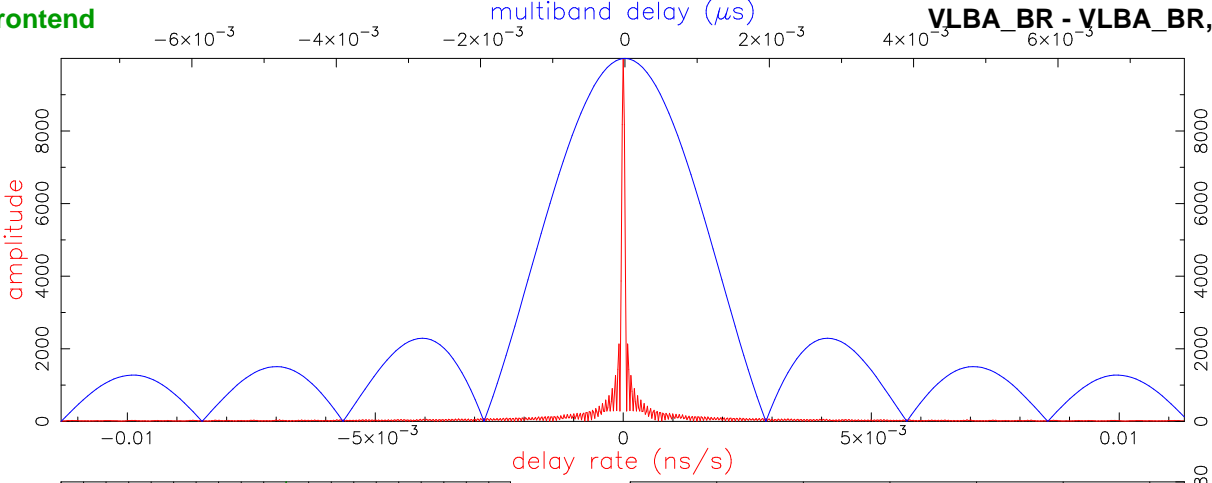
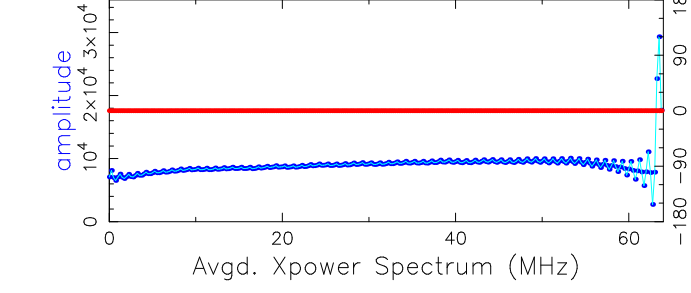
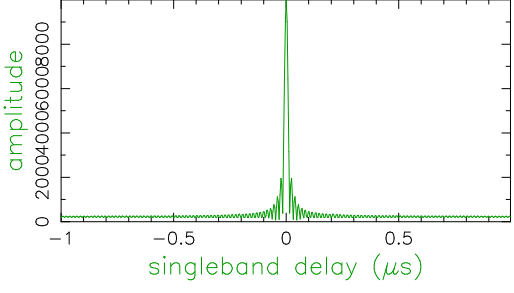


Mk4/DiFX fourfit 3.20 rev 0  
 frontend

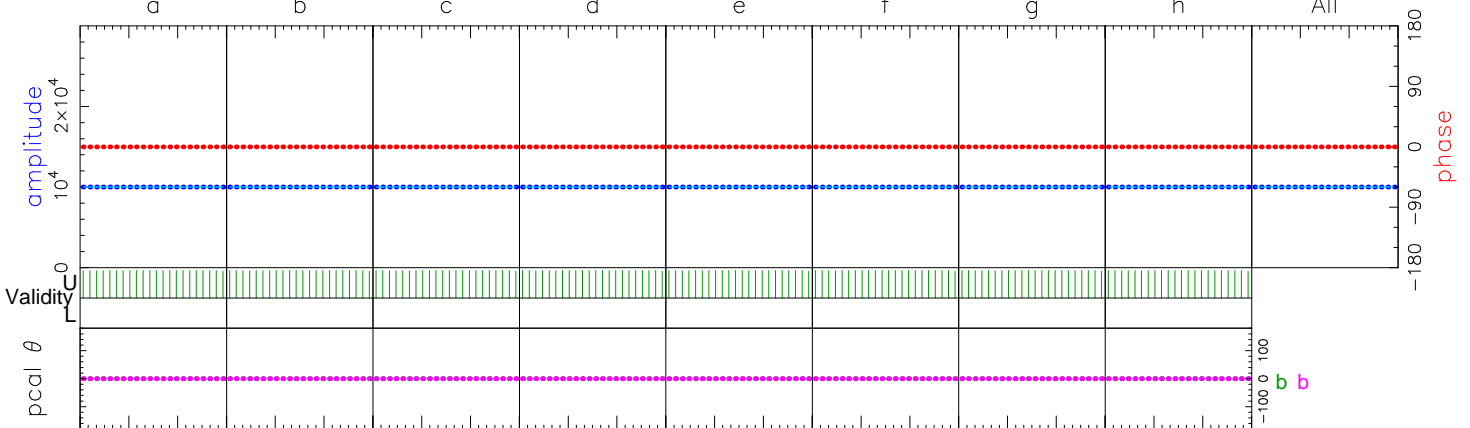
2013+370.126VBU, No0044, bb  
 VLBA\_BR - VLBA\_BR, fgroup W, pol RR



Fringe quality 9  
 SNR 366573.2  
 Int time 179.691  
 Amp 9999.996  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124453  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"



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



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

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)	9.09776862185E-20	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	9.09777E-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

ph/seg (deg)	0.0	RMS	Theor.	Amplitude	9999.996 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	0.0	0.0	0.0	Search (1024X32)	9999.996	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	0.0	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	0.0	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 128	mb window (us) -0.008 0.008
				Inc. frq. avg.	9999.996	Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 256	t_cohere infinite
b: az 57.4 el 21.3 pa -45.0		b: az 57.4 el 21.3 pa -45.0		u,v (fr/asec)	0.000 0.000	ion window (TEC)	0.00 0.00

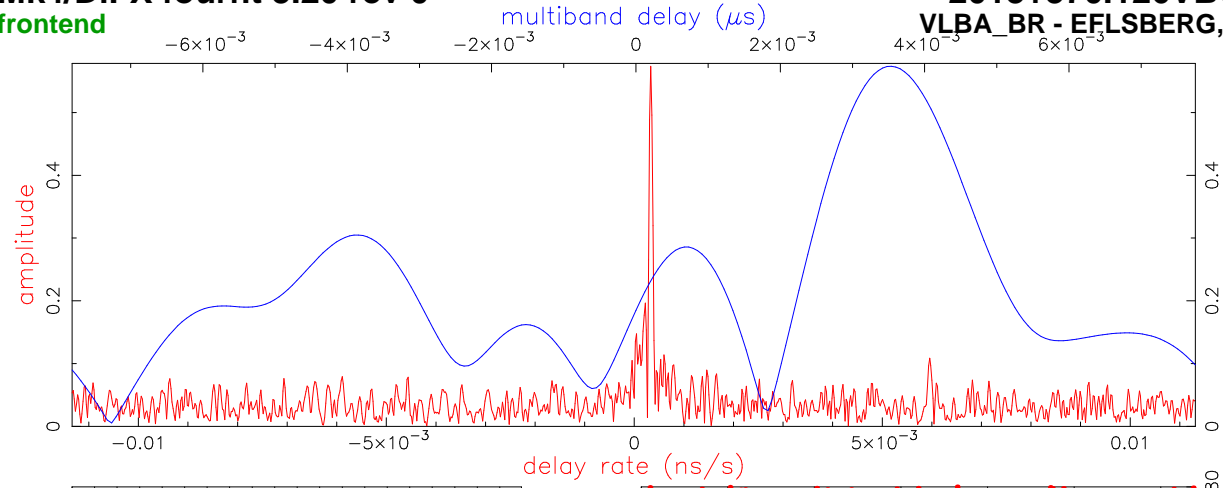
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bb..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bb.W.21.126VBU simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0

frontend

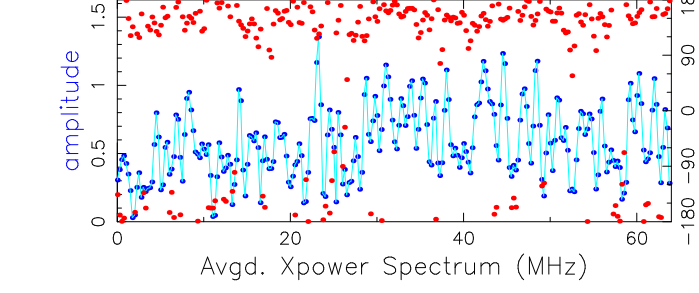
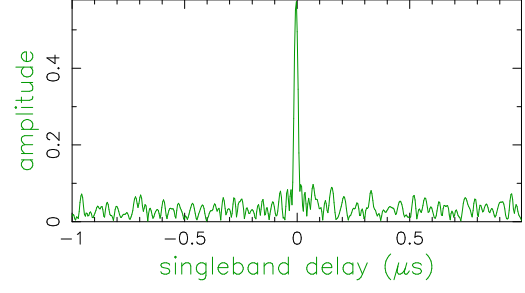
2013+370.126VBU, No0044, bB

VLBA\_BR - EFLSBERG, fgroup W, pol RR



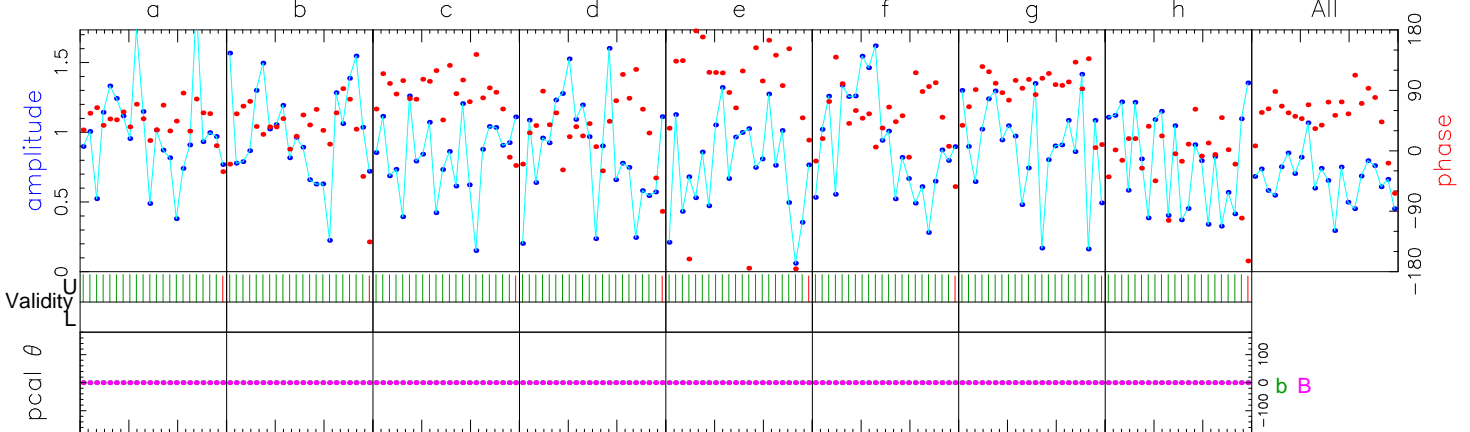
Fringe quality 8

SNR 21.2  
 Int time 179.483  
 Amp 0.578  
 Phase 56.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.005052  
 MBD 0.003497  
 Fringe rate (Hz)  
 0.028000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Yr:day 16383  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124454  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
B	1000	1000	1000	1000	1000	1000	1000	1000		
b:B	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:B	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		
B	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.17406037445E+04	Apriori delay (usec)	-1.17405916165E+04	Resid mbdelay (usec)	3.49699E-03	+/-	5.1E-05
Sband delay (usec)	-1.17405966685E+04	Apriori clock (usec)	-1.7421412E+01	Resid sbdelay (usec)	-5.05200E-03	+/-	4.1E-04
Phase delay (usec)	-1.17405916146E+04	Apriori clockrate (us/s)	-4.2395080E-08	Resid phdelay (usec)	1.82815E-06	+/-	1.7E-07
Delay rate (us/s)	1.17782459703E+00	Apriori rate (us/s)	1.17782427198E+00	Resid rate (us/s)	3.25051E-07	+/-	1.7E-09
Total phase (deg)	-246.3	Apriori accel (us/s/s)	6.04735831471E-05	Resid phase (deg)	56.7	+/-	5.4

ph/seg (deg)	36.9	Theor.	12.7	Amplitude	0.578 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	31.7		22.1	Search (1024X32)	0.562	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	45.5		7.7	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008		
amp/frq (%)	29.7		13.4	Inc. seg. avg.	0.653	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011			
				Inc. frq. avg.	0.695	Data rate (Mb/s):	2048	nlags:	256	t_cohere infinite	ion window (TEC)	0.00 0.00

b: az 57.4 el 21.3 pa -45.0      B: az 245.8 el 66.6 pa 46.5      u,v (fr/asec) -8428.633 3469.155      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bB..126VBU      Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bB.W.30.126VBU

Mk4/DiFX fourfit 3.20 rev 0

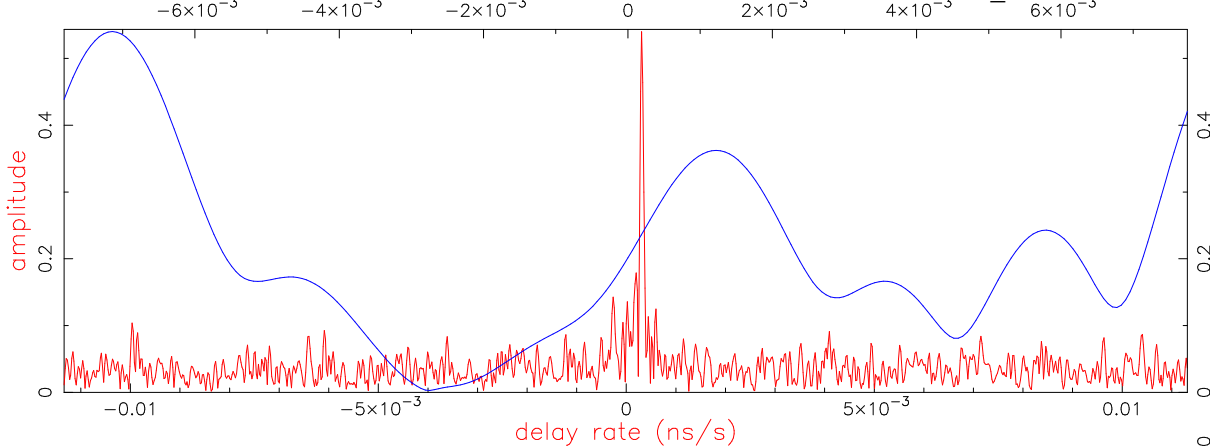
frontend

2013+370.126VBU, No0044, bB

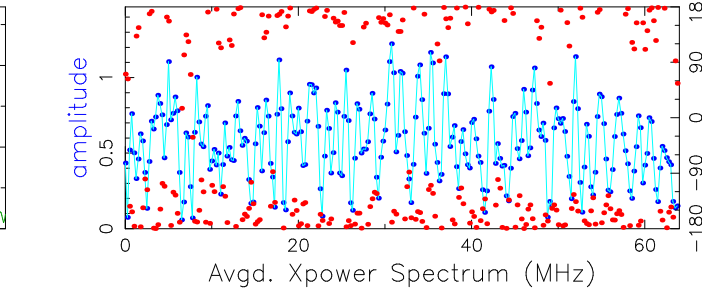
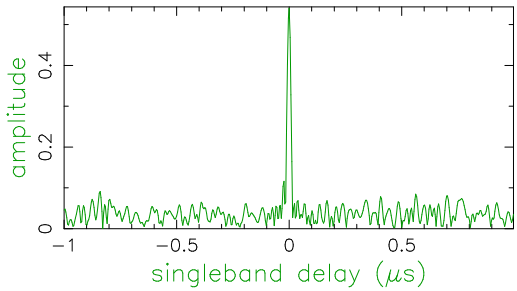
VLBA\_BR - EFLSBERG, fgroup W, pol LL

multiband delay ( $\mu$ s)

Fringe quality 8

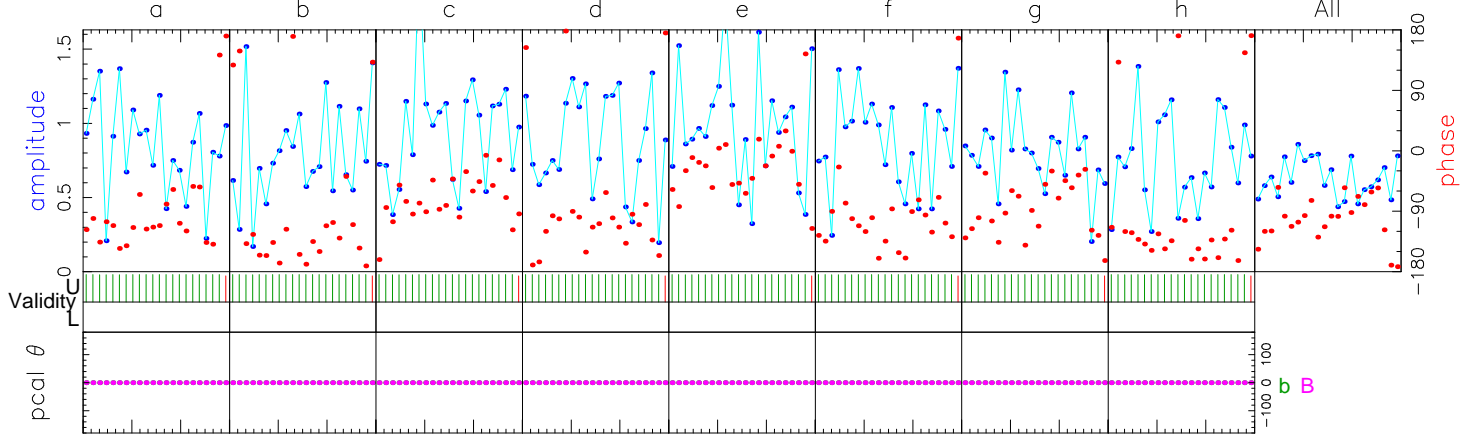


SNR 19.9  
 Int time 179.483  
 Amp 0.543  
 Phase -101.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001004  
 MBD -0.007174  
 Fringe rate (Hz)  
 0.027120  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124450  
 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
	-114.0	-148.9	-69.3	-123.3	-24.6	-109.3	-81.0	-146.8	Phase	-101.7
	0.7	0.6	0.8	0.7	0.8	0.7	0.6	0.7	Ampl.	0.7
	256.0	256.5	256.9	256.1	256.0	256.0	256.0	255.4	Sbd box	256.7
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	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:B	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:B	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	
B	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

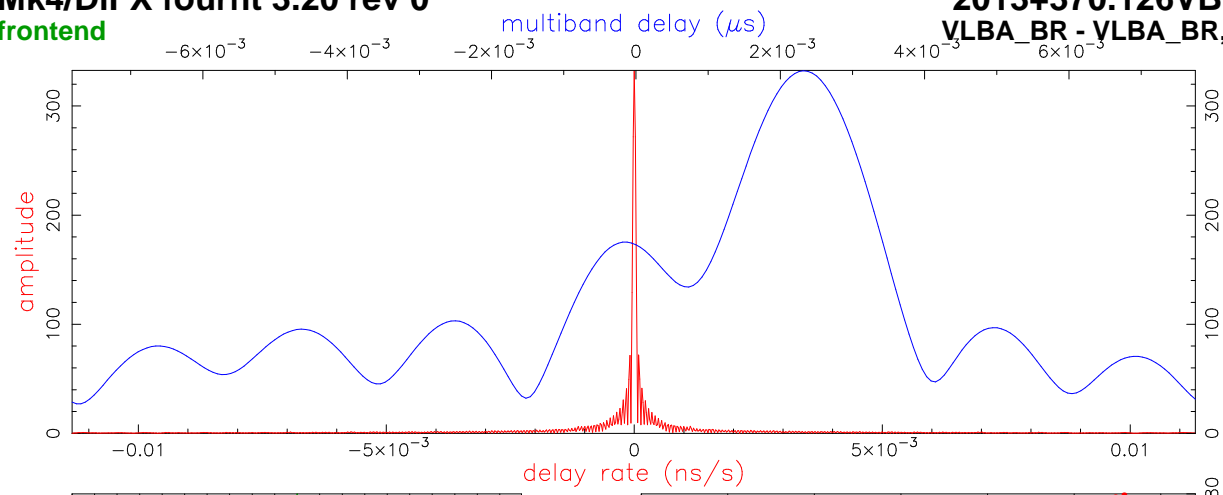
Group delay (usec)(sbd) -1.17405987904E+04 Apriori delay (usec) -1.17405916165E+04 Resid mbdelay (usec) -7.17390E-03 +/- 5.5E-05  
 Sband delay (usec) -1.17405926210E+04 Apriori clock (usec) -1.7421412E+01 Resid sbdelay (usec) -1.00450E-03 +/- 4.3E-04  
 Phase delay (usec) -1.17405916197E+04 Apriori clockrate (us/s) -4.2395080E-08 Resid phdelay (usec) -3.28022E-06 +/- 1.9E-07  
 Delay rate (us/s) 1.17782458682E+00 Apriori rate (us/s) 1.17782427198E+00 Resid rate (us/s) 3.14842E-07 +/- 1.8E-09  
 Total phase (deg) -44.7 Apriori accel (us/s/s) 6.04735831471E-05 Resid phase (deg) -101.7 +/- 5.8

RMS Theor. Amplitude 0.543 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 33.1 13.5 Search (1024X32) 0.528 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 28.4 23.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 45.4 8.1 Inc. seg. avg. 0.615 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 29.7 14.2 Inc. frq. avg. 0.685 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

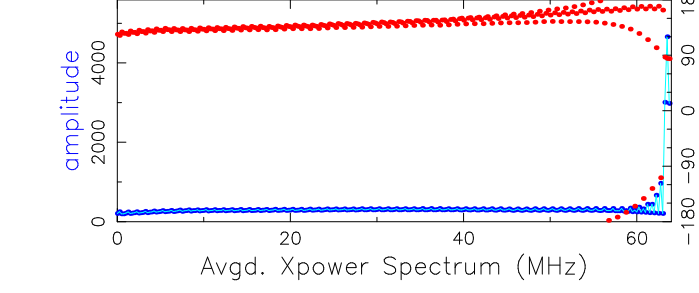
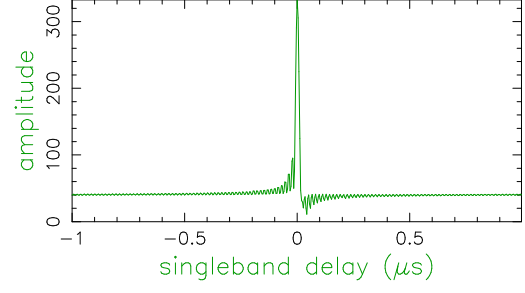
b: az 57.4 el 21.3 pa -45.0 B: az 245.8 el 66.6 pa 46.5 u,v (fr/asec) -8428.633 3469.155 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bB..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bB.W.3.126VBU

Mk4/DiFX fourfit 3.20 rev 0  
frontend

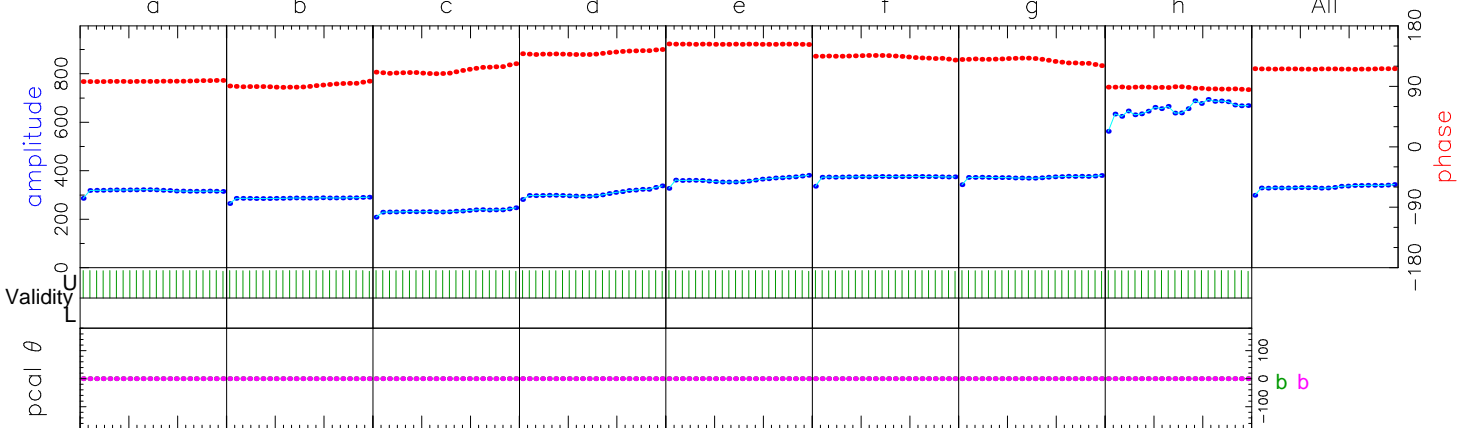
2013+370.126VBU, No0044, bb  
VLBA\_BR - VLBA\_BR, fgroup W, pol LR



Fringe quality 6  
SNR 12193.7  
Int time 179.691  
Amp 332.641  
Phase 115.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.000405  
MBD 0.002328  
Fringe rate (Hz)  
-0.000001  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124455  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"



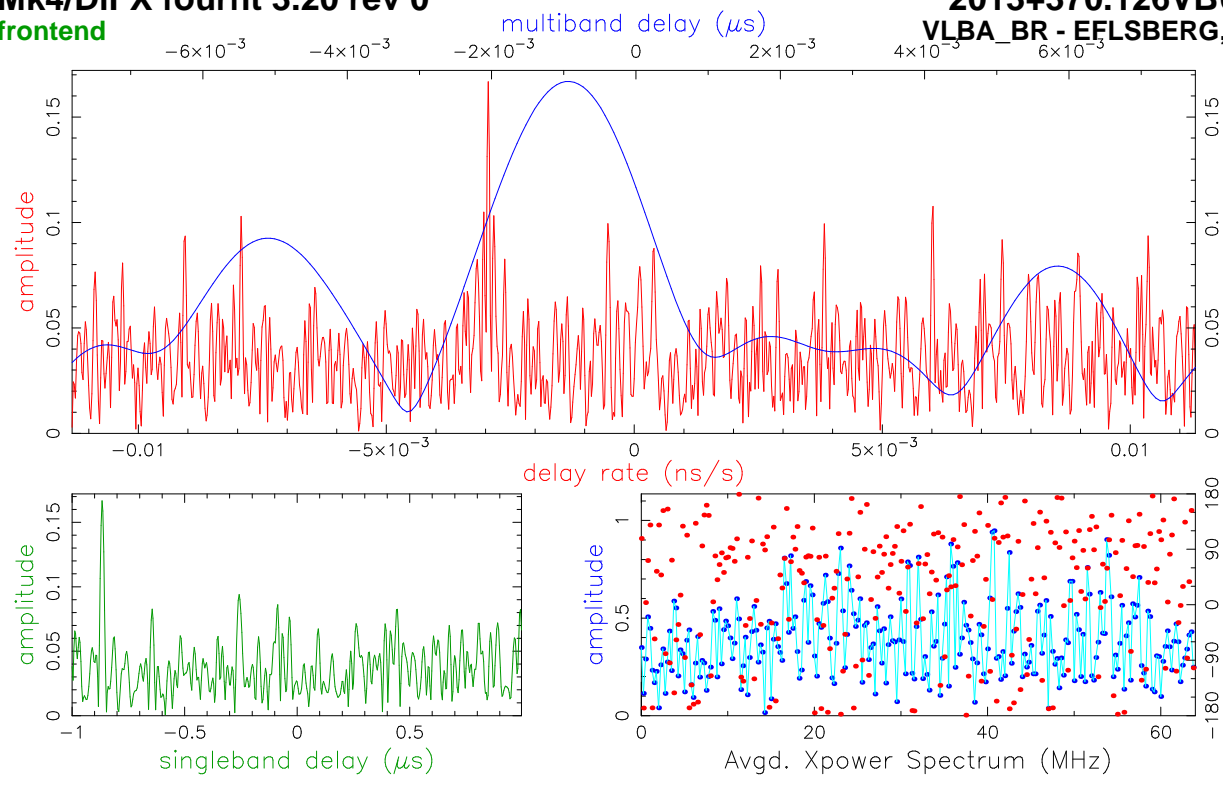
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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	APs used	
b:b	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
b:b	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	2.32781250000E-03		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		2.32781E-03	+/- 8.9E-08
Sband delay (usec)	4.05000000000E-04		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		4.05000E-04	+/- 7.1E-07
Phase delay (usec)	3.73427839885E-06		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		3.73428E-06	+/- 3.0E-10
Delay rate (us/s)	-7.08557619584E-12		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		-7.08558E-12	+/- 2.9E-12
Total phase (deg)	115.8		Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		115.8	+/- 0.0

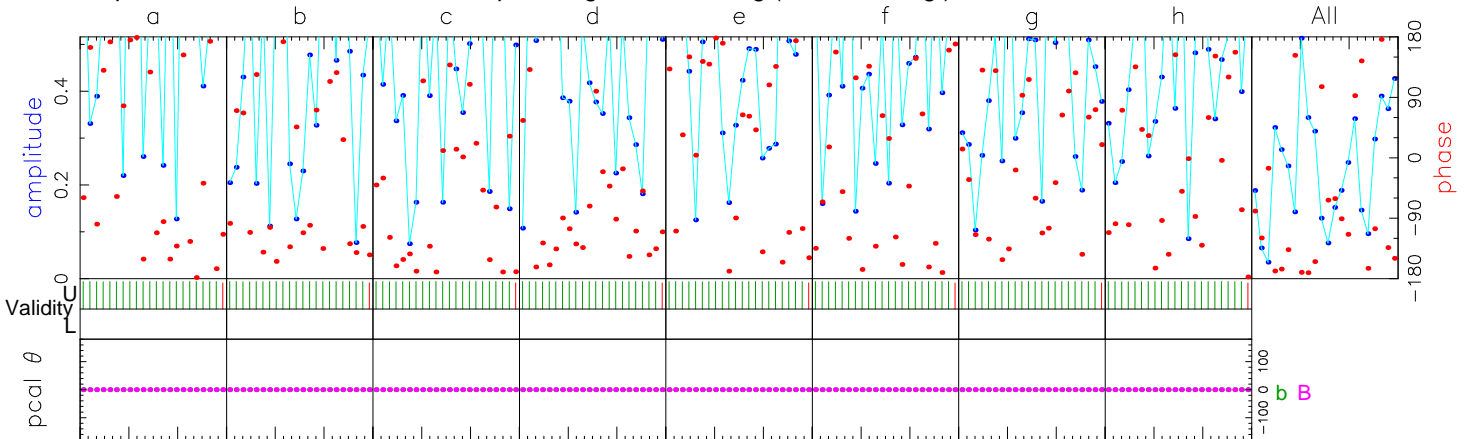
ph/seg (deg) 0.3 0.0      Search (1024X32) 330.228      Pcal mode: MANUAL, MANUAL      PC period (AP's) 5, 5  
amp/seg (%) 2.7 0.0      Interp. 0.000      Pcal rate: 0.000E+00, 0.000E+00 (us/s)      sb window (us) -1.000 1.000  
ph/frq (deg) 26.3 0.0      Inc. seg. avg. 332.267      Bits/sample: 2x2      SampCntNorm: enabled      mb window (us) -0.008 0.008  
amp/frq (%) 37.0 0.0      Inc. frq. avg. 362.985      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 57.4 el 21.3 pa -45.0      b: az 57.4 el 21.3 pa -45.0      u,v (fr/asec) 0.000 0.000      ion window (TEC) 0.00 0.00      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bb..126VBU      Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bb.W.44.126VBU



Fringe quality 0  
 SNR 6.1  
 Int time 179.483  
 Amp 0.172  
 Phase -154.5  
 PFD 1.1e-01  
 Delays (us)  
 SBD -0.866374  
 MBD -0.000886  
 Fringe rate (Hz)  
 -0.254799  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124456  
 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

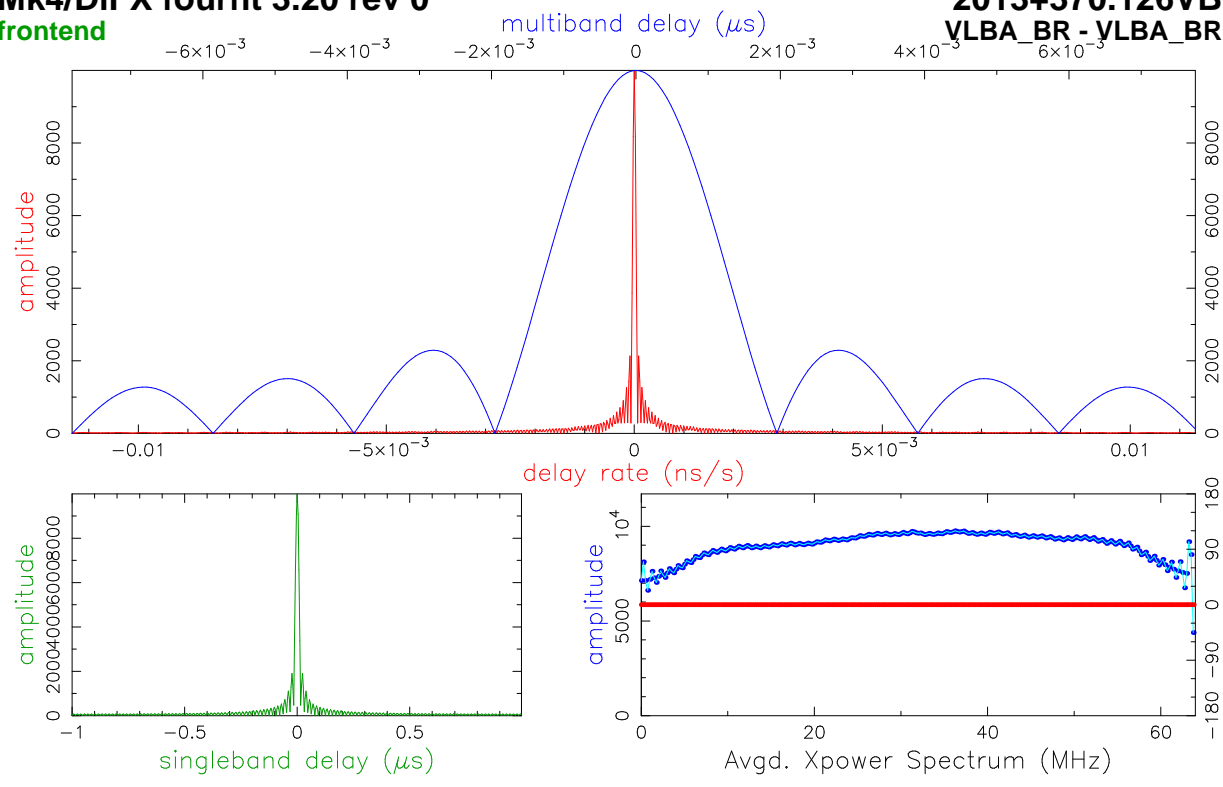


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-158.0	-159.3	-129.5	-124.9	176.6	-163.2	85.2	-147.4	Phase	-154.5
	0.4	0.2	0.1	0.3	0.2	0.2	0.0	0.1	Ampl.	0.2
	34.6	444.2	249.2	35.3	495.6	91.7	141.4	441.2	Sbd box	35.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:B	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:B	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	
B	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.17414518773E+04		Apriori delay (usec)		-1.17405916165E+04		Resid mbdelay (usec)		-8.85809E-04	+/- 1.8E-04
Sband delay (usec)	-1.17414579907E+04		Apriori clock (usec)		-1.7421412E+01		Resid sbdelay (usec)		-8.66374E-01	+/- 1.4E-03
Phase delay (usec)	-1.17405916214E+04		Apriori clockrate (us/s)		-4.2395080E-08		Resid phdelay (usec)		-4.98101E-06	+/- 6.0E-07
Delay rate (us/s)	1.17782131402E+00		Apriori rate (us/s)		1.17782427198E+00		Resid rate (us/s)		-2.95796E-06	+/- 5.8E-09
Total phase (deg)			Apriori accel (us/s/s)		6.04735831471E-05		Resid phase (deg)		-154.5	+/- 18.7

ph/seg (deg) 61.6 43.8 Search (1024X32) 0.157 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 86.9 76.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 53.2 26.4 Inc. seg. avg. 0.191 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 62.6 46.1 Inc. frq. avg. 0.169 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 B: az 245.8 el 66.6 pa 46.5 u,v (fr/asec) -8428.633 3469.155 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bB..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bB.W.51.126VBU

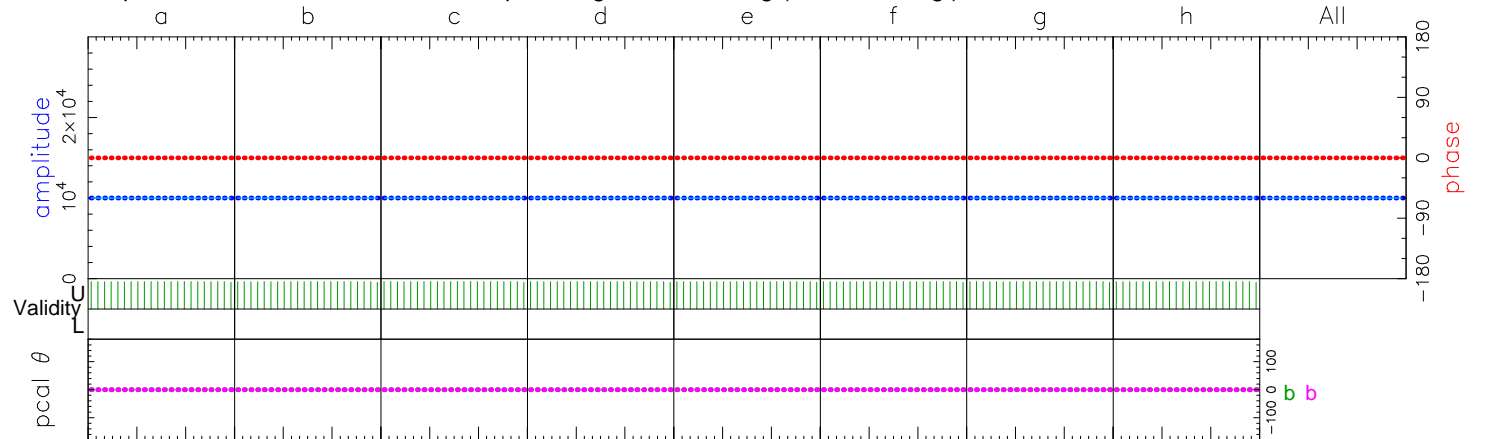
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126VBU, No0044, bb  
VLBA\_BR - VLBA\_BR, fgroup W, pol LL



Fringe quality 9  
SNR 366573.2  
Int time 179.691  
Amp 9999.996  
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 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124451  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

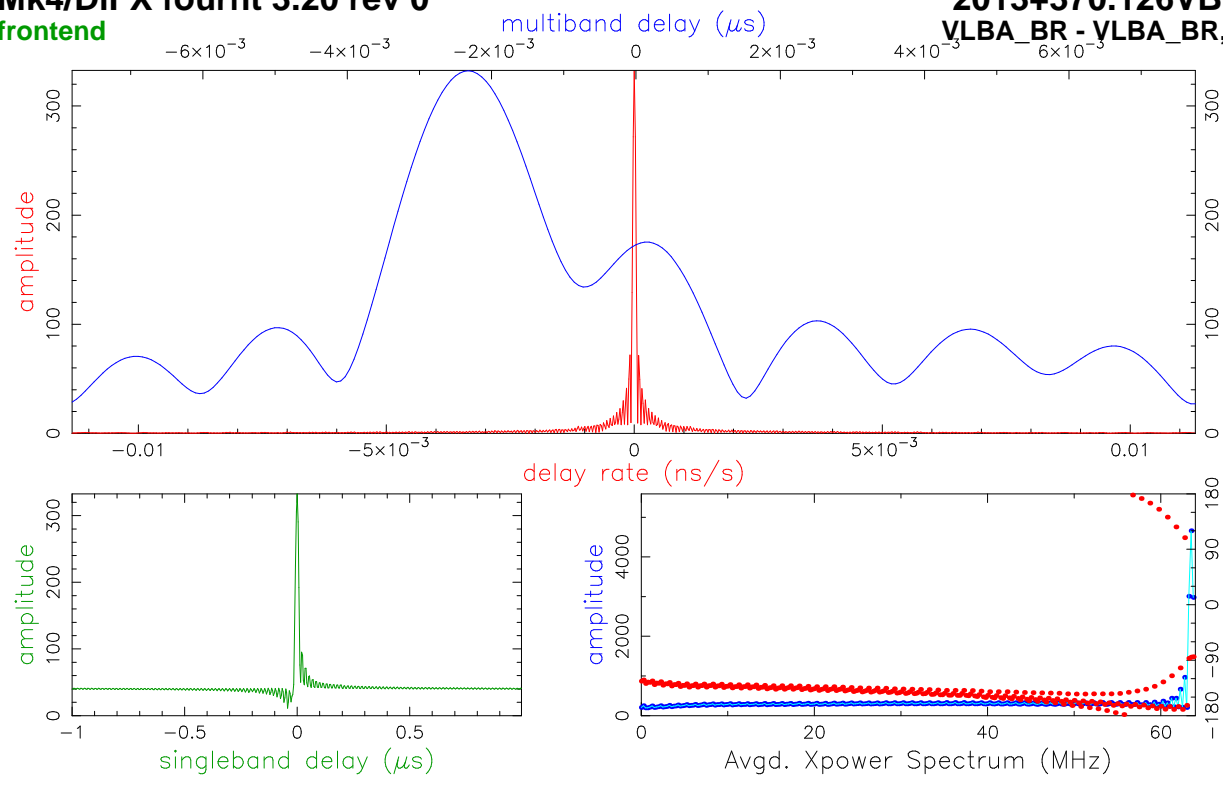
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
b:b	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:b	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		
b	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Sband delay (usec)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Phase delay (usec)	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20	-7.23121264578E-20		
Delay rate (us/s)	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00	0.0000000000E+00		
Total phase (deg)			-0.0							
RMS										
Theor.										
Amplitude										
Search (1024X32)										
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										
Chan ids										
Tracks										
Chan ids										
Tracks										
ph/seg (deg)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
amp/seg (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
ph/frq (deg)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
amp/frq (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
b: az 57.4 el 21.3 pa -45.0										
b: az 57.4 el 21.3 pa -45.0										
u,v (fr/asec)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Control file: cf_1234_gmva										
Input file: /Exps/c192c/v1_CygA2/1234/No0044/bb..126VBU										
Output file: /Exps/c192c/v1_CygA2/1234/No0044/bb.W.5.126VBU										

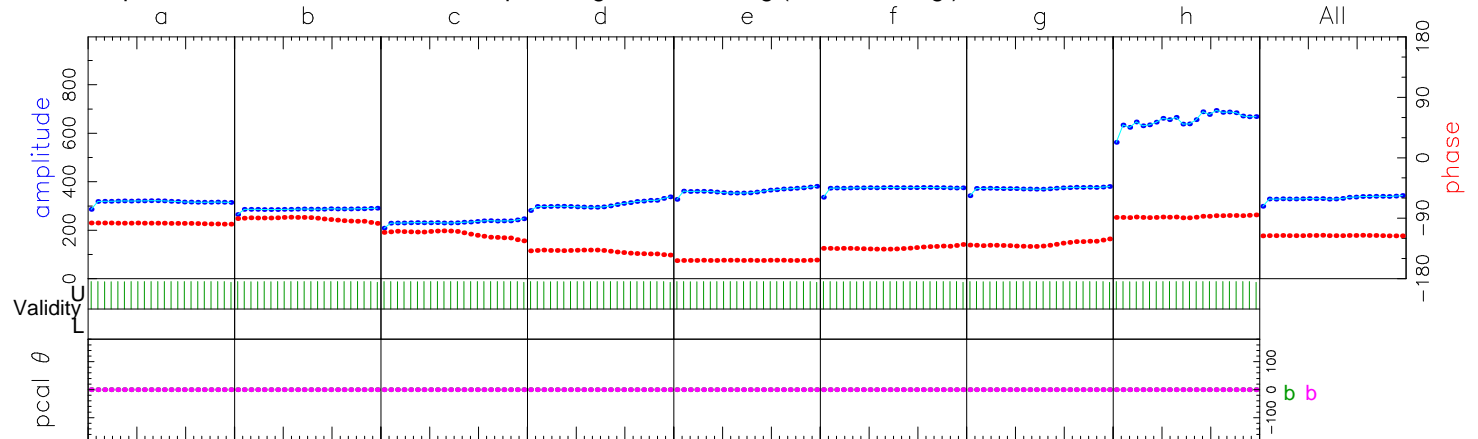
simultaneous interpolator





Fringe quality 6  
 SNR 12193.7  
 Int time 179.691  
 Amp 332.641  
 Phase -115.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.000405  
 MBD -0.002328  
 Fringe rate (Hz) 0.000001  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124457  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-97.6	-91.2	-113.5	-139.9	-152.6	-133.8	-128.3	-87.6	Phase	-115.8
	317.1	286.1	232.5	305.9	361.8	373.2	371.6	655.5	Ampl.	363.0
	256.6	256.4	255.9	256.1	256.5	256.6	256.5	257.5	Sbd box	256.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:b	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:b	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	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-2.32781250000E-03		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		-2.32781E-03	+/- 8.9E-08
Sband delay (usec)	-4.05000000000E-04		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		-4.05000E-04	+/- 7.1E-07
Phase delay (usec)	-3.73427839917E-06		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-3.73428E-06	+/- 3.0E-10
Delay rate (us/s)	7.08557619584E-12		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		7.08558E-12	+/- 2.9E-12
Total phase (deg)			Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		-115.8	+/- 0.0

ph/seg (deg) 0.3 0.0 Theor. Amplitude 332.641 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 2.7 0.0 Search (1024X32) 330.228 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 26.3 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 37.0 0.0 Inc. seg. avg. 332.267 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 b: az 57.4 el 21.3 pa -45.0 u,v (fr/asec) 0.000 0.000 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bb..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bb.W.61.126VBU simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0

frontend

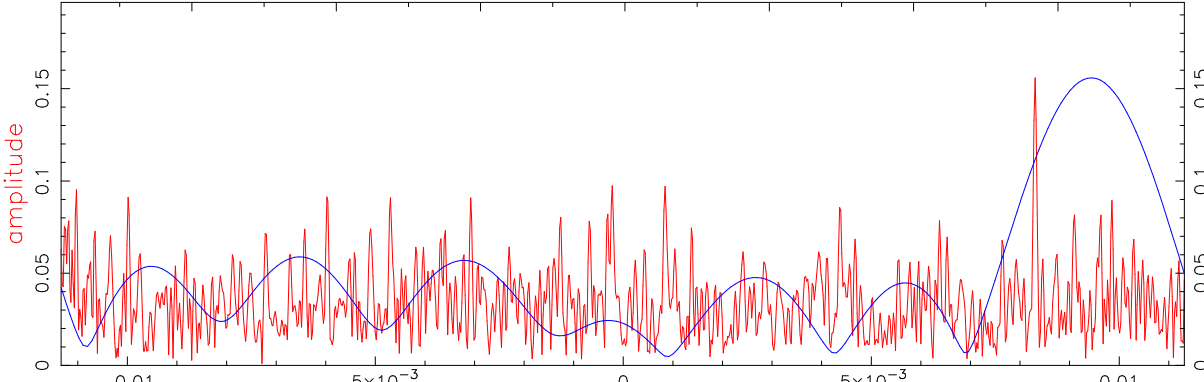
2013+370.126VBU, No0044, bB

VLBA\_BR - EFLSBERG, fgroup W, pol RL

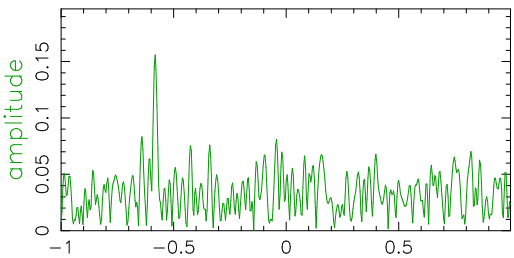
multiband delay ( $\mu$ s)

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

Fringe quality 0

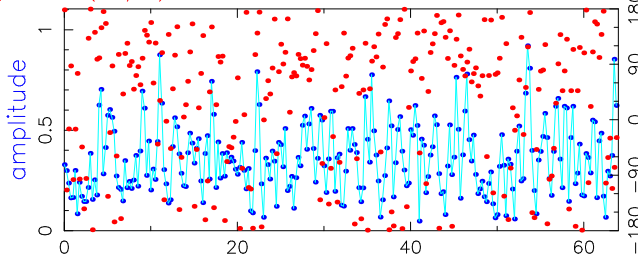


SNR 5.7  
Int time 179.483  
Amp 0.197  
Phase 174.7  
PFD 7.4e-01  
Delays (us)  
SBD -0.582310  
MBD 0.006452  
Fringe rate (Hz) 0.717104  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512



singleband delay ( $\mu$ s)

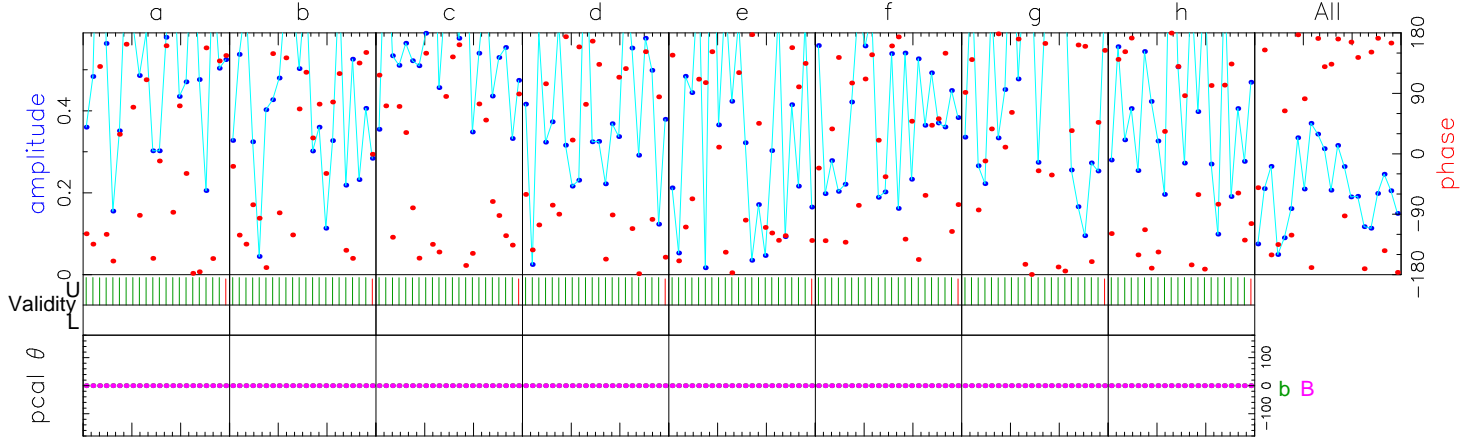
delay rate (ns/s)



Avgd. Xpower Spectrum (MHz)

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124459  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

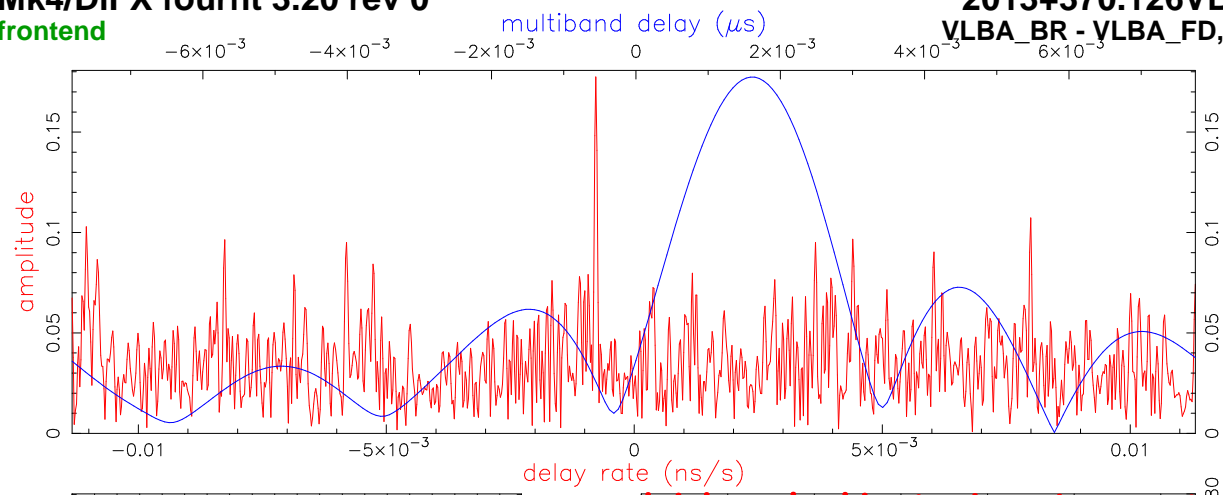
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



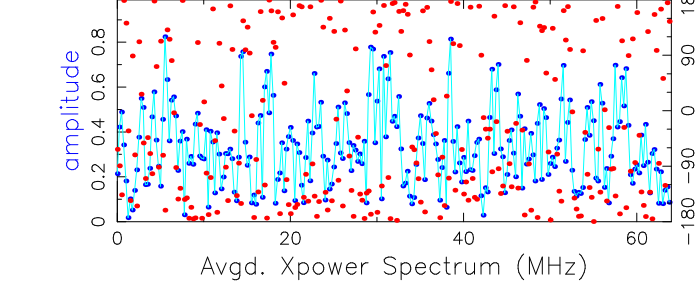
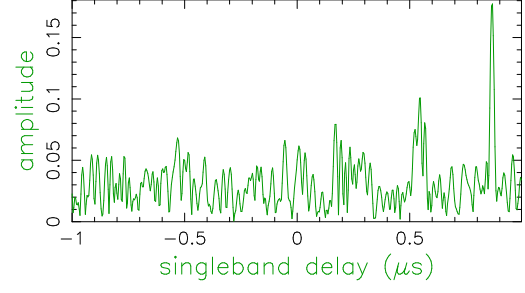
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
B	1000	1000	1000	1000	1000	1000	1000	1000		
b:B	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:B	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
B	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-1.17411789140E+04									
Sband delay (usec)	-1.17411739270E+04									
Phase delay (usec)	-1.17405916108E+04									
Delay rate (us/s)	1.17783259684E+00									
Total phase (deg)			-128.3							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal $\theta$										
RMS	53.9	47.0								
Theor.										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
ph/seg (deg)	14.9	28.4								
amp/seg (%)	66.1	82.1								
ph/frq (deg)	36.0	49.5								
amp/frq (%)										
b: az 57.4 el 21.3 pa -45.0										
B: az 245.8 el 66.6 pa 46.5										
u,v (fr/asec)										
simultaneous interpolator										

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bB..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bB.W.73.126VBU

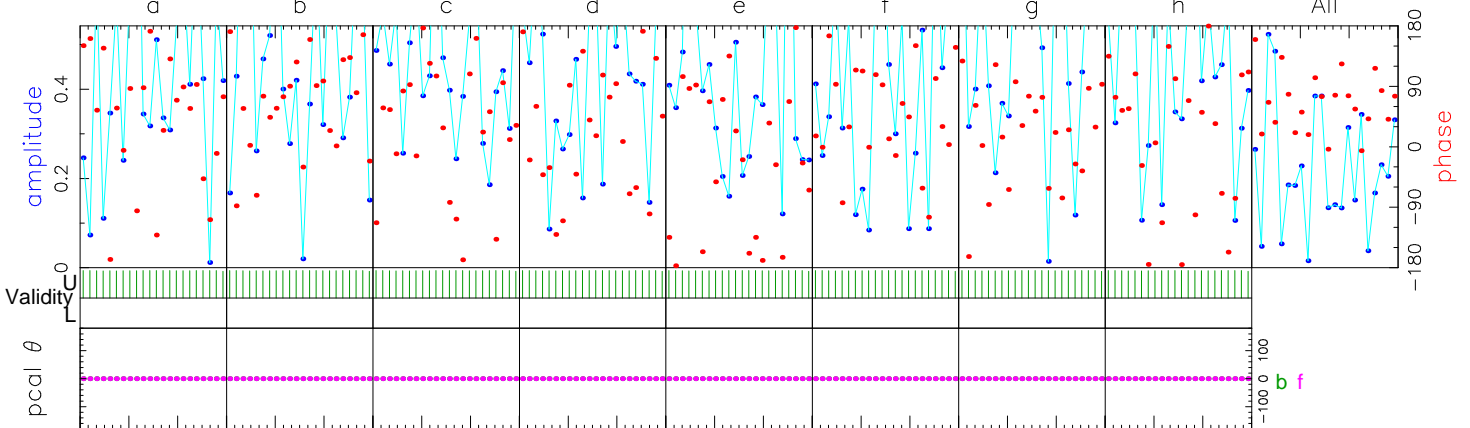




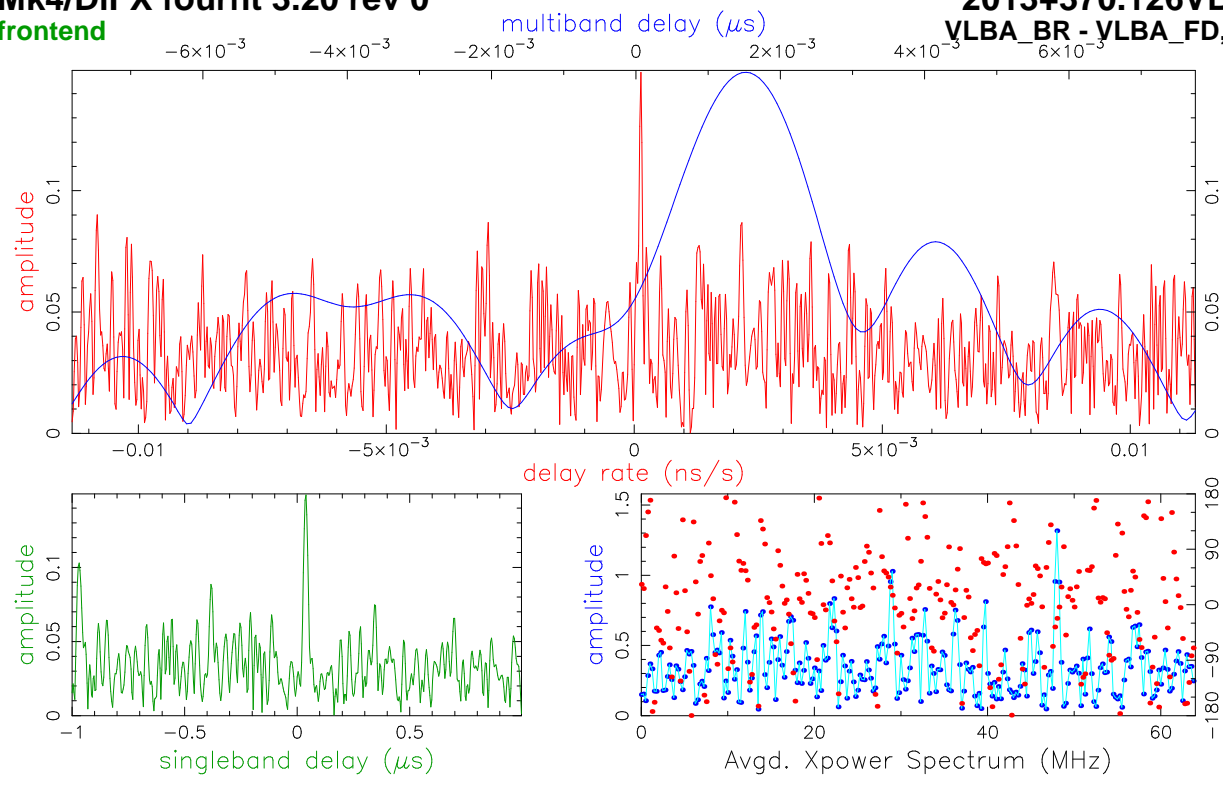
Fringe quality 0  
SNR 6.6  
Int time 178.940  
Amp 0.181  
Phase 66.6  
PFD 5.9e-03  
Delays (us)  
SBD 0.865457  
MBD 0.001607  
Fringe rate (Hz)  
-0.066587  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124453  
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

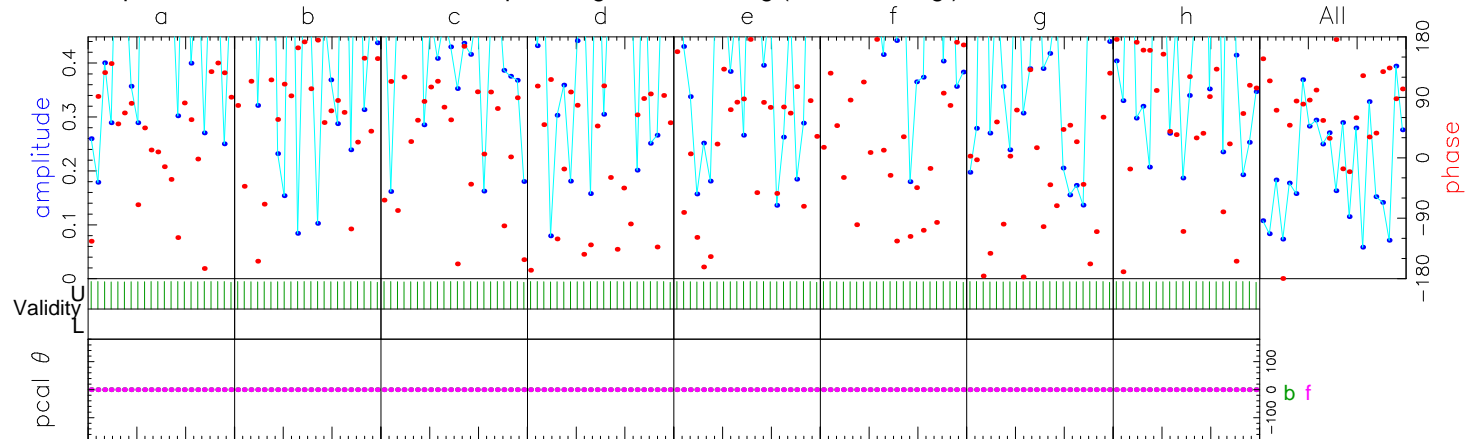


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
f	1000	1000	1000	1000	1000	1000	1000	1000		
b:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
f	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-4.57865771580E+02				-4.58726753811E+02				1.60723E-03	+/- 1.6E-04
Sband delay (usec)	-4.57861296811E+02				-1.0938110E+00				8.65457E-01	+/- 1.3E-03
Phase delay (usec)	-4.58726751665E+02				-1.5144557E-07				2.14698E-06	+/- 5.6E-07
Delay rate (us/s)	-2.41377170488E-01				-2.41376397484E-01				-7.73004E-07	+/- 5.4E-09
Total phase (deg)			-139.8		1.84821196192E-05				66.6	+/- 17.4
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
RMS	42.8	40.7			0.173					
Theor.	42.8	40.7			0.173					
Amplitude					0.181 +/- 0.027					
Search (1024X32)					0.173					
Interp.					0.000					
Inc. seg. avg.					0.180					
Inc. frq. avg.					0.170					
PCal mode:					MANUAL, MANUAL					
PCal rate:					0.000E+00, 0.000E+00 (us/s)					
Bits/sample:					2x2					
Sample rate(MISamp/s):					128					
Data rate(Mb/s):					2048					
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00
PC period (AP's)					5, 5					
SampCntNorm:					enabled					
t_cohere					infinite					
nlags:					256					



Fringe quality 0  
 SNR 5.5  
 Int time 178.940  
 Amp 0.150  
 Phase 72.9  
 PFD 9.9e-01  
 Delays (us)  
 SBD 0.037921  
 MBD 0.001515  
 Fringe rate (Hz) 0.011829  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124456  
 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		
f	1000	1000	1000	1000	1000	1000	1000	1000		
b:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:f	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		
f	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-4.58693988607E+02		Apriori delay (usec)		-4.58726753811E+02		Resid mbdelay (usec)		1.51520E-03	+/- 2.0E-04
Sband delay (usec)	-4.58688832561E+02		Apriori clock (usec)		-1.0938110E+00		Resid sbdelay (usec)		3.79212E-02	+/- 1.6E-03
Phase delay (usec)	-4.58726751460E+02		Apriori clockrate (us/s)		-1.5144557E-07		Resid phdelay (usec)		2.35125E-06	+/- 6.8E-07
Delay rate (us/s)	-2.41376260165E-01		Apriori rate (us/s)		-2.41376397484E-01		Resid rate (us/s)		1.37320E-07	+/- 6.5E-09
Total phase (deg)			Apriori accel (us/s/s)		1.84821196192E-05		Resid phase (deg)		72.9	+/- 20.9

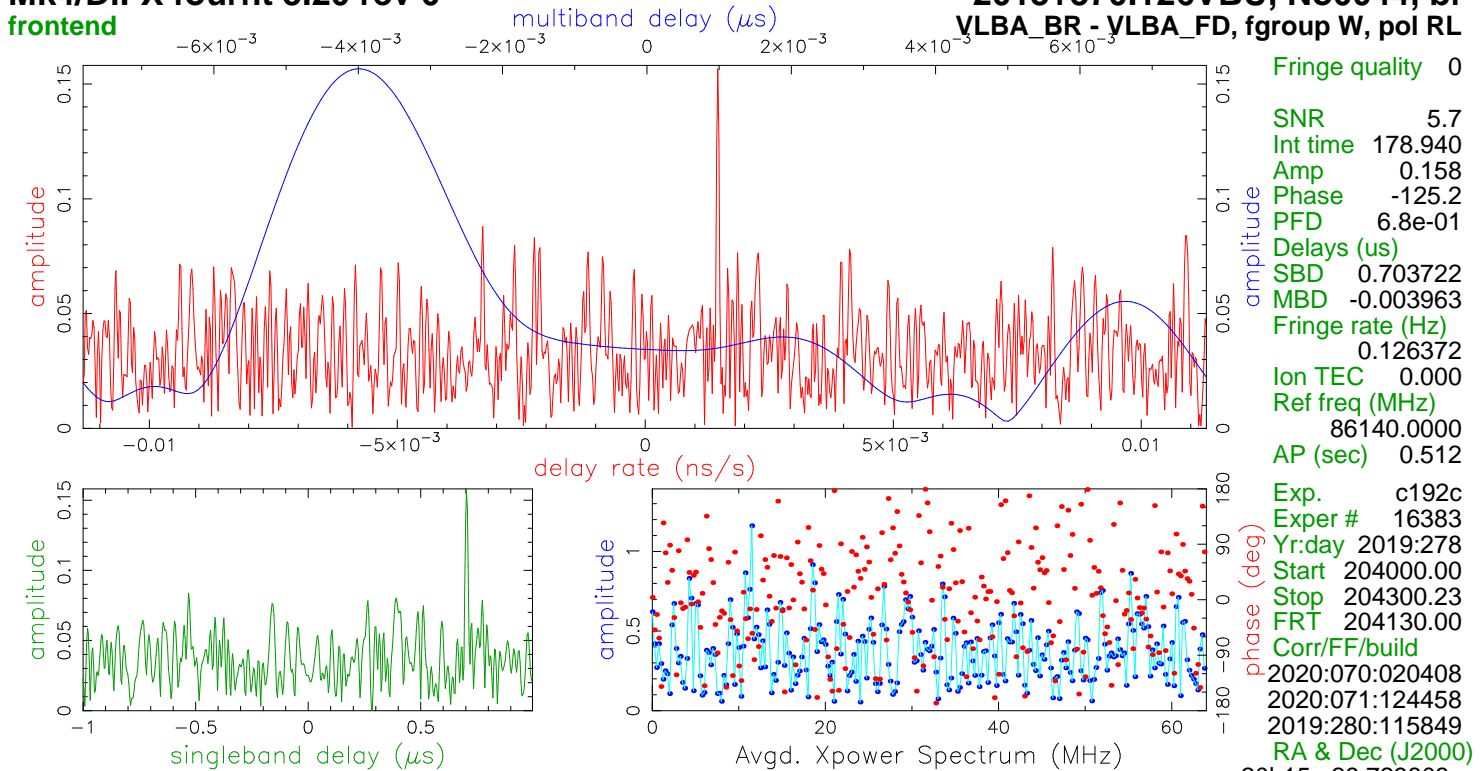
ph/seg (deg) 53.8 49.1 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 76.2 85.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 32.1 29.6 Inc. seg. avg. 0.150 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 55.1 51.7 Inc. frq. avg. 0.141 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 f: az 58.9 el 22.5 pa -67.8 u,v (fr/asec) 1753.821 2751.119 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bf..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bf.W.50.126VBU

Mk4/DiFX fourfit 3.20 rev 0

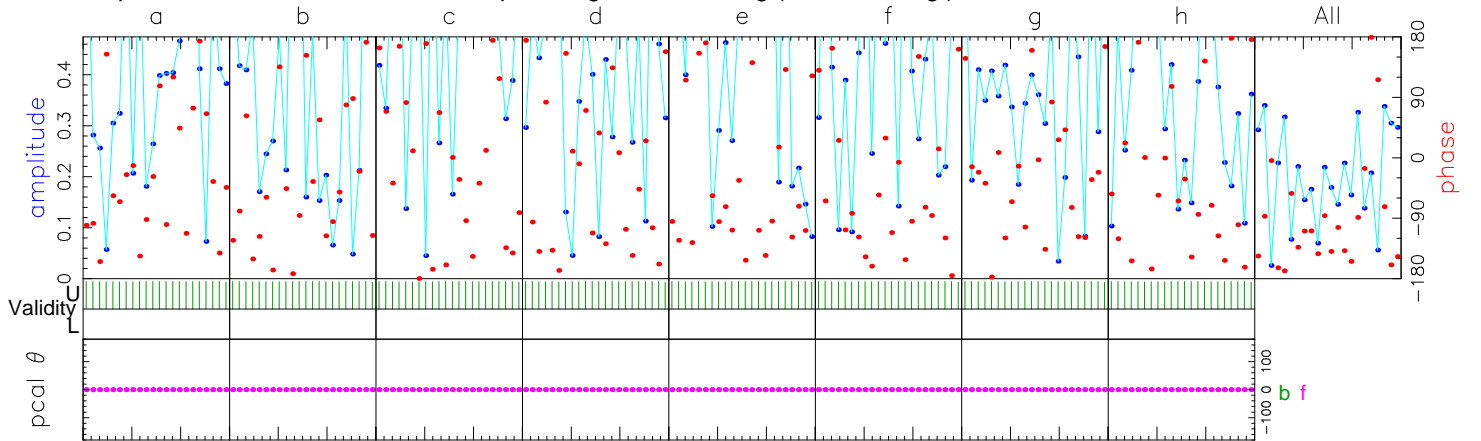
frontend

2013+370.126VBU, No0044, bf

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



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



86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
-77.9	-128.6	-143.5	-129.3	-141.6	-119.1	-75.9	-129.7	Phase	-125.2
0.1	0.2	0.1	0.1	0.3	0.2	0.1	0.1	Ampl.	0.2
166.8	290.8	110.6	511.1	437.4	479.4	47.2	289.3	Sbd box	437.2
U/L 352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:f 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:f 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	
f 1000	1000	1000	1000	1000	1000	1000	1000		
b W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
f W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
								Chan ids	
								Tracks	
Group delay (usec)(sbd)	-4.58027591753E+02		Apriori delay (usec)	-4.58726753811E+02		Resid mbdelay (usec)	-3.96294E-03	+/-	1.9E-04
Sband delay (usec)	-4.58023032311E+02		Apriori clock (usec)	-1.0938110E+00		Resid sbdelay (usec)	7.03722E-01	+/-	1.5E-03
Phase delay (usec)	-4.58726757849E+02		Apriori clockrate (us/s)	-1.5144557E-07		Resid phdelay (usec)	-4.03792E-06	+/-	6.4E-07
Delay rate (us/s)	-2.41374930426E-01		Apriori rate (us/s)	-2.41376397484E-01		Resid rate (us/s)	1.46706E-06	+/-	6.2E-09
Total phase (deg)		-331.6	Apriori accel (us/s/s)	1.84821196192E-05		Resid phase (deg)	-125.2	+/-	19.9

ph/seg (deg) 53.9 46.8 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 66.9 81.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 29.9 28.2 Inc. seg. avg. 0.155 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 46.5 49.2 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

b: az 57.4 el 21.3 pa -45.0 f: az 58.9 el 22.5 pa -67.8 u,v (fr/asec) 1753.821 2751.119 simultaneous interpolator

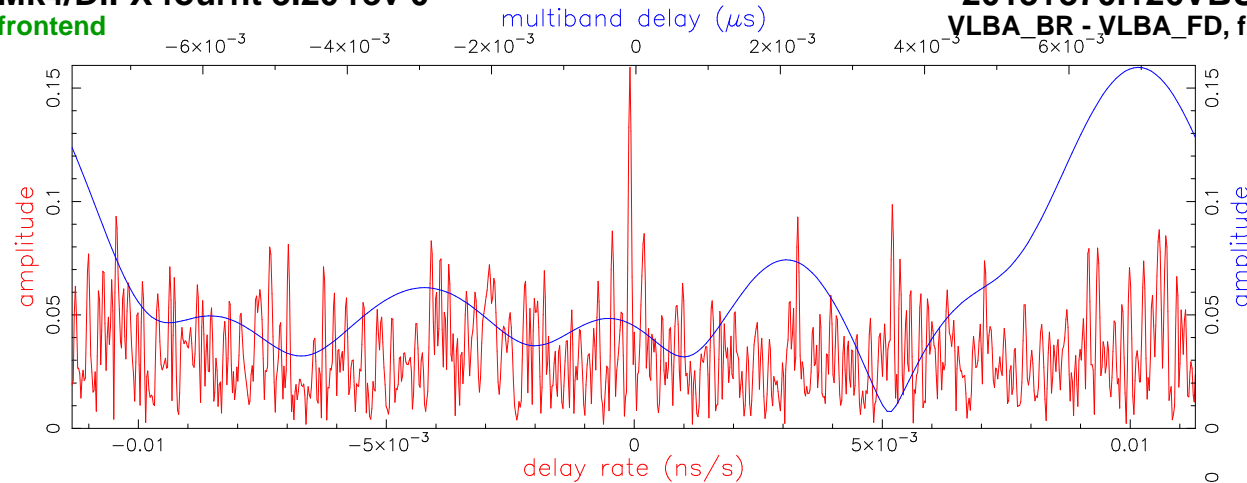
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bf..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bf.W.69.126VBU

Mk4/DiFX fourfit 3.20 rev 0

frontend

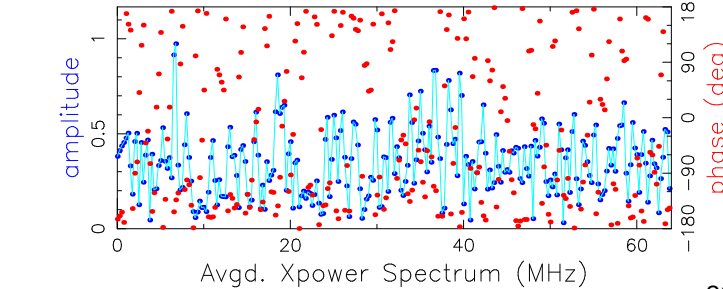
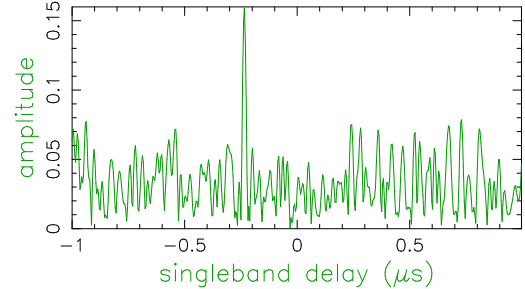
2013+370.126VBU, No0044, bf

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



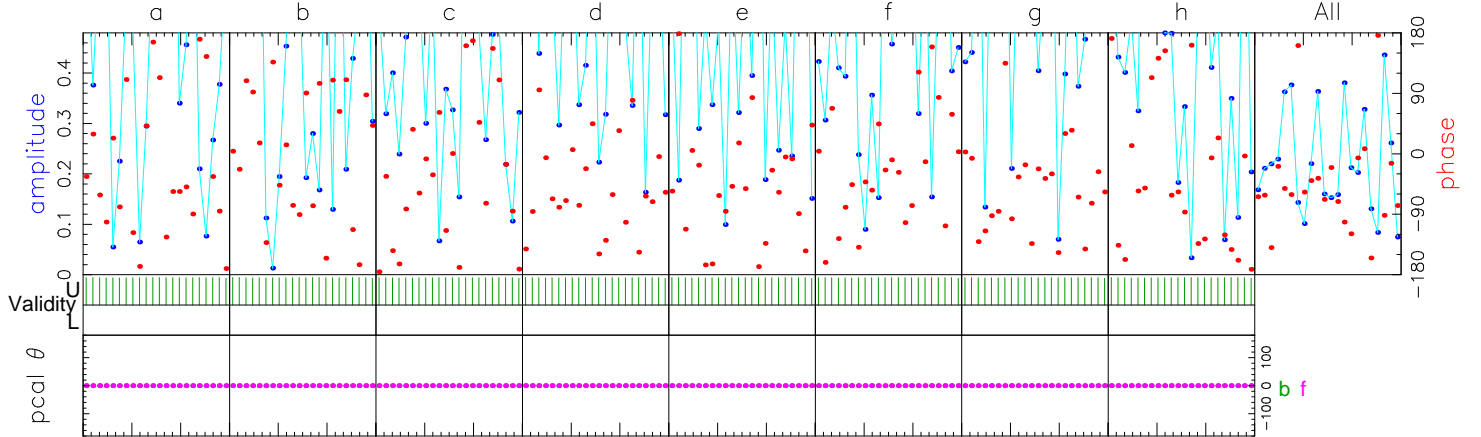
Fringe quality 0

SNR 5.9  
 Int time 178.940  
 Amp 0.160  
 Phase -61.4  
 PFD 4.6e-01  
 Delays (us)  
 SBD -0.235249  
 MBD 0.006947  
 Fringe rate (Hz)  
 -0.007128  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124451  
 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

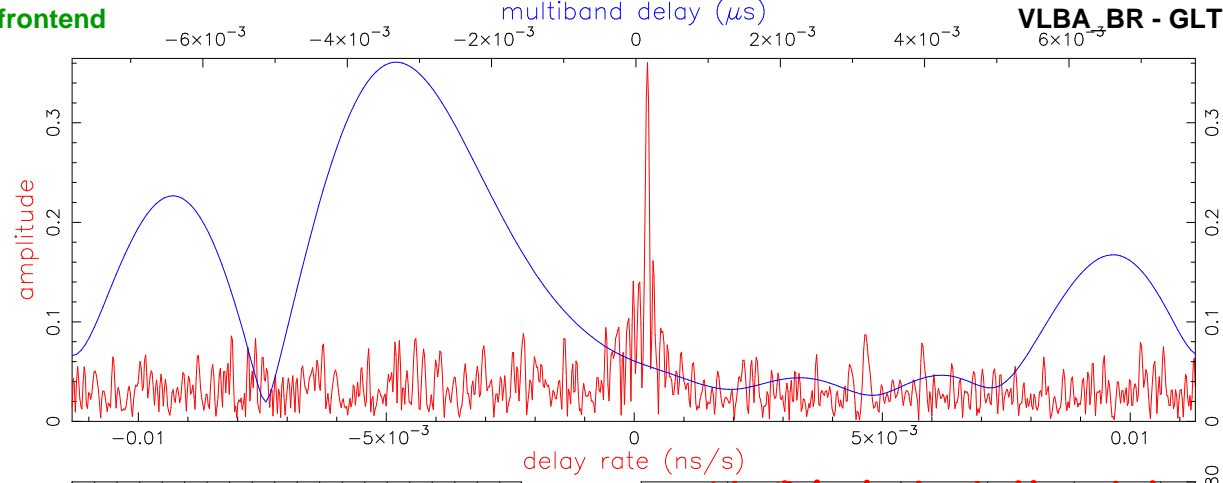


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-86.1	29.2	-133.2	-51.7	-76.0	-42.4	-53.5	-106.9	Phase	-61.4
	0.2	0.1	0.0	0.3	0.2	0.3	0.2	0.1	Ampl.	0.2
	64.8	116.0	118.1	198.2	327.1	244.3	196.2	404.6	Sbd box	196.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:f	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	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.58969806760E+02		Apriori delay (usec)		-4.58726753811E+02		Resid mbdelay (usec)		6.94705E-03	+/- 1.9E-04
Sband delay (usec)	-4.58962002561E+02		Apriori clock (usec)		-1.0938110E+00		Resid sbdelay (usec)		-2.35249E-01	+/- 1.5E-03
Phase delay (usec)	-4.58726755791E+02		Apriori clockrate (us/s)		-1.5144557E-07		Resid phdelay (usec)		-1.97971E-06	+/- 6.3E-07
Delay rate (us/s)	-2.41376480235E-01		Apriori rate (us/s)		-2.41376397484E-01		Resid rate (us/s)		-8.27510E-08	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		1.84821196192E-05		Resid phase (deg)		-61.4	+/- 19.6

	RMS	Theor.	Amplitude	0.160 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	56.4	45.9	Search (1024X32)	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	76.6	80.1	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	52.9	27.7	Inc. seg. avg.	0.171	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	57.4	48.3	Inc. frq. avg.	0.165	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

b: az 57.4 el 21.3 pa -45.0 f: az 58.9 el 22.5 pa -67.8 u,v (fr/asec) 1753.821 2751.119 simultaneous interpolator

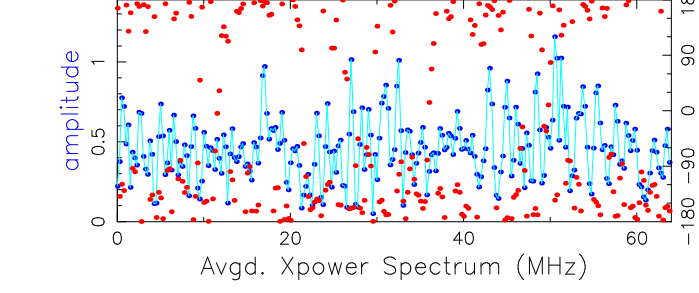
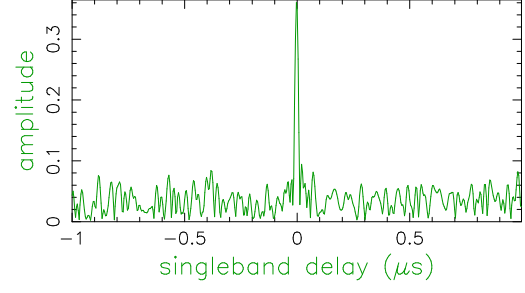
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bf..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bf.W.8.126VBU



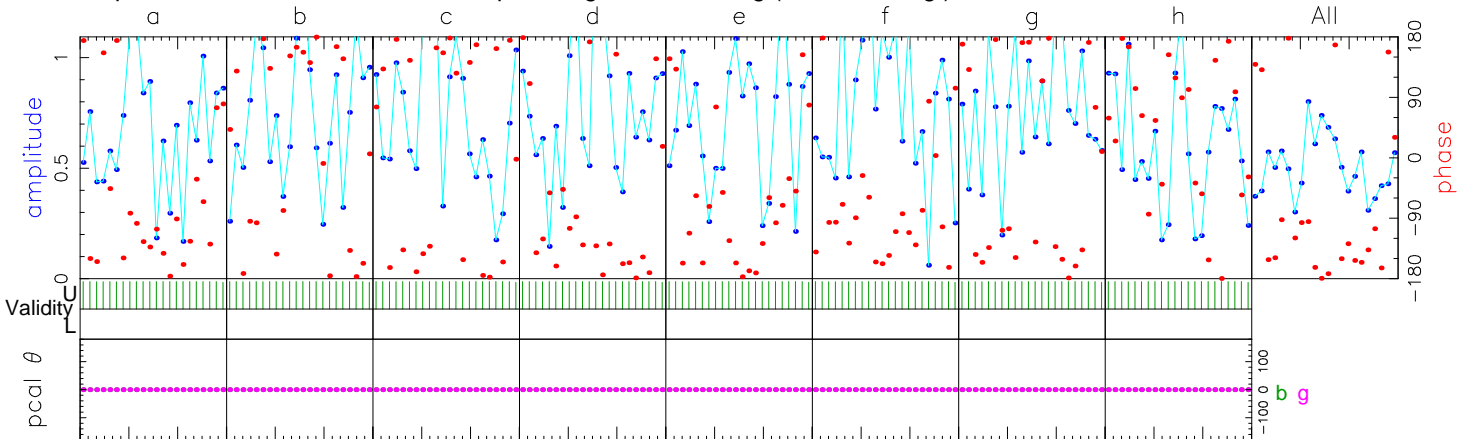
Fringe quality 9

SNR 13.4  
 Int time 179.641  
 Amp 0.365  
 Phase -154.4  
 PFD 2.7e-32  
 Delays (us)  
 SBD -0.002591  
 MBD -0.003254  
 Fringe rate (Hz) 0.023304  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build 2020:070:020408  
 2020:071:124450  
 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
	-122.2	-177.3	177.4	-149.7	-135.6	-103.5	-163.0	112.4	Phase	-154.4
	0.4	0.5	0.5	0.5	0.3	0.6	0.6	0.3	Ampl.	0.4
	254.2	255.7	257.1	256.5	257.1	256.0	255.5	253.6	Sbd box	256.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-7.37527325011E+03		Apriori delay (usec)		-7.37526999592E+03		Resid mbdelay (usec)		-3.25419E-03	+/- 8.1E-05
Sband delay (usec)	-7.37527258667E+03		Apriori clock (usec)		-1.9221020E+00		Resid sbdelay (usec)		-2.59075E-03	+/- 6.4E-04
Phase delay (usec)	-7.37527000090E+03		Apriori clockrate (us/s)		-3.1739506E-07		Resid phdelay (usec)		-4.97778E-06	+/- 2.8E-07
Delay rate (us/s)	6.00510242786E-01		Apriori rate (us/s)		6.00509972250E-01		Resid rate (us/s)		2.70536E-07	+/- 2.7E-09
Total phase (deg)			Apriori accel (us/s/s)		2.35954527228E-05		Resid phase (deg)		-154.4	+/- 8.6

ph/seg (deg) 52.7 20.1 Search (1024X32) 0.357 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 53.2 35.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 48.5 12.1 Inc. seg. avg. 0.478 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.9 21.2 Inc. frq. avg. 0.433 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 57.4 el 21.3 pa -45.0 g: az 122.0 el 45.4 pa -14.3 u,v (fr/asec) -4305.718 -177.780 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bg..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bg.W.2.126VBU

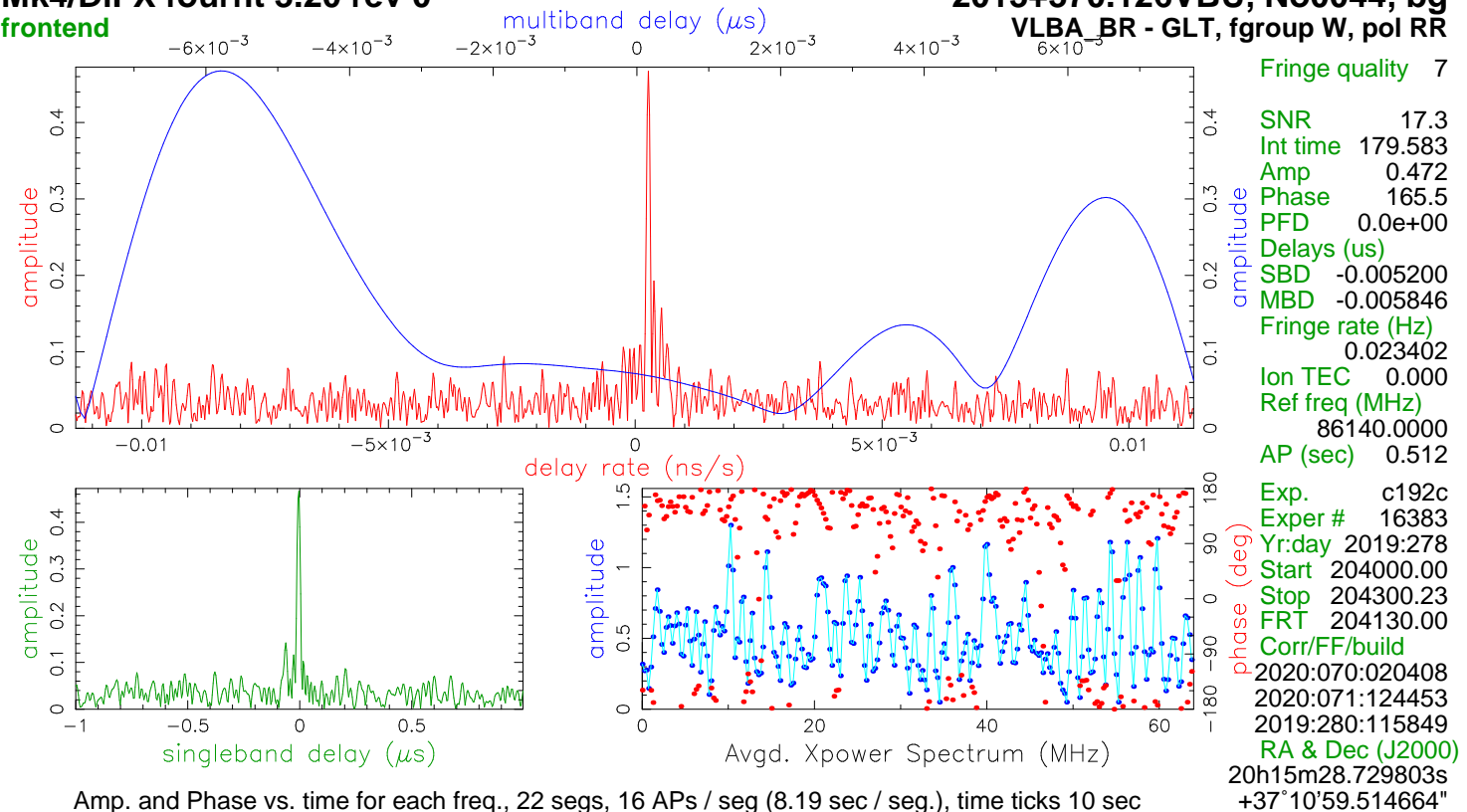


# Mk4/DiFX fourfit 3.20 rev 0

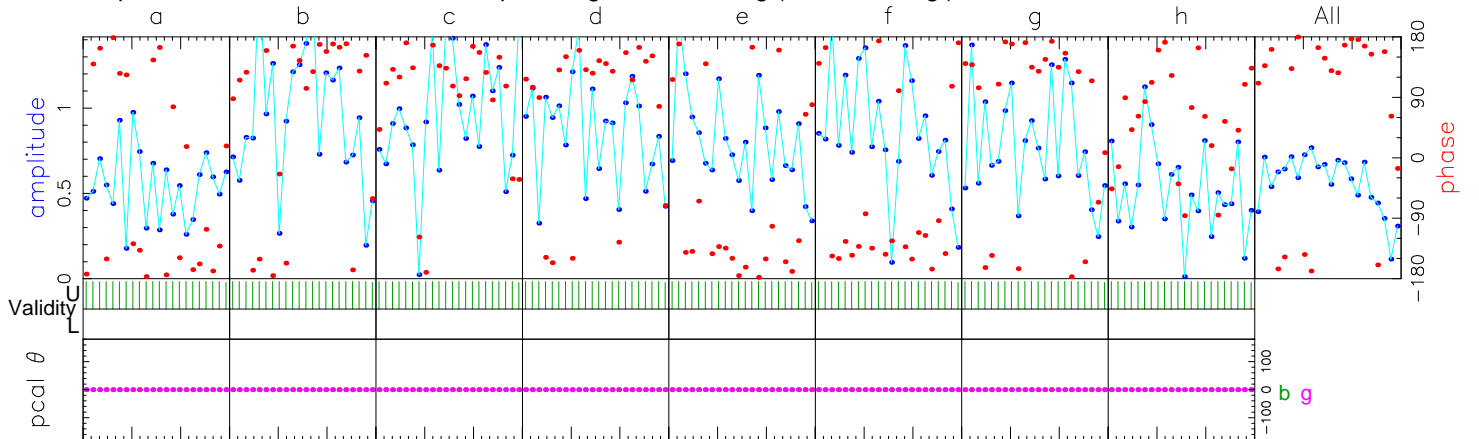
frontend

# 2013+370.126VBU, No0044, bg

VLBA\_BR - GLT, 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
	-172.9	159.5	128.7	147.9	-160.5	-144.1	158.2	70.4	Phase	165.5
	0.3	0.8	0.6	0.7	0.6	0.7	0.6	0.2	Ampl.	0.6
	253.9	255.9	255.8	255.6	256.0	255.4	255.2	252.9	Sbd box	255.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.37527584217E+03		Apriori delay (usec)		-7.37526999592E+03		Resid mbdelay (usec)		-5.84625E-03	+/- 6.3E-05
Sband delay (usec)	-7.37527519592E+03		Apriori clock (usec)		-1.9221020E+00		Resid sbdelay (usec)		-5.20000E-03	+/- 5.0E-04
Phase delay (usec)	-7.37526999058E+03		Apriori clockrate (us/s)		-3.1739506E-07		Resid phdelay (usec)		5.33723E-06	+/- 2.1E-07
Delay rate (us/s)	6.00510243921E-01		Apriori rate (us/s)		6.00509972250E-01		Resid rate (us/s)		2.71671E-07	+/- 2.1E-09
Total phase (deg)	4.0		Apriori accel (us/s/s)		2.35954527228E-05		Resid phase (deg)		165.5	+/- 6.6

ph/seg (deg) 51.3 15.5 Search (1024X32) 0.461 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 38.9 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) 49.9 9.4 Inc. seg. avg. 0.545 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 40.4 16.3 Inc. frq. avg. 0.559 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 57.4 el 21.3 pa -45.0 g: az 122.0 el 45.4 pa -14.3 u,v (fr/asec) -4305.718 -177.780 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bg..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bg.W.24.126VBU



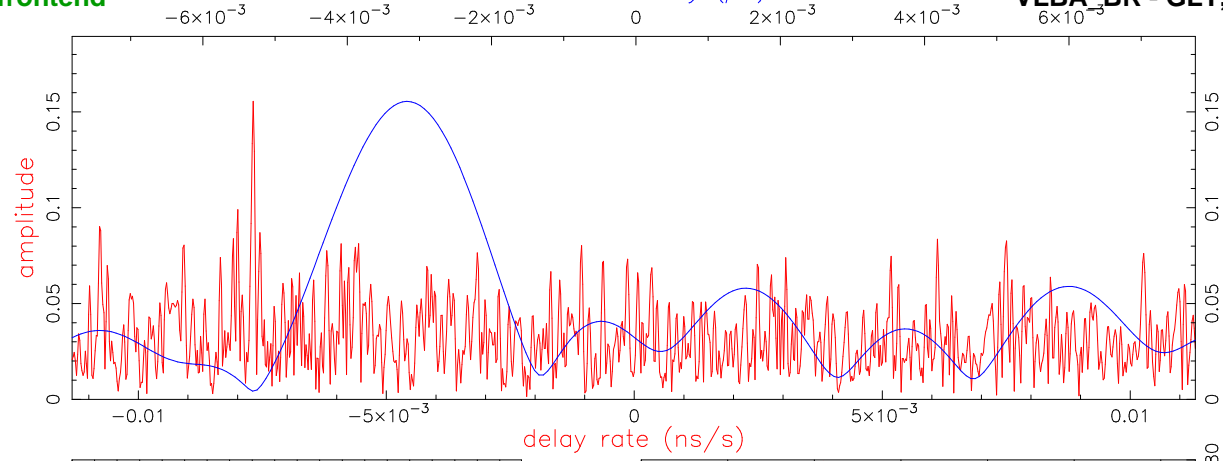
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bg

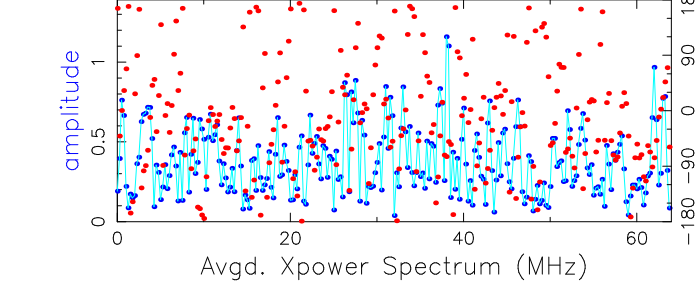
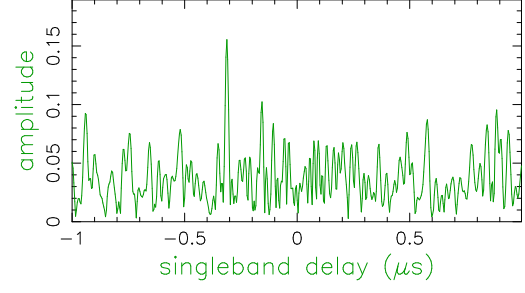
VLBA\_BR - GLT, fgroup W, pol LR

multiband delay ( $\mu$ s)



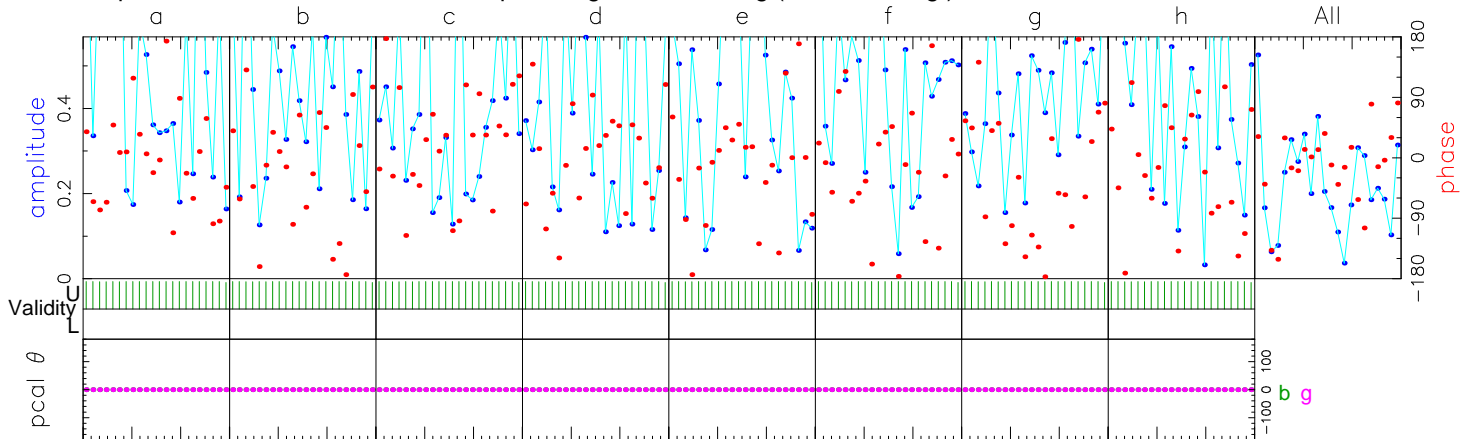
Fringe quality 0

SNR 5.7  
Int time 179.583  
Amp 0.189  
Phase 3.0  
PFD 7.7e-01  
Delays (us)  
SBD -0.312643  
MBD -0.003179  
Fringe rate (Hz)  
-0.662883  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124455  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
g	0	0	0	0	0	0	0	0		
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-7.37558567467E+03									
Sband delay (usec)	-7.37558263842E+03									
Phase delay (usec)	-7.37526999583E+03									
Delay rate (us/s)	6.00502276831E-01									
Total phase (deg)			-158.6							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal $\theta$										
RMS	60.3	47.2								
Theor.										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.189 +/- 0.033										
0.150										
0.000										
0.203										
0.175										
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										
b: az 57.4 el 21.3 pa -45.0										
g: az 122.0 el 45.4 pa -14.3										
u,v (fr/asec) -4305.718 -177.780										
Control file: cf_1234_gmva										
Input file: /Exps/c192c/v1_CygA2/1234/No0044/bg..126VBU										
Output file: /Exps/c192c/v1_CygA2/1234/No0044/bg.W.43.126VBU										

simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0

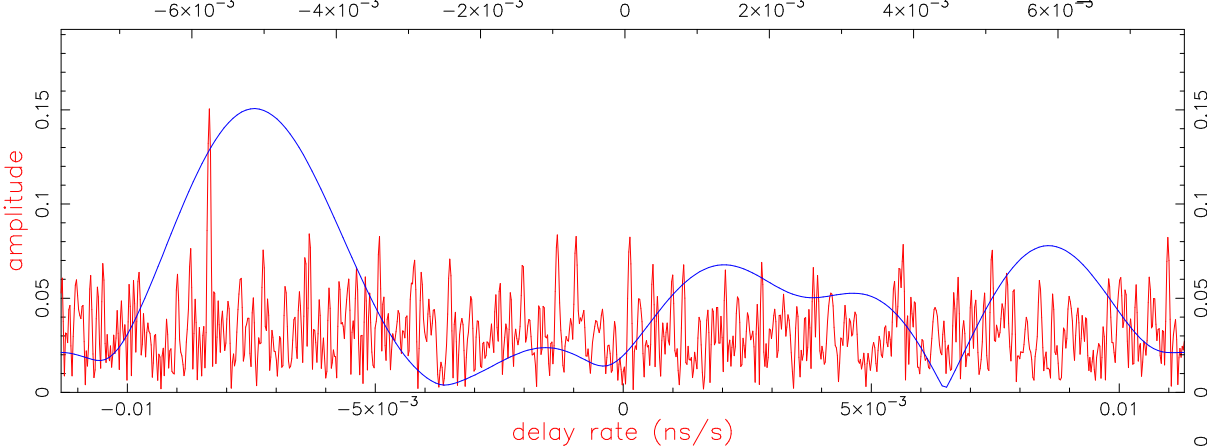
frontend

2013+370.126VBU, No0044, bg

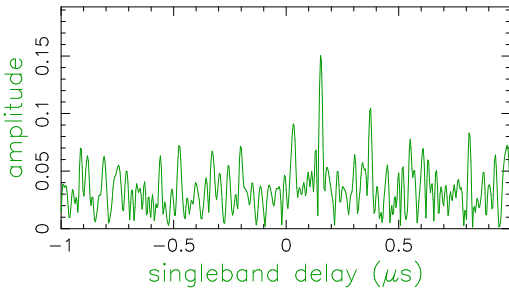
VLBA\_BR - GLT, fgroup W, pol RL

multiband delay ( $\mu$ s)

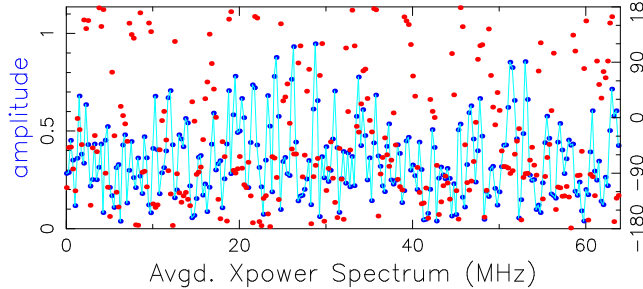
Fringe quality 0



SNR 5.6  
 Int time 179.641  
 Amp 0.193  
 Phase -78.3  
 PFD 9.4e-01  
 Delays (us)  
 SBD 0.153712  
 MBD -0.005079  
 Fringe rate (Hz)  
 -0.719986  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

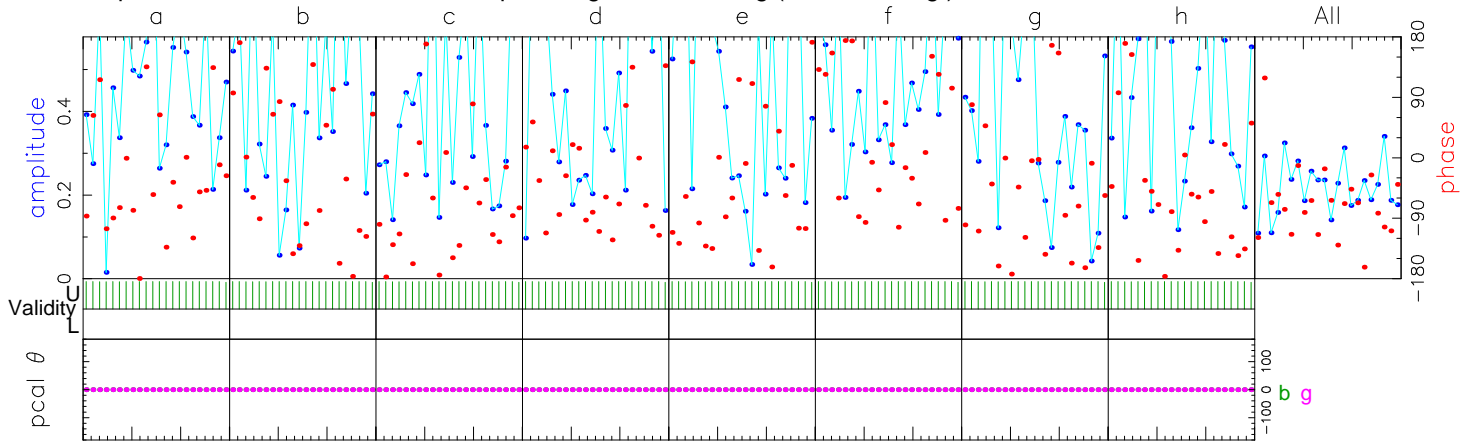


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124457  
 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



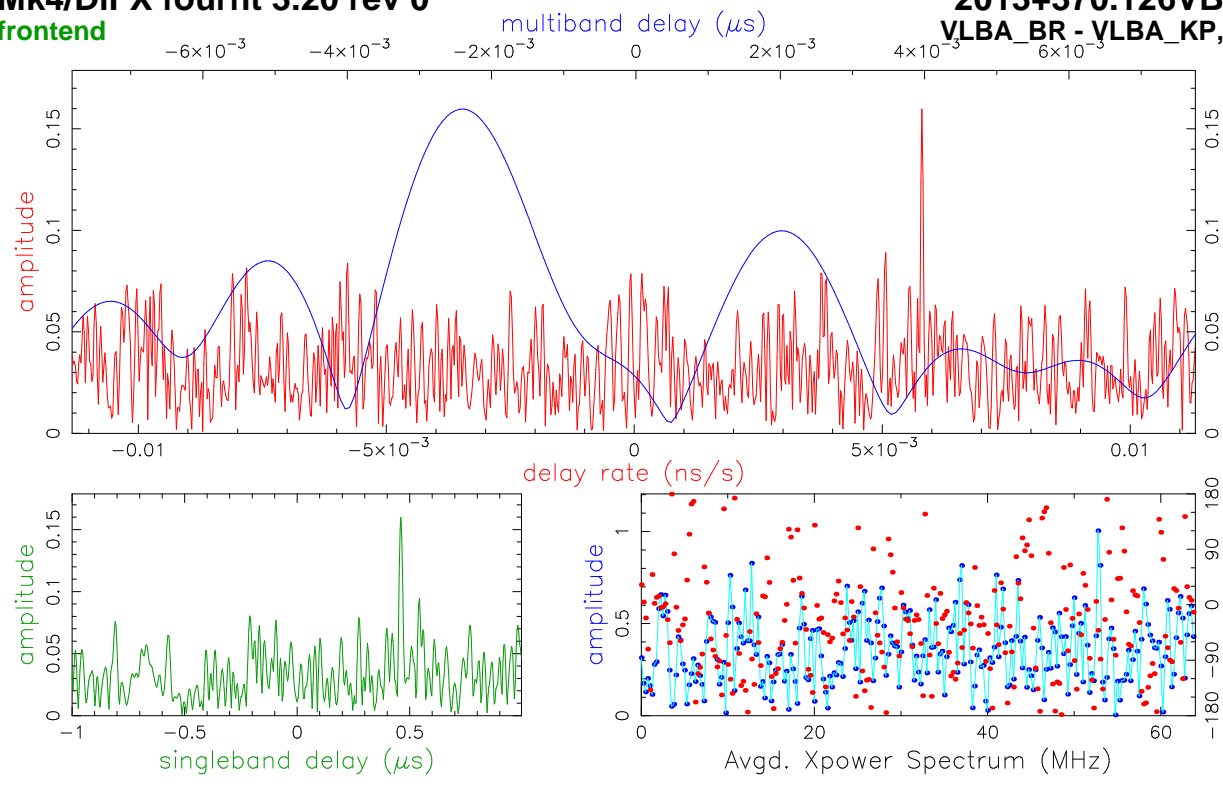
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-53.7	-168.6	-72.1	-65.3	-100.3	-70.8	-51.1	-89.8	Phase	-78.3
	0.2	0.1	0.3	0.2	0.3	0.1	0.2	0.2	Ampl.	0.2
	351.7	451.1	295.5	268.0	464.5	165.9	8.2	376.9	Sbd box	296.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	PC freqs	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:g	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -7.37511882494E+03 Apriori delay (usec) -7.37526999592E+03 Resid mbdelay (usec) -5.07902E-03 +/- 1.9E-04  
 Sband delay (usec) -7.37511628367E+03 Apriori clock (usec) -1.9221020E+00 Resid sbdelay (usec) 1.53712E-01 +/- 1.5E-03  
 Phase delay (usec) -7.37526999845E+03 Apriori clockrate (us/s) -3.1739506E-07 Resid phdelay (usec) -2.52633E-06 +/- 6.6E-07  
 Delay rate (us/s) 6.00501613922E-01 Apriori rate (us/s) 6.00509972250E-01 Resid rate (us/s) -8.35833E-06 +/- 6.4E-09  
 Total phase (deg) -239.9 Apriori accel (us/s/s) 2.35954527228E-05 Resid phase (deg) -78.3 +/- 20.5

RMS Theor. Amplitude 0.193 +/- 0.034 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 50.9 48.1 Search (1024X32) 0.145 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 60.5 83.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 41.6 29.0 Inc. seg. avg. 0.205 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 45.9 50.6 Inc. frq. avg. 0.190 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

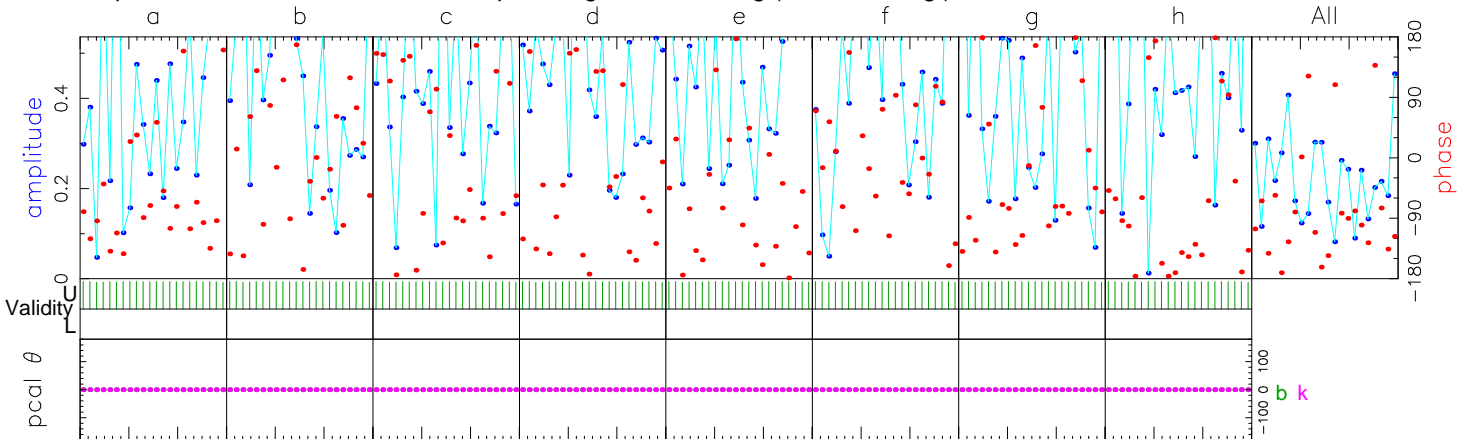
b: az 57.4 el 21.3 pa -45.0 g: az 122.0 el 45.4 pa -14.3 u,v (fr/asec) -4305.718 -177.780 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bg..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bg.W.62.126VBU



Fringe quality 0  
 SNR 5.9  
 Int time 179.061  
 Amp 0.179  
 Phase -117.9  
 PFD 4.4e-01  
 Delays (us)  
 SBD 0.460301  
 MBD -0.002434  
 Fringe rate (Hz) 0.499982  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build 2020:070:020408  
 2020:071:124453  
 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		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Tracks
Group delay (usec)(sbd)		1.23428265440E+03			1.23381633858E+03				Resid mbdelay (usec)	-2.43418E-03 +/- 1.9E-04
Sband delay (usec)		1.23427663933E+03			-2.2140607E-01				Resid sbdelay (usec)	4.60301E-01 +/- 1.5E-03
Phase delay (usec)		1.23381633478E+03			-4.7816091E-08				Resid phdelay (usec)	-3.80200E-06 +/- 6.3E-07
Delay rate (us/s)		-2.33567418226E-01			-2.33573222526E-01				Resid rate (us/s)	5.80430E-06 +/- 6.1E-09
Total phase (deg)			28.1		8.14123250481E-06				Resid phase (deg)	-117.9 +/- 19.6

ph/seg (deg) 59.6 45.9  
 amp/seg (%) 71.7 80.0  
 ph/frq (deg) 45.6 27.7  
 amp/frq (%) 52.8 48.3

RMS Theor. Amplitude 0.179 +/- 0.031  
 Search (1024X32) 0.158  
 Interp. 0.000  
 Inc. seg. avg. 0.190  
 Inc. frq. avg. 0.180

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

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

b: az 57.4 el 21.3 pa -45.0 k: az 56.6 el 17.7 pa -63.1 u,v (fr/asec) 1689.576 1994.834 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bk..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bk.W.22.126VBU

Mk4/DiFX fourfit 3.20 rev 0

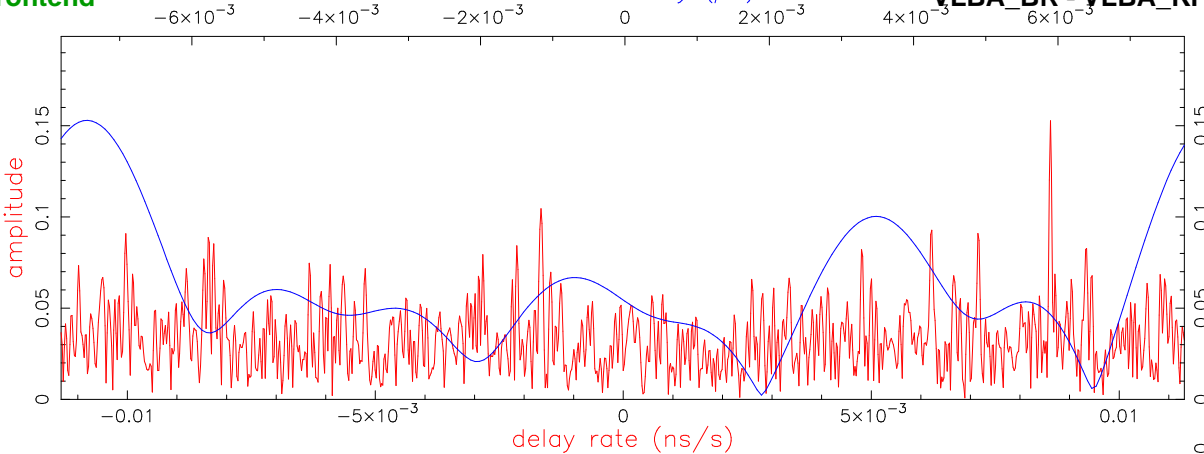
frontend

2013+370.126VBU, No0044, bk

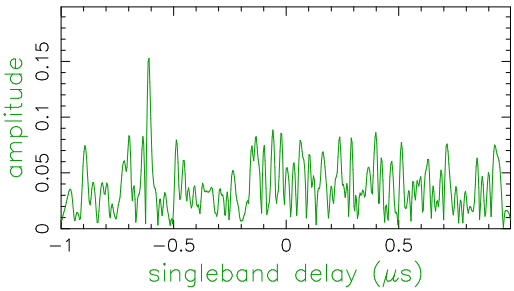
VLBA\_BR - VLBA\_KP, fgroup W, pol LR

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

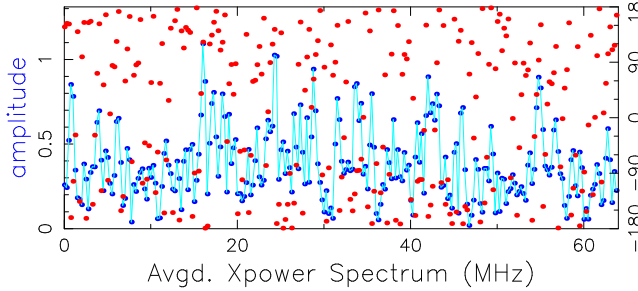
Fringe quality 0



SNR 5.7  
 Int time 179.061  
 Amp 0.199  
 Phase -128.7  
 PFD 8.3e-01  
 Delays (us)  
 SBD -0.610929  
 MBD 0.008117  
 Fringe rate (Hz)  
 0.743359  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

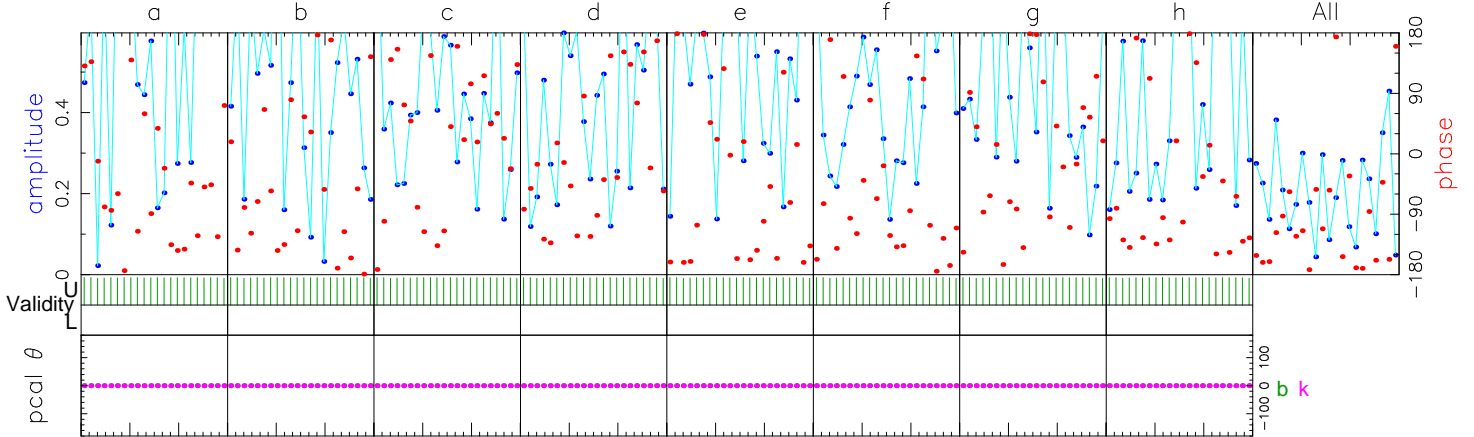


delay rate (ns/s)



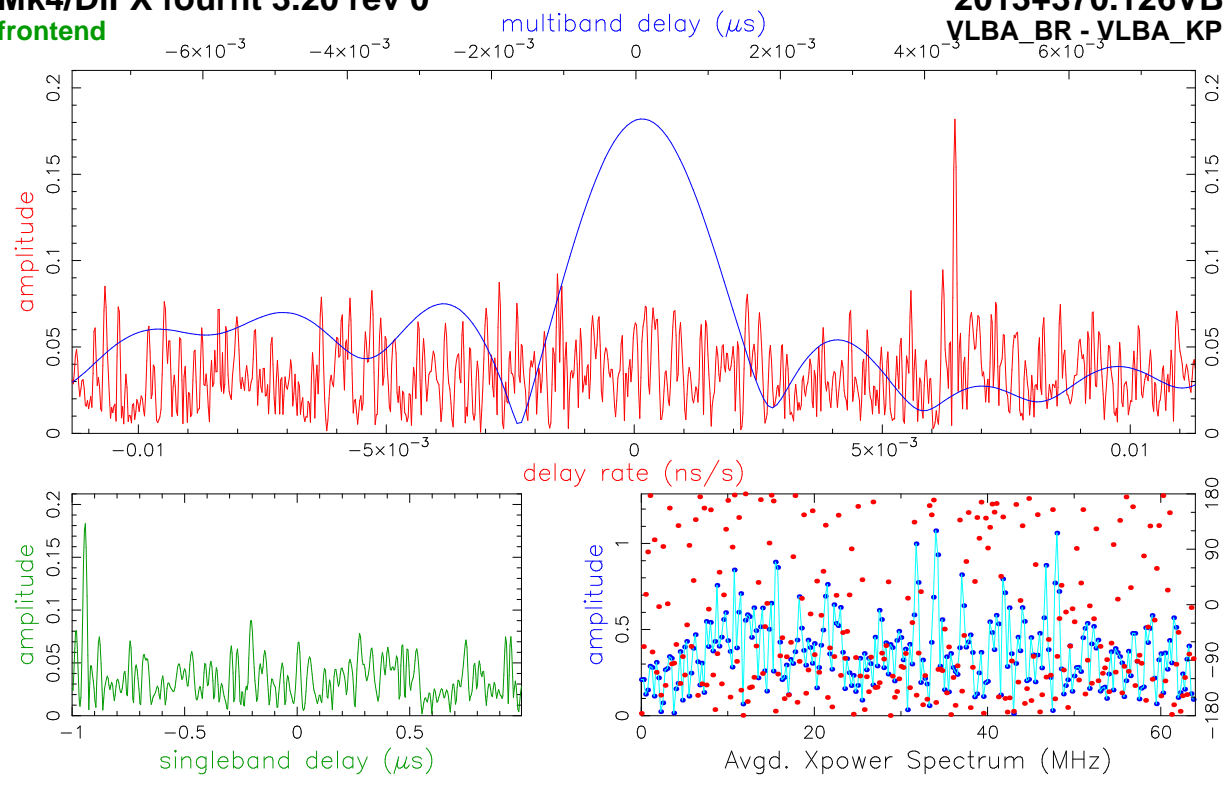
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124455  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

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



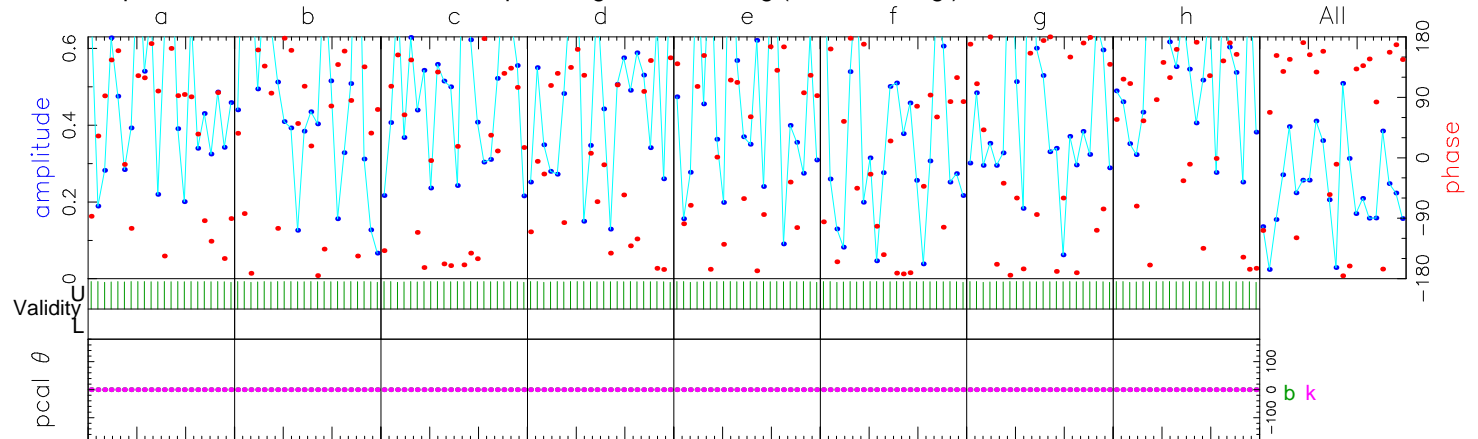
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.23319945530E+03				1.23381633858E+03			8.11672E-03	+/- 1.9E-04
Sband delay (usec)		1.23320540933E+03				-2.2140607E-01			-6.10929E-01	+/- 1.5E-03
Phase delay (usec)		1.23381633443E+03				-4.7816091E-08			-4.15023E-06	+/- 6.5E-07
Delay rate (us/s)		-2.33564592868E-01				-2.33573222526E-01			8.62966E-06	+/- 6.3E-09
Total phase (deg)			17.3			8.14123250481E-06			-128.7	+/- 20.2
	RMS	Theor.	Amplitude	0.199 +/- 0.035		Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5	
ph/seg (deg)	50.2	47.4	Search (1024X32)	0.149		Pcal rate: 0.000E+00, 0.000E+00 (us/s)			sb window (us)	-1.000 1.000
amp/seg (%)	78.6	82.8	Interp.	0.000		Bits/sample: 2x2			SampCntNorm: enabled	mb window (us) -0.008 0.008
ph/frq (deg)	54.7	28.6	Inc. seg. avg.	0.198		Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011 0.011
amp/frq (%)	53.3	49.9	Inc. frq. avg.	0.203		Data rate(Mb/s): 2048			nlags: 256 t_cohere infinite	ion window (TEC) 0.00 0.00

b: az 57.4 el 21.3 pa -45.0 k: az 56.6 el 17.7 pa -63.1 u,v (fr/asec) 1689.576 1994.834 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bk..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bk.W.41.126VBU



Fringe quality 0  
 SNR 6.7  
 Int time 179.061  
 Amp 0.210  
 Phase 163.4  
 PFD 3.1e-03  
 Delays (us)  
 SBD -0.942465  
 MBD 0.000048  
 Fringe rate (Hz) 0.558144  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124451  
 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	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.23287888610E+03		Apriori delay (usec)		1.23381633858E+03		Resid mbdelay (usec)		4.75162E-05	+/- 1.6E-04
Sband delay (usec)	1.23287387358E+03		Apriori clock (usec)		-2.2140607E-01		Resid sbdelay (usec)		-9.42465E-01	+/- 1.3E-03
Phase delay (usec)	1.23381634385E+03		Apriori clockrate (us/s)		-4.7816091E-08		Resid phdelay (usec)		5.26794E-06	+/- 5.5E-07
Delay rate (us/s)	-2.33566743024E-01		Apriori rate (us/s)		-2.33573222526E-01		Resid rate (us/s)		6.47950E-06	+/- 5.3E-09
Total phase (deg)	309.4		Apriori accel (us/s/s)		8.14123250481E-06		Resid phase (deg)		163.4	+/- 17.1

ph/seg (deg) 63.2 40.1 Search (1024X32) 0.176 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 71.4 70.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 24.3 24.2 Inc. seg. avg. 0.220 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 37.7 42.2 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  
 b: az 57.4 el 21.3 pa -45.0 k: az 56.6 el 17.7 pa -63.1 u,v (fr/asec) 1689.576 1994.834 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bk..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bk.W.6.126VBU



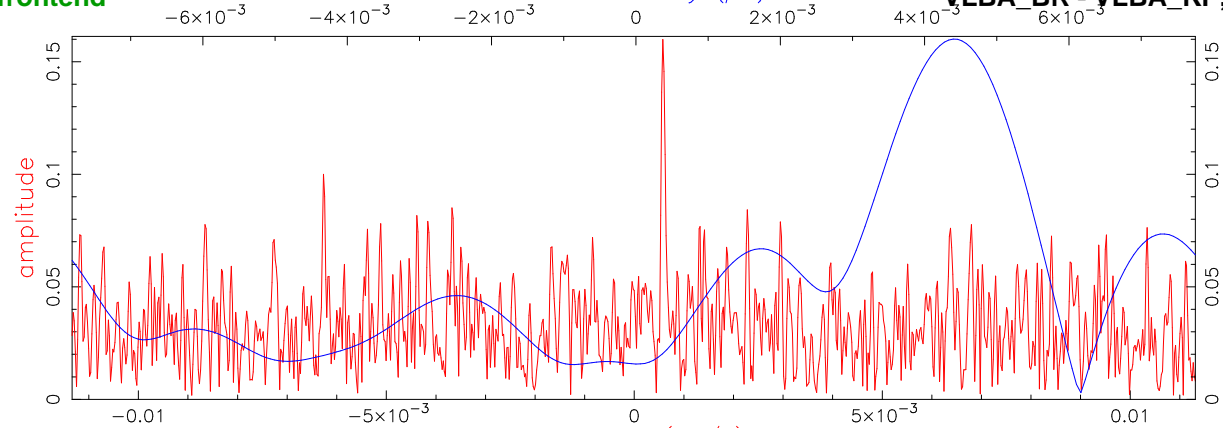
# Mk4/DiFX fourfit 3.20 rev 0

frontend

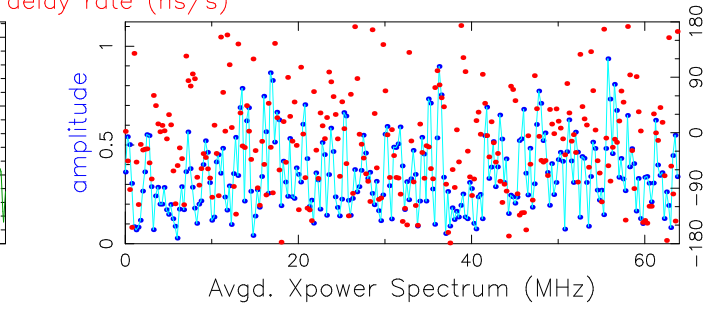
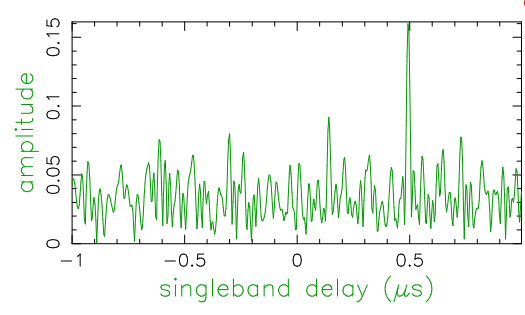
2013+370.126VBU, No0044, bk

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

multiband delay ( $\mu$ s)

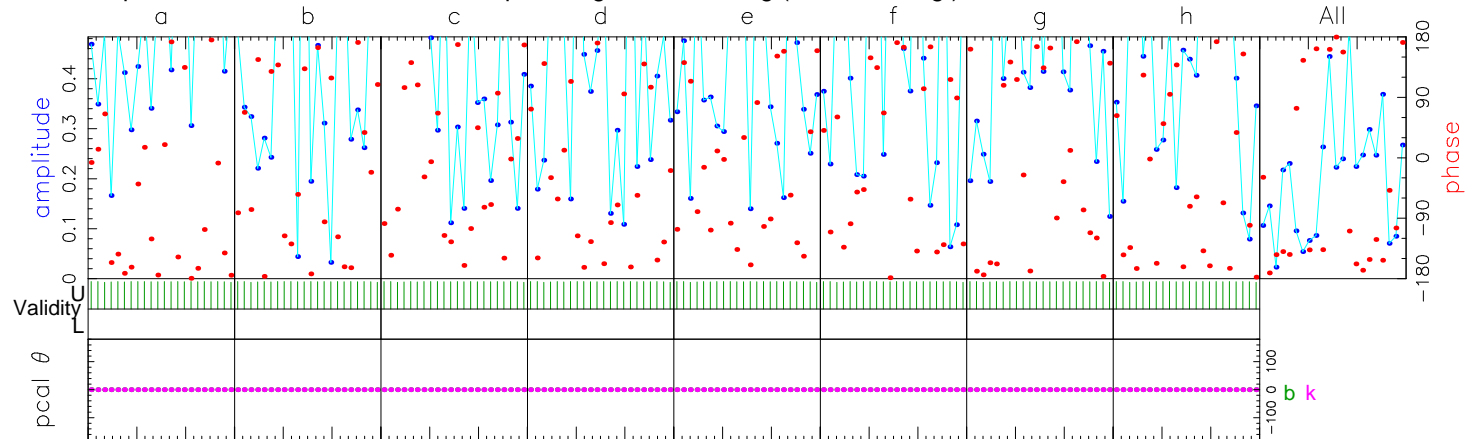


Fringe quality 0  
 SNR 5.9  
 Int time 179.061  
 Amp 0.161  
 Phase -155.6  
 PFD 3.8e-01  
 Delays (us)  
 SBD 0.493270  
 MBD 0.004468  
 Fringe rate (Hz)  
 0.049441  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124458  
 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
	-159.0	-175.1	-125.6	-133.8	-96.3	-171.8	-171.8	-157.1	Phase	-155.6
	0.2	0.2	0.1	0.2	0.1	0.3	0.2	0.2	Ampl.	0.2
	258.1	384.6	416.4	56.0	373.4	381.6	99.1	364.4	Sbd box	383.3
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	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.23430518116E+03		Apriori delay (usec)		1.23381633858E+03		Resid mbdelay (usec)		4.46757E-03	+/- 1.8E-04
Sband delay (usec)	1.23430960883E+03		Apriori clock (usec)		-2.2140607E-01		Resid sbdelay (usec)		4.93270E-01	+/- 1.5E-03
Phase delay (usec)	1.23381633357E+03		Apriori clockrate (us/s)		-4.7816091E-08		Resid phdelay (usec)		-5.01682E-06	+/- 6.3E-07
Delay rate (us/s)	-2.33572648567E-01		Apriori rate (us/s)		-2.3357322526E-01		Resid rate (us/s)		5.73959E-07	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		8.14123250481E-06		Resid phase (deg)		-155.6	+/- 19.4

ph/seg (deg) 53.7 45.6 Search (1024X32) 0.159 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 82.1 79.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 31.1 27.5 Inc. seg. avg. 0.156 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 33.0 48.0 Inc. frq. avg. 0.156 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 k: az 56.6 el 17.7 pa -63.1 u,v (fr/asec) 1689.576 1994.834 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bk..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bk.W.64.126VBU



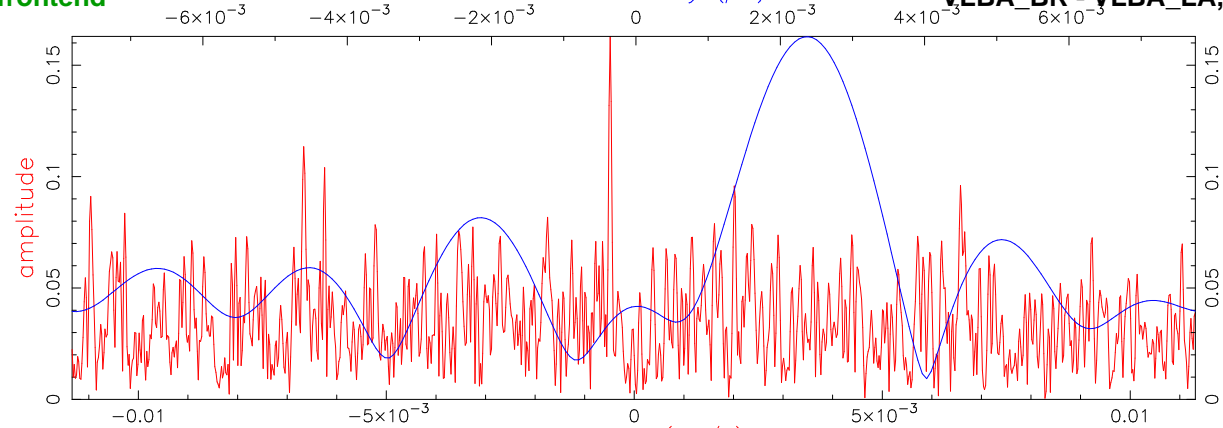
Mk4/DiFX fourfit 3.20 rev 0

frontend

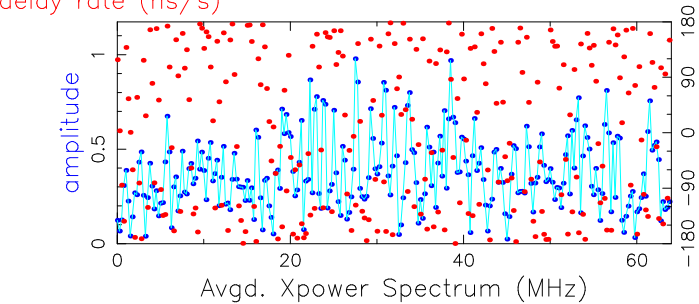
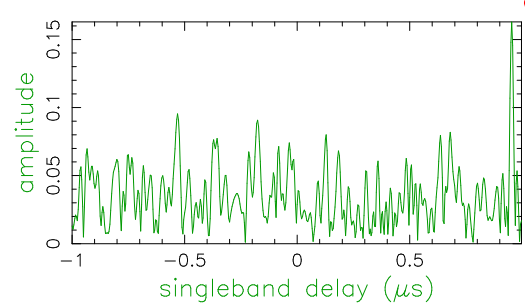
2013+370.126VBU, No0044, bl

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

multiband delay ( $\mu$ s)

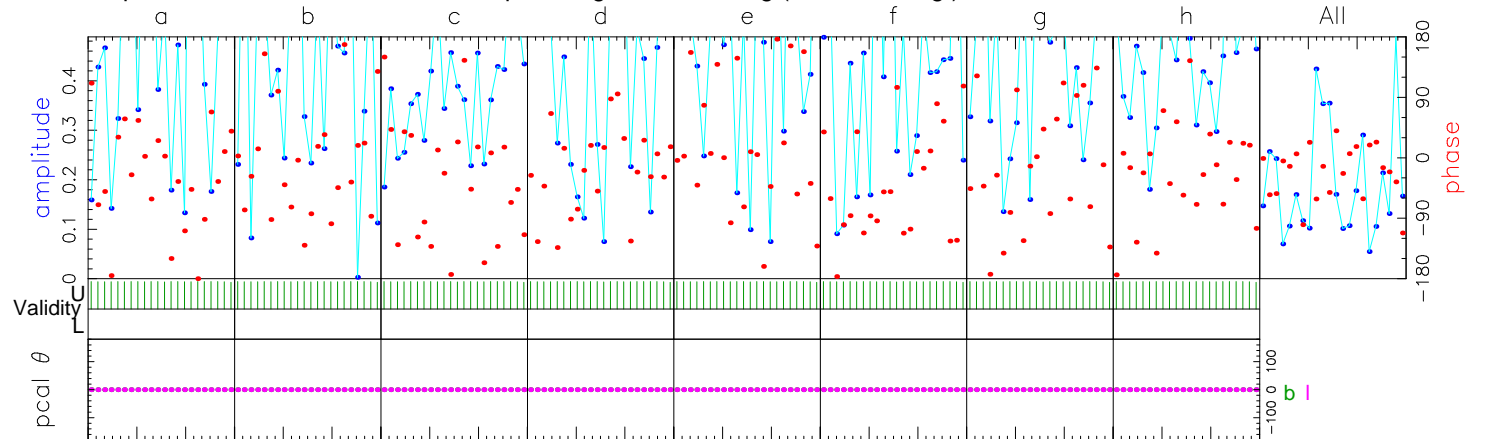


Fringe quality 0  
 SNR 6.0  
 Int time 179.172  
 Amp 0.163  
 Phase -30.6  
 PFD 2.8e-01  
 Delays (us)  
 SBD 0.952990  
 MBD 0.002363  
 Fringe rate (Hz)  
 -0.041072  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124453  
 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

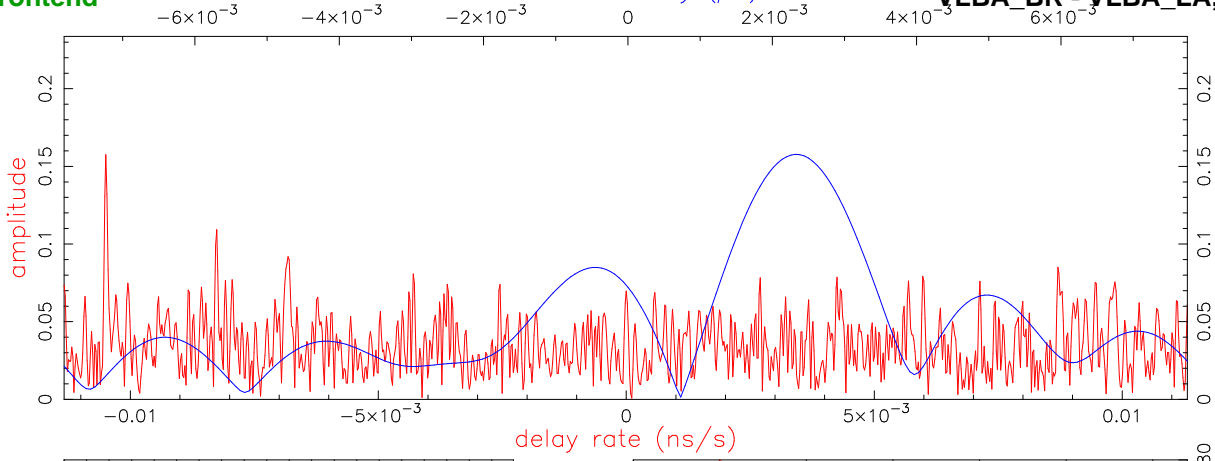


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-7.74623469459E+02								2.36250E-03	+/- 1.8E-04
Sband delay (usec)	-7.74625966961E+02								9.52990E-01	+/- 1.4E-03
Phase delay (usec)	-7.75578957947E+02								-9.86587E-07	+/- 6.2E-07
Delay rate (us/s)	-1.85220644390E-01								-4.76807E-07	+/- 6.0E-09
Total phase (deg)			-157.5						-30.6	+/- 19.2
Apriori delay (usec)					-7.75578956961E+02					
Apriori clock (usec)					1.4524366E-01					
Apriori clockrate (us/s)					1.0907692E-07					
Apriori rate (us/s)					-1.85220167583E-01					
Apriori accel (us/s/s)					1.50506735196E-05					
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

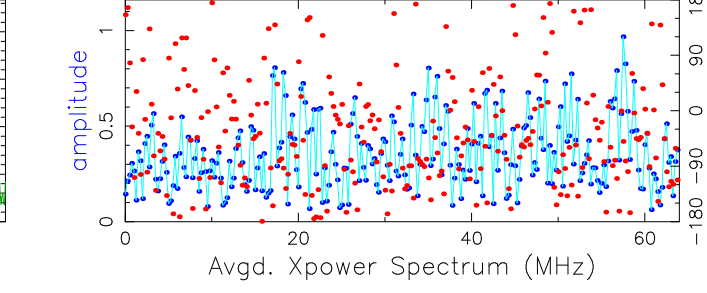
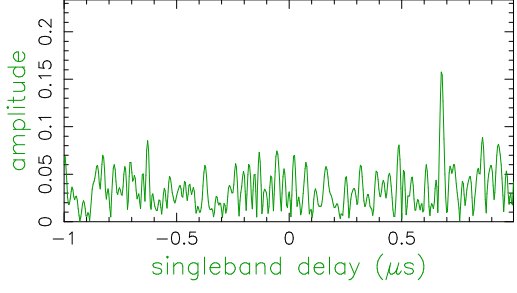
ph/seg (deg) 40.1 45.1 Search (1024X32) 0.155 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 74.4 78.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 31.5 27.2 Inc. seg. avg. 0.151 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 47.7 47.5 Inc. frq. avg. 0.160 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 57.4 el 21.3 pa -45.0 l: az 60.0 el 23.5 pa -62.1 u,v (fr/asec) 1346.178 2019.470 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bl..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bl.W.26.126VBU

multiband delay ( $\mu$ s)

Fringe quality 0

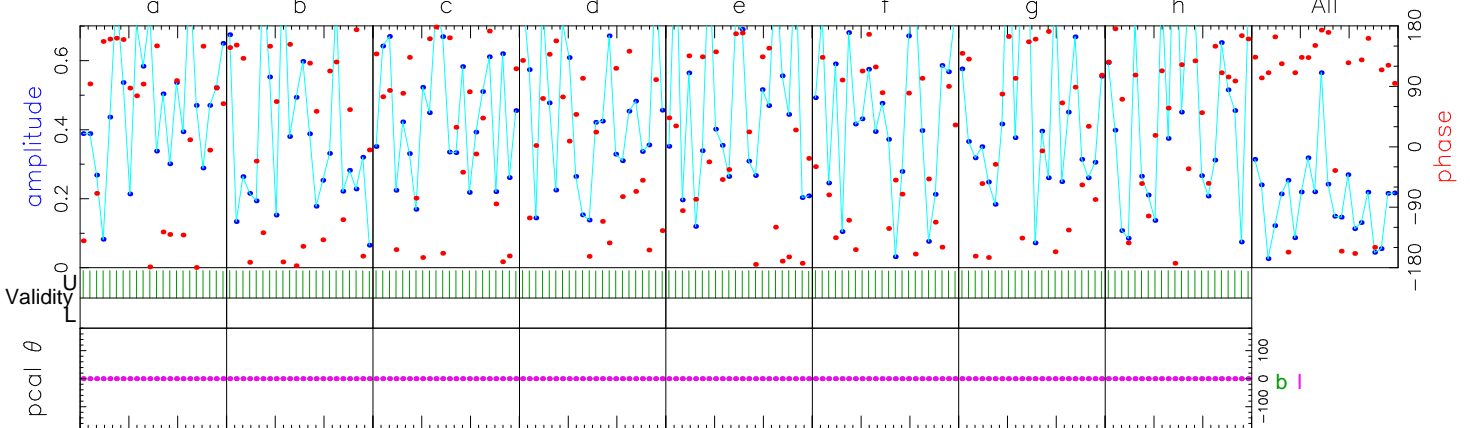


SNR 5.8  
 Int time 179.172  
 Amp 0.234  
 Phase 146.4  
 PFD 4.9e-01  
 Delays (us)  
 SBD 0.677269  
 MBD 0.002385  
 Fringe rate (Hz)  
 -0.904753  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124455  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

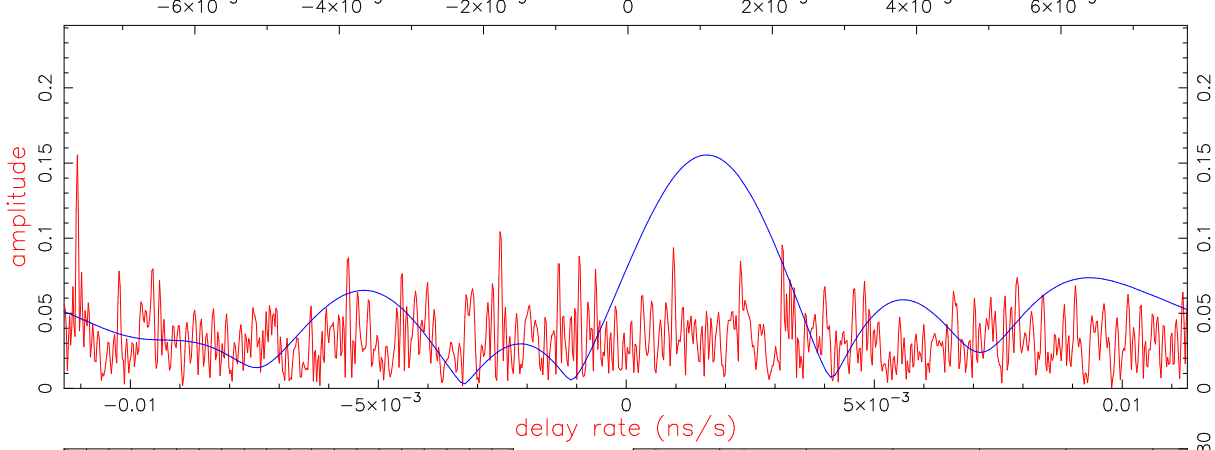
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



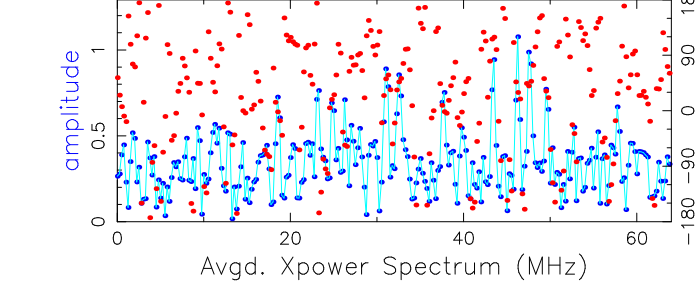
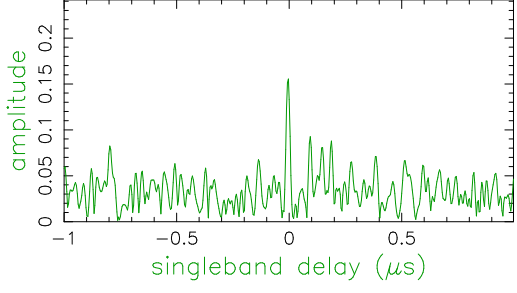
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-7.74904696651E+02				-7.75578956961E+02				2.38531E-03	+/- 1.9E-04
Sband delay (usec)	-7.74901687961E+02				1.4524366E-01				6.77269E-01	+/- 1.5E-03
Phase delay (usec)	-7.75578952240E+02				1.0907692E-07				4.72099E-06	+/- 6.3E-07
Delay rate (us/s)	-1.85230670870E-01				-1.85220167583E-01				-1.05033E-05	+/- 6.1E-09
Total phase (deg)			19.5						146.4	+/- 19.6
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
ph/seg (deg)	51.5	46.0			0.151					
amp/seg (%)	75.7	80.3			0.000					
ph/frq (deg)	18.6	27.8			0.221					
amp/frq (%)	39.9	48.4			0.216					
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.234 +/- 0.040										
0.000										
0.221										
0.216										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
simultaneous interpolator										

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

Fringe quality 0

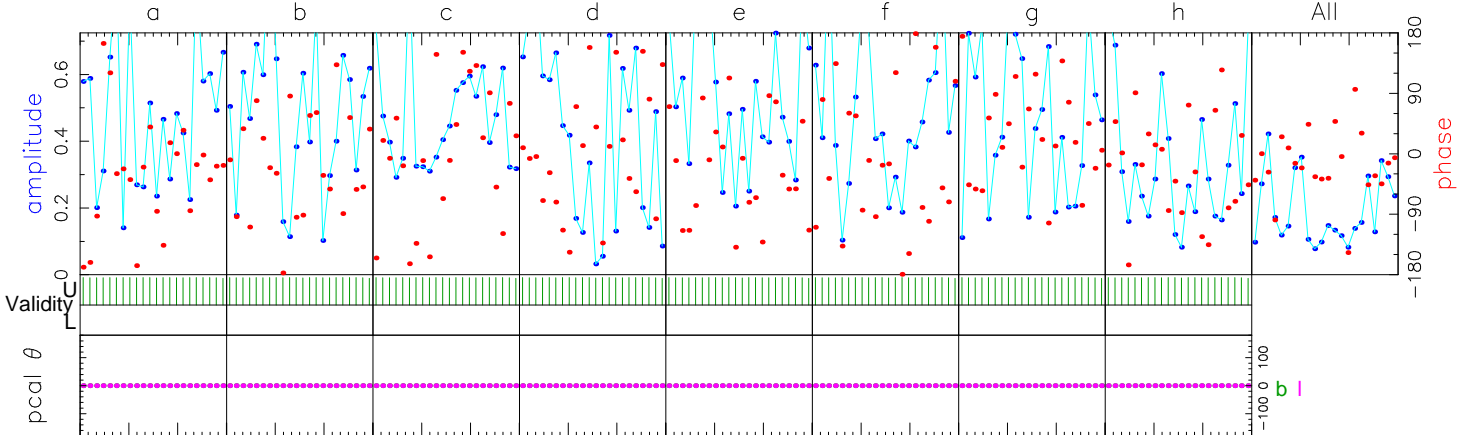


SNR 5.8  
 Int time 179.172  
 Amp 0.242  
 Phase -17.5  
 PFD 6.7e-01  
 Delays (us)  
 SBD -0.005310  
 MBD 0.001072  
 Fringe rate (Hz)  
 -0.955487  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124458  
 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		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:l	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		
l	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

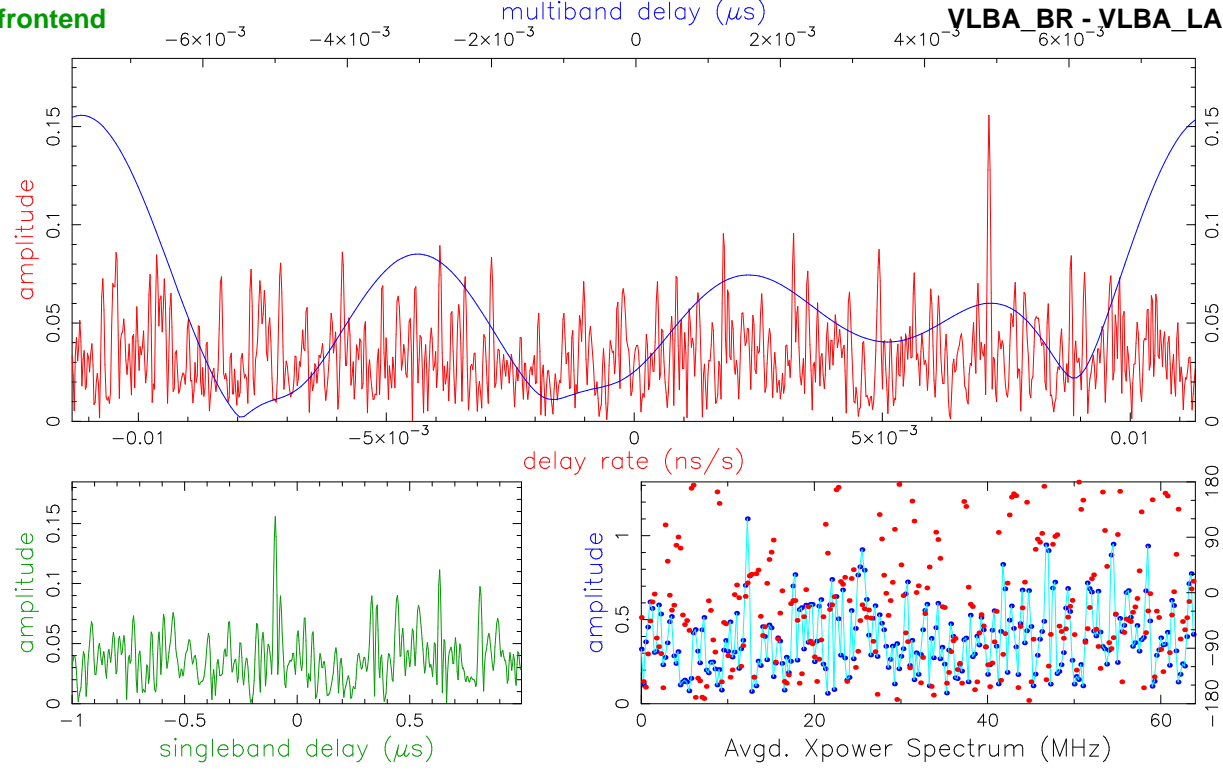
Group delay (usec)(sbd)	-7.75577885179E+02	Apriori delay (usec)	-7.75578956961E+02	Resid mbdelay (usec)	1.07178E-03	+/-	1.9E-04
Sband delay (usec)	-7.75584266961E+02	Apriori clock (usec)	1.4524366E-01	Resid sbdelay (usec)	-5.31000E-03	+/-	1.5E-03
Phase delay (usec)	-7.75578957524E+02	Apriori clockrate (us/s)	1.0907692E-07	Resid phdelay (usec)	-5.63577E-07	+/-	6.4E-07
Delay rate (us/s)	-1.85231259843E-01	Apriori rate (us/s)	-1.85220167583E-01	Resid rate (us/s)	-1.10923E-05	+/-	6.2E-09
Total phase (deg)	-144.4	Apriori accel (us/s/s)	1.50506735196E-05	Resid phase (deg)	-17.5	+/-	19.9

ph/seg (deg)	49.1	Theor.	46.7	Amplitude	0.242 +/- 0.042	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	68.3	Search (1024X32)	0.153	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	48.5	Inc. seg. avg.	0.223	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	39.0	Inc. frq. avg.	0.236	Sample rate (MSamp/s):	128	nlags: 256	t_cohere infinite	dr window (ns/s)	-0.011	0.011
				Data rate (Mb/s):	2048	ion window (TEC)	0.00	0.00		

b: az 57.4 el 21.3 pa -45.0 l: az 60.0 el 23.5 pa -62.1 u,v (fr/asec) 1346.178 2019.470 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bl..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bl.W.68.126VBU

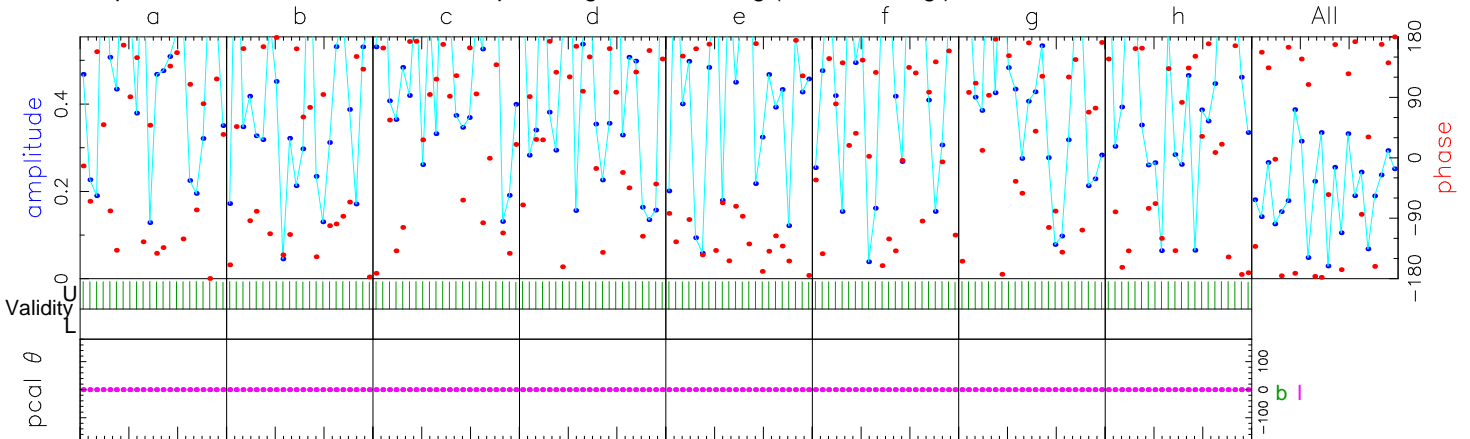
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126VBU, No0044, bl  
 VLBA\_BR - VLBA\_LA, fgroup W, pol LL



Fringe quality 0  
 SNR 5.7  
 Int time 179.172  
 Amp 0.185  
 Phase 170.9  
 PFD 7.7e-01  
 Delays (us)  
 SBD -0.097498  
 MBD 0.007947  
 Fringe rate (Hz)  
 0.617695  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124451  
 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

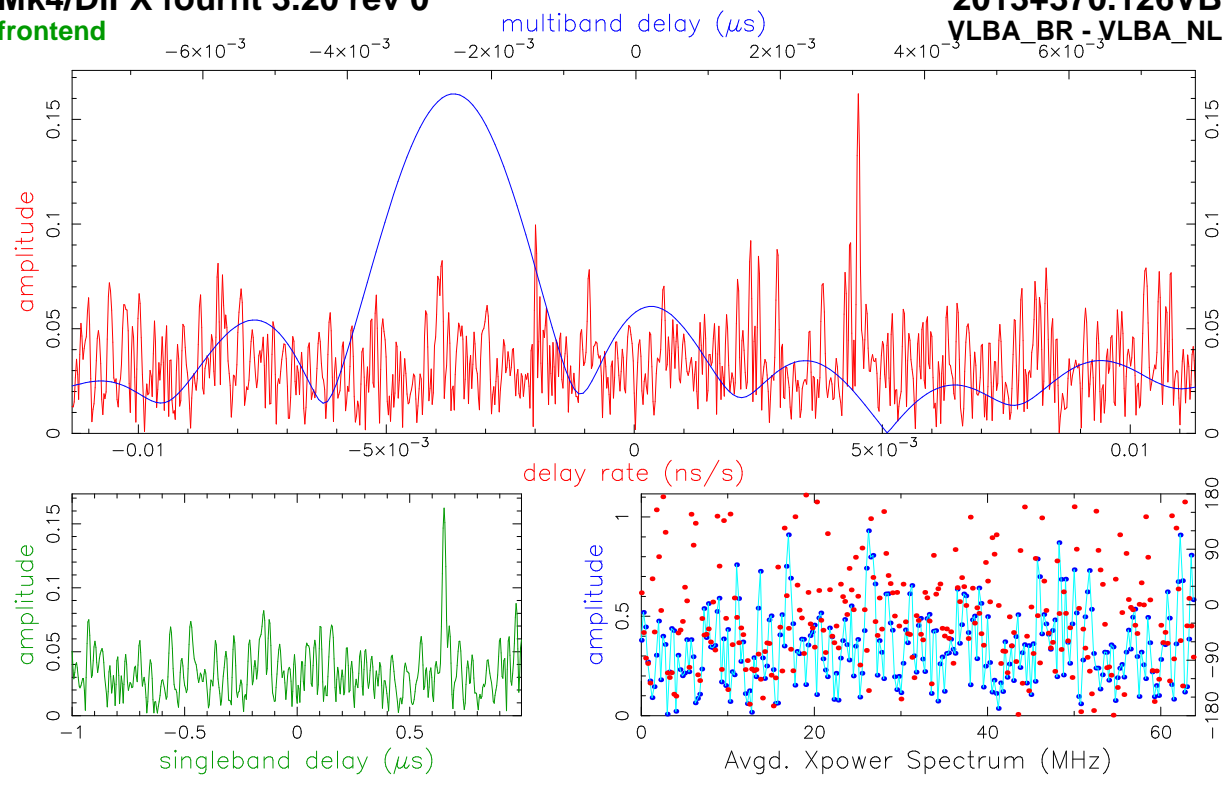


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	169.2	-154.7	146.5	120.3	-140.9	163.8	143.9	173.2	Phase	170.9
	0.2	0.1	0.2	0.2	0.4	0.2	0.2	0.2	Ampl.	0.2
	478.2	307.2	238.7	25.6	231.7	94.3	357.0	27.5	Sbd box	232.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:l	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	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-7.75680384711E+02		Apriori delay (usec)		-7.75578956961E+02		Resid mbdelay (usec)		7.94725E-03	+/- 1.9E-04
Sband delay (usec)	-7.75676454461E+02		Apriori clock (usec)		1.4524366E-01		Resid sbdelay (usec)		-9.74975E-02	+/- 1.5E-03
Phase delay (usec)	-7.75578951449E+02		Apriori clockrate (us/s)		1.0907692E-07		Resid phdelay (usec)		5.51220E-06	+/- 6.5E-07
Delay rate (us/s)	-1.85212996760E-01		Apriori rate (us/s)		-1.85220167583E-01		Resid rate (us/s)		7.17082E-06	+/- 6.2E-09
Total phase (deg)	44.0		Apriori accel (us/s/s)		1.50506735196E-05		Resid phase (deg)		170.9	+/- 20.1

ph/seg (deg) 65.0 47.1 Search (1024X32) 0.154 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 69.0 82.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 35.2 28.4 Inc. seg. avg. 0.183 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 44.6 49.6 Inc. frq. avg. 0.195 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 l: az 60.0 el 23.5 pa -62.1 u,v (fr/asec) 1346.178 2019.470 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bl..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bl.W.9.126VBU

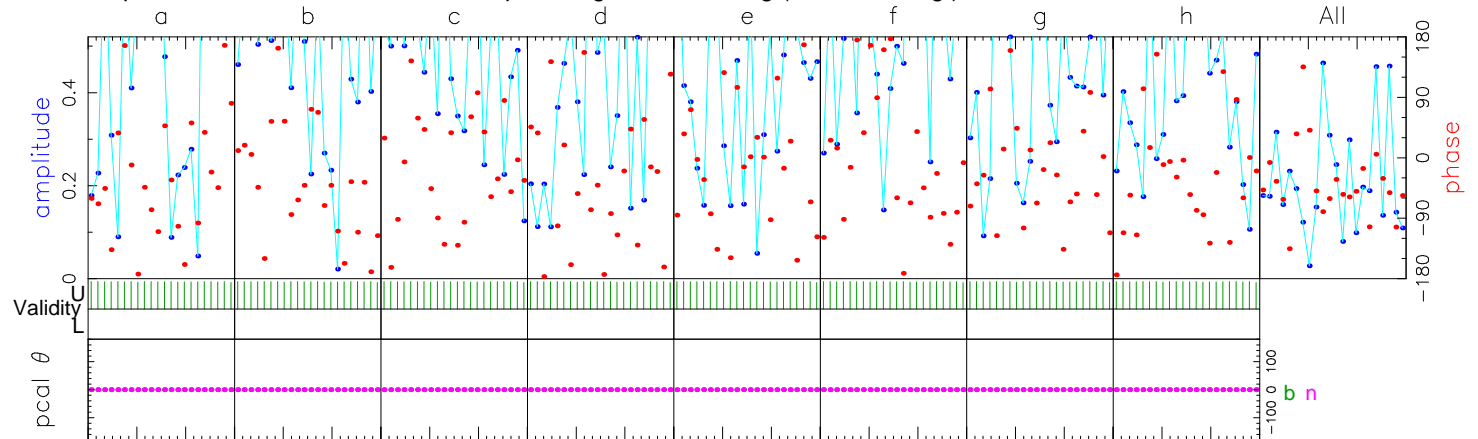
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126VBU, No0044, bn  
 VLBA\_BR - VLBA\_NL, fgroup W, pol LL



Fringe quality 0  
 SNR 5.9  
 Int time 178.759  
 Amp 0.173  
 Phase -47.8  
 PFD 3.2e-01  
 Delays (us)  
 SBD 0.652667  
 MBD -0.002528  
 Fringe rate (Hz) 0.389377  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124452  
 2019:280:115849  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

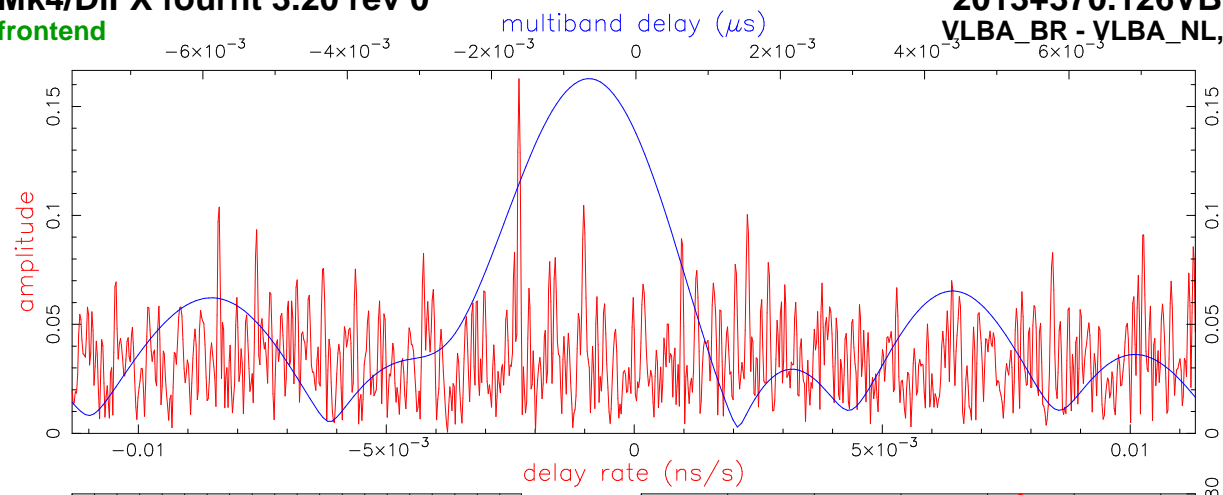
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



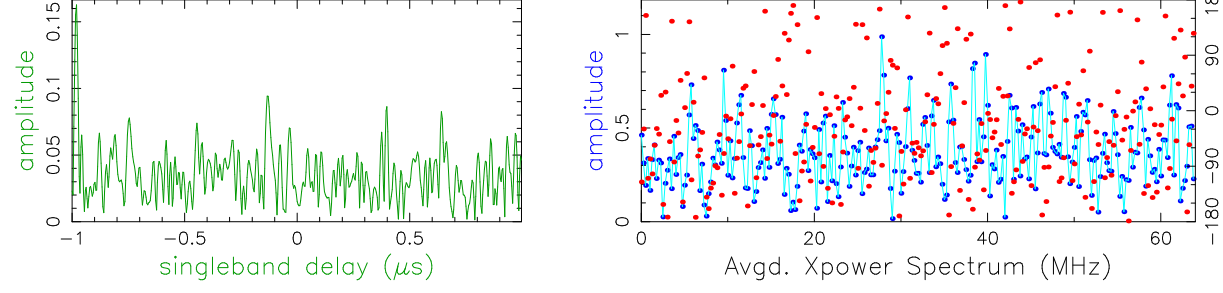
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-53.4	-41.7	-25.6	-71.0	-55.3	-39.0	-51.3	-46.7	Phase	-47.8
	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	Ampl.	0.2
	63.0	505.8	366.5	493.0	126.9	186.2	461.9	19.1	Sbd box	424.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:n	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	
n	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.92802465263E+03		Apriori delay (usec)		-4.92867837444E+03		Resid mbdelay (usec)		-2.52818E-03	+/- 1.8E-04
Sband delay (usec)	-4.92802570719E+03		Apriori clock (usec)		-2.7156006E+01		Resid sbdelay (usec)		6.52667E-01	+/- 1.5E-03
Phase delay (usec)	-4.92867837599E+03		Apriori clockrate (us/s)		-3.7661858E-07		Resid phdelay (usec)		-1.54238E-06	+/- 6.2E-07
Delay rate (us/s)	-5.69556327821E-02		Apriori rate (us/s)		-5.69601530680E-02		Resid rate (us/s)		4.52029E-06	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		3.14309785430E-05		Resid phase (deg)		-47.8	+/- 19.3

ph/seg (deg) 55.6 45.3 Search (1024X32) 0.160 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 80.7 79.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.4 27.3 Inc. seg. avg. 0.176 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 24.1 47.7 Inc. frq. avg. 0.159 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 n: az 69.5 el 36.3 pa -61.3 u,v (fr/asec) 434.681 2429.105 ion window (TEC) 0.00 0.00 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bn..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bn.W.13.126VBU

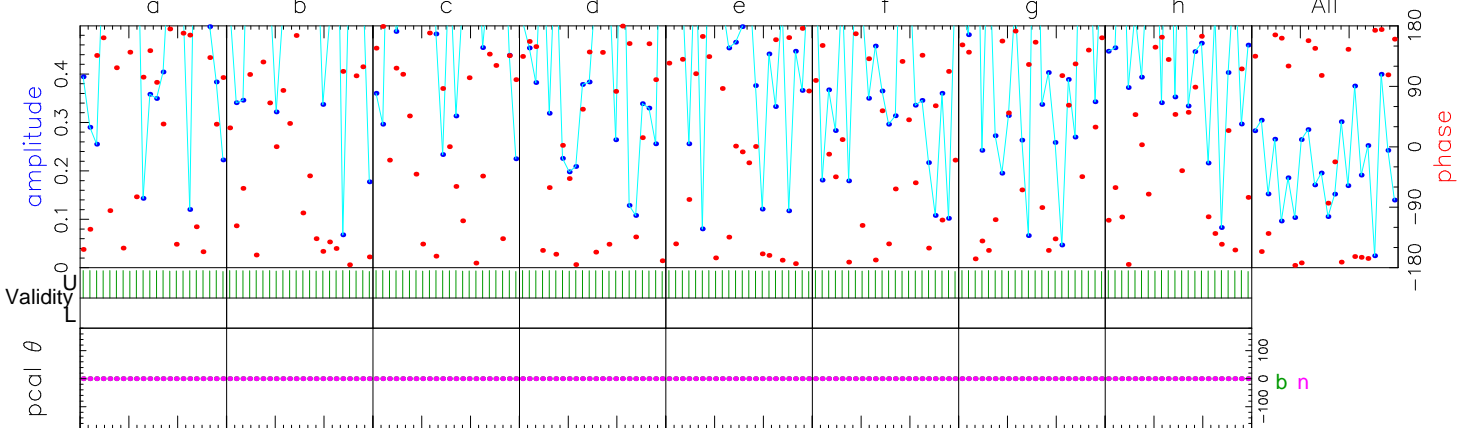




Fringe quality 0  
 SNR 6.0  
 Int time 178.759  
 Amp 0.167  
 Phase 171.1  
 PFD 2.5e-01  
 Delays (us)  
 SBD -0.981453  
 MBD -0.000683  
 Fringe rate (Hz)  
 -0.200187  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124454  
 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
	-175.8	164.5	156.8	171.4	159.3	121.3	176.4	-137.6	Phase	171.1
	0.2	0.2	0.2	0.3	0.2	0.0	0.2	0.1	Ampl.	0.2
	182.1	58.2	79.9	6.1	508.8	277.9	4.5	121.9	Sbd box	5.7
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	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:n	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	
n	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-4.92966343235E+03		Apriori delay (usec)		-4.92867837444E+03		Resid mbdelay (usec)		-6.82901E-04	+/- 1.8E-04
Sband delay (usec)	-4.92965982769E+03		Apriori clock (usec)		-2.7156006E+01		Resid sbdelay (usec)		-9.81453E-01	+/- 1.4E-03
Phase delay (usec)	-4.92867836893E+03		Apriori clockrate (us/s)		-3.7661858E-07		Resid phdelay (usec)		5.51620E-06	+/- 6.2E-07
Delay rate (us/s)	-5.69624770406E-02		Apriori rate (us/s)		-5.69601530680E-02		Resid rate (us/s)		-2.32397E-06	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		3.14309785430E-05		Resid phase (deg)		171.1	+/- 19.1

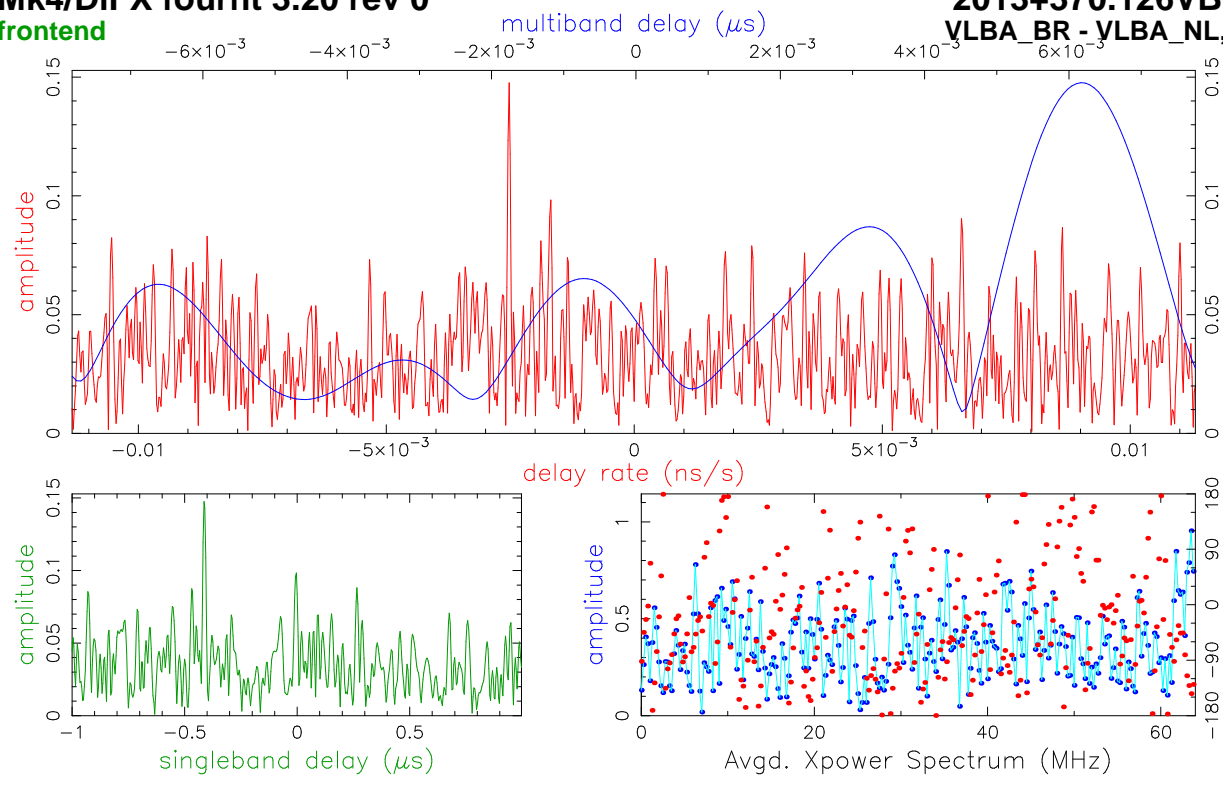
ph/seg (deg) 52.3 44.9 Search (1024X32) 0.161 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 63.4 78.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 30.8 27.1 Inc. seg. avg. 0.165 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 46.5 47.3 Inc. frq. avg. 0.155 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 n: az 69.5 el 36.3 pa -61.3 u,v (fr/asec) 434.681 2429.105 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bn..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bn.W.31.126VBU





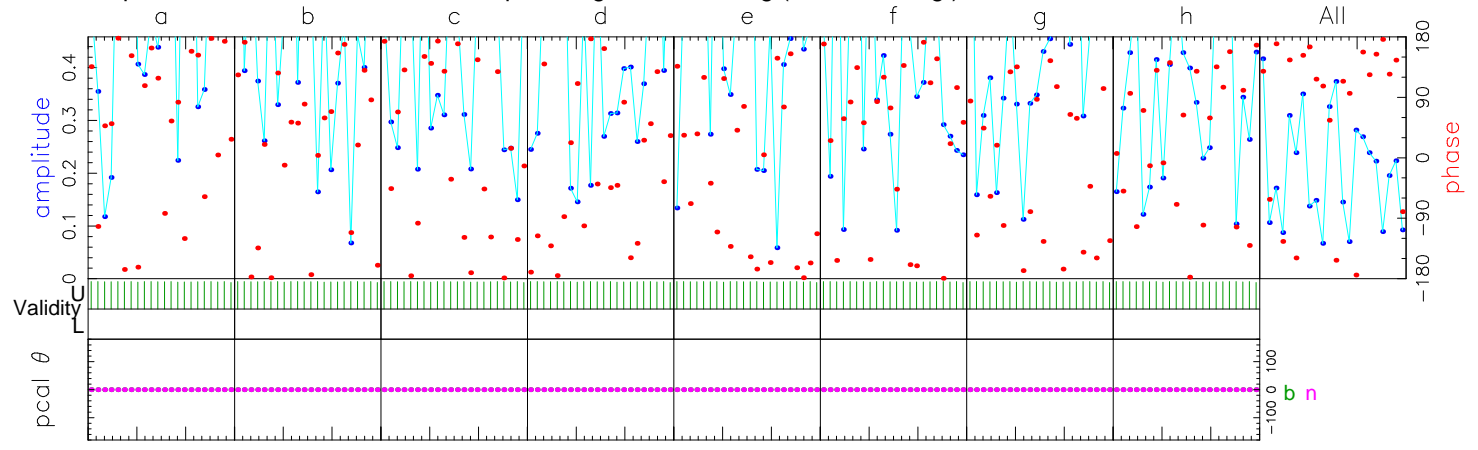
Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126VBU, No0044, bn  
VLBA\_BR - VLBA\_NL, fgroup W, pol RL



Fringe quality 0  
SNR 5.5  
Int time 178.759  
Amp 0.153  
Phase 152.1  
PFD 9.9e-01  
Delays (us)  
SBD -0.412662  
MBD 0.006211  
Fringe rate (Hz)  
-0.217132  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124458  
2019:280:115849  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

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

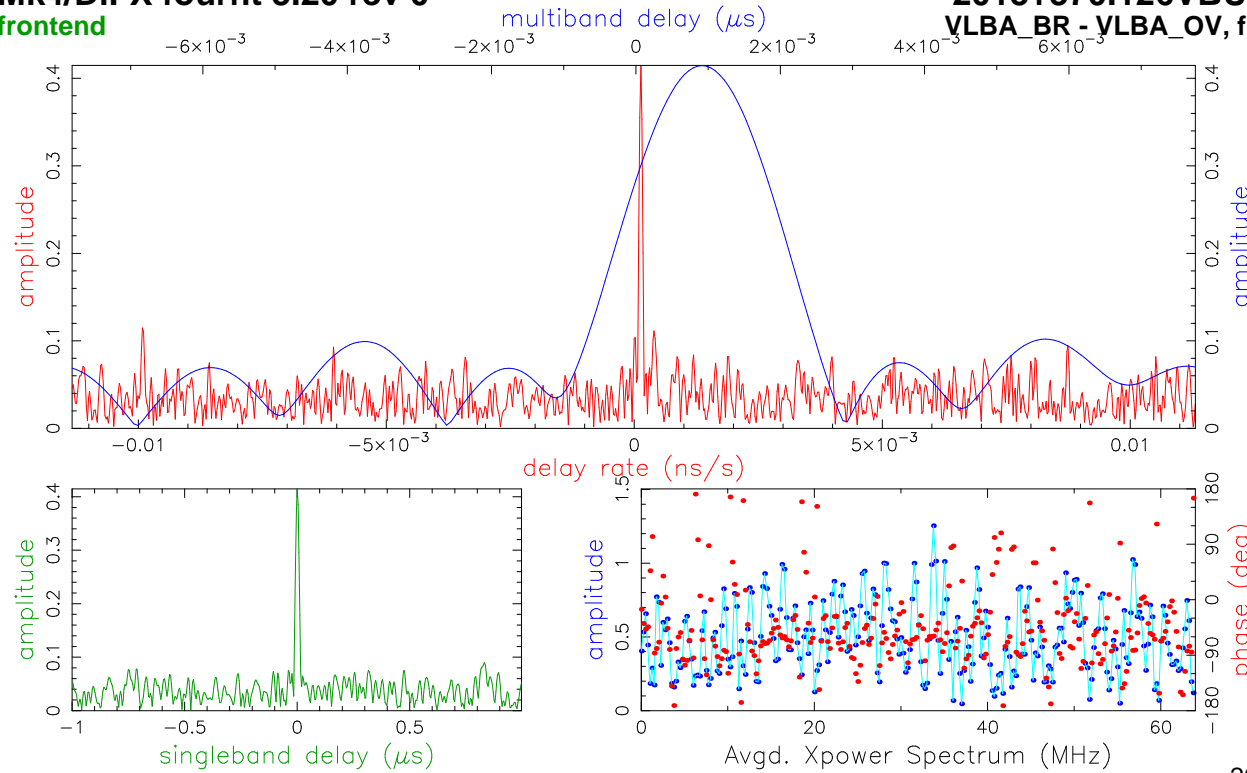


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	163.0	115.6	178.5	-140.5	-174.0	143.2	140.7	140.7	Phase	152.1
b	0.3	0.2	0.1	0.1	0.1	0.3	0.1	0.1	Ampl.	0.1
n	236.5	473.0	324.1	110.5	508.9	153.2	429.5	53.2	Sbd box	151.4
b:n	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b:n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:n	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	
n	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	-4.92909403801E+03		Apriori delay (usec)		-4.92867837444E+03		Resid mbdelay (usec)		6.21143E-03	+/- 2.0E-04
Sband delay (usec)	-4.92909103619E+03		Apriori clock (usec)		-2.7156006E+01		Resid sbdelay (usec)		-4.12662E-01	+/- 1.6E-03
Phase delay (usec)	-4.92867836954E+03		Apriori clockrate (us/s)		-3.7661858E-07		Resid phdelay (usec)		4.90409E-06	+/- 6.7E-07
Delay rate (us/s)	-5.69626737575E-02		Apriori rate (us/s)		-5.69601530680E-02		Resid rate (us/s)		-2.52069E-06	+/- 6.5E-09
Total phase (deg)			Apriori accel (us/s/s)		3.14309785430E-05		Resid phase (deg)		152.1	+/- 20.9

ph/seg (deg) 57.4 49.1 Search (1024X32) 0.145 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 78.8 85.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 36.9 29.6 Inc. seg. avg. 0.155 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 49.9 51.7 Inc. frq. avg. 0.147 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
b: az 57.4 el 21.3 pa -45.0 n: az 69.5 el 36.3 pa -61.3 u,v (fr/asec) 434.681 2429.105 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bn..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bn.W.67.126VBU

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126VBU, No0044, bo  
VLBA\_BR - VLBA\_OV, fgroup W, pol LL

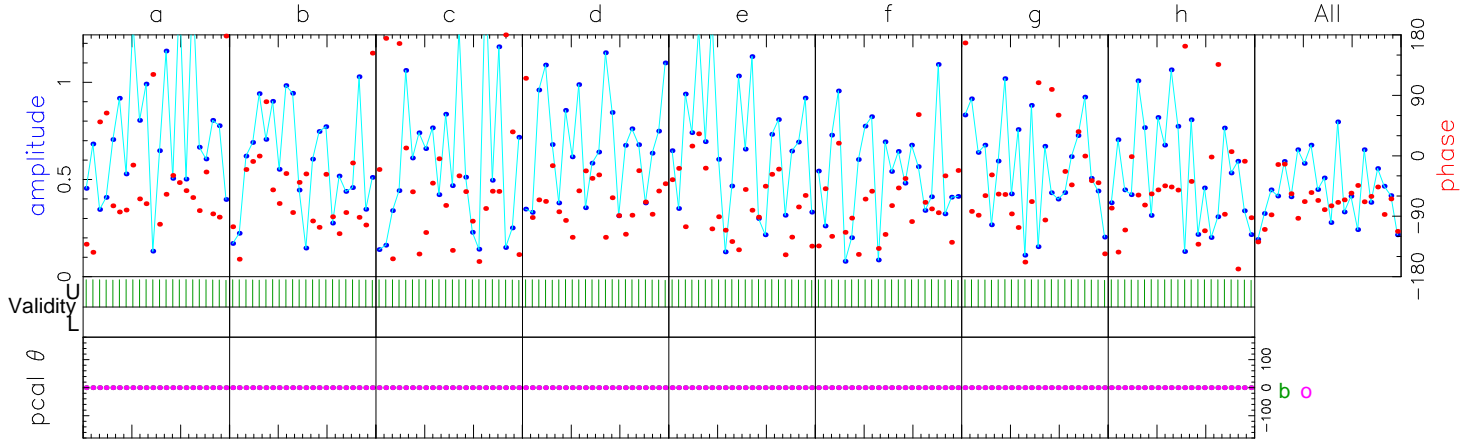


Fringe quality 9

SNR 15.2  
Int time 178.567  
Amp 0.415  
Phase -66.2  
PFD 2.2e-43  
Delays (us)  
SBD 0.000365  
MBD 0.000927  
Fringe rate (Hz) 0.011335  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124452  
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		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:o	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		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.79385007042E+03	Apriori delay (usec)	1.79384914327E+03	Resid mbdelay (usec)	9.27142E-04	+/-	7.2E-05
Sband delay (usec)	1.79384950877E+03	Apriori clock (usec)	-1.7288401E+01	Resid sbdelay (usec)	3.65500E-04	+/-	5.7E-04
Phase delay (usec)	1.79384914114E+03	Apriori clockrate (us/s)	-2.4337607E-07	Resid phdelay (usec)	-2.13525E-06	+/-	2.4E-07
Delay rate (us/s)	-1.60378513930E-01	Apriori rate (us/s)	-1.60378645522E-01	Resid rate (us/s)	1.31592E-07	+/-	2.3E-09
Total phase (deg)		Apriori accel (us/s/s)	-9.43396912153E-08	Resid phase (deg)	-66.2	+/-	7.6

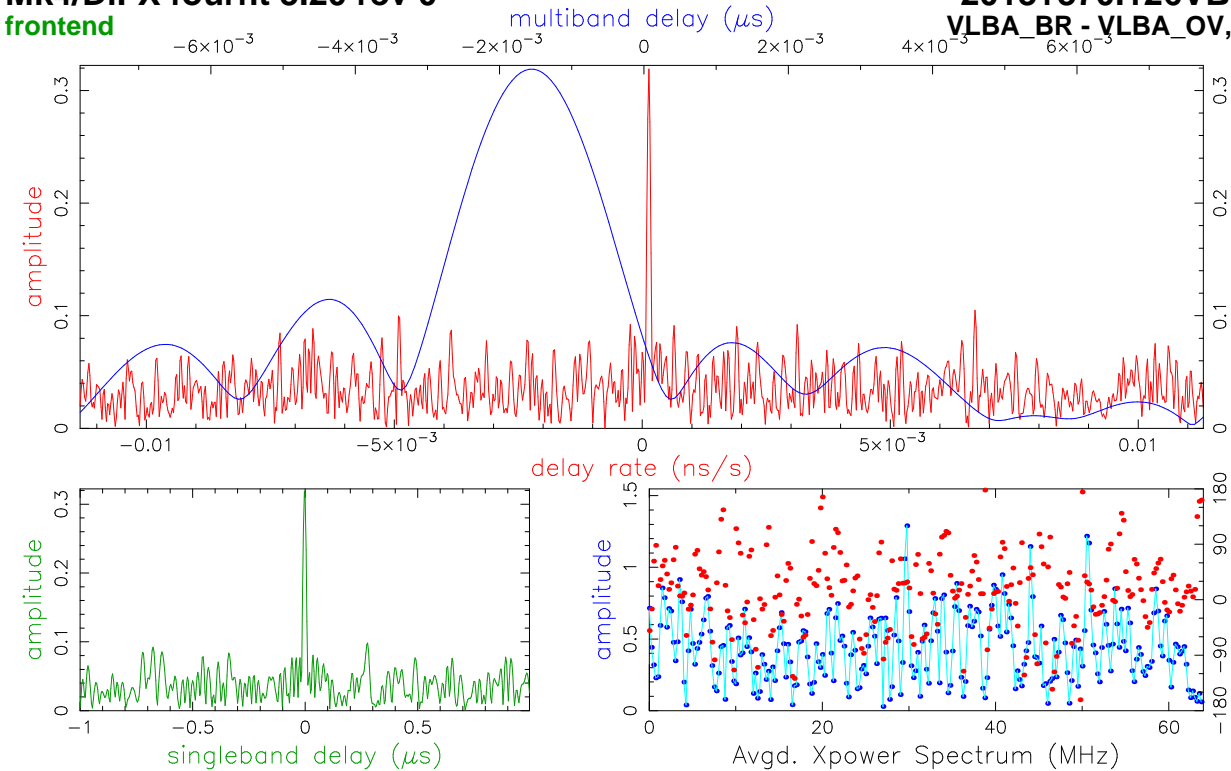
ph/seg (deg)	27.5	Theor.	17.7	Amplitude	0.415 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	39.0		30.9	Search (1024X32)	0.413	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	6.2		10.7	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	20.7		18.7	Inc. seg. avg.	0.434	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.409	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

b: az 57.4 el 21.3 pa -45.0      o: az 55.1 el 16.1 pa -55.2      u,v (fr/asec) 1155.692 972.402      simultaneous interpolator

Control file: cf\_1234\_gmva    Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bo..126VBU    Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bo.W.17.126VBU

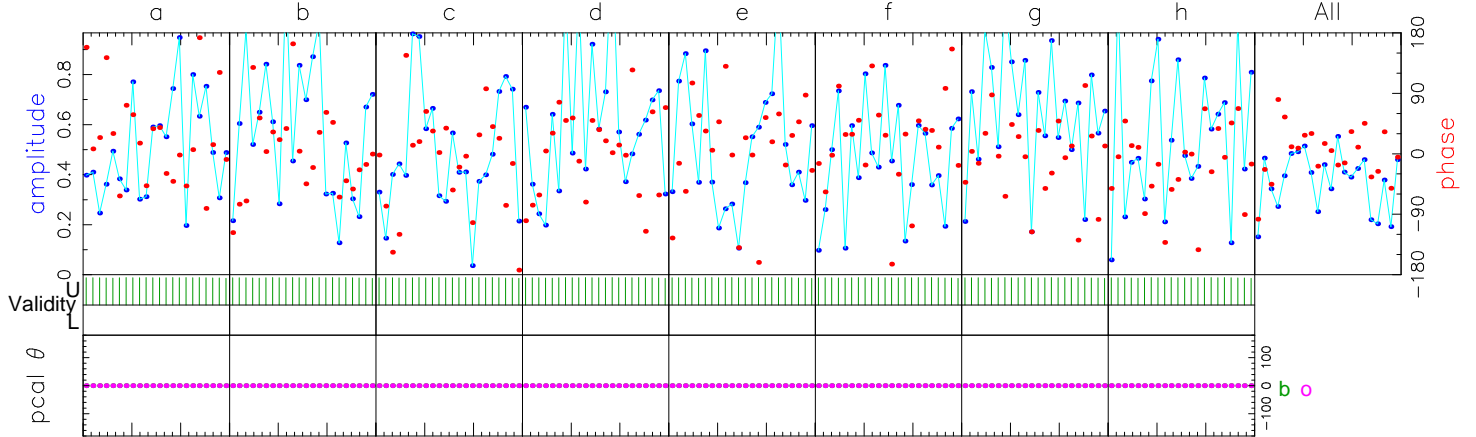
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126VBU, No0044, bo  
 VLBA\_BR - VLBA\_OV, fgroup W, pol RR



Fringe quality 9  
 SNR 11.8  
 Int time 178.567  
 Amp 0.322  
 Phase 6.8  
 PFD  $1.3 \times 10^{-23}$   
 Delays (us)  
 SBD -0.002691  
 MBD -0.001533  
 Fringe rate (Hz)  
 0.011490  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124455  
 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		256.3		
b	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	0.3		
o	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box			
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used			
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs			
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
o	1000	1000	1000	1000	1000	1000	1000	1000	PC phase			
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Mani PC			
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	PC amp			
									Chan ids			
									Tracks			
									Chan ids			
									Tracks			
Group delay (usec)(sbd)	1.79384761073E+03				1.79384914327E+03				Resid mbdelay (usec)	-1.53255E-03 +/- 9.2E-05		
Sband delay (usec)	1.79384645252E+03				-1.7288401E+01				Resid sbdelay (usec)	-2.69075E-03 +/- 7.3E-04		
Phase delay (usec)	1.79384914349E+03				-2.4337607E-07				Resid phdelay (usec)	2.20732E-07 +/- 3.1E-07		
Delay rate (us/s)	-1.60378512133E-01				-1.60378645522E-01				Resid rate (us/s)	1.33389E-07 +/- 3.0E-09		
Total phase (deg)			79.4		-9.43396912153E-08				Resid phase (deg)	6.8 +/- 9.7		
	RMS	Theor.	Amplitude	0.322 +/- 0.027					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	39.3	22.8	Search (1024X32)	0.317					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000		
amp/seg (%)	38.3	39.8	Interp.	0.000					Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008	
ph/frq (deg)	13.3	13.8	Inc. seg. avg.	0.348					Sample rate(MISamp/s): 128		dr window (ns/s) -0.011 0.011	
amp/frq (%)	19.4	24.0	Inc. frq. avg.	0.316					Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC) 0.00 0.00

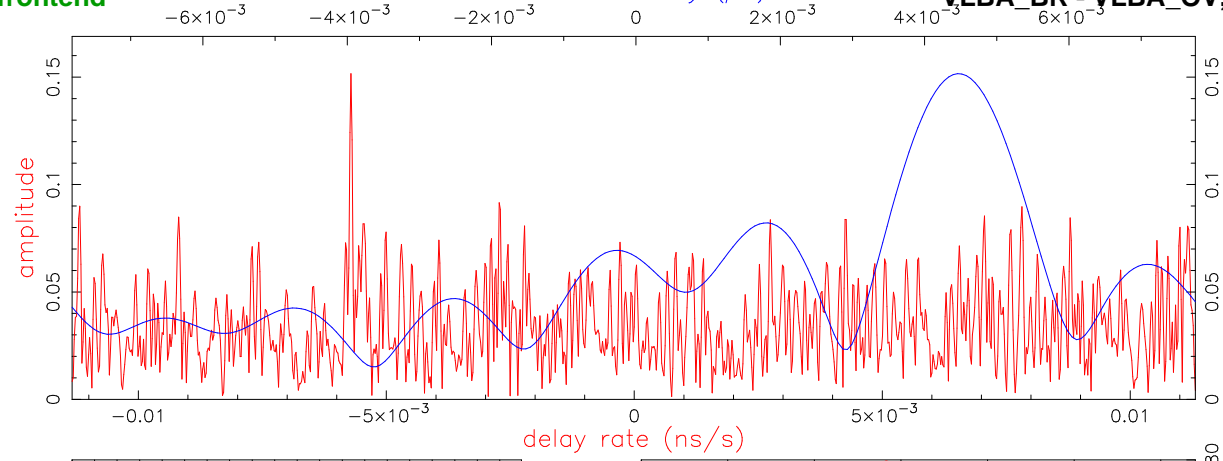
b: az 57.4 el 21.3 pa -45.0 o: az 55.1 el 16.1 pa -55.2 u,v (fr/asec) 1155.692 972.402 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bo..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bo.W.39.126VBU

# Mk4/DiFX fourfit 3.20 rev 0

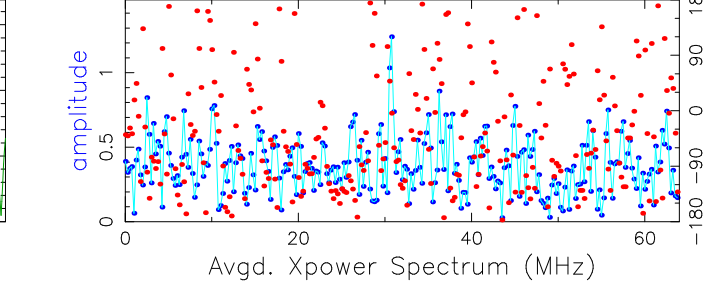
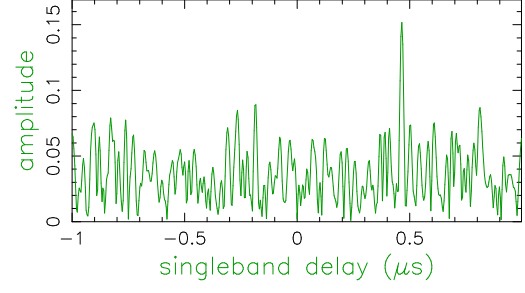
frontend

2013+370.126VBU, No0044, bo  
VLBA\_BR - VLBA\_OV, fgroup W, pol LR

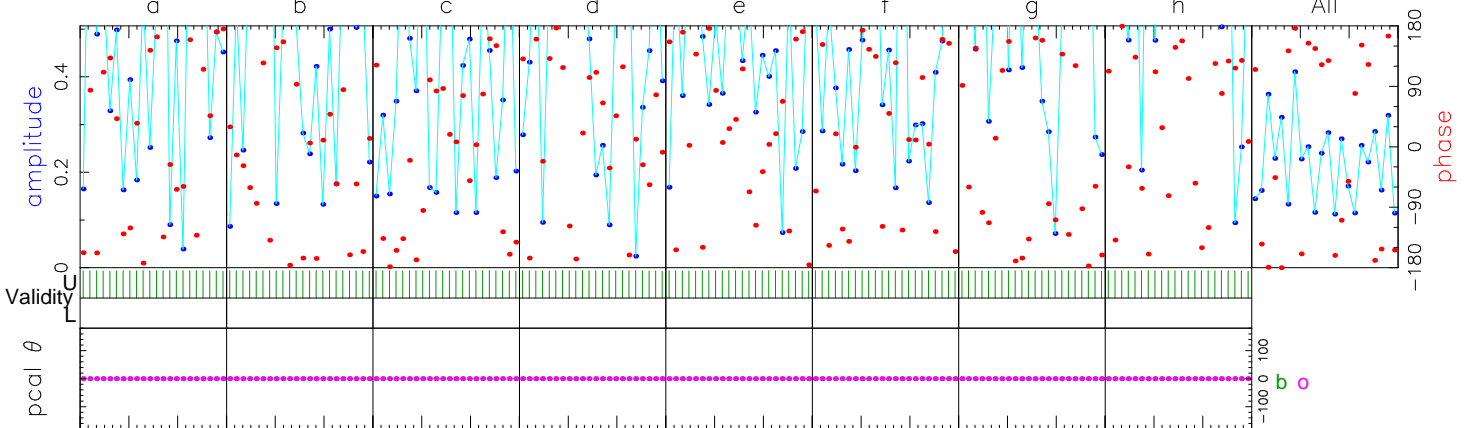
multiband delay ( $\mu$ s)



Fringe quality 0  
SNR 5.5  
Int time 178.567  
Amp 0.169  
Phase 173.1  
PFD 9.7e-01  
Delays (us)  
SBD 0.464399  
MBD 0.004461  
Fringe rate (Hz) -0.493106  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build 2020:070:020408  
2020:071:124457  
2019:280:115849  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

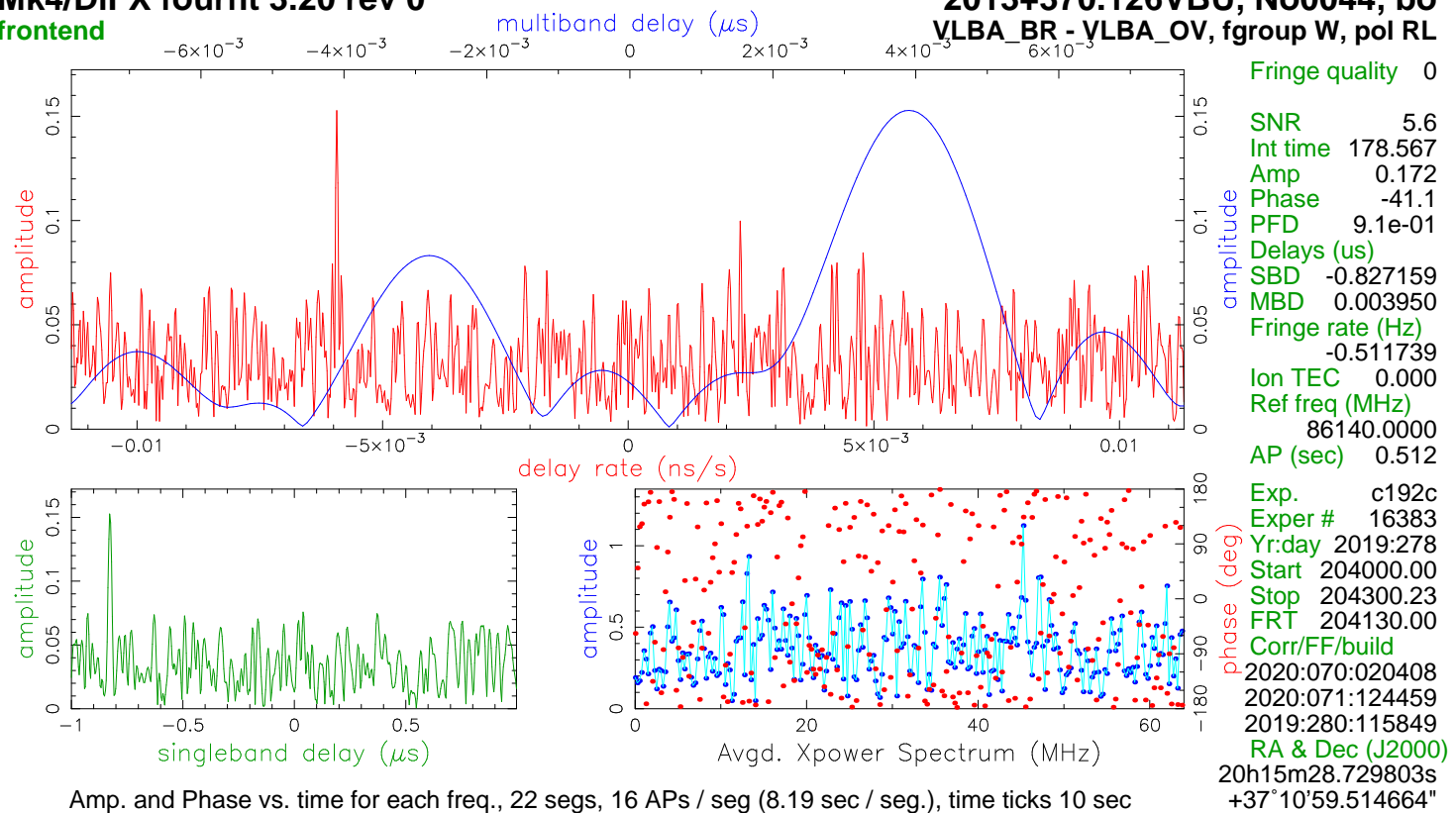


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

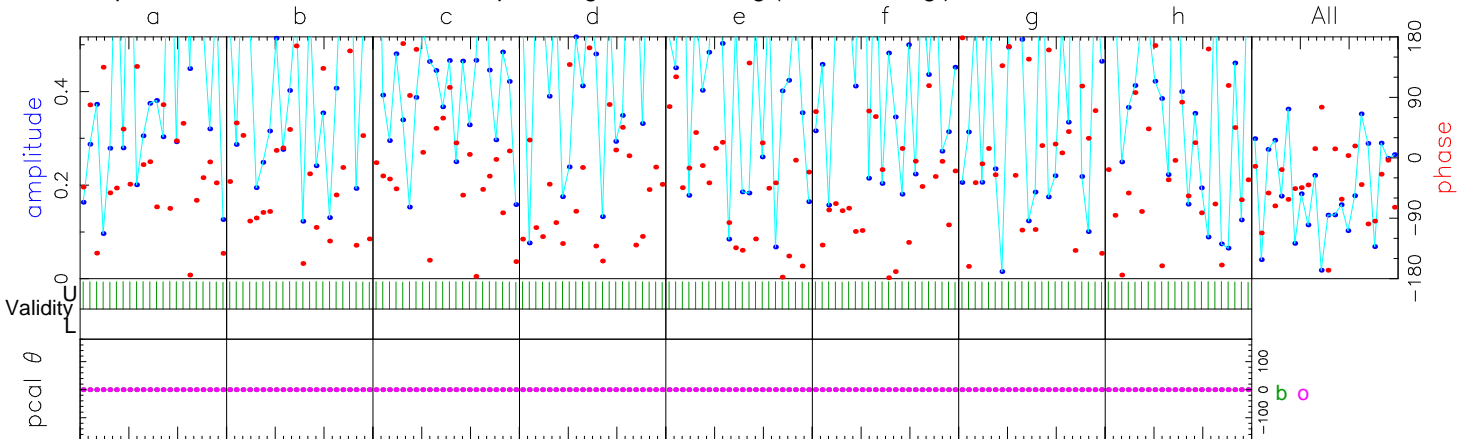


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:o	0:0	0:0	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	
o	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.79430672973E+03					1.79384914327E+03			Resid mbdelay (usec)	4.46145E-03 +/- 2.0E-04
Sband delay (usec)	1.79431354252E+03					-1.7288401E+01			Resid sbdelay (usec)	4.64399E-01 +/- 1.6E-03
Phase delay (usec)	1.79384914885E+03					-2.4337607E-07			Resid phdelay (usec)	5.58117E-06 +/- 6.7E-07
Delay rate (us/s)	-1.60384369991E-01					-1.60378645522E-01			Resid rate (us/s)	-5.72447E-06 +/- 6.4E-09
Total phase (deg)			245.6			-9.43396912153E-08			Resid phase (deg)	173.1 +/- 20.7
	RMS	Theor.	Amplitude	0.169 +/- 0.030		Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5	
ph/seg (deg)	57.3	48.4	Search (1024X32)	0.144		Pcal rate: 0.000E+00, 0.000E+00 (us/s)			sb window (us)	-1.000 1.000
amp/seg (%)	72.7	84.5	Interp.	0.000		Bits/sample: 2x2			SampCntNorm: enabled	mb window (us) -0.008 0.008
ph/frq (deg)	27.7	29.2	Inc. seg. avg.	0.183		Sample rate(MISamp/s): 128				dr window (ns/s) -0.011 0.011
amp/frq (%)	53.2	51.0	Inc. frq. avg.	0.161		Data rate(Mb/s): 2048				ion window (TEC) 0.00 0.00
b: az 57.4 el 21.3 pa -45.0			o: az 55.1 el 16.1 pa -55.2			u,v (fr/asec) 1155.692 972.402				simultaneous interpolator





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



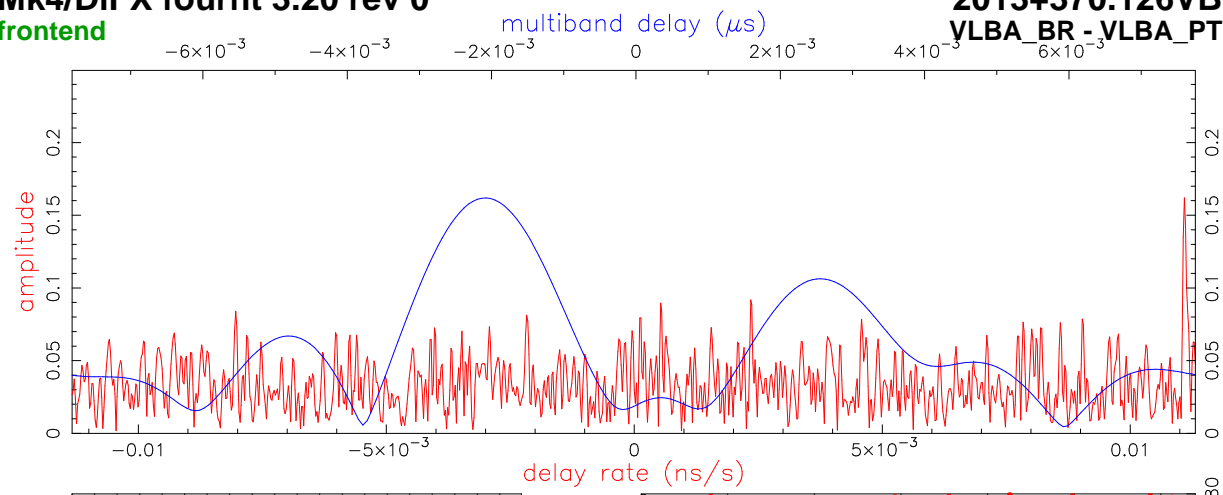
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-34.1	-38.1	-16.4	-73.1	-25.6	-71.1	-25.5	-27.8	Phase	-41.1
	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.2	Ampl.	0.2
	227.0	307.7	12.7	340.3	458.9	108.1	329.2	308.4	Sbd box	45.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:o	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	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	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)	1.79302496781E+03		Apriori delay (usec)		1.79384914327E+03		Resid mbdelay (usec)		3.94954E-03 +/- 1.9E-04	
Sband delay (usec)	1.79302198477E+03		Apriori clock (usec)		-1.7288401E+01		Resid sbdelay (usec)		-8.27159E-01 +/- 1.5E-03	
Phase delay (usec)	1.79384914195E+03		Apriori clockrate (us/s)		-2.4337607E-07		Resid phdelay (usec)		-1.32502E-06 +/- 6.6E-07	
Delay rate (us/s)	-1.60384586300E-01		Apriori rate (us/s)		-1.60378645522E-01		Resid rate (us/s)		-5.94078E-06 +/- 6.3E-09	
Total phase (deg)			Apriori accel (us/s/s)		-9.43396912153E-08		Resid phase (deg)		-41.1 +/- 20.4	

ph/seg (deg) 51.3 47.9 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 70.2 83.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 23.3 28.9 Inc. seg. avg. 0.162 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 33.6 50.4 Inc. frq. avg. 0.163 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 o: az 55.1 el 16.1 pa -55.2 u,v (fr/asec) 1155.692 972.402 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bo..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bo.W.75.126VBU

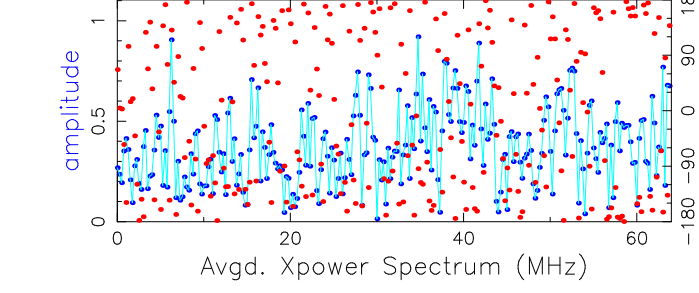
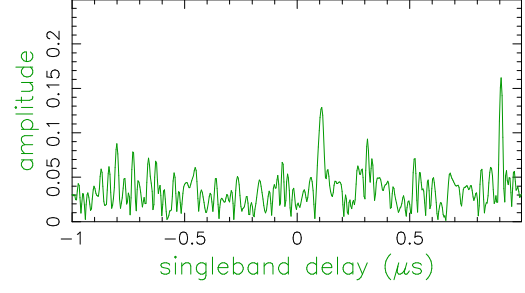


Mk4/DiFX fourfit 3.20 rev 0  
 frontend

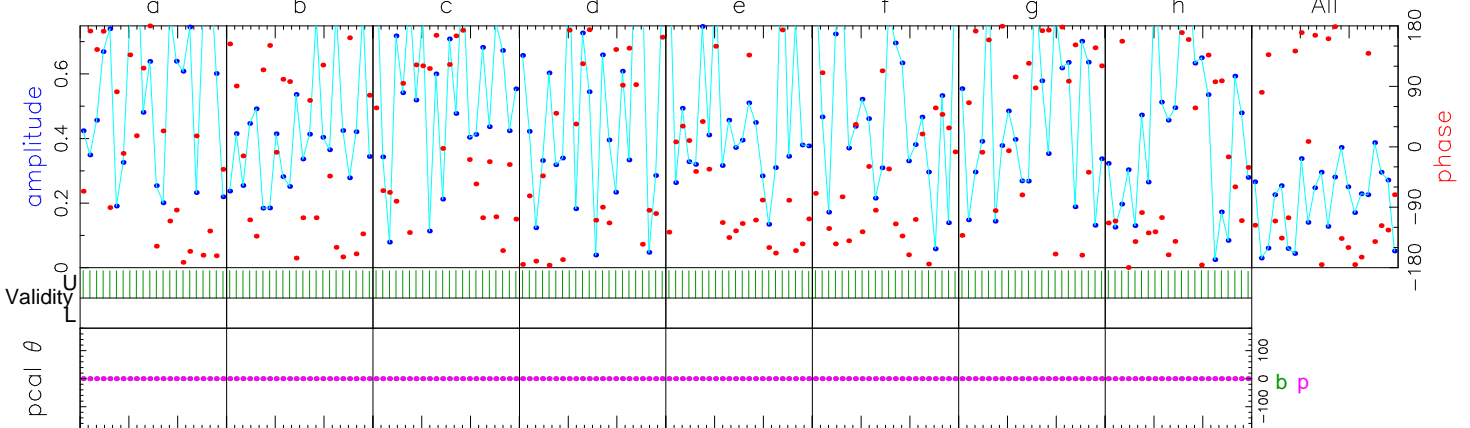
2013+370.126VBU, No0044, bp  
 VLBA\_BR - VLBA\_PT, fgroup W, pol LL



Fringe quality 0  
 SNR 5.9  
 Int time 179.471  
 Amp 0.250  
 Phase -154.8  
 PFD 3.0e-01  
 Delays (us)  
 SBD 0.905721  
 MBD -0.002098  
 Fringe rate (Hz) 0.956346  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124452  
 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		
p	1000	1000	1000	1000	1000	1000	1000	1000		
b:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:p	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		
p	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-7.89231127206E+01	Apriori delay (usec)	-7.98272644573E+01	Resid mbdelay (usec)	-2.09826E-03	+/-	1.8E-04
Sband delay (usec)	-7.89215434573E+01	Apriori clock (usec)	-1.2601147E+01	Resid sbdelay (usec)	9.05721E-01	+/-	1.4E-03
Phase delay (usec)	-7.98272694507E+01	Apriori clockrate (us/s)	-4.4628166E-07	Resid phdelay (usec)	-4.99338E-06	+/-	6.2E-07
Delay rate (us/s)	-2.05370626023E-01	Apriori rate (us/s)	-2.05381728251E-01	Resid rate (us/s)	1.11022E-05	+/-	6.0E-09
Total phase (deg)	-356.6	Apriori accel (us/s/s)	1.27188799352E-05	Resid phase (deg)	-154.8	+/-	19.3

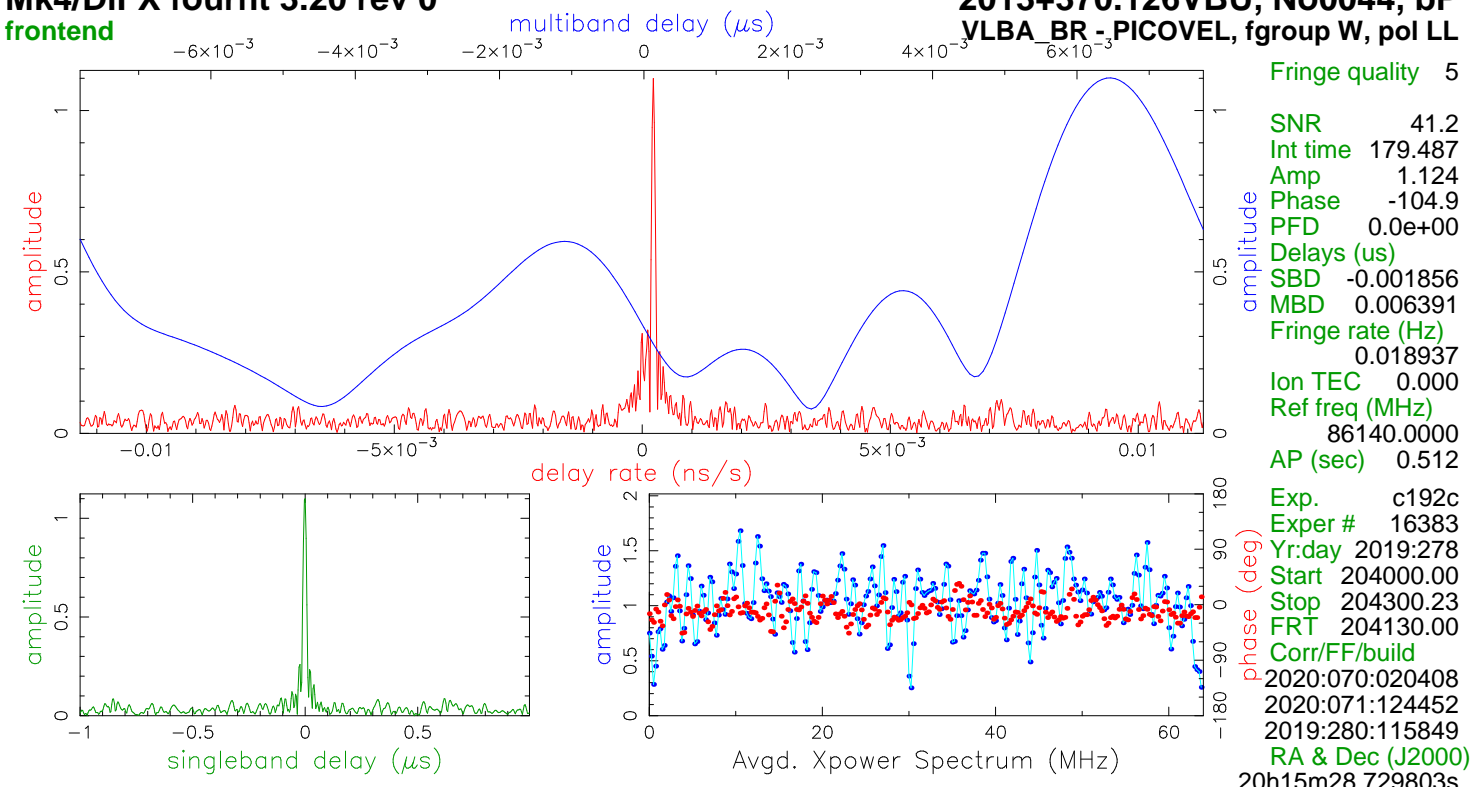
ph/seg (deg)	59.3	Theor.	45.2	Amplitude	0.250 +/- 0.042	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	72.0		78.9	Search (1024X32)	0.154	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	39.3		27.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	30.0		47.6	Inc. seg. avg.	0.247	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.266	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

b: az 57.4 el 21.3 pa -45.0      p: az 58.7 el 21.4 pa -62.7      u,v (fr/asec) 1489.750 2027.617      simultaneous interpolator

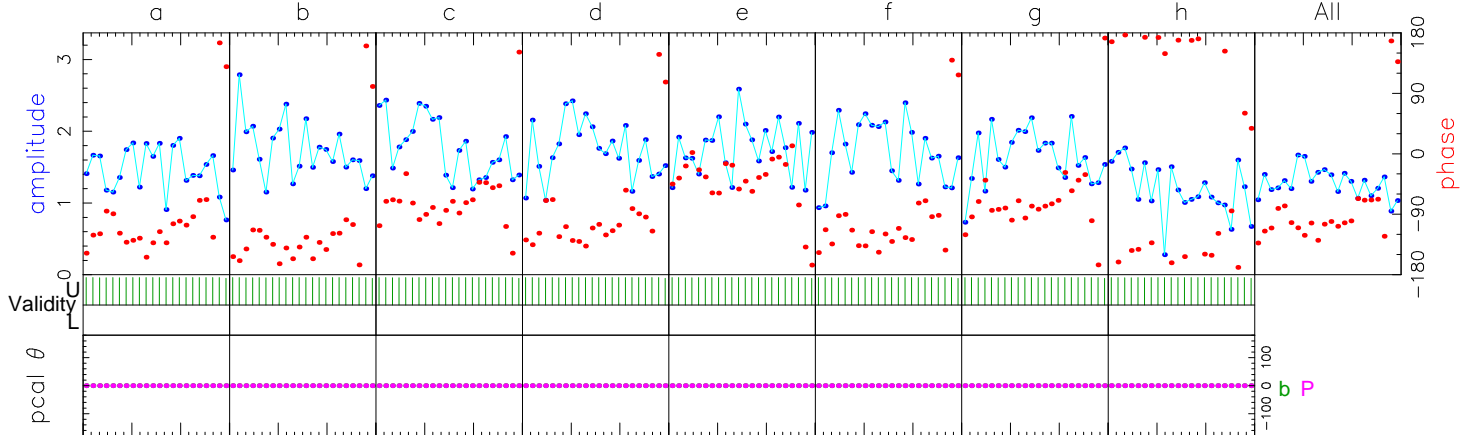
Control file: cf\_1234\_gmva    Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bp..126VBU    Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bp.W.15.126VBU

Mk4/DiFX fourfit 3.20 rev 0  
frontend

2013+370.126VBU, No0044, bP  
VLBA\_BR - PICOVEL, 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

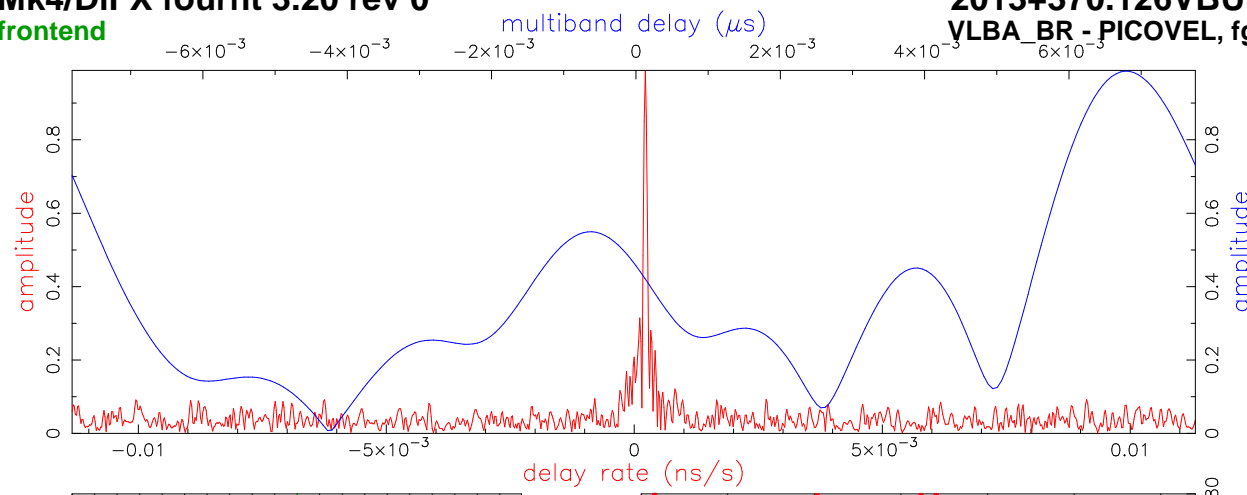


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-118.1	-139.3	-80.1	-113.3	-37.5	-120.4	-78.4	-170.8	Phase	-104.9
	1.3	1.5	1.5	1.4	1.4	1.4	1.4	0.9	Ampl.	1.4
	255.9	256.2	256.2	255.9	255.8	255.9	255.8	254.1	Sbd box	256.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:P	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	
P	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-1.29105798791E+04		Apriori delay (usec)		-1.29105706456E+04		Resid mbdelay (usec)		6.39147E-03	+/- 2.6E-05
Sband delay (usec)	-1.29105725011E+04		Apriori clock (usec)		-4.7276664E-01		Resid sbdelay (usec)		-1.85550E-03	+/- 2.1E-04
Phase delay (usec)	-1.29105706489E+04		Apriori clockrate (us/s)		1.1060491E-07		Resid phdelay (usec)		-3.38381E-06	+/- 9.0E-08
Delay rate (us/s)	1.10655001670E+00		Apriori rate (us/s)		1.10654979686E+00		Resid rate (us/s)		2.19837E-07	+/- 8.6E-10
Total phase (deg)			Apriori accel (us/s/s)		7.83306531107E-05		Resid phase (deg)		-104.9	+/- 2.8

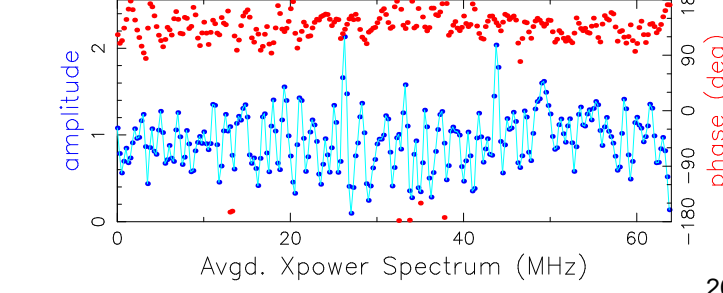
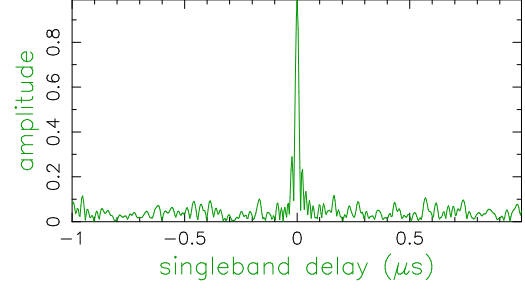
ph/seg (deg) 37.0 6.5 Search (1024X32) 1.095 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 21.7 11.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 44.5 3.9 Inc. seg. avg. 1.271 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 26.3 6.9 Inc. frq. avg. 1.358 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 57.4 el 21.3 pa -45.0 P: az 275.9 el 76.6 pa 85.5 u,v (fr/asec) -7900.011 5725.087 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bP..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bP.W.16.126VBU

Mk4/DiFX fourfit 3.20 rev 0  
frontend

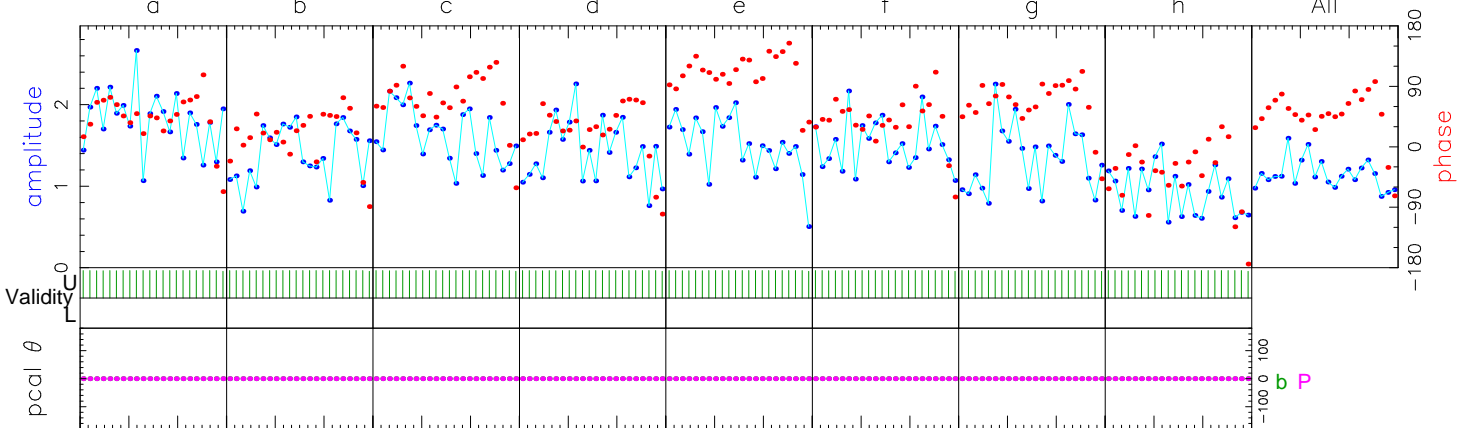
2013+370.126VBU, No0044, bP  
VLBA\_BR - PICOVEL, fgroup W, pol RR



Fringe quality 5  
SNR 36.2  
Int time 179.487  
Amp 0.989  
Phase 52.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.000572  
MBD 0.006780  
Fringe rate (Hz) 0.018826  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build 2020:070:020408  
2020:071:124454  
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

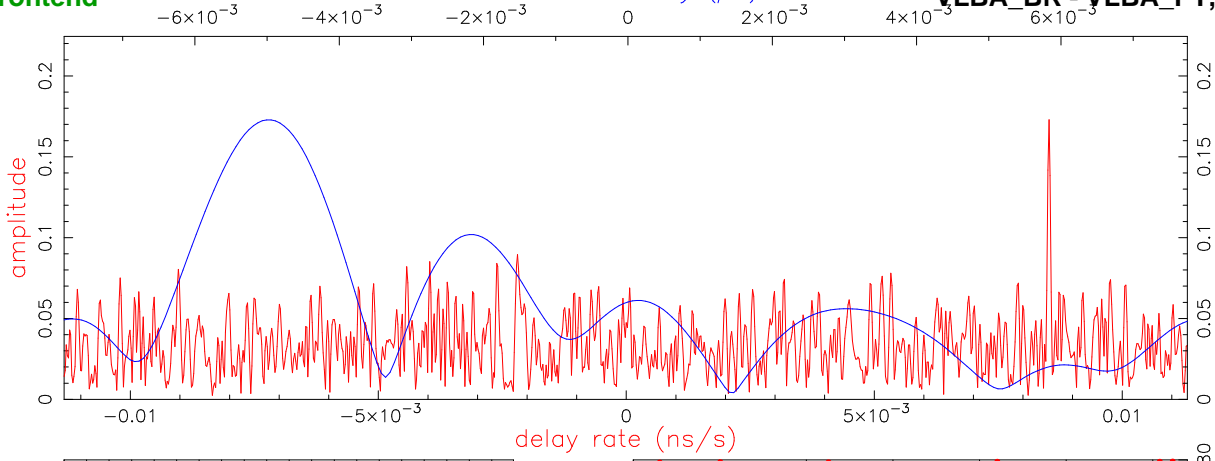


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.29105638657E+04				-1.29105706456E+04				6.77984E-03	+/- 3.0E-05
Sband delay (usec)	-1.29105712173E+04				-4.7276664E-01				-5.71750E-04	+/- 2.4E-04
Phase delay (usec)	-1.29105706439E+04				1.1060491E-07				1.68795E-06	+/- 1.0E-07
Delay rate (us/s)	1.10655001541E+00				1.10654979686E+00				2.18553E-07	+/- 9.8E-10
Total phase (deg)			-94.8		7.83306531107E-05				52.3	+/- 3.2
	RMS	Theor.	Amplitude	0.989 +/- 0.027	Pcal mode: MANUAL, MANUAL				PC period (AP's) 5, 5	
ph/seg (deg)	36.6	7.4	Search (1024X32)	0.981	Pcal rate: 0.000E+00, 0.000E+00 (us/s)				sb window (us)	-1.000 1.000
amp/seg (%)	23.9	12.9	Interp.	0.000	Bits/sample: 2x2				mb window (us)	-0.008 0.008
ph/frq (deg)	47.6	4.5	Inc. seg. avg.	1.138	Sample rate(MISamp/s): 128				dr window (ns/s)	-0.011 0.011
amp/frq (%)	32.1	7.8	Inc. frq. avg.	1.212	Data rate(Mb/s): 2048				ion window (TEC)	0.00 0.00
b: az 57.4 el 21.3 pa -45.0			P: az 275.9 el 76.6 pa 85.5		u,v (fr/asec) -7900.011 5725.087					simultaneous interpolator

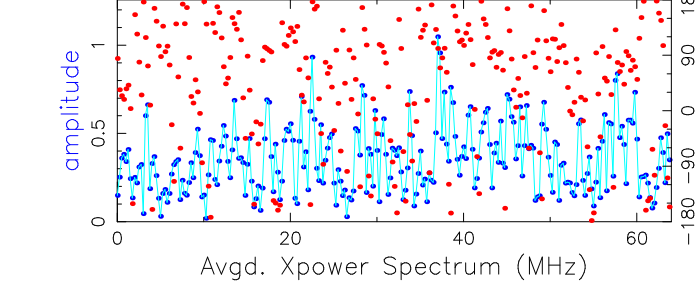
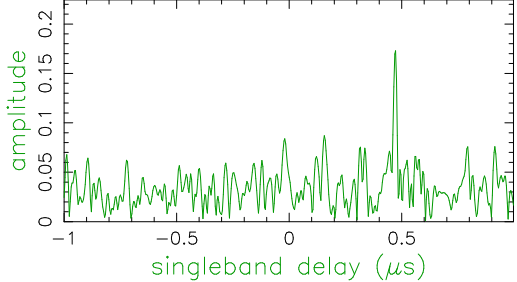
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bP..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bP.W.35.126VBU

multiband delay ( $\mu$ s)

Fringe quality 0

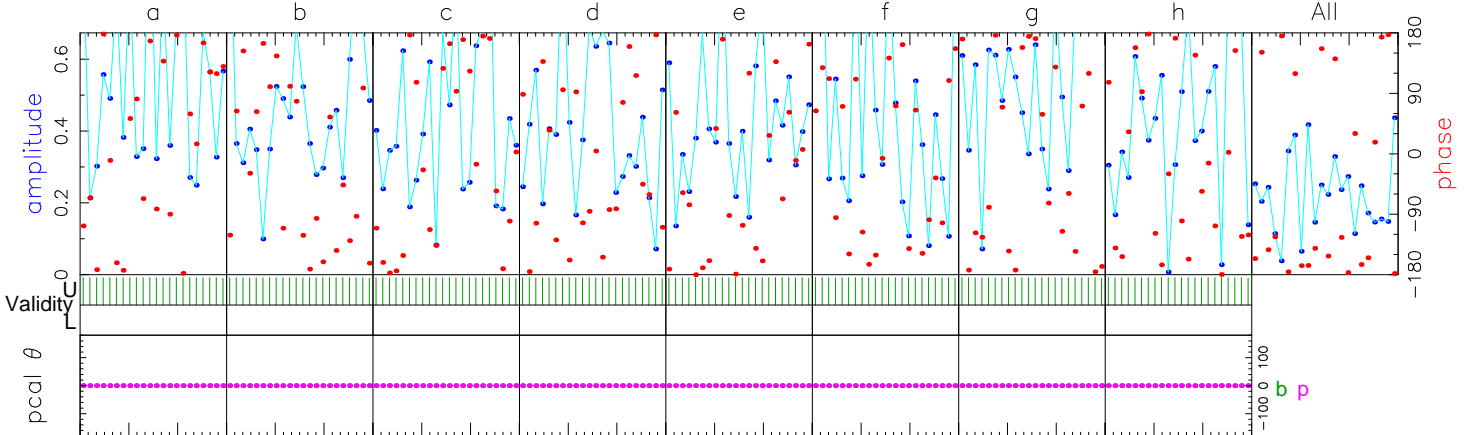


SNR 6.4  
 Int time 179.472  
 Amp 0.224  
 Phase -177.4  
 PFD 1.7e-02  
 Delays (us)  
 SBD 0.471095  
 MBD -0.005002  
 Fringe rate (Hz)  
 0.735656  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124455  
 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		
p	1000	1000	1000	1000	1000	1000	1000	1000		
b:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:p	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		
p	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-7.93635167612E+01	Apriori delay (usec)	-7.98272644573E+01	Resid mbdelay (usec)	-5.00230E-03	+/-	1.7E-04
Sband delay (usec)	-7.93561692073E+01	Apriori clock (usec)	-1.2601147E+01	Resid sbdelay (usec)	4.71095E-01	+/-	1.3E-03
Phase delay (usec)	-7.98272701778E+01	Apriori clockrate (us/s)	-4.4628166E-07	Resid phdelay (usec)	-5.72048E-06	+/-	5.7E-07
Delay rate (us/s)	-2.05373188016E-01	Apriori rate (us/s)	-2.05381728251E-01	Resid rate (us/s)	8.54024E-06	+/-	5.5E-09
Total phase (deg)	-19.1	Apriori accel (us/s/s)	1.27188799352E-05	Resid phase (deg)	-177.4	+/-	17.8

ph/seg (deg)	55.8	RMS	41.8	Theor.	41.8	Amplitude	0.224 +/- 0.035	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	66.7	Search (1024X32)	0.166	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
ph/frq (deg)	31.1	Inc. seg. avg.	0.227	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
amp/frq (%)	39.6	Inc. frq. avg.	0.219	Data rate (Mb/s):	2048								

b: az 57.4 el 21.3 pa -45.0      p: az 58.7 el 21.4 pa -62.7      u,v (fr/asec) 1489.750 2027.617      simultaneous interpolator

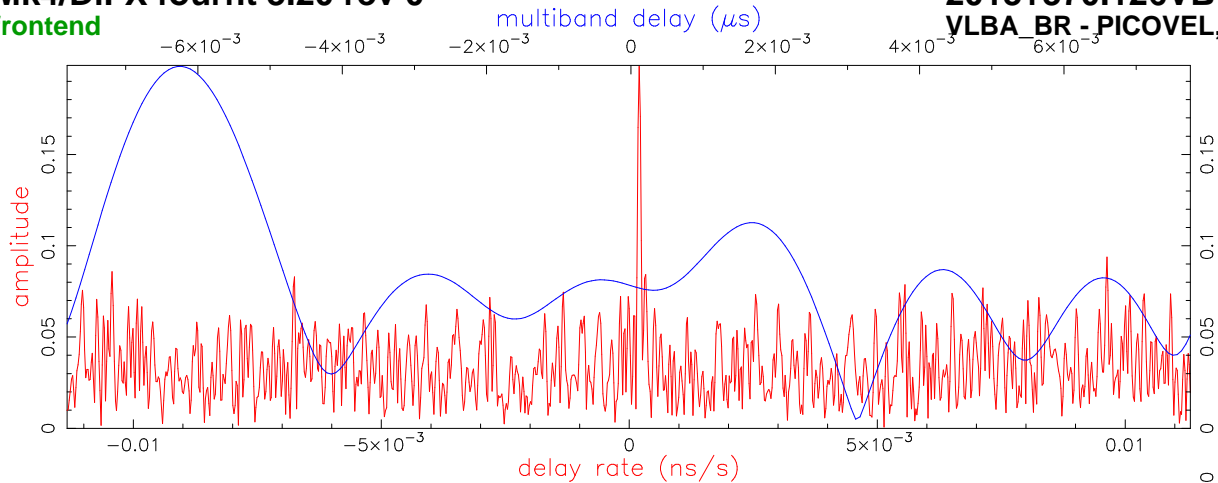
Control file: cf\_1234\_gmva      Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bp..126VBU      Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bp.W.37.126VBU

# Mk4/DiFX fourfit 3.20 rev 0

frontend

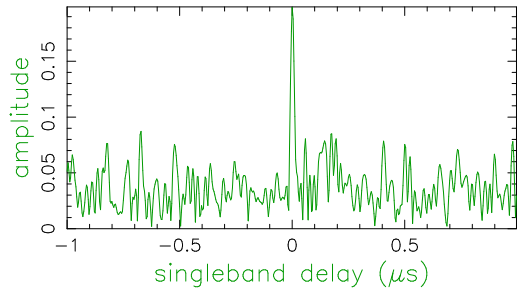
# 2013+370.126VBU, No0044, bP

VLBA\_BR - PICOVEL, fgroup W, pol LR

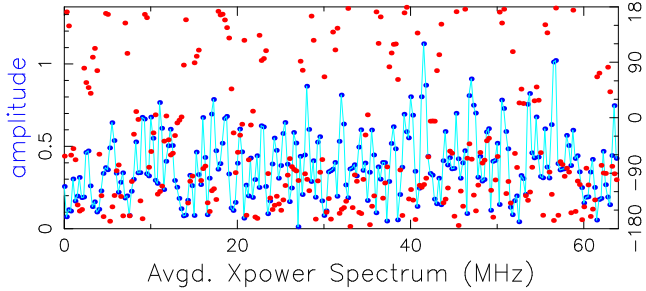


Fringe quality 9

SNR 7.3  
 Int time 179.487  
 Amp 0.199  
 Phase -45.3  
 PFD 5.2e-05  
 Delays (us)  
 SBD 0.000668  
 MBD -0.006238  
 Fringe rate (Hz)  
 0.017905  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

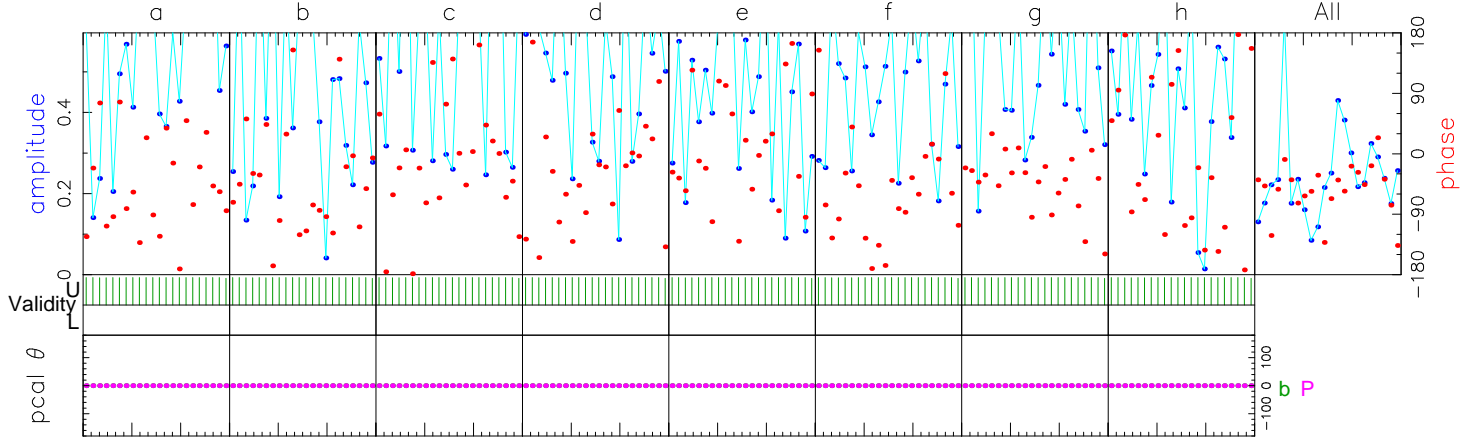


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124457  
 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



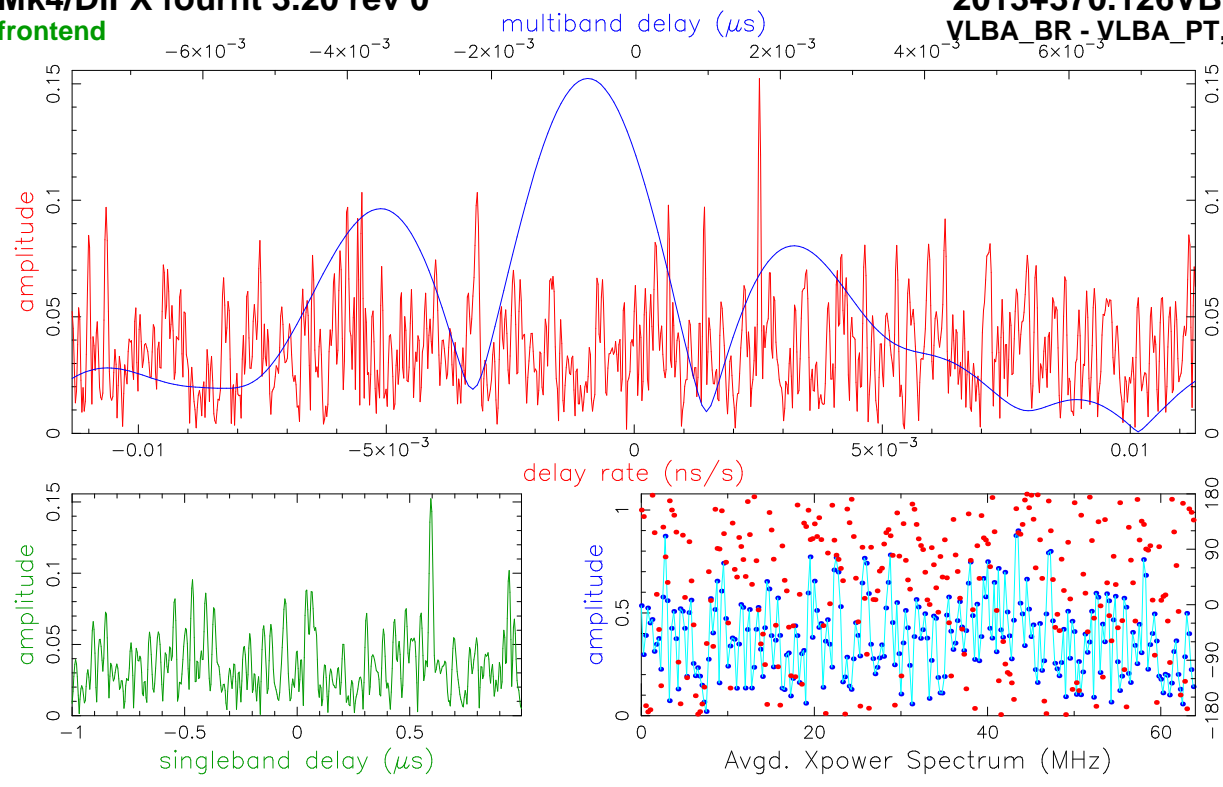
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.29105768835E+04				-1.29105706456E+04					
Sband delay (usec)	-1.29105699776E+04				-4.7276664E-01					
Phase delay (usec)	-1.29105706470E+04				1.1060491E-07					
Delay rate (us/s)	1.10655000472E+00				1.10654979686E+00					
Total phase (deg)			-192.4		7.83306531107E-05					
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
pcal mode										
PC period (AP's) 5, 5										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.199 +/- 0.027										
0.193										
0.000										
0.206										
0.232										
0.000E+00										
0.000E+00										
2.07864E-07										
-45.3										
1.5E-04										
1.2E-03										
5.1E-07										
4.9E-09										
15.7										
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										
b: az 57.4 el 21.3 pa -45.0										
P: az 275.9 el 76.6 pa 85.5										
u,v (fr/asec) -7900.011 5725.087										
simultaneous interpolator										

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bP..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bP.W.58.126VBU



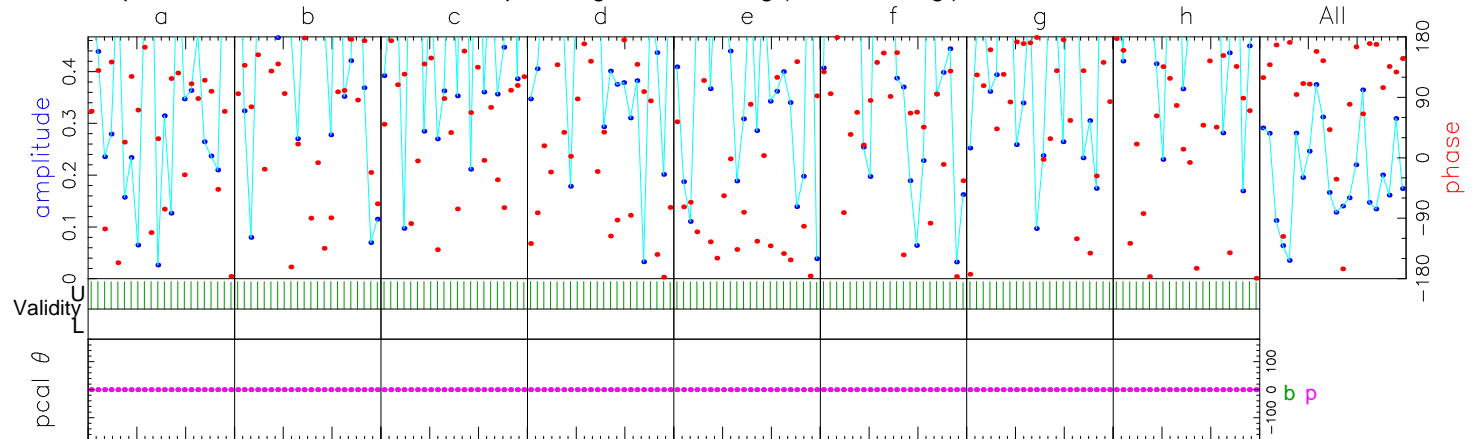
Mk4/DiFX fourfit 3.20 rev 0  
 frontend

2013+370.126VBU, No0044, bp  
 VLBA\_BR - VLBA\_PT, fgroup W, pol LR



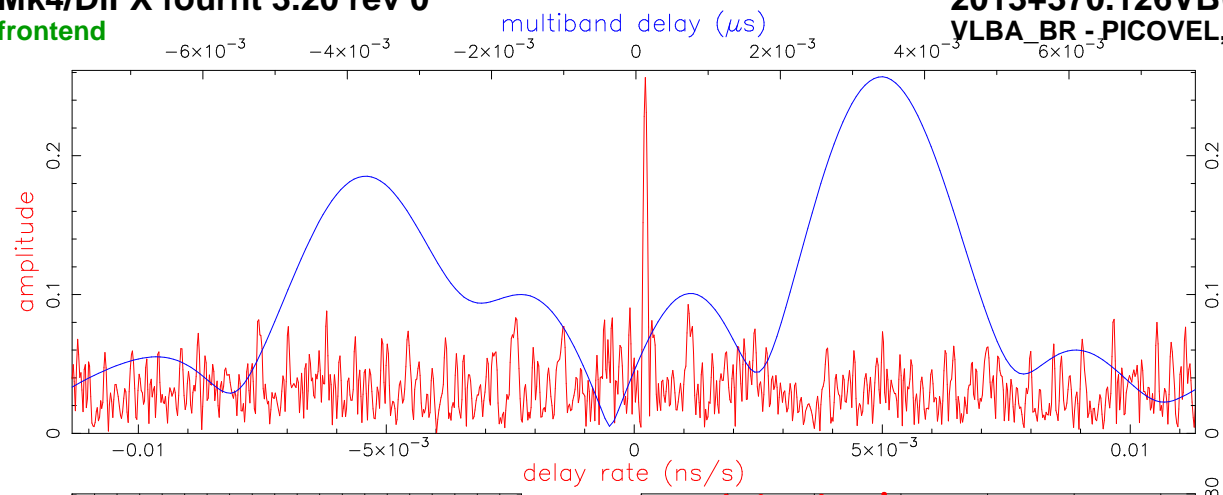
Fringe quality 0  
 SNR 5.6  
 Int time 179.472  
 Amp 0.156  
 Phase 126.9  
 PFD 9.4e-01  
 Delays (us)  
 SBD 0.594325  
 MBD -0.000659  
 Fringe rate (Hz)  
 0.217442  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124457  
 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

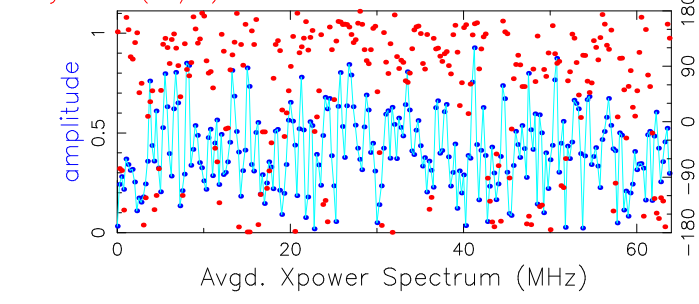
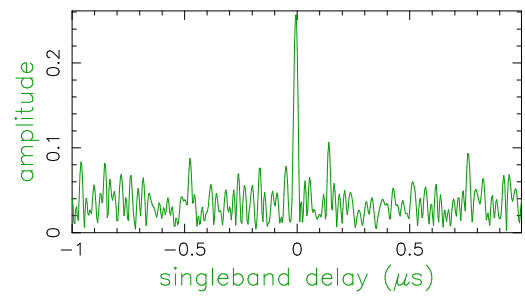


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	133.9	126.2	107.4	166.9	-148.8	113.8	121.5	128.1	Phase	126.9
b	0.1	0.2	0.2	0.0	0.1	0.2	0.3	0.2	Ampl.	0.2
p	267.5	241.1	91.1	167.2	293.0	163.9	410.2	304.6	Sbd box	409.1
b:p	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b:p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:p	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	
b	1000	1000	1000	1000	1000	1000	1000	1000		
b	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)	-7.92341733597E+01			Apriori delay (usec)	-7.98272644573E+01			Resid mbdelay (usec)	-6.58902E-04	+/- 1.9E-04
Sband delay (usec)	-7.92329389573E+01			Apriori clock (usec)	-1.2601147E+01			Resid sbdelay (usec)	5.94325E-01	+/- 1.5E-03
Phase delay (usec)	-7.98272603640E+01			Apriori clockrate (us/s)	-4.4628166E-07			Resid phdelay (usec)	4.09335E-06	+/- 6.6E-07
Delay rate (us/s)	-2.05379203963E-01			Apriori rate (us/s)	-2.05381728251E-01			Resid rate (us/s)	2.52429E-06	+/- 6.4E-09
Total phase (deg)		-74.8		Apriori accel (us/s/s)	1.27188799352E-05			Resid phase (deg)	126.9	+/- 20.5

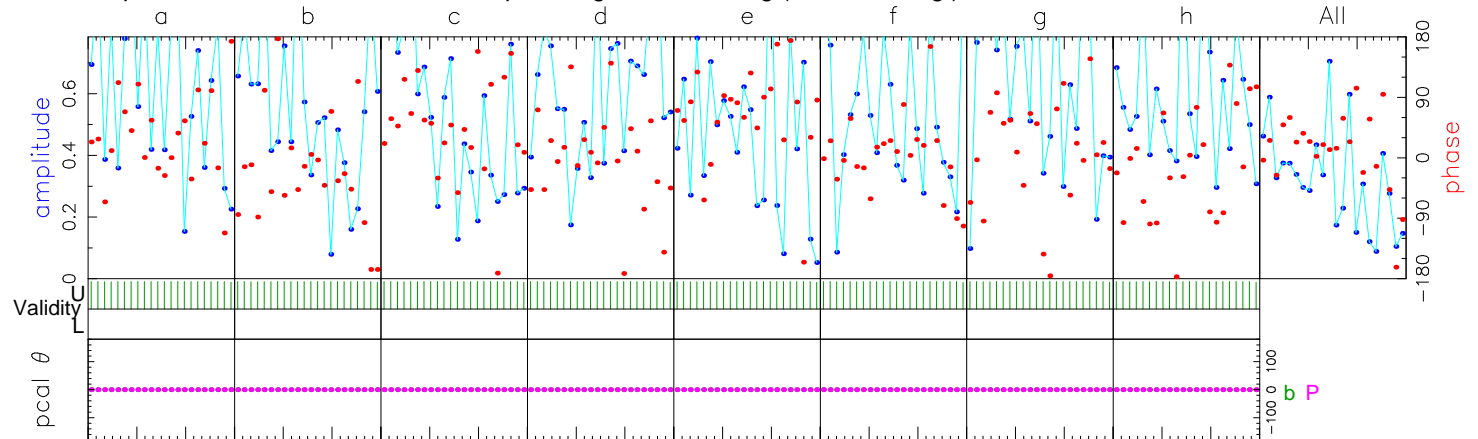
ph/seg (deg) 56.2 48.1 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 68.4 83.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 39.4 29.0 Inc. seg. avg. 0.154 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 46.2 50.6 Inc. frq. avg. 0.151 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 57.4 el 21.3 pa -45.0 p: az 58.7 el 21.4 pa -62.7 u,v (fr/asec) 1489.750 2027.617 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bp..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bp.W.59.126VBU



Fringe quality 9  
SNR 9.6  
Int time 179.487  
Amp 0.262  
Phase 21.0  
PFD 2.0e-13  
Delays (us)  
SBD -0.005838  
MBD 0.003471  
Fringe rate (Hz) 0.019087  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124500  
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

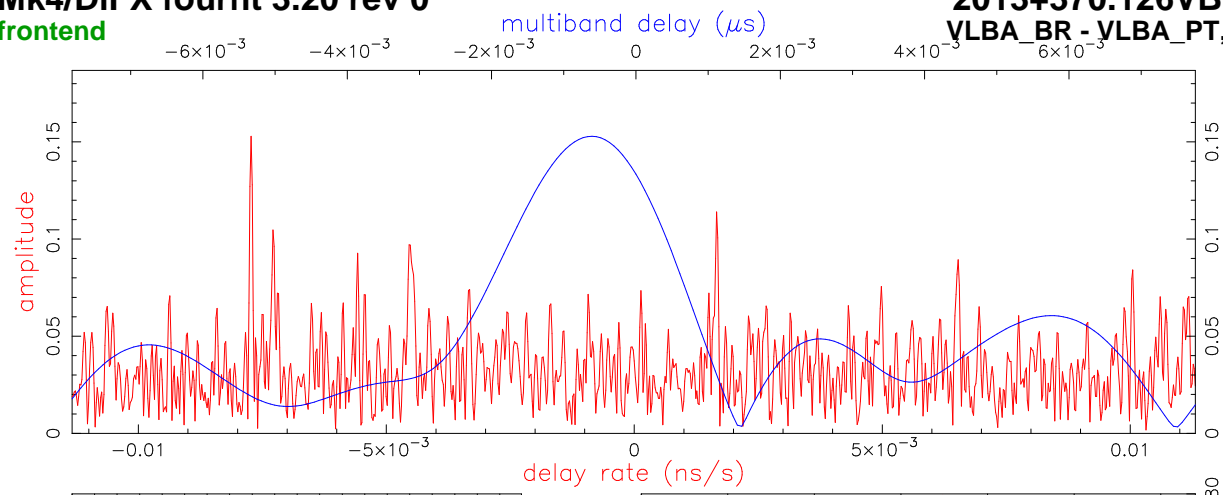


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-1.29105828000E+04				-1.29105706456E+04				3.47053E-03	+/- 1.1E-04
Sband delay (usec)	-1.29105764831E+04				-4.7276664E-01				-5.83750E-03	+/- 9.0E-04
Phase delay (usec)	-1.29105706449E+04				1.1060491E-07				6.76743E-07	+/- 3.9E-07
Delay rate (us/s)	1.10655001844E+00				1.10654979686E+00				2.21584E-07	+/- 3.7E-09
Total phase (deg)			-126.2		7.83306531107E-05				21.0	+/- 12.0
pcal mode:	MANUAL, MANUAL		PC period (AP's) 5, 5							
pcal rate:	0.000E+00, 0.000E+00 (us/s)		sb window (us) -1.000 1.000							
Bits/sample:	2x2		SampCntNorm: enabled mb window (us) -0.008 0.008							
Sample rate (MSamp/s):	128		dr window (ns/s) -0.011 0.011							
Data rate (Mb/s):	2048		ion window (TEC) 0.00 0.00							
nlags:	256		t_cohere infinite							

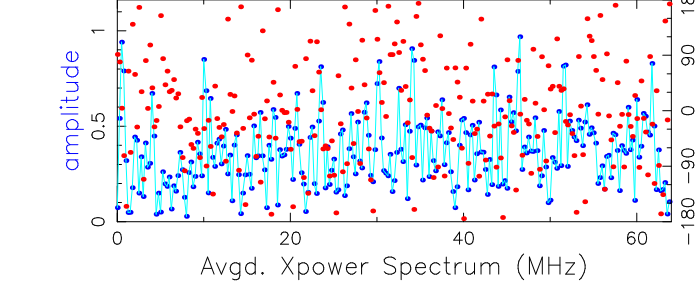
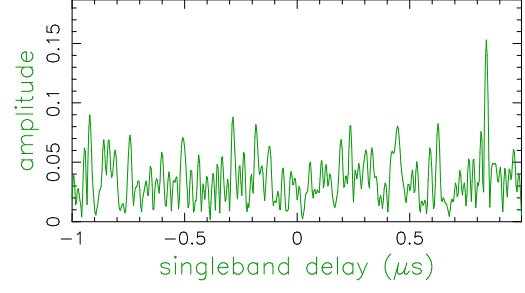
b: az 57.4 el 21.3 pa -45.0 P: az 275.9 el 76.6 pa 85.5 u,v (fr/asec) -7900.011 5725.087 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bP.126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bP.W.77.126VBU

Mk4/DiFX fourfit 3.20 rev 0  
frontend

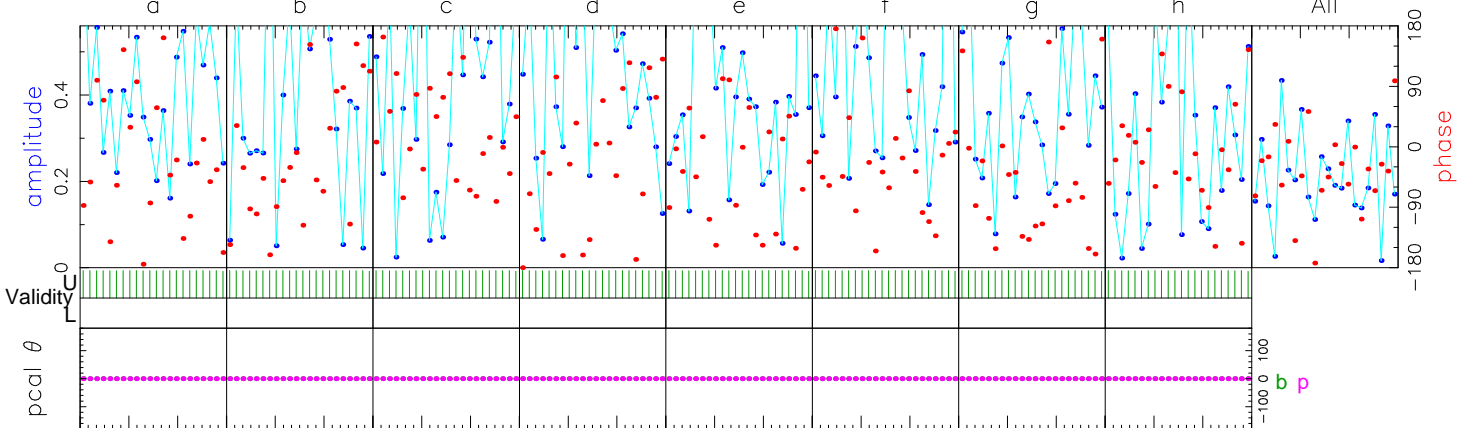
2013+370.126VBU, No0044, bp  
VLBA\_BR - VLBA\_PT, fgroup W, pol RL



Fringe quality 0  
SNR 5.6  
Int time 179.471  
Amp 0.187  
Phase -41.1  
PFD 9.2e-01  
Delays (us)  
SBD 0.840188  
MBD -0.000595  
Fringe rate (Hz)  
-0.666517  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124500  
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
	-57.2	-72.6	-21.7	-11.9	-47.7	-33.8	-81.6	-28.9	Phase	-41.1
	0.1	0.1	0.3	0.1	0.2	0.4	0.2	0.2	Ampl.	0.2
	500.1	279.2	111.2	277.7	298.3	473.2	370.7	210.2	Sbd box	472.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:p	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	
p	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.89841099101E+01		Apriori delay (usec)		-7.98272644573E+01		Resid mbdelay (usec)		-5.95453E-04 +/- 1.9E-04	
Sband delay (usec)	-7.89870767073E+01		Apriori clock (usec)		-1.2601147E+01		Resid sbdelay (usec)		8.40188E-01 +/- 1.5E-03	
Phase delay (usec)	-7.98272657842E+01		Apriori clockrate (us/s)		-4.4628166E-07		Resid phdelay (usec)		-1.32684E-06 +/- 6.6E-07	
Delay rate (us/s)	-2.05389465855E-01		Apriori rate (us/s)		-2.05381728251E-01		Resid rate (us/s)		-7.73760E-06 +/- 6.3E-09	
Total phase (deg)			Apriori accel (us/s/s)		1.27188799352E-05		Resid phase (deg)		-41.1 +/- 20.4	

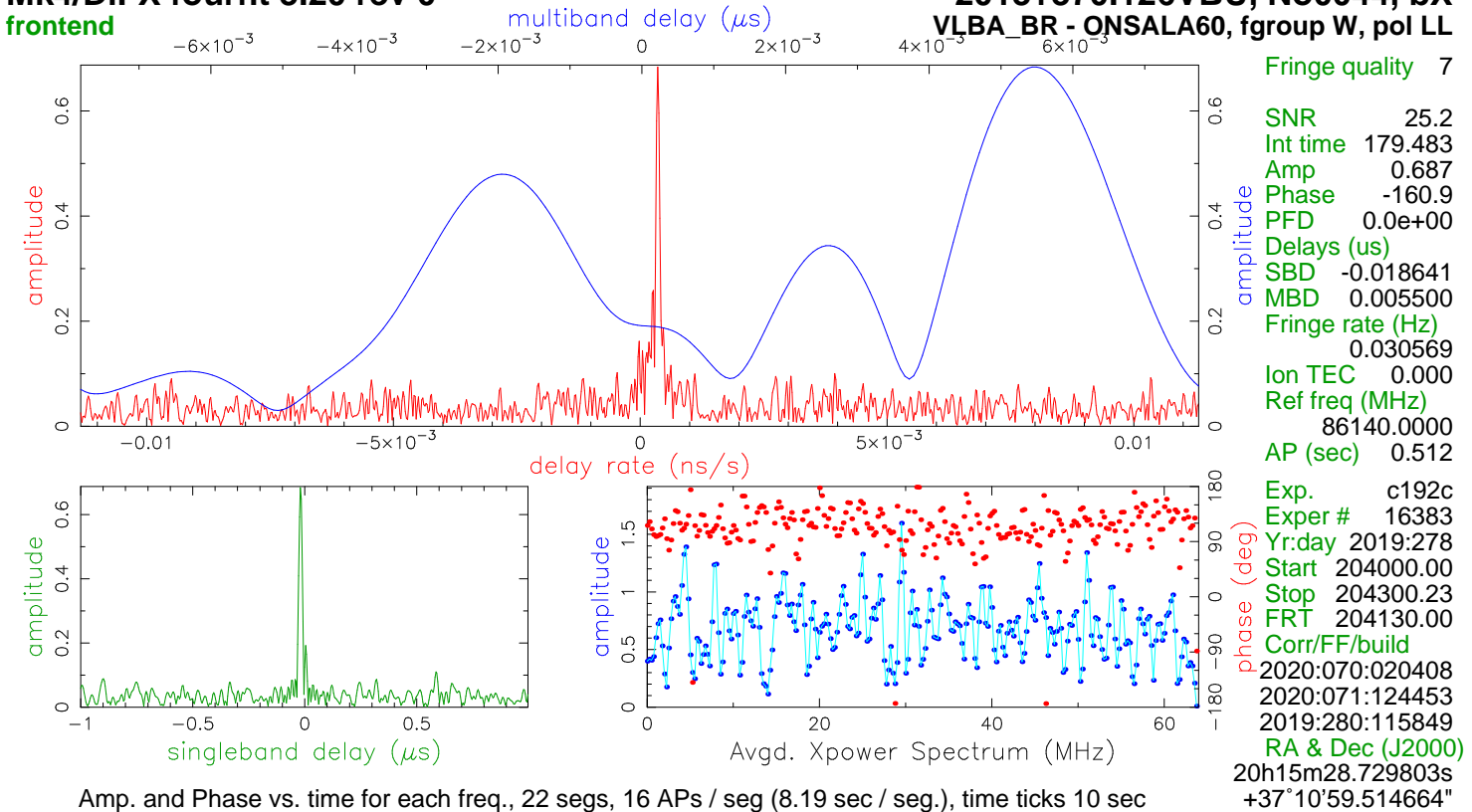
ph/seg (deg) 58.5 47.9 Search (1024X32) 0.147 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 78.5 83.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 27.0 28.9 Inc. seg. avg. 0.192 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 47.3 50.5 Inc. frq. avg. 0.178 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
b: az 57.4 el 21.3 pa -45.0 p: az 58.7 el 21.4 pa -62.7 u,v (fr/asec) 1489.750 2027.617 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bp..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bp.W.78.126VBU

Mk4/DiFX fourfit 3.20 rev 0

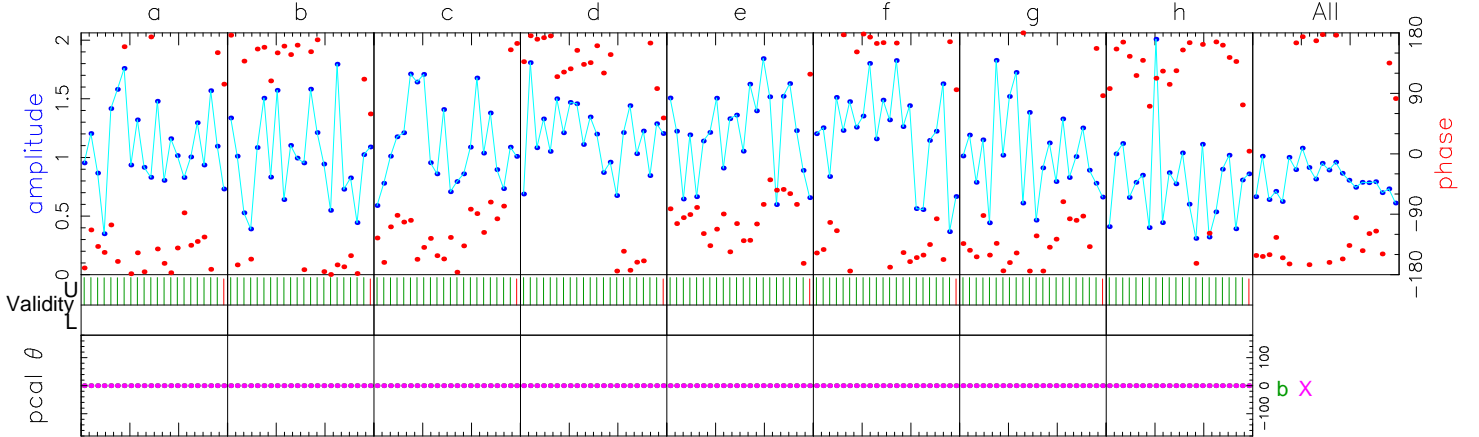
frontend

2013+370.126VBU, No0044, bX

VLBA\_BR - ONSALA60, 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

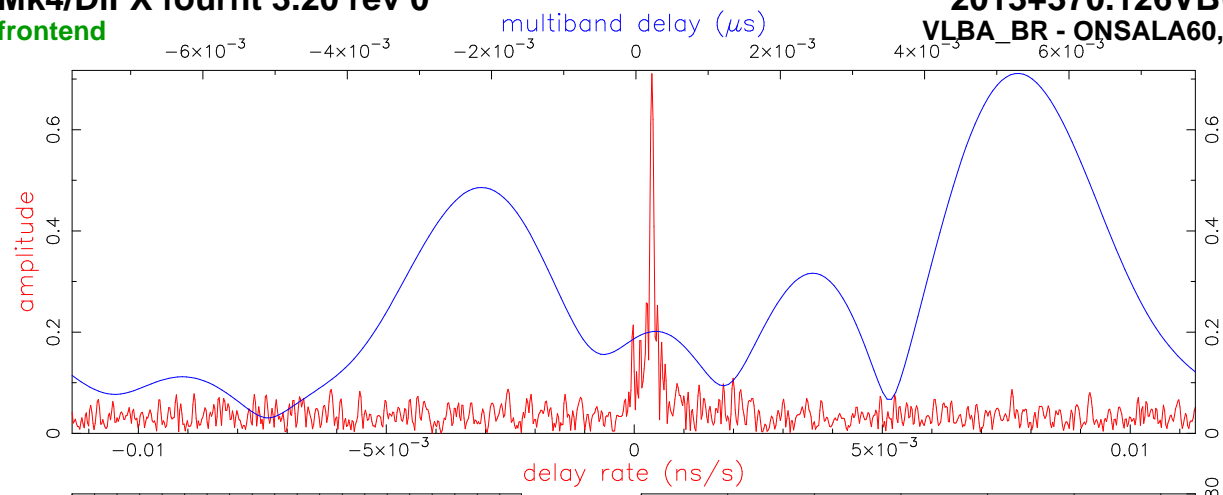


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-155.8	163.6	-123.8	153.4	-96.8	-165.7	-138.8	135.2		-160.9
	0.9	0.9	0.9	1.0	1.0	1.0	0.8	0.6		0.9
	252.0	251.9	252.3	251.8	252.0	251.3	251.6	250.1		252.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
b	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks
										Tracks
Group delay (usec)(sbd)	-1.08046666340E+04		Apriori delay (usec)		-1.08046408838E+04		Resid mbdelay (usec)		5.49986E-03	+/- 4.3E-05
Sband delay (usec)	-1.08046595253E+04		Apriori clock (usec)		-3.3026993E+01		Resid sbdelay (usec)		-1.86415E-02	+/- 3.4E-04
Phase delay (usec)	-1.08046408890E+04		Apriori clockrate (us/s)		-7.7039509E-07		Resid phdelay (usec)		-5.18755E-06	+/- 1.5E-07
Delay rate (us/s)	1.17351479212E+00		Apriori rate (us/s)		1.17351443724E+00		Resid rate (us/s)		3.54880E-07	+/- 1.4E-09
Total phase (deg)			Apriori accel (us/s/s)		5.05889610066E-05		Resid phase (deg)		-160.9	+/- 4.6

	RMS	Theor.	Amplitude	0.687 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	38.0	10.7	Search (1024X32)	0.681	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	26.9	18.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	47.4	6.4	Inc. seg. avg.	0.805	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	33.3	11.2	Inc. frq. avg.	0.878	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

b: az 57.4 el 21.3 pa -45.0 X: az 240.2 el 60.8 pa 35.8 u,v (fr/asec) -8406.078 2380.317 simultaneous interpolator

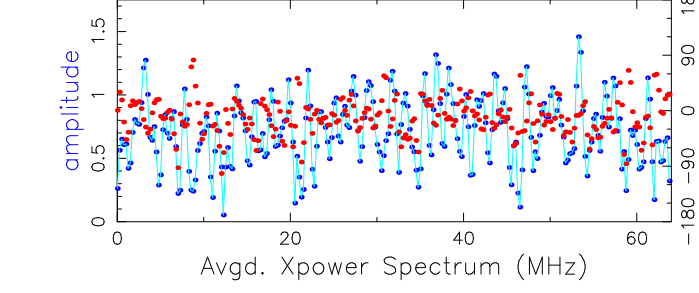
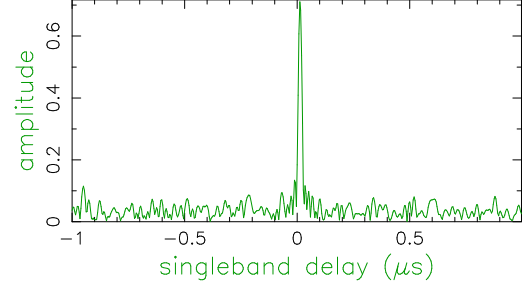
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bX..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bX.W.28.126VBU



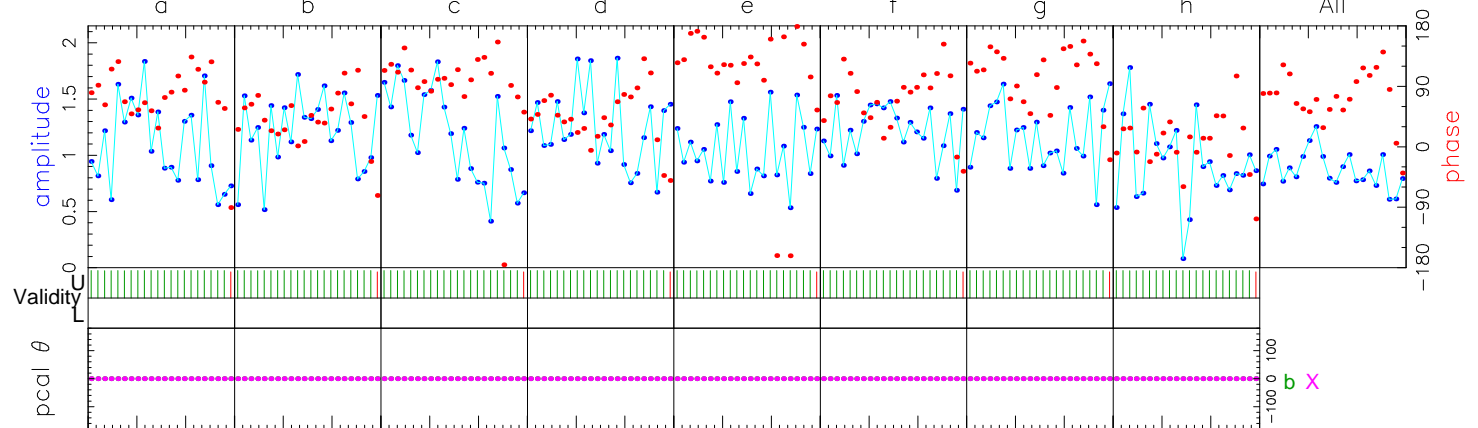
Fringe quality 7

SNR 26.3  
Int time 179.483  
Amp 0.717  
Phase 76.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.012898  
MBD 0.005336  
Fringe rate (Hz) 0.030627  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build 2020:070:020408  
2020:071:124456  
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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.08046355483E+04				-1.08046408838E+04				5.33554E-03	+/- 4.1E-05
Sband delay (usec)	-1.08046279858E+04				-3.3026993E+01				1.28980E-02	+/- 3.3E-04
Phase delay (usec)	-1.08046408814E+04				-7.7039509E-07				2.46977E-06	+/- 1.4E-07
Delay rate (us/s)	1.17351479279E+00				1.17351443724E+00				3.55547E-07	+/- 1.4E-09
Total phase (deg)			-187.5		5.05889610066E-05				76.6	+/- 4.4
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
RMS	39.5	10.2			0.717 +/- 0.027					
Theor.	17.9				0.706					
Amplitude										
Search (1024X32)										
Interp.					0.000					
Inc. seg. avg.					0.862					
Inc. frq. avg.					0.899					
PCal mode:					MANUAL, MANUAL					
PCal rate:					0.000E+00, 0.000E+00 (us/s)					
Bits/sample:					2x2					
Sample rate (MSamp/s):					128					
Data rate (Mb/s):					2048					
PC period (AP's)					5, 5					
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

b: az 57.4 el 21.3 pa -45.0 X: az 240.2 el 60.8 pa 35.8 u,v (fr/asec) -8406.078 2380.317 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bX..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bX.W.46.126VBU



Mk4/DiFX fourfit 3.20 rev 0

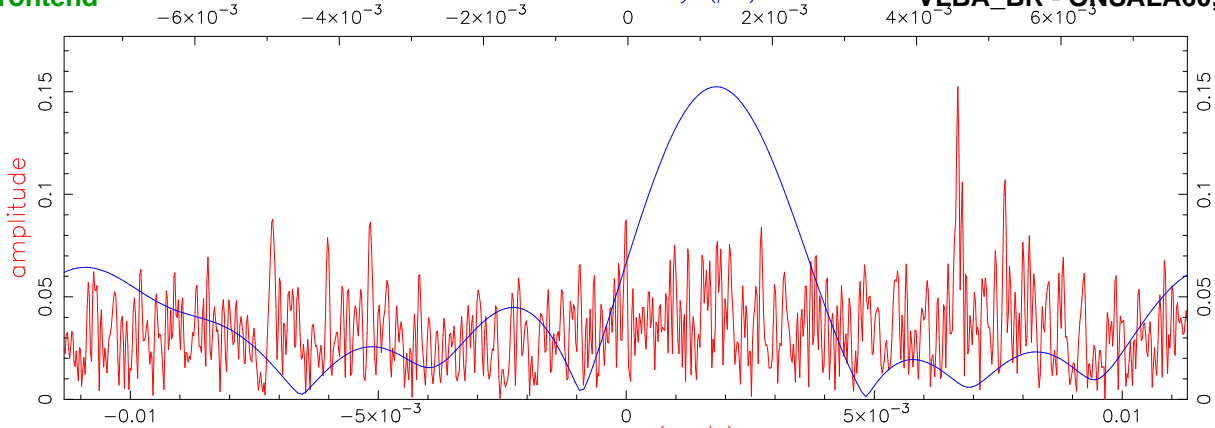
frontend

2013+370.126VBU, No0044, bX

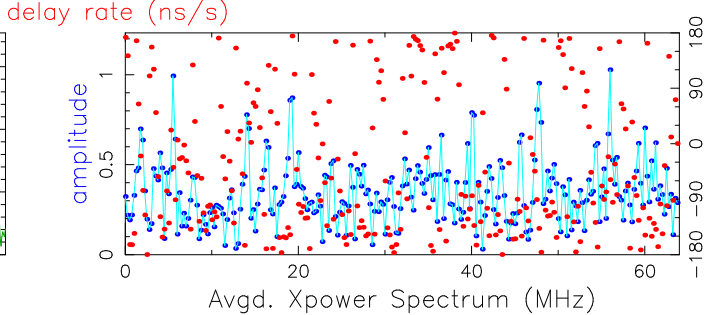
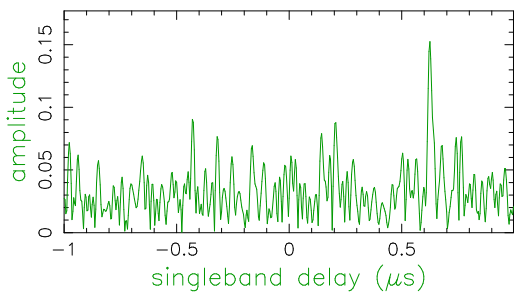
VLBA\_BR - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

Fringe quality 0

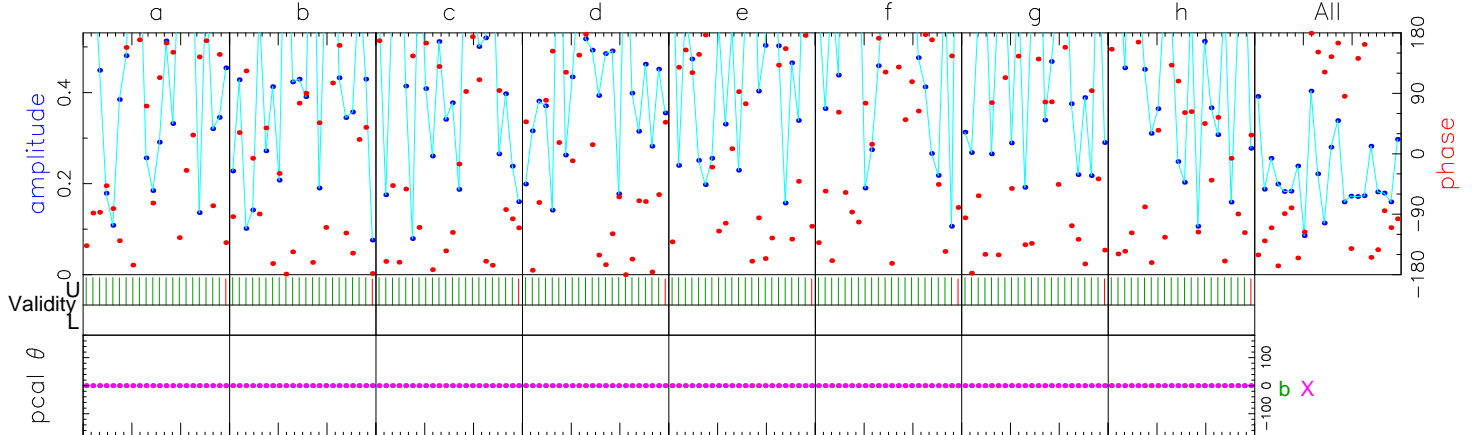


SNR 5.6  
 Int time 179.483  
 Amp 0.177  
 Phase -156.5  
 PFD 9.3e-01  
 Delays (us)  
 SBD 0.624363  
 MBD 0.001209  
 Fringe rate (Hz)  
 0.575953  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124458  
 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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.08040146746E+04	Apriori delay (usec)	-1.08046408838E+04	Resid mbdelay (usec)	1.20928E-03	+/-	1.9E-04
Sband delay (usec)	-1.08040165208E+04	Apriori clock (usec)	-3.3026993E+01	Resid sbdelay (usec)	6.24363E-01	+/-	1.5E-03
Phase delay (usec)	-1.08046408889E+04	Apriori clockrate (us/s)	-7.7039509E-07	Resid phdelay (usec)	-5.04576E-06	+/-	6.6E-07
Delay rate (us/s)	1.17352112349E+00	Apriori rate (us/s)	1.17351443724E+00	Resid rate (us/s)	6.68625E-06	+/-	6.3E-09
Total phase (deg)	-60.6	Apriori accel (us/s/s)	5.05889610066E-05	Resid phase (deg)	-156.5	+/-	20.5

ph/seg (deg)	52.5	Theor.	48.0	Amplitude	0.177 +/- 0.032	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	69.0		83.8	Search (1024X32)	0.150	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	17.0		29.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	36.5		50.5	Inc. seg. avg.	0.189	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.161	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

b: az 57.4 el 21.3 pa -45.0 X: az 240.2 el 60.8 pa 35.8 u,v (fr/asec) -8406.078 2380.317 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bX..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bX.W.65.126VBU

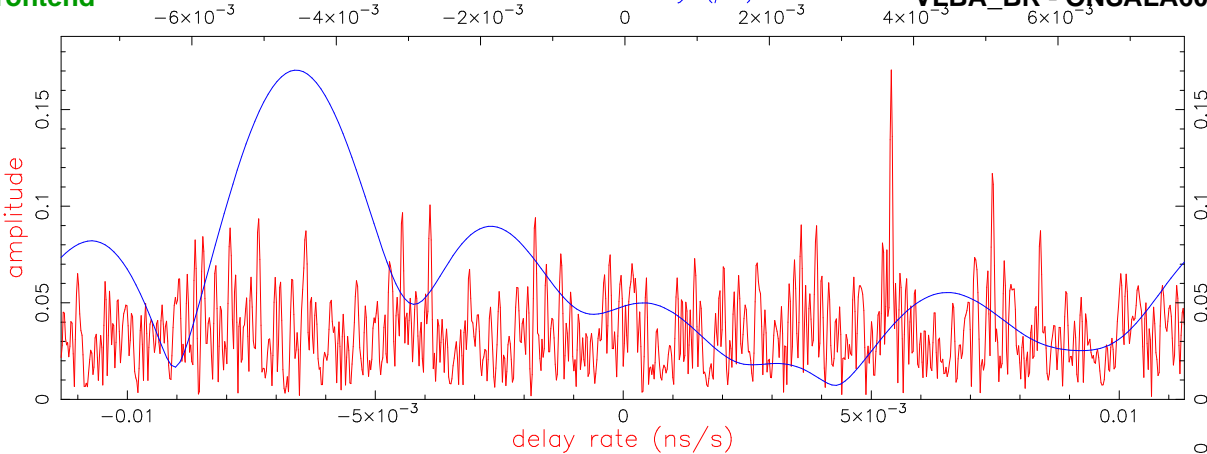
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bX

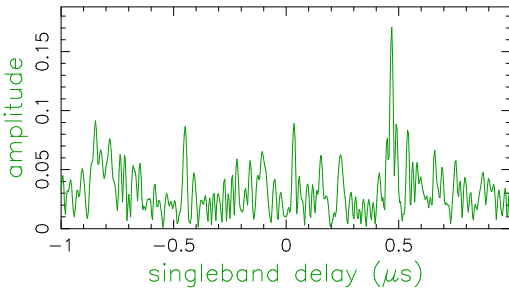
VLBA\_BR - ONSALA60, fgroup W, pol RL

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

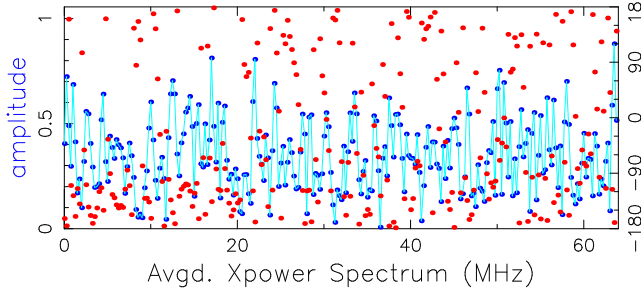


Fringe quality 0

SNR 6.3  
Int time 179.483  
Amp 0.188  
Phase -92.6  
PFD 5.1e-02  
Delays (us)  
SBD 0.468224  
MBD -0.004564  
Fringe rate (Hz) 0.465463  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

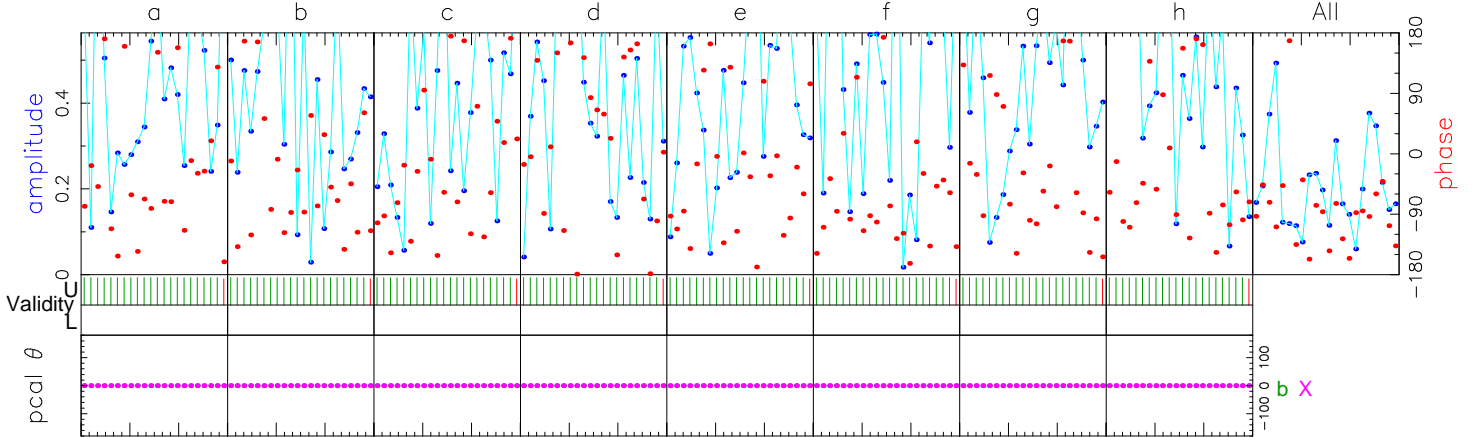


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124500  
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



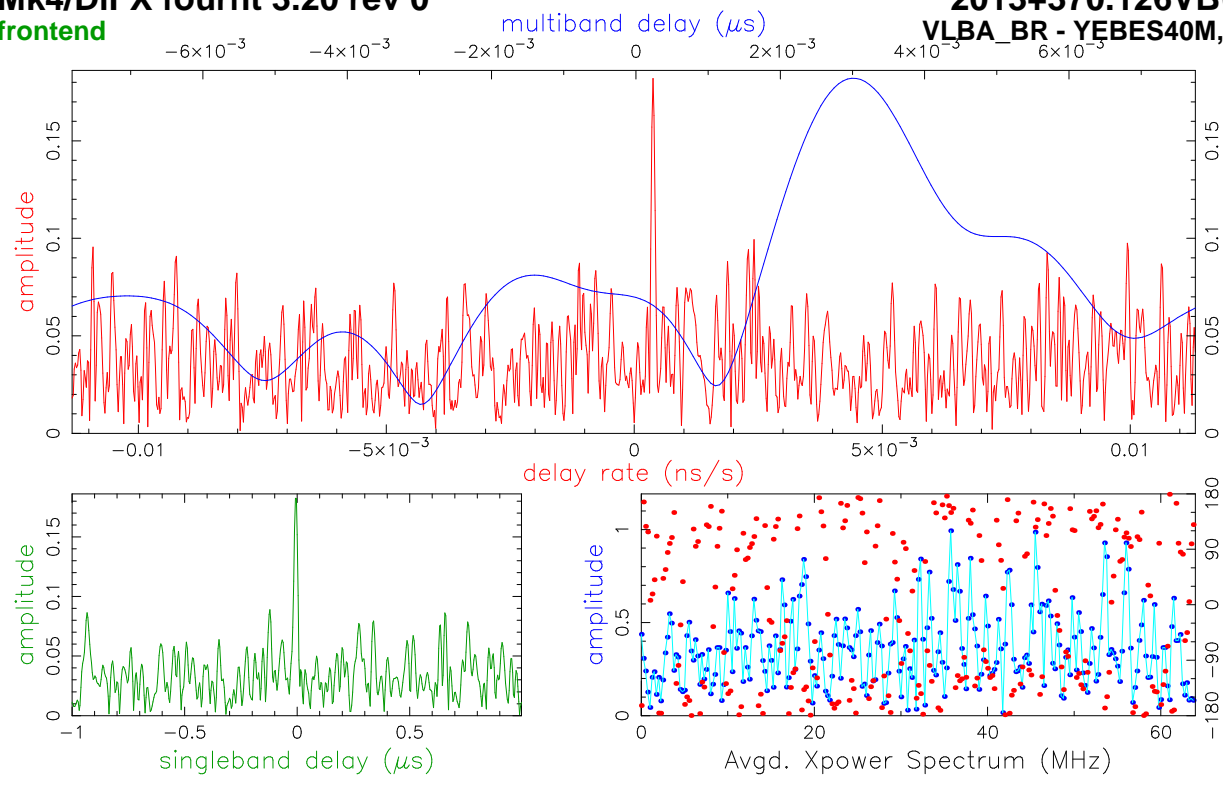
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-90.0	-79.2	-80.8	166.6	-85.1	-90.6	-91.2	-85.5	Phase	-92.6
	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.3	Ampl.	0.2
	38.2	461.4	466.6	93.3	321.2	377.1	235.6	68.7	Sbd box	376.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.08041766976E+04	Apriori delay (usec)	-1.08046408838E+04	Resid mbdelay (usec)	-4.56373E-03	+/-	1.7E-04
Sband delay (usec)	-1.08041726598E+04	Apriori clock (usec)	-3.3026993E+01	Resid sbdelay (usec)	4.68224E-01	+/-	1.4E-03
Phase delay (usec)	-1.08046408868E+04	Apriori clockrate (us/s)	-7.7039509E-07	Resid phdelay (usec)	-2.98449E-06	+/-	5.9E-07
Delay rate (us/s)	1.17351984081E+00	Apriori rate (us/s)	1.17351443724E+00	Resid rate (us/s)	5.40357E-06	+/-	5.7E-09
Total phase (deg)	-356.7	Apriori accel (us/s/s)	5.05889610066E-05	Resid phase (deg)	-92.6	+/-	18.3

ph/seg (deg)	41.5	Theor.	42.9	Amplitude	0.188 +/- 0.030	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	66.7	Search (1024X32)	0.167	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	42.1	Inc. seg. avg.	0.179	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	36.2	Inc. frq. avg.	0.193	Sample rate (MSamp/s):	128	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

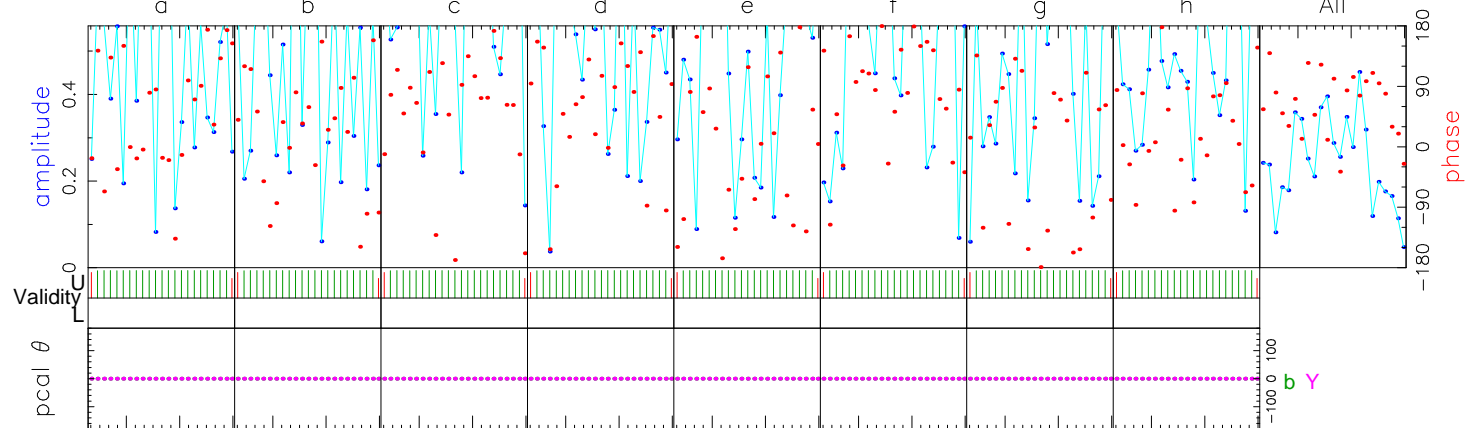
b: az 57.4 el 21.3 pa -45.0 X: az 240.2 el 60.8 pa 35.8 u,v (fr/asec) -8406.078 2380.317 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bX..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bX.W.79.126VBU



Fringe quality 0  
 SNR 6.5  
 Int time 162.028  
 Amp 0.186  
 Phase 71.4  
 PFD 1.3e-02  
 Delays (us)  
 SBD -0.005901  
 MBD 0.002967  
 Fringe rate (Hz)  
 0.031575  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204016.90  
 Stop 204259.71  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124504  
 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		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.28875348245E+04				-1.28875221669E+04				2.96736E-03	+/- 1.7E-04
Sband delay (usec)	-1.28875280681E+04				-1.0299129E+01				-5.90125E-03	+/- 1.3E-03
Phase delay (usec)	-1.28875221646E+04				-4.6239510E-07				2.30136E-06	+/- 5.7E-07
Delay rate (us/s)	1.09750984181E+00				1.09750947525E+00				3.66558E-07	+/- 6.1E-09
Total phase (deg)			-92.0		7.49557550146E-05				71.4	+/- 17.7
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)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

b: az 57.4 el 21.3 pa -45.0 Y: az 261.7 el 76.3 pa 70.8 u,v (fr/asec) -7838.167 5192.623 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bY..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bY.W.100.126VBU

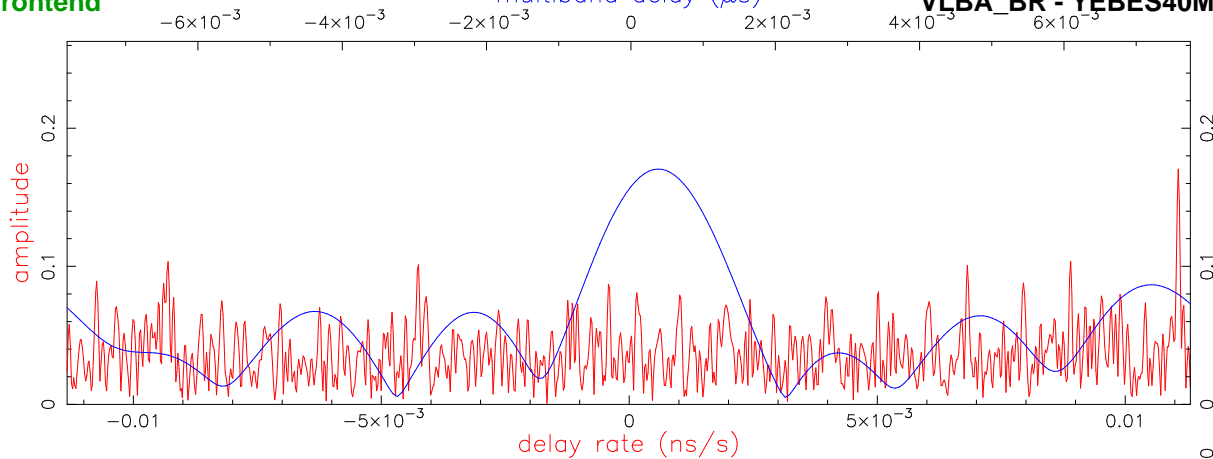
# Mk4/DiFX fourfit 3.20 rev 0

frontend

# 2013+370.126VBU, No0044, bY

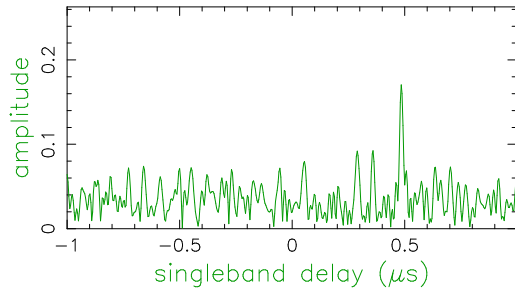
VLBA\_BR - YEBES40M, fgroup W, pol LR

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

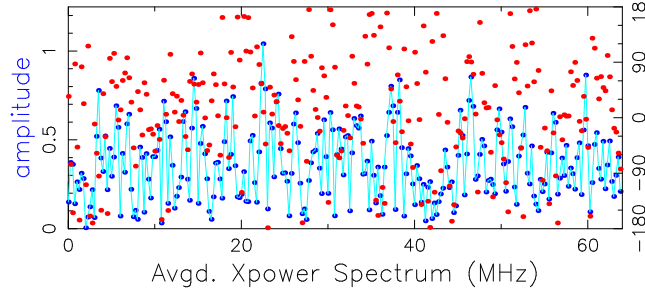


Fringe quality 0

SNR 5.9  
 Int time 162.028  
 Amp 0.263  
 Phase -149.3  
 PFD 2.9e-01  
 Delays (us)  
 SBD 0.485040  
 MBD 0.000400  
 Fringe rate (Hz) 0.955945  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

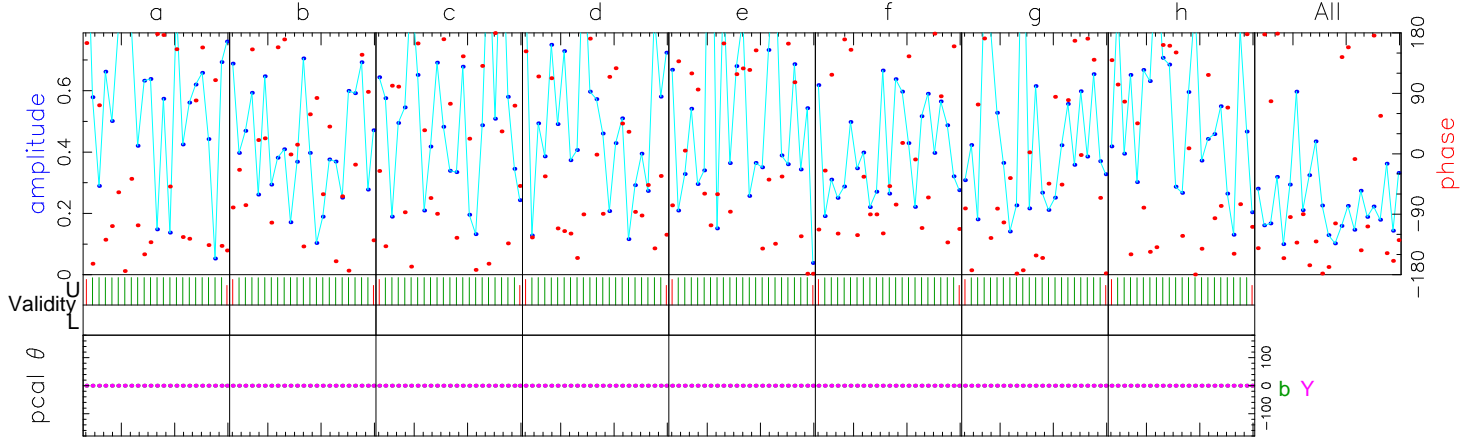


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204016.90  
 Stop 204259.71  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124507  
 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		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.28870373917E+04	-1.28870371274E+04	-1.28875221717E+04	1.09752057283E+00	-1.28875221669E+04	-1.0299129E+01	-4.6239510E-07	1.09750947525E+00	-1.28875221669E+04	-1.28875221669E+04
Sband delay (usec)	-1.28870371274E+04	-1.28875221717E+04	1.09752057283E+00	-1.28875221669E+04	-1.0299129E+01	-4.6239510E-07	1.09750947525E+00	-1.28875221669E+04	-1.28875221669E+04	-1.28875221669E+04
Phase delay (usec)	-1.28870371274E+04	-1.28875221717E+04	1.09752057283E+00	-1.28875221669E+04	-1.0299129E+01	-4.6239510E-07	1.09750947525E+00	-1.28875221669E+04	-1.28875221669E+04	-1.28875221669E+04
Delay rate (us/s)	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00	1.09752057283E+00
Total phase (deg)			-312.6						-149.3	-149.3
									Ampl.	0.2
									Sbd box	381.2
									APs used	
									PC freqs	
									Mani PC	
									PC amp	
									Chan ids	
									Tracks	
									Tracks	
									Resid mbdelay (usec)	4.00129E-04 +/- 1.8E-04
									Resid sbdelay (usec)	4.85040E-01 +/- 1.4E-03
									Resid phdelay (usec)	-4.81354E-06 +/- 6.2E-07
									Resid rate (us/s)	1.10976E-05 +/- 6.6E-09
									Resid phase (deg)	-149.3 +/- 19.3
									PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
									PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
									Bits/sample: 2x2	mb window (us) -0.008 0.008
									SampCntNorm: enabled	dr window (ns/s) -0.011 0.011
									Sample rate(MISamp/s): 128	ion window (TEC) 0.00 0.00
									Data rate(Mb/s): 2048	
									nlags: 256	
									t_cohere infinite	
										simultaneous interpolator

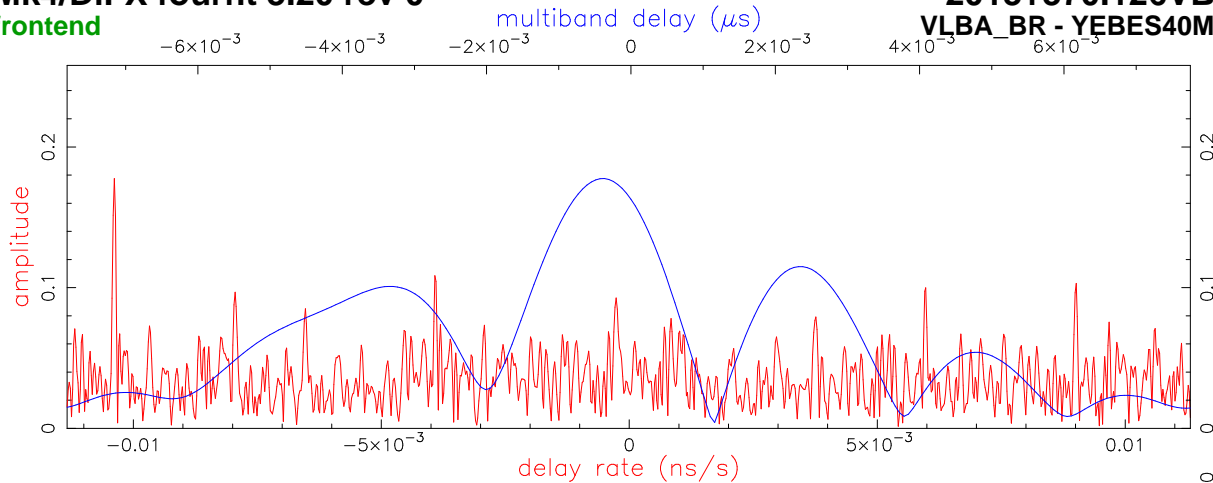
b: az 57.4 el 21.3 pa -45.0 Y: az 261.7 el 76.3 pa 70.8 u,v (fr/asec) -7838.167 5192.623 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bY..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bY.W.124.126VBU

# Mk4/DiFX fourfit 3.20 rev 0

frontend

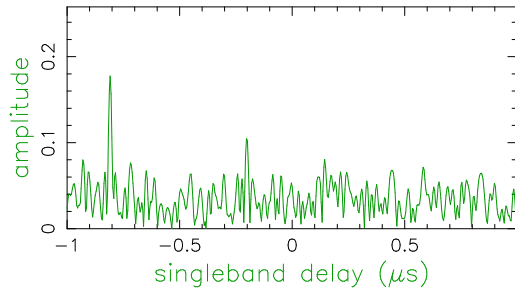
## 2013+370.126VBU, No0044, bY

VLBA\_BR - YESES40M, fgroup W, pol RL

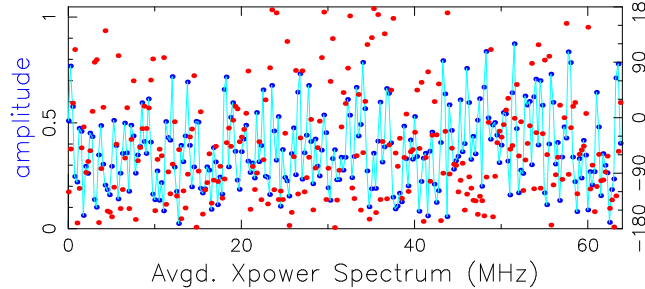


Fringe quality 0

SNR 6.2  
 Int time 162.028  
 Amp 0.258  
 Phase -28.1  
 PFD 8.0e-02  
 Delays (us)  
 SBD -0.808793  
 MBD -0.000394  
 Fringe rate (Hz)  
 -0.895132  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

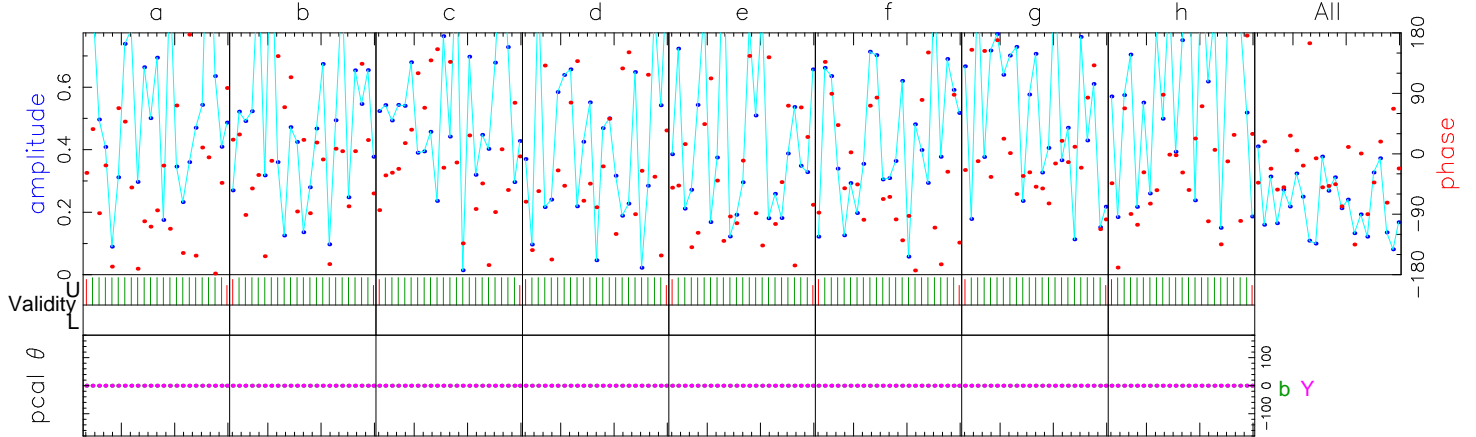


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204016.90  
 Stop 204259.71  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124509  
 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
	-48.7	-9.6	-10.3	-42.1	-97.3	176.1	-20.4	-23.7	Phase	-28.1
	0.3	0.4	0.4	0.2	0.2	0.0	0.4	0.4	Ampl.	0.3
	252.4	49.7	205.8	466.2	341.1	245.4	187.0	50.2	Sbd box	49.9
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.28883350610E+04	Apriori delay (usec)	-1.28875221669E+04	Resid mbdelay (usec)	-3.94105E-04	+/-	1.8E-04
Sband delay (usec)	-1.28883309596E+04	Apriori clock (usec)	-1.0299129E+01	Resid sbdelay (usec)	-8.08793E-01	+/-	1.4E-03
Phase delay (usec)	-1.28875221678E+04	Apriori clockrate (us/s)	-4.6239510E-07	Resid phdelay (usec)	-9.07663E-07	+/-	6.0E-07
Delay rate (us/s)	1.09749908365E+00	Apriori rate (us/s)	1.09750947525E+00	Resid rate (us/s)	-1.03916E-05	+/-	6.4E-09
Total phase (deg)	-191.5	Apriori accel (us/s/s)	7.49557550146E-05	Resid phase (deg)	-28.1	+/-	18.5

ph/seg (deg)	RMS 55.9	Theor. 44.4	Amplitude Search (1024X32)	0.258 +/- 0.042	0.173	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	61.0	77.6	Interp.	0.000	0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	71.2	26.2	Inc. seg. avg.	0.256	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	51.7	45.7	Inc. frq. avg.	0.262	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00	

b: az 57.4 el 21.3 pa -45.0 Y: az 261.7 el 76.3 pa 70.8 u,v (fr/asec) -7838.167 5192.623 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bY..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bY.W.145.126VBU



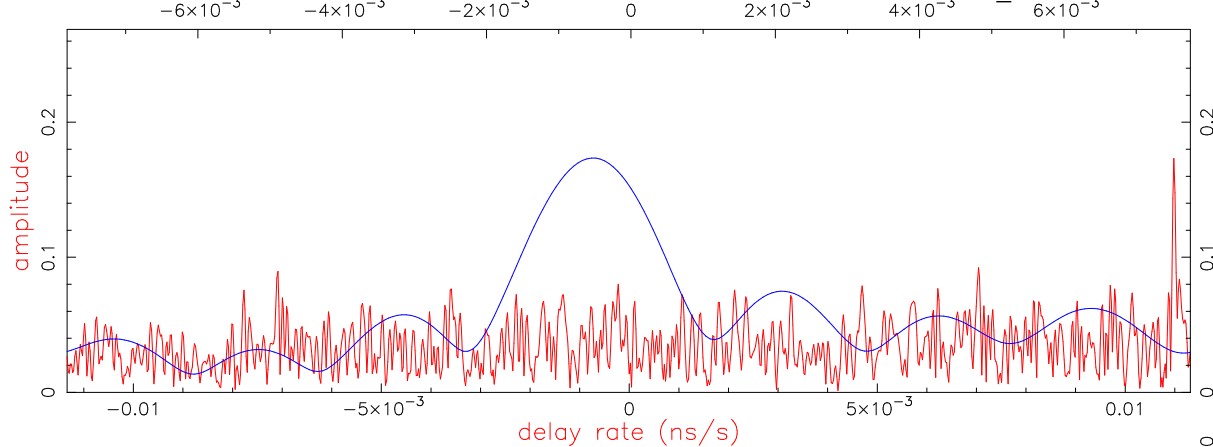
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bY

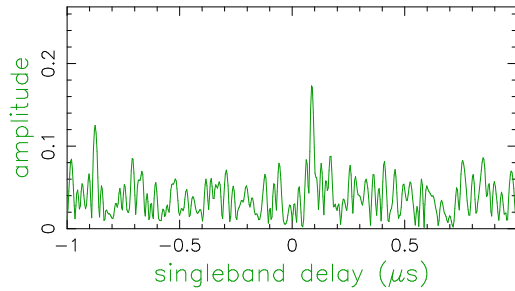
VLBA\_BR - YEBES40M, fgroup W, pol LL

multiband delay ( $\mu$ s)

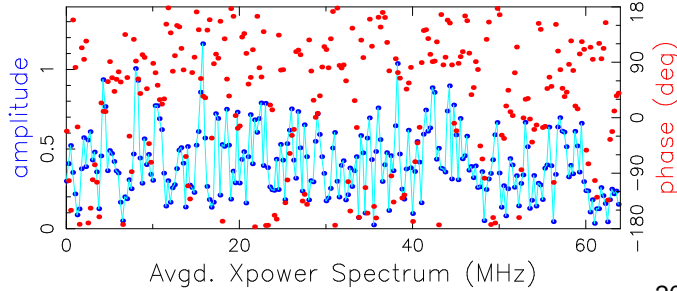


Fringe quality 0

SNR 6.1  
 Int time 162.028  
 Amp 0.269  
 Phase 26.8  
 PFD 1.1e-01  
 Delays (us)  
 SBD 0.087606  
 MBD -0.000454  
 Fringe rate (Hz)  
 0.948041  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

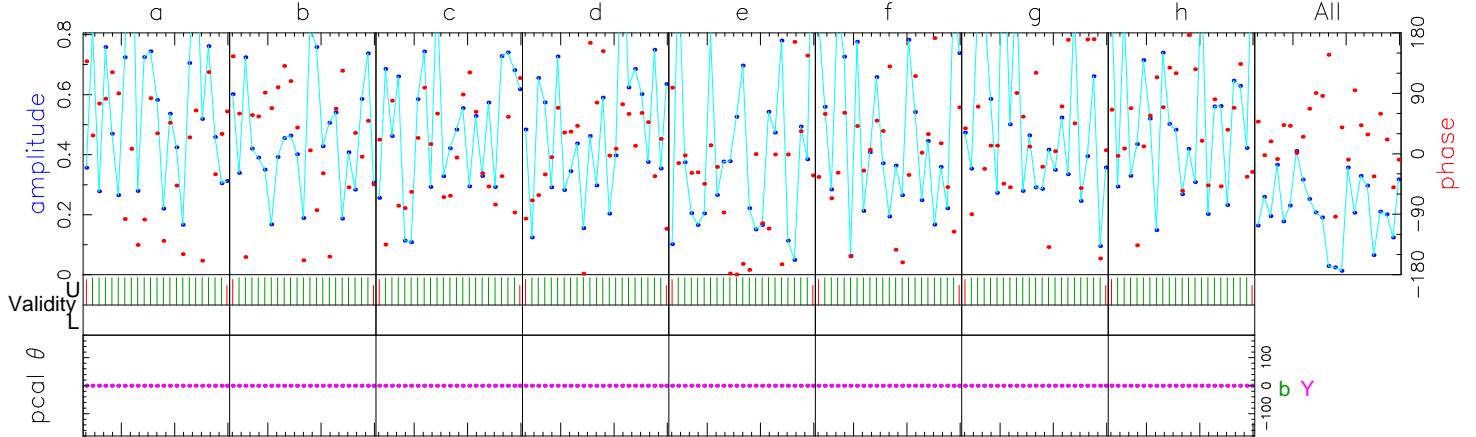


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204016.90  
 Stop 204259.71  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124502  
 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		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.28874288707E+04	Apriori delay (usec)	-1.28875221669E+04	Resid mbdelay (usec)	-4.53855E-04	+/-	1.8E-04
Sband delay (usec)	-1.28874345609E+04	Apriori clock (usec)	-1.0299129E+01	Resid sbdelay (usec)	8.76060E-02	+/-	1.4E-03
Phase delay (usec)	-1.28875221660E+04	Apriori clockrate (us/s)	-4.6239510E-07	Resid phdelay (usec)	8.65326E-07	+/-	6.0E-07
Delay rate (us/s)	1.09752048107E+00	Apriori rate (us/s)	1.09750947525E+00	Resid rate (us/s)	1.10058E-05	+/-	6.4E-09
Total phase (deg)	-136.5	Apriori accel (us/s/s)	7.49557550146E-05	Resid phase (deg)	26.8	+/-	18.7

ph/seg (deg)	51.3	Theor.	44.8	Amplitude	0.269 +/- 0.044	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	65.8	Search (1024X32)	0.171	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
ph/frq (deg)	35.7	Inc. seg. avg.	0.250	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/frq (%)	26.7	Inc. frq. avg.	0.263	Sample rate (MSamp/s):	128	ion window (TEC)	0.00	0.00	
				Data rate (Mb/s):	2048	nlags:	256	t_cohere infinite	

b: az 57.4 el 21.3 pa -45.0 Y: az 261.7 el 76.3 pa 70.8 u,v (fr/asec) -7838.167 5192.623 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bY..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bY.W.83.126VBU

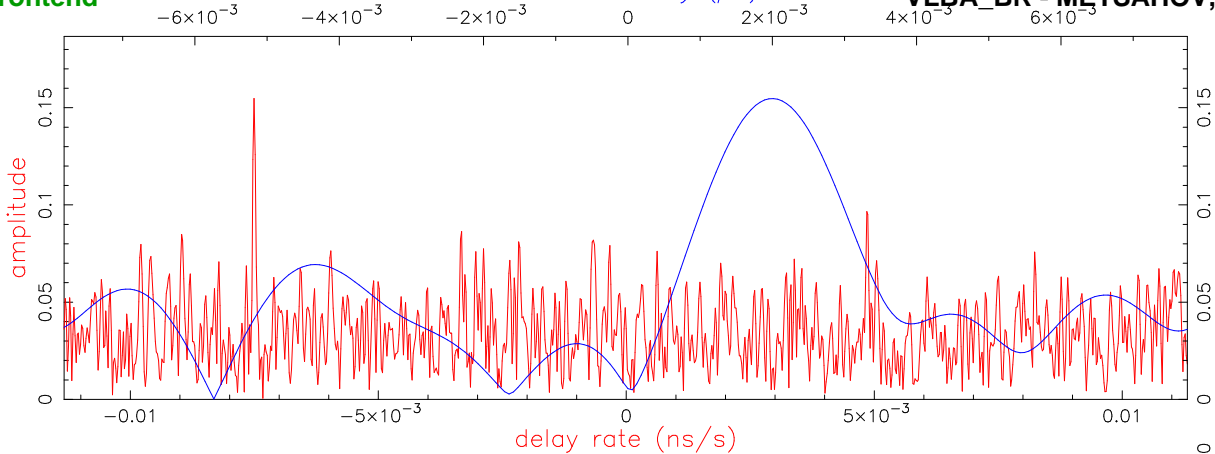
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bZ

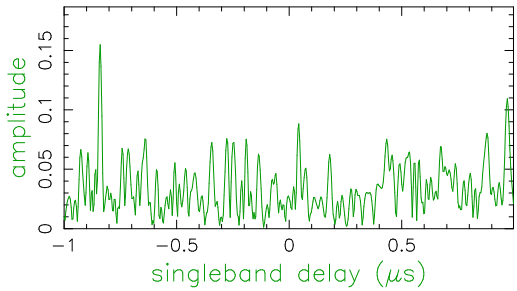
VLBA\_BR - METSAHOV, fgroup W, pol RR

multiband delay ( $\mu$ s)

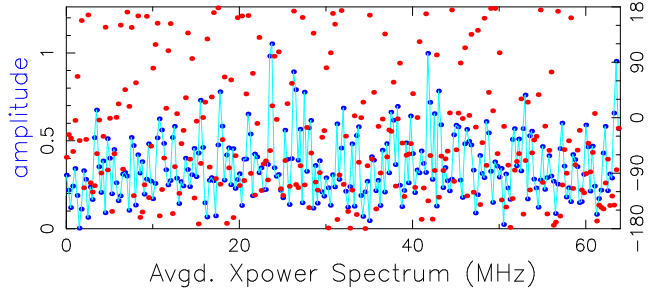


Fringe quality 0

SNR 5.7  
Int time 179.434  
Amp 0.187  
Phase -73.9  
PFD 8.3e-01  
Delays (us)  
SBD -0.840084  
MBD 0.001996  
Fringe rate (Hz)  
-0.646759  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

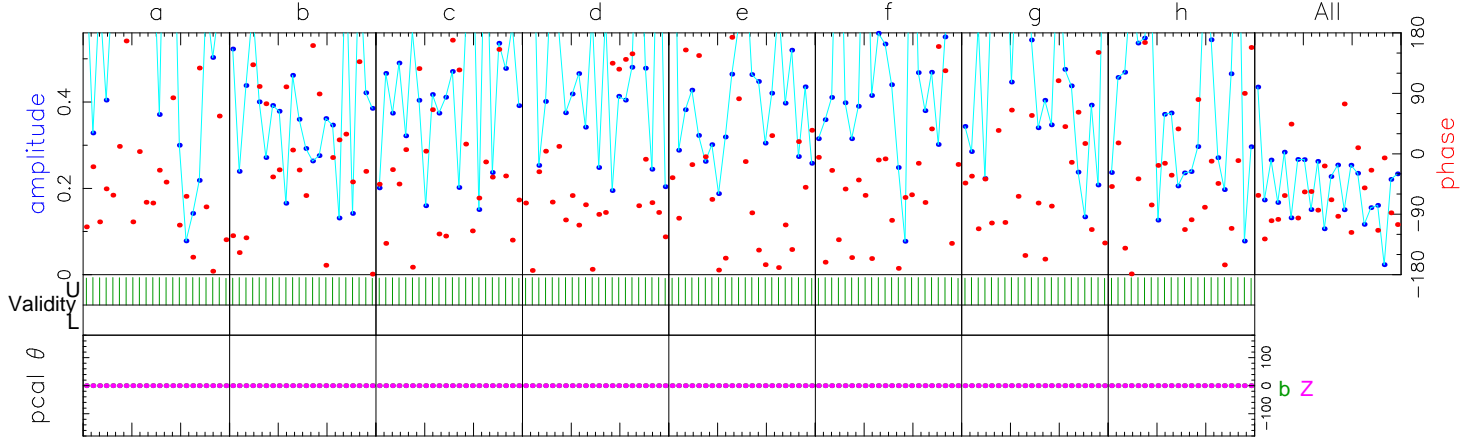


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124505  
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
	-67.9	42.9	-81.1	-92.4	-79.6	-66.0	-83.6	-60.5		-73.9
	0.3	0.0	0.1	0.3	0.1	0.3	0.2	0.2		0.2
	410.3	121.7	269.2	321.7	358.8	479.5	430.0	221.1		41.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
Z	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
b:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
b:Z	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
Z	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Chan ids
										Tracks
Group delay (usec)(sbd)	-9.35440553162E+03		Apriori delay (usec)		-9.35356377785E+03		Resid mbdelay (usec)		1.99623E-03	+/- 1.9E-04
Sband delay (usec)	-9.35440386210E+03		Apriori clock (usec)		-8.0259496E-01		Resid sbdelay (usec)		-8.40084E-01	+/- 1.5E-03
Phase delay (usec)	-9.35356378023E+03		Apriori clockrate (us/s)		-2.5868787E-07		Resid phdelay (usec)		-2.38299E-06	+/- 6.5E-07
Delay rate (us/s)	1.24975867794E+00		Apriori rate (us/s)		1.24976618616E+00		Resid rate (us/s)		-7.50823E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		4.12963228438E-05		Resid phase (deg)		-73.9	+/- 20.2

ph/seg (deg) 53.9 47.4 Search (1024X32) 0.151 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 62.6 82.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 49.0 28.6 Inc. seg. avg. 0.185 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 48.3 49.9 Inc. frq. avg. 0.176 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 57.4 el 21.3 pa -45.0 Z: az 251.1 el 53.8 pa 36.1 u,v (fr/asec) -8962.063 1648.051 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ.W.106.126VBU

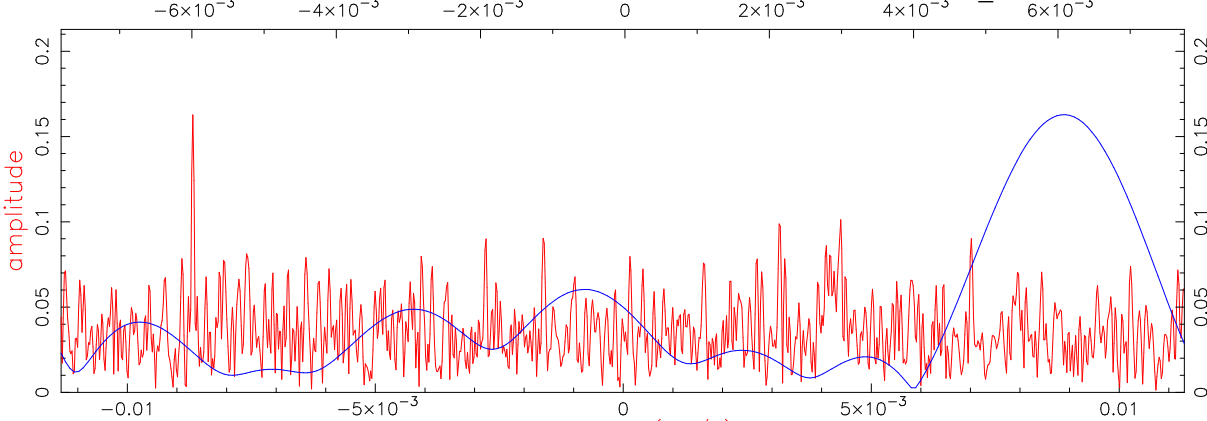
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bZ

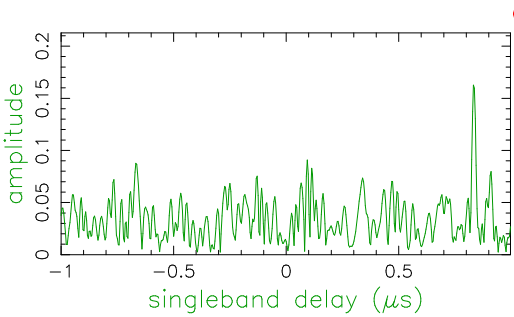
VLBA\_BR - METSAHOV, fgroup W, pol LR

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

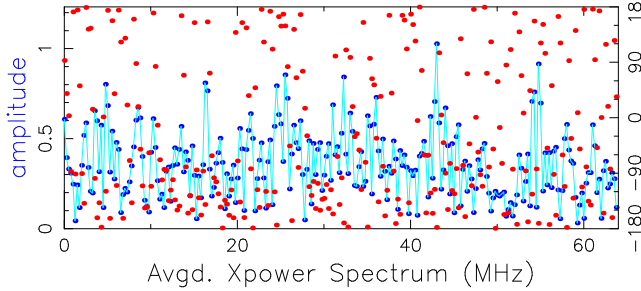


Fringe quality 0

SNR 6.0  
Int time 179.434  
Amp 0.213  
Phase 14.9  
PFD 1.8e-01  
Delays (us)  
SBD 0.833587  
MBD 0.006129  
Fringe rate (Hz) -0.748380  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

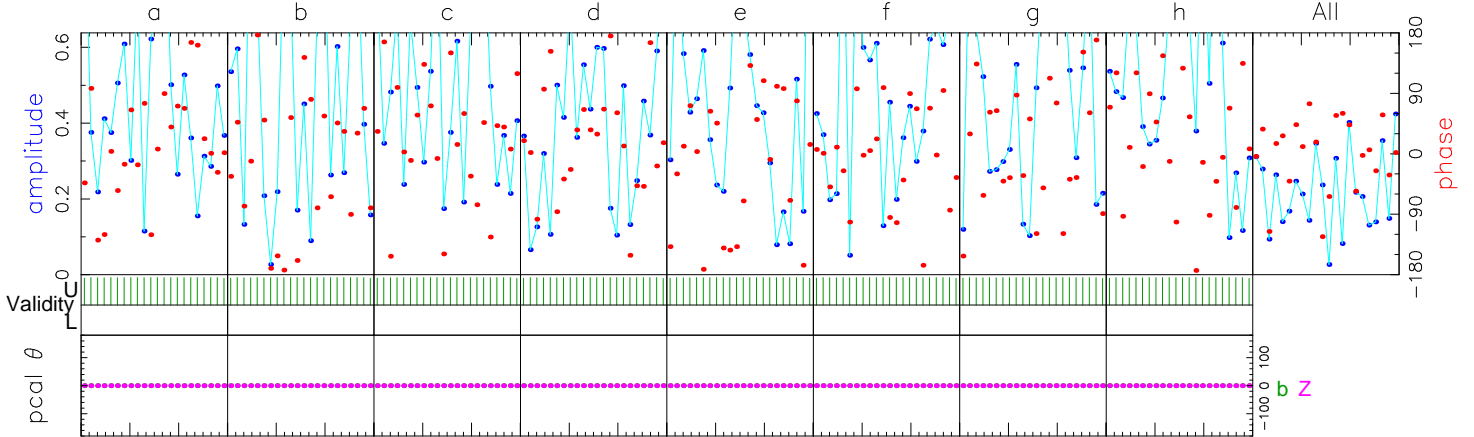


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124507  
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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
b:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:Z	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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-9.35272952425E+03	Apriori delay (usec)	-9.35356377785E+03	Resid mbdelay (usec)	6.12860E-03	+/-	1.8E-04
Sband delay (usec)	-9.35273019060E+03	Apriori clock (usec)	-8.0259496E-01	Resid sbdelay (usec)	8.33587E-01	+/-	1.4E-03
Phase delay (usec)	-9.35356377737E+03	Apriori clockrate (us/s)	-2.5868787E-07	Resid phdelay (usec)	4.80500E-07	+/-	6.1E-07
Delay rate (us/s)	1.24975749821E+00	Apriori rate (us/s)	1.24976618616E+00	Resid rate (us/s)	-8.68796E-06	+/-	5.9E-09
Total phase (deg)	-281.7	Apriori accel (us/s/s)	4.12963228438E-05	Resid phase (deg)	14.9	+/-	19.0

ph/seg (deg)	55.0	Theor.	44.5	Amplitude	0.213 +/- 0.035	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	71.7		77.6	Search (1024X32)	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	12.9		26.8	Inc. seg. avg.	0.220	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	33.2		46.8	Inc. frq. avg.	0.192	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

b: az 57.4 el 21.3 pa -45.0 Z: az 251.1 el 53.8 pa 36.1 u,v (fr/asec) -8962.063 1648.051 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ.W.126.126VBU

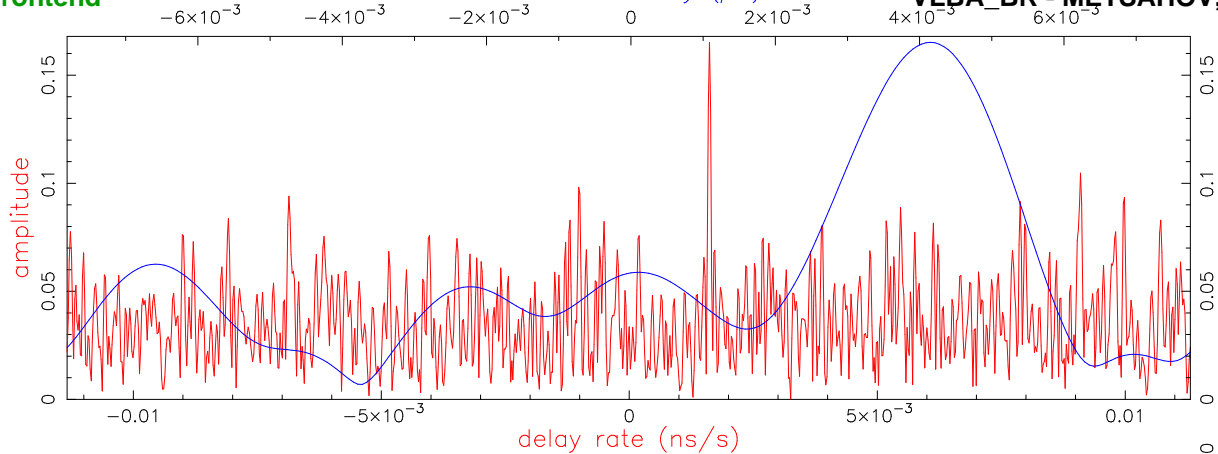
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bZ

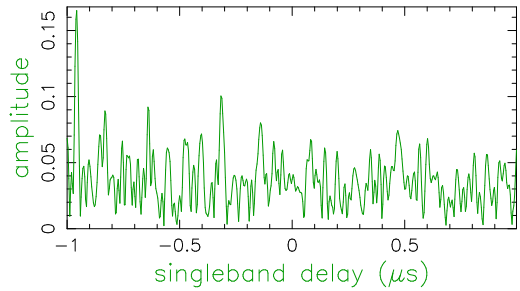
VLBA\_BR - METSAHOV, fgroup W, pol RL

multiband delay ( $\mu$ s)

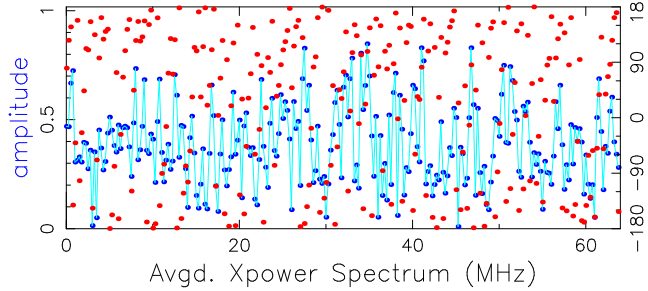


Fringe quality 0

SNR 6.1  
 Int time 179.434  
 Amp 0.168  
 Phase -142.5  
 PFD 1.3e-01  
 Delays (us)  
 SBD -0.958166  
 MBD 0.004146  
 Fringe rate (Hz) 0.140075  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

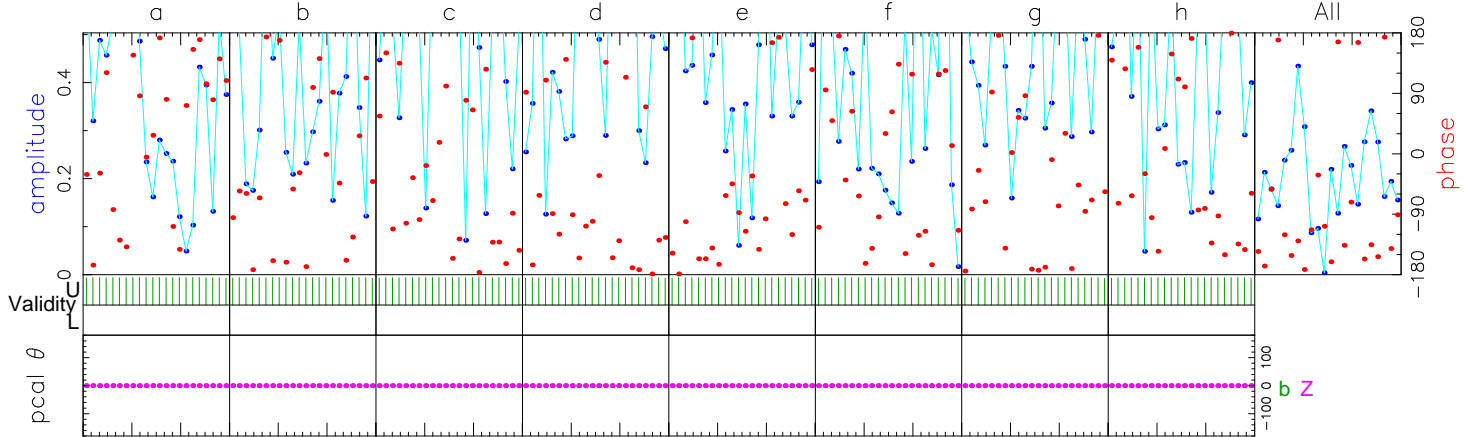


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 204000.00  
 Stop 204300.23  
 FRT 204130.00  
 Corr/FF/build  
 2020:070:020408  
 2020:071:124509  
 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				
Z	1000	1000	1000	1000	1000	1000	1000	1000				
b:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
b:Z	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				
Z	1000	1000	1000	1000	1000	1000	1000	1000				
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks		
Group delay (usec)(sbd)	-9.35452838176E+03											
Sband delay (usec)	-9.35452194435E+03											
Phase delay (usec)	-9.35356378244E+03											
Delay rate (us/s)	1.24976781230E+00											
Total phase (deg)			-79.1									
				Apriori delay (usec)	-9.35356377785E+03				Resid mbdelay (usec)	4.14609E-03	+/- 1.8E-04	
				Apriori clock (usec)	-8.0259496E-01				Resid sbdelay (usec)	-9.58166E-01	+/- 1.4E-03	
				Apriori clockrate (us/s)	-2.5868787E-07				Resid phdelay (usec)	-4.59463E-06	+/- 6.1E-07	
				Apriori rate (us/s)	1.24976618616E+00				Resid rate (us/s)	1.62613E-06	+/- 5.8E-09	
				Apriori accel (us/s/s)	4.12963228438E-05				Resid phase (deg)	-142.5	+/- 18.8	
ph/seg (deg)	43.9	44.1		Search (1024X32)	0.157				PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
amp/seg (%)	60.5	76.9		Interp.	0.000				PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000		
ph/frq (deg)	33.9	26.6		Inc. seg. avg.	0.159				Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008	
amp/frq (%)	47.5	46.4		Inc. frq. avg.	0.164				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

b: az 57.4 el 21.3 pa -45.0 Z: az 251.1 el 53.8 pa 36.1 u,v (fr/asec) -8962.063 1648.051 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ.W.144.126VBU

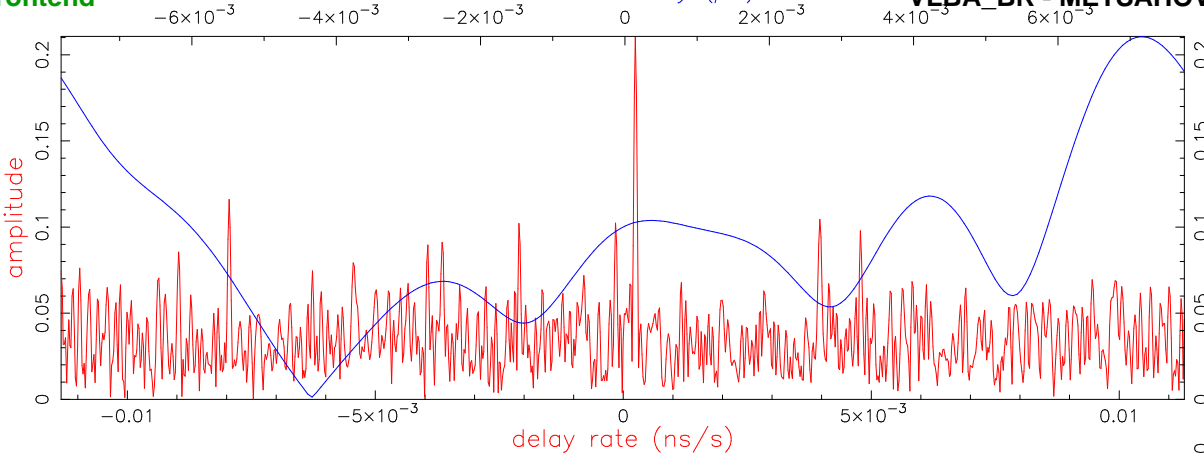
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.126VBU, No0044, bZ

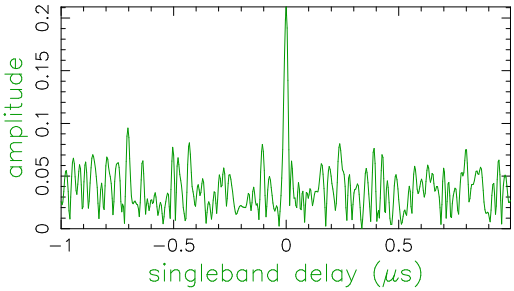
VLBA\_BR - METSAHOV, fgroup W, pol LL

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

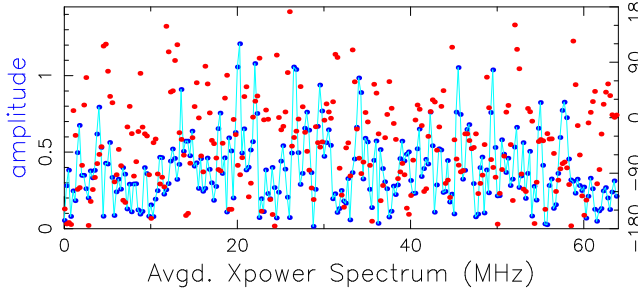


Fringe quality 9

SNR 7.7  
Int time 179.434  
Amp 0.211  
Phase -133.8  
PFD 2.0e-06  
Delays (us)  
SBD -0.000402  
MBD 0.007151  
Fringe rate (Hz) 0.021535  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

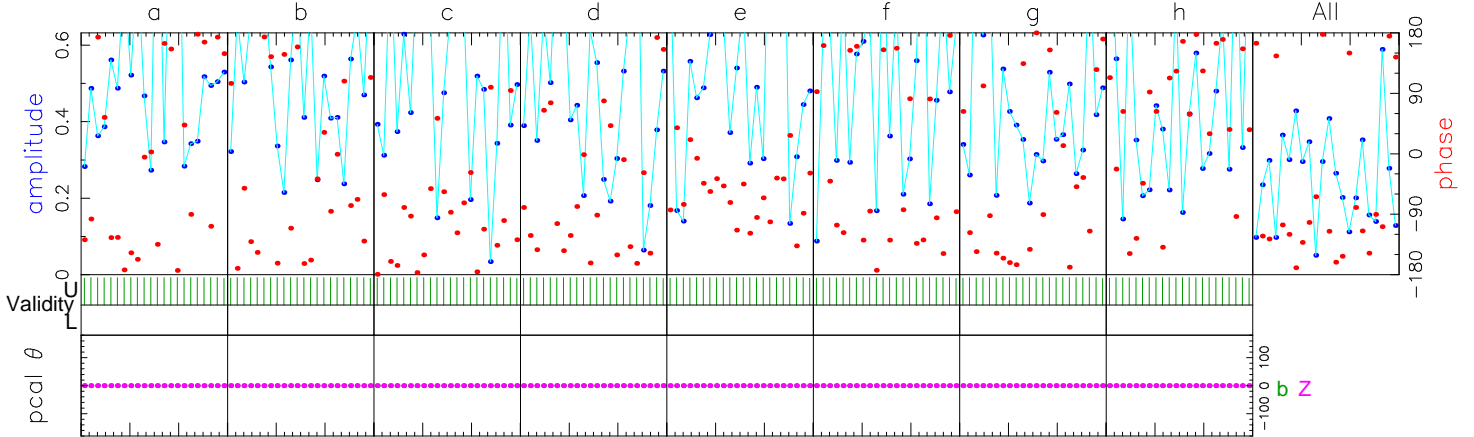


delay rate (ns/s)



Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 204000.00  
Stop 204300.23  
FRT 204130.00  
Corr/FF/build  
2020:070:020408  
2020:071:124502  
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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
b:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:Z	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		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-9.35355662708E+03				-9.35356377785E+03				7.15077E-03	+/- 1.4E-04
Sband delay (usec)	-9.35356417960E+03				-8.0259496E-01				-4.01750E-04	+/- 1.1E-03
Phase delay (usec)	-9.35356378217E+03				-2.5868787E-07				-4.31580E-06	+/- 4.8E-07
Delay rate (us/s)	1.24976643617E+00				1.24976618616E+00				2.50005E-07	+/- 4.6E-09
Total phase (deg)			-70.5		4.12963228438E-05				-133.8	+/- 14.8
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

ph/seg (deg) 44.5 34.8  
amp/seg (%) 64.5 60.8  
ph/frq (deg) 52.3 21.0  
amp/frq (%) 54.7 36.7

RMS Theor. Amplitude 0.211 +/- 0.027  
Search (1024X32) 0.205  
Interp. 0.000  
Inc. seg. avg. 0.217  
Inc. frq. avg. 0.263

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

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

b: az 57.4 el 21.3 pa -45.0 Z: az 251.1 el 53.8 pa 36.1 u,v (fr/asec) -8962.063 1648.051 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ..126VBU Output file: /Exps/c192c/v1\_CygA2/1234/No0044/bZ.W.84.126VBU