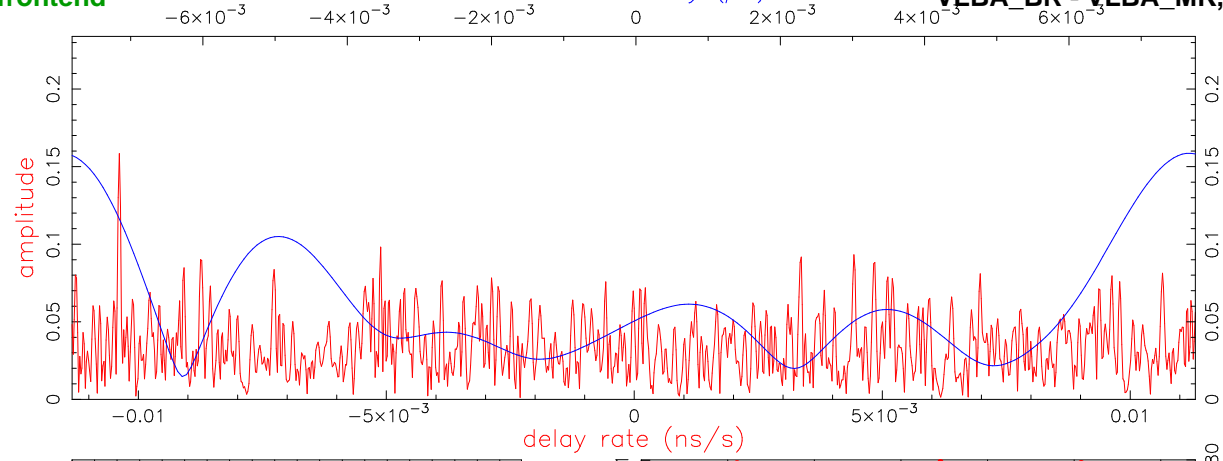
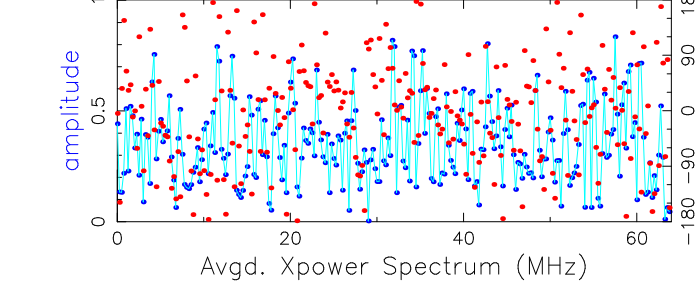
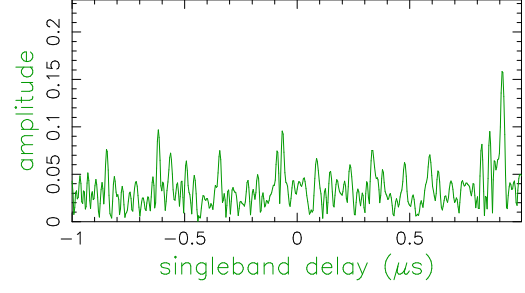


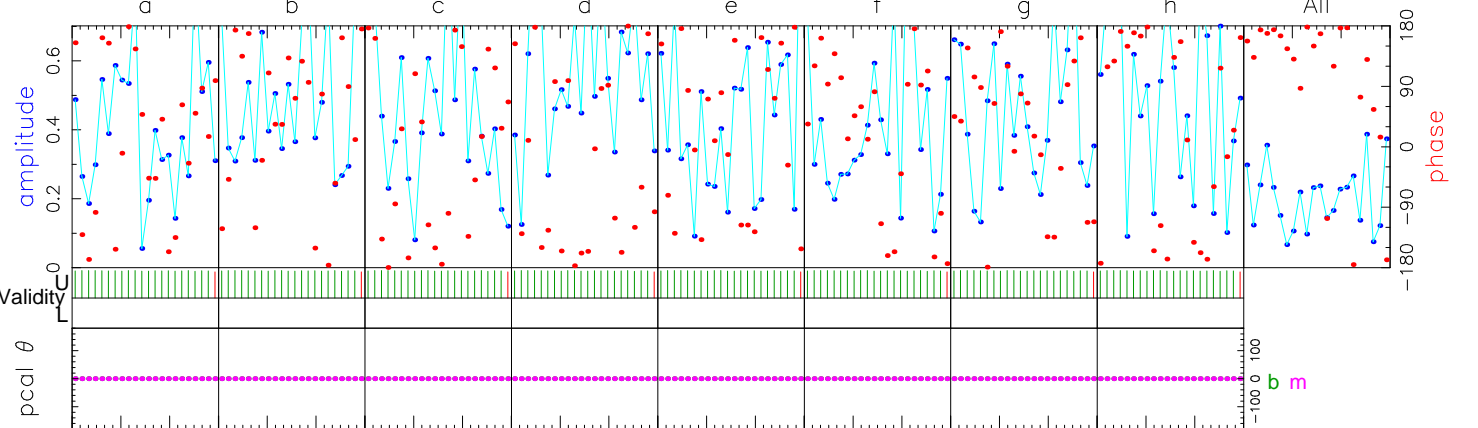
multiband delay (μ s)



Fringe quality 0
 SNR 5.9
 Int time 177.864
 Amp 0.234
 Phase 157.6
 PFD 4.2e-01
 Delays (us)
 SBD 0.911913
 MBD -0.007895
 Fringe rate (Hz)
 -0.895717
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133240
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

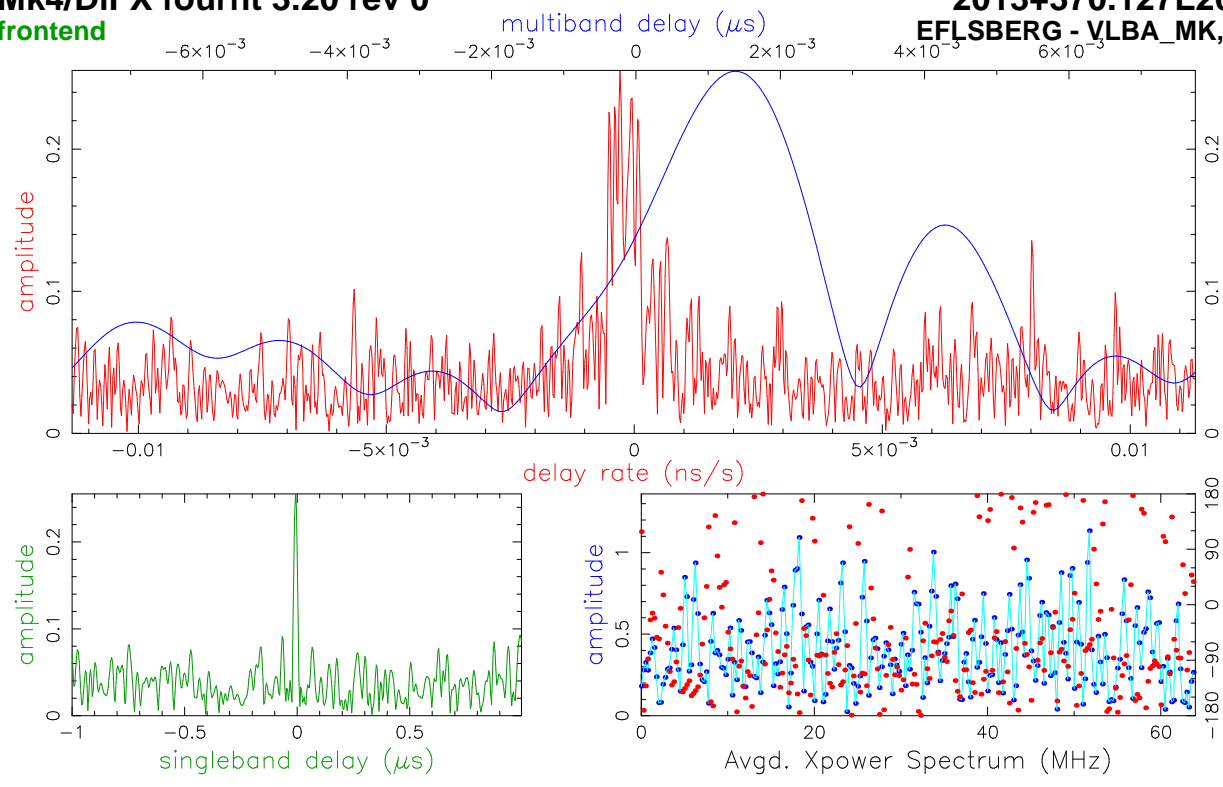


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



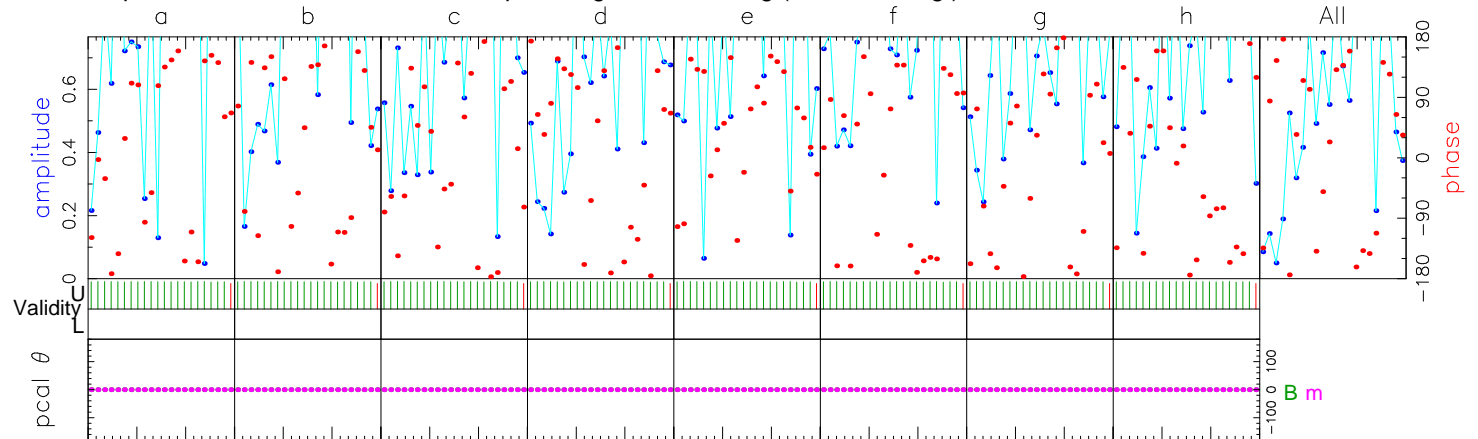
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	125.7	127.6	-165.8	-172.9	-173.1	117.5	98.7	166.0	Phase	157.6
	0.1	0.2	0.3	0.4	0.2	0.3	0.2	0.5	Ampl.	0.2
	185.8	440.6	280.6	490.3	13.5	124.4	18.3	490.9	Sbd box	490.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.30102687628E+03		Apriori delay (usec)	8.30011289618E+03	Resid mbdelay (usec)	-7.89490E-03	+/-	1.8E-04		
Sband delay (usec)	8.30102480918E+03		Apriori clock (usec)	-3.2208405E+00	Resid sbdelay (usec)	9.11913E-01	+/-	1.5E-03		
Phase delay (usec)	8.30011290126E+03		Apriori clockrate (us/s)	-2.3370279E-07	Resid phdelay (usec)	5.08299E-06	+/-	6.3E-07		
Delay rate (us/s)	-6.52017855463E-01		Apriori rate (us/s)	-6.52007457071E-01	Resid rate (us/s)	-1.039984E-05	+/-	6.0E-09		
Total phase (deg)		113.3	Apriori accel (us/s/s)	-1.64700089098E-05	Resid phase (deg)	157.6	+/-	19.5		

ph/seg (deg) 52.2 45.8 Search (1024X32) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 62.8 79.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 41.1 27.6 Inc. seg. avg. 0.225 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 47.8 48.2 Inc. frq. avg. 0.246 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 b: az 106.2 el 66.1 pa -53.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4684.040 1847.915 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/bm.W.26.127L20



Fringe quality 9
 SNR 9.3
 Int time 178.502
 Amp 0.255
 Phase 154.4
 PFD 2.1e-12
 Delays (us)
 SBD -0.007216
 MBD 0.001394
 Fringe rate (Hz)
 -0.024675
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133240
 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

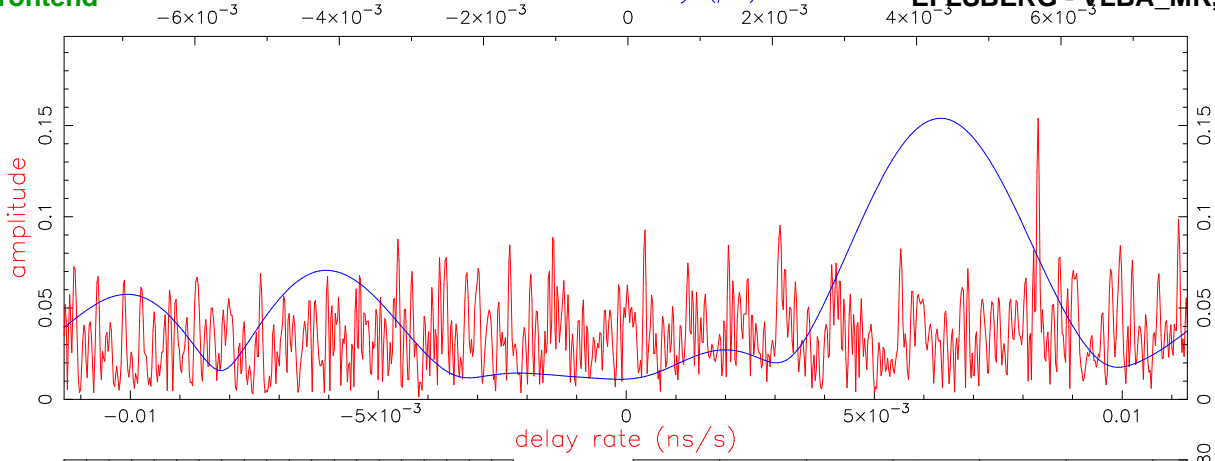


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-2.67437594932E+03									
Sband delay (usec)	-2.67436893474E+03									
Phase delay (usec)	-2.67436171351E+03									
Delay rate (us/s)	-1.83138156621E+00									
Total phase (deg)			-0.7							
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)									154.4	+/- 12.3
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)										

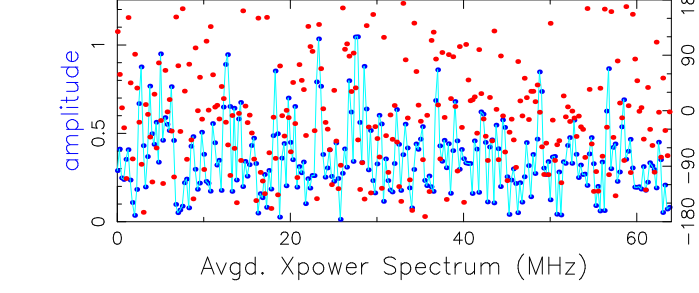
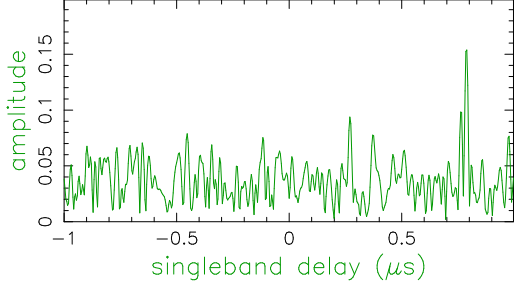
ph/seg (deg) 73.5 28.8 Amplitude 0.255 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 163.4 50.3 Search (1024X32) 0.253 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 38.8 17.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 27.0 30.3 Inc. seg. avg. 0.488 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 Inc. frq. avg. 0.285 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 B: az 300.3 el 23.8 pa 43.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 13215.258 5592.320 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Bm.W.28.127L20

multiband delay (μ s)

Fringe quality 0

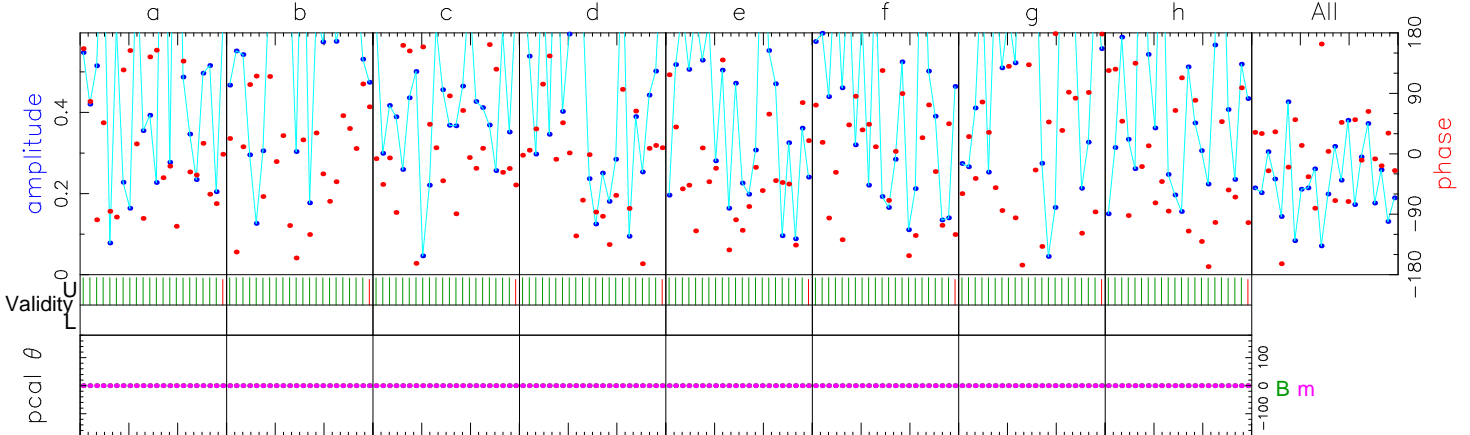


SNR 5.8
 Int time 178.502
 Amp 0.199
 Phase -6.5
 PFD 6.5e-01
 Delays (us)
 SBD 0.787253
 MBD 0.004292
 Fringe rate (Hz)
 0.716283
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133242
 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



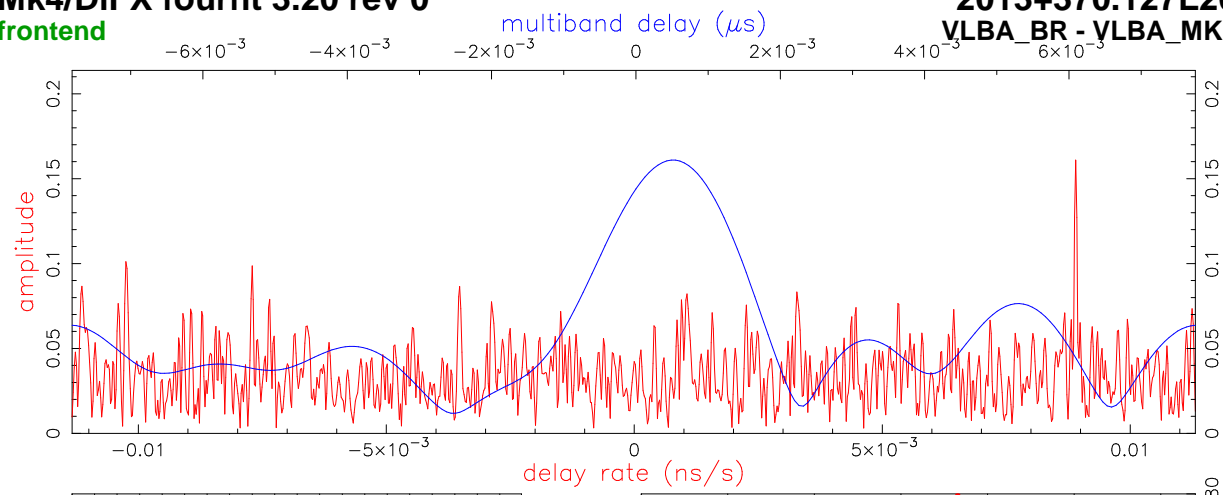
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-39.7	13.8	-13.6	4.0	-38.1	20.8	33.2	-23.3		-6.5
	0.2	0.3	0.2	0.2	0.2	0.3	0.0	0.2		0.2
	456.0	457.7	69.8	76.2	427.1	222.2	245.8	112.4		458.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:m	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		
m	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd) -2.67357617656E+03 Apriori delay (usec) -2.67436171849E+03 Resid mbdelay (usec) 4.29193E-03 +/- 1.9E-04
 Sband delay (usec) -2.67357446524E+03 Apriori clock (usec) 1.4201283E+01 Resid sbdelay (usec) 7.87253E-01 +/- 1.5E-03
 Phase delay (usec) -2.67436171870E+03 Apriori clockrate (us/s) -1.9130770E-07 Resid phdelay (usec) -2.10834E-07 +/- 6.4E-07
 Delay rate (us/s) -1.83137296442E+00 Apriori rate (us/s) -1.83138127976E+00 Resid rate (us/s) 8.31534E-06 +/- 6.2E-09
 Total phase (deg) -161.6 Apriori accel (us/s/s) 4.38429498896E-05 Resid phase (deg) -6.5 +/- 19.9

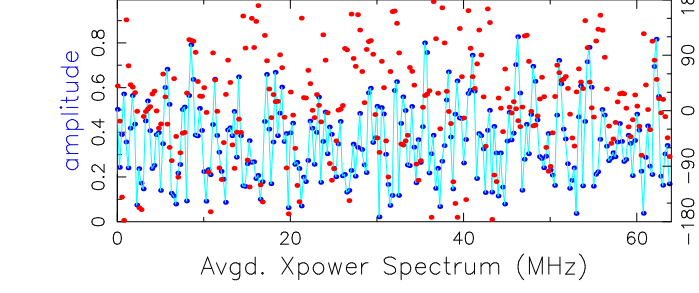
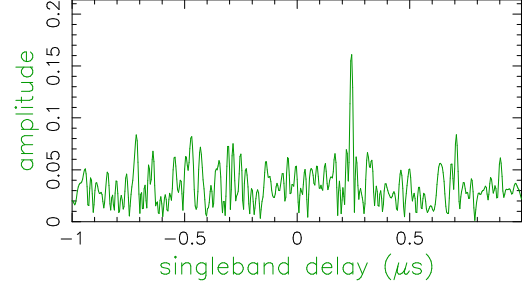
RMS Theor. Amplitude 0.199 +/- 0.035 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 63.8 46.7 Search (1024X32) 0.146 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 73.3 81.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 29.7 28.1 Inc. seg. avg. 0.219 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 41.2 49.1 Inc. frq. avg. 0.189 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

Mk4/DiFX fourfit 3.20 rev 0
frontend

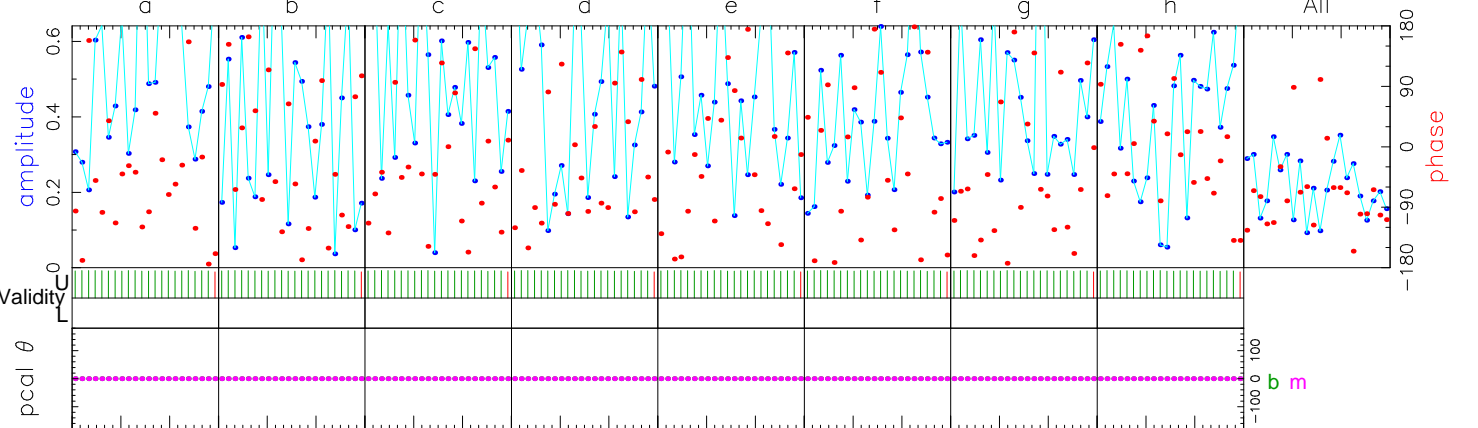
2013+370.127L20, No0075, bm
VLBA_BR - VLBA_MK, fgroup W, pol LL



Fringe quality 0
SNR 6.0
Int time 177.864
Amp 0.214
Phase -83.5
PFD 2.8e-01
Delays (us)
SBD 0.240848
MBD 0.000489
Fringe rate (Hz) 0.768734
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build 2020:070:111948
2020:071:133237
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
	-75.2	-113.3	-74.8	-82.7	-75.4	-166.5	-102.5	-35.4		Phase -83.5
	0.4	0.2	0.3	0.3	0.2	0.1	0.3	0.2		Ampl. 0.2
	318.7	475.9	475.4	16.6	289.0	82.8	99.1	403.3		Sbd box 318.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
b	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
b:m	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
m	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks
										Tracks
Group delay (usec)(sbd)	8.30034776047E+03		Apriori delay (usec)		8.30011289618E+03		Resid mbdelay (usec)		4.89290E-04 +/- 1.8E-04	
Sband delay (usec)	8.30035374393E+03		Apriori clock (usec)		-3.2208405E+00		Resid sbdelay (usec)		2.40848E-01 +/- 1.4E-03	
Phase delay (usec)	8.30011289349E+03		Apriori clockrate (us/s)		-2.3370279E-07		Resid phdelay (usec)		-2.69338E-06 +/- 6.2E-07	
Delay rate (us/s)	-6.51998532836E-01		Apriori rate (us/s)		-6.52007457071E-01		Resid rate (us/s)		8.92423E-06 +/- 6.0E-09	
Total phase (deg)	232.1		Apriori accel (us/s/s)		-1.64700089098E-05		Resid phase (deg)		-83.5 +/- 19.2	

ph/seg (deg) 62.8 45.1 Search (1024X32) 0.157 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 58.3 78.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 42.2 27.2 Inc. seg. avg. 0.219 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 39.2 47.5 Inc. frq. avg. 0.213 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
b: az 106.2 el 66.1 pa -53.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4684.040 1847.915 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/bm.W.6.127L20

Mk4/DiFX fourfit 3.20 rev 0

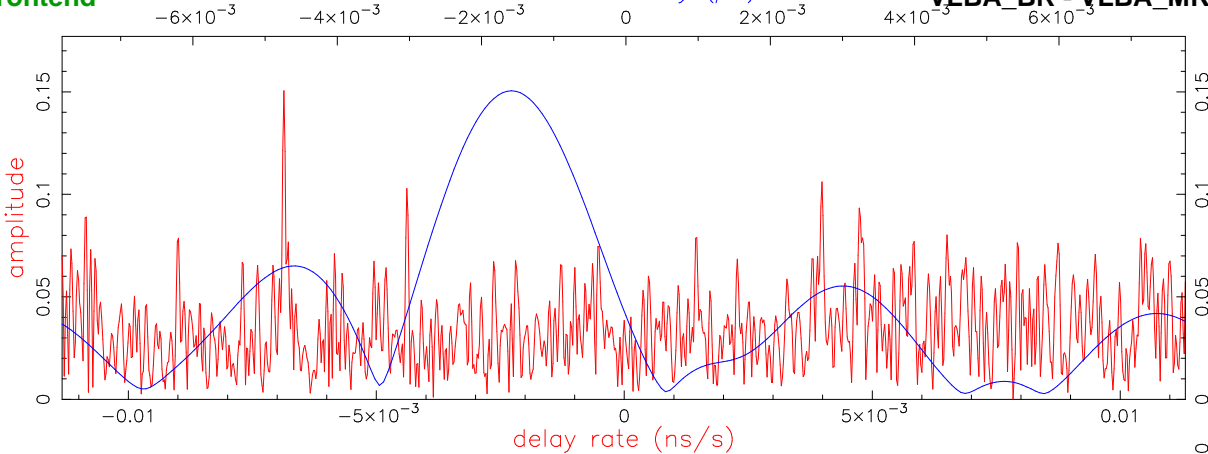
frontend

2013+370.127L20, No0075, bm

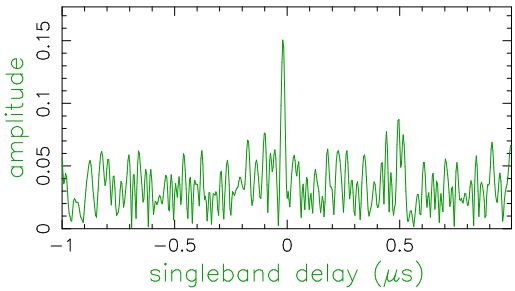
VLBA_BR - VLBA_MK, fgroup W, pol RL

multiband delay (μ s)

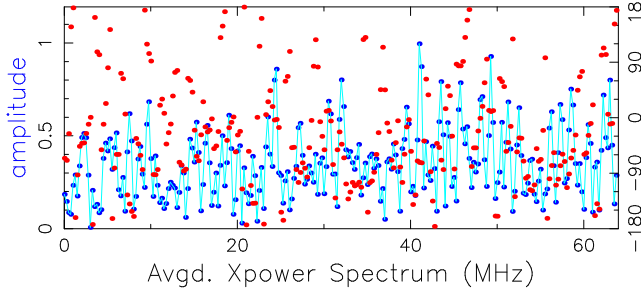
Fringe quality 0



SNR 5.5
 Int time 177.864
 Amp 0.177
 Phase 124.8
 PFD 9.8e-01
 Delays (us)
 SBD -0.018485
 MBD -0.001581
 Fringe rate (Hz)
 -0.592850
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

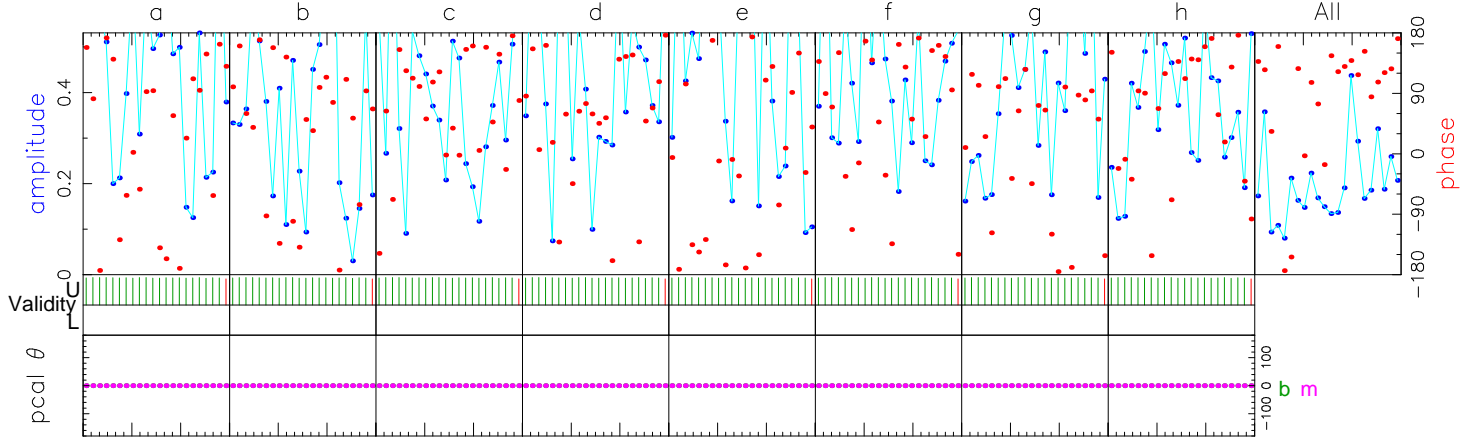


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133244
 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
	145.7	104.5	97.2	114.6	172.9	128.9	99.1	134.8	Phase	124.8
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.2
	471.8	23.8	321.4	157.7	71.5	128.5	119.6	323.9	Sbd box	252.3
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	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	8.30009568974E+03	Apriori delay (usec)	8.30011289618E+03	Resid mbdelay (usec)	-1.58144E-03	+/-	2.0E-04
Sband delay (usec)	8.30009441093E+03	Apriori clock (usec)	-3.2208405E+00	Resid sbdelay (usec)	-1.84852E-02	+/-	1.6E-03
Phase delay (usec)	8.30011290020E+03	Apriori clockrate (us/s)	-2.3370279E-07	Resid phdelay (usec)	4.02583E-06	+/-	6.7E-07
Delay rate (us/s)	-6.52014339477E-01	Apriori rate (us/s)	-6.52007457071E-01	Resid rate (us/s)	-6.88241E-06	+/-	6.4E-09
Total phase (deg)		Apriori accel (us/s/s)	-1.64700089098E-05	Resid phase (deg)	124.8	+/-	20.8

ph/seg (deg)	RMS 54.2	Theor. 48.7	Amplitude Search (1024X32)	0.177 +/- 0.032	0.148	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	65.0	84.9	Interp.	0.000	0.172	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	28.3	29.3	Inc. seg. avg.	0.172	0.171	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	16.8	51.2	Inc. frq. avg.	0.171		Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

b: az 106.2 el 66.1 pa -53.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4684.040 1847.915 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/bm.W.66.127L20

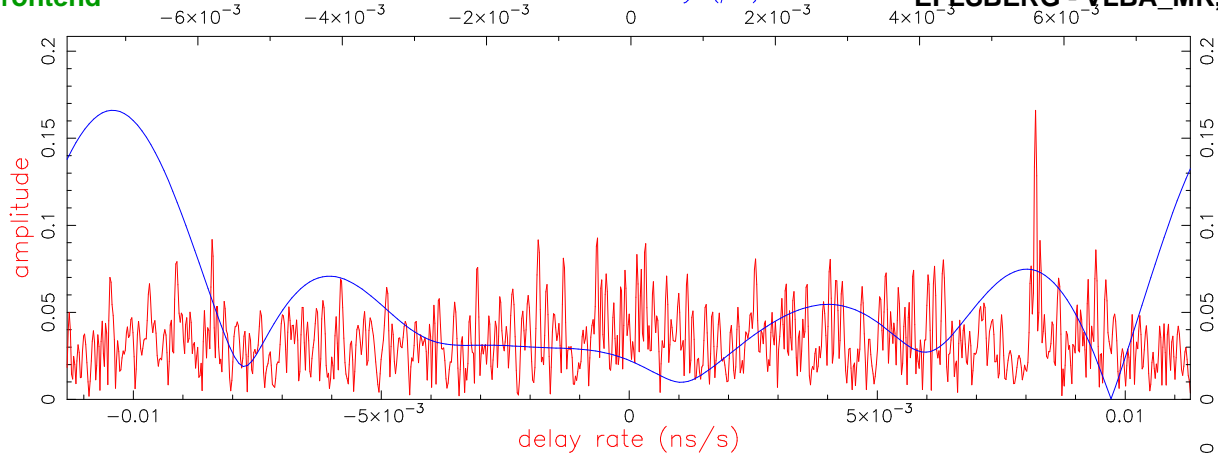
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, Bm

EFLSBERG - VLBA_MK, fgroup W, pol RL

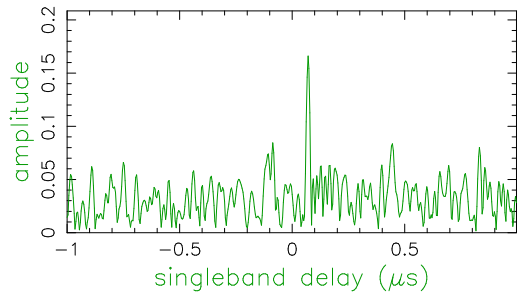
multiband delay (μ s)



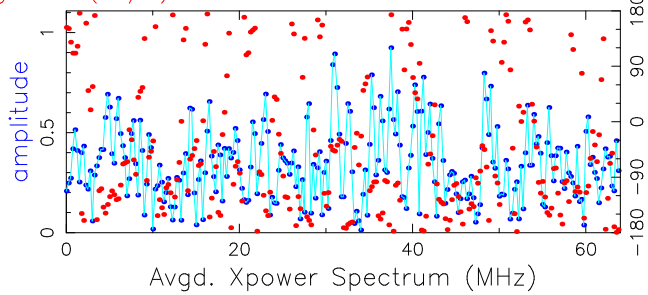
Fringe quality 0

SNR 6.1
Int time 178.502
Amp 0.209
Phase 52.5
PFD 1.5e-01
Delays (us)
SBD 0.070878
MBD -0.007160
Fringe rate (Hz)
0.707148
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

delay rate (ns/s)

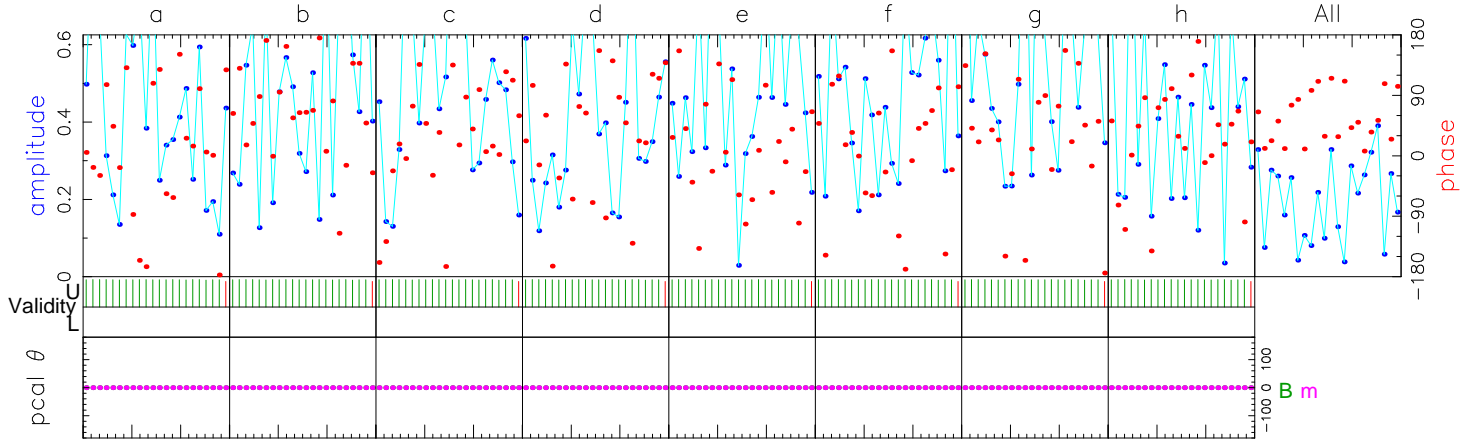


singleband delay (μ s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133245
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



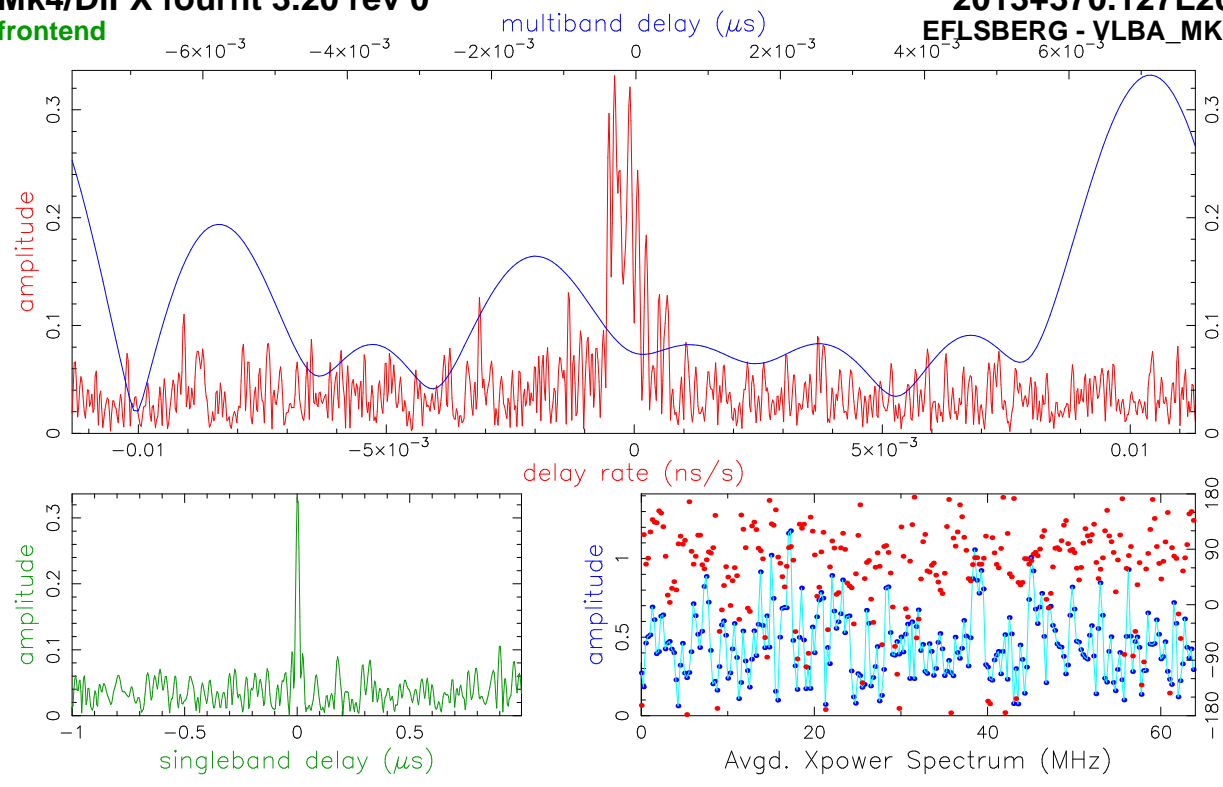
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	-2.67429075323E+03	Apriori delay (usec)	-2.67436171849E+03	Resid mbdelay (usec)	-7.15974E-03	+/-	1.8E-04
Sband delay (usec)	-2.67429084049E+03	Apriori clock (usec)	1.4201283E+01	Resid sbdelay (usec)	7.08780E-02	+/-	1.4E-03
Phase delay (usec)	-2.67436171680E+03	Apriori clockrate (us/s)	-1.9130770E-07	Resid phdelay (usec)	1.69165E-06	+/-	6.1E-07
Delay rate (us/s)	-1.83137307047E+00	Apriori rate (us/s)	-1.83138127976E+00	Resid rate (us/s)	8.20928E-06	+/-	5.8E-09
Total phase (deg)	-102.6	Apriori accel (us/s/s)	4.38429498896E-05	Resid phase (deg)	52.5	+/-	18.8

ph/seg (deg)	37.3	Theor.	44.2	Amplitude	0.209 +/- 0.034	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	65.9	Search (1024X32)	0.161	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	23.7	Inc. seg. avg.	0.192	Inc. frq. avg.	0.200	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	43.2	Inc. frq. avg.	0.200			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

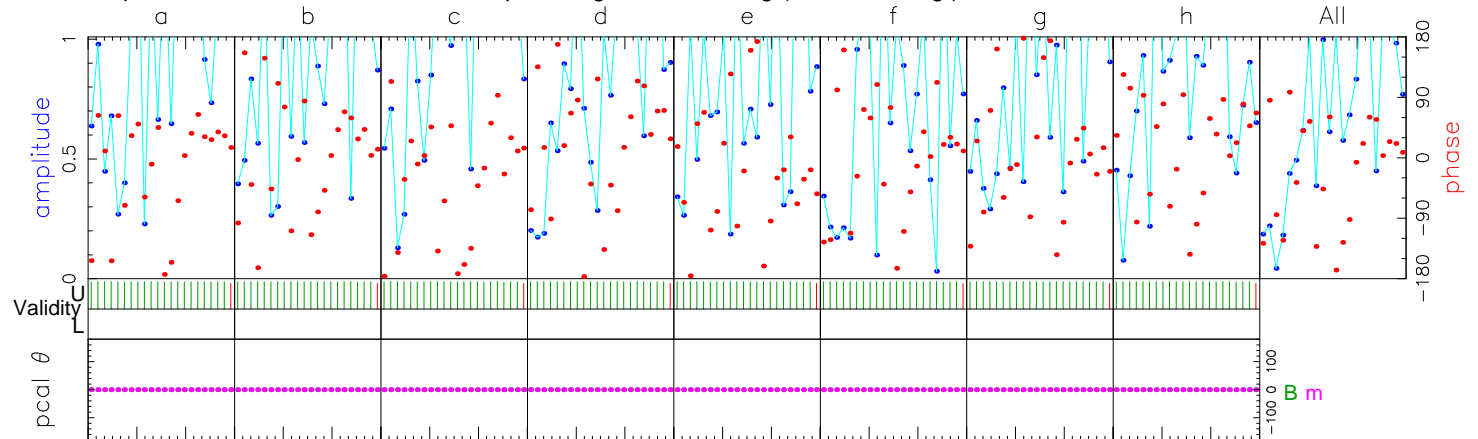
B: az 300.3 el 23.8 pa 43.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 13215.258 5592.320 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Bm.W.69.127L20



Fringe quality 9
 SNR 12.3
 Int time 178.502
 Amp 0.337
 Phase 16.2
 PFD 2.6e-26
 Delays (us)
 SBD 0.001475
 MBD 0.007186
 Fringe rate (Hz)
 -0.033504
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133238
 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
	27.1	25.2	2.6	53.6	-59.0	9.2	-10.6	47.1	Phase	16.2
	0.5	0.4	0.3	0.4	0.3	0.3	0.4	0.4	Ampl.	0.4
	257.7	257.4	257.3	257.5	258.3	258.0	257.3	258.3	Sbd box	257.4
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	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-2.67435453283E+03		Apriori delay (usec)		-2.67436171849E+03		Resid mbdelay (usec)		7.18566E-03	+/- 8.8E-05
Sband delay (usec)	-2.67436024349E+03		Apriori clock (usec)		1.4201283E-01		Resid sbdelay (usec)		1.47500E-03	+/- 7.0E-04
Phase delay (usec)	-2.67436171797E+03		Apriori clockrate (us/s)		-1.9130770E-07		Resid phdelay (usec)		5.21238E-07	+/- 3.0E-07
Delay rate (us/s)	-1.83138166871E+00		Apriori rate (us/s)		-1.83138127976E+00		Resid rate (us/s)		-3.88951E-07	+/- 2.9E-09
Total phase (deg)			Apriori accel (us/s/s)		4.38429498896E-05		Resid phase (deg)		16.2	+/- 9.3

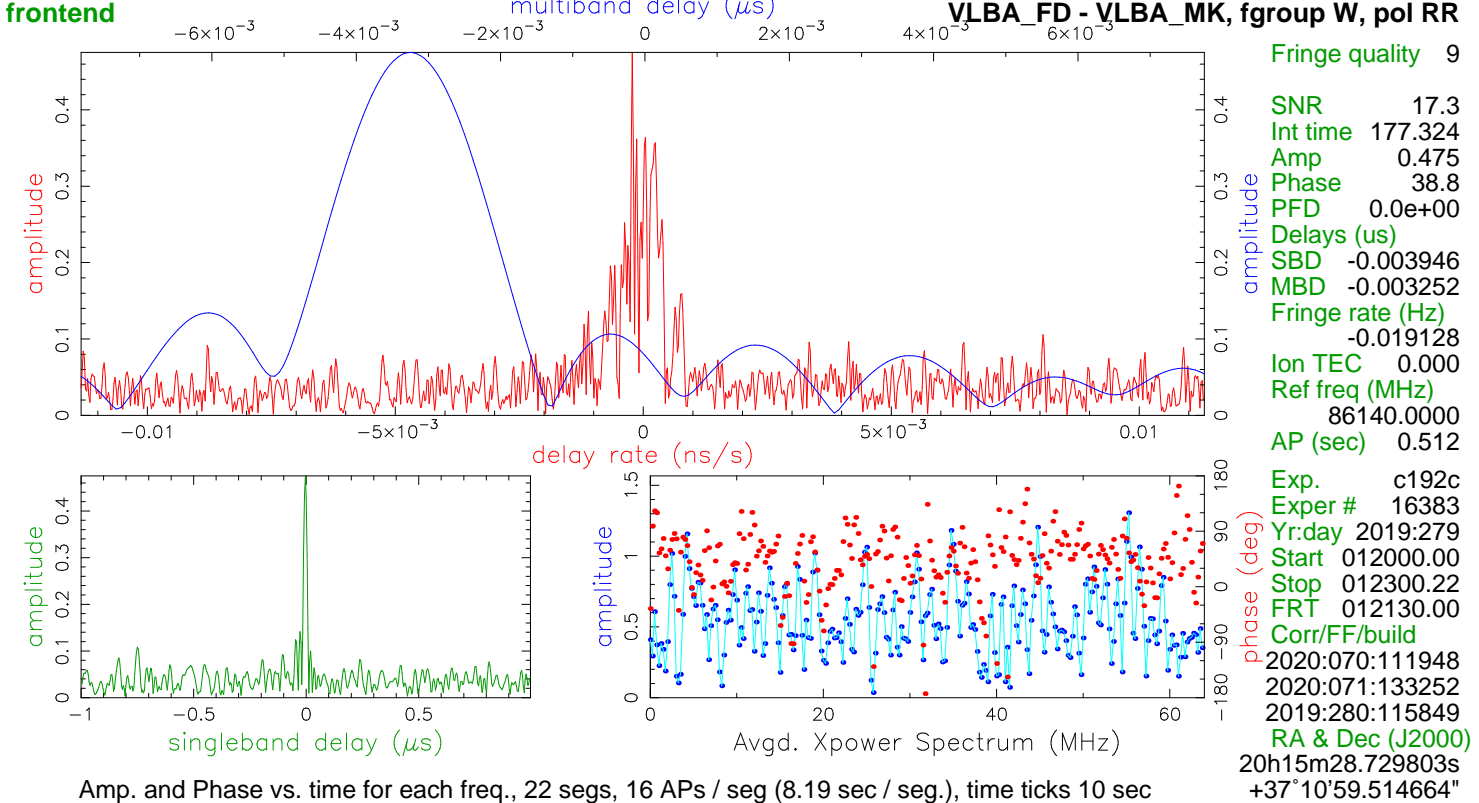
ph/seg (deg) 86.0 21.9 Amplitude 0.337 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 144.7 38.2 Search (1024X32) 0.318 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 39.1 13.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 26.3 23.0 Inc. seg. avg. 0.635 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 B: az 300.3 el 23.8 pa 43.5 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 13215.258 5592.320 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Bm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Bm.W.9.127L20 simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0

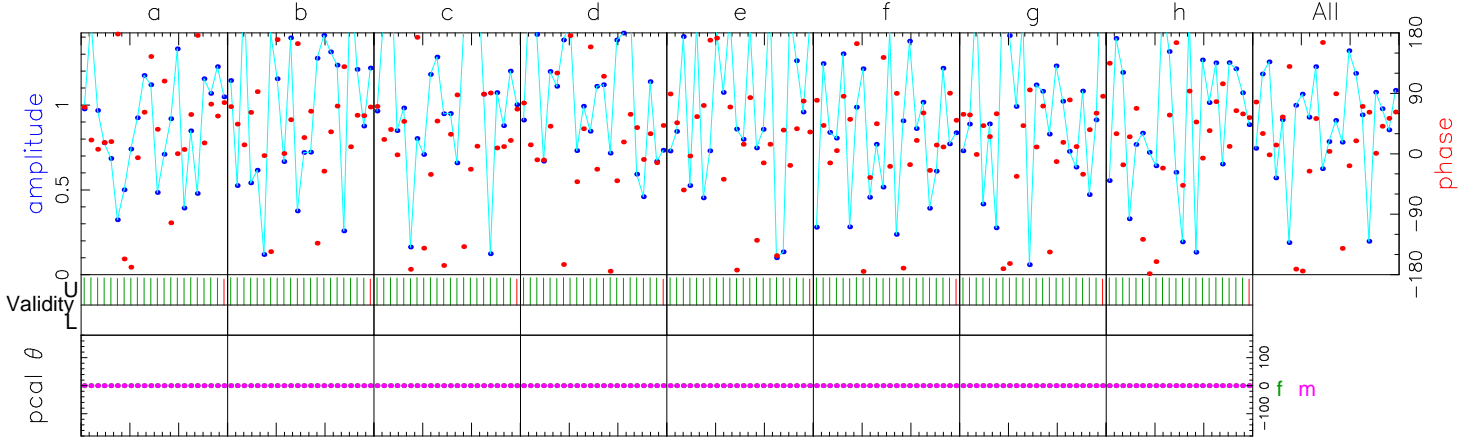
frontend

2013+370.127L20, No0075, fm

VLBA_FD - VLBA_MK, fgroup W, pol RR



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
46.0	46.9	26.8	33.5	37.0	36.9	36.6	47.3	47.3	Phase	38.8
0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.5	Ampl.	0.5
256.7	256.0	255.5	256.1	255.7	256.0	256.0	256.1	256.1	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	
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m 1000	1000	1000	1000	1000	1000	1000	1000	1000		
f W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Chan ids	
m W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	9.57521486591E+03		Apriori delay (usec)	9.57521811769E+03	Resid mbdelay (usec)	-3.25178E-03	+/-	6.3E-05		
Sband delay (usec)	9.57521417219E+03		Apriori clock (usec)	-2.1244853E+00	Resid sbdelay (usec)	-3.94550E-03	+/-	5.0E-04		
Phase delay (usec)	9.57521811894E+03		Apriori clockrate (us/s)	-8.2257206E-08	Resid phdelay (usec)	1.25088E-06	+/-	2.1E-07		
Delay rate (us/s)	-8.08666546979E-01		Apriori rate (us/s)	-8.08666324917E-01	Resid rate (us/s)	-2.22062E-07	+/-	2.1E-09		
Total phase (deg)		275.7	Apriori accel (us/s/s)	-3.92931160572E-05	Resid phase (deg)	38.8	+/-	6.6		

ph/seg (deg) 74.0 15.5 Search (1024X32) 0.466 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 109.0 27.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 7.9 9.4 Inc. seg. avg. 0.869 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

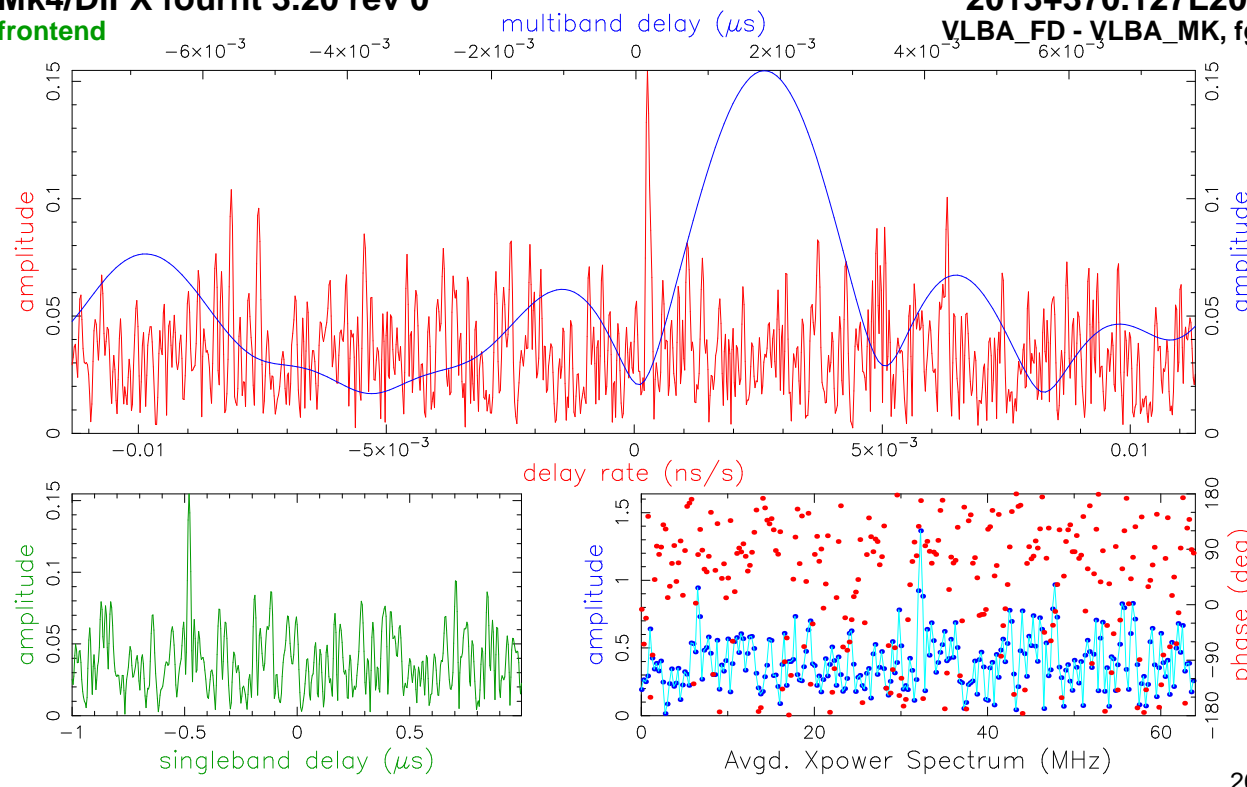
amp/frq (%) 9.8 16.3 Inc. frq. avg. 0.473 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011

f: az 55.9 el 77.0 pa -115.7 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5790.662 -1179.381 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/fm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/fm.W.113.127L20

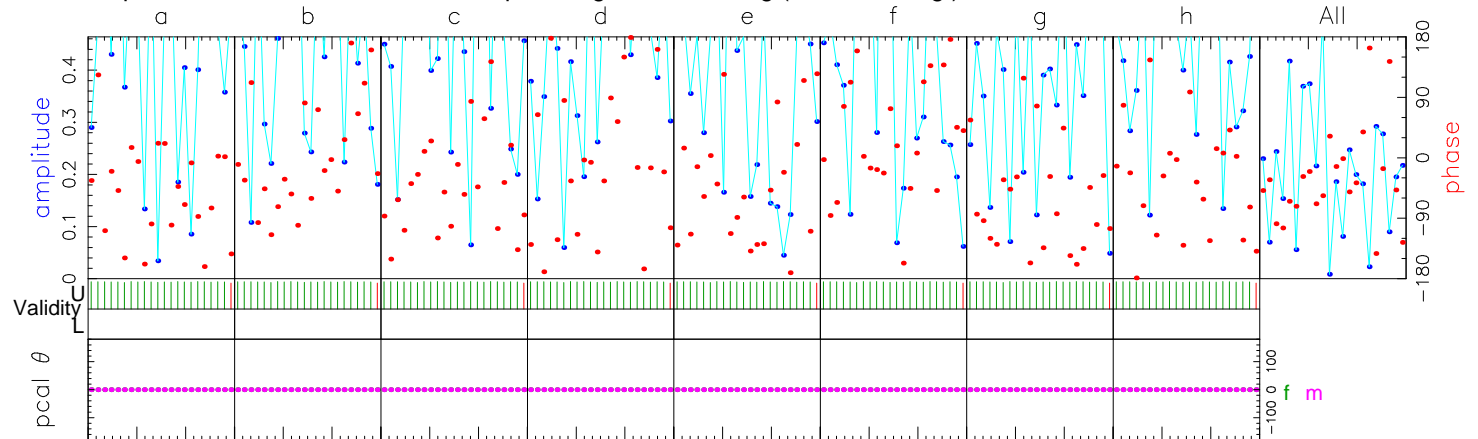
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, fm
VLBA_FD - VLBA_MK, fgroup W, pol LR



Fringe quality 0
SNR 5.6
Int time 177.324
Amp 0.155
Phase -53.0
PFD 8.9e-01
Delays (us)
SBD -0.480127
MBD 0.001795
Fringe rate (Hz)
0.023389
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133255
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

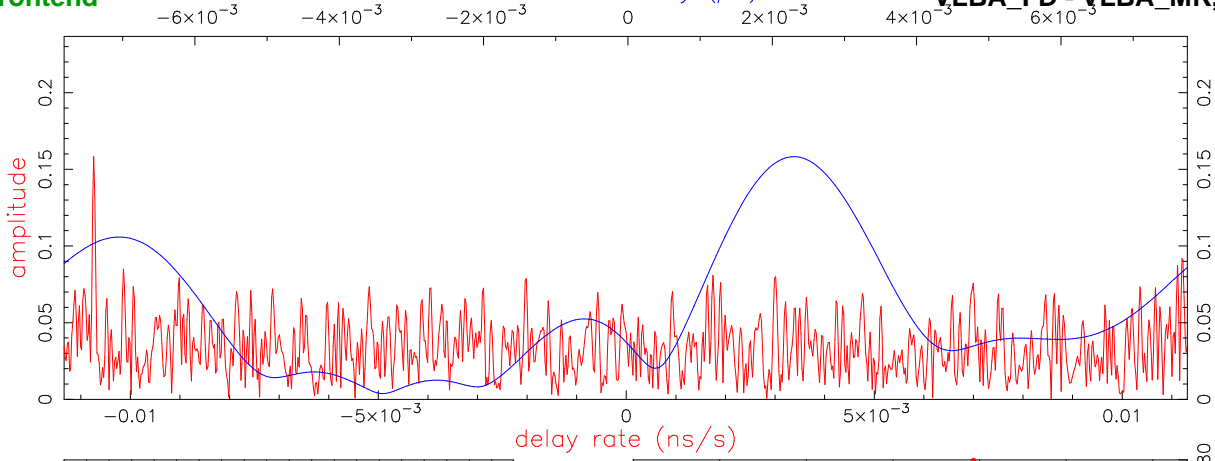


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-65.8	-34.8	-46.1	-90.9	-78.8	3.2	-79.5	-51.3	Phase	-53.0
	0.2	0.2	0.3	0.0	0.1	0.1	0.2	0.2	Ampl.	0.1
	411.8	175.1	133.6	316.2	380.0	484.0	243.8	298.1	Sbd box	134.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	9.57473553754E+03		Apriori delay (usec)		9.57521811769E+03		Resid mbdelay (usec)		1.79485E-03	+/- 1.9E-04
Sband delay (usec)	9.57473799044E+03		Apriori clock (usec)		-2.1244853E+00		Resid sbdelay (usec)		-4.80127E-01	+/- 1.5E-03
Phase delay (usec)	9.57521811598E+03		Apriori clockrate (us/s)		-8.2257206E-08		Resid phdelay (usec)		-1.70795E-06	+/- 6.6E-07
Delay rate (us/s)	-8.08666053397E-01		Apriori rate (us/s)		-8.08666324917E-01		Resid rate (us/s)		2.71519E-07	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-3.92931160572E-05		Resid phase (deg)		-53.0	+/- 20.3

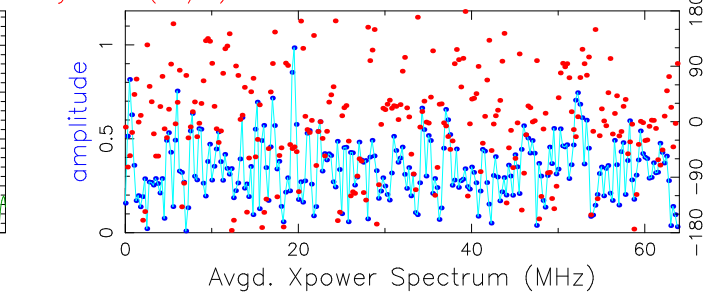
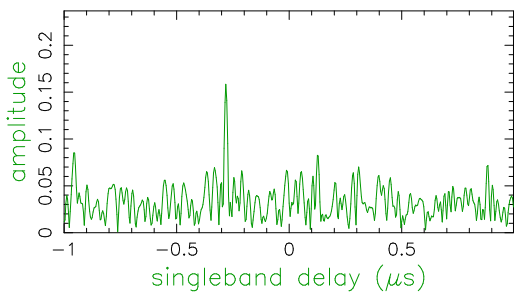
ph/seg (deg) 64.0 47.7 Search (1024X32) 0.150 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 89.2 83.3 Interp. 0.150 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 32.9 28.8 Inc. seg. avg. 0.157 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 46.6 50.2 Inc. frq. avg. 0.150 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
f: az 55.9 el 77.0 pa -115.7 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5790.662 -1179.381 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/fm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/fm.W.134.127L20

multiband delay (μ s)

Fringe quality 0

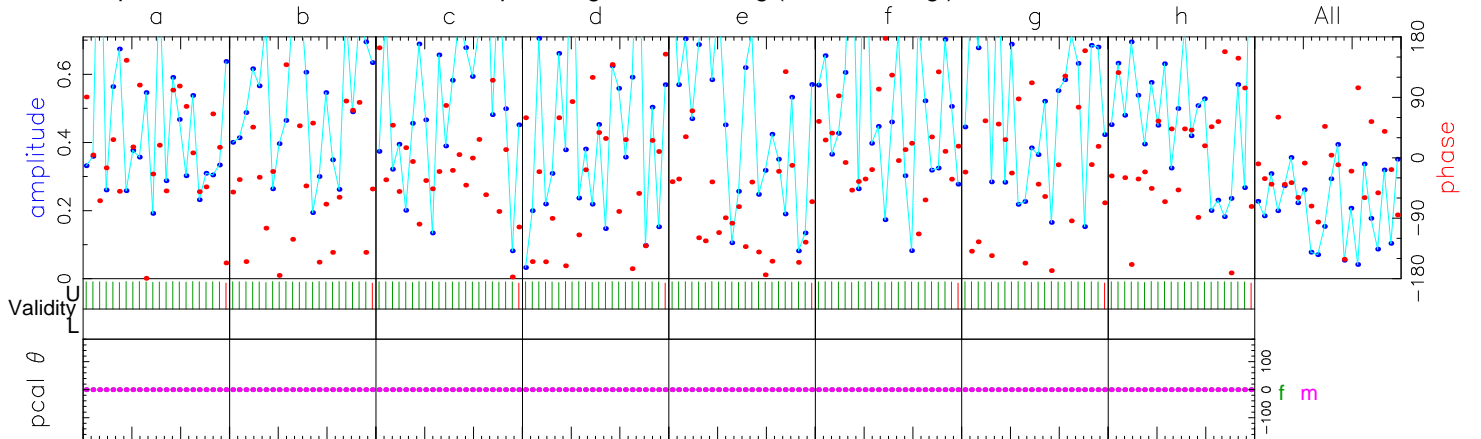


SNR 5.8
Int time 177.324
Amp 0.237
Phase -21.7
PFD 6.4e-01
Delays (us)
SBD -0.281145
MBD 0.002305
Fringe rate (Hz)
-0.926583
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133257
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



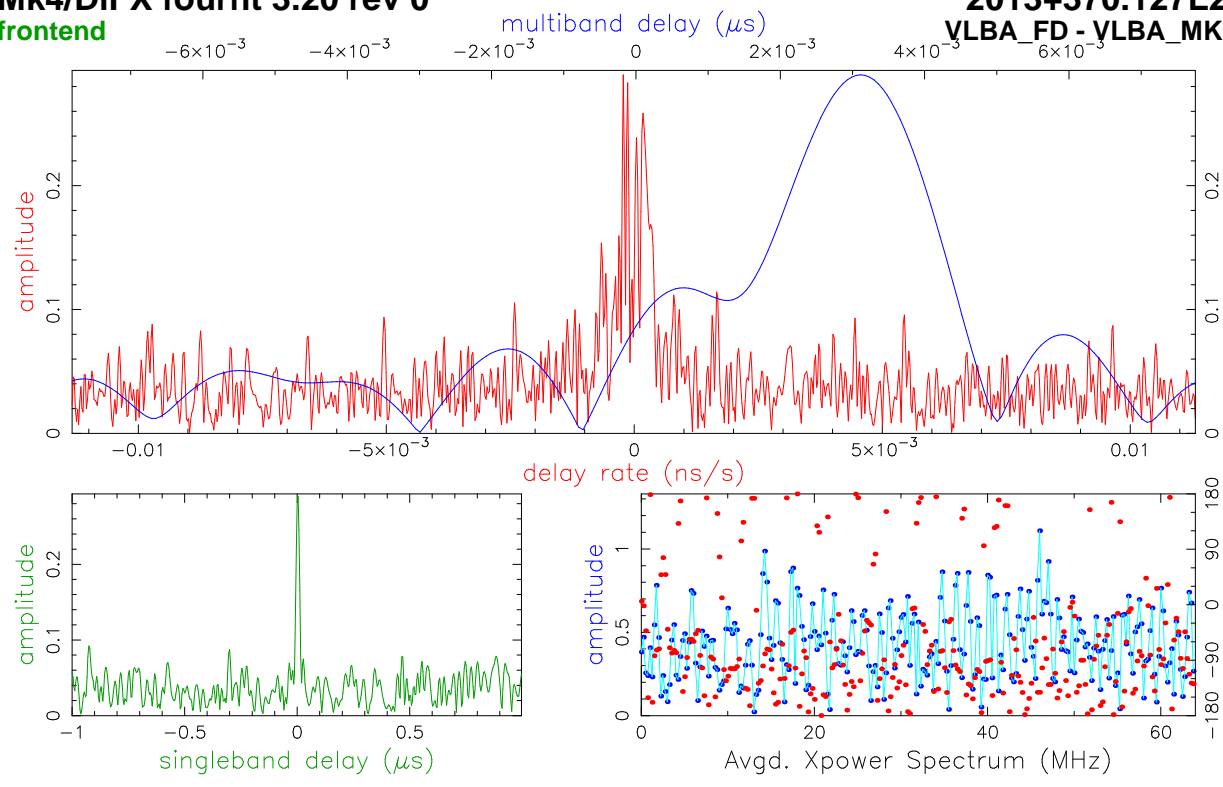
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd) 9.57493917309E+03 Apriori delay (usec) 9.57521811769E+03 Resid mbdelay (usec) 2.30540E-03 +/- 1.9E-04
 Sband delay (usec) 9.57493697244E+03 Apriori clock (usec) -2.1244853E+00 Resid sbdelay (usec) -2.81145E-01 +/- 1.5E-03
 Phase delay (usec) 9.57521811699E+03 Apriori clockrate (us/s) -8.2257206E-08 Resid phdelay (usec) -6.99547E-07 +/- 6.4E-07
 Delay rate (us/s) -8.08677081625E-01 Apriori rate (us/s) -8.08666324917E-01 Resid rate (us/s) -1.07567E-05 +/- 6.2E-09
 Total phase (deg) 215.2 Apriori accel (us/s/s) -3.92931160572E-05 Resid phase (deg) -21.7 +/- 19.9

ph/seg (deg) 56.9 46.6 Search (1024X32) 0.155 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 75.3 81.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 34.6 28.1 Inc. seg. avg. 0.240 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 58.4 49.1 Inc. frq. avg. 0.239 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 55.9 el 77.0 pa -115.7 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5790.662 -1179.381 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/fm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/fm.W.153.127L20

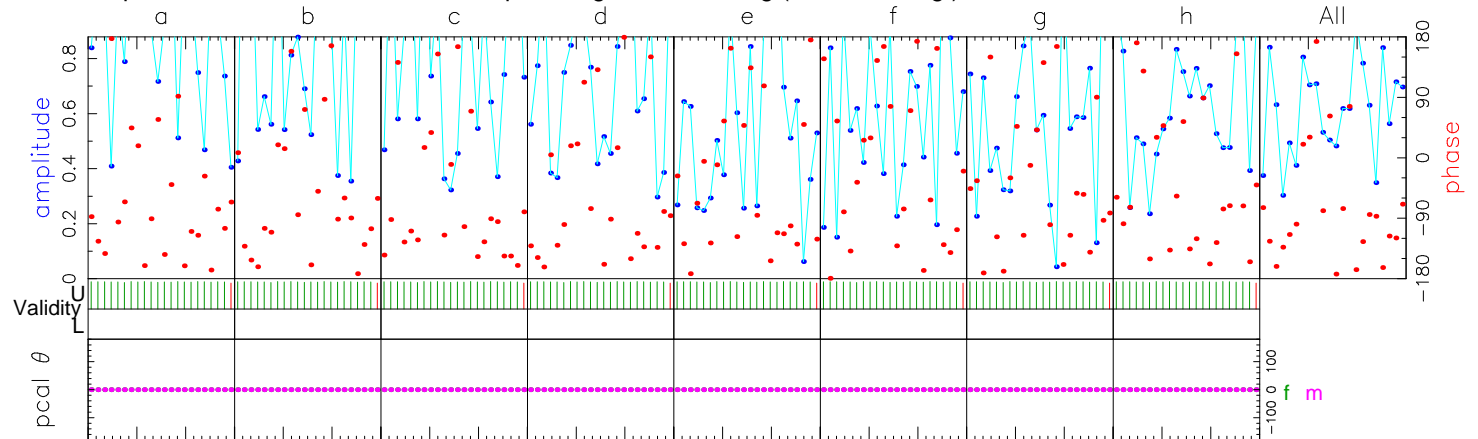
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, fm
VLBA_FD - VLBA_MK, fgroup W, pol LL



Fringe quality 9
SNR 10.7
Int time 177.324
Amp 0.293
Phase -118.9
PFD 3.2e-18
Delays (us)
SBD 0.002498
MBD 0.003103
Fringe rate (Hz)
-0.019325
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133250
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
	-105.9	-115.4	-126.0	-134.3	-143.0	-131.5	-99.4	-102.4	Phase	-118.9
	0.4	0.4	0.4	0.3	0.3	0.1	0.3	0.2	Ampl.	0.3
	257.7	257.1	258.0	99.3	258.2	371.0	258.1	209.6	Sbd box	257.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	9.57522122091E+03		Apriori delay (usec)		9.57521811769E+03		Resid mbdelay (usec)		3.10322E-03 +/- 1.0E-04	
Sband delay (usec)	9.57522061544E+03		Apriori clock (usec)		-2.1244853E+00		Resid sbdelay (usec)		2.49775E-03 +/- 8.1E-04	
Phase delay (usec)	9.57521811386E+03		Apriori clockrate (us/s)		-8.2257206E-08		Resid phdelay (usec)		-3.83412E-06 +/- 3.5E-07	
Delay rate (us/s)	-8.08666549262E-01		Apriori rate (us/s)		-8.08666324917E-01		Resid rate (us/s)		-2.24345E-07 +/- 3.3E-09	
Total phase (deg)	118.0		Apriori accel (us/s/s)		-3.92931160572E-05		Resid phase (deg)		-118.9 +/- 10.7	

ph/seg (deg) RMS Theor. Amplitude 0.293 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 75.5 25.2 Search (1024X32) 0.283 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 124.5 44.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 17.6 15.2 Inc. seg. avg. 0.562 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
amp/frq (%) 31.7 26.5 Inc. frq. avg. 0.289 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
f: az 55.9 el 77.0 pa -115.7 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5790.662 -1179.381 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/fm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/fm.W.91.127L20

Mk4/DiFX fourfit 3.20 rev 0

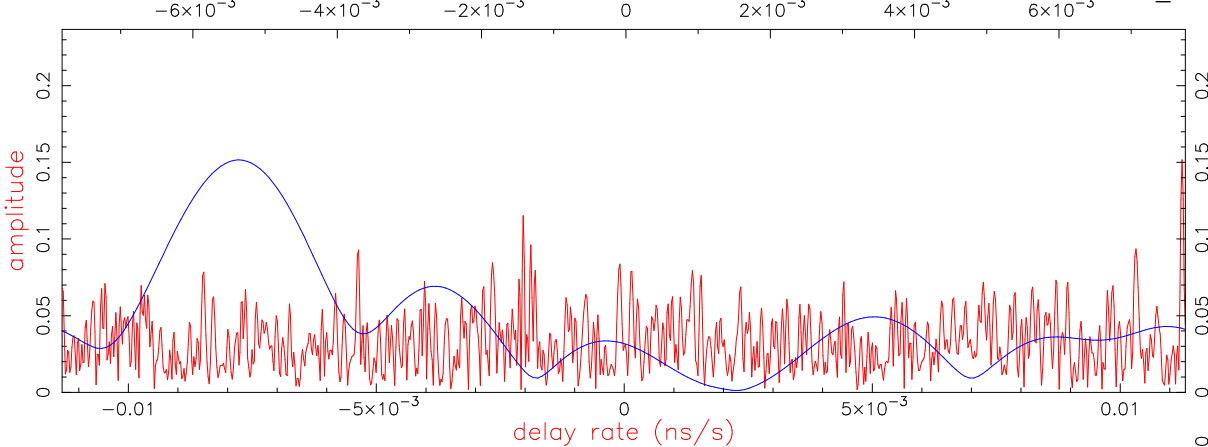
frontend

2013+370.127L20, No0075, gm

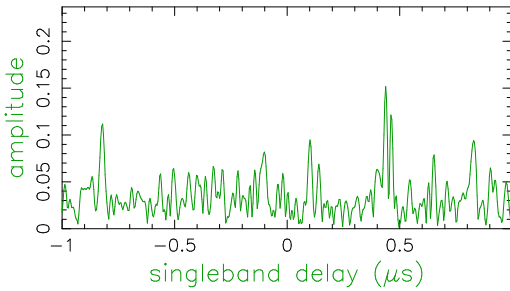
GLT - VLBA_MK, fgroup W, pol LL

multiband delay (μ s)

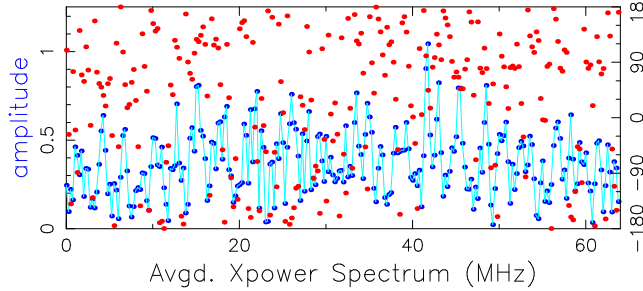
Fringe quality 0



SNR 5.5
 Int time 178.686
 Amp 0.237
 Phase -177.5
 PFD 9.7e-01
 Delays (us)
 SBD 0.437941
 MBD -0.005346
 Fringe rate (Hz)
 0.969510
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

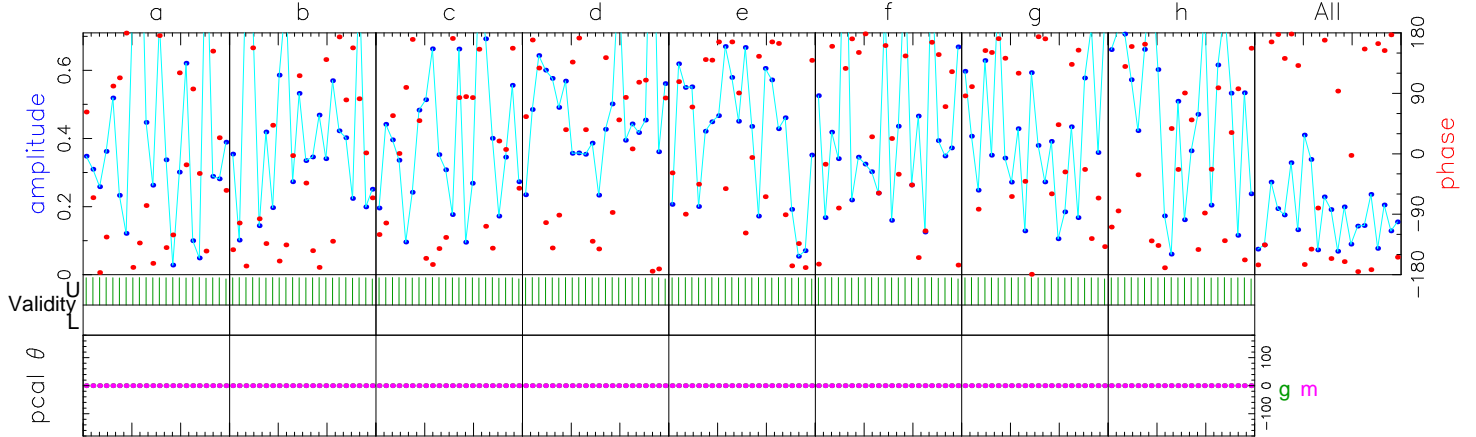


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133305
 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
	-151.7	-174.7	-179.0	147.0	-177.0	160.9	178.7	-140.6	Phase	-177.5
	0.3	0.3	0.2	0.2	0.2	0.4	0.2	0.3	Ampl.	0.2
	183.4	106.7	451.9	280.9	361.3	119.7	421.5	283.6	Sbd box	369.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	4.99434747364E+03	Apriori delay (usec)	4.99391531942E+03	Resid mbdelay (usec)	-5.34578E-03	+/-	2.0E-04
Sband delay (usec)	4.99435325992E+03	Apriori clock (usec)	-1.2934062E+08	Resid sbdelay (usec)	4.37941E-01	+/-	1.6E-03
Phase delay (usec)	4.99391531370E+03	Apriori clockrate (us/s)	8.3692290E-08	Resid phdelay (usec)	-5.72313E-06	+/-	6.7E-07
Delay rate (us/s)	-1.15992868960E+00	Apriori rate (us/s)	-1.15993994465E+00	Resid rate (us/s)	1.12550E-05	+/-	6.4E-09
Total phase (deg)	43.8	Apriori accel (us/s/s)	1.67327046119E-05	Resid phase (deg)	-177.5	+/-	20.7

ph/seg (deg)	RMS 52.0	Theor. 48.4	Amplitude Search (1024X32)	0.237 +/- 0.043	0.148	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	63.3	84.5	Interp.	0.000	0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	25.1	29.2	Inc. seg. avg.	0.207	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	29.9	51.0	Inc. frq. avg.	0.226	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00	

g: az 206.9 el 49.5 pa 7.4 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 8366.702 5421.746 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/gm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/gm.W.170.127L20

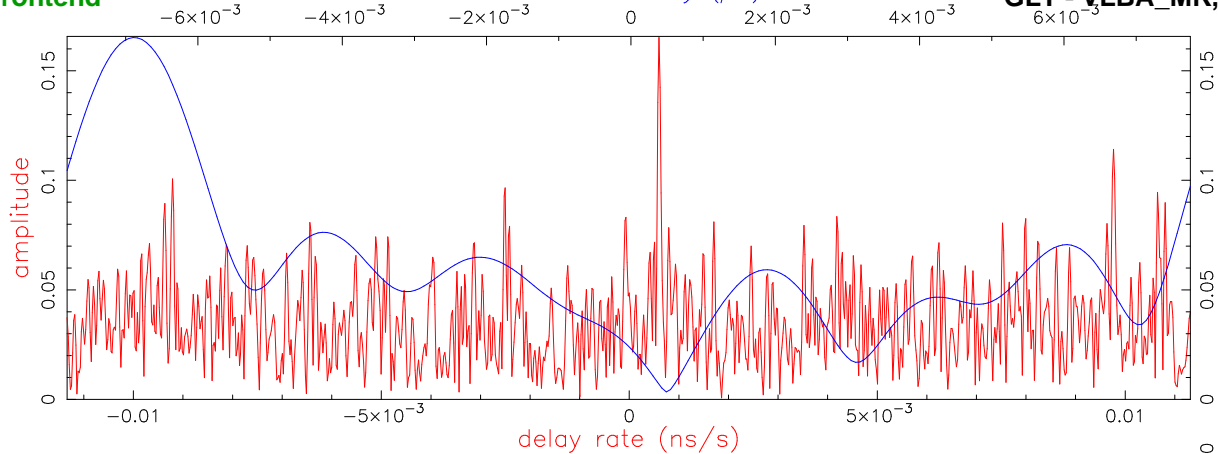
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, gm

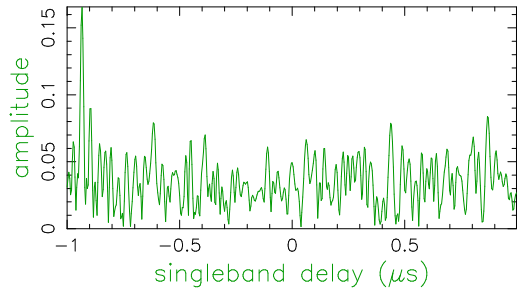
GLT - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)

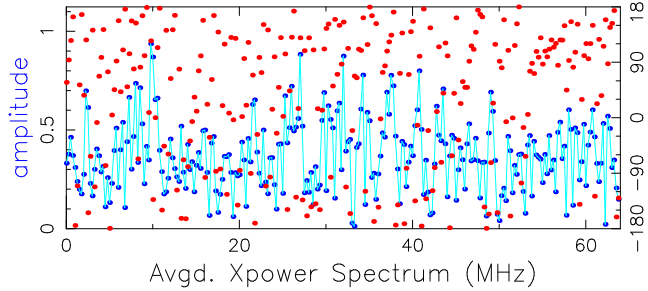


Fringe quality 0

SNR 6.1
 Int time 178.663
 Amp 0.166
 Phase -119.1
 PFD 1.7e-01
 Delays (us)
 SBD -0.934111
 MBD -0.006900
 Fringe rate (Hz)
 0.051727
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

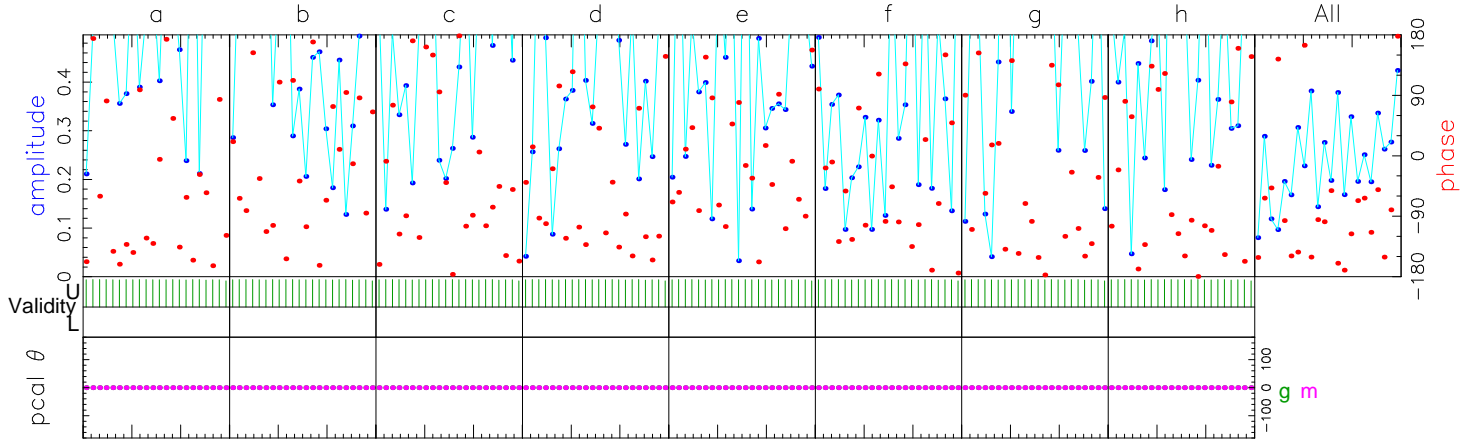


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133307
 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
	-144.1	-108.4	-125.9	-114.5	-43.0	-116.4	-123.2	-144.9	Phase	-119.1
	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	Ampl.	0.2
	253.2	32.8	336.8	333.7	209.5	320.4	16.7	466.1	Sbd box	17.9
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	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	4.99298654488E+03	Apriori delay (usec)	4.99391531942E+03	Resid mbdelay (usec)	-6.89953E-03	+/-	1.8E-04
Sband delay (usec)	4.99298120817E+03	Apriori clock (usec)	-1.2934062E+00	Resid sbdelay (usec)	-9.34111E-01	+/-	1.4E-03
Phase delay (usec)	4.99391531558E+03	Apriori clockrate (us/s)	8.3692290E-08	Resid phdelay (usec)	-3.84089E-06	+/-	6.1E-07
Delay rate (us/s)	-1.15993934416E+00	Apriori rate (us/s)	-1.15993994465E+00	Resid rate (us/s)	6.00494E-07	+/-	5.9E-09
Total phase (deg)	102.2	Apriori accel (us/s/s)	1.67327046119E-05	Resid phase (deg)	-119.1	+/-	18.9

ph/seg (deg)	49.7	Theor.	44.4	Amplitude	0.166 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	71.8	Search (1024X32)	0.163	Search	0.163	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	34.9	Inc. seg. avg.	0.185	Inc. seg. avg.	0.185	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	39.6	Inc. frq. avg.	0.172	Inc. frq. avg.	0.172	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

g: az 206.9 el 49.5 pa 7.4 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 8366.702 5421.746 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/gm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/gm.W.188.127L20

Mk4/DiFX fourfit 3.20 rev 0

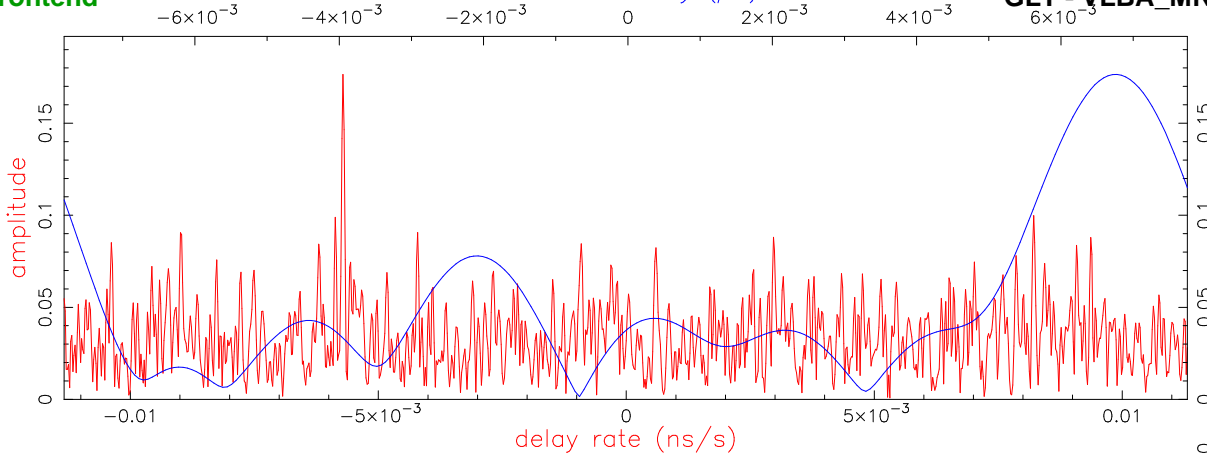
frontend

2013+370.127L20, No0075, gm

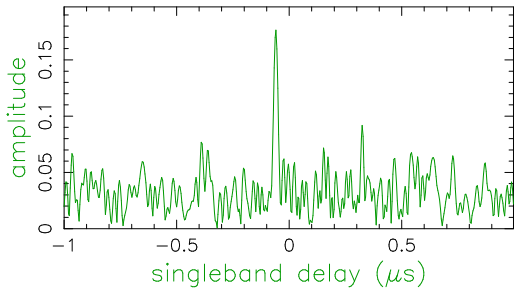
GLT - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

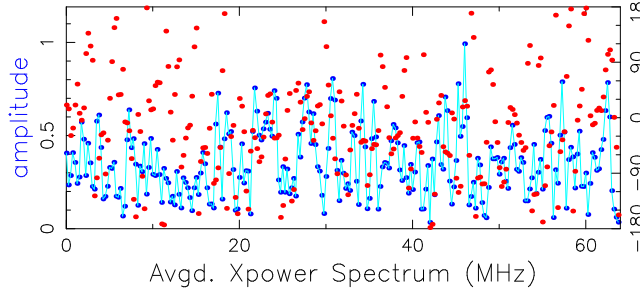
Fringe quality 0



SNR 6.5
Int time 178.686
Amp 0.197
Phase -62.2
PFD 1.3e-02
Delays (us)
SBD -0.059427
MBD 0.006746
Fringe rate (Hz)
-0.493770
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

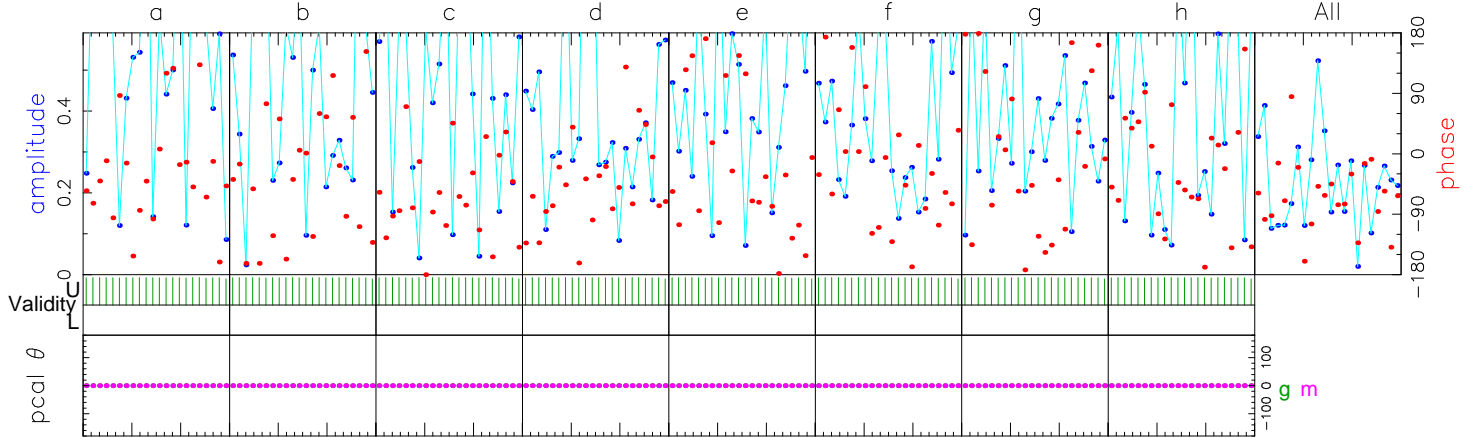


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133311
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
	-48.6	-63.8	-73.9	-62.7	-90.6	-45.0	-83.8	-39.3		Phase
	0.3	0.1	0.3	0.3	0.2	0.2	0.1	0.2		Ampl.
	259.2	221.4	8.7	243.0	317.5	43.8	20.7	386.7		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		241.8
g	0	0	0	0	0	0	0	0		APs used
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
g:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
g:m	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
m	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Chan ids
										Tracks
Group delay (usec)(sbd)	4.99385956578E+03		Apriori delay (usec)		4.99391531942E+03		Resid mbdelay (usec)		6.74636E-03	+/- 1.7E-04
Sband delay (usec)	4.99385589242E+03		Apriori clock (usec)		-1.2934062E+00		Resid sbdelay (usec)		-5.94270E-02	+/- 1.3E-03
Phase delay (usec)	4.99391531741E+03		Apriori clockrate (us/s)		8.3692290E-08		Resid phdelay (usec)		-2.00729E-06	+/- 5.7E-07
Delay rate (us/s)	-1.15994567682E+00		Apriori rate (us/s)		-1.15993994465E+00		Resid rate (us/s)		-5.73217E-06	+/- 5.5E-09
Total phase (deg)	159.1		Apriori accel (us/s/s)		1.67327046119E-05		Resid phase (deg)		-62.2	+/- 17.7

ph/seg (deg) 51.2 41.5 Search (1024X32) 0.174 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 71.0 72.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 20.1 25.0 Inc. seg. avg. 0.202 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 38.5 43.7 Inc. frq. avg. 0.187 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 206.9 el 49.5 pa 7.4 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 8366.702 5421.746 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/gm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/gm.W.204.127L20

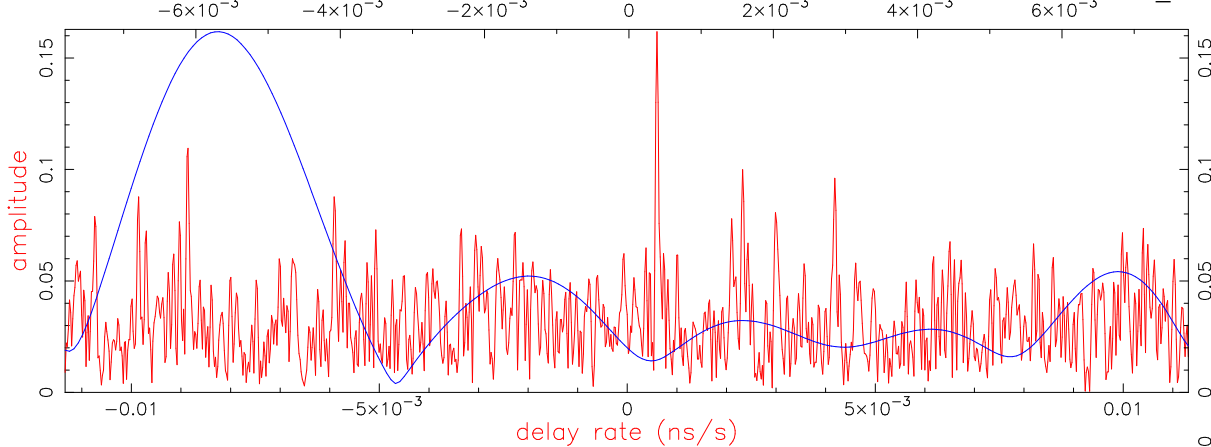
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, gm

GLT - VLBA_MK, fgroup W, pol RL

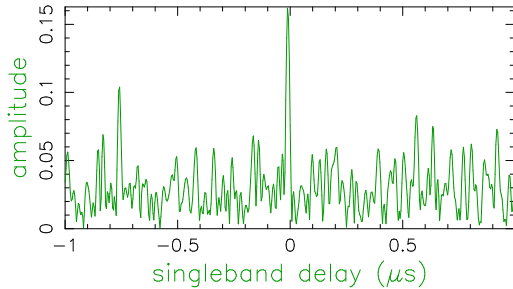
multiband delay (μ s)



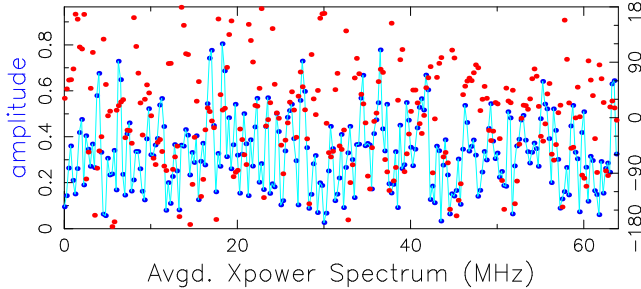
Fringe quality 0

SNR 5.9
Int time 178.663
Amp 0.163
Phase -51.9
PFD 3.0e-01
Delays (us)
SBD -0.010791
MBD -0.005721
Fringe rate (Hz) 0.052390
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

delay rate (ns/s)

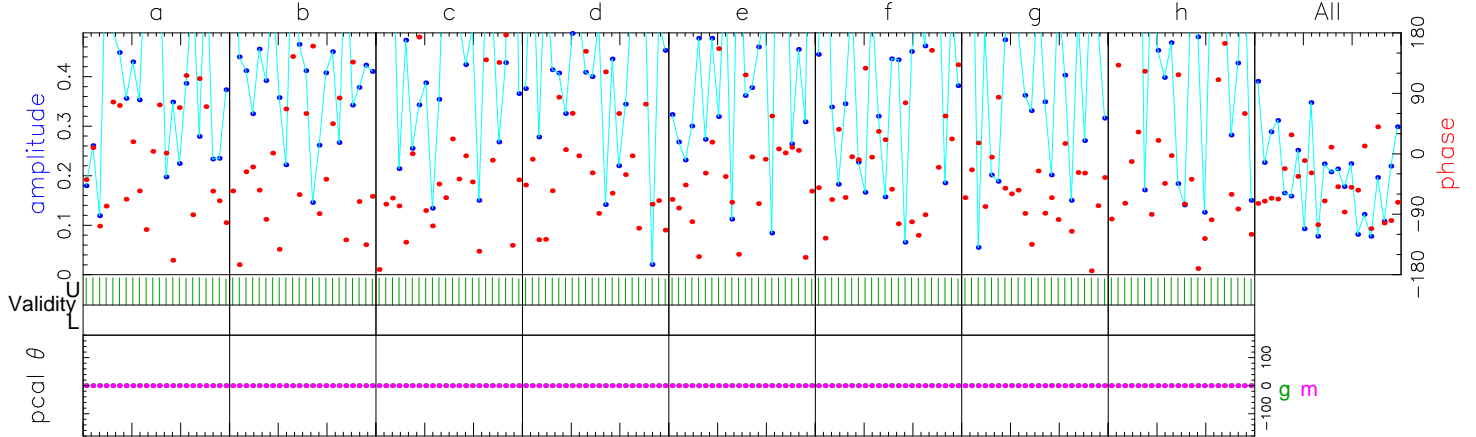


singleband delay (μ s)



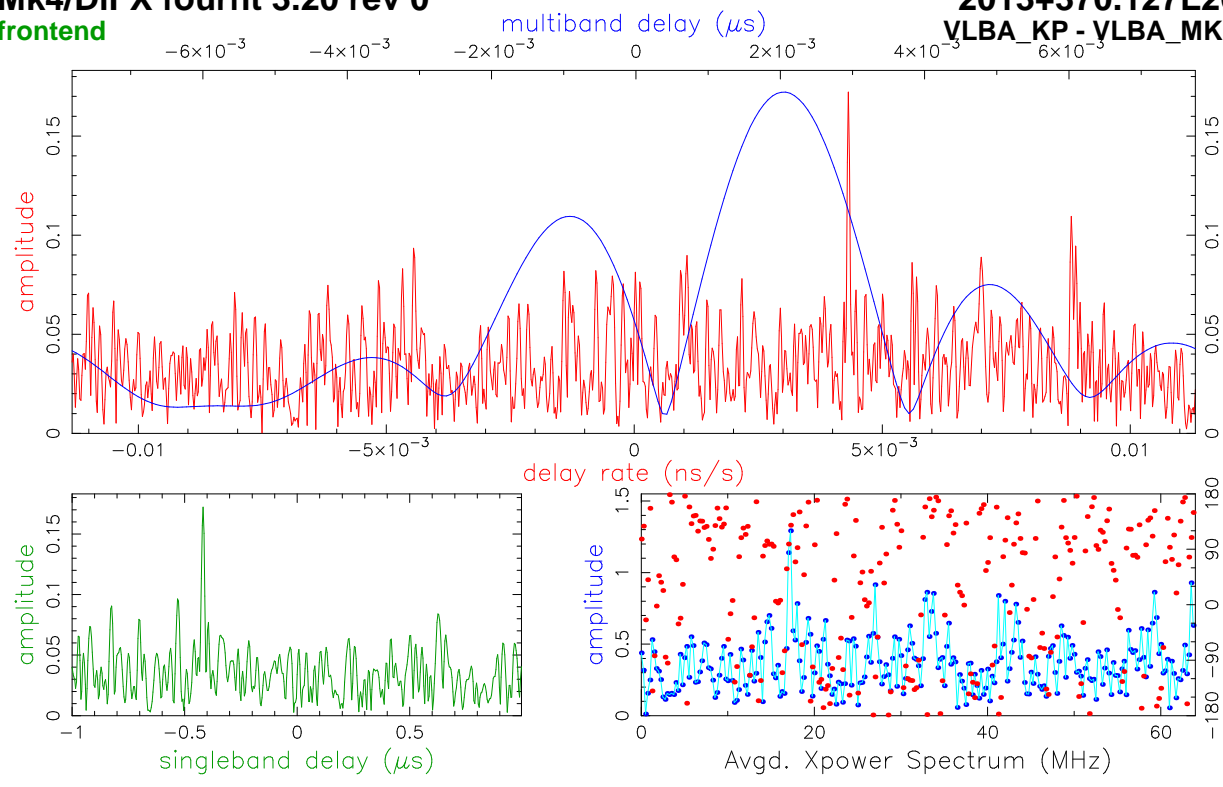
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133314
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



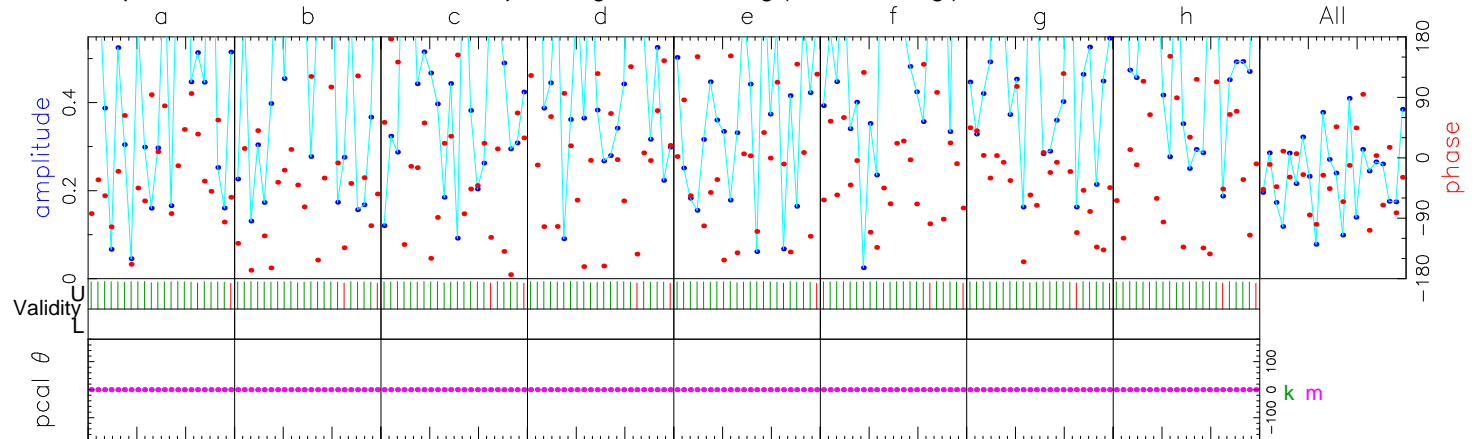
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-12.4	-68.6	-82.9	-39.2	-35.4	-55.2	-58.5	-36.7	Phase	-51.9
	0.1	0.1	0.2	0.2	0.2	0.1	0.3	0.1	Ampl.	0.2
	344.1	213.5	171.5	247.8	83.9	360.9	254.6	491.4	Sbd box	254.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.99390959885E+03		Apriori delay (usec)		4.99391531942E+03		Resid mbdelay (usec)		-5.72057E-03	+/- 1.8E-04
Sband delay (usec)	4.99390452867E+03		Apriori clock (usec)		-1.2934062E+00		Resid sbdelay (usec)		-1.07908E-02	+/- 1.4E-03
Phase delay (usec)	4.99391531774E+03		Apriori clockrate (us/s)		8.3692290E-08		Resid phdelay (usec)		-1.67455E-06	+/- 6.2E-07
Delay rate (us/s)	-1.15993933646E+00		Apriori rate (us/s)		-1.15993994465E+00		Resid rate (us/s)		6.08190E-07	+/- 6.0E-09
Total phase (deg)	169.4		Apriori accel (us/s/s)		1.67327046119E-05		Resid phase (deg)		-51.9	+/- 19.3

ph/seg (deg) 43.0 45.2 Amplitude 0.163 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 58.9 78.9 Search (1024X32) 0.154 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 24.2 27.3 Inc. seg. avg. 0.155 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 39.7 47.6 Inc. frq. avg. 0.154 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
g: az 206.9 el 49.5 pa 7.4 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 8366.702 5421.746 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/gm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/gm.W.222.127L20



Fringe quality 0
 SNR 6.3
 Int time 177.116
 Amp 0.183
 Phase -24.6
 PFD 4.7e-02
 Delays (us)
 SBD -0.418292
 MBD 0.002047
 Fringe rate (Hz) 0.373088
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133304
 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

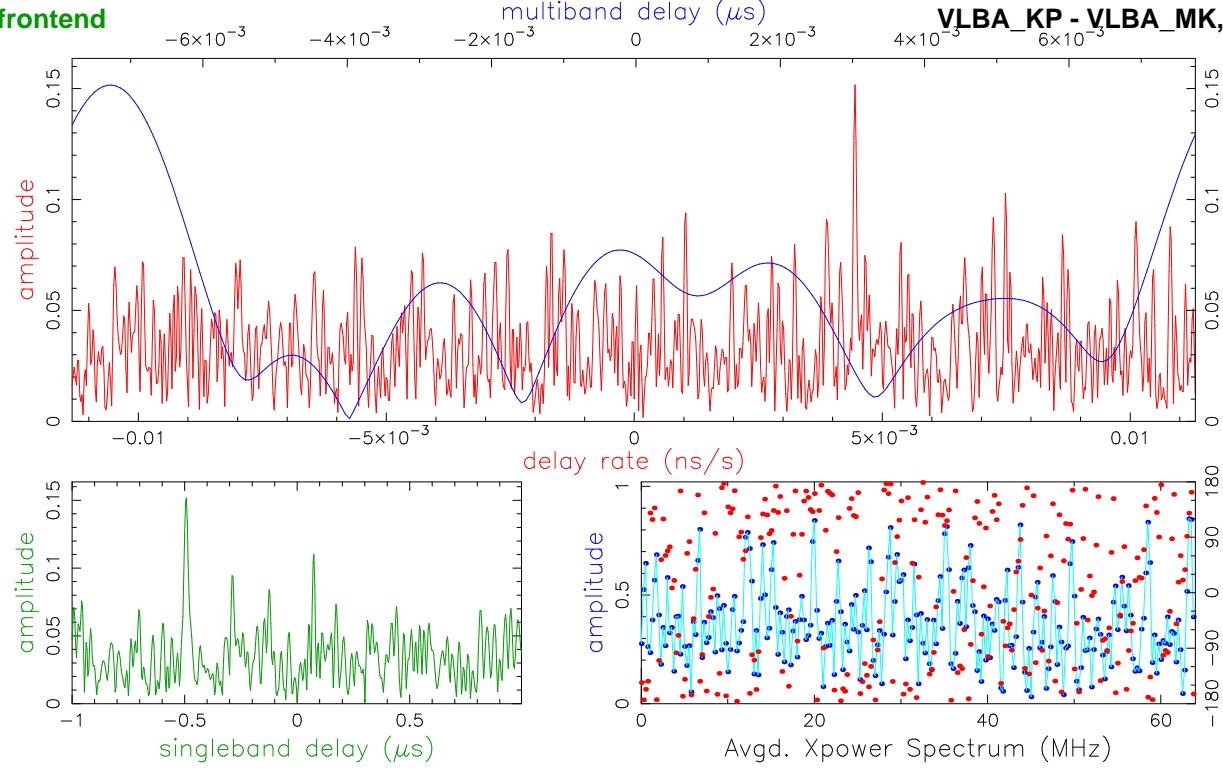


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-13.7	-39.2	-56.0	7.5	1.9	-27.4	-26.3	-23.0	Phase	-24.6
	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.1	Ampl.	0.2
	156.4	150.2	484.9	322.4	315.5	149.4	149.3	7.5	Sbd box	149.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	9.06730644108E+03		Apriori delay (usec)		9.06772626875E+03		Resid mbdelay (usec)		2.04733E-03	+/- 1.7E-04
Sband delay (usec)	9.06730797625E+03		Apriori clock (usec)		-2.9986310E+00		Resid sbdelay (usec)		-4.18292E-01	+/- 1.4E-03
Phase delay (usec)	9.06772626796E+03		Apriori clockrate (us/s)		-1.8588669E-07		Resid phdelay (usec)		-7.92643E-07	+/- 5.9E-07
Delay rate (us/s)	-6.77882396631E-01		Apriori rate (us/s)		-6.77886727816E-01		Resid rate (us/s)		4.33118E-06	+/- 5.7E-09
Total phase (deg)	260.0		Apriori accel (us/s/s)		-3.52532723473E-05		Resid phase (deg)		-24.6	+/- 18.3

ph/seg (deg) 49.2 42.8 Search (1024X32) 0.162 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 63.7 74.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 22.6 25.8 Inc. seg. avg. 0.198 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 53.9 45.1 Inc. frq. avg. 0.172 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 67.3 el 71.8 pa -100.3 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4853.073 -793.542 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/km..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/km.W.162.127L20

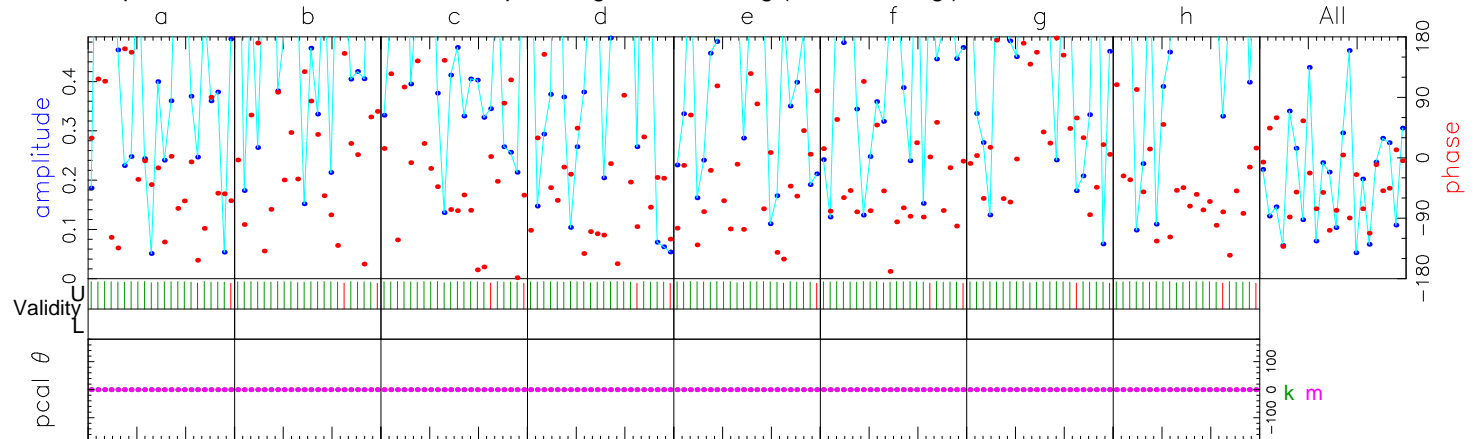
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, km
VLBA_KP - VLBA_MK, fgroup W, pol RR



Fringe quality 0
SNR 5.6
Int time 177.116
Amp 0.164
Phase -41.6
PFD 9.4e-01
Delays (us)
SBD -0.493727
MBD -0.007286
Fringe rate (Hz) 0.384829
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133306
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
	-72.8	3.5	-38.6	-68.2	-23.5	-35.5	4.2	-51.8	Phase	-41.6
	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.4	Ampl.	0.2
	177.2	312.7	137.7	75.9	481.8	87.4	473.2	131.0	Sbd box	130.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	9.06723460803E+03		Apriori delay (usec)		9.06772626875E+03		Resid mbdelay (usec)		-7.28572E-03	+/- 1.9E-04
Sband delay (usec)	9.06723254200E+03		Apriori clock (usec)		-2.9986310E+00		Resid sbdelay (usec)		-4.93727E-01	+/- 1.5E-03
Phase delay (usec)	9.06772626741E+03		Apriori clockrate (us/s)		-1.8588669E-07		Resid phdelay (usec)		-1.34281E-06	+/- 6.6E-07
Delay rate (us/s)	-6.77882260329E-01		Apriori rate (us/s)		-6.77886727816E-01		Resid rate (us/s)		4.46749E-06	+/- 6.4E-09
Total phase (deg)	242.9		Apriori accel (us/s/s)		-3.52532723473E-05		Resid phase (deg)		-41.6	+/- 20.5

ph/seg (deg) 53.2 48.1 Search (1024X32) 0.147 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 83.1 84.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 32.4 29.0 Inc. seg. avg. 0.166 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 57.8 50.7 Inc. frq. avg. 0.157 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 67.3 el 71.8 pa -100.3 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4853.073 -793.542 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/km..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/km.W.178.127L20

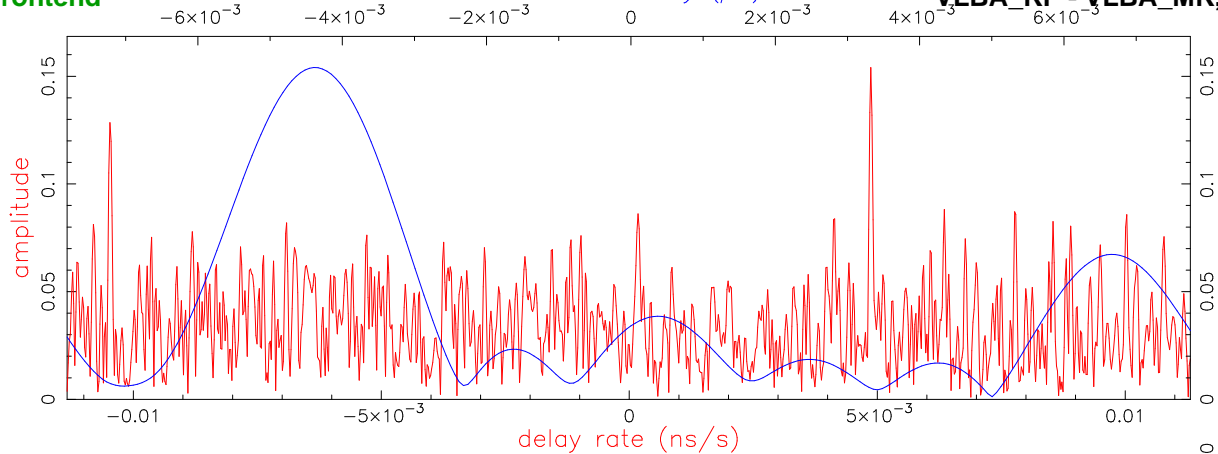
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, km

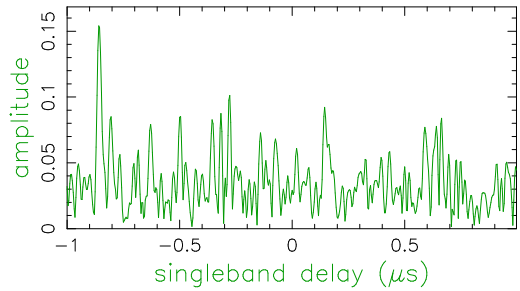
VLBA_KP - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

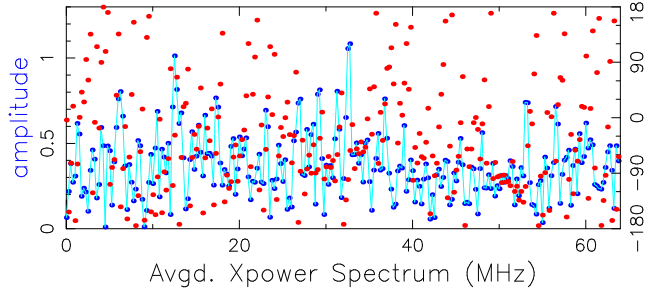


Fringe quality 0

SNR 5.7
 Int time 177.116
 Amp 0.169
 Phase -171.0
 PFD 8.2e-01
 Delays (us)
 SBD -0.857705
 MBD -0.004367
 Fringe rate (Hz) 0.420675
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

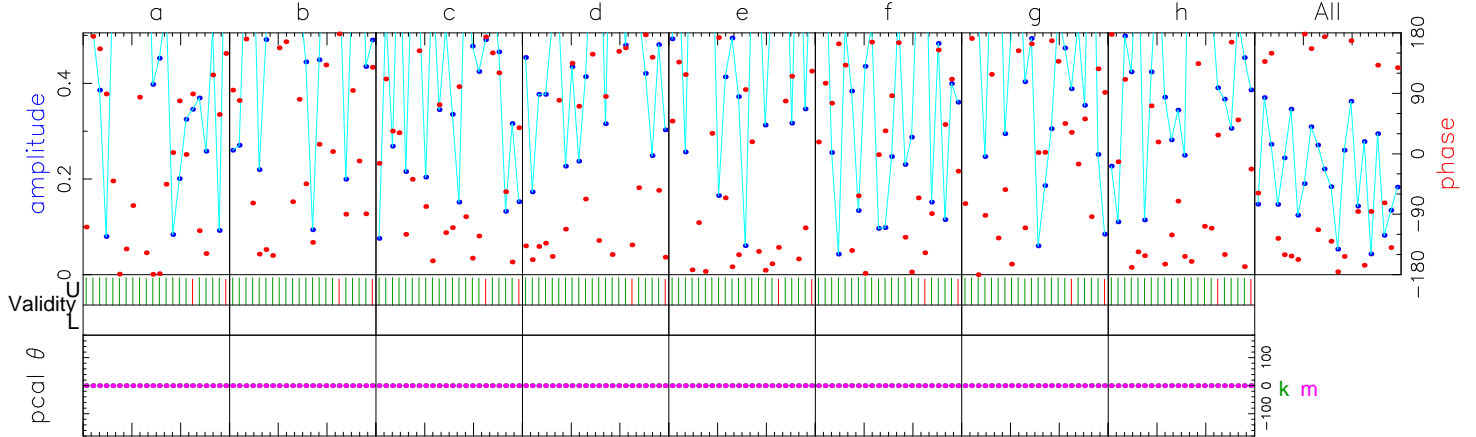


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133308
 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



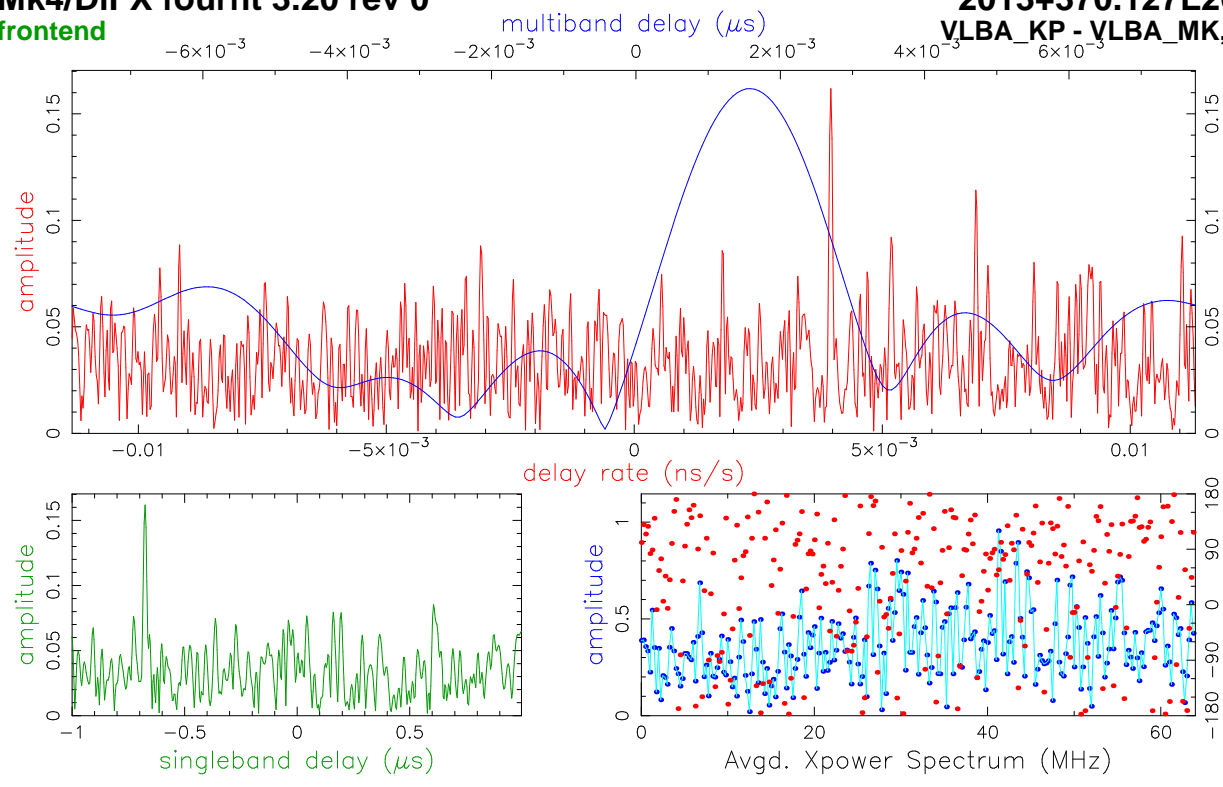
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-166.6	-179.2	-163.7	-160.8	177.6	156.2	-161.1	-163.3	Phase	-171.0
	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.2	Ampl.	0.2
	78.4	93.4	484.2	37.8	37.8	186.4	40.9	336.0	Sbd box	37.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	9.06686252707E+03	Apriori delay (usec)	9.06772626875E+03	Resid mbdelay (usec)	-4.36668E-03	+/-	1.9E-04
Sband delay (usec)	9.06686856400E+03	Apriori clock (usec)	-2.9986310E+00	Resid sbdelay (usec)	-8.57705E-01	+/-	1.5E-03
Phase delay (usec)	9.06772626324E+03	Apriori clockrate (us/s)	-1.8588669E-07	Resid phdelay (usec)	-5.51468E-06	+/-	6.5E-07
Delay rate (us/s)	-6.77881844193E-01	Apriori rate (us/s)	-6.77886727816E-01	Resid rate (us/s)	4.88362E-06	+/-	6.3E-09
Total phase (deg)	113.5	Apriori accel (us/s/s)	-3.52532723473E-05	Resid phase (deg)	-171.0	+/-	20.2

ph/seg (deg)	51.9	Theor.	47.4	Amplitude	0.169 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	70.4	Search (1024X32)	0.148	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	16.4	Inc. seg. avg.	0.171	Inc. frq. avg.	0.152	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	34.8	Inc. frq. avg.	0.152	Sample rate(MISamp/s): 128		Data rate(Mb/s): 2048	nlags: 256
				Dr window (ns/s)	-0.011 0.011	t_cohere infinite	ion window (TEC) 0.00 0.00

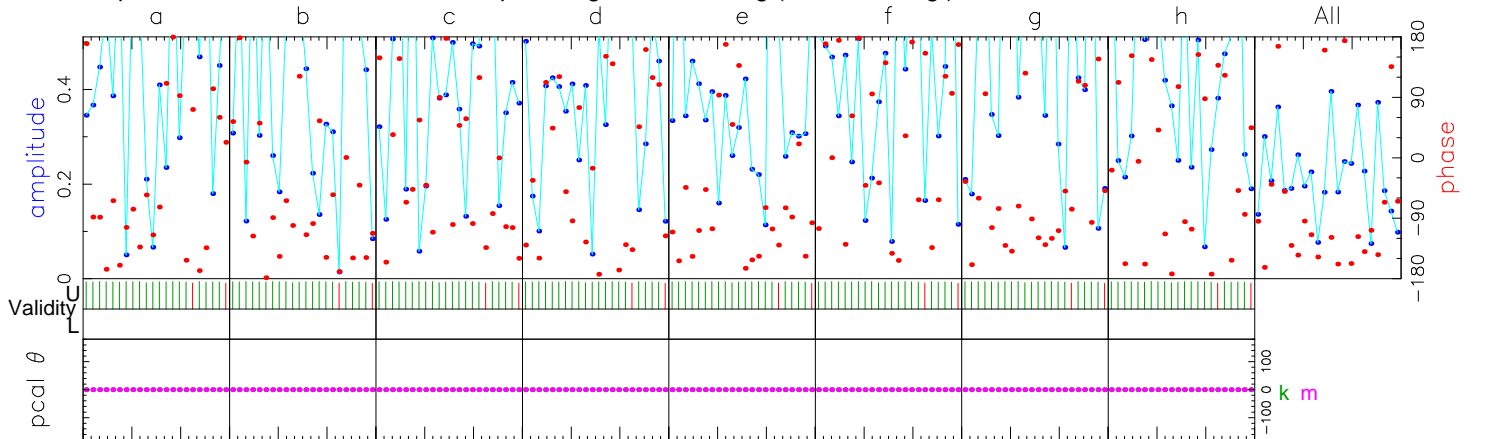
k: az 67.3 el 71.8 pa -100.3 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4853.073 -793.542 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/km..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/km.W.195.127L20



Fringe quality 0
 SNR 5.9
 Int time 177.116
 Amp 0.170
 Phase -135.5
 PFD 3.8e-01
 Delays (us)
 SBD -0.675981
 MBD 0.001569
 Fringe rate (Hz) 0.342550
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133313
 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

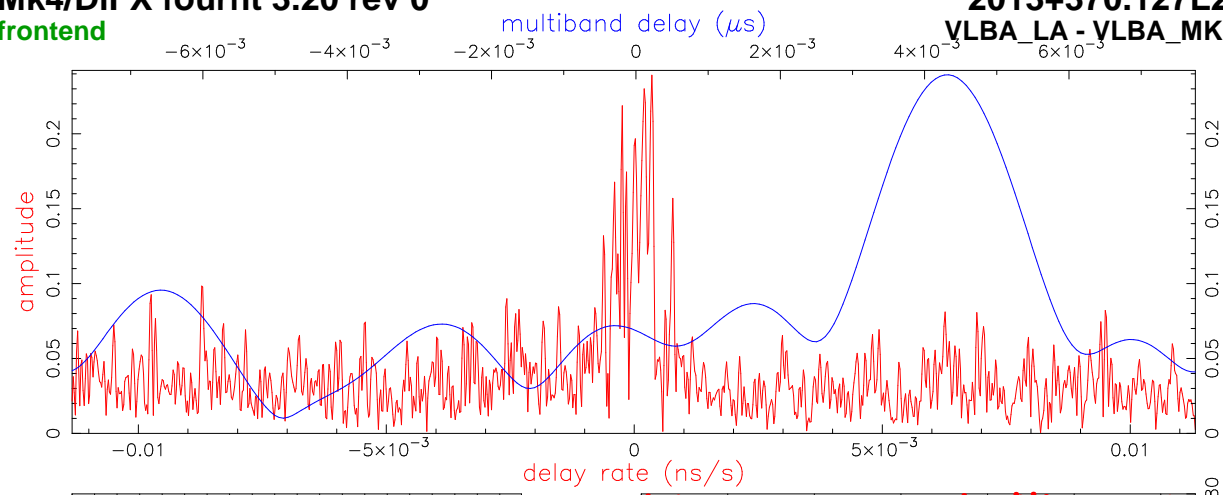


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-141.5	-123.2	-113.6	175.7	-121.3	-176.6	-115.7	-154.5	Phase	-135.5
	0.2	0.2	0.1	0.2	0.3	0.1	0.3	0.1	Ampl.	0.2
	453.8	380.5	413.5	24.6	215.1	441.0	266.6	112.7	Sbd box	83.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	9.06705596288E+03		Apriori delay (usec)		9.06772626875E+03		Resid mbdelay (usec)		1.56912E-03	+/- 1.8E-04
Sband delay (usec)	9.06705028775E+03		Apriori clock (usec)		-2.9986310E+00		Resid sbdelay (usec)		-6.75981E-01	+/- 1.5E-03
Phase delay (usec)	9.06772626438E+03		Apriori clockrate (us/s)		-1.8588669E-07		Resid phdelay (usec)		-4.36790E-06	+/- 6.3E-07
Delay rate (us/s)	-6.77882751151E-01		Apriori rate (us/s)		-6.77886727816E-01		Resid rate (us/s)		3.97666E-06	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-3.52532723473E-05		Resid phase (deg)		-135.5	+/- 19.4

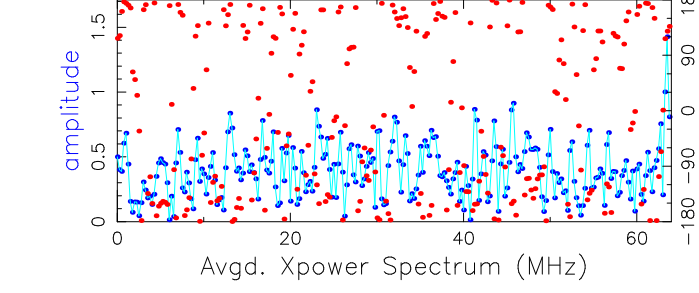
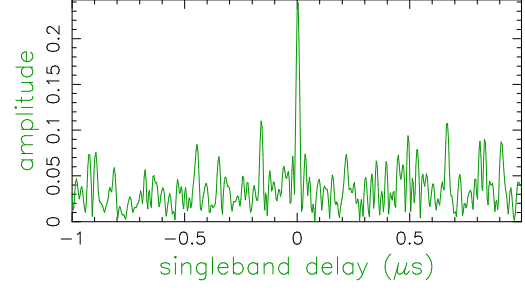
ph/seg (deg) 48.4 45.6 Amplitude 0.170 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 67.1 79.6 Search (1024X32) 0.155 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 30.8 27.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 43.4 48.0 Inc. seg. avg. 0.177 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 k: az 67.3 el 71.8 pa -100.3 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 4853.073 -793.542 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/km..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/km.W.214.127L20

Mk4/DiFX fourfit 3.20 rev 0
frontend

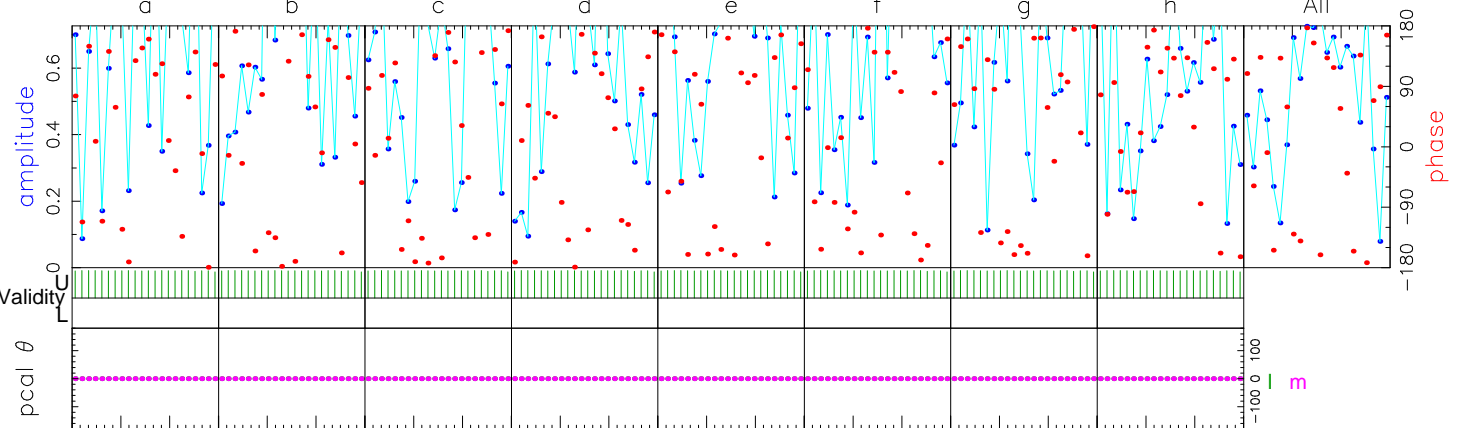
2013+370.127L20, No0075, Im
VLBA_LA - VLBA_MK, fgroup W, pol LL



Fringe quality 9
SNR 8.8
Int time 178.407
Amp 0.242
Phase 161.9
PFD 1.7e-10
Delays (us)
SBD 0.002500
MBD 0.004254
Fringe rate (Hz) 0.029669
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133319
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
	119.4	169.2	179.3	164.4	167.7	-144.1	164.8	125.4	Phase	161.9
	0.3	0.3	0.3	0.1	0.3	0.2	0.3	0.3	Ampl.	0.3
	259.1	258.5	257.2	76.9	256.9	258.8	257.3	257.3	Sbd box	257.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

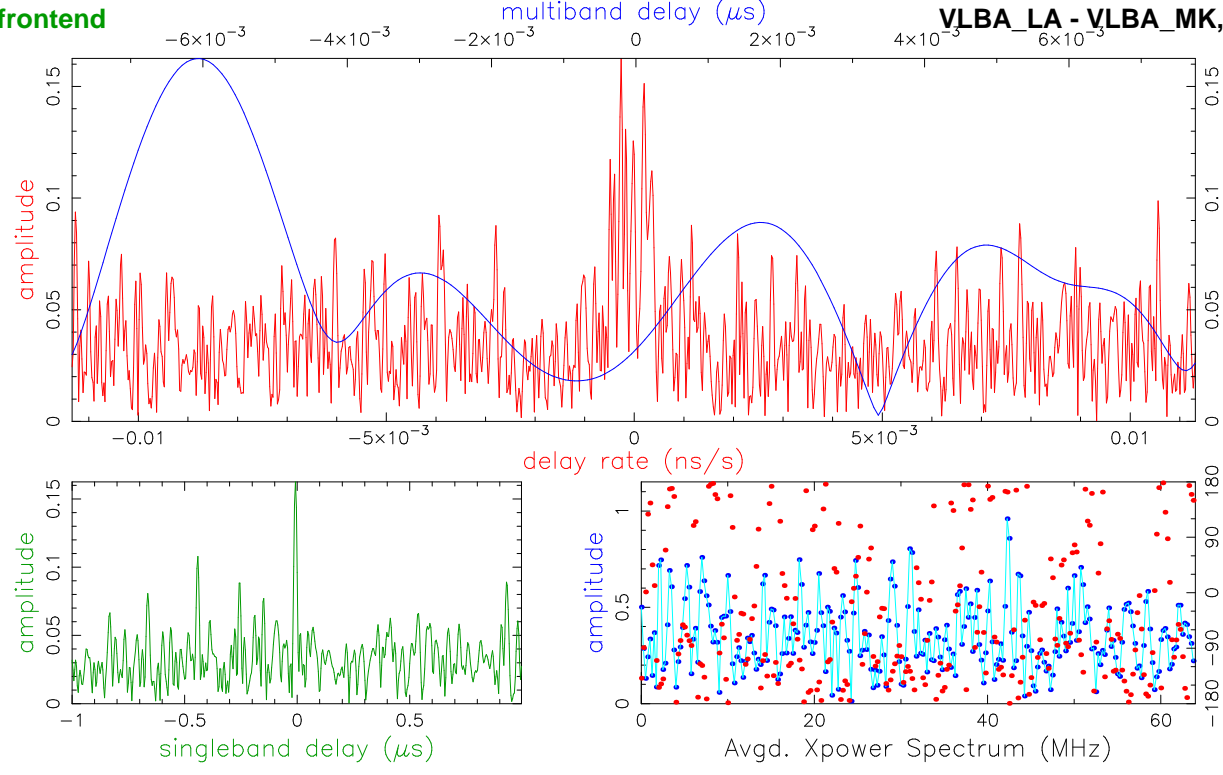
Group delay (usec)(sbd) 9.59416254121E+03 Apriori delay (usec) 9.59415828695E+03 Resid mbdelay (usec) 4.25426E-03 +/- 1.2E-04
 Sband delay (usec) 9.59416078720E+03 Apriori clock (usec) -3.3679166E+00 Resid sbdelay (usec) 2.50025E-03 +/- 9.7E-04
 Phase delay (usec) 9.59415829217E+03 Apriori clockrate (us/s) -3.4277971E-07 Resid phdelay (usec) 5.22113E-06 +/- 4.2E-07
 Delay rate (us/s) -7.83425086879E-01 Apriori rate (us/s) -7.83425431302E-01 Resid rate (us/s) 3.44423E-07 +/- 4.0E-09
 Total phase (deg) 103.5 Apriori accel (us/s/s) -3.42777004836E-05 Resid phase (deg) 161.9 +/- 12.9

RMS Theor. Amplitude 0.242 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 77.5 30.4 Search (1024X32) 0.231 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 141.4 53.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 32.8 18.3 Inc. seg. avg. 0.455 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 27.4 32.0 Inc. frq. avg. 0.257 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 78.7 el 77.2 pa -91.8 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5613.882 -349.666 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/lm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/lm.W.234.127L20

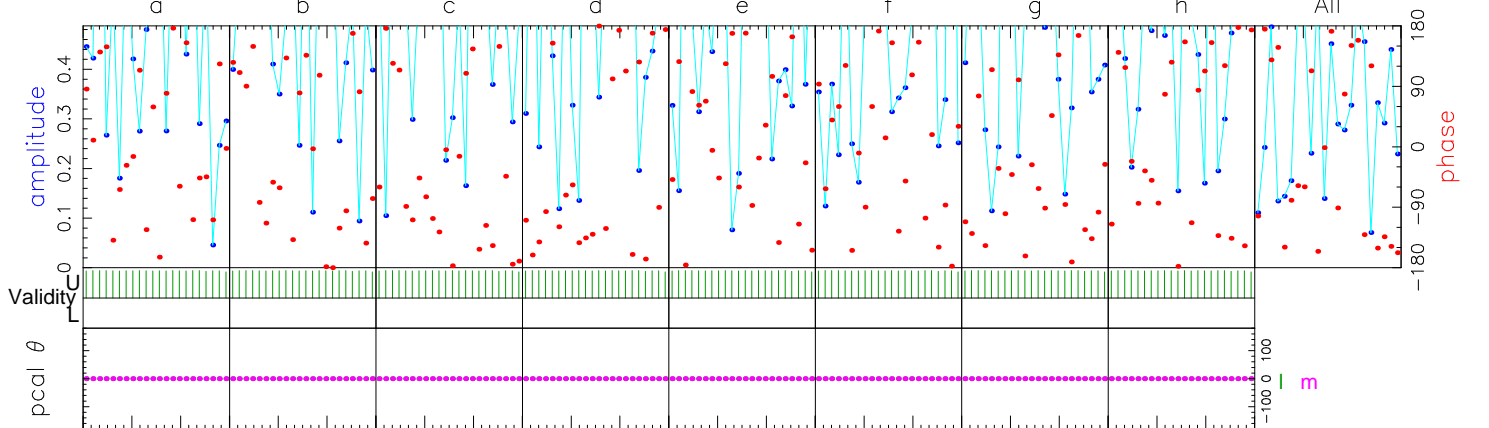
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127L20, No0075, Im
 VLBA_LA - VLBA_MK, fgroup W, pol RR



Fringe quality 0
 SNR 5.9
 Int time 178.407
 Amp 0.163
 Phase -157.6
 PFD 3.1e-01
 Delays (us)
 SBD -0.007900
 MBD -0.006068
 Fringe rate (Hz)
 -0.023075
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133322
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

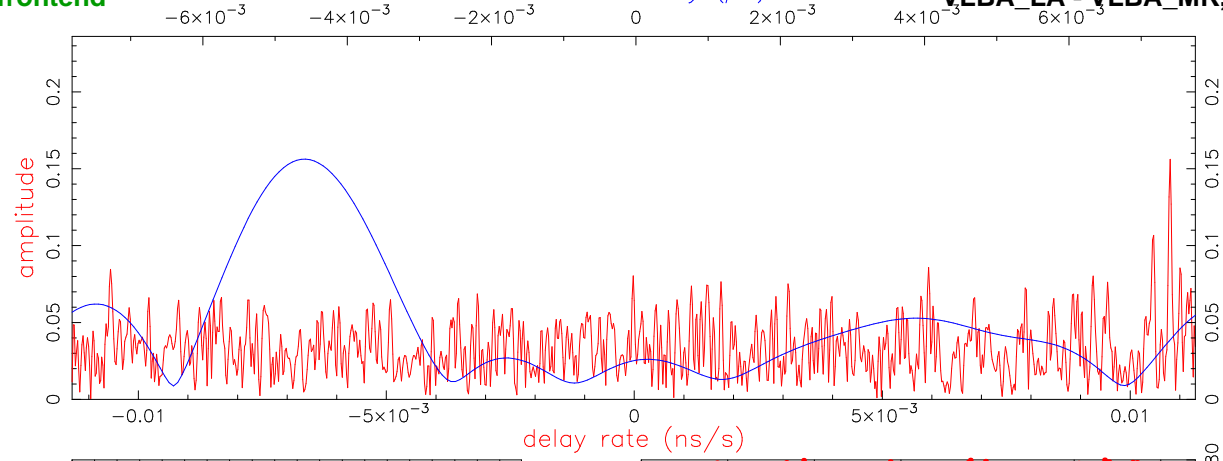
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



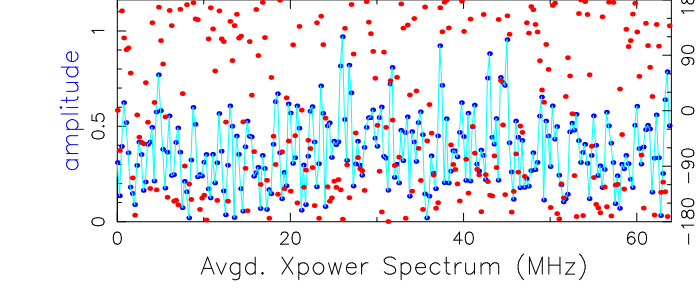
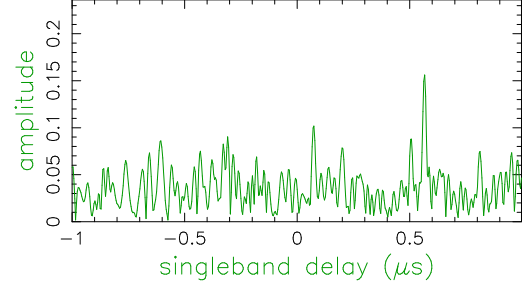
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		9.59415221898E+03			9.59415828695E+03				Resid mbdelay (usec)	-6.06797E-03 +/- 1.8E-04
Sband delay (usec)		9.59415038745E+03			-3.3679166E+00				Resid sbdelay (usec)	-7.89950E-03 +/- 1.5E-03
Phase delay (usec)		9.59415828187E+03			-3.4277971E-07				Resid phdelay (usec)	-5.08060E-06 +/- 6.2E-07
Delay rate (us/s)		-7.83425699176E-01			-7.83425431302E-01				Resid rate (us/s)	-2.67874E-07 +/- 6.0E-09
Total phase (deg)			144.0		-3.42777004836E-05				Resid phase (deg)	-157.6 +/- 19.3
RMS	68.7	45.3		0.163 +/- 0.027					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	68.7	45.3		Search (1024X32)	0.159				PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	134.7	79.0		Interp.	0.000				Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	33.5	27.3		Inc. seg. avg.	0.242				Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	64.3	47.6		Inc. frq. avg.	0.165				Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 78.7 el 77.2 pa -91.8 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5613.882 -349.666 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/lm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/lm.W.250.127L20

multiband delay (μ s)

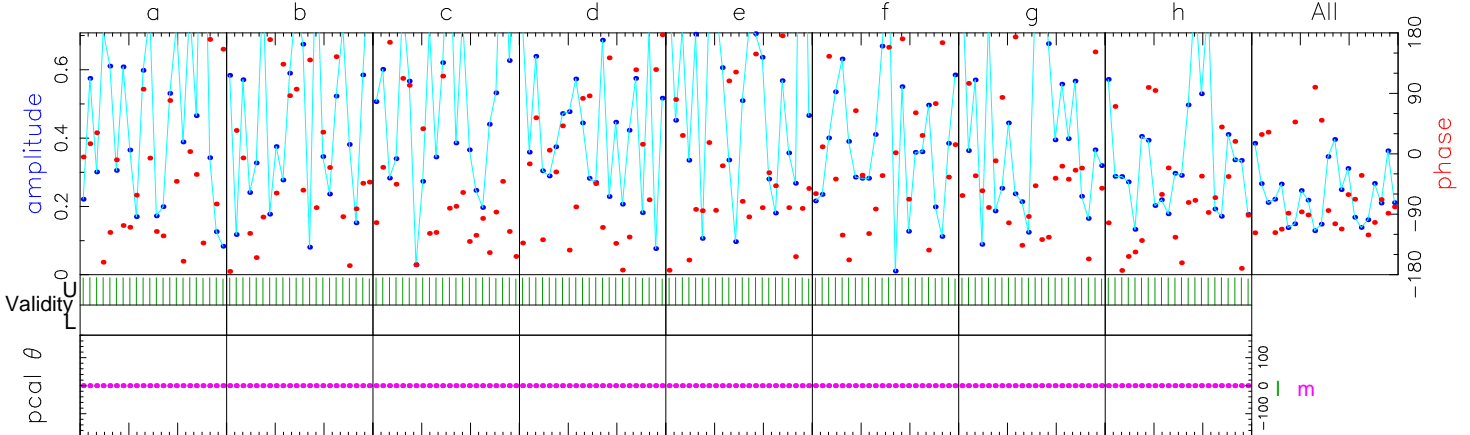


Fringe quality 0
 SNR 5.7
 Int time 178.407
 Amp 0.236
 Phase -83.4
 PFD 6.9e-01
 Delays (us)
 SBD 0.565356
 MBD -0.004640
 Fringe rate (Hz) 0.931274
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133324
 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
	-73.1	-76.9	-99.7	-108.1	-81.7	-82.2	-69.2	-85.4	Phase	-83.4
	0.2	0.2	0.4	0.1	0.3	0.1	0.4	0.2	Ampl.	0.2
	416.7	471.6	358.3	320.9	285.2	439.6	401.2	463.9	Sbd box	401.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

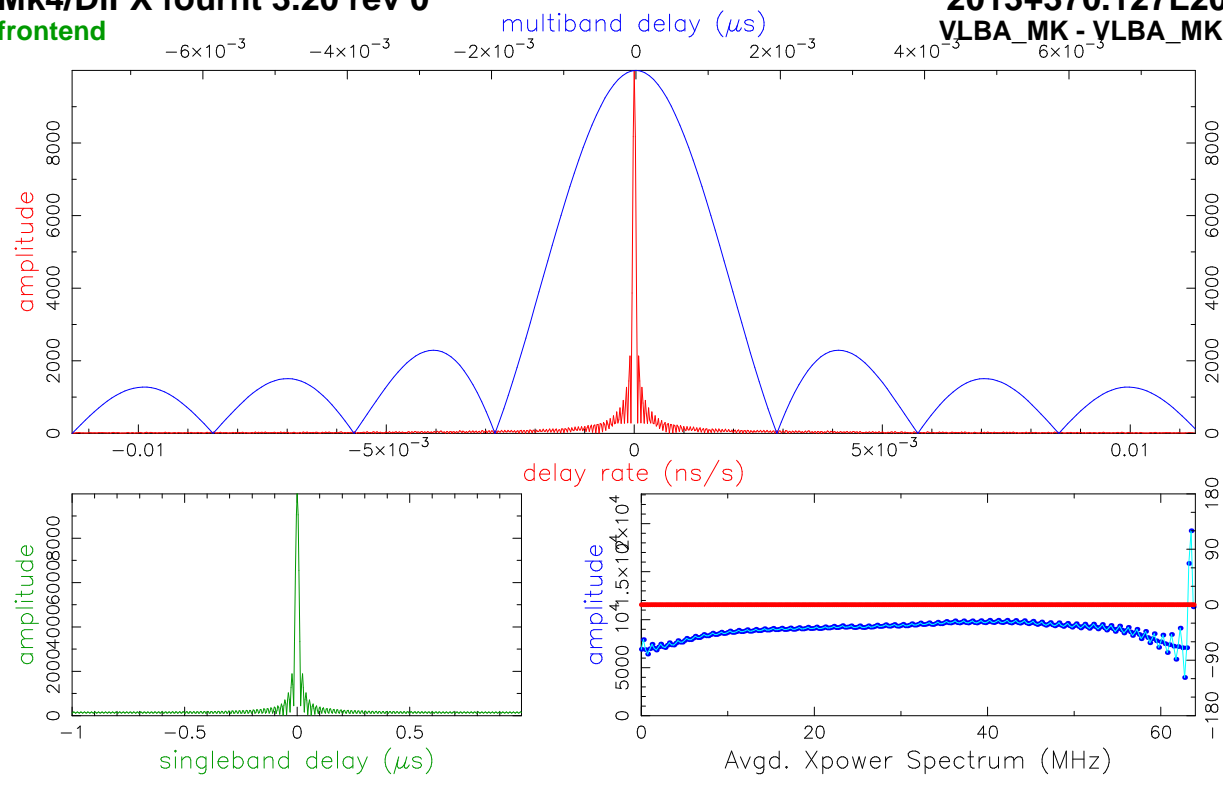
Group delay (usec)(sbd) 9.59471614646E+03 Apriori delay (usec) 9.59415828695E+03 Resid mbdelay (usec) -4.64049E-03 +/- 1.9E-04
 Sband delay (usec) 9.59472364345E+03 Apriori clock (usec) -3.3679166E+00 Resid sbdelay (usec) 5.65356E-01 +/- 1.5E-03
 Phase delay (usec) 9.59415828426E+03 Apriori clockrate (us/s) -3.4277971E-07 Resid phdelay (usec) -2.68904E-06 +/- 6.4E-07
 Delay rate (us/s) -7.83414620129E-01 Apriori rate (us/s) -7.83425431302E-01 Resid rate (us/s) 1.08112E-05 +/- 6.2E-09
 Total phase (deg) 218.2 Apriori accel (us/s/s) -3.42777004836E-05 Resid phase (deg) -83.4 +/- 20.0

RMS Theor. Amplitude 0.236 +/- 0.041 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 68.3 46.8 Search (1024X32) 0.151 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 71.8 81.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 14.4 28.2 Inc. seg. avg. 0.266 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 41.5 49.3 Inc. frq. avg. 0.214 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 78.7 el 77.2 pa -91.8 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 5613.882 -349.666 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/lm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/lm.W.268.127L20

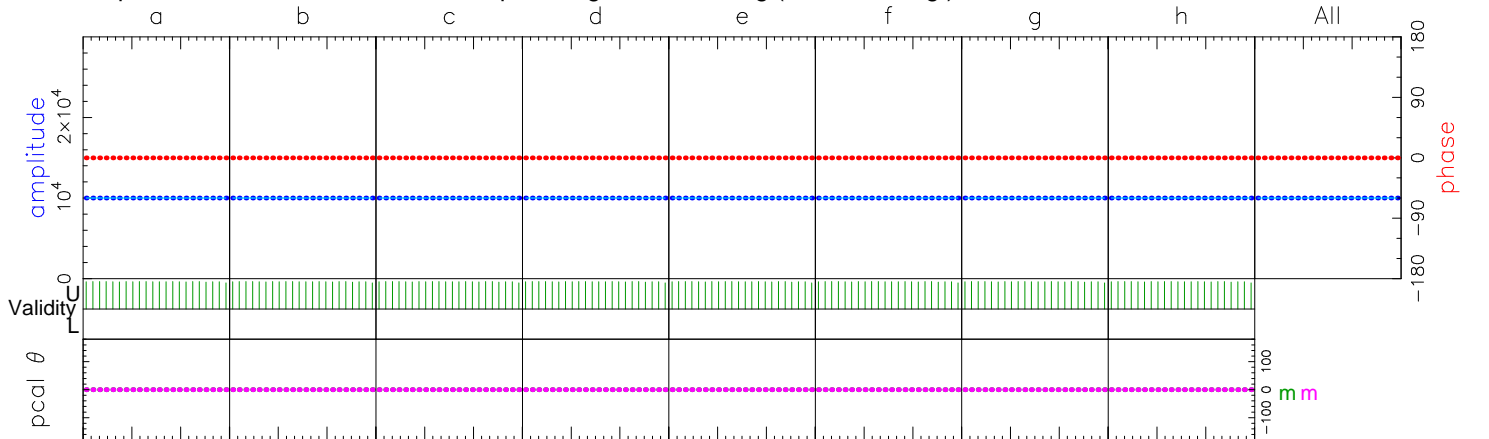
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, mm
VLBA_MK - VLBA_MK, fgroup W, pol LL



Fringe quality 9
SNR 365567.4
Int time 178.706
Amp 9999.994
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 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133321
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		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

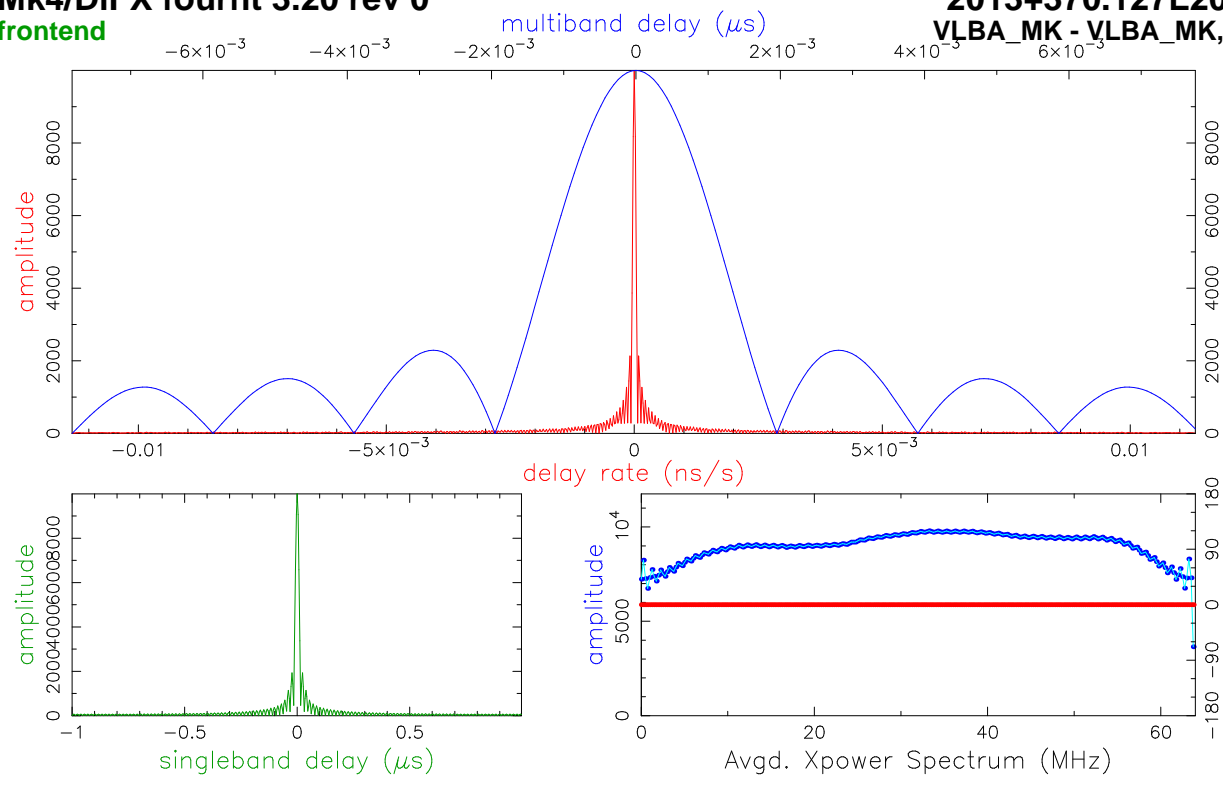
Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09
Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.4E-08
Phase delay (usec) -2.32894807017E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -2.32895E-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 9999.994 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
ph/seg (deg) 0.0 0.0 Search (1024X32) 9999.994 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
amp/frq (%) 0.0 0.0 Inc. frq. avg. 9999.994 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 57.7 el 31.4 pa -87.9 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mm.W.244.127L20

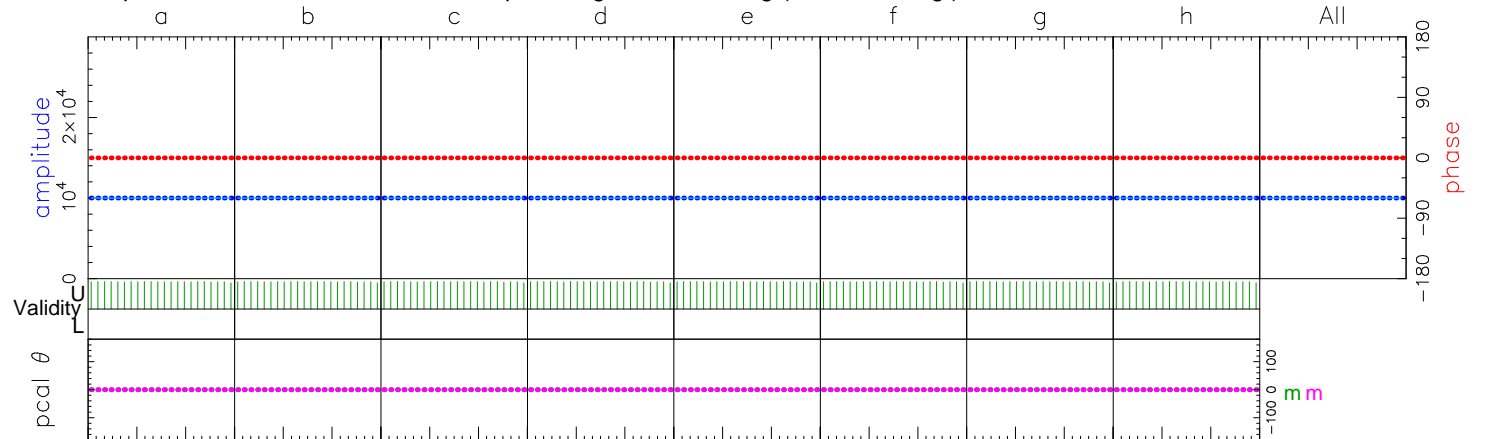
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, mm
VLBA_MK - VLBA_MK, fgroup W, pol RR



Fringe quality 9
SNR 365567.0
Int time 178.706
Amp 9999.997
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
Yr:day 16383
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133323
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		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	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	+/- 2.4E-08
Phase delay (usec)	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67201548417E-20	-2.67202E-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

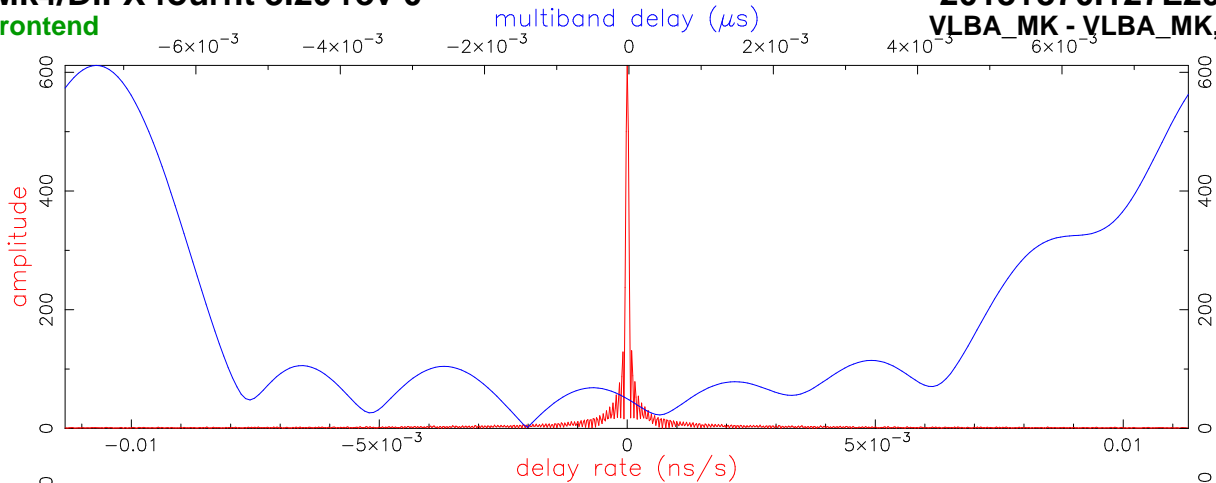
ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 9999.997 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 0.0 0.0 Search (1024X32) 9999.997 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
m: az 57.7 el 31.4 pa -87.9 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 0.000 0.000 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mm.W.257.127L20 simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0

frontend

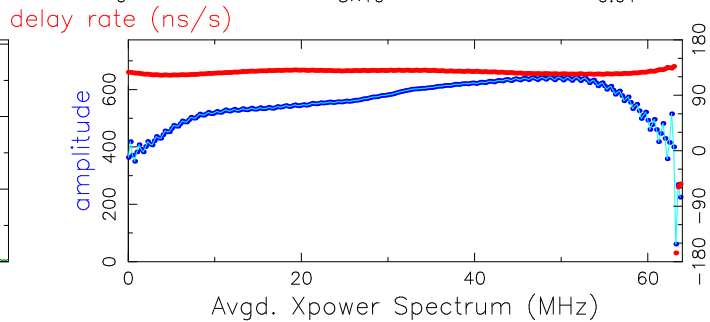
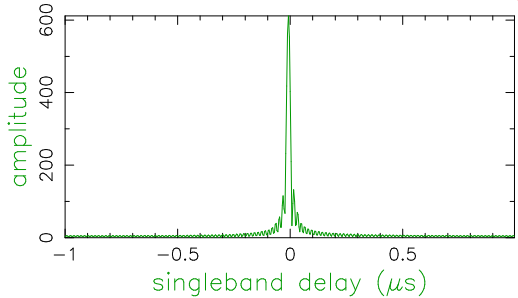
2013+370.127L20, No0075, mm

VLBA_MK - VLBA_MK, fgroup W, pol LR



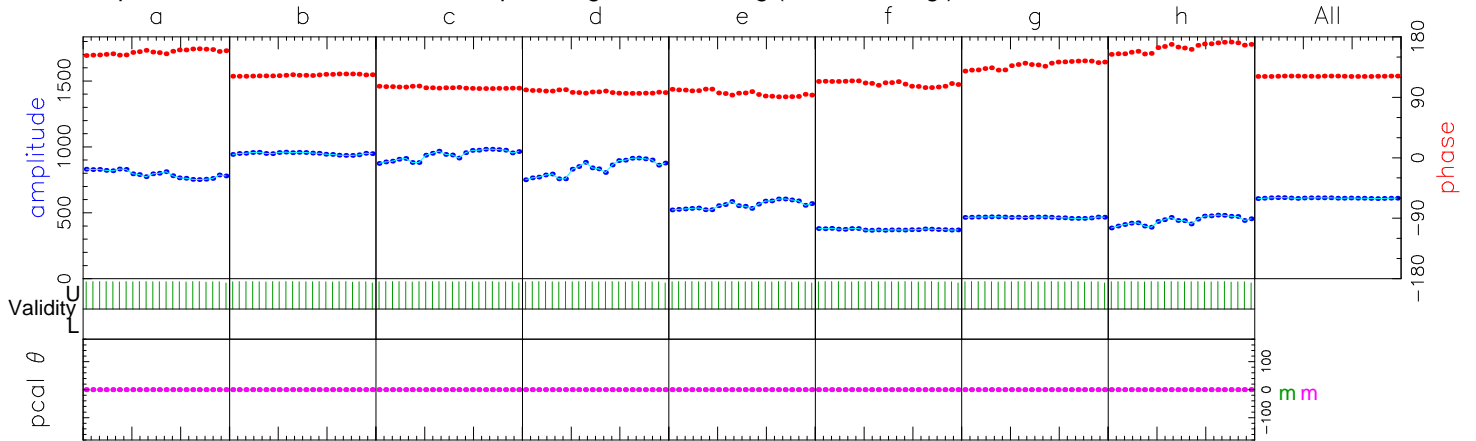
Fringe quality 6

SNR 22359.6
 Int time 178.706
 Amp 611.640
 Phase 121.3
 PFD 0.0e+00
 Delays (us)
 SBD -0.007938
 MBD -0.007382
 Fringe rate (Hz)
 -0.000022
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133325
 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

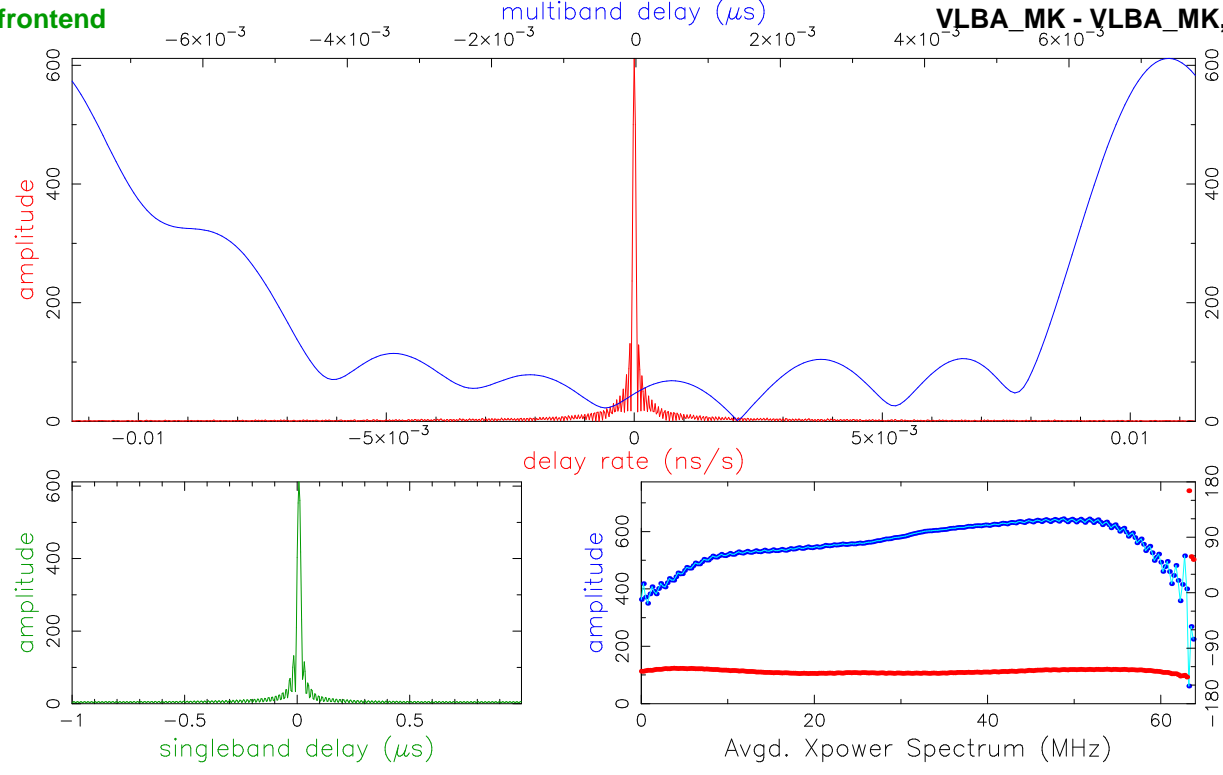


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-7.38165625000E-03									
Sband delay (usec)	-7.93825000000E-03									
Phase delay (usec)	3.91241312040E-06									
Delay rate (us/s)	-2.57914973529E-10									
Total phase (deg)		121.3								
			Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		-7.38166E-03	+/- 4.9E-08
			Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		-7.93825E-03	+/- 3.9E-07
			Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		3.91241E-06	+/- 1.7E-10
			Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		-2.57915E-10	+/- 1.6E-12
			Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		121.3	+/- 0.0

ph/seg (deg) 0.3 0.0 Search (1024X32) 611.640 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 0.4 0.0 Interp. 610.955 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 28.9 0.0 Inc. seg. avg. 611.589 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 37.3 0.0 Inc. frq. avg. 668.744 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mm.W.272.127L20

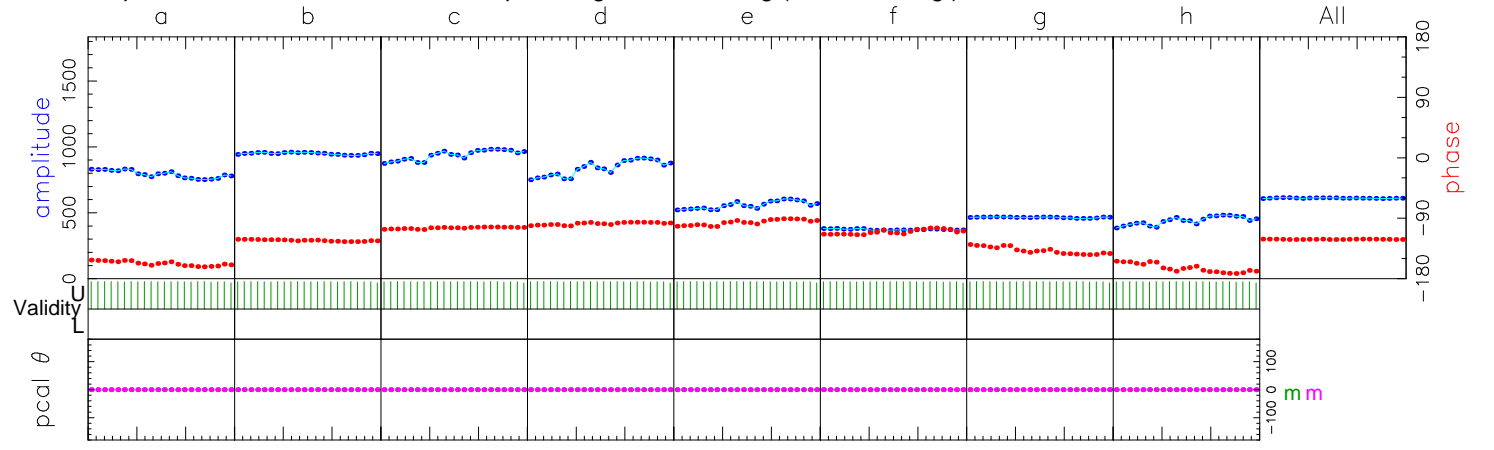
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, mm
VLBA_MK - VLBA_MK, fgroup W, pol RL



Fringe quality 6
SNR 22359.6
Int time 178.706
Amp 611.642
Phase -121.3
PFD 0.0e+00
Delays (us)
SBD 0.007938
MBD 0.007382
Fringe rate (Hz) 0.000022
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133327
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

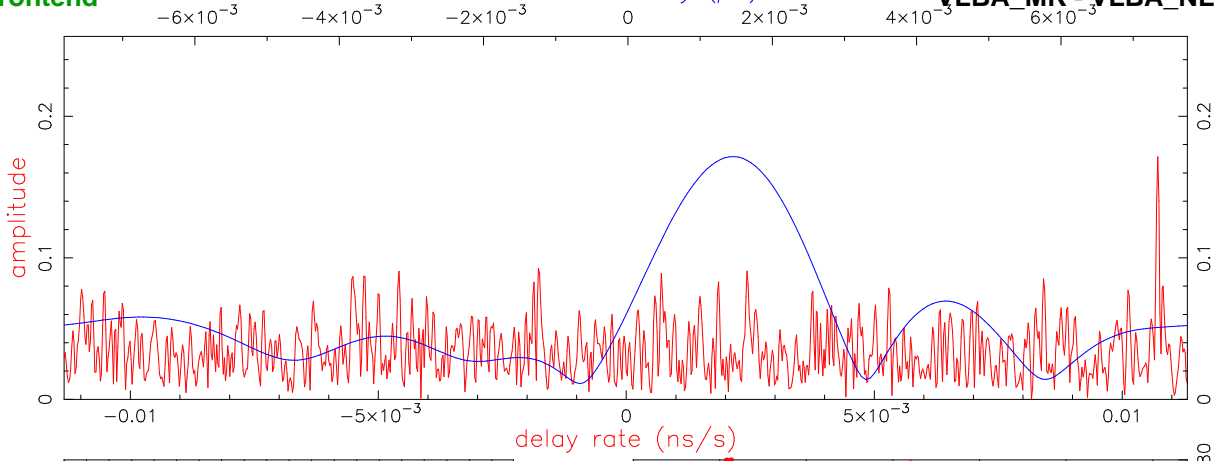


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-157.1	-122.9	-104.3	-97.9	-95.8	-110.3	-137.8	-164.2	Phase	-121.3
	792.0	949.4	937.4	838.9	558.0	373.1	463.4	437.7	Ampl.	668.7
	259.4	259.5	259.1	258.8	259.0	258.4	258.6	258.1	Sbd box	259.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.381656250000E-03		Apriori delay (usec)		0.000000000000E+00		Resid mbdelay (usec)		7.38166E-03	+/- 4.9E-08
Sband delay (usec)	7.938250000000E-03		Apriori clock (usec)		0.000000000000E+00		Resid sbdelay (usec)		7.93825E-03	+/- 3.9E-07
Phase delay (usec)	-3.91241312026E-06		Apriori clockrate (us/s)		0.000000000000E+00		Resid phdelay (usec)		-3.91241E-06	+/- 1.7E-10
Delay rate (us/s)	2.57914973529E-10		Apriori rate (us/s)		0.000000000000E+00		Resid rate (us/s)		2.57915E-10	+/- 1.6E-12
Total phase (deg)			Apriori accel (us/s/s)		0.000000000000E+00		Resid phase (deg)		-121.3	+/- 0.0

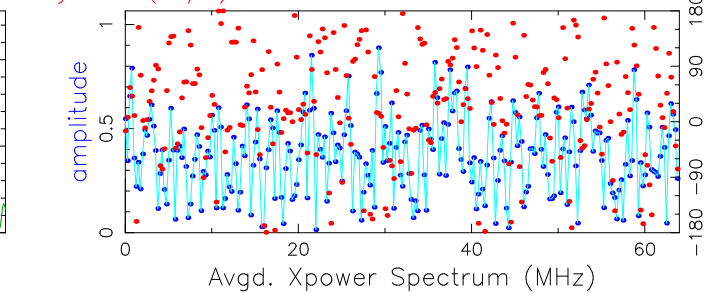
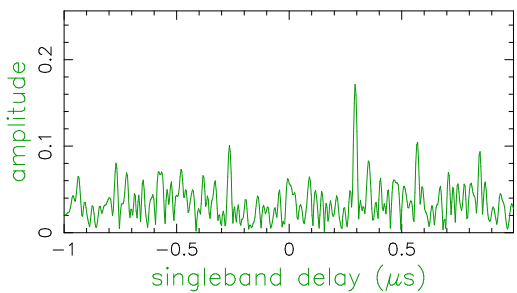
ph/seg (deg) 0.3 0.0 Search (1024X32) 611.642 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 0.4 0.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 28.9 0.0 Inc. seg. avg. 611.591 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 37.3 0.0 Inc. frq. avg. 668.746 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
m: az 57.7 el 31.4 pa -87.9 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mm.W.291.127L20

multiband delay (μ s)

Fringe quality 0

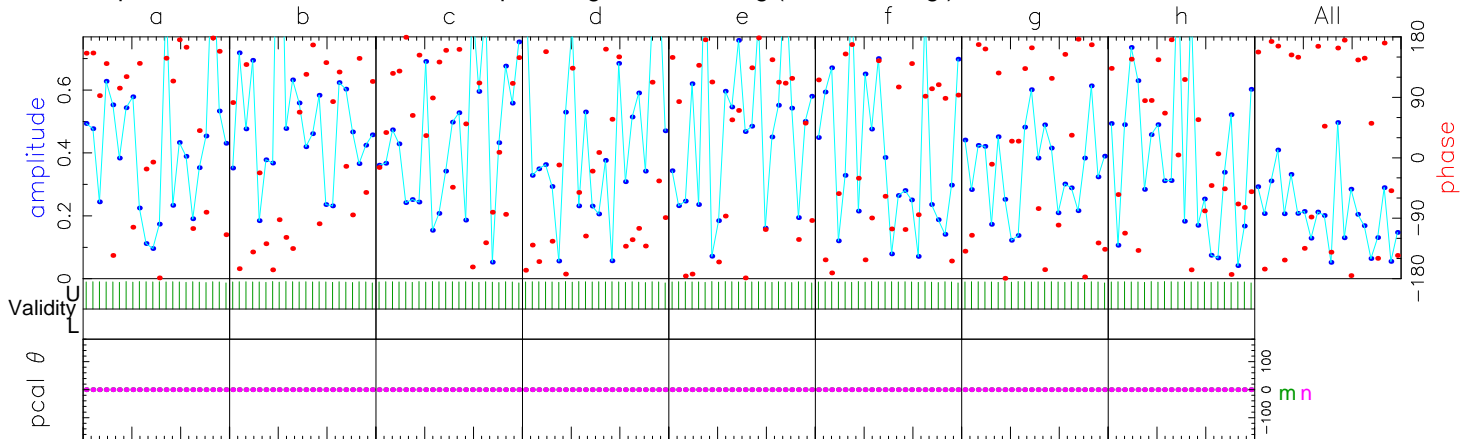


SNR 6.3
Int time 177.264
Amp 0.256
Phase 172.6
PFD 5.3e-02
Delays (us)
SBD 0.293557
MBD 0.001516
Fringe rate (Hz) 0.925380
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512



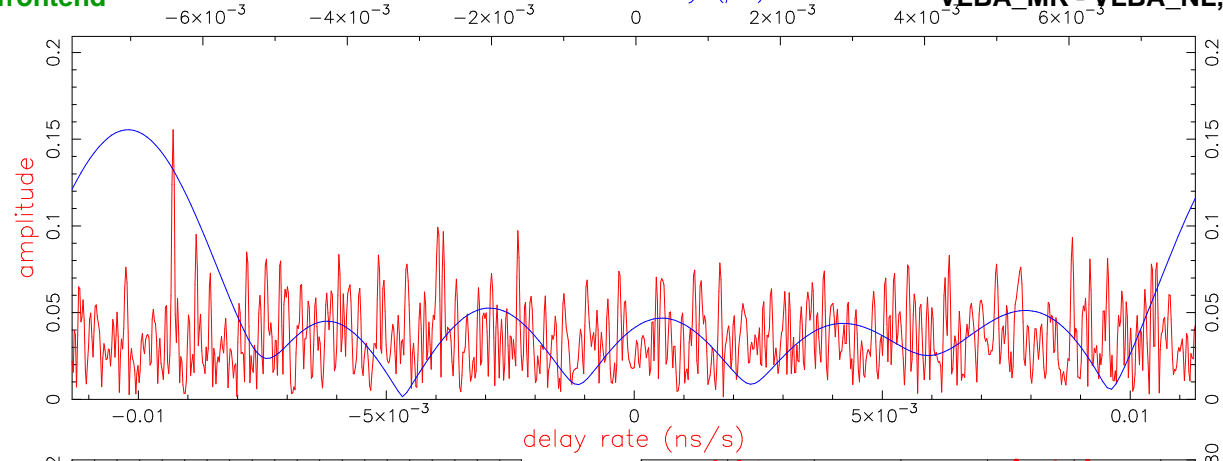
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build 2020:070:111948
2020:071:133321
2019:280:115849
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

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

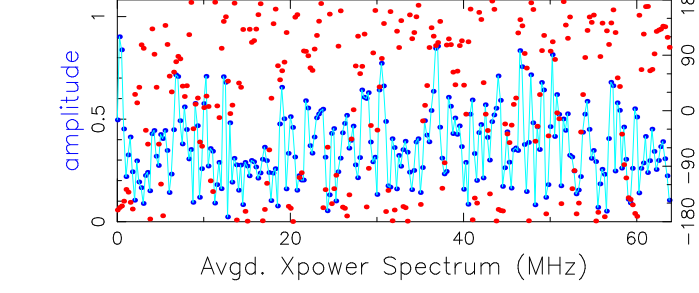
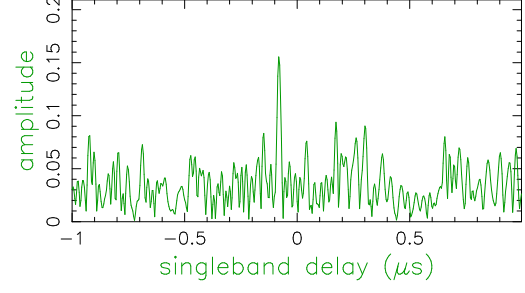


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-1.00555496090E+04									
Sband delay (usec)	-1.00555544434E+04									
Phase delay (usec)	-1.00558479949E+04									
Delay rate (us/s)	1.03824294857E+00									
Total phase (deg)			-99.5							
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										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
m n										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.256 +/- 0.041										
0.170										
-1.4291580E-07										
1.03823220583E+00										
3.10290092937E-05										
1.51639E-03										
2.93557E-01										
5.56624E-06										
1.07427E-05										
172.6										
+/- 1.7E-04										
+/- 1.4E-03										
+/- 5.9E-07										
+/- 5.7E-09										
+/- 18.3										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
-1.000 1.000										
-0.008 0.008										
-0.011 0.011										
0.00 0.00										
m: az 57.7 el 31.4 pa -87.9										
n: az 168.0 el 85.4 pa -10.4										
u,v (fr/asec) -7450.706 -407.599										
simultaneous interpolator										

multiband delay (μs)

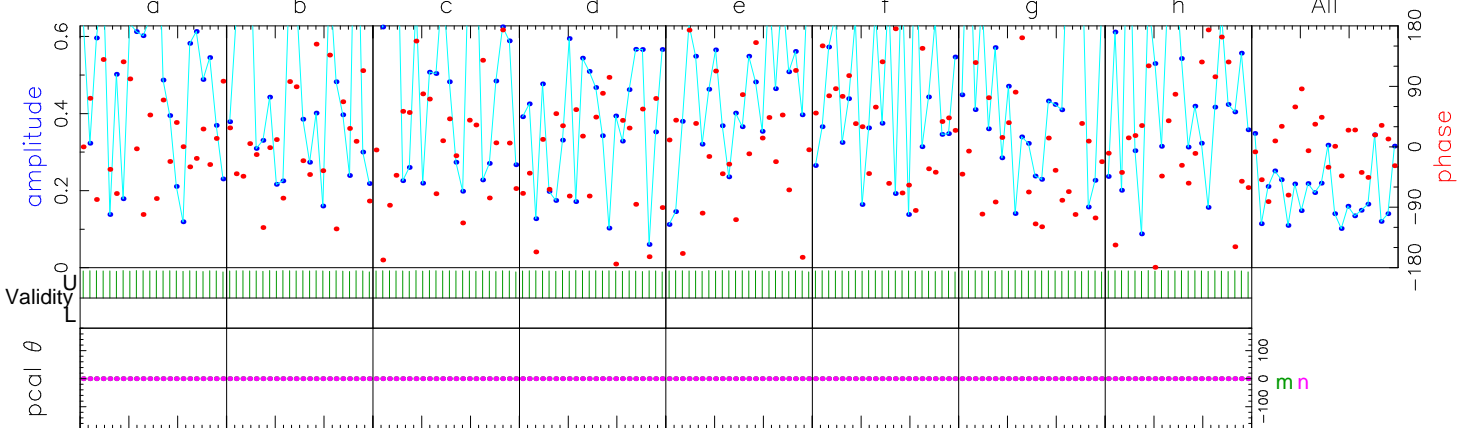


Fringe quality 0
 SNR 5.7
 Int time 177.264
 Amp 0.209
 Phase 0.3
 PFD 8.1e-01
 Delays (us)
 SBD -0.081255
 MBD -0.007013
 Fringe rate (Hz)
 -0.801336
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133323
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

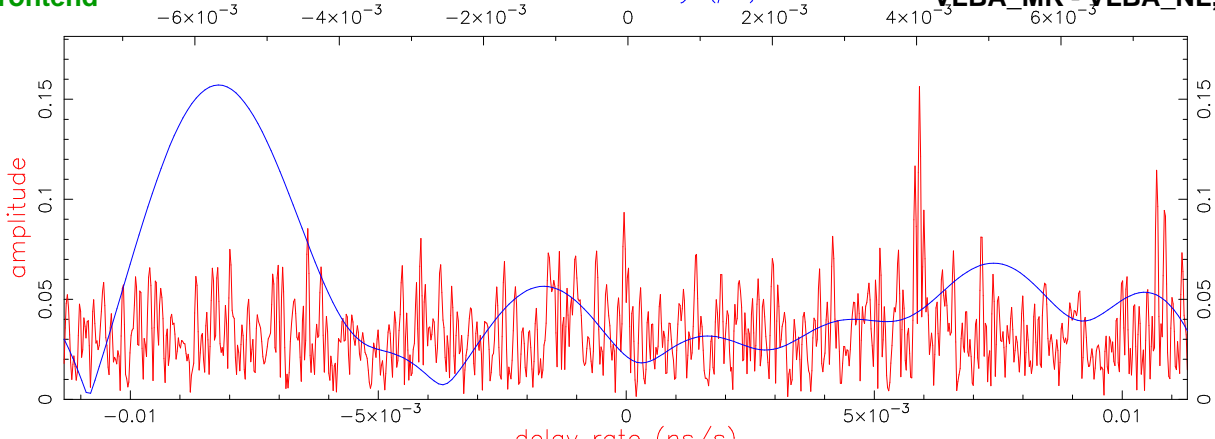
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



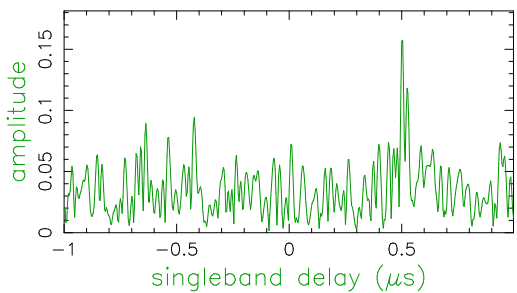
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.00559331380E+04									
Sband delay (usec)	-1.00559292557E+04									
Phase delay (usec)	-1.00558480004E+04									
Delay rate (us/s)	1.03822290312E+00									
Total phase (deg)			-271.9							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
amplitude										
phase										
Validity										
pcal θ										
RMS	42.2	47.3								
Theor.										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
ph/seg (deg)										
amp/seg (%)										
ph/frq (deg)										
amp/frq (%)										
m: az 57.7 el 31.4 pa -87.9										
n: az 168.0 el 85.4 pa -10.4										
u,v (fr/asec)										
simultaneous interpolator										

multiband delay (μs)

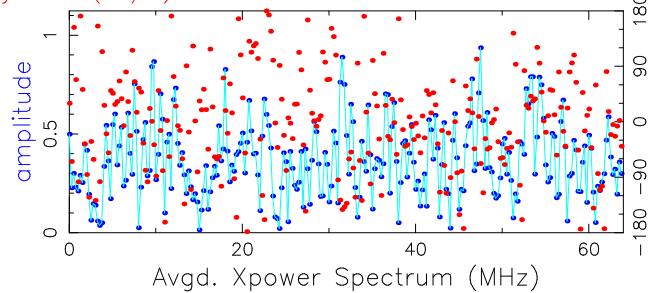
Fringe quality 0



SNR 5.9
 Int time 177.264
 Amp 0.181
 Phase 91.5
 PFD 3.9e-01
 Delays (us)
 SBD 0.502042
 MBD -0.005569
 Fringe rate (Hz)
 0.510622
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

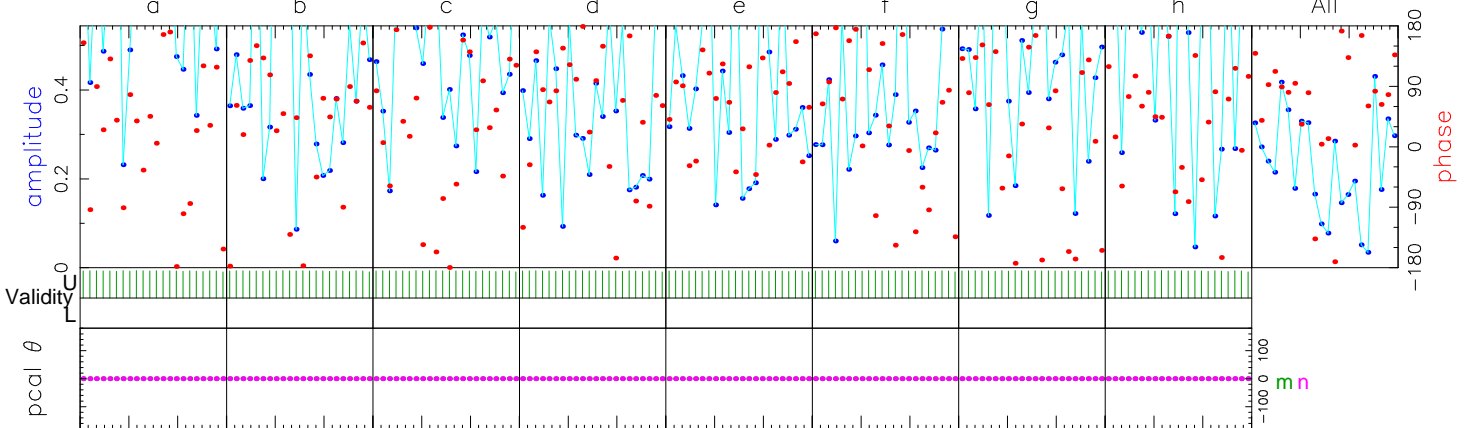


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133325
 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		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.00553535698E+04									
Sband delay (usec)	-1.00553459579E+04									
Phase delay (usec)	-1.00558479975E+04									
Delay rate (us/s)	1.03823813364E+00									
Total phase (deg)			-180.7							
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)									91.5	+/- 19.5
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
PC freqs										
PC phase										
ManI PC										
PC amp										
Chan ids										
Tracks										
Chan ids										
Tracks										
ph/seg (deg)	58.6	45.6		Search (1024X32)	0.152				sb window (us)	-1.000 1.000
amp/seg (%)	81.4	79.7		Interp.	0.000				mb window (us)	-0.008 0.008
ph/frq (deg)	30.4	27.5		Inc. seg. avg.	0.198				dr window (ns/s)	-0.011 0.011
amp/frq (%)	28.6	48.0		Inc. frq. avg.	0.176				ion window (TEC)	0.00 0.00
m: az 57.7 el 31.4 pa -87.9				n: az 168.0 el 85.4 pa -10.4					u,v (fr/asec)	-7450.706 -407.599
Control file: cf_1234_gmva				Input file: /Exps/c192c/v1_CygA2/1234/No0075/mn..127L20					Output file: /Exps/c192c/v1_CygA2/1234/No0075/mn.W.277.127L20	

simultaneous interpolator

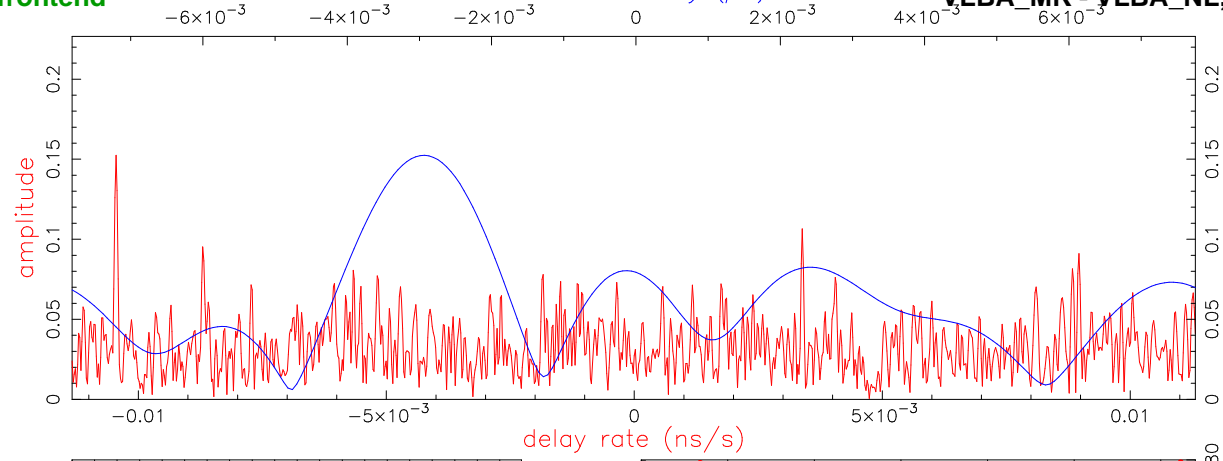
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, mn

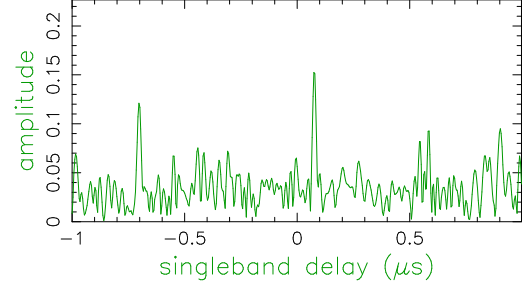
VLBA_MK - VLBA_NL, fgroup W, pol RL

multiband delay (μ s)

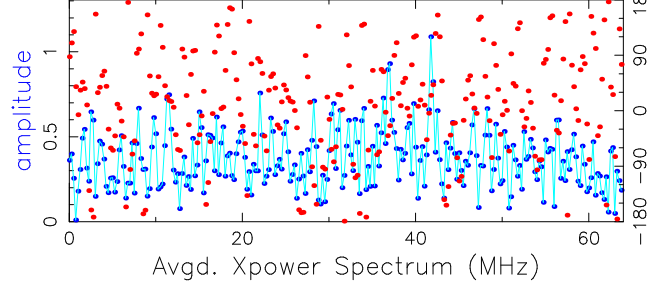


Fringe quality 0

SNR 5.6
 Int time 177.264
 Amp 0.227
 Phase -144.9
 PFD 8.6e-01
 Delays (us)
 SBD 0.075971
 MBD -0.002916
 Fringe rate (Hz)
 -0.902090
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

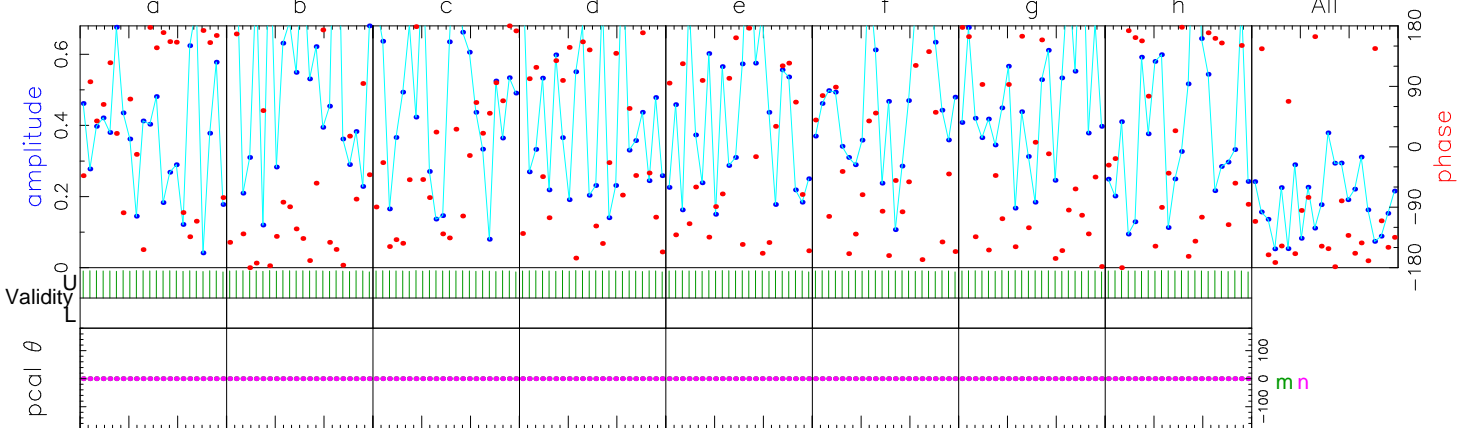


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133328
 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		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-1.00557727919E+04									
Sband delay (usec)	-1.00557720294E+04									
Phase delay (usec)	-1.00558480051E+04									
Delay rate (us/s)	1.03822173346E+00									
Total phase (deg)			-57.0							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
m n										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.227 +/- 0.040										
0.151										
0.000										
0.205										
0.223										
PC period (AP's) 5, 5										
simultaneous interpolator										

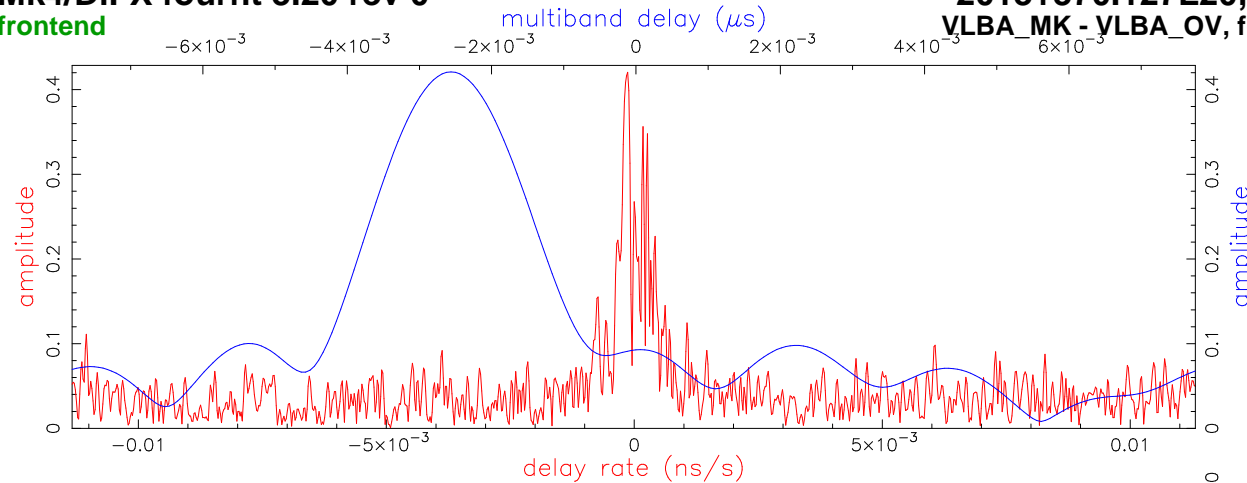
m: az 57.7 el 31.4 pa -87.9 n: az 168.0 el 85.4 pa -10.4 u,v (fr/asec) -7450.706 -407.599
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mn..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mn.W.296.127L20

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, mo

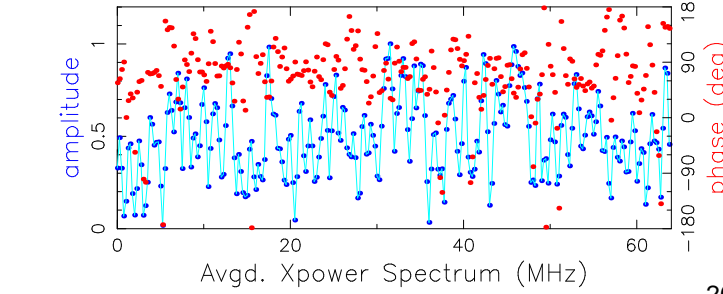
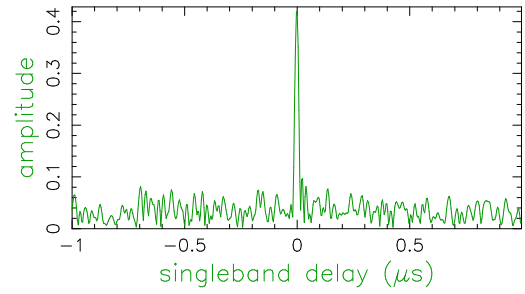
VLBA_MK - VLBA_OV, fgroup W, pol LL



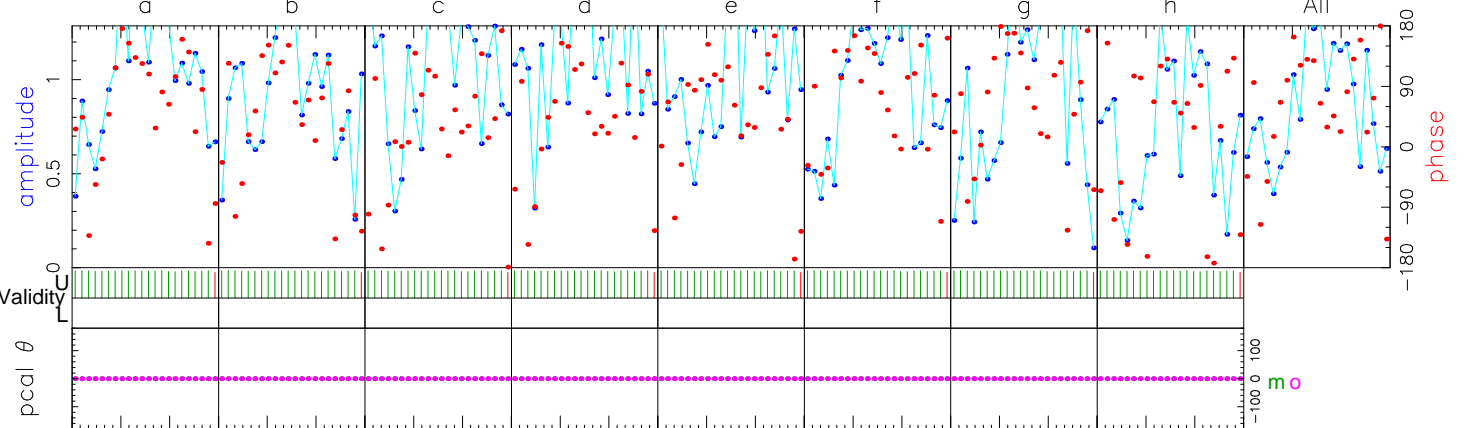
Fringe quality 9

SNR 15.6
Int time 177.010
Amp 0.429
Phase 87.6
PFD 0.0e+00
Delays (us)
SBD -0.001819
MBD -0.002619
Fringe rate (Hz)
-0.011506
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133321
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

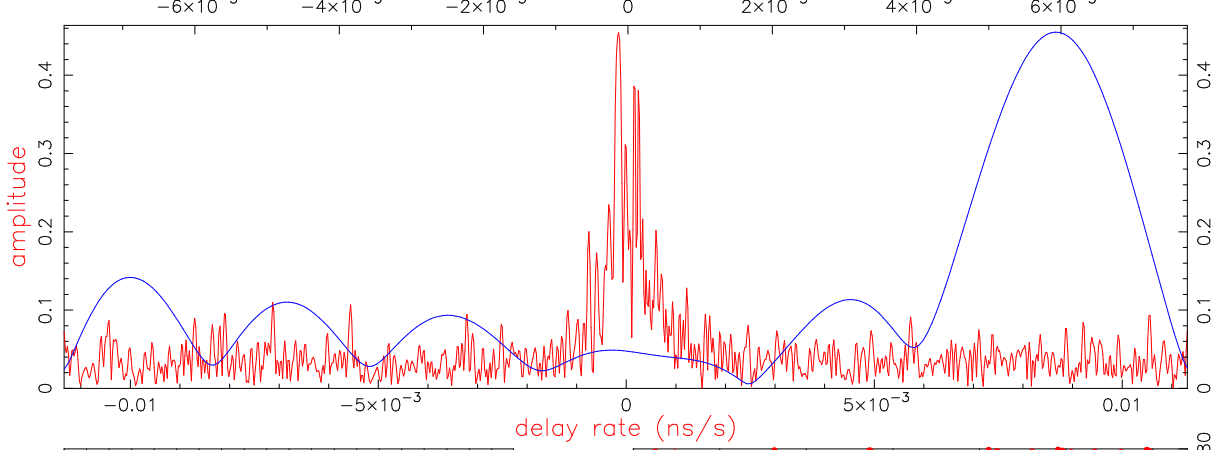


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	103.4	94.5	57.1	75.5	75.4	95.6	97.6	110.9	Phase	87.6
m	0.5	0.3	0.4	0.6	0.5	0.4	0.4	0.3	Ampl.	0.4
o	257.2	256.1	256.3	256.9	256.1	256.2	256.6	257.1	Sbd box	256.5
m	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-8.58728557999E+03		Apriori delay (usec)		-8.58728296128E+03		Resid mbdelay (usec)		-2.61870E-03 +/- 7.0E-05	
Sband delay (usec)	-8.58728478028E+03		Apriori clock (usec)		-1.4071649E+01		Resid sbdelay (usec)		-1.81900E-03 +/- 5.5E-04	
Phase delay (usec)	-8.58728295846E+03		Apriori clockrate (us/s)		-9.6732924E-09		Resid phdelay (usec)		2.82453E-06 +/- 2.4E-07	
Delay rate (us/s)	5.96432297543E-01		Apriori rate (us/s)		5.96432431116E-01		Resid rate (us/s)		-1.33573E-07 +/- 2.3E-09	
Total phase (deg)			Apriori accel (us/s/s)		2.74406755450E-05		Resid phase (deg)		87.6 +/- 7.3	

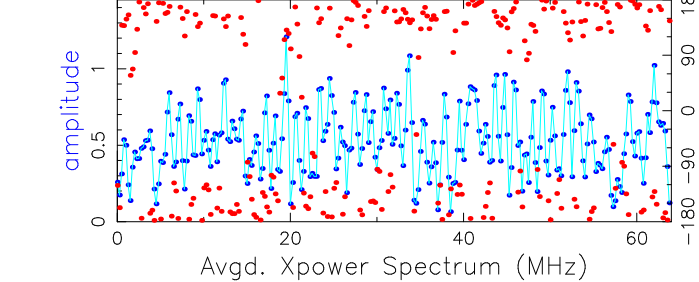
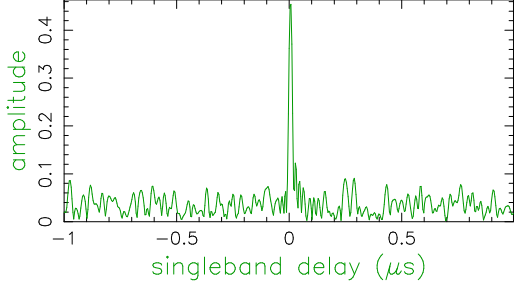
ph/seg (deg) 75.4 17.2 Search (1024X32) 0.418 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 123.9 30.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 19.3 10.4 Inc. seg. avg. 0.830 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 21.1 18.1 Inc. frq. avg. 0.431 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
m: az 57.7 el 31.4 pa -87.9 o: az 81.4 el 67.9 pa -81.3 u,v (fr/asec) -4273.986 -210.192 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mo..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mo.W.247.127L20

multiband delay (μ s)

Fringe quality 9

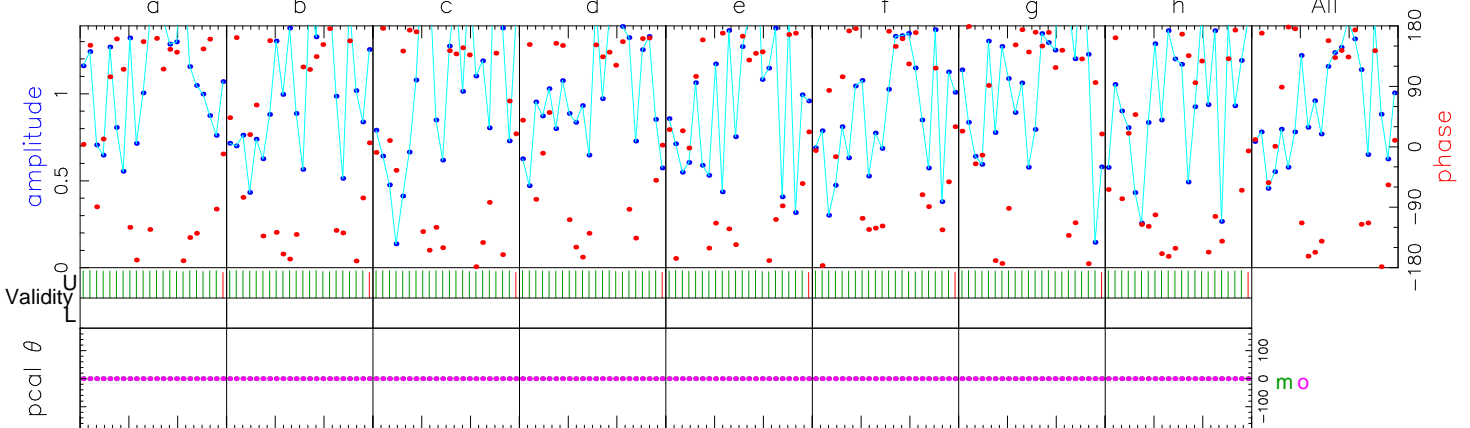


SNR 16.9
 Int time 177.009
 Amp 0.464
 Phase 176.4
 PFD 0.0e+00
 Delays (us)
 SBD 0.006065
 MBD 0.005870
 Fringe rate (Hz)
 -0.012640
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133324
 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
	173.3	176.9	175.0	170.0	178.4	-179.1	163.6	-155.6	Phase	176.4
	0.6	0.5	0.6	0.4	0.4	0.3	0.6	0.4	Ampl.	0.5
	258.6	258.3	258.7	258.7	258.7	258.9	258.6	258.1	Sbd box	258.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.58727709148E+03		Apriori delay (usec)		-8.58728296128E+03		Resid mbdelay (usec)		5.86981E-03	+/- 6.4E-05
Sband delay (usec)	-8.58727689578E+03		Apriori clock (usec)		-1.4071649E-01		Resid sbdelay (usec)		6.06550E-03	+/- 5.1E-04
Phase delay (usec)	-8.58728295560E+03		Apriori clockrate (us/s)		-9.6732924E-09		Resid phdelay (usec)		5.68823E-06	+/- 2.2E-07
Delay rate (us/s)	5.96432284381E-01		Apriori rate (us/s)		5.96432431116E-01		Resid rate (us/s)		-1.46735E-07	+/- 2.1E-09
Total phase (deg)	73.8		Apriori accel (us/s/s)		2.74406755450E-05		Resid phase (deg)		176.4	+/- 6.8

ph/seg (deg) 82.6 15.9 Search (1024X32) 0.452 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 119.0 27.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 13.1 9.6 Inc. seg. avg. 0.898 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 19.6 16.8 Inc. frq. avg. 0.456 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 o: az 81.4 el 67.9 pa -81.3 u,v (fr/asec) -4273.986 -210.192 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mo..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mo.W.264.127L20

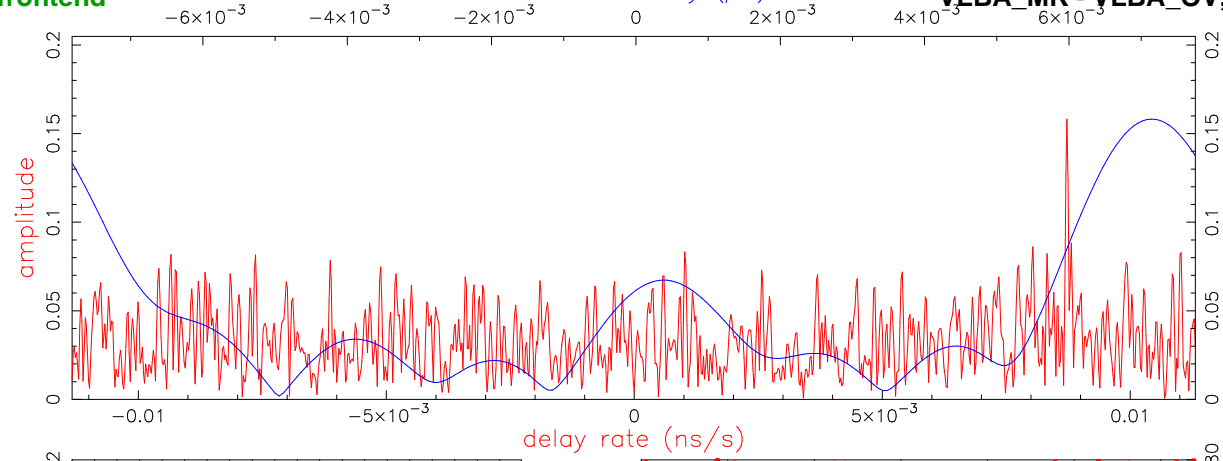
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, mo

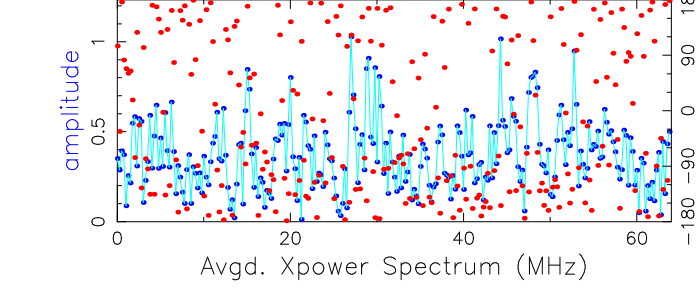
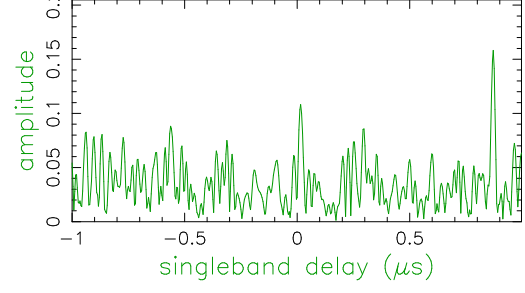
VLBA_MK - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)



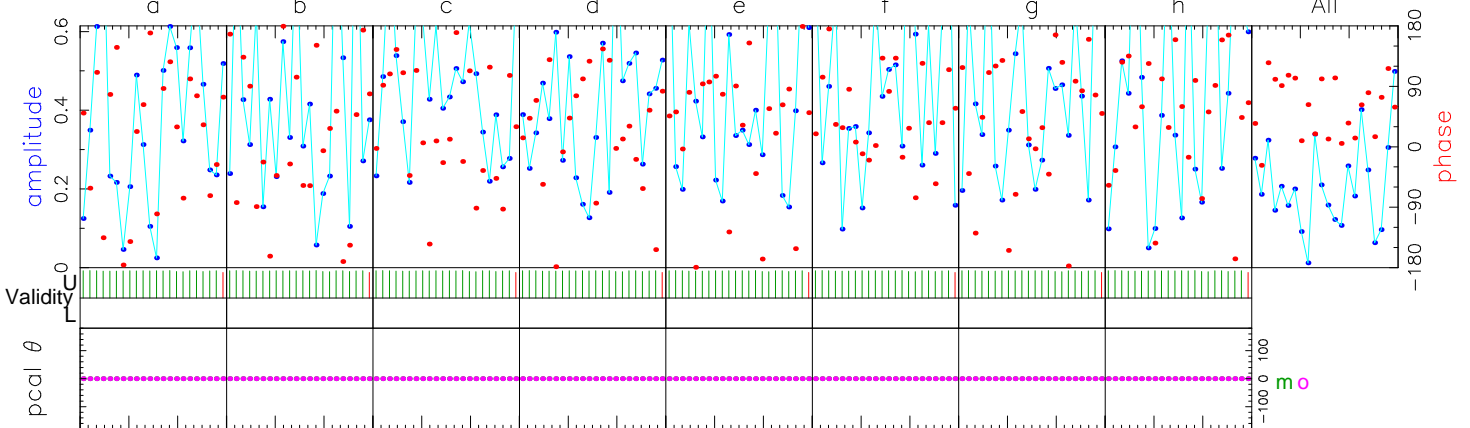
Fringe quality 0

SNR 5.8
 Int time 177.009
 Amp 0.205
 Phase 64.1
 PFD 6.4e-01
 Delays (us)
 SBD 0.870534
 MBD 0.007136
 Fringe rate (Hz) 0.752056
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133326
 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



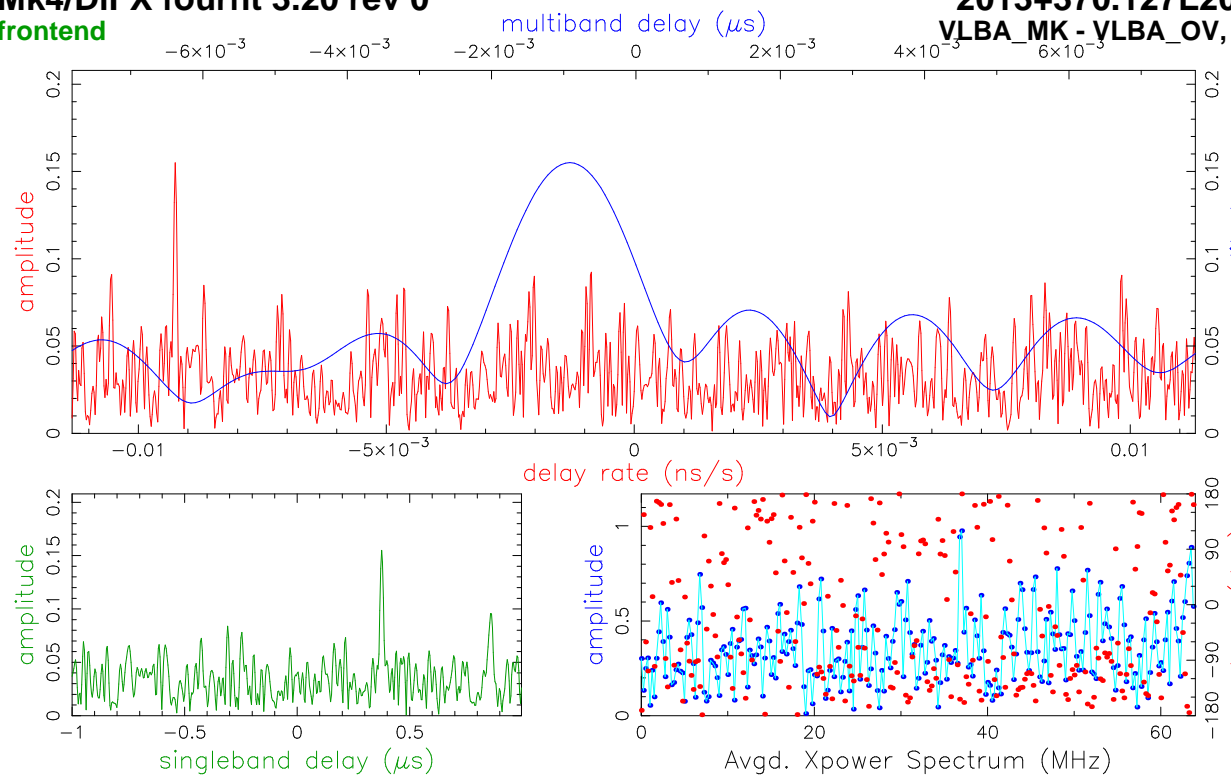
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-8.58641645044E+03	Apriori delay (usec)	-8.58728296128E+03	Resid mbdelay (usec)	7.13584E-03	+/-	1.9E-04
Sband delay (usec)	-8.58641242728E+03	Apriori clock (usec)	-1.4071649E+01	Resid sbdelay (usec)	8.70534E-01	+/-	1.5E-03
Phase delay (usec)	-8.58728295922E+03	Apriori clockrate (us/s)	-9.6732924E-09	Resid phdelay (usec)	2.06609E-06	+/-	6.4E-07
Delay rate (us/s)	5.96441161739E-01	Apriori rate (us/s)	5.96432431116E-01	Resid rate (us/s)	8.73062E-06	+/-	6.2E-09
Total phase (deg)	-38.5	Apriori accel (us/s/s)	2.74406755450E-05	Resid phase (deg)	64.1	+/-	19.9

ph/seg (deg)	43.5	Theor.	46.6	Amplitude	0.205 +/- 0.036	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	77.9		81.4	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	17.9		28.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	40.4		49.1	Inc. seg. avg.	0.203	Sample rate(MSamp/s): 128	mb window (us) -0.008 0.008
				Inc. frq. avg.	0.190	Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 256	t_cohere infinite
							ion window (TEC) 0.00 0.00

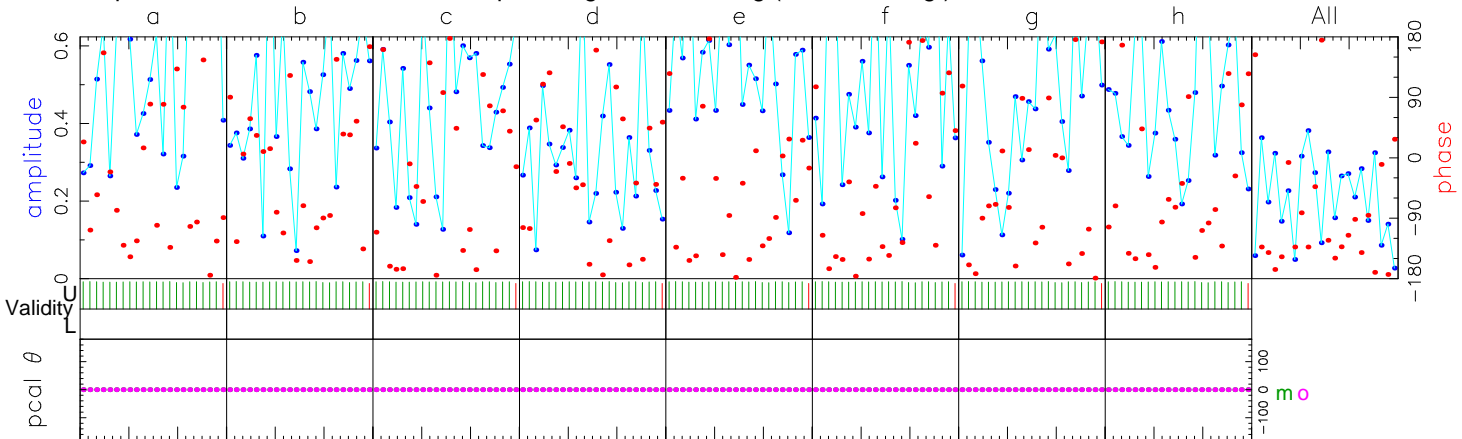
m: az 57.7 el 31.4 pa -87.9 o: az 81.4 el 67.9 pa -81.3 u,v (fr/asec) -4273.986 -210.192 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mo..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mo.W.282.127L20



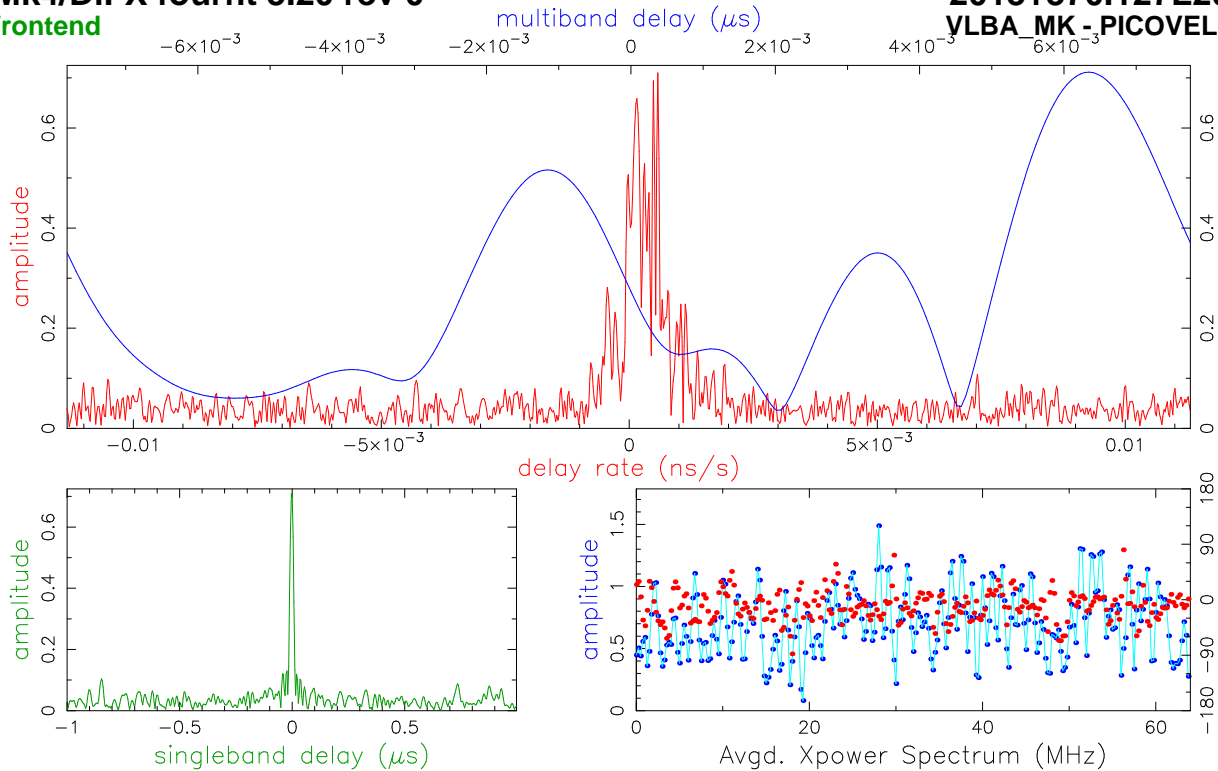
Fringe quality 0
SNR 5.6
Int time 177.009
Amp 0.208
Phase -125.5
PFD 8.7e-01
Delays (us)
SBD 0.375436
MBD -0.000895
Fringe rate (Hz)
-0.799228
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133328
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



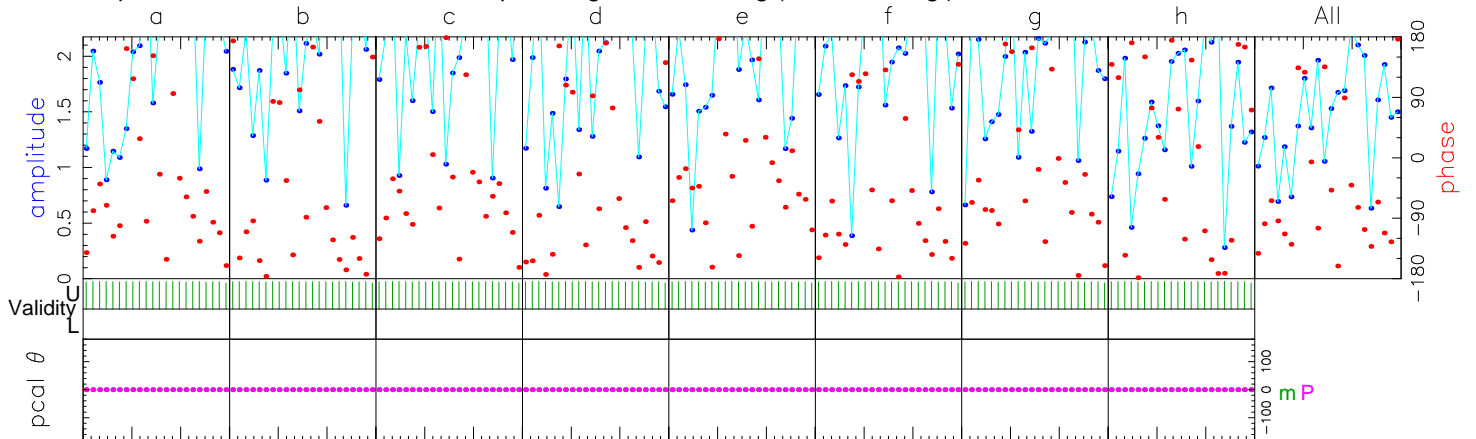
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-125.7	-50.3	-169.1	-98.6	-114.7	-139.9	-139.9	-111.4	Phase	-125.5
	0.4	0.1	0.2	0.1	0.3	0.3	0.3	0.3	Ampl.	0.2
	352.3	119.9	279.1	369.7	218.6	293.7	334.3	51.8	Sbd box	353.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.58690885674E+03		Apriori delay (usec)		-8.58728296128E+03		Resid mbdelay (usec)		-8.95460E-04	+/- 1.9E-04
Sband delay (usec)	-8.58690752503E+03		Apriori clock (usec)		-1.4071649E+01		Resid sbdelay (usec)		3.75436E-01	+/- 1.5E-03
Phase delay (usec)	-8.58728296533E+03		Apriori clockrate (us/s)		-9.6732924E-09		Resid phdelay (usec)		-4.04787E-06	+/- 6.5E-07
Delay rate (us/s)	5.96423152873E-01		Apriori rate (us/s)		5.96432431116E-01		Resid rate (us/s)		-9.27824E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		2.74406755450E-05		Resid phase (deg)		-125.5	+/- 20.3

ph/seg (deg) 60.0 47.6 Amplitude 0.208 +/- 0.037 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 77.6 83.1 Search (1024X32) 0.153 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 38.7 28.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 47.8 50.1 Inc. seg. avg. 0.212 Sample rate(MSamp/s): 128 dr window (ns/s) -0.011 0.011
m: az 57.7 el 31.4 pa -87.9 o: az 81.4 el 67.9 pa -81.3 u,v (fr/asec) -4273.986 -210.192 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mo..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mo.W.299.127L20 simultaneous interpolator



Fringe quality 6
SNR 26.5
Int time 178.517
Amp 0.725
Phase -107.6
PFD 0.0e+00
Delays (us)
SBD -0.002131
MBD 0.006414
Fringe rate (Hz) 0.049257
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133322
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

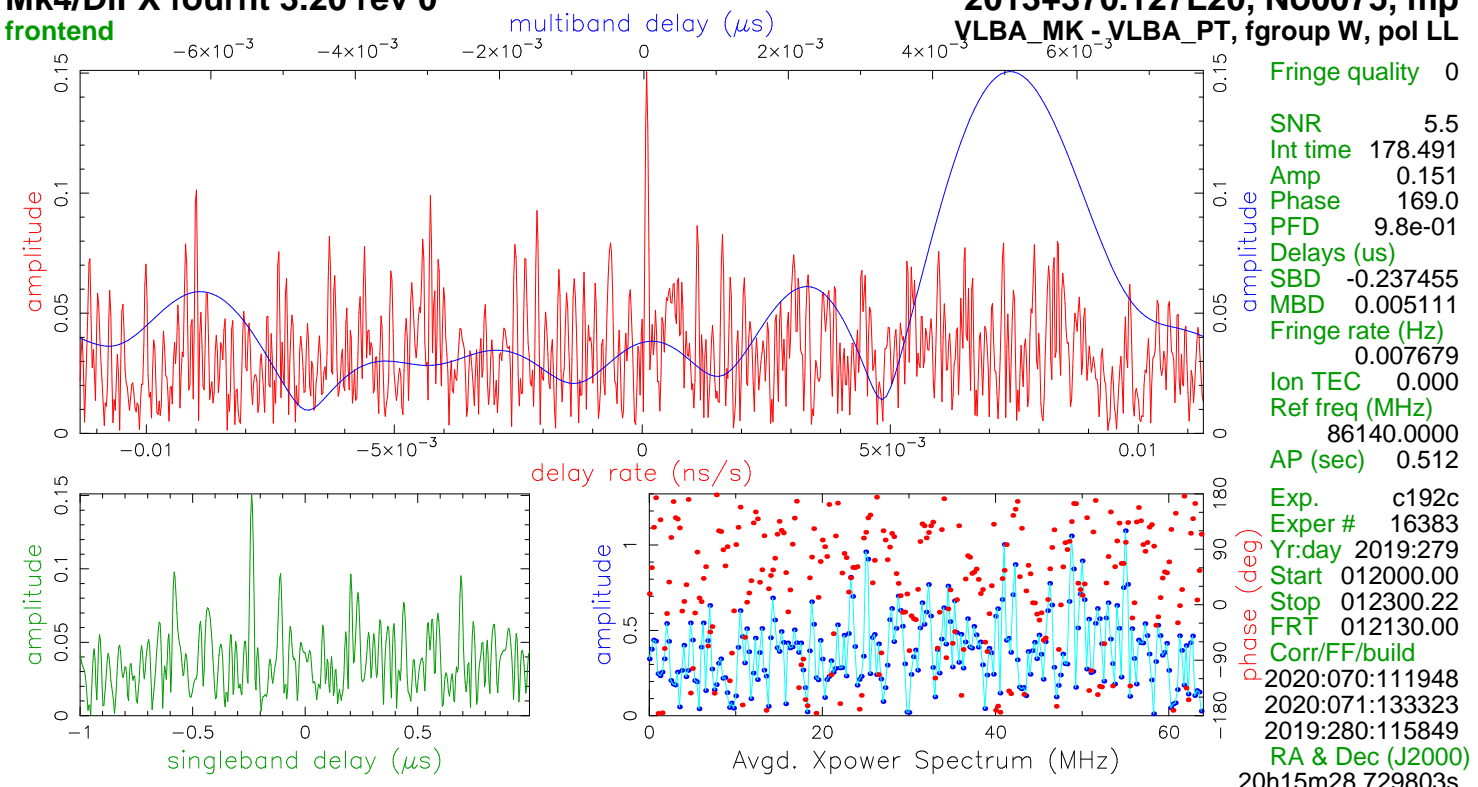


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-89.0	-151.2	-86.3	-137.0	-43.3	-123.3	-81.9	176.6	Phase	-107.6
	0.9	1.0	1.1	0.9	1.0	0.9	0.9	0.6	Ampl.	0.9
	256.0	256.1	256.0	256.2	255.6	256.2	255.9	254.2	Sbd box	256.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
m	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)	2.80496330648E+03		Apriori delay (usec)		2.80497251772E+03		Resid mbdelay (usec)		6.41376E-03	+/- 4.1E-05
Sband delay (usec)	2.80497038697E+03		Apriori clock (usec)		2.7499321E+00		Resid sbdelay (usec)		-2.13075E-03	+/- 3.3E-04
Phase delay (usec)	2.80497251425E+03		Apriori clockrate (us/s)		3.4430770E-07		Resid phdelay (usec)		-3.47108E-06	+/- 1.4E-07
Delay rate (us/s)	2.03762180219E+00		Apriori rate (us/s)		2.03762123037E+00		Resid rate (us/s)		5.71822E-07	+/- 1.3E-09
Total phase (deg)	135.8		Apriori accel (us/s/s)		-3.29016486200E-05		Resid phase (deg)		-107.6	+/- 4.3

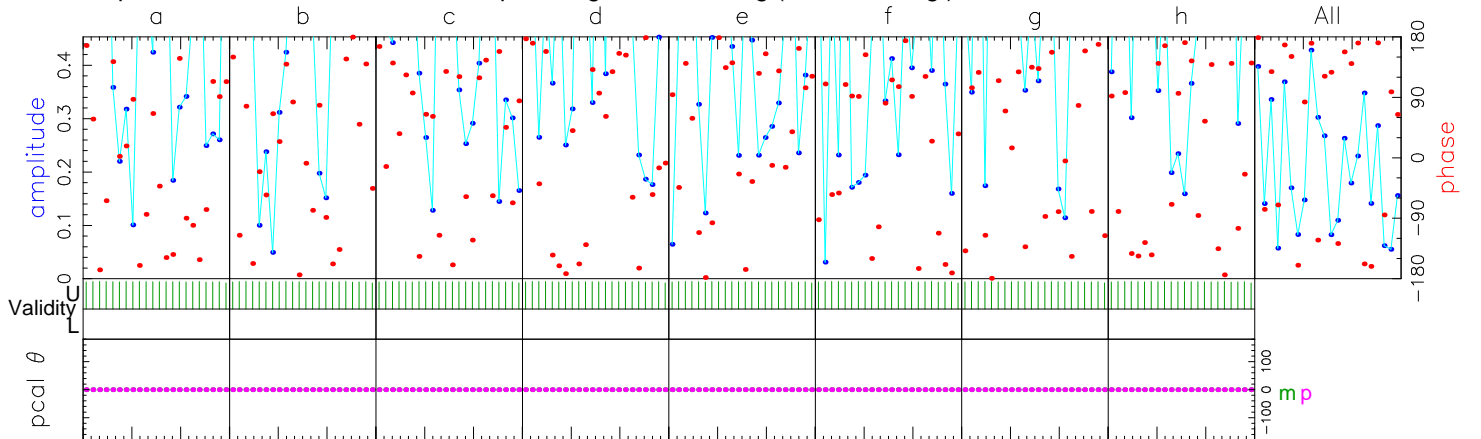
ph/seg (deg) RMS Theor. Amplitude 0.725 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 69.0 10.2 Search (1024X32) 0.699 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 121.1 17.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 48.9 6.1 Inc. seg. avg. 1.458 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
amp/frq (%) 33.1 10.7 Inc. frq. avg. 0.917 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
m: az 57.7 el 31.4 pa -87.9 P: az 299.9 el 23.5 pa 60.5 u,v (fr/asec) -14688.494 -3737.619 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mP..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mP.W.255.127L20

Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, mp
VLBA_MK - VLBA_PT, fgroup W, pol LL



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



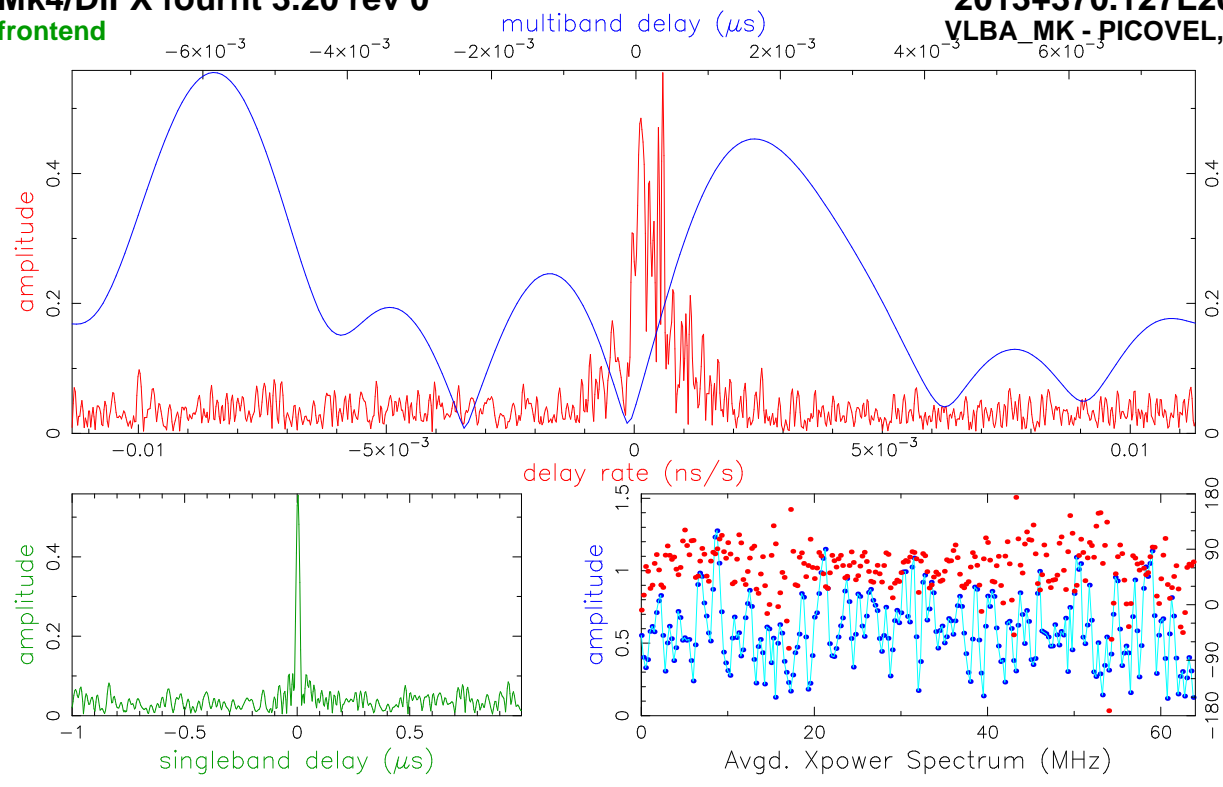
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-142.7	175.5	144.1	164.2	127.3	168.8	161.4	-174.1	Phase	169.0
	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	Ampl.	0.1
	227.3	369.0	489.9	330.1	278.7	440.5	156.5	197.3	Sbd box	196.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-9.44870251653E+03	Apriori delay (usec)	-9.44845762795E+03	Resid mbdelay (usec)	5.11142E-03	+/-	2.0E-04
Sband delay (usec)	-9.44869508245E+03	Apriori clock (usec)	-9.3878040E+00	Resid sbdelay (usec)	-2.37455E-01	+/-	1.6E-03
Phase delay (usec)	-9.44845762250E+03	Apriori clockrate (us/s)	-2.1257888E-07	Resid phdelay (usec)	5.44868E-06	+/-	6.7E-07
Delay rate (us/s)	7.46506599040E-01	Apriori rate (us/s)	7.46506509900E-01	Resid rate (us/s)	8.91408E-08	+/-	6.4E-09
Total phase (deg)	143.2	Apriori accel (us/s/s)	3.48706236361E-05	Resid phase (deg)	169.0	+/-	20.8

ph/seg (deg)	60.6	Theor.	48.7	Amplitude	0.151 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	86.0		85.0	Search (1024X32)	0.148	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	29.2		29.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	41.4		51.2	Inc. seg. avg.	0.154	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.144	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

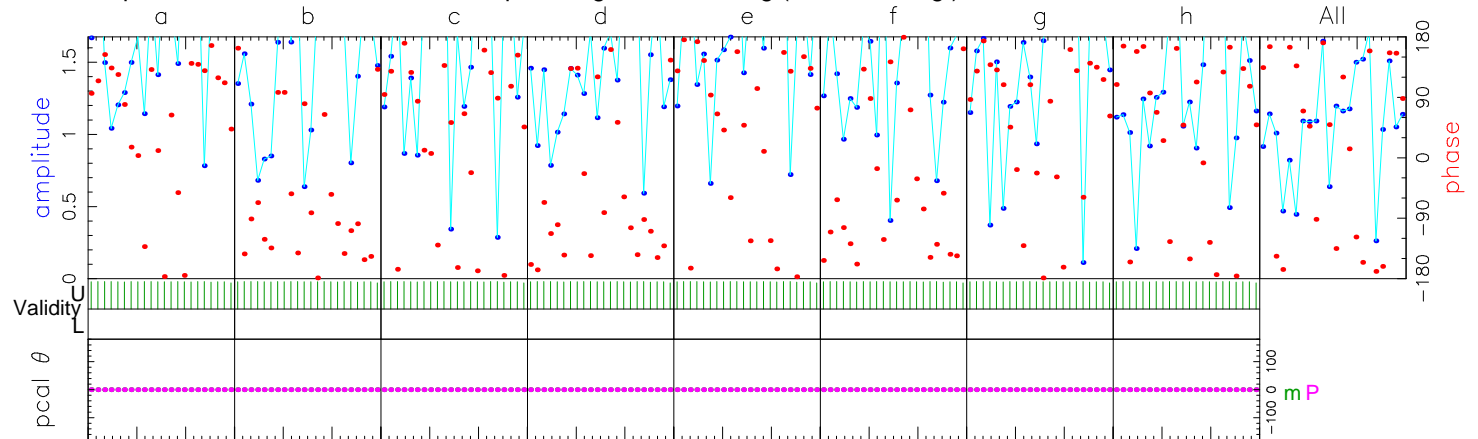
m: az 57.7 el 31.4 pa -87.9 p: az 73.3 el 75.3 pa -96.4 u,v (fr/asec) -5347.530 531.778 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mp..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mp.W.263.127L20



Fringe quality 7
 SNR 20.4
 Int time 178.516
 Amp 0.559
 Phase 165.1
 PFD 0.0e+00
 Delays (us)
 SBD 0.002970
 MBD -0.005887
 Fringe rate (Hz) 0.049429
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133325
 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	121.3	-137.8	137.4	-135.1	152.9	-124.9	131.9	148.9	Phase	165.1
m	1.0	0.6	0.8	0.8	0.9	0.7	0.8	0.6	Ampl.	0.8
P	258.5	258.8	258.5	258.5	258.9	258.6	258.1	257.2	Sbd box	257.8
m:P	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m:P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.80498225582E+03		Apriori delay (usec)		2.80497251772E+03		Resid mbdelay (usec)		-5.88690E-03	+/- 5.3E-05
Sband delay (usec)	2.80497548772E+03		Apriori clock (usec)		2.7499321E+07		Resid sbdelay (usec)		2.97000E-03	+/- 4.2E-04
Phase delay (usec)	2.80497252304E+03		Apriori clockrate (us/s)		3.4430770E-07		Resid phdelay (usec)		5.32533E-06	+/- 1.8E-07
Delay rate (us/s)	2.03762180419E+00		Apriori rate (us/s)		2.03762123037E+00		Resid rate (us/s)		5.73820E-07	+/- 1.7E-09
Total phase (deg)	48.6		Apriori accel (us/s/s)		-3.29016486200E-05		Resid phase (deg)		165.1	+/- 5.6
ph/seg (deg)	RMS 66.1	Theor. 13.2	Amplitude 0.559 +/- 0.027	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		sb window (us)		-1.000 1.000
amp/seg (%)	114.2	23.0	Search (1024X32) 0.550	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		SampCntNorm: enabled		mb window (us)		-0.008 0.008
ph/frq (deg)	51.5	7.9	Interp. 0.000	Bits/sample: 2x2		Sample rate(MISamp/s): 128		dr window (ns/s)		-0.011 0.011
amp/frq (%)	41.2	13.9	Inc. seg. avg. 1.048	Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite		ion window (TEC)		0.00 0.00
m: az 57.7 el 31.4 pa -87.9	P: az 299.9 el 23.5 pa 60.5		u,v (fr/asec) -14688.494 -3737.619						simultaneous interpolator	
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mP..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mP.W.271.127L20										

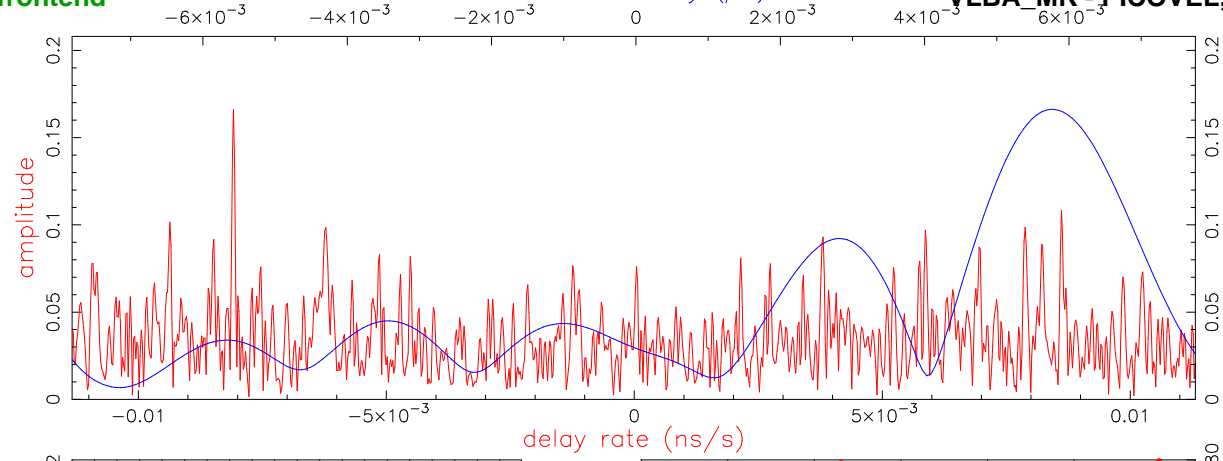
Mk4/DiFX fourfit 3.20 rev 0

frontend

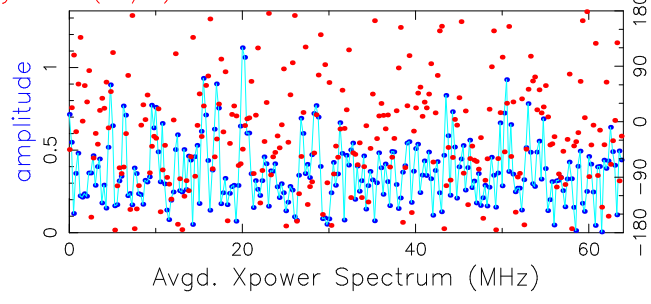
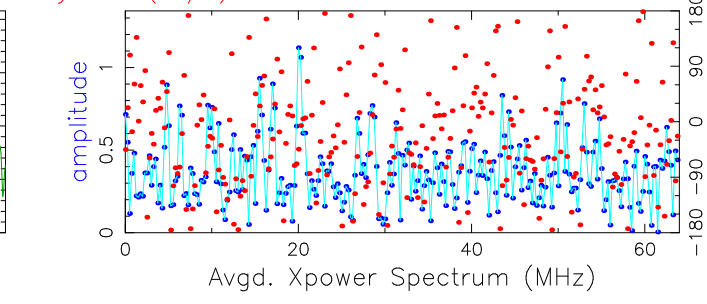
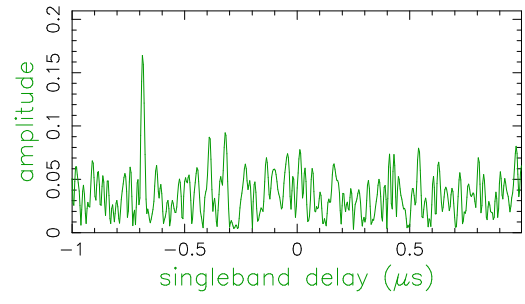
2013+370.127L20, No0075, mP

VLBA_MK - PICOVEL, fgroup W, pol LR

multiband delay (μs)

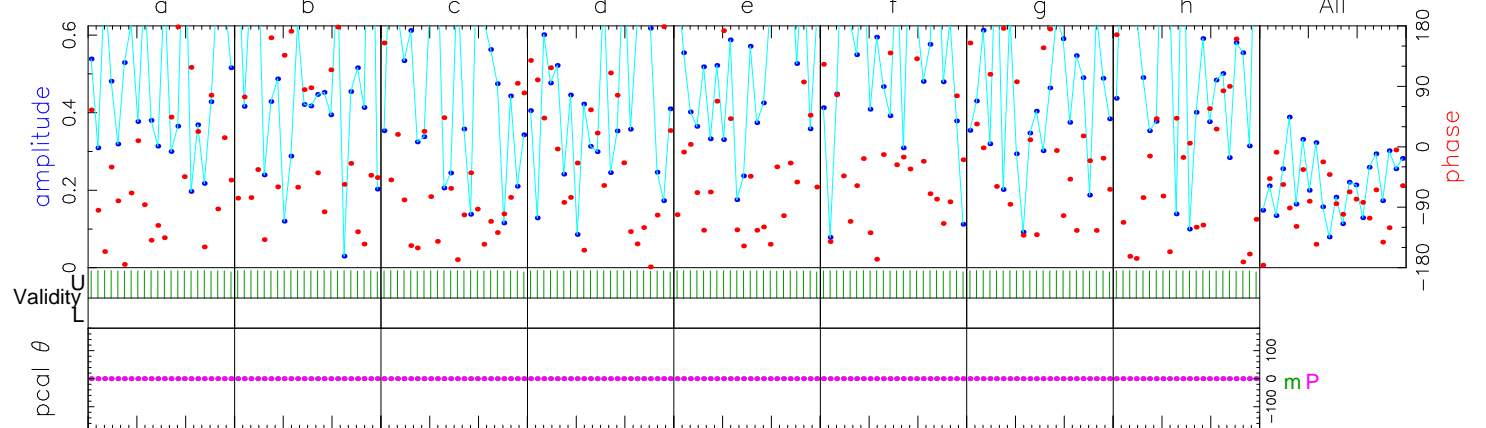


Fringe quality 0
 SNR 6.1
 Int time 178.517
 Amp 0.208
 Phase -78.2
 PFD 1.2e-01
 Delays (us)
 SBD -0.686590
 MBD 0.005791
 Fringe rate (Hz)
 -0.696485
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133327
 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

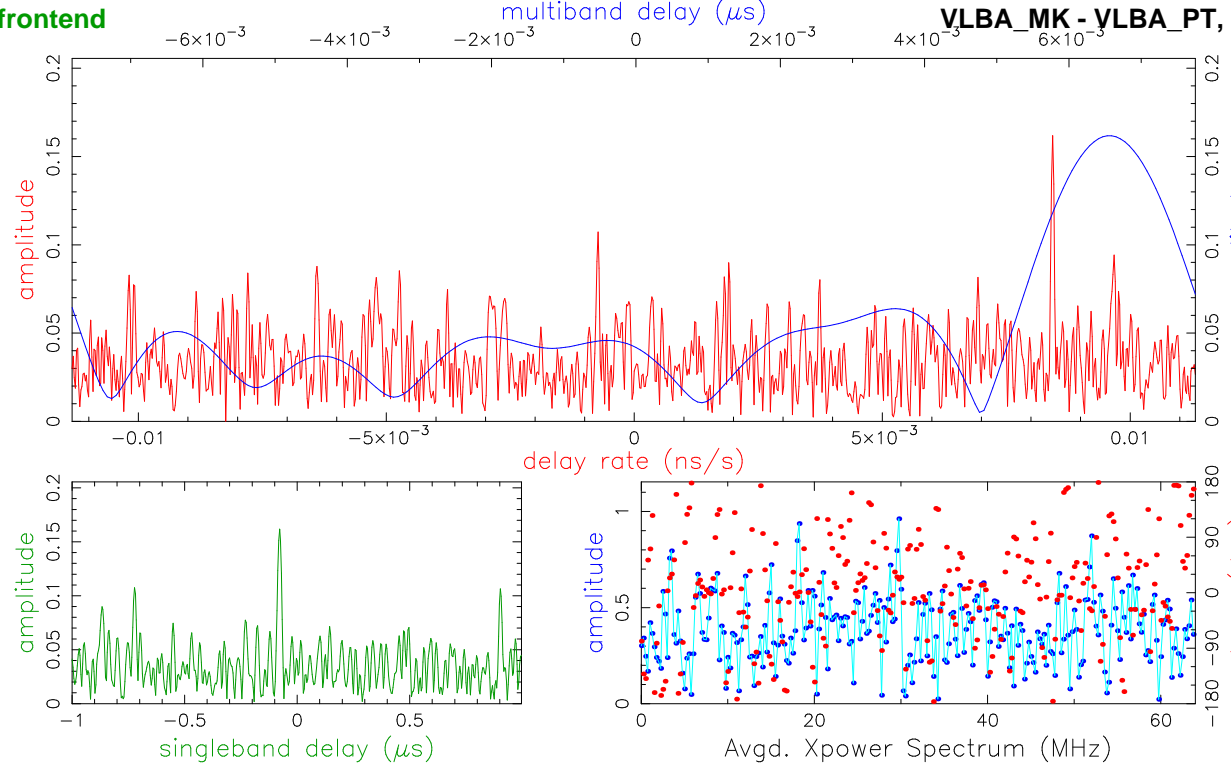


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-76.0	-73.0	-103.5	-69.7	-61.1	-55.6	-62.2	-120.6	Phase	-78.2
	0.2	0.2	0.3	0.1	0.3	0.3	0.2	0.2	Ampl.	0.2
	23.2	228.7	367.0	176.0	19.4	9.7	172.6	5.1	Sbd box	81.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.80429080841E+03		Apriori delay (usec)		2.80497251772E+03		Resid mbdelay (usec)		5.79069E-03	+/- 1.8E-04
Sband delay (usec)	2.80428592797E+03		Apriori clock (usec)		2.7499321E+03		Resid sbdelay (usec)		-6.86590E-01	+/- 1.4E-03
Phase delay (usec)	2.80497251520E+03		Apriori clockrate (us/s)		3.4430770E-07		Resid phdelay (usec)		-2.52150E-06	+/- 6.0E-07
Delay rate (us/s)	2.03761314487E+00		Apriori rate (us/s)		2.03762123037E+00		Resid rate (us/s)		-8.08550E-06	+/- 5.8E-09
Total phase (deg)	165.2		Apriori accel (us/s/s)		-3.29016486200E-05		Resid phase (deg)		-78.2	+/- 18.8

ph/seg (deg) 43.7 44.0 Search (1024X32) 0.163 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 56.1 76.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 24.5 26.5 Inc. seg. avg. 0.210 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 35.7 46.3 Inc. frq. avg. 0.202 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 P: az 299.9 el 23.5 pa 60.5 u,v (fr/asec) -14688.494 -3737.619 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mP..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mP.W.288.127L20

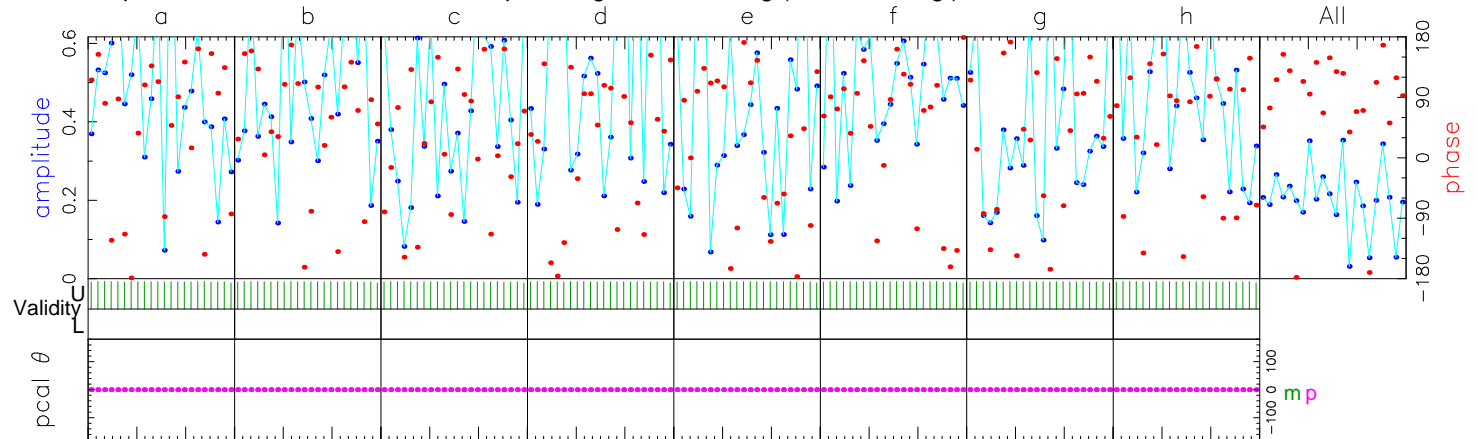
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127L20, No0075, mp
VLBA_MK - VLBA_PT, fgroup W, pol RR



Fringe quality 0
SNR 5.9
Int time 178.490
Amp 0.206
Phase 111.4
PFD 3.5e-01
Delays (us)
SBD -0.078106
MBD 0.006560
Fringe rate (Hz) 0.727025
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133327
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



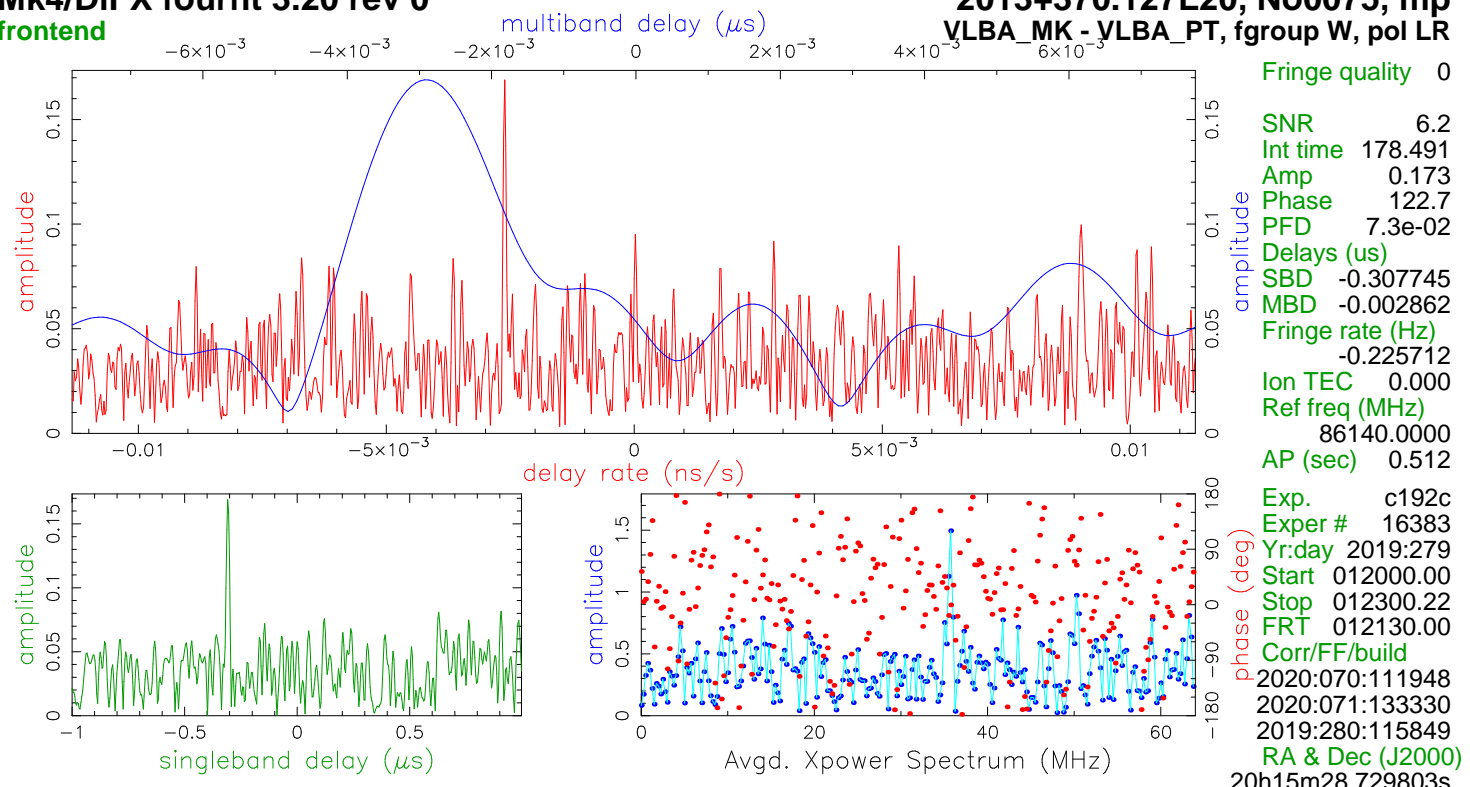
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	119.2	109.9	46.1	122.5	116.0	111.6	89.6	123.3	Phase	111.4		
	0.3	0.3	0.1	0.2	0.2	0.3	0.1	0.2	Ampl.	0.2		
	239.0	102.9	51.2	111.7	308.3	236.8	296.5	507.3	Sbd box	237.0		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
p	1000	1000	1000	1000	1000	1000	1000	1000				
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Tracks			
Group delay (usec)(sbd)	-9.44852919263E+03		Apriori delay (usec)		-9.44845762795E+03		Resid mbdelay (usec)		6.56032E-03	+/- 1.8E-04		
Sband delay (usec)	-9.44853573370E+03		Apriori clock (usec)		-9.3878040E+00		Resid sbdelay (usec)		-7.81057E-02	+/- 1.5E-03		
Phase delay (usec)	-9.44845762436E+03		Apriori clockrate (us/s)		-2.1257888E-07		Resid phdelay (usec)		3.59311E-06	+/- 6.2E-07		
Delay rate (us/s)	7.46514949935E-01		Apriori rate (us/s)		7.46506509900E-01		Resid rate (us/s)		8.44004E-06	+/- 6.0E-09		
Total phase (deg)			Apriori accel (us/s/s)		3.48706236361E-05		Resid phase (deg)		111.4	+/- 19.4		
	RMS	Theor.	Amplitude	0.206 +/- 0.035		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	42.6	45.5	Search (1024X32)	0.160		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	58.2	79.3	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	29.2	27.4	Inc. seg. avg.	0.199		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	39.6	47.8	Inc. frq. avg.	0.192		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
m: az 57.7 el 31.4 pa -87.9	p: az 73.3 el 75.3 pa -96.4		u,v (fr/asec) -5347.530 531.778						simultaneous interpolator			
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mp..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mp.W.289.127L20												

Mk4/DiFX fourfit 3.20 rev 0

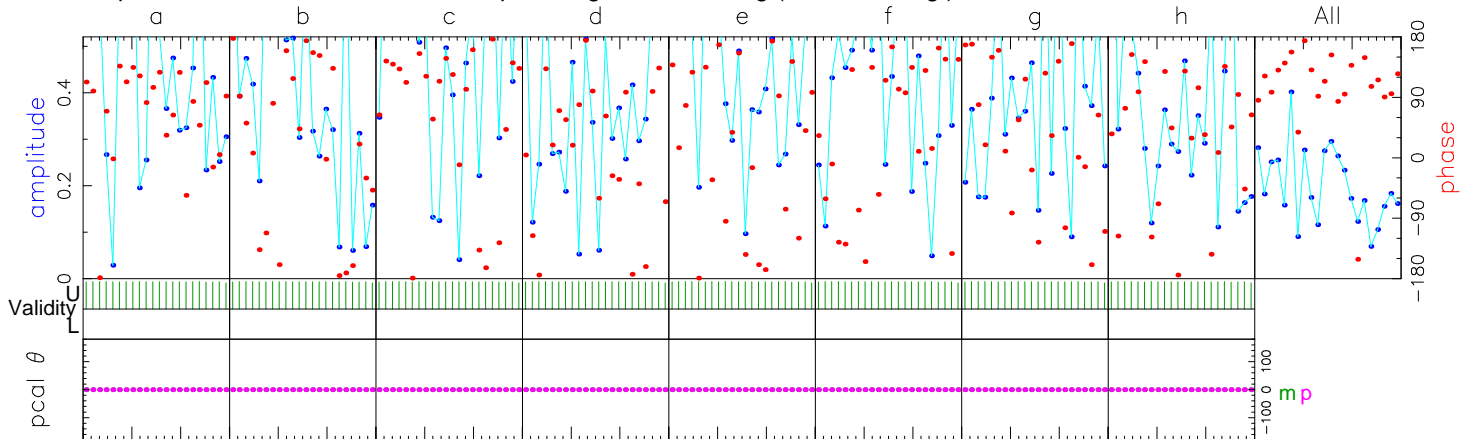
frontend

2013+370.127L20, No0075, mp

VLBA_MK - VLBA_PT, fgroup W, pol LR



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
98.1	155.1	140.2	90.4	131.6	157.8	112.2	89.6	89.6	Phase	122.7
0.3	0.2	0.4	0.1	0.2	0.1	0.1	0.2	0.2	Ampl.	0.2
177.7	364.5	177.9	6.7	143.2	24.7	98.0	456.1	456.1	Sbd box	178.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-9.44877298971E+03		Apriori delay (usec)	-9.44845762795E+03	Resid mbdelay (usec)	-2.86176E-03	+/-	1.8E-04		
Sband delay (usec)	-9.44876537295E+03		Apriori clock (usec)	-9.3878040E+07	Resid sbdelay (usec)	-3.07745E-01	+/-	1.4E-03		
Phase delay (usec)	-9.44845762399E+03		Apriori clockrate (us/s)	-2.1257888E-07	Resid phdelay (usec)	3.95661E-06	+/-	6.0E-07		
Delay rate (us/s)	7.46503889604E-01		Apriori rate (us/s)	7.46506509900E-01	Resid rate (us/s)	-2.62030E-06	+/-	5.7E-09		
Total phase (deg)		96.9	Apriori accel (us/s/s)	3.48706236361E-05	Resid phase (deg)	122.7	+/-	18.5		

ph/seg (deg) 35.8 43.3 Amplitude 0.173 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 49.9 75.7 Search (1024X32) 0.161 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 30.3 26.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

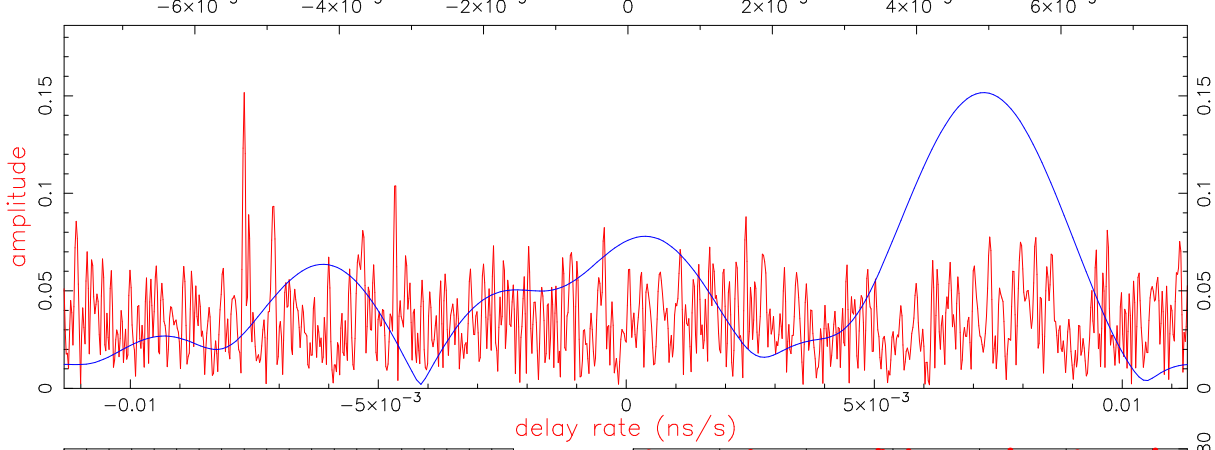
amp/frq (%) 56.7 45.6 Inc. seg. avg. 0.159 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011

m: az 57.7 el 31.4 pa -87.9 p: az 73.3 el 75.3 pa -96.4 u,v (fr/asec) -5347.530 531.778 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

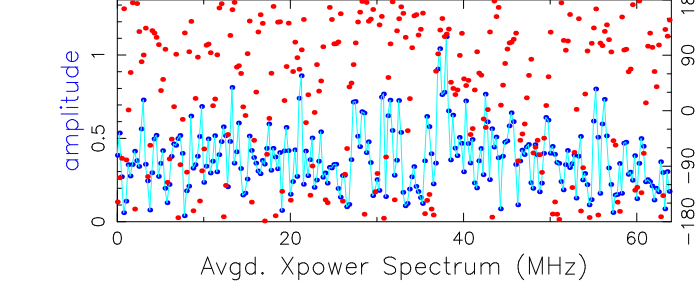
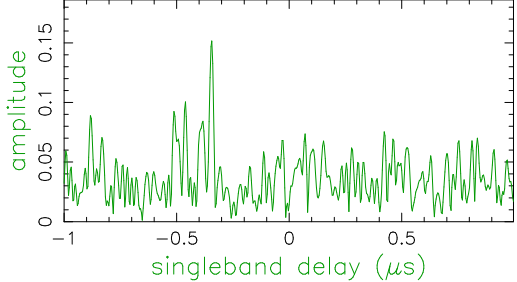
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mp..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mp.W.306.127L20 simultaneous interpolator

multiband delay (μ s)

Fringe quality 0

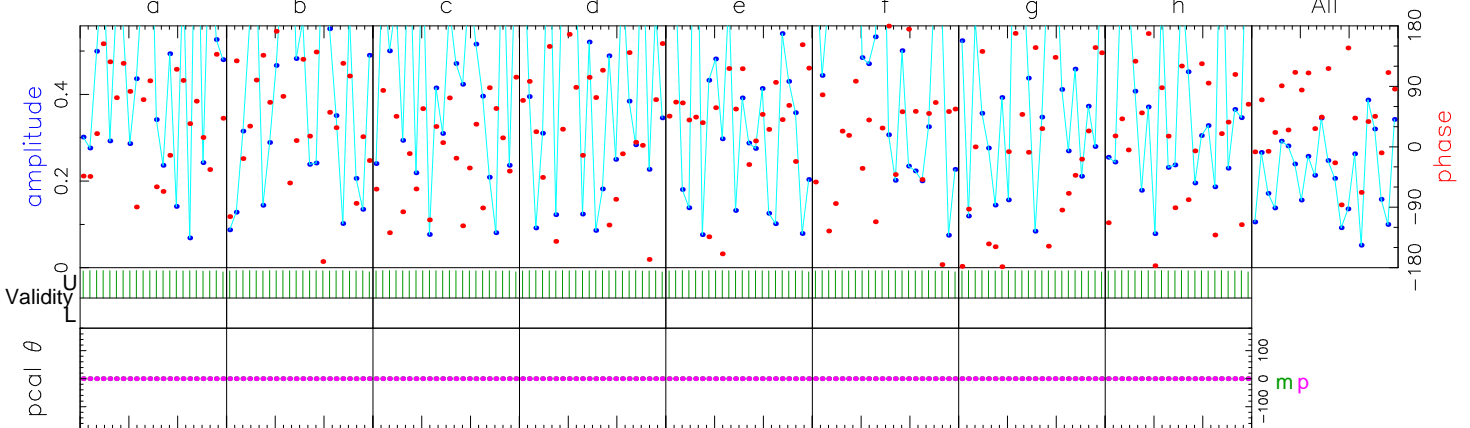


SNR 5.6
 Int time 178.490
 Amp 0.186
 Phase 55.6
 PFD 9.5e-01
 Delays (us)
 SBD -0.344906
 MBD 0.004898
 Fringe rate (Hz)
 -0.663861
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



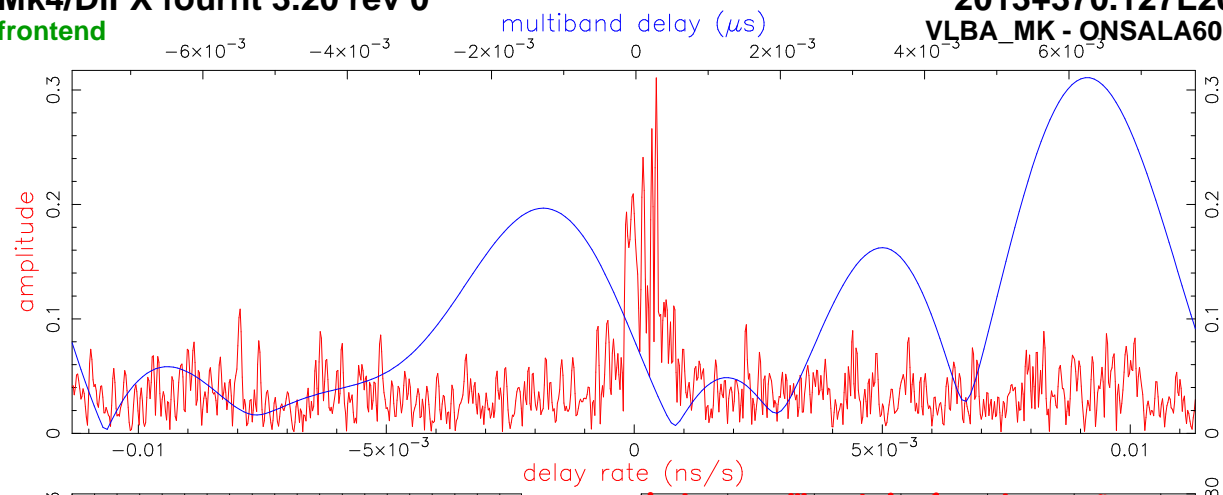
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133333
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	65.8	65.6	16.6	79.0	57.7	27.9	158.3	59.6	Phase	55.6
	0.3	0.2	0.3	0.2	0.3	0.2	0.1	0.2	Ampl.	0.2
	252.9	138.9	475.8	274.3	332.6	354.9	470.9	503.0	Sbd box	168.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-9.44879647966E+03		Apriori delay (usec)		-9.44845762795E+03		Resid mbdelay (usec)		4.89828E-03	+/- 1.9E-04
Sband delay (usec)	-9.44880253395E+03		Apriori clock (usec)		-9.3878040E+07		Resid sbdelay (usec)		-3.44906E-01	+/- 1.5E-03
Phase delay (usec)	-9.44845762616E+03		Apriori clockrate (us/s)		-2.1257888E-07		Resid phdelay (usec)		1.79251E-06	+/- 6.6E-07
Delay rate (us/s)	7.46498803127E-01		Apriori rate (us/s)		7.46506509900E-01		Resid rate (us/s)		-7.70677E-06	+/- 6.4E-09
Total phase (deg)			Apriori accel (us/s/s)		3.48706236361E-05		Resid phase (deg)		55.6	+/- 20.5

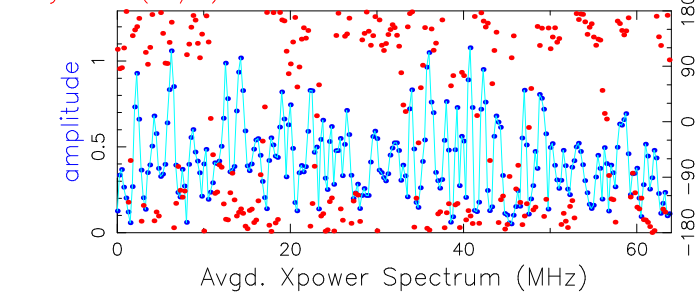
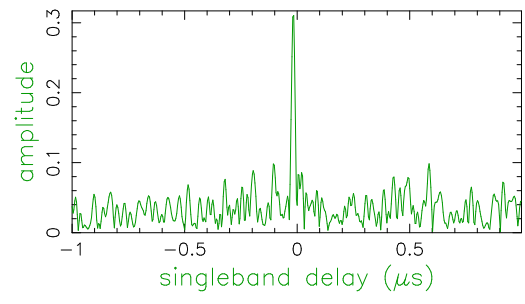
ph/seg (deg) 61.0 48.2 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 72.5 84.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 47.6 29.0 Inc. seg. avg. 0.195 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 34.0 50.7 Inc. frq. avg. 0.189 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 p: az 73.3 el 75.3 pa -96.4 u,v (fr/asec) -5347.530 531.778 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mp..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mp.W.324.127L20



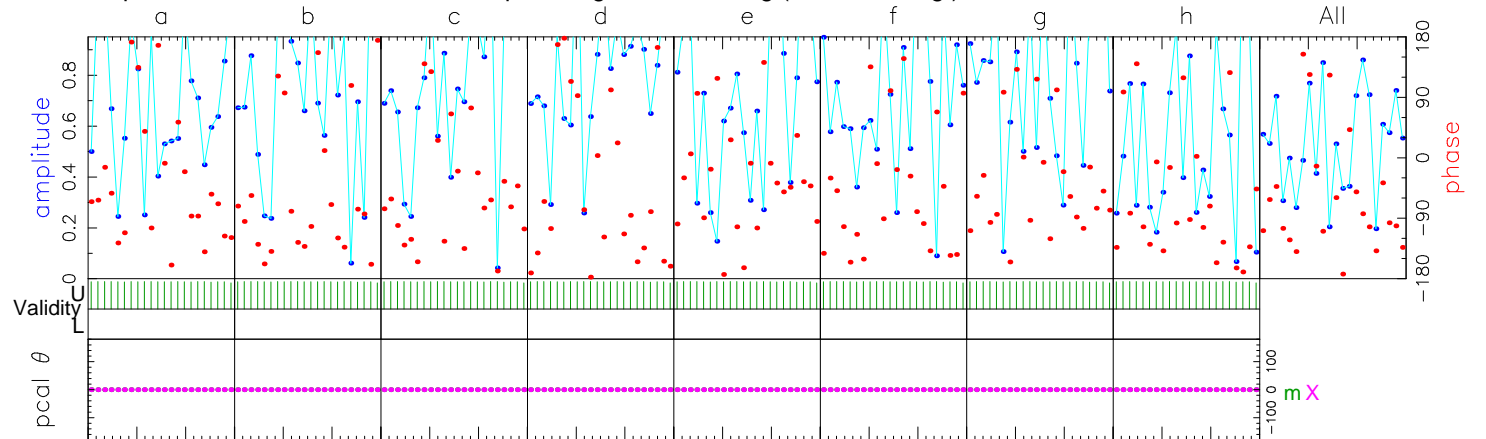
Fringe quality 9

SNR 11.6
 Int time 178.704
 Amp 0.317
 Phase -93.7
 PFD 1.2e-22
 Delays (us)
 SBD -0.017419
 MBD 0.006200
 Fringe rate (Hz)
 0.038958
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133322
 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	
	-84.6	-124.3	-71.9	-154.3	-44.5	-108.4	-68.2	-125.1		Phase	-93.7
	0.4	0.4	0.3	0.3	0.4	0.3	0.5	0.3		Ampl.	0.4
	251.8	252.5	252.7	252.1	251.9	252.0	251.9	252.2		Sbd box	252.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000			
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks	
										Tracks	
Group delay (usec)(sbd)	2.32572072398E+03		Apriori delay (usec)		2.32574577368E+03		Resid mbdelay (usec)		6.20031E-03		+/- 9.4E-05
Sband delay (usec)	2.32572835468E+03		Apriori clock (usec)		-2.9819094E+01		Resid sbdelay (usec)		-1.74190E-02		+/- 7.4E-04
Phase delay (usec)	2.32574577066E+03		Apriori clockrate (us/s)		-5.3669233E-07		Resid phdelay (usec)		-3.02050E-06		+/- 3.2E-07
Delay rate (us/s)	1.70238864422E+00		Apriori rate (us/s)		1.70238819197E+00		Resid rate (us/s)		4.52258E-07		+/- 3.1E-09
Total phase (deg)	246.4		Apriori accel (us/s/s)		-4.68970641193E-05		Resid phase (deg)		-93.7		+/- 9.9

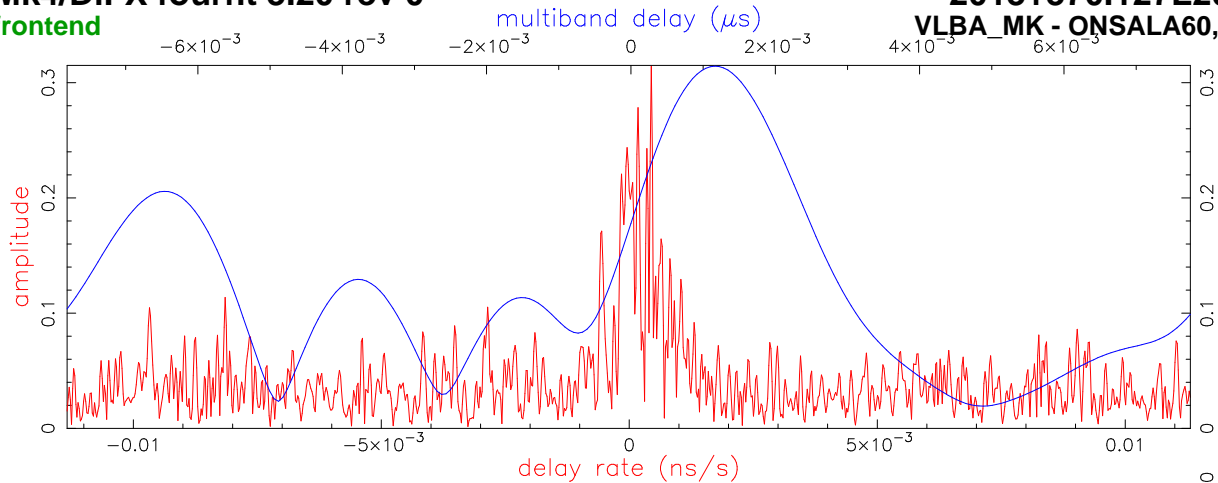
ph/seg (deg) 68.1 23.2 Search (1024X32) 0.291 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 92.8 40.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 39.7 14.0 Inc. seg. avg. 0.496 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 27.2 24.4 Inc. frq. avg. 0.364 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 X: az 301.1 el 24.7 pa 34.3 u,v (fr/asec) -12290.479 -6278.522 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mX..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mX.W.251.127L20

Mk4/DiFX fourfit 3.20 rev 0

frontend

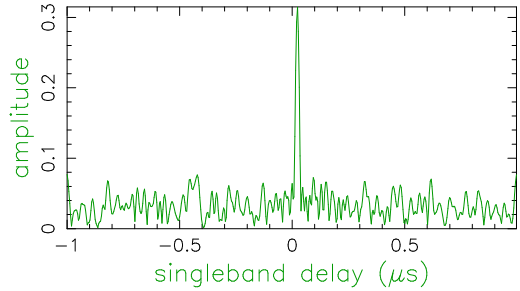
2013+370.127L20, No0075, mX

VLBA_MK - ONSALA60, fgroup W, pol RR

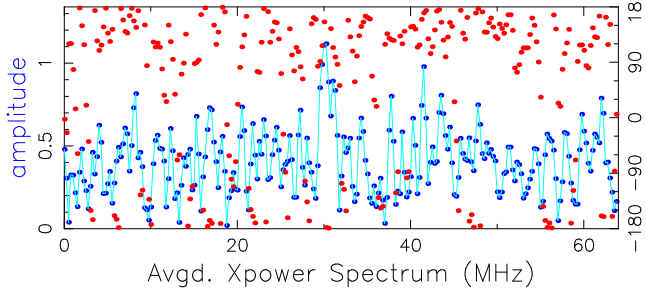


Fringe quality 9

SNR 11.5
 Int time 178.704
 Amp 0.315
 Phase 37.3
 PFD 3.0e-22
 Delays (us)
 SBD 0.022954
 MBD 0.001157
 Fringe rate (Hz)
 0.039078
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

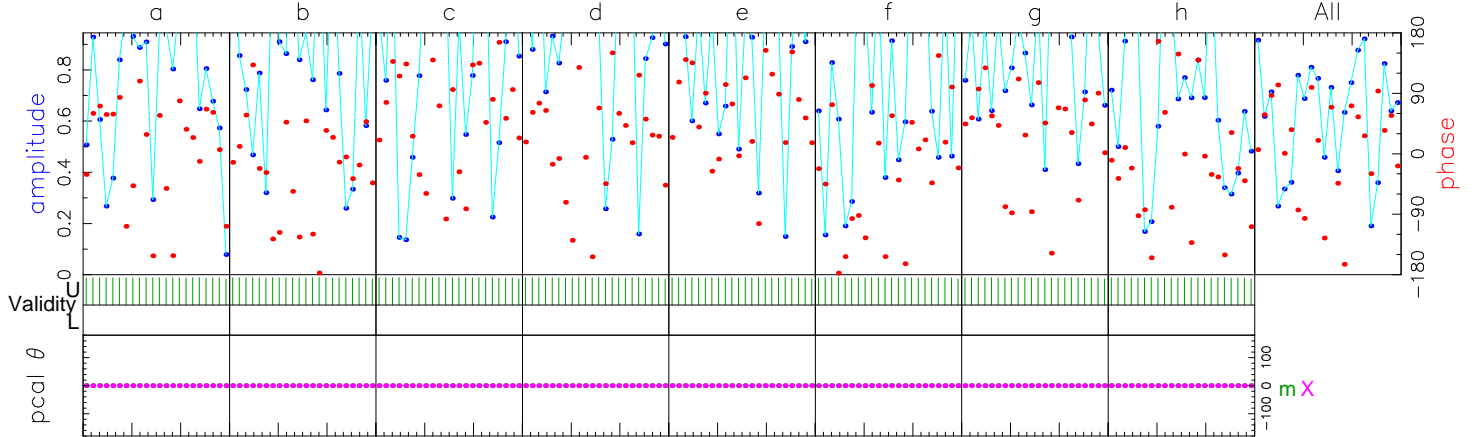


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133325
 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
	37.3	-21.0	71.8	31.3	79.1	4.9	61.9	-31.2		Phase 37.3
	0.4	0.4	0.3	0.5	0.6	0.3	0.5	0.3		Ampl. 0.4
	262.6	261.9	262.8	262.2	262.3	263.3	262.5	262.6		Sbd box 262.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
m	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Tracks
Group delay (usec)(sbd)	2.32576255605E+03		Apriori delay (usec)		2.32574577368E+03		Resid mbdelay (usec)		1.15737E-03	+/- 9.4E-05
Sband delay (usec)	2.32576872793E+03		Apriori clock (usec)		-2.9819094E+01		Resid sbdelay (usec)		2.29542E-02	+/- 7.5E-04
Phase delay (usec)	2.32574577488E+03		Apriori clockrate (us/s)		-5.3669233E-07		Resid phdelay (usec)		1.20287E-06	+/- 3.2E-07
Delay rate (us/s)	1.70238864562E+00		Apriori rate (us/s)		1.70238819197E+00		Resid rate (us/s)		4.53654E-07	+/- 3.1E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.68970641193E-05		Resid phase (deg)		37.3	+/- 10.0

ph/seg (deg) RMS Theor. Amplitude 0.315 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 73.2 23.4 Search (1024X32) 0.289 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 119.6 40.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 46.0 14.1 Inc. seg. avg. 0.577 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 40.2 24.6 Inc. frq. avg. 0.384 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 57.7 el 31.4 pa -87.9 X: az 301.1 el 24.7 pa 34.3 u,v (fr/asec) -12290.479 -6278.522 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mX..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mX.W.274.127L20

Mk4/DiFX fourfit 3.20 rev 0

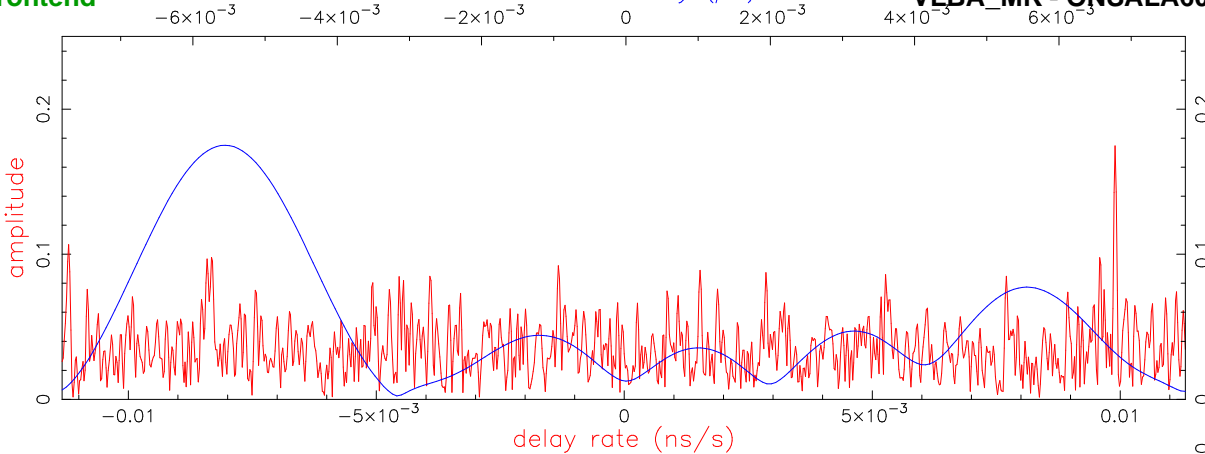
frontend

2013+370.127L20, No0075, mX

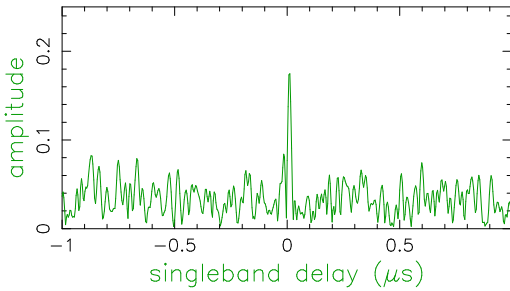
VLBA_MK - ONSALA60, fgroup W, pol LR

multiband delay (μs)

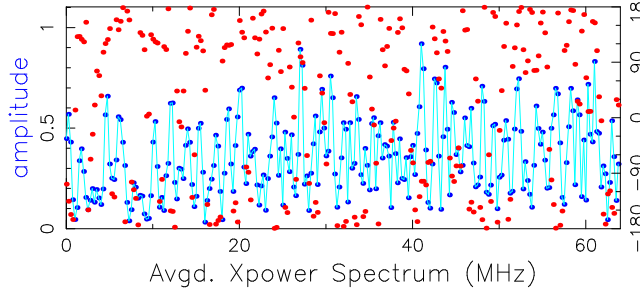
Fringe quality 0



SNR 6.5
 Int time 178.704
 Amp 0.250
 Phase -23.8
 PFD 9.6e-03
 Delays (us)
 SBD 0.009904
 MBD -0.005642
 Fringe rate (Hz) 0.854602
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

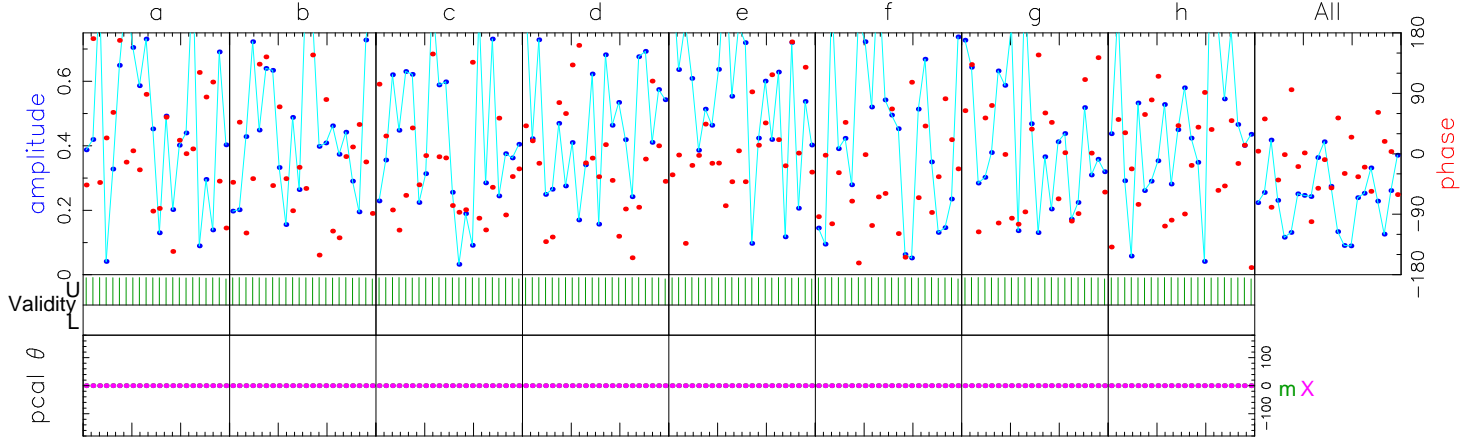


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133328
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

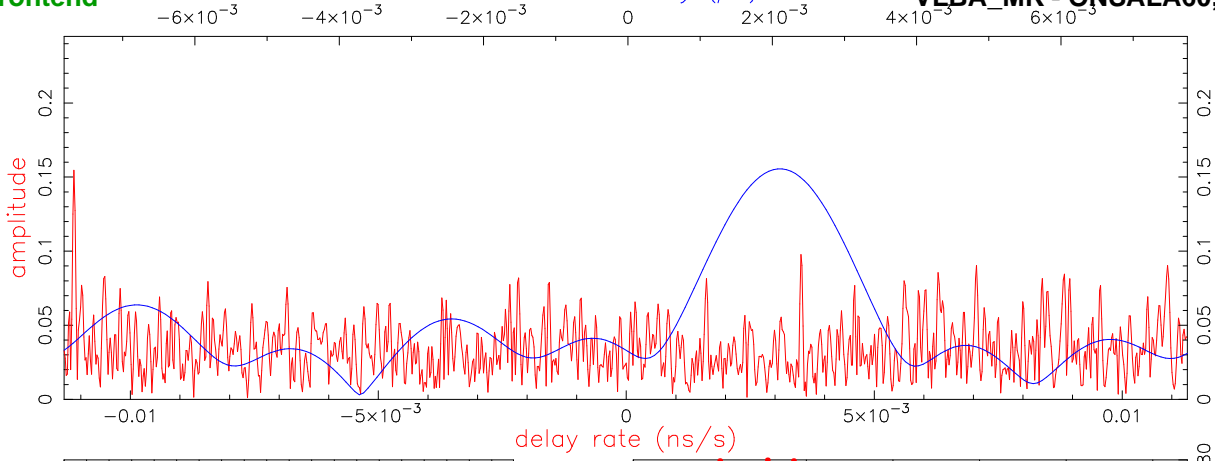
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



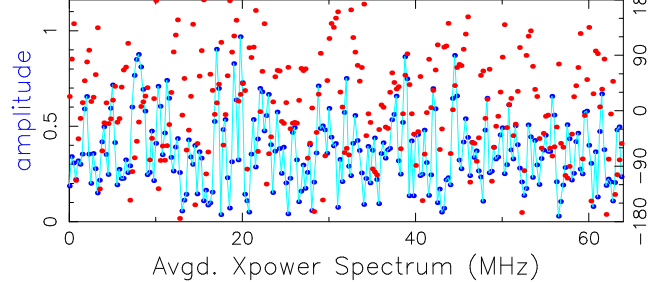
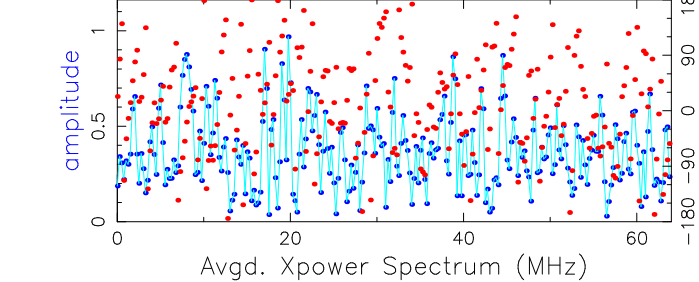
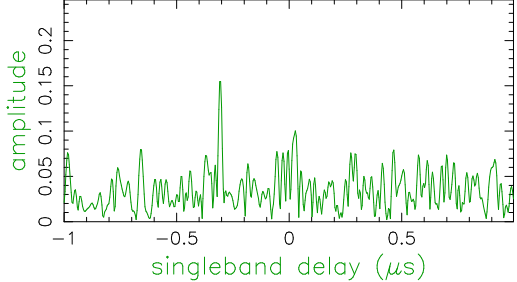
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-4.9	-58.1	-47.8	-9.4	-12.4	-52.7	-15.1	-0.7		Phase
	0.3	0.2	0.3	0.3	0.4	0.3	0.1	0.3		Ampl.
	343.1	98.6	489.3	450.1	258.9	257.5	503.0	275.3		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
m	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
m	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)		2.32575575655E+03		Apriori delay (usec)	2.32574577368E+03		Resid mbdelay (usec)	-5.64213E-03		+/- 1.7E-04
Sband delay (usec)		2.32575567743E+03		Apriori clock (usec)	-2.9819094E+01		Resid sbdelay (usec)	9.90375E-03		+/- 1.3E-03
Phase delay (usec)		2.32574577291E+03		Apriori clockrate (us/s)	-5.3669233E-07		Resid phdelay (usec)	-7.66553E-07		+/- 5.7E-07
Delay rate (us/s)		1.70239811305E+00		Apriori rate (us/s)	1.70238819197E+00		Resid rate (us/s)	9.92108E-06		+/- 5.4E-09
Total phase (deg)			316.3	Apriori accel (us/s/s)	-4.68970641193E-05		Resid phase (deg)	-23.8		+/- 17.6

ph/seg (deg) 49.2 41.2 Search (1024X32) 0.173 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 63.7 71.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 25.5 24.8 Inc. seg. avg. 0.268 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 32.1 43.3 Inc. frq. avg. 0.241 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 X: az 301.1 el 24.7 pa 34.3 u,v (fr/asec) -12290.479 -6278.522 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mX..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mX.W.297.127L20

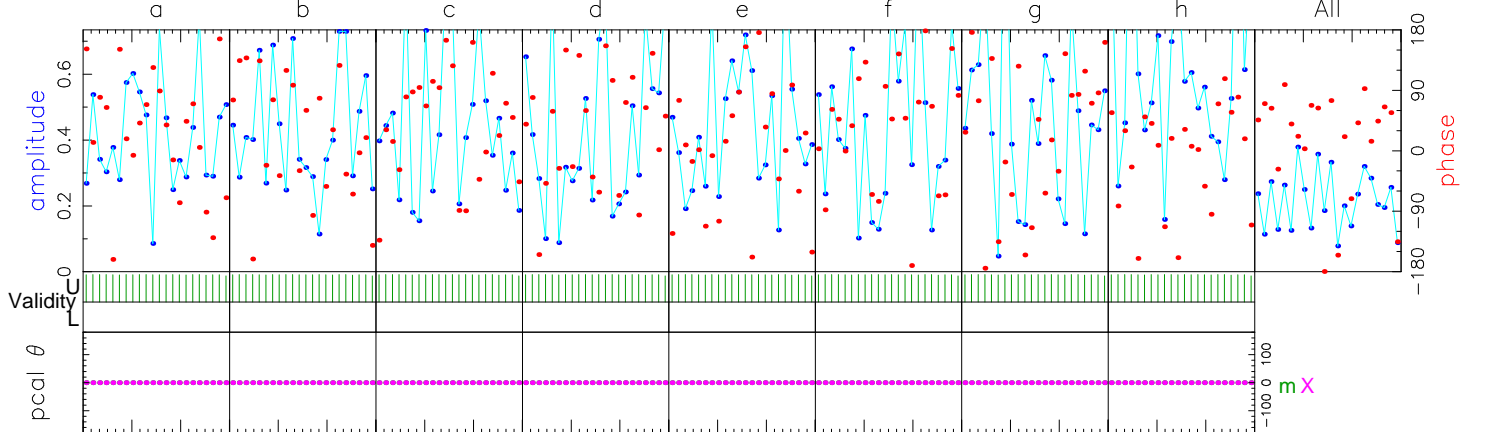
multiband delay (μ s)



Fringe quality 0
 SNR 5.8
 Int time 178.704
 Amp 0.245
 Phase 51.3
 PFD 5.7e-01
 Delays (us)
 SBD -0.306634
 MBD 0.002225
 Fringe rate (Hz) -0.959955
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133330
 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
	38.5	57.6	70.7	67.9	32.4	70.4	73.8	18.1	Phase	51.3
	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.4	Ampl.	0.2
	510.9	86.6	408.5	361.9	283.8	324.7	351.3	173.5	Sbd box	178.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.32543549886E+03		Apriori delay (usec)		2.32574577368E+03		Resid mbdelay (usec)		2.22518E-03	+/- 1.9E-04
Sband delay (usec)	2.32543913993E+03		Apriori clock (usec)		-2.9819094E+01		Resid sbdelay (usec)		-3.06634E-01	+/- 1.5E-03
Phase delay (usec)	2.32574577533E+03		Apriori clockrate (us/s)		-5.3669233E-07		Resid phdelay (usec)		1.65365E-06	+/- 6.4E-07
Delay rate (us/s)	1.70237704784E+00		Apriori rate (us/s)		1.70238819197E+00		Resid rate (us/s)		-1.11441E-05	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.68970641193E-05		Resid phase (deg)		51.3	+/- 19.8

ph/seg (deg) 68.0 46.4 Search (1024X32) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 65.5 80.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 23.0 28.0 Inc. seg. avg. 0.253 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 31.8 48.8 Inc. frq. avg. 0.229 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 X: az 301.1 el 24.7 pa 34.3 u,v (fr/asec) -12290.479 -6278.522 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mX..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mX.W.311.127L20

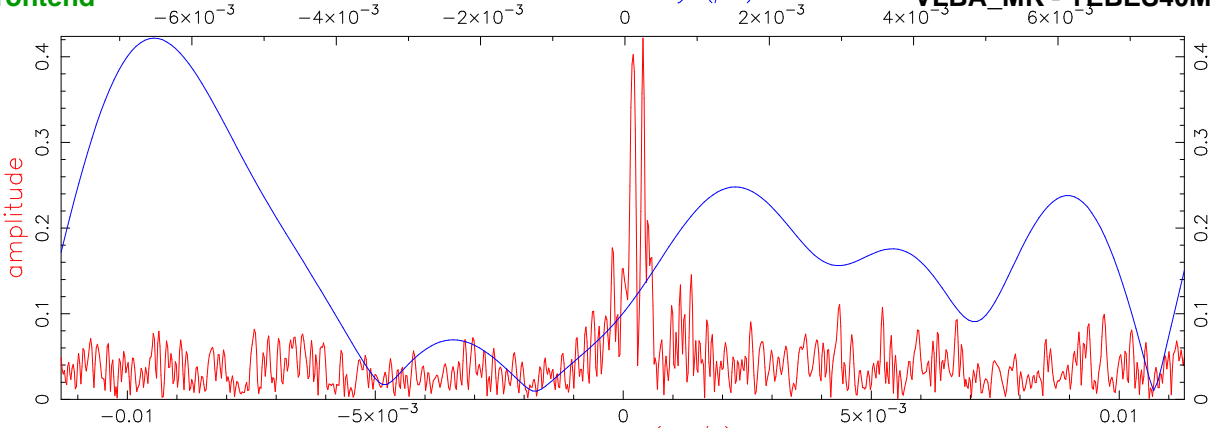
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, mY

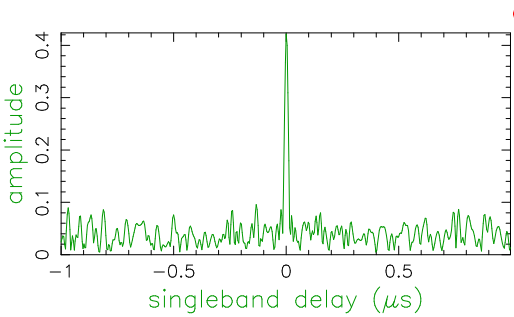
VLBA_MK - YEBES40M, fgroup W, pol LL

multiband delay (μ s)

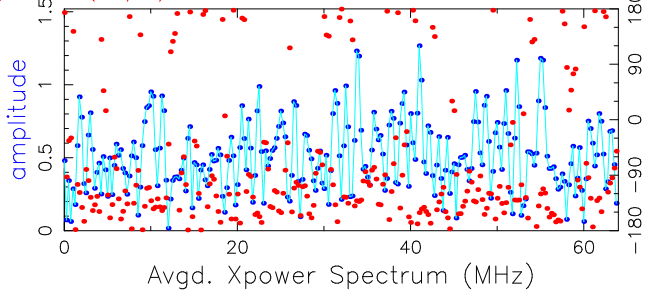


Fringe quality 7

SNR 14.7
 Int time 161.084
 Amp 0.424
 Phase -49.1
 PFD 1.9e-40
 Delays (us)
 SBD 0.000863
 MBD -0.006499
 Fringe rate (Hz)
 0.034617
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

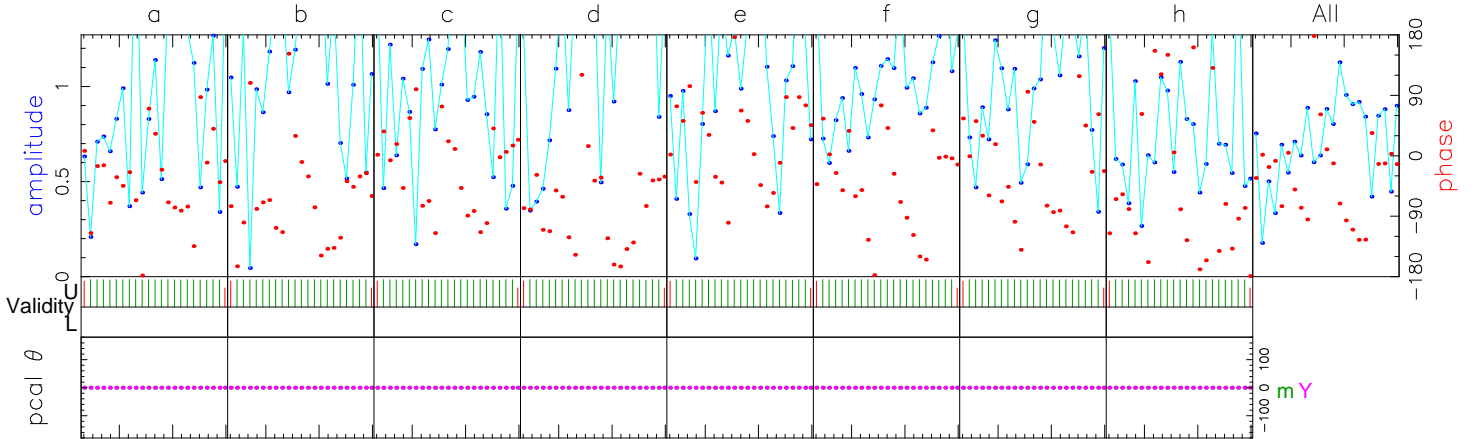


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012016.90
 Stop 012259.71
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133324
 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
	-42.2	-80.1	-20.3	-83.9	24.4	-29.9	-32.3	-134.0	Phase	-49.1
	0.6	0.7	0.6	0.7	0.5	0.5	0.4	0.4	Ampl.	0.5
	257.3	256.6	256.9	256.7	256.5	256.6	256.2	254.7	Sbd box	257.2
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 2.29177226242E+03 Apriori delay (usec) 2.29177876176E+03 Resid mbdelay (usec) -6.49934E-03 +/- 7.4E-05
 Sband delay (usec) 2.29177962476E+03 Apriori clock (usec) -7.0860577E+00 Resid sbdelay (usec) 8.63000E-04 +/- 5.9E-04
 Phase delay (usec) 2.29177876017E+03 Apriori clockrate (us/s) -2.2869228E-07 Resid phdelay (usec) -1.58387E-06 +/- 2.5E-07
 Delay rate (us/s) 1.99101469166E+00 Apriori rate (us/s) 1.99101428978E+00 Resid rate (us/s) 4.01874E-07 +/- 2.7E-09
 Total phase (deg) 144.4 Apriori accel (us/s/s) -3.34251390752E-05 Resid phase (deg) -49.1 +/- 7.8

RMS Theor. Amplitude 0.424 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 58.6 18.7 Search (1024X32) 0.413 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 86.1 32.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 52.1 11.0 Inc. seg. avg. 0.675 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 40.1 19.2 Inc. frq. avg. 0.546 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 57.7 el 31.4 pa -87.9 Y: az 298.7 el 25.0 pa 56.8 u,v (fr/asec) -14354.212 -4101.390 simultaneous interpolator

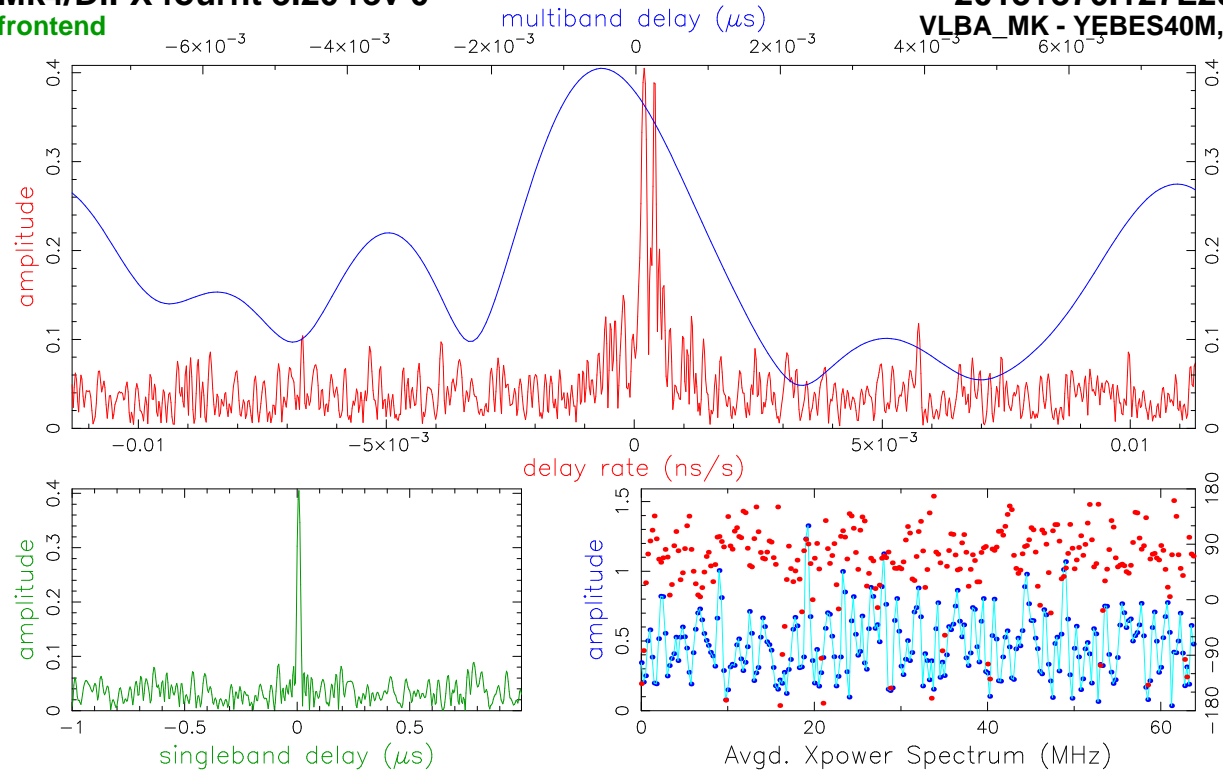
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mY..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mY.W.266.127L20

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, mY

VLBA_MK - YEBES40M, fgroup W, pol RR

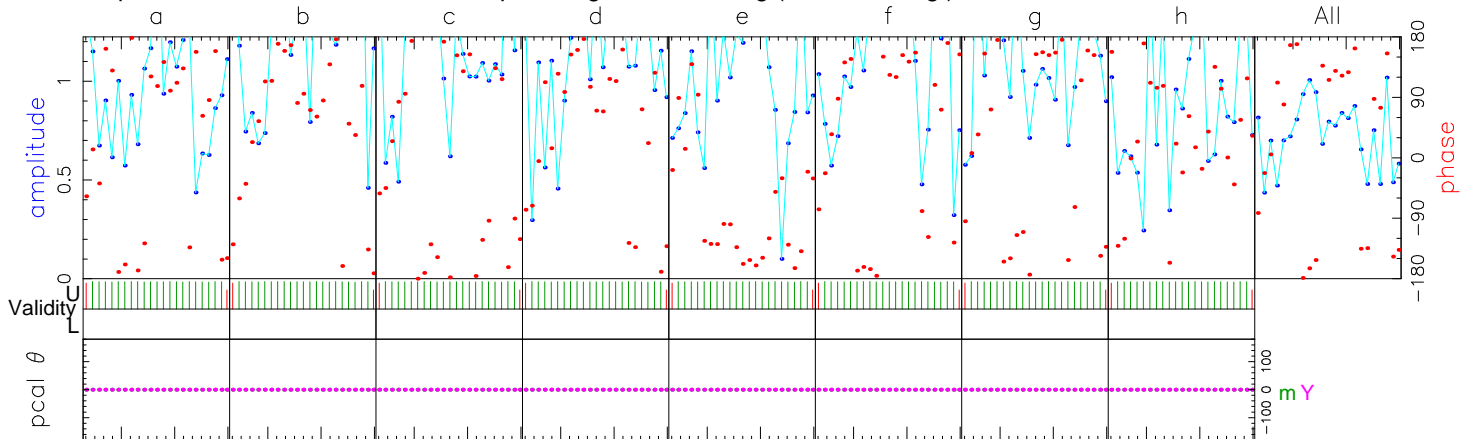


Fringe quality 7

SNR 14.2
 Int time 161.082
 Amp 0.408
 Phase 157.5
 PFD 4.2e-37
 Delays (us)
 SBD 0.006680
 MBD -0.000474
 Fringe rate (Hz) 0.016684
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012016.90
 Stop 012259.71
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133326
 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
U/L	154.0	115.4	-168.7	125.3	-132.1	154.2	177.2	59.5	Phase	157.5
m	0.5	0.6	0.6	0.5	0.6	0.7	0.6	0.4	Ampl.	0.5
Y	258.9	258.1	259.1	258.3	257.7	258.3	257.6	256.0	Sbd box	258.7
m	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Y	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	PC amp	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
									Tracks	
									Tracks	
Group delay (usec)(sbd)	2.29177828740E+03		Apriori delay (usec)		2.29177876176E+03		Resid mbdelay (usec)		-4.74358E-04	+/- 7.7E-05
Sband delay (usec)	2.29178544176E+03		Apriori clock (usec)		-7.0860577E+00		Resid sbdelay (usec)		6.68000E-03	+/- 6.1E-04
Phase delay (usec)	2.29177876684E+03		Apriori clockrate (us/s)		-2.2869228E-07		Resid phdelay (usec)		5.08002E-06	+/- 2.6E-07
Delay rate (us/s)	1.99101448347E+00		Apriori rate (us/s)		1.99101428978E+00		Resid rate (us/s)		1.93683E-07	+/- 2.8E-09
Total phase (deg)	351.1		Apriori accel (us/s/s)		-3.34251390752E-05		Resid phase (deg)		157.5	+/- 8.1

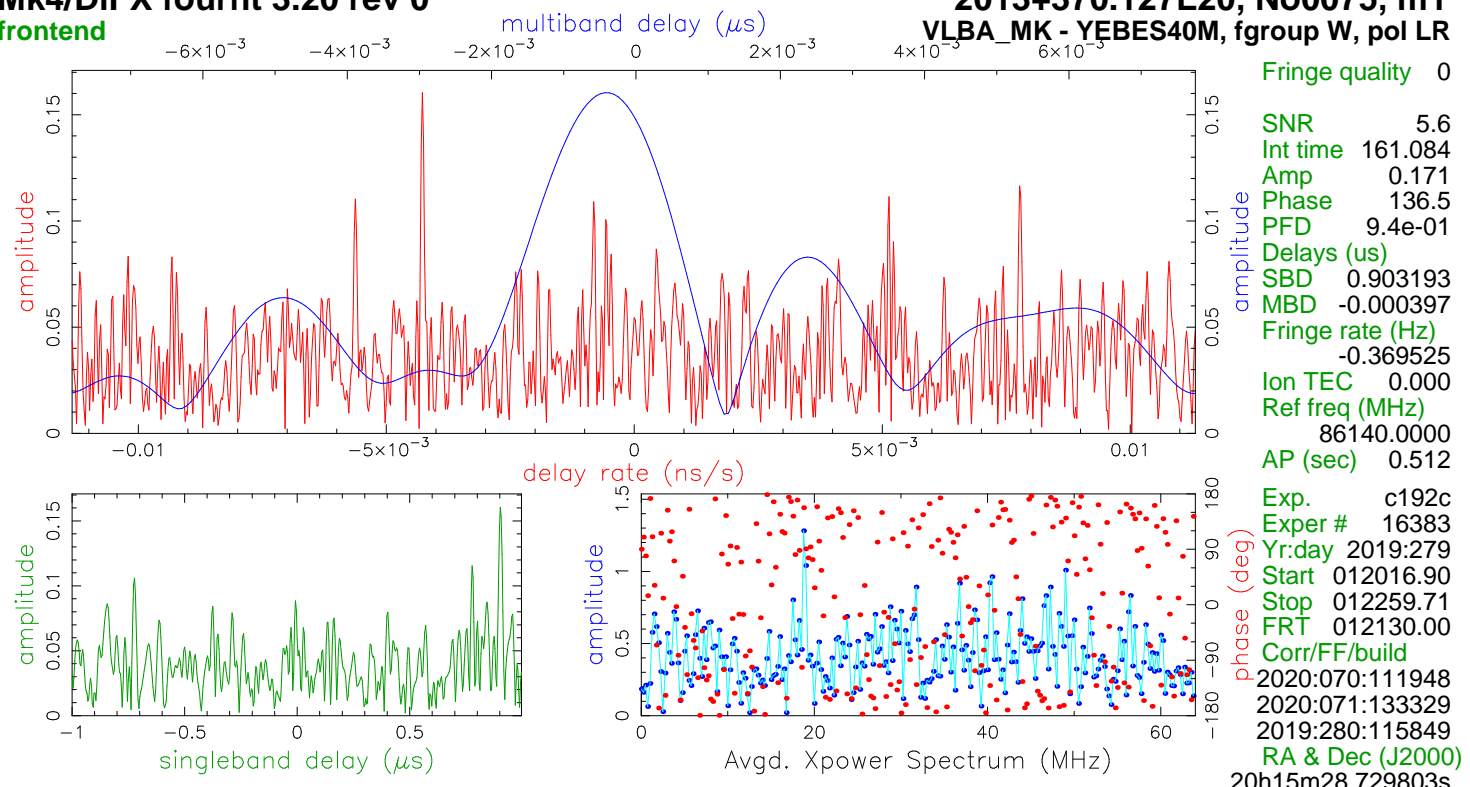
ph/seg (deg) 71.1 19.4 Search (1024X32) 0.403 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 89.6 33.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 56.2 11.4 Inc. seg. avg. 0.692 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 43.5 20.0 Inc. frq. avg. 0.546 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 57.7 el 31.4 pa -87.9 Y: az 298.7 el 25.0 pa 56.8 u,v (fr/asec) -14354.212 -4101.390 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mY..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mY.W.285.127L20

Mk4/DiFX fourfit 3.20 rev 0

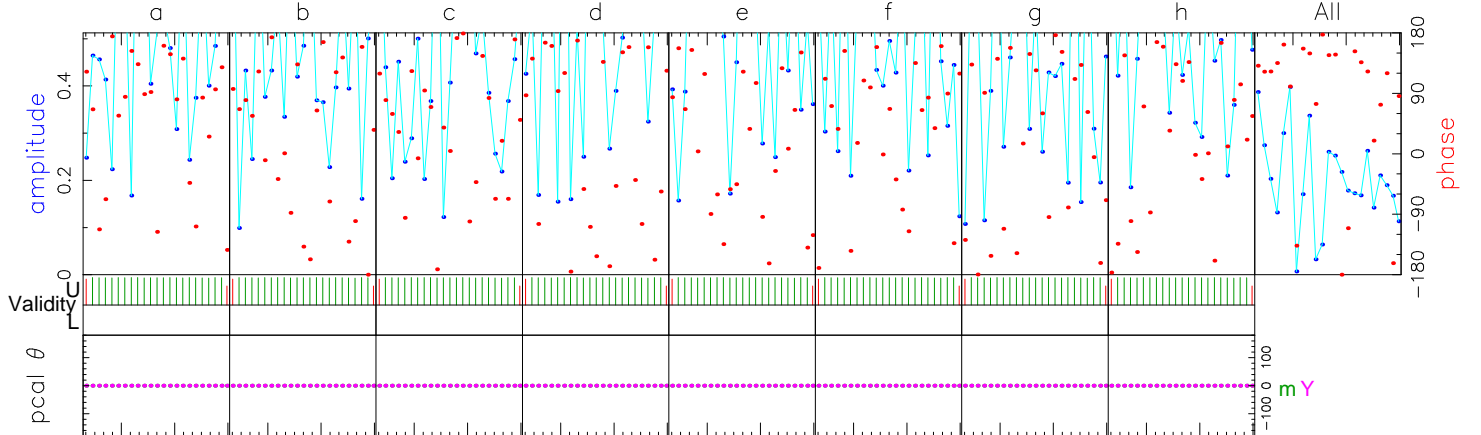
frontend

2013+370.127L20, No0075, mY

VLBA_MK - YEYES40M, fgroup W, pol LR



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
	116.5	157.7	139.7	179.7	117.4	97.2	143.7	137.0	Phase	136.5
	0.3	0.1	0.1	0.3	0.1	0.2	0.2	0.2	Ampl.	0.2
	159.0	297.5	143.6	365.0	358.8	74.1	235.6	283.9	Sbd box	488.2
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
m	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)	2.29268461498E+03		Apriori delay (usec)		2.29177876176E+03		Resid mbdelay (usec)		-3.96772E-04	+/- 1.9E-04
Sband delay (usec)	2.29268195476E+03		Apriori clock (usec)		-7.0860577E+00		Resid sbdelay (usec)		9.03193E-01	+/- 1.5E-03
Phase delay (usec)	2.29177876616E+03		Apriori clockrate (us/s)		-2.2869228E-07		Resid phdelay (usec)		4.40252E-06	+/- 6.6E-07
Delay rate (us/s)	1.99100999996E+00		Apriori rate (us/s)		1.99101428978E+00		Resid rate (us/s)		-4.28982E-06	+/- 7.0E-09
Total phase (deg)	330.1		Apriori accel (us/s/s)		-3.34251390752E-05		Resid phase (deg)		136.5	+/- 20.5

	RMS	Theor.	Amplitude	0.171 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
ph/seg (deg)	49.1	49.2	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/seg (%)	66.3	85.8	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
ph/frq (deg)	27.9	29.0	Inc. seg. avg.	0.157	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	36.8	50.6	Inc. frq. avg.	0.168						

m: az 57.7 el 31.4 pa -87.9 Y: az 298.7 el 25.0 pa 56.8 u,v (fr/asec) -14354.212 -4101.390 simultaneous interpolator

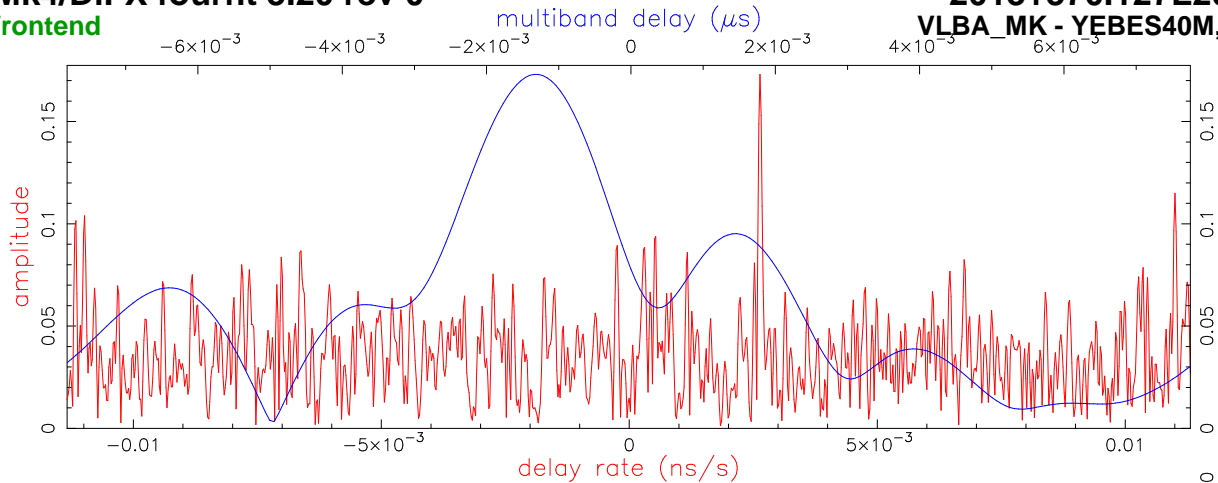
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/mY..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/mY.W.304.127L20

Mk4/DiFX fourfit 3.20 rev 0

frontend

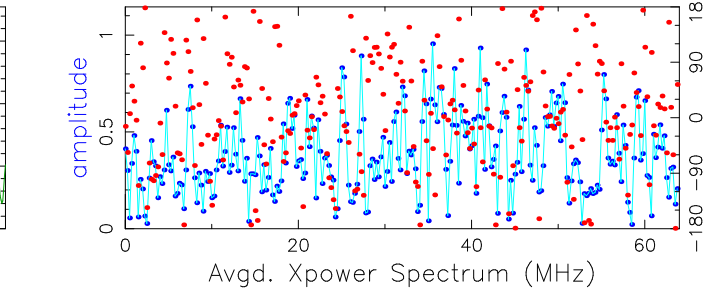
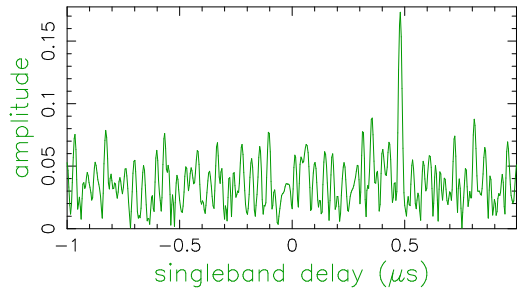
2013+370.127L20, No0075, mY

VLBA_MK - YEBS40M, fgroup W, pol RL



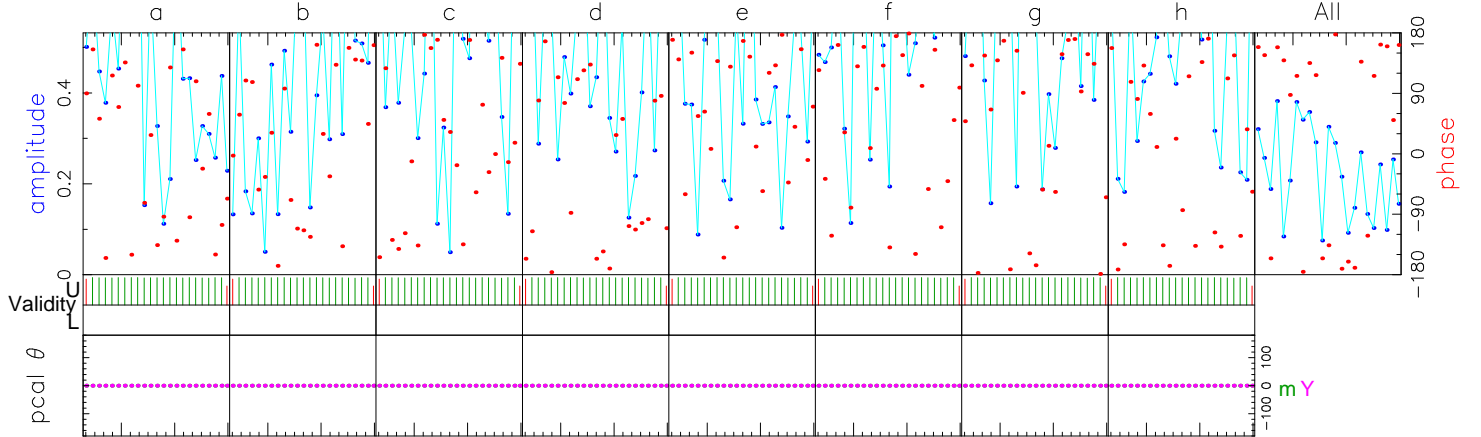
Fringe quality 0

SNR 6.0
 Int time 161.082
 Amp 0.177
 Phase 156.4
 PFD 2.0e-01
 Delays (us)
 SBD 0.479786
 MBD -0.001347
 Fringe rate (Hz) 0.227233
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c192c
 Yr:day 16383
 Start 2019:279
 Stop 2019:279
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133331
 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

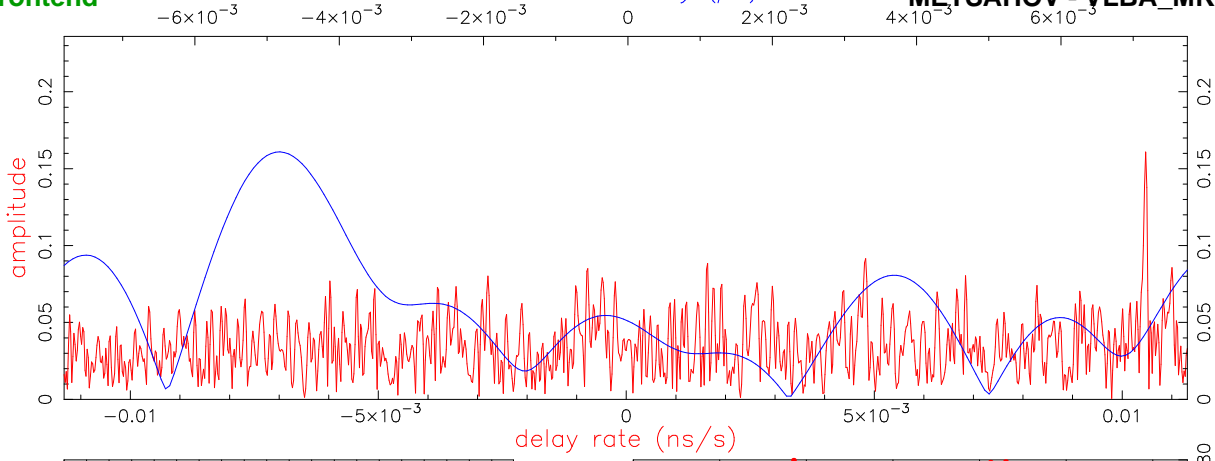


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	2.29226178964E+03									
Sband delay (usec)	2.29225854751E+03									
Phase delay (usec)	2.29177876680E+03									
Delay rate (us/s)	1.99101692773E+00									
Total phase (deg)			350.0							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
RMS	43.7	45.6								
Theor.										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
ph/seg (deg)										
amp/seg (%)										
ph/frq (deg)										
amp/frq (%)										
m: az 57.7 el 31.4 pa -87.9										
Y: az 298.7 el 25.0 pa 56.8										
u,v (fr/asec) -14354.212 -4101.390										
Control file: cf_1234_gmva										
Input file: /Exps/c192c/v1_CygA2/1234/No0075/mY..127L20										
Output file: /Exps/c192c/v1_CygA2/1234/No0075/mY.W.317.127L20										

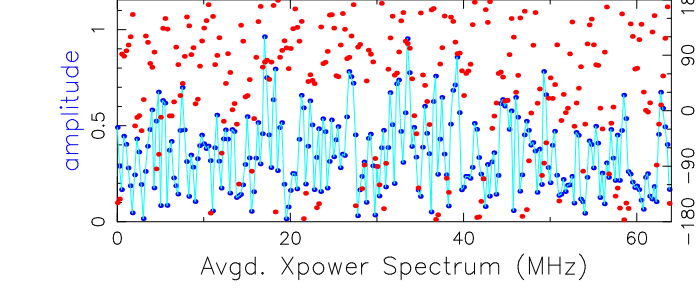
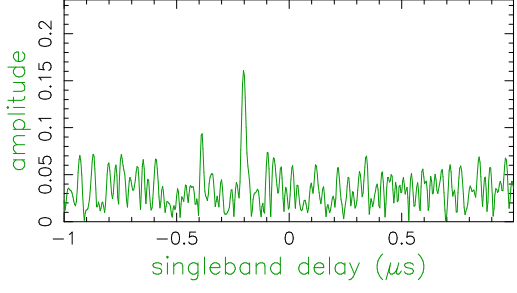
simultaneous interpolator

multiband delay (μs)

Fringe quality 0

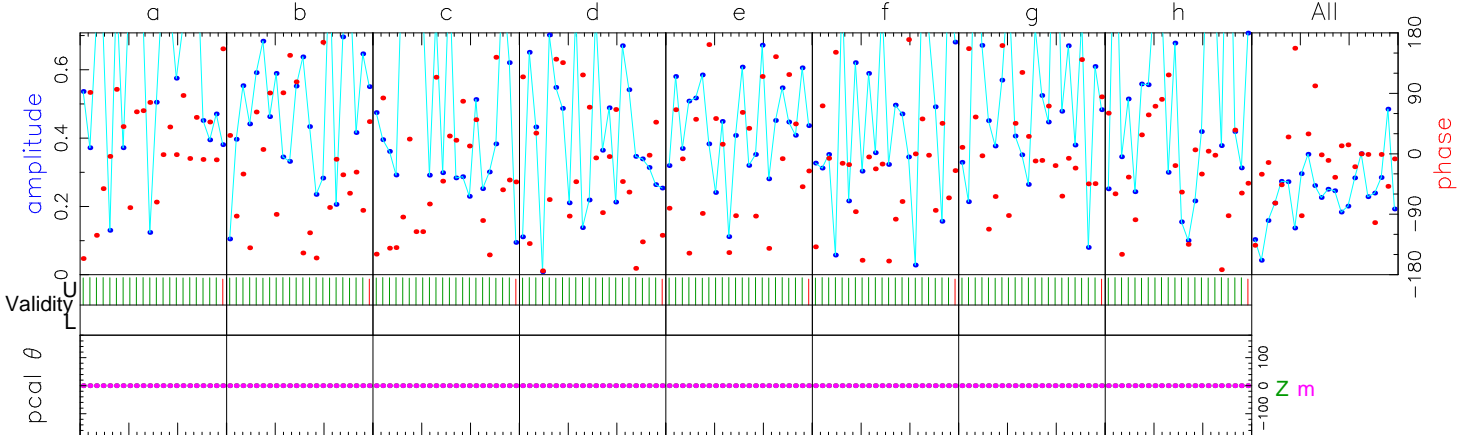


SNR 5.9
 Int time 178.401
 Amp 0.236
 Phase -17.4
 PFD 3.8e-01
 Delays (us)
 SBD -0.202218
 MBD -0.004798
 Fringe rate (Hz) 0.902767
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133338
 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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd) -3.60547986200E+03 Apriori delay (usec) -3.60527193852E+03 Resid mbdelay (usec) -4.79848E-03 +/- 1.8E-04
 Sband delay (usec) -3.60547415602E+03 Apriori clock (usec) -2.4138997E+08 Resid sbdelay (usec) -2.02218E-01 +/- 1.5E-03
 Phase delay (usec) -3.60527193908E+03 Apriori clockrate (us/s) 2.4985100E-08 Resid phdelay (usec) -5.59907E-07 +/- 6.3E-07
 Delay rate (us/s) -1.60832385976E+00 Apriori rate (us/s) -1.60833433999E+00 Resid rate (us/s) 1.04802E-05 +/- 6.0E-09
 Total phase (deg) -299.7 Apriori accel (us/s/s) 5.52774391687E-05 Resid phase (deg) -17.4 +/- 19.4

ph/seg (deg) 61.8 45.6 Amplitude 0.236 +/- 0.040 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 74.2 79.6 Search (1024X32) 0.157 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 36.8 27.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 44.4 48.0 Inc. seg. avg. 0.267 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 Inc. frq. avg. 0.242 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

Z: az 309.2 el 21.1 pa 29.0 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 11620.481 6963.544 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Zm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Zm.W.362.127L20

Mk4/DiFX fourfit 3.20 rev 0

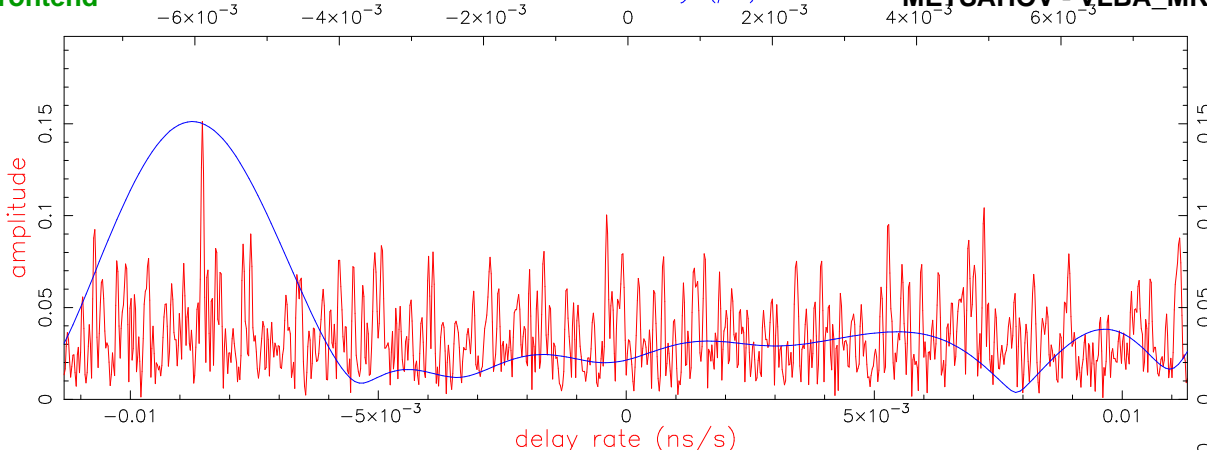
frontend

2013+370.127L20, No0075, Zm

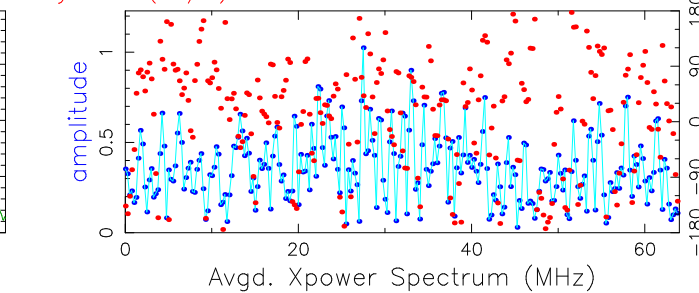
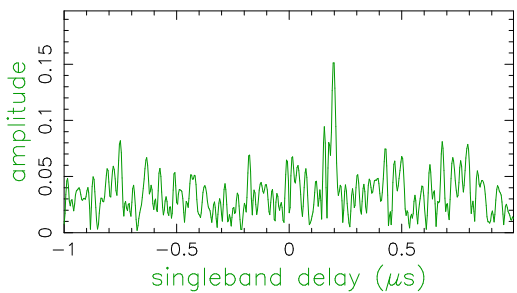
MEṬSAHOV - VLBA_MK, fgroup W, pol RR

multiband delay (μ s)

Fringe quality 0

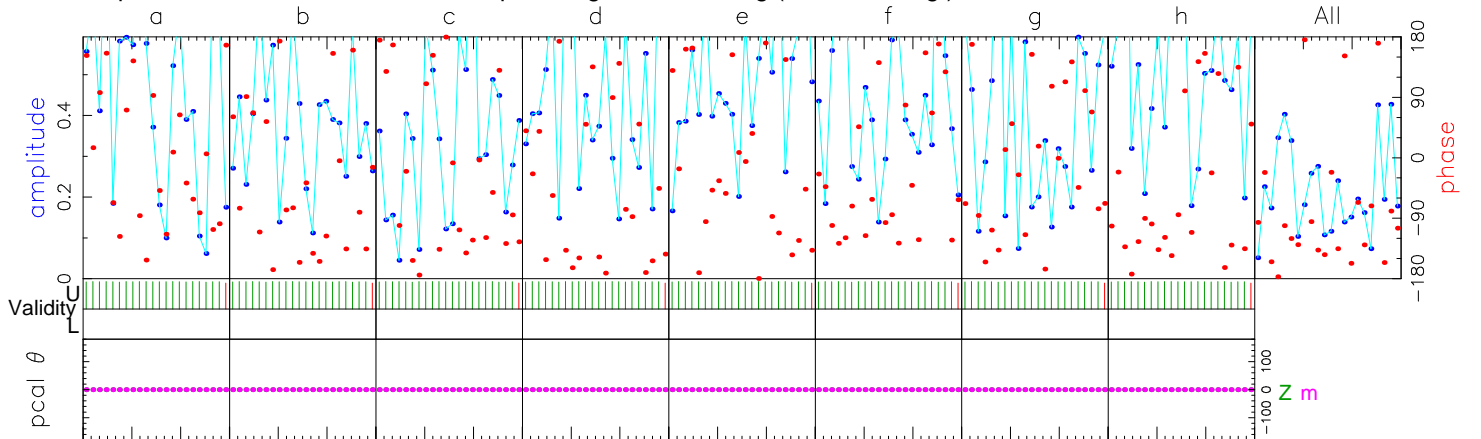


SNR 5.6
 Int time 178.400
 Amp 0.198
 Phase -126.8
 PFD 8.8e-01
 Delays (us)
 SBD 0.197259
 MBD -0.006028
 Fringe rate (Hz)
 -0.737942
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133340
 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

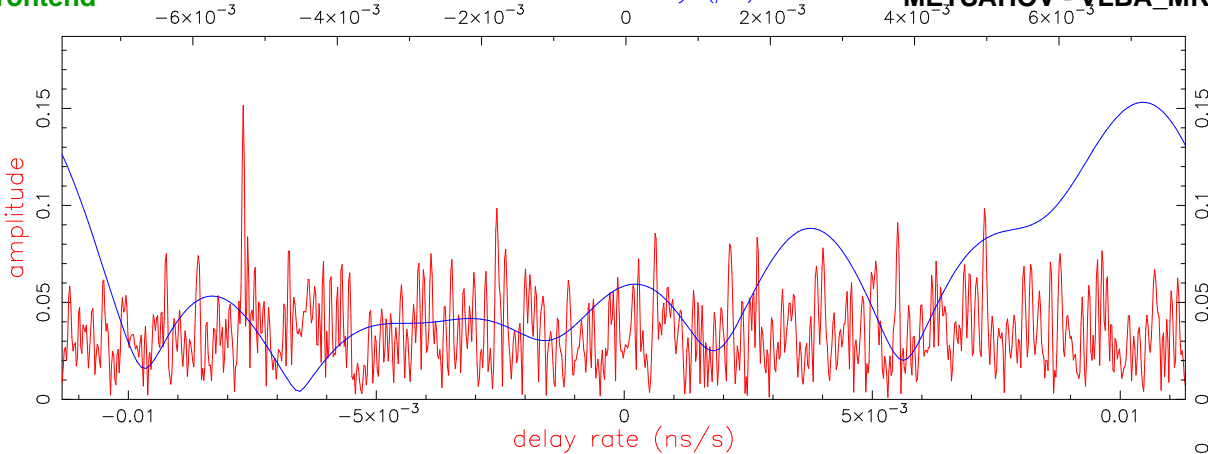


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-130.2	-123.9	-139.1	-129.3	-113.2	-122.2	-105.7	-141.6	Phase	-126.8
	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.3	Ampl.	0.2
	486.9	107.3	298.0	85.8	99.1	313.5	295.8	297.0	Sbd box	307.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.60507484192E+03		Apriori delay (usec)		-3.60527193852E+03		Resid mbdelay (usec)		-6.02840E-03	+/- 1.9E-04
Sband delay (usec)	-3.60507467952E+03		Apriori clock (usec)		-2.4138997E+08		Resid sbdelay (usec)		1.97259E-01	+/- 1.5E-03
Phase delay (usec)	-3.60527194261E+03		Apriori clockrate (us/s)		2.4985100E-08		Resid phdelay (usec)		-4.08755E-06	+/- 6.6E-07
Delay rate (us/s)	-1.60834290677E+00		Apriori rate (us/s)		-1.60833433999E+00		Resid rate (us/s)		-8.56678E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		5.52774391687E-05		Resid phase (deg)		-126.8	+/- 20.3

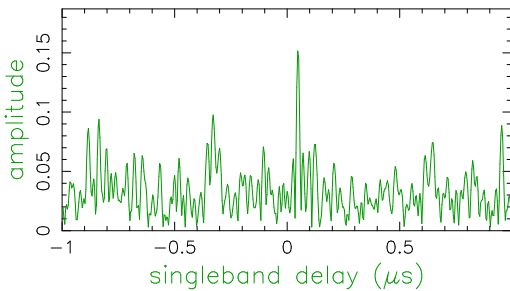
ph/seg (deg) 49.4 47.7 Search (1024X32) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 81.4 83.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 13.2 28.7 Inc. seg. avg. 0.206 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 35.6 50.2 Inc. frq. avg. 0.175 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 Z: az 309.2 el 21.1 pa 29.0 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 11620.481 6963.544 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Zm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Zm.W.379.127L20

multiband delay (μ s)

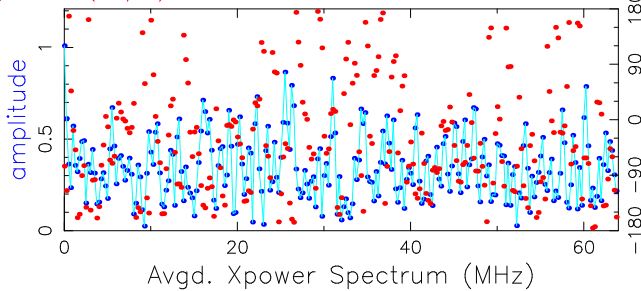
Fringe quality 0



SNR 5.6
 Int time 178.400
 Amp 0.187
 Phase -139.3
 PFD 9.1e-01
 Delays (us)
 SBD 0.048175
 MBD -0.008301
 Fringe rate (Hz)
 -0.662174
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

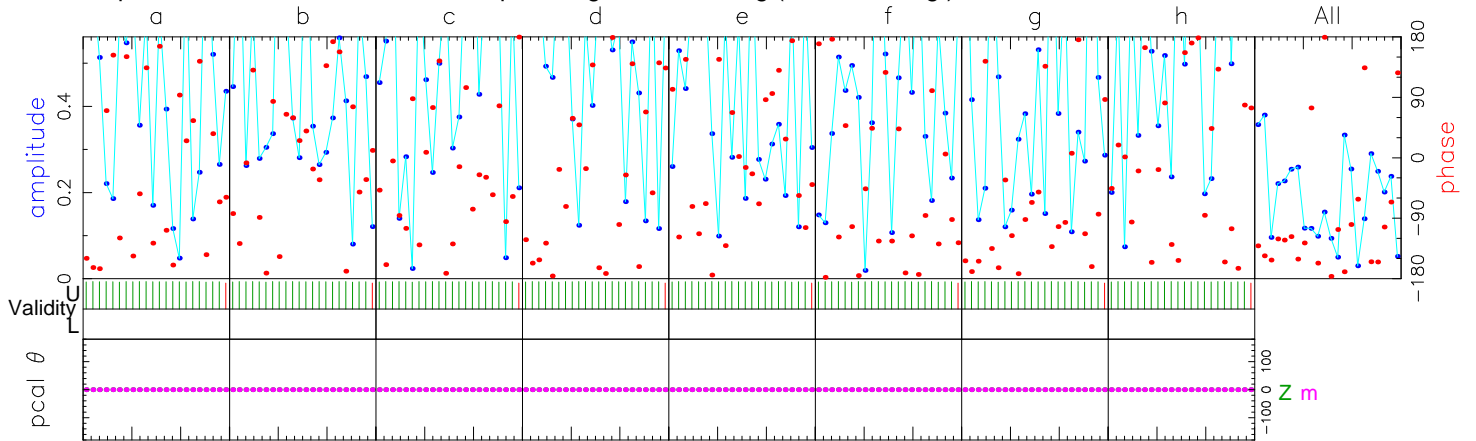


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 012000.00
 Stop 012300.22
 FRT 012130.00
 Corr/FF/build
 2020:070:111948
 2020:071:133343
 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
	-158.3	-158.8	-59.7	-142.3	-94.2	-144.7	-135.1	-177.9	Phase	-139.3
	0.2	0.0	0.2	0.2	0.1	0.2	0.4	0.3	Ampl.	0.2
	61.5	309.8	278.9	415.3	184.8	113.3	268.4	172.9	Sbd box	269.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-3.60521773930E+03	Apriori delay (usec)	-3.60527193852E+03	Resid mbdelay (usec)	-8.30078E-03	+/-	1.9E-04
Sband delay (usec)	-3.60522376302E+03	Apriori clock (usec)	-2.4138997E+00	Resid sbdelay (usec)	4.81755E-02	+/-	1.5E-03
Phase delay (usec)	-3.60527194301E+03	Apriori clockrate (us/s)	2.4985100E-08	Resid phdelay (usec)	-4.49147E-06	+/-	6.6E-07
Delay rate (us/s)	-1.60834202717E+00	Apriori rate (us/s)	-1.60833433999E+00	Resid rate (us/s)	-7.68718E-06	+/-	6.3E-09
Total phase (deg)		Apriori accel (us/s/s)	5.52774391687E-05	Resid phase (deg)	-139.3	+/-	20.4

ph/seg (deg)	52.0	Theor.	47.9	Amplitude	0.187 +/- 0.033	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	69.7		83.6	Search (1024X32)	0.153	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	42.2		28.9	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	56.5		50.4	Inc. seg. avg.	0.173	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.193	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

Z: az 309.2 el 21.1 pa 29.0 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 11620.481 6963.544 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Zm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Zm.W.390.127L20

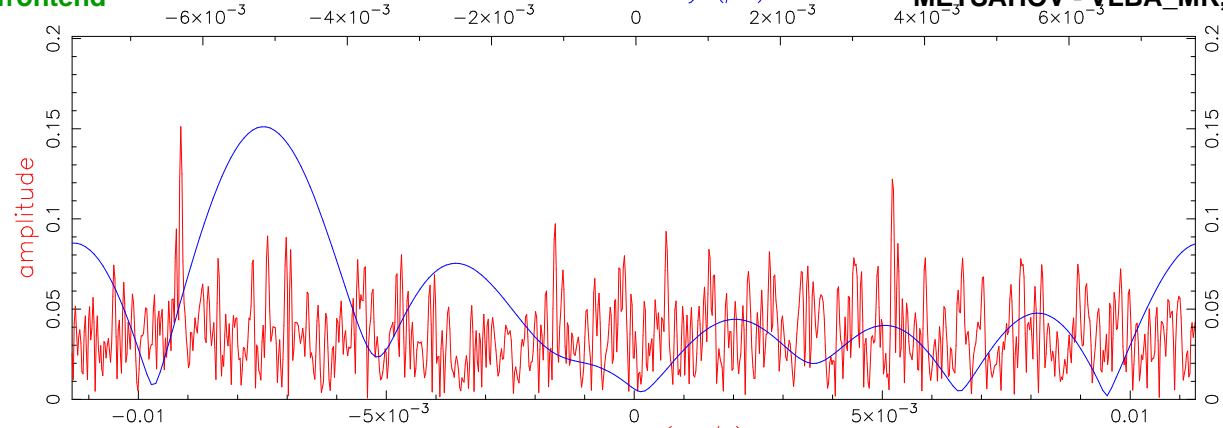
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127L20, No0075, Zm

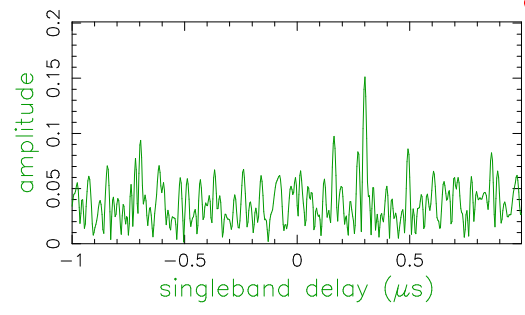
METSAHOV - VLBA_MK, fgroup W, pol RL

multiband delay (μ s)

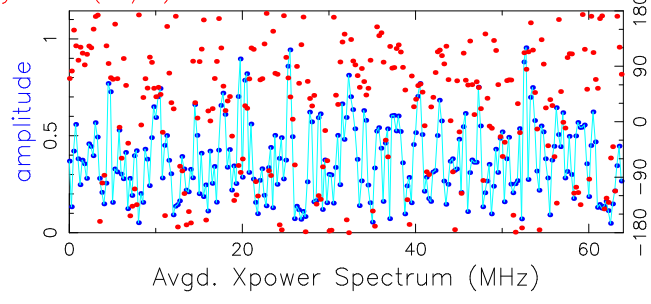


Fringe quality 0

SNR 5.5
Int time 178.401
Amp 0.201
Phase 6.9
PFD 9.8e-01
Delays (us)
SBD 0.300330
MBD -0.005181
Fringe rate (Hz)
-0.789563
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

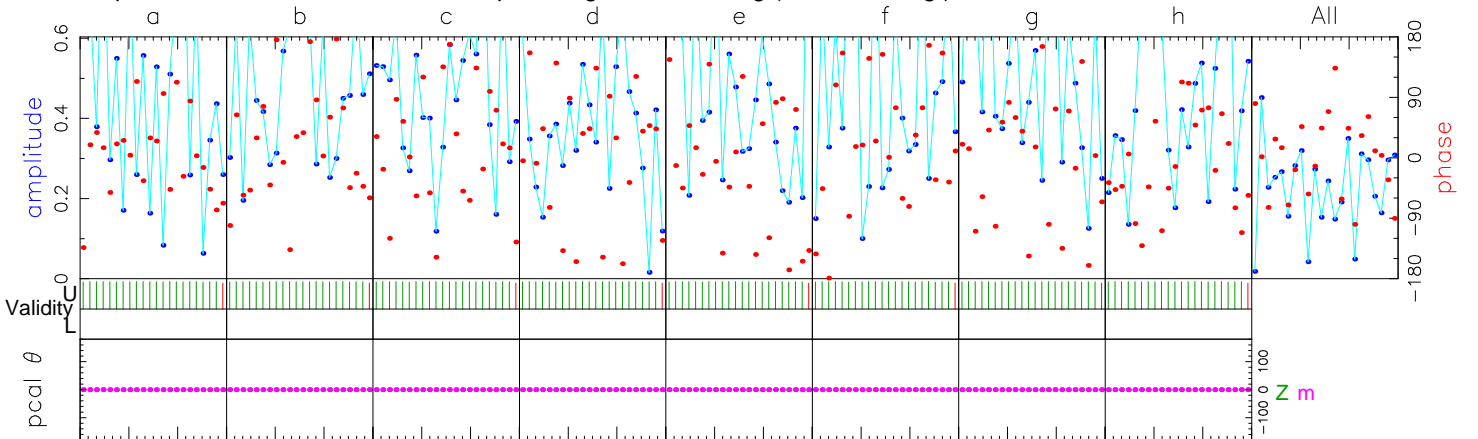


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:070:111948
2020:071:133346
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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-3.60496461929E+03	Apriori delay (usec)	-3.60527193852E+03	Resid mbdelay (usec)	-5.18077E-03	+/-	2.0E-04
Sband delay (usec)	-3.60497160852E+03	Apriori clock (usec)	-2.4138997E+08	Resid sbdelay (usec)	3.00330E-01	+/-	1.6E-03
Phase delay (usec)	-3.60527193830E+03	Apriori clockrate (us/s)	2.4985100E-08	Resid phdelay (usec)	2.23607E-07	+/-	6.7E-07
Delay rate (us/s)	-1.60834350604E+00	Apriori rate (us/s)	-1.60833433999E+00	Resid rate (us/s)	-9.16605E-06	+/-	6.4E-09
Total phase (deg)	-275.4	Apriori accel (us/s/s)	5.52774391687E-05	Resid phase (deg)	6.9	+/-	20.7

ph/seg (deg)	59.3	Theor.	48.6	Amplitude	0.201 +/- 0.036	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	85.3	Search (1024X32)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	
ph/frq (deg)	31.3	Inc. seg. avg.	0.223	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	44.6	Inc. frq. avg.	0.188	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
				Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00	
				nlags: 256		t_cohere infinite		

Z: az 309.2 el 21.1 pa 29.0 m: az 57.7 el 31.4 pa -87.9 u,v (fr/asec) 11620.481 6963.544 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0075/Zm..127L20 Output file: /Exps/c192c/v1_CygA2/1234/No0075/Zm.W.402.127L20