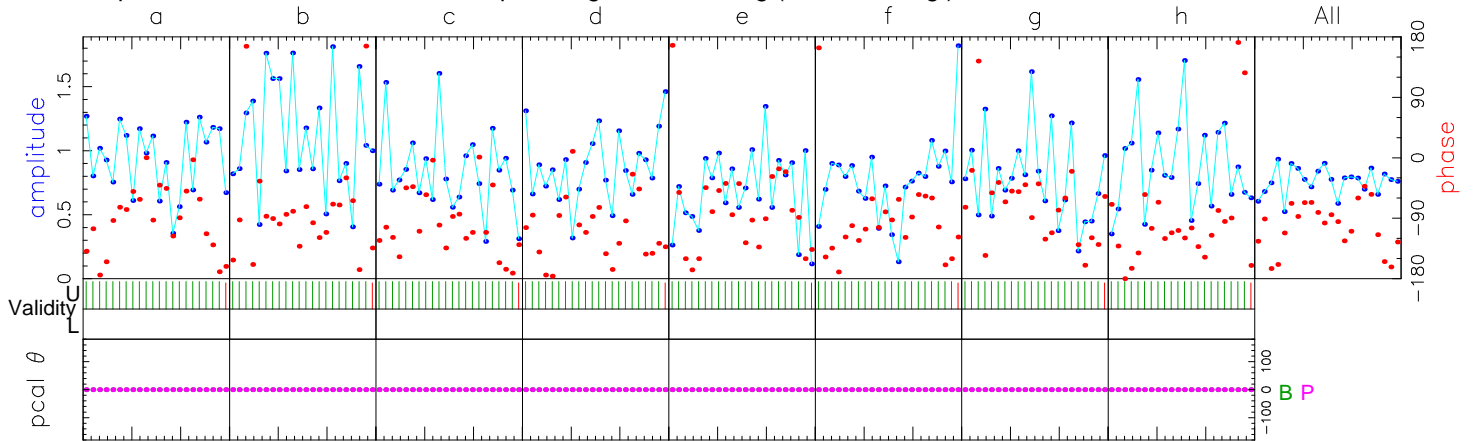


Fringe quality 9

SNR 23.1
Int time 179.588
Amp 0.630
Phase -100.9
PFD 0.0e+00
Delays (us)
SBD 0.001454
MBD 0.000707
Fringe rate (Hz) 0.004422
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

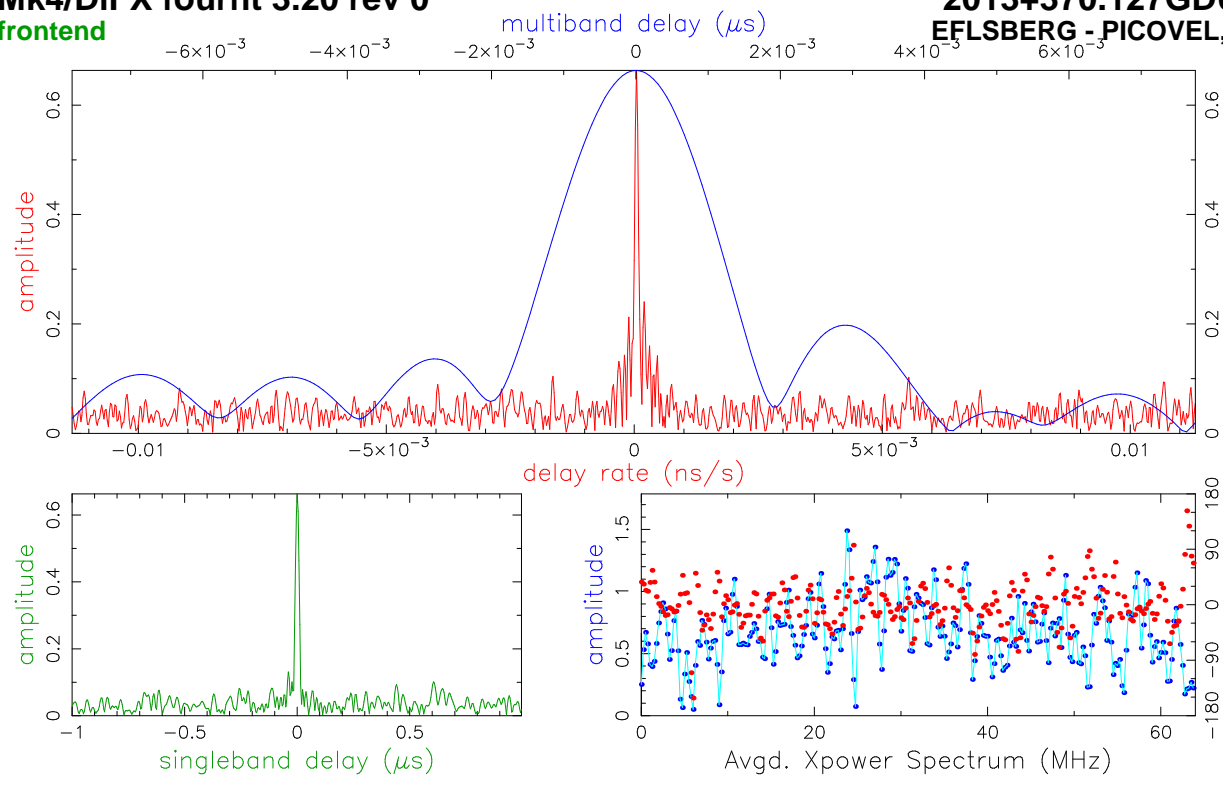
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132059
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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)	-5.32860714687E+02		Apriori delay (usec)		-5.32861421755E+02		Resid mbdelay (usec)		7.07068E-04	+/- 4.7E-05
Sband delay (usec)	-5.32859967755E+02		Apriori clock (usec)		1.6950665E+01		Resid sbdelay (usec)		1.45400E-03	+/- 3.7E-04
Phase delay (usec)	-5.32861425009E+02		Apriori clockrate (us/s)		1.5299999E-07		Resid phdelay (usec)		-3.25479E-06	+/- 1.6E-07
Delay rate (us/s)	1.60236575845E-01		Apriori rate (us/s)		1.60236524510E-01		Resid rate (us/s)		5.13350E-08	+/- 1.5E-09
Total phase (deg)			Apriori accel (us/s/s)		1.44692420087E-05		Resid phase (deg)		-100.9	+/- 5.0

ph/seg (deg) 35.6 11.6 Search (1024X32) 0.602 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 26.9 20.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 17.9 7.0 Inc. seg. avg. 0.748 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 15.0 12.3 Inc. frq. avg. 0.639 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 290.9 el 32.4 pa 48.3 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1139.587 2063.444 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/BP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/BP.W.117.127GDU

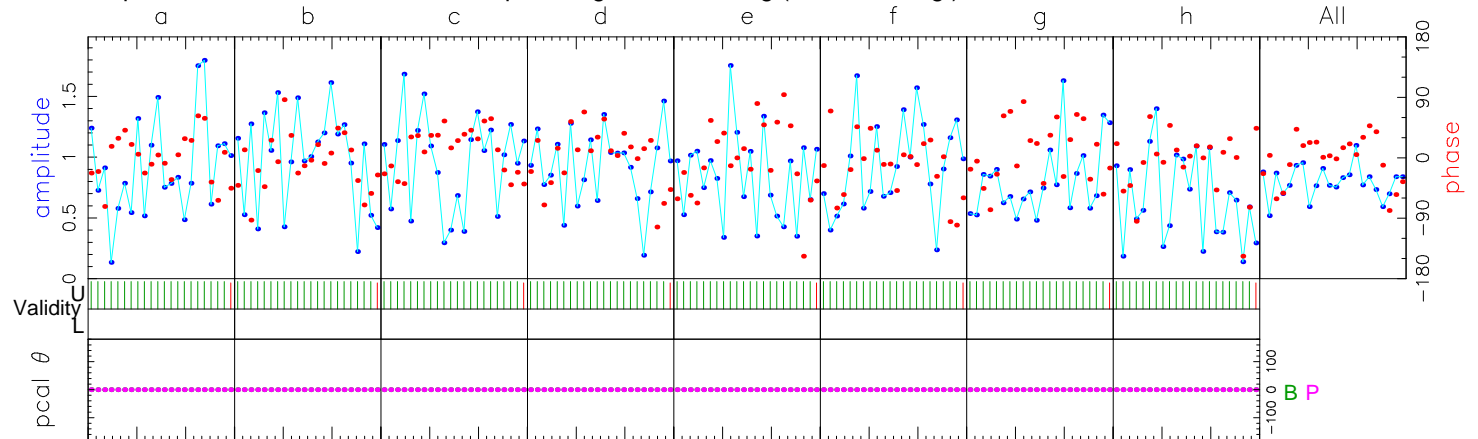


Fringe quality 8

SNR 24.3
Int time 179.588
Amp 0.664
Phase -0.6
PFD 0.0e+00
Delays (us)
SBD 0.000152
MBD 0.000008
Fringe rate (Hz) 0.004482
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132101
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)		-5.32861414030E+02			-5.32861421755E+02				7.72430E-06	+/- 4.5E-05
Sband delay (usec)		-5.32861269255E+02			1.6950665E+01				1.52500E-04	+/- 3.5E-04
Phase delay (usec)		-5.32861421773E+02			1.5299999E-07				-1.82898E-08	+/- 1.5E-07
Delay rate (us/s)		1.60236576539E-01			1.60236524510E-01				5.20294E-08	+/- 1.5E-09
Total phase (deg)			-313.7		1.44692420087E-05				-0.6	+/- 4.7
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										
PCal 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 290.9 el 32.4 pa 48.3 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1139.587 2063.444 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/BP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/BP.W.138.127GDU

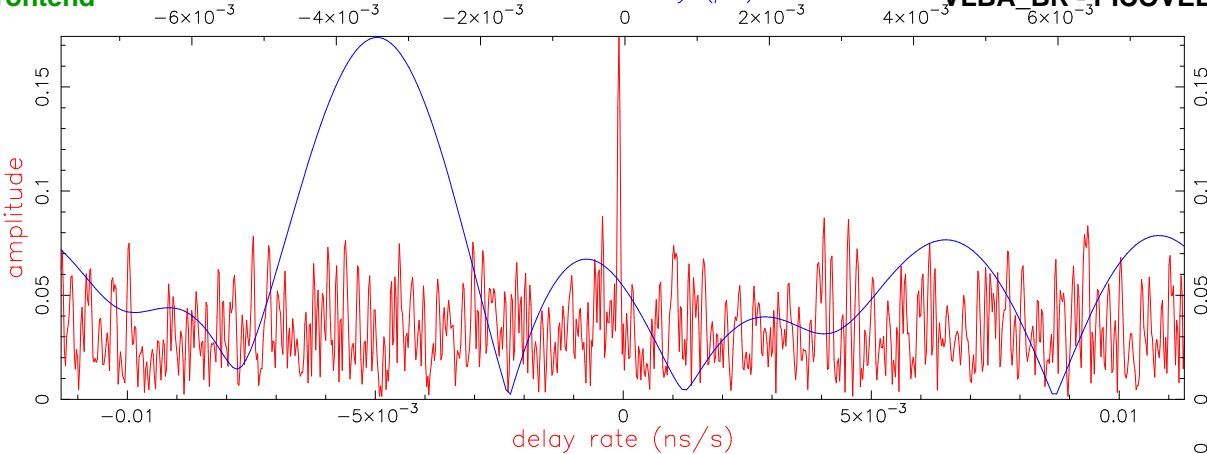
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, bP

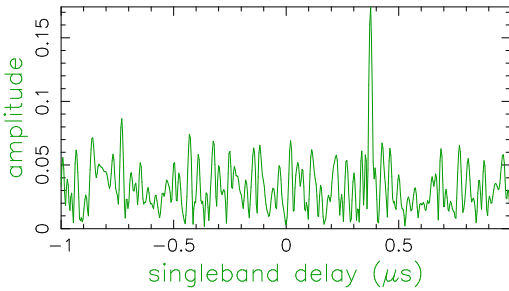
VLBA_BR - PICOVEL, fgroup W, pol LL

multiband delay (μ s)

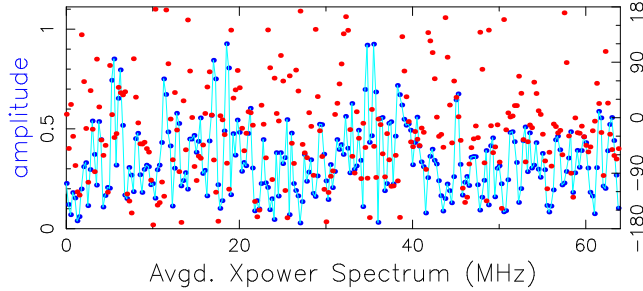


Fringe quality 0

SNR 6.4
Int time 178.414
Amp 0.174
Phase 2.3
PFD 2.6e-02
Delays (us)
SBD 0.374380
MBD -0.003444
Fringe rate (Hz)
-0.007513
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

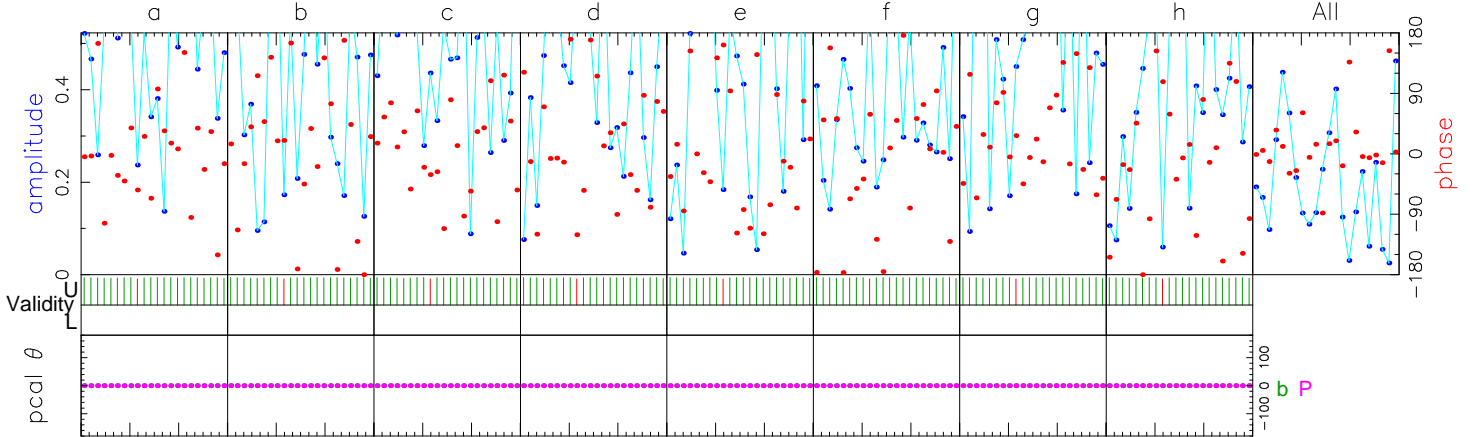


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132045
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		352.8
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) 5.85624797275E+03 Apriori delay (usec) 5.85587641691E+03 Resid mbdelay (usec) -3.44417E-03 +/- 1.7E-04
 Sband delay (usec) 5.85625079716E+03 Apriori clock (usec) -4.7130668E-01 Resid sbdelay (usec) 3.74380E-01 +/- 1.4E-03
 Phase delay (usec) 5.85587641699E+03 Apriori clockrate (us/s) 1.1060491E-07 Resid phdelay (usec) 7.34215E-08 +/- 5.8E-07
 Delay rate (us/s) 1.51384662354E+00 Apriori rate (us/s) 1.51384671075E+00 Resid rate (us/s) -8.72164E-08 +/- 5.6E-09
 Total phase (deg) 201.3 Apriori accel (us/s/s) -2.14592175050E-05 Resid phase (deg) 2.3 +/- 18.0

RMS 51.4 Theor. 42.2 Amplitude 0.174 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 51.4 42.2 Search (1024X32) 0.174 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 73.6 73.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 29.3 25.5 Inc. seg. avg. 0.158 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 48.6 44.4 Inc. frq. avg. 0.171 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

b: az 92.0 el 56.2 pa -56.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10905.923 -217.260 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/bP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/bP.W.19.127GDU

Mk4/DiFX fourfit 3.20 rev 0

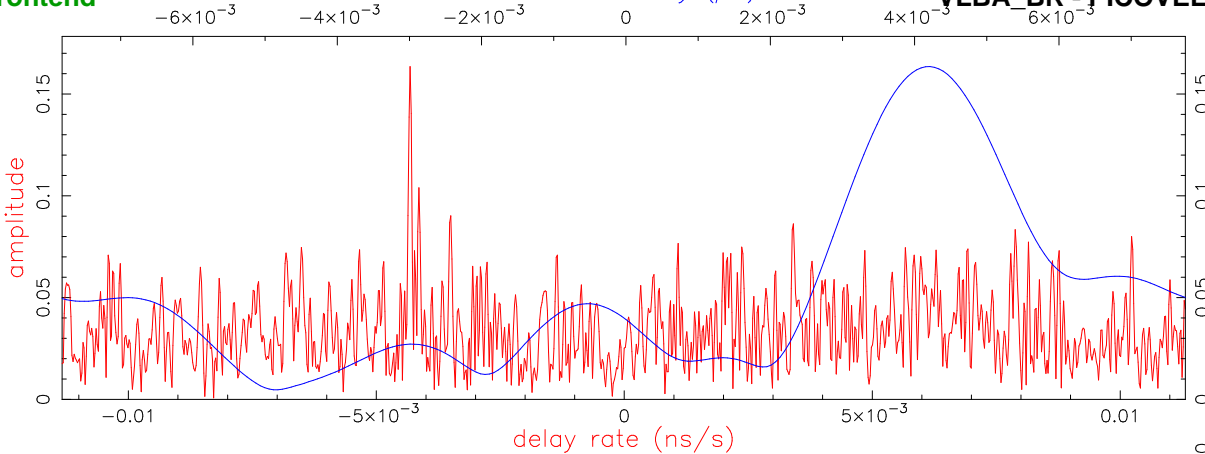
frontend

2013+370.127GDU, No0067, bP

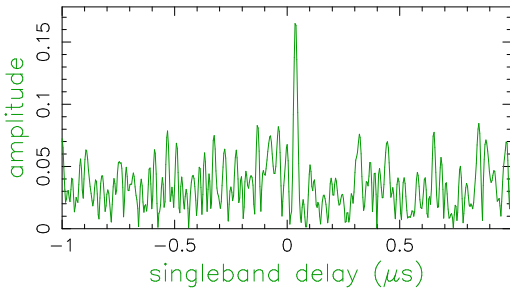
VLBA_BR - PICOVEL, fgroup W, pol RR

multiband delay (μs)

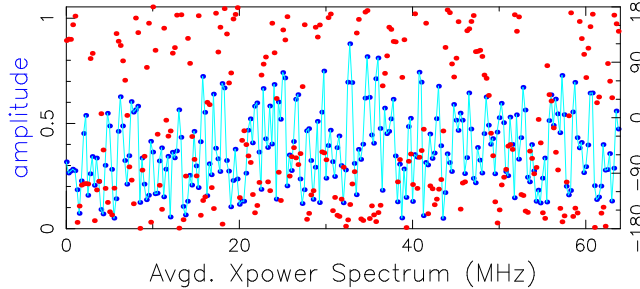
Fringe quality 0



SNR 6.1
Int time 178.414
Amp 0.178
Phase -143.0
PFD 1.1e-01
Delays (us)
SBD 0.036933
MBD 0.004191
Fringe rate (Hz) -0.372708
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

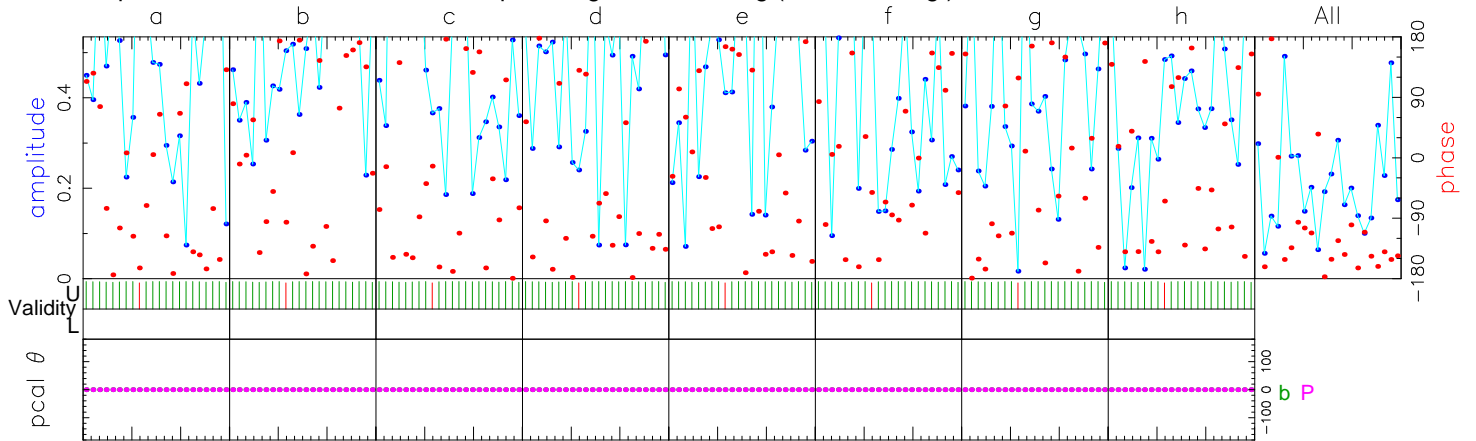


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132048
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
	-149.4	-160.3	-139.6	-137.2	-116.4	175.7	-150.1	-154.7	Phase	-143.0
	0.2	0.1	0.3	0.3	0.2	0.0	0.2	0.1	Ampl.	0.2
	478.0	340.3	265.6	266.9	272.0	236.5	172.5	457.6	Sbd box	266.5
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	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	5.85591185795E+03	Apriori delay (usec)	5.85587641691E+03	Resid mbdelay (usec)	4.19104E-03	+/-	1.8E-04
Sband delay (usec)	5.85591334966E+03	Apriori clock (usec)	-4.7130668E-01	Resid sbdelay (usec)	3.69328E-02	+/-	1.4E-03
Phase delay (usec)	5.85587641230E+03	Apriori clockrate (us/s)	1.1060491E-07	Resid phdelay (usec)	-4.61270E-06	+/-	6.0E-07
Delay rate (us/s)	1.51384238398E+00	Apriori rate (us/s)	1.51384671075E+00	Resid rate (us/s)	-4.32678E-06	+/-	5.8E-09
Total phase (deg)	56.0	Apriori accel (us/s/s)	-2.14592175050E-05	Resid phase (deg)	-143.0	+/-	18.7

ph/seg (deg)	60.1	Theor.	43.8	Amplitude	0.178 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	73.1	Search (1024X32)	0.157	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	22.3	Inc. seg. avg.	0.177	Inc. frq. avg.	0.161	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	50.7	Inc. frq. avg.	0.161			Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

b: az 92.0 el 56.2 pa -56.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10905.923 -217.260 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/bP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/bP.W.39.127GDU

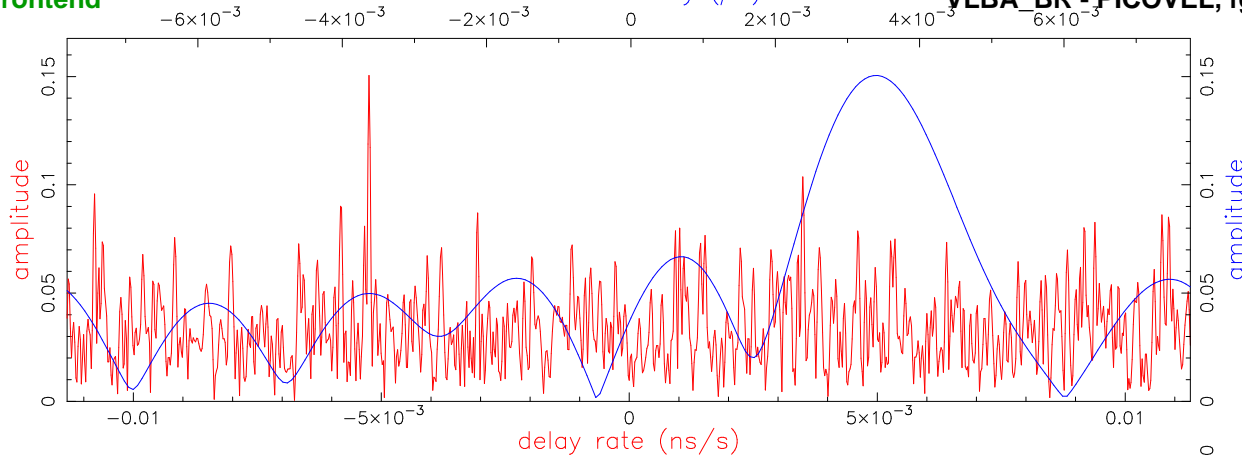
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, bP

VLBA_BR - PICOVEL, fgroup W, pol LR

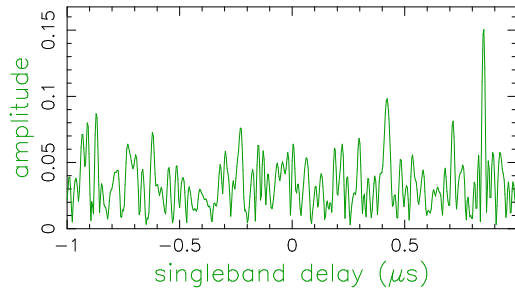
multiband delay (μ s)



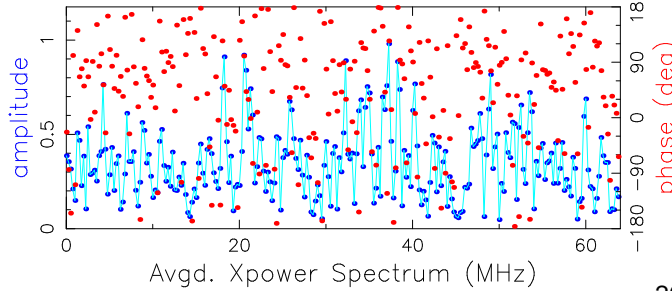
Fringe quality 0

SNR 5.6
 Int time 178.414
 Amp 0.168
 Phase 113.1
 PFD 9.3e-01
 Delays (us)
 SBD 0.850023
 MBD 0.003363
 Fringe rate (Hz)
 -0.453454
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

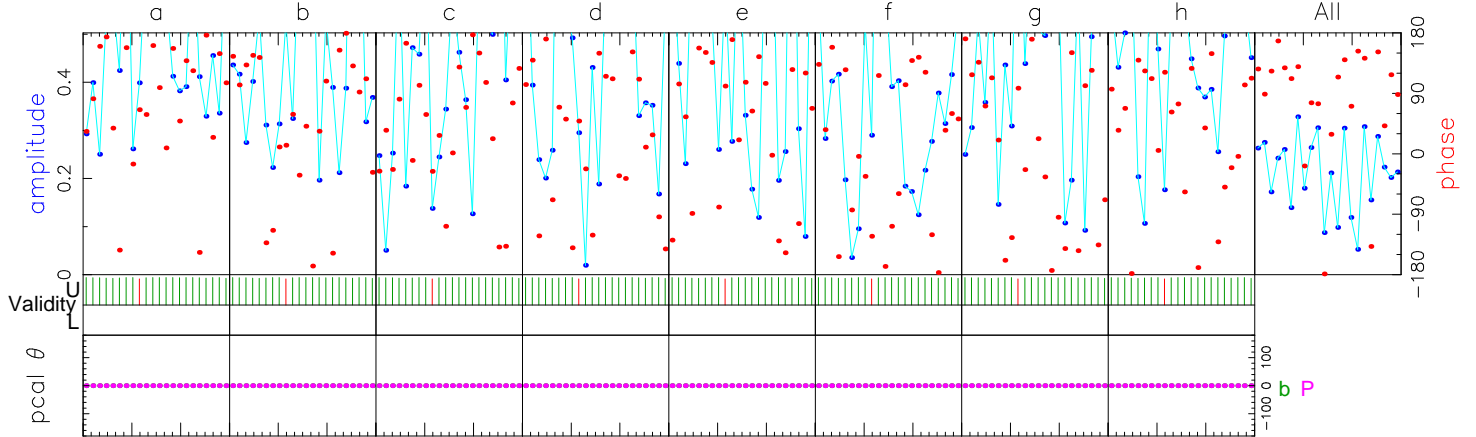
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132050
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



delay rate (ns/s)



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
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)	5.85672352997E+03	Apriori delay (usec)	5.85587641691E+03	Resid mbdelay (usec)	3.36306E-03	+/-	1.9E-04
Sband delay (usec)	5.85672644016E+03	Apriori clock (usec)	-4.7130668E-01	Resid sbdelay (usec)	8.50023E-01	+/-	1.5E-03
Phase delay (usec)	5.85587642056E+03	Apriori clockrate (us/s)	1.1060491E-07	Resid phdelay (usec)	3.64743E-06	+/-	6.6E-07
Delay rate (us/s)	1.51384144660E+00	Apriori rate (us/s)	1.51384671075E+00	Resid rate (us/s)	-5.26415E-06	+/-	6.3E-09
Total phase (deg)	312.1	Apriori accel (us/s/s)	-2.14592175050E-05	Resid phase (deg)	113.1	+/-	20.5

ph/seg (deg)	52.4	Theor.	48.0	Amplitude	0.168 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	64.1	Search (1024X32)	0.147	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	35.0	Inc. seg. avg.	0.173	Inc. frq. avg.	0.165	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	28.4	Inc. frq. avg.	0.165			Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

b: az 92.0 el 56.2 pa -56.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10905.923 -217.260 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/bP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/bP.W.58.127GDU

Mk4/DiFX fourfit 3.20 rev 0

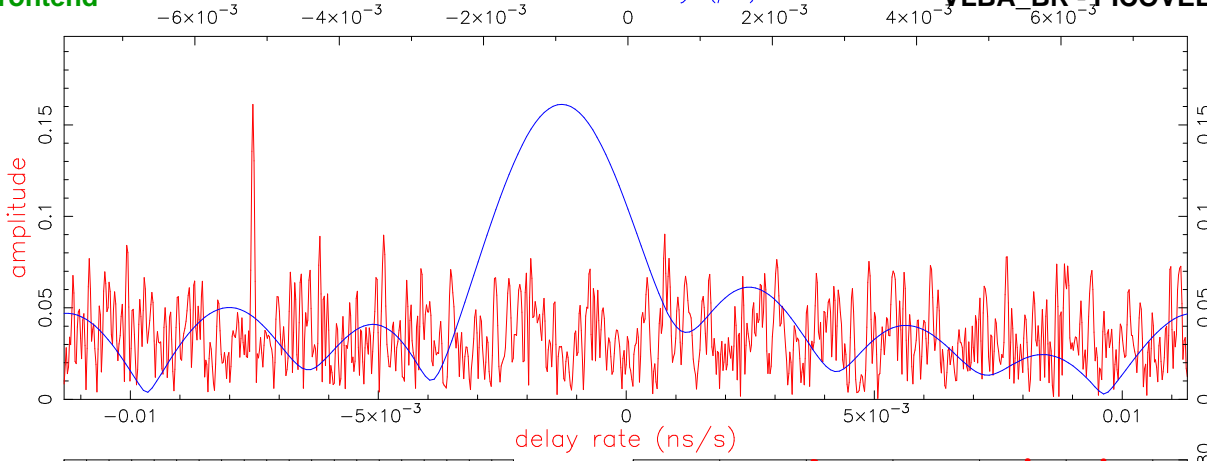
frontend

2013+370.127GDU, No0067, bP

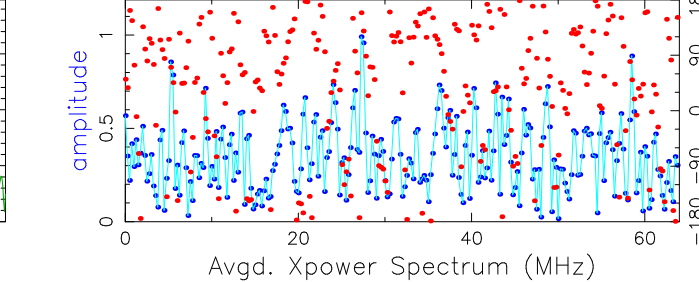
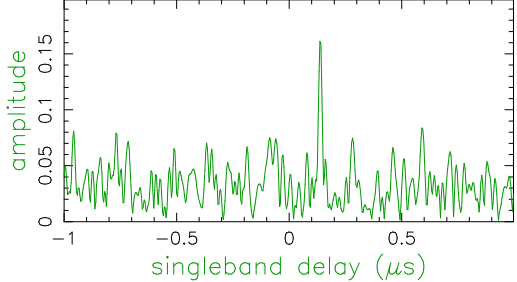
VLBA_BR - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

Fringe quality 0

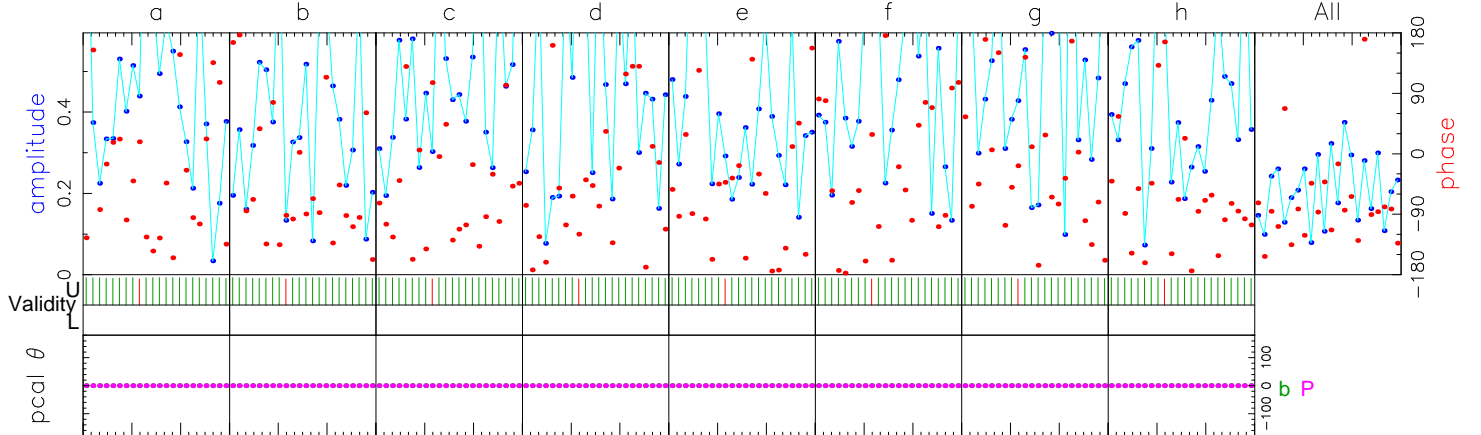


SNR 6.0
 Int time 178.414
 Amp 0.198
 Phase -96.2
 PFD 2.3e-01
 Delays (us)
 SBD 0.138442
 MBD -0.000892
 Fringe rate (Hz)
 -0.649786
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



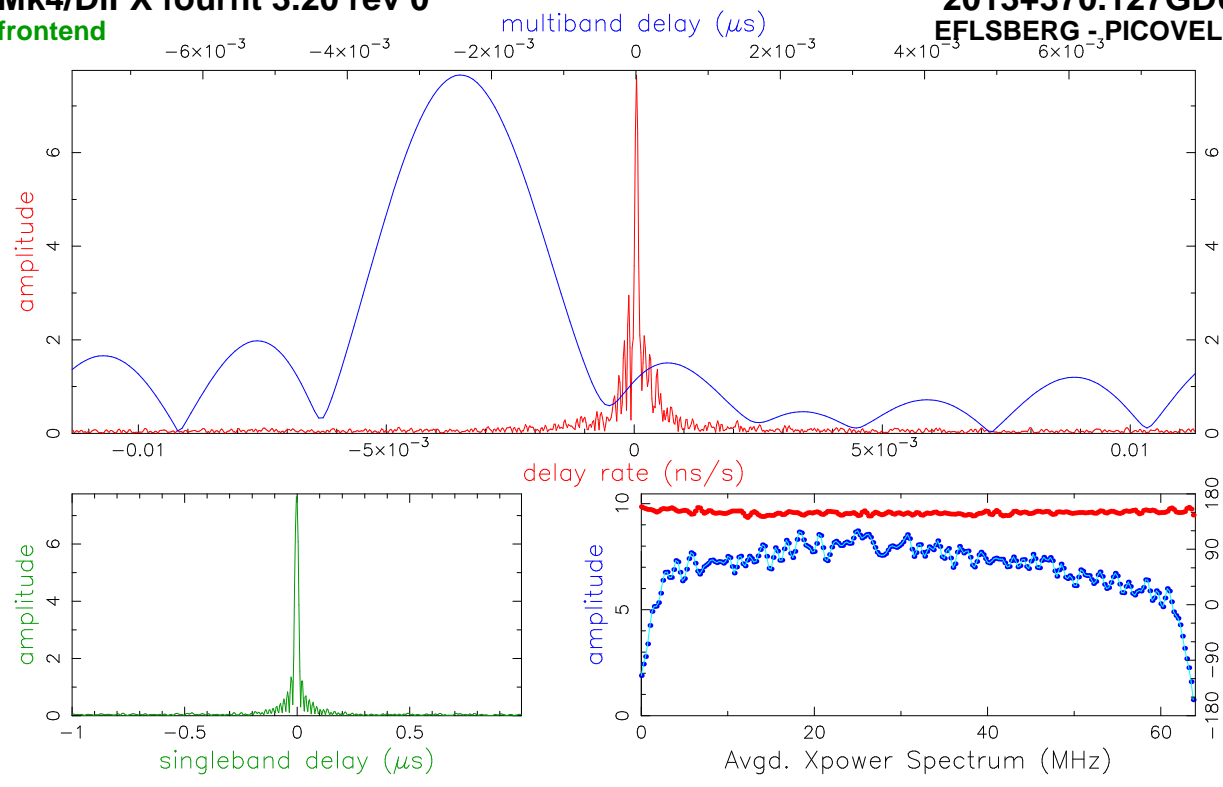
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132052
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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)	5.85601615001E+03		Apriori delay (usec)		5.85587641691E+03		Resid mbdelay (usec)		-8.91899E-04	+/- 1.8E-04	
Sband delay (usec)	5.85601485916E+03		Apriori clock (usec)		-4.7130668E-01		Resid sbdelay (usec)		1.38442E-01	+/- 1.4E-03	
Phase delay (usec)	5.85587641381E+03		Apriori clockrate (us/s)		1.1060491E-07		Resid phdelay (usec)		-3.10359E-06	+/- 6.2E-07	
Delay rate (us/s)	1.51383916738E+00		Apriori rate (us/s)		1.51384671075E+00		Resid rate (us/s)		-7.54337E-06	+/- 5.9E-09	
Total phase (deg)			102.8		Apriori accel (us/s/s)		-2.14592175050E-05		Resid phase (deg)	-96.2	+/- 19.1

ph/seg (deg) 51.4 44.8 Amplitude 0.198 +/- 0.033 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 56.6 78.2 Search (1024X32) 0.156 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 10.9 27.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 33.0 47.2 Inc. seg. avg. 0.194 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 b: az 92.0 el 56.2 pa -56.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10905.923 -217.260 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/bP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/bP.W.74.127GDU simultaneous interpolator

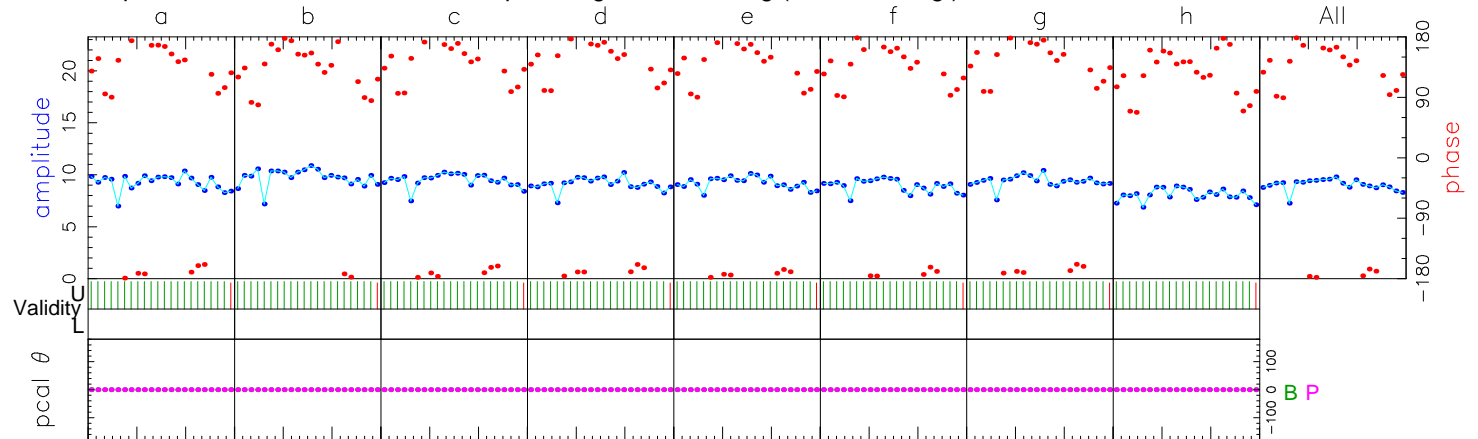


Fringe quality 7

SNR 284.3
 Int time 179.588
 Amp 7.758
 Phase 148.6
 PFD 0.0e+00
 Delays (us)
 SBD -0.002386
 MBD -0.002384
 Fringe rate (Hz)
 0.004504
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Yr:day 16383
 Xr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132054
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

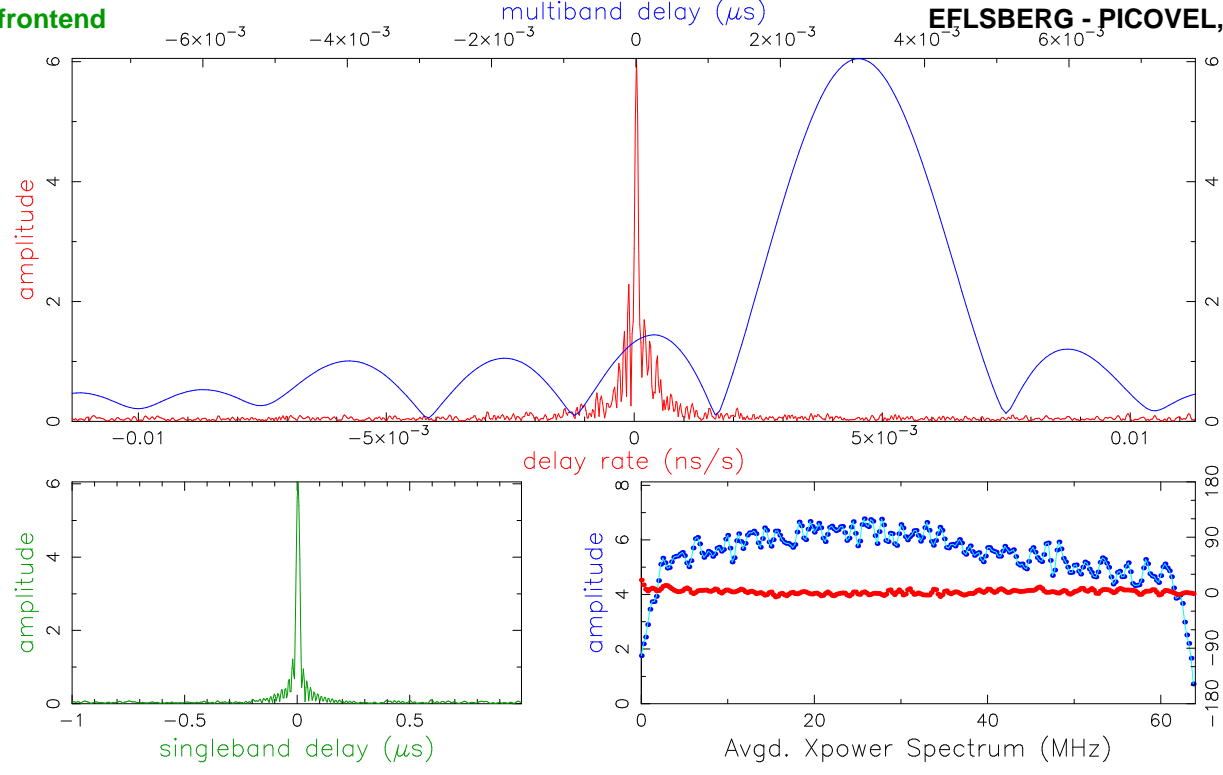
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	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)	-5.32863806093E+02									
Sband delay (usec)	-5.32863808255E+02									
Phase delay (usec)	-5.32861416962E+02									
Delay rate (us/s)	1.60236576800E-01									
Total phase (deg)			-164.6							
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)									148.6	+/- 0.4
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										
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

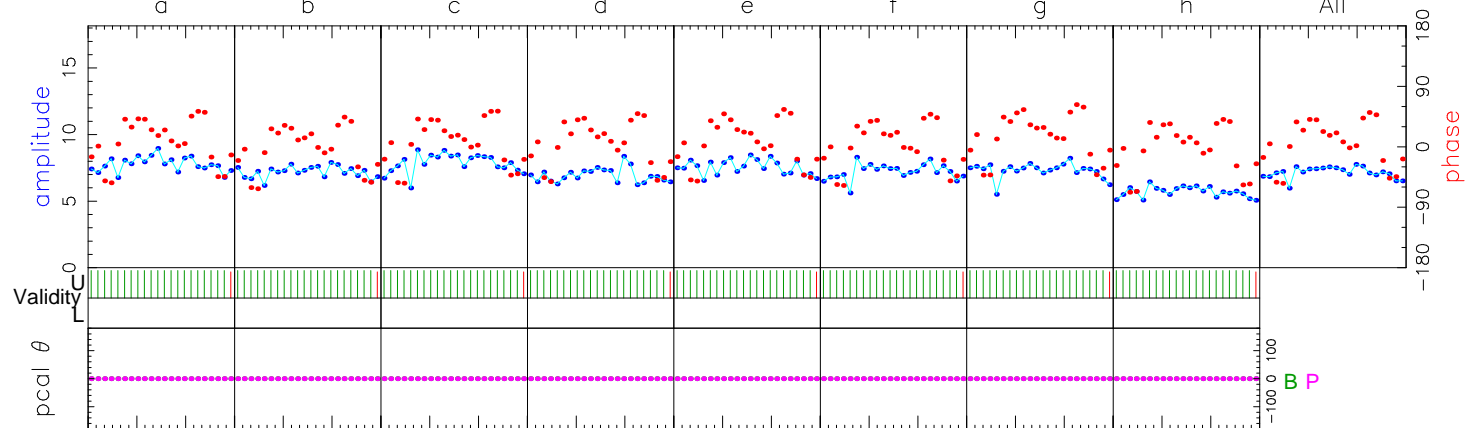
B: az 290.9 el 32.4 pa 48.3 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1139.587 2063.444 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/BP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/BP.W.81.127GDU



Fringe quality 7
 SNR 221.9
 Int time 179.588
 Amp 6.056
 Phase 6.4
 PFD 0.0e+00
 Delays (us)
 SBD 0.003507
 MBD 0.003071
 Fringe rate (Hz) 0.004518
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Yr:day 16383
 Start 2020:070:093855
 Stop 2020:071:132056
 FRT 2019:280:115849
 Corr/FF/build
 2020:071:132056
 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)	-5.32858350655E+02		Apriori delay (usec)		-5.32861421755E+02		Resid mbdelay (usec)		3.07110E-03	+/- 4.9E-06
Sband delay (usec)	-5.32857915005E+02		Apriori clock (usec)		1.6950665E+01		Resid sbdelay (usec)		3.50675E-03	+/- 3.9E-05
Phase delay (usec)	-5.32861421548E+02		Apriori clockrate (us/s)		1.5299999E-07		Resid phdelay (usec)		2.06628E-07	+/- 1.7E-08
Delay rate (us/s)	1.60236576962E-01		Apriori rate (us/s)		1.60236524510E-01		Resid rate (us/s)		5.24517E-08	+/- 1.6E-10
Total phase (deg)			Apriori accel (us/s/s)		1.44692420087E-05		Resid phase (deg)		6.4	+/- 0.5

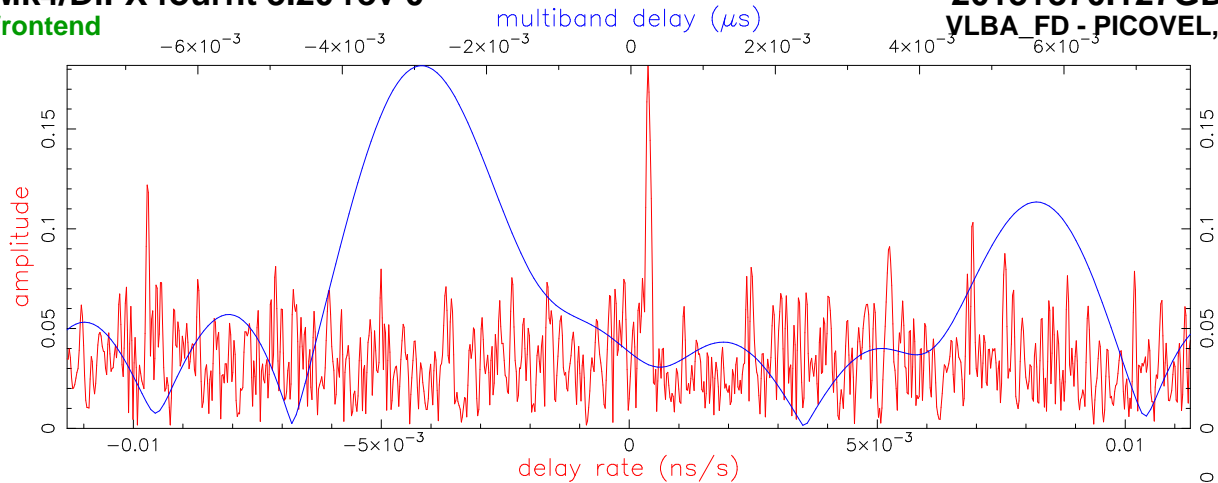
ph/seg (deg) 32.9 1.2 Search (1024X32) 5.850 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 19.4 2.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 6.5 0.7 Inc. seg. avg. 7.156 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 9.1 1.3 Inc. frq. avg. 6.077 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 290.9 el 32.4 pa 48.3 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1139.587 2063.444 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/BP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/BP.W.94.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

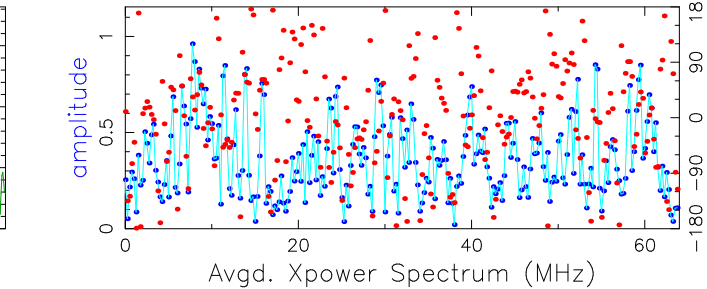
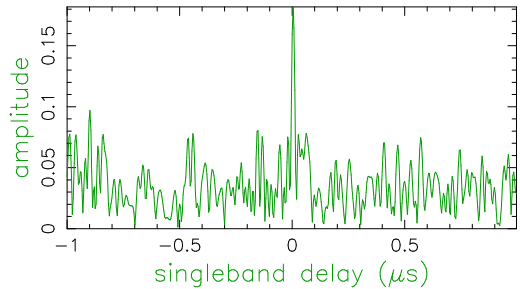
2013+370.127GDU, No0067, fP

VLBA_FD - PICOVEL, fgroup W, pol RR



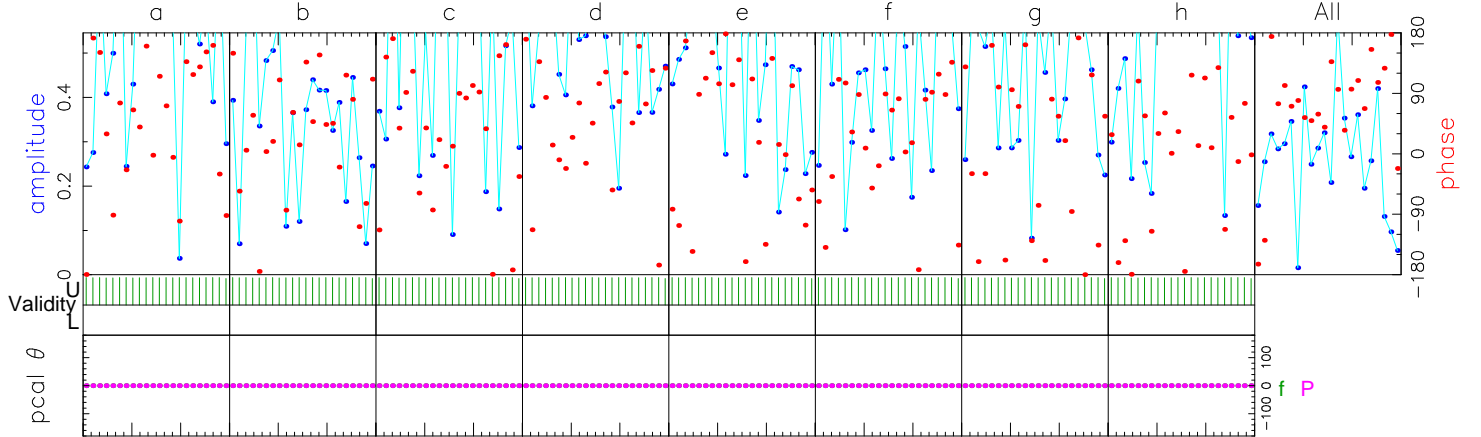
Fringe quality 0

SNR 6.7
Int time 178.922
Amp 0.182
Phase 92.3
PFD 4.2e-03
Delays (us)
SBD 0.004173
MBD -0.002883
Fringe rate (Hz)
0.032642
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132059
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



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

Group delay (usec)(sbd)	7.54144896193E+03	Apriori delay (usec)	7.54145184515E+03	Resid mbdelay (usec)	-2.88322E-03	+/-	1.6E-04
Sband delay (usec)	7.54145601815E+03	Apriori clock (usec)	6.2450343E-01	Resid sbdelay (usec)	4.17300E-03	+/-	1.3E-03
Phase delay (usec)	7.54145184813E+03	Apriori clockrate (us/s)	2.6205050E-07	Resid phdelay (usec)	2.97718E-06	+/-	5.6E-07
Delay rate (us/s)	1.44377805231E+00	Apriori rate (us/s)	1.44377767336E+00	Resid rate (us/s)	3.78947E-07	+/-	5.3E-09
Total phase (deg)	71.1	Apriori accel (us/s/s)	-4.64649806404E-05	Resid phase (deg)	92.3	+/-	17.2

ph/seg (deg)	RMS 59.0	Theor. 40.4	Amplitude Search (1024X32)	0.181	0.182 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	84.4	70.5	Interp.	0.000		Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	41.5	24.4	Inc. seg. avg.	0.214		Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	33.1	42.5	Inc. frq. avg.	0.195		Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

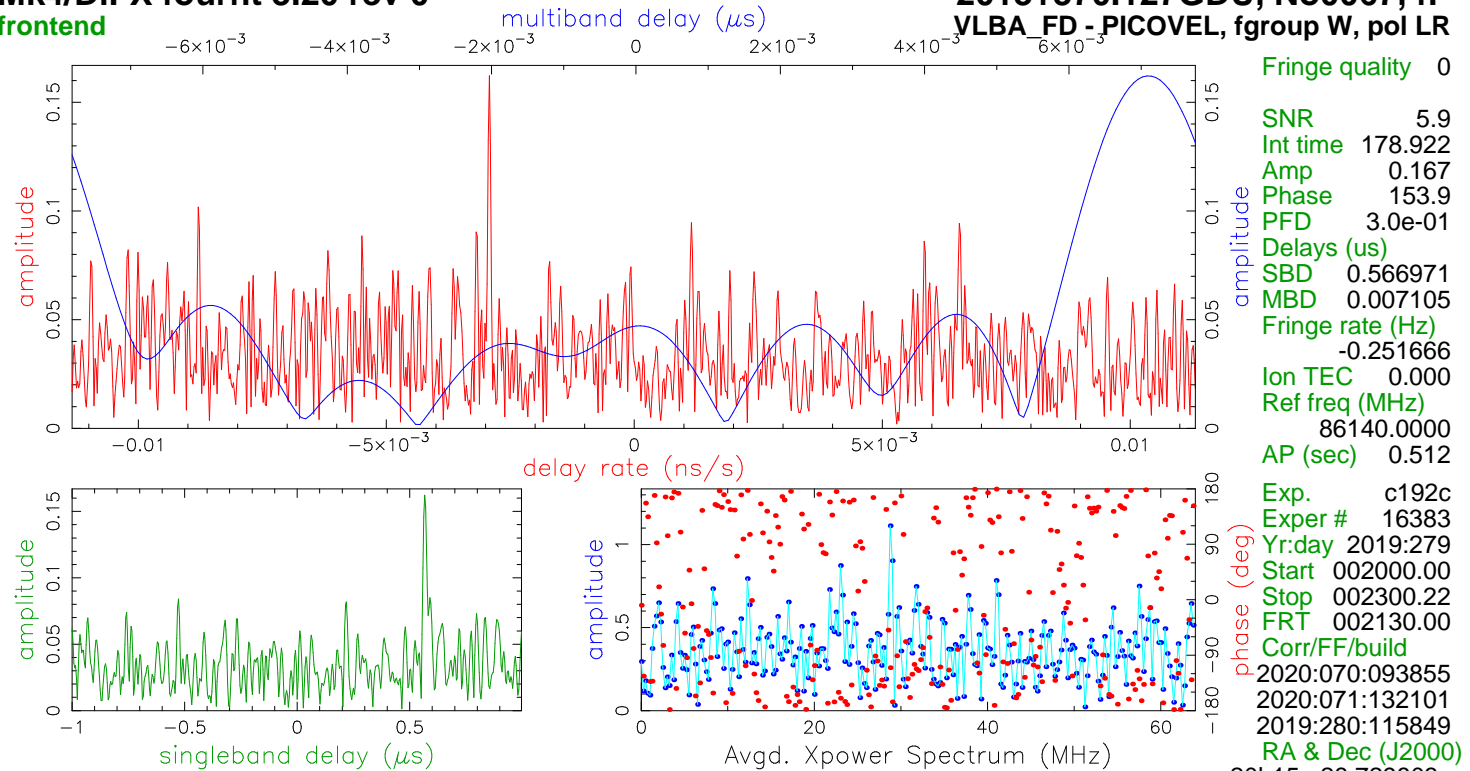
f: az 66.6 el 65.5 pa -96.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10423.938 -3371.229 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/fP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/fP.W.114.127GDU

Mk4/DiFX fourfit 3.20 rev 0

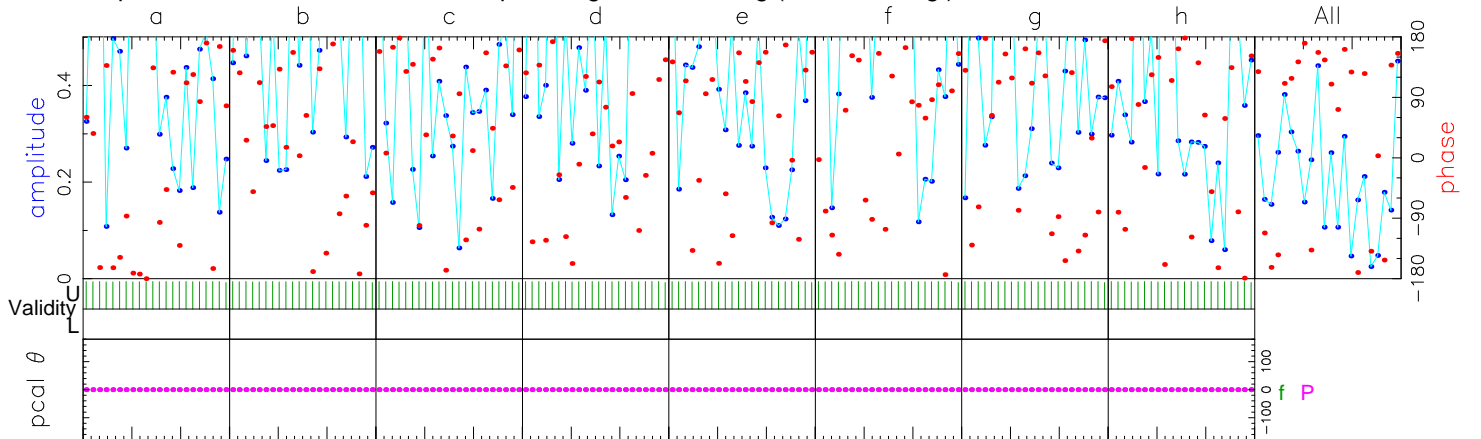
frontend

2013+370.127GDU, No0067, fP

VLBA_FD - PICOVEL, fgroup W, pol LR



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	169.5	128.9	155.4	144.3	148.5	139.7	162.7	160.2	Phase	153.9
	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	Ampl.	0.2
	400.6	446.7	389.6	14.5	142.2	188.3	21.8	403.6	Sbd box	402.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	7.54202145038E+03		Apriori delay (usec)		7.54145184515E+03		Resid mbdelay (usec)		7.10523E-03	+/- 1.8E-04
Sband delay (usec)	7.54201881665E+03		Apriori clock (usec)		6.2450343E-01		Resid sbdelay (usec)		5.66971E-01	+/- 1.4E-03
Phase delay (usec)	7.54145185011E+03		Apriori clockrate (us/s)		2.6205050E-07		Resid phdelay (usec)		4.96156E-06	+/- 6.2E-07
Delay rate (us/s)	1.44377475177E+00		Apriori rate (us/s)		1.44377767336E+00		Resid rate (us/s)		-2.92159E-06	+/- 6.0E-09
Total phase (deg)	132.7		Apriori accel (us/s/s)		-4.64649806404E-05		Resid phase (deg)		153.9	+/- 19.3

ph/seg (deg) 54.6 45.2 Search (1024X32) 0.161 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 78.0 78.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 14.8 27.3 Inc. seg. avg. 0.167 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 30.9 47.6 Inc. frq. avg. 0.153 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011

f: az 66.6 el 65.5 pa -96.8 P: az 293.8 el 34.2 pa 66.6 u, v (fr/asec) -10423.938 -3371.229 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/fP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/fP.W.133.127GDU

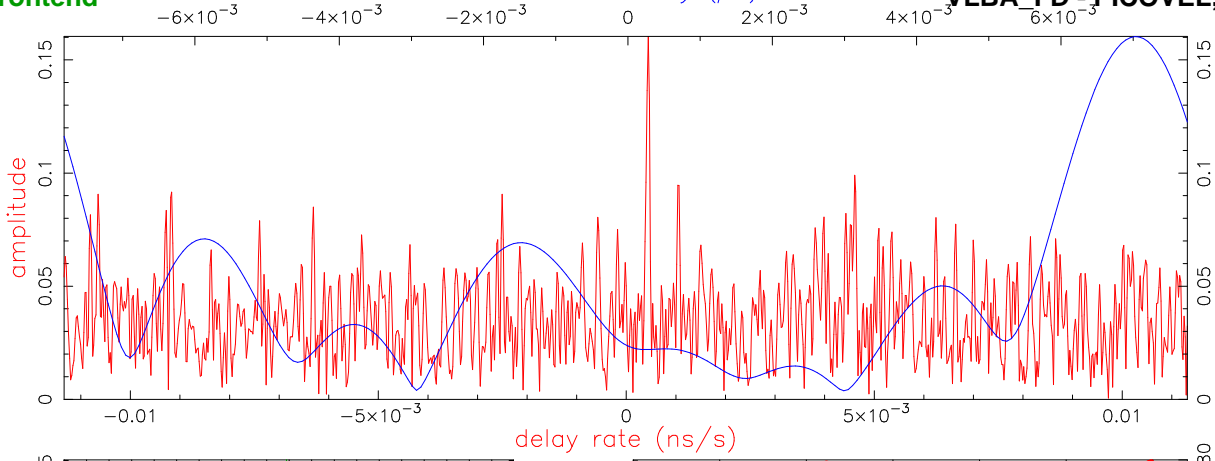
Mk4/DiFX fourfit 3.20 rev 0

frontend

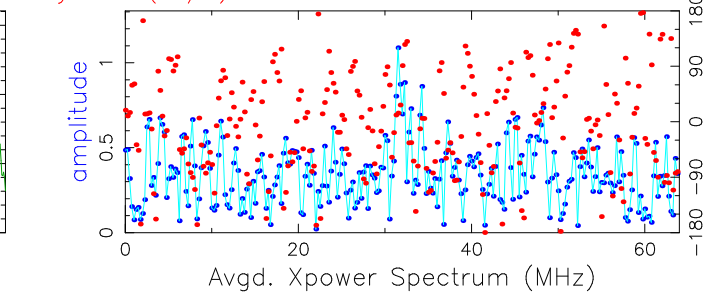
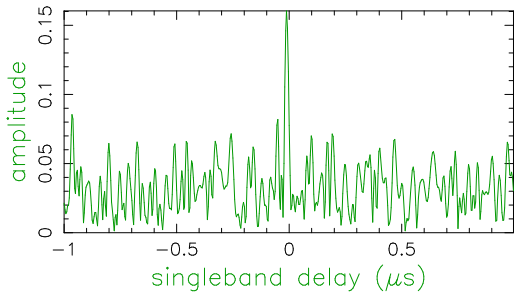
2013+370.127GDU, No0067, fP

VLBA_FD - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

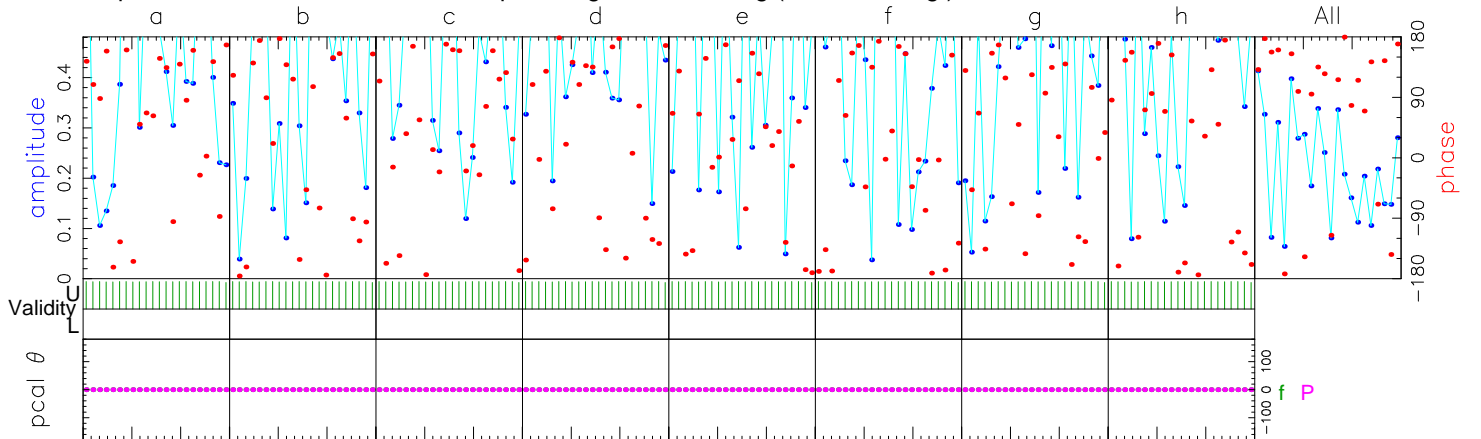


Fringe quality 0
 SNR 5.9
 Int time 178.922
 Amp 0.160
 Phase 146.0
 PFD 4.4e-01
 Delays (us)
 SBD -0.011662
 MBD 0.007039
 Fringe rate (Hz) 0.038614
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132103
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	7.54144325883E+03		Apriori delay (usec)		7.54145184515E+03		Resid mbdelay (usec)		7.03868E-03	+/- 1.9E-04
Sband delay (usec)	7.54144018340E+03		Apriori clock (usec)		6.2450343E-01		Resid sbdelay (usec)		-1.16618E-02	+/- 1.5E-03
Phase delay (usec)	7.54145184986E+03		Apriori clockrate (us/s)		2.6205050E-07		Resid phdelay (usec)		4.70834E-06	+/- 6.3E-07
Delay rate (us/s)	1.44377812163E+00		Apriori rate (us/s)		1.44377767336E+00		Resid rate (us/s)		4.48270E-07	+/- 6.1E-09
Total phase (deg)	124.8		Apriori accel (us/s/s)		-4.64649806404E-05		Resid phase (deg)		146.0	+/- 19.5

ph/seg (deg) 53.5 45.8 Amplitude 0.160 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 75.5 80.0 Search (1024X32) 0.156 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 29.1 27.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 27.0 48.2 Inc. seg. avg. 0.170 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 f: az 66.6 el 65.5 pa -96.8 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10423.938 -3371.229 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/fP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/fP.W.151.127GDU simultaneous interpolator

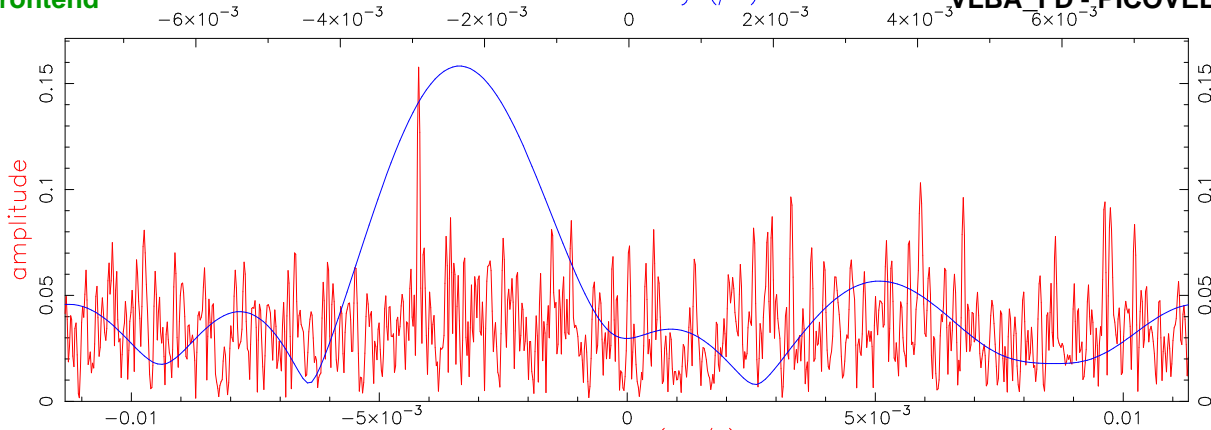
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, fP

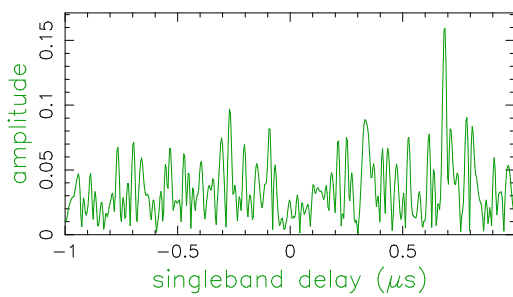
VLBA_FD - PICOVEL, fgroup W, pol LL

multiband delay (μ s)

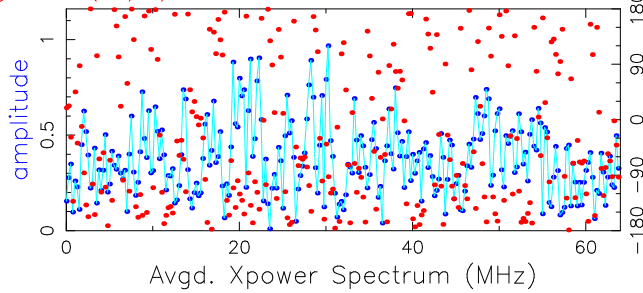


Fringe quality 0

SNR 5.9
Int time 178.922
Amp 0.171
Phase -134.2
PFD 3.5e-01
Delays (us)
SBD 0.685800
MBD -0.002245
Fringe rate (Hz)
-0.363865
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

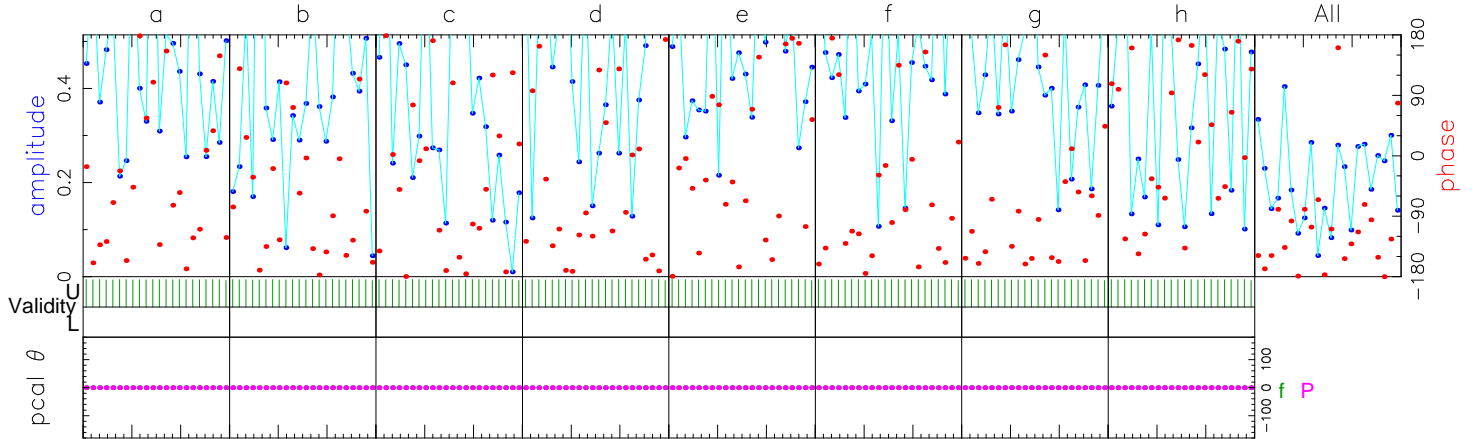


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132057
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-119.2	-120.6	-151.7	-143.1	-129.0	-134.0	-127.4	168.2	Phase	-134.2
	0.2	0.1	0.1	0.3	0.1	0.3	0.2	0.0	Ampl.	0.2
	354.8	345.6	507.6	432.3	82.3	456.0	372.8	82.8	Sbd box	432.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	7.54213710001E+03	Apriori delay (usec)	7.54145184515E+03	Resid mbdelay (usec)	-2.24514E-03	+/-	1.8E-04
Sband delay (usec)	7.54213764515E+03	Apriori clock (usec)	6.2450343E-01	Resid sbdelay (usec)	6.85800E-01	+/-	1.5E-03
Phase delay (usec)	7.54145184082E+03	Apriori clockrate (us/s)	2.6205050E-07	Resid phdelay (usec)	-4.32871E-06	+/-	6.2E-07
Delay rate (us/s)	1.44377344925E+00	Apriori rate (us/s)	1.44377767336E+00	Resid rate (us/s)	-4.22411E-06	+/-	6.0E-09
Total phase (deg)	204.6	Apriori accel (us/s/s)	-4.64649806404E-05	Resid phase (deg)	-134.2	+/-	19.4

ph/seg (deg)	49.0	Theor.	45.4	Amplitude	0.171 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	62.3	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	
ph/frq (deg)	26.4	Inc. seg. avg.	0.167	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	48.3	Inc. frq. avg.	0.155	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
				Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00	
				nlags: 256		t_cohere infinite		

f: az 66.6 el 65.5 pa -96.8

P: az 293.8 el 34.2 pa 66.6

u, v (fr/asec) -10423.938 -3371.229

simultaneous interpolator

Control file: cf_1234_gmva

Input file: /Exps/c192c/v1_CygA2/1234/No0067/fP..127GDU

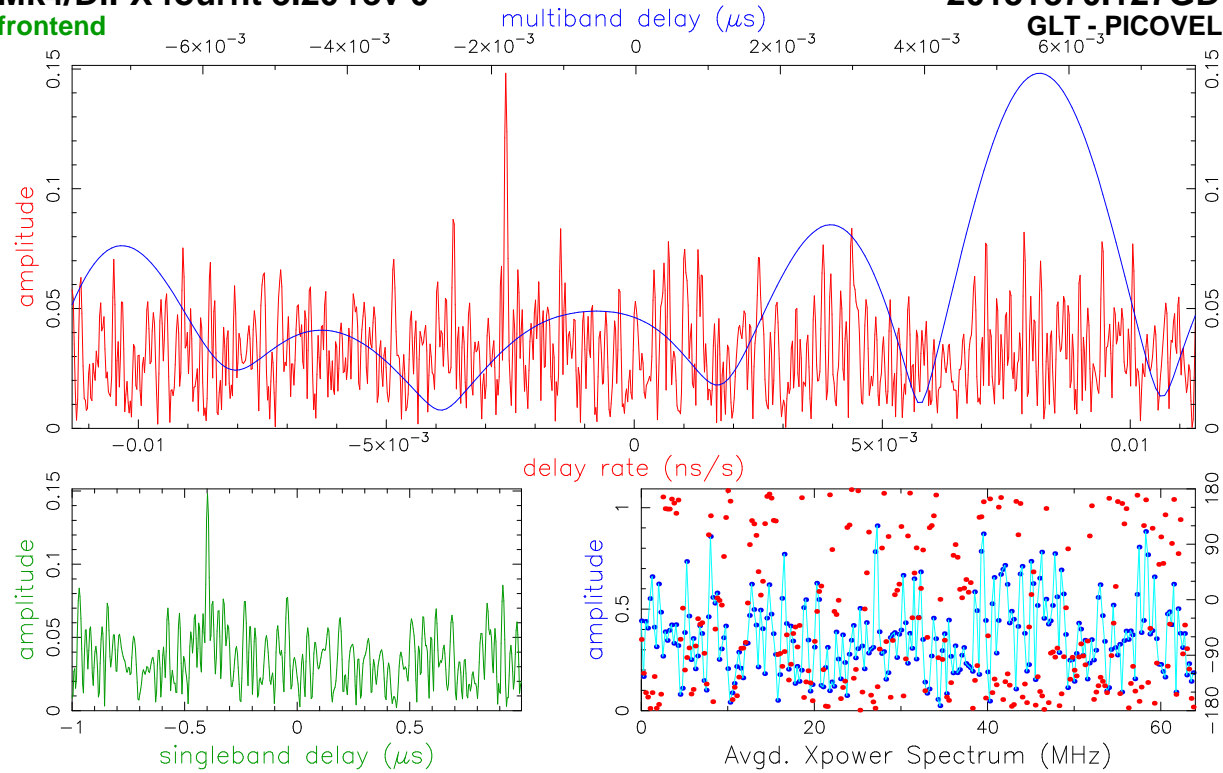
Output file: /Exps/c192c/v1_CygA2/1234/No0067/fP.W.96.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, gP

GLT - PICOVEL, fgroup W, pol LL

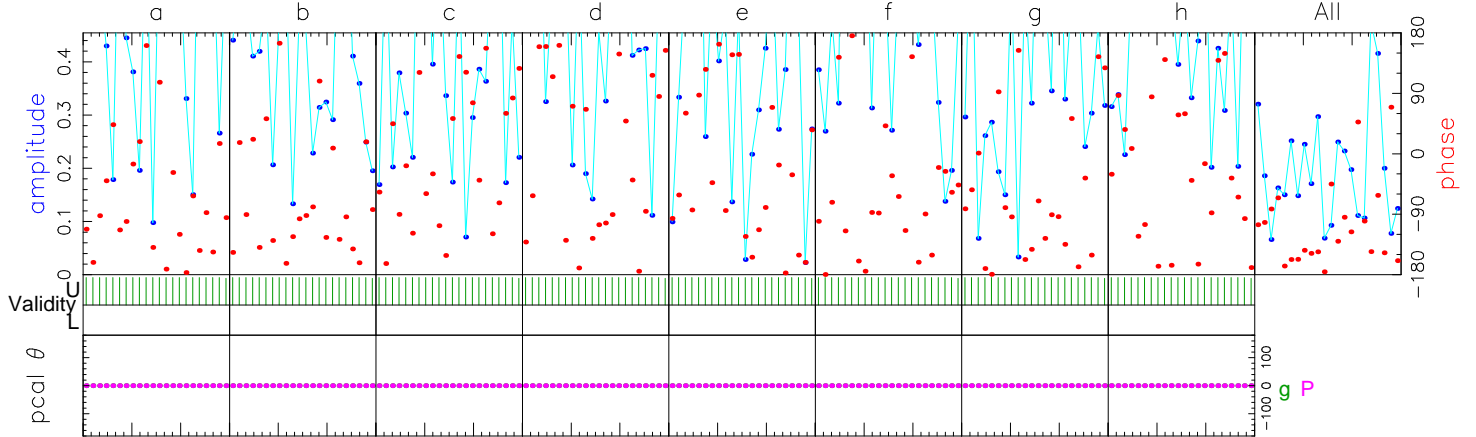


Fringe quality 0

SNR 5.4
 Int time 179.758
 Amp 0.152
 Phase -123.9
 PFD 1.0e+00
 Delays (us)
 SBD -0.398257
 MBD 0.005596
 Fringe rate (Hz)
 -0.223440
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132107
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	4.57082578074E+03	4.57082817830E+03	4.57122643081E+03	9.05151767742E-01	4.57122643480E+03	1.4549849E+00	4.2799997E-07	9.05154361658E-01	5.59594E-03	+/- 2.0E-04
Sband delay (usec)	4.57082817830E+03	4.57122643081E+03	9.05151767742E-01	4.57122643480E+03	1.4549849E+00	4.2799997E-07	9.05154361658E-01	5.59594E-03	-3.98257E-01	+/- 1.6E-03
Phase delay (usec)	4.57122643081E+03	9.05151767742E-01	4.57122643480E+03	1.4549849E+00	4.2799997E-07	9.05154361658E-01	5.59594E-03	-3.98257E-01	-3.99460E-06	+/- 6.8E-07
Delay rate (us/s)	9.05151767742E-01	4.57122643480E+03	1.4549849E+00	4.2799997E-07	9.05154361658E-01	5.59594E-03	-3.98257E-01	-3.99460E-06	-2.59392E-06	+/- 6.5E-09
Total phase (deg)			-90.0	0.152 +/- 0.028	0.146	0.000	0.147	0.143	-123.9	+/- 21.1

ph/seg (deg) 62.2 49.4 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 78.9 86.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 30.0 29.8 Inc. seg. avg. 0.147 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 56.1 52.0 Inc. frq. avg. 0.143 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 188.3 el 50.6 pa 2.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -6506.465 2710.303 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/gP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/gP.W.167.127GDU

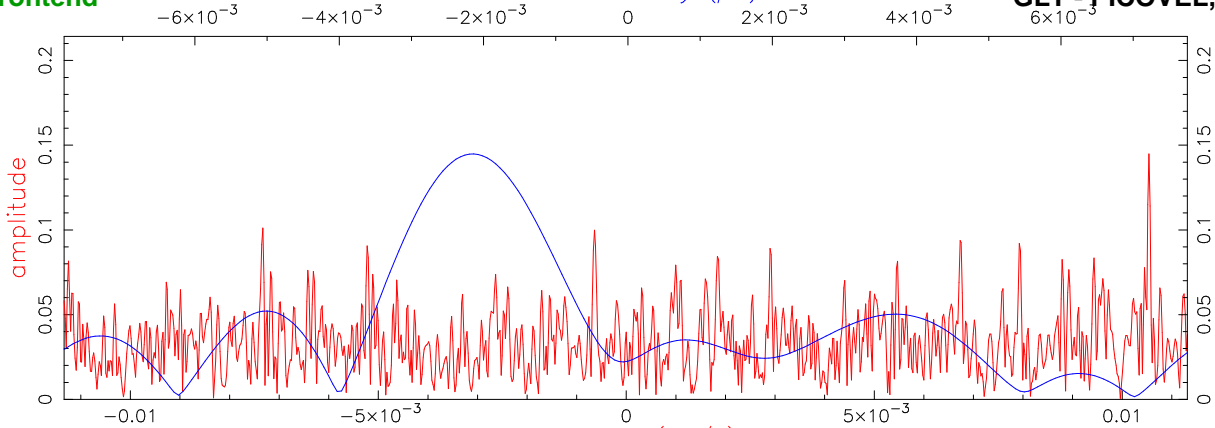
Mk4/DiFX fourfit 3.20 rev 0

frontend

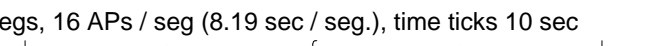
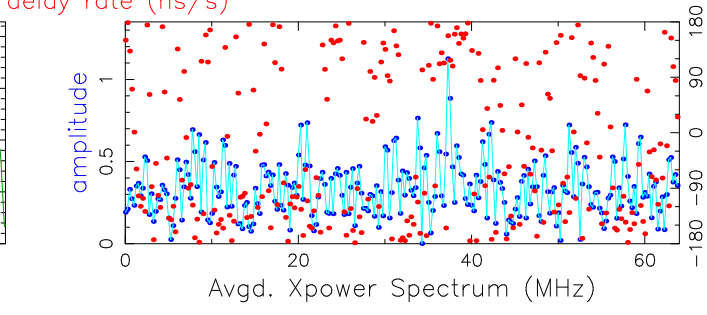
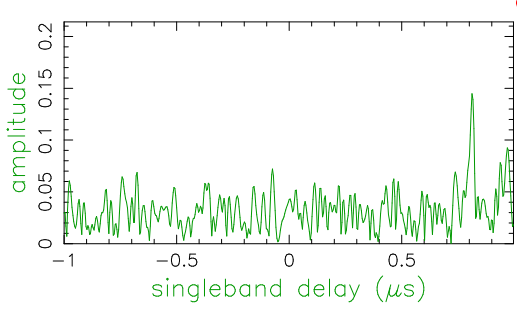
2013+370.127GDU, No0067, gP

GLT - PICOVEL, fgroup W, pol RR

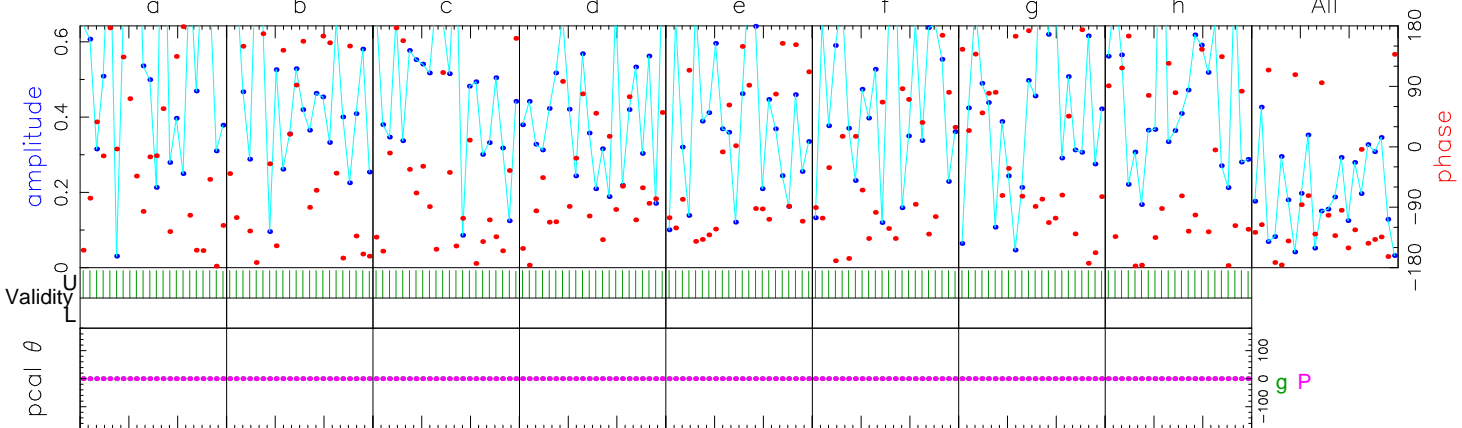
multiband delay (μs)



Fringe quality 0
 SNR 5.3
 Int time 179.745
 Amp 0.214
 Phase -126.8
 PFD 1.0e+00
 Delays (us)
 SBD 0.813483
 MBD -0.002146
 Fringe rate (Hz) 0.909659
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132109
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



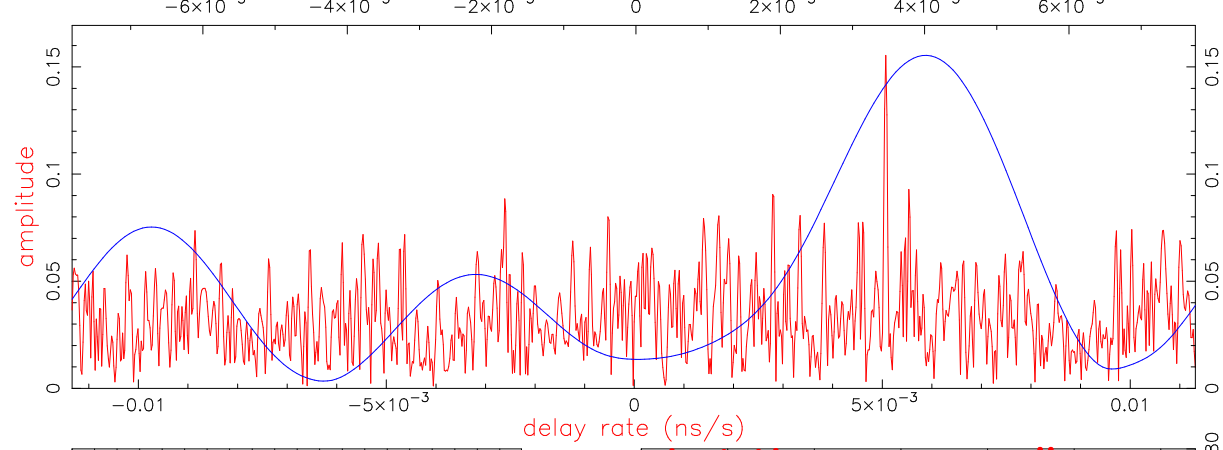
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



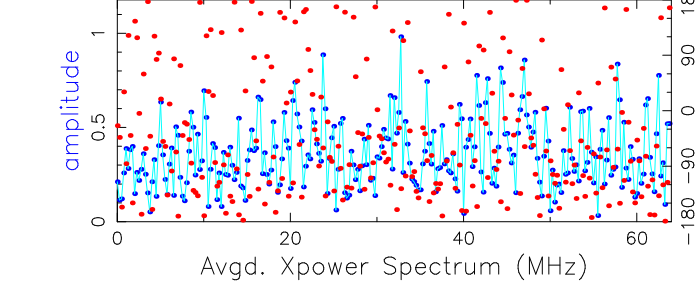
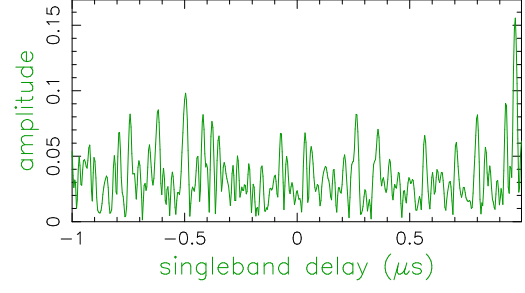
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	4.57203678924E+03					4.57122643480E+03				
Sband delay (usec)	4.57203991755E+03					1.4549849E+00				
Phase delay (usec)	4.57122643072E+03					4.2799997E-07				
Delay rate (us/s)	9.05164921902E-01					9.05154361658E-01				
Total phase (deg)			-93.0			9.93929288881E-07				
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)										
PC period (AP's) 5, 5										
SampCntNorm: enabled										
nlags: 256										
t_cohere infinite										
simultaneous interpolator										

ph/seg (deg) 62.7 50.4 Search (1024X32) 0.214 +/- 0.040 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 84.9 87.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 25.1 30.4 Inc. seg. avg. 0.213 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 26.9 53.0 Inc. frq. avg. 0.200 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 188.3 el 50.6 pa 2.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -6506.465 2710.303 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/gP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/gP.W.183.127GDU

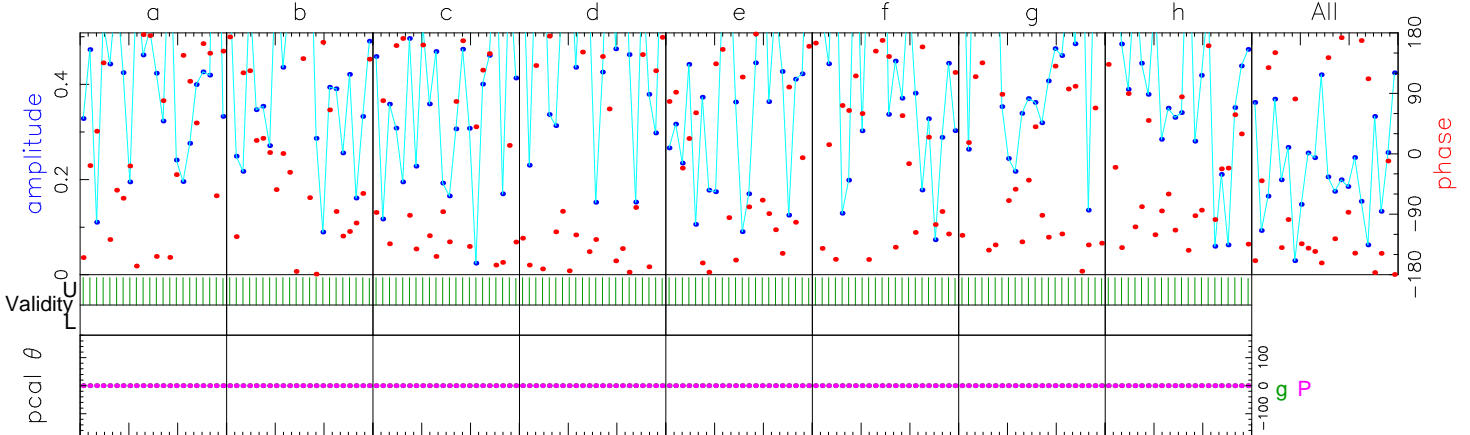
multiband delay (μ s)



Fringe quality 0
 SNR 5.7
 Int time 179.758
 Amp 0.169
 Phase -160.6
 PFD 7.5e-01
 Delays (us)
 SBD 0.968072
 MBD 0.004000
 Fringe rate (Hz)
 0.436616
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132112
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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

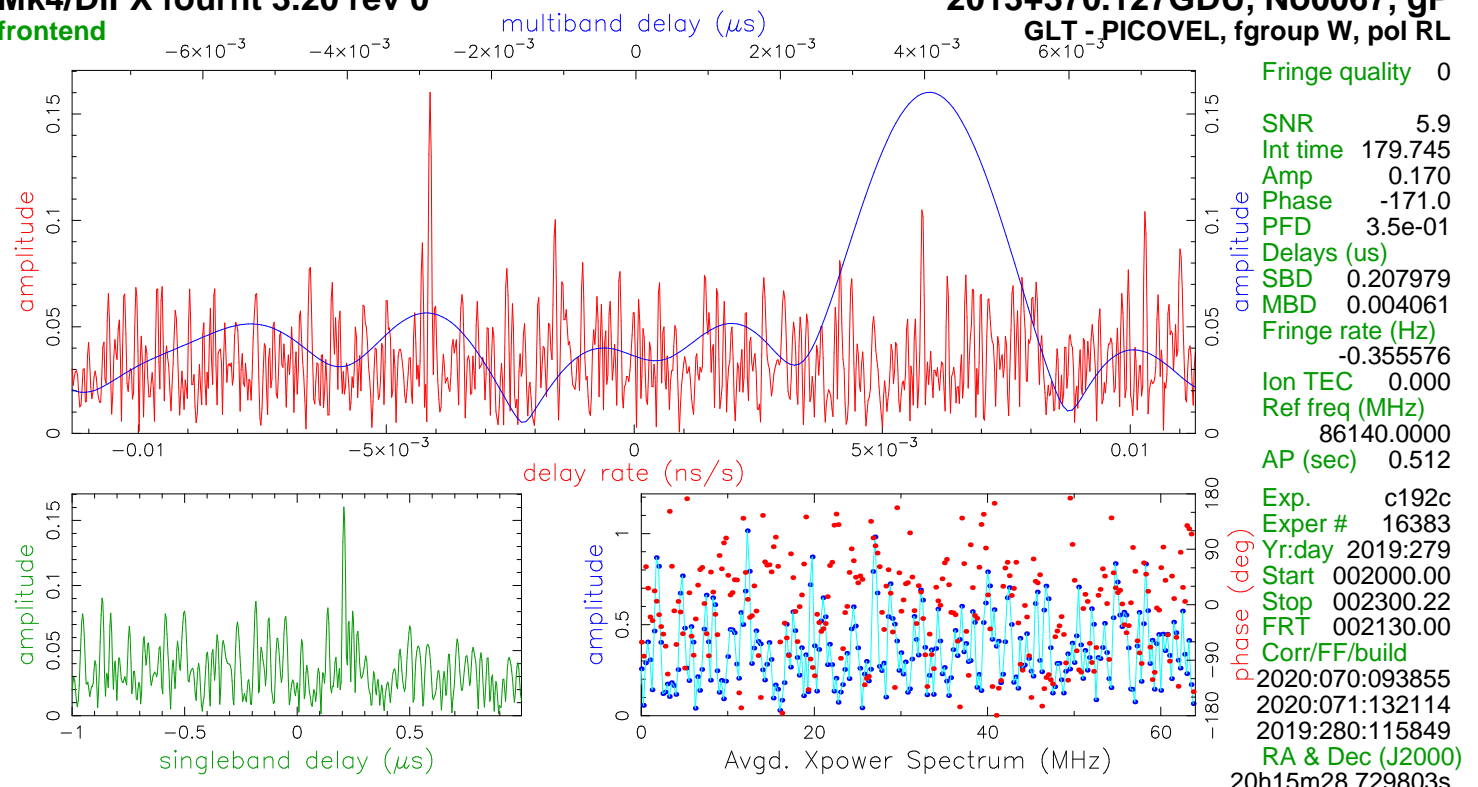


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-151.4	-133.0	-159.7	-172.4	-136.8	172.5	-174.2	-108.0	Phase	-160.6
	0.1	0.1	0.2	0.4	0.1	0.2	0.2	0.1	Ampl.	0.2
	53.9	147.0	462.8	504.3	326.4	348.6	93.7	126.0	Sbd box	504.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
P/g	0	0	0	0	0	0	0	0	PC freqs	
	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
P/g	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

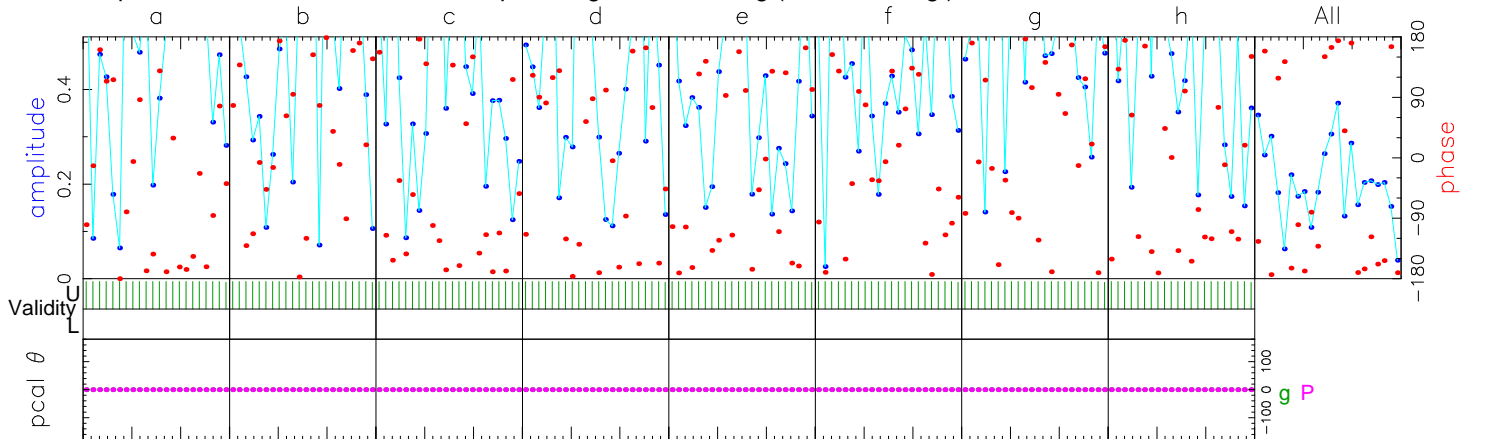
Group delay (usec)(sbd) 4.57219918495E+03 Apriori delay (usec) 4.57122643480E+03 Resid mbdelay (usec) 4.00015E-03 +/- 1.9E-04
 Sband delay (usec) 4.57219450630E+03 Apriori clock (usec) 1.4549849E+00 Resid sbdelay (usec) 9.68072E-01 +/- 1.5E-03
 Phase delay (usec) 4.57122642963E+03 Apriori clockrate (us/s) 4.2799997E-07 Resid phdelay (usec) -5.17840E-06 +/- 6.5E-07
 Delay rate (us/s) 9.05159430341E-01 Apriori rate (us/s) 9.05154361658E-01 Resid rate (us/s) 5.06868E-06 +/- 6.2E-09
 Total phase (deg) -126.8 Apriori accel (us/s/s) 9.93929288881E-07 Resid phase (deg) -160.6 +/- 20.1

RMS Theor. Amplitude 0.169 +/- 0.030 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 61.9 47.0 Search (1024X32) 0.153 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 80.4 82.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 29.5 28.4 Inc. seg. avg. 0.182 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 54.7 49.5 Inc. frq. avg. 0.163 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

g: az 188.3 el 50.6 pa 2.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -6506.465 2710.303 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/gP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/gP.W.201.127GDU



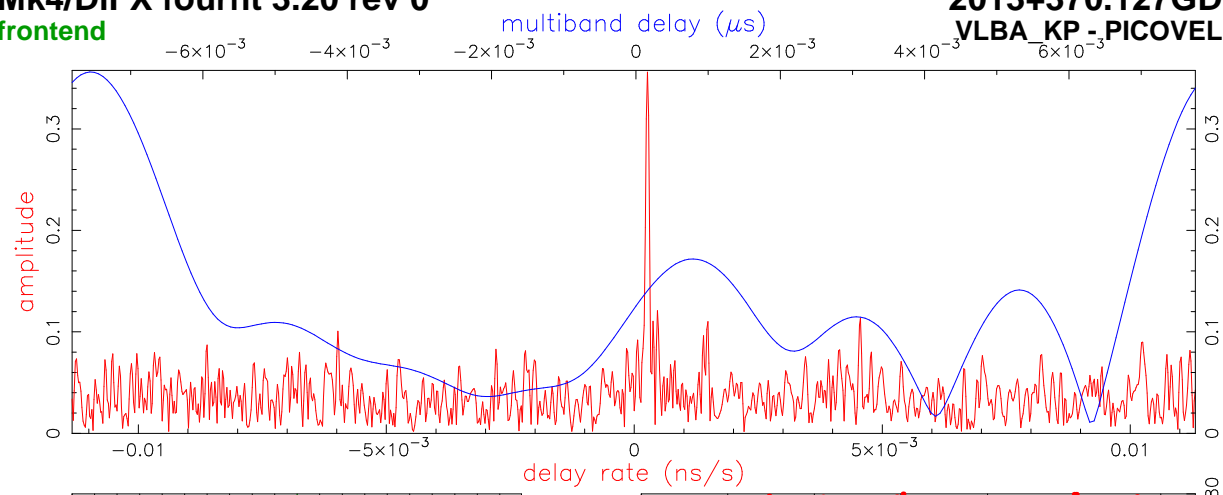
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



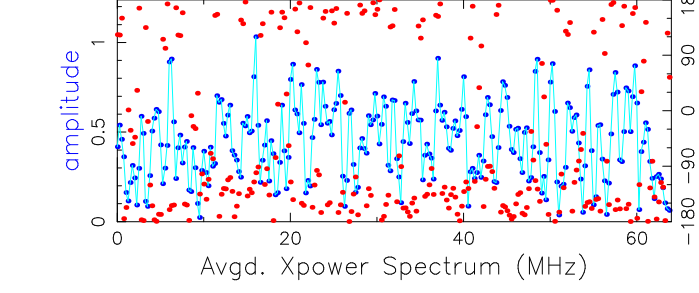
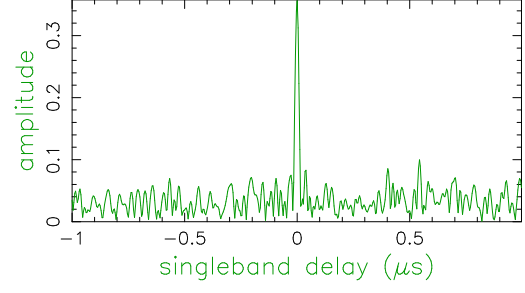
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
Phase	-154.7	164.0	-149.7	159.8	-171.9	-170.4	-170.6	-164.5		-171.0
Ampl.	0.2	0.2	0.3	0.2	0.2	0.0	0.1	0.2		0.2
Sbd box	204.2	45.8	310.1	234.1	104.3	34.6	452.2	89.1		310.2
APs used	U/L 352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
PC freqs	g 0	0	0	0	0	0	0	0		
PC freqs	P 1000	1000	1000	1000	1000	1000	1000	1000		
PC phase	g:P 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Mani PC	g:P 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
PC amp	P 1000	1000	1000	1000	1000	1000	1000	1000		
Chan ids	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Tracks	g									
Chan ids	P									
Tracks	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	4.57143362069E+03	Apriori delay (usec)	4.57122643480E+03	Resid mbdelay (usec)	4.06089E-03	+/-	1.8E-04
Sband delay (usec)	4.57143441330E+03	Apriori clock (usec)	1.4549849E+00	Resid sbdelay (usec)	2.07979E-01	+/-	1.5E-03
Phase delay (usec)	4.57122642929E+03	Apriori clockrate (us/s)	4.2799997E-07	Resid phdelay (usec)	-5.51462E-06	+/-	6.2E-07
Delay rate (us/s)	9.05150233770E-01	Apriori rate (us/s)	9.05154361658E-01	Resid rate (us/s)	-4.12789E-06	+/-	6.0E-09
Total phase (deg)		Apriori accel (us/s/s)	9.93929288881E-07	Resid phase (deg)	-171.0	+/-	19.4

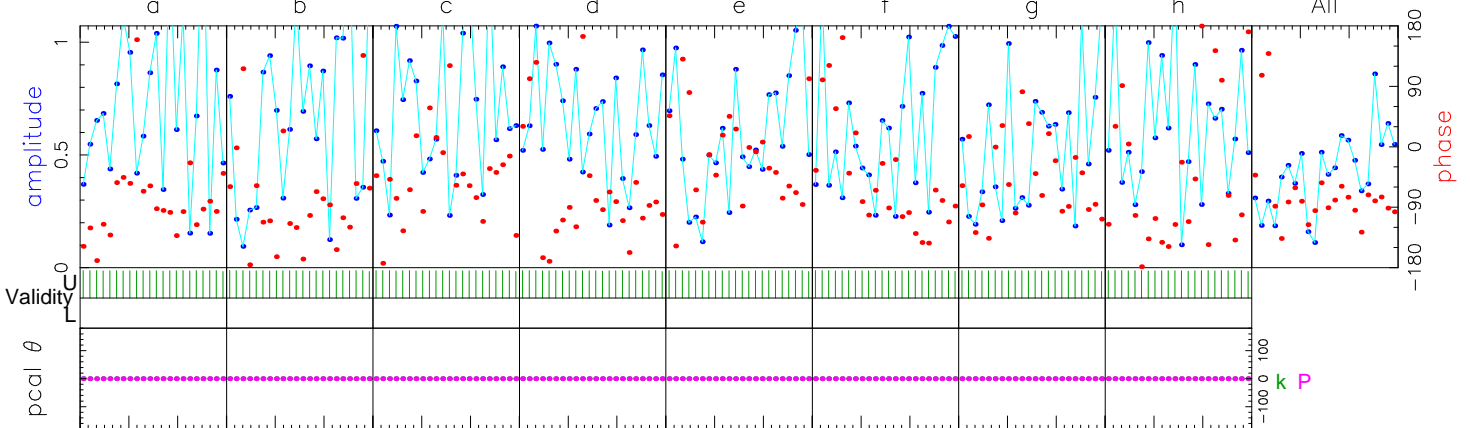
ph/seg (deg)	RMS 49.4	Theor. 45.4	Amplitude Search (1024X32)	0.170 +/- 0.029	0.153	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	58.4	79.3	Interp.	0.000	0.000E+00	0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	19.3	27.4	Inc. seg. avg.	0.166	Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011	0.011
amp/frq (%)	39.8	47.8	Inc. frq. avg.	0.160	Data rate(Mb/s): 2048			ion window (TEC)	0.00	0.00



Fringe quality 9
 SNR 13.1
 Int time 178.559
 Amp 0.358
 Phase -83.9
 PFD 1.4e-30
 Delays (us)
 SBD -0.000908
 MBD -0.007588
 Fringe rate (Hz)
 0.022903
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132109
 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

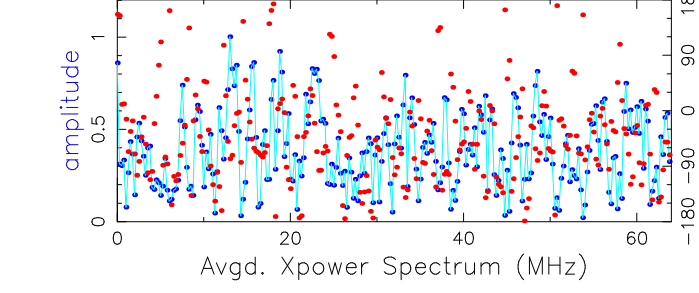
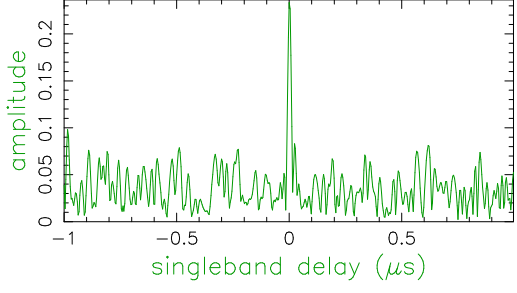
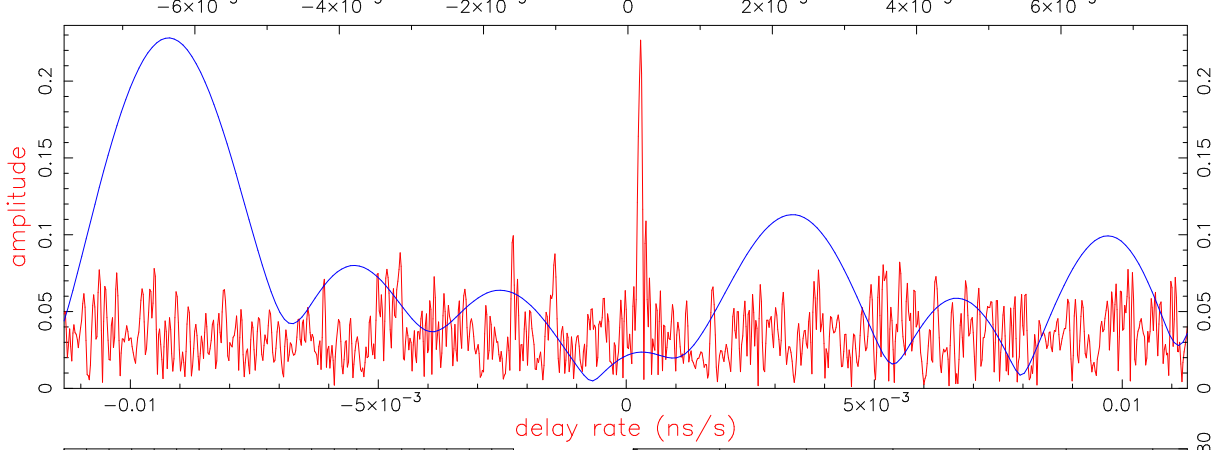


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-92.0	-107.0	-47.5	-111.3	-34.6	-84.4	-61.4	-127.5	Phase	-83.9
	0.6	0.5	0.5	0.4	0.3	0.3	0.4	0.3	Ampl.	0.4
	257.1	256.6	256.6	256.5	255.1	256.1	255.2	255.0	Sbd box	256.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.59456308307E+03		Apriori delay (usec)		6.59457067113E+03		Resid mbdelay (usec)		-7.58806E-03	+/- 8.3E-05
Sband delay (usec)	6.59456976338E+03		Apriori clock (usec)		-2.4926943E-01		Resid sbdelay (usec)		-9.07750E-04	+/- 6.6E-04
Phase delay (usec)	6.59457066843E+03		Apriori clockrate (us/s)		1.5842101E-07		Resid phdelay (usec)		-2.70547E-06	+/- 2.8E-07
Delay rate (us/s)	1.55570003722E+00		Apriori rate (us/s)		1.55569977134E+00		Resid rate (us/s)		2.65883E-07	+/- 2.7E-09
Total phase (deg)	136.2		Apriori accel (us/s/s)		-4.00886798676E-05		Resid phase (deg)		-83.9	+/- 8.8

ph/seg (deg) 51.5 20.6 Search (1024X32) 0.346 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 51.5 35.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 35.4 12.4 Inc. seg. avg. 0.397 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 32.3 21.6 Inc. frq. avg. 0.396 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.7 el 59.9 pa -89.1 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11224.084 -2846.654 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/kP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/kP.W.177.127GDU

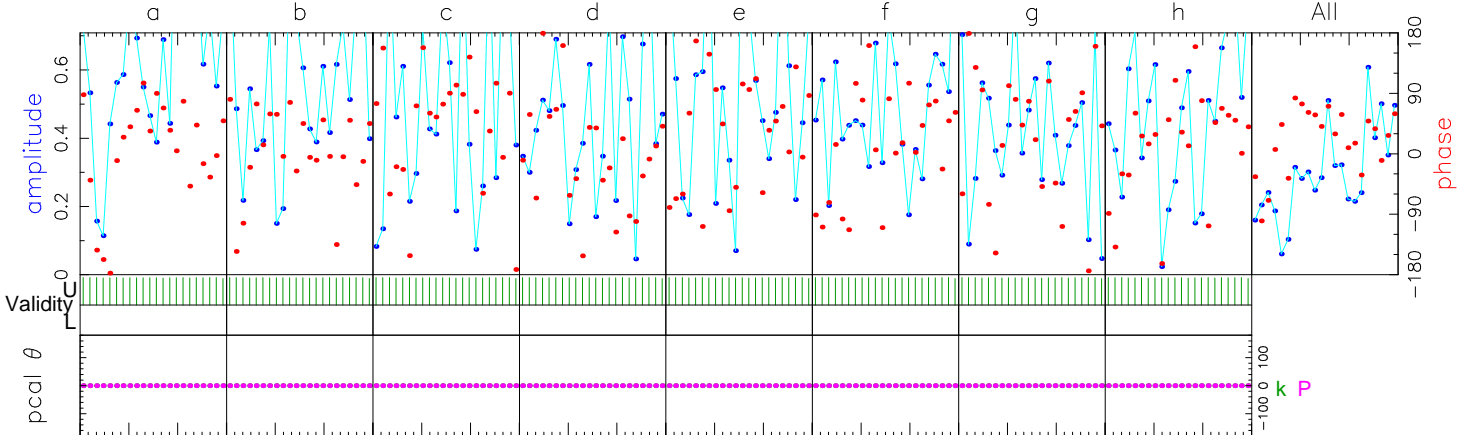
multiband delay (μ s)

Fringe quality 9
 SNR 8.6
 Int time 178.558
 Amp 0.236
 Phase 34.2
 PFD 1.1e-09
 Delays (us)
 SBD 0.001387
 MBD -0.006478
 Fringe rate (Hz) 0.024287
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132112
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
P	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	6.59457981847E+03		Apriori delay (usec)		6.59457067113E+03		Resid mbdelay (usec)		-6.47767E-03	+/- 1.3E-04
Sband delay (usec)	6.59457205838E+03		Apriori clock (usec)		-2.4926943E-01		Resid sbdelay (usec)		1.38725E-03	+/- 1.0E-03
Phase delay (usec)	6.59457067224E+03		Apriori clockrate (us/s)		1.5842101E-07		Resid phdelay (usec)		1.10291E-06	+/- 4.3E-07
Delay rate (us/s)	1.55570005329E+00		Apriori rate (us/s)		1.55569977134E+00		Resid rate (us/s)		2.81952E-07	+/- 4.1E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.00886798676E-05		Resid phase (deg)		34.2	+/- 13.3

	RMS	Theor.	Amplitude	0.236 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	49.9	31.1	Search (1024X32)	0.227	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000	
amp/seg (%)	62.5	54.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008
ph/frq (deg)	29.6	18.8	Inc. seg. avg.	0.260	Sample rate(MISamp/s): 128		dr window (ns/s) -0.011 0.011
amp/frq (%)	34.7	32.8	Inc. frq. avg.	0.232	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite
							ion window (TEC) 0.00 0.00

Mk4/DiFX fourfit 3.20 rev 0

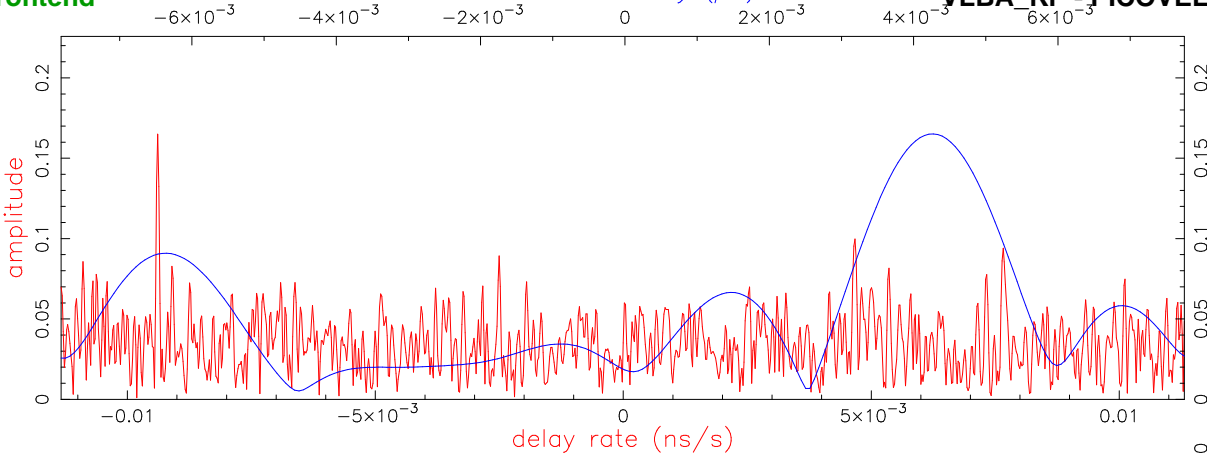
frontend

2013+370.127GDU, No0067, kP

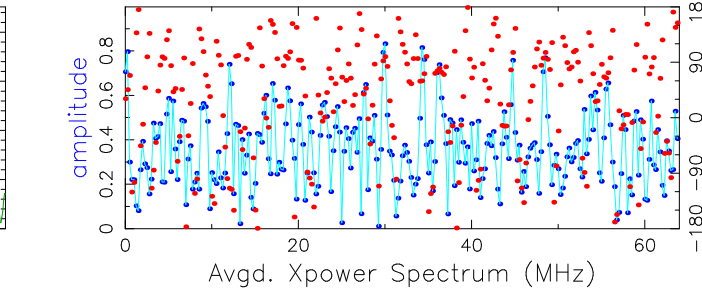
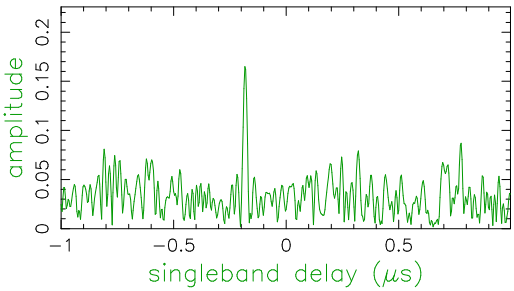
VLBA_KP - PICOVEL, fgroup W, pol LR

multiband delay (μ s)

Fringe quality 0

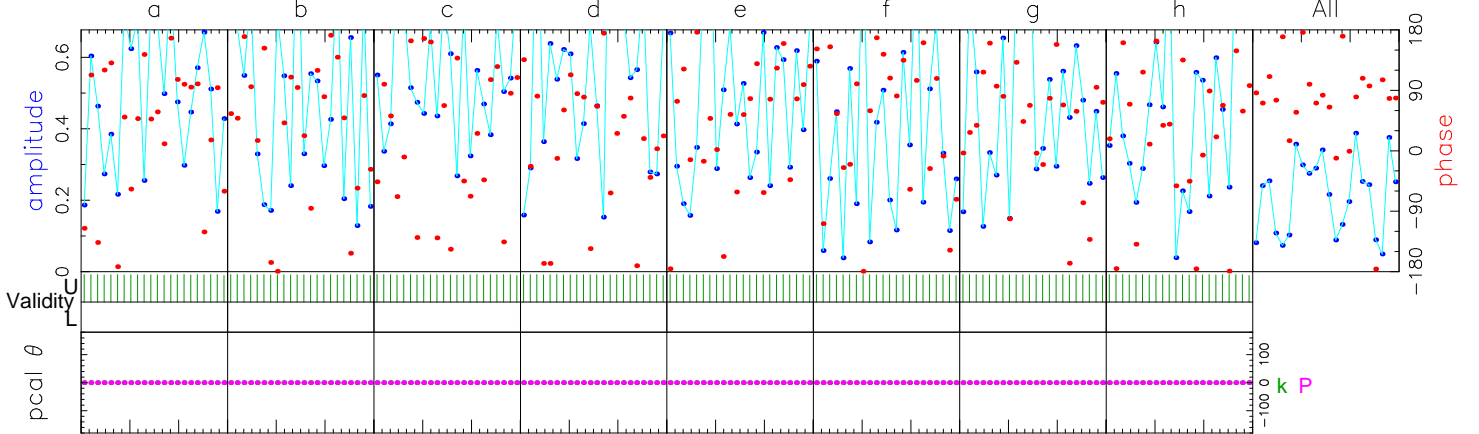


SNR 6.1
Int time 178.559
Amp 0.226
Phase 85.8
PFD 1.3e-01
Delays (us)
SBD -0.182087
MBD 0.004304
Fringe rate (Hz)
-0.810635
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132114
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		
k	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	6.59438747472E+03	Apriori delay (usec)	6.59457067113E+03	Resid mbdelay (usec)	4.30359E-03	+/-	1.8E-04
Sband delay (usec)	6.59438858413E+03	Apriori clock (usec)	-2.4926943E-01	Resid sbdelay (usec)	-1.82087E-01	+/-	1.4E-03
Phase delay (usec)	6.59457067390E+03	Apriori clockrate (us/s)	1.5842101E-07	Resid phdelay (usec)	2.76525E-06	+/-	6.1E-07
Delay rate (us/s)	1.55569036067E+00	Apriori rate (us/s)	1.55569977134E+00	Resid rate (us/s)	-9.41067E-06	+/-	5.8E-09
Total phase (deg)	305.9	Apriori accel (us/s/s)	-4.00886798676E-05	Resid phase (deg)	85.8	+/-	18.8

ph/seg (deg)	51.1	Theor.	44.0	Amplitude	0.226 +/- 0.037	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	68.9	Search (1024X32)	0.160	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	
ph/frq (deg)	29.8	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	38.7	Inc. seg. avg.	0.224	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
		Inc. frq. avg.	0.217	Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00	

k: az 69.7 el 59.9 pa -89.1 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11224.084 -2846.654 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/kP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/kP.W.223.127GDU

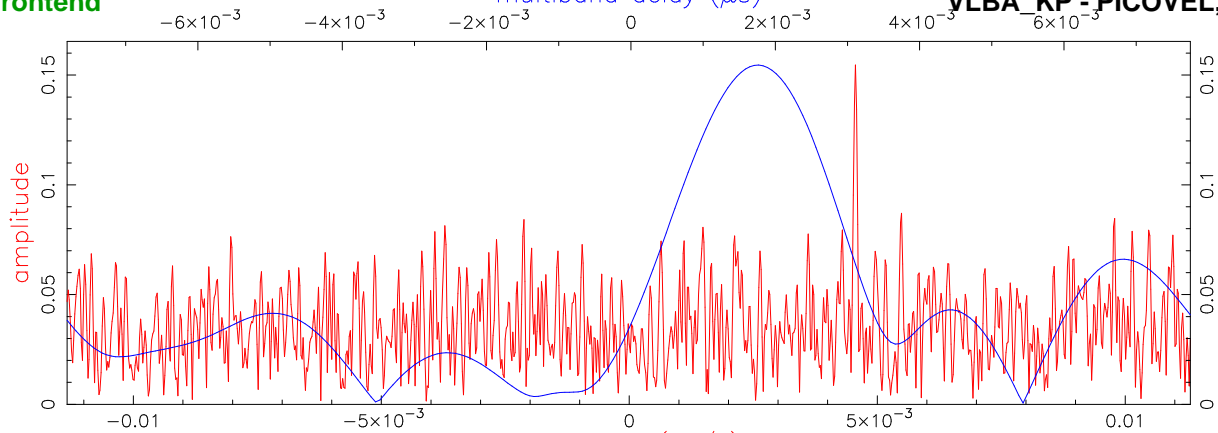
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, kP

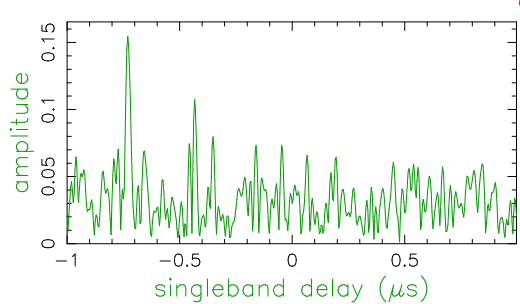
VLBA_KP - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

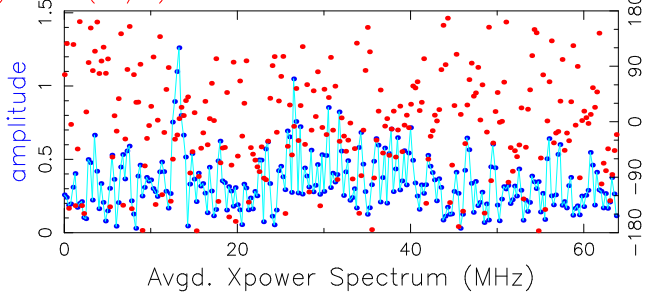


Fringe quality 0

SNR 5.6
 Int time 178.558
 Amp 0.165
 Phase -155.4
 PFD 8.6e-01
 Delays (us)
 SBD -0.730396
 MBD 0.001762
 Fringe rate (Hz)
 0.393014
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

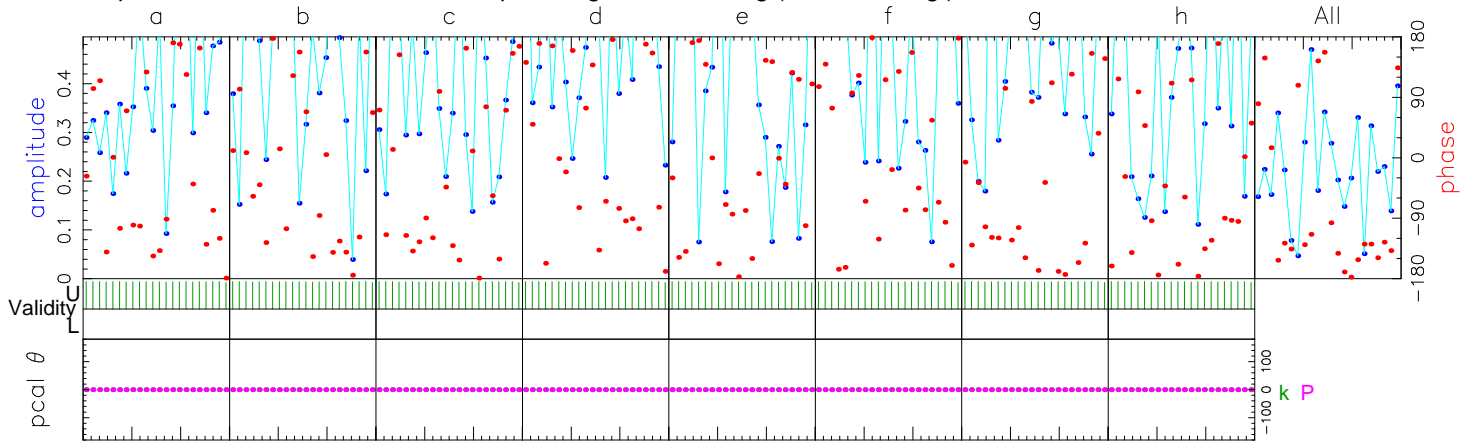


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132117
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

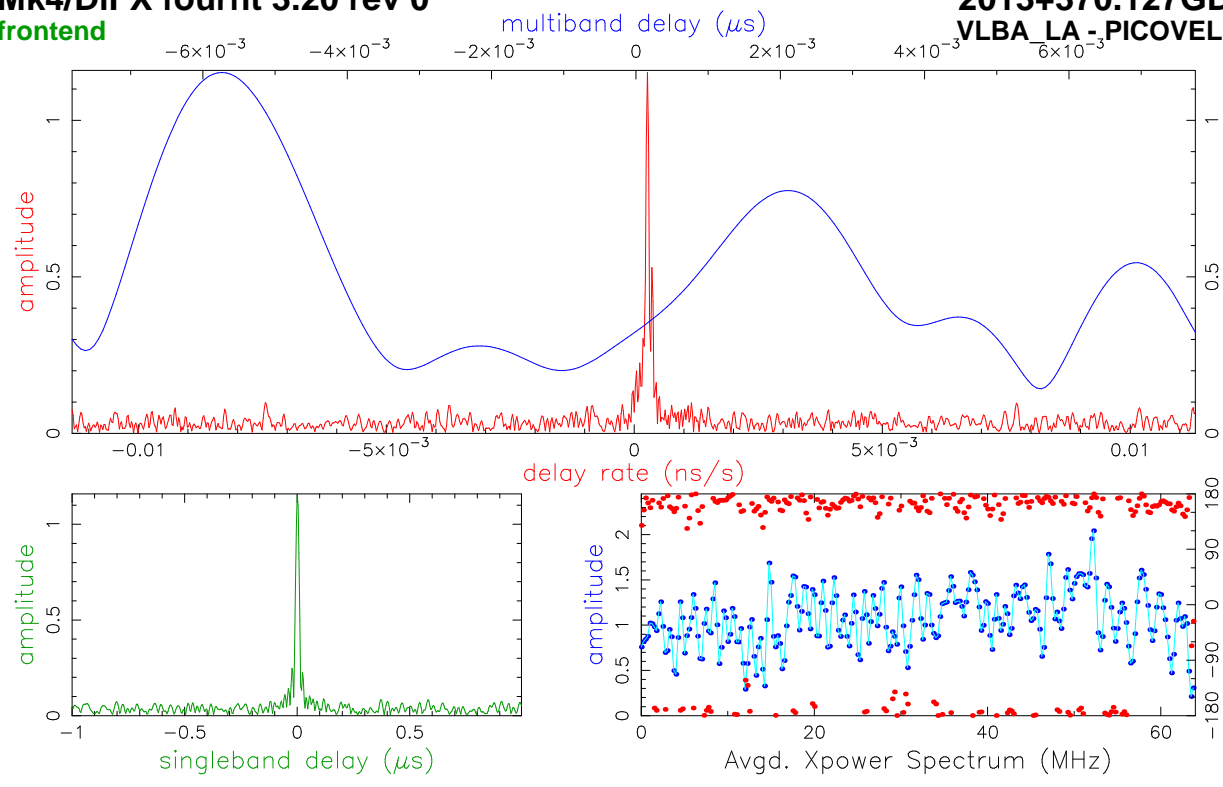
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-160.6	-92.1	-168.3	-161.8	-152.0	169.2	-148.6	-130.8	Phase	-155.4
	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	Ampl.	0.2
	160.9	413.4	215.1	95.0	438.0	85.5	426.5	94.2	Sbd box	70.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:P	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	
P	1000	1000	1000	1000	1000	1000	1000	1000		
k	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)	6.59383805783E+03		Apriori delay (usec)		6.59457067113E+03		Resid mbdelay (usec)		1.76170E-03	+/- 1.9E-04
Sband delay (usec)	6.59384027513E+03		Apriori clock (usec)		-2.4926943E-01		Resid sbdelay (usec)		-7.30396E-01	+/- 1.5E-03
Phase delay (usec)	6.59457066612E+03		Apriori clockrate (us/s)		1.5842101E-07		Resid phdelay (usec)		-5.01040E-06	+/- 6.5E-07
Delay rate (us/s)	1.55570433383E+00		Apriori rate (us/s)		1.55569977134E+00		Resid rate (us/s)		4.56250E-06	+/- 6.3E-09
Total phase (deg)	64.8		Apriori accel (us/s/s)		-4.00886798676E-05		Resid phase (deg)		-155.4	+/- 20.3

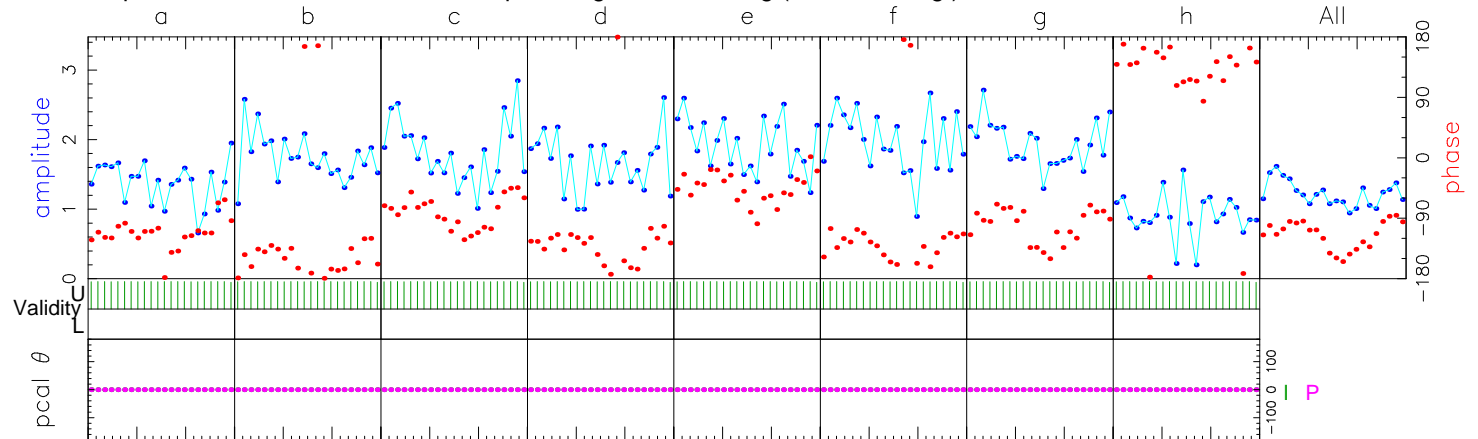
	RMS	Theor.	Amplitude	0.165 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	59.8	47.6	Search (1024X32)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	83.5	83.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	32.0	28.7	Inc. seg. avg.	0.182	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	24.0	50.1	Inc. frq. avg.	0.160	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

k: az 69.7 el 59.9 pa -89.1 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11224.084 -2846.654 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/kP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/kP.W.237.127GDU



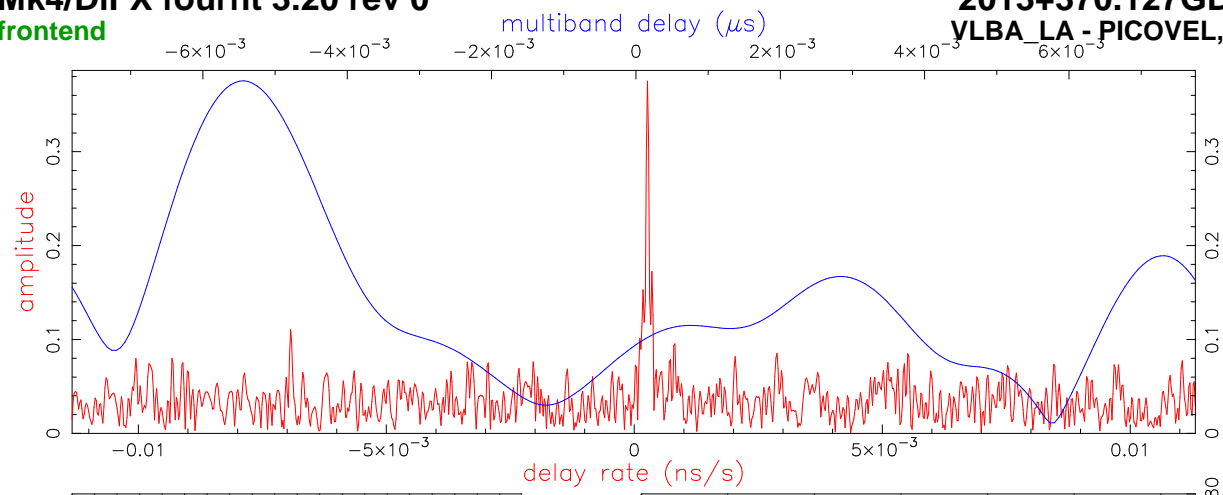
Fringe quality 5
SNR 42.4
Int time 179.359
Amp 1.159
Phase -112.4
PFD 0.0e+00
Delays (us)
SBD 0.000963
MBD -0.005708
Fringe rate (Hz)
0.022702
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132119
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
	-111.8	-153.5	-77.3	-132.8	-44.4	-133.8	-99.0	141.3	Phase	-112.4
	1.3	1.6	1.7	1.5	1.8	1.8	1.8	0.8	Ampl.	1.5
	256.8	257.0	256.9	256.9	256.7	256.6	256.6	254.8	Sbd box	257.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
I	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
I	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
I	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	7.50287294251E+03		Apriori delay (usec)		7.50287865007E+03		Resid mbdelay (usec)		-5.70756E-03	+/- 2.6E-05
Sband delay (usec)	7.50287961307E+03		Apriori clock (usec)		-6.1799014E-01		Resid sbdelay (usec)		9.63000E-04	+/- 2.0E-04
Phase delay (usec)	7.50287864644E+03		Apriori clockrate (us/s)		1.5279932E-09		Resid phdelay (usec)		-3.62619E-06	+/- 8.7E-08
Delay rate (us/s)	1.45030519274E+00		Apriori rate (us/s)		1.45030492920E+00		Resid rate (us/s)		2.63542E-07	+/- 8.4E-10
Total phase (deg)	217.6		Apriori accel (us/s/s)		-4.11437147976E-05		Resid phase (deg)		-112.4	+/- 2.7

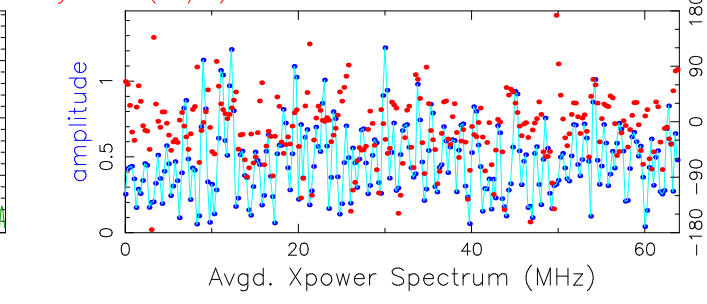
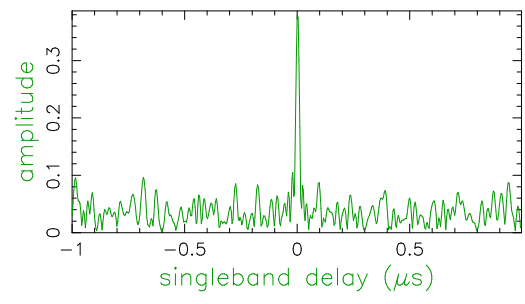
ph/seg (deg) 20.5 6.3 Search (1024X32) 1.143 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 16.2 11.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 57.6 3.8 Inc. seg. avg. 1.217 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 43.4 6.7 Inc. frq. avg. 1.545 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
I: az 77.3 el 65.2 pa -84.0 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10465.848 -2524.044 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/IP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/IP.W.242.127GDU



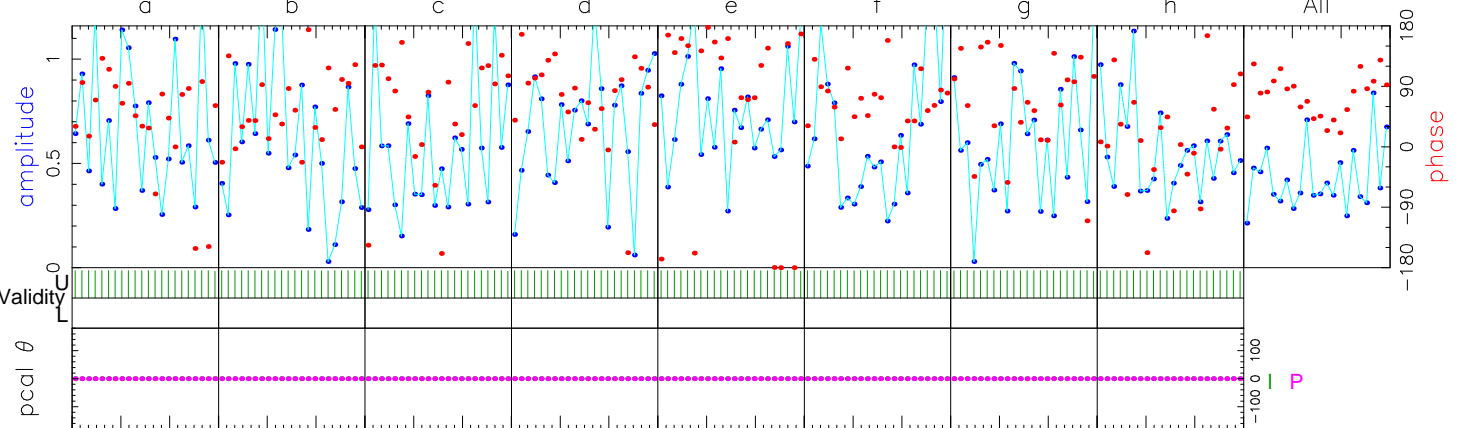
Fringe quality 8

SNR 14.2
Int time 179.359
Amp 0.387
Phase 78.5
PFD 5.1e-37
Delays (us)
SBD 0.001777
MBD -0.005487
Fringe rate (Hz) 0.022838
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132121
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

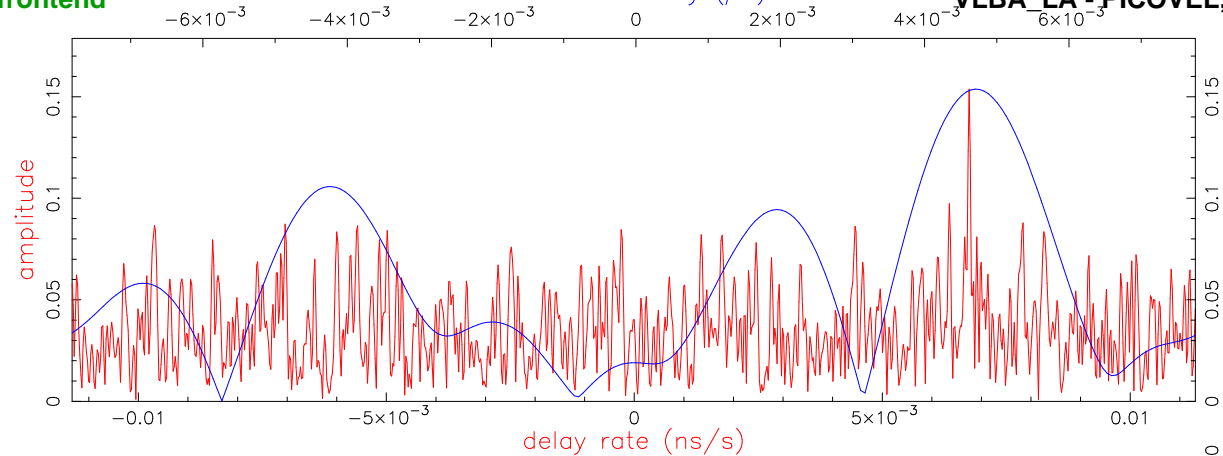


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
I	1000	1000	1000	1000	1000	1000	1000	1000			
P	1000	1000	1000	1000	1000	1000	1000	1000			
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
I	1000	1000	1000	1000	1000	1000	1000	1000			
P	1000	1000	1000	1000	1000	1000	1000	1000			
I	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
Group delay (usec)(sbd)		7.50287316263E+03			7.50287865007E+03						
Sband delay (usec)		7.50288042707E+03			-6.1799014E-01						
Phase delay (usec)		7.50287865260E+03			1.5279932E-09						
Delay rate (us/s)		1.45030519432E+00			1.45030492920E+00						
Total phase (deg)			48.5		-4.11437147976E-05						
				Apriori delay (usec)					Resid mbdelay (usec)	-5.48744E-03	+/- 7.7E-05
				Apriori clock (usec)					Resid sbdelay (usec)	1.77700E-03	+/- 6.1E-04
				Apriori clockrate (us/s)					Resid phdelay (usec)	2.53091E-06	+/- 2.6E-07
				Apriori rate (us/s)					Resid rate (us/s)	2.65124E-07	+/- 2.5E-09
				Apriori accel (us/s/s)					Resid phase (deg)	78.5	+/- 8.1
ph/seg (deg)	31.2	19.0		Search (1024X32)	0.373				PCal mode: MANUAL, MANUAL		
amp/seg (%)	41.4	33.1		Interp.	0.000				PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
ph/frq (deg)	41.9	11.4		Inc. seg. avg.	0.409				Bits/sample: 2x2	mb window (us)	-0.008 0.008
amp/frq (%)	29.0	20.0		Inc. frq. avg.	0.447				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		

I: az 77.3 el 65.2 pa -84.0 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10465.848 -2524.044 simultaneous interpolator

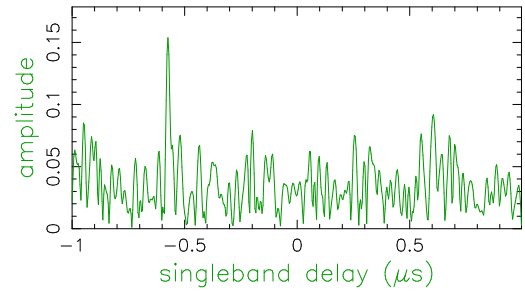
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/IP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/IP.W.259.127GDU

multiband delay (μ s)

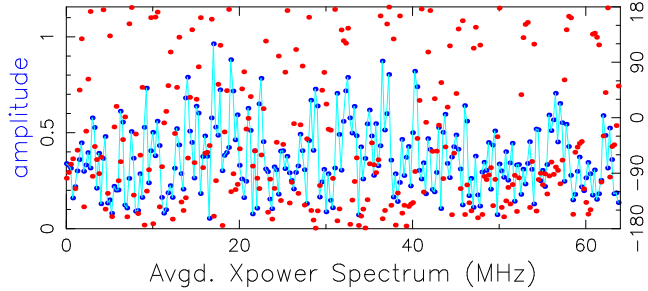


Fringe quality 0

SNR 5.6
 Int time 179.359
 Amp 0.179
 Phase 44.7
 PFD 8.9e-01
 Delays (us)
 SBD -0.574269
 MBD 0.004709
 Fringe rate (Hz)
 0.581942
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

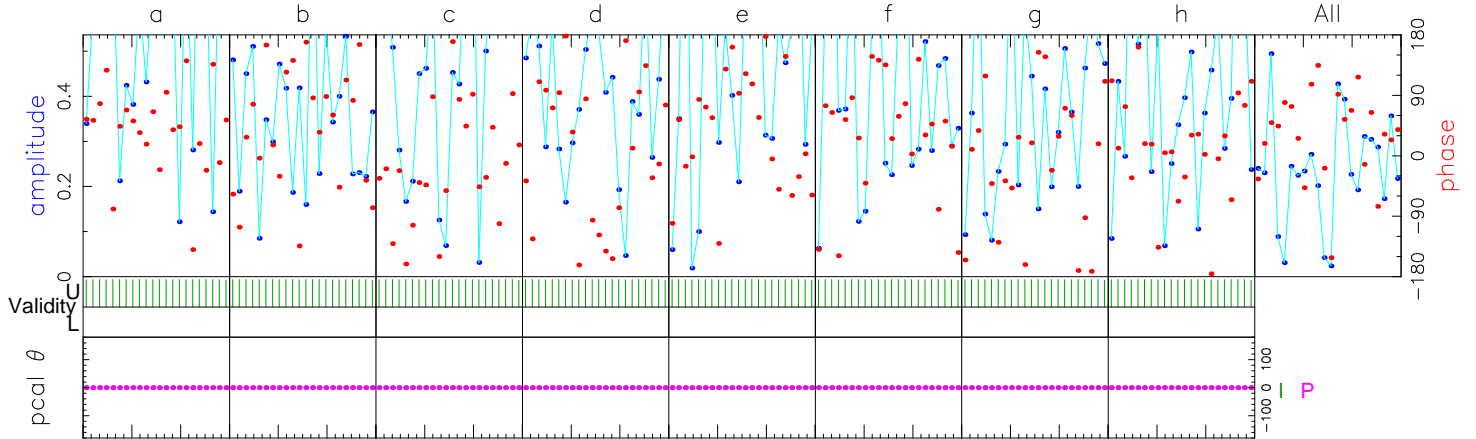


delay rate (ns/s)



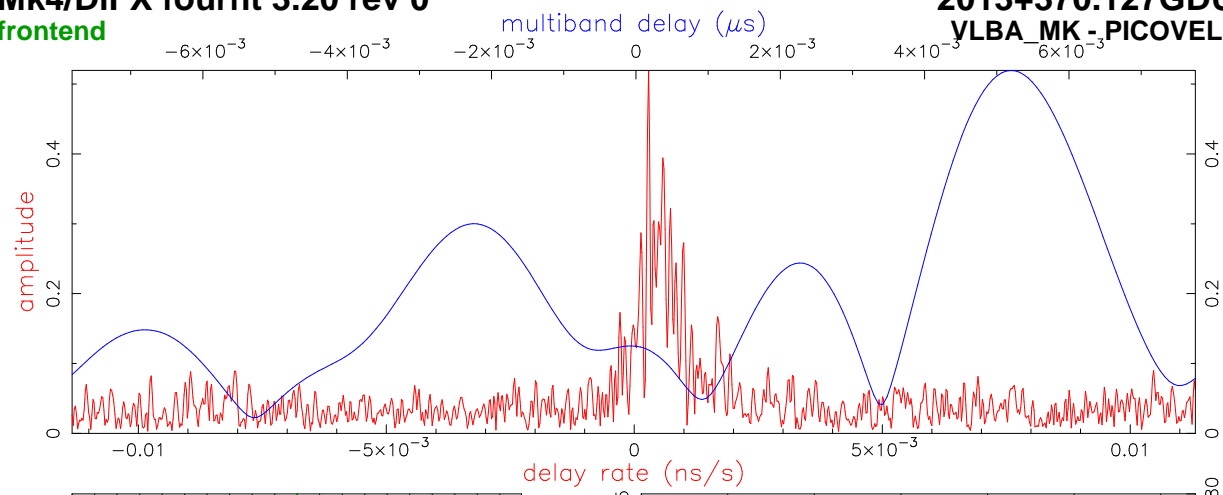
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132126
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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		
I	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
I:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
I	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
I	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	7.50230523409E+03		Apriori delay (usec)		7.50287865007E+03		Resid mbdelay (usec)		4.70902E-03	+/- 1.9E-04
Sband delay (usec)	7.50230438157E+03		Apriori clock (usec)		-6.1799014E-01		Resid sbdelay (usec)		-5.74269E-01	+/- 1.5E-03
Phase delay (usec)	7.50287865151E+03		Apriori clockrate (us/s)		1.5279932E-09		Resid phdelay (usec)		1.44025E-06	+/- 6.6E-07
Delay rate (us/s)	1.45031168498E+00		Apriori rate (us/s)		1.45030492920E+00		Resid rate (us/s)		6.75578E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.11437147976E-05		Resid phase (deg)		44.7	+/- 20.4

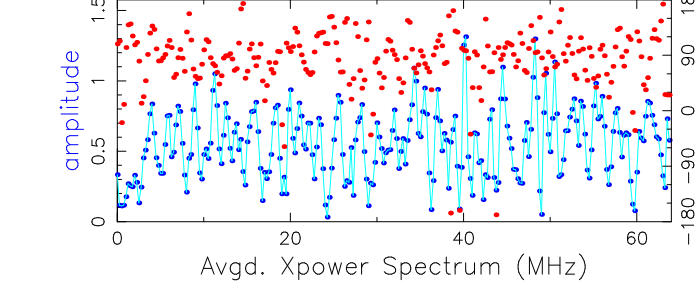
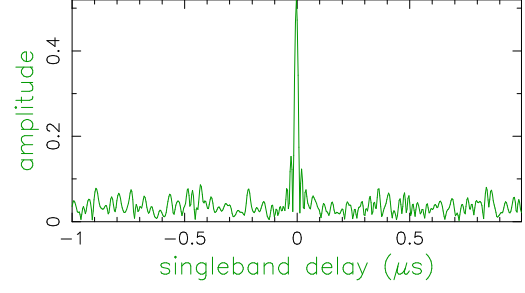
	RMS	Theor.	Amplitude	0.179 +/- 0.032	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	63.0	47.7	Search (1024X32)	0.149	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	94.6	83.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	39.1	28.8	Inc. seg. avg.	0.205	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	60.2	50.2	Inc. frq. avg.	0.178	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			



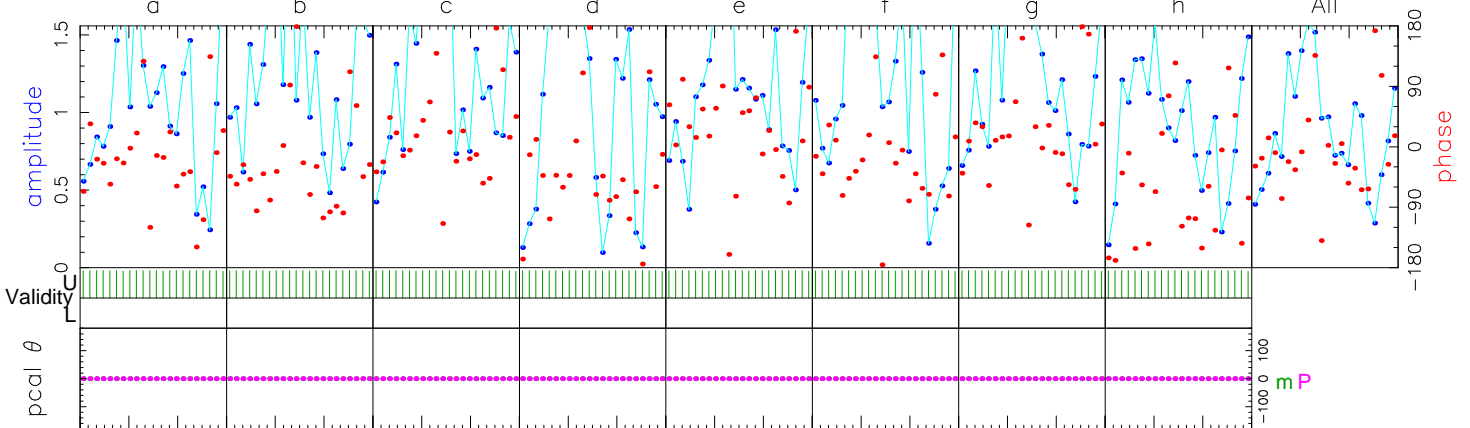
Fringe quality 8

SNR 19.0
 Int time 179.223
 Amp 0.520
 Phase -14.6
 PFD 0.0e+00
 Delays (us)
 SBD -0.003810
 MBD 0.005202
 Fringe rate (Hz) 0.024026
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

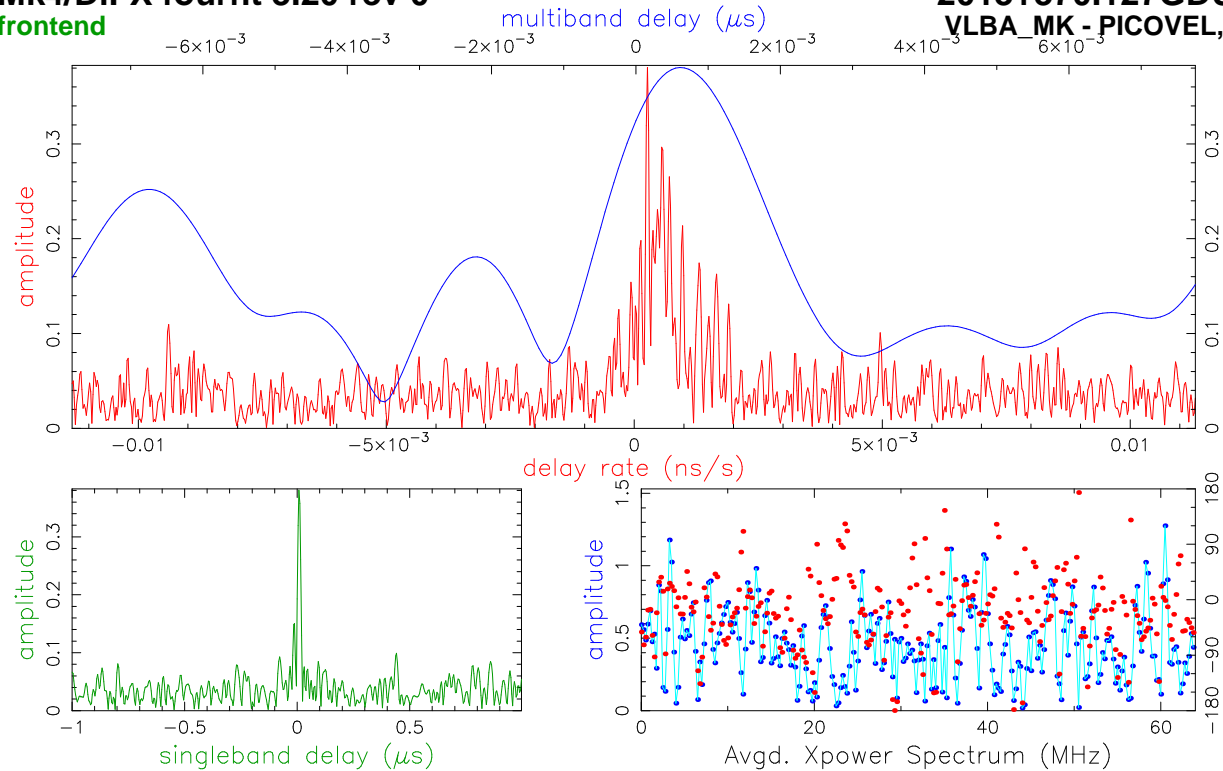
Exp. c192c
 Yr:day 16383
 Start 2020:07:2019:279
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132120
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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

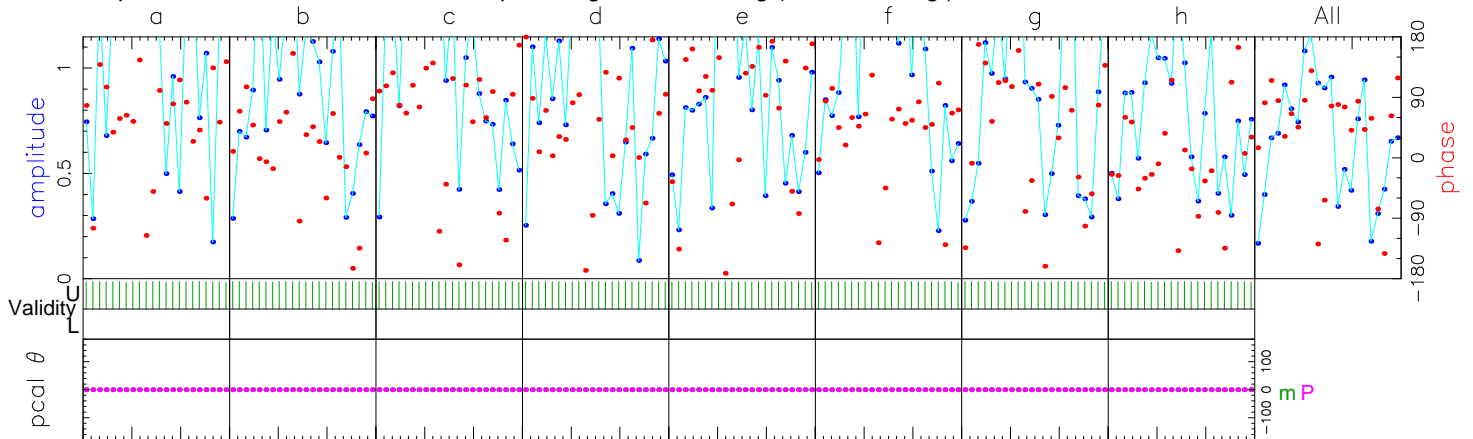


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-4.65849343300E+03									
Sband delay (usec)	-4.65848681959E+03									
Phase delay (usec)	-4.65848301006E+03									
Delay rate (us/s)	2.08490416735E+00									
Total phase (deg)			-175.1							
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 mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
simultaneous interpolator										



Fringe quality 9
 SNR 14.0
 Int time 179.224
 Amp 0.383
 Phase 75.3
 PFD 4.0e-36
 Delays (us)
 SBD 0.008679
 MBD 0.000642
 Fringe rate (Hz) 0.023870
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132123
 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	72.0	33.4	108.3	63.1	152.3	61.9	107.9	-7.1		75.3
m	0.6	0.5	0.6	0.4	0.4	0.7	0.5	0.4		0.5
P	258.6	259.0	259.4	258.6	258.0	258.6	257.9	256.1		259.2
m:P	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m:P	1000	1000	1000	1000	1000	1000	1000	1000		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-4.65846674275E+03	Apriori delay (usec)	-4.65848300959E+03	Resid mbdelay (usec)	6.41833E-04	+/-	7.7E-05
Sband delay (usec)	-4.65847433059E+03	Apriori clock (usec)	2.7486925E+00	Resid sbdelay (usec)	8.67900E-03	+/-	6.1E-04
Phase delay (usec)	-4.65848300716E+03	Apriori clockrate (us/s)	3.4430770E-07	Resid phdelay (usec)	2.42773E-06	+/-	2.6E-07
Delay rate (us/s)	2.08490416553E+00	Apriori rate (us/s)	2.08490388842E+00	Resid rate (us/s)	2.77107E-07	+/-	2.5E-09
Total phase (deg)	-85.2	Apriori accel (us/s/s)	6.78442470196E-06	Resid phase (deg)	75.3	+/-	8.2

ph/seg (deg)	68.5	RMS	19.2	Theor.	0.383 +/- 0.027	PCal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	104.2	Search (1024X32)	0.363	Amplitude		PCal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	53.2	Interp.	0.000	Search		Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	41.0	Inc. seg. avg.	0.631	Inc. frq. avg.	0.489	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	
		Inc. frq. avg.	0.489			Data rate (Mb/s):	2048	ion window (TEC)	0.00 0.00	

m: az 56.3 el 19.5 pa -79.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -14998.630 -1365.441 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/mP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/mP.W.274.127GDU

Mk4/DiFX fourfit 3.20 rev 0

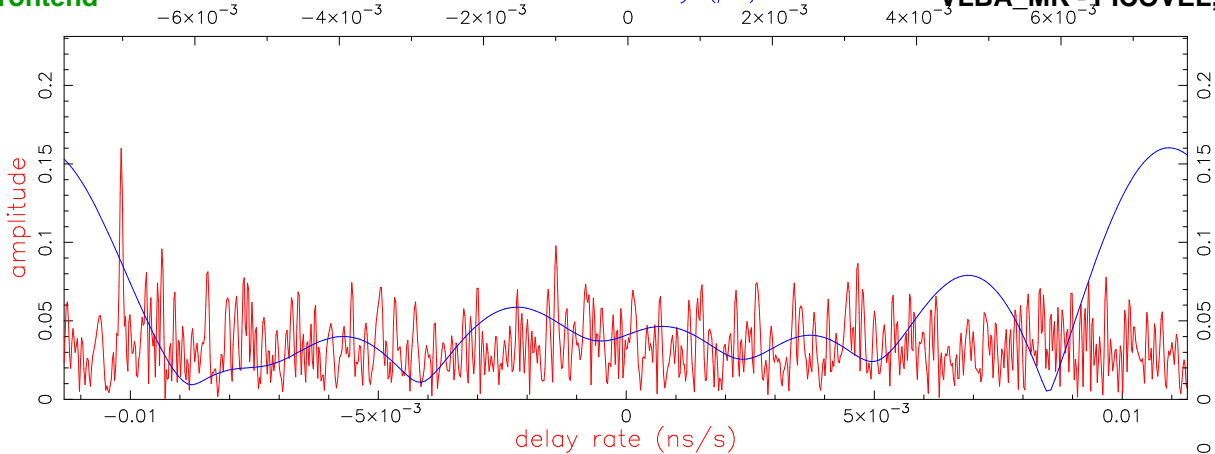
frontend

2013+370.127GDU, No0067, mP

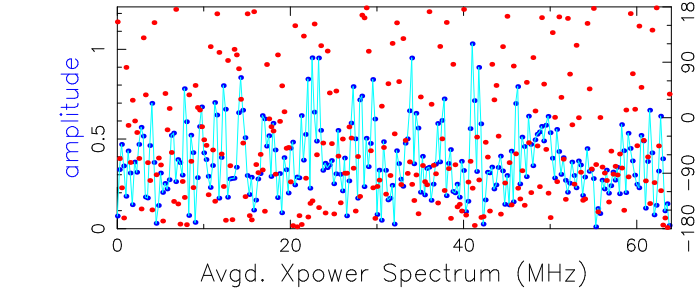
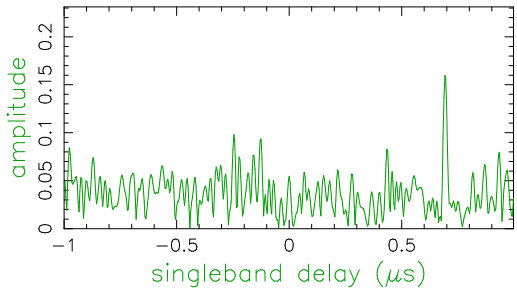
VLBA_MK - PICOVEL, fgroup W, pol LR

multiband delay (μs)

Fringe quality 0

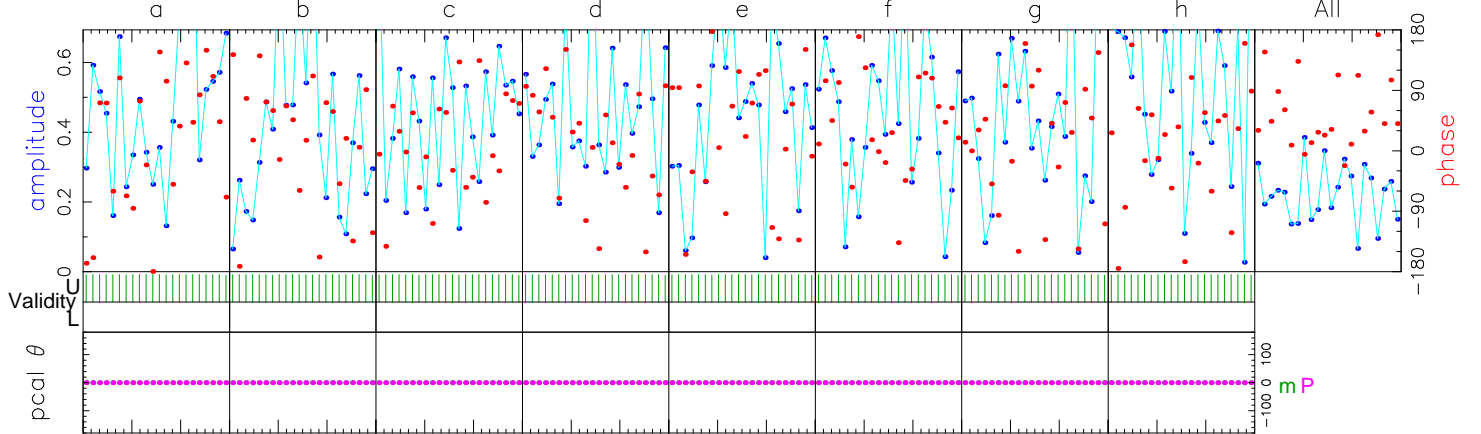


SNR 5.9
Int time 179.223
Amp 0.231
Phase 42.6
PFD 3.4e-01
Delays (us)
SBD 0.692838
MBD -0.008042
Fringe rate (Hz)
-0.878332
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132125
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

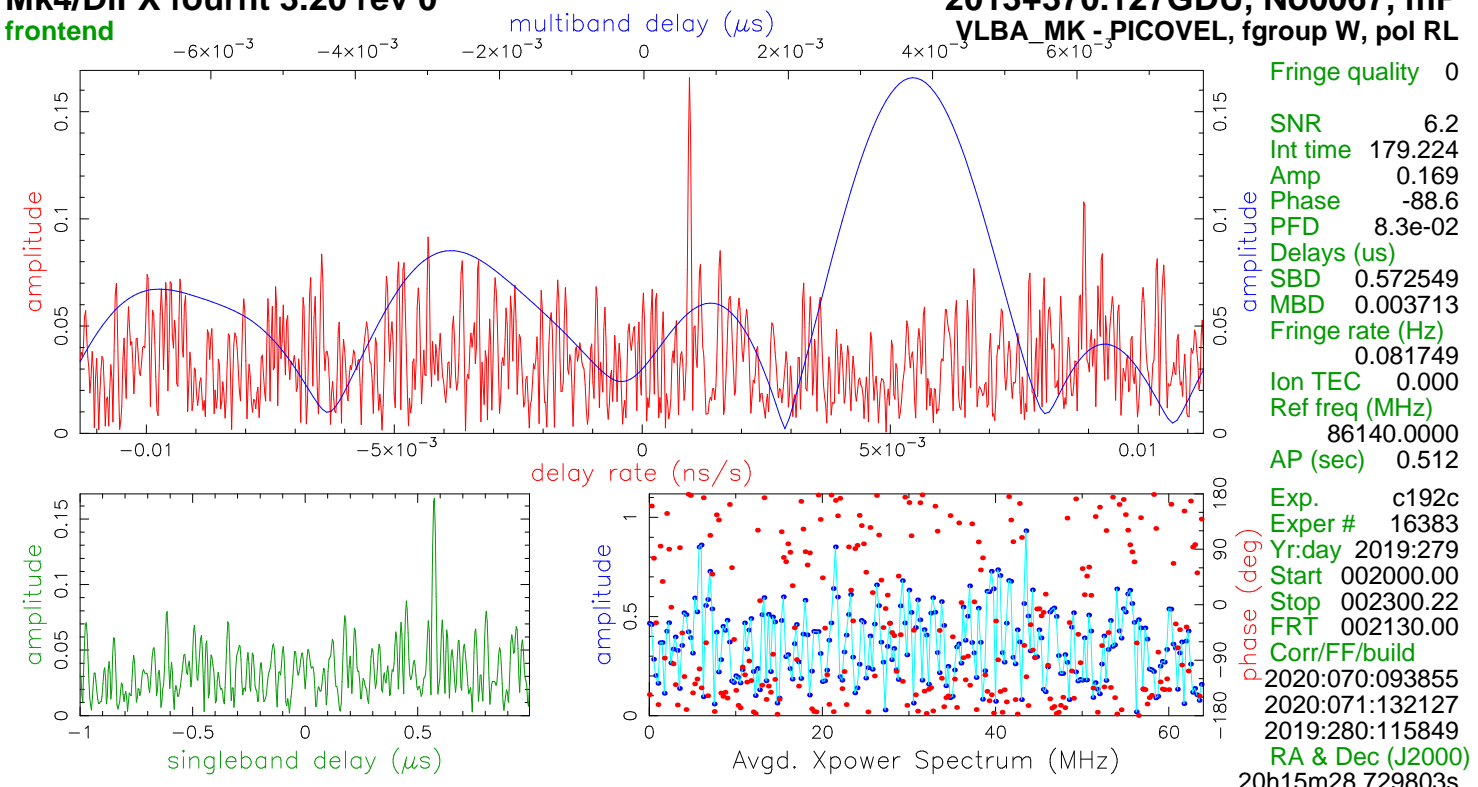


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

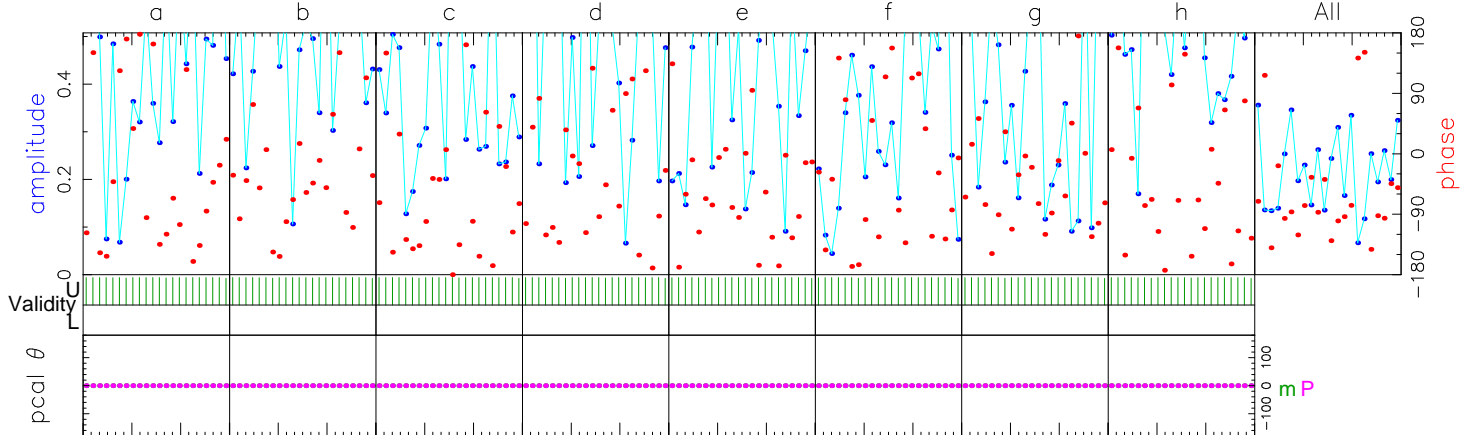
Group delay (usec)(sbd) -4.65778792634E+03 Apriori delay (usec) -4.65848300959E+03 Resid mbdelay (usec) -8.04175E-03 +/- 1.8E-04
 Sband delay (usec) -4.65779017184E+03 Apriori clock (usec) 2.7486925E+00 Resid sbdelay (usec) 6.92838E-01 +/- 1.5E-03
 Phase delay (usec) -4.65848300821E+03 Apriori clockrate (us/s) 3.4430770E-07 Resid phdelay (usec) 1.37364E-06 +/- 6.2E-07
 Delay rate (us/s) 2.08489369186E+00 Apriori rate (us/s) 2.08490388842E+00 Resid rate (us/s) -1.01966E-05 +/- 6.0E-09
 Total phase (deg) -117.9 Apriori accel (us/s/s) 6.78442470196E-06 Resid phase (deg) 42.6 +/- 19.4

RMS Theor. Amplitude 0.231 +/- 0.039 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 53.5 45.4 Search (1024X32) 0.152 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 63.3 79.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 24.8 27.4 Inc. seg. avg. 0.244 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 36.9 47.8 Inc. frq. avg. 0.220 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

m: az 56.3 el 19.5 pa -79.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -14998.630 -1365.441 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/mP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/mP.W.294.127GDU



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



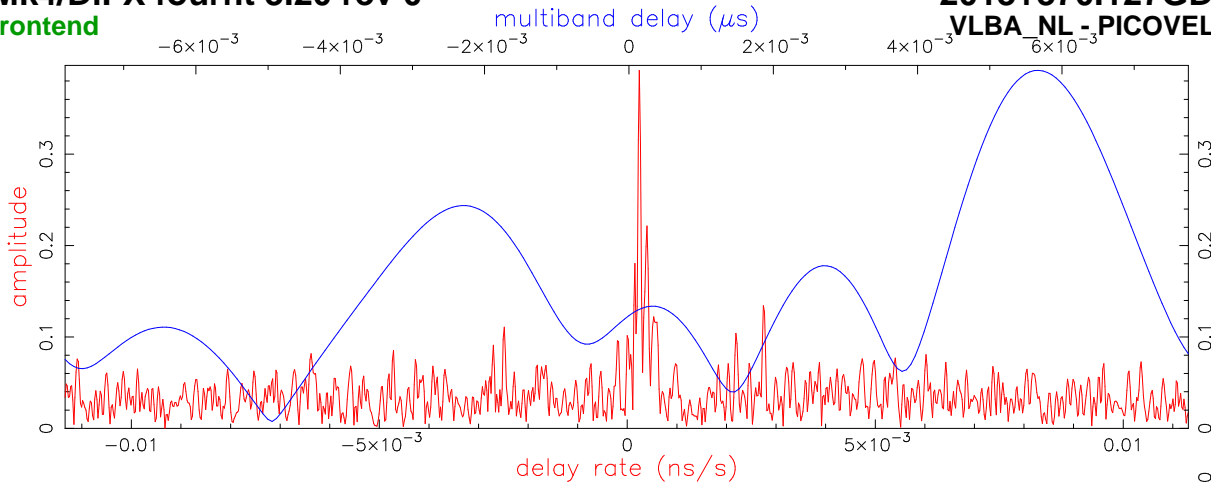
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	-110.9	-57.1	-122.2	-96.0	-67.8	-163.4	-58.1	-108.8	Phase	-88.6		
	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.2	Ampl.	0.2		
	474.9	299.4	491.4	450.2	180.9	432.0	370.7	302.5	Sbd box	403.6		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
m:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
P	1000	1000	1000	1000	1000	1000	1000	1000				
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks			
									Chan ids			
									Tracks			
Group delay (usec)(sbd)	-4.65791679642E+03		Apriori delay (usec)		-4.65848300959E+03		Resid mbdelay (usec)		3.71317E-03	+/- 1.8E-04		
Sband delay (usec)	-4.65791046109E+03		Apriori clock (usec)		2.7486925E+00		Resid sbdelay (usec)		5.72549E-01	+/- 1.4E-03		
Phase delay (usec)	-4.65848301245E+03		Apriori clockrate (us/s)		3.4430770E-07		Resid phdelay (usec)		-2.85803E-06	+/- 6.0E-07		
Delay rate (us/s)	2.08490483745E+00		Apriori rate (us/s)		2.08490388842E+00		Resid rate (us/s)		9.49025E-07	+/- 5.7E-09		
Total phase (deg)			Apriori accel (us/s/s)		6.78442470196E-06		Resid phase (deg)		-88.6	+/- 18.5		
	RMS	Theor.	Amplitude	0.169 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	59.6	43.5	Search (1024X32)	0.160		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	56.3	75.9	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	40.9	26.2	Inc. seg. avg.	0.170		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	33.9	45.8	Inc. frq. avg.	0.174		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
m: az 56.3 el 19.5 pa -79.4	P: az 293.8 el 34.2 pa 66.6		u, v (fr/asec) -14998.630 -1365.441						simultaneous interpolator			
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/mP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/mP.W.311.127GDU												

Mk4/DiFX fourfit 3.20 rev 0

frontend

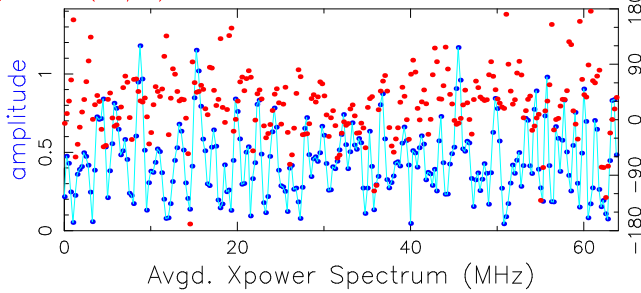
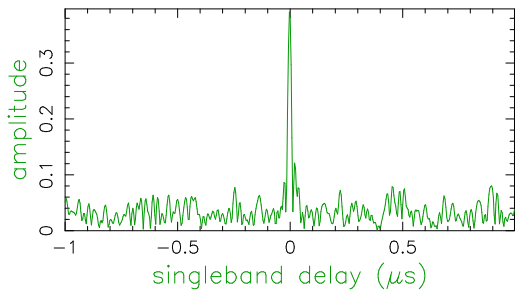
2013+370.127GDU, No0067, nP

VLBA_NL - PICOVEL, fgroup W, pol LL



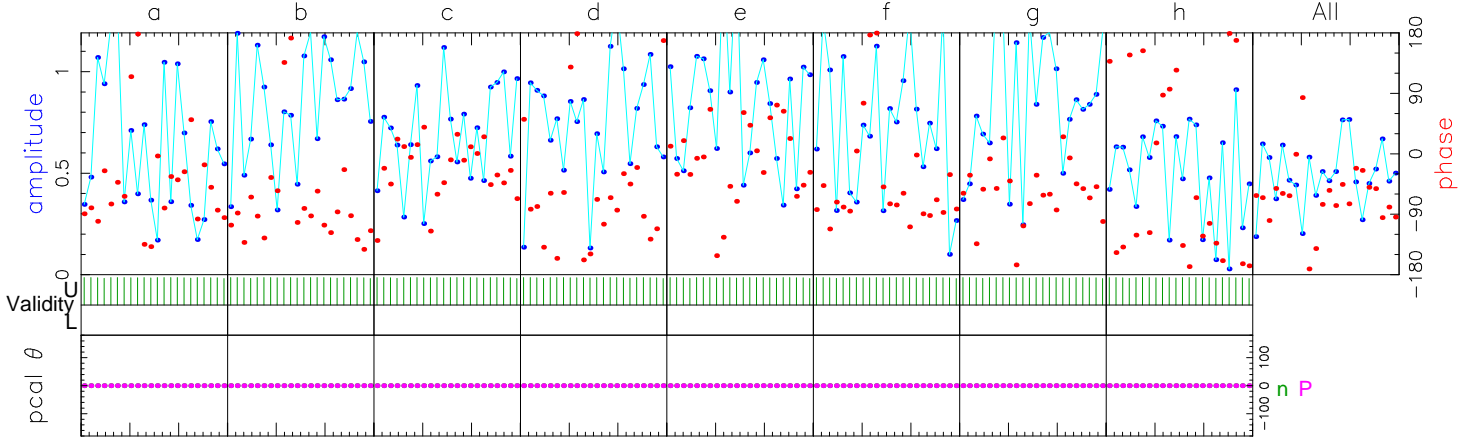
Fringe quality 8

SNR 14.5
 Int time 178.834
 Amp 0.397
 Phase -68.5
 PFD 2.8e-39
 Delays (us)
 SBD -0.002466
 MBD 0.005697
 Fringe rate (Hz)
 0.021136
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132121
 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
	-66.8	-101.3	-23.9	-96.9	-14.2	-81.9	-56.5	-169.2	Phase	-68.5
	0.4	0.7	0.6	0.5	0.5	0.5	0.6	0.3	Ampl.	0.5
	256.6	256.0	256.2	255.3	255.9	255.2	255.9	253.2	Sbd box	256.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 8.89229306128E+03 Apriori delay (usec) 8.89230298902E+03 Resid mbdelay (usec) 5.69726E-03 +/- 7.5E-05
 Sband delay (usec) 8.89230052302E+03 Apriori clock (usec) 2.6689671E+01 Resid sbdelay (usec) -2.46600E-03 +/- 5.9E-04
 Phase delay (usec) 8.89230298681E+03 Apriori clockrate (us/s) 4.8722349E-07 Resid phdelay (usec) -2.20826E-06 +/- 2.5E-07
 Delay rate (us/s) 1.19266731650E+00 Apriori rate (us/s) 1.19266707113E+00 Resid rate (us/s) 2.45369E-07 +/- 2.4E-09
 Total phase (deg) 102.2 Apriori accel (us/s/s) -4.28285109252E-05 Resid phase (deg) -68.5 +/- 7.9

RMS Theor. Amplitude 0.397 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 48.7 18.5 Search (1024X32) 0.384 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 45.0 32.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 53.7 11.2 Inc. seg. avg. 0.469 Sample rate(MSamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 38.9 19.5 Inc. frq. avg. 0.491 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

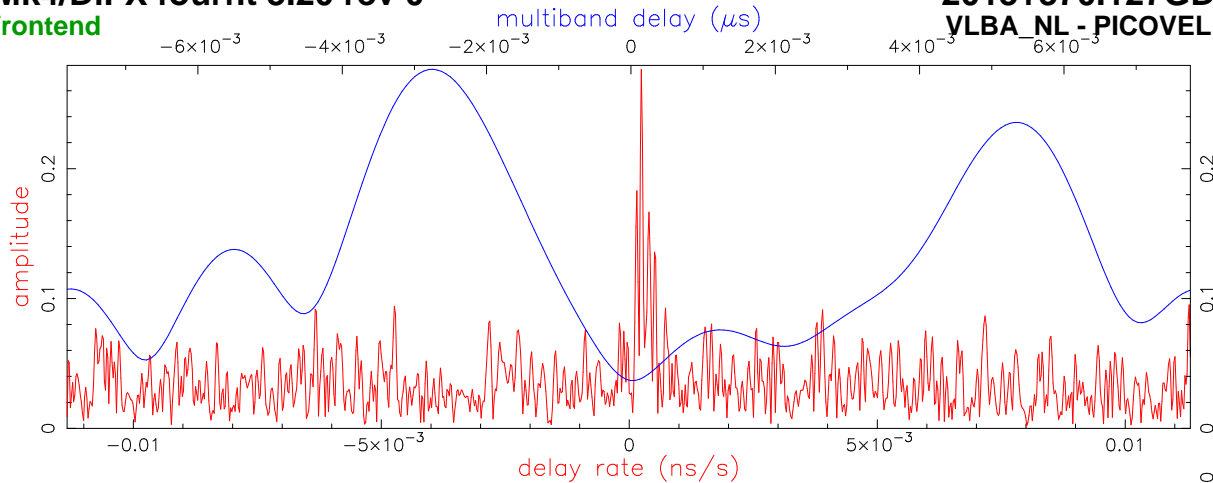
n: az 104.5 el 76.7 pa -64.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -8612.391 -2061.519 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/nP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/nP.W.263.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

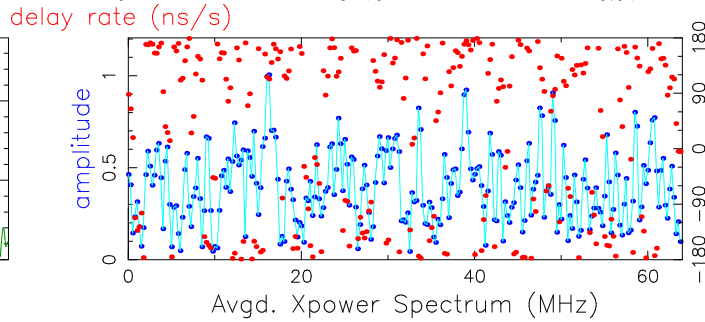
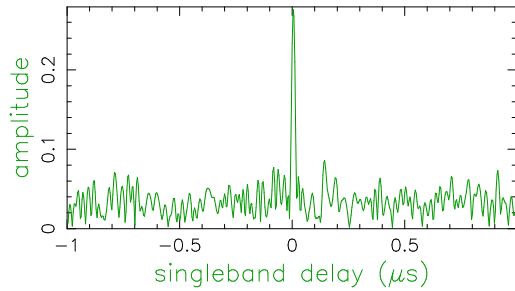
2013+370.127GDU, No0067, nP

VLBA_NL - PICOVEL, fgroup W, pol RR



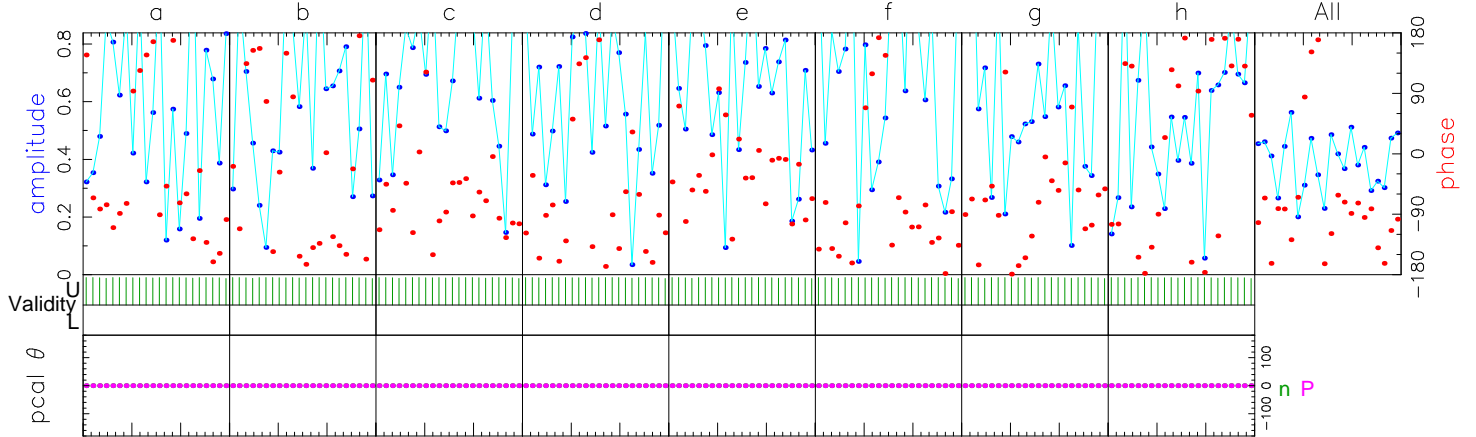
Fringe quality 9

SNR 10.2
 Int time 178.834
 Amp 0.280
 Phase -109.2
 PFD 3.5e-16
 Delays (us)
 SBD 0.005231
 MBD -0.002719
 Fringe rate (Hz)
 0.021258
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132124
 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
	-118.4	-160.1	-70.7	-135.9	-37.1	-126.6	-75.8	156.9	Phase	-109.2
	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.3	Ampl.	0.4
	258.2	258.6	258.2	257.1	257.7	258.1	257.1	257.2	Sbd box	258.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.89231589494E+03		Apriori delay (usec)		8.89230298902E+03		Resid mbdelay (usec)		-2.71908E-03	+/- 1.1E-04
Sband delay (usec)	8.89230821977E+03		Apriori clock (usec)		2.6689671E+01		Resid sbdelay (usec)		5.23075E-03	+/- 8.4E-04
Phase delay (usec)	8.89230298550E+03		Apriori clockrate (us/s)		4.8722349E-07		Resid phdelay (usec)		-3.52039E-06	+/- 3.6E-07
Delay rate (us/s)	1.19266731792E+00		Apriori rate (us/s)		1.19266707113E+00		Resid rate (us/s)		2.46786E-07	+/- 3.5E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.28285109252E-05		Resid phase (deg)		-109.2	+/- 11.2

	RMS	Theor.	Amplitude	0.280 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	54.9	26.3	Search (1024X32)	0.273	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	53.2	45.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	58.2	15.9	Inc. seg. avg.	0.356	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	51.4	27.7	Inc. frq. avg.	0.392	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

n: az 104.5 el 76.7 pa -64.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -8612.391 -2061.519 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/nP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/nP.W.286.127GDU

Mk4/DiFX fourfit 3.20 rev 0

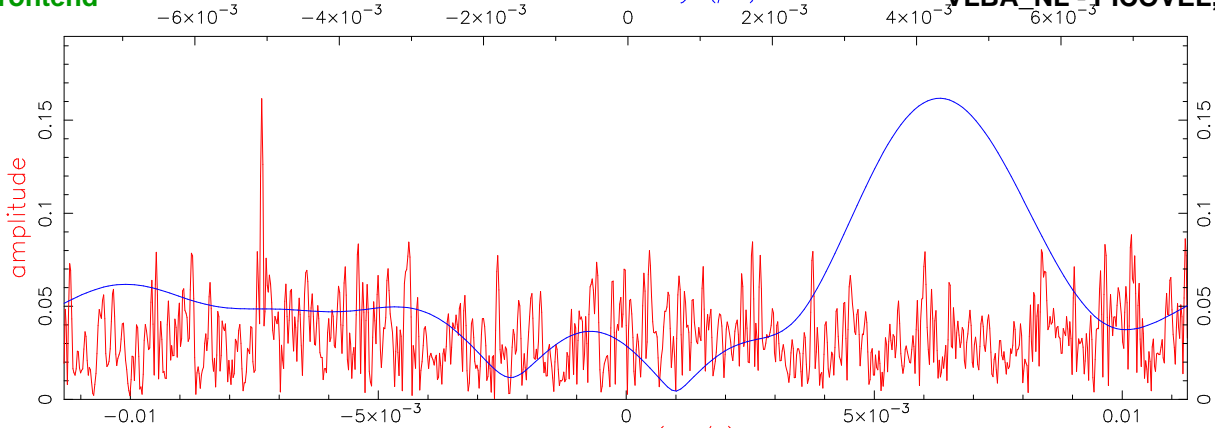
frontend

2013+370.127GDU, No0067, nP

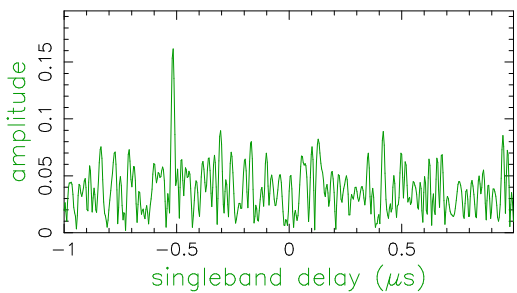
VLBA_NL - PICOVEL, fgroup W, pol LR

multiband delay (μs)

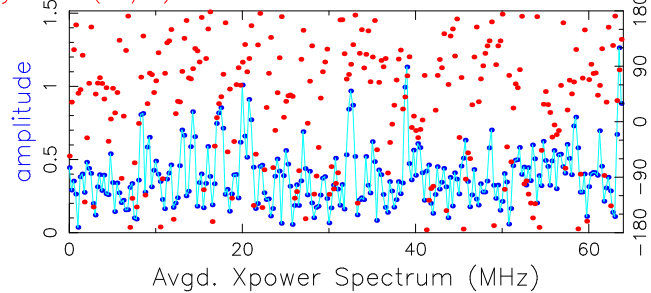
Fringe quality 0



SNR 6.0
 Int time 178.834
 Amp 0.195
 Phase -157.4
 PFD 2.8e-01
 Delays (us)
 SBD -0.516662
 MBD 0.004380
 Fringe rate (Hz)
 -0.634721
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

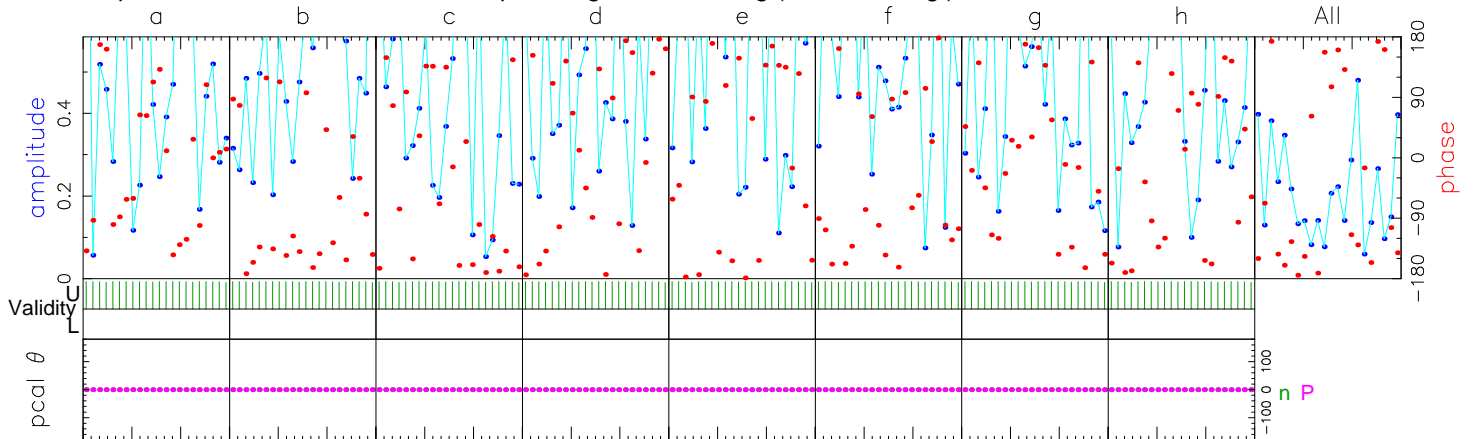


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132127
 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
	-121.1	-152.8	-168.3	-169.9	177.9	-132.8	-2.6	-163.1	Phase	-157.4
	0.1	0.3	0.2	0.3	0.4	0.3	0.0	0.2	Ampl.	0.2
	494.5	289.7	140.7	29.8	125.2	123.3	306.8	226.7	Sbd box	124.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
n	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)	8.89179174370E+03		Apriori delay (usec)		8.89230298902E+03		Resid mbdelay (usec)		4.37969E-03	+/- 1.8E-04
Sband delay (usec)	8.89178632652E+03		Apriori clock (usec)		2.6689671E+01		Resid sbdelay (usec)		-5.16662E-01	+/- 1.4E-03
Phase delay (usec)	8.89230298394E+03		Apriori clockrate (us/s)		4.8722349E-07		Resid phdelay (usec)		-5.07717E-06	+/- 6.2E-07
Delay rate (us/s)	1.19265970265E+00		Apriori rate (us/s)		1.19266707113E+00		Resid rate (us/s)		-7.36848E-06	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.28285109252E-05		Resid phase (deg)		-157.4	+/- 19.2

ph/seg (deg) 59.3 45.1 Search (1024X32) 0.158 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 79.0 78.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 66.9 27.2 Inc. seg. avg. 0.196 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 51.1 47.5 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
 n: az 104.5 el 76.7 pa -64.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -8612.391 -2061.519 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/nP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/nP.W.312.127GDU

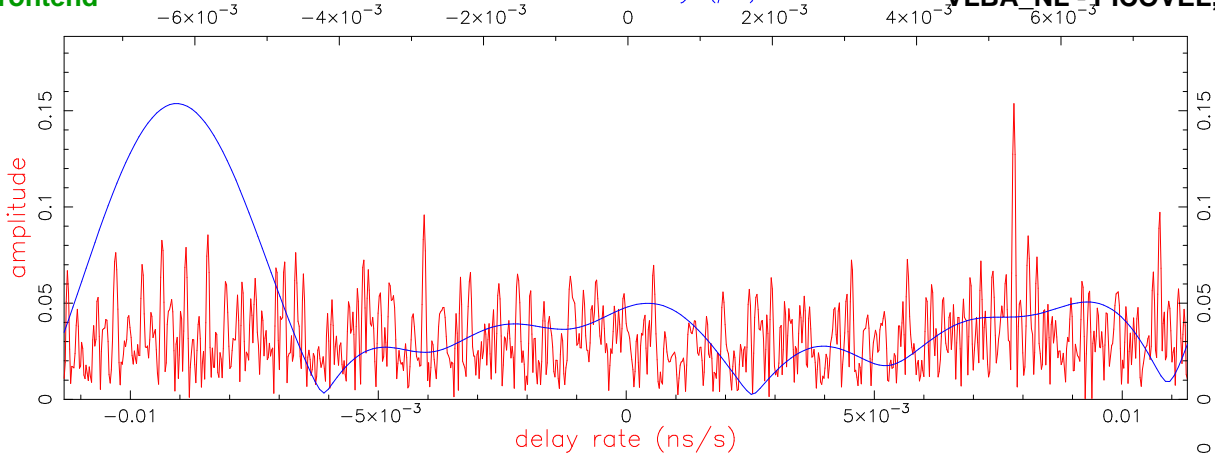
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, nP

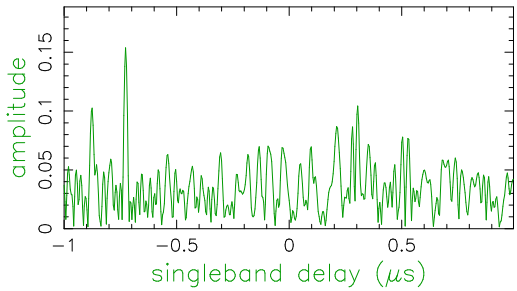
VLBA_NL - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

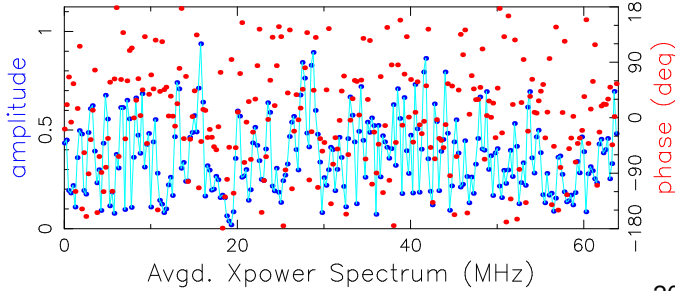


Fringe quality 0

SNR 5.6
 Int time 178.834
 Amp 0.189
 Phase -2.2
 PFD 9.0e-01
 Delays (us)
 SBD -0.726567
 MBD -0.006254
 Fringe rate (Hz) 0.674621
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

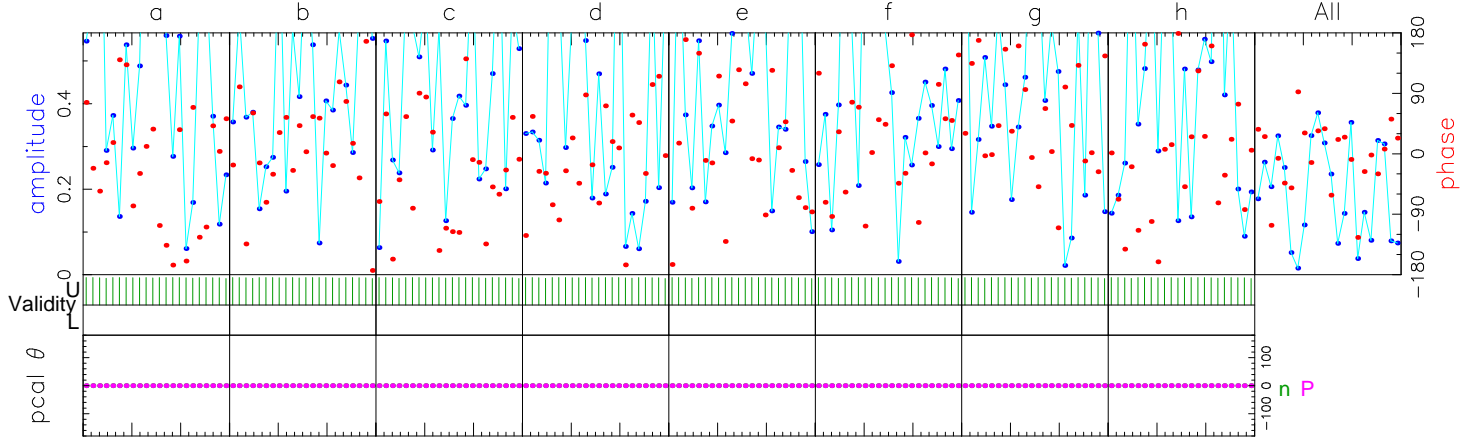


delay rate (ns/s)



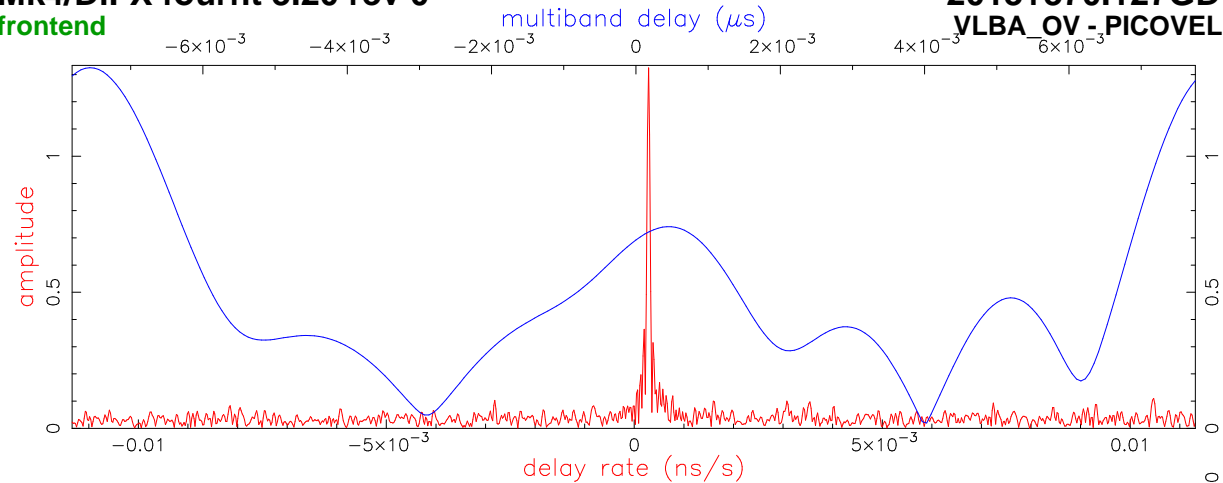
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132130
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



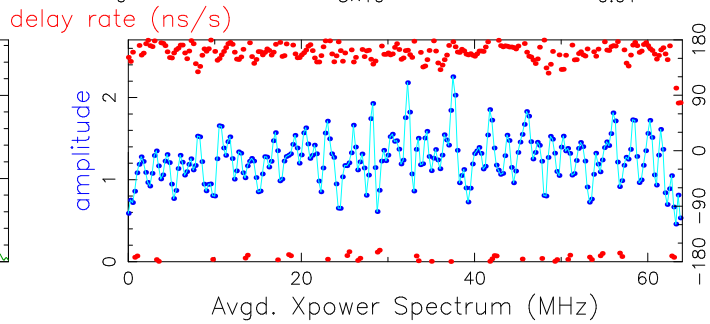
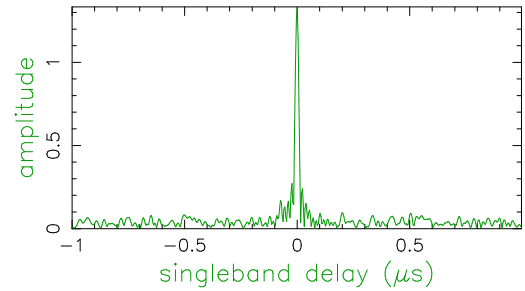
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-26.8	28.7	-13.1	-13.5	1.1	12.1	20.6	-34.0	Phase	-2.2
	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.2	Ampl.	0.2
	270.5	232.7	267.8	69.9	167.4	230.9	467.3	384.0	Sbd box	71.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	8.89157798528E+03		Apriori delay (usec)		8.89230298902E+03		Resid mbdelay (usec)		-6.25374E-03	+/- 1.9E-04
Sband delay (usec)	8.89157642177E+03		Apriori clock (usec)		2.6689671E+01		Resid sbdelay (usec)		-7.26567E-01	+/- 1.5E-03
Phase delay (usec)	8.89230298895E+03		Apriori clockrate (us/s)		4.8722349E-07		Resid phdelay (usec)		-6.97783E-08	+/- 6.6E-07
Delay rate (us/s)	1.19267490281E+00		Apriori rate (us/s)		1.19266707113E+00		Resid rate (us/s)		7.83168E-06	+/- 6.3E-09
Total phase (deg)	168.5		Apriori accel (us/s/s)		-4.28285109252E-05		Resid phase (deg)		-2.2	+/- 20.4

ph/seg (deg) 50.0 47.8 Search (1024X32) 0.149 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 78.8 83.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 24.4 28.8 Inc. seg. avg. 0.177 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 24.1 50.3 Inc. frq. avg. 0.180 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 n: az 104.5 el 76.7 pa -64.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -8612.391 -2061.519 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/nP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/nP.W.320.127GDU



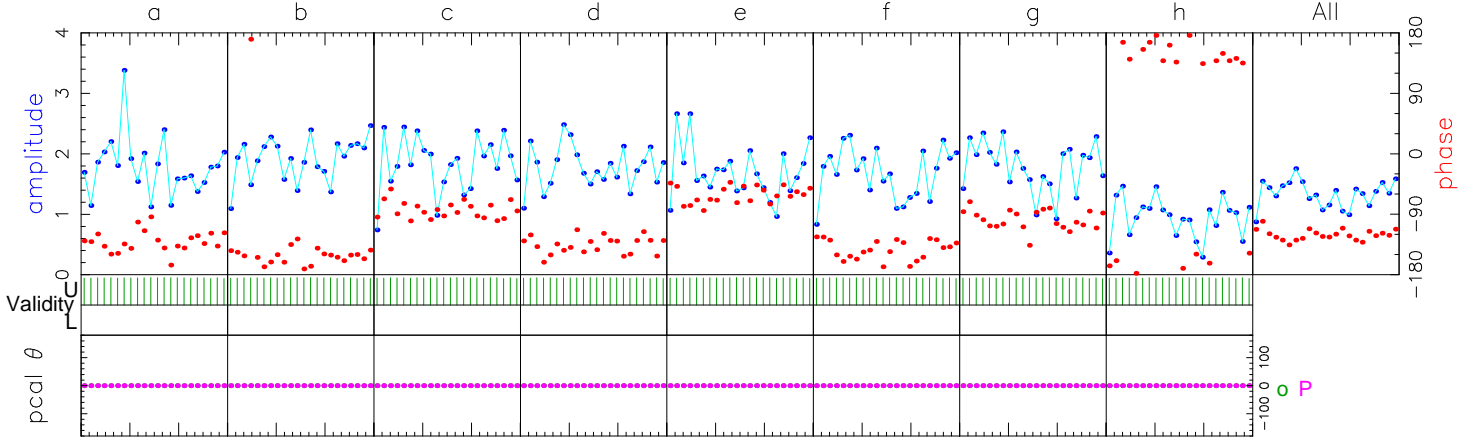
Fringe quality 6

SNR 48.6
 Int time 177.728
 Amp 1.334
 Phase -120.8
 PFD 0.0e+00
 Delays (us)
 SBD -0.001036
 MBD -0.007603
 Fringe rate (Hz)
 0.024006
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132130
 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		
o	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	5.87457627533E+03	Apriori delay (usec)		5.87458387809E+03	Resid mbdelay (usec)		-7.60276E-03	+/-	2.2E-05	
Sband delay (usec)	5.87458284159E+03	Apriori clock (usec)		1.6820307E+01	Resid sbdelay (usec)		-1.03650E-03	+/-	1.8E-04	
Phase delay (usec)	5.87458387419E+03	Apriori clockrate (us/s)		3.5398100E-07	Resid phdelay (usec)		-3.89687E-06	+/-	7.6E-08	
Delay rate (us/s)	1.60656033601E+00	Apriori rate (us/s)		1.60656005733E+00	Resid rate (us/s)		2.78681E-07	+/-	7.3E-10	
Total phase (deg)		-27.7	Apriori accel (us/s/s)		-3.10023287722E-05	Resid phase (deg)		-120.8	+/-	2.4

ph/seg (deg)	7.8	5.5	Amplitude	1.334 +/- 0.027	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5					
amp/seg (%)	16.0	9.6	Search (1024X32)	1.252	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000	1.000		
ph/frq (deg)	46.0	3.3	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)	-0.008	0.008	
amp/frq (%)	31.5	5.8	Inc. seg. avg.	1.332	Sample rate(MISamp/s): 128		dr window (ns/s)		-0.011	0.011		
			Inc. frq. avg.	1.628	Data rate(Mb/s): 2048		nlags: 256		t_cohere infinite	ion window (TEC)	0.00	0.00

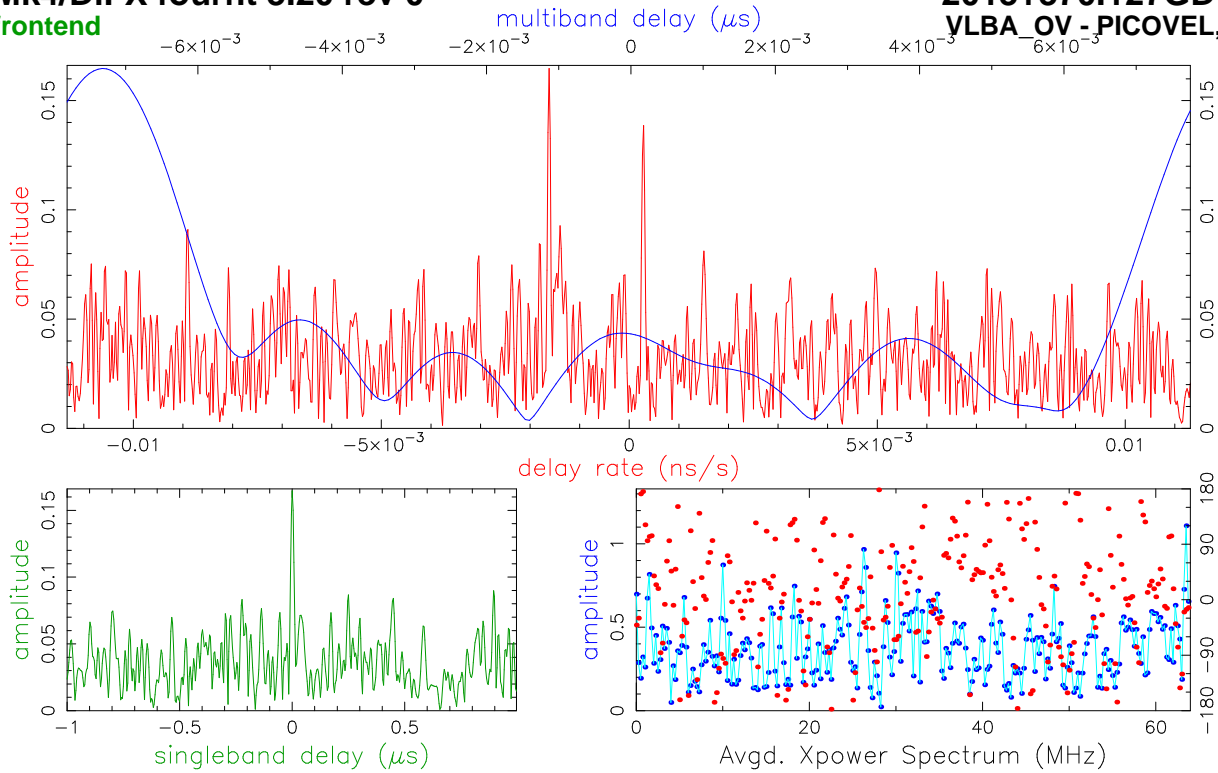
o: az 76.6 el 56.1 pa -76.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11582.094 -1768.149 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/oP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/oP.W.322.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, oP

VLBA_OV - PICOVEL, fgroup W, pol LR

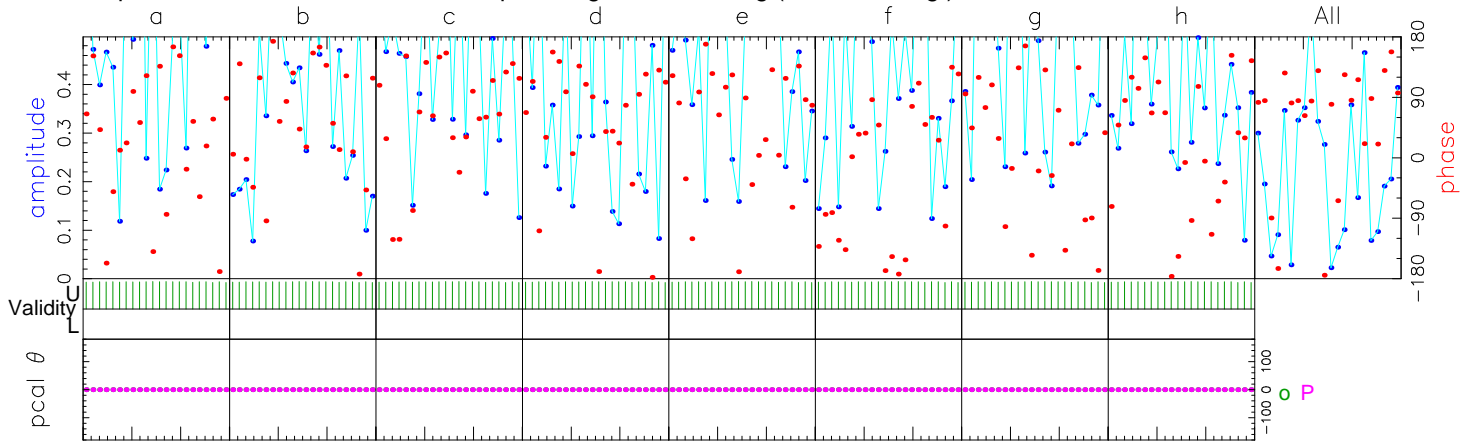


Fringe quality 0

SNR 6.0
 Int time 177.728
 Amp 0.166
 Phase 95.9
 PFD 2.2e-01
 Delays (us)
 SBD 0.000165
 MBD -0.007314
 Fringe rate (Hz)
 -0.139648
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132135
 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		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	5.87457656440E+03		Apriori delay (usec)		5.87458387809E+03		Resid mbdelay (usec)		-7.31369E-03	+/- 1.8E-04
Sband delay (usec)	5.87458404259E+03		Apriori clock (usec)		1.6820307E+01		Resid sbdelay (usec)		1.64500E-04	+/- 1.4E-03
Phase delay (usec)	5.87458388118E+03		Apriori clockrate (us/s)		3.5398100E-07		Resid phdelay (usec)		3.09323E-06	+/- 6.2E-07
Delay rate (us/s)	1.60655843616E+00		Apriori rate (us/s)		1.60656005733E+00		Resid rate (us/s)		-1.62117E-06	+/- 5.9E-09
Total phase (deg)	189.0		Apriori accel (us/s/s)		-3.10023287722E-05		Resid phase (deg)		95.9	+/- 19.1

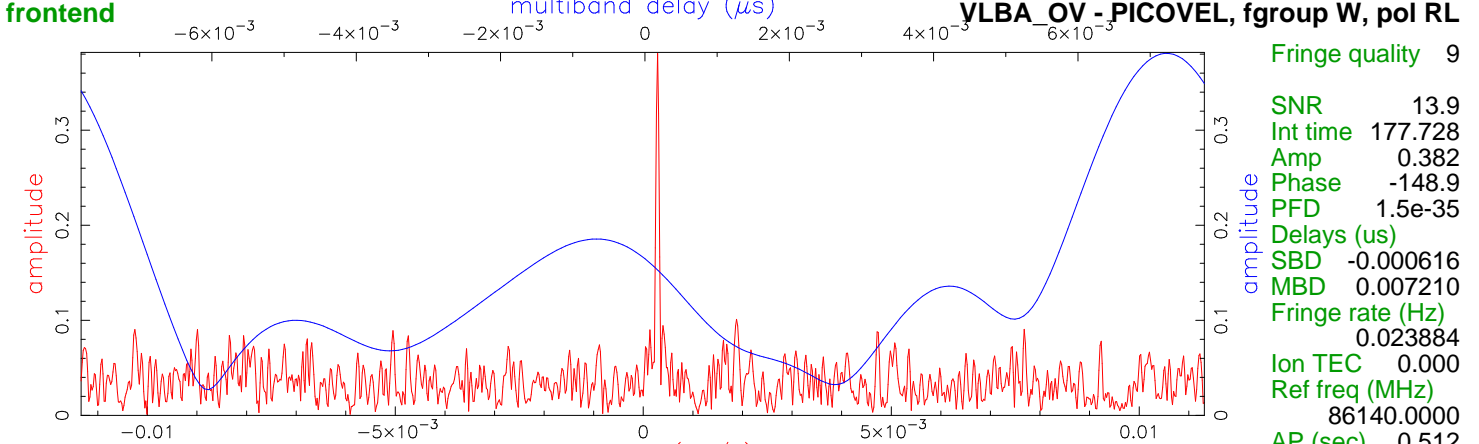
ph/seg (deg) 66.1 44.7 Search (1024X32) 0.160 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 99.1 78.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 16.9 27.0 Inc. seg. avg. 0.176 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 28.4 47.1 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
 o: az 76.6 el 56.1 pa -76.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11582.094 -1768.149 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/oP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/oP.W.356.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, oP

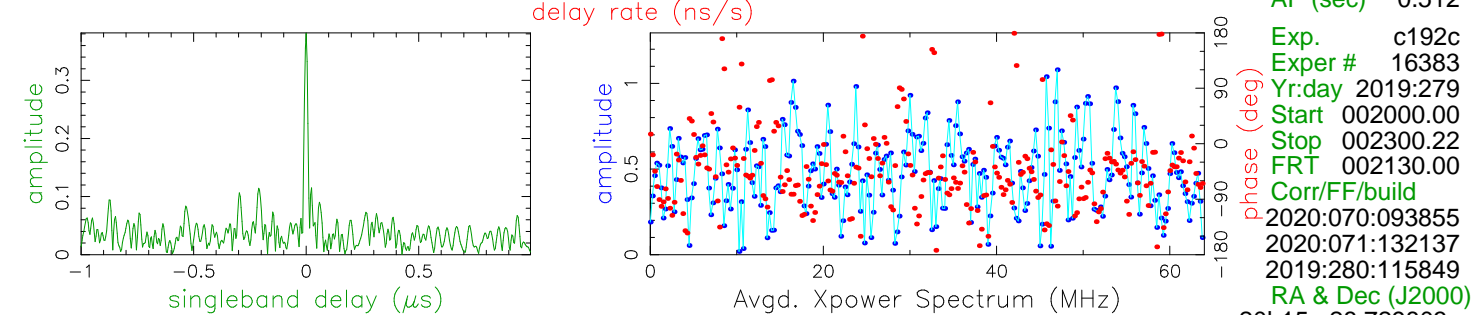
VLBA_OV - PICOVEL, fgroup W, pol RL



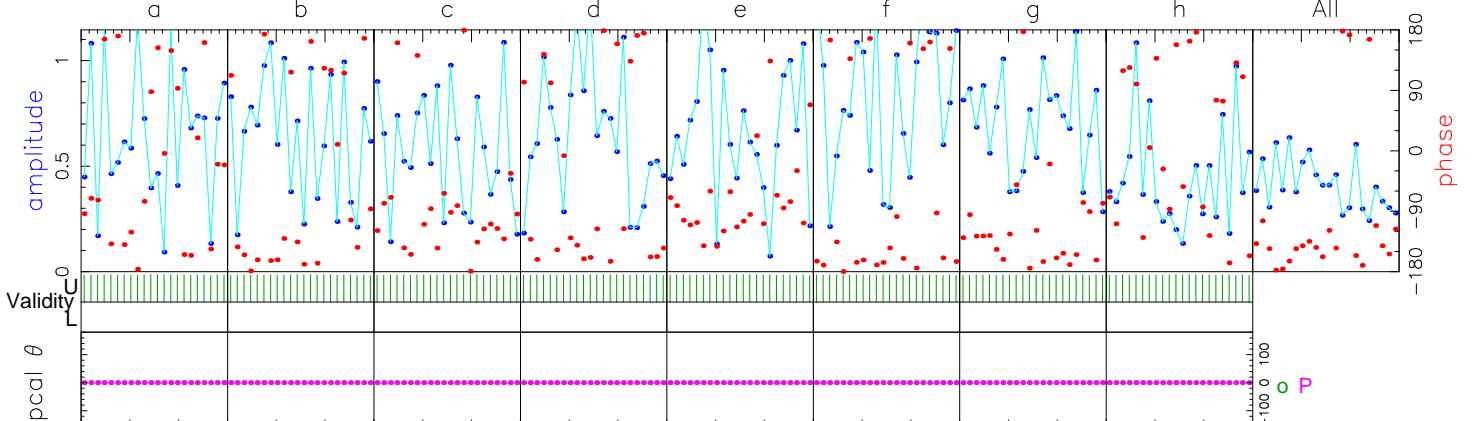
Fringe quality 9

SNR 13.9
 Int time 177.728
 Amp 0.382
 Phase -148.9
 PFD 1.5e-35
 Delays (us)
 SBD -0.000616
 MBD 0.007210
 Fringe rate (Hz) 0.023884
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132137
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

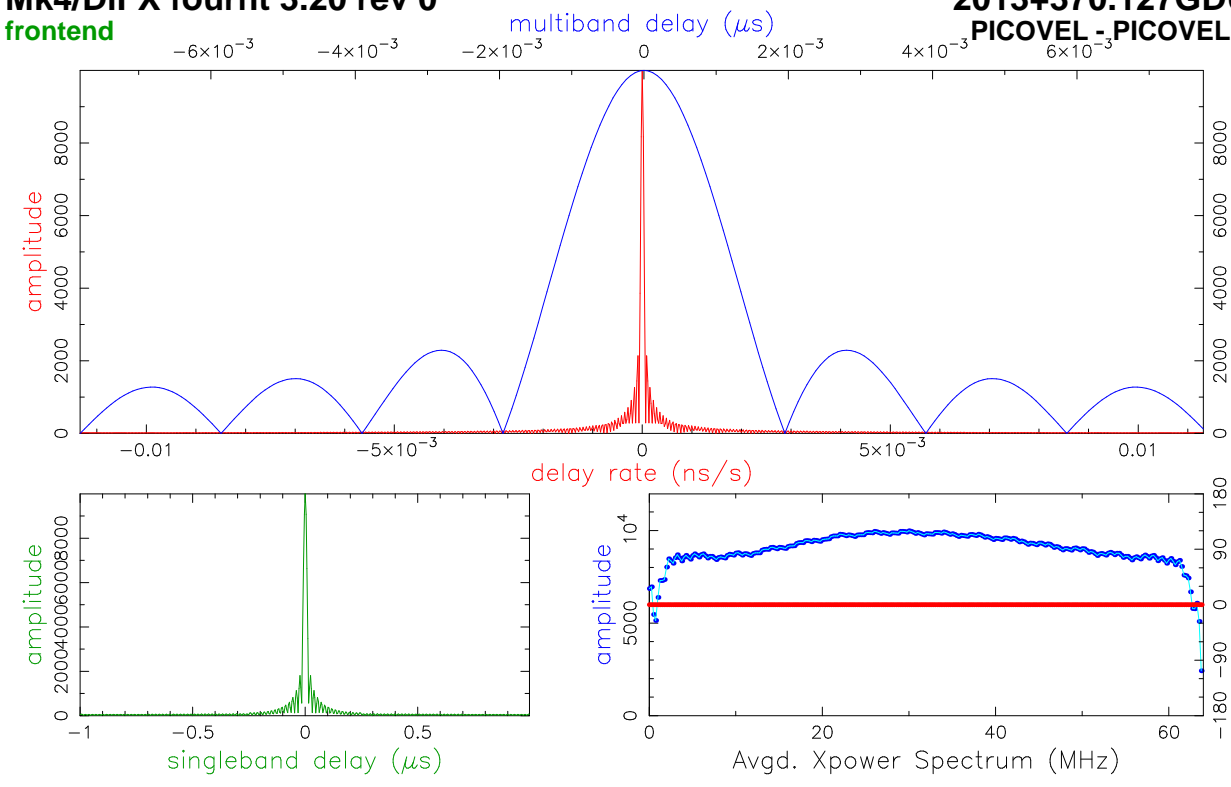


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-152.5	177.9	-122.9	-161.0	-91.5	-169.7	-136.9	140.4	Phase	-148.9
	0.2	0.4	0.4	0.5	0.5	0.7	0.6	0.1	Ampl.	0.4
	259.2	257.0	256.1	256.0	256.2	256.5	256.2	254.1	Sbd box	256.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	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)	5.87457546259E+03		Apriori delay (usec)		5.87458387809E+03		Resid mbdelay (usec)		7.20950E-03	+/- 7.8E-05
Sband delay (usec)	5.87458326234E+03		Apriori clock (usec)		1.6820307E+01		Resid sbdelay (usec)		-6.15750E-04	+/- 6.2E-04
Phase delay (usec)	5.87458387329E+03		Apriori clockrate (us/s)		3.5398100E-07		Resid phdelay (usec)		-4.80279E-06	+/- 2.7E-07
Delay rate (us/s)	1.60656033460E+00		Apriori rate (us/s)		1.60656005733E+00		Resid rate (us/s)		2.77266E-07	+/- 2.6E-09
Total phase (deg)			Apriori accel (us/s/s)		-3.10023287722E-05		Resid phase (deg)		-148.9	+/- 8.2

ph/seg (deg) 24.2 19.3 Search (1024X32) 0.363 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 32.1 33.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 42.4 11.6 Inc. seg. avg. 0.392 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 46.8 20.3 Inc. frq. avg. 0.438 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 o: az 76.6 el 56.1 pa -76.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -11582.094 -1768.149 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/oP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/oP.W.376.127GDU

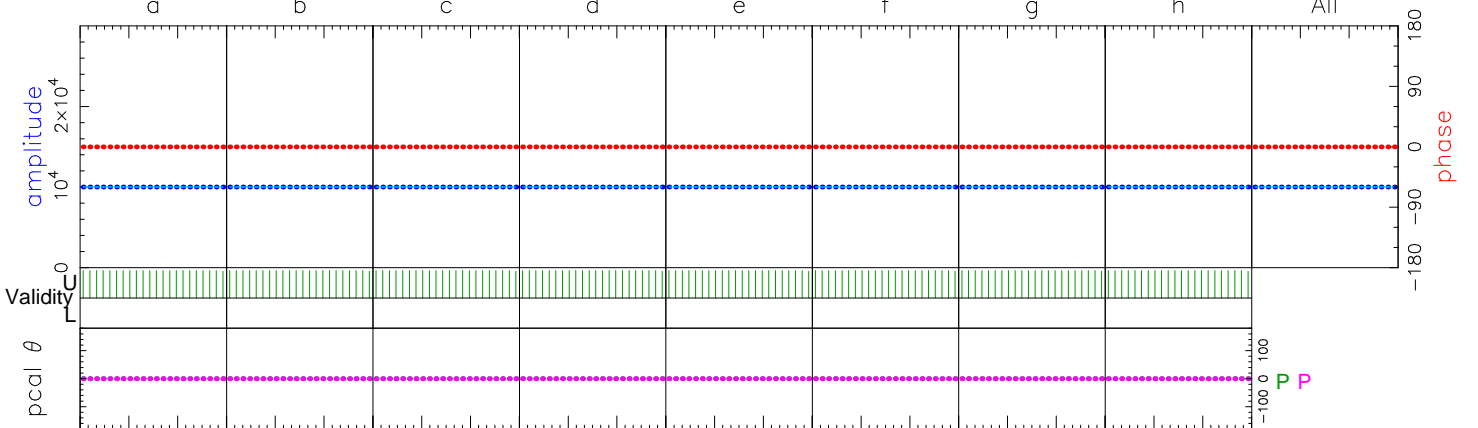


Fringe quality 9

SNR 366673.9
Int time 179.791
Amp 9999.964
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
2020:070:093855
2020:071:132131
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

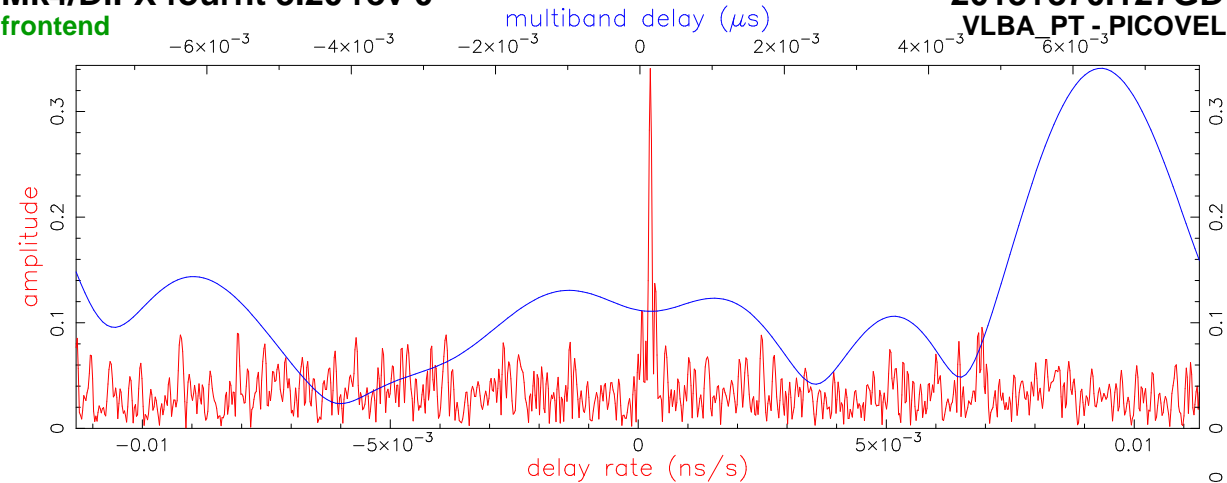


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000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

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.3E-08
 Phase delay (usec) -1.46405386653E-19 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -1.46405E-19 +/- 1.0E-11
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-14
 Total phase (deg) -0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) -0.0 +/- 0.0

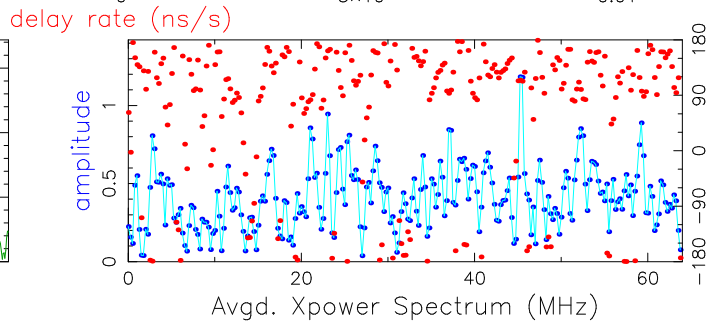
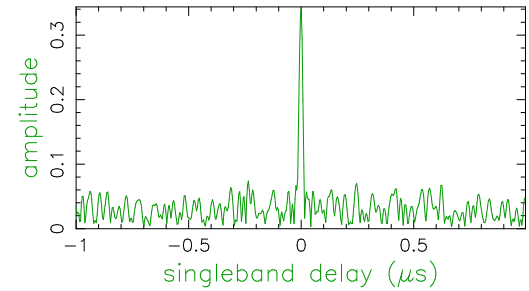
RMS Theor. Amplitude 9999.964 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (1024X32) 9999.964 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 9999.965 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

P: az 293.8 el 34.2 pa 66.6 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PP.W.326.127GDU



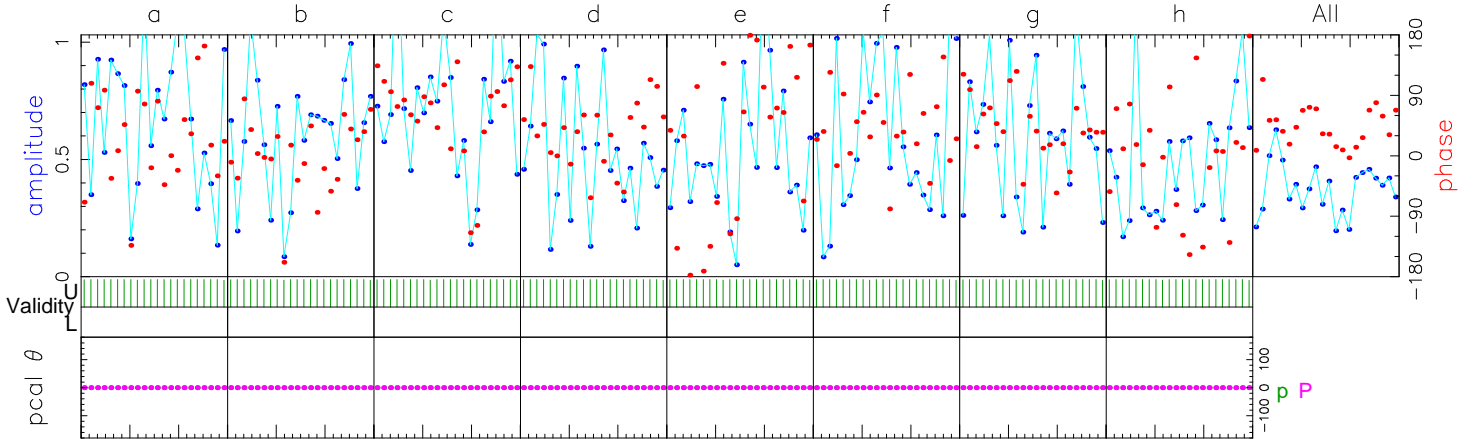
Fringe quality 9

SNR 12.6
Int time 179.450
Amp 0.344
Phase 46.0
PFD 6.4e-28
Delays (us)
SBD -0.001157
MBD 0.006353
Fringe rate (Hz)
0.021456
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132131
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

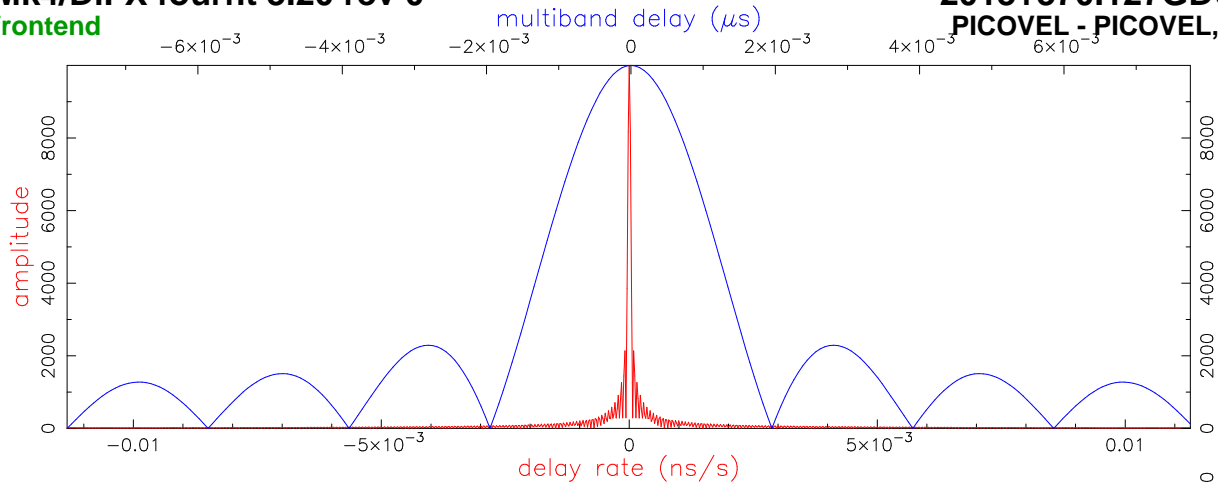


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
p	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	7.22197736960E+03	Apriori delay (usec)	7.22197101652E+03	Resid mbdelay (usec)	6.35308E-03	+/-	8.6E-05
Sband delay (usec)	7.22196985952E+03	Apriori clock (usec)	1.2135731E+01	Resid sbdelay (usec)	-1.15700E-03	+/-	6.8E-04
Phase delay (usec)	7.22197101800E+03	Apriori clockrate (us/s)	5.5688657E-07	Resid phdelay (usec)	1.48421E-06	+/-	2.9E-07
Delay rate (us/s)	1.48806937776E+00	Apriori rate (us/s)	1.48806912868E+00	Resid rate (us/s)	2.49081E-07	+/-	2.8E-09
Total phase (deg)	176.7	Apriori accel (us/s/s)	-4.10176902665E-05	Resid phase (deg)	46.0	+/-	9.1

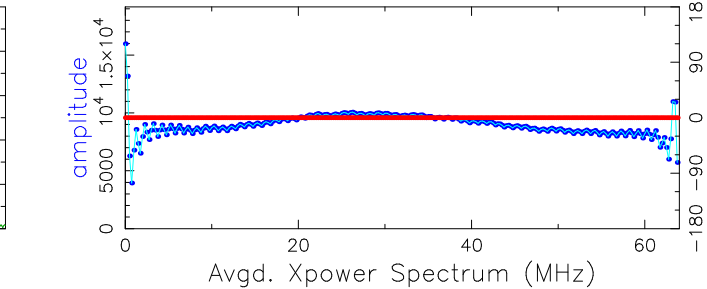
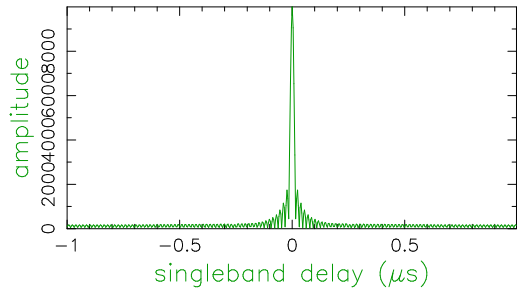
ph/seg (deg)	28.5	Theor.	21.3	Amplitude	0.344 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	32.2	Search (1024X32)	0.337	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000	
ph/frq (deg)	41.3	Inc. seg. avg.	0.353	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/frq (%)	39.3	Inc. frq. avg.	0.384	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
				Data rate(Mb/s): 2048		ion window (TEC)	0.00	0.00	
				nlags: 256		t_cohere infinite			

p: az 74.1 el 63.4 pa -86.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10737.737 -2663.183 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/pP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/pP.W.327.127GDU



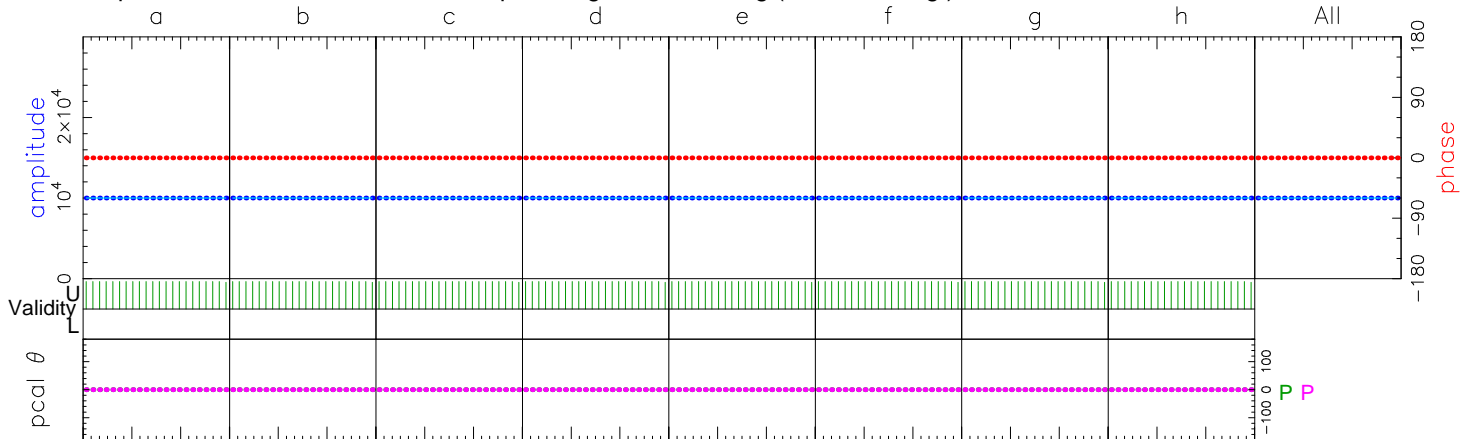
Fringe quality 9

SNR 366673.9
Int time 179.791
Amp 9999.964
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 2019:279
Stop 2020:070:093855
FRT 002130.00
Corr/FF/build
2020:071:132133
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	10000.0	10000.0
P	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

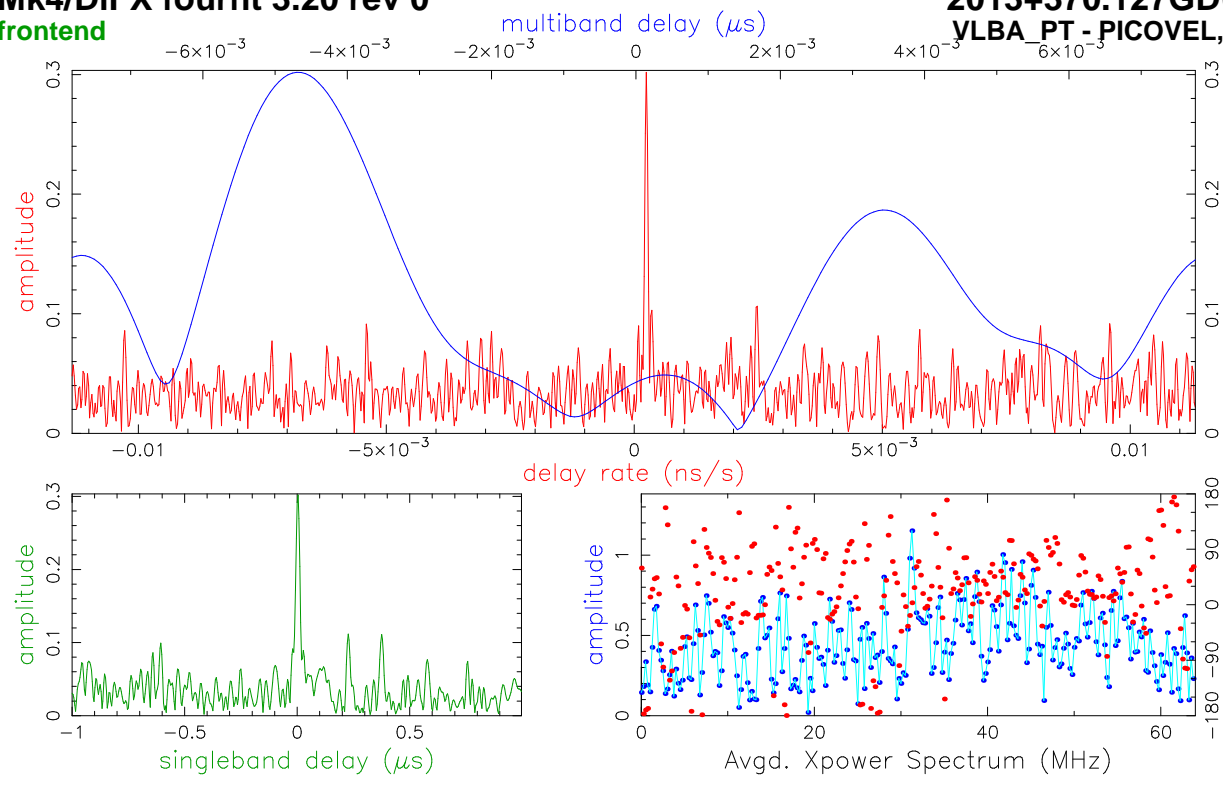
Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.3E-08
 Phase delay (usec) 2.86306481653E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 2.86306E-20 +/- 1.0E-11
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-14
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

RMS Theor. Amplitude 9999.964 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (1024X32) 9999.964 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 9999.965 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

P: az 293.8 el 34.2 pa 66.6 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PP.W.343.127GDU

Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127GDU, No0067, pP
VLBA_PT - PICOVEL, fgroup W, pol RR

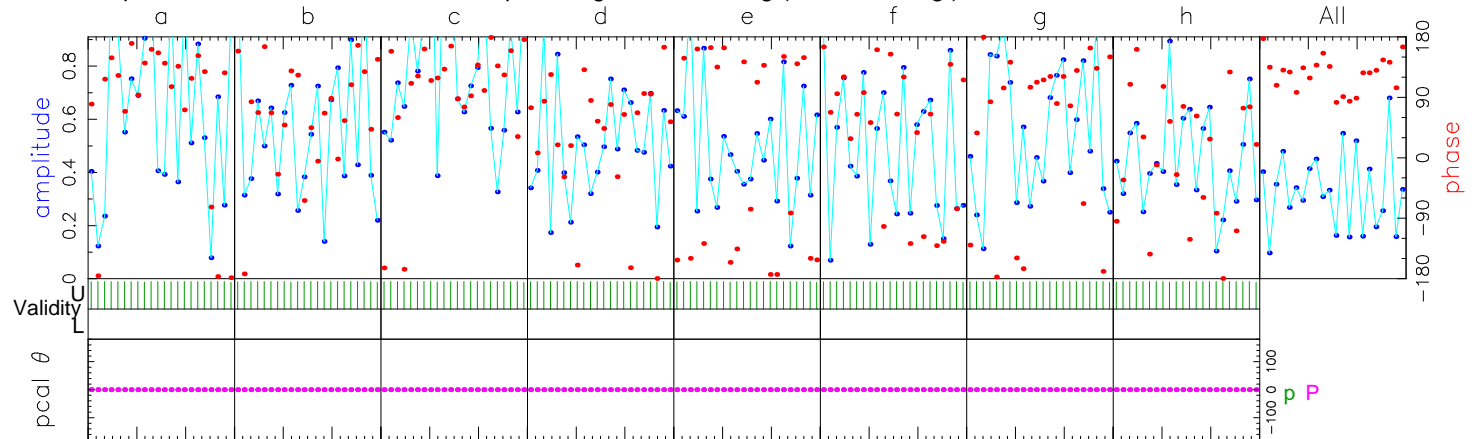


Fringe quality 9

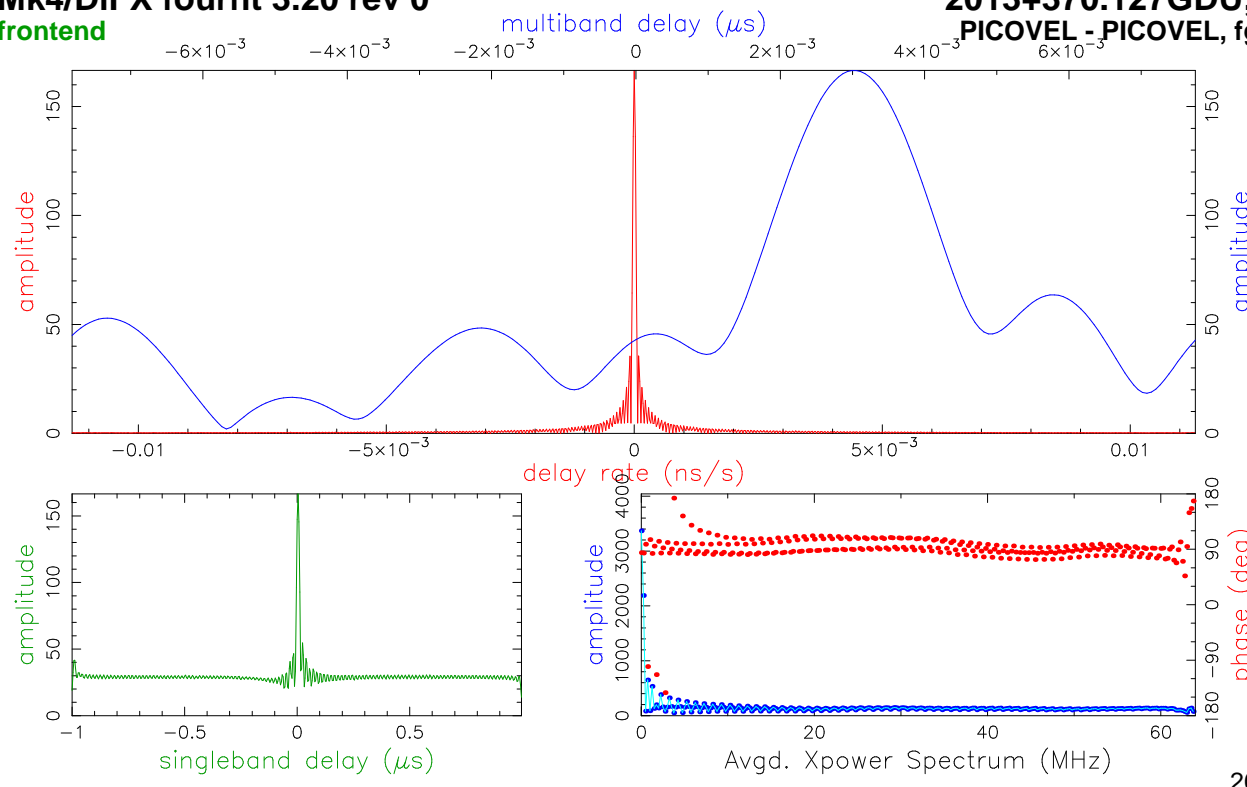
SNR 11.1
Int time 179.450
Amp 0.303
Phase 125.8
PFD 2.5e-20
Delays (us)
SBD 0.002882
MBD -0.004693
Fringe rate (Hz) 0.021292
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132134
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

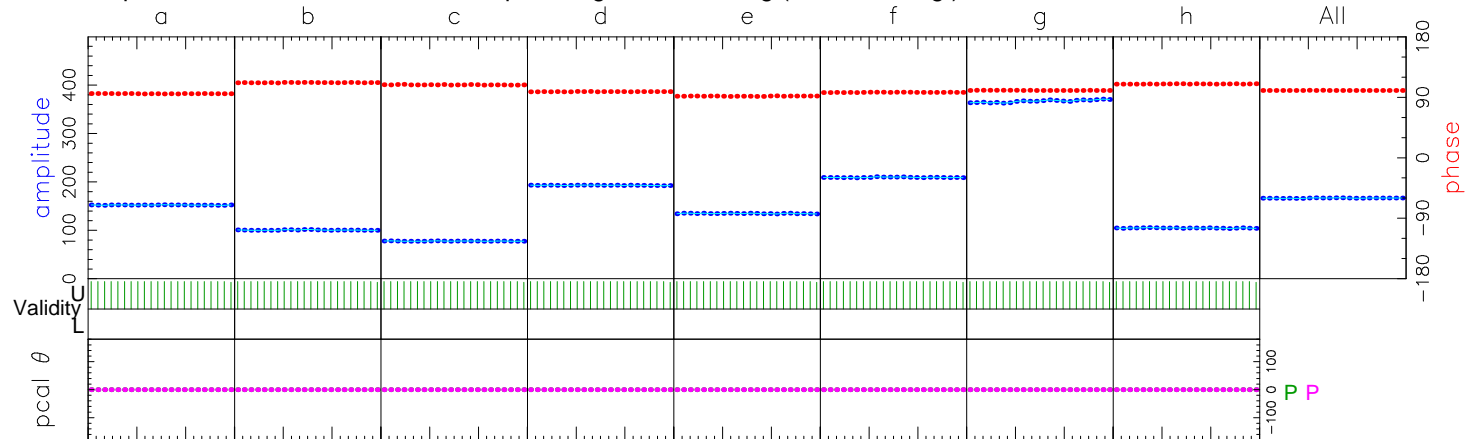


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	133.9	91.3	131.0	76.5	-179.0	124.8	132.6	57.8	Phase	125.8		
	0.5	0.3	0.6	0.3	0.4	0.2	0.4	0.1	Ampl.	0.3		
	257.7	257.5	257.6	158.8	256.5	256.2	257.1	215.9	Sbd box	257.7		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
p	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
P	1000	1000	1000	1000	1000	1000	1000	1000				
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Tracks			
Group delay (usec)(sbd)	7.22196632307E+03		Apriori delay (usec)		7.22197101652E+03		Resid mbdelay (usec)		-4.69345E-03	+/- 9.8E-05		
Sband delay (usec)	7.22197389852E+03		Apriori clock (usec)		1.2135731E+01		Resid sbdelay (usec)		2.88200E-03	+/- 7.7E-04		
Phase delay (usec)	7.22197102058E+03		Apriori clockrate (us/s)		5.5688657E-07		Resid phdelay (usec)		4.05717E-06	+/- 3.3E-07		
Delay rate (us/s)	1.48806937586E+00		Apriori rate (us/s)		1.48806912868E+00		Resid rate (us/s)		2.47182E-07	+/- 3.2E-09		
Total phase (deg)			Apriori accel (us/s/s)		-4.10176902665E-05		Resid phase (deg)		125.8	+/- 10.3		
	RMS	Theor.	Amplitude	0.303 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	25.2	24.2	Search (1024X32)	0.296		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	48.8	42.2	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	43.7	14.6	Inc. seg. avg.	0.306		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	53.5	25.4	Inc. frq. avg.	0.341		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
p: az 74.1 el 63.4 pa -86.5	P: az 293.8 el 34.2 pa 66.6		u, v (fr/asec) -10737.737 -2663.183						simultaneous interpolator			
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0067/pP..127GDU		Output file: /Exps/c192c/v1_CygA2/1234/No0067/pP.W.347.127GDU									



Fringe quality 7
 SNR 6108.8
 Int time 179.791
 Amp 166.600
 Phase 100.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.003804
 MBD 0.003016
 Fringe rate (Hz)
 -0.000001
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132136
 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



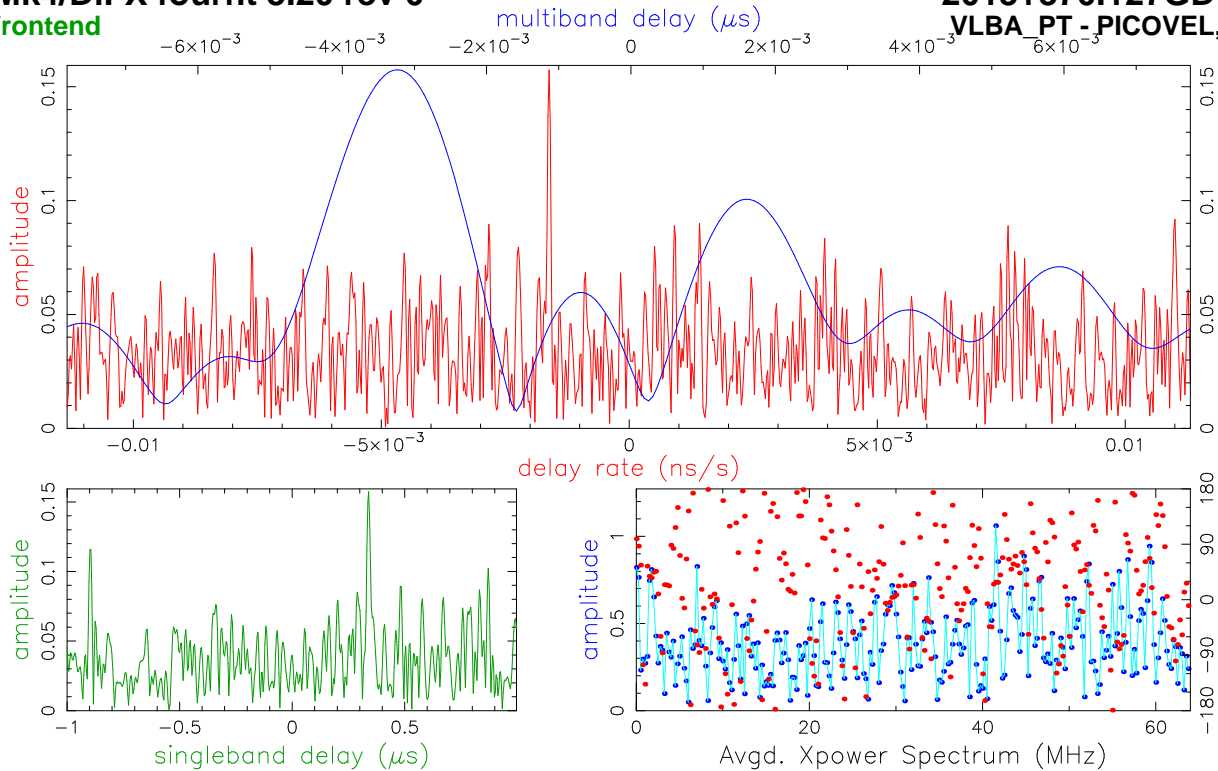
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	3.01609375000E-03		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		3.01609E-03	+/- 1.8E-07
Sband delay (usec)	3.80450000000E-03		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		3.80450E-03	+/- 1.4E-06
Phase delay (usec)	3.23145987102E-06		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		3.23146E-06	+/- 6.0E-10
Delay rate (us/s)	-1.13369219133E-11		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		-1.13369E-11	+/- 5.8E-12
Total phase (deg)	100.2		Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		100.2	+/- 0.0
ph/seg (deg)	RMS 0.1	Theor. 0.0	Amplitude 166.600 +/- 0.027	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
amp/seg (%)	0.2	0.1	Search (1024X32) 166.028	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us) -1.000 1.000				
ph/frq (deg)	8.2	0.0	Interp. 0.000	Bits/sample: 2x2		SampCntNorm: enabled		mb window (us) -0.008 0.008		
amp/frq (%)	51.9	0.0	Inc. seg. avg. 166.587	Sample rate(MISamp/s): 128		dr window (ns/s) -0.011 0.011				
			Inc. frq. avg. 167.430	Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite		ion window (TEC) 0.00 0.00		
P: az 293.8 el 34.2 pa 66.6	P: az 293.8 el 34.2 pa 66.6		u,v (fr/asec) 0.000 0.000						simultaneous interpolator	
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0067/PP..127GDU		Output file: /Exps/c192c/v1_CygA2/1234/No0067/PP.W.363.127GDU							

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, pP

VLBA_PT - PICOVEL, fgroup W, pol LR

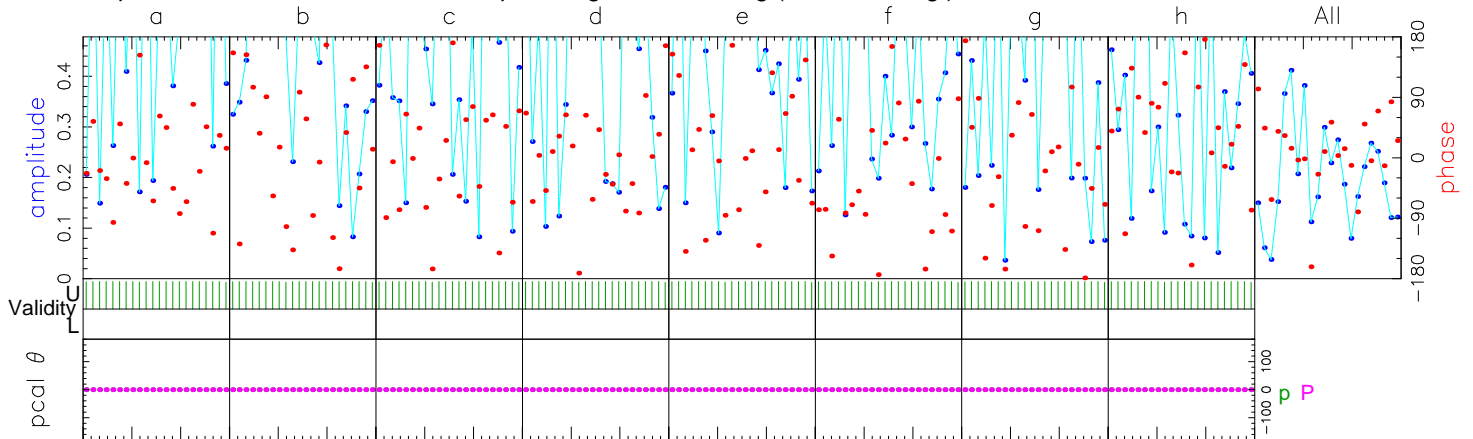


Fringe quality 0

SNR 5.8
 Int time 179.450
 Amp 0.159
 Phase 17.9
 PFD 5.9e-01
 Delays (us)
 SBD 0.338960
 MBD -0.003282
 Fringe rate (Hz)
 -0.138938
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132136
 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



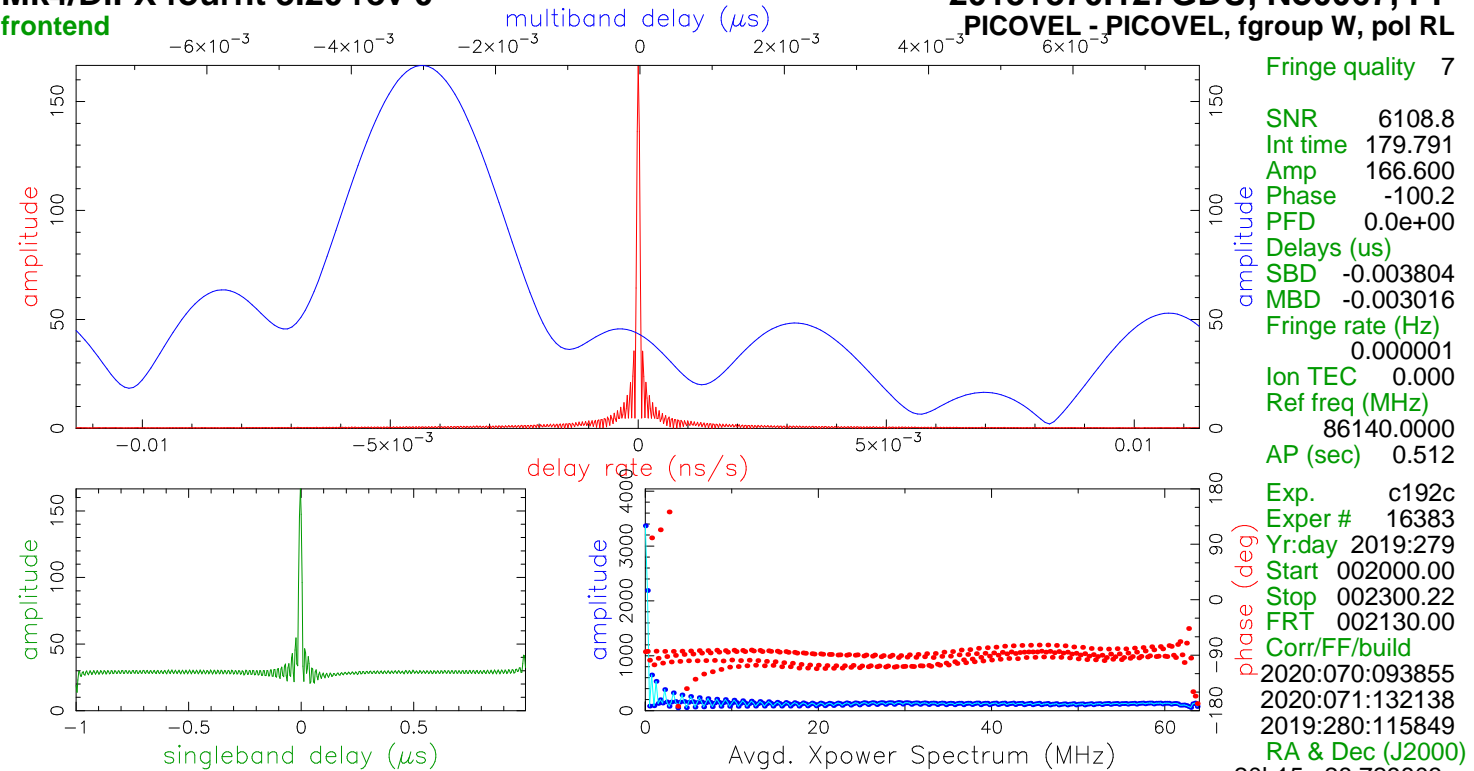
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
p	1000	1000	1000	1000	1000	1000	1000	1000			
P	1000	1000	1000	1000	1000	1000	1000	1000			
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
p	1000	1000	1000	1000	1000	1000	1000	1000			
P	1000	1000	1000	1000	1000	1000	1000	1000			
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
									Chan ids		
									Tracks		
									Tracks		
Group delay (usec)(sbd)		7.22231148477E+03				7.22197101652E+03			Resid mbdelay (usec)	-3.28175E-03 +/- 1.9E-04	
Sband delay (usec)		7.22230997702E+03				1.2135731E+01			Resid sbdelay (usec)	3.38960E-01 +/- 1.5E-03	
Phase delay (usec)		7.22197101710E+03				5.5688657E-07			Resid phdelay (usec)	5.76089E-07 +/- 6.4E-07	
Delay rate (us/s)		1.48806751574E+00				1.48806912868E+00			Resid rate (us/s)	-1.61294E-06 +/- 6.1E-09	
Total phase (deg)			148.5			-4.10176902665E-05			Resid phase (deg)	17.9 +/- 19.8	
	RMS	Theor.	Amplitude	0.159 +/- 0.028					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	56.7	46.4	Search (1024X32)	0.154					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000	
amp/seg (%)	68.9	81.0	Interp.	0.000					Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008
ph/frq (deg)	41.6	28.0	Inc. seg. avg.	0.154					Sample rate(MISamp/s): 128		dr window (ns/s) -0.011 0.011
amp/frq (%)	54.8	48.9	Inc. frq. avg.	0.158					Data rate(Mb/s): 2048		ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite	
p: az 74.1 el 63.4 pa -86.5			P: az 293.8 el 34.2 pa 66.6			u, v (fr/asec) -10737.737 -2663.183					simultaneous interpolator
Control file: cf_1234_gmva			Input file: /Exps/c192c/v1_CygA2/1234/No0067/pP..127GDU			Output file: /Exps/c192c/v1_CygA2/1234/No0067/pP.W.370.127GDU					

Mk4/DiFX fourfit 3.20 rev 0

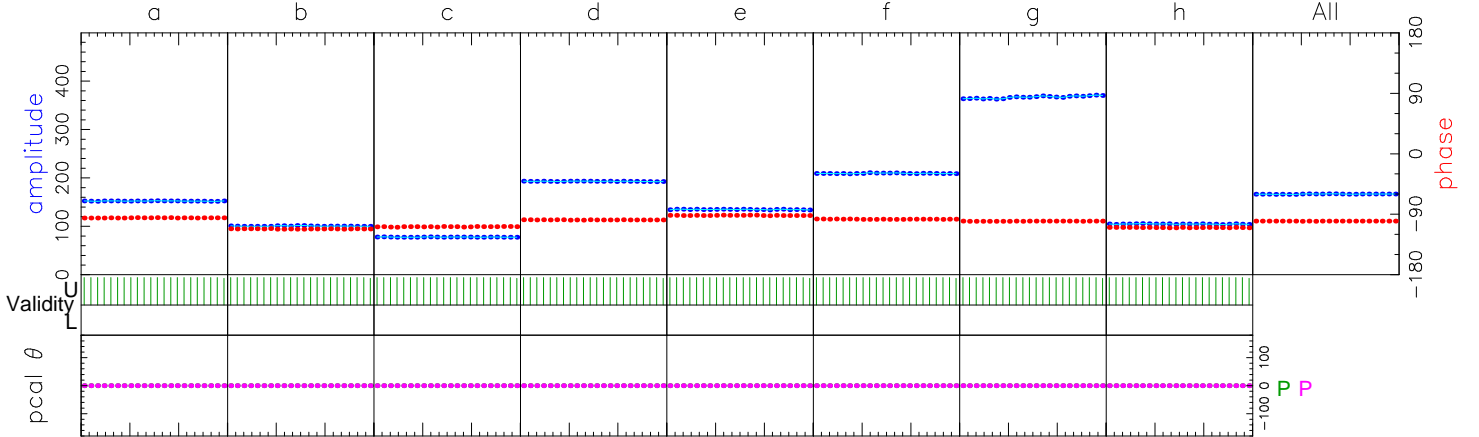
frontend

2013+370.127GDU, No0067, PP

PICOVEL - PICOVEL, 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
	-95.4	-111.8	-108.5	-98.4	-91.7	-97.3	-100.3	-109.8	Phase	-100.2
	152.3	100.6	77.8	193.0	134.8	209.4	366.9	104.8	Ampl.	167.4
	257.0	257.0	250.6	256.2	255.4	257.0	255.9	254.2	Sbd box	256.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
P:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-3.01609375000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-3.01609E-03	+/-	1.8E-07
Sband delay (usec)	-3.80450000000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-3.80450E-03	+/-	1.4E-06
Phase delay (usec)	-3.23145987112E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-3.23146E-06	+/-	6.0E-10
Delay rate (us/s)	1.13369219133E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	1.13369E-11	+/-	5.8E-12
Total phase (deg)		Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-100.2	+/-	0.0

ph/seg (deg)	0.1	0.0	Search (1024X32)	166.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	0.2	0.1	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	8.2	0.0	Inc. seg. avg.	166.587	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	51.9	0.0	Inc. frq. avg.	167.430	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

P: az 293.8 el 34.2 pa 66.6 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PP.W.382.127GDU

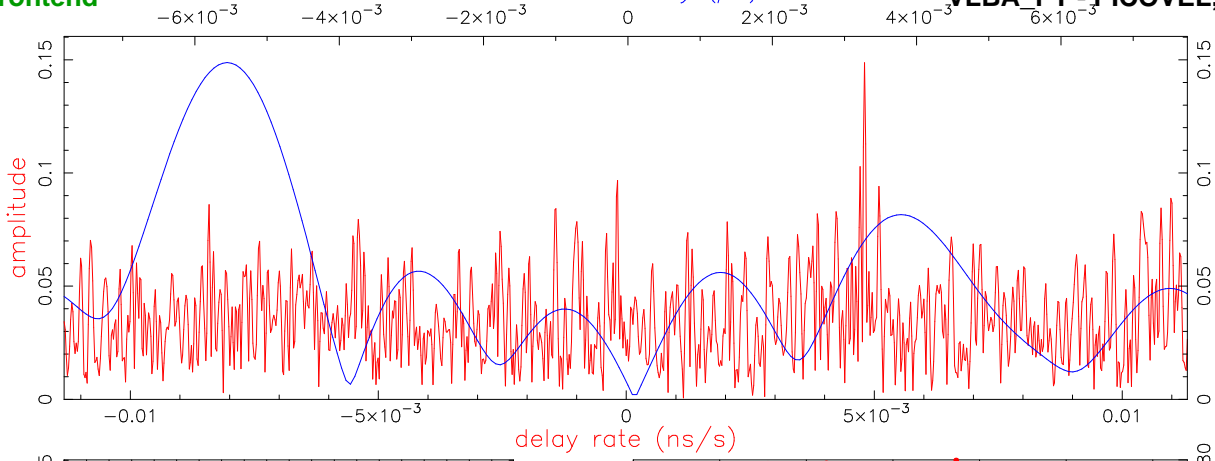
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, pP

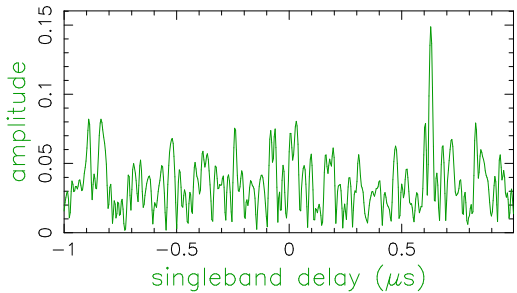
VLBA_PT - PICOVEL, fgroup W, pol RL

multiband delay (μ s)

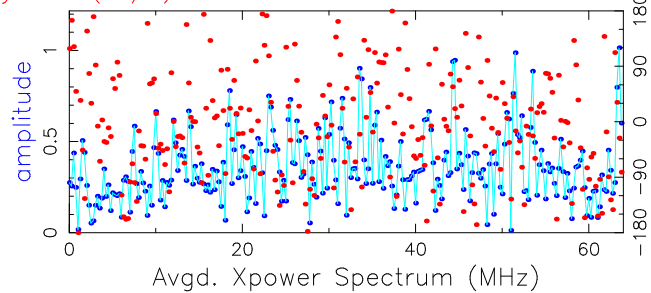


Fringe quality 0

SNR 5.4
 Int time 179.450
 Amp 0.160
 Phase 105.8
 PFD 1.0e+00
 Delays (us)
 SBD 0.628966
 MBD -0.00552
 Fringe rate (Hz)
 0.413864
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

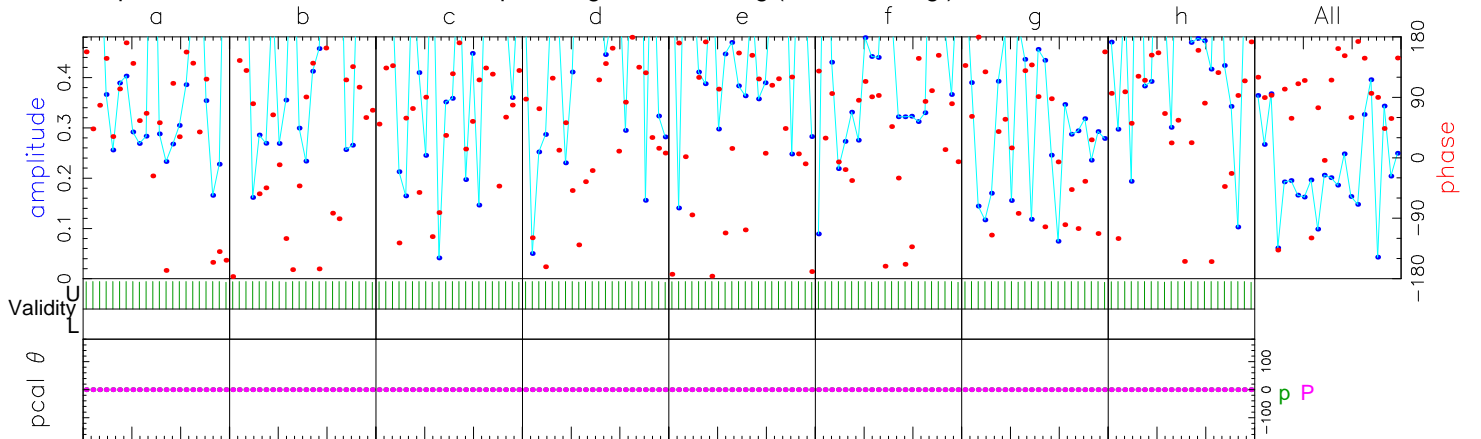


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132139
 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

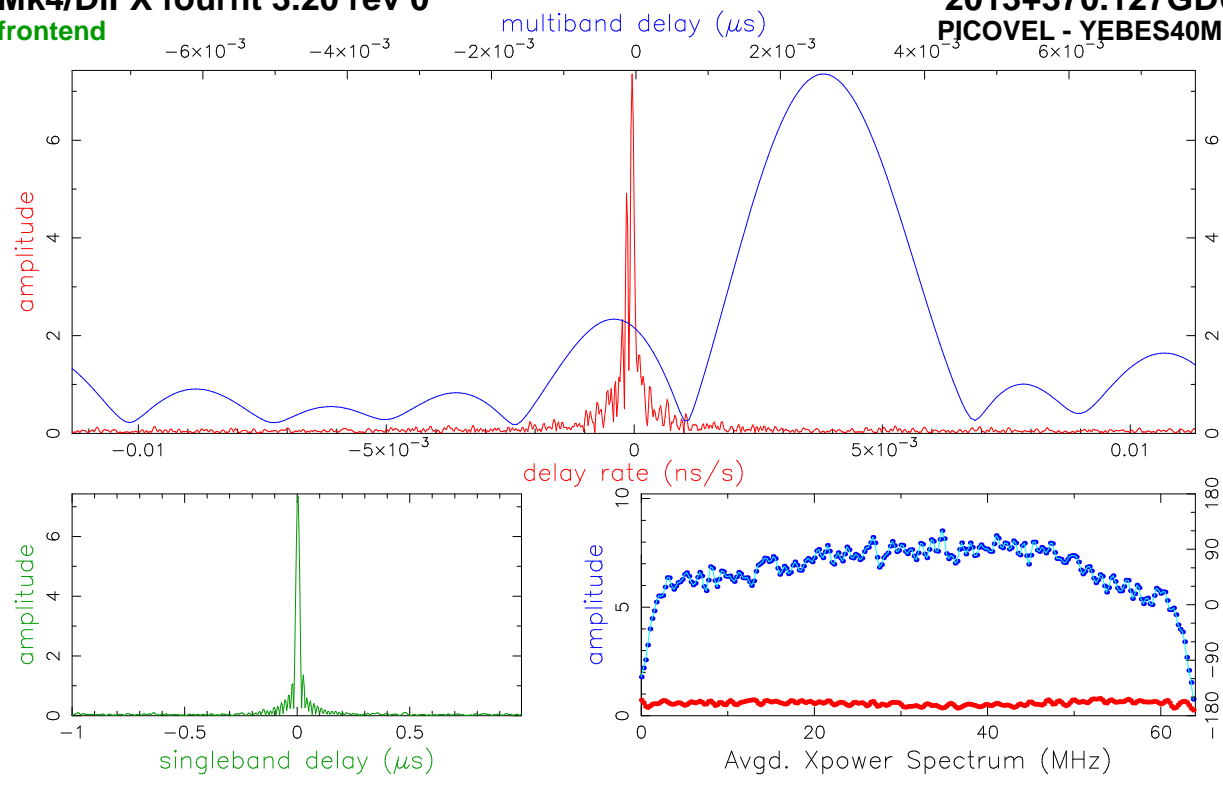


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	101.9	142.6	101.6	83.7	112.9	75.4	89.3	122.0	Phase	105.8
p	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.3	Ampl.	0.2
P	282.5	447.8	136.7	43.1	502.1	491.3	11.8	417.4	Sbd box	418.0
p:P	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
p:P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
p:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	7.22260608936E+03	Apriori delay (usec)	7.22197101652E+03	Resid mbdelay (usec)	-5.55216E-03	+/-	2.0E-04
Sband delay (usec)	7.22259998252E+03	Apriori clock (usec)	1.2135731E+01	Resid sbdelay (usec)	6.28966E-01	+/-	1.6E-03
Phase delay (usec)	7.22197101993E+03	Apriori clockrate (us/s)	5.5688657E-07	Resid phdelay (usec)	3.41129E-06	+/-	6.8E-07
Delay rate (us/s)	1.48807393323E+00	Apriori rate (us/s)	1.48806912868E+00	Resid rate (us/s)	4.80455E-06	+/-	6.5E-09
Total phase (deg)	236.5	Apriori accel (us/s/s)	-4.10176902665E-05	Resid phase (deg)	105.8	+/-	21.0

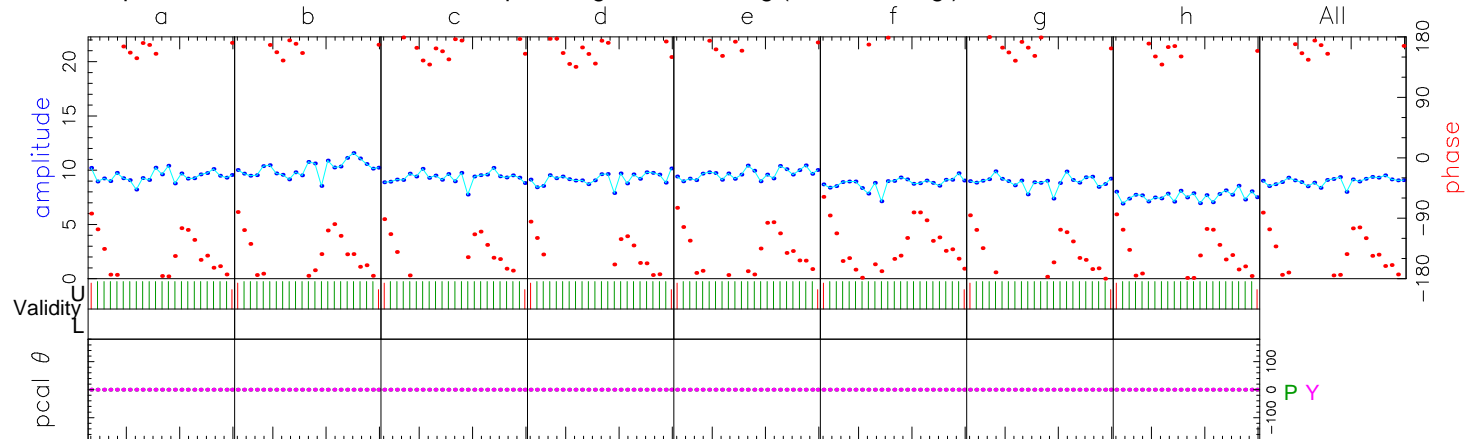
ph/seg (deg)	56.3	RMS	56.3	Theor.	49.3	Amplitude	0.160 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	78.3	Search (1024X32)	0.147	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	23.7	Inc. seg. avg.	0.171	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite
amp/frq (%)	51.1	Inc. frq. avg.	0.151	u,v (fr/asec) -10737.737 -2663.183		ion window (TEC)	0.00 0.00			

p: az 74.1 el 63.4 pa -86.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -10737.737 -2663.183 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/pP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/pP.W.388.127GDU



Fringe quality 5
 SNR 258.7
 Int time 162.162
 Amp 7.430
 Phase -159.8
 PFD 0.0e+00
 Delays (us)
 SBD 0.002566
 MBD 0.002555
 Fringe rate (Hz)
 -0.004408
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002016.90
 Stop 002259.71
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132131
 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
	-161.2	-158.7	-168.0	-173.1	-154.2	-135.7	-163.8	-163.7	Phase	-159.8
	7.8	8.3	7.6	7.5	7.9	7.3	7.3	6.2	Ampl.	7.5
	257.5	257.8	257.6	257.6	258.1	257.2	257.5	257.4	Sbd box	257.7
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.50699427046E+02		Apriori delay (usec)		-3.50701982507E+02		Resid mbdelay (usec)		2.55546E-03	+/- 4.2E-06
Sband delay (usec)	-3.50699416507E+02		Apriori clock (usec)		-9.8339262E+00		Resid sbdelay (usec)		2.56600E-03	+/- 3.3E-05
Phase delay (usec)	-3.50701987662E+02		Apriori clockrate (us/s)		-5.7299998E-07		Resid phdelay (usec)		-5.15451E-06	+/- 1.4E-08
Delay rate (us/s)	-4.31473057296E-02		Apriori rate (us/s)		-4.31472545618E-02		Resid rate (us/s)		-5.11678E-08	+/- 1.5E-10
Total phase (deg)			Apriori accel (us/s/s)		-1.38751487855E-06		Resid phase (deg)		-159.8	+/- 0.4

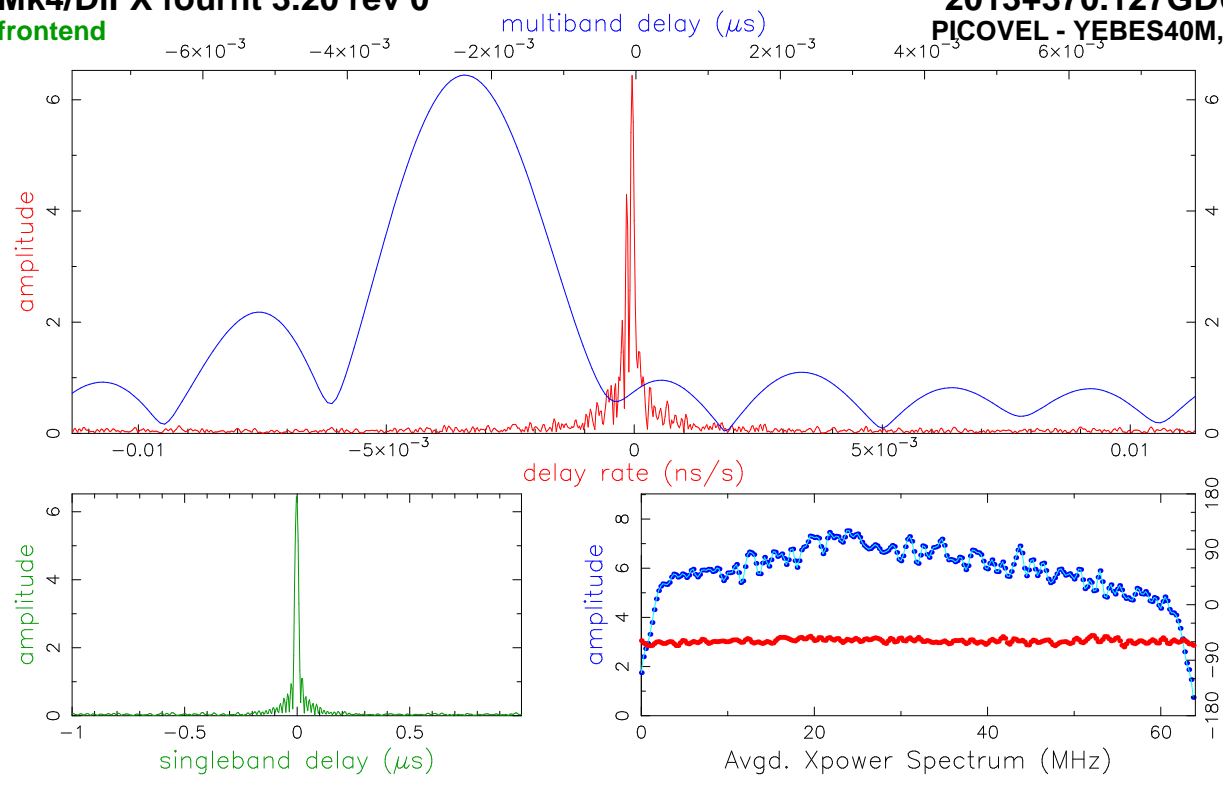
ph/seg (deg) RMS Theor. Amplitude 7.430 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 36.0 1.1 Search (1024X32) 7.176 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 21.5 1.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 12.2 0.6 Inc. seg. avg. 8.984 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 P: az 293.8 el 34.2 pa 66.6 Y: az 291.7 el 35.3 pa 62.4 u,v (fr/asec) 308.737 -415.226 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PY..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PY.W.328.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127GDU, No0067, PY

PICOVEL - YEBES40M, fgroup W, pol RR

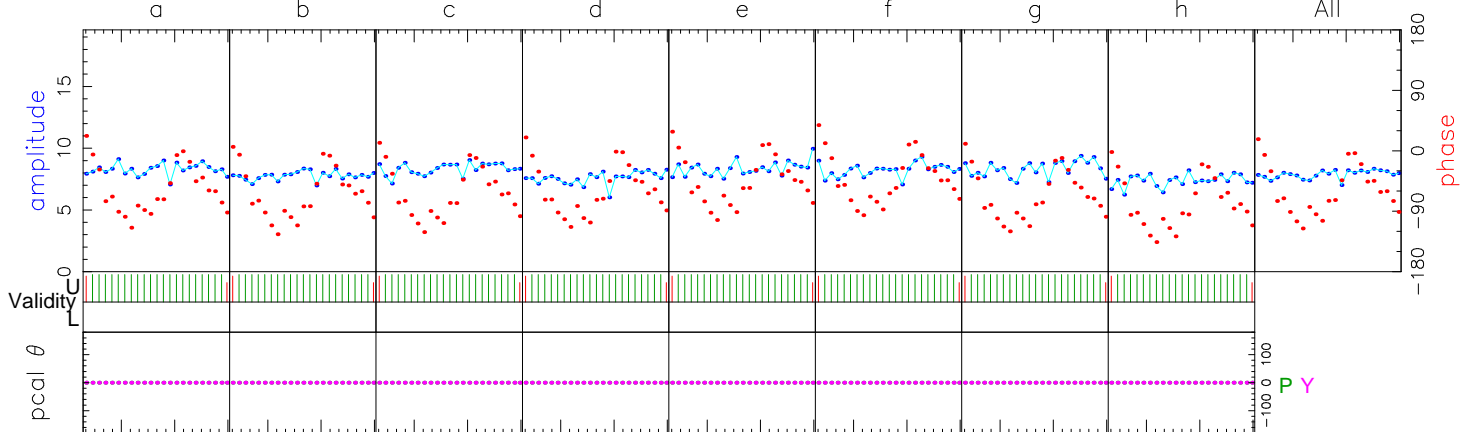


Fringe quality 5

SNR 227.4
 Int time 162.162
 Amp 6.529
 Phase -59.7
 PFD 0.0e+00
 Delays (us)
 SBD -0.002361
 MBD -0.002331
 Fringe rate (Hz)
 -0.004419
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002016.90
 Stop 002259.71
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132134
 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
	-57.9	-64.5	-63.4	-59.5	-45.5	-42.1	-66.9	-80.2	Phase	-59.7
	6.8	6.3	6.8	6.2	6.9	6.7	6.8	6.0	Ampl.	6.6
	256.7	256.3	256.5	256.7	256.3	256.3	256.2	256.5	Sbd box	256.4
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.50704313202E+02		Apriori delay (usec)		-3.50701982507E+02		Resid mbdelay (usec)		-2.33069E-03	+/- 4.8E-06
Sband delay (usec)	-3.50704343757E+02		Apriori clock (usec)		-9.8339262E+00		Resid sbdelay (usec)		-2.36125E-03	+/- 3.8E-05
Phase delay (usec)	-3.50701984432E+02		Apriori clockrate (us/s)		-5.7299998E-07		Resid phdelay (usec)		-1.92498E-06	+/- 1.6E-08
Delay rate (us/s)	-4.31473058642E-02		Apriori rate (us/s)		-4.31472545618E-02		Resid rate (us/s)		-5.13024E-08	+/- 1.7E-10
Total phase (deg)			Apriori accel (us/s/s)		-1.38751487855E-06		Resid phase (deg)		-59.7	+/- 0.5

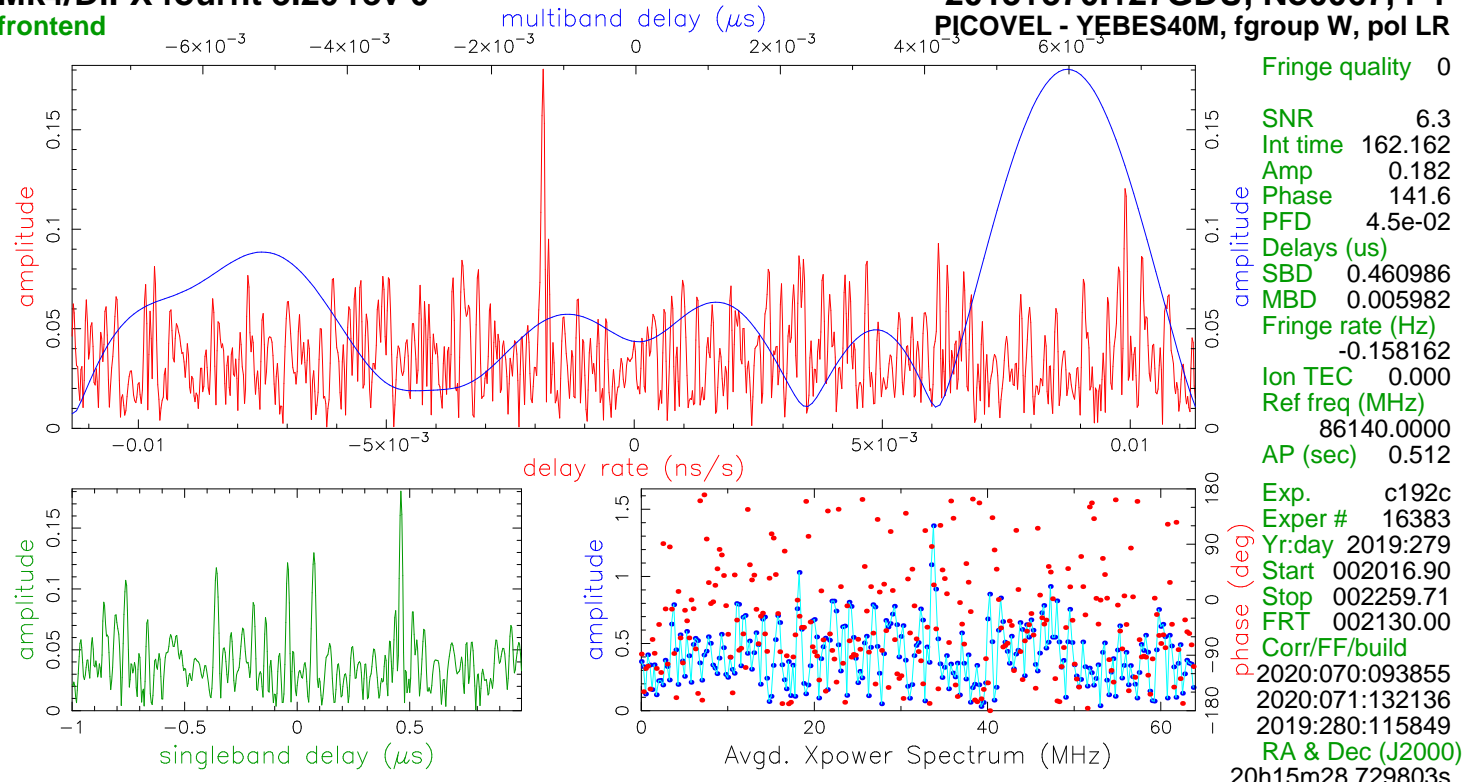
ph/seg (deg) 36.0 1.2 Theor. Amplitude 6.529 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 21.3 2.1 Search (1024X32) 6.333 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 13.1 0.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 5.0 1.2 Inc. seg. avg. 7.880 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 P: az 293.8 el 34.2 pa 66.6 Y: az 291.7 el 35.3 pa 62.4 u,v (fr/asec) 308.737 -415.226 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PY..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PY.W.348.127GDU

Mk4/DiFX fourfit 3.20 rev 0

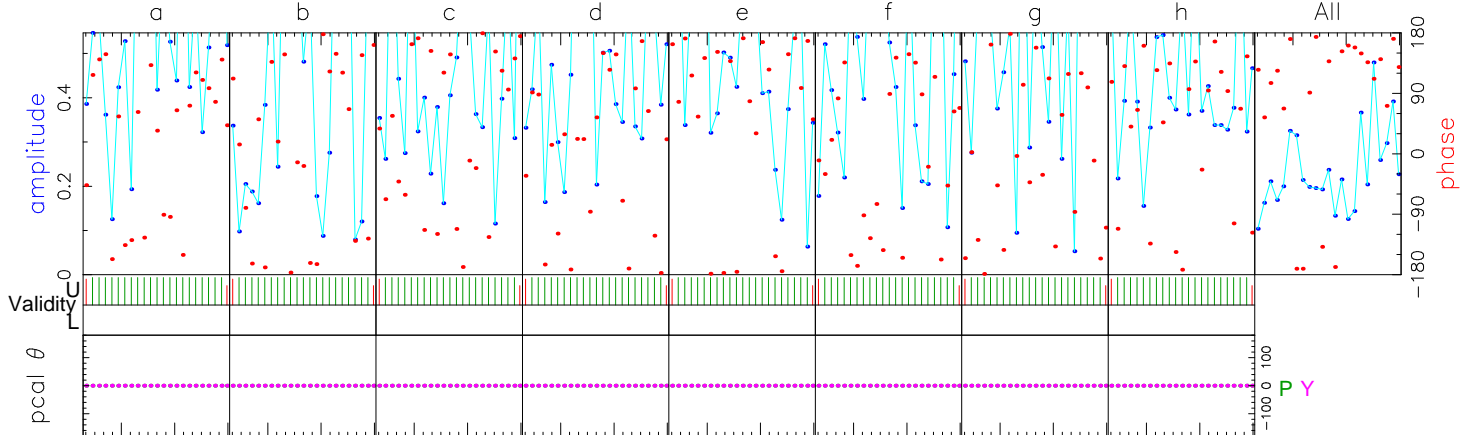
frontend

2013+370.127GDU, No0067, PY

PICOVEL - YEBES40M, fgroup W, pol LR



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
128.5	152.2	174.8	88.5	130.6	166.6	169.1	119.2	119.2	Phase	141.6
0.2	0.2	0.1	0.1	0.4	0.1	0.2	0.2	0.2	Ampl.	0.2
355.8	112.8	49.3	459.0	375.1	469.5	490.4	247.5	247.5	Sbd box	375.0
U/L 318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
P 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
P:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
P 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000		
P W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids	
Y W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.50242875670E+02		Apriori delay (usec)	-3.50701982507E+02		Resid mbdelay (usec)	5.98184E-03	+/-	1.7E-04	
Sband delay (usec)	-3.50240996257E+02		Apriori clock (usec)	-9.8339262E+00		Resid sbdelay (usec)	4.60986E-01	+/-	1.4E-03	
Phase delay (usec)	-3.50701977941E+02		Apriori clockrate (us/s)	-5.7299998E-07		Resid phdelay (usec)	4.56643E-06	+/-	5.9E-07	
Delay rate (us/s)	-4.31490906684E-02		Apriori rate (us/s)	-4.31472545618E-02		Resid rate (us/s)	-1.83611E-06	+/-	6.3E-09	
Total phase (deg)		-136.7	Apriori accel (us/s/s)	-1.38751487855E-06		Resid phase (deg)	141.6	+/-	18.2	

ph/seg (deg) 42.3 43.8 Search (1024X32) 0.174 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

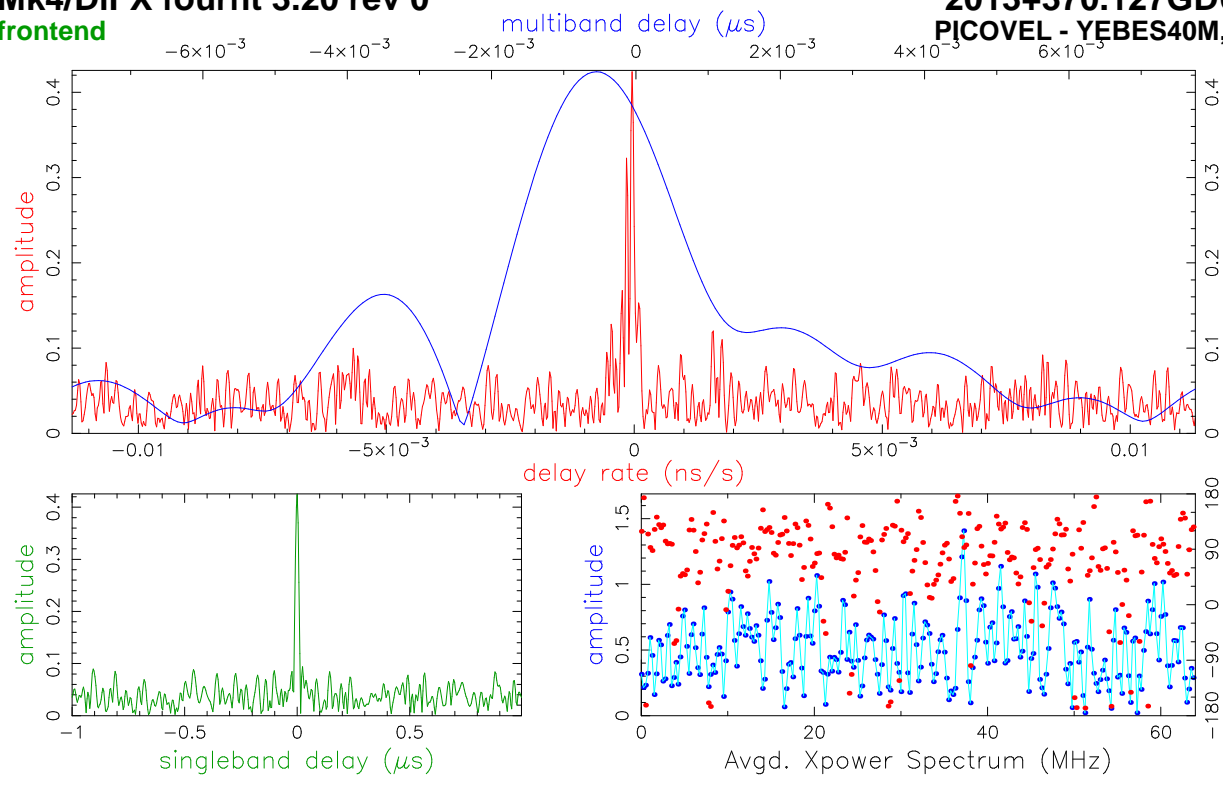
amp/seg (%) 58.3 76.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 32.2 25.8 Inc. seg. avg. 0.183 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 45.4 45.0 Inc. frq. avg. 0.179 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011

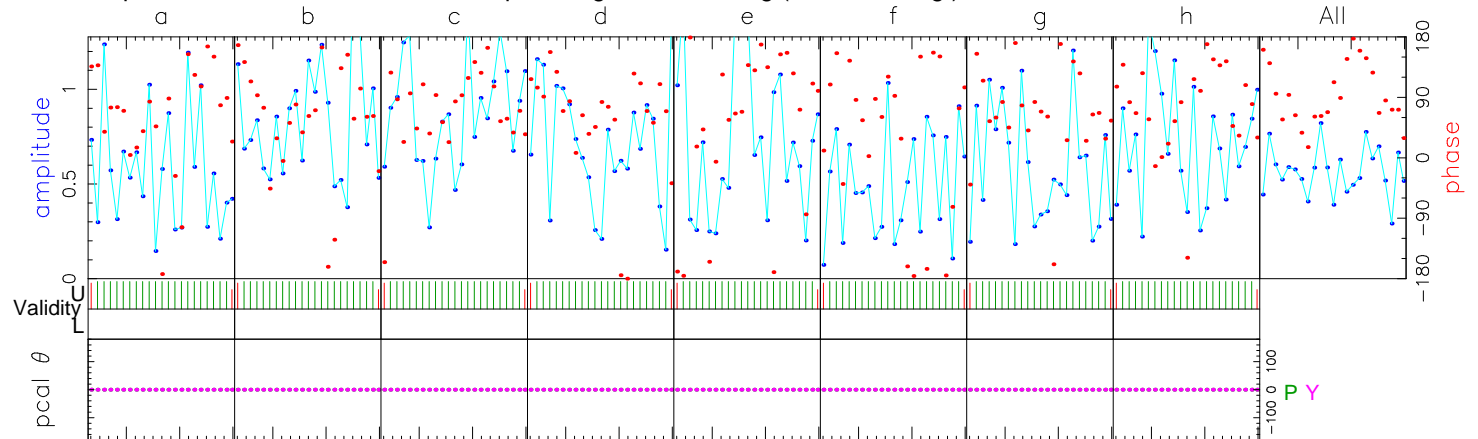
P: az 293.8 el 34.2 pa 66.6 Y: az 291.7 el 35.3 pa 62.4 u,v (fr/asec) 308.737 -415.226 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PY..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PY.W.367.127GDU



Fringe quality 8
 SNR 14.8
 Int time 162.162
 Amp 0.426
 Phase 92.7
 PFD 3.2e-41
 Delays (us)
 SBD -0.000768
 MBD -0.000564
 Fringe rate (Hz)
 -0.004467
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002016.90
 Stop 002259.71
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132138
 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

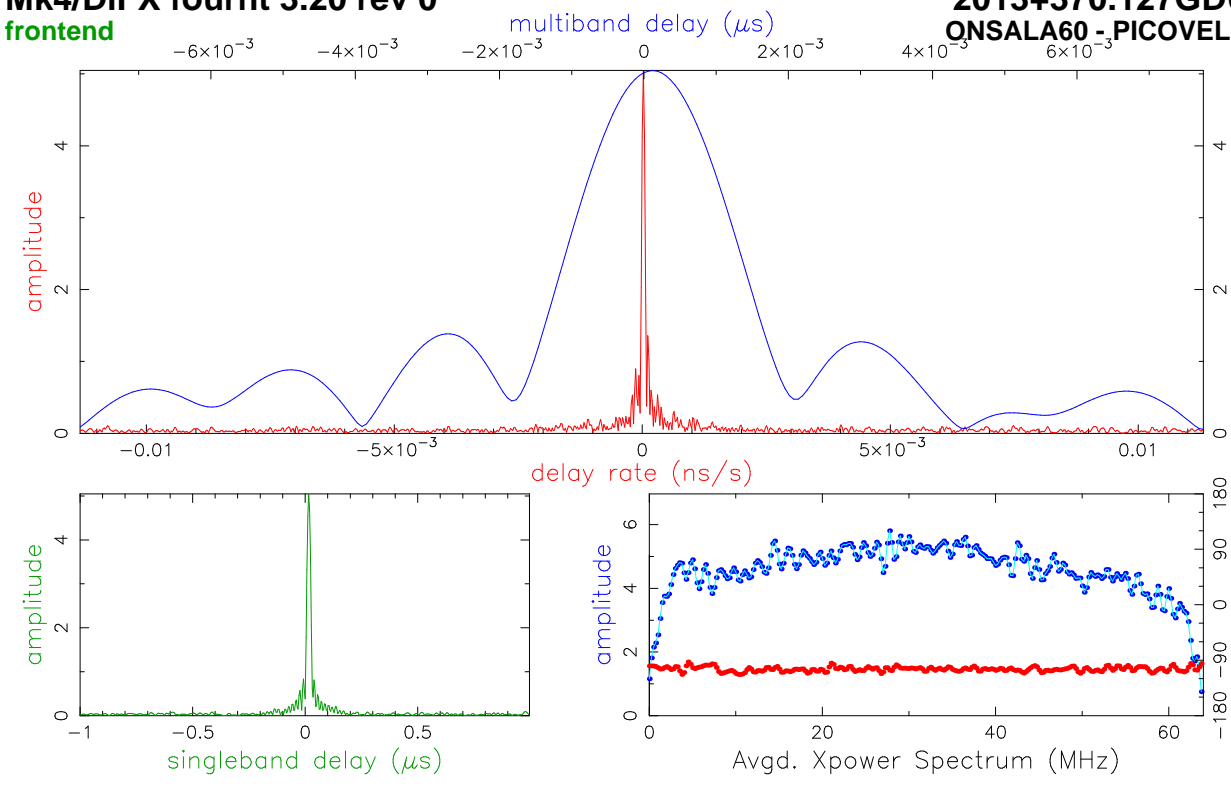


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
P	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-3.50702546358E+02									
Sband delay (usec)	-3.50702750257E+02									
Phase delay (usec)	-3.50701979517E+02									
Delay rate (us/s)	-4.31473064155E-02									
Total phase (deg)			-185.6							
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)									92.7	+/- 7.7
Pcal mode:	MANUAL	MANUAL								
Pcal rate:	0.000E+00	0.000E+00								
Bits/sample:	2x2									
Sample rate(MSamp/s):	128									
Data rate(Mb/s):	2048									
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										

ph/seg (deg) 44.1 18.5
 amp/seg (%) 44.6 32.4
 ph/frq (deg) 23.2 10.9
 amp/frq (%) 23.8 19.1

P: az 293.8 el 34.2 pa 66.6 Y: az 291.7 el 35.3 pa 62.4 u,v (fr/asec) 308.737 -415.226 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/PY..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/PY.W.387.127GDU

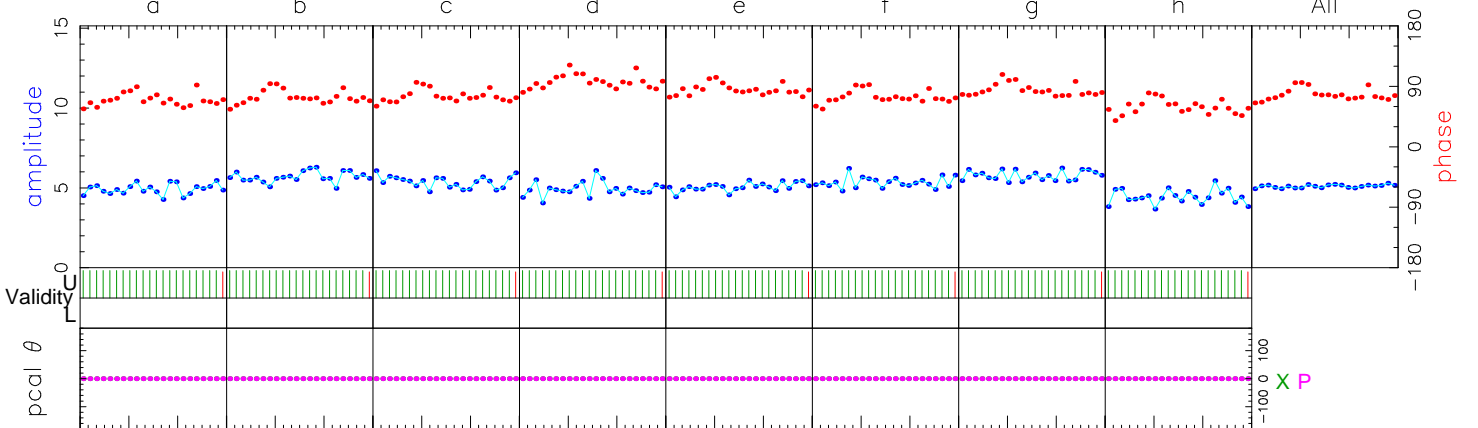


Fringe quality 8

SNR 185.0
 Int time 179.588
 Amp 5.049
 Phase 77.6
 PFD 0.0e+00
 Delays (us)
 SBD 0.015947
 MBD 0.000126
 Fringe rate (Hz)
 0.002639
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132132
 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

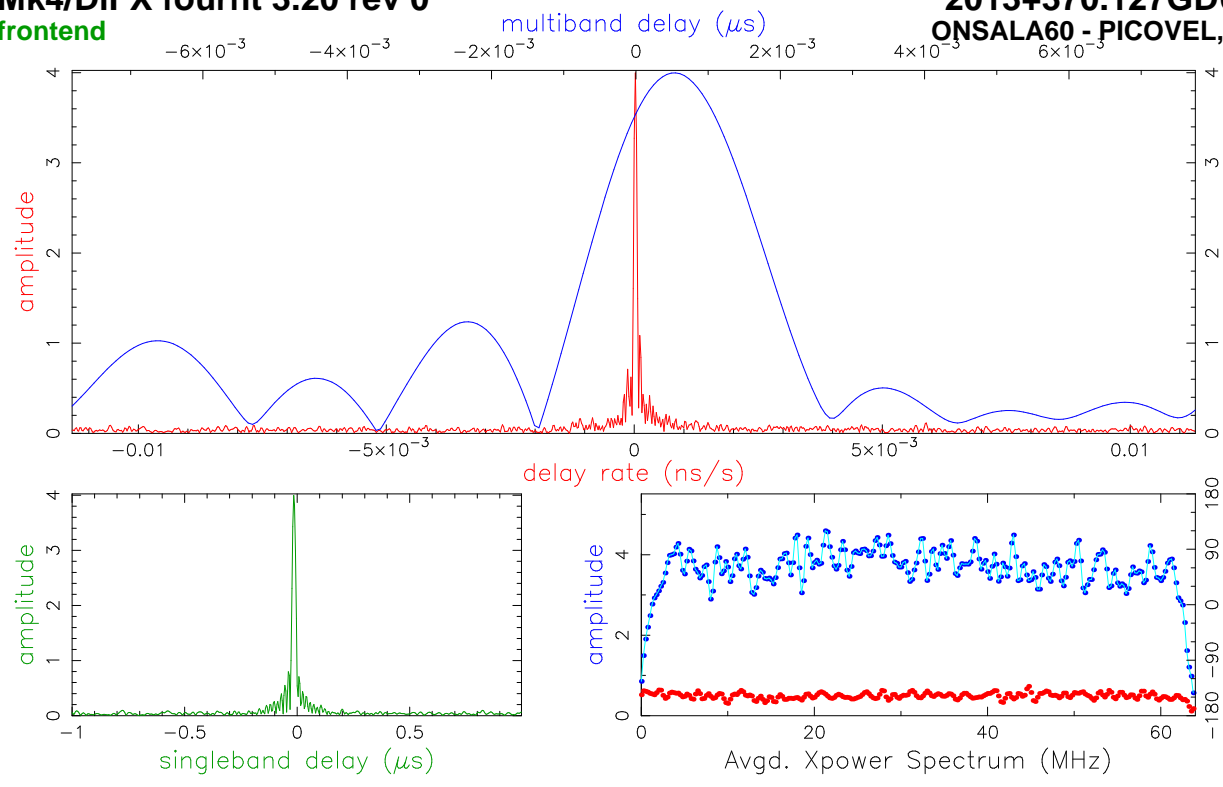


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	-6.23612444668E+02	Apriori delay (usec)	-6.23628196093E+02	Resid mbdelay (usec)	1.26425E-04	+/-	5.9E-06
Sband delay (usec)	-6.23612249343E+02	Apriori clock (usec)	3.2565853E+01	Resid sbdelay (usec)	1.59467E-02	+/-	4.7E-05
Phase delay (usec)	-6.23628193590E+02	Apriori clockrate (us/s)	8.8100003E-07	Resid phdelay (usec)	2.50283E-06	+/-	2.0E-08
Delay rate (us/s)	2.73941565140E-01	Apriori rate (us/s)	2.73941534507E-01	Resid rate (us/s)	3.06338E-08	+/-	1.9E-10
Total phase (deg)	-214.5	Apriori accel (us/s/s)	1.98596876569E-05	Resid phase (deg)	77.6	+/-	0.6

ph/seg (deg)	8.6	Theor.	1.5	Amplitude	5.049 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	2.2		2.5	Search (1024X32)	4.876	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	12.5		0.9	Inc. seg. avg.	5.102	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	8.3		1.5	Inc. frq. avg.	5.130	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 290.3 el 32.0 pa 39.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1952.606 2888.530 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/XP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/XP.W.333.127GDU

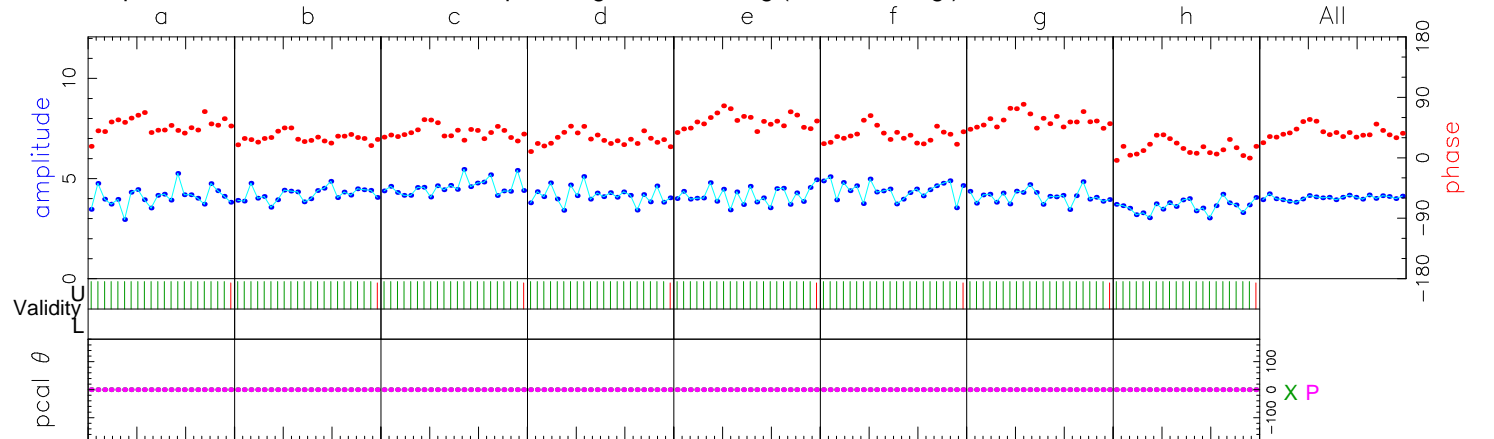


Fringe quality 8

SNR 147.5
 Int time 179.588
 Amp 4.026
 Phase 37.9
 PFD 0.0e+00
 Delays (us)
 SBD -0.014549
 MBD 0.000566
 Fringe rate (Hz)
 0.002649
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132134
 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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-6.23643254731E+02									
Sband delay (usec)	-6.23642745343E+02									
Phase delay (usec)	-6.23628194869E+02									
Delay rate (us/s)	2.73941565259E-01									
Total phase (deg)			-254.2							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
PCal mode:	MANUAL	MANUAL								
PCal rate:	0.000E+00	0.000E+00								
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								

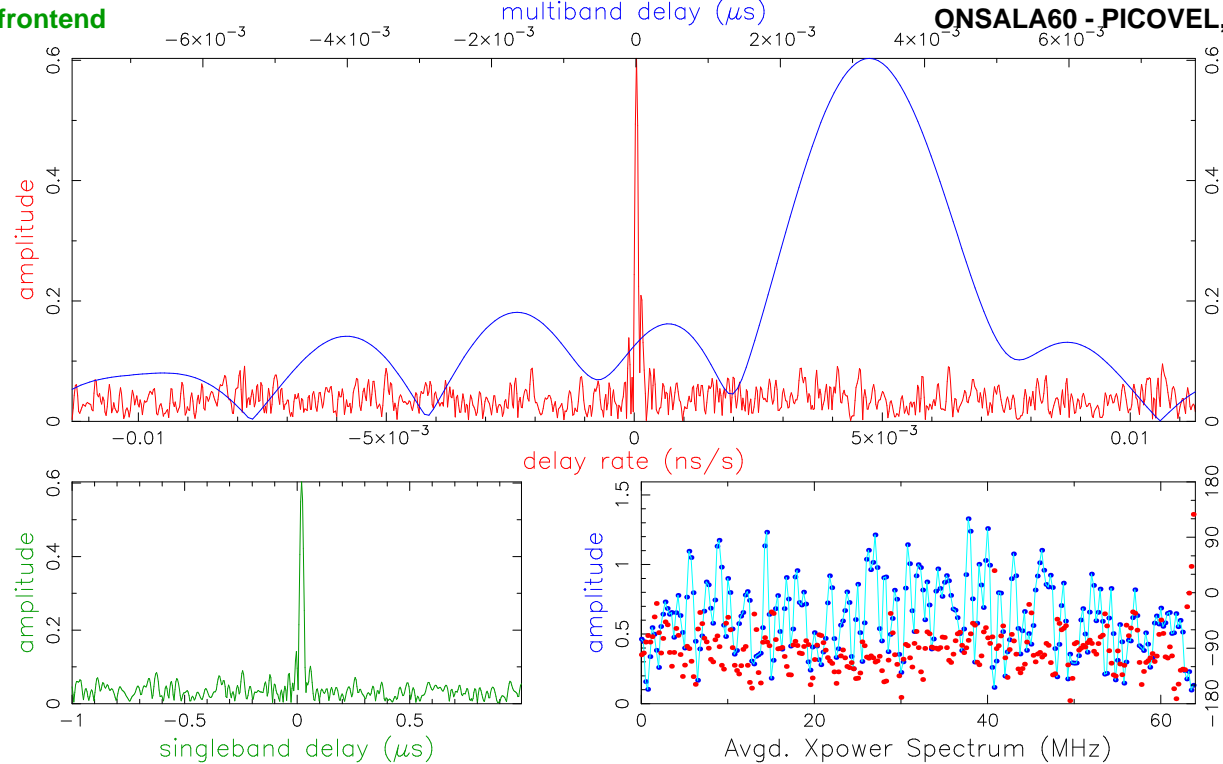
ph/seg (deg) 8.6 1.8
 amp/seg (%) 2.6 3.2
 ph/frq (deg) 15.7 1.1
 amp/frq (%) 6.9 1.9

RMS Theor. Amplitude 4.026 +/- 0.027
 Search (1024X32) 3.878
 Interp. 0.000
 Inc. seg. avg. 4.040
 Inc. frq. avg. 4.103

PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 SampCntNorm: enabled
 nlags: 256 t_cohere infinite

X: az 290.3 el 32.0 pa 39.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1952.606 2888.530 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/XP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/XP.W.351.127GDU

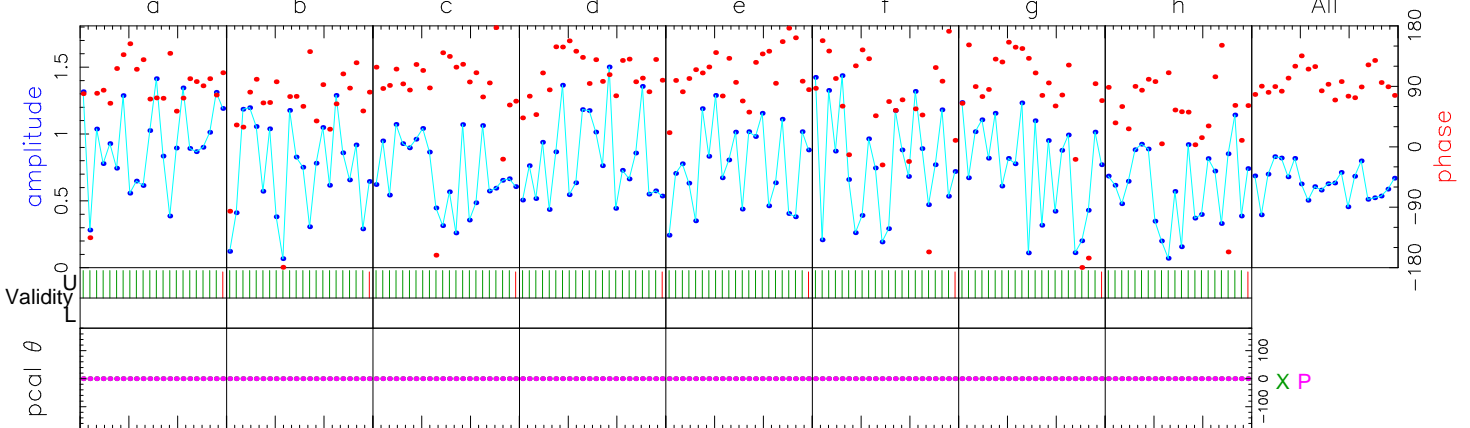


Fringe quality 9

SNR 22.1
 Int time 179.588
 Amp 0.603
 Phase 94.9
 PFD 0.0e+00
 Delays (us)
 SBD 0.019614
 MBD 0.003232
 Fringe rate (Hz) 0.003032
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132136
 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
	92.1	74.5	102.6	111.8	111.0	80.6	107.4	66.4	Phase	94.9
	0.8	0.6	0.6	0.7	0.7	0.5	0.6	0.4	Ampl.	0.6
	262.0	261.5	261.9	261.9	261.4	261.6	262.4	260.7	Sbd box	262.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-6.23609339087E+02		Apriori delay (usec)		-6.23628196093E+02		Resid mbdelay (usec)		3.23201E-03	+/- 4.9E-05
Sband delay (usec)	-6.23608581843E+02		Apriori clock (usec)		3.2565853E+01		Resid sbdelay (usec)		1.96142E-02	+/- 3.9E-04
Phase delay (usec)	-6.23628193032E+02		Apriori clockrate (us/s)		8.8100003E-07		Resid phdelay (usec)		3.06126E-06	+/- 1.7E-07
Delay rate (us/s)	2.73941569708E-01		Apriori rate (us/s)		2.73941534507E-01		Resid rate (us/s)		3.52011E-08	+/- 1.6E-09
Total phase (deg)			Apriori accel (us/s/s)		1.98596876569E-05		Resid phase (deg)		94.9	+/- 5.2

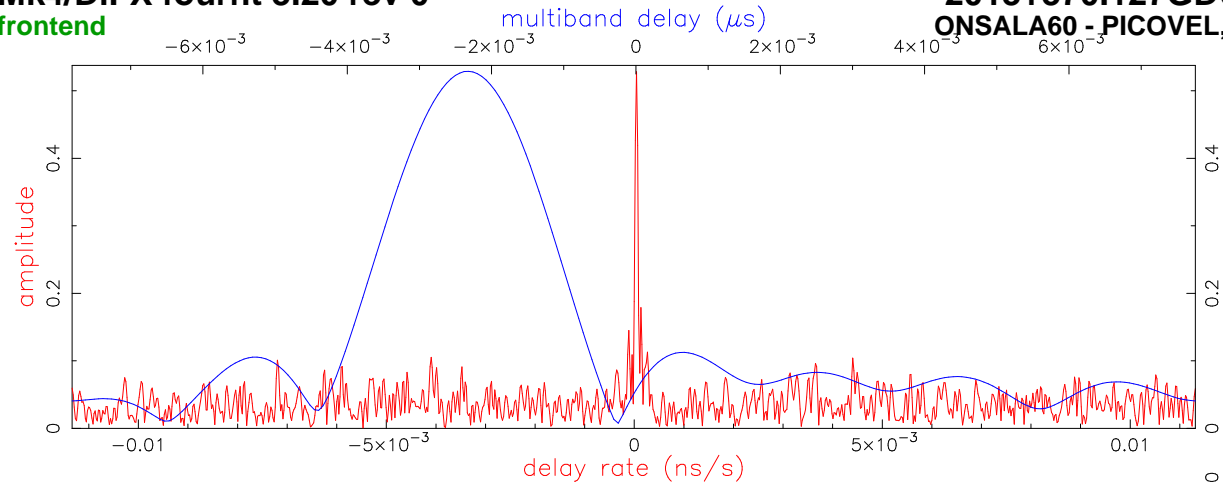
ph/seg (deg) 19.0 12.2 Search (1024X32) 0.577 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 20.2 21.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 19.2 7.3 Inc. seg. avg. 0.622 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 18.4 12.8 Inc. frq. avg. 0.622 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 X: az 290.3 el 32.0 pa 39.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1952.606 2888.530 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/XP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/XP.W.369.127GDU

Mk4/DiFX fourfit 3.20 rev 0

frontend

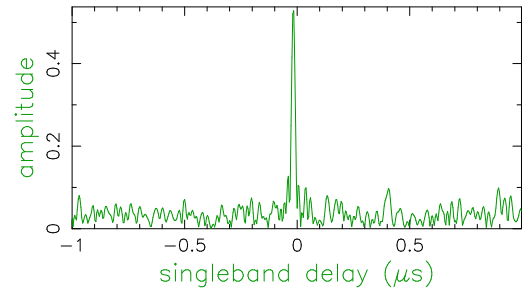
2013+370.127GDU, No0067, XP

ONSALA60 - PICOVEL, fgroup W, pol RL

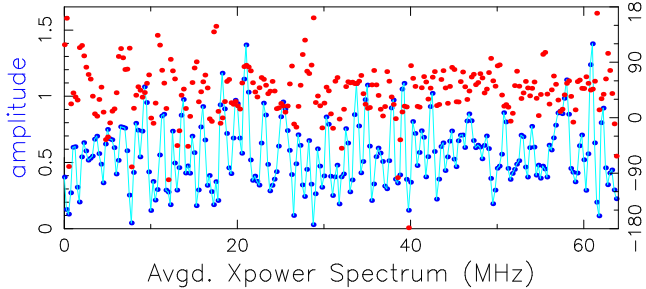


Fringe quality 9

SNR 19.7
 Int time 179.588
 Amp 0.538
 Phase -128.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.017283
 MBD -0.002383
 Fringe rate (Hz) 0.002937
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

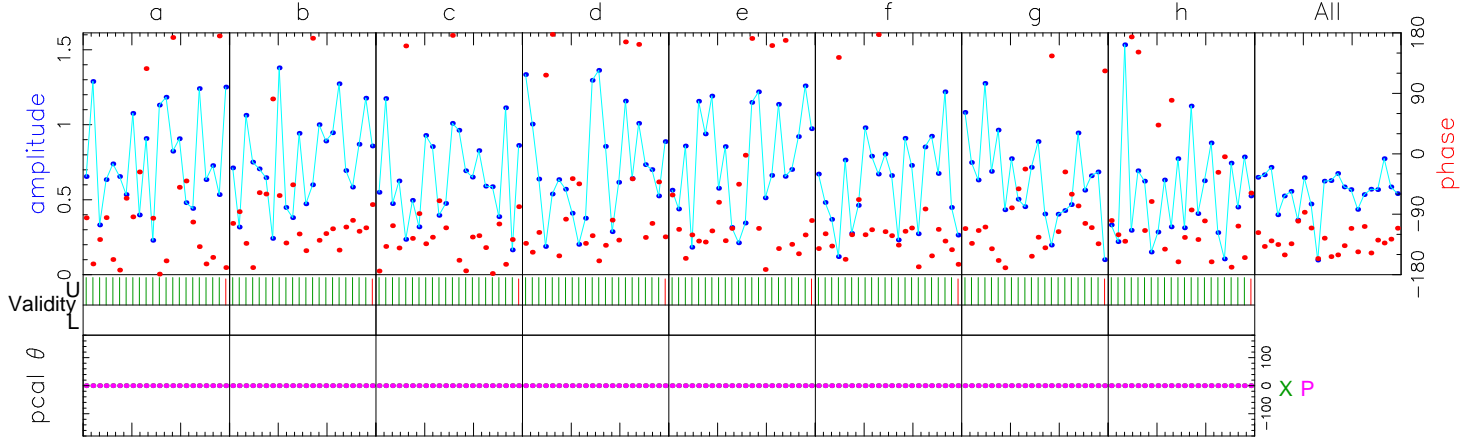


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132139
 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

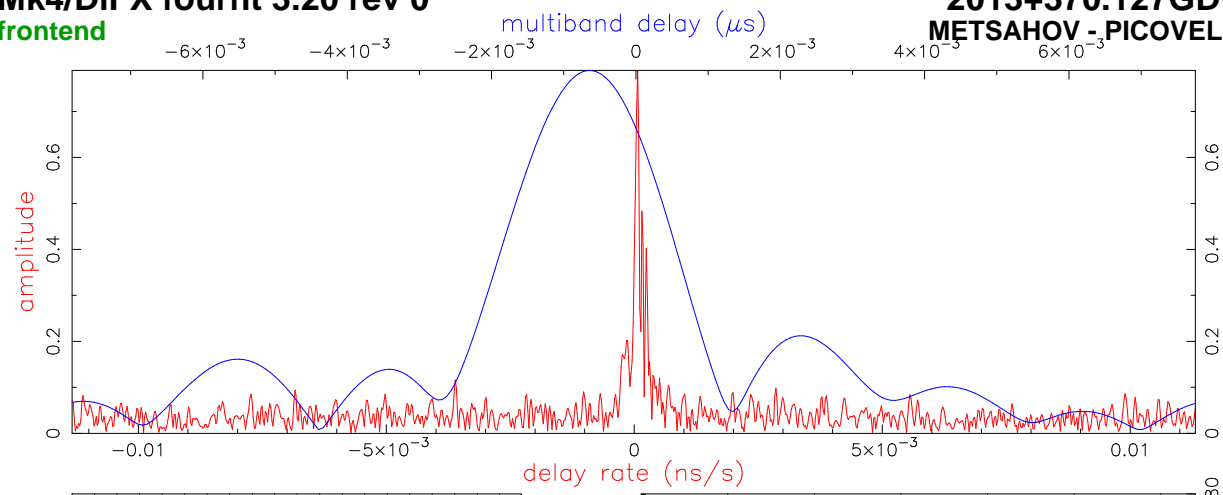


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	-6.23646204212E+02	Apriori delay (usec)	-6.23628196093E+02	Resid mbdelay (usec)	-2.38312E-03	+/-	5.5E-05
Sband delay (usec)	-6.23645479343E+02	Apriori clock (usec)	3.2565853E+01	Resid sbdelay (usec)	-1.72832E-02	+/-	4.4E-04
Phase delay (usec)	-6.23628200237E+02	Apriori clockrate (us/s)	8.8100003E-07	Resid phdelay (usec)	-4.14402E-06	+/-	1.9E-07
Delay rate (us/s)	2.73941568605E-01	Apriori rate (us/s)	2.73941534507E-01	Resid rate (us/s)	3.40986E-08	+/-	1.8E-09
Total phase (deg)	-60.6	Apriori accel (us/s/s)	1.98596876569E-05	Resid phase (deg)	-128.5	+/-	5.8

ph/seg (deg)	18.2	Theor.	13.6	Amplitude	0.538 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	26.0		23.8	Search (1024X32)	0.501	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	12.1		8.2	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	13.5		14.4	Inc. seg. avg.	0.538	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.532	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

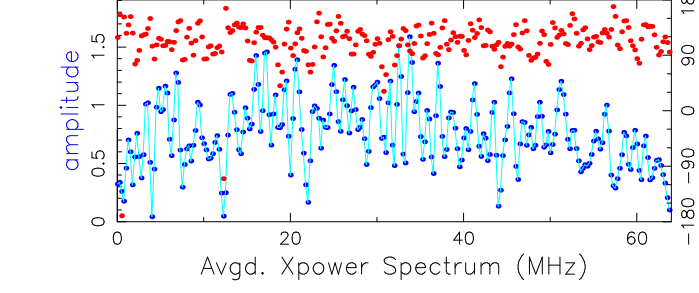
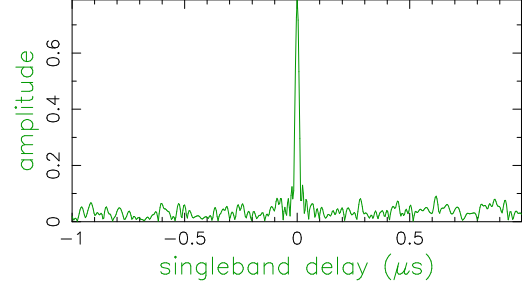
X: az 290.3 el 32.0 pa 39.4 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -1952.606 2888.530 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/XP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/XP.W.389.127GDU



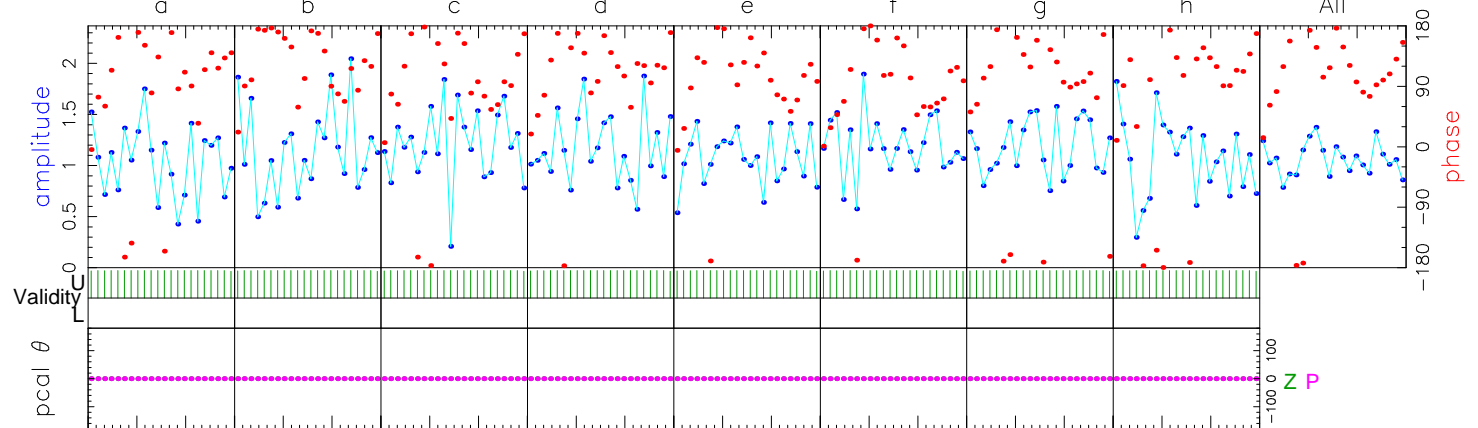
Fringe quality 7

SNR 28.9
 Int time 179.625
 Amp 0.789
 Phase 120.9
 PFD 0.0e+00
 Delays (us)
 SBD -0.000150
 MBD -0.000645
 Fringe rate (Hz) 0.006395
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132142
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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

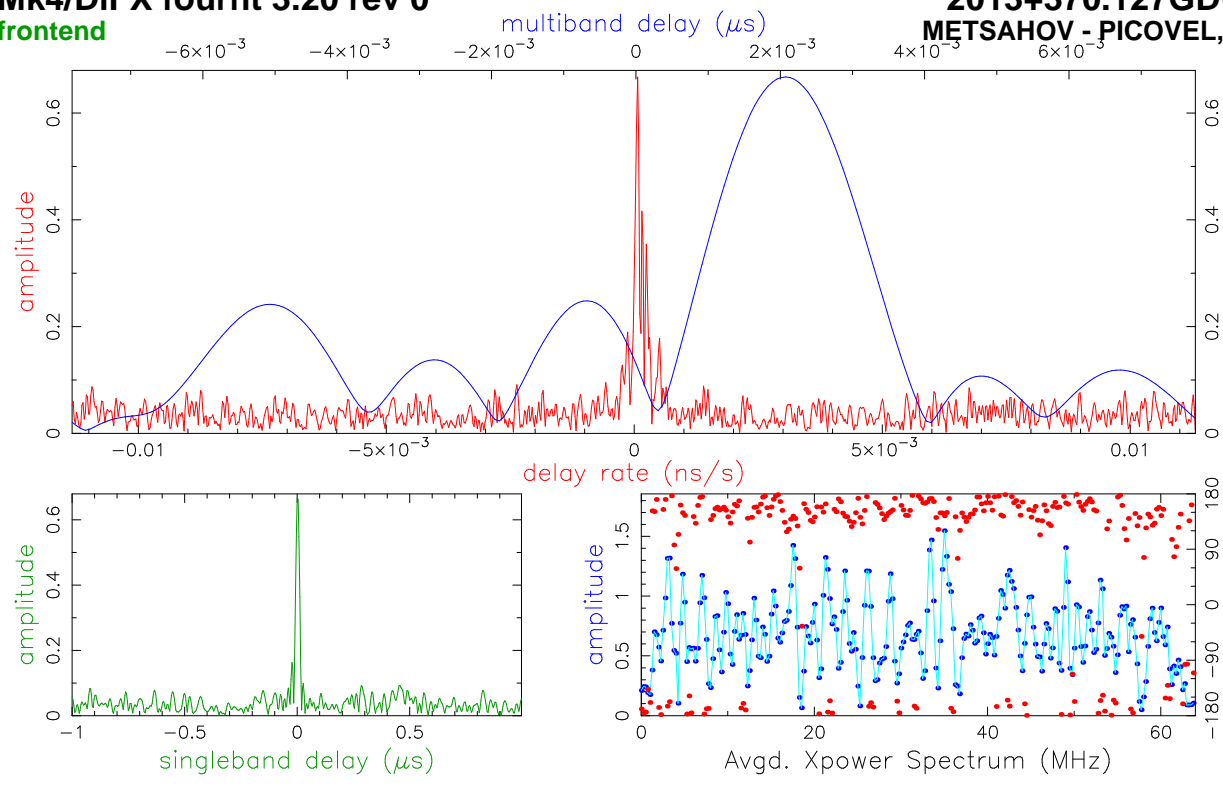


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -2.1838795527E+03 Apriori delay (usec) -2.18387891027E+03 Resid mbdelay (usec) -6.45007E-04 +/- 3.8E-05
 Sband delay (usec) -2.18387906027E+03 Apriori clock (usec) 3.3470297E-01 Resid sbdelay (usec) -1.50000E-04 +/- 3.0E-04
 Phase delay (usec) -2.18387890637E+03 Apriori clockrate (us/s) 3.6929281E-07 Resid phdelay (usec) 3.89938E-06 +/- 1.3E-07
 Delay rate (us/s) 3.34949154486E-01 Apriori rate (us/s) 3.34949080246E-01 Resid rate (us/s) 7.42398E-08 +/- 1.2E-09
 Total phase (deg) 2.0 Apriori accel (us/s/s) 2.97328200867E-05 Resid phase (deg) 120.9 +/- 4.0

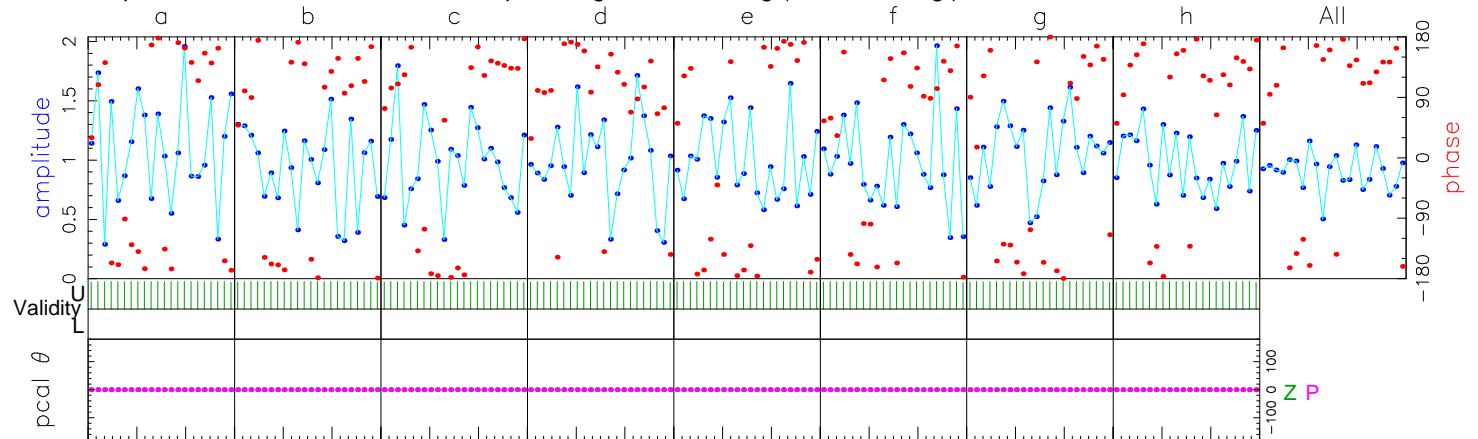
RMS Theor. Amplitude 0.789 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 43.0 9.3 Search (1024X32) 0.766 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 40.0 16.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 11.9 5.6 Inc. seg. avg. 1.051 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 9.4 9.8 Inc. frq. avg. 0.798 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

Z: az 298.0 el 27.3 pa 33.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -2383.716 3661.298 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/ZP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/ZP.W.400.127GDU



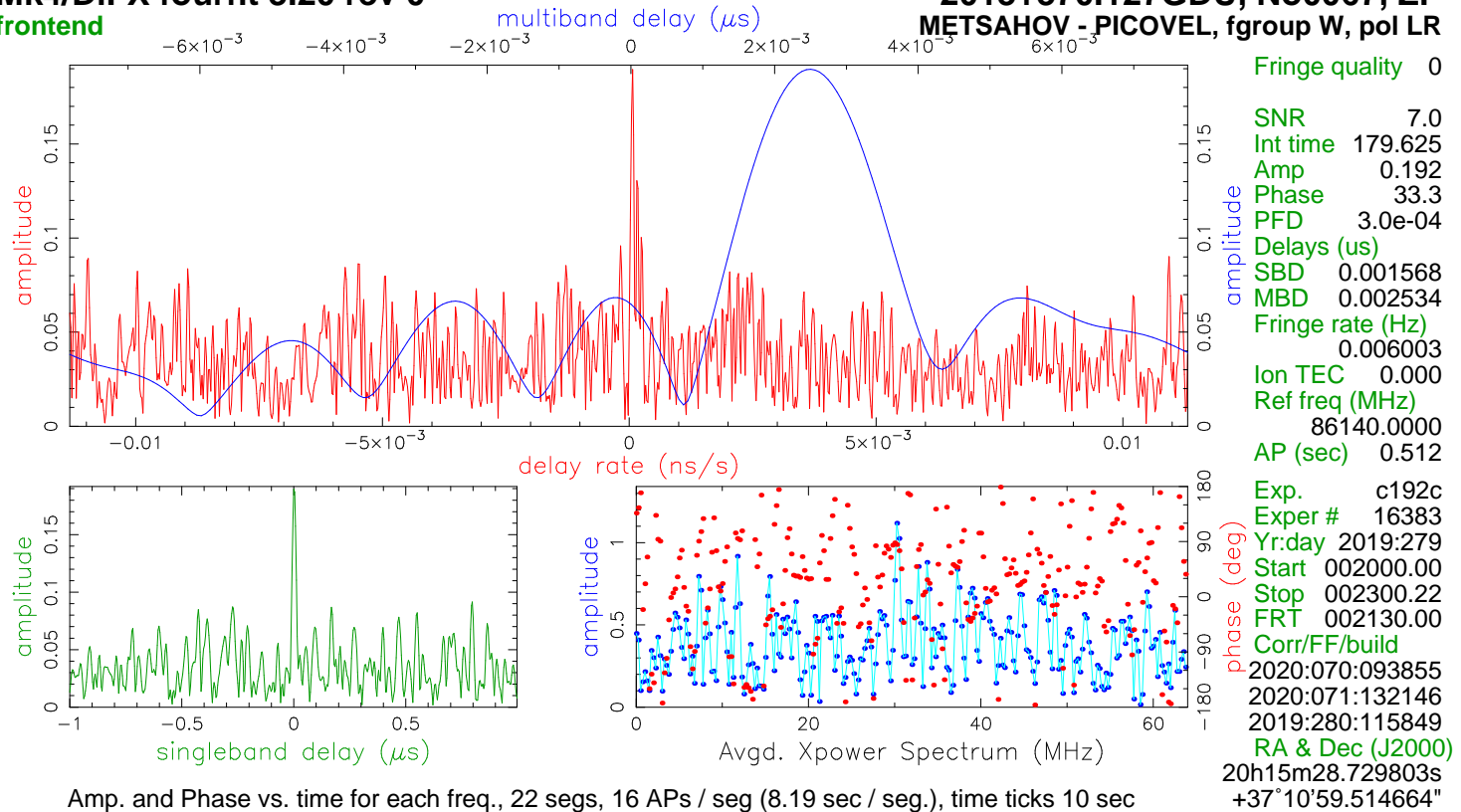
Fringe quality 8
SNR 24.9
Int time 179.625
Amp 0.680
Phase 157.5
PFD 0.0e+00
Delays (us)
SBD 0.001803
MBD 0.002109
Fringe rate (Hz) 0.006296
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2020:070:093855
2020:071:132144
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

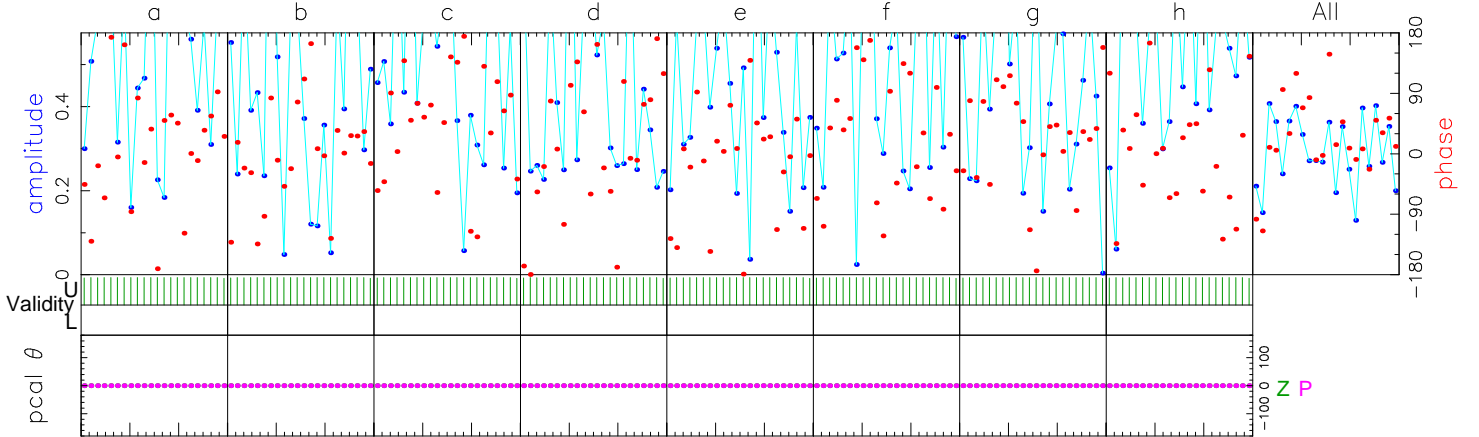


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	178.9	143.9	155.5	130.3	-179.4	140.3	173.0	148.8	Phase	157.5
	0.8	0.7	0.7	0.6	0.7	0.6	0.7	0.8	Ampl.	0.7
	257.0	256.3	256.8	257.1	257.4	257.3	258.0	256.5	Sbd box	257.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-2.18387680102E+03		Apriori delay (usec)		-2.18387891027E+03		Resid mbdelay (usec)		2.10924E-03	+/- 4.4E-05
Sband delay (usec)	-2.18387710752E+03		Apriori clock (usec)		3.3470297E-01		Resid sbdelay (usec)		1.80275E-03	+/- 3.5E-04
Phase delay (usec)	-2.18387890519E+03		Apriori clockrate (us/s)		3.6929281E-07		Resid phdelay (usec)		5.08035E-06	+/- 1.5E-07
Delay rate (us/s)	3.34949153341E-01		Apriori rate (us/s)		3.34949080246E-01		Resid rate (us/s)		7.30948E-08	+/- 1.4E-09
Total phase (deg)			Apriori accel (us/s/s)		2.97328200867E-05		Resid phase (deg)		157.5	+/- 4.6

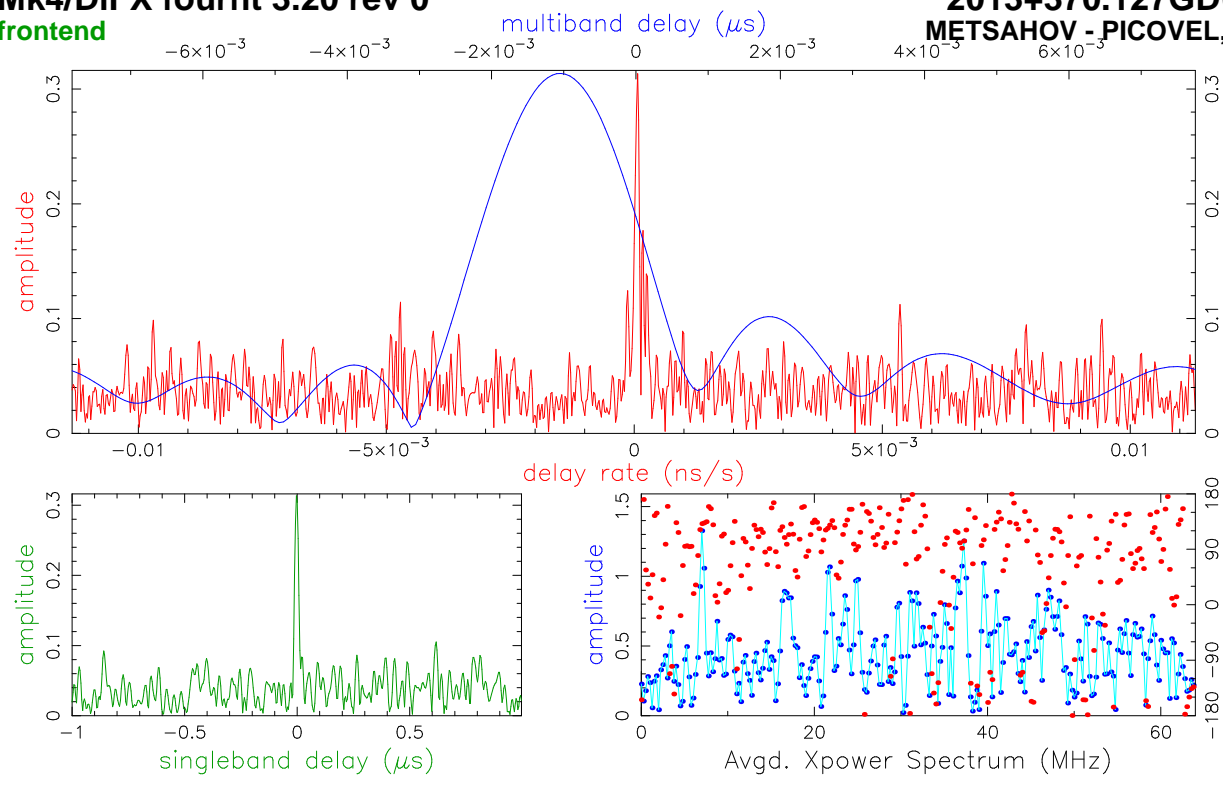
ph/seg (deg) 44.3 10.8 Theor. Amplitude 0.680 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 40.0 18.8 Search (1024X32) 0.653 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 20.5 6.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 10.1 11.4 Inc. seg. avg. 0.892 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
Z: az 298.0 el 27.3 pa 33.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -2383.716 3661.298 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/ZP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/ZP.W.406.127GDU simultaneous interpolator



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

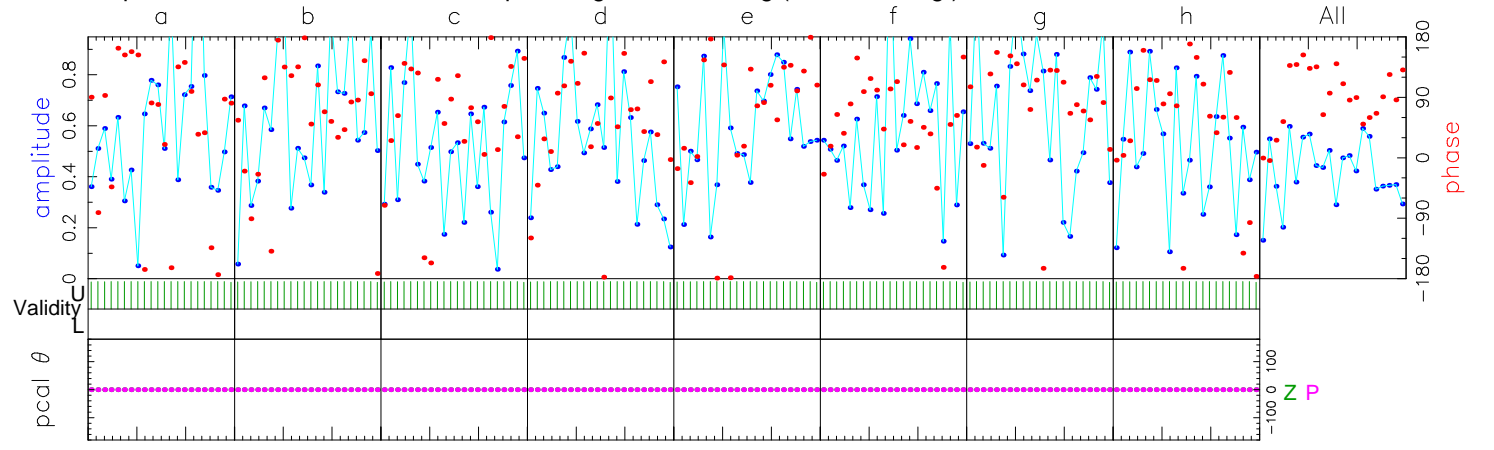


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	28.7	17.9	58.4	62.1	15.5	42.8	56.4	-2.0	Phase	33.3		
	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	Ampl.	0.2		
	237.2	256.4	378.2	24.0	478.6	42.1	338.3	298.8	Sbd box	257.4		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used			
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
P	1000	1000	1000	1000	1000	1000	1000	1000				
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids			
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Tracks			
Group delay (usec)(sbd)	-2.18387637627E+03		Apriori delay (usec)		-2.18387891027E+03		Resid mbdelay (usec)		2.53399E-03	+/- 1.5E-04		
Sband delay (usec)	-2.18387734177E+03		Apriori clock (usec)		3.3470297E-01		Resid sbdelay (usec)		1.56850E-03	+/- 1.2E-03		
Phase delay (usec)	-2.18387890919E+03		Apriori clockrate (us/s)		3.6929281E-07		Resid phdelay (usec)		1.07479E-06	+/- 5.3E-07		
Delay rate (us/s)	3.34949149931E-01		Apriori rate (us/s)		3.34949080246E-01		Resid rate (us/s)		6.96852E-08	+/- 5.0E-09		
Total phase (deg)			Apriori accel (us/s/s)		2.97328200867E-05		Resid phase (deg)		33.3	+/- 16.3		
	RMS	Theor.	Amplitude	0.192 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	60.1	38.2	Search (1024X32)	0.189		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	68.3	66.7	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	25.5	23.0	Inc. seg. avg.	0.240		Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011		
amp/frq (%)	25.8	40.2	Inc. frq. avg.	0.189		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
Z: az 298.0 el 27.3 pa 33.5	P: az 293.8 el 34.2 pa 66.6		u,v (fr/asec) -2383.716 3661.298						simultaneous interpolator			
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/ZP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/ZP.W.411.127GDU												



Fringe quality 9
 SNR 11.6
 Int time 179.625
 Amp 0.316
 Phase 94.7
 PFD 1.1e-22
 Delays (us)
 SBD -0.002570
 MBD -0.001005
 Fringe rate (Hz) 0.006062
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2020:070:093855
 2020:071:132148
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-2.18387991527E+03		Apriori delay (usec)		-2.18387891027E+03		Resid mbdelay (usec)		-1.00501E-03	+/- 9.4E-05
Sband delay (usec)	-2.18388148002E+03		Apriori clock (usec)		3.3470297E-01		Resid sbdelay (usec)		-2.56975E-03	+/- 7.4E-04
Phase delay (usec)	-2.18387890721E+03		Apriori clockrate (us/s)		3.6929281E-07		Resid phdelay (usec)		3.05436E-06	+/- 3.2E-07
Delay rate (us/s)	3.34949150626E-01		Apriori rate (us/s)		3.34949080246E-01		Resid rate (us/s)		7.03796E-08	+/- 3.1E-09
Total phase (deg)			Apriori accel (us/s/s)		2.97328200867E-05		Resid phase (deg)		94.7	+/- 9.9

ph/seg (deg) 45.2 23.2 Amplitude 0.316 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 51.1 40.5 Search (1024X32) 0.311 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 15.9 14.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 17.5 24.4 Inc. seg. avg. 0.392 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 Z: az 298.0 el 27.3 pa 33.5 P: az 293.8 el 34.2 pa 66.6 u,v (fr/asec) -2383.716 3661.298 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0067/ZP..127GDU Output file: /Exps/c192c/v1_CygA2/1234/No0067/ZP.W.416.127GDU simultaneous interpolator