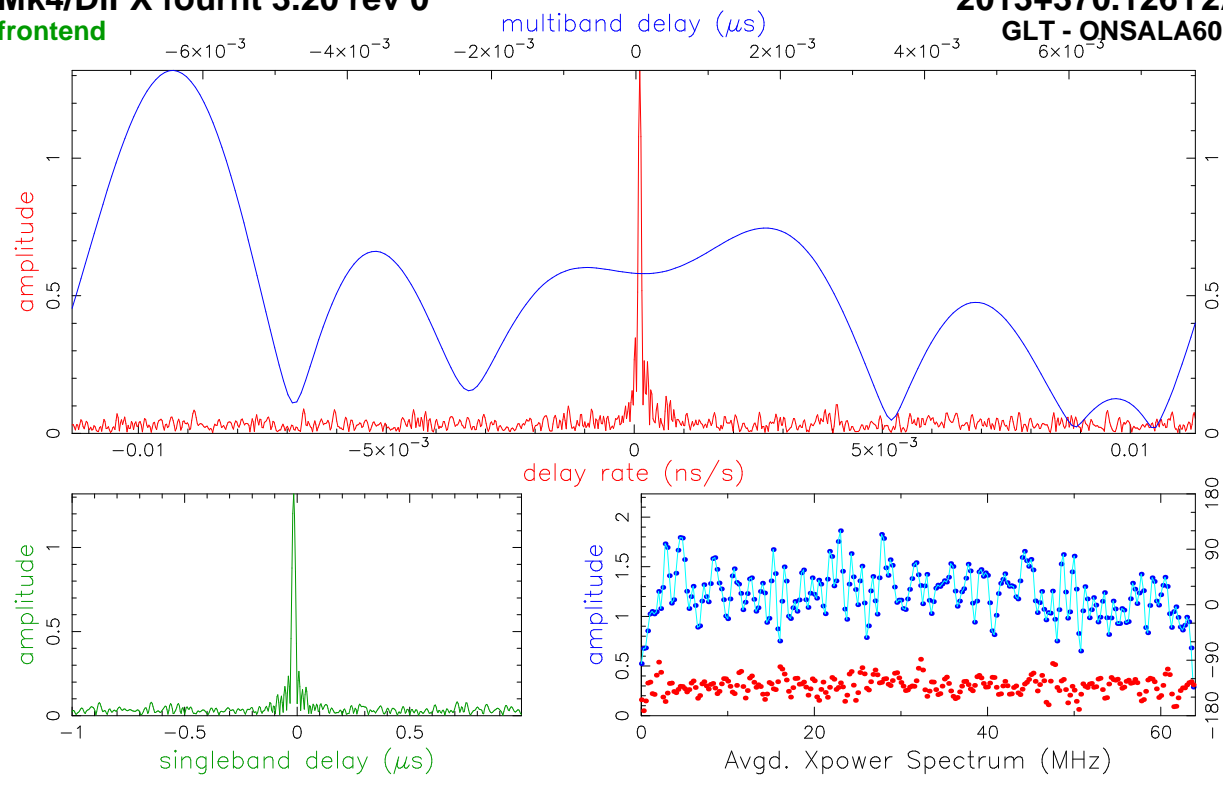
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g	0	0	0	0	0	0	0	0		
p	1000	1000	1000	1000	1000	1000	1000	1000		
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	5.33909074301E+03		Apriori delay (usec)		5.33991588026E+03		Resid mbdelay (usec)		2.98775E-03	+/- 2.0E-04
Sband delay (usec)	5.33908949476E+03		Apriori clock (usec)		-1.0679354E+01		Resid sbdelay (usec)		-8.26385E-01	+/- 1.6E-03
Phase delay (usec)	5.33991588470E+03		Apriori clockrate (us/s)		-1.2888659E-07		Resid phdelay (usec)		4.43939E-06	+/- 6.7E-07
Delay rate (us/s)	-8.19549160230E-01		Apriori rate (us/s)		-8.19552611719E-01		Resid rate (us/s)		3.45149E-06	+/- 6.4E-09
Total phase (deg)	111.0		Apriori accel (us/s/s)		-4.78397846029E-07		Resid phase (deg)		137.7	+/- 20.6

ph/seg (deg) 62.7 48.4 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 70.5 84.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 36.3 29.2 Inc. seg. avg. 0.170 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 38.7 50.9 Inc. frq. avg. 0.154 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
g: az 133.2 el 47.2 pa -12.3 p: az 62.4 el 28.6 pa -67.1 u,v (fr/asec) 5901.631 2825.832 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gp..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gp.W.216.126Y2A



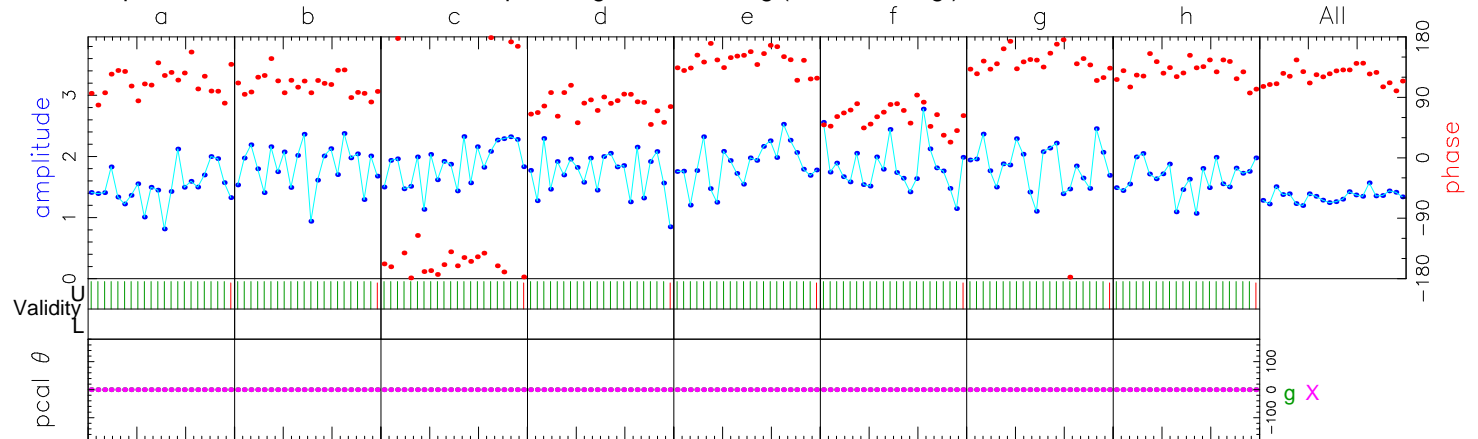
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126Y2A, No0048, gX  
GLT - ONSALA60, fgroup W, pol LL



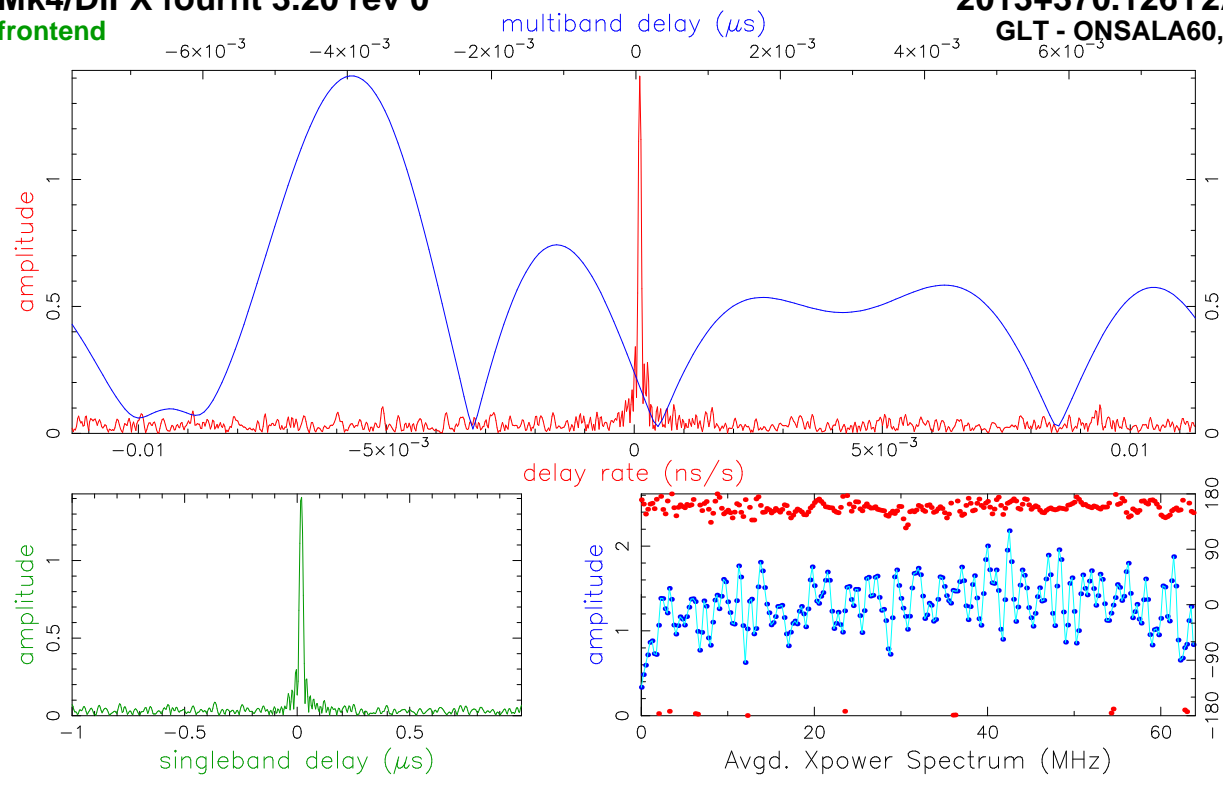
Fringe quality 5  
SNR 48.4  
Int time 179.736  
Amp 1.319  
Phase 121.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.015726  
MBD -0.006422  
Fringe rate (Hz) 0.008866  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125127  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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
	112.8	109.2	-162.8	78.4	144.6	61.7	143.6	128.3	Phase	121.7
	1.4	1.8	1.8	1.7	1.8	1.8	1.8	1.6	Ampl.	1.7
	253.9	252.8	252.4	252.2	252.5	252.5	253.1	253.2	Sbd box	253.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
g	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)	-1.98364855853E+03		Apriori delay (usec)		-1.98362651162E+03		Resid mbdelay (usec)		-6.42191E-03	+/- 2.2E-05
Sband delay (usec)	-1.98364223787E+03		Apriori clock (usec)		-3.1105976E+01		Resid sbdelay (usec)		-1.57262E-02	+/- 1.8E-04
Phase delay (usec)	-1.98362650770E+03		Apriori clockrate (us/s)		-4.5300002E-07		Resid phdelay (usec)		3.92447E-06	+/- 7.6E-08
Delay rate (us/s)	6.28705953437E-01		Apriori rate (us/s)		6.28705850516E-01		Resid rate (us/s)		1.02921E-07	+/- 7.3E-10
Total phase (deg)			Apriori accel (us/s/s)		1.93057737586E-05		Resid phase (deg)		121.7	+/- 2.4

ph/seg (deg) 12.0 5.6 Search (1024X32) 1.282 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 7.2 9.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 45.6 3.4 Inc. seg. avg. 1.342 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 30.0 5.8 Inc. frq. avg. 1.692 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
g: az 133.2 el 47.2 pa -12.3 X: az 252.2 el 55.9 pa 40.0 u,v (fr/asec) -4506.932 2101.339 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gX..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gX.W.164.126Y2A

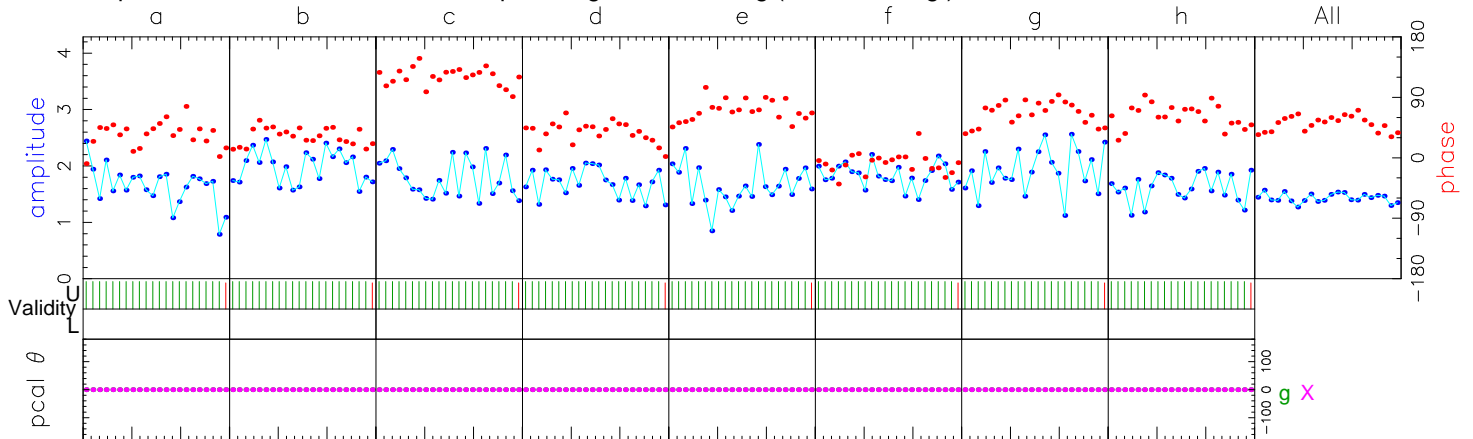


Fringe quality 6

SNR 52.4  
 Int time 179.720  
 Amp 1.430  
 Phase 50.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.017927  
 MBD -0.003981  
 Fringe rate (Hz) 0.008795  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125130  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



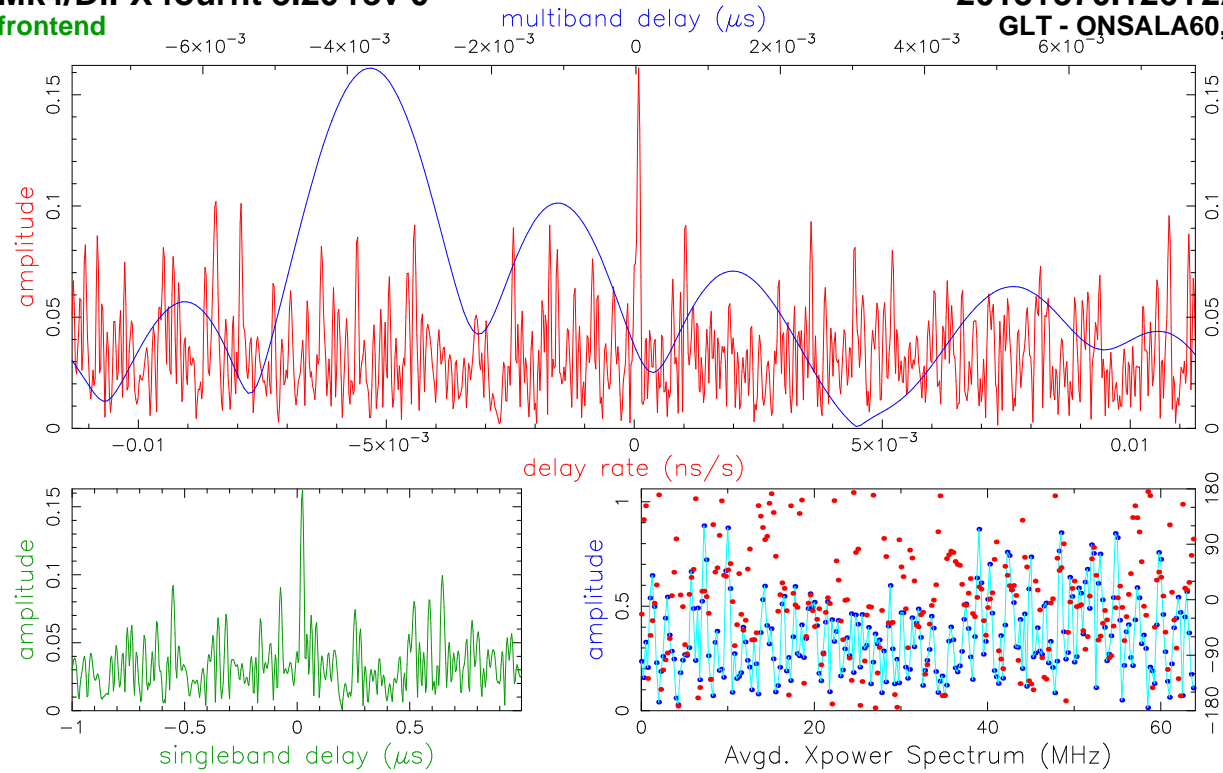
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	34.2	32.3	120.4	38.3	69.4	-8.9	66.8	61.8	Phase	50.8
	1.6	1.9	1.7	1.6	1.6	1.8	1.8	1.6	Ampl.	1.7
	262.5	261.6	261.1	260.8	260.6	260.9	261.5	262.2	Sbd box	261.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	
g	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
X	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-1.98361486803E+03		Apriori delay (usec)		-1.98362651162E+03		Resid mbdelay (usec)		-3.98141E-03 +/- 2.1E-05	
Sband delay (usec)	-1.98360858462E+03		Apriori clock (usec)		-3.1105976E+01		Resid sbdelay (usec)		1.79270E-02 +/- 1.6E-04	
Phase delay (usec)	-1.98362650999E+03		Apriori clockrate (us/s)		-4.5300002E-07		Resid phdelay (usec)		1.63900E-06 +/- 7.0E-08	
Delay rate (us/s)	6.28705952619E-01		Apriori rate (us/s)		6.28705850516E-01		Resid rate (us/s)		1.02103E-07 +/- 6.8E-10	
Total phase (deg)			Apriori accel (us/s/s)		1.93057737586E-05		Resid phase (deg)		50.8 +/- 2.2	
RMS	11.1	5.1	Search (1024X32)		1.366		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5	
ph/seg (deg)	11.1	5.1	Amplitude		1.430 +/- 0.027		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us) -1.000 1.000	
amp/seg (%)	5.5	8.9	Interp.		0.000		SampCntNorm: enabled		mb window (us) -0.008 0.008	
ph/frq (deg)	40.6	3.1	Inc. seg. avg.		1.428		Sample rate(MISamp/s): 128		dr window (ns/s) -0.011 0.011	
amp/frq (%)	21.5	5.4	Inc. frq. avg.		1.706		Data rate(Mb/s): 2048		ion window (TEC) 0.00 0.00	
g: az 133.2 el 47.2 pa -12.3	X: az 252.2 el 55.9 pa 40.0		u, v (fr/asec) -4506.932 2101.339						simultaneous interpolator	
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0048/gX..126Y2A Output file: /Exps/c192c/v1_CygA2/1234/No0048/gX.W.185.126Y2A										

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gX

GLT - ONSALA60, fgroup W, pol LR

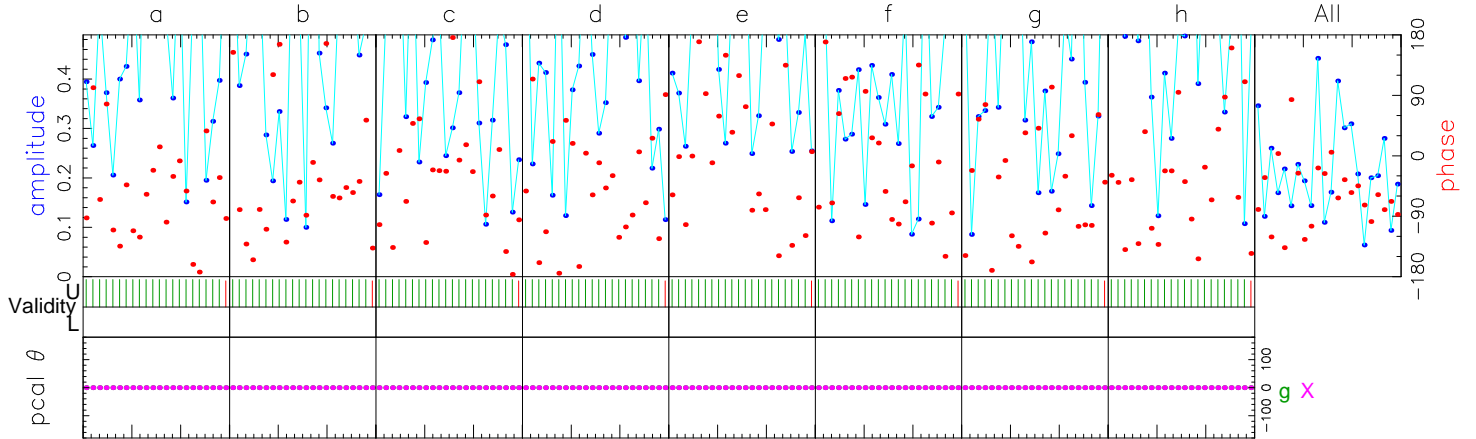


Fringe quality 0

SNR 6.0  
 Int time 179.736  
 Amp 0.163  
 Phase -60.5  
 PFD 2.5e-01  
 Delays (us)  
 SBD 0.022370  
 MBD -0.003693  
 Fringe rate (Hz)  
 0.008278  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125132  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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
	-70.5	-72.3	-22.4	-70.8	22.4	-77.4	-88.9	-53.2	Phase	-60.5
	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	Ampl.	0.2
	45.8	262.4	238.7	487.3	417.2	356.0	168.5	120.9	Sbd box	262.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
g	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)	-1.98359895433E+03		Apriori delay (usec)		-1.98362651162E+03		Resid mbdelay (usec)		-3.69271E-03	+/- 1.8E-04
Sband delay (usec)	-1.98360414162E+03		Apriori clock (usec)		-3.1105976E+01		Resid sbdelay (usec)		2.23700E-02	+/- 1.4E-03
Phase delay (usec)	-1.98362651358E+03		Apriori clockrate (us/s)		-4.5300002E-07		Resid phdelay (usec)		-1.95073E-06	+/- 6.2E-07
Delay rate (us/s)	6.28705946619E-01		Apriori rate (us/s)		6.28705850516E-01		Resid rate (us/s)		9.61031E-08	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		1.93057737586E-05		Resid phase (deg)		-60.5	+/- 19.2

ph/seg (deg) 49.4 44.9 Search (1024X32) 0.155 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 67.0 78.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 40.4 27.1 Inc. seg. avg. 0.167 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 45.5 47.3 Inc. frq. avg. 0.162 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 X: az 252.2 el 55.9 pa 40.0 u,v (fr/asec) -4506.932 2101.339 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gX..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gX.W.207.126Y2A

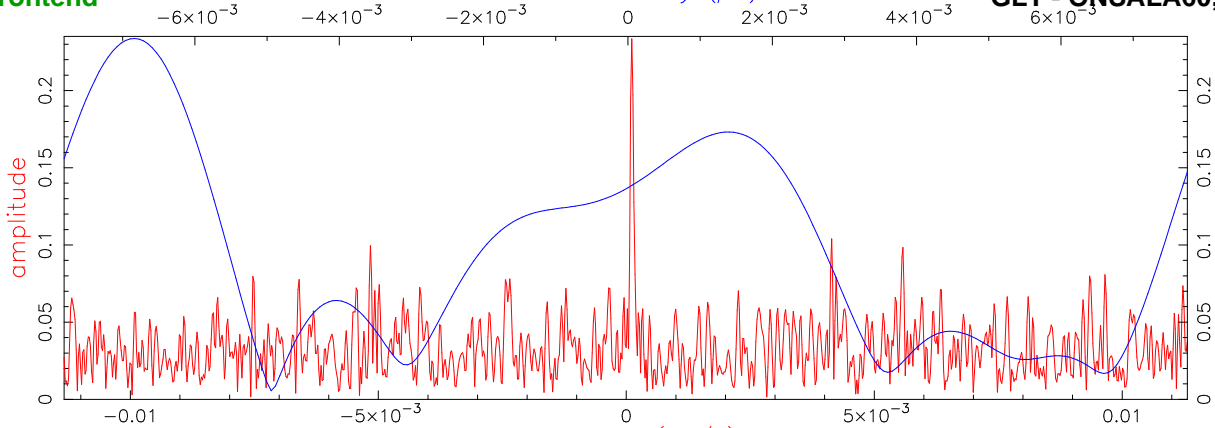
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gX

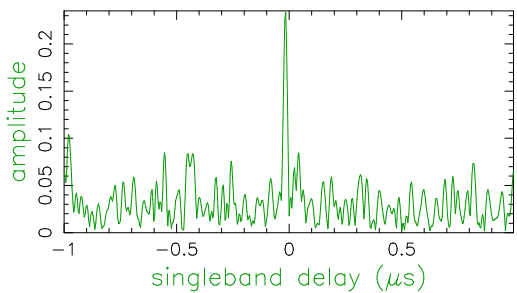
GLT - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

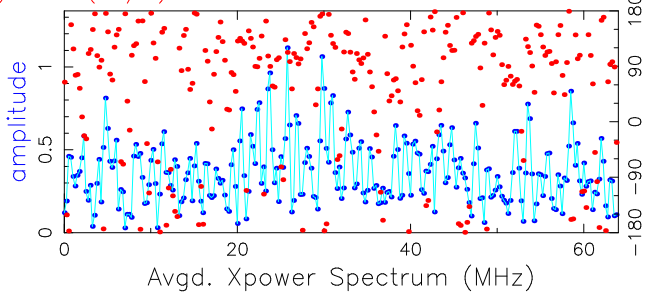


Fringe quality 9

SNR 8.6  
Int time 179.720  
Amp 0.235  
Phase 10.9  
PFD 1.2e-09  
Delays (us)  
SBD -0.016744  
MBD -0.006903  
Fringe rate (Hz) 0.008639  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

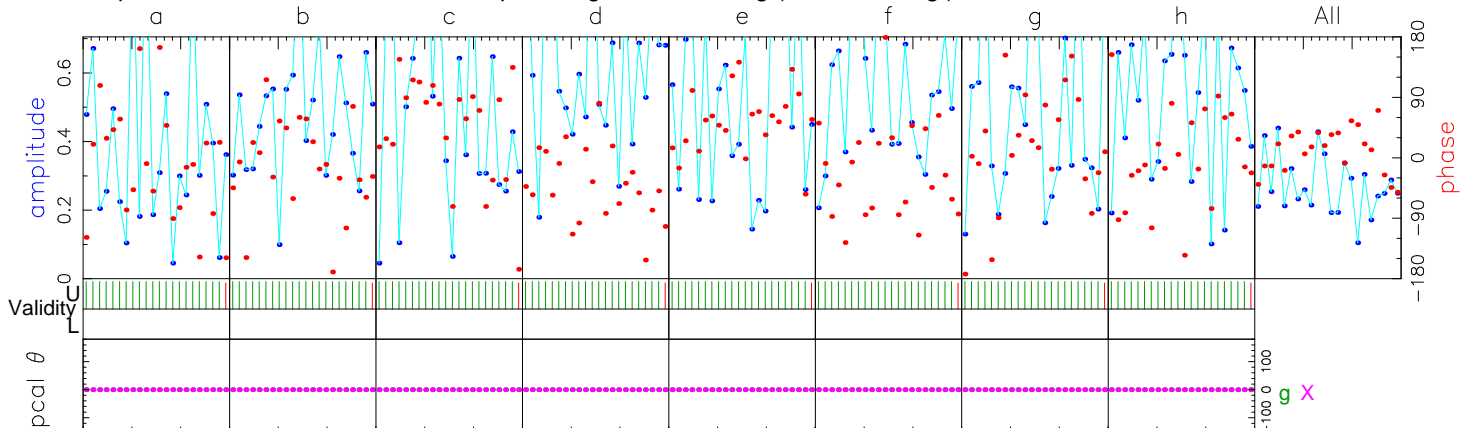


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125134  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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		
	-14.2	-4.0	75.1	-41.7	59.8	-32.9	35.0	6.9	Phase	10.9		
	0.2	0.3	0.4	0.5	0.4	0.3	0.3	0.3	Ampl.	0.3		
	254.9	251.8	252.6	252.0	252.6	251.5	253.1	253.4	Sbd box	252.7		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
g	0	0	0	0	0	0	0	0	PC freqs			
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
X	1000	1000	1000	1000	1000	1000	1000	1000				
g	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)	-1.98364903947E+03		Apriori delay (usec)		-1.98362651162E+03		Resid mbdelay (usec)		-6.90285E-03	+/- 1.3E-04		
Sband delay (usec)	-1.98364325537E+03		Apriori clock (usec)		-3.1105976E+01		Resid sbdelay (usec)		-1.67437E-02	+/- 1.0E-03		
Phase delay (usec)	-1.98362651127E+03		Apriori clockrate (us/s)		-4.5300002E-07		Resid phdelay (usec)		3.49978E-07	+/- 4.3E-07		
Delay rate (us/s)	6.28705950806E-01		Apriori rate (us/s)		6.28705850516E-01		Resid rate (us/s)		1.00289E-07	+/- 4.1E-09		
Total phase (deg)			Apriori accel (us/s/s)		1.93057737586E-05		Resid phase (deg)		10.9	+/- 13.3		
	RMS	Theor.	Amplitude	0.235 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	32.6	31.2	Search (1024X32)	0.224		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	39.1	54.4	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	45.9	18.8	Inc. seg. avg.	0.237		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	49.1	32.8	Inc. frq. avg.	0.299		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 133.2 el 47.2 pa -12.3	X: az 252.2 el 55.9 pa 40.0		u, v (fr/asec) -4506.932 2101.339						simultaneous interpolator			
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0048/gX..126Y2A		Output file: /Exps/c192c/v1_CygA2/1234/No0048/gX.W.223.126Y2A									





# Mk4/DiFX fourfit 3.20 rev 0

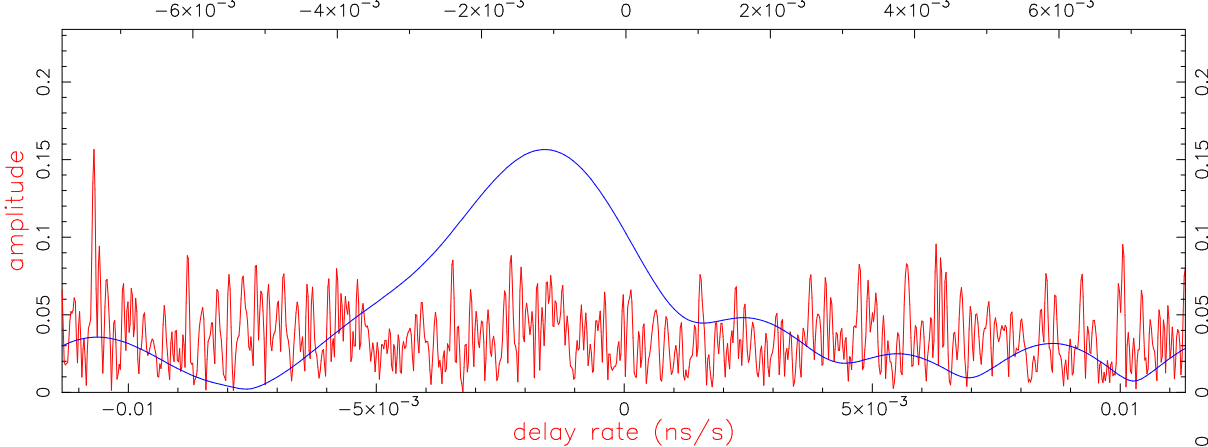
frontend

## 2013+370.126Y2A, No0048, gY

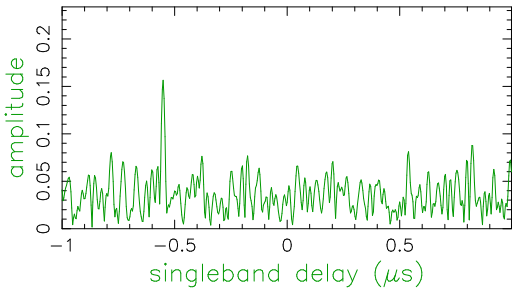
GLT - YEBES40M, fgroup W, pol RR

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

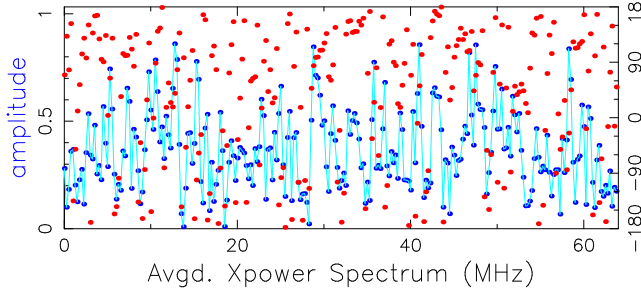
Fringe quality 0



SNR 5.5  
 Int time 162.222  
 Amp 0.234  
 Phase -110.3  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.551488  
 MBD -0.001129  
 Fringe rate (Hz)  
 -0.922899  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

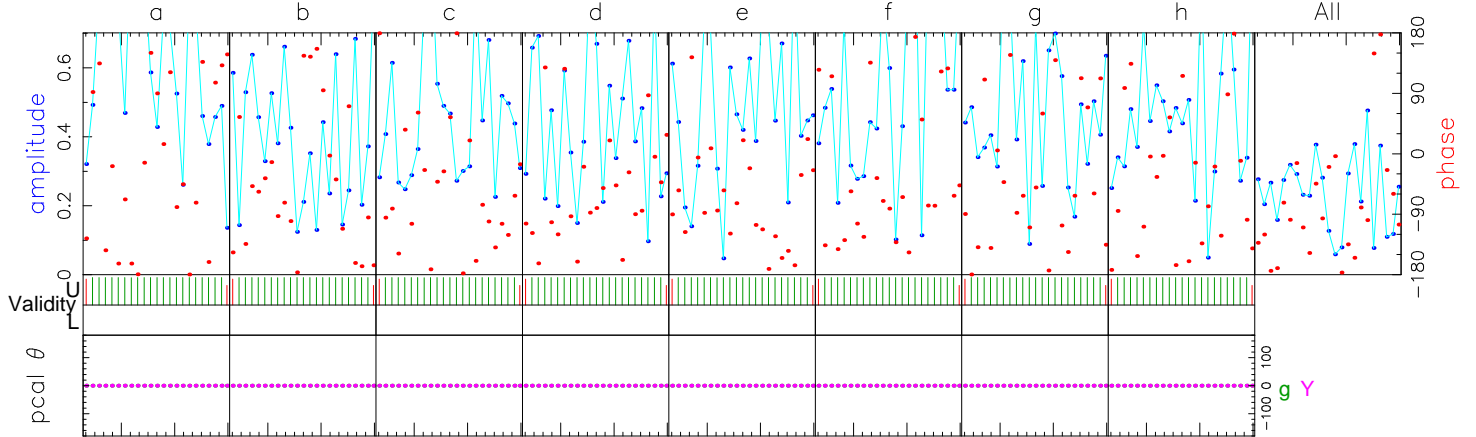


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212016.90  
 Stop 212259.71  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125130  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	179.8	-100.0	-96.9	-79.6	-90.0	-117.8	-129.9	-137.4	Phase	-110.3
	0.2	0.2	0.3	0.3	0.4	0.3	0.2	0.2	Ampl.	0.2
	109.6	379.7	98.1	364.1	114.3	105.1	56.6	309.7	Sbd box	115.8
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.17854050115E+03		Apriori delay (usec)	-4.17799249672E+03	Resid mbdelay (usec)	-1.12943E-03	+/-	2.0E-04		
Sband delay (usec)	-4.17854398447E+03		Apriori clock (usec)	-8.3773756E+00	Resid sbdelay (usec)	-5.51488E-01	+/-	1.6E-03		
Phase delay (usec)	-4.17799250028E+03		Apriori clockrate (us/s)	-1.4500001E-07	Resid phdelay (usec)	-3.55542E-06	+/-	6.8E-07		
Delay rate (us/s)	6.12033438503E-01		Apriori rate (us/s)	6.12044152443E-01	Resid rate (us/s)	-1.07139E-05	+/-	7.2E-09		
Total phase (deg)		-350.6	Apriori accel (us/s/s)	4.42654108615E-05	Resid phase (deg)	-110.3	+/-	21.0		

ph/seg (deg) 58.6 50.3 Search (1024X32) 0.154 Pcd mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 86.2 87.7 Interp. 0.000 Pcd rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 35.8 29.6 Inc. seg. avg. 0.256 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 31.8 51.7 Inc. frq. avg. 0.234 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 Y: az 270.0 el 68.7 pa 72.6 u,v (fr/asec) -4365.528 4951.571 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gY..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gY.W.183.126Y2A

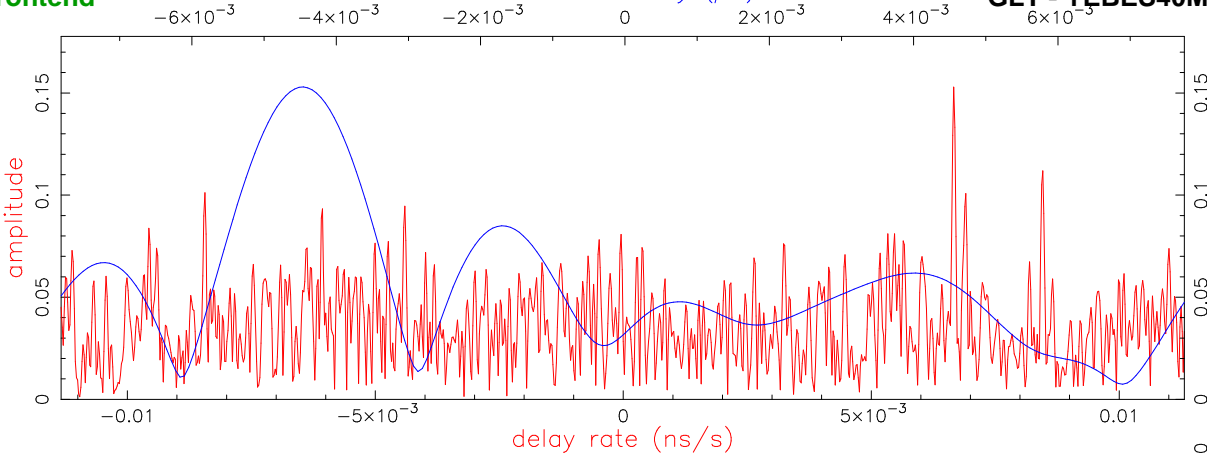
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126Y2A, No0048, gY

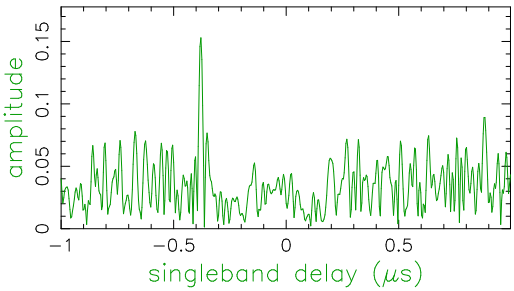
GLT - YEBES40M, fgroup W, pol LR

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

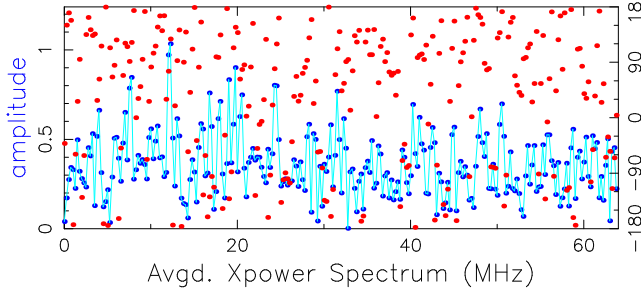


Fringe quality 0

SNR 5.3  
Int time 162.236  
Amp 0.178  
Phase 115.6  
PFD 1.0e+00  
Delays (us)  
SBD -0.379764  
MBD -0.004498  
Fringe rate (Hz)  
0.574372  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

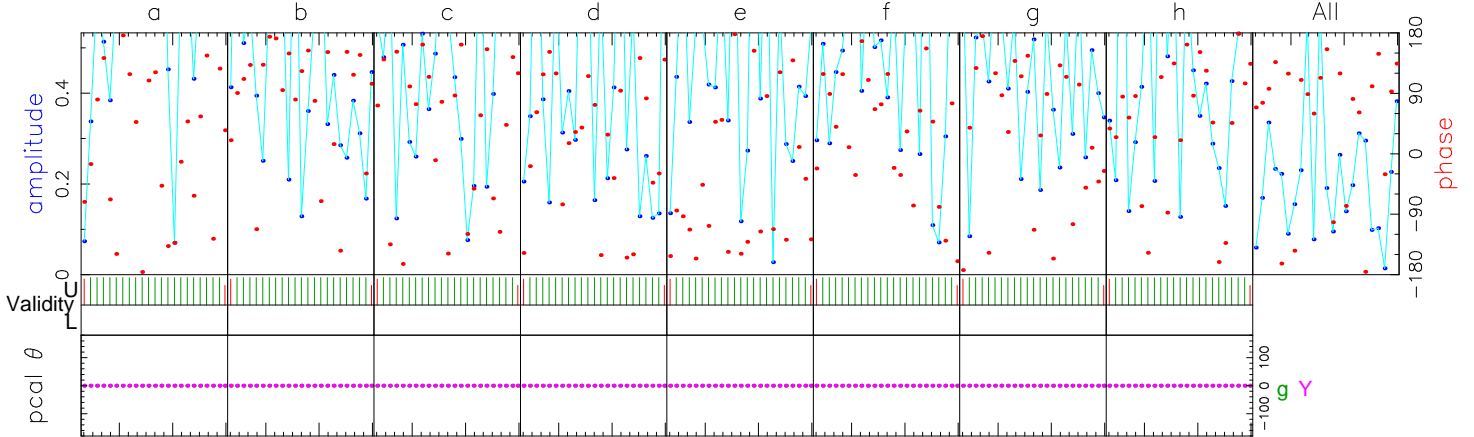


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212016.90  
Stop 212259.71  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125132  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

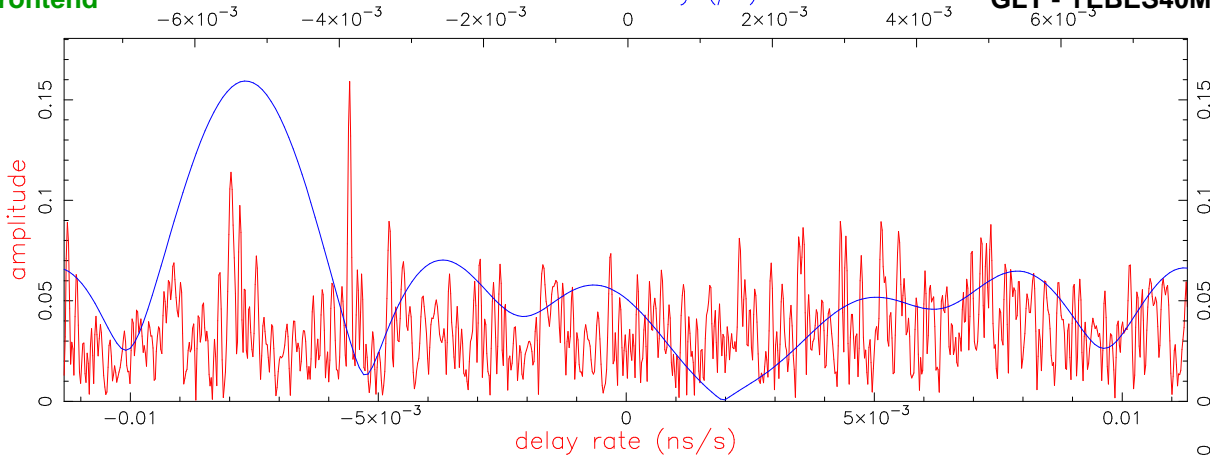
Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



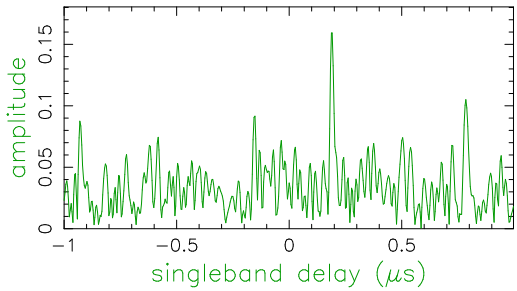
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	103.6	116.6	126.6	92.7	-154.9	66.9	129.0	118.8	Phase	115.6
	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.3	Ampl.	0.2
	47.8	159.1	440.3	511.6	360.4	305.9	83.3	158.2	Sbd box	159.8
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.17837199483E+03		Apriori delay (usec)		-4.17799249672E+03		Resid mbdelay (usec)		-4.49810E-03	+/- 2.0E-04
Sband delay (usec)	-4.17837226097E+03		Apriori clock (usec)		-8.3773756E+00		Resid sbdelay (usec)		-3.79764E-01	+/- 1.6E-03
Phase delay (usec)	-4.17799249299E+03		Apriori clockrate (us/s)		-1.4500001E-07		Resid phdelay (usec)		3.72815E-06	+/- 6.9E-07
Delay rate (us/s)	6.12050820331E-01		Apriori rate (us/s)		6.12044152443E-01		Resid rate (us/s)		6.66789E-06	+/- 7.4E-09
Total phase (deg)			Apriori accel (us/s/s)		4.42654108615E-05		Resid phase (deg)		115.6	+/- 21.4

ph/seg (deg) 68.7 51.4 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 103.0 89.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 43.5 30.3 Inc. seg. avg. 0.180 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 32.4 52.9 Inc. frq. avg. 0.181 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
g: az 133.2 el 47.2 pa -12.3 Y: az 270.0 el 68.7 pa 72.6 u, v (fr/asec) -4365.528 4951.571 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gY..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gY.W.205.126Y2A

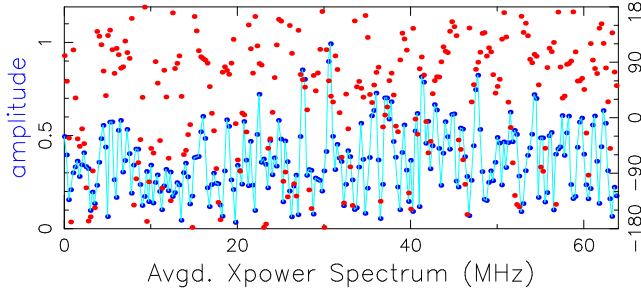
multiband delay ( $\mu\text{s}$ )



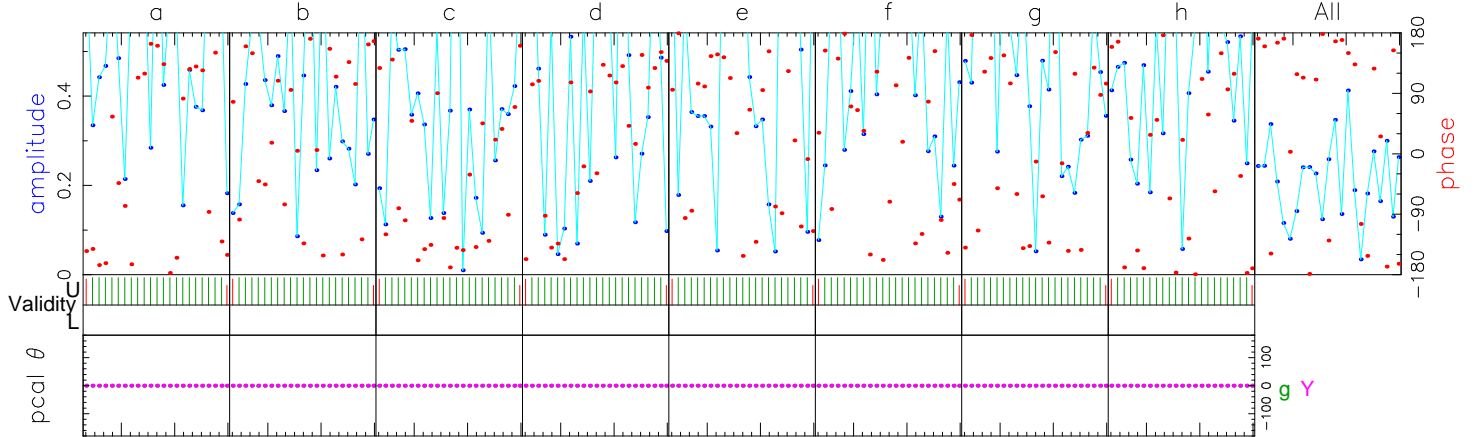
Fringe quality 0  
 SNR 5.7  
 Int time 162.222  
 Amp 0.181  
 Phase 165.0  
 PFD 8.1e-01  
 Delays (us)  
 SBD 0.189451  
 MBD -0.005248  
 Fringe rate (Hz)  
 -0.482119  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212016.90  
 Stop 212259.71  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125135  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



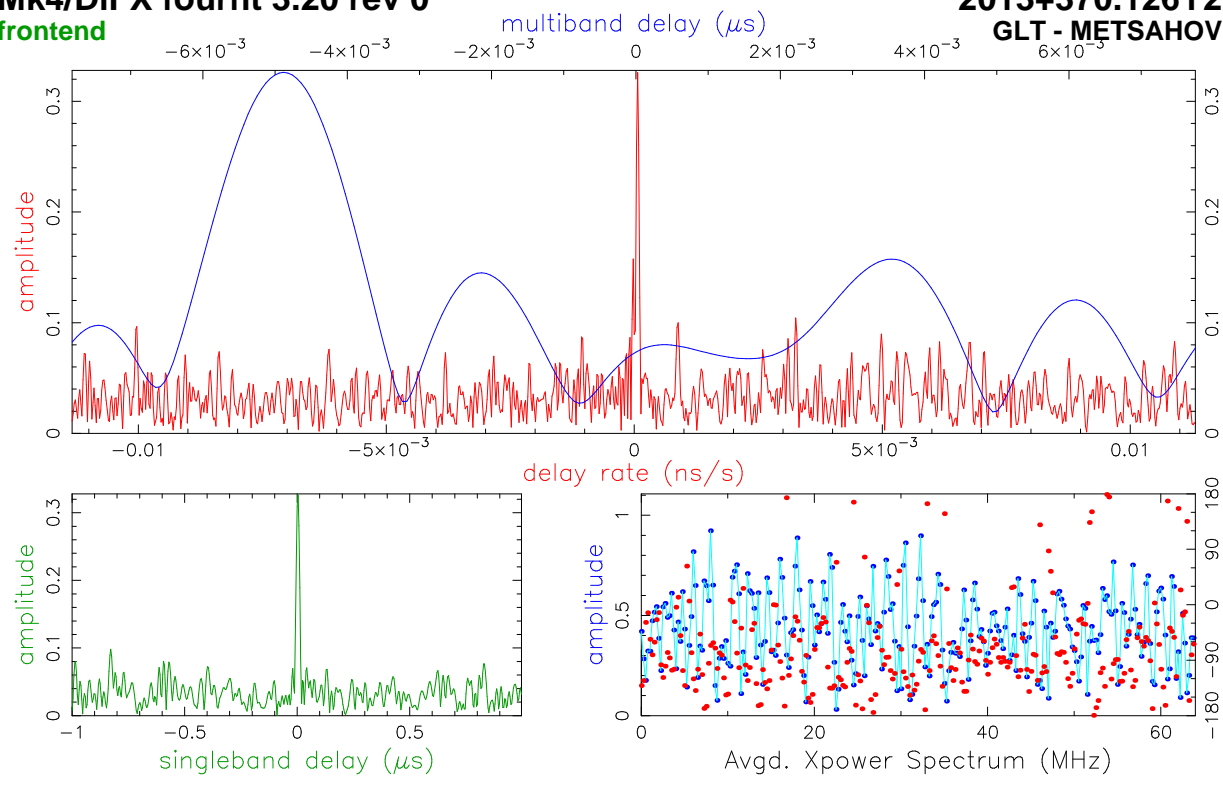
delay rate (ns/s)



Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec

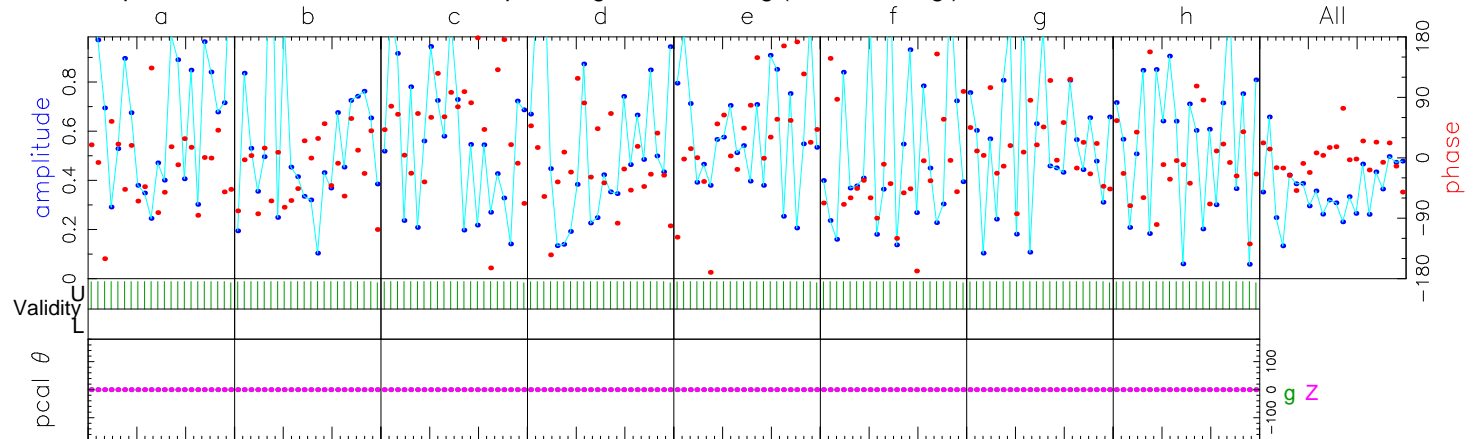


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		
g	0	0	0	0	0	0	0	0		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.17781024495E+03									
Sband delay (usec)	-4.17780304572E+03									
Phase delay (usec)	-4.17799249140E+03									
Delay rate (us/s)	6.1203855513E-01									
Total phase (deg)			-75.4							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)									165.0	+/- 20.2
Pcal mode:	MANUAL, MANUAL		PC period (AP's) 5, 5							
Pcal rate:	0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000		1.000			
Bits/sample:	2x2		SampCntNorm: enabled		mb window (us)		-0.008		0.008	
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	
g	az 133.2	el 47.2	pa -12.3	Y: az 270.0	el 68.7	pa 72.6	u, v (fr/asec)	-4365.528	4951.571	simultaneous interpolator



Fringe quality 9  
 SNR 12.0  
 Int time 179.676  
 Amp 0.328  
 Phase -0.5  
 PFD 7.0e-25  
 Delays (us)  
 SBD 0.002962  
 MBD -0.004900  
 Fringe rate (Hz) 0.006387  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125127  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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
	-11.4	-21.7	61.6	-13.5	34.6	-39.1	19.7	-12.7	Phase	-0.5
	0.5	0.4	0.3	0.3	0.3	0.4	0.4	0.4	Ampl.	0.4
	259.0	257.6	258.5	257.1	256.6	256.9	257.1	257.1	Sbd box	257.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.77161809341E+02		Apriori delay (usec)		-3.77172533865E+02		Resid mbdelay (usec)		-4.90048E-03	+/- 9.0E-05
Sband delay (usec)	-3.77169571865E+02		Apriori clock (usec)		1.1196480E+00		Resid sbdelay (usec)		2.96200E-03	+/- 7.2E-04
Phase delay (usec)	-3.77172533880E+02		Apriori clockrate (us/s)		5.8707190E-08		Resid phdelay (usec)		-1.50429E-08	+/- 3.1E-07
Delay rate (us/s)	6.81604247847E-01		Apriori rate (us/s)		6.81604173698E-01		Resid rate (us/s)		7.41491E-08	+/- 3.0E-09
Total phase (deg)			Apriori accel (us/s/s)		9.18692184784E-06		Resid phase (deg)		-0.5	+/- 9.5

ph/seg (deg) 26.5 22.4 Search (1024X32) 0.318 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 35.4 39.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 36.2 13.5 Inc. seg. avg. 0.335 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 21.9 23.5 Inc. frq. avg. 0.365 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 Z: az 261.3 el 49.0 pa 38.0 u,v (fr/asec) -4895.522 1318.738 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ.W.163.126Y2A

Mk4/DiFX fourfit 3.20 rev 0

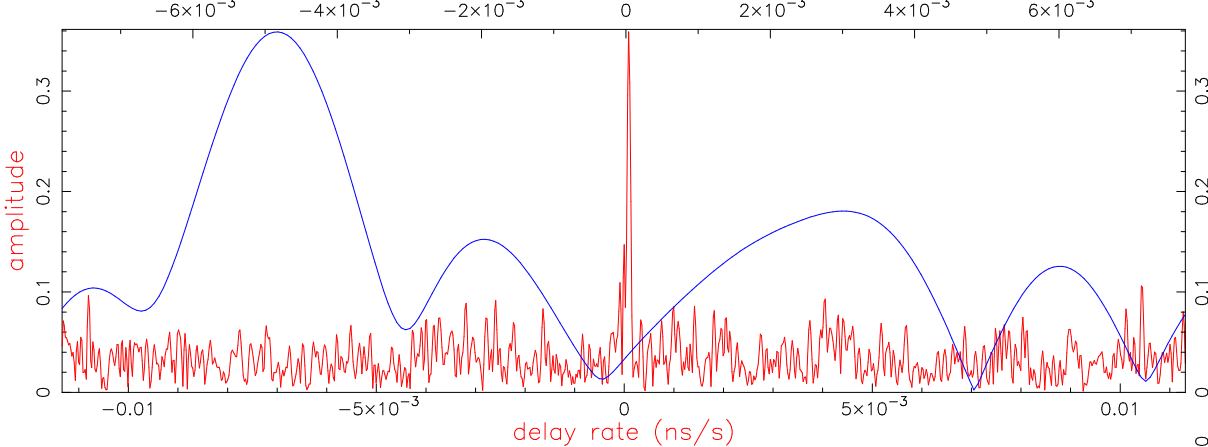
frontend

2013+370.126Y2A, No0048, gZ

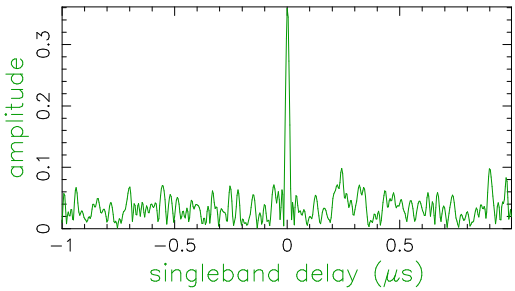
GLT - METSAHOV, fgroup W, pol RR

multiband delay ( $\mu$ s)

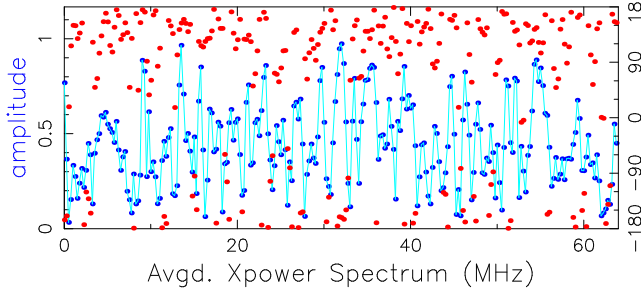
Fringe quality 9



SNR 13.2  
 Int time 179.661  
 Amp 0.361  
 Phase -141.7  
 PFD 1.3e-31  
 Delays (us)  
 SBD 0.001098  
 MBD -0.004811  
 Fringe rate (Hz)  
 0.007051  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

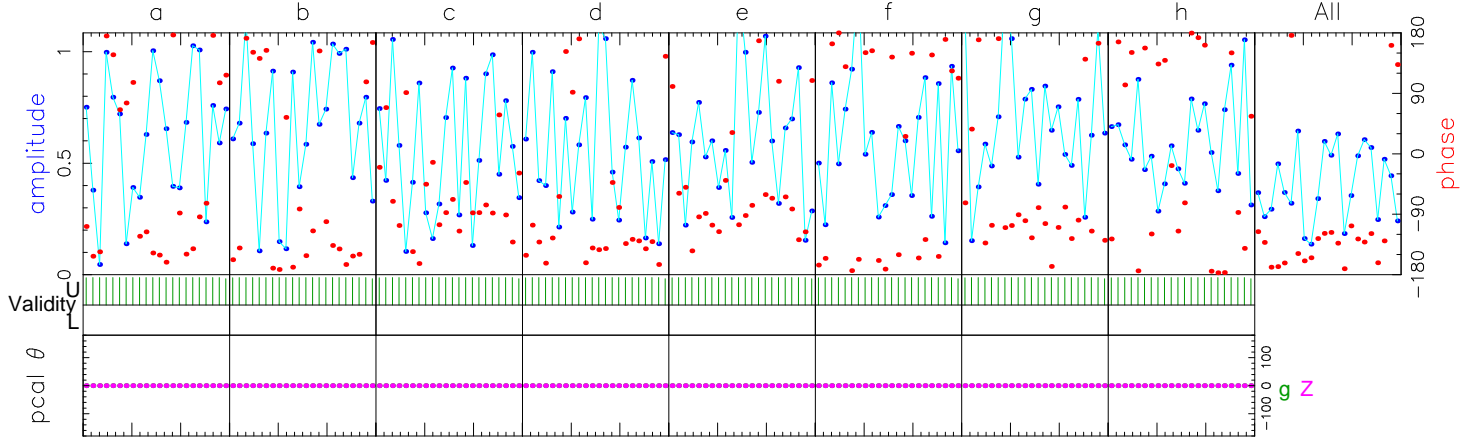


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125129  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

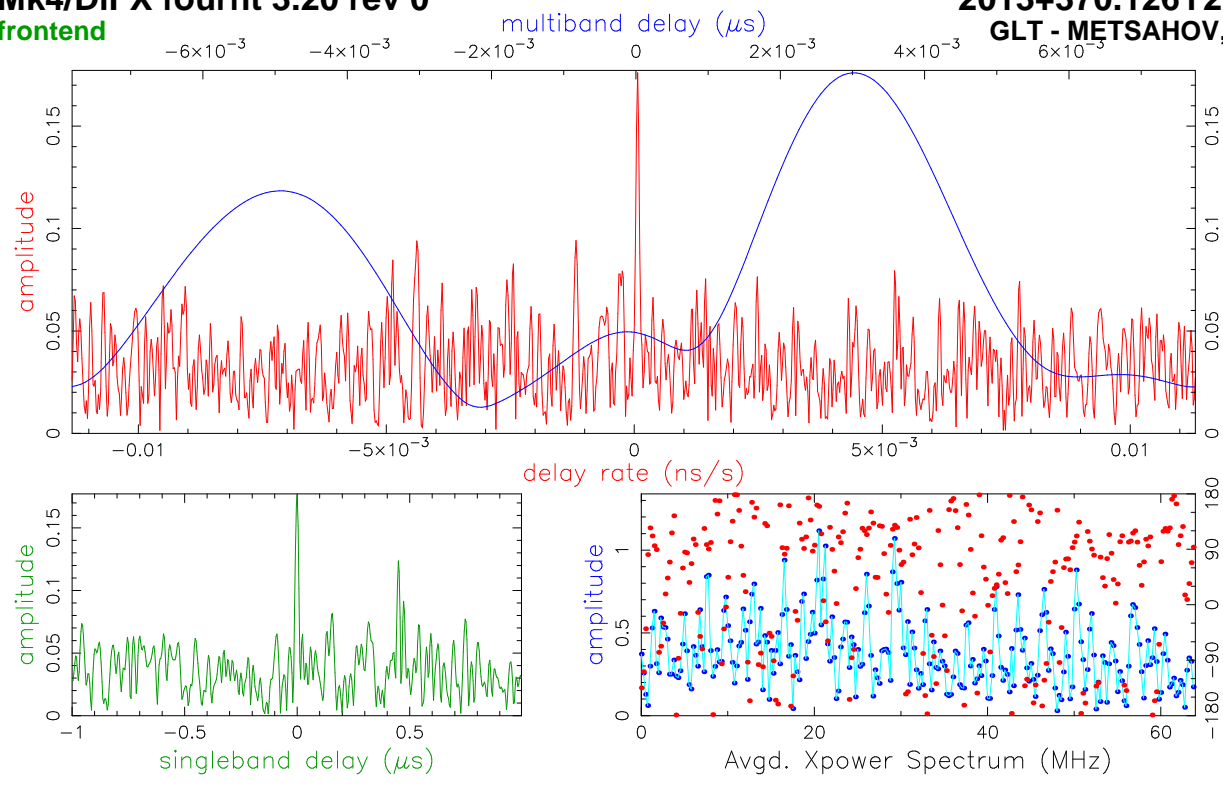


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-161.5	-162.3	-80.0	-141.8	-93.4	175.6	-119.2	-175.7	Phase	-141.7
	0.4	0.5	0.4	0.4	0.4	0.5	0.5	0.4	Ampl.	0.4
	258.1	257.7	256.3	256.0	256.9	257.3	256.9	257.5	Sbd box	257.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.77177344916E+02		Apriori delay (usec)		-3.77172533865E+02		Resid mbdelay (usec)		-4.81105E-03	+/- 8.2E-05
Sband delay (usec)	-3.77171436115E+02		Apriori clock (usec)		1.1196480E+00		Resid sbdelay (usec)		1.09775E-03	+/- 6.5E-04
Phase delay (usec)	-3.77172538435E+02		Apriori clockrate (us/s)		5.8707190E-08		Resid phdelay (usec)		-4.57022E-06	+/- 2.8E-07
Delay rate (us/s)	6.8160425553E-01		Apriori rate (us/s)		6.81604173698E-01		Resid rate (us/s)		8.18554E-08	+/- 2.7E-09
Total phase (deg)			Apriori accel (us/s/s)		9.18692184784E-06		Resid phase (deg)		-141.7	+/- 8.6

ph/seg (deg) RMS 30.3 Theor. 20.3 Amplitude 0.361 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 45.2 35.4 Search (1024X32) 0.354 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 41.7 12.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 26.5 21.3 Inc. seg. avg. 0.379 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 Z: az 261.3 el 49.0 pa 38.0 u,v (fr/asec) -4895.522 1318.738 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 simultaneous interpolator

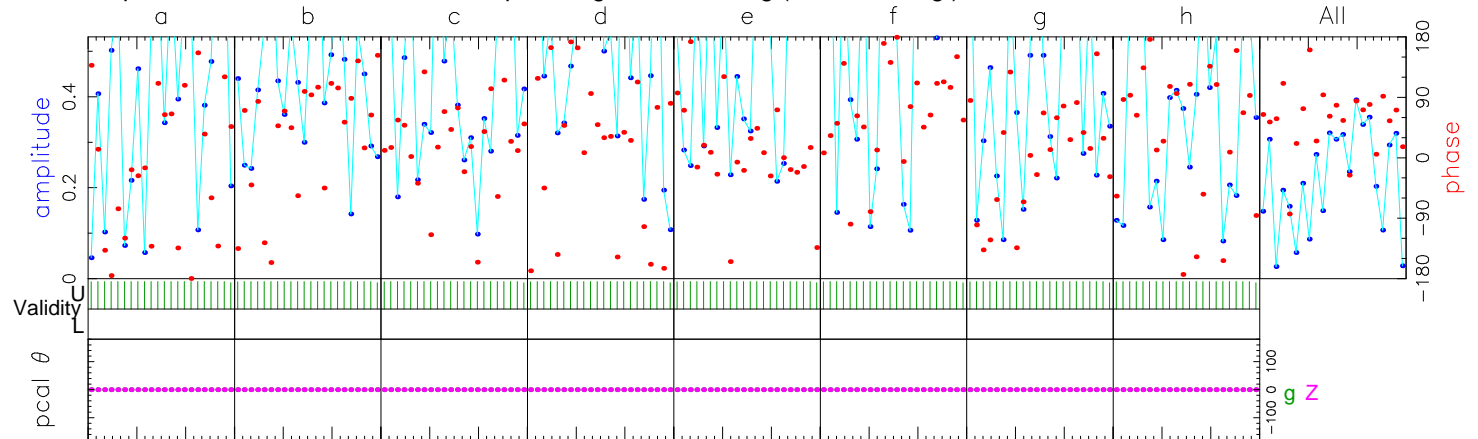
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ.W.180.126Y2A





Fringe quality 0  
 SNR 6.5  
 Int time 179.676  
 Amp 0.177  
 Phase 62.3  
 PFD 1.1e-02  
 Delays (us)  
 SBD -0.001039  
 MBD 0.003011  
 Fringe rate (Hz) 0.006570  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 212000.00  
 Stop 212300.23  
 FRT 212130.00  
 Corr/FF/build  
 2020:070:030312  
 2020:071:125131  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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	151.0	93.0	29.8	89.6	6.4	90.5	37.7	101.6	Phase	62.3
	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.2	Ampl.	0.2
	54.1	260.8	256.7	256.7	258.1	257.7	371.0	235.4	Sbd box	256.7
g	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	0	0	0	0	0	0	0	0	PC freqs	
g:Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.77169522372E+02		Apriori delay (usec)		-3.77172533865E+02		Resid mbdelay (usec)		3.01149E-03	+/- 1.7E-04
Sband delay (usec)	-3.77173573365E+02		Apriori clock (usec)		1.1196480E+00		Resid sbdelay (usec)		-1.03950E-03	+/- 1.3E-03
Phase delay (usec)	-3.77172531858E+02		Apriori clockrate (us/s)		5.8707190E-08		Resid phdelay (usec)		2.00750E-06	+/- 5.7E-07
Delay rate (us/s)	6.81604249965E-01		Apriori rate (us/s)		6.81604173698E-01		Resid rate (us/s)		7.62677E-08	+/- 5.5E-09
Total phase (deg)			Apriori accel (us/s/s)		9.18692184784E-06		Resid phase (deg)		62.3	+/- 17.6

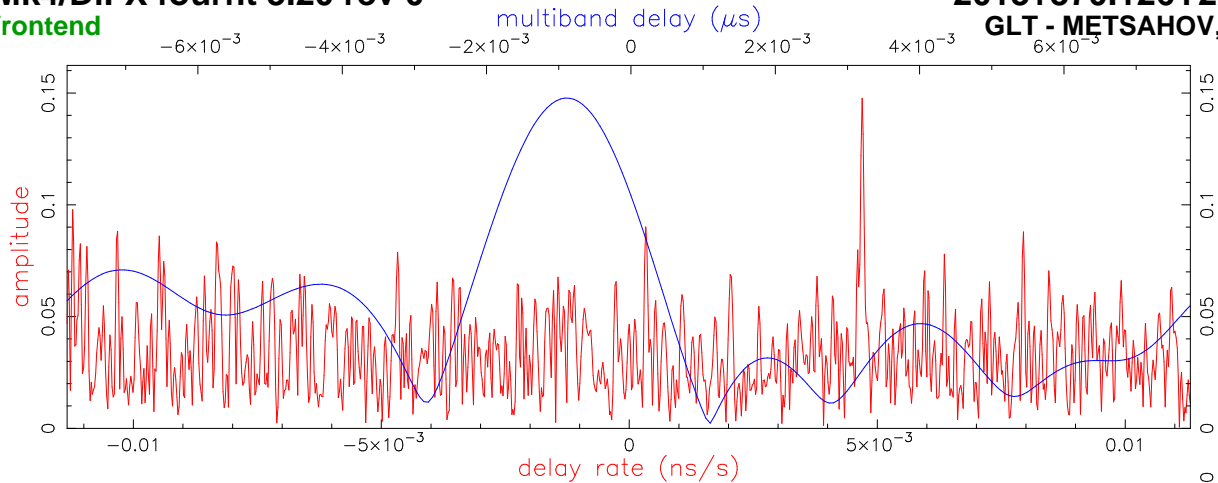
ph/seg (deg) 49.0 41.4 Search (1024X32) 0.170 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 65.9 72.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 52.7 24.9 Inc. seg. avg. 0.175 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 56.5 43.5 Inc. frq. avg. 0.206 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 133.2 el 47.2 pa -12.3 Z: az 261.3 el 49.0 pa 38.0 u,v (fr/asec) -4895.522 1318.738 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ..126Y2A Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ.W.198.126Y2A

Mk4/DiFX fourfit 3.20 rev 0

frontend

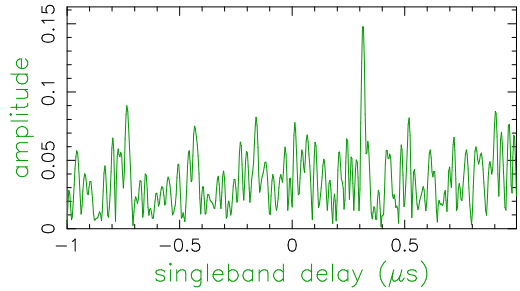
2013+370.126Y2A, No0048, gZ

GLT - METSAHOV, fgroup W, pol RL

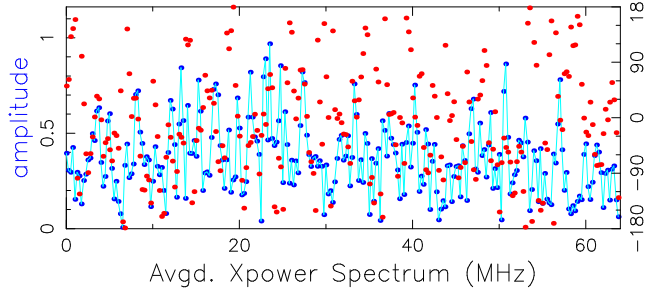


Fringe quality 0

SNR 5.5  
Int time 179.661  
Amp 0.162  
Phase 15.7  
PFD 9.7e-01  
Delays (us)  
SBD 0.314438  
MBD -0.000849  
Fringe rate (Hz) 0.405478  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

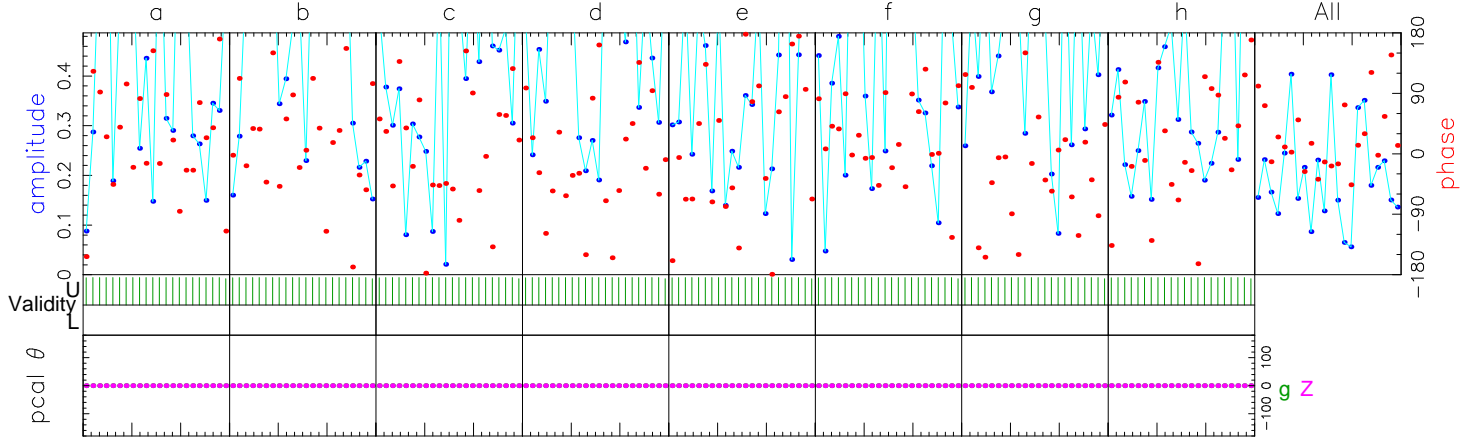


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 212000.00  
Stop 212300.23  
FRT 212130.00  
Corr/FF/build  
2020:070:030312  
2020:071:125134  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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	g Z	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		337.5
g:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:Z	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		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-3.76860882883E+02	Apriori delay (usec)	-3.77172533865E+02	Resid mbdelay (usec)	-8.49018E-04	+/-	2.0E-04
Sband delay (usec)	-3.76858095615E+02	Apriori clock (usec)	1.1196480E+00	Resid sbdelay (usec)	3.14438E-01	+/-	1.6E-03
Phase delay (usec)	-3.77172533360E+02	Apriori clockrate (us/s)	5.8707190E-08	Resid phdelay (usec)	5.04878E-07	+/-	6.7E-07
Delay rate (us/s)	6.81608880891E-01	Apriori rate (us/s)	6.81604173698E-01	Resid rate (us/s)	4.70719E-06	+/-	6.4E-09
Total phase (deg)	-8.5	Apriori accel (us/s/s)	9.18692184784E-06	Resid phase (deg)	15.7	+/-	20.7

ph/seg (deg)	51.2	Theor.	48.5	Amplitude	0.162 +/- 0.029	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	72.2	Search (1024X32)	0.145	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	40.6	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	36.4	Inc. seg. avg.	0.159	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011	0.011		
		Inc. frq. avg.	0.163	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

g: az 133.2 el 47.2 pa -12.3      Z: az 261.3 el 49.0 pa 38.0      u,v (fr/asec) -4895.522 1318.738      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ..126Y2A    Output file: /Exps/c192c/v1\_CygA2/1234/No0048/gZ.W.219.126Y2A