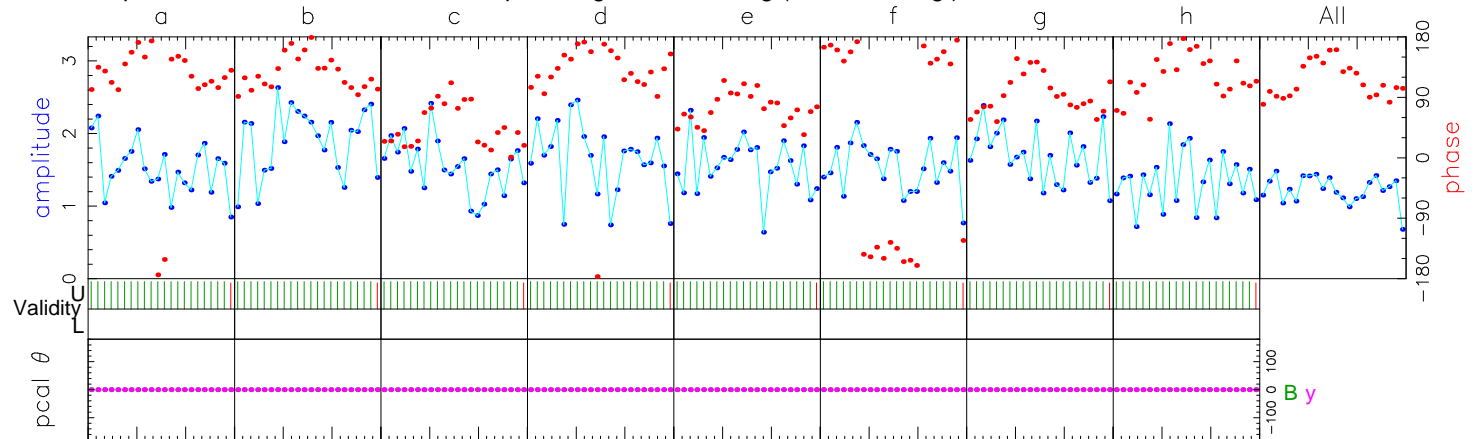


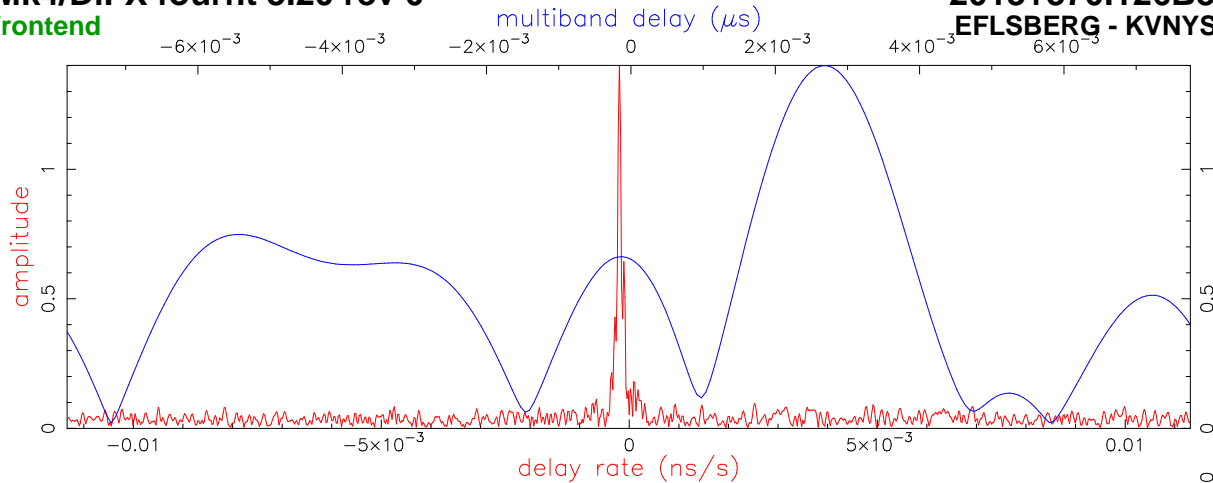
Fringe quality 5  
 SNR 40.7  
 Int time 179.778  
 Amp 1.111  
 Phase 115.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.003141  
 MBD -0.004359  
 Fringe rate (Hz)  
 -0.017457  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121817  
 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



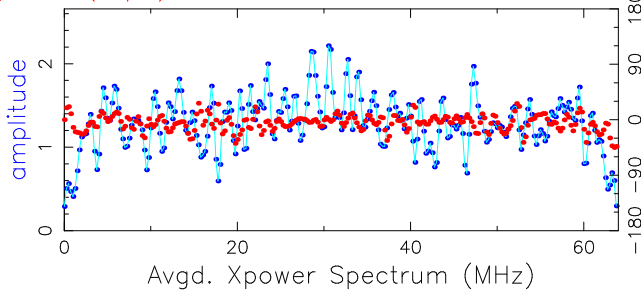
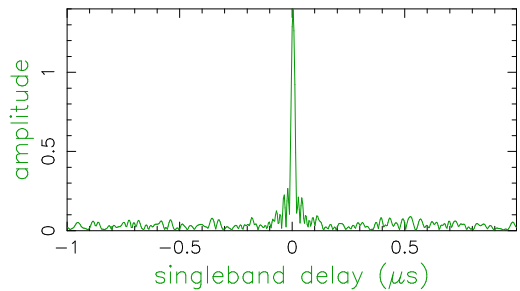
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	135.7	128.4	45.2	135.0	74.1	-176.7	91.8	124.7	Phase	115.2
	1.3	1.7	1.3	1.5	1.4	1.3	1.5	1.1	Ampl.	1.4
	254.7	256.4	257.1	256.8	257.0	256.9	256.6	255.2	Sbd box	256.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:y	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	
y	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.56657581354E+03		Apriori delay (usec)		1.56658017270E+03		Resid mbdelay (usec)		-4.35917E-03	+/- 2.7E-05
Sband delay (usec)	1.56657703170E+03		Apriori clock (usec)		-1.2430088E+01		Resid sbdelay (usec)		-3.14100E-03	+/- 2.1E-04
Phase delay (usec)	1.56658017642E+03		Apriori clockrate (us/s)		-2.9999999E-07		Resid phdelay (usec)		3.71464E-06	+/- 9.1E-08
Delay rate (us/s)	1.53319444819E+00		Apriori rate (us/s)		1.53319465085E+00		Resid rate (us/s)		-2.02663E-07	+/- 8.7E-10
Total phase (deg)	142.7		Apriori accel (us/s/s)		2.69477428697E-06		Resid phase (deg)		115.2	+/- 2.8

ph/seg (deg) RMS Theor. Amplitude 1.111 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 25.5 6.6 Search (1024X32) 1.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 19.6 11.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 46.3 4.0 Inc. seg. avg. 1.222 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 (%) 30.6 6.9 Inc. frq. avg. 1.405 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 B: az 84.9 el 47.2 pa -52.7 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) -11026.559 1371.638 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/By..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/By.W.20.126B8R



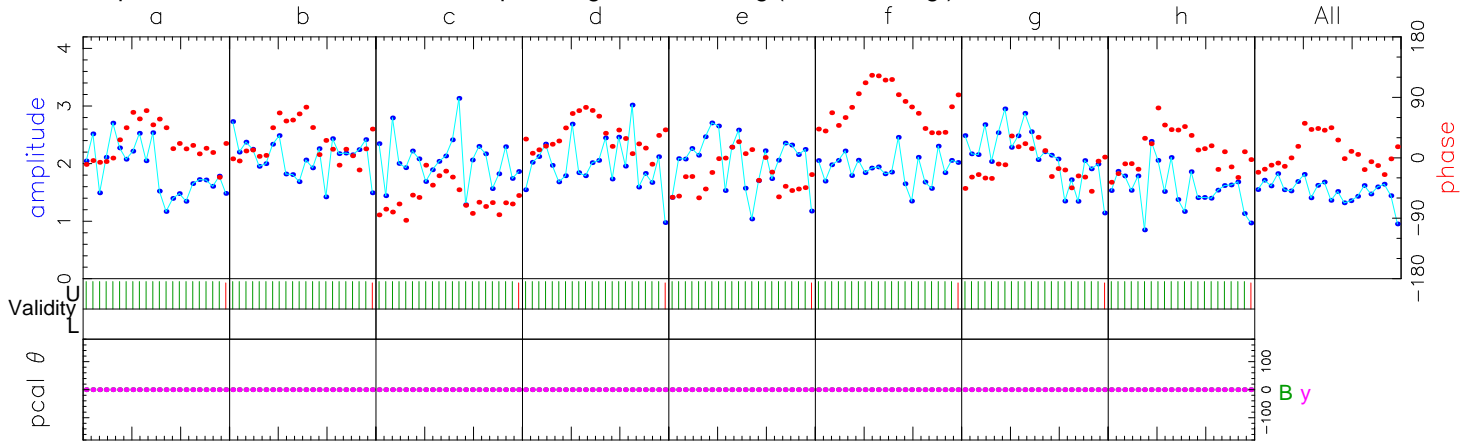
Fringe quality 4

SNR 51.4  
 Int time 179.778  
 Amp 1.401  
 Phase 6.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.003693  
 MBD 0.002675  
 Fringe rate (Hz)  
 -0.017389  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121815  
 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

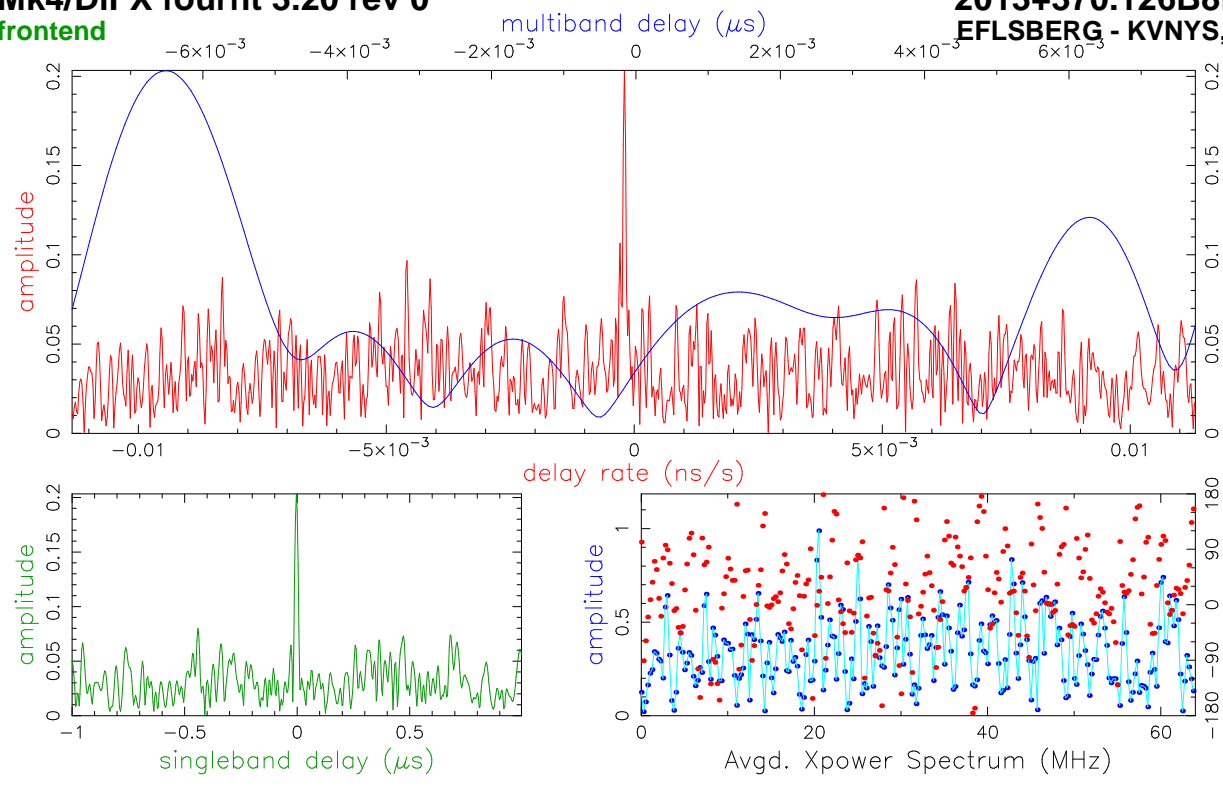


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	1.56658284772E+03	Apriori delay (usec)	1.56658017270E+03	Resid mbdelay (usec)	2.67502E-03	+/-	2.1E-05
Sband delay (usec)	1.56658386595E+03	Apriori clock (usec)	-1.2430088E+01	Resid sbdelay (usec)	3.69325E-03	+/-	1.7E-04
Phase delay (usec)	1.56658017292E+03	Apriori clockrate (us/s)	-2.9999999E-07	Resid phdelay (usec)	2.18395E-07	+/-	7.2E-08
Delay rate (us/s)	1.53319444899E+00	Apriori rate (us/s)	1.53319465085E+00	Resid rate (us/s)	-2.01867E-07	+/-	6.9E-10
Total phase (deg)	34.3	Apriori accel (us/s/s)	2.69477428697E-06	Resid phase (deg)	6.8	+/-	2.2

ph/seg (deg)	23.7	RMS	23.7	Theor.	5.2	Amplitude	1.401 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	16.2	Search (1024X32)	1.360	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	44.3	Inc. seg. avg.	1.527	Inc. frq. avg.	1.765	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	29.1	Inc. frq. avg.	1.765	Sample rate (MSamp/s):	128	Data rate (Mb/s):	2048	nlags:	256	t_cohere	infinite	
										ion window (TEC)	0.00	0.00

B: az 84.9 el 47.2 pa -52.7 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) -11026.559 1371.638 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/By..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/By.W.3.126B8R

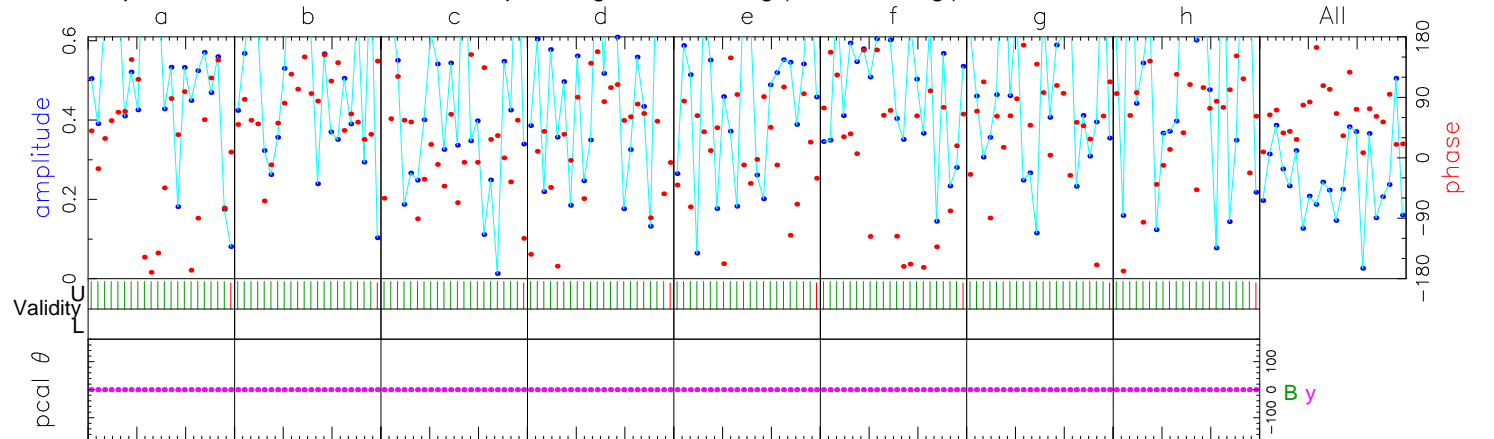


Fringe quality 9

SNR 7.5  
Int time 179.778  
Amp 0.203  
Phase 63.9  
PFD 1.4e-05  
Delays (us)  
SBD -0.003583  
MBD -0.006510  
Fringe rate (Hz)  
-0.017651  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121820  
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

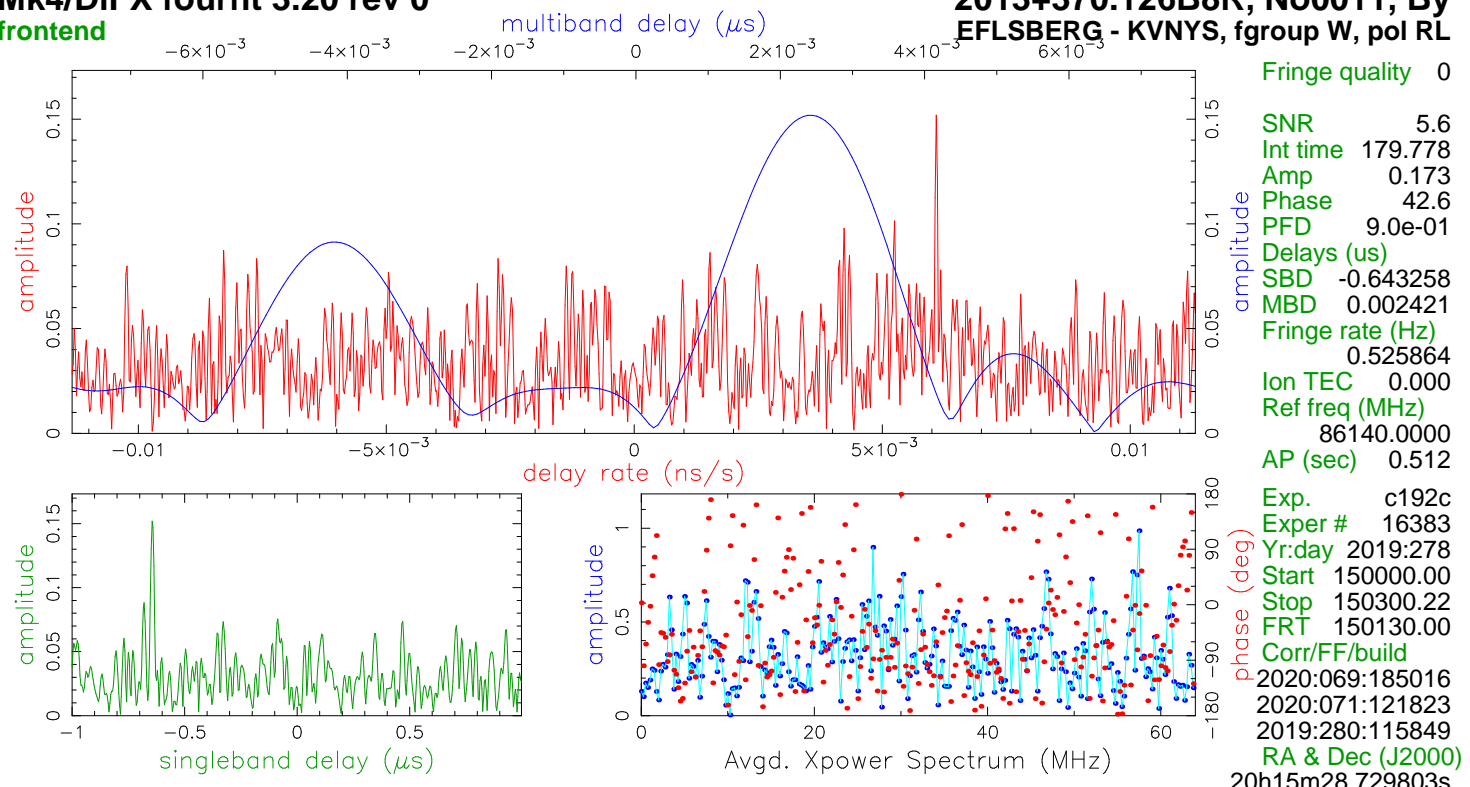


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.56657366288E+03				1.56658017270E+03			Resid mbdelay (usec)	-6.50982E-03 +/- 1.5E-04
Sband delay (usec)		1.56657658920E+03				-1.2430088E+01			Resid sbdelay (usec)	-3.58350E-03 +/- 1.2E-03
Phase delay (usec)		1.56658017476E+03				-2.9999999E-07			Resid phdelay (usec)	2.06166E-06 +/- 5.0E-07
Delay rate (us/s)		1.53319444595E+00				1.53319465085E+00			Resid rate (us/s)	-2.04909E-07 +/- 4.8E-09
Total phase (deg)			91.5			2.69477428697E-06			Resid phase (deg)	63.9 +/- 15.4

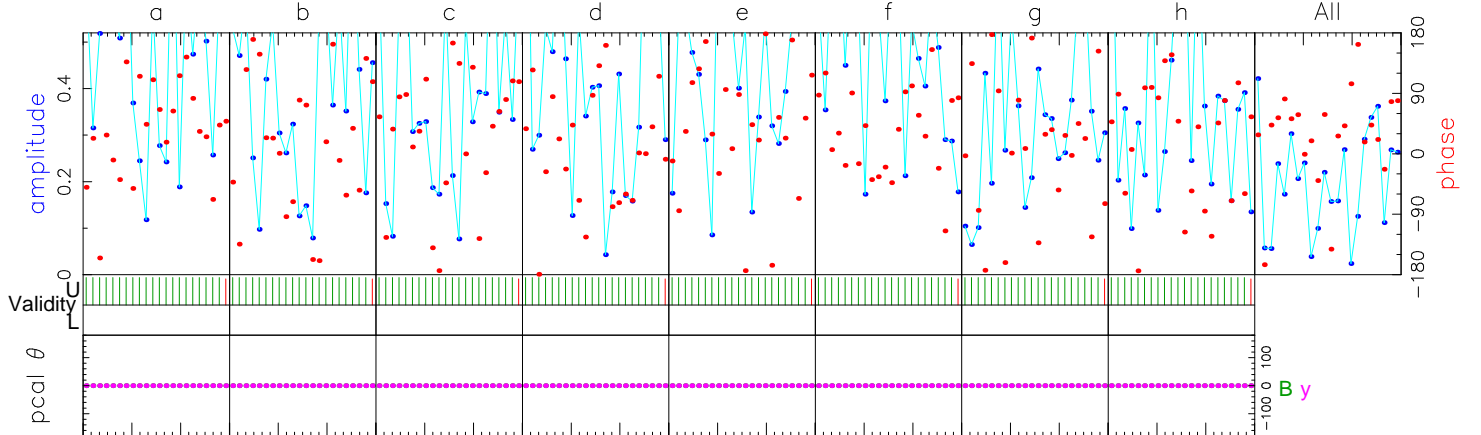
ph/seg (deg) 38.6 36.1 Amplitude 0.203 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 56.9 62.9 Search (1024X32) 0.197 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 38.8 21.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 36.4 37.9 Inc. seg. avg. 0.209 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.221 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 84.9 el 47.2 pa -52.7 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) -11026.559 1371.638 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/By..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/By.W.42.126B8R



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
48.5	9.8	65.5	18.9	72.3	26.1	37.9	62.9	62.9	Phase	42.6
0.3	0.1	0.2	0.2	0.1	0.3	0.1	0.1	0.1	Ampl.	0.2
494.6	83.4	441.9	55.4	238.2	93.1	41.5	307.2	307.2	Sbd box	92.3
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	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:y	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	
y	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.56594196834E+03		Apriori delay (usec)	1.56658017270E+03	Resid mbdelay (usec)	2.42064E-03	+/-	1.9E-04		
Sband delay (usec)	1.56593691495E+03		Apriori clock (usec)	-1.2430088E+01	Resid sbdelay (usec)	-6.43258E-01	+/-	1.5E-03		
Phase delay (usec)	1.56658017408E+03		Apriori clockrate (us/s)	-2.9999999E-07	Resid phdelay (usec)	1.37515E-06	+/-	6.6E-07		
Delay rate (us/s)	1.53320075562E+00		Apriori rate (us/s)	1.53319465085E+00	Resid rate (us/s)	6.10477E-06	+/-	6.3E-09		
Total phase (deg)		70.2	Apriori accel (us/s/s)	2.69477428697E-06	Resid phase (deg)	42.6	+/-	20.4		

ph/seg (deg) 64.8 47.8 Amplitude 0.173 +/- 0.031 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 76.9 83.4 Search (1024X32) 0.149 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 25.1 28.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 42.9 50.3 Inc. seg. avg. 0.169 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.162 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 84.9 el 47.2 pa -52.7 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) -11026.559 1371.638 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/By..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/By.W.62.126B8R

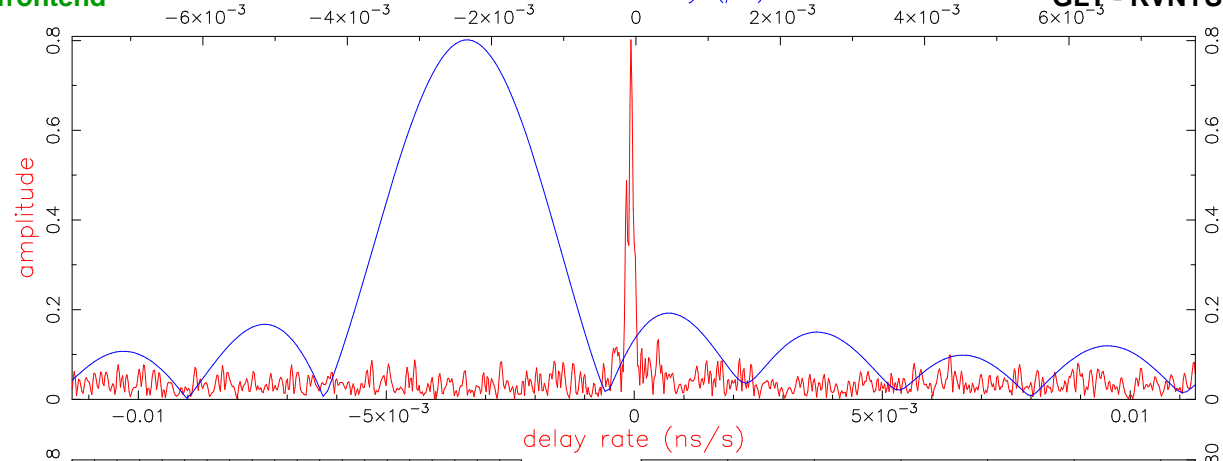
Mk4/DiFX fourfit 3.20 rev 0

frontend

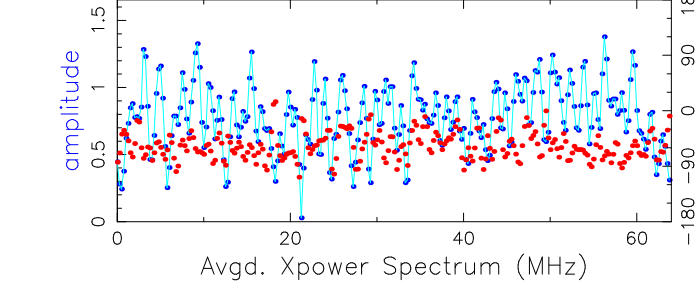
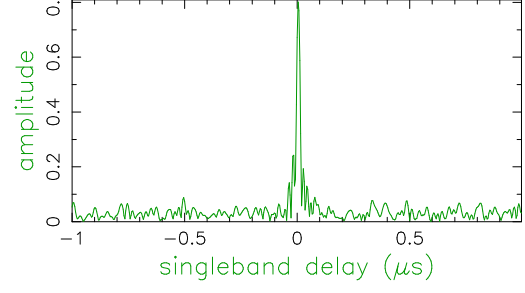
2013+370.126B8R, No0011, gy

GLT - KVNYS, fgroup W, pol LL

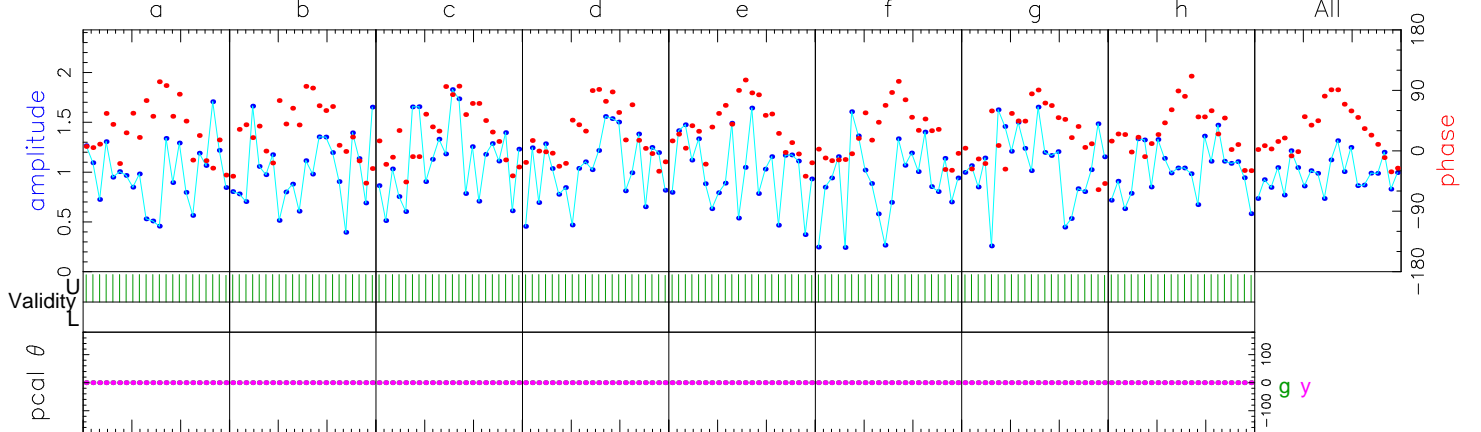
multiband delay ( $\mu$ s)



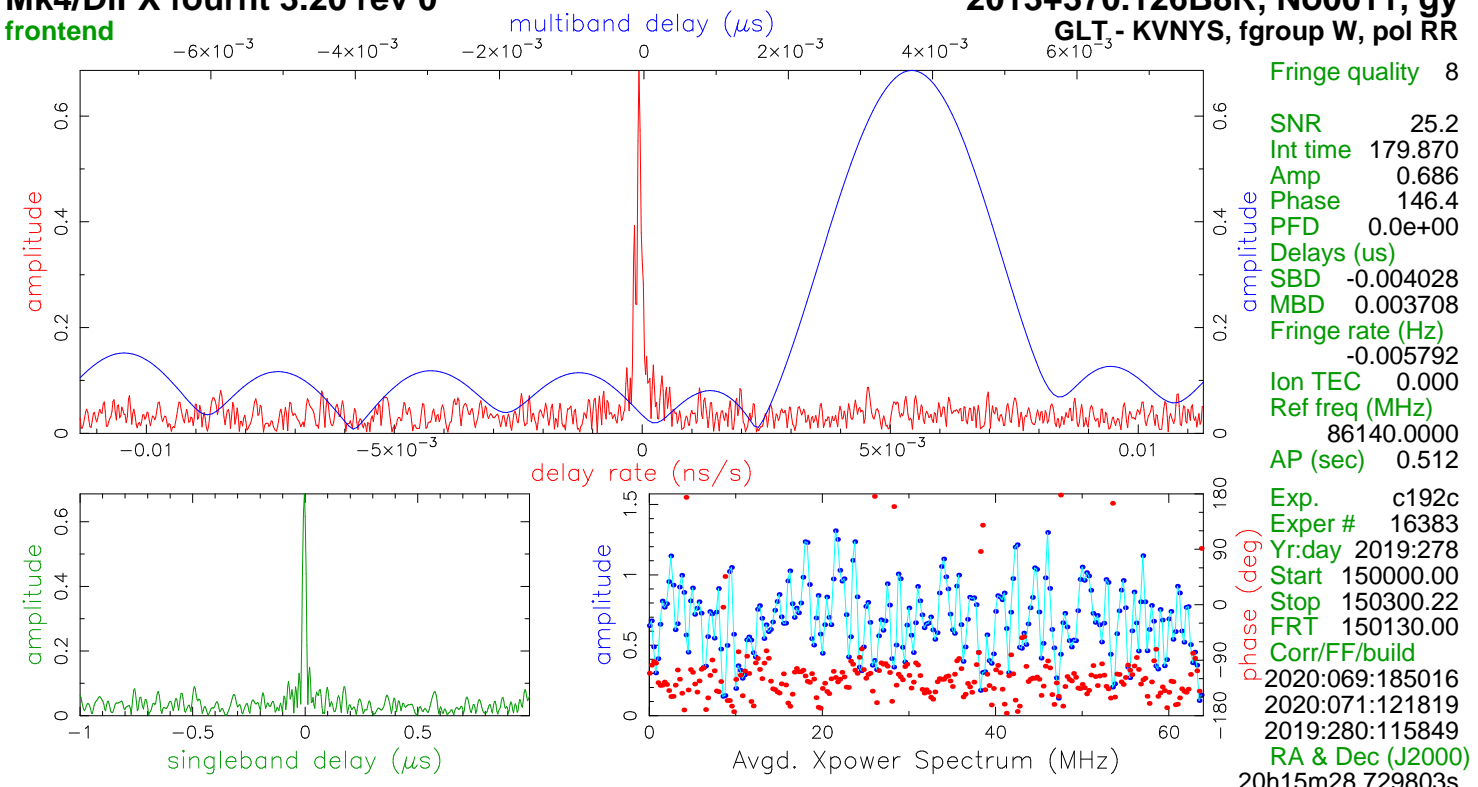
Fringe quality 8  
 SNR 29.7  
 Int time 179.866  
 Amp 0.809  
 Phase 28.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.005095  
 MBD -0.002342  
 Fringe rate (Hz) -0.005817  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121816  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



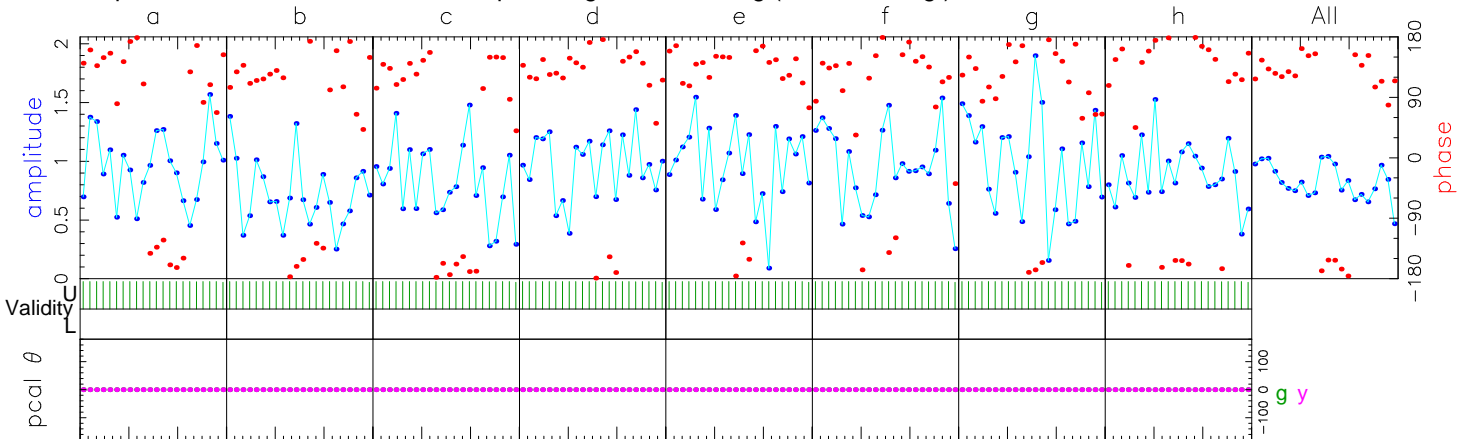
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



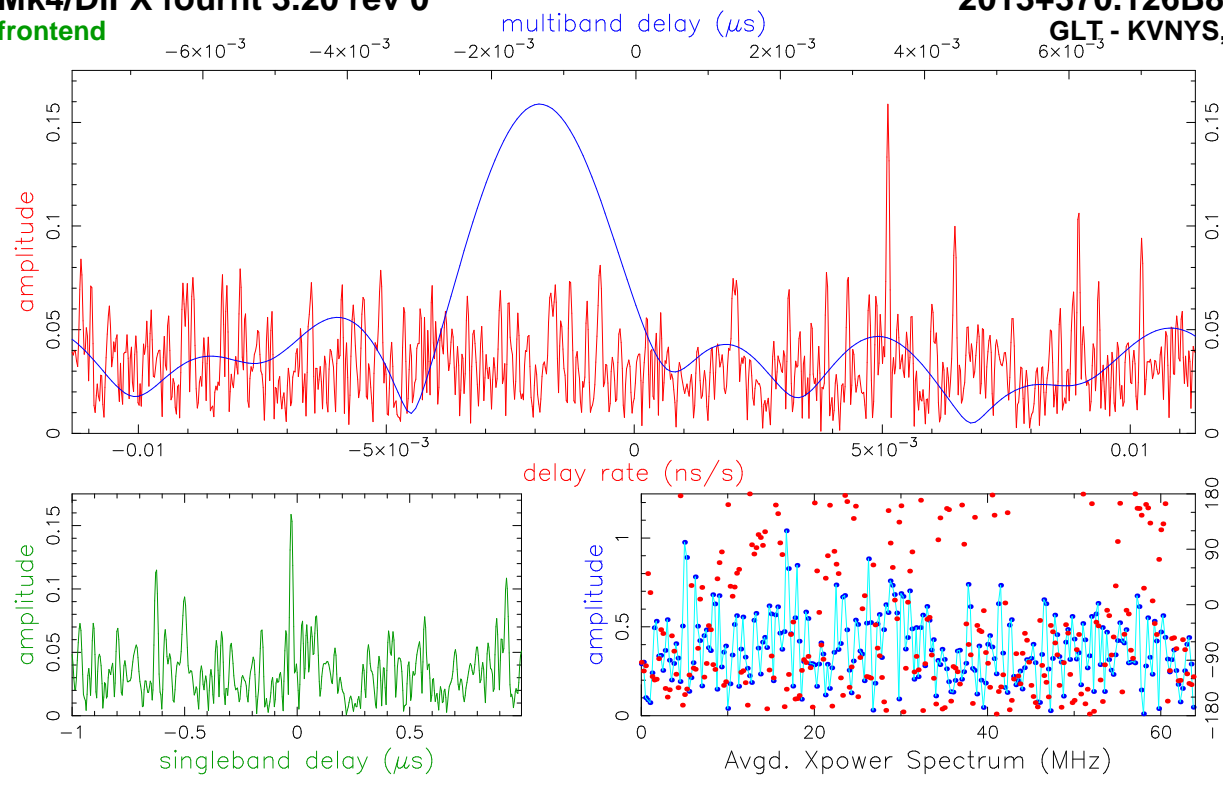
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		258.3
g	0	0	0	0	0	0	0	0	Phase	28.1
y	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	0.8
g:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Sbd box	
g:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Mani PC	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC amp	
									Chan ids	
									Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.32946880966E+03								Resid mbdelay (usec)	-2.34181E-03 +/- 3.7E-05
Sband delay (usec)	-4.32946137310E+03								Resid sbdelay (usec)	5.09475E-03 +/- 2.9E-04
Phase delay (usec)	-4.32946646695E+03								Resid phdelay (usec)	9.05565E-07 +/- 1.2E-07
Delay rate (us/s)	1.07719956411E+00								Resid rate (us/s)	-6.75298E-08 +/- 1.2E-09
Total phase (deg)		-166.7							Resid phase (deg)	28.1 +/- 3.9
	RMS	Theor.	Amplitude	0.809 +/- 0.027					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	35.1	9.1	Search (1024X32)	0.797					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	29.1	15.8	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	4.0	5.5	Inc. seg. avg.	0.970					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	4.8	9.5	Inc. frq. avg.	0.799					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
g: az 40.4 el 27.4 pa -11.0									nlags: 256	t_cohere infinite
y: az 289.7 el 41.8 pa 69.5										
u,v (fr/asec) -7709.002 5460.760										
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0011/gy..126B8R									simultaneous interpolator
										Output file: /Exps/c192c/v1_CygA2/1234/No0011/gy.W.12.126B8R



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
157.0	137.8	148.3	143.3	144.3	140.6	134.2	163.9	163.9	Phase	146.4
0.7	0.5	0.6	0.8	0.8	0.7	0.7	0.7	0.7	Ampl.	0.7
255.9	255.3	255.7	256.0	255.9	256.1	256.2	256.3	256.3	Sbd box	256.0
U/L 352/0	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	0	PC freqs	
y 1000	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	0:0	PC phase	
g:y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000		
g W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Chan ids	
y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.32946276025E+03		Apriori delay (usec)	-4.32946646785E+03	Resid mbdelay (usec)	3.70760E-03	+/-	4.3E-05		
Sband delay (usec)	-4.32947049610E+03		Apriori clock (usec)	-2.7935009E+01	Resid sbdelay (usec)	-4.02825E-03	+/-	3.4E-04		
Phase delay (usec)	-4.32946646313E+03		Apriori clockrate (us/s)	-2.4999994E-08	Resid phdelay (usec)	4.72069E-06	+/-	1.5E-07		
Delay rate (us/s)	1.07719956440E+00		Apriori rate (us/s)	1.07719963164E+00	Resid rate (us/s)	-6.72350E-08	+/-	1.4E-09		
Total phase (deg)		-48.3	Apriori accel (us/s/s)	4.77124069441E-05	Resid phase (deg)	146.4	+/-	4.6		
RMS	33.9	10.7	Amplitude	0.686 +/- 0.027	PCal mode: MANUAL, MANUAL	PC period (AP's)	5, 5			
ph/seg (deg)	33.9	10.7	Search (1024X32)	0.675	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	30.0	18.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	10.7	6.4	Inc. seg. avg.	0.817	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011		
amp/frq (%)	14.9	11.2	Inc. frq. avg.	0.691	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
g: az 40.4 el 27.4 pa -11.0			y: az 289.7 el 41.8 pa 69.5			u,v (fr/asec)	-7709.002 5460.760			simultaneous interpolator
Control file: cf_1234_gmva			Input file: /Exps/c192c/v1_CygA2/1234/No0011/gy..126B8R			Output file: /Exps/c192c/v1_CygA2/1234/No0011/gy.W.29.126B8R				

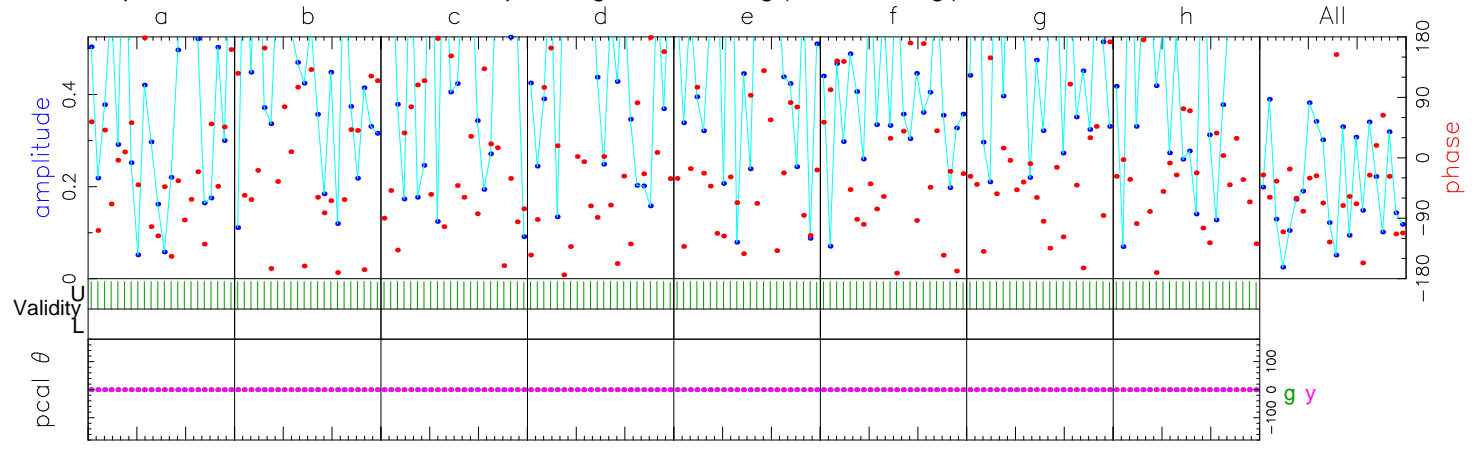


Fringe quality 0

SNR 5.9  
 Int time 179.866  
 Amp 0.175  
 Phase -50.6  
 PFD 3.8e-01  
 Delays (us)  
 SBD -0.026030  
 MBD -0.001322  
 Fringe rate (Hz)  
 0.440885  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

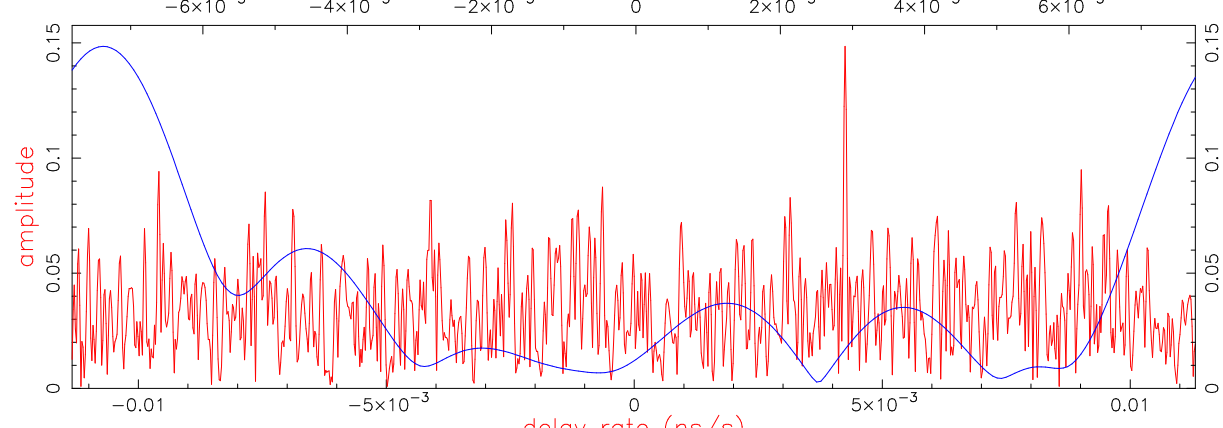
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121821  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

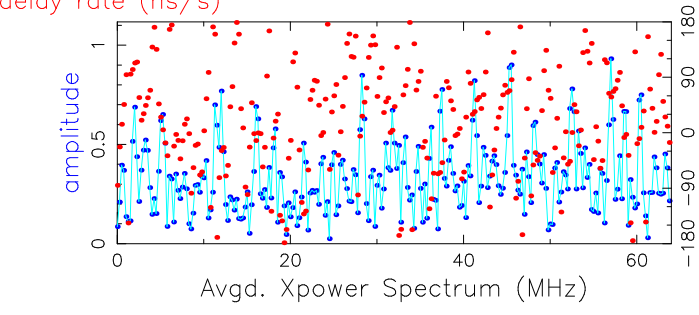
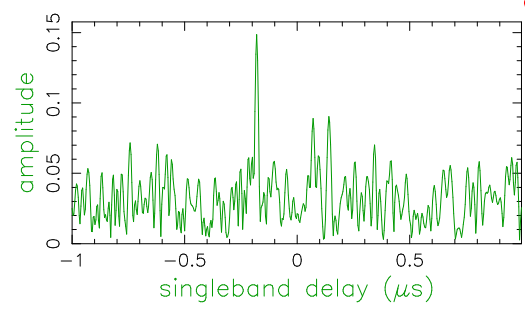


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-44.8	-28.0	-54.0	-75.9	-46.0	-67.1	-41.1	-52.0	Phase	-50.6	
	0.2	0.1	0.2	0.1	0.2	0.1	0.3	0.3	Ampl.	0.2	
	146.9	289.6	96.7	129.0	350.6	310.4	362.3	249.3	Sbd box	250.3	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used		
g	0	0	0	0	0	0	0	0	PC freqs		
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		
									Chan ids		
									Tracks		
Group delay (usec)(sbd)	-4.32949903967E+03		Apriori delay (usec)		-4.32946646785E+03		Resid mbdelay (usec)		-1.32181E-03	+/- 1.8E-04	
Sband delay (usec)	-4.32949249785E+03		Apriori clock (usec)		-2.7935009E+01		Resid sbdelay (usec)		-2.60300E-02	+/- 1.5E-03	
Phase delay (usec)	-4.32946646949E+03		Apriori clockrate (us/s)		-2.4999994E-08		Resid phdelay (usec)		-1.63111E-06	+/- 6.3E-07	
Delay rate (us/s)	1.07720474988E+00		Apriori rate (us/s)		1.07719963164E+00		Resid rate (us/s)		5.11824E-06	+/- 6.0E-09	
Total phase (deg)			Apriori accel (us/s/s)		4.77124069441E-05		Resid phase (deg)		-50.6	+/- 19.4	
	RMS	Theor.	Amplitude	0.175 +/- 0.030	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	58.9	45.6	Search (1024X32)	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000	1.000	
amp/seg (%)	74.3	79.5	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)	-0.008	0.008
ph/frq (deg)	16.2	27.5	Inc. seg. avg.	0.171	Sample rate(MISamp/s): 128		dr window (ns/s)		-0.011	0.011	
amp/frq (%)	36.9	48.0	Inc. frq. avg.	0.159	Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite		ion window (TEC)	0.00	0.00
g: az 40.4 el 27.4 pa -11.0	y: az 289.7 el 41.8 pa 69.5		u,v (fr/asec) -7709.002 5460.760						simultaneous interpolator		
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0011/gy..126B8R		Output file: /Exps/c192c/v1_CygA2/1234/No0011/gy.W.49.126B8R								

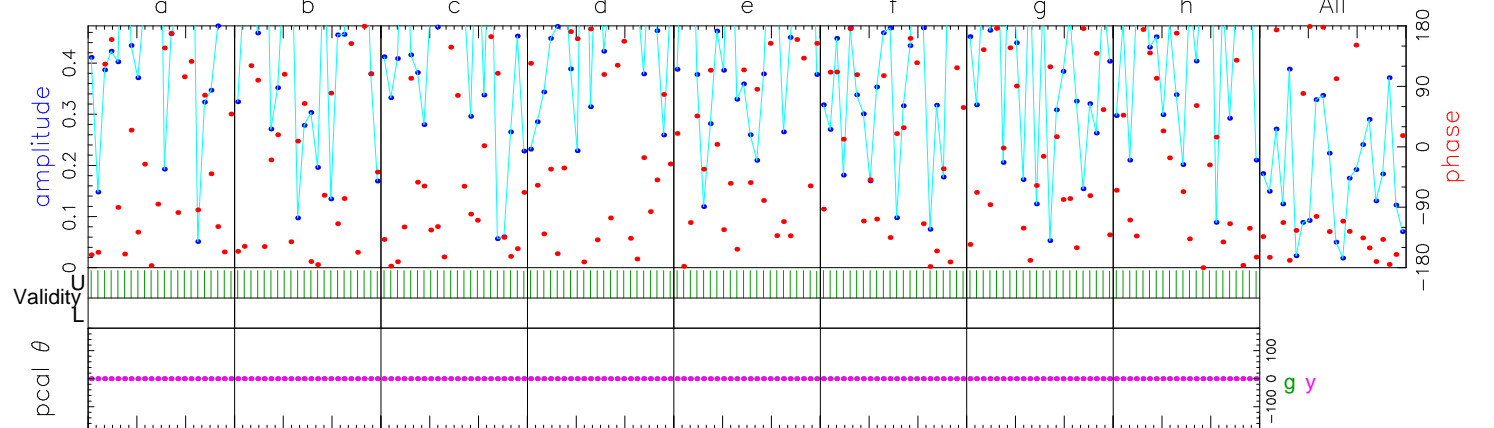
multiband delay ( $\mu\text{s}$ )



Fringe quality 0  
 SNR 5.5  
 Int time 179.870  
 Amp 0.158  
 Phase -156.9  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.179981  
 MBD -0.007391  
 Fringe rate (Hz)  
 0.366622  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121823  
 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
	-167.4	-170.3	-138.7	-143.3	-138.4	157.7	-149.5	-154.8	Phase	-156.9
	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	Ampl.	0.1
	169.1	291.2	373.0	212.8	254.8	235.8	22.3	204.0	Sbd box	210.9
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	
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	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.32964573366E+03		Apriori delay (usec)		-4.32946646785E+03		Resid mbdelay (usec)		-7.39081E-03	+/- 2.0E-04
Sband delay (usec)	-4.329646444860E+03		Apriori clock (usec)		-2.7935009E+01		Resid sbdelay (usec)		-1.79981E-01	+/- 1.6E-03
Phase delay (usec)	-4.32946647291E+03		Apriori clockrate (us/s)		-2.4999994E-08		Resid phdelay (usec)		-5.05906E-06	+/- 6.8E-07
Delay rate (us/s)	1.07720388776E+00		Apriori rate (us/s)		1.07719963164E+00		Resid rate (us/s)		4.25612E-06	+/- 6.5E-09
Total phase (deg)			Apriori accel (us/s/s)		4.77124069441E-05		Resid phase (deg)		-156.9	+/- 21.0

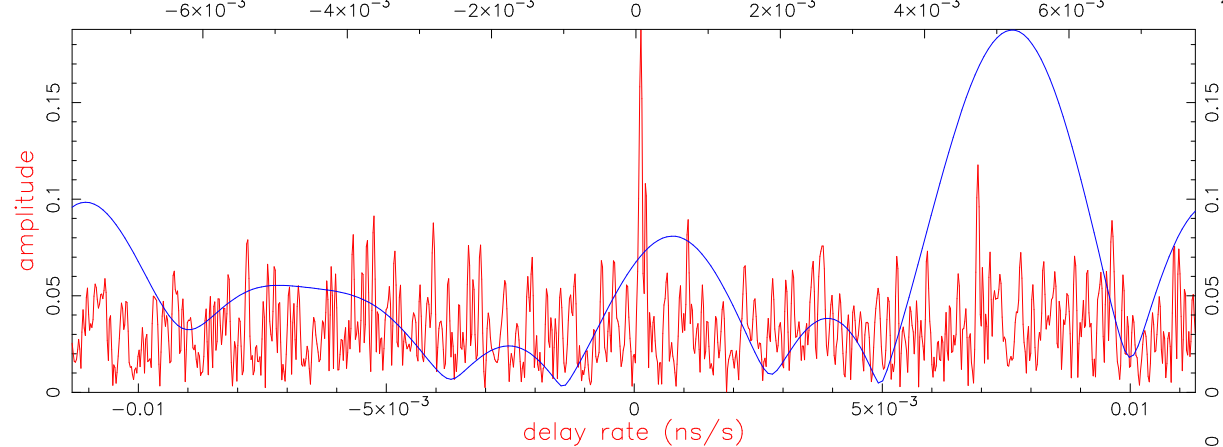
ph/seg (deg) 57.1 49.3 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 76.7 86.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 23.3 29.7 Inc. seg. avg. 0.143 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 25.9 51.9 Inc. frq. avg. 0.147 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 40.4 el 27.4 pa -11.0 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) -7709.002 5460.760 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/gy..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/gy.W.66.126B8R



Mk4/DiFX fourfit 3.20 rev 0  
 frontend

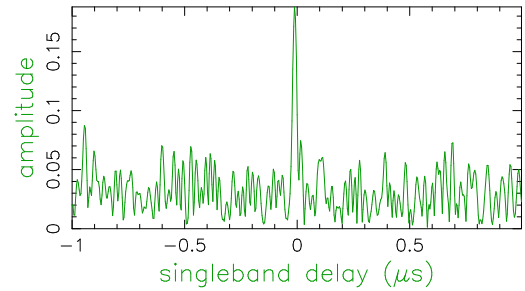
2013+370.126B8R, No0011, ty  
 KVNTN - KVNYS, fgroup W, pol LR

multiband delay ( $\mu$ s)

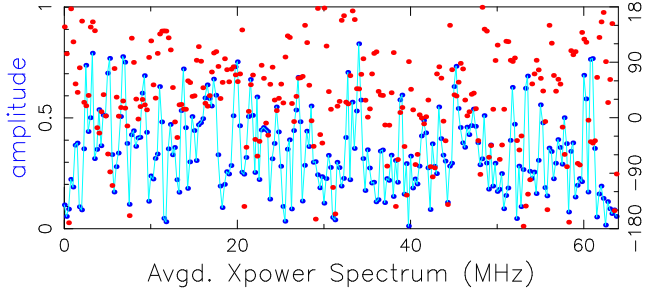


Fringe quality 0

SNR 6.9  
 Int time 179.969  
 Amp 0.188  
 Phase -144.7  
 PFD 8.2e-04  
 Delays (us)  
 SBD -0.011114  
 MBD 0.005217  
 Fringe rate (Hz)  
 0.011905  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

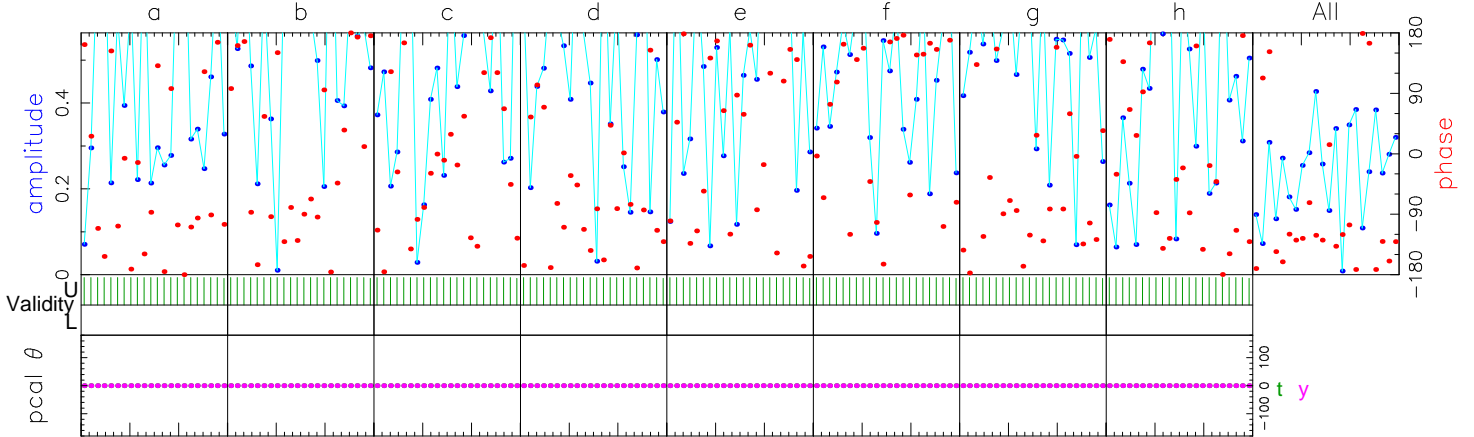


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121831  
 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		
t	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-3.36168267737E+02	Apriori delay (usec)	-3.36157859347E+02	Resid mbdelay (usec)	5.21661E-03	+/-	1.6E-04
Sband delay (usec)	-3.36168973097E+02	Apriori clock (usec)	-1.4599724E+00	Resid sbdelay (usec)	-1.11137E-02	+/-	1.2E-03
Phase delay (usec)	-3.36157864013E+02	Apriori clockrate (us/s)	1.0000001E-07	Resid phdelay (usec)	-4.66527E-06	+/-	5.4E-07
Delay rate (us/s)	-4.30906170029E-02	Apriori rate (us/s)	-4.30907552085E-02	Resid rate (us/s)	1.38206E-07	+/-	5.2E-09
Total phase (deg)	-146.2	Apriori accel (us/s/s)	-2.367944844161E-06	Resid phase (deg)	-144.7	+/-	16.6

ph/seg (deg)	50.5	Theor.	39.0	Amplitude	0.188 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	63.7	Search (1024X32)	0.183	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	28.2	Inc. seg. avg.	0.195	Inc. frq. avg.	0.189	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	30.6	Inc. frq. avg.	0.189			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	

t: az 293.0 el 40.6 pa 75.1 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 307.402 -571.647 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/ty..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/ty.W.117.126B8R

# Mk4/DiFX fourfit 3.20 rev 0

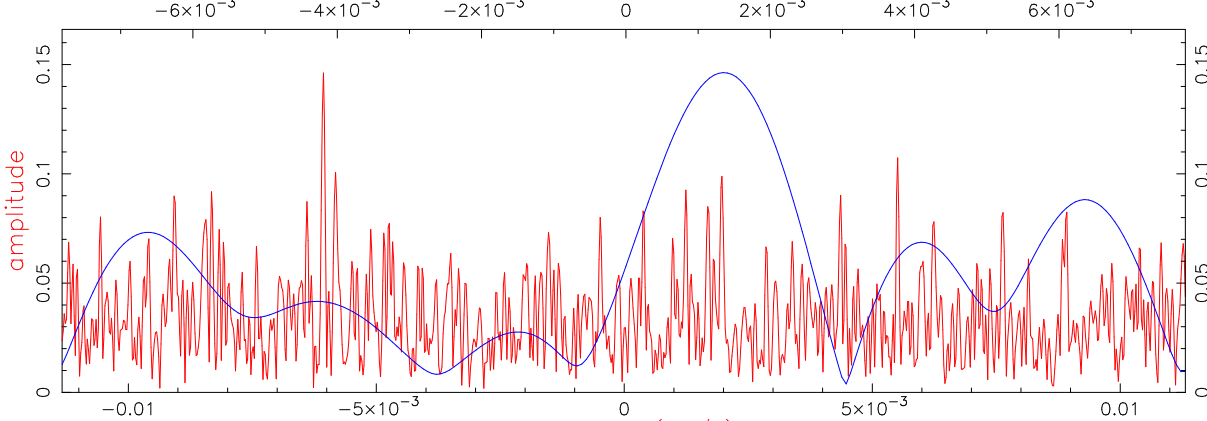
frontend

# 2013+370.126B8R, No0011, ty

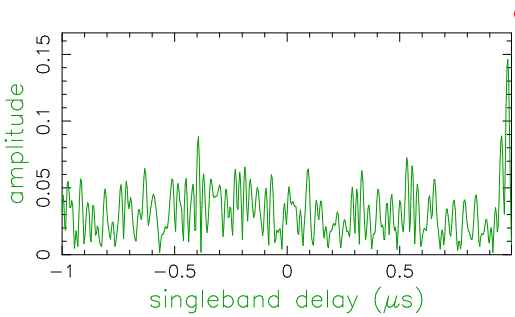
KVNTN - KVNYS, fgroup W, pol RL

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

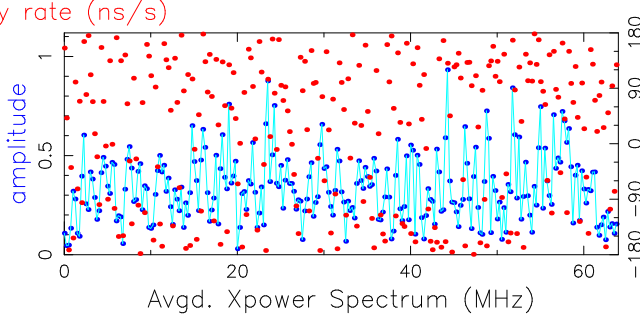
Fringe quality 0



SNR 5.4  
 Int time 179.969  
 Amp 0.166  
 Phase -116.2  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.979325  
 MBD 0.001297  
 Fringe rate (Hz)  
 -0.523159  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

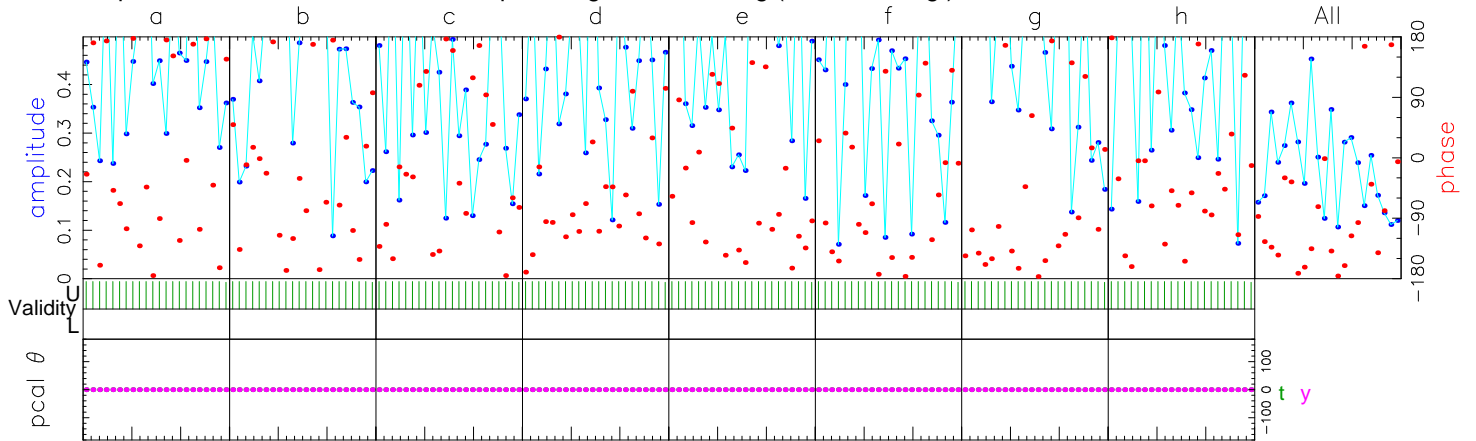


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121834  
 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



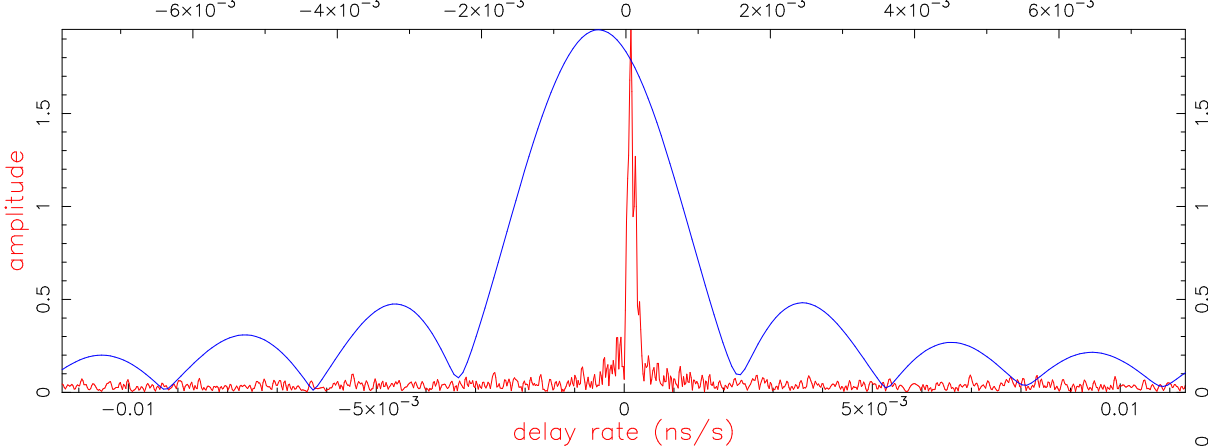
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-134.6	-95.8	-132.7	-93.0	-121.3	-98.0	-144.1	-63.3	Phase	-116.2
	0.2	0.2	0.1	0.2	0.1	0.1	0.4	0.2	Ampl.	0.2
	509.1	319.2	239.4	294.1	36.1	458.4	507.2	398.7	Sbd box	507.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.35172186858E+02		Apriori delay (usec)		-3.36157859347E+02		Resid mbdelay (usec)		1.29749E-03	+/- 2.0E-04
Sband delay (usec)	-3.35178534347E+02		Apriori clock (usec)		-1.4599724E+00		Resid sbdelay (usec)		9.79325E-01	+/- 1.6E-03
Phase delay (usec)	-3.36157863094E+02		Apriori clockrate (us/s)		1.0000001E-07		Resid phdelay (usec)		-3.74686E-06	+/- 6.8E-07
Delay rate (us/s)	-4.30968285705E-02		Apriori rate (us/s)		-4.30907552085E-02		Resid rate (us/s)		-6.07336E-06	+/- 6.6E-09
Total phase (deg)			Apriori accel (us/s/s)		-2.36794484161E-06		Resid phase (deg)		-116.2	+/- 21.2

	RMS	Theor.	Amplitude	0.166 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.3	49.8	Search (1024X32)	0.144	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	84.3	86.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	30.3	30.0	Inc. seg. avg.	0.189	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	56.1	52.4	Inc. frq. avg.	0.162	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

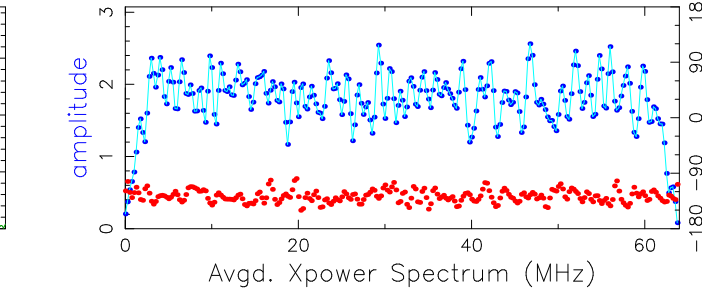
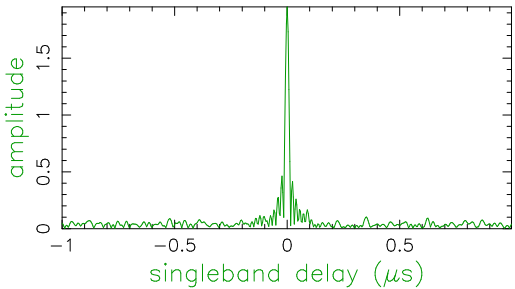
t: az 293.0 el 40.6 pa 75.1 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 307.402 -571.647 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/ty..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/ty.W.141.126B8R

multiband delay ( $\mu$ s)

Fringe quality 6

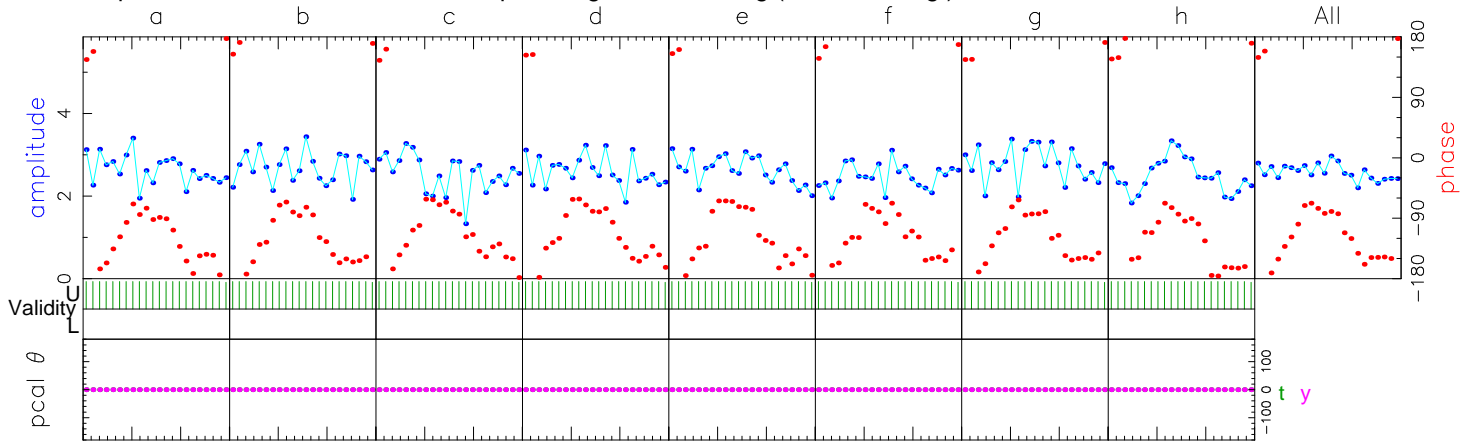


SNR 71.6  
Int time 179.969  
Amp 1.952  
Phase -127.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.000392  
MBD -0.000381  
Fringe rate (Hz)  
0.012307  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



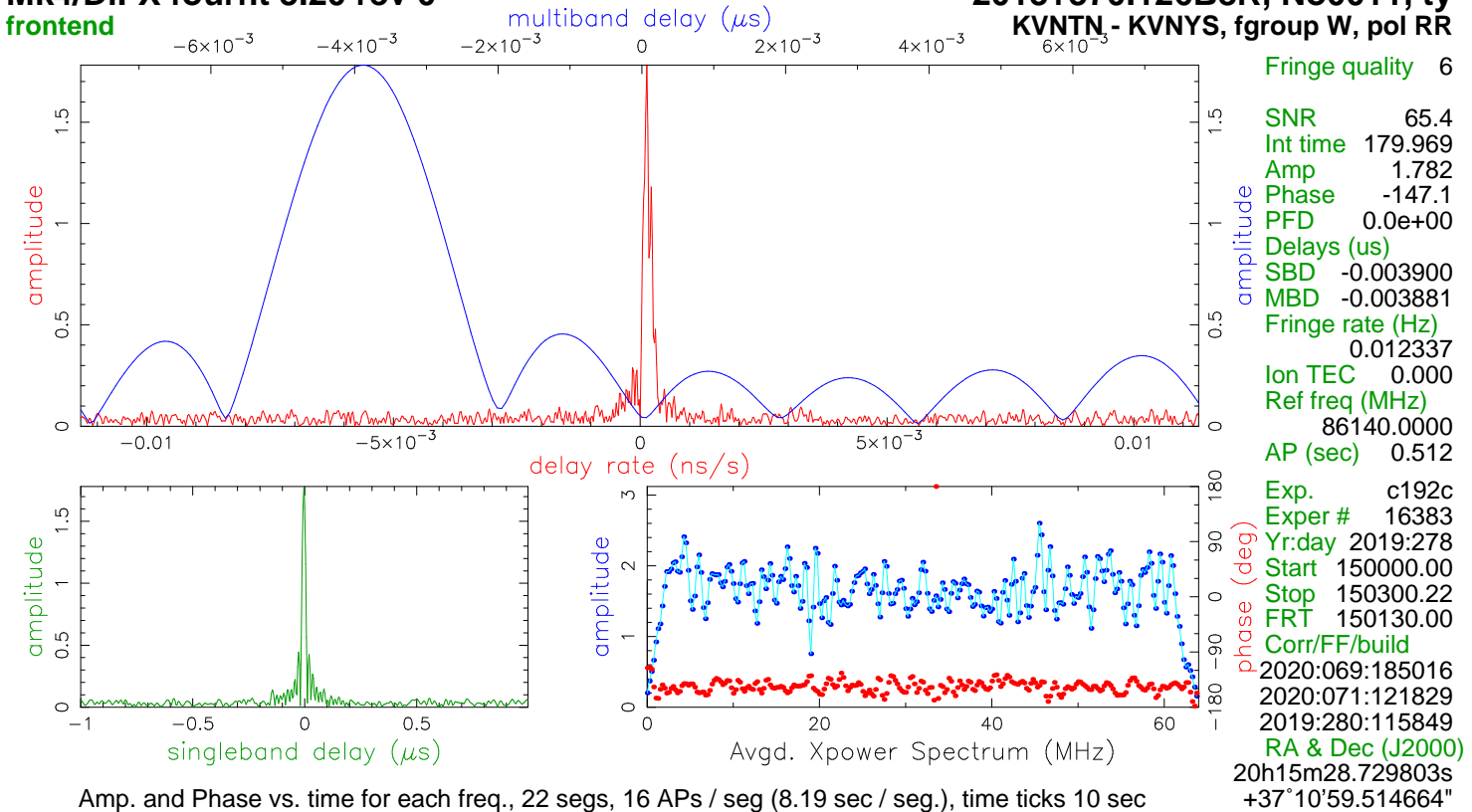
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121827  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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

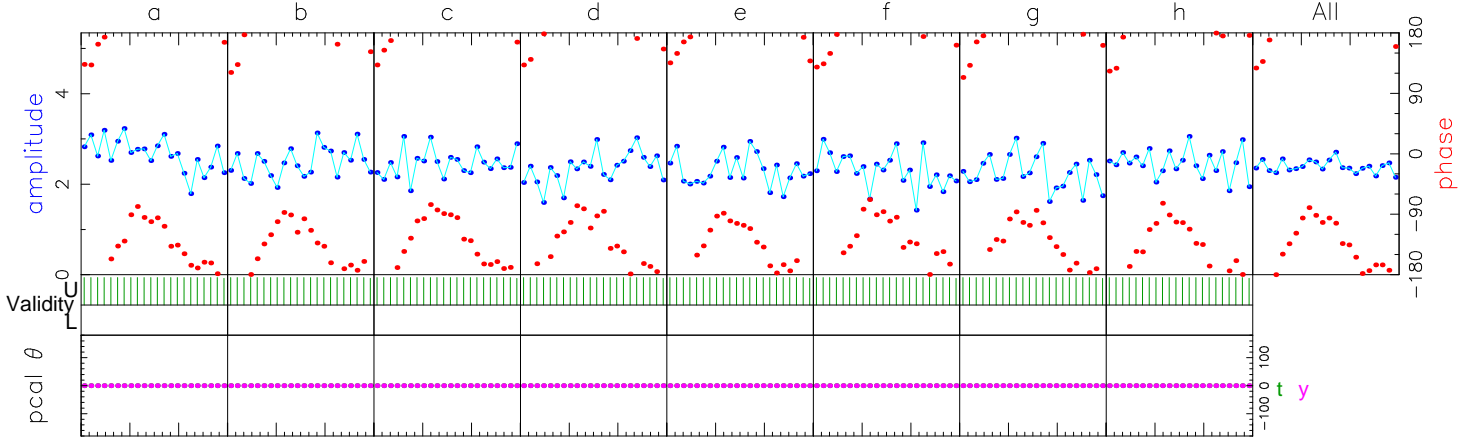


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-132.2	-129.7	-125.8	-121.3	-124.7	-126.2	-128.4	-133.2		-127.7
	2.0	2.1	1.9	1.9	1.9	2.1	2.1	1.8		2.0
	256.9	256.9	257.0	256.9	256.7	256.9	256.9	257.0		256.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
t	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
y	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
t	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
y	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks
										Tracks
Group delay (usec)(sbd)	-3.36158240737E+02		Apriori delay (usec)		-3.36157859347E+02		Resid mbdelay (usec)		-3.81390E-04	+/- 1.5E-05
Sband delay (usec)	-3.36158251347E+02		Apriori clock (usec)		-1.4599724E+00		Resid sbdelay (usec)		-3.92000E-04	+/- 1.2E-04
Phase delay (usec)	-3.36157863465E+02		Apriori clockrate (us/s)		1.0000001E-07		Resid phdelay (usec)		-4.11783E-06	+/- 5.2E-08
Delay rate (us/s)	-4.30906123321E-02		Apriori rate (us/s)		-4.30907552085E-02		Resid rate (us/s)		1.42876E-07	+/- 5.0E-10
Total phase (deg)			Apriori accel (us/s/s)		-2.36794484161E-06		Resid phase (deg)		-127.7	+/- 1.6

ph/seg (deg) 41.5 3.8 Search (1024X32) 1.874 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 33.8 6.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 4.3 2.3 Inc. seg. avg. 2.579 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 4.7 3.9 Inc. frq. avg. 1.953 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
t: az 293.0 el 40.6 pa 75.1 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 307.402 -571.647 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/ty..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/ty.W.82.126B8R



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

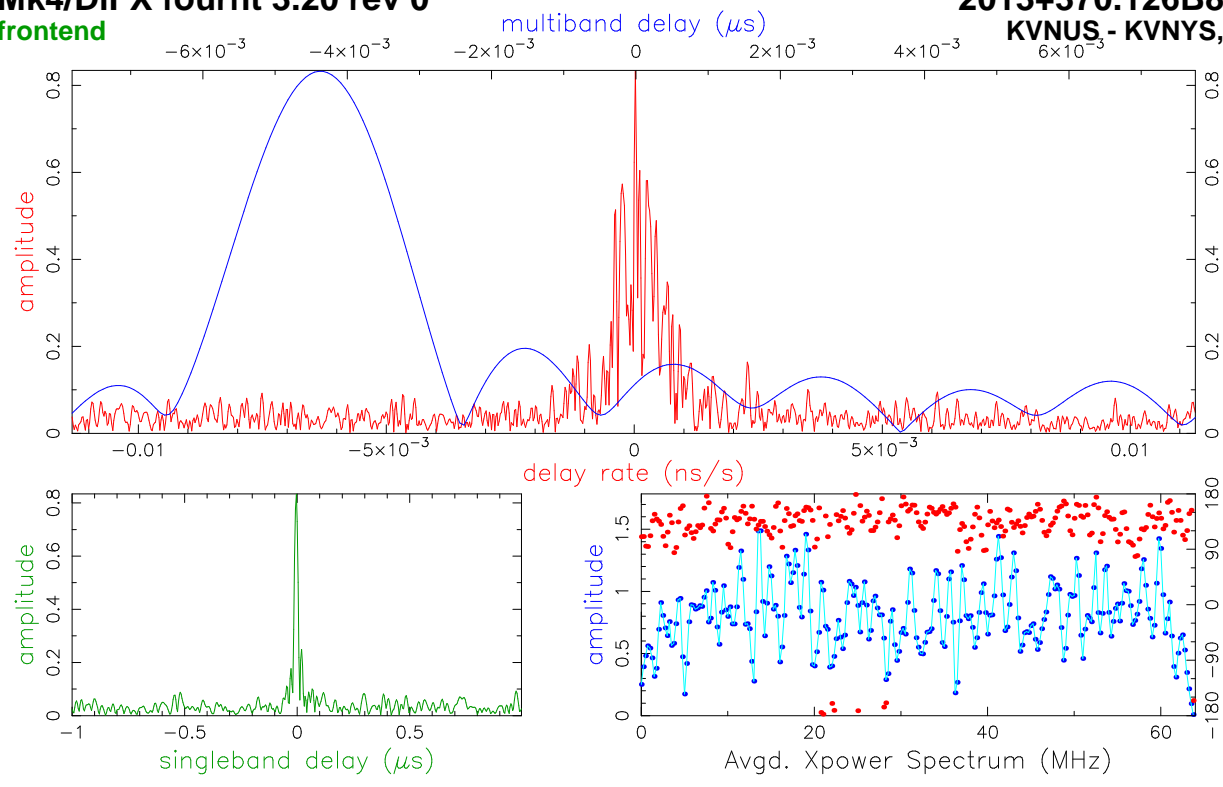


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
ty	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-3.36161740643E+02									
Sband delay (usec)	-3.36161759097E+02									
Phase delay (usec)	-3.36157864092E+02									
Delay rate (us/s)	-4.30906119920E-02									
Total phase (deg)			-148.6							
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								
Bits/sample:	2x2									
Sample rate(MISamp/s):	128									
Data rate(Mb/s):	2048									
nlags:	256									
t_cohere	infinite									
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								

ph/seg (deg) 42.6 4.1 Search (1024X32) 1.717 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 35.0 7.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 3.6 2.5 Inc. seg. avg. 2.385 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 6.7 4.3 Inc. frq. avg. 1.783 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
t: az 293.0 el 40.6 pa 75.1 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 307.402 -571.647 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/ty..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/ty.W.99.126B8R

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126B8R, No0011, uy  
KVNUS - KVNYS, fgroup W, pol RR

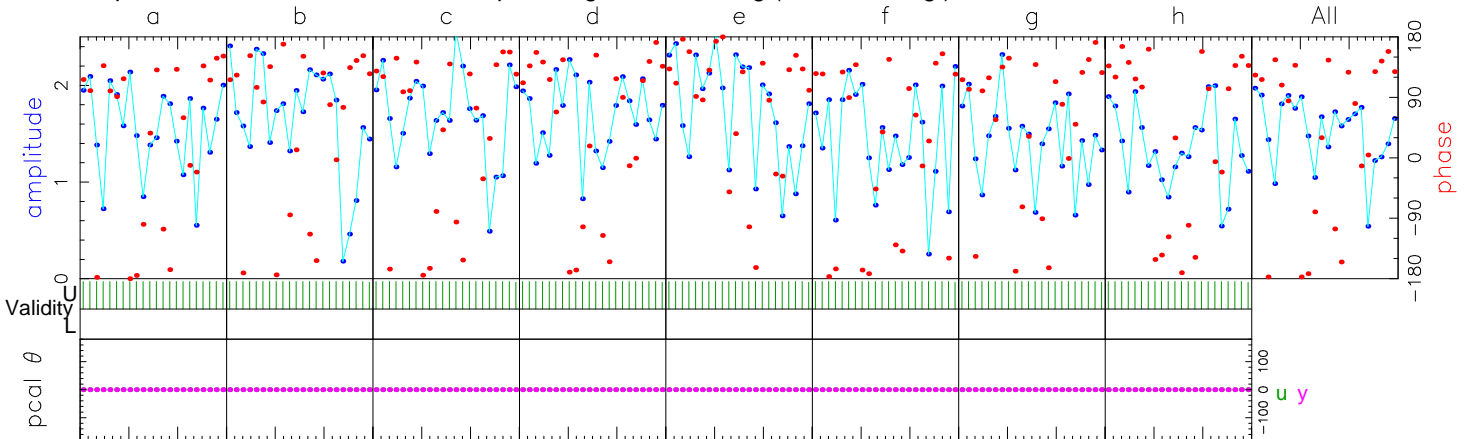


Fringe quality 7

SNR 30.6  
Int time 179.956  
Amp 0.834  
Phase 135.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.004485  
MBD -0.004374  
Fringe rate (Hz) 0.001247  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121830  
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

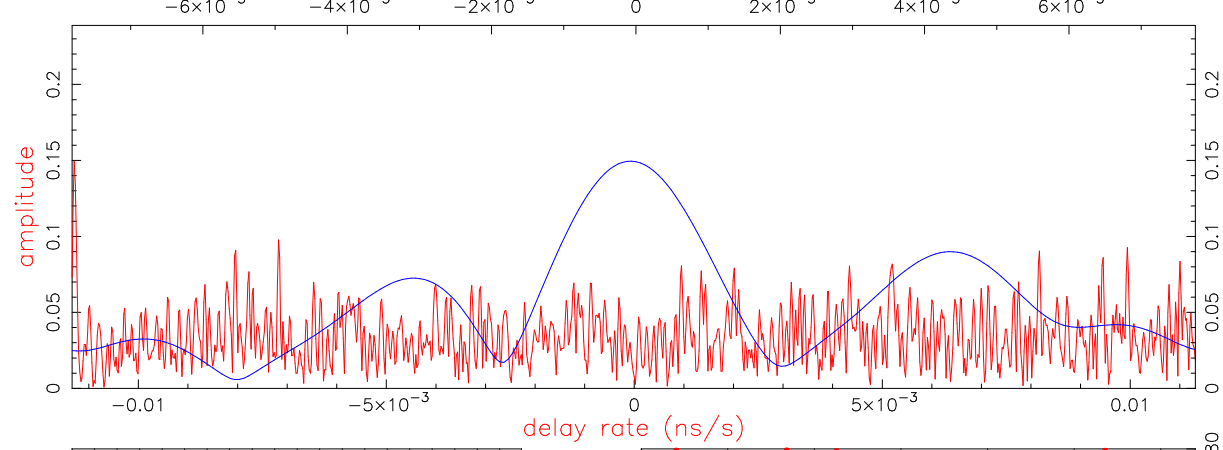


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
133.3	136.4	146.1	133.5	128.2	138.8	123.9	146.7	135.8	Phase	135.8
0.9	0.9	0.9	0.9	1.0	0.8	0.7	0.7	0.8	Ampl.	0.8
256.1	256.1	255.9	255.7	255.9	255.5	255.7	255.9	255.9	Sbd box	255.9
U/L 352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u 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)	-7.16214047639E+02		Apriori delay (usec)	-7.16209673657E+02		Resid mbdelay (usec)	-4.37398E-03	+/-	3.5E-05	
Sband delay (usec)	-7.16214158657E+02		Apriori clock (usec)	-2.0722914E+01		Resid sbdelay (usec)	-4.48500E-03	+/-	2.8E-04	
Phase delay (usec)	-7.16209669279E+02		Apriori clockrate (us/s)	2.9999999E-07		Resid phdelay (usec)	4.37870E-06	+/-	1.2E-07	
Delay rate (us/s)	-4.10191352688E-02		Apriori rate (us/s)	-4.10191497446E-02		Resid rate (us/s)	1.44758E-08	+/-	1.2E-09	
Total phase (deg)		31.8	Apriori accel (us/s/s)	1.76581372054E-06		Resid phase (deg)	135.8	+/-	3.7	

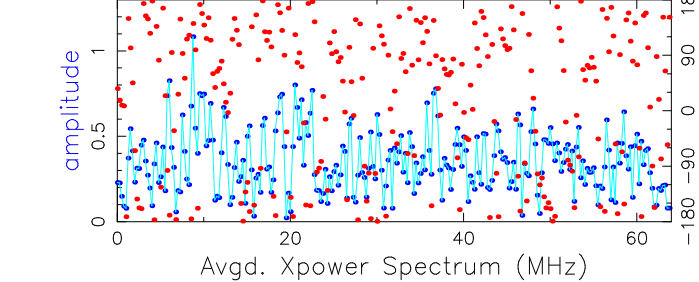
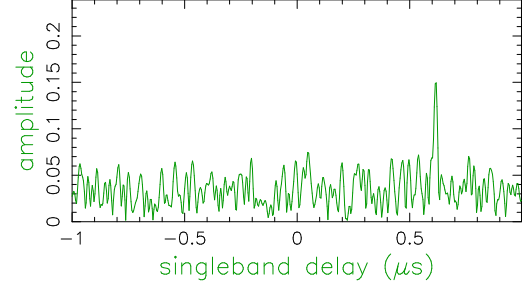
ph/seg (deg) RMS Theor. Amplitude 0.834 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 69.1 8.8 Search (1024X32) 0.805 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 93.4 15.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 8.6 5.3 Inc. seg. avg. 1.515 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
amp/frq (%) 10.1 9.2 Inc. frq. avg. 0.836 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 292.1 el 39.3 pa 71.1 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 296.071 -95.876 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/uy..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/uy.W.104.126B8R

multiband delay ( $\mu$ s)

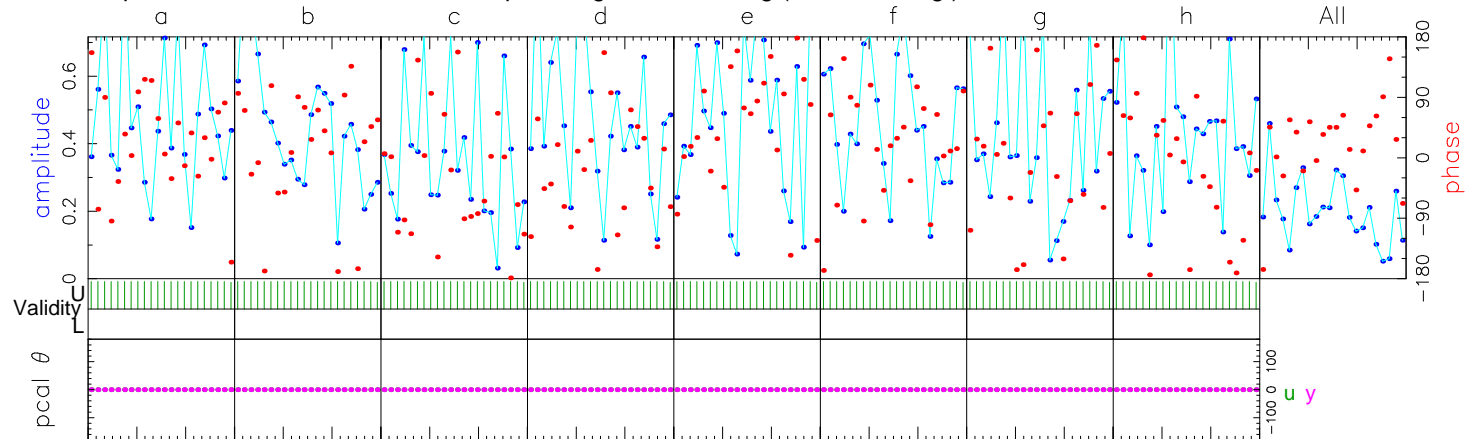


Fringe quality 0  
 SNR 5.6  
 Int time 179.956  
 Amp 0.239  
 Phase 27.9  
 PFD 9.4e-01  
 Delays (us)  
 SBD 0.615411  
 MBD -0.000094  
 Fringe rate (Hz) -0.974647  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121832  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

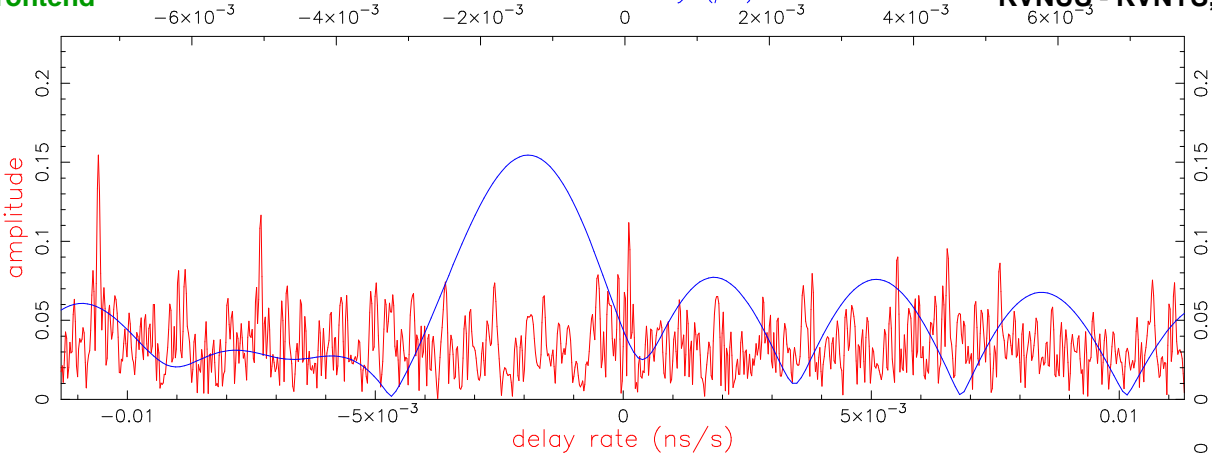
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



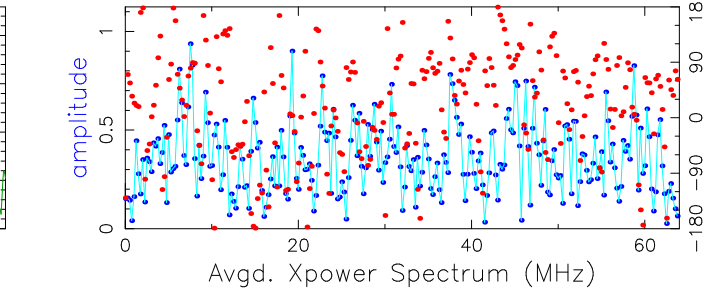
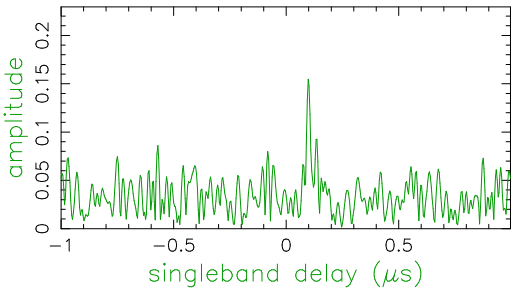
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All			
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0					
u	1000	1000	1000	1000	1000	1000	1000	1000					
y	1000	1000	1000	1000	1000	1000	1000	1000					
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0					
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0					
u	1000	1000	1000	1000	1000	1000	1000	1000					
y	1000	1000	1000	1000	1000	1000	1000	1000					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL					
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR					
Group delay (usec)(sbd)	-7.15600392216E+02												
Sband delay (usec)	-7.15594263157E+02												
Phase delay (usec)	-7.16209672759E+02												
Delay rate (us/s)	-4.10304644334E-02												
Total phase (deg)			-76.1										
				Apriori delay (usec)	-7.16209673657E+02				Resid mbdelay (usec)	-9.35586E-05	+/- 1.9E-04		
				Apriori clock (usec)	-2.0722914E+01				Resid sbdelay (usec)	6.15411E-01	+/- 1.5E-03		
				Apriori clockrate (us/s)	2.9999999E-07				Resid phdelay (usec)	8.98350E-07	+/- 6.6E-07		
				Apriori rate (us/s)	-4.10191497446E-02				Resid rate (us/s)	-1.13147E-05	+/- 6.4E-09		
				Apriori accel (us/s/s)	1.76581372054E-06				Resid phase (deg)	27.9	+/- 20.5		
ph/seg (deg)	57.7	48.1		Search (1024X32)	0.148				PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	70.2	83.9		Interp.	0.000				PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	41.6	29.0		Inc. seg. avg.	0.232				Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	43.4	50.6		Inc. frq. avg.	0.247				Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
									Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
u: az 292.1 el 39.3 pa 71.1				y: az 289.7 el 41.8 pa 69.5									simultaneous interpolator
Control file: cf_1234_gmva				Input file: /Exps/c192c/v1_CygA2/1234/No0011/uy..126B8R									Output file: /Exps/c192c/v1_CygA2/1234/No0011/uy.W.121.126B8R

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

Fringe quality 0

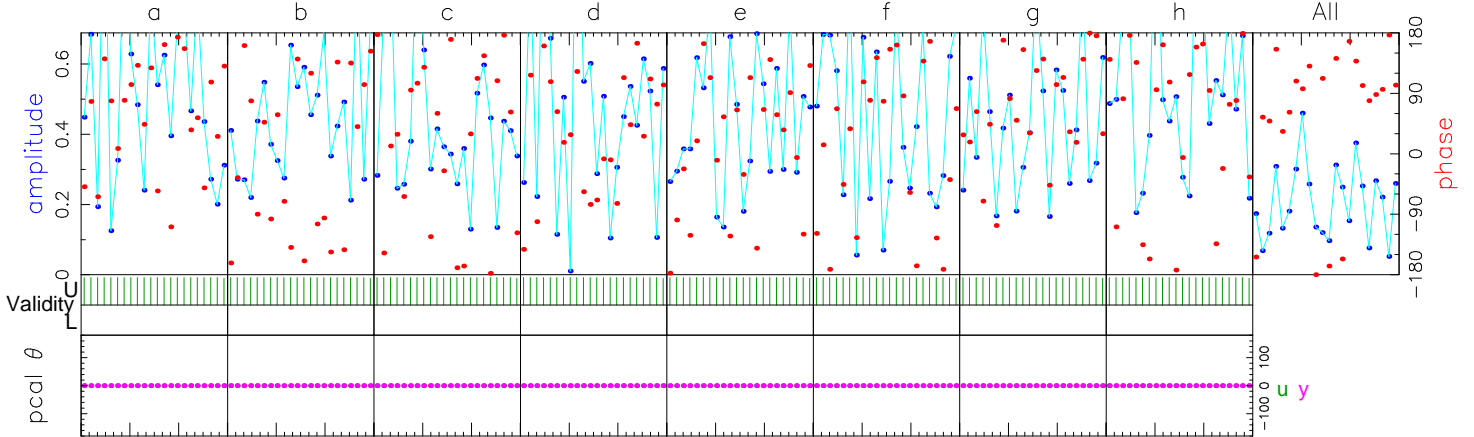


SNR 5.7  
Int time 179.956  
Amp 0.230  
Phase 121.5  
PFD 7.6e-01  
Delays (us)  
SBD 0.098658  
MBD -0.001319  
Fringe rate (Hz)  
-0.913144  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

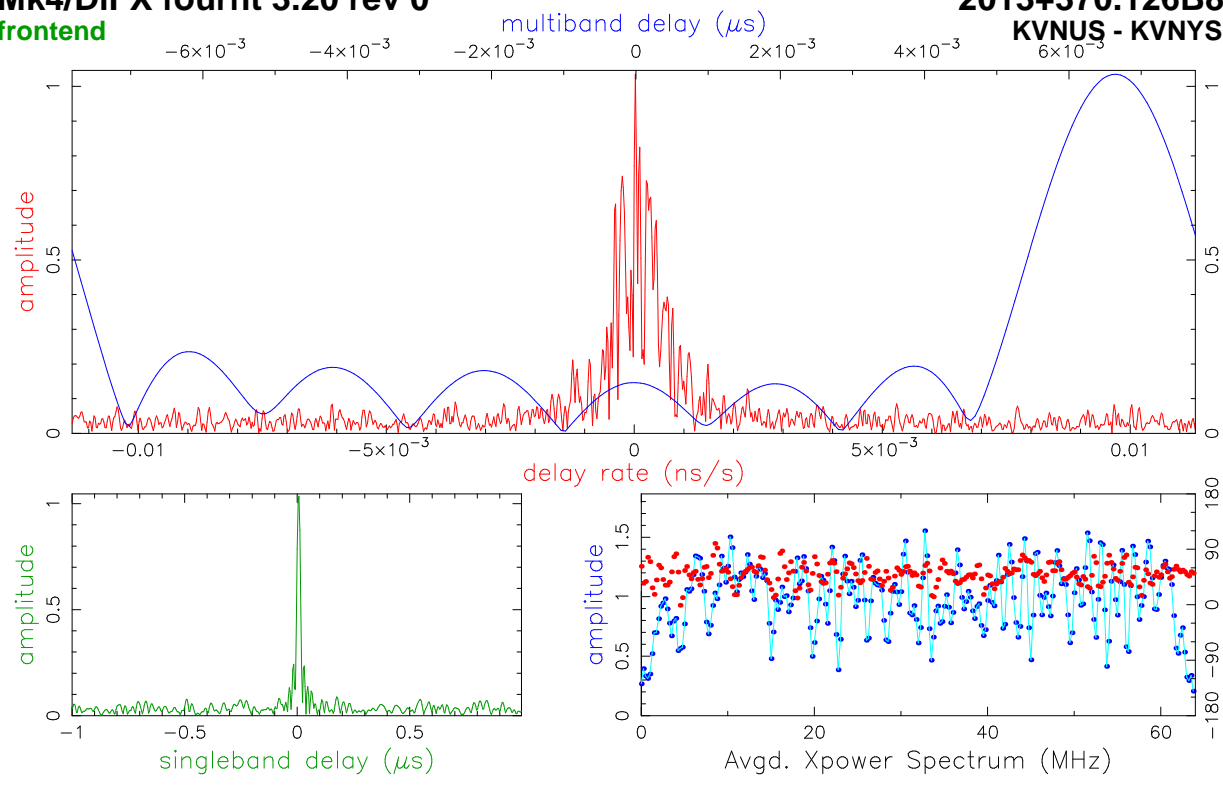


Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121834  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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		
u	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-7.16117242877E+02									
Sband delay (usec)	-7.16111015407E+02									
Phase delay (usec)	-7.16209669740E+02									
Delay rate (us/s)	-4.10297504412E-02									
Total phase (deg)			17.5							
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)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
pcal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
u,v (fr/asec)										
simultaneous interpolator										

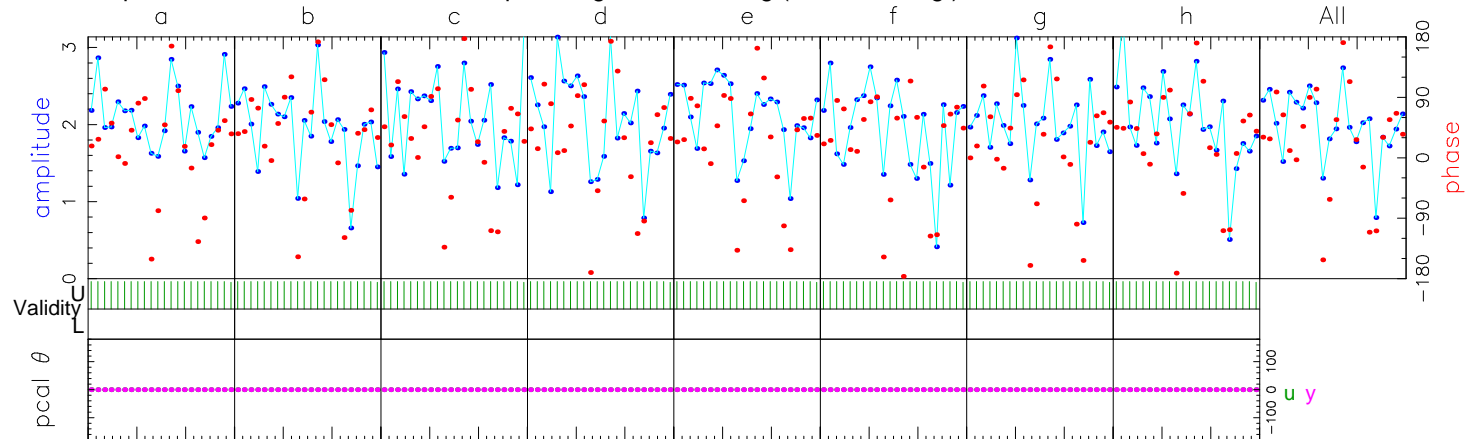


Fringe quality 7

SNR 38.4  
 Int time 179.956  
 Amp 1.046  
 Phase 48.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.006519  
 MBD 0.006636  
 Fringe rate (Hz) 0.001263  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121828  
 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		
u	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-7.16203037639E+02									
Sband delay (usec)	-7.16203154907E+02									
Phase delay (usec)	-7.16209672101E+02									
Delay rate (us/s)	-4.10191350817E-02									
Total phase (deg)			-55.7							
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)									48.3	+/- 3.0
Pcal mode:	MANUAL	MANUAL								
Pcal rate:	0.000E+00	0.000E+00								
Bits/sample:	2x2									
Sample rate(MISamp/s):	128									
Data rate(Mb/s):	2048									
nlags:	256									
t_cohere	infinite									
ion window (TEC)										
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								

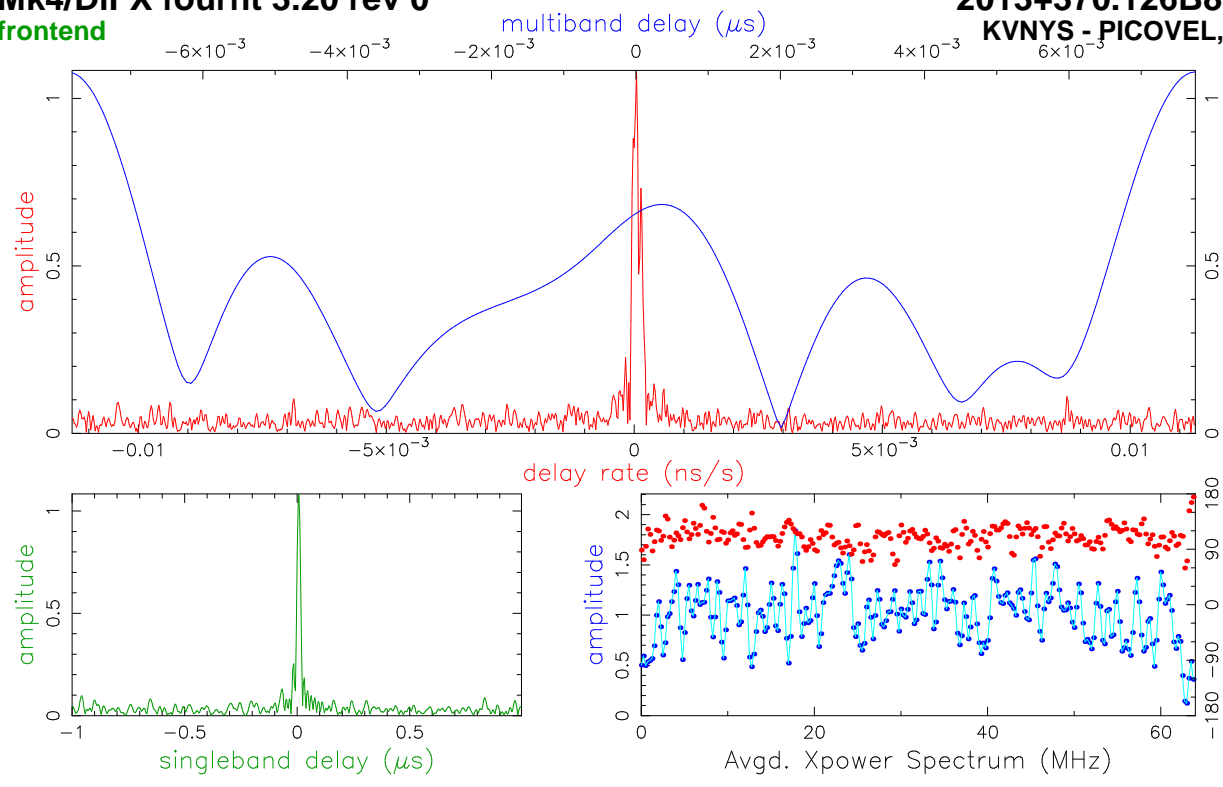
ph/seg (deg) 75.2 7.0  
 amp/seg (%) 100.0 12.2  
 ph/frq (deg) 4.8 4.2  
 amp/frq (%) 7.3 7.4

u: az 292.1 el 39.3 pa 71.1  
 y: az 289.7 el 41.8 pa 69.5  
 u,v (fr/asec) 296.071 -95.876

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/uy..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/uy.W.88.126B8R

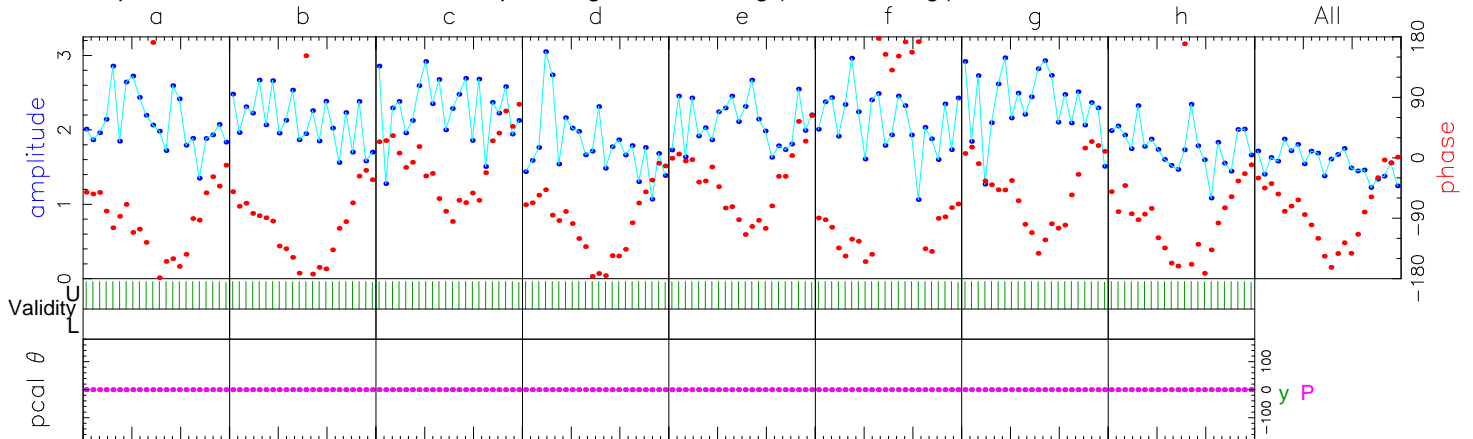
simultaneous interpolator





Fringe quality 4  
SNR 39.7  
Int time 179.782  
Amp 1.084  
Phase -78.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.006954  
MBD -0.007896  
Fringe rate (Hz)  
0.003548  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121831  
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
	-97.5	-104.9	-11.0	-94.4	-37.1	-138.1	-49.7	-94.9	Phase	-78.4
	1.4	1.4	1.5	1.2	1.4	1.5	1.5	1.2	Ampl.	1.4
	259.9	258.7	258.1	257.3	257.6	258.0	258.2	258.5	Sbd box	258.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
y	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)	1.31655894649E+03		Apriori delay (usec)		1.31655121730E+03		Resid mbdelay (usec)		-7.89581E-03	+/- 2.7E-05
Sband delay (usec)	1.31655817155E+03		Apriori clock (usec)		2.9375612E+01		Resid sbdelay (usec)		6.95425E-03	+/- 2.2E-04
Phase delay (usec)	1.31655121477E+03		Apriori clockrate (us/s)		4.5300000E-07		Resid phdelay (usec)		-2.52968E-06	+/- 9.3E-08
Delay rate (us/s)	-1.78315235001E+00		Apriori rate (us/s)		-1.78315239120E+00		Resid rate (us/s)		4.11885E-08	+/- 8.9E-10
Total phase (deg)	230.5		Apriori accel (us/s/s)		-6.39007809365E-06		Resid phase (deg)		-78.4	+/- 2.9

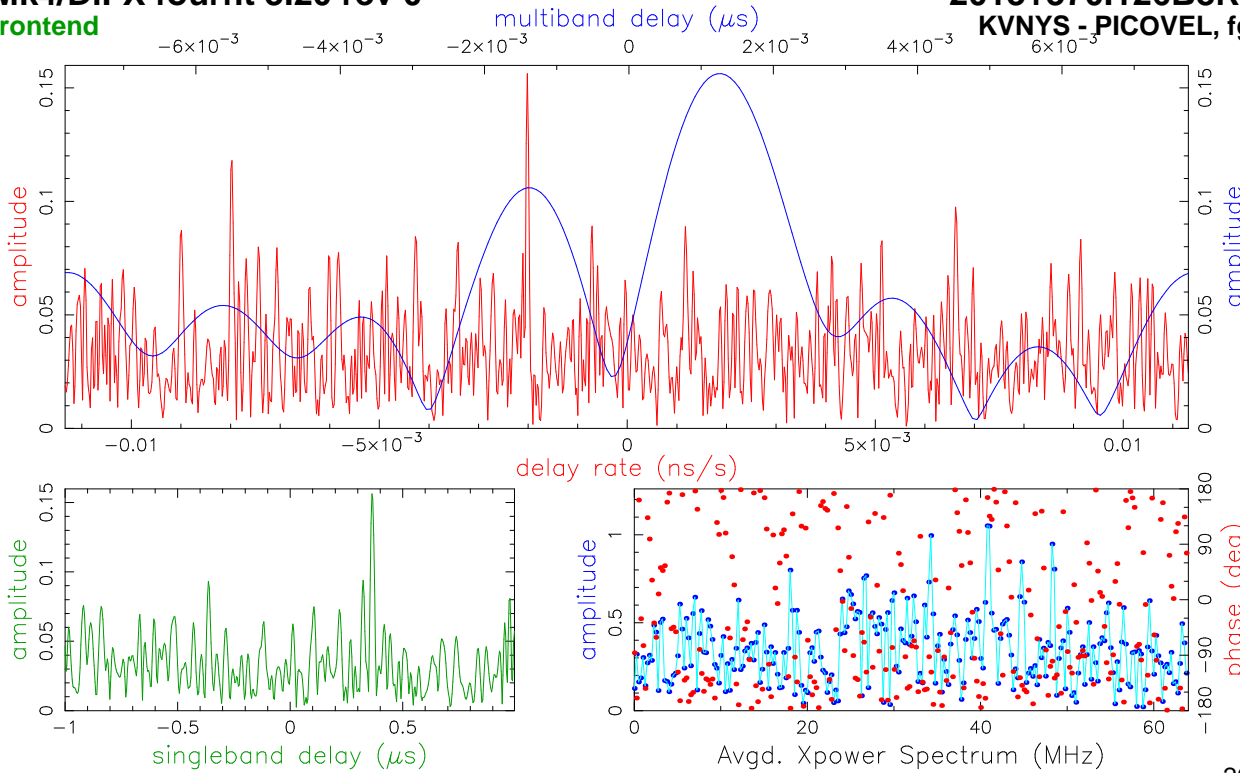
ph/seg (deg) 48.3 6.8 Search (1024X32) 1.072 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 46.6 11.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 45.1 4.1 Inc. seg. avg. 1.546 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 30.8 7.1 Inc. frq. avg. 1.391 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 289.7 el 41.8 pa 69.5 P: az 67.5 el 36.7 pa -68.0 u,v (fr/asec) 12824.432 -410.452 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yP..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yP.W.114.126B8R

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126B8R, No0011, yP

KVNYS - PICOVEL, fgroup W, pol LR

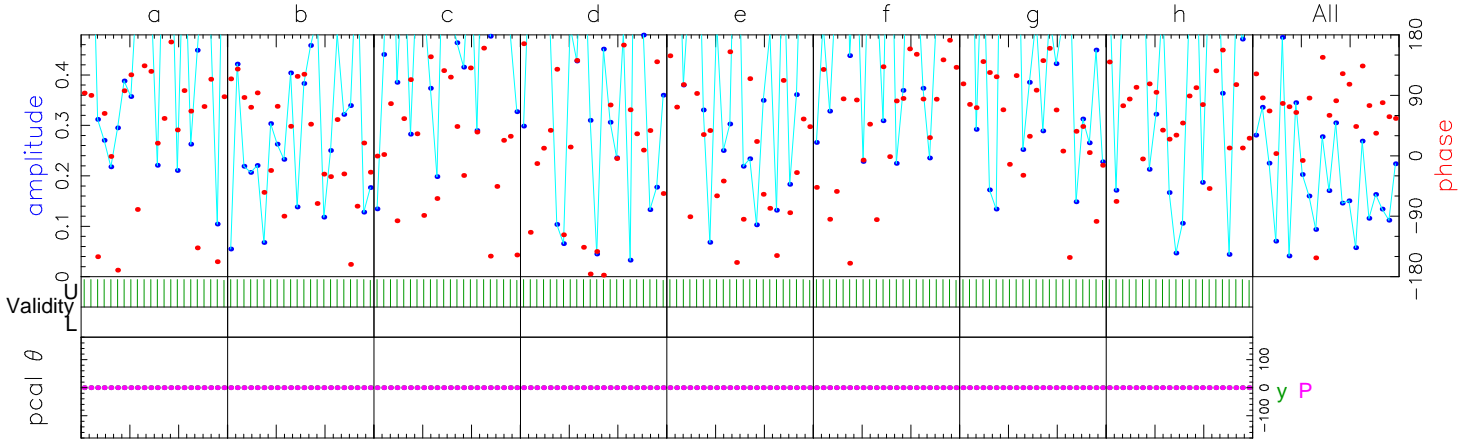


Fringe quality 0

SNR 5.8  
 Int time 179.782  
 Amp 0.160  
 Phase 82.8  
 PFD 6.0e-01  
 Delays (us)  
 SBD 0.364649  
 MBD 0.001288  
 Fringe rate (Hz)  
 -0.174747  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121833  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

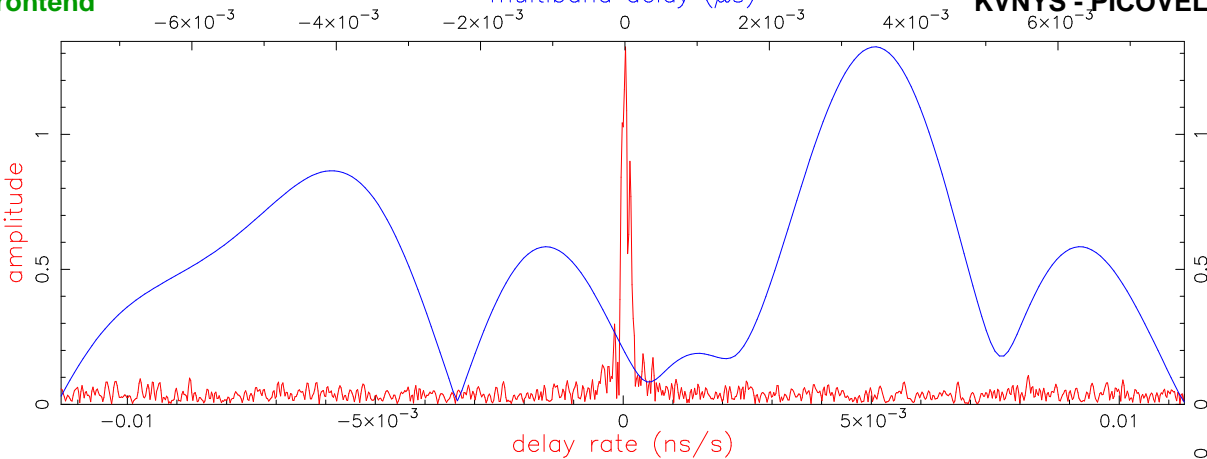
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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		
y	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.31691187986E+03				1.31655121730E+03			Resid mbdelay (usec)	1.28756E-03 +/- 1.9E-04
Sband delay (usec)		1.31691586605E+03				2.9375612E+01			Resid sbdelay (usec)	3.64649E-01 +/- 1.5E-03
Phase delay (usec)		1.31655121997E+03				4.5300000E-07			Resid phdelay (usec)	2.66936E-06 +/- 6.4E-07
Delay rate (us/s)		-1.78315441983E+00				-1.78315239120E+00			Resid rate (us/s)	-2.02864E-06 +/- 6.1E-09
Total phase (deg)			31.7			-6.39007809365E-06			Resid phase (deg)	82.8 +/- 19.8

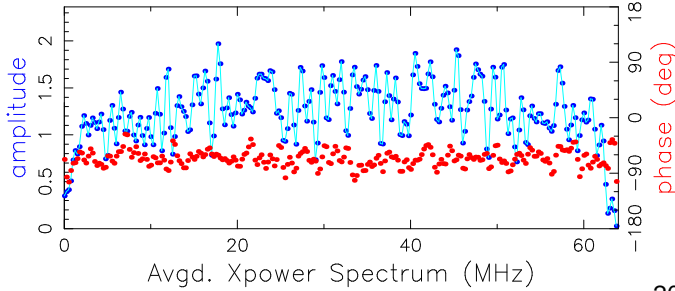
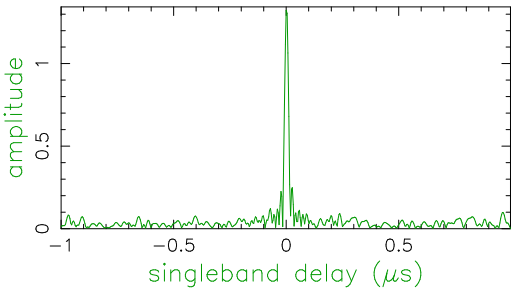
ph/seg (deg) 46.3 46.5 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 71.8 81.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 37.0 28.0 Inc. seg. avg. 0.151 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 53.0 48.9 Inc. frq. avg. 0.155 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 289.7 el 41.8 pa 69.5 P: az 67.5 el 36.7 pa -68.0 u,v (fr/asec) 12824.432 -410.452 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yP..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yP.W.133.126B8R

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



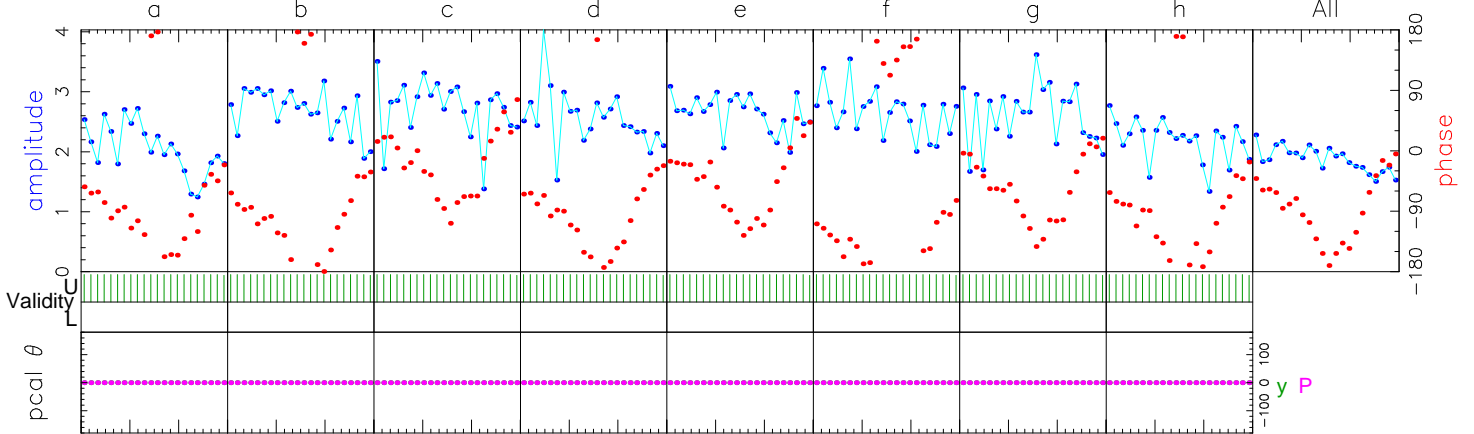
Fringe quality 2

SNR 49.3  
Int time 179.782  
Amp 1.344  
Phase -87.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.001637  
MBD 0.003500  
Fringe rate (Hz)  
0.003438  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121835  
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
	-99.6	-114.4	-19.7	-100.7	-46.9	-152.8	-60.2	-106.9	Phase	-87.6
	1.5	1.8	1.9	1.8	1.8	1.9	1.8	1.5	Ampl.	1.7
	258.6	257.6	257.1	256.6	256.6	257.1	257.3	257.4	Sbd box	257.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	1.31655471709E+03	Apriori delay (usec)	1.31655121730E+03	Resid mbdelay (usec)	3.49979E-03	+/-	2.2E-05
Sband delay (usec)	1.31655285405E+03	Apriori clock (usec)	2.9375612E+01	Resid sbdelay (usec)	1.63675E-03	+/-	1.7E-04
Phase delay (usec)	1.31655121447E+03	Apriori clockrate (us/s)	4.5300000E-07	Resid phdelay (usec)	-2.82478E-06	+/-	7.5E-08
Delay rate (us/s)	-1.78315235128E+00	Apriori rate (us/s)	-1.78315239120E+00	Resid rate (us/s)	3.99145E-08	+/-	7.2E-10
Total phase (deg)	221.3	Apriori accel (us/s/s)	-6.39007809365E-06	Resid phase (deg)	-87.6	+/-	2.3

ph/seg (deg)	47.3	Theor.	5.5	Search (1024X32)	1.314	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	42.5		9.5	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	46.0		3.3	Inc. seg. avg.	1.870	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	30.5		5.7	Inc. frq. avg.	1.722	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

y: az 289.7 el 41.8 pa 69.5 P: az 67.5 el 36.7 pa -68.0 u,v (fr/asec) 12824.432 -410.452 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yP..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yP.W.151.126B8R

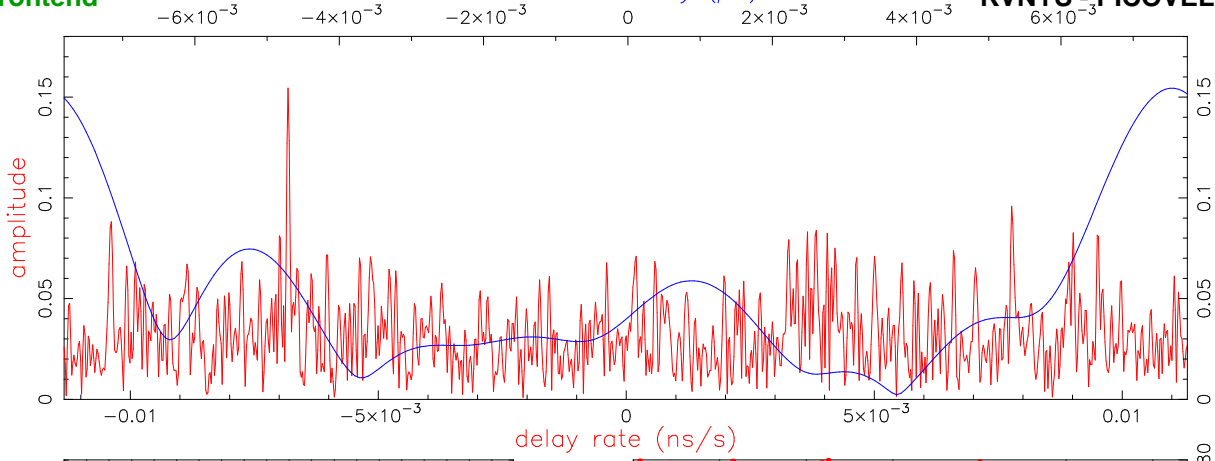
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126B8R, No0011, yP

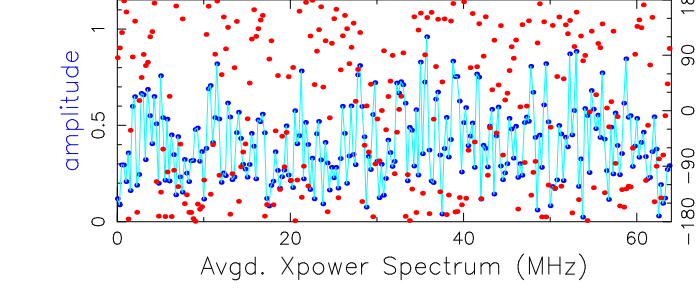
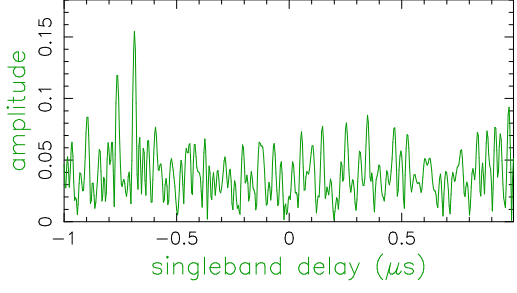
KVNYS - PICOVEL, fgroup W, pol LL

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



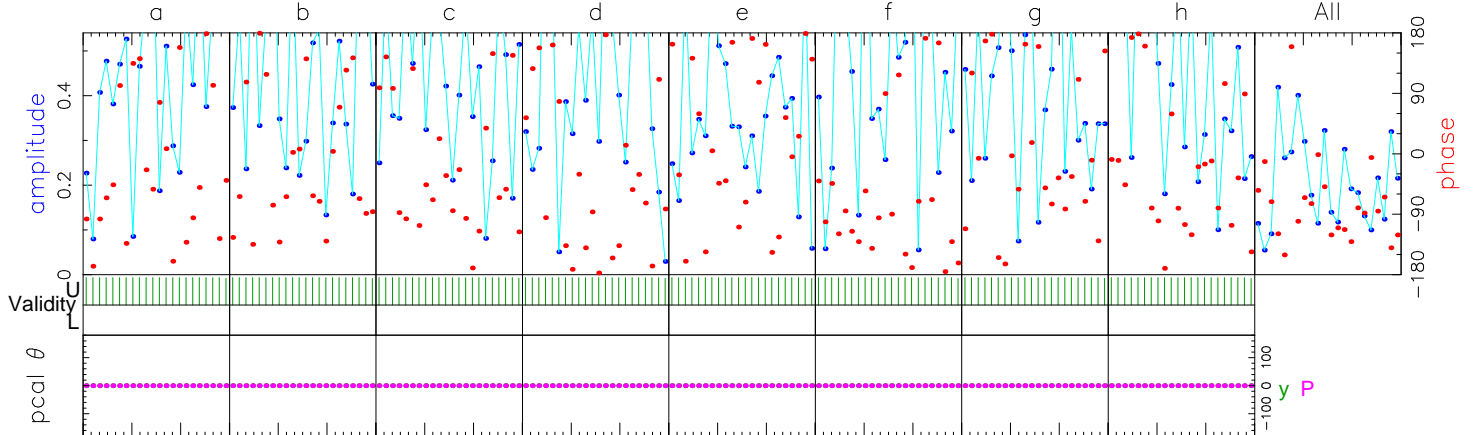
Fringe quality 0

SNR 5.7  
 Int time 179.782  
 Amp 0.180  
 Phase -100.2  
 PFD 8.4e-01  
 Delays (us)  
 SBD -0.687358  
 MBD -0.008083  
 Fringe rate (Hz)  
 -0.587489  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



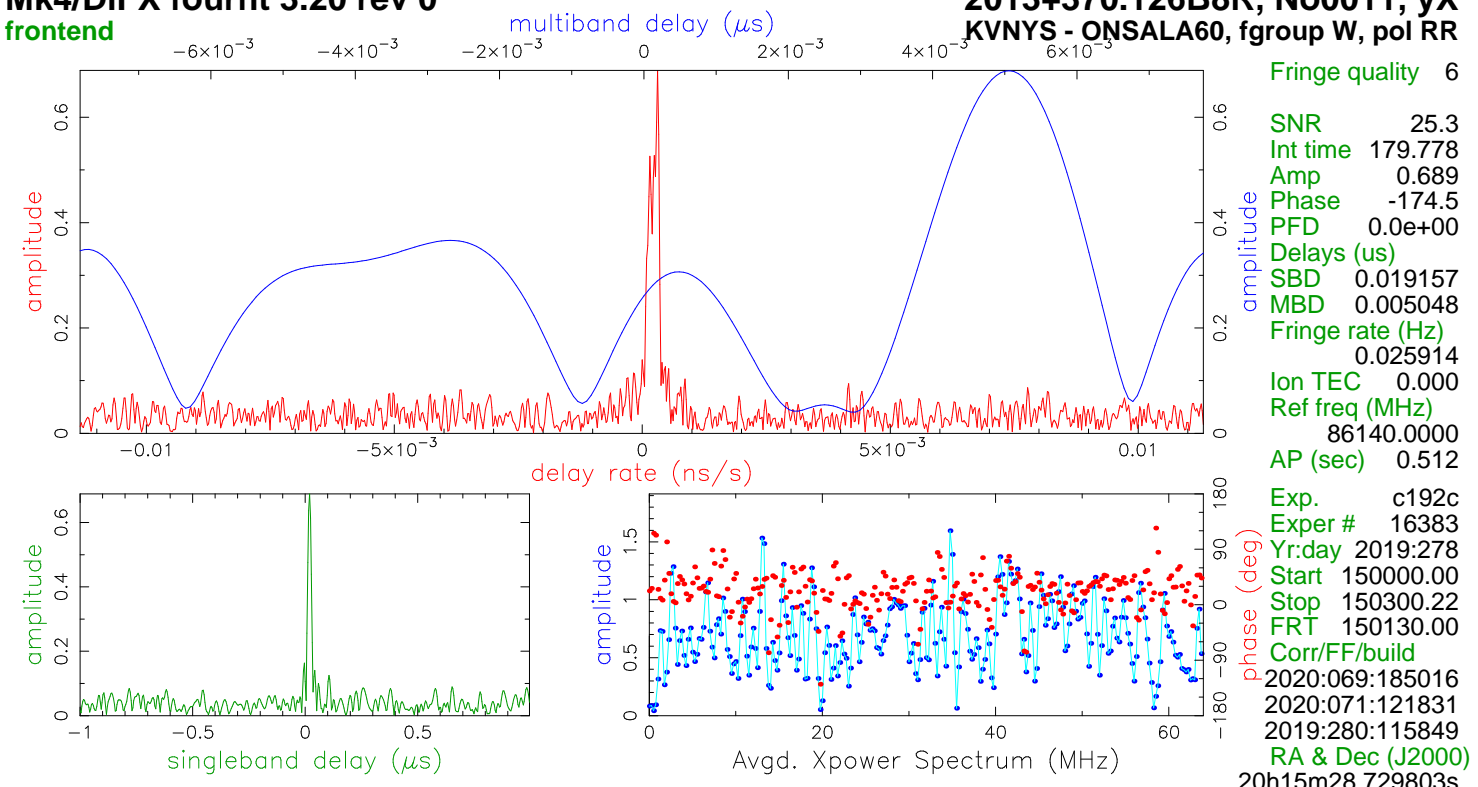
Exp. c192c  
 Yr:day 16383  
 Start 2019:278  
 Stop 2019:278  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121828  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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

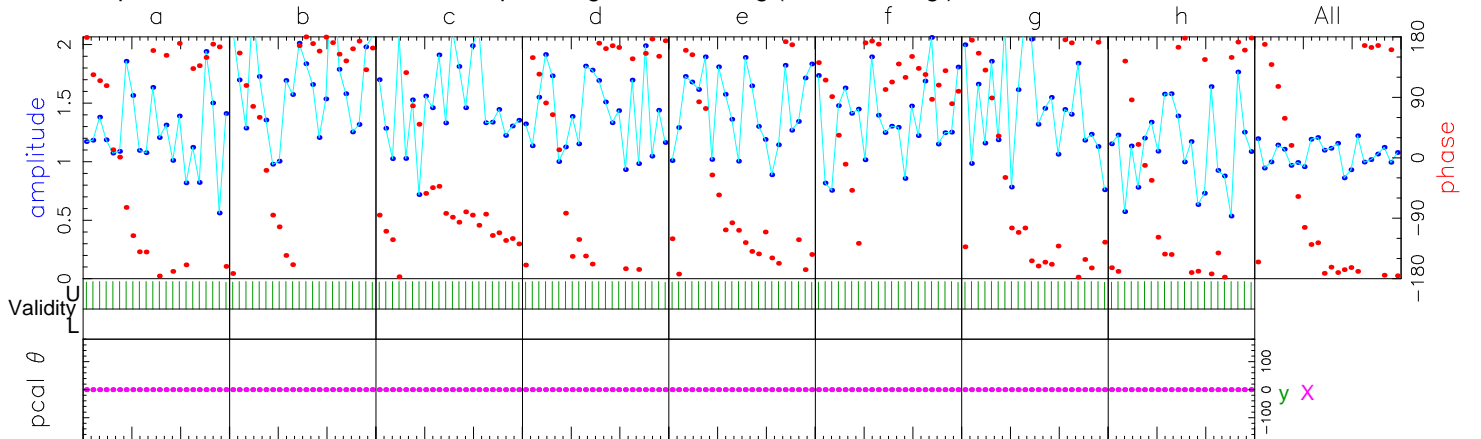


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-91.2	-82.9	-89.9	-124.8	-143.2	-124.1	-79.2	-67.4	Phase	-100.2
	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.2	Ampl.	0.2
	93.9	511.6	484.4	442.3	498.7	272.8	113.5	296.1	Sbd box	81.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.31587125889E+03		Apriori delay (usec)		1.31655121730E+03		Resid mbdelay (usec)		-8.08341E-03	+/- 1.9E-04
Sband delay (usec)	1.31586385955E+03		Apriori clock (usec)		2.9375612E+01		Resid sbdelay (usec)		-6.87358E-01	+/- 1.5E-03
Phase delay (usec)	1.31655121407E+03		Apriori clockrate (us/s)		4.5300000E-07		Resid phdelay (usec)		-3.23037E-06	+/- 6.5E-07
Delay rate (us/s)	-1.78315921136E+00		Apriori rate (us/s)		-1.78315239120E+00		Resid rate (us/s)		-6.82017E-06	+/- 6.3E-09
Total phase (deg)	208.8		Apriori accel (us/s/s)		-6.39007809365E-06		Resid phase (deg)		-100.2	+/- 20.2

ph/seg (deg) 48.9 47.4 Search (1024X32) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 73.2 82.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 29.0 28.6 Inc. seg. avg. 0.180 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 37.8 49.9 Inc. frq. avg. 0.174 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 289.7 el 41.8 pa 69.5 P: az 67.5 el 36.7 pa -68.0 u,v (fr/asec) 12824.432 -410.452 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yP..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yP.W.93.126B8R



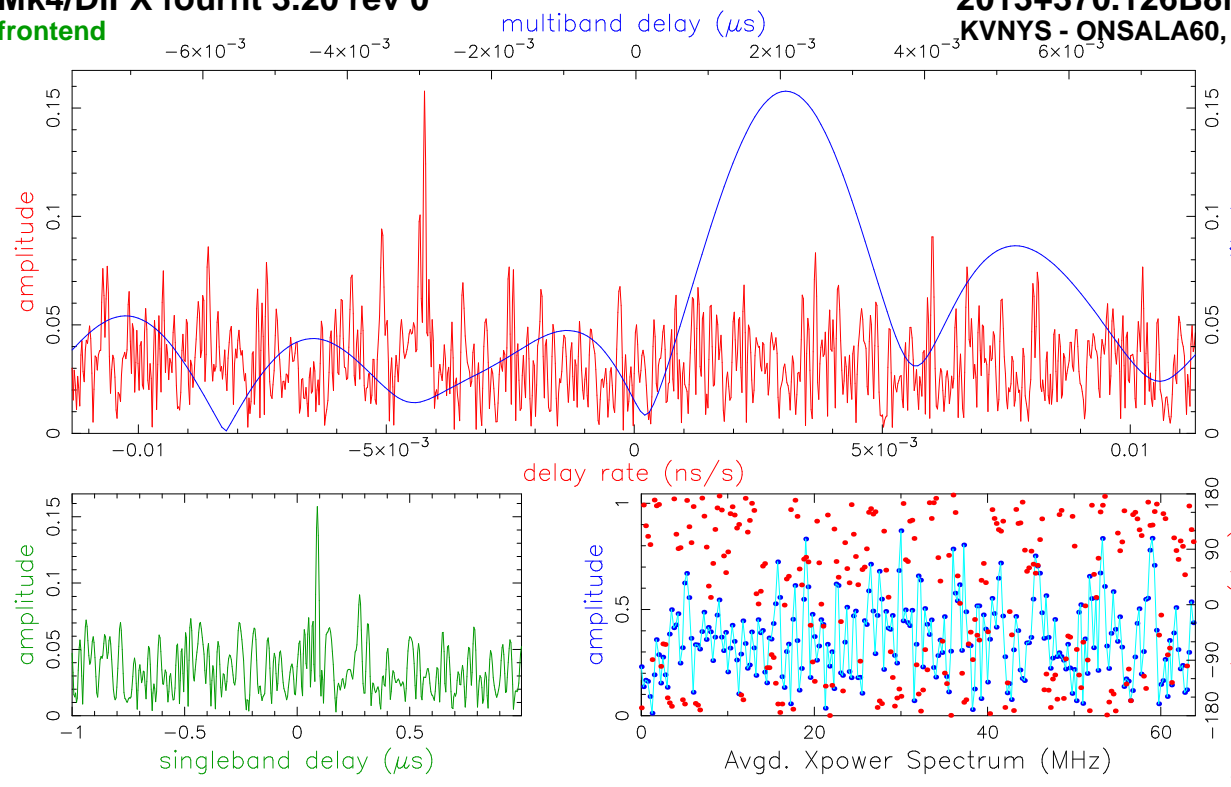
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	171.9	162.7	-96.0	168.5	-148.8	121.0	-158.1	-172.5	Phase	-174.5
	0.7	1.1	1.0	0.9	0.8	0.8	0.9	0.7	Ampl.	0.9
	262.9	261.8	261.5	261.3	261.1	261.4	261.7	262.6	Sbd box	261.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-2.27609986030E+03	Apriori delay (usec)	-2.27612053293E+03	Resid mbdelay (usec)	5.04763E-03	+/-	4.3E-05
Sband delay (usec)	-2.27610137593E+03	Apriori clock (usec)	-3.1606369E+00	Resid sbdelay (usec)	1.91570E-02	+/-	3.4E-04
Phase delay (usec)	-2.27612053856E+03	Apriori clockrate (us/s)	-4.2800003E-07	Resid phdelay (usec)	-5.62615E-06	+/-	1.5E-07
Delay rate (us/s)	-1.39847026024E+00	Apriori rate (us/s)	-1.39847056108E+00	Resid rate (us/s)	3.00841E-07	+/-	1.4E-09
Total phase (deg)	-68.9	Apriori accel (us/s/s)	-3.82941716441E-06	Resid phase (deg)	-174.5	+/-	4.5

ph/seg (deg)	59.8	Theor.	10.6	Amplitude	0.689 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	56.1		18.6	Search (1024X32)	0.657	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	45.2		6.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	34.7		11.2	Inc. seg. avg.	1.044	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.878	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

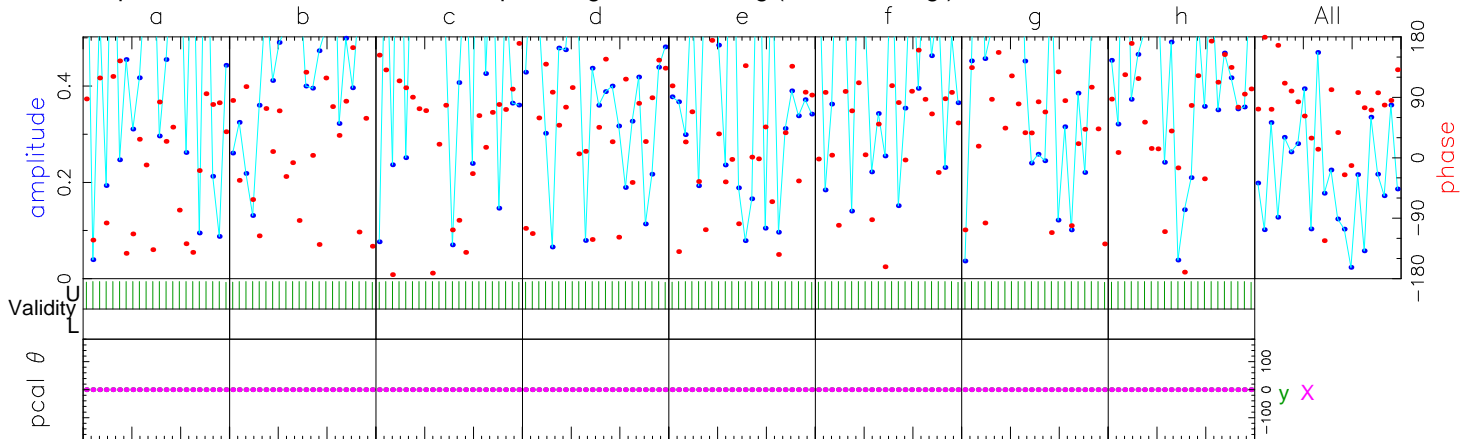


Fringe quality 0

SNR 5.8  
 Int time 179.778  
 Amp 0.167  
 Phase 79.3  
 PFD 5.8e-01  
 Delays (us)  
 SBD 0.089510  
 MBD 0.002078  
 Fringe rate (Hz)  
 -0.364322  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121833  
 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
	99.0	51.3	93.7	87.4	11.2	68.1	74.4	97.9	Phase	79.3
	0.1	0.1	0.3	0.1	0.1	0.2	0.2	0.3	Ampl.	0.2
	146.3	484.4	280.2	65.9	247.7	426.9	102.8	279.6	Sbd box	279.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-2.27602470470E+03		Apriori delay (usec)		-2.27612053293E+03		Resid mbdelay (usec)		2.07824E-03	+/- 1.9E-04
Sband delay (usec)	-2.27603102318E+03		Apriori clock (usec)		-3.1606369E+00		Resid sbdelay (usec)		8.95097E-02	+/- 1.5E-03
Phase delay (usec)	-2.27612053037E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		2.55793E-06	+/- 6.4E-07
Delay rate (us/s)	-1.39847479050E+00		Apriori rate (us/s)		-1.39847056108E+00		Resid rate (us/s)		-4.22942E-06	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		-3.82941716441E-06		Resid phase (deg)		79.3	+/- 19.8

ph/seg (deg) 58.9 46.4 Search (1024X32) 0.157 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 80.1 81.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 33.1 28.0 Inc. seg. avg. 0.173 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 49.5 48.8 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  
 y: az 289.7 el 41.8 pa 69.5 X: az 96.8 el 50.1 pa -42.1 u,v (fr/asec) 10055.436 -1932.002 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yX..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yX.W.136.126B8R

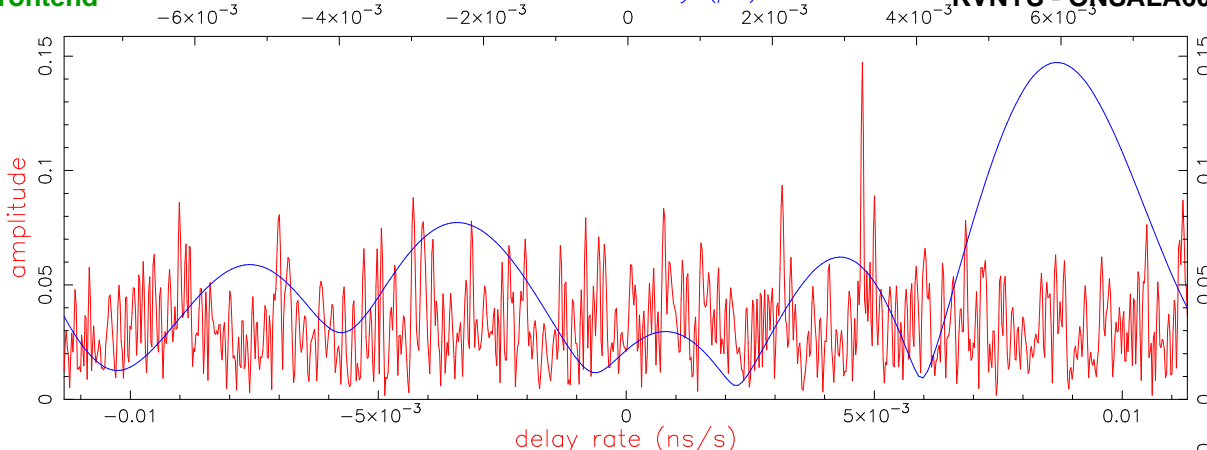
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126B8R, No0011, yX

KVNYS - ONSALA60, fgroup W, pol RL

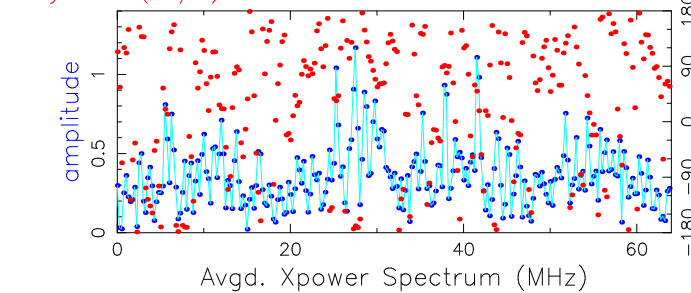
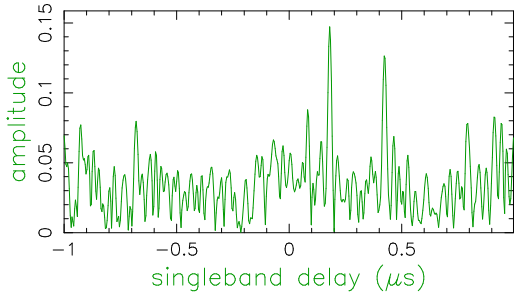
multiband delay ( $\mu\text{s}$ )



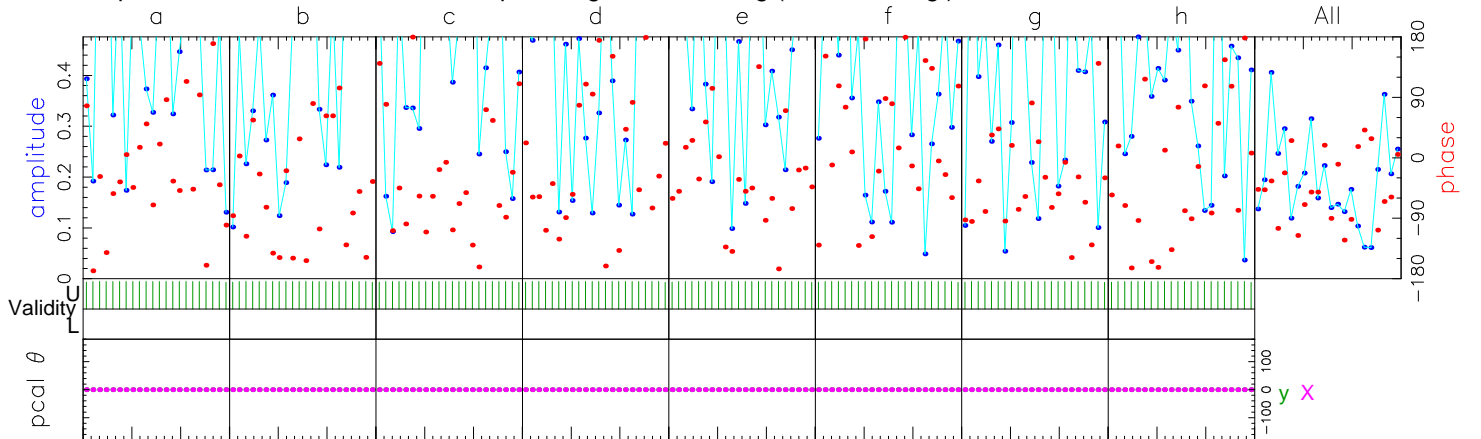
Fringe quality 0

SNR 5.4  
Int time 179.778  
Amp 0.159  
Phase -49.7  
PFD 1.0e+00  
Delays (us)  
SBD 0.180091  
MBD 0.005949  
Fringe rate (Hz) 0.410335  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121836  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

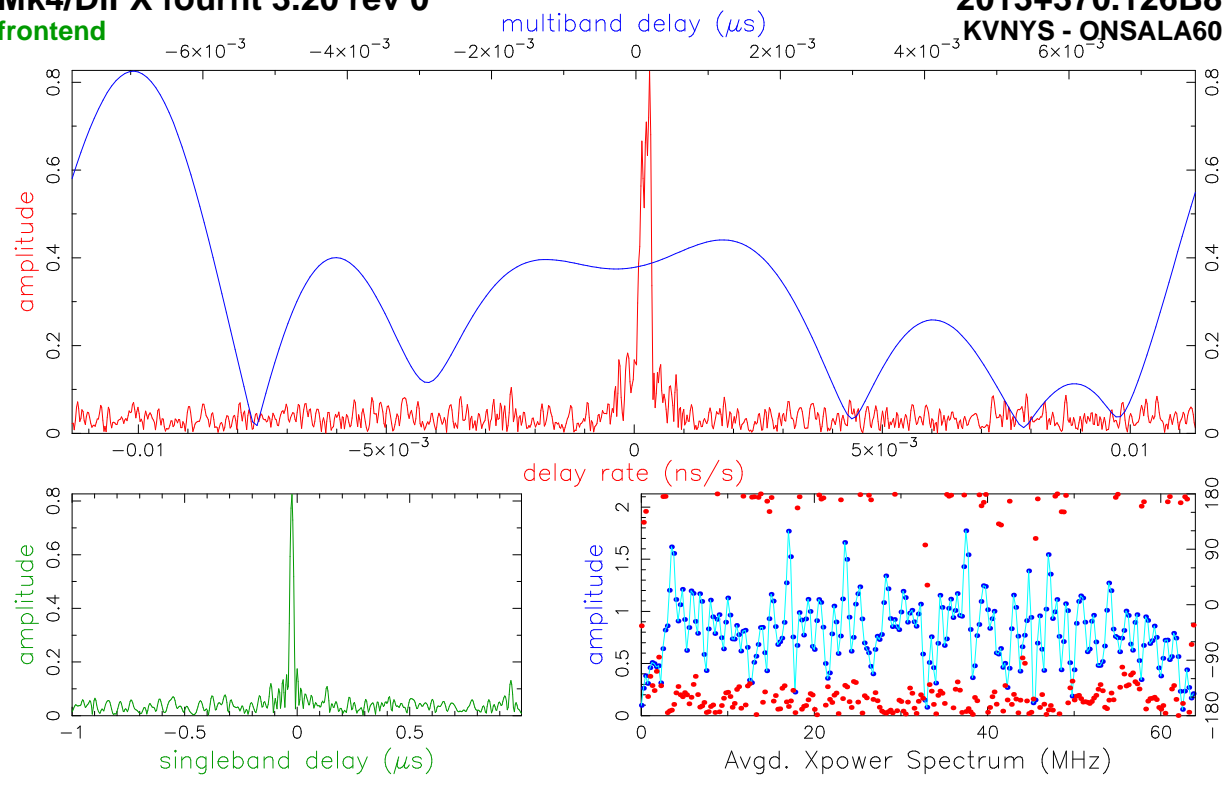


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



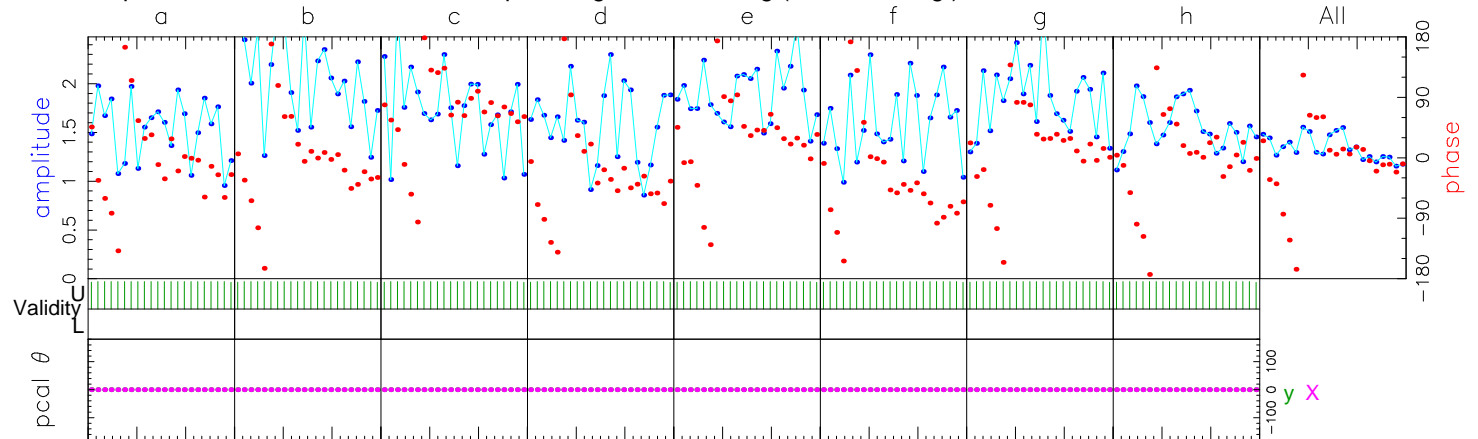
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-19.7	-74.4	-69.9	-76.9	-33.6	33.8	-62.5	-45.0		Phase
	0.2	0.1	0.2	0.2	0.3	0.1	0.3	0.1		Ampl.
	366.9	237.2	250.5	312.0	241.2	68.4	292.8	347.0		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		303.1
y	1000	1000	1000	1000	1000	1000	1000	1000		APs used
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
y	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks
										Tracks
Group delay (usec)(sbd)	-2.27594270866E+03		Apriori delay (usec)		-2.27612053293E+03		Resid mbdelay (usec)		5.94927E-03	+/- 2.0E-04
Sband delay (usec)	-2.27594044218E+03		Apriori clock (usec)		-3.1606369E+00		Resid sbdelay (usec)		1.80091E-01	+/- 1.6E-03
Phase delay (usec)	-2.27612053453E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-1.60328E-06	+/- 6.8E-07
Delay rate (us/s)	-1.39846579750E+00		Apriori rate (us/s)		-1.39847056108E+00		Resid rate (us/s)		4.76358E-06	+/- 6.6E-09
Total phase (deg)			Apriori accel (us/s/s)		-3.82941716441E-06		Resid phase (deg)		-49.7	+/- 21.2

ph/seg (deg) 50.0 49.7 Search (1024X32) 0.144 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 68.5 86.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 41.0 30.0 Inc. seg. avg. 0.154 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 50.0 52.3 Inc. frq. avg. 0.158 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 289.7 el 41.8 pa 69.5 X: az 96.8 el 50.1 pa -42.1 u,v (fr/asec) 10055.436 -1932.002 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yX..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yX.W.156.126B8R



Fringe quality 4  
SNR 30.3  
Int time 179.778  
Amp 0.827  
Phase 3.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.024042  
MBD -0.006980  
Fringe rate (Hz) 0.025983  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121829  
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

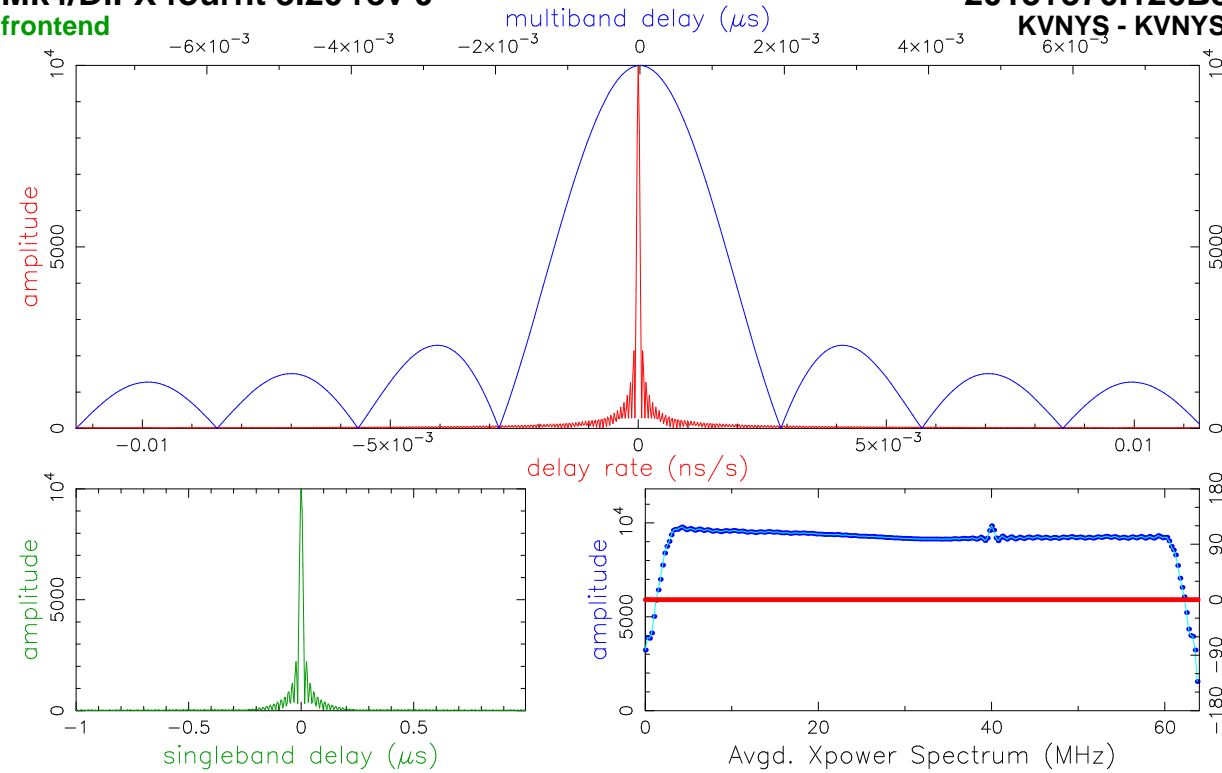


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	-12.6	-6.7	74.9	-39.1	33.0	-56.6	23.2	4.4		Phase		
	0.9	1.2	1.1	1.0	1.2	1.0	1.1	0.9		Ampl.		
	252.5	250.5	250.3	249.7	250.4	250.0	250.8	250.9		Sbd box		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used		
y	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs		
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs		
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase		
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC		
y	1000	1000	1000	1000	1000	1000	1000	1000		PC amp		
X	1000	1000	1000	1000	1000	1000	1000	1000		PC amp		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks		
										Tracks		
Group delay (usec)(sbd)	-2.27614313764E+03		Apriori delay (usec)		-2.27612053293E+03		Resid mbdelay (usec)		-6.97971E-03	+/- 3.6E-05		
Sband delay (usec)	-2.27614457518E+03		Apriori clock (usec)		-3.1606369E+00		Resid sbdelay (usec)		-2.40423E-02	+/- 2.8E-04		
Phase delay (usec)	-2.27612053282E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		1.12989E-07	+/- 1.2E-07		
Delay rate (us/s)	-1.39847025944E+00		Apriori rate (us/s)		-1.39847056108E+00		Resid rate (us/s)		3.01636E-07	+/- 1.2E-09		
Total phase (deg)			Apriori accel (us/s/s)		-3.82941716441E-06		Resid phase (deg)		3.5	+/- 3.8		
RMS	Theor.		Amplitude		0.827 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
ph/seg (deg)	61.2	8.9	Search (1024X32)		0.789		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
amp/seg (%)	64.5	15.5	Interp.		0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
ph/frq (deg)	45.0	5.3	Inc. seg. avg.		1.330		Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011 0.011	
amp/frq (%)	29.2	9.3	Inc. frq. avg.		1.041		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
y: az 289.7 el 41.8 pa 69.5		X: az 96.8 el 50.1 pa -42.1		u, v (fr/asec)		10055.436 -1932.002		simultaneous interpolator				
Control file: cf_1234_gmva		Input file: /Exps/c192c/v1_CygA2/1234/No0011/yX..126B8R		Output file: /Exps/c192c/v1_CygA2/1234/No0011/yX.W.97.126B8R								



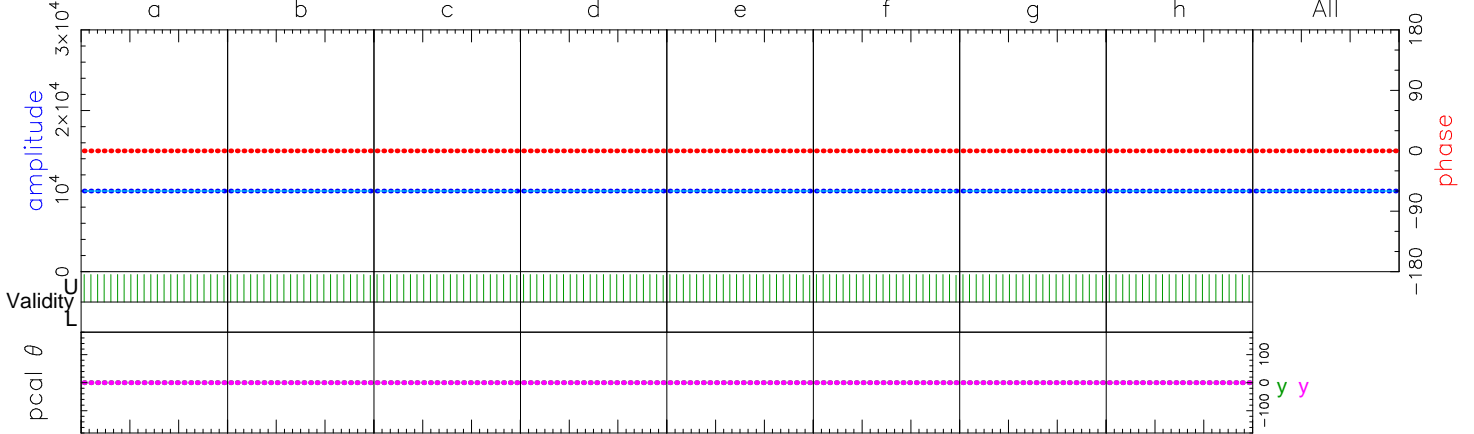
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126B8R, No0011, yy  
KVNYS - KVNYS, fgroup W, pol LL



Fringe quality 9  
SNR 366872.8  
Int time 179.985  
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 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121829  
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



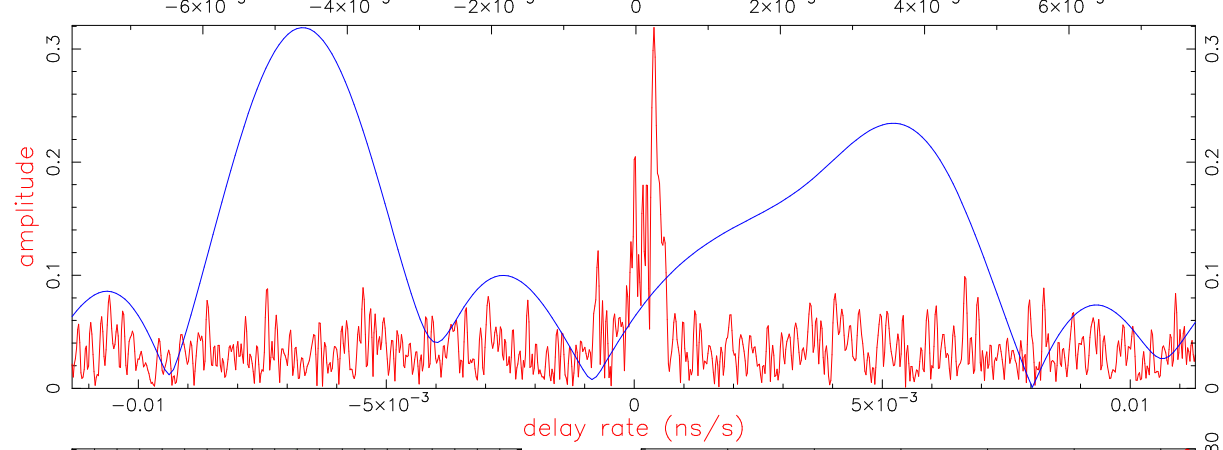
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000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

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.3E-08  
 Phase delay (usec) 2.78844697479E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 2.78845E-20 +/- 1.0E-11  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-14  
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

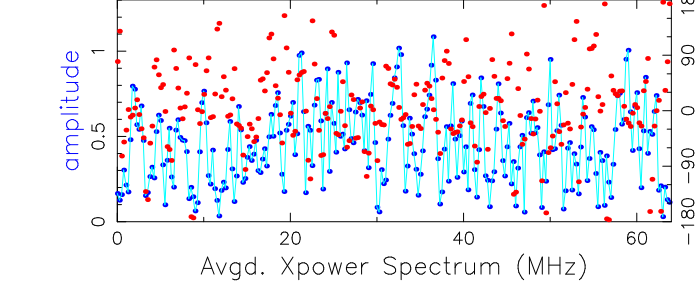
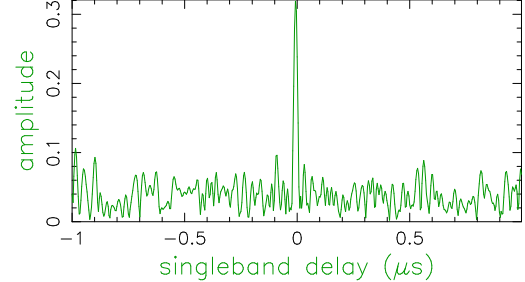
RMS Theor. Amplitude 10000.001 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.0 0.0 Search (1024X32) 10000.001 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.001 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yy..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yy.W.101.126B8R

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

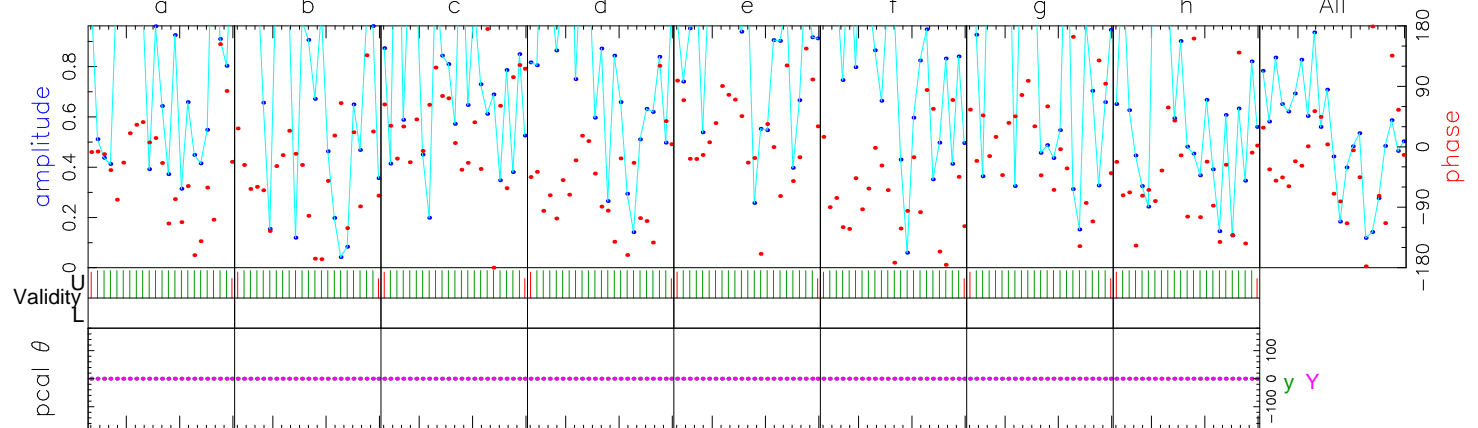


Fringe quality 9  
SNR 11.2  
Int time 162.348  
Amp 0.321  
Phase -19.8  
PFD 1.3e-20  
Delays (us)  
SBD -0.006849  
MBD -0.004610  
Fringe rate (Hz) 0.033991  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150016.89  
Stop 150259.71  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121830  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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

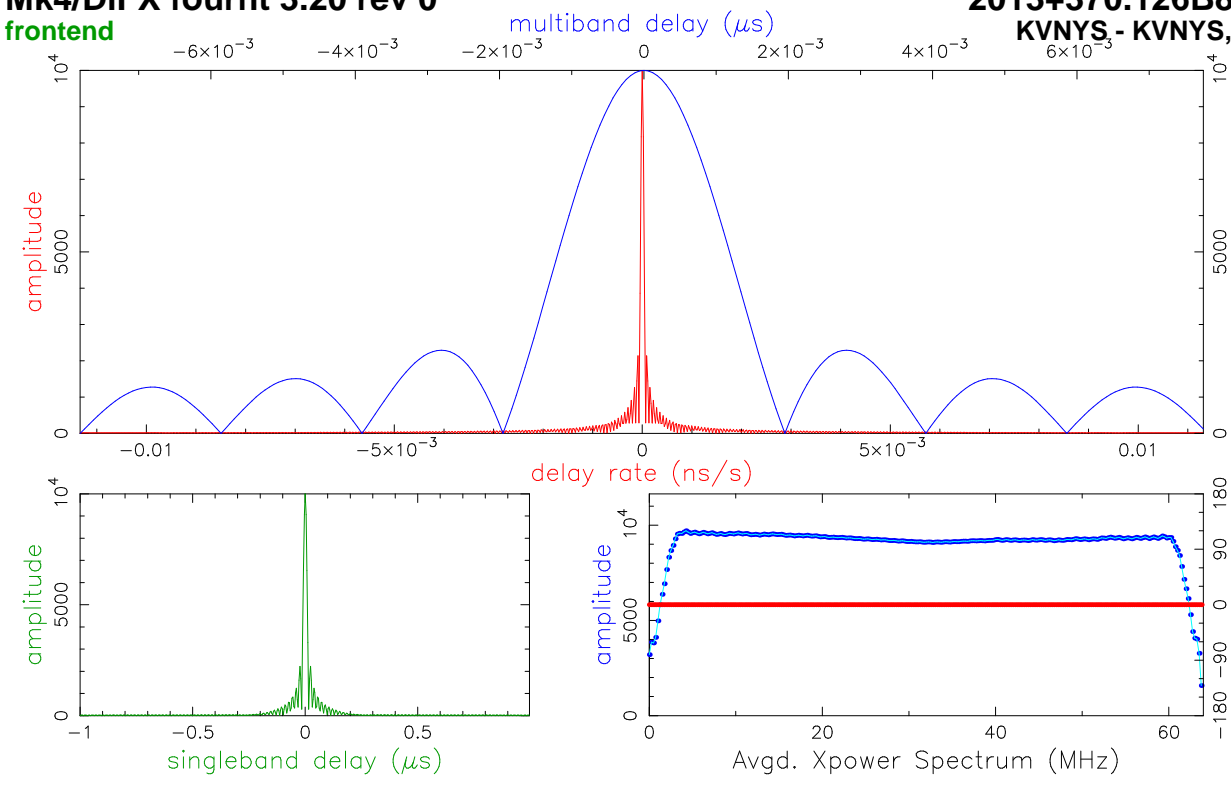


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-28.8	-33.0	27.1	-59.5	39.9	-78.3	12.6	-48.7	Phase	-19.8
	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.3	Ampl.	0.4
	255.5	255.4	254.4	254.7	254.9	253.5	255.0	255.7	Sbd box	255.2
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.81206210648E+02		Apriori delay (usec)		8.81210820863E+02		Resid mbdelay (usec)		-4.61022E-03	+/- 9.7E-05
Sband delay (usec)	8.81203971363E+02		Apriori clock (usec)		1.9560938E+01		Resid sbdelay (usec)		-6.84950E-03	+/- 7.7E-04
Phase delay (usec)	8.81210820224E+02		Apriori clockrate (us/s)		-1.2000001E-07		Resid phdelay (usec)		-6.39110E-07	+/- 3.3E-07
Delay rate (us/s)	-1.73778245592E+00		Apriori rate (us/s)		-1.73778285053E+00		Resid rate (us/s)		3.94606E-07	+/- 3.5E-09
Total phase (deg)	19.5		Apriori accel (us/s/s)		-7.32741740893E-06		Resid phase (deg)		-19.8	+/- 10.3

ph/seg (deg) RMS 74.1 Theor. 24.6 Amplitude 0.321 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 95.6 42.9 Search (1024X32) 0.310 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 46.4 14.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.6 25.3 Inc. seg. avg. 0.495 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 y: az 289.7 el 41.8 pa 69.5 Y: az 70.1 el 38.2 pa -64.0 u,v (fr/asec) 12496.659 -795.029 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yY..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yY.W.108.126B8R simultaneous interpolator

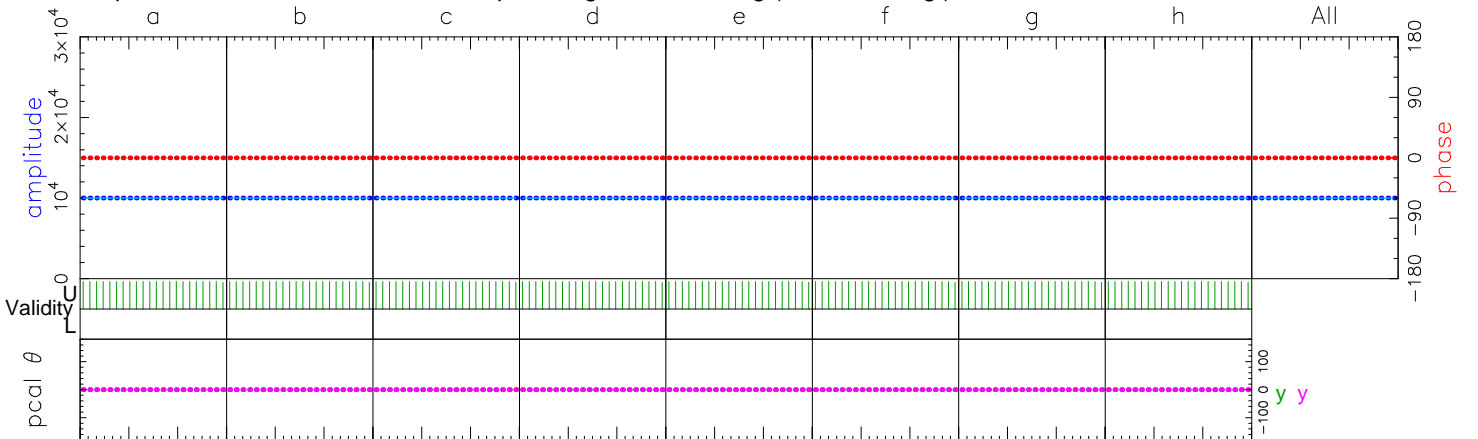
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126B8R, No0011, yy  
KVNYS - KVNYS, fgroup W, pol RR



Fringe quality 9  
SNR 366872.8  
Int time 179.985  
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 150000.00  
Stop 150300.22  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121831  
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		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
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	0.00000E+00	+/- 3.0E-09
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	0.00000E+00	+/- 2.3E-08
Phase delay (usec)	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16934824906E-20	-5.16935E-20	+/- 1.0E-11
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	0.00000E+00	+/- 9.7E-14
Total phase (deg)			-0.0						-0.0	+/- 0.0

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  
y: az 289.7 el 41.8 pa 69.5  
Control file: cf\_1234\_gmva

RMS Theor. 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

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
Bits/sample: 2x2 SampCntNorm: enabled  
Sample rate(MISamp/s): 128  
Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite

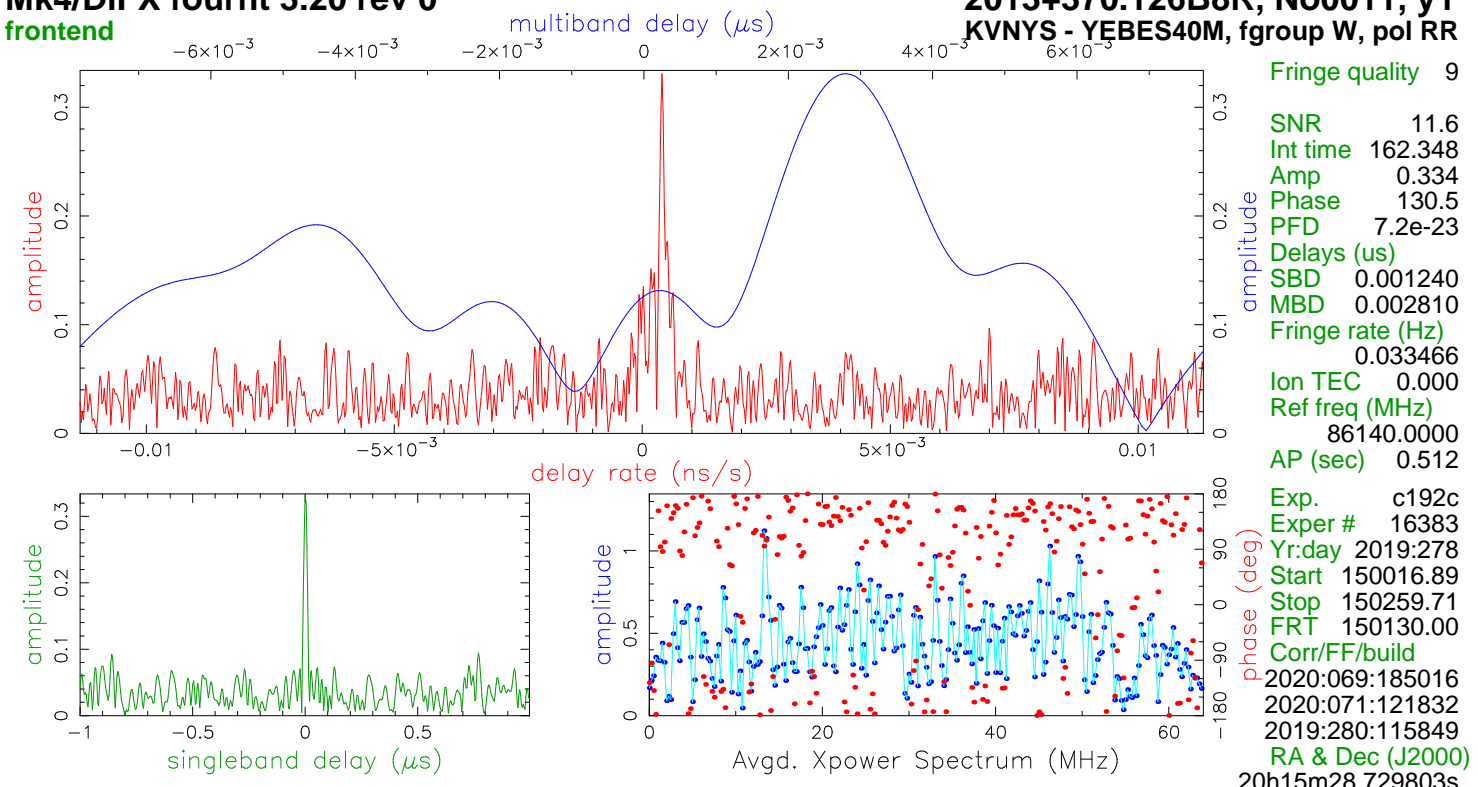
sb window (us) -1.000 1.000  
mb window (us) -0.008 0.008  
dr window (ns/s) -0.011 0.011  
ion window (TEC) 0.00 0.00

simultaneous interpolator

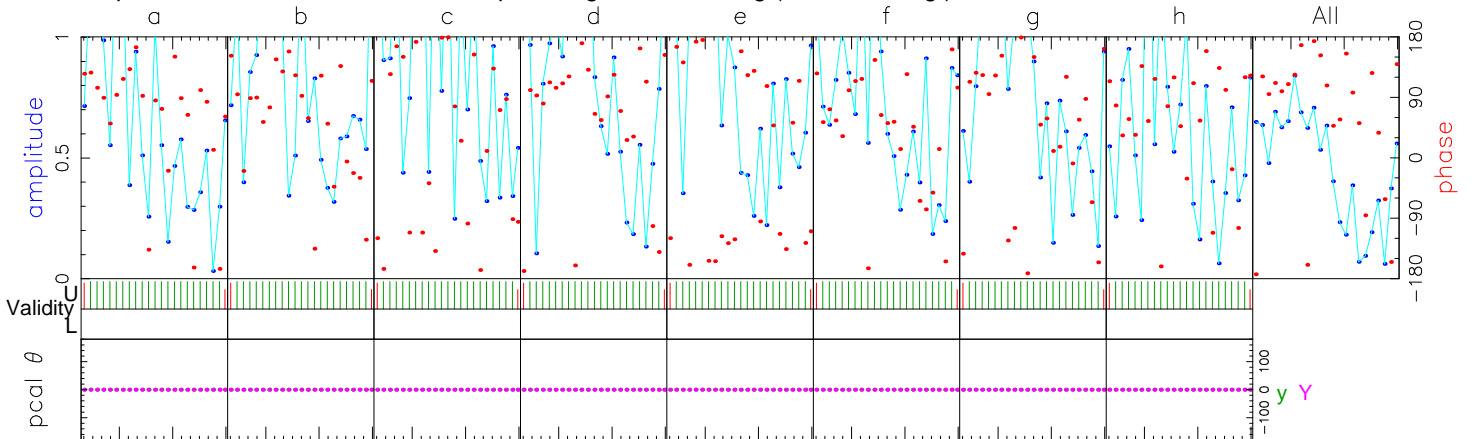
Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yy..126B8R  
Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yy.W.120.126B8R

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126B8R, No0011, yY  
KVNS - YEBES40M, fgroup W, pol RR



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
106.3	97.0	-169.6	128.8	-159.0	93.3	137.2	77.7	77.7	Phase	130.5
0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.3	Ampl.	0.4
258.8	256.9	257.4	256.2	256.9	256.5	257.3	257.8	257.8	Sbd box	257.3
U/L 318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Y:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000		
y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Chan ids	
Y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Tracks	
y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Chan ids	
Y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Tracks	

Group delay (usec)(sbd)	8.81213631148E+02	Apriori delay (usec)	8.81210820863E+02	Resid mbdelay (usec)	2.81028E-03	+/-	9.3E-05
Sband delay (usec)	8.81212060363E+02	Apriori clock (usec)	1.9560938E+01	Resid sbdelay (usec)	1.23950E-03	+/-	7.4E-04
Phase delay (usec)	8.81210825071E+02	Apriori clockrate (us/s)	-1.2000001E-07	Resid phdelay (usec)	4.20762E-06	+/-	3.2E-07
Delay rate (us/s)	-1.73778246202E+00	Apriori rate (us/s)	-1.73778285053E+00	Resid rate (us/s)	3.88505E-07	+/-	3.4E-09
Total phase (deg)	169.8	Apriori accel (us/s/s)	-7.32741740893E-06	Resid phase (deg)	130.5	+/-	9.9

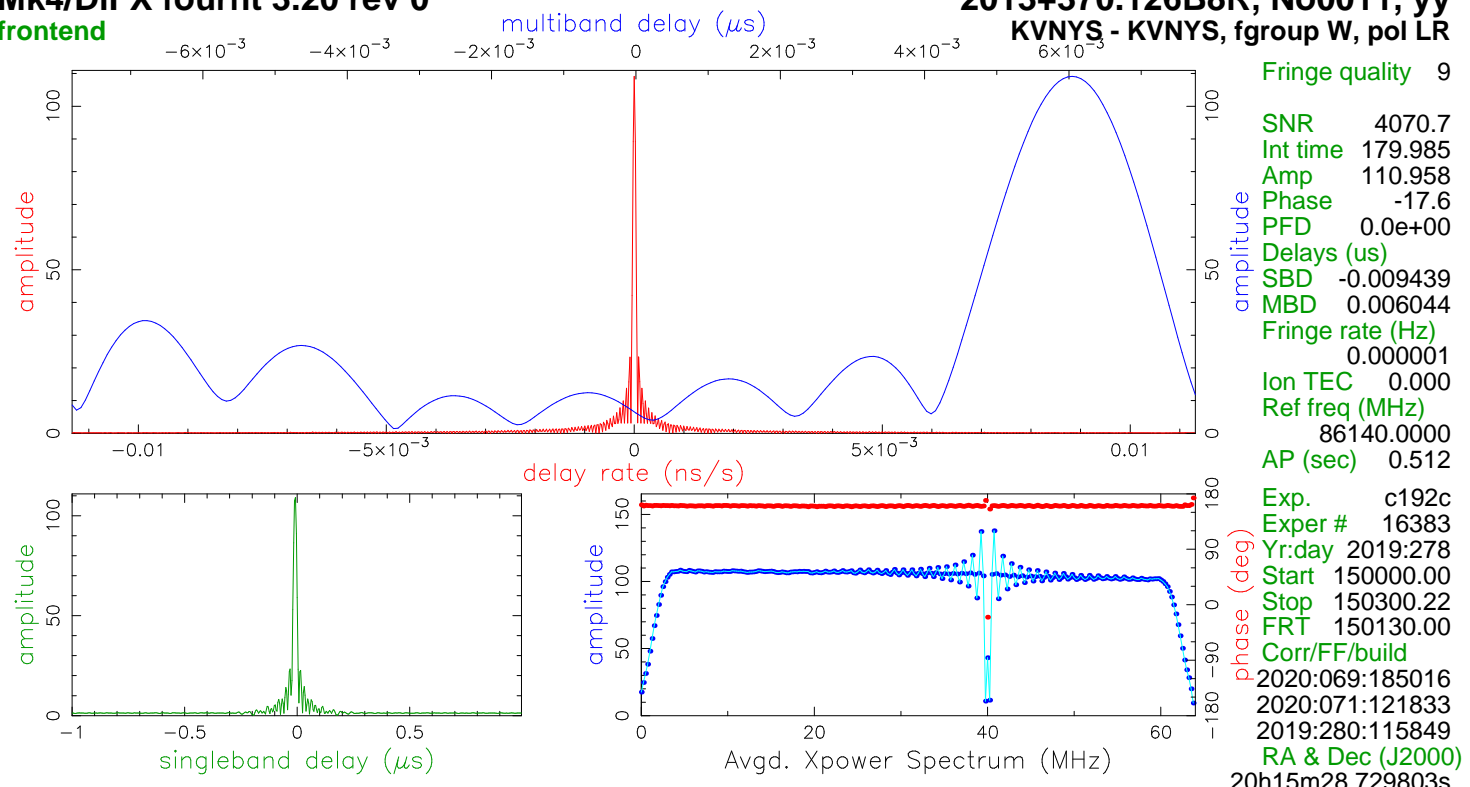
ph/seg (deg)	66.1	23.6	Search (1024X32)	0.318	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	78.6	41.2	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	49.1	13.9	Inc. seg. avg.	0.425	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	40.7	24.3	Inc. frq. avg.	0.430	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

y: az 289.7 el 41.8 pa 69.5      Y: az 70.1 el 38.2 pa -64.0      u,v (fr/asec) 12496.659 -795.029      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yY..126B8R    Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yY.W.126.126B8R

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126B8R, No0011, yy  
KVNYS - KVNYS, fgroup W, pol LR



Fringe quality 9

SNR 4070.7

Int time 179.985

Amp 110.958

Phase -17.6

PFD 0.0e+00

Delays (us)

SBD -0.009439

MBD 0.006044

Fringe rate (Hz) 0.000001

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. c192c

Exper # 16383

Yr:day 2019:278

Start 150000.00

Stop 150300.22

FRT 150130.00

Corr/FF/build

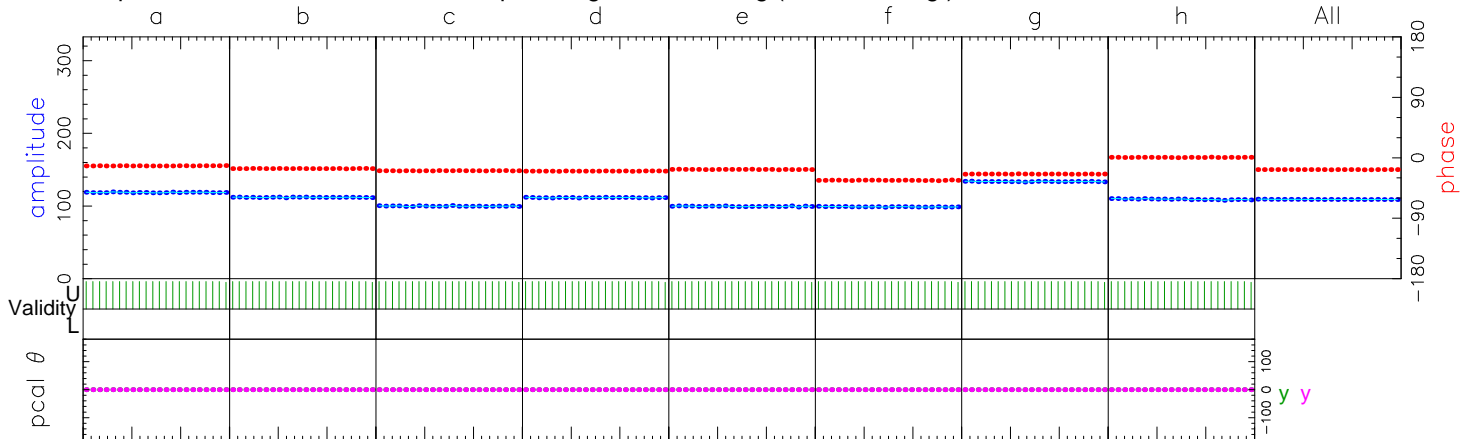
2020:069:185016

2020:071:121833

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
	-12.0	-16.1	-19.3	-19.8	-17.3	-33.5	-24.2	0.6	Phase	-17.6
	118.7	112.0	99.9	111.7	99.7	99.0	133.7	109.3	Ampl.	110.5
	254.5	254.5	254.6	254.6	254.5	254.5	254.8	254.9	Sbd box	254.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-9.58128125000E-03		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		6.04372E-03	+/- 2.7E-07
Sband delay (usec)	-9.43925000000E-03		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		-9.43925E-03	+/- 2.1E-06
Phase delay (usec)	-5.68776044671E-07		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-5.68776E-07	+/- 9.1E-10
Delay rate (us/s)	9.91980667418E-12		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		9.91981E-12	+/- 8.7E-12
Total phase (deg)			Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		-17.6	+/- 0.0

RMS Theor. Amplitude 110.958 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

ph/seg (deg) 0.1 0.1 Search (1024X32) 107.544 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

amp/seg (%) 1.6 0.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

ph/frq (deg) 10.5 0.0 Inc. seg. avg. 109.151 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011

amp/frq (%) 9.9 0.1 Inc. frq. avg. 110.508 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

y: az 289.7 el 41.8 pa 69.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yy..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yy.W.137.126B8R

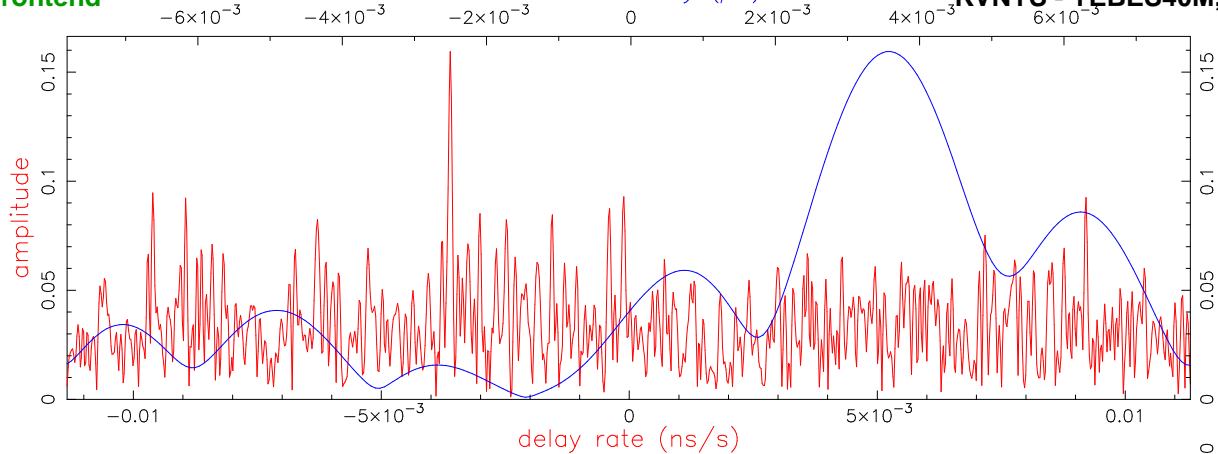
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126B8R, No0011, yY

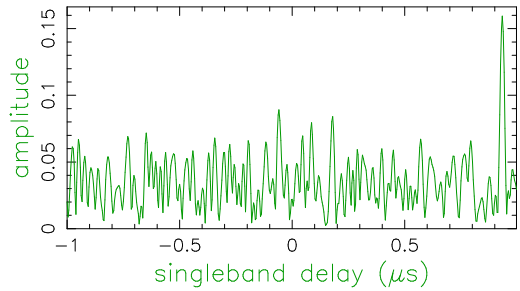
KVNYS - YEBES40M, fgroup W, pol LR

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

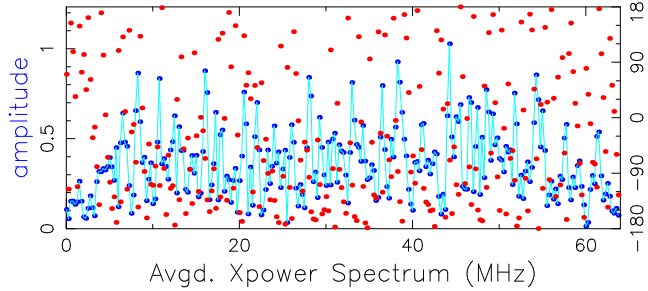


Fringe quality 0

SNR 5.6  
Int time 162.348  
Amp 0.166  
Phase 144.1  
PFD 9.6e-01  
Delays (us)  
SBD 0.933415  
MBD 0.003566  
Fringe rate (Hz)  
-0.311902  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

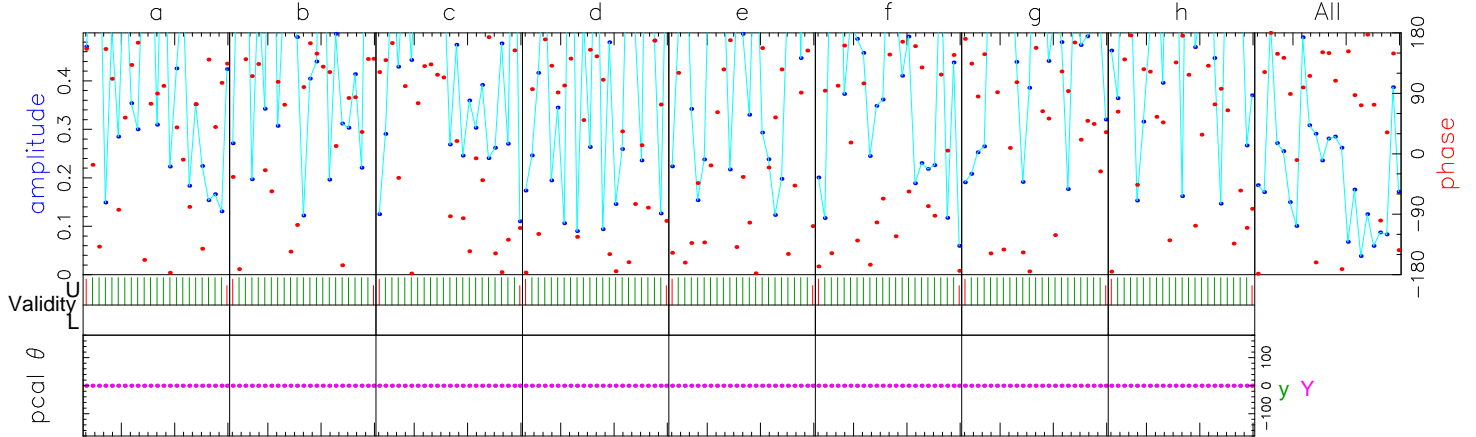


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 150016.89  
Stop 150259.71  
FRT 150130.00  
Corr/FF/build  
2020:069:185016  
2020:071:121834  
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
	109.0	139.8	140.7	177.4	-166.8	169.7	108.9	130.0	Phase	144.1
	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	Ampl.	0.2
	421.7	497.4	267.8	492.6	349.4	315.1	141.8	423.9	Sbd box	496.0
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
y	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)	8.82151886814E+02		Apriori delay (usec)		8.81210820863E+02		Resid mbdelay (usec)		3.56595E-03	+/- 2.0E-04
Sband delay (usec)	8.82144236113E+02		Apriori clock (usec)		1.9560938E+01		Resid sbdelay (usec)		9.33415E-01	+/- 1.6E-03
Phase delay (usec)	8.81210825510E+02		Apriori clockrate (us/s)		-1.2000001E-07		Resid phdelay (usec)		4.64698E-06	+/- 6.6E-07
Delay rate (us/s)	-1.73778647141E+00		Apriori rate (us/s)		-1.73778285053E+00		Resid rate (us/s)		-3.62088E-06	+/- 7.1E-09
Total phase (deg)	183.4		Apriori accel (us/s/s)		-7.32741740893E-06		Resid phase (deg)		144.1	+/- 20.6

ph/seg (deg) 60.7 49.4 Search (1024X32) 0.153 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 88.5 86.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 33.9 29.2 Inc. seg. avg. 0.166 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 24.2 50.9 Inc. frq. avg. 0.165 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 289.7 el 41.8 pa 69.5 Y: az 70.1 el 38.2 pa -64.0 u,v (fr/asec) 12496.659 -795.029 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yY..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yY.W.145.126B8R

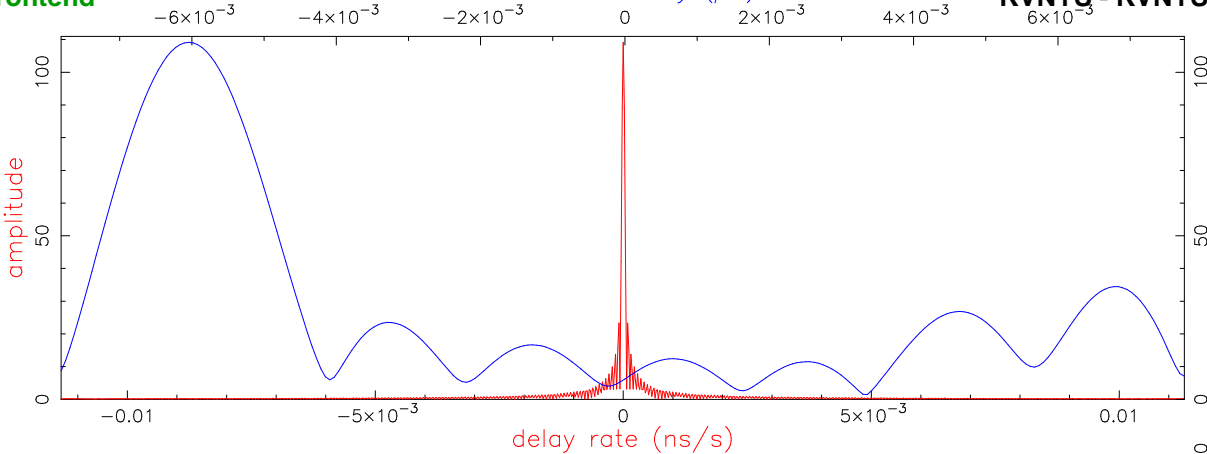
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126B8R, No0011, yy

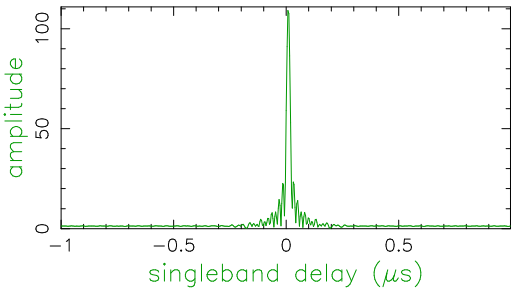
KVNYs - KVNYs, fgroup W, pol RL

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

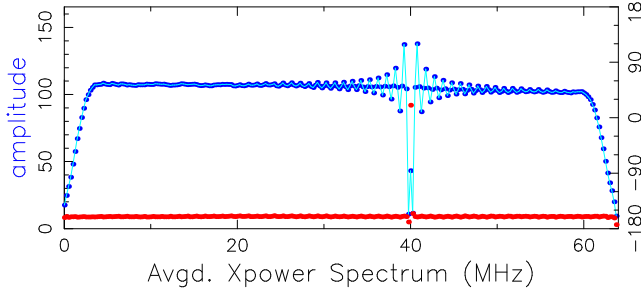


Fringe quality 9

SNR 4070.7  
 Int time 179.985  
 Amp 110.958  
 Phase 17.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.009439  
 MBD -0.006044  
 Fringe rate (Hz)  
 -0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

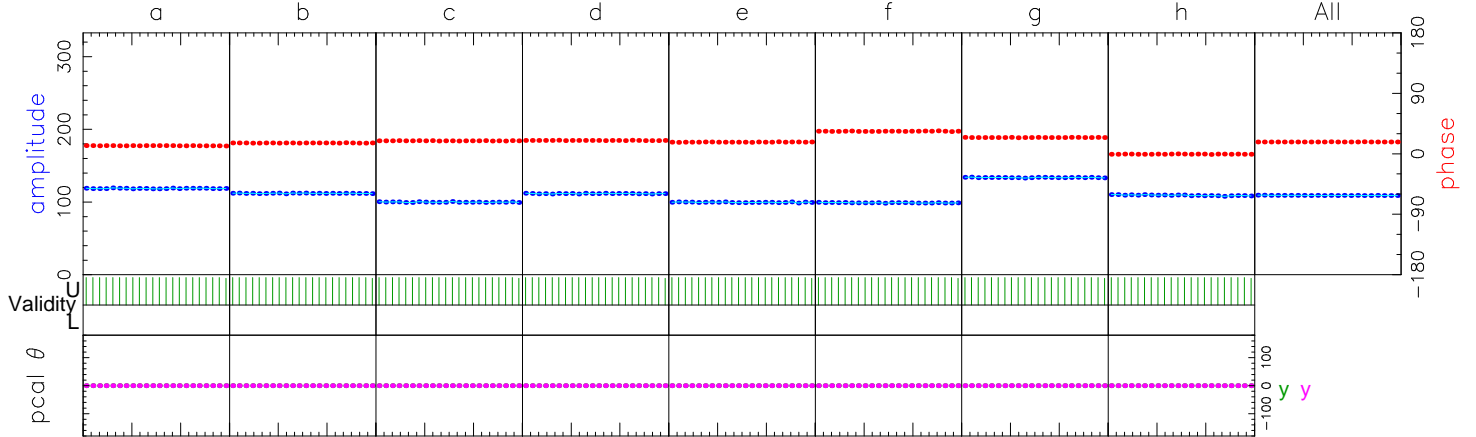


delay rate (ns/s)



Exp. c192c  
 Yr:day 16383  
 Start 2019:278  
 Stop 2019:278  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121836  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

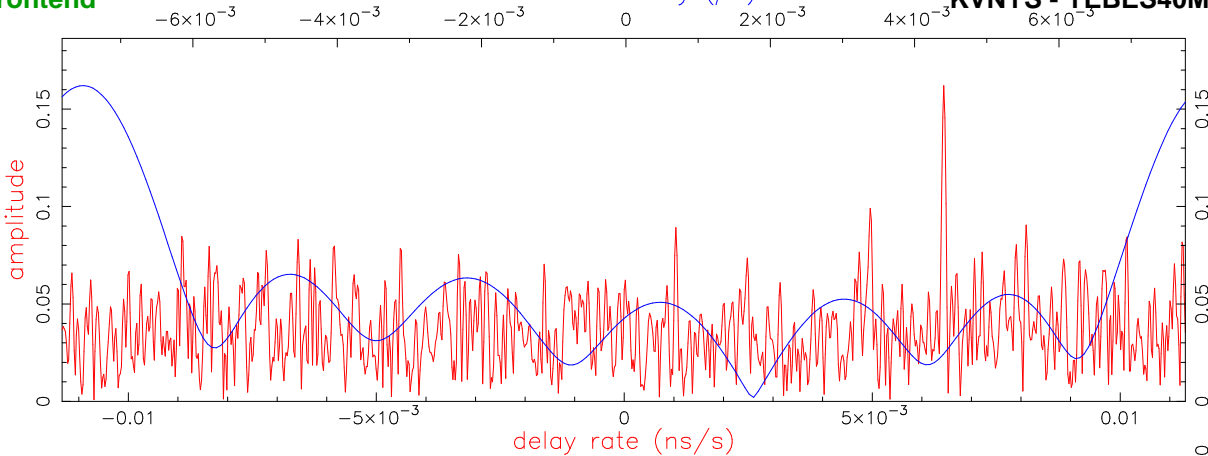
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



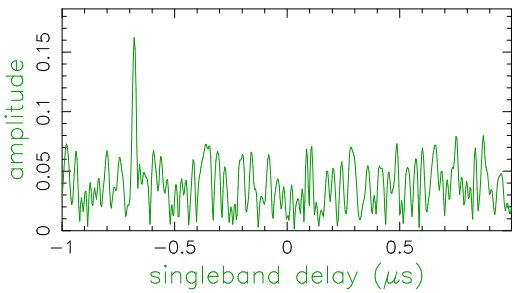
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	9.581281250000E-03									
Sband delay (usec)	9.439250000000E-03									
Phase delay (usec)	5.68776044784E-07									
Delay rate (us/s)	-9.91980667418E-12									
Total phase (deg)			17.6							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal theta										
Chan ids										
Tracks										
Chan ids										
Tracks										
Amplitude			110.958 +/- 0.027							
Search (1024X32)			107.544							
Interp.			0.000							
Inc. seg. avg.			109.151							
Inc. frq. avg.			110.508							
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
simultaneous interpolator										

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

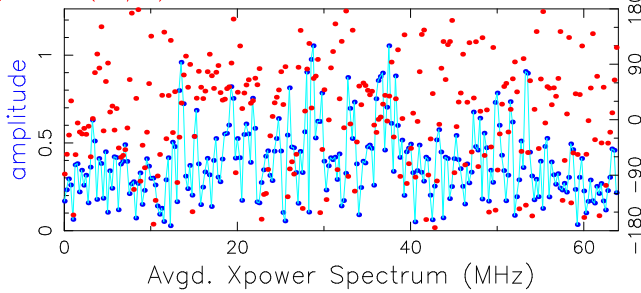
Fringe quality 0



SNR 5.7  
 Int time 162.348  
 Amp 0.186  
 Phase -153.6  
 PFD 8.5e-01  
 Delays (us)  
 SBD -0.679072  
 MBD -0.007521  
 Fringe rate (Hz)  
 0.556461  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

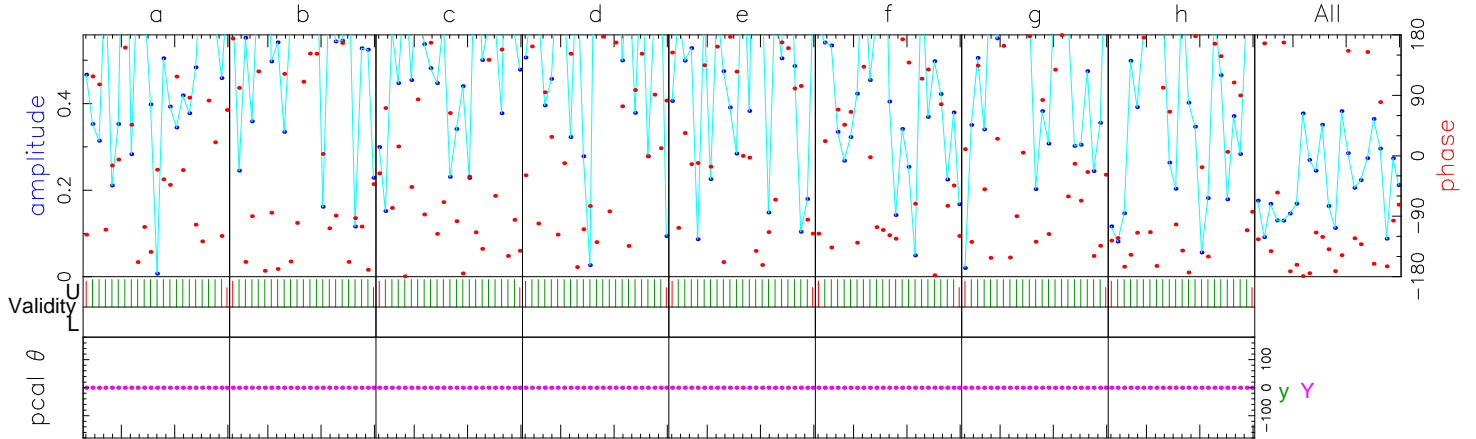


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150016.89  
 Stop 150259.71  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121837  
 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
	-147.3	-166.8	-121.4	-162.4	-165.8	-157.7	-130.3	-161.3	Phase	-153.6
	0.1	0.4	0.2	0.2	0.2	0.1	0.1	0.3	Ampl.	0.2
	63.0	82.8	422.8	393.4	14.9	482.2	487.6	84.2	Sbd box	83.2
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.80531424431E+02		Apriori delay (usec)		8.81210820863E+02		Resid mbdelay (usec)		-7.52143E-03	+/- 1.9E-04
Sband delay (usec)	8.80531748363E+02		Apriori clock (usec)		1.9560938E+01		Resid sbdelay (usec)		-6.79072E-01	+/- 1.5E-03
Phase delay (usec)	8.81210815911E+02		Apriori clockrate (us/s)		-1.2000001E-07		Resid phdelay (usec)		-4.95262E-06	+/- 6.5E-07
Delay rate (us/s)	-1.73777639057E+00		Apriori rate (us/s)		-1.73778285053E+00		Resid rate (us/s)		6.45996E-06	+/- 6.9E-09
Total phase (deg)			Apriori accel (us/s/s)		-7.32741740893E-06		Resid phase (deg)		-153.6	+/- 20.3

RMS Theor. Amplitude 0.186 +/- 0.033 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 46.6 48.6 Search (1024X32) 0.158 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 67.3 84.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 18.7 28.6 Inc. seg. avg. 0.189 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 50.3 50.0 Inc. frq. avg. 0.173 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 y: az 289.7 el 41.8 pa 69.5 Y: az 70.1 el 38.2 pa -64.0 u,v (fr/asec) 12496.659 -795.029 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yY..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yY.W.158.126B8R

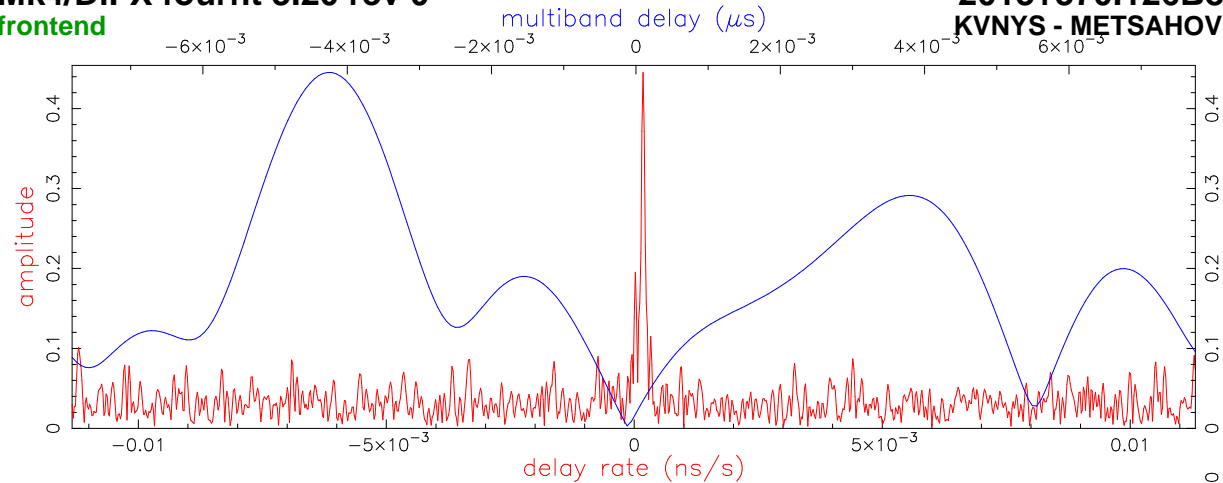


# Mk4/DiFX fourfit 3.20 rev 0

frontend

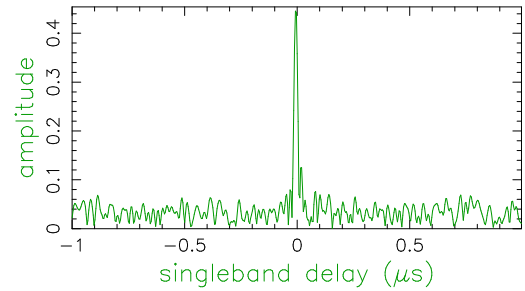
## 2013+370.126B8R, No0011, yZ

KVNYS - METSAHOV, fgroup W, pol LL

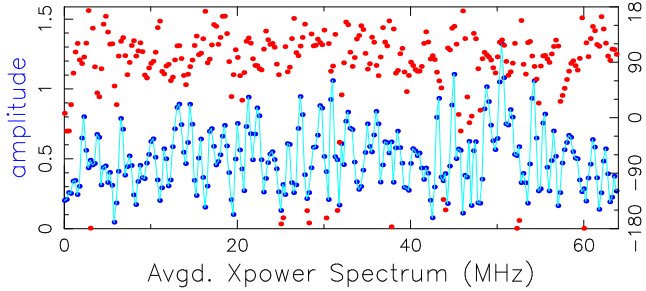


Fringe quality 8

SNR 16.6  
 Int time 179.729  
 Amp 0.454  
 Phase 84.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.006023  
 MBD -0.004220  
 Fringe rate (Hz)  
 0.015822  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

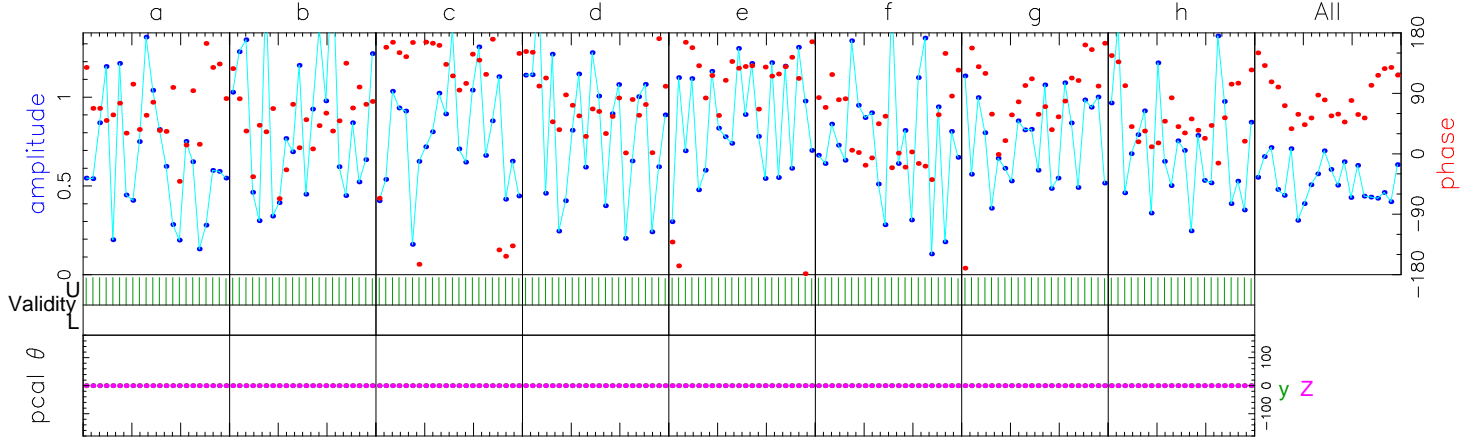


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121838  
 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



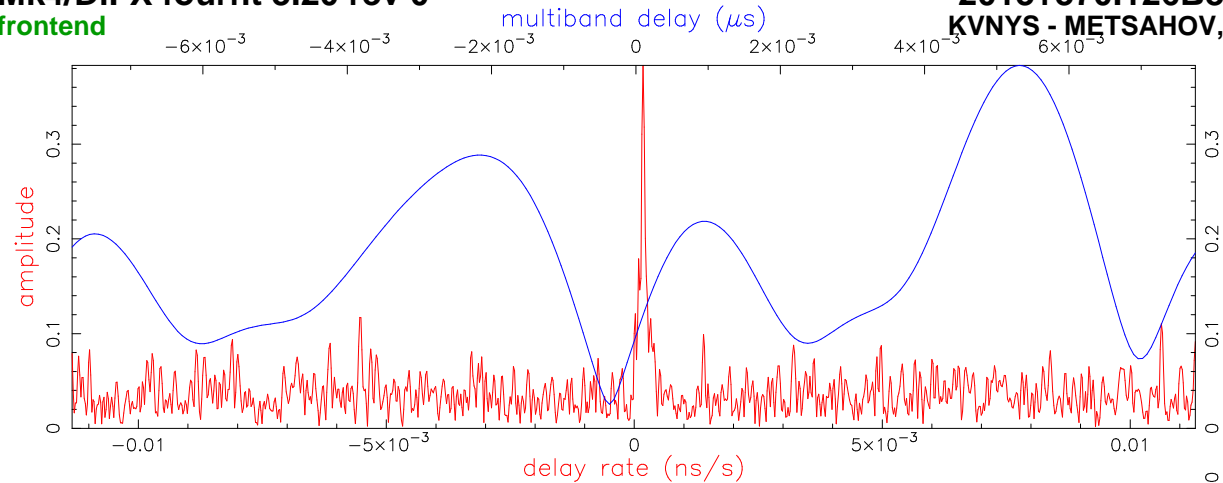
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
y	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)	-3.46942742335E+03				-3.46942320352E+03					+/- 6.5E-05
Sband delay (usec)	-3.46942922677E+03				2.9053318E+01					+/- 5.2E-04
Phase delay (usec)	-3.46942320081E+03				8.3707184E-08					+/- 2.2E-07
Delay rate (us/s)	-1.26513966948E+00				-1.26513985316E+00					+/- 2.1E-09
Total phase (deg)			-186.5		9.39358477530E-07					+/- 6.9
	RMS	Theor.	Amplitude	0.454 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	32.7	16.1	Search (1024X32)	0.434	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	29.7	28.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	48.0	9.7	Inc. seg. avg.	0.509	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	35.5	17.0	Inc. frq. avg.	0.583	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
y: az 289.7 el 41.8 pa 69.5		Z: az 113.3 el 55.6 pa -34.9		u,v (fr/asec) 9099.431 -1822.069						simultaneous interpolator
Control file: cf_1234_gmva		Input file: /Exps/c192c/v1_CygA2/1234/No0011/yZ..126B8R		Output file: /Exps/c192c/v1_CygA2/1234/No0011/yZ.W.159.126B8R						

Mk4/DiFX fourfit 3.20 rev 0

frontend

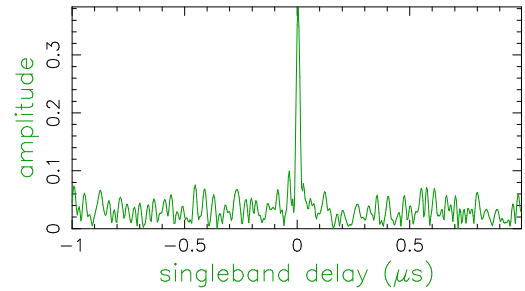
2013+370.126B8R, No0011, yZ

KVNYS - METSAHOV, fgroup W, pol RR

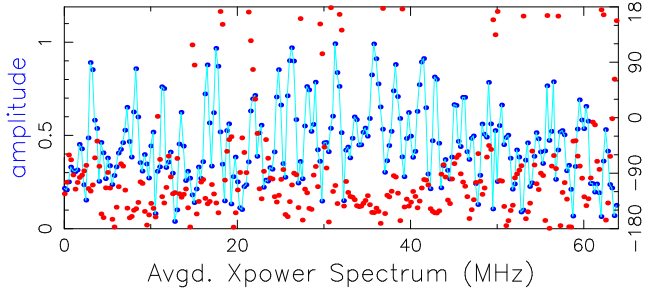


Fringe quality 9

SNR 14.0  
 Int time 179.729  
 Amp 0.383  
 Phase -142.0  
 PFD 2.4e-36  
 Delays (us)  
 SBD 0.003778  
 MBD 0.005316  
 Fringe rate (Hz) 0.015502  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

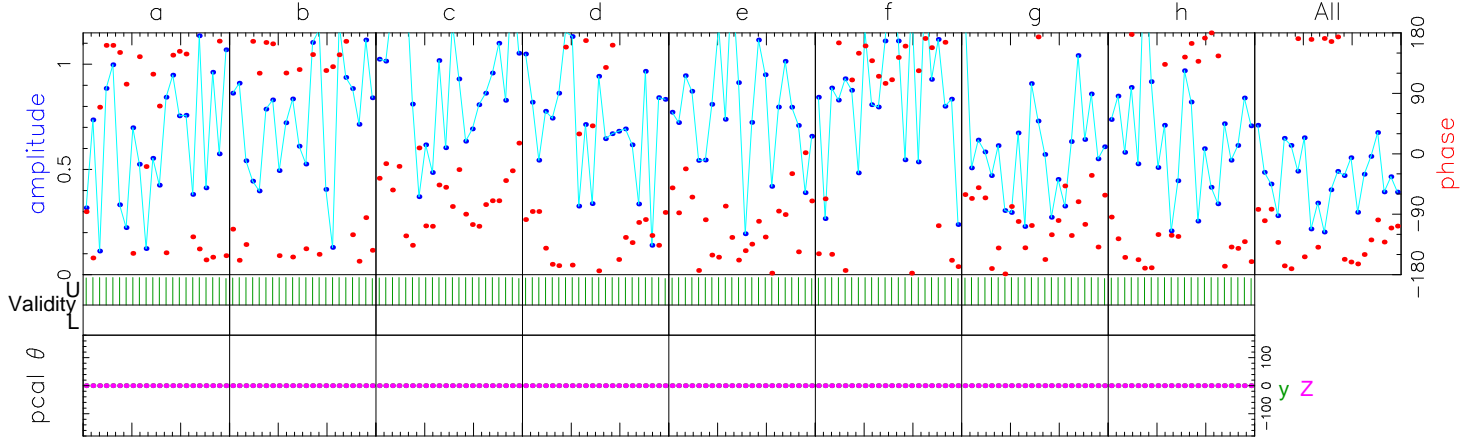


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121840  
 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
	179.5	-171.7	-58.7	-145.4	-104.9	161.3	-96.6	-164.6	Phase	-142.0
	0.5	0.6	0.7	0.5	0.6	0.7	0.4	0.6	Ampl.	0.5
	259.6	257.7	258.1	257.0	256.8	257.1	256.8	258.2	Sbd box	258.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-3.46941788756E+03	Apriori delay (usec)	-3.46942320352E+03	Resid mbdelay (usec)	5.31596E-03	+/-	7.7E-05
Sband delay (usec)	-3.46941942602E+03	Apriori clock (usec)	2.9053318E+01	Resid sbdelay (usec)	3.77750E-03	+/-	6.1E-04
Phase delay (usec)	-3.46942320810E+03	Apriori clockrate (us/s)	8.3707184E-08	Resid phdelay (usec)	-4.57941E-06	+/-	2.6E-07
Delay rate (us/s)	-1.26513967319E+00	Apriori rate (us/s)	-1.26513985316E+00	Resid rate (us/s)	1.79965E-07	+/-	2.5E-09
Total phase (deg)	-52.6	Apriori accel (us/s/s)	9.39358477530E-07	Resid phase (deg)	-142.0	+/-	8.2

ph/seg (deg)	RMS 35.2	Theor. 19.1	Amplitude Search (1024X32)	0.383 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	42.8	33.4	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	52.4	11.5	Inc. seg. avg.	0.442	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
amp/frq (%)	51.9	20.1	Inc. frq. avg.	0.548	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00

y: az 289.7 el 41.8 pa 69.5 Z: az 113.3 el 55.6 pa -34.9 u,v (fr/asec) 9099.431 -1822.069 simultaneous interpolator

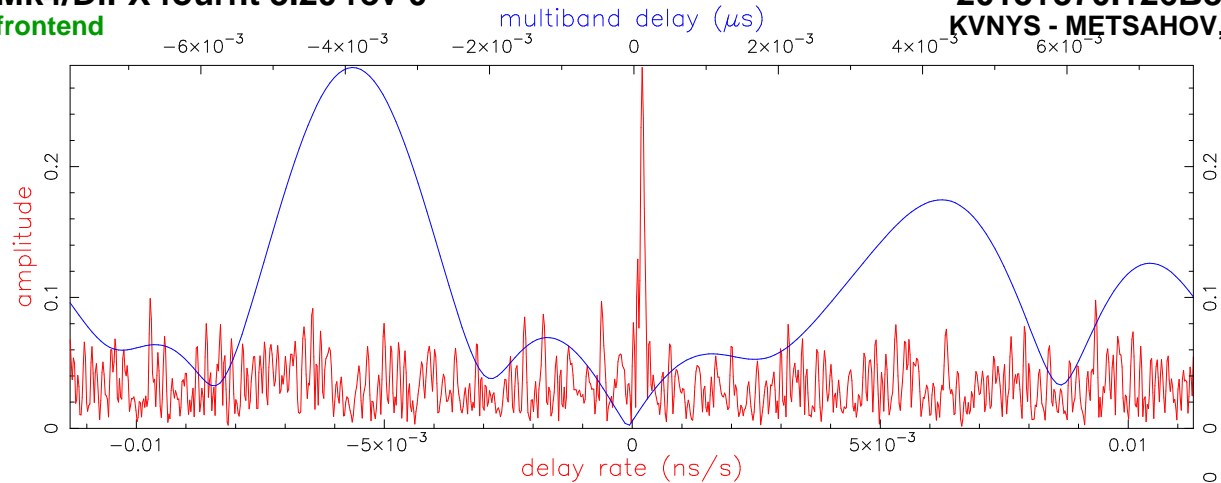
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ.W.165.126B8R

Mk4/DiFX fourfit 3.20 rev 0

frontend

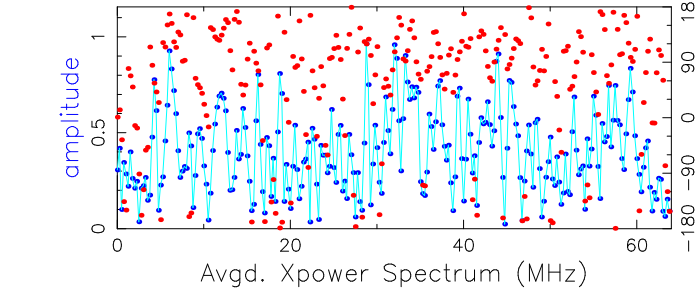
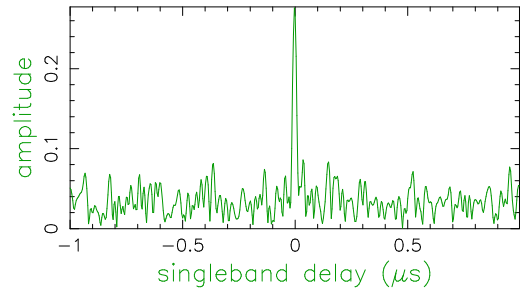
2013+370.126B8R, No0011, yZ

KVNYS - METSAHOV, fgroup W, pol LR



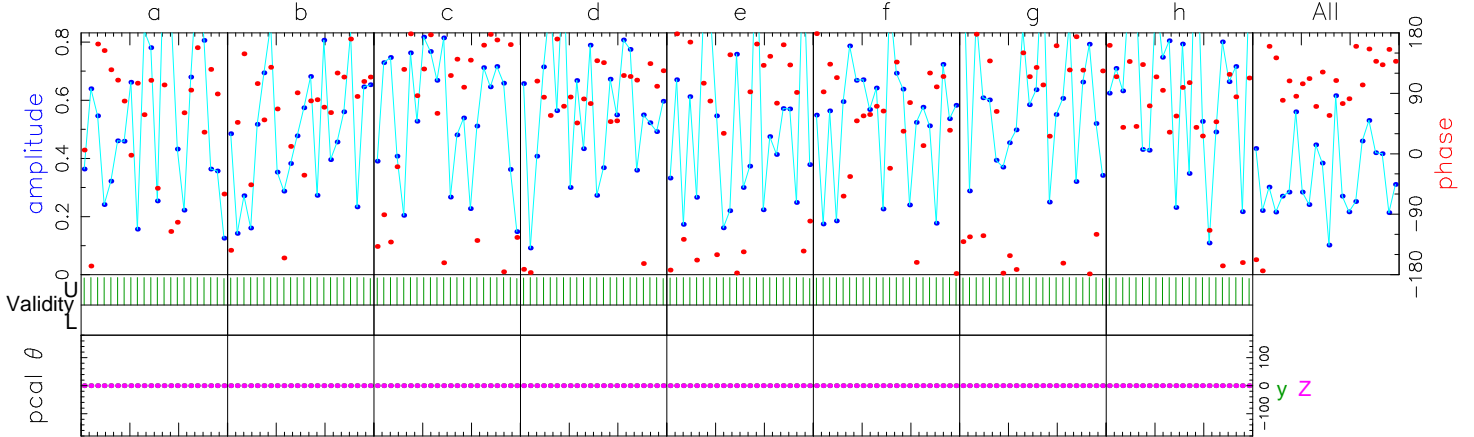
Fringe quality 9

SNR 10.2  
 Int time 179.729  
 Amp 0.277  
 Phase 121.3  
 PFD 6.1e-16  
 Delays (us)  
 SBD -0.002858  
 MBD -0.003888  
 Fringe rate (Hz)  
 0.016307  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121842  
 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



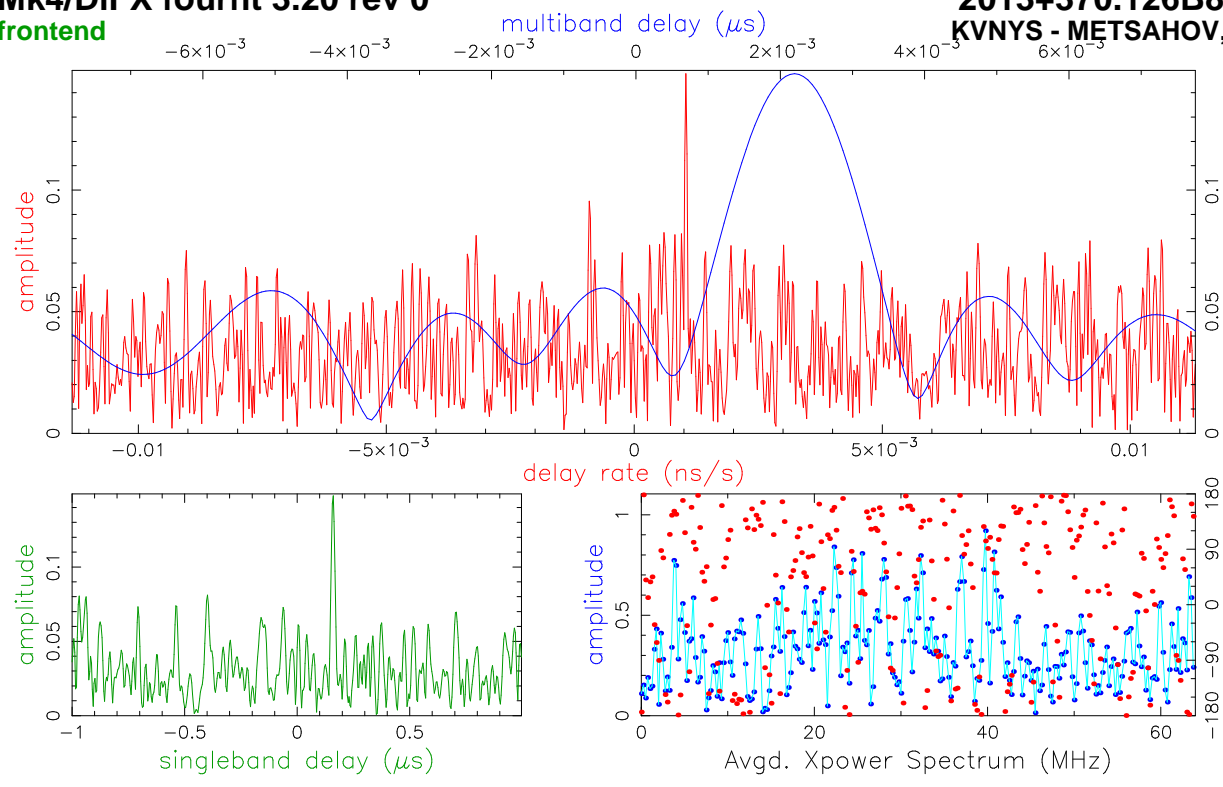
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	106.3	98.4	170.3	99.1	158.4	69.4	163.0	91.6	Phase	121.3
	0.2	0.3	0.3	0.4	0.3	0.2	0.4	0.4	Ampl.	0.3
	258.3	254.8	254.9	256.6	255.0	502.1	255.0	256.1	Sbd box	256.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-3.46942709148E+03	Apriori delay (usec)	-3.46942320352E+03	Resid mbdelay (usec)	-3.88796E-03	+/-	1.1E-04
Sband delay (usec)	-3.46942606177E+03	Apriori clock (usec)	2.9053318E+01	Resid sbdelay (usec)	-2.85825E-03	+/-	8.5E-04
Phase delay (usec)	-3.46942319961E+03	Apriori clockrate (us/s)	8.3707184E-08	Resid phdelay (usec)	3.91247E-06	+/-	3.6E-07
Delay rate (us/s)	-1.26513966385E+00	Apriori rate (us/s)	-1.26513985316E+00	Resid rate (us/s)	1.89307E-07	+/-	3.5E-09
Total phase (deg)	-149.2	Apriori accel (us/s/s)	9.39358477530E-07	Resid phase (deg)	121.3	+/-	11.3

ph/seg (deg)	RMS 37.9	Theor. 26.4	Amplitude Search (1024X32)	0.277 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	51.4	46.1	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	41.5	15.9	Inc. seg. avg.	0.306	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
amp/frq (%)	36.5	27.8	Inc. frq. avg.	0.324	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00

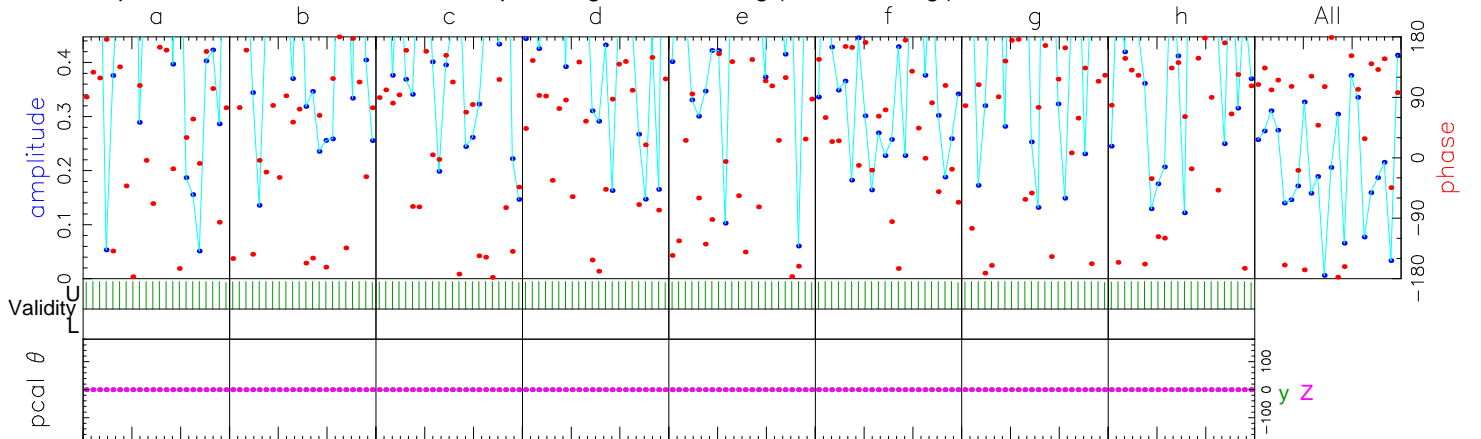
y: az 289.7 el 41.8 pa 69.5 Z: az 113.3 el 55.6 pa -34.9 u,v (fr/asec) 9099.431 -1822.069 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ.W.170.126B8R



Fringe quality 0  
 SNR 5.5  
 Int time 179.729  
 Amp 0.149  
 Phase 130.2  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.159099  
 MBD 0.002182  
 Fringe rate (Hz) 0.089852  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 150000.00  
 Stop 150300.22  
 FRT 150130.00  
 Corr/FF/build  
 2020:069:185016  
 2020:071:121844  
 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
	142.4	125.2	148.6	102.3	150.0	63.5	153.6	136.9	Phase	130.2
	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2	Ampl.	0.1
	230.3	294.8	468.6	386.4	293.3	16.0	9.4	370.7	Sbd box	297.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.46926477157E+03		Apriori delay (usec)		-3.46942320352E+03		Resid mbdelay (usec)		2.18196E-03	+/- 2.0E-04
Sband delay (usec)	-3.46926410452E+03		Apriori clock (usec)		2.9053318E+01		Resid sbdelay (usec)		1.59099E-01	+/- 1.6E-03
Phase delay (usec)	-3.46942319933E+03		Apriori clockrate (us/s)		8.3707184E-08		Resid phdelay (usec)		4.19846E-06	+/- 6.8E-07
Delay rate (us/s)	-1.26513881007E+00		Apriori rate (us/s)		-1.26513985316E+00		Resid rate (us/s)		1.04309E-06	+/- 6.5E-09
Total phase (deg)			Apriori accel (us/s/s)		9.39358477530E-07		Resid phase (deg)		130.2	+/- 21.0

ph/seg (deg) 65.4 49.3 Search (1024X32) 0.144 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 83.4 86.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 33.5 29.7 Inc. seg. avg. 0.154 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 30.6 51.9 Inc. frq. avg. 0.146 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 289.7 el 41.8 pa 69.5 Z: az 113.3 el 55.6 pa -34.9 u,v (fr/asec) 9099.431 -1822.069 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ..126B8R Output file: /Exps/c192c/v1\_CygA2/1234/No0011/yZ.W.175.126B8R