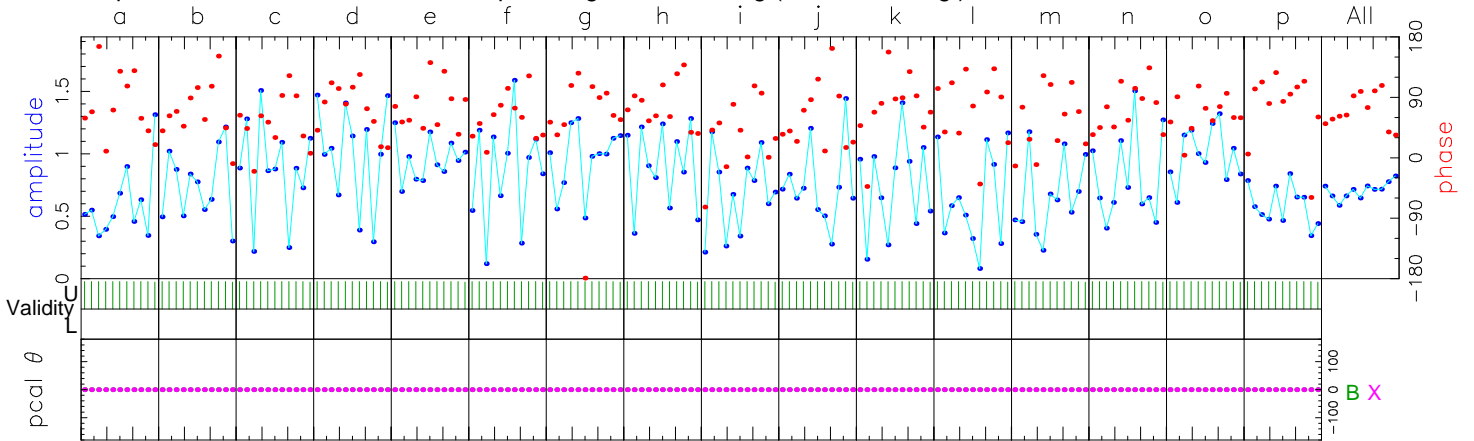


Fringe quality 8

SNR 23.7  
Int time 179.728  
Amp 0.646  
Phase 70.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.014164  
MBD -0.015718  
Fringe rate (Hz) 0.005574  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052023  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	71.6	75.6	53.6	68.7	78.0	65.1	85.4	80.9	48.0	51.7	78.9	85.6	50.6	73.7	63.5	89.8	Phase	70.1
	0.4	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.5	0.6	0.6	0.5	0.5	0.7	0.9	0.4	Ampl.	0.6
	203.5	131.1	130.7	130.9	131.3	130.7	130.6	131.4	130.2	130.6	130.6	131.0	130.3	131.2	130.6	131.5	Sbd box	130.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

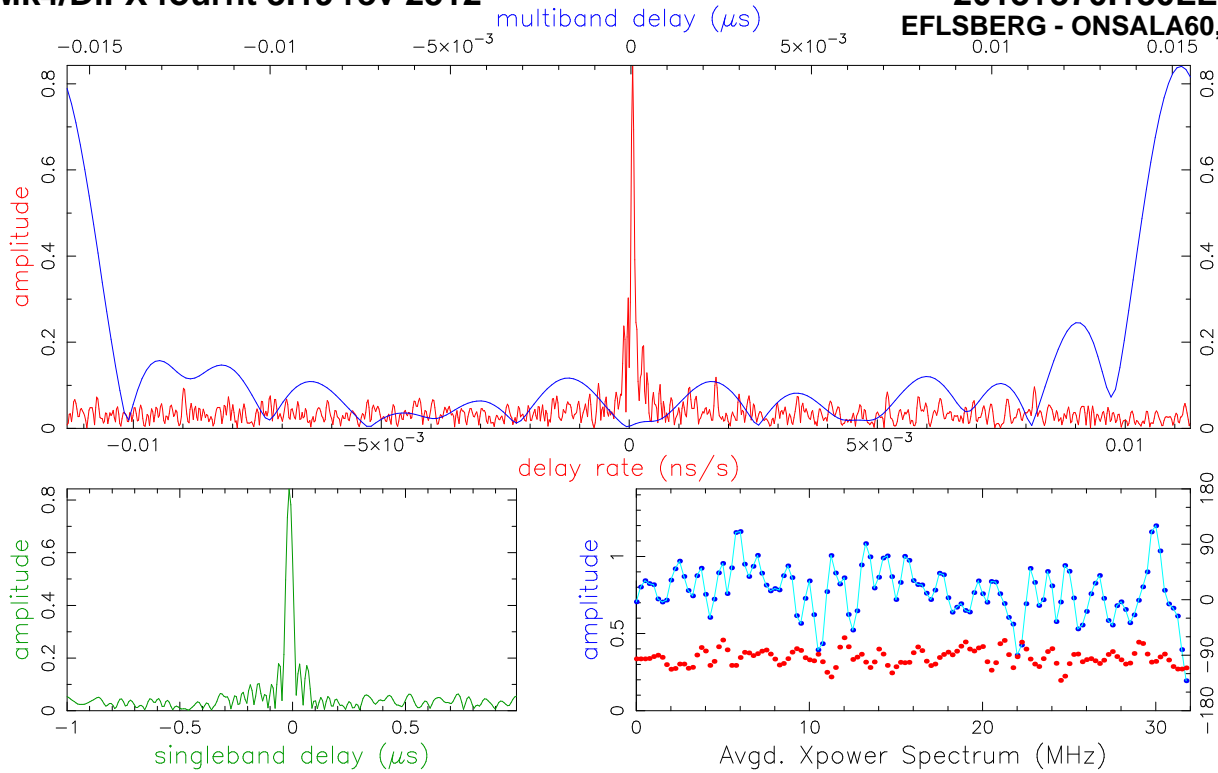
Group delay (usec)(sbd) 6.55963529647E+02 Apriori delay (usec) 6.55947998123E+02 Resid mbdelay (usec) -1.57185E-02 +/- 4.6E-05  
 Sband delay (usec) 6.55962162123E+02 Apriori clock (usec) -1.5610821E+01 Resid sbdelay (usec) 1.41640E-02 +/- 7.3E-04  
 Phase delay (usec) 6.55948000383E+02 Apriori clockrate (us/s) -7.2800002E-07 Resid phdelay (usec) 2.25919E-06 +/- 1.6E-07  
 Delay rate (us/s) -7.16737281568E-02 Apriori rate (us/s) -7.16737928665E-02 Resid rate (us/s) 6.47097E-08 +/- 1.5E-09  
 Total phase (deg) 271.1 Apriori accel (us/s/s) -8.39574980158E-06 Resid phase (deg) 70.1 +/- 4.8

RMS Theor. Amplitude 0.646 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 24.4 8.0 Search (1024X64) 0.640 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 13.7 14.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 13.9 9.7 Inc. seg. avg. 0.702 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 22.3 16.9 Inc. frq. avg. 0.650 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 274.4 el 47.9 pa 52.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 508.344 -1002.783 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/BX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/BX.W.116.130LL8

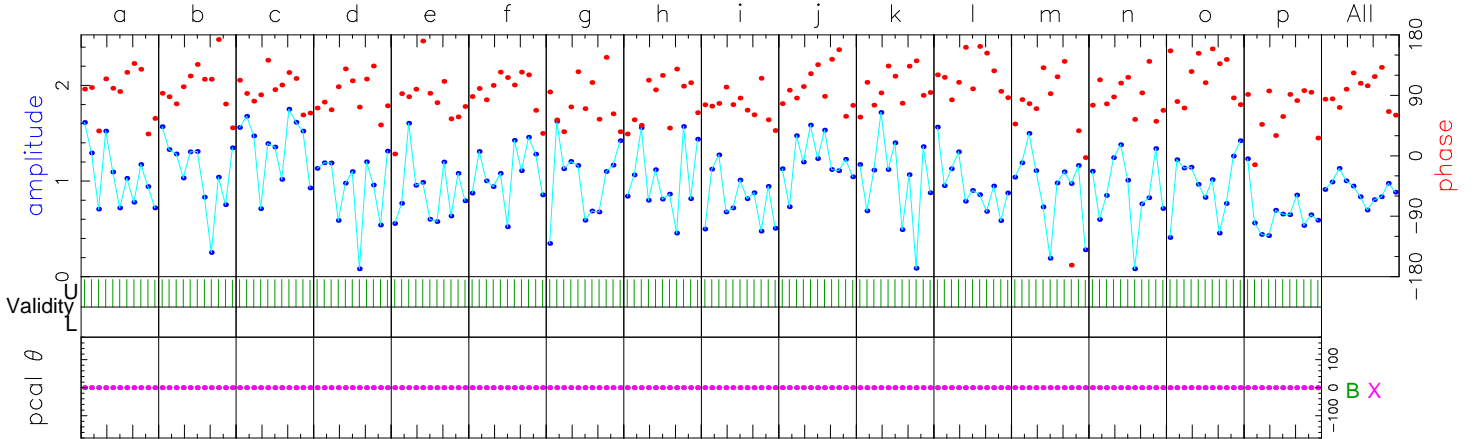
Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, BX  
EFLSBERG - ONSALA60, fgroup W, pol RL



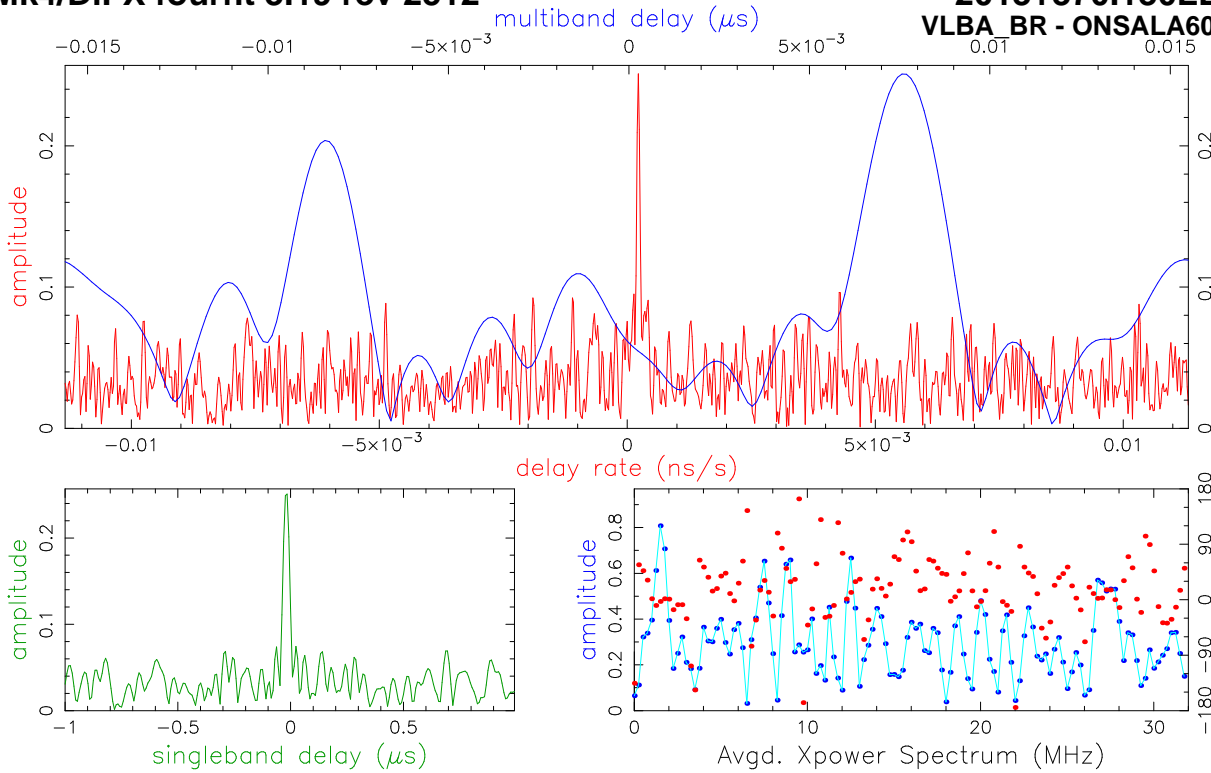
Fringe quality 9  
SNR 30.9  
Int time 179.728  
Amp 0.843  
Phase 94.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.014452  
MBD 0.015246  
Fringe rate (Hz) 0.005656  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052025  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	127.0	127.2
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0.9	0.8
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	127.0	127.7
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0.9	0.6
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0.9	0.6
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	Tracks
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	Tracks
Group delay (usec)(sbd)	6.55931993929E+02			Apriori delay (usec)			6.55947998123E+02			Resid mbdelay (usec)			1.52458E-02			+/- 3.5E-05		
Sband delay (usec)	6.55933546123E+02			Apriori clock (usec)			-1.5610821E+01			Resid sbdelay (usec)			-1.44520E-02			+/- 5.6E-04		
Phase delay (usec)	6.55948001161E+02			Apriori clockrate (us/s)			-7.2800002E-07			Resid phdelay (usec)			3.03725E-06			+/- 1.2E-07		
Delay rate (us/s)	-7.16737272059E-02			Apriori rate (us/s)			-7.16737928665E-02			Resid rate (us/s)			6.56606E-08			+/- 1.1E-09		
Total phase (deg)	295.2			Apriori accel (us/s/s)			-8.39574980158E-06			Resid phase (deg)			94.2			+/- 3.7		

ph/seg (deg) 22.8 RMS Theor. 6.2 Amplitude 0.843 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 15.6 10.7 Search (1024X64) 0.837 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.3 7.4 Inc. seg. avg. 0.906 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 18.6 12.9 Inc. frq. avg. 0.855 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 B: az 274.4 el 47.9 pa 52.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 508.344 -1002.783 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/BX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/BX.W.134.130LL8

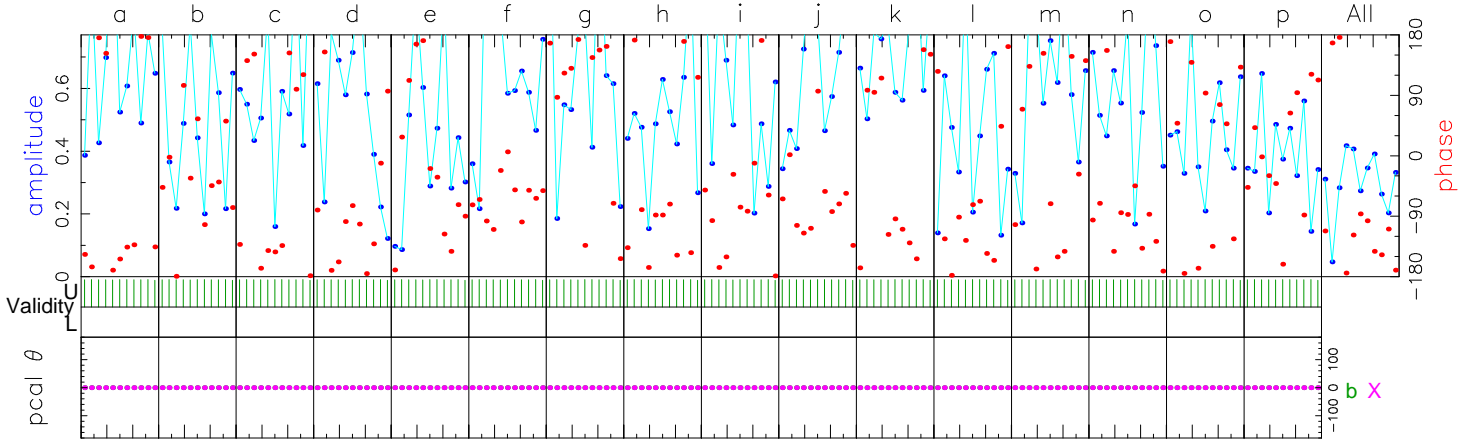


Fringe quality 9

SNR 9.4  
Int time 178.850  
Amp 0.257  
Phase -136.2  
PFD 1.2e-12  
Delays (us)  
SBD -0.019262  
MBD 0.007583  
Fringe rate (Hz)  
0.018799  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052010  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

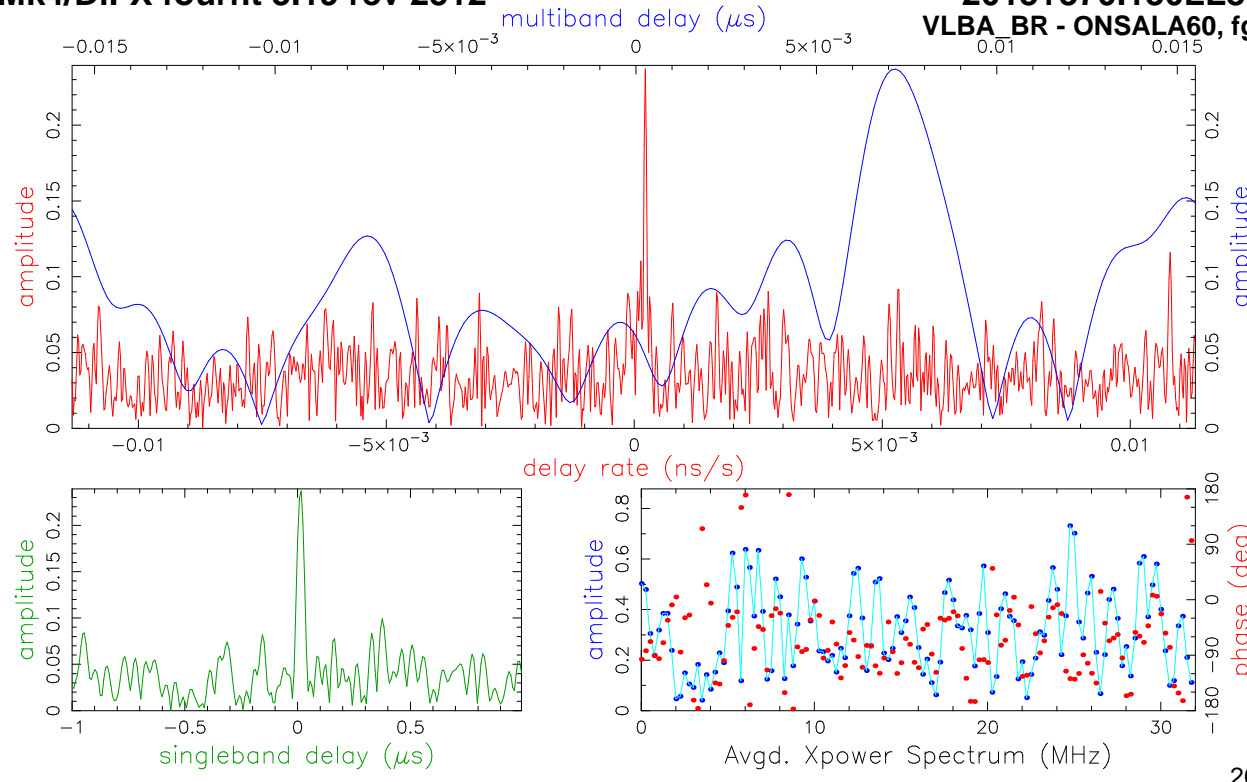


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-163.7	-32.7	173.3	-123.5	-140.5	-65.8	169.0	-132.9	-101.0	-88.1	-174.0	-135.3	-171.3	-109.5	137.8	1.5	Phase	-136.2				
	0.6	0.3	0.4	0.4	0.2	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.5	0.2	0.1	Ampl.	0.3				
	127.0	100.6	125.5	66.5	244.9	127.2	126.8	126.7	120.6	125.9	126.0	128.4	39.3	126.3	48.7	218.1	Sbd box	126.5				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
x	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
x	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.45680842945E+03														Apriori delay (usec)	-1.45678476254E+03	Resid mbdelay (usec)	7.58309E-03	+/-	1.1E-04
Sband delay (usec)			-1.45680402454E+03														Apriori clock (usec)	-3.3032539E+01	Resid sbdelay (usec)	-1.92620E-02	+/-	1.8E-03
Phase delay (usec)			-1.45678476693E+03														Apriori clockrate (us/s)	-7.7039509E-07	Resid phdelay (usec)	-4.39187E-06	+/-	3.9E-07
Delay rate (us/s)			1.36318847501E+00														Apriori rate (us/s)	1.36318825678E+00	Resid rate (us/s)	2.18233E-07	+/-	3.8E-09
Total phase (deg)																	Apriori accel (us/s/s)	8.82191104489E-07	Resid phase (deg)	-136.2	+/-	12.2

ph/seg (deg) RMS Theor. Amplitude 0.257 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 35.5 20.2 Search (1024X64) 0.245 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 42.5 35.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 62.9 24.4 Inc. seg. avg. 0.280 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 67.8 42.6 Inc. frq. avg. 0.346 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

b: az 75.3 el 39.6 pa -54.2 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -9808.353 -580.219 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/bX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/bX.W.19.130LL8

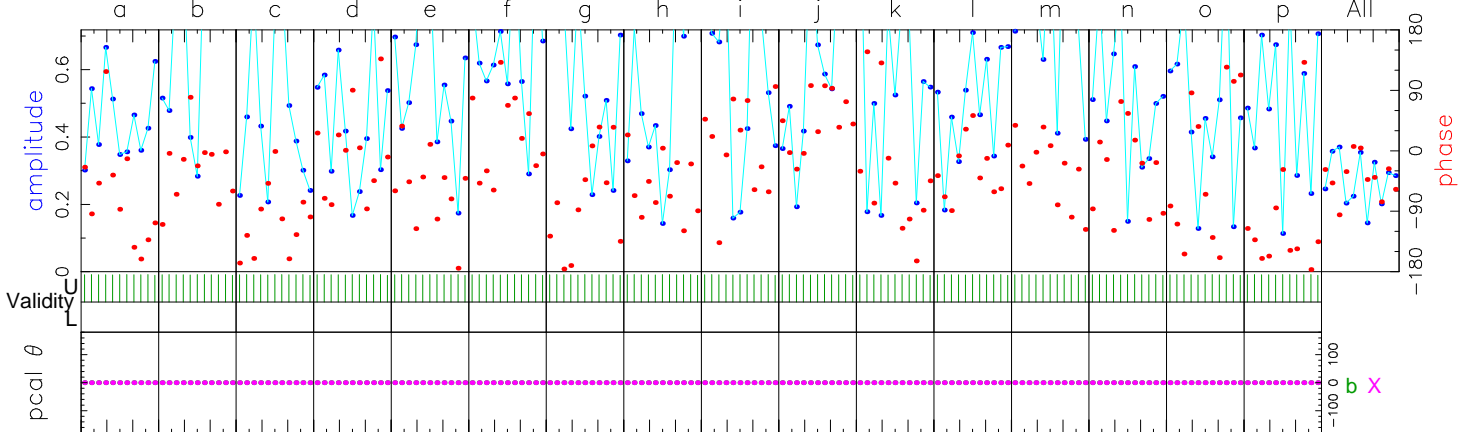


Fringe quality 9

SNR 8.8  
Int time 178.850  
Amp 0.239  
Phase -40.0  
PFD 3.8e-10  
Delays (us)  
SBD 0.013071  
MBD 0.007165  
Fringe rate (Hz) 0.019312  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052012  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



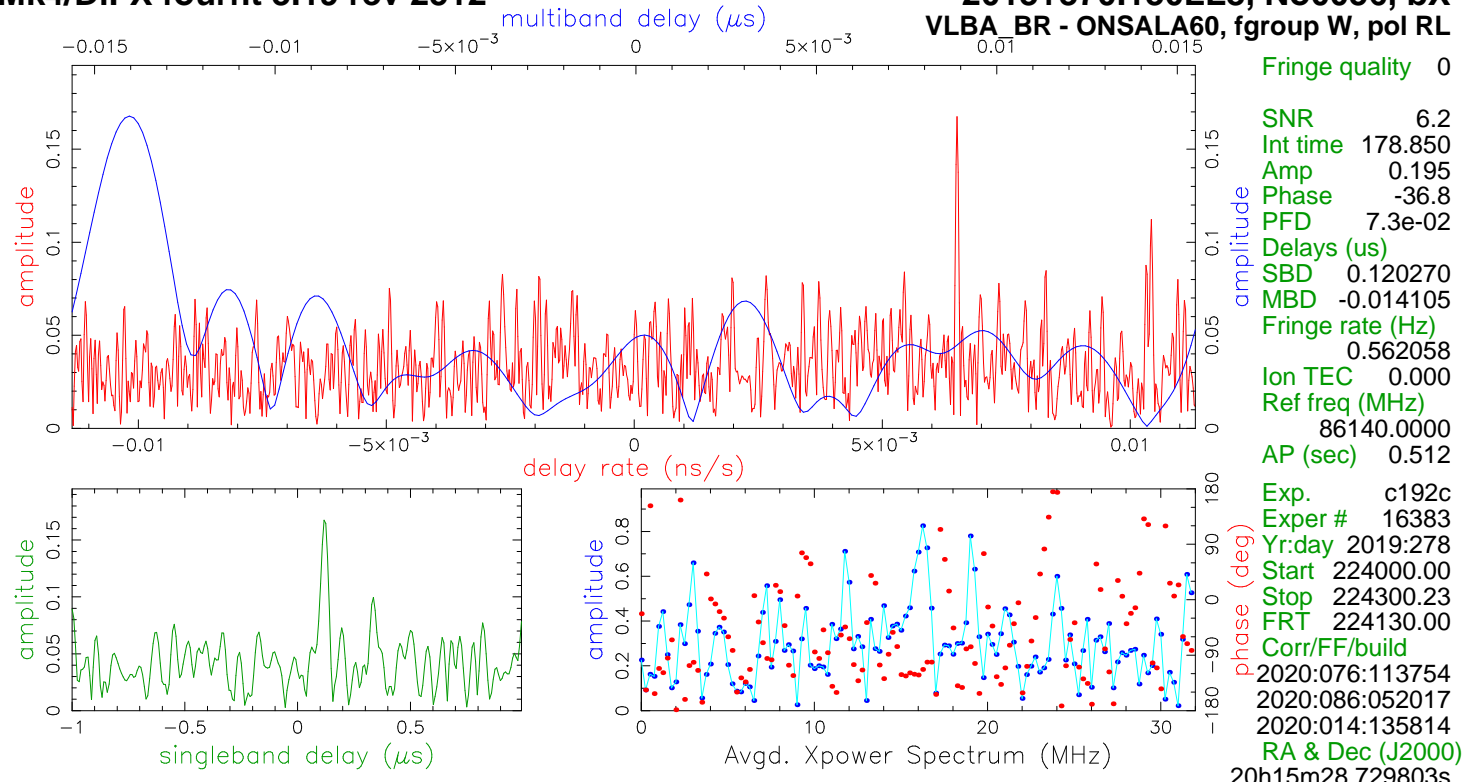
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-95.4	-31.7	-110.1	-18.8	-46.1	22.6	-97.6	-54.7	-6.7	52.6	-66.8	-19.0	-23.6	-21.0	-165.2	-143.9	Phase	-40.0				
	0.2	0.6	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.5	0.4	0.4	0.6	0.2	0.2	0.4	Ampl.	0.3				
	124.4	130.5	7.7	242.9	131.1	130.5	146.7	130.7	129.8	130.5	130.1	129.8	130.5	64.7	248.7	130.5	Sbd box	130.7				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC					
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids					
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.45677759736E+03														Apriori delay (usec)	-1.45678476254E+03	Resid mbdelay (usec)	7.16518E-03	+/-	1.2E-04
Sband delay (usec)			-1.45677169154E+03														Apriori clock (usec)	-3.3032539E+01	Resid sbdelay (usec)	1.30710E-02	+/-	2.0E-03
Phase delay (usec)			-1.45678476383E+03														Apriori clockrate (us/s)	-7.7039509E-07	Resid phdelay (usec)	-1.29115E-06	+/-	4.2E-07
Delay rate (us/s)			1.36318848098E+00														Apriori rate (us/s)	1.36318825678E+00	Resid rate (us/s)	2.24193E-07	+/-	4.1E-09
Total phase (deg)																	Apriori accel (us/s/s)	8.82191104489E-07	Resid phase (deg)	-40.0	+/-	13.1

ph/seg (deg) RMS Theor. Amplitude 0.239 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 33.0 37.9 Search (1024X64) 0.233 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 62.1 26.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 73.6 45.7 Inc. seg. avg. 0.255 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 az 75.3 el 39.6 pa -54.2 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -9808.353 -580.219 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/bX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/bX.W.38.130LL8 simultaneous interpolator



Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, bX  
VLBA\_BR - ONSALA60, fgroup W, pol RL



Fringe quality 0

SNR 6.2

Int time 178.850

Amp 0.195

Phase -36.8

PFD 7.3e-02

Delays (us)

SBD 0.120270

MBD -0.014105

Fringe rate (Hz)

0.562058

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192c

Exper # 16383

Yr:day 2019:278

Start 224000.00

Stop 224300.23

FRT 224130.00

Corr/FF/build

2020:076:113754

2020:086:052017

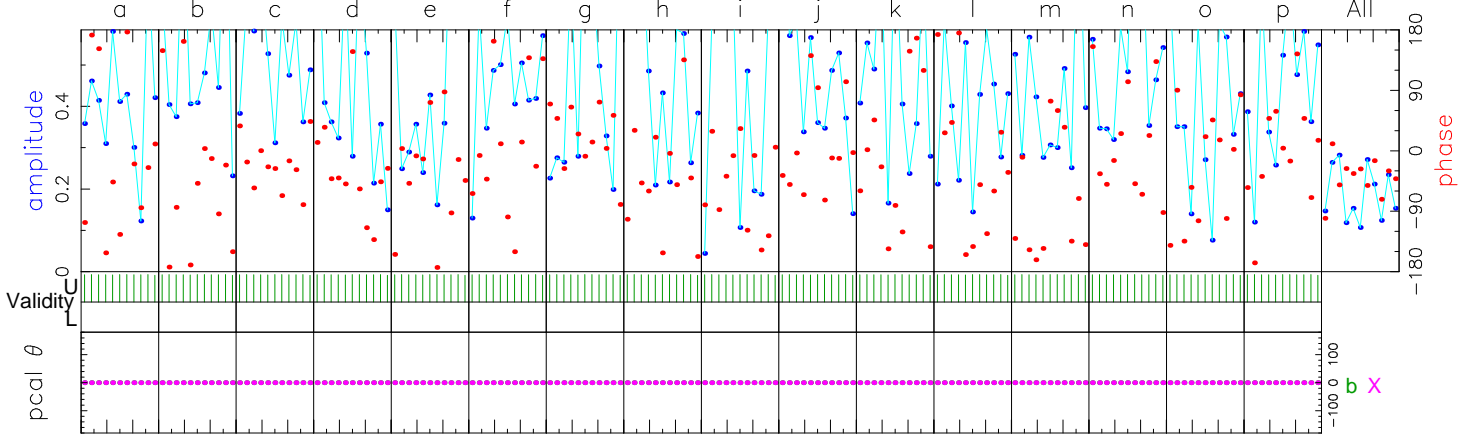
2020:014:135814

RA & Dec (J2000)

20h15m28.729803s

+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-93.6	-93.9	-22.1	-40.0	-40.7	-30.7	13.7	-60.1	-45.2	-18.0	-61.8	-60.9	-114.4	-34.4	-68.8	1.3		Phase -36.8
	0.2	0.1	0.5	0.3	0.2	0.1	0.4	0.2	0.3	0.3	0.1	0.1	0.2	0.2	0.1	0.3		Ampl. 0.2
	233.5	171.7	144.7	146.5	216.0	48.4	143.4	170.1	174.1	254.8	210.5	11.4	104.8	255.5	159.3	49.3		Sbd box 144.4
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
b:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
																		Tracks
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids
																		Tracks
Group delay (usec)(sbd)	-1.45667386764E+03			Apriori delay (usec)			-1.45678476254E+03			Resid mbdelay (usec)			-1.41051E-02			+/- 1.7E-04		
Sband delay (usec)	-1.45666449254E+03			Apriori clock (usec)			-3.3032539E+01			Resid sbdelay (usec)			1.20270E-01			+/- 2.8E-03		
Phase delay (usec)	-1.45678476373E+03			Apriori clockrate (us/s)			-7.7039509E-07			Resid phdelay (usec)			-1.18830E-06			+/- 6.0E-07		
Delay rate (us/s)	1.36319478172E+00			Apriori rate (us/s)			1.36318825678E+00			Resid rate (us/s)			6.52494E-06			+/- 5.7E-09		
Total phase (deg)	-197.1			Apriori accel (us/s/s)			8.82191104489E-07			Resid phase (deg)			-36.8			+/- 18.5		

ph/seg (deg) 28.1 30.7 Search (1024X64) 0.163 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

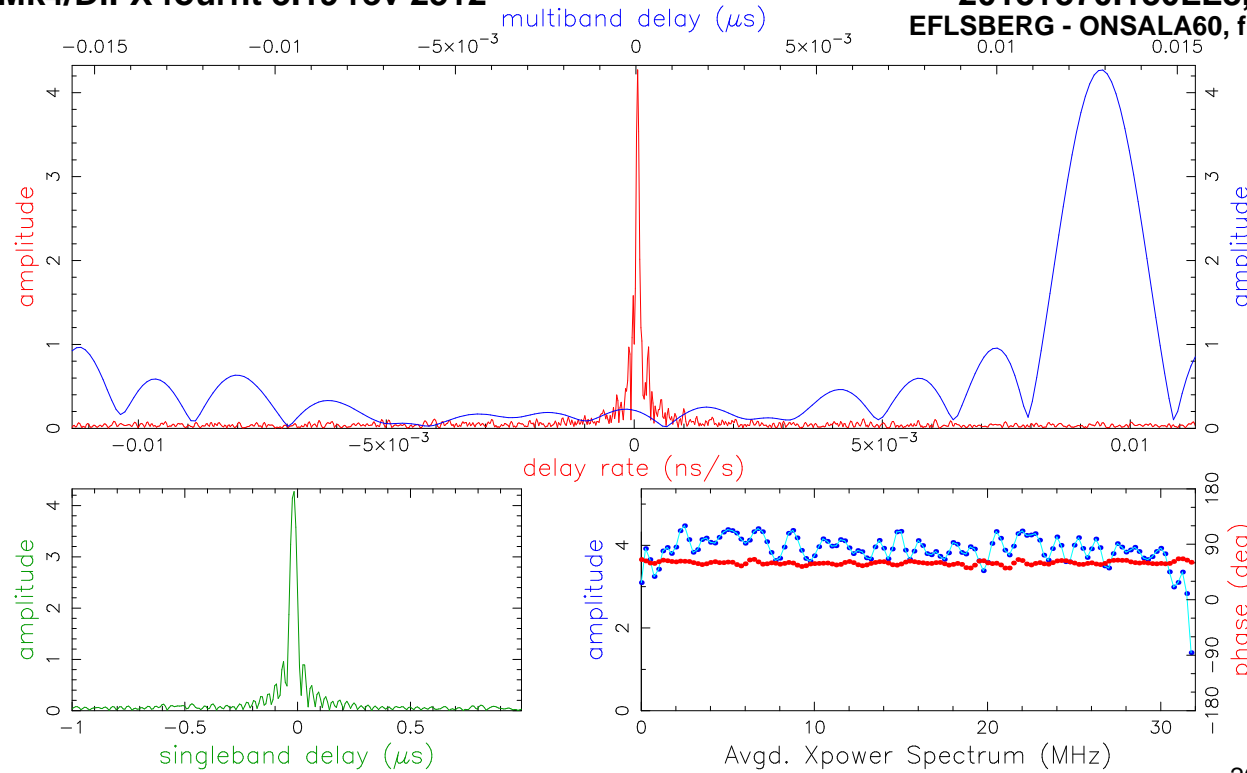
amp/seg (%) 38.9 53.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 37.8 37.0 Inc. seg. avg. 0.189 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 59.7 64.5 Inc. frq. avg. 0.188 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011

b: az 75.3 el 39.6 pa -54.2 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -9808.353 -580.219 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/bX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/bX.W.73.130LL8

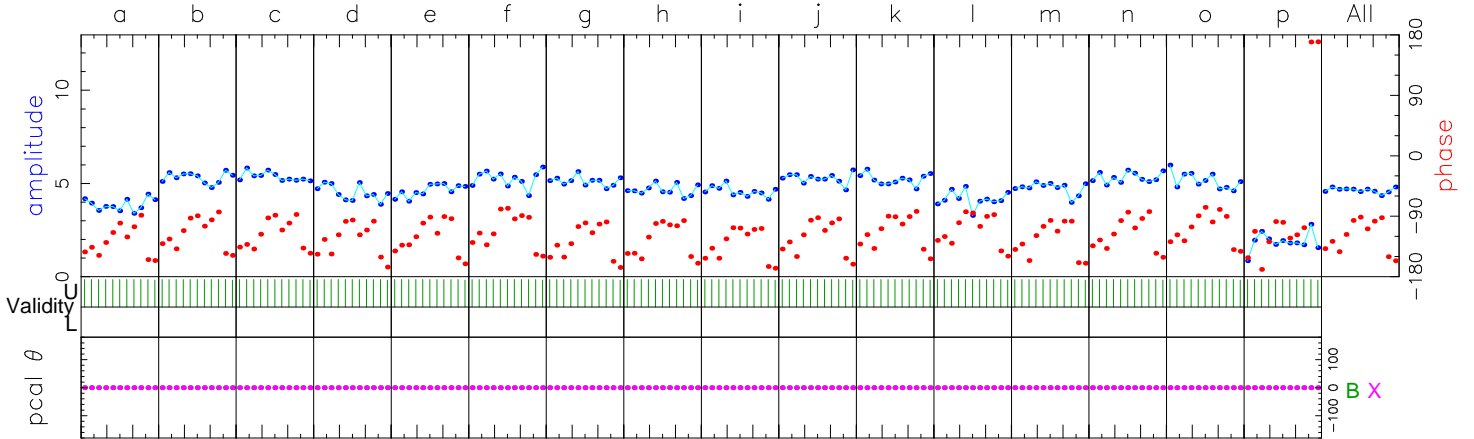


Fringe quality 7

SNR 158.6  
Int time 179.728  
Amp 4.325  
Phase -119.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.018372  
MBD 0.012864  
Fringe rate (Hz) 0.005630  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052018  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

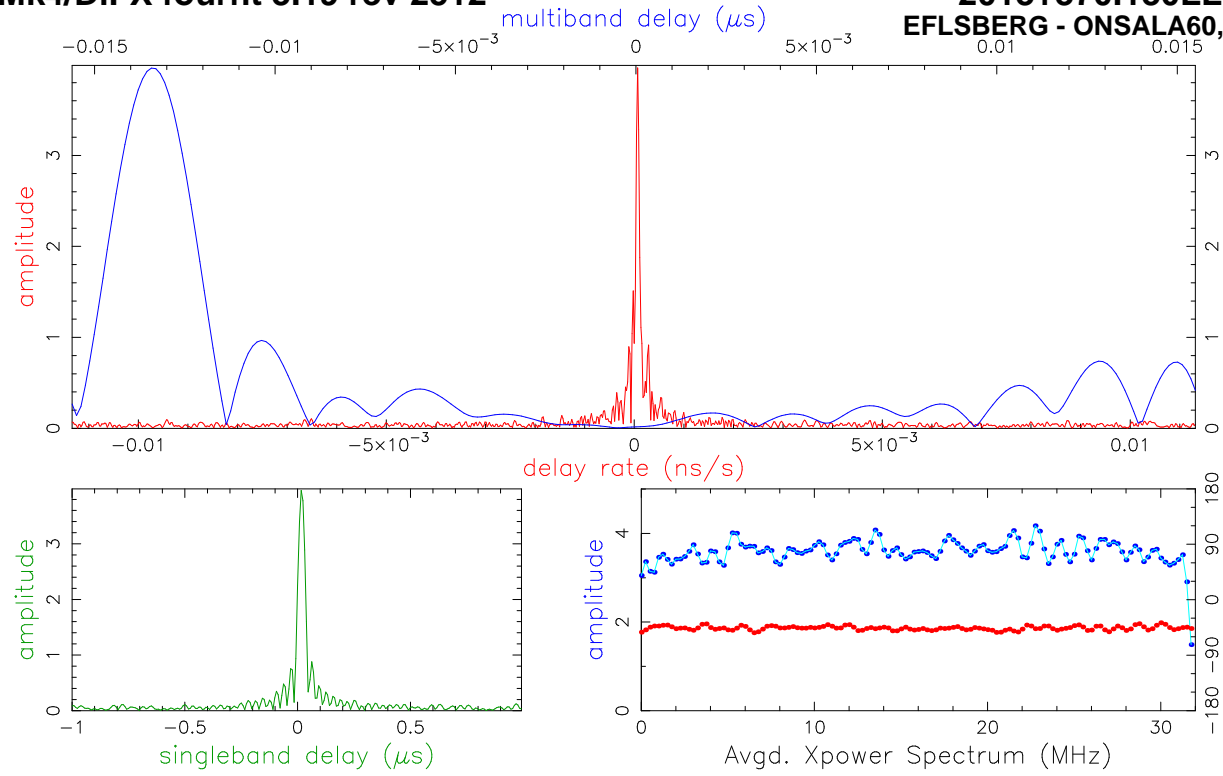


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-128.0	-115.2	-116.6	-124.6	-120.4	-111.8	-127.8	-124.8	-131.3	-121.7	-113.5	-110.9	-124.4	-115.7	-108.8	-135.8		Phase	-119.8
	3.6	4.9	5.0	4.2	4.2	4.8	4.7	4.2	4.2	4.8	4.8	3.8	4.3	4.9	4.8	1.6		Ampl.	4.3
	127.1	126.5	126.7	126.4	126.9	126.6	126.4	126.7	126.7	126.9	126.7	126.6	126.7	126.8	126.3	125.8		Sbd box	126.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

Group delay (usec)(sbd) 6.55929612554E+02 Apriori delay (usec) 6.55947998123E+02 Resid mbdelay (usec) 1.28644E-02 +/- 6.8E-06  
 Sband delay (usec) 6.55929626623E+02 Apriori clock (usec) -1.5610821E+01 Resid sbdelay (usec) -1.83715E-02 +/- 1.1E-04  
 Phase delay (usec) 6.55947994261E+02 Apriori clockrate (us/s) -7.2800002E-07 Resid phdelay (usec) -3.86293E-06 +/- 2.3E-08  
 Delay rate (us/s) -7.16737275077E-02 Apriori rate (us/s) -7.16737928665E-02 Resid rate (us/s) 6.53588E-08 +/- 2.2E-10  
 Total phase (deg) 81.2 Apriori accel (us/s/s) -8.39574980158E-06 Resid phase (deg) -119.8 +/- 0.7

RMS Theor. Amplitude 4.325 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 23.1 1.2 Search (1024X64) 4.208 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 7.9 2.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 8.2 1.4 Inc. seg. avg. 4.640 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 18.8 2.5 Inc. frq. avg. 4.303 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 274.4 el 47.9 pa 52.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 508.344 -1002.783 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/BX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/BX.W.81.130LL8

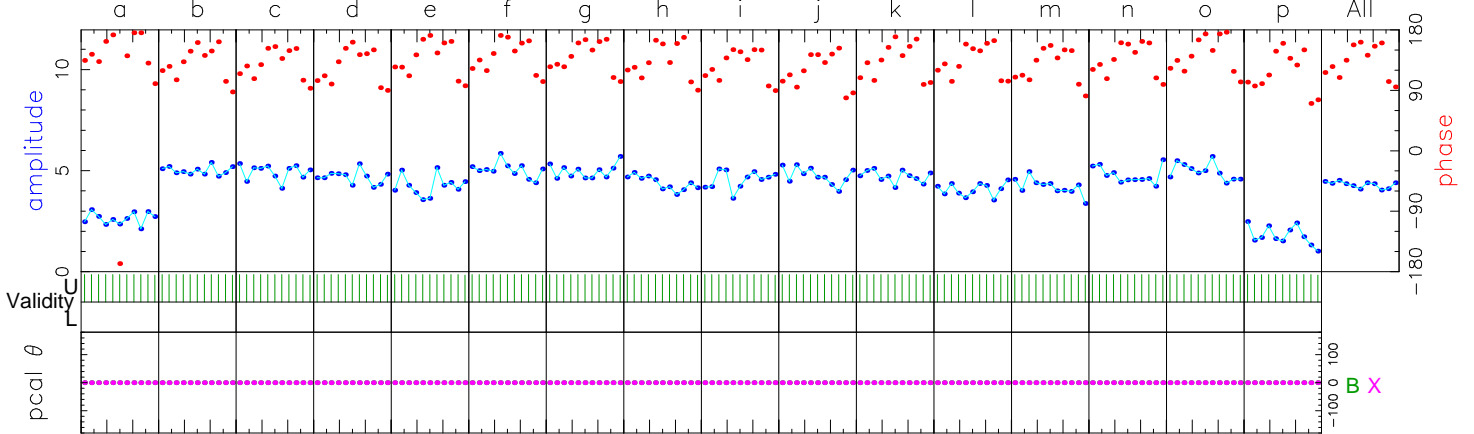


Fringe quality 6

SNR 146.3  
Int time 179.728  
Amp 3.989  
Phase 132.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.017663  
MBD -0.013371  
Fringe rate (Hz) 0.005705  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052021  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	150.0	130.6	129.4	125.8	136.7	141.7	138.8	132.1	126.5	118.2	132.9	132.7	126.9	134.6	143.3	118.7	Phase	132.6
B	2.4	4.6	4.6	4.3	3.9	4.6	4.6	4.0	4.2	4.3	4.3	3.8	3.9	4.4	4.5	1.6	Ampl.	4.0
X	130.3	131.3	131.2	131.0	131.4	131.5	131.2	131.1	131.2	131.3	131.4	131.1	131.1	131.6	130.9	131.5	Sbd box	131.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	6.55965876647E+02			Apriori delay (usec)			6.55947998123E+02			Resid mbdelay (usec)			-1.33715E-02			+/- 7.4E-06		
Sband delay (usec)	6.55965661123E+02			Apriori clock (usec)			-1.5610821E+01			Resid sbdelay (usec)			1.76630E-02			+/- 1.2E-04		
Phase delay (usec)	6.55948002399E+02			Apriori clockrate (us/s)			-7.2800002E-07			Resid phdelay (usec)			4.27588E-06			+/- 2.5E-08		
Delay rate (us/s)	-7.16737266419E-02			Apriori rate (us/s)			-7.16737928665E-02			Resid rate (us/s)			6.62246E-08			+/- 2.4E-10		
Total phase (deg)	333.6			Apriori accel (us/s/s)			-8.39574980158E-06			Resid phase (deg)			132.6			+/- 0.8		

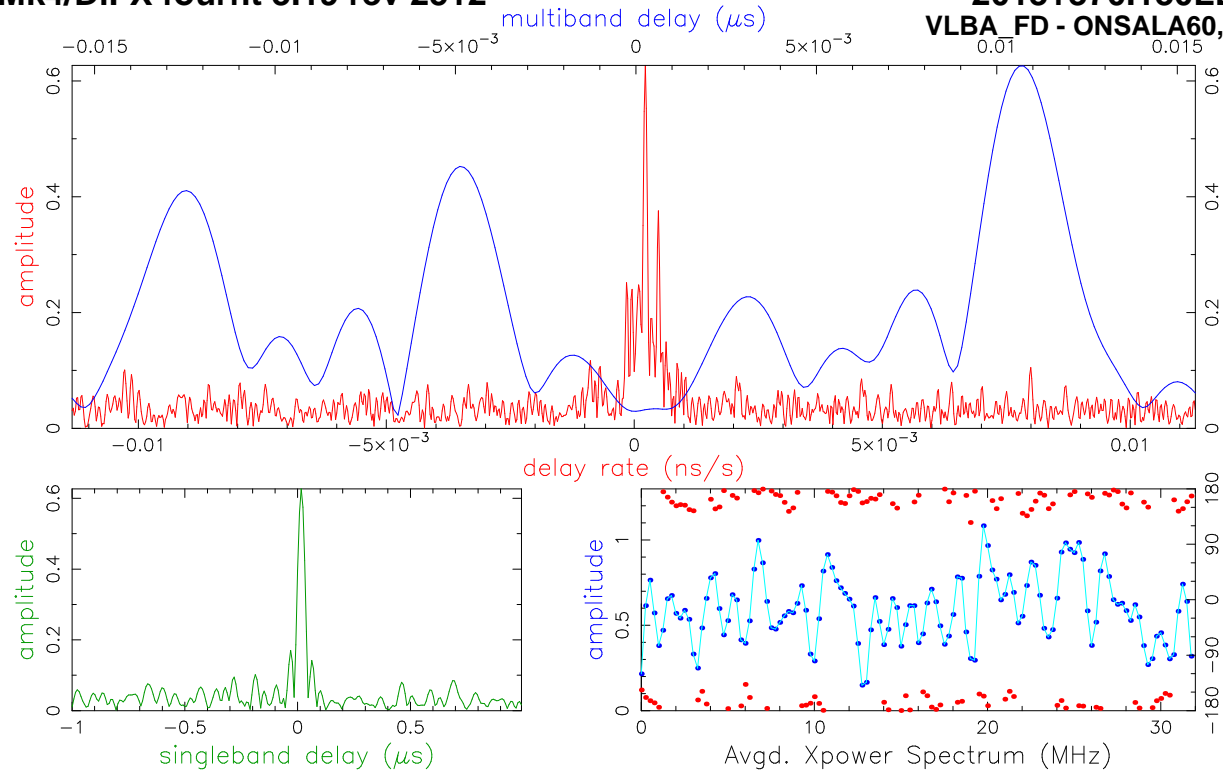
ph/seg (deg) 23.3 1.3 Theor. Amplitude 3.989 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 8.9 2.3 Search (1024X64) 3.892 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 8.8 1.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 20.5 2.7 Inc. seg. avg. 4.308 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 3.996 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 274.4 el 47.9 pa 52.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 508.344 -1002.783 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/BX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/BX.W.99.130LL8



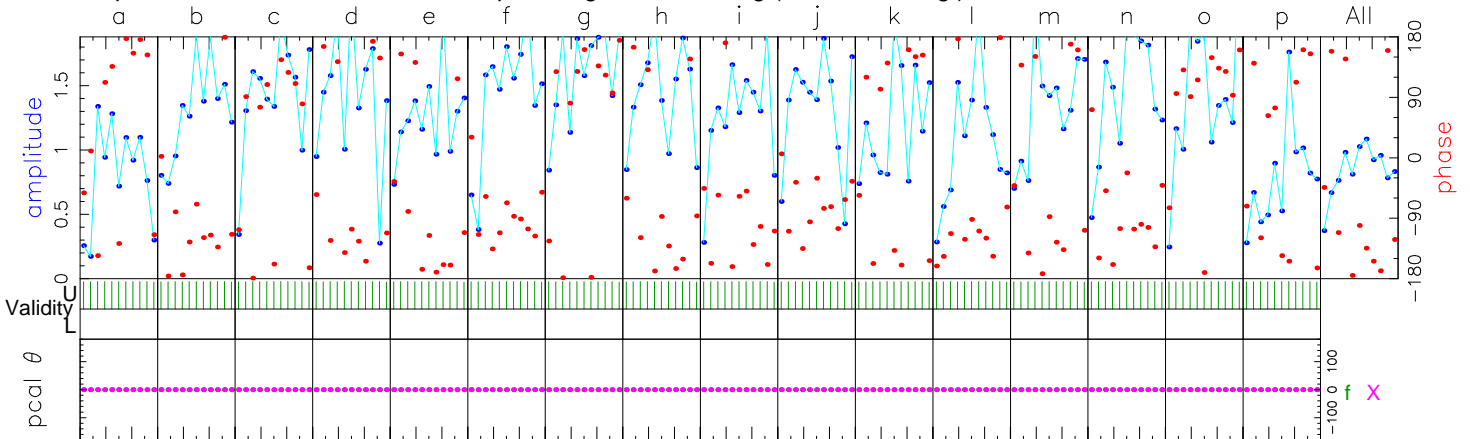
Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, fX  
VLBA\_FD - ONSALA60, fgroup W, pol RR



Fringe quality 5  
SNR 22.9  
Int time 179.182  
Amp 0.627  
Phase -153.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.016141  
MBD 0.010688  
Fringe rate (Hz) 0.020046  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052022  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

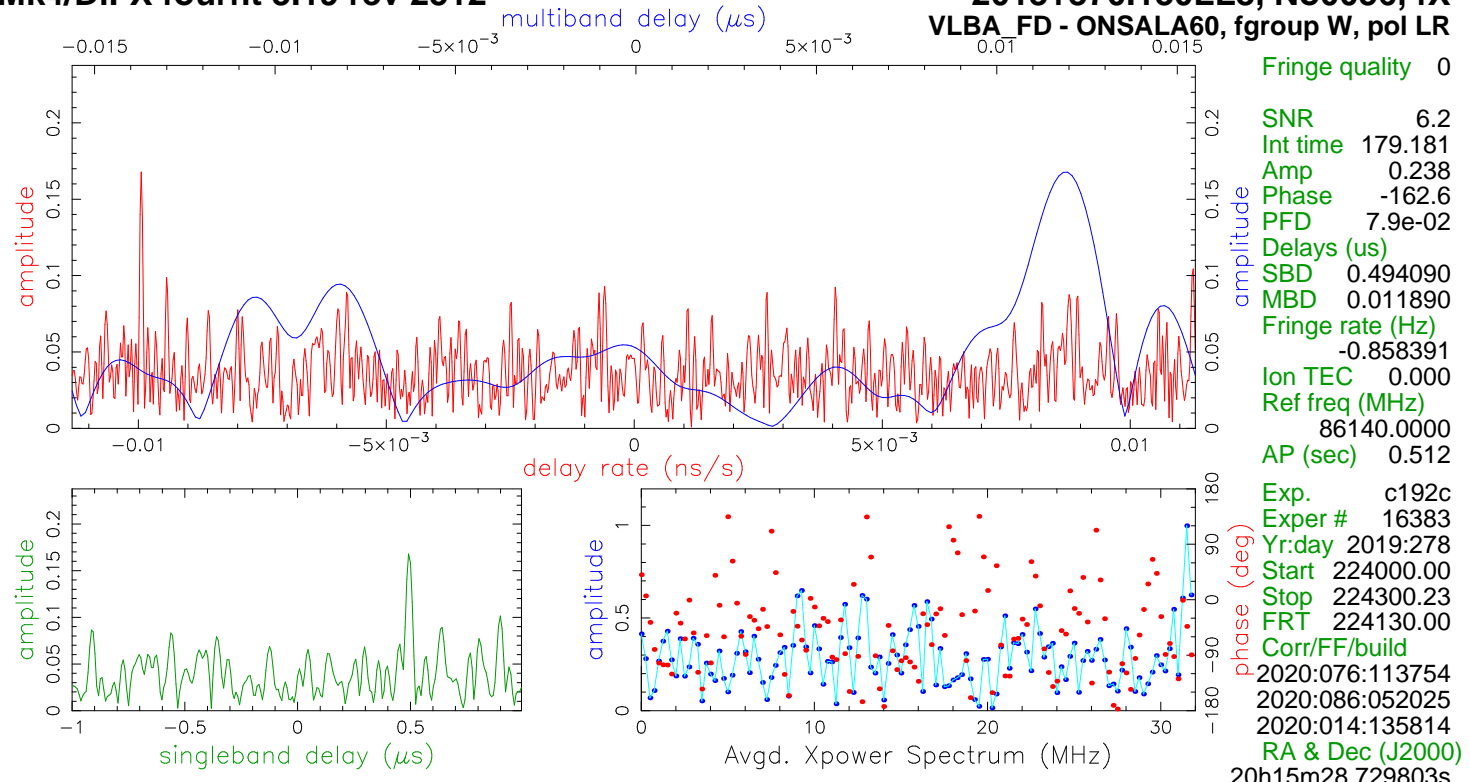
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



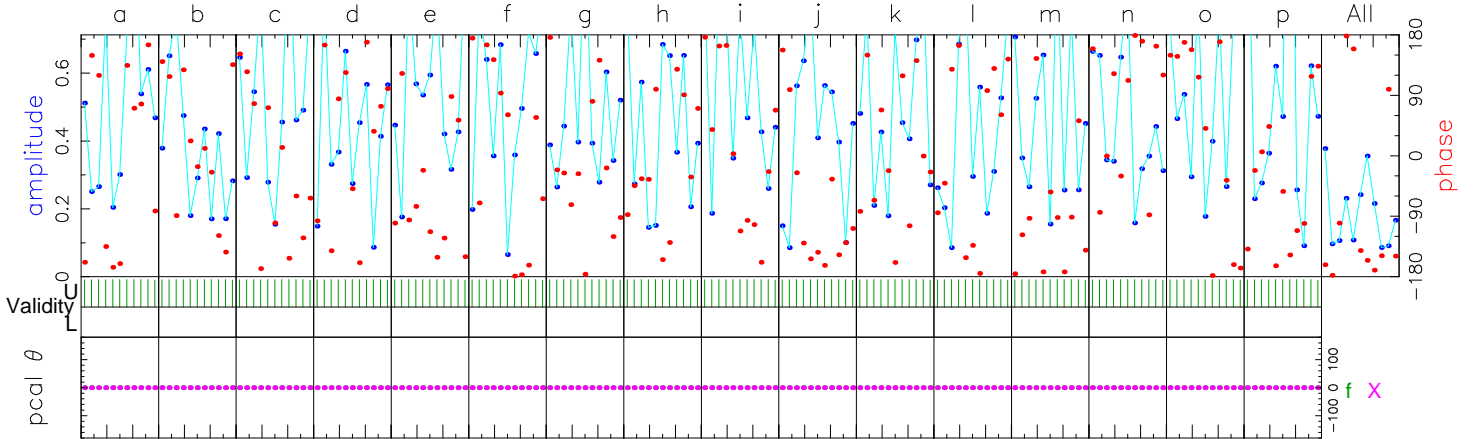
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	172.3	-122.0
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0.6	1.0
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	130.6	131.2
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	131.0	131.0
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	131.0	131.0
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	130.8	130.8
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	131.0	131.0
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	164.5	164.5
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	164.5	164.5
Group delay (usec)(sbd)	1.92961252980E+02			Apriori delay (usec)			1.92950564621E+02			Resid mbdelay (usec)			1.06884E-02			+/- 4.7E-05		
Sband delay (usec)	1.92966705121E+02			Apriori clock (usec)			-3.1937637E+01			Resid sbdelay (usec)			1.61405E-02			+/- 7.5E-04		
Phase delay (usec)	1.92950559674E+02			Apriori clockrate (us/s)			-6.1894950E-07			Resid phdelay (usec)			-4.94700E-06			+/- 1.6E-07		
Delay rate (us/s)	1.44501299364E+00			Apriori rate (us/s)			1.44501276093E+00			Resid rate (us/s)			2.32712E-07			+/- 1.5E-09		
Total phase (deg)	75.7			Apriori accel (us/s/s)			-2.39329506272E-05			Resid phase (deg)			-153.4			+/- 5.0		
ph/seg (deg)	RMS	Theor.	Amplitude		0.627 +/- 0.027		Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5			sb window (us)		-1.000 1.000			
amp/seg (%)	49.2	8.3	Search (1024X64)		0.604		Pcal rate: 0.000E+00, 0.000E+00 (us/s)			SampCntNorm: enabled			mb window (us)		-0.016 0.016			
ph/frq (deg)	50.3	10.0	Interp.		0.000		Bits/sample: 2x2			Sample rate(MSamp/s): 64			dr window (ns/s)		-0.011 0.011			
amp/frq (%)	59.7	17.4	Inc. seg. avg.		0.830		Data rate(Mb/s): 2048			nlags: 128 t_cohere infinite			ion window (TEC)		0.00 0.00			
f: az 66.4 el 45.6 pa -81.9		X: az 271.1 el 45.2 pa 42.5		u,v (fr/asec) -10419.047 -3716.349		simultaneous interpolator												
Control file: cf_1234_gmva		Input file: /Exps/c192c/v2/1234/No0056/fX..130LL8		Output file: /Exps/c192c/v2/1234/No0056/fX.W.112.130LL8														

Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, fX  
VLBA\_FD - ONSALA60, fgroup W, pol LR



Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	150.6	159.8	-149.0	144.5	-113.8	-178.7	-88.3	-100.7	-155.5	-126.3	170.1	169.2	-134.5	159.6	165.2	-149.9	Phase	-162.6				
	0.3	0.1	0.2	0.3	0.4	0.2	0.2	0.1	0.3	0.4	0.1	0.3	0.4	0.2	0.6	0.4	Ampl.	0.2				
	244.6	64.1	14.5	98.7	58.5	246.4	118.5	140.7	235.2	193.2	119.0	242.0	226.1	165.4	191.9	71.7	Sbd box	192.2				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			1.93431204685E+02														Apriori delay (usec)	1.92950564621E+02	Resid mbdelay (usec)	1.18901E-02	+/-	1.7E-04
Sband delay (usec)			1.93444655121E+02														Apriori clock (usec)	-3.1937637E+01	Resid sbdelay (usec)	4.94090E-01	+/-	2.8E-03
Phase delay (usec)			1.92950559378E+02														Apriori clockrate (us/s)	-6.1894950E-07	Resid phdelay (usec)	-5.24369E-06	+/-	6.0E-07
Delay rate (us/s)			1.44500279587E+00														Apriori rate (us/s)	1.44501276093E+00	Resid rate (us/s)	-9.96507E-06	+/-	5.7E-09
Total phase (deg)				66.5													Apriori accel (us/s/s)	-2.39329506272E-05	Resid phase (deg)	-162.6	+/-	18.5

ph/seg (deg) 38.9 30.7 Search (1024X64) 0.166 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

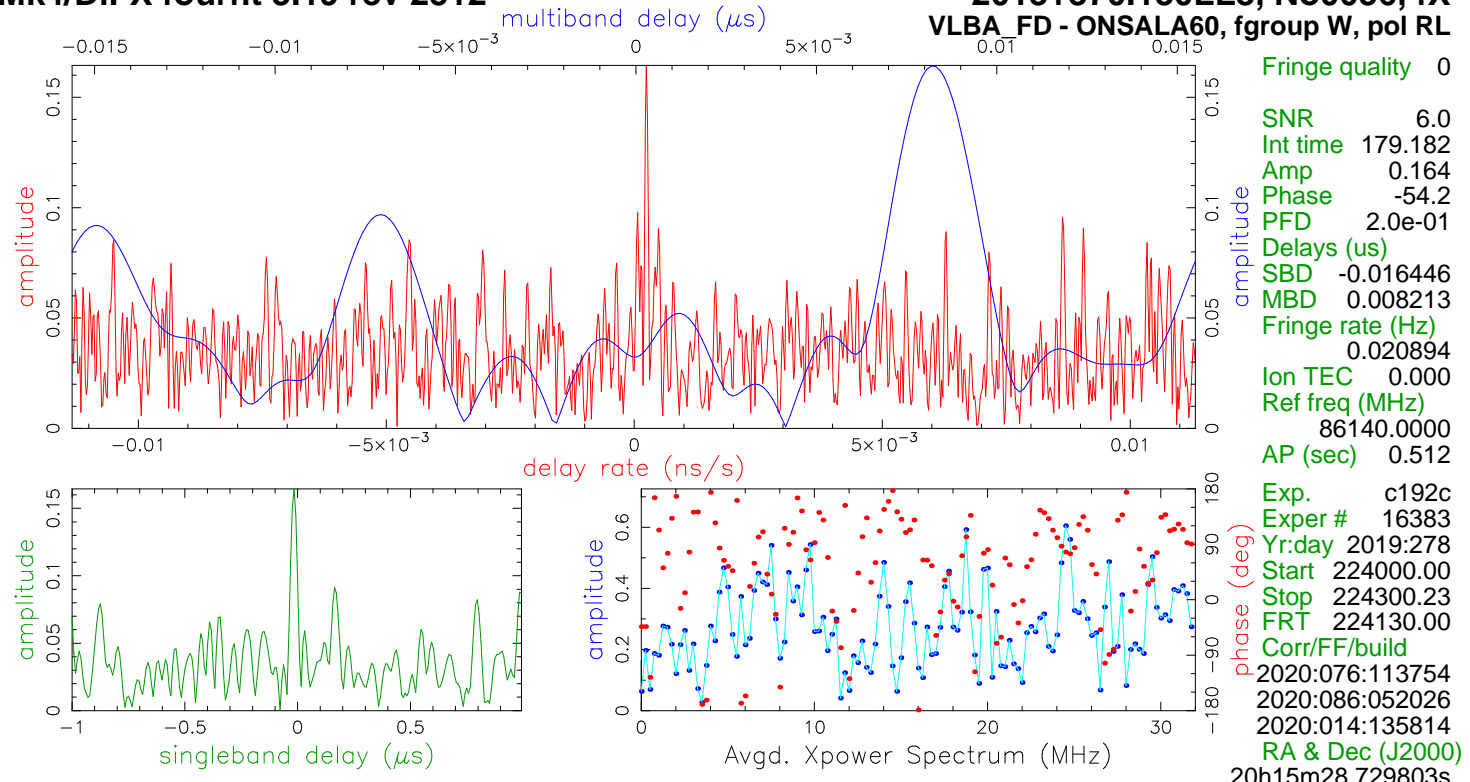
amp/seg (%) 60.6 53.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 42.2 37.0 Inc. seg. avg. 0.232 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

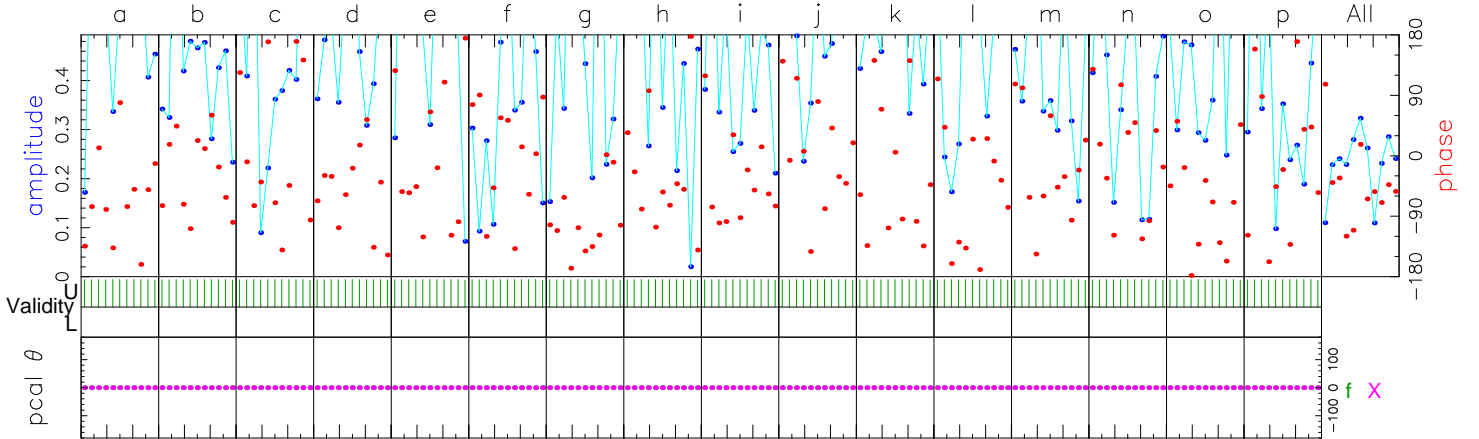
amp/frq (%) 66.8 64.7 Inc. frq. avg. 0.244 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011

f: az 66.4 el 45.6 pa -81.9 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10419.047 -3716.349 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/fX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/fX.W.132.130LL8

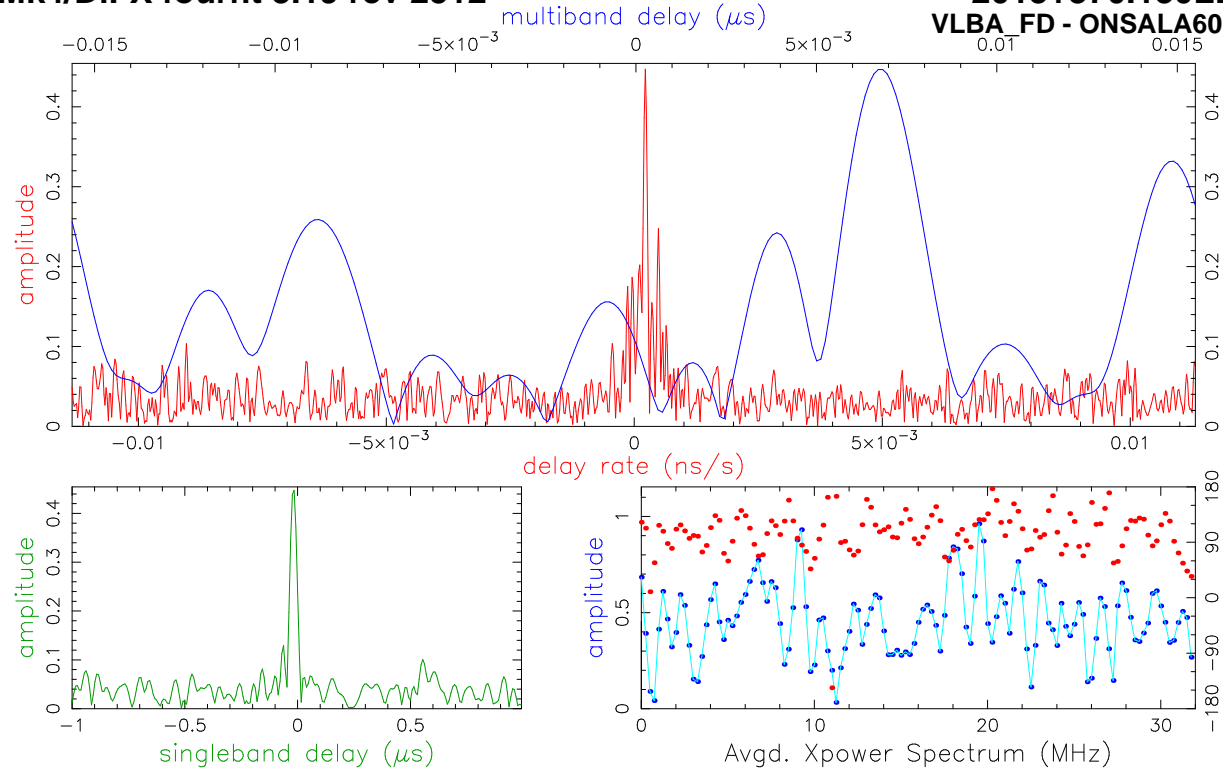


Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



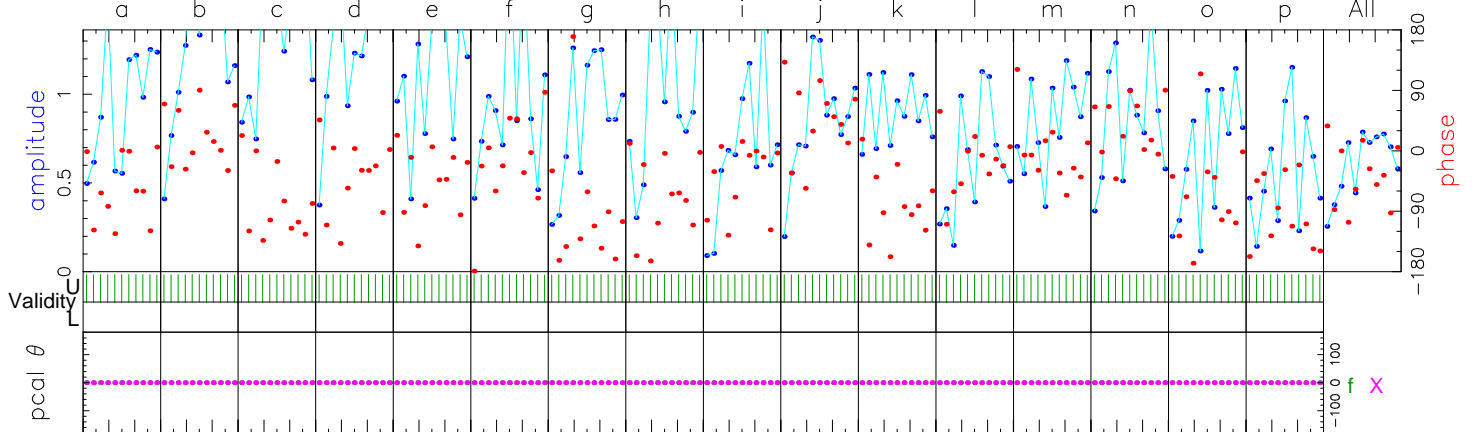
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-59.6	-10.2	-122.8	-46.0	-62.9	15.6	-115.3	-60.3	-56.9	4.8	-85.8	-56.8	-41.2	27.0	-73.8	-166.8		Phase	-54.2				
	0.3	0.3	0.1	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.1		Ampl.	0.2				
	59.2	125.8	188.8	125.2	23.7	222.6	127.3	11.9	130.1	129.0	227.1	79.6	110.5	177.4	102.3	156.6		Sbd box	126.9				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			1.92927527386E+02															Apriori delay (usec)	1.92950564621E+02	Resid mbdelay (usec)	8.21276E-03	+/-	1.8E-04
Sband delay (usec)			1.92934118621E+02															Apriori clock (usec)	-3.1937637E+01	Resid sbdelay (usec)	-1.64460E-02	+/-	2.9E-03
Phase delay (usec)			1.92950562873E+02															Apriori clockrate (us/s)	-6.1894950E-07	Resid phdelay (usec)	-1.74838E-06	+/-	6.1E-07
Delay rate (us/s)			1.44501300349E+00															Apriori rate (us/s)	1.44501276093E+00	Resid rate (us/s)	2.42555E-07	+/-	5.9E-09
Total phase (deg)				174.9														Apriori accel (us/s/s)	-2.39329506272E-05	Resid phase (deg)	-54.2	+/-	19.0

ph/seg (deg) 59.9 31.6 Search (1024X64) 0.163 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 56.0 55.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 53.3 38.1 Inc. seg. avg. 0.201 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 62.2 66.5 Inc. frq. avg. 0.183 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 f: az 66.4 el 45.6 pa -81.9 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10419.047 -3716.349 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/fX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/fX.W.146.130LL8



Fringe quality 7  
SNR 16.6  
Int time 179.181  
Amp 0.454  
Phase -39.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.018771  
MBD 0.006736  
Fringe rate (Hz) 0.019694  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052020  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-57.7	18.2	-93.0	-40.1	-47.1	4.0	-125.9	-66.9	-21.1	50.5	-85.5	-19.1	-13.2	29.4	-81.4	-100.7		Phase -39.4
	0.7	1.0	1.0	0.8	0.8	0.6	0.7	0.6	0.5	0.6	0.5	0.6	0.7	0.6	0.4	0.4		Ampl. 0.6
	126.2	126.7	126.7	126.5	126.7	126.7	126.5	127.8	126.9	127.0	126.2	127.3	126.3	126.3	126.8	125.2		Sbd box 126.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

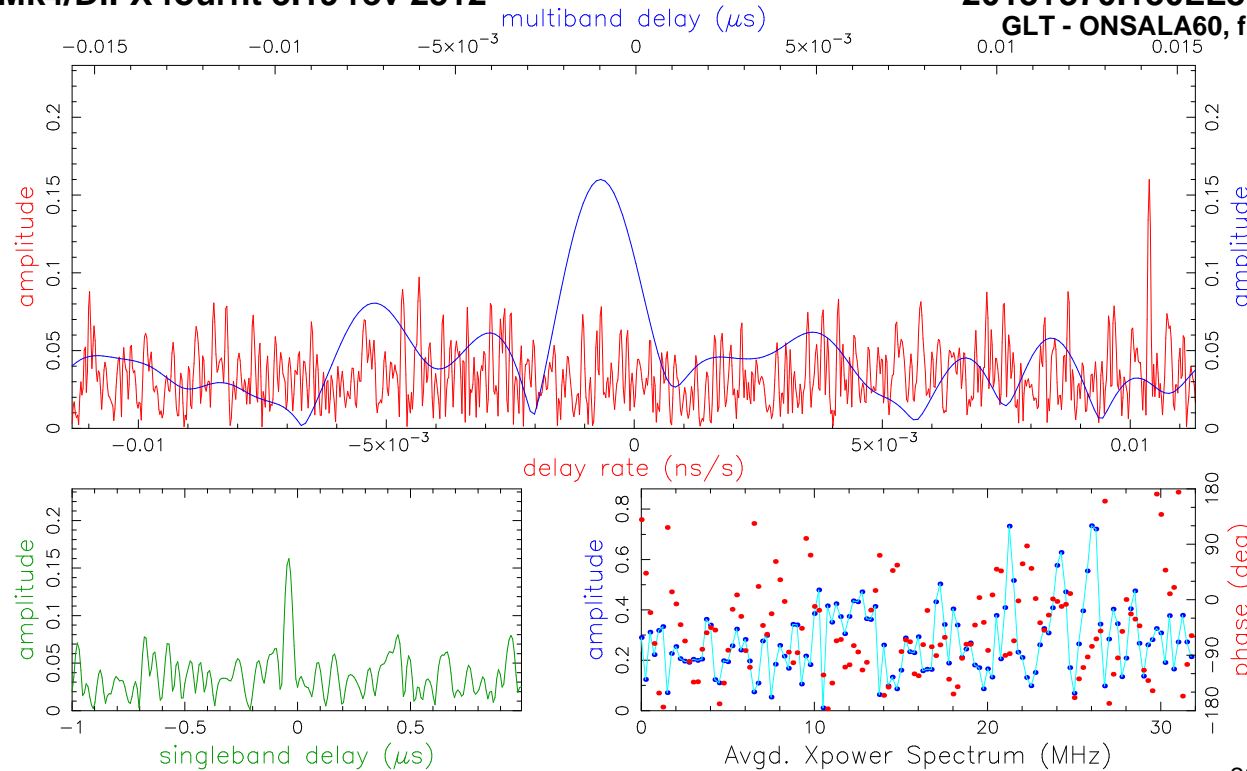
Group delay (usec)(sbd) 1.92926050993E+02 Apriori delay (usec) 1.92950564621E+02 Resid mbdelay (usec) 6.73637E-03 +/- 6.5E-05  
 Sband delay (usec) 1.92931793621E+02 Apriori clock (usec) -3.1937637E+01 Resid sbdelay (usec) -1.87710E-02 +/- 1.0E-03  
 Phase delay (usec) 1.92950563351E+02 Apriori clockrate (us/s) -6.1894950E-07 Resid phdelay (usec) -1.27031E-06 +/- 2.2E-07  
 Delay rate (us/s) 1.44501298956E+00 Apriori rate (us/s) 1.44501276093E+00 Resid rate (us/s) 2.28630E-07 +/- 2.1E-09  
 Total phase (deg) 189.7 Apriori accel (us/s/s) -2.39329506272E-05 Resid phase (deg) -39.4 +/- 6.9

ph/seg (deg) RMS Theor. Amplitude 0.454 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 45.3 11.4 Search (1024X64) 0.437 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 50.6 19.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 52.5 13.8 Inc. seg. avg. 0.591 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 58.7 24.0 Inc. frq. avg. 0.643 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

f: az 66.4 el 45.6 pa -81.9 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10419.047 -3716.349 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/fX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/fX.W.94.130LL8

Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, gX  
GLT - ONSALA60, fgroup W, pol LL

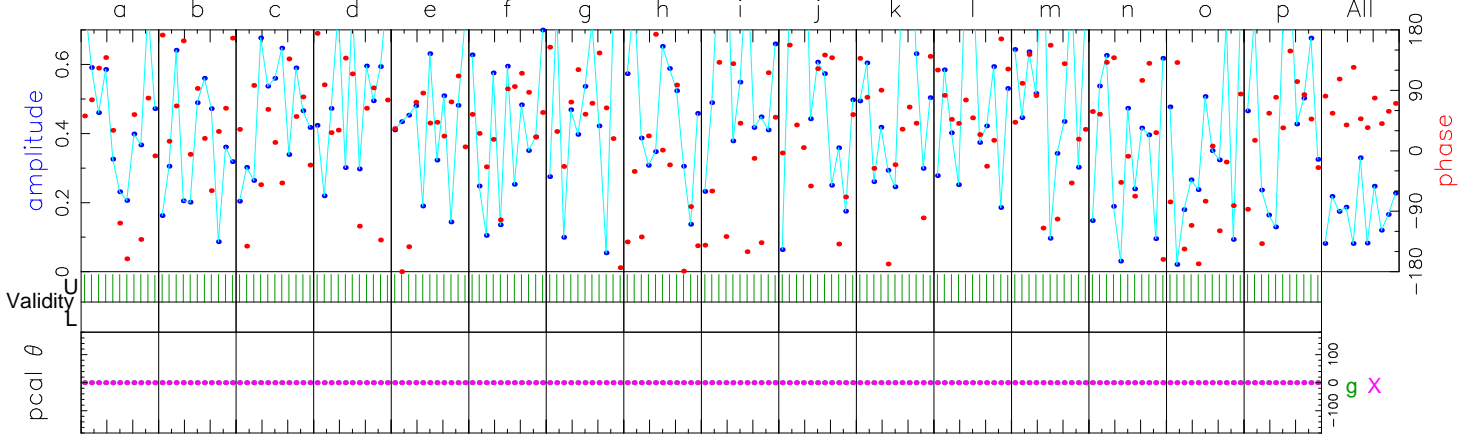


Fringe quality 0

SNR 5.9  
Int time 179.598  
Amp 0.233  
Phase 63.7  
PFD 4.0e-01  
Delays (us)  
SBD -0.040744  
MBD -0.000961  
Fringe rate (Hz) 0.895796  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052030  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



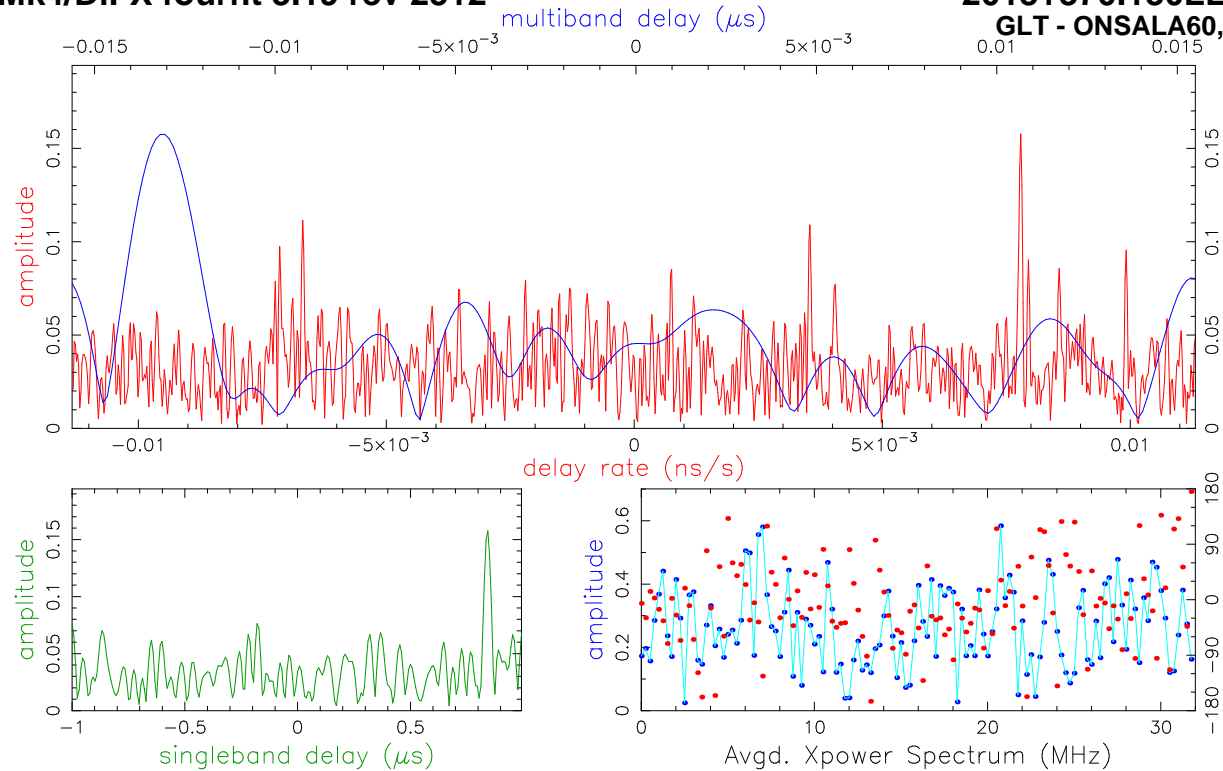
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
77.9	52.7	19.8	89.9	54.8	59.9	77.0	-65.7	-176.8	68.2	68.8	59.1	51.8	107.1	-58.1	58.9		Phase	63.7	
0.3	0.2	0.3	0.4	0.3	0.5	0.4	0.2	0.2	0.2	0.4	0.5	0.1	0.2	0.2	0.3		Ampl.	0.2	
16.8	43.7	134.9	149.3	61.8	159.6	222.9	193.1	117.2	31.1	251.3	123.8	250.8	204.8	47.6	126.2		Sbd box	123.8	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used		
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		PC freqs		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs		
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase		
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000		PC amp		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

Group delay (usec)(sbd) 1.19302610791E+03 Apriori delay (usec) 1.19305831920E+03 Resid mbdelay (usec) -9.61290E-04 +/- 1.8E-04  
 Sband delay (usec) 1.19301757470E+03 Apriori clock (usec) -3.1108150E+01 Resid sbdelay (usec) -4.07445E-02 +/- 2.9E-03  
 Phase delay (usec) 1.19305832125E+03 Apriori clockrate (us/s) -4.5300002E-07 Resid phdelay (usec) 2.05368E-06 +/- 6.3E-07  
 Delay rate (us/s) 6.81381946893E-01 Apriori rate (us/s) 6.81371547585E-01 Resid rate (us/s) 1.03993E-05 +/- 6.0E-09  
 Total phase (deg) 285.3 Apriori accel (us/s/s) 2.41376571311E-06 Resid phase (deg) 63.7 +/- 19.5

RMS Theor. Amplitude 0.233 +/- 0.040 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 27.8 32.3 Search (1024X64) 0.154 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 47.9 56.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 60.5 38.9 Inc. seg. avg. 0.219 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 56.3 68.0 Inc. frq. avg. 0.241 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

g: az 157.0 el 49.9 pa -6.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -4898.630 1094.757 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/gX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/gX.W.165.130LL8

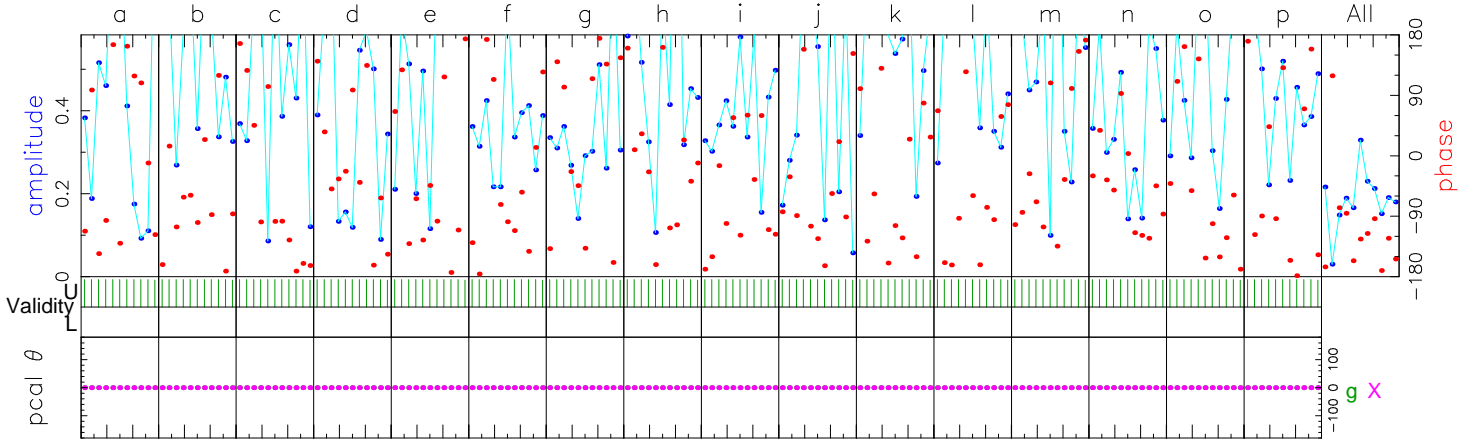


Fringe quality 0

SNR 5.8  
 Int time 179.650  
 Amp 0.194  
 Phase -126.7  
 PFD 5.4e-01  
 Delays (us)  
 SBD 0.841842  
 MBD -0.013107  
 Fringe rate (Hz) 0.672783  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build 2020:076:113754  
 2020:086:052033  
 2020:014:135814  
 RA & Dec (J2000) 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-146.9	-76.2	-136.6	-50.4	-153.4	-130.8	172.4	-56.5	-90.9	-99.3	-122.6	-144.4	-117.1	-47.2	-152.2	-166.0		Phase -126.7	
	0.4	0.3	0.3	0.1	0.3	0.2	0.3	0.2	0.2	0.3	0.1	0.2	0.4	0.2	0.3	0.3		Ampl. 0.2	
	236.0	40.8	158.4	221.3	123.5	33.6	189.2	163.9	164.2	31.0	193.5	2.2	236.0	12.9	228.9	75.8		Sbd box 236.8	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks	
																			Tracks
Group delay (usec)(sbd)			1.19388896235E+03																Apriori delay (usec) 1.19305831920E+03
Sband delay (usec)			1.19390016070E+03																Apriori clock (usec) -3.1108150E+01
Phase delay (usec)			1.19305831511E+03																Apriori clockrate (us/s) -4.5300002E-07
Delay rate (us/s)			6.81379357932E-01																Apriori rate (us/s) 6.81371547585E-01
Total phase (deg)				94.9															Apriori accel (us/s/s) 2.41376571311E-06
																			Resid mbdelay (usec) -1.31068E-02
																			Resid sbdelay (usec) 8.41842E-01
																			Resid phdelay (usec) -4.08582E-06
																			Resid rate (us/s) 7.81035E-06
																			Resid phase (deg) -126.7

ph/seg (deg) 46.2 32.7  
 amp/seg (%) 46.5 57.0  
 ph/frq (deg) 45.7 39.4  
 amp/frq (%) 54.1 68.8

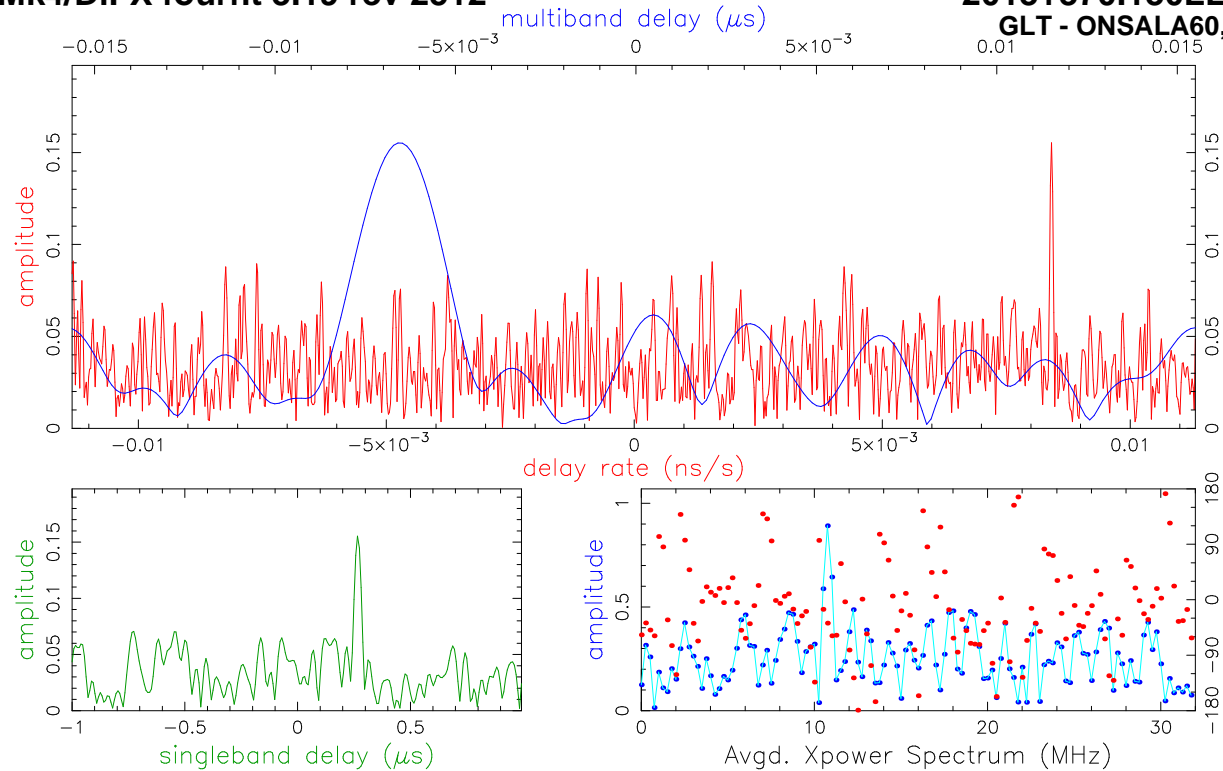
RMS Theor. Amplitude 0.194 +/- 0.033  
 Search (1024X64) 0.153  
 Interp. 0.000  
 Inc. seg. avg. 0.196  
 Inc. frq. avg. 0.197

PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 PCal rate: 0.000E+00, 0.000E+00 (us/s)  
 Bits/sample: 2x2 SampCntNorm: enabled  
 Sample rate(MSamp/s): 64  
 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite

sb window (us) -1.000 1.000  
 mb window (us) -0.016 0.016  
 dr window (ns/s) -0.011 0.011  
 ion window (TEC) 0.00 0.00

g: az 157.0 el 49.9 pa -6.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -4898.630 1094.757 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/gX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/gX.W.185.130LL8

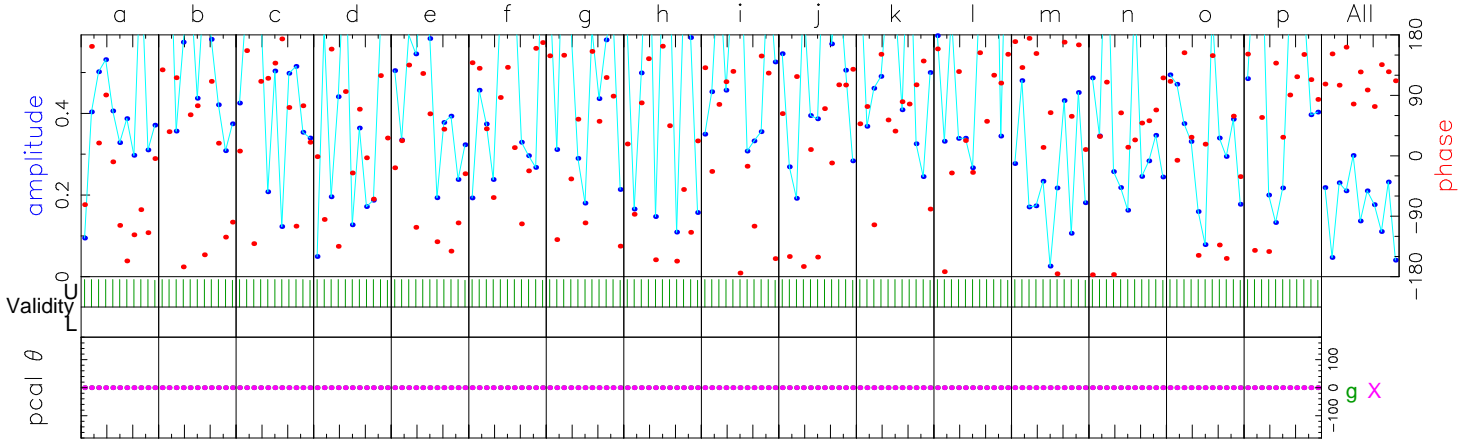


Fringe quality 0

SNR 5.7  
 Int time 179.598  
 Amp 0.197  
 Phase 109.8  
 PFD 7.7e-01  
 Delays (us)  
 SBD 0.266584  
 MBD -0.006536  
 Fringe rate (Hz)  
 0.725383  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052035  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

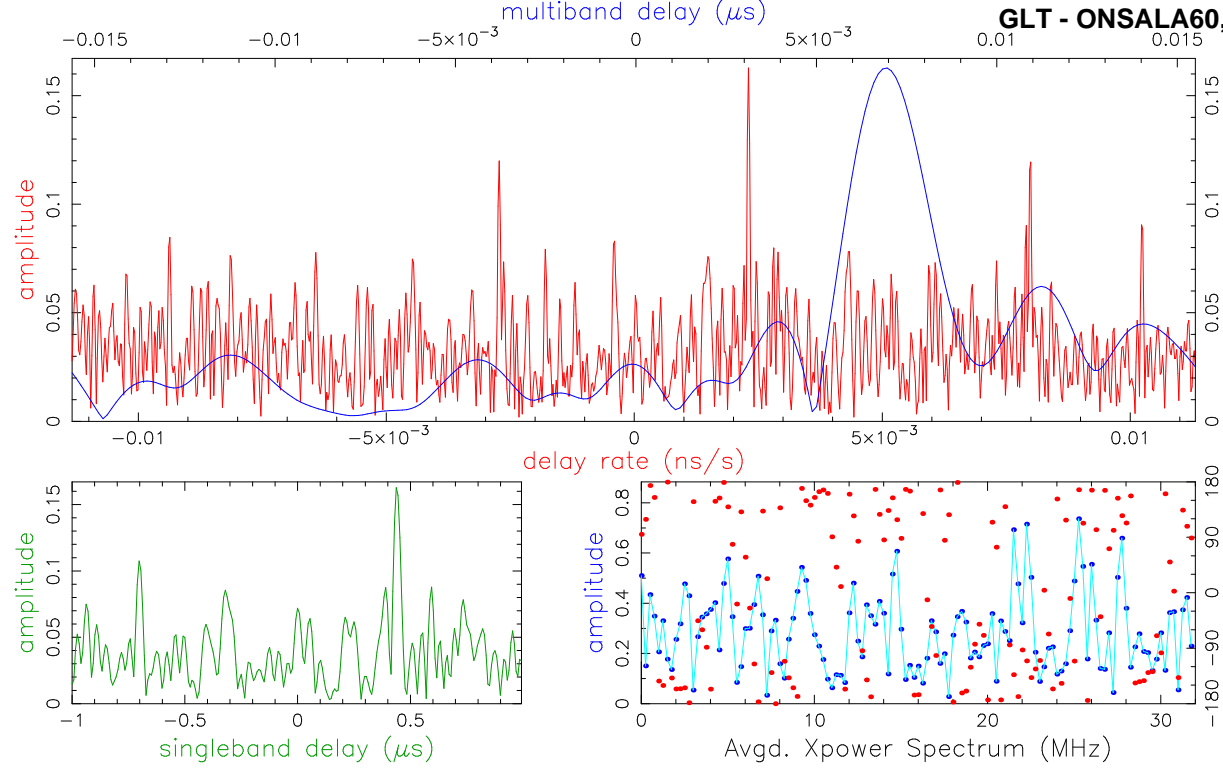
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-75.1	106.4	130.1	67.0	65.9	111.7	130.1	103.8	136.3	98.0	68.7	117.7	149.8	78.4	120.8	119.2	109.8	Phase
	0.1	0.2	0.2	0.1	0.1	0.2	0.3	0.1	0.3	0.3	0.4	0.4	0.2	0.3	0.1	0.4	0.2	Ampl.
	249.4	240.5	47.7	143.2	95.4	192.4	121.1	181.1	240.5	159.9	125.7	5.9	153.9	20.1	7.6	114.9	163.1	Sbd box
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks
																		Chan ids
																		Tracks
Group delay (usec)(sbd)		1.19333303341E+03				Apriori delay (usec)		1.19305831920E+03		Resid mbdelay (usec)		-6.53579E-03		+/-	1.9E-04			
Sband delay (usec)		1.19332490270E+03				Apriori clock (usec)		-3.1108150E+01		Resid sbdelay (usec)		2.66584E-01		+/-	3.0E-03			
Phase delay (usec)		1.19305832274E+03				Apriori clockrate (us/s)		-4.5300002E-07		Resid phdelay (usec)		3.54150E-06		+/-	6.5E-07			
Delay rate (us/s)		6.81379968566E-01				Apriori rate (us/s)		6.81371547585E-01		Resid rate (us/s)		8.42098E-06		+/-	6.2E-09			
Total phase (deg)			331.4			Apriori accel (us/s/s)		2.41376571311E-06		Resid phase (deg)		109.8		+/-	20.1			

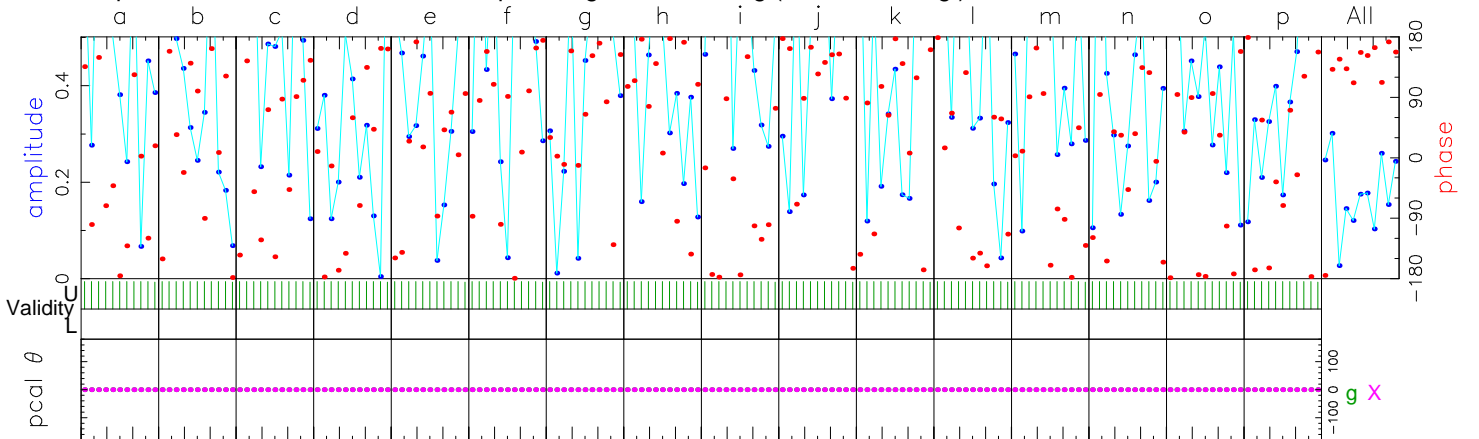
ph/seg (deg) 27.2 33.3 Search (1024X64) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 50.9 58.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 53.9 40.2 Inc. seg. avg. 0.189 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 56.5 70.2 Inc. frq. avg. 0.188 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 g: az 157.0 el 49.9 pa -6.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -4898.630 1094.757 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/gX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/gX.W.200.130LL8



Fringe quality 0  
 SNR 6.0  
 Int time 179.650  
 Amp 0.167  
 Phase 146.9  
 PFD 2.0e-01  
 Delays (us)  
 SBD 0.439934  
 MBD 0.006949  
 Fringe rate (Hz) 0.199161  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build 2020:076:113754  
 2020:086:052037  
 2020:014:135814  
 RA & Dec (J2000) 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



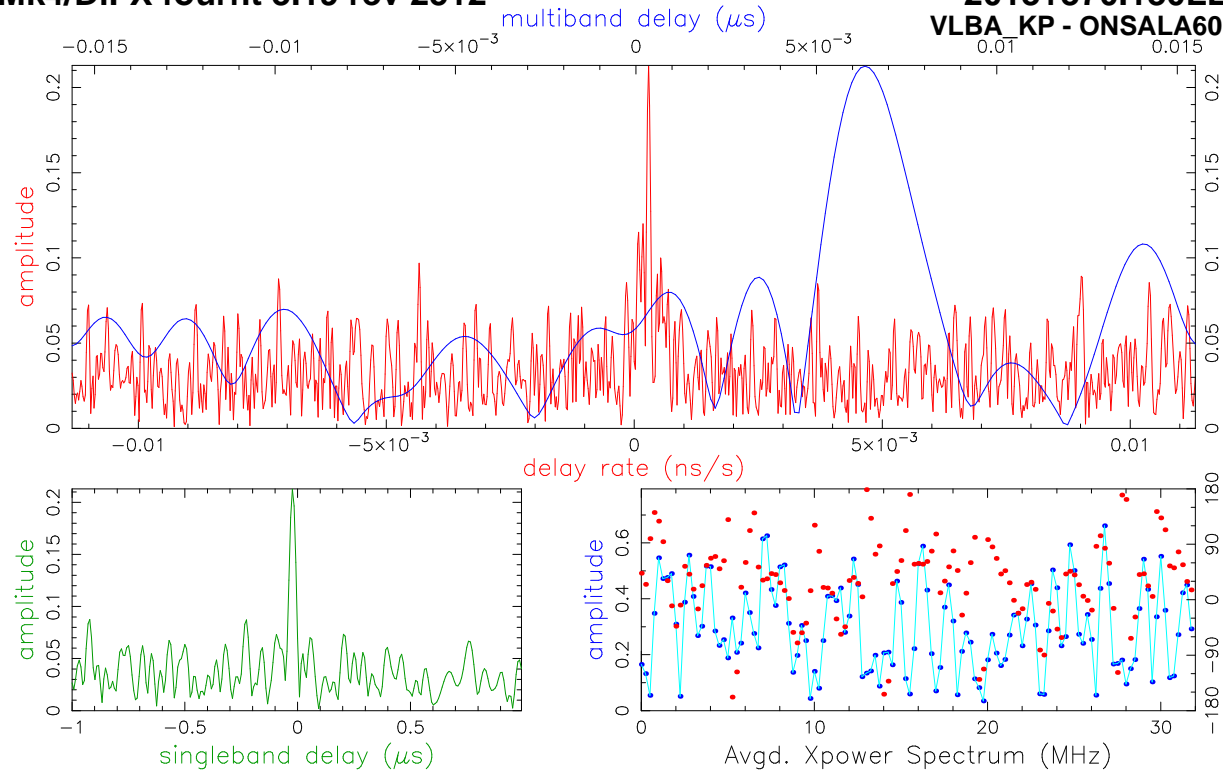
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-171.2	167.7	138.7	162.2	82.9	120.5	135.2	124.4	168.8	152.8	172.2	-165.0	123.7	100.0	143.5	157.2	Phase	146.9
	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.2	0.1	Ampl.	0.2
	103.4	155.3	253.0	117.6	146.3	130.3	39.0	175.3	39.2	133.9	167.4	30.4	81.3	193.0	197.4	5.0	Sbd box	185.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 1.19350276824E+03 Apriori delay (usec) 1.19305831920E+03 Resid mbdelay (usec) 6.94904E-03 +/- 1.8E-04  
 Sband delay (usec) 1.19349825320E+03 Apriori clock (usec) -3.1108150E+01 Resid sbdelay (usec) 4.39934E-01 +/- 2.9E-03  
 Phase delay (usec) 1.19305832393E+03 Apriori clockrate (us/s) -4.5300002E-07 Resid phdelay (usec) 4.73802E-06 +/- 6.1E-07  
 Delay rate (us/s) 6.81373859643E-01 Apriori rate (us/s) 6.81371547585E-01 Resid rate (us/s) 2.31206E-06 +/- 5.9E-09  
 Total phase (deg) 8.5 Apriori accel (us/s/s) 2.41376571311E-06 Resid phase (deg) 146.9 +/- 19.0

RMS Theor. Amplitude 0.167 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 22.4 31.6 Search (1024X64) 0.155 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 47.2 55.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 31.9 38.1 Inc. seg. avg. 0.157 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 36.4 66.4 Inc. frq. avg. 0.152 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

g: az 157.0 el 49.9 pa -6.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -4898.630 1094.757 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/gX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/gX.W.219.130LL8



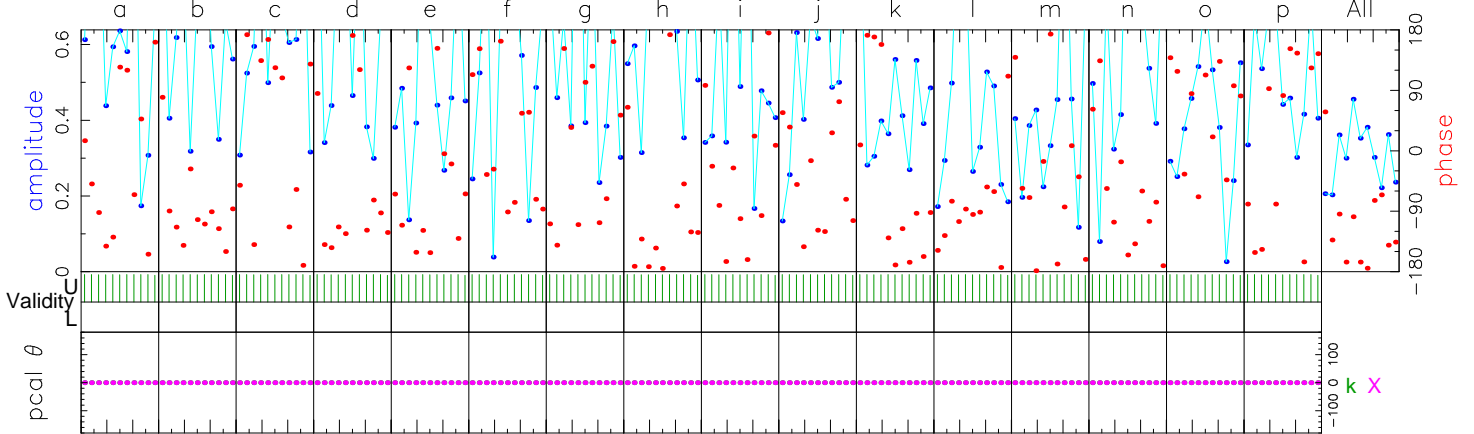


Fringe quality 9

SNR 7.8  
Int time 179.155  
Amp 0.213  
Phase -126.8  
PFD 1.1e-06  
Delays (us)  
SBD -0.022372  
MBD 0.006362  
Fringe rate (Hz) 0.024265  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

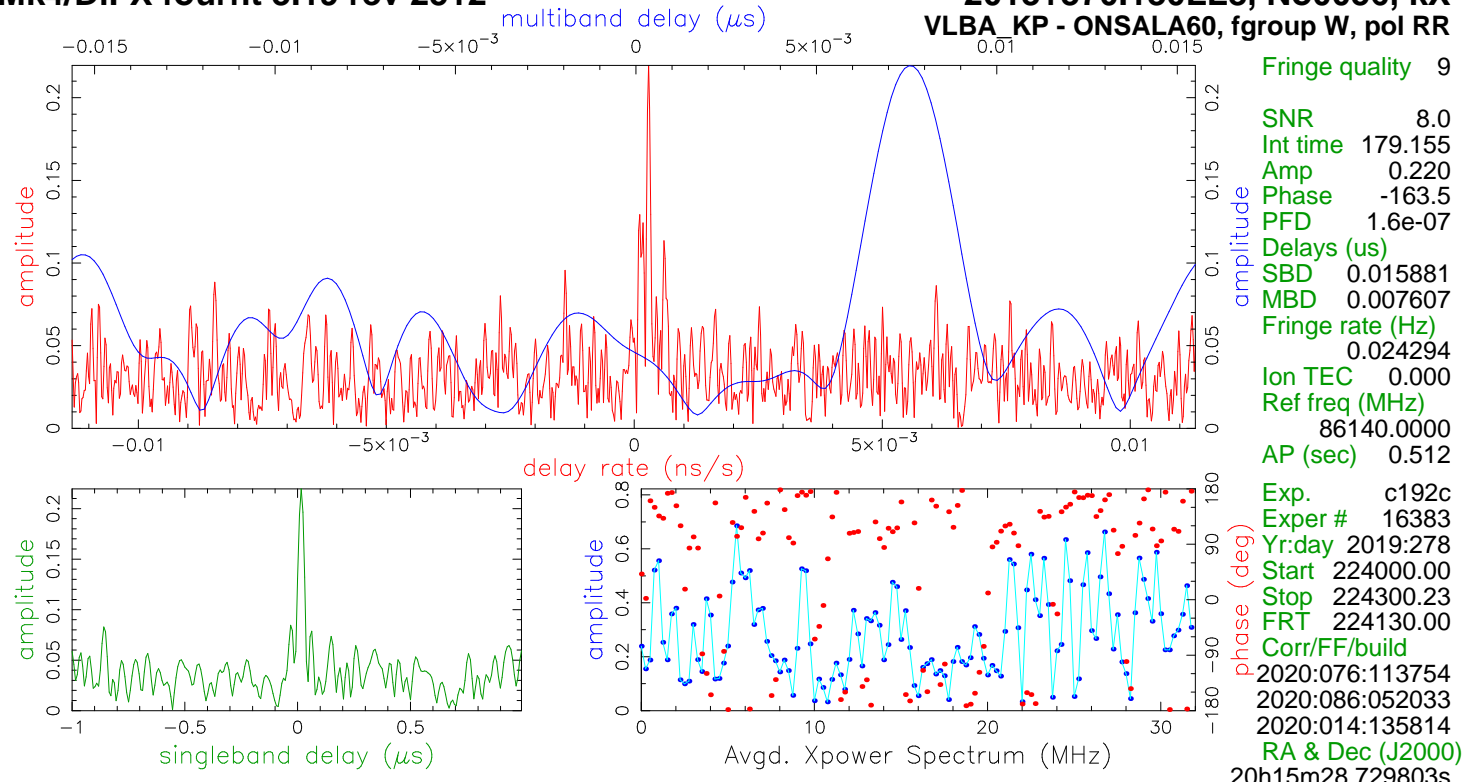
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052031  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

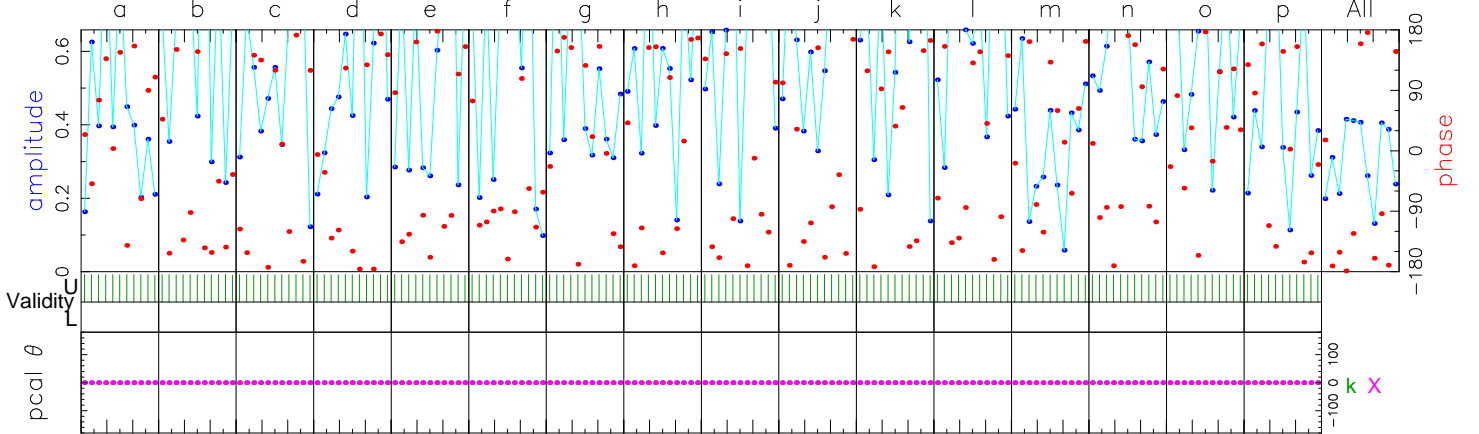


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-98.3	-111.5	169.2	-146.1	-116.6	-82.4	-160.8	-151.0	-91.2	-72.4	-134.8	-92.4	-120.0	-110.0	83.2	167.2		Phase -126.8					
	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.5	0.2	0.3	0.2	0.4	0.2	0.3	0.2	0.2		Ampl. 0.3					
	179.8	126.7	126.2	124.7	127.2	188.9	1.6	125.3	2.0	15.4	140.2	56.9	52.2	127.3	28.1	143.8		Sbd box 126.1					
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
																		Tracks					
Group delay (usec)(sbd)			-1.29131305991E+03															Apriori delay (usec)	-1.29128817159E+03	Resid mbdelay (usec)	6.36168E-03	+/-	1.4E-04
Sband delay (usec)			-1.29131054409E+03															Apriori clock (usec)	-3.2810787E+01	Resid sbdelay (usec)	-2.23725E-02	+/-	2.2E-03
Phase delay (usec)			-1.29128817568E+03															Apriori clockrate (us/s)	-7.2257901E-07	Resid phdelay (usec)	-4.08928E-06	+/-	4.7E-07
Delay rate (us/s)			1.50934362093E+00															Apriori rate (us/s)	1.50934333924E+00	Resid rate (us/s)	2.81691E-07	+/-	4.6E-09
Total phase (deg)																		Apriori accel (us/s/s)	-1.46992974816E-05	Resid phase (deg)	-126.8	+/-	14.7

ph/seg (deg) 63.9 24.4 Search (1024X64) 0.210 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 58.1 42.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 54.8 29.4 Inc. seg. avg. 0.282 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 50.3 51.3 Inc. frq. avg. 0.251 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 66.0 el 40.1 pa -76.8 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10874.625 -3023.149 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/kX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/kX.W.176.130LL8



Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

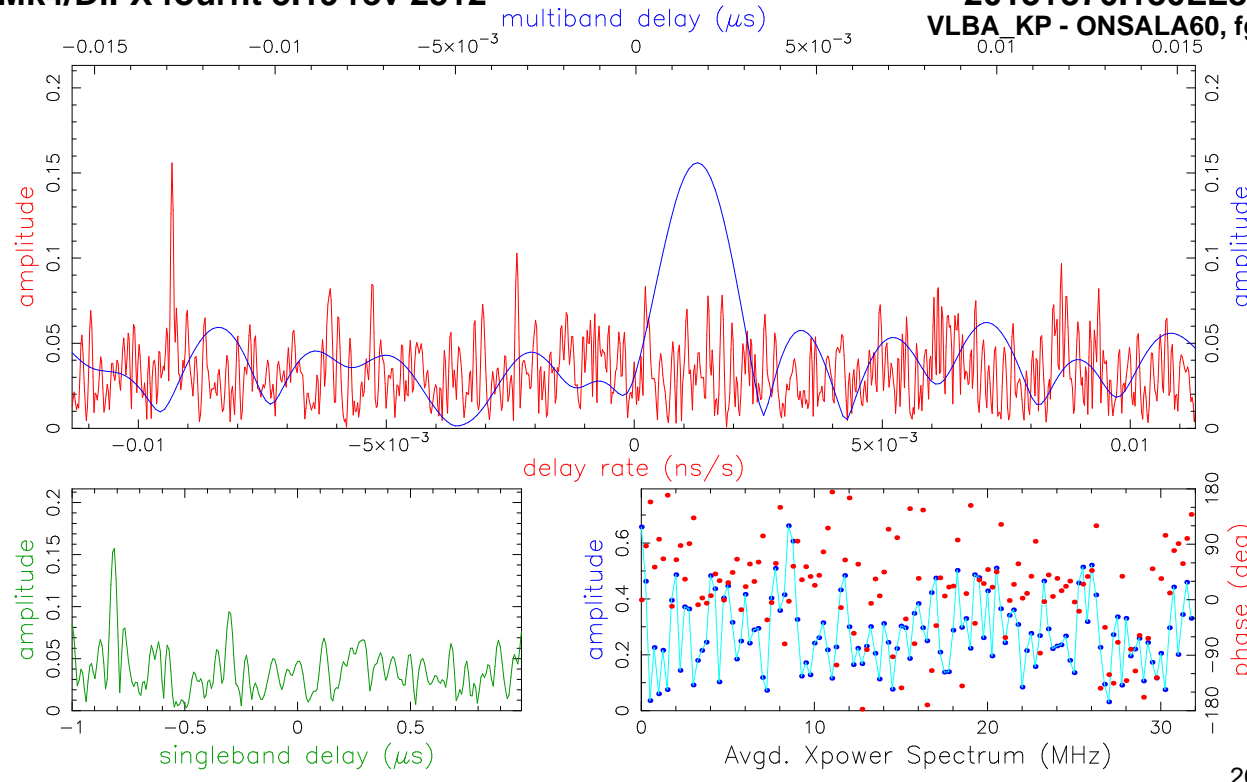


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	128.3	-125.4	-178.3	-177.7	-147.6	-96.9	166.4	158.0	-133.7	-146.1	141.3	-145.2	-157.6	-128.5	57.9	-166.4	Phase	-163.5				
	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.1	0.2	0.2	0.2	Ampl.	0.3				
	1.9	170.3	131.2	130.8	131.2	104.4	161.0	202.4	129.9	128.9	54.0	131.3	80.4	114.9	204.8	161.3	Sbd box	131.0				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.29128056429E+03														Apriori delay (usec)	-1.29128817159E+03	Resid mbdelay (usec)	7.60730E-03	+/-	1.3E-04
Sband delay (usec)			-1.29127229009E+03														Apriori clock (usec)	-3.2810787E+01	Resid sbdelay (usec)	1.58815E-02	+/-	2.1E-03
Phase delay (usec)			-1.29128817686E+03														Apriori clockrate (us/s)	-7.2257901E-07	Resid phdelay (usec)	-5.27390E-06	+/-	4.6E-07
Delay rate (us/s)			1.50934362127E+00														Apriori rate (us/s)	1.50934333924E+00	Resid rate (us/s)	2.82029E-07	+/-	4.4E-09
Total phase (deg)																	Apriori accel (us/s/s)	-1.46992974816E-05	Resid phase (deg)	-163.5	+/-	14.3

	RMS	Theor.	Amplitude	0.220 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	62.9	23.7	Search (1024X64)	0.213	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	60.3	41.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.016 0.016
ph/frq (deg)	52.5	28.5	Inc. seg. avg.	0.283	Sample rate(MSamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	52.1	49.8	Inc. frq. avg.	0.255	Data rate(Mb/s): 2048	nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

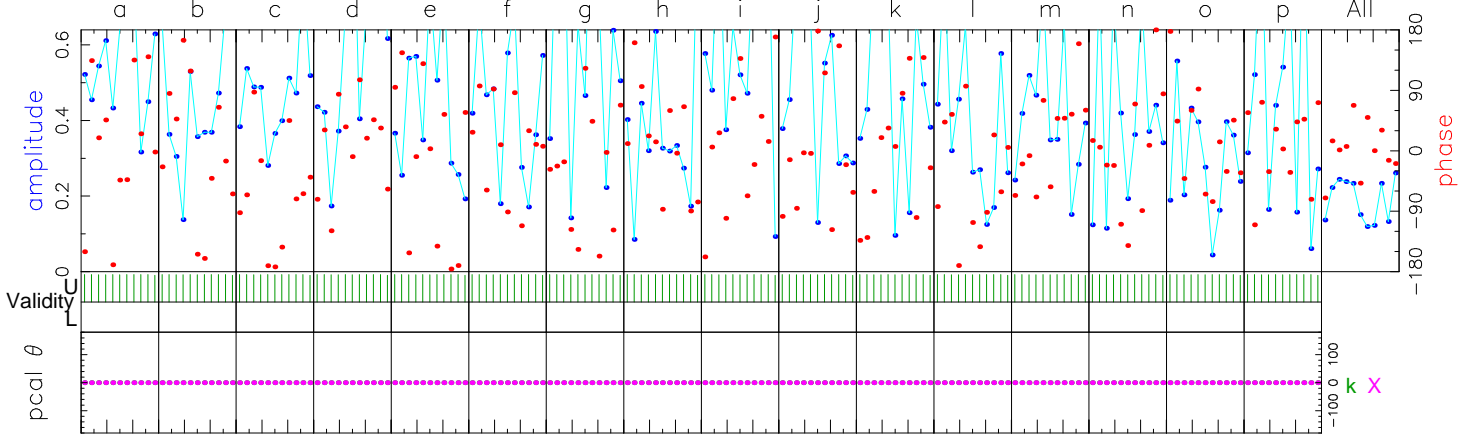
k: az 66.0 el 40.1 pa -76.8 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10874.625 -3023.149 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/kX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/kX.W.191.130LL8



Fringe quality 0  
SNR 5.8  
Int time 179.155  
Amp 0.213  
Phase 5.4  
PFD 5.7e-01  
Delays (us)  
SBD -0.815549  
MBD 0.001652  
Fringe rate (Hz)  
-0.804926  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052036  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	37.2	-5.9	-63.0	19.6	91.3	33.1	-18.0	-2.5	18.5	-47.2	-30.0	-1.3	22.1	-26.1	23.3	26.9	Phase	5.4				
	0.1	0.2	0.3	0.6	0.1	0.2	0.2	0.2	0.4	0.3	0.1	0.1	0.3	0.2	0.2	0.4	Ampl.	0.2				
	44.9	226.9	159.0	24.0	126.3	211.0	41.0	202.7	220.1	19.2	224.7	17.4	158.6	172.5	41.8	181.6	Sbd box	24.6				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
Group delay (usec)(sbd)			-1.29209901954E+03														Apriori delay (usec)	-1.29128817159E+03	Resid mbdelay (usec)	1.65205E-03	+/-	1.9E-04
Sband delay (usec)			-1.29210372109E+03														Apriori clock (usec)	-3.2810787E+01	Resid sbdelay (usec)	-8.15549E-01	+/-	3.0E-03
Phase delay (usec)			-1.29128817142E+03														Apriori clockrate (us/s)	-7.2257901E-07	Resid phdelay (usec)	1.72992E-07	+/-	6.4E-07
Delay rate (us/s)			1.50933399484E+00														Apriori rate (us/s)	1.50934333924E+00	Resid rate (us/s)	-9.34439E-06	+/-	6.1E-09
Total phase (deg)																	Apriori accel (us/s/s)	-1.46992974816E-05	Resid phase (deg)	5.4	+/-	19.8

ph/seg (deg) 38.3 32.8  
amp/seg (%) 39.7 57.2  
ph/frq (deg) 38.8 39.5  
amp/frq (%) 59.6 69.0

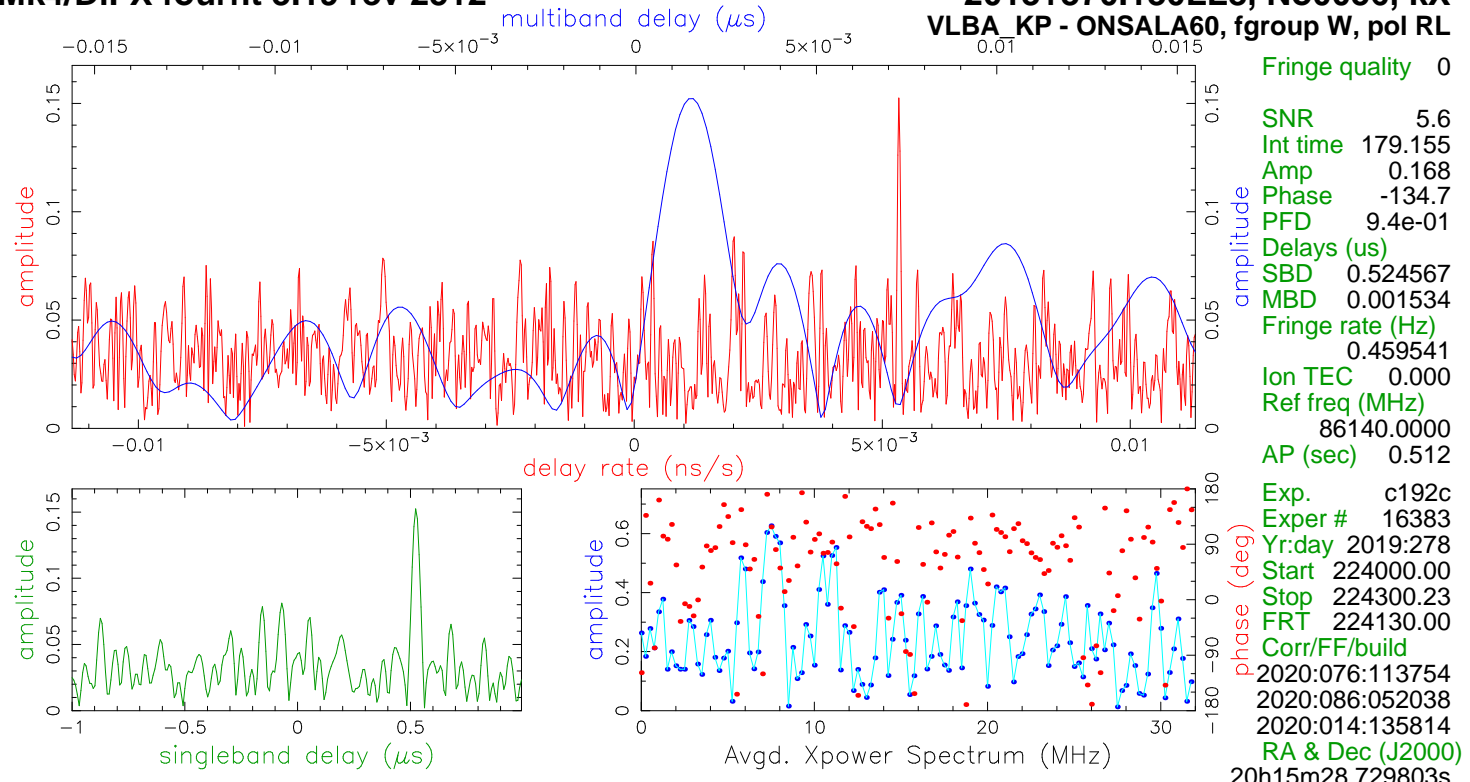
RMS Theor. Amplitude 0.213 +/- 0.037  
Search (1024X64) 0.154  
Interp. 0.000  
Inc. seg. avg. 0.220  
Inc. frq. avg. 0.199

Group delay (usec)(sbd) -1.29209901954E+03 Apriori delay (usec) -1.29128817159E+03 Resid mbdelay (usec) 1.65205E-03 +/- 1.9E-04  
Sband delay (usec) -1.29210372109E+03 Apriori clock (usec) -3.2810787E+01 Resid sbdelay (usec) -8.15549E-01 +/- 3.0E-03  
Phase delay (usec) -1.29128817142E+03 Apriori clockrate (us/s) -7.2257901E-07 Resid phdelay (usec) 1.72992E-07 +/- 6.4E-07  
Delay rate (us/s) 1.50933399484E+00 Apriori rate (us/s) 1.50934333924E+00 Resid rate (us/s) -9.34439E-06 +/- 6.1E-09  
Total phase (deg) Apriori accel (us/s/s) -1.46992974816E-05 Resid phase (deg) 5.4 +/- 19.8

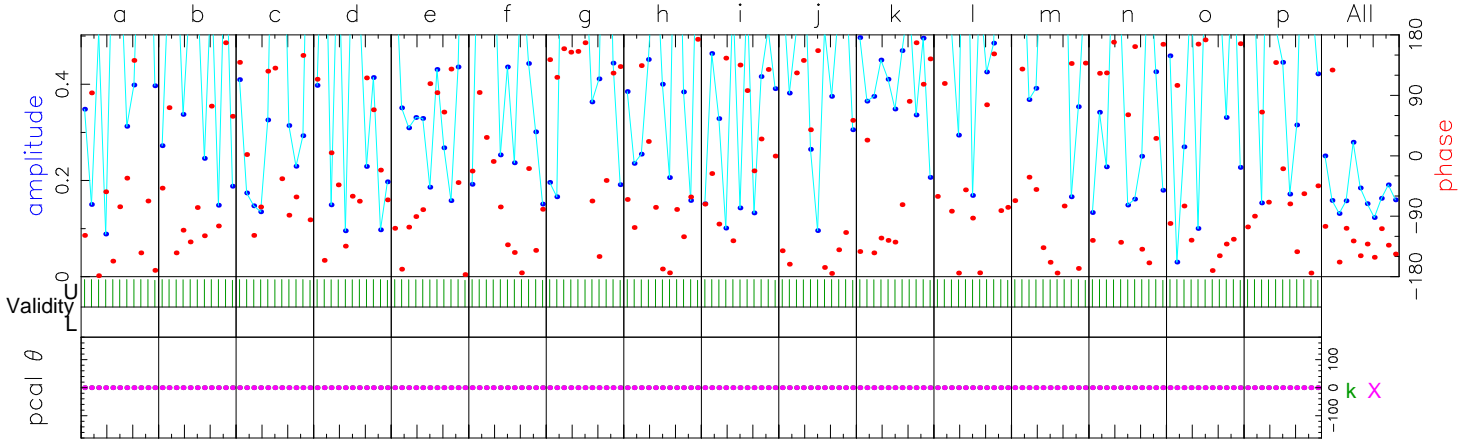
pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

k: az 66.0 el 40.1 pa -76.8 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10874.625 -3023.149 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/kX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/kX.W.210.130LL8

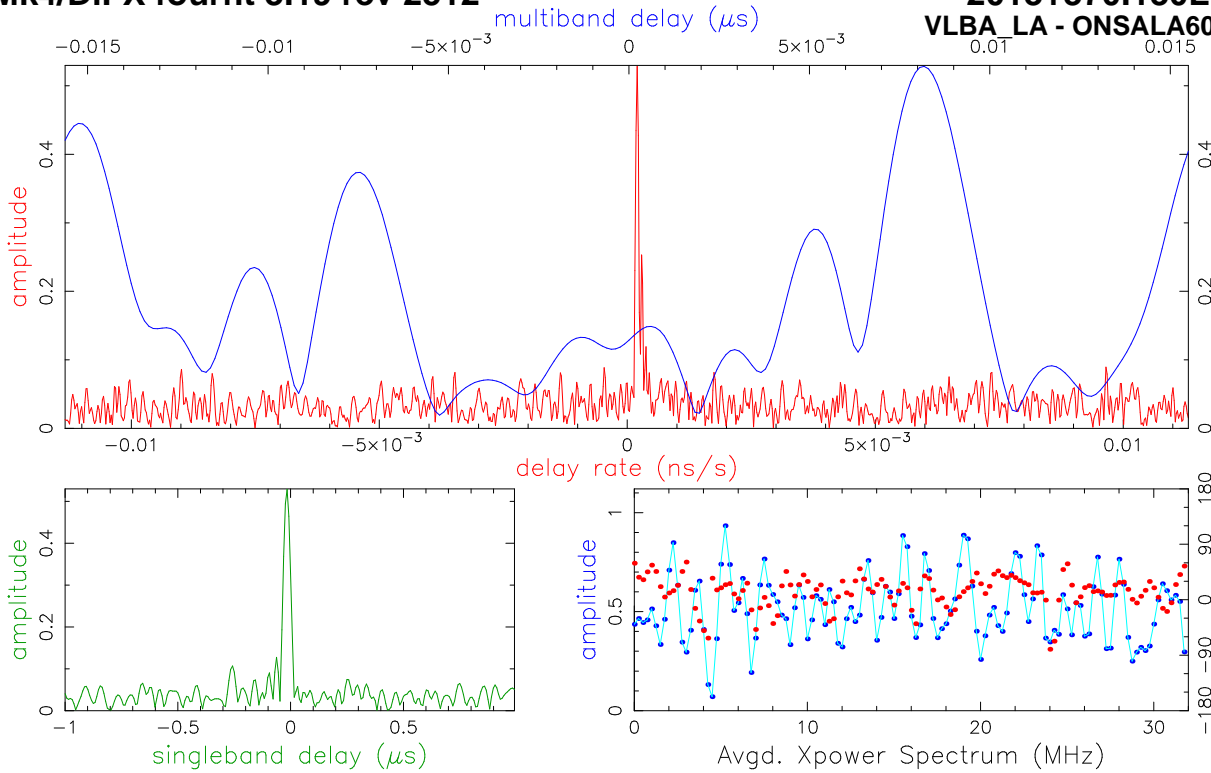


Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-125.8	-144.5	-124.4	-72.0	-140.9	-34.7	165.7	-108.1	21.4	-175.0	-158.6	-90.7	-142.4	178.0	-143.3	-84.3		Phase	-134.7				
	0.3	0.1	0.1	0.2	0.1	0.3	0.3	0.0	0.3	0.2	0.3	0.3	0.3	0.2	0.4	0.3		Ampl.	0.2				
	19.1	43.9	206.8	21.8	165.6	23.5	233.8	232.9	171.4	94.8	98.0	157.8	109.9	87.4	197.9	62.3		Sbd box	196.1				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-1.29075538806E+03															Apriori delay (usec)	-1.29128817159E+03	Resid mbdelay (usec)	1.53353E-03	+/-	1.9E-04
Sband delay (usec)			-1.29076360459E+03															Apriori clock (usec)	-3.2810787E+01	Resid sbdelay (usec)	5.24567E-01	+/-	3.1E-03
Phase delay (usec)			-1.29128817593E+03															Apriori clockrate (us/s)	-7.2257901E-07	Resid phdelay (usec)	-4.34229E-06	+/-	6.6E-07
Delay rate (us/s)			1.50934867405E+00															Apriori rate (us/s)	1.50934333924E+00	Resid rate (us/s)	5.33482E-06	+/-	6.4E-09
Total phase (deg)					-171.0													Apriori accel (us/s/s)	-1.46992974816E-05	Resid phase (deg)	-134.7	+/-	20.5

ph/seg (deg) 34.5 34.0 Search (1024X64) 0.168 +/- 0.030 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 34.1 59.3 Interp. 0.151 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 60.9 41.0 Inc. seg. avg. 0.166 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
amp/frq (%) 65.2 71.6 Inc. frq. avg. 0.171 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
k: az 66.0 el 40.1 pa -76.8 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10874.625 -3023.149 ion window (TEC) 0.00 0.00  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/kX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/kX.W.229.130LL8 simultaneous interpolator

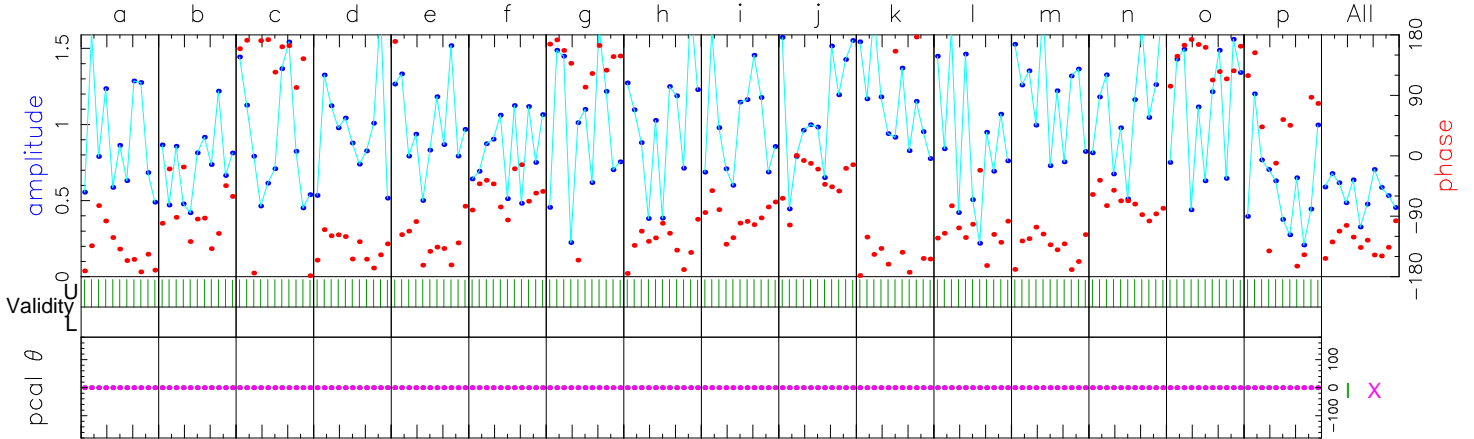


Fringe quality 9

SNR 19.4  
Int time 179.380  
Amp 0.530  
Phase -129.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.016864  
MBD 0.008142  
Fringe rate (Hz) 0.016816  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052042  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-138.9	-88.7	159.4	-135.4	-134.7	-52.2	152.6	-132.4	-88.9	-31.7	-158.1	-112.8	-136.8	-72.9	141.3	108.0	Phase	-129.2
	0.8	0.6	0.8	0.9	0.9	0.8	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.0	0.2	Ampl.	0.8
	126.8	127.0	126.5	126.5	127.1	126.2	126.8	127.1	126.9	127.1	126.8	126.4	126.7	126.8	126.2	125.3	Sbd box	126.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
I	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.10692905852E+02		Apriori delay (usec)		2.10716014311E+02		Resid mbdelay (usec)		8.14154E-03		+/- 5.6E-05							
Sband delay (usec)	2.10699149811E+02		Apriori clock (usec)		-3.3178566E+01		Resid sbdelay (usec)		-1.68645E-02		+/- 8.9E-04							
Phase delay (usec)	2.10716010146E+02		Apriori clockrate (us/s)		-8.7947201E-07		Resid phdelay (usec)		-4.16541E-06		+/- 1.9E-07							
Delay rate (us/s)	1.42000668305E+00		Apriori rate (us/s)		1.42000648783E+00		Resid rate (us/s)		1.95215E-07		+/- 1.8E-09							
Total phase (deg)	41.0		Apriori accel (us/s/s)		-1.89112546431E-05		Resid phase (deg)		-129.2		+/- 5.9							

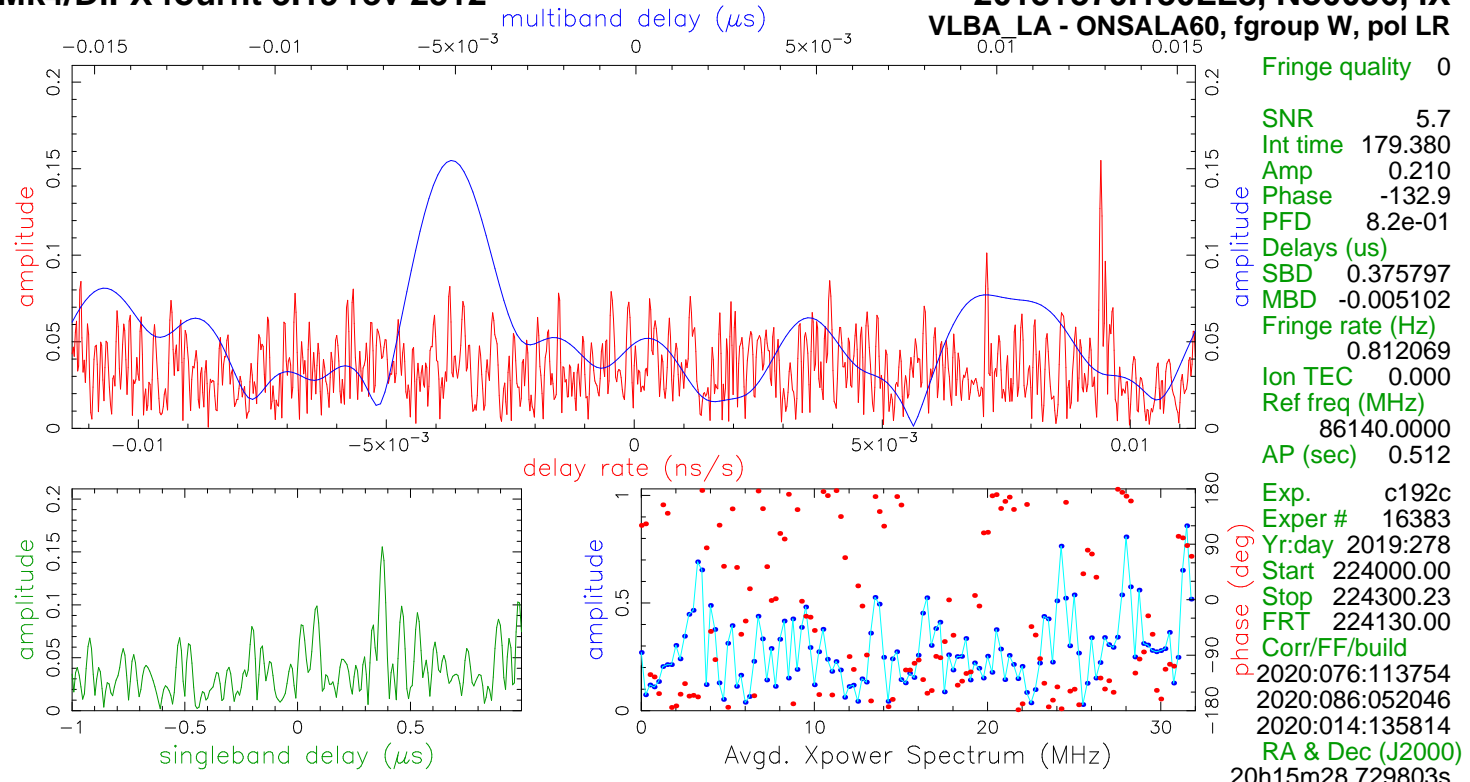
ph/seg (deg) 17.7 9.8 Theor. Amplitude 0.530 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 20.5 17.1 Search (1024X64) 0.520 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 64.1 11.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 74.5 20.6 Inc. seg. avg. 0.546 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.849 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

I: az 70.7 el 45.7 pa -74.3 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10234.312 -2888.396 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/IX...130LL8 Output file: /Exps/c192c/v2/1234/No0056/IX.W.251.130LL8

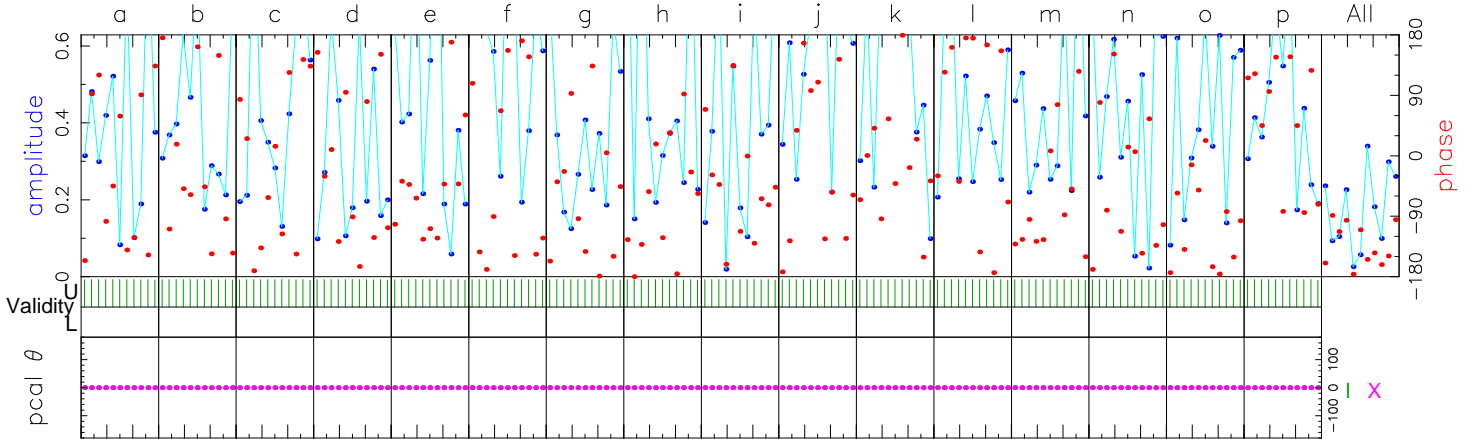


Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, IX  
VLBA\_LA - ONSALA60, fgroup W, pol LR



Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

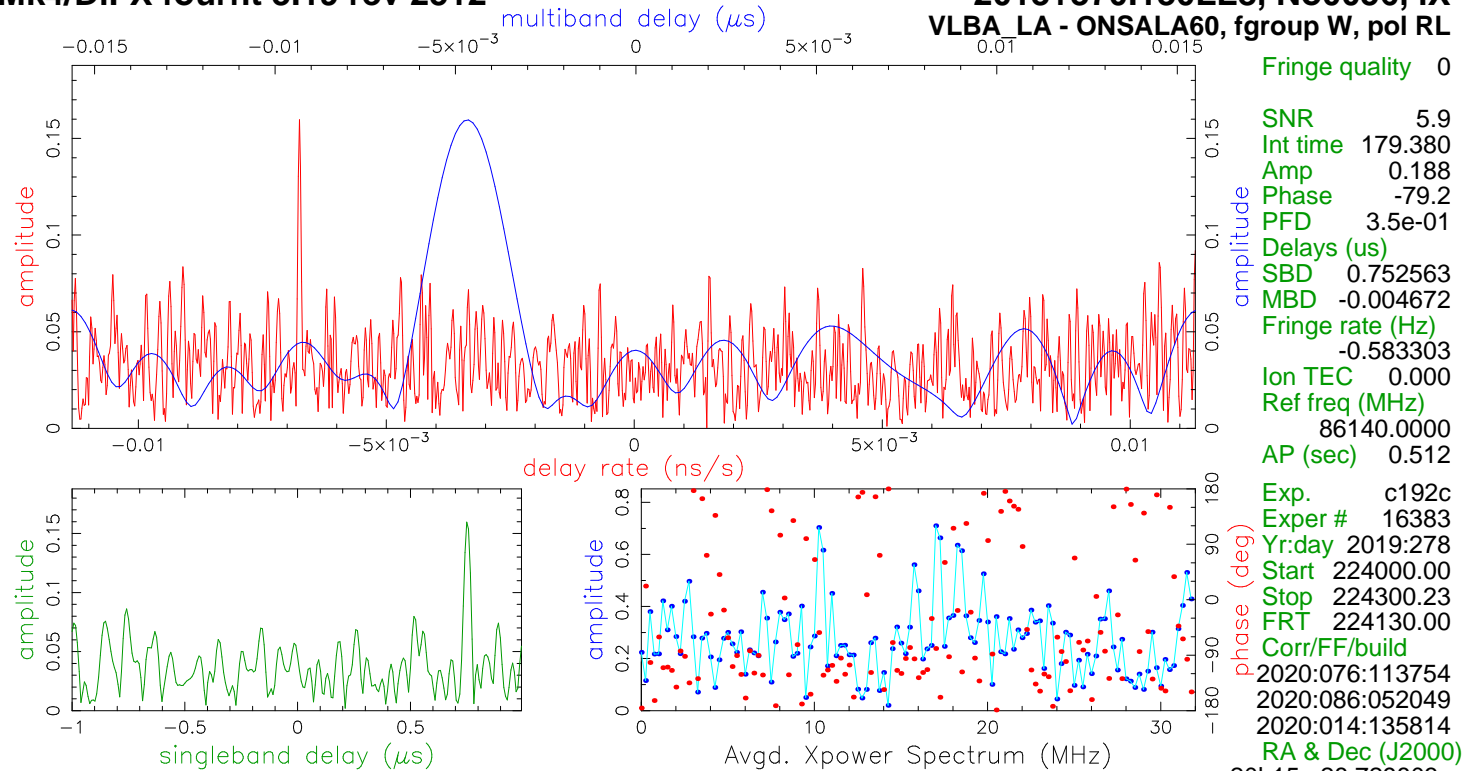


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-157.7	-124.0	172.2	-120.7	-84.1	-168.7	-126.8	-97.4	-67.1	-169.0	-36.3	178.4	-133.2	-137.5	-95.5	133.1	Phase	-132.9	
	0.2	0.2	0.3	0.1	0.5	0.6	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	Ampl.	0.2	
	208.0	50.8	151.8	186.9	107.7	177.4	145.9	113.8	219.3	133.8	95.8	119.2	140.4	121.7	189.9	220.0	Sbd box	177.1	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
I	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks		
																	Chan ids		
																	Tracks		
Group delay (usec)(sbd)			2.11085912275E+02								2.10716014311E+02						Resid mbdelay (usec)	-5.10204E-03	+/- 1.9E-04
Sband delay (usec)			2.11091811311E+02								-3.3178566E+01						Resid sbdelay (usec)	3.75797E-01	+/- 3.0E-03
Phase delay (usec)			2.10716010027E+02								-8.7947201E-07						Resid phdelay (usec)	-4.28405E-06	+/- 6.5E-07
Delay rate (us/s)			1.42001591515E+00								1.42000648783E+00						Resid rate (us/s)	9.42732E-06	+/- 6.3E-09
Total phase (deg)					37.3						-1.89112546431E-05						Resid phase (deg)	-132.9	+/- 20.2

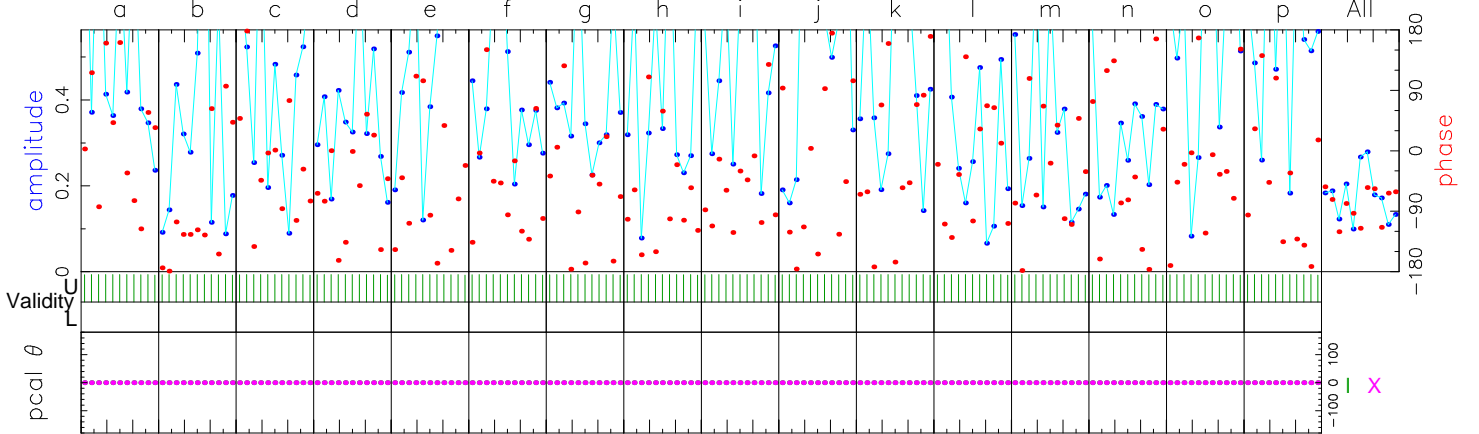
ph/seg (deg) 30.1 33.5 Search (1024X64) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 65.7 58.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 51.0 40.4 Inc. seg. avg. 0.202 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 67.2 70.5 Inc. frq. avg. 0.243 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 I: az 70.7 el 45.7 pa -74.3 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10234.312 -2888.396 ion window (TEC) 0.00 0.00 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/IX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/IX.W.284.130LL8

Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, IX  
VLBA\_LA - ONSALA60, fgroup W, pol RL



Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-46.3	-130.9	-46.9	-52.0	-83.1	-75.9	-89.7	-99.1	-55.0	-122.3	-100.0	-52.2	-45.5	178.4	-64.3	-110.1	Phase	-79.2
	0.1	0.3	0.3	0.2	0.1	0.3	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.0	0.3	0.2	Ampl.	0.2
	107.9	145.8	3.6	149.3	42.7	104.2	50.0	208.7	225.3	39.8	177.4	32.4	123.6	113.0	135.0	217.6	Sbd box	225.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
I:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
I	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

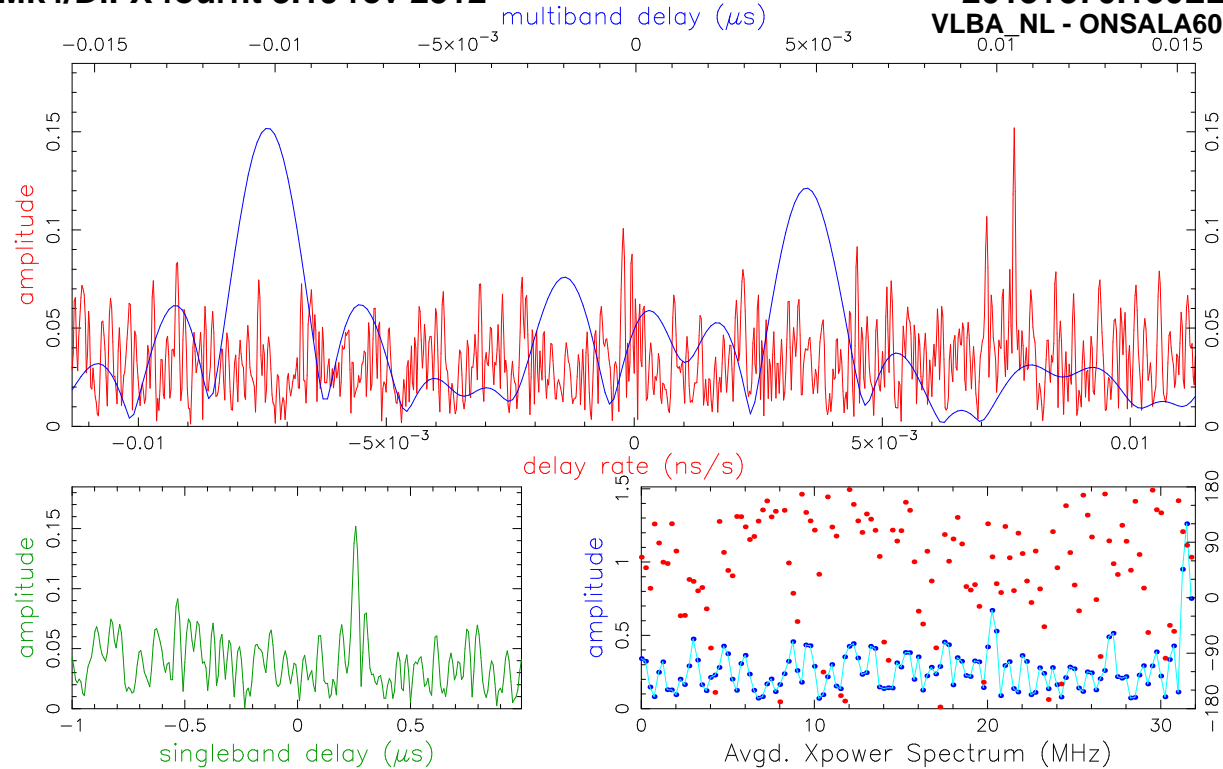
Group delay (usec)(sbd)	2.11461342275E+02	Apriori delay (usec)	2.10716014311E+02	Resid mbdelay (usec)	-4.67204E-03	+/-	1.8E-04
Sband delay (usec)	2.11468576811E+02	Apriori clock (usec)	-3.3178566E+01	Resid sbdelay (usec)	7.52563E-01	+/-	2.9E-03
Phase delay (usec)	2.10716011758E+02	Apriori clockrate (us/s)	-8.7947201E-07	Resid phdelay (usec)	-2.55272E-06	+/-	6.3E-07
Delay rate (us/s)	1.41999971627E+00	Apriori rate (us/s)	1.42000648783E+00	Resid rate (us/s)	-6.77156E-06	+/-	6.0E-09
Total phase (deg)	91.0	Apriori accel (us/s/s)	-1.89112546431E-05	Resid phase (deg)	-79.2	+/-	19.4

ph/seg (deg)	RMS 24.9	Theor. 32.1	Amplitude Search (1024X64)	0.188 +/- 0.032	0.155	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	36.1	56.1	Interp.	0.000	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	40.1	38.8	Inc. seg. avg.	0.177	0.174	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	47.4	67.7	Inc. frq. avg.	0.174	0.174	Sample rate(MSamp/s): 64	mb window (us) -0.016 0.016
						Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 128	t_cohere infinite
							ion window (TEC) 0.00 0.00

I: az 70.7 el 45.7 pa -74.3 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -10234.312 -2888.396 simultaneous interpolator

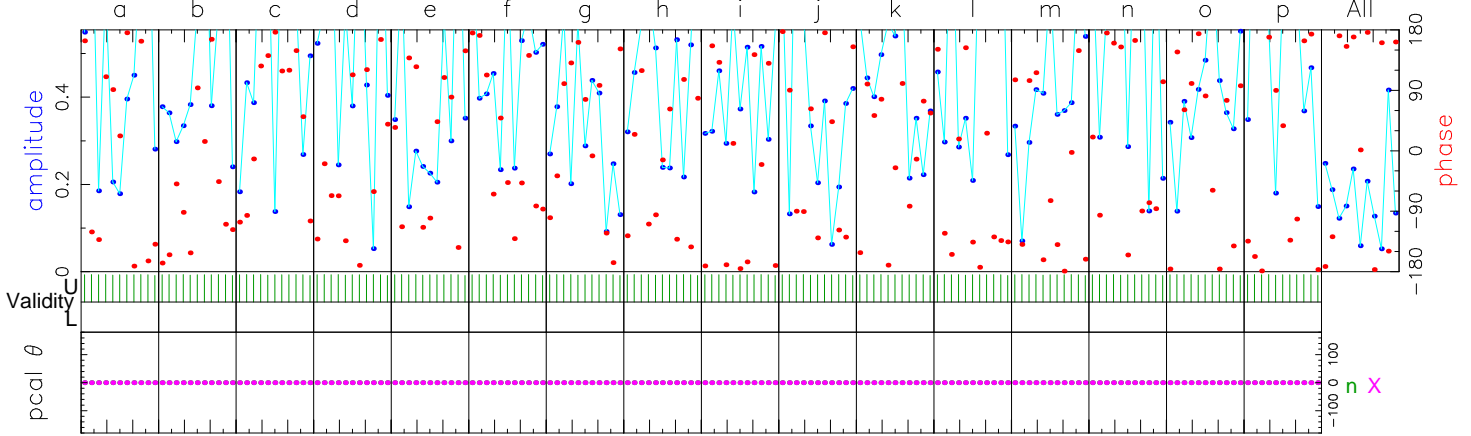
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/IX...130LL8 Output file: /Exps/c192c/v2/1234/No0056/IX.W.305.130LL8





Fringe quality 0  
SNR 5.6  
Int time 178.367  
Amp 0.185  
Phase -173.0  
PFD 9.7e-01  
Delays (us)  
SBD 0.257313  
MBD -0.010199  
Fringe rate (Hz) 0.660067  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052041  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



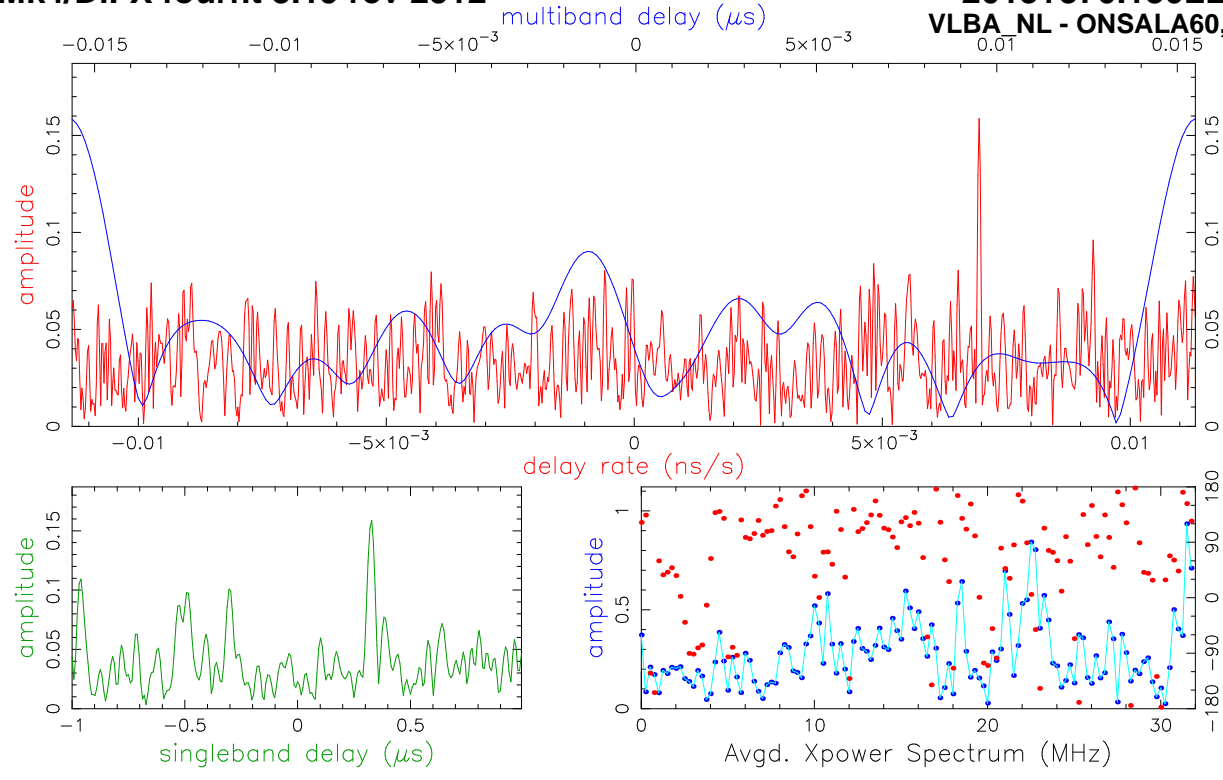
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-178.1	-101.5	139.2	-149.3	177.9	-113.3	115.4	-156.7	168.0	-138.9	82.0	-153.5	176.4	-157.4	127.3	-163.3	Phase	-173.0
	0.4	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.4	0.2	0.3	0.2	0.4	Ampl.	0.2
	161.1	11.4	161.1	22.9	183.7	180.0	232.1	28.2	106.5	4.1	178.5	67.9	64.8	47.8	89.5	117.3	Sbd box	161.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 3.06754332255E+03 Apriori delay (usec) 3.06727227153E+03 Resid mbdelay (usec) -1.01990E-02 +/- 1.9E-04  
Sband delay (usec) 3.06752958403E+03 Apriori clock (usec) -5.8738213E+00 Resid sbdelay (usec) 2.57313E-01 +/- 3.1E-03  
Phase delay (usec) 3.06727226595E+03 Apriori clockrate (us/s) -3.9377651E-07 Resid phdelay (usec) -5.58016E-06 +/- 6.7E-07  
Delay rate (us/s) 1.19643447277E+00 Apriori rate (us/s) 1.19642681005E+00 Resid rate (us/s) 7.66272E-06 +/- 6.4E-09  
Total phase (deg) -4.0 Apriori accel (us/s/s) -2.83974848744E-05 Resid phase (deg) -173.0 +/- 20.6

RMS Theor. Amplitude 0.185 +/- 0.033 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
ph/seg (deg) 57.3 34.2 Search (1024X64) 0.149 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
amp/seg (%) 66.1 59.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
ph/frq (deg) 49.3 41.3 Inc. seg. avg. 0.182 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
amp/frq (%) 60.5 72.1 Inc. frq. avg. 0.188 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

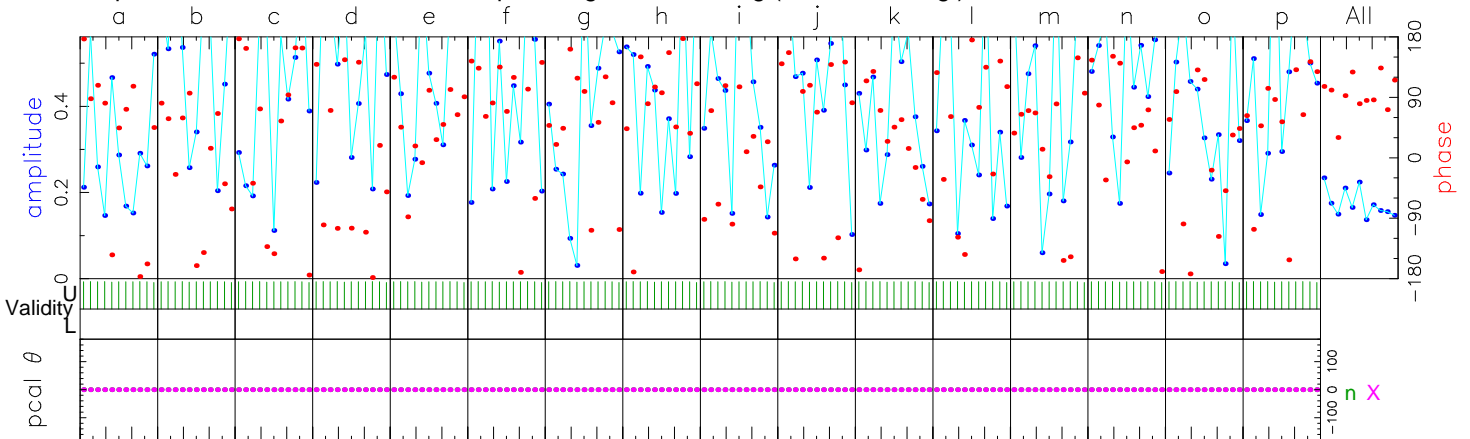
n: az 84.2 el 58.1 pa -68.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -8631.797 -2890.340 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/nX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/nX.W.247.130LL8





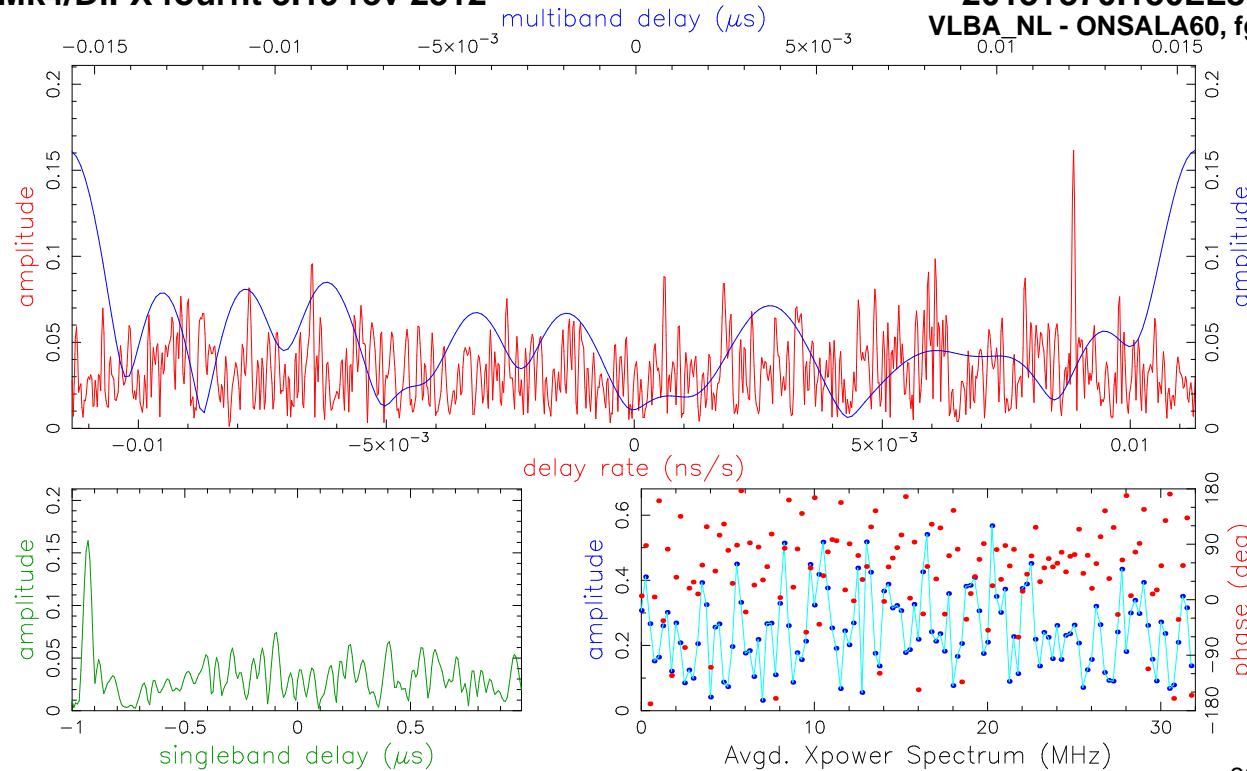
Fringe quality 0  
SNR 5.8  
Int time 178.367  
Amp 0.187  
Phase 94.6  
PFD 5.2e-01  
Delays (us)  
SBD 0.326221  
MBD 0.015567  
Fringe rate (Hz) 0.599464  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052046  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



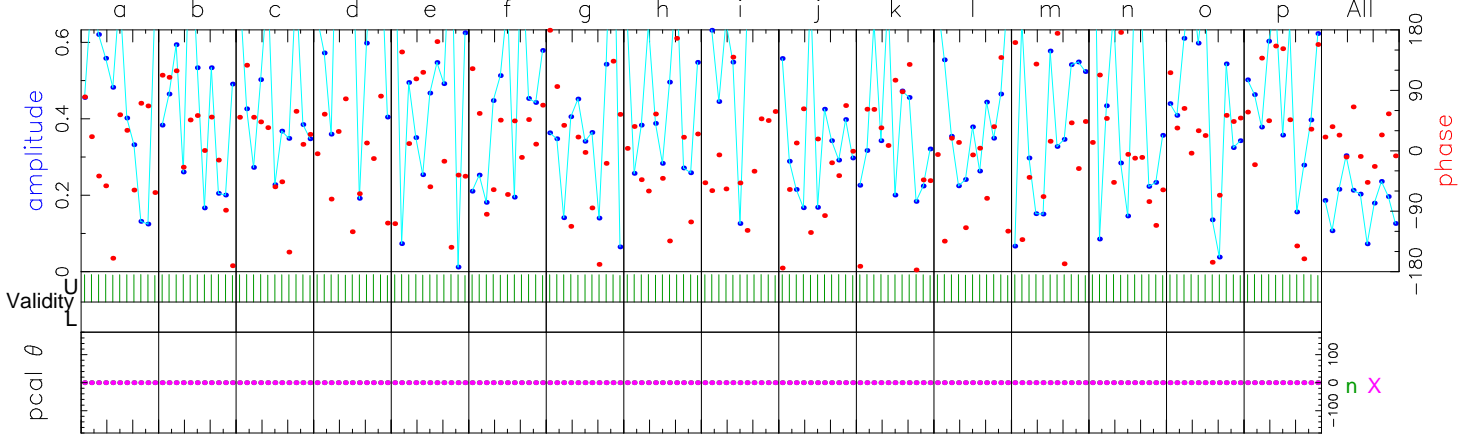
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
Group delay (usec)(sbd)		3.06760033853E+03																
Sband delay (usec)		3.06759849253E+03																
Phase delay (usec)		3.06727227458E+03																
Delay rate (us/s)		1.19643376923E+00																
Total phase (deg)				263.7														
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(MSamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
ion window (TEC)																		
simultaneous interpolator																		

ph/seg (deg) 27.4 32.6 Search (1024X64) 0.153 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 22.1 57.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 55.8 39.4 Inc. seg. avg. 0.177 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
amp/frq (%) 63.3 68.7 Inc. frq. avg. 0.199 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
n: az 84.2 el 58.1 pa -68.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -8631.797 -2890.340 ion window (TEC) 0.00 0.00  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/nX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/nX.W.282.130LL8



Fringe quality 0  
SNR 5.9  
Int time 178.367  
Amp 0.211  
Phase 14.3  
PFD 3.6e-01  
Delays (us)  
SBD -0.930604  
MBD 0.015515  
Fringe rate (Hz) 0.763467  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build 2020:076:113754  
2020:086:052048  
2020:014:135814  
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

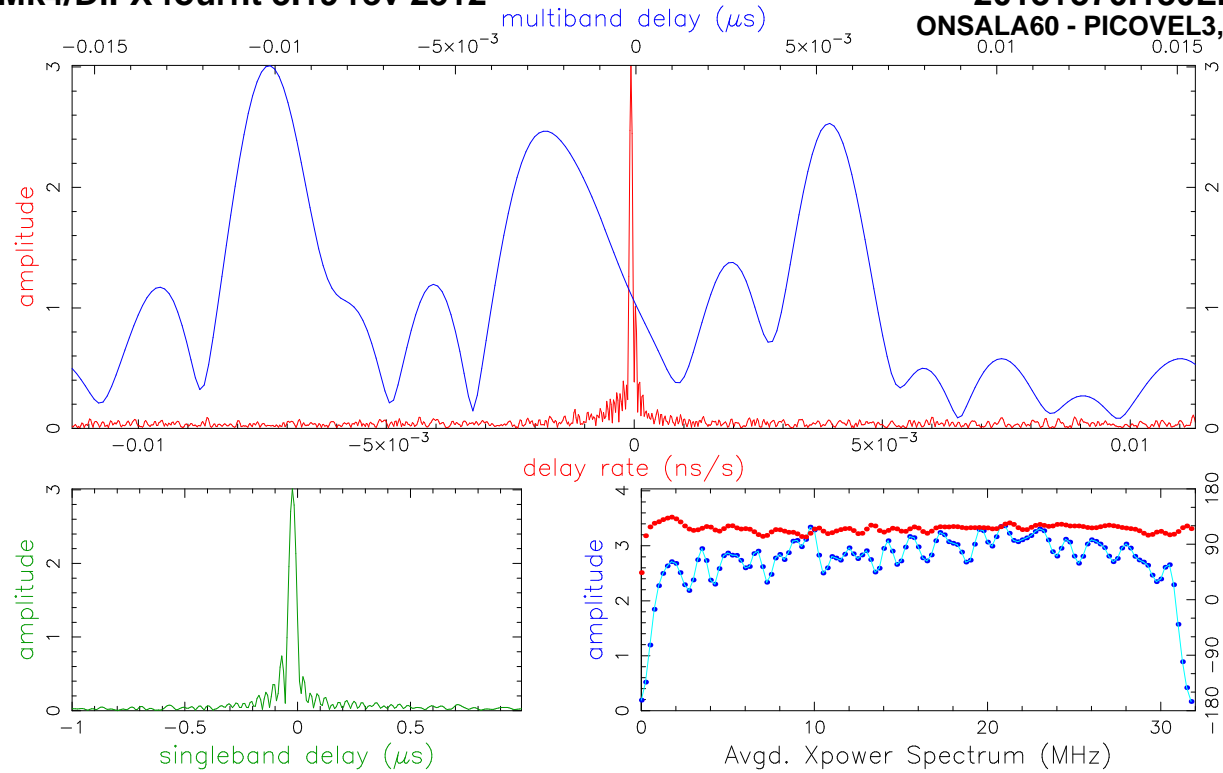
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All		
	-3.0	70.0	39.7	17.4	-95.5	9.2	85.4	-22.7	-10.1	-58.1	57.5	-42.8	-7.4	-12.6	39.4	96.7		Phase 14.3		
	0.3	0.3	0.4	0.4	0.2	0.3	0.1	0.2	0.5	0.1	0.2	0.2	0.1	0.4	0.5	0.3		Ampl. 0.2		
	62.6	102.4	10.9	10.9	239.3	213.1	233.6	54.8	83.8	56.6	187.1	205.5	185.2	252.2	154.6	239.1		Sbd box 9.9		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase		
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC		
n:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks		
Group delay (usec)(sbd)			3.06635028611E+03															Apriori delay (usec) 3.06727227153E+03	Resid mbdelay (usec) 1.55146E-02	+/- 1.8E-04
Sband delay (usec)			3.06634166803E+03															Apriori clock (usec) -5.8738213E+00	Resid sbdelay (usec) -9.30604E-01	+/- 2.9E-03
Phase delay (usec)			3.06727227199E+03															Apriori clockrate (us/s) -3.9377651E-07	Resid phdelay (usec) 4.61690E-07	+/- 6.3E-07
Delay rate (us/s)			1.19643567315E+00															Apriori rate (us/s) 1.19642681005E+00	Resid rate (us/s) 8.86310E-06	+/- 6.0E-09
Total phase (deg)				183.4														Apriori accel (us/s/s) -2.83974848744E-05	Resid phase (deg) 14.3	+/- 19.4

ph/seg (deg) 32.5 32.2 Search (1024X64) 0.158 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 40.6 56.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 54.9 38.8 Inc. seg. avg. 0.209 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
amp/frq (%) 68.9 67.7 Inc. frq. avg. 0.228 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
n: az 84.2 el 58.1 pa -68.7 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) -8631.797 -2890.340 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/nX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/nX.W.301.130LL8



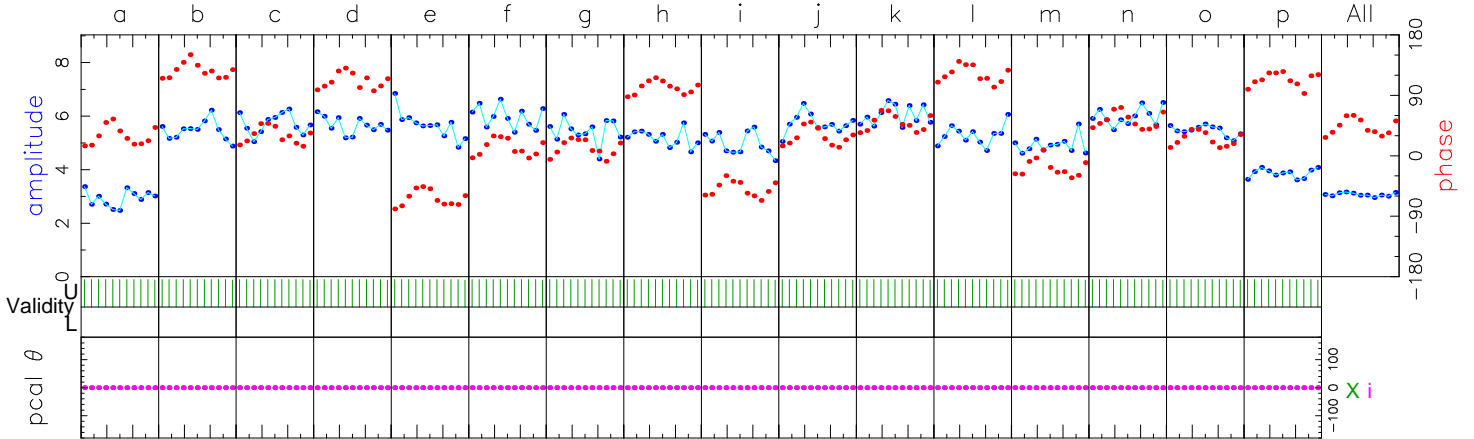


Fringe quality 5

SNR 110.5  
Int time 179.778  
Amp 3.013  
Phase 42.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.022780  
MBD -0.010162  
Fringe rate (Hz)  
-0.004888  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192c  
Exper # 16383  
Yr:day 2019:278  
Start 224000.00  
Stop 224300.23  
FRT 224130.00  
Corr/FF/build  
2020:076:113754  
2020:086:052047  
2020:014:135814  
RA & Dec (J2000)  
20h15m28.729803s  
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:ii	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)			-1.86313977240E+03															
Sband delay (usec)			-1.86315238969E+03															
Phase delay (usec)			-1.86312960881E+03															
Delay rate (us/s)			1.32744362288E-01															
Total phase (deg)					-181.0													
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
ion window (TEC)																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		

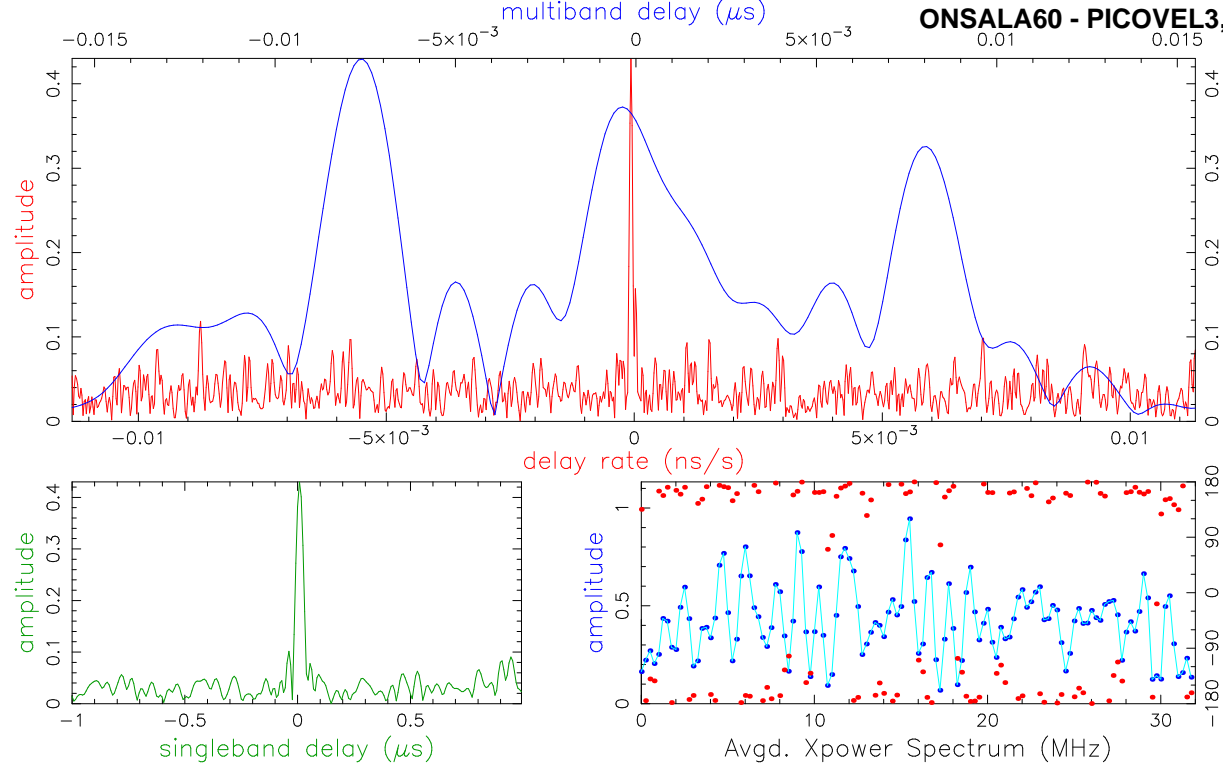
ph/seg (deg) 11.4 1.7  
amp/seg (%) 2.8 3.0  
ph/frq (deg) 61.4 2.1  
amp/frq (%) 76.1 3.6

Search (1024X64) 2.889  
Interp. 0.000  
Inc. seg. avg. 3.071  
Inc. frq. avg. 5.166

PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
SampCntNorm: enabled  
Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite  
ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 i: az 284.9 el 53.0 pa 75.7 u,v (fr/asec) -931.749 3276.282 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xi..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xi.W.289.130LL8

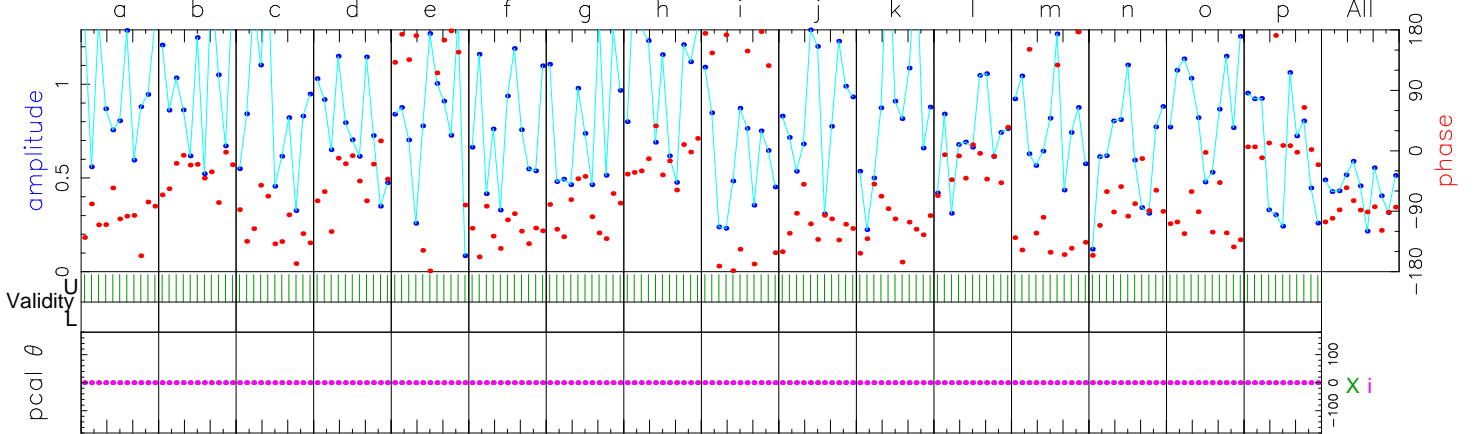


Fringe quality 9

SNR 15.8  
 Int time 179.778  
 Amp 0.430  
 Phase -87.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.008798  
 MBD -0.007604  
 Fringe rate (Hz)  
 -0.004833  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052049  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-101.0	-33.3	-105.6	-44.2	160.0	-119.5	-84.1	-13.6	172.9	-114.8	-105.5	-17.6	-158.6	-79.4	-103.8	9.1	Phase	-87.7				
	0.9	0.9	0.7	0.6	0.7	0.7	0.7	1.0	0.5	0.8	0.8	0.6	0.6	0.7	0.5	0.5	Ampl.	0.7				
	130.6	130.6	131.0	131.3	130.7	130.5	131.5	130.5	131.0	130.1	130.2	131.0	130.1	130.8	130.8	131.6	Sbd box	130.1				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
Xi	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.86310596434E+03														Apriori delay (usec)	-1.86312961019E+03	Resid mbdelay (usec)	-7.60415E-03	+/-	6.8E-05
Sband delay (usec)			-1.86312081269E+03														Apriori clock (usec)	3.2959568E+01	Resid sbdelay (usec)	8.79750E-03	+/-	1.1E-03
Phase delay (usec)			-1.86312961302E+03														Apriori clockrate (us/s)	8.8100003E-07	Resid phdelay (usec)	-2.82803E-06	+/-	2.3E-07
Delay rate (us/s)			1.32744362930E-01														Apriori rate (us/s)	1.32744419031E-01	Resid rate (us/s)	-5.61008E-08	+/-	2.3E-09
Total phase (deg)																	Apriori accel (us/s/s)	2.64528031449E-05	Resid phase (deg)	-87.7	+/-	7.3

ph/seg (deg) 15.8 12.0  
 amp/seg (%) 24.2 21.0  
 ph/frq (deg) 62.7 14.5  
 amp/frq (%) 73.2 25.4

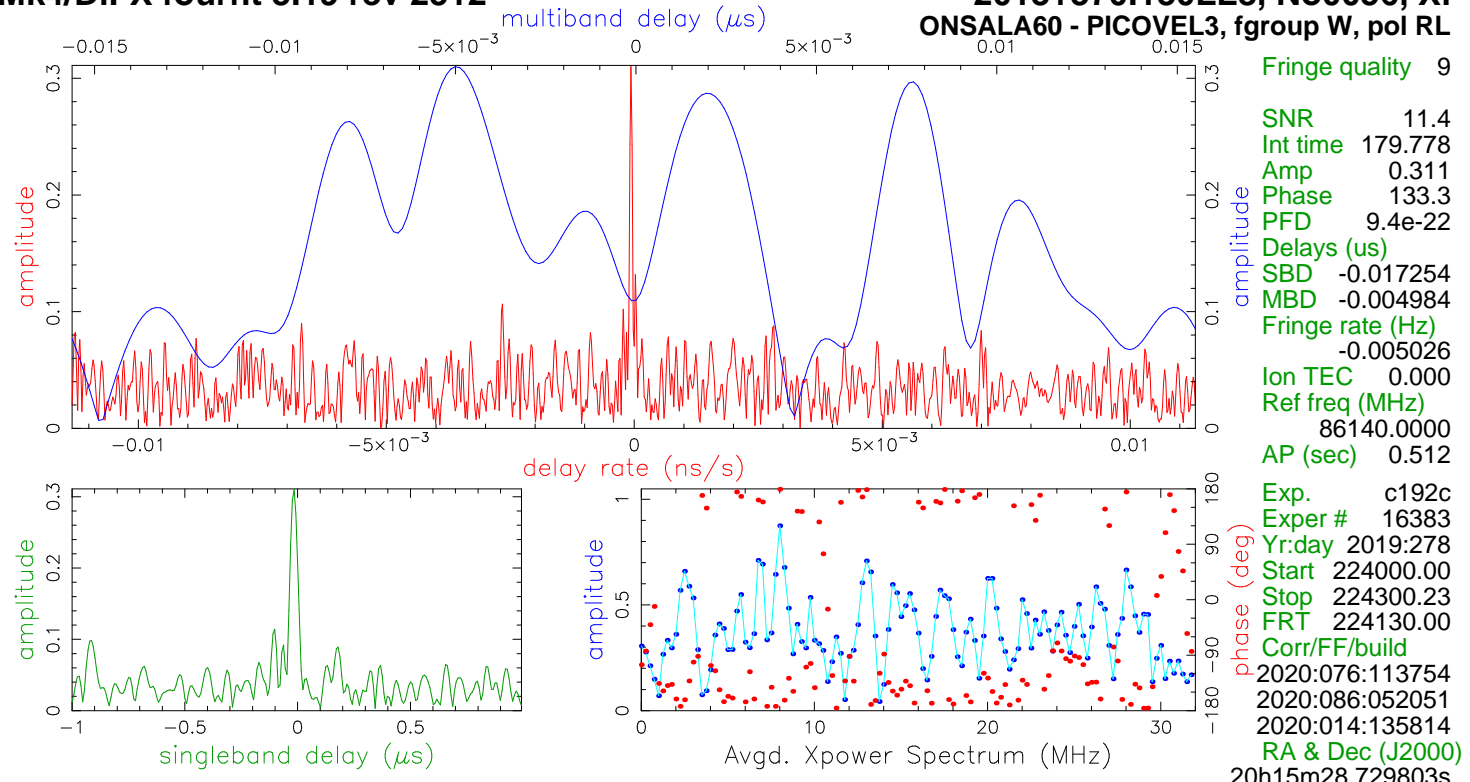
RMS Theor. Amplitude 0.430 +/- 0.027  
 Search (1024X64) 0.403  
 Interp. 0.000  
 Inc. seg. avg. 0.437  
 Inc. frq. avg. 0.697

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
 Bits/sample: 2x2 SampCntNorm: enabled  
 Sample rate(MSamp/s): 64  
 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite

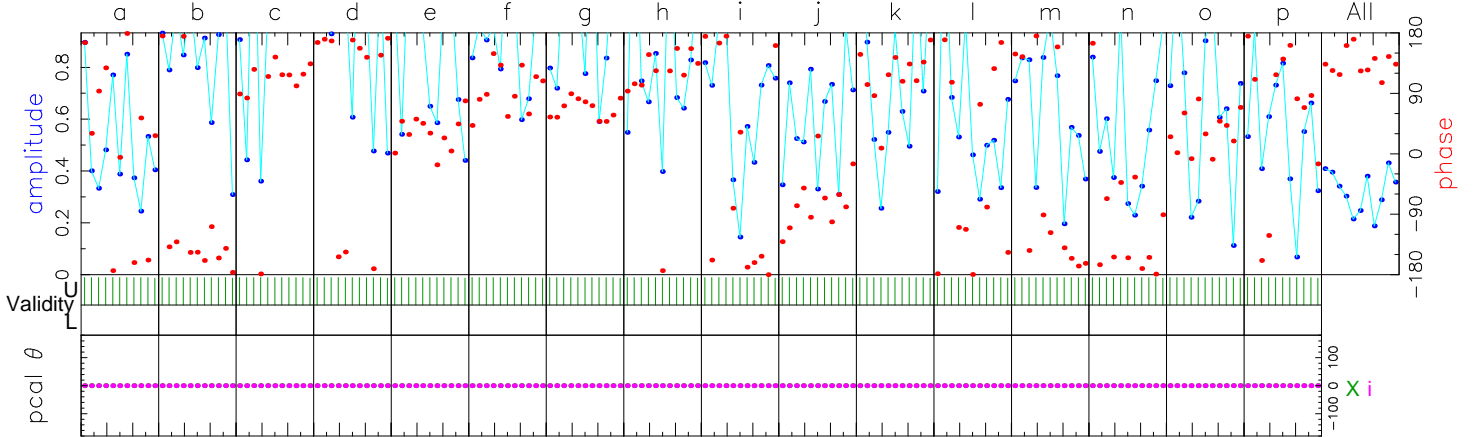
sb window (us) -1.000 1.000  
 mb window (us) -0.016 0.016  
 dr window (ns/s) -0.011 0.011  
 ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 i: az 284.9 el 53.0 pa 75.7 u,v (fr/asec) -931.749 3276.282 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xi..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xi.W.310.130LL8

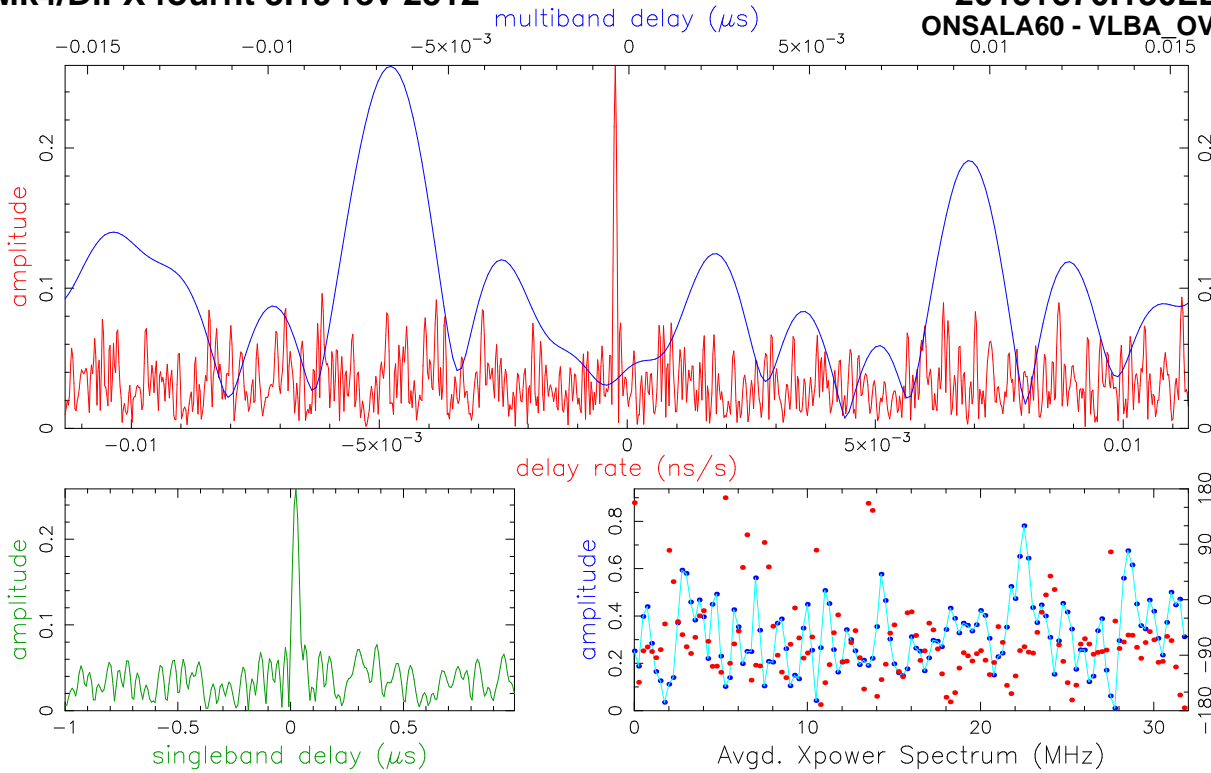


Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
155.5	-151.4	119.4	171.4	28.2	93.6	69.5	126.9	-175.7	-75.7	128.0	-171.8	-162.2	-129.1	29.4	130.7	130.7	Phase	133.3
0.2	0.8	1.0	0.9	0.8	0.8	1.0	0.8	0.6	0.5	0.7	0.4	0.5	0.3	0.6	0.3	0.6	Ampl.	0.6
221.1	127.0	127.1	127.4	126.3	126.9	126.7	127.6	127.3	128.2	126.2	247.6	126.4	126.0	127.2	29.5	29.5	Sbd box	126.8
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Xi	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
Xi	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	-1.86313459425E+03			Apriori delay (usec)			-1.86312961019E+03			Resid mbdelay (usec)			-4.98406E-03			+/- 9.5E-05		
Sband delay (usec)	-1.86314686469E+03			Apriori clock (usec)			3.2959568E+01			Resid sbdelay (usec)			-1.72545E-02			+/- 1.5E-03		
Phase delay (usec)	-1.86312960589E+03			Apriori clockrate (us/s)			8.8100003E-07			Resid phdelay (usec)			4.29722E-06			+/- 3.2E-07		
Delay rate (us/s)	1.32744360689E-01			Apriori rate (us/s)			1.32744419031E-01			Resid rate (us/s)			-5.83426E-08			+/- 3.1E-09		
Total phase (deg)	-90.6			Apriori accel (us/s/s)			2.64528031449E-05			Resid phase (deg)			133.3			+/- 10.0		
ph/seg (deg)	RMS	Theor.	Amplitude		0.311 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000 1.000			
amp/seg (%)	18.1	16.7	Search (1024X64)		0.299		Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)		-0.016 0.016					
ph/frq (deg)	25.3	29.1	Interp.		0.000		Sample rate(MISamp/s): 64		dr window (ns/s)		-0.011 0.011							
amp/frq (%)	74.4	20.1	Inc. seg. avg.		0.310		Data rate(Mb/s): 2048		nlags: 128		t_cohere infinite		ion window (TEC)		0.00 0.00			
	130.5	35.1	Inc. frq. avg.		0.601													
X: az 271.1 el 45.2 pa 42.5	i: az 284.9 el 53.0 pa 75.7		u,v (fr/asec)		-931.749 3276.282												simultaneous interpolator	
Control file: cf_1234_gmva			Input file: /Exps/c192c/v2/1234/No0056/Xi..130LL8			Output file: /Exps/c192c/v2/1234/No0056/Xi.W.320.130LL8												



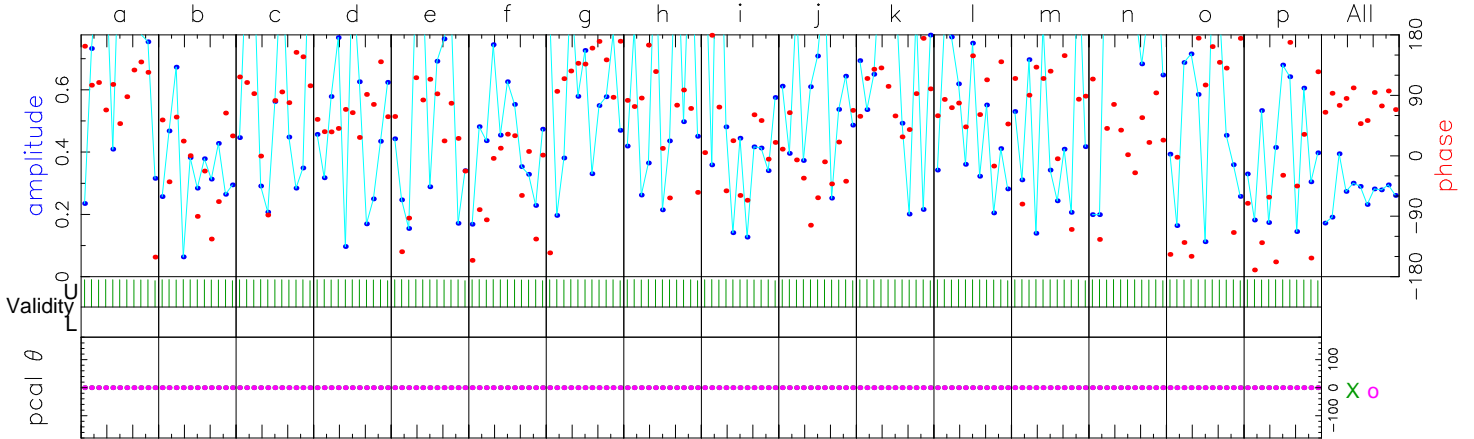


Fringe quality 9

SNR 9.4  
 Int time 178.028  
 Amp 0.259  
 Phase 78.2  
 PFD 7.3e-13  
 Delays (us)  
 SBD 0.022269  
 MBD -0.006611  
 Fringe rate (Hz)  
 -0.020271  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

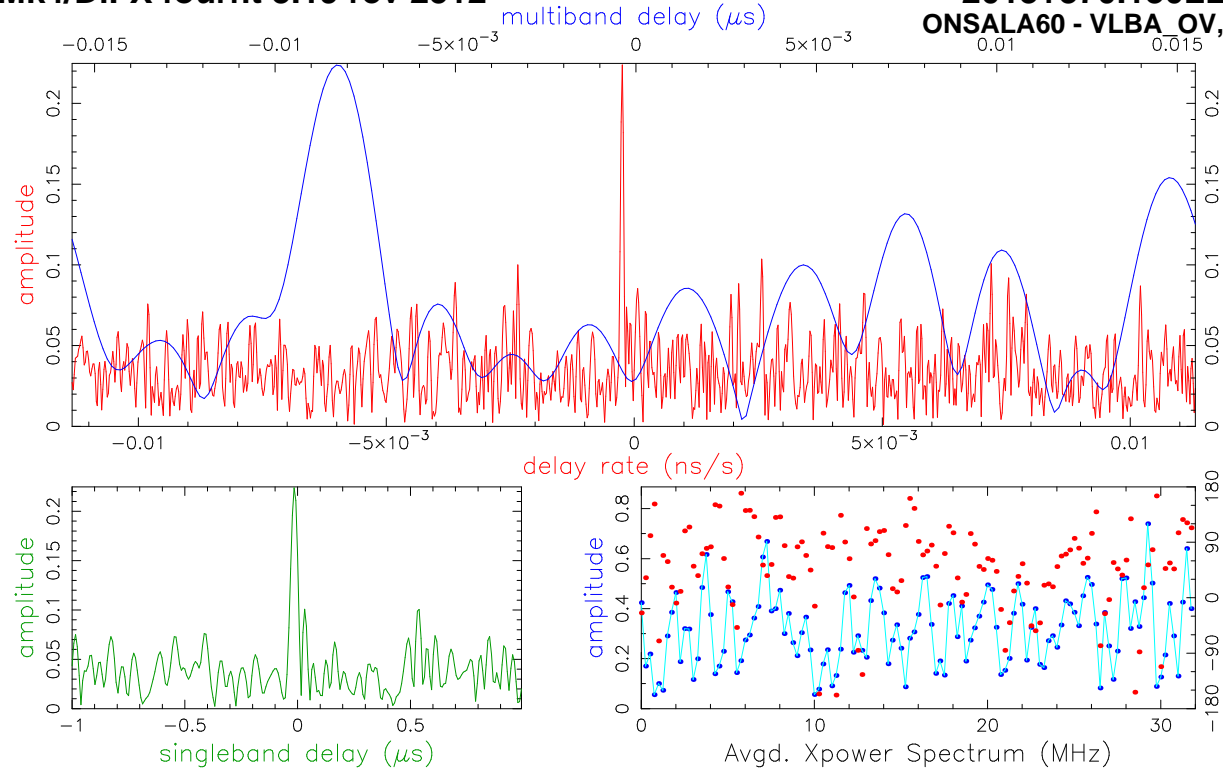
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052043  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		
X:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
x	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)		2.14585633077E+03																
Sband delay (usec)		2.14585396054E+03																
Phase delay (usec)		2.14583169406E+03																
Delay rate (us/s)		-1.50261777528E+00																
Total phase (deg)				45.4														
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MSamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		

ph/seg (deg) 17.2 20.1 Search (1024X64) 0.248 PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 22.2 35.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 70.9 24.3 Inc. seg. avg. 0.254 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 76.2 42.4 Inc. frq. avg. 0.367 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 271.1 el 45.2 pa 42.5 o: az 67.8 el 37.1 pa -67.8 u,v (fr/asec) 10817.780 1904.362 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xo..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xo.W.261.130LL8

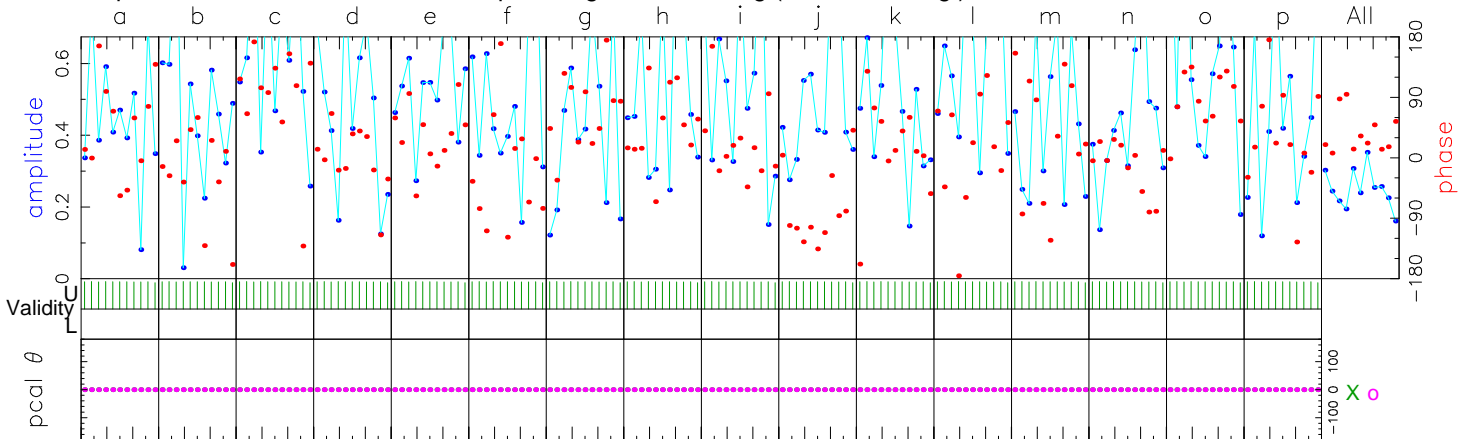


Fringe quality 9

SNR 8.2  
 Int time 178.028  
 Amp 0.225  
 Phase 32.2  
 PFD 4.2e-08  
 Delays (us)  
 SBD -0.014022  
 MBD -0.008243  
 Fringe rate (Hz)  
 -0.020072  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052045  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

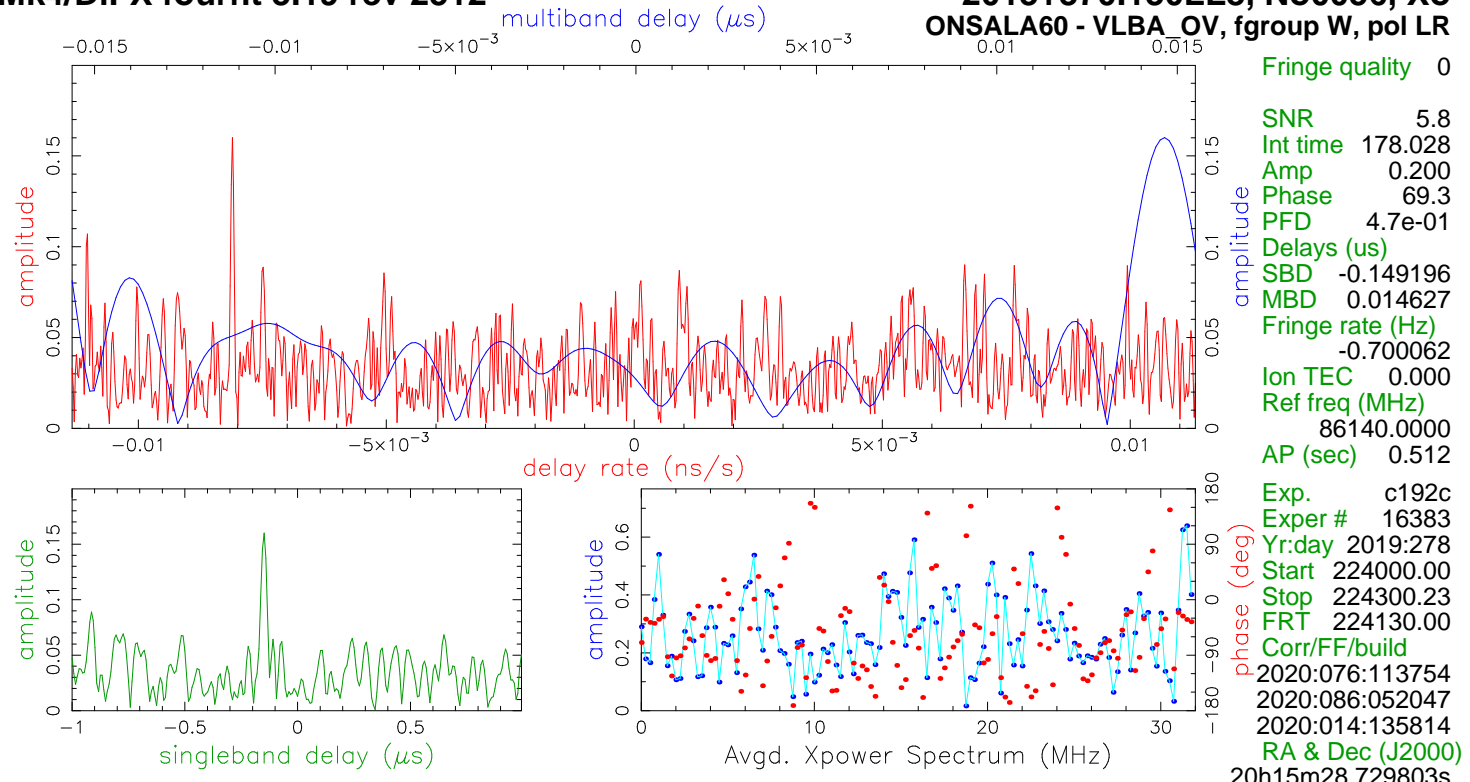
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



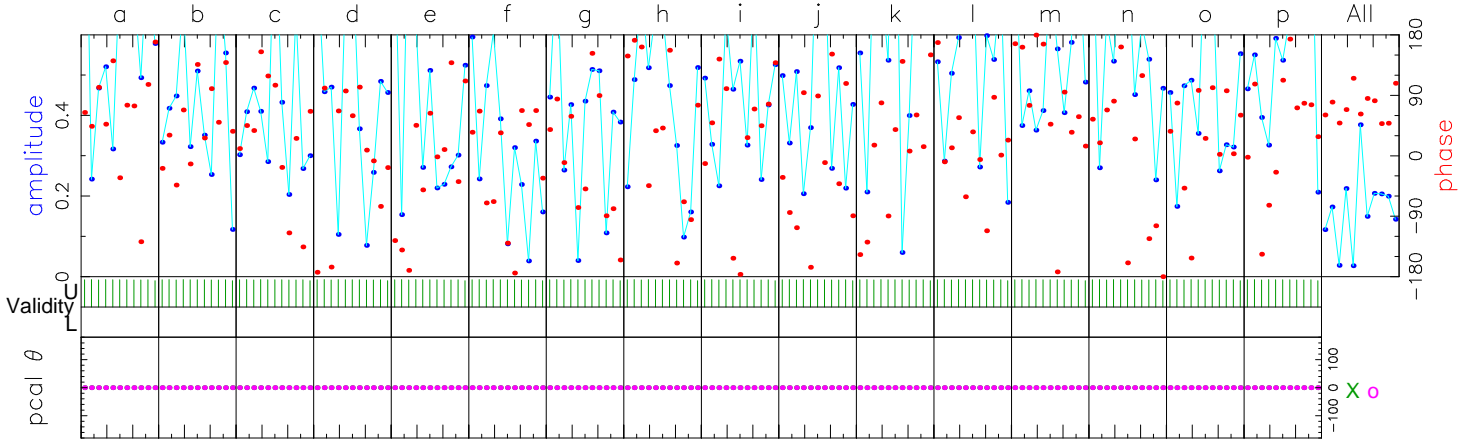
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
x	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks

Group delay (usec)(sbd)	2.14582344815E+03	Apriori delay (usec)	2.14583169154E+03	Resid mbdelay (usec)	-8.24339E-03	+/-	1.3E-04
Sband delay (usec)	2.14581767004E+03	Apriori clock (usec)	1.5742386E+01	Resid sbdelay (usec)	-1.40215E-02	+/-	2.1E-03
Phase delay (usec)	2.14583169258E+03	Apriori clockrate (us/s)	5.2701902E-07	Resid phdelay (usec)	1.03929E-06	+/-	4.5E-07
Delay rate (us/s)	-1.50261777297E+00	Apriori rate (us/s)	-1.50261753994E+00	Resid rate (us/s)	-2.33021E-07	+/-	4.3E-09
Total phase (deg)	359.4	Apriori accel (us/s/s)	4.89748422581E-06	Resid phase (deg)	32.2	+/-	14.0

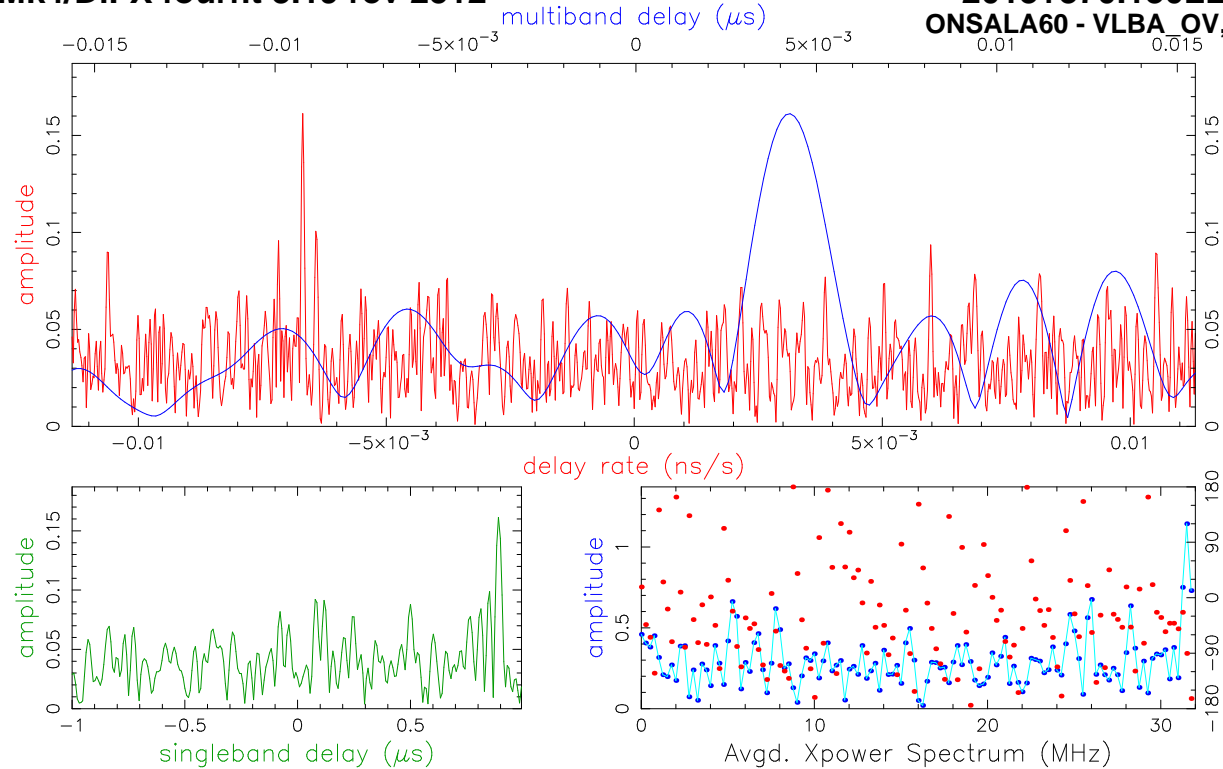
ph/seg (deg)	RMS 29.5	Theor. 23.2	Amplitude Search (1024X64)	0.225 +/- 0.027	0.214	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	25.8	40.4	Interp.	0.000	0.214	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	53.1	27.9	Inc. seg. avg.	0.232	0.232	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	62.7	48.8	Inc. frq. avg.	0.299	0.299	Sample rate(MSamp/s): 64	mb window (us) -0.016 0.016
						Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 128	t_cohere infinite
							ion window (TEC) 0.00 0.00



Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
80.3	52.6	62.4	95.4	146.5	6.4	66.3	115.1	92.4	-35.5	46.8	11.1	100.8	120.4	52.9	78.6	Phase	69.3	
0.4	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.3	Ampl.	0.2	
100.1	88.0	145.2	212.8	114.3	236.2	9.9	193.6	188.7	217.8	183.7	126.8	73.6	251.2	175.8	49.4	Sbd box	109.9	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.14569006900E+03			Apriori delay (usec)			2.14583169154E+03			Resid mbdelay (usec)			1.46275E-02			+/- 1.8E-04		
Sband delay (usec)	2.14568249604E+03			Apriori clock (usec)			1.5742386E+01			Resid sbdelay (usec)			-1.49196E-01			+/- 2.9E-03		
Phase delay (usec)	2.14583169377E+03			Apriori clockrate (us/s)			5.2701902E-07			Resid phdelay (usec)			2.23577E-06			+/- 6.3E-07		
Delay rate (us/s)	-1.50262566697E+00			Apriori rate (us/s)			-1.50261753994E+00			Resid rate (us/s)			-8.12703E-06			+/- 6.1E-09		
Total phase (deg)	36.6			Apriori accel (us/s/s)			4.89748422581E-06			Resid phase (deg)			69.3			+/- 19.6		
ph/seg (deg)	RMS	Theor.	Amplitude			0.200 +/- 0.034			Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5						
amp/seg (%)	22.4	32.5	Search (1024X64)			0.154			Pcal rate: 0.000E+00, 0.000E+00 (us/s)			sb window (us)			-1.000 1.000			
ph/frq (deg)	57.6	56.7	Interp.			0.000			Bits/sample: 2x2			SampCntNorm: enabled			mb window (us)		-0.016 0.016	
amp/frq (%)	48.2	39.2	Inc. seg. avg.			0.180			Sample rate(MSamp/s): 64			dr window (ns/s)			-0.011 0.011			
	54.1	68.4	Inc. frq. avg.			0.198			Data rate(Mb/s): 2048			nlags: 128 t_cohere infinite			ion window (TEC)		0.00 0.00	
X: az 271.1 el 45.2 pa 42.5	o: az 67.8 el 37.1 pa -67.8			u,v (fr/asec)			10817.780 1904.362									simultaneous interpolator		
Control file: cf_1234_gmva	Input file: /Exps/c192c/v2/1234/No0056/Xo..130LL8			Output file: /Exps/c192c/v2/1234/No0056/Xo.W.296.130LL8														

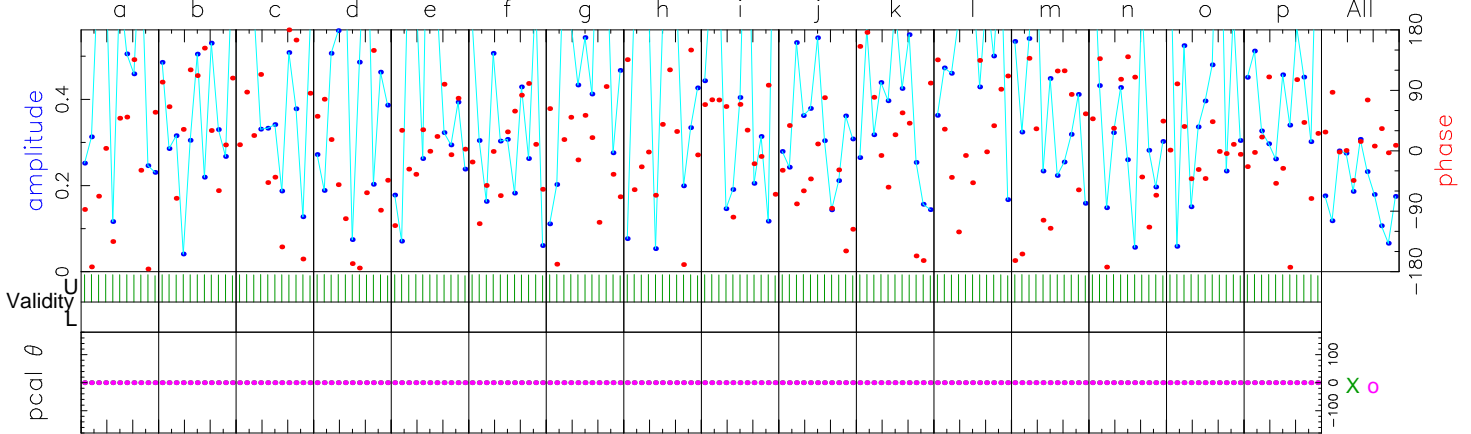


Fringe quality 0

SNR 5.9  
 Int time 178.028  
 Amp 0.187  
 Phase 15.2  
 PFD 3.9e-01  
 Delays (us)  
 SBD 0.891105  
 MBD 0.004260  
 Fringe rate (Hz)  
 -0.577714  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052050  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

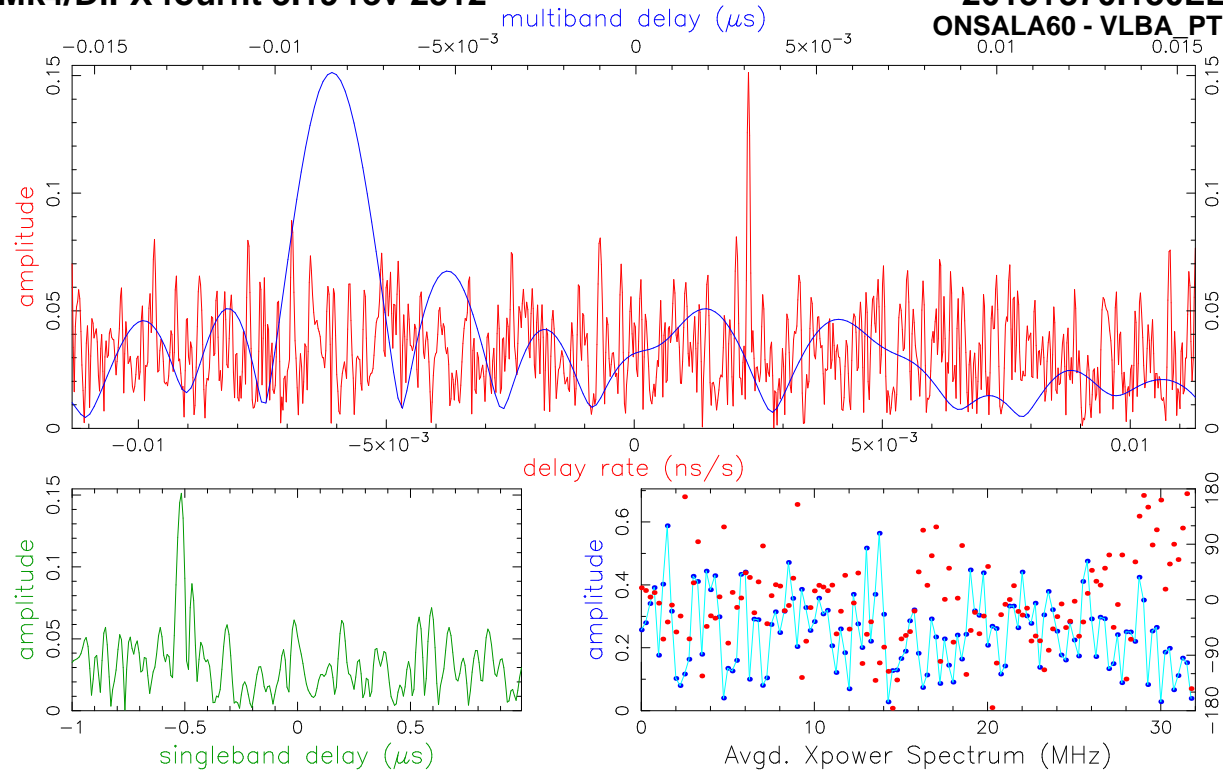


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-0.1	82.0	70.2	-66.9	2.5	4.3	12.3	16.6	33.7	-45.5	55.0	16.7	149.3	56.8	2.9	16.0	Phase	15.2				
	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.5	0.3	Ampl.	0.2				
	158.8	93.8	108.0	26.4	103.3	57.6	230.9	92.2	81.7	63.3	8.9	183.6	34.3	193.4	238.9	14.9	Sbd box	243.1				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			2.14671095181E+03														Apriori delay (usec)	2.14583169154E+03	Resid mbdelay (usec)	4.26027E-03	+/-	1.8E-04
Sband delay (usec)			2.14672279654E+03														Apriori clock (usec)	1.5742386E+01	Resid sbdelay (usec)	8.91105E-01	+/-	2.9E-03
Phase delay (usec)			2.14583169203E+03														Apriori clockrate (us/s)	5.2701902E-07	Resid phdelay (usec)	4.89632E-07	+/-	6.3E-07
Delay rate (us/s)			-1.50262424664E+00														Apriori rate (us/s)	-1.50261753994E+00	Resid rate (us/s)	-6.70669E-06	+/-	6.0E-09
Total phase (deg)					342.4												Apriori accel (us/s/s)	4.89748422581E-06	Resid phase (deg)	15.2	+/-	19.5

ph/seg (deg) RMS Theor. Amplitude 0.187 +/- 0.032 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 35.5 32.3 Search (1024X64) 0.160 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 49.0 56.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 53.6 38.9 Inc. seg. avg. 0.191 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 amp/frq (%) 56.9 67.9 Inc. frq. avg. 0.191 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 o: az 67.8 el 37.1 pa -67.8 u,v (fr/asec) 10817.780 1904.362 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xo..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xo.W.317.130LL8

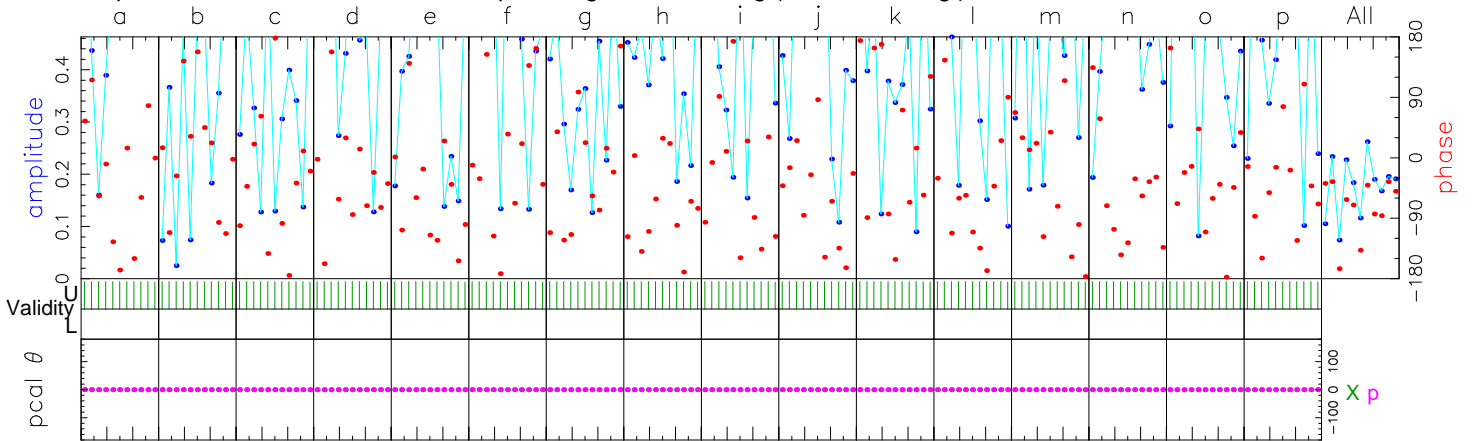


Fringe quality 0

SNR 5.6  
 Int time 179.584  
 Amp 0.154  
 Phase -61.4  
 PFD 9.6e-01  
 Delays (us)  
 SBD -0.517118  
 MBD -0.008418  
 Fringe rate (Hz) 0.198452  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

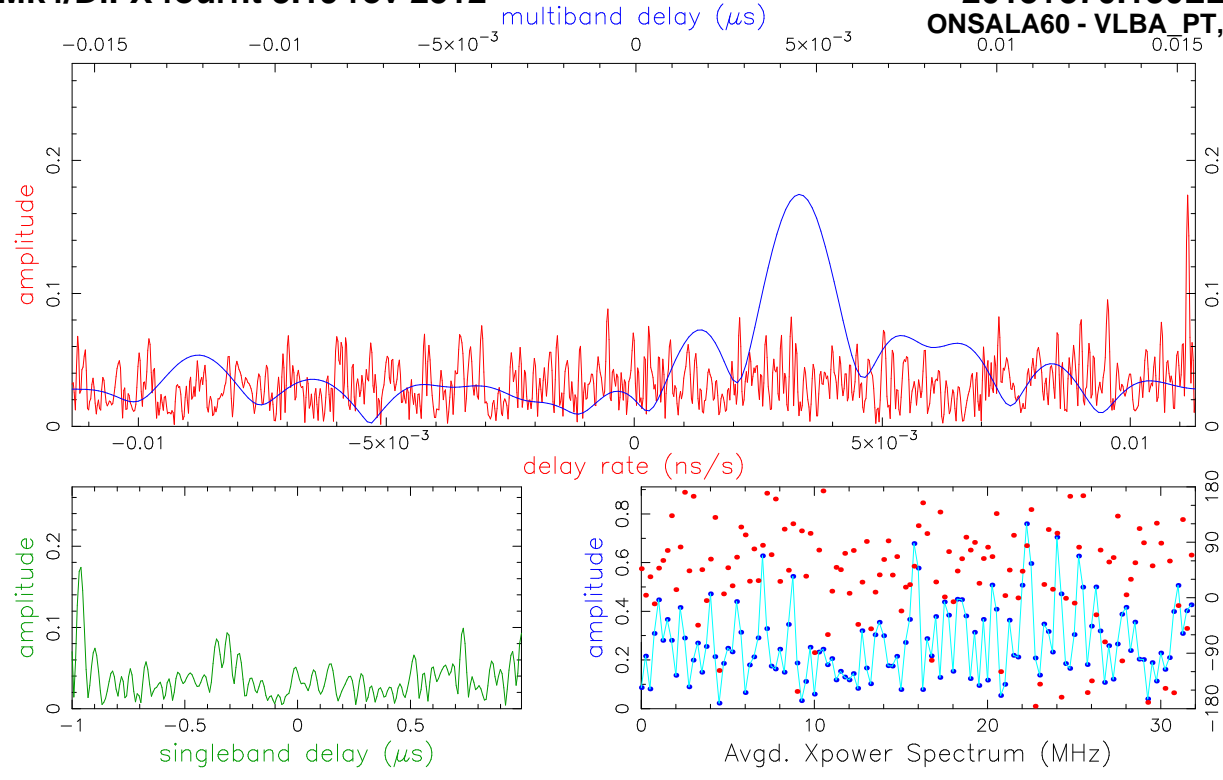
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build 2020:076:113754  
 2020:086:052050  
 2020:014:135814  
 RA & Dec (J2000) 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



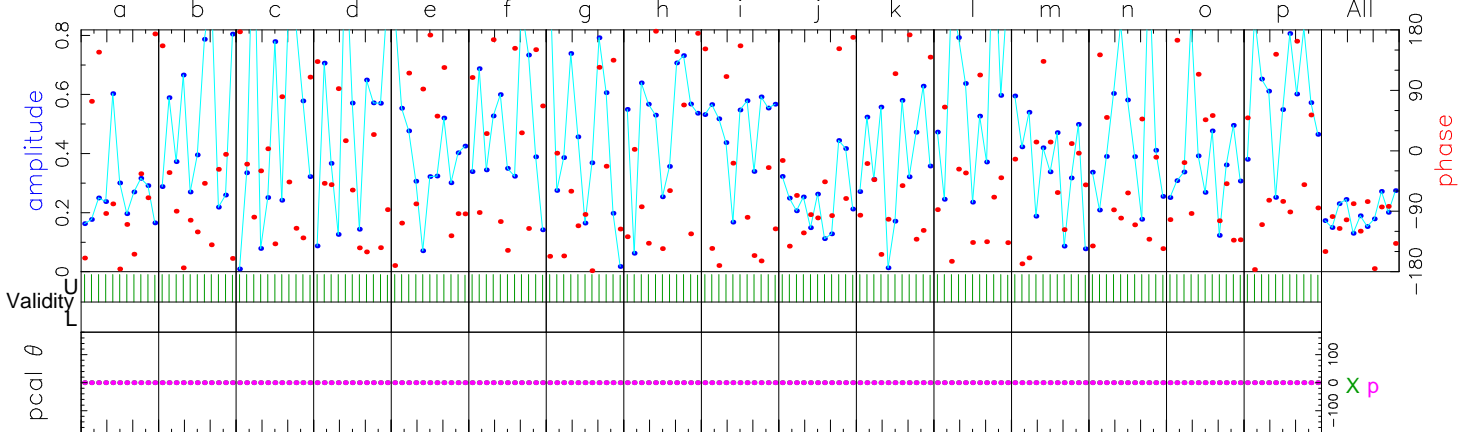
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	21.6	-107.5	-66.0	-60.5	-85.2	-37.8	-34.6	-66.9	-73.7	-45.7	-130.4	-68.9	26.2	-82.7	-46.9	-52.0		Phase	-61.4			
	0.1	0.0	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.2		Ampl.	0.1			
	199.7	120.1	251.1	180.1	22.2	181.7	179.1	197.2	201.8	132.9	90.2	23.6	203.8	206.8	63.0	9.0		Sbd box	62.8			
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs				
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase				
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC				
X:p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp				
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids				
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks				
	Group delay (usec)(sbd)		2.86875758266E+02				Apriori delay (usec)				2.87384176634E+02				Resid mbdelay (usec)				-8.41837E-03		+/- 1.9E-04	
	Sband delay (usec)		2.86867058634E+02				Apriori clock (usec)				2.0428177E+01				Resid sbdelay (usec)				-5.17118E-01		+/- 3.1E-03	
	Phase delay (usec)		2.87384174654E+02				Apriori clockrate (us/s)				3.2411343E-07				Resid phdelay (usec)				-1.97984E-06		+/- 6.6E-07	
	Delay rate (us/s)		-1.45347891116E+00				Apriori rate (us/s)				-1.45348121499E+00				Resid rate (us/s)				2.30383E-06		+/- 6.4E-09	
	Total phase (deg)		289.7				Apriori accel (us/s/s)				1.76303395406E-05				Resid phase (deg)				-61.4		+/- 20.6	

ph/seg (deg) 42.8 34.2 Search (1024X64) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 40.0 59.6 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 41.2 Inc. seg. avg. 0.153 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 52.3 71.9 Inc. frq. avg. 0.139 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 271.1 el 45.2 pa 42.5 p: az 68.8 el 43.7 pa -75.2 u,v (fr/asec) 10474.464 2958.744 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xp..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xp.W.314.130LL8



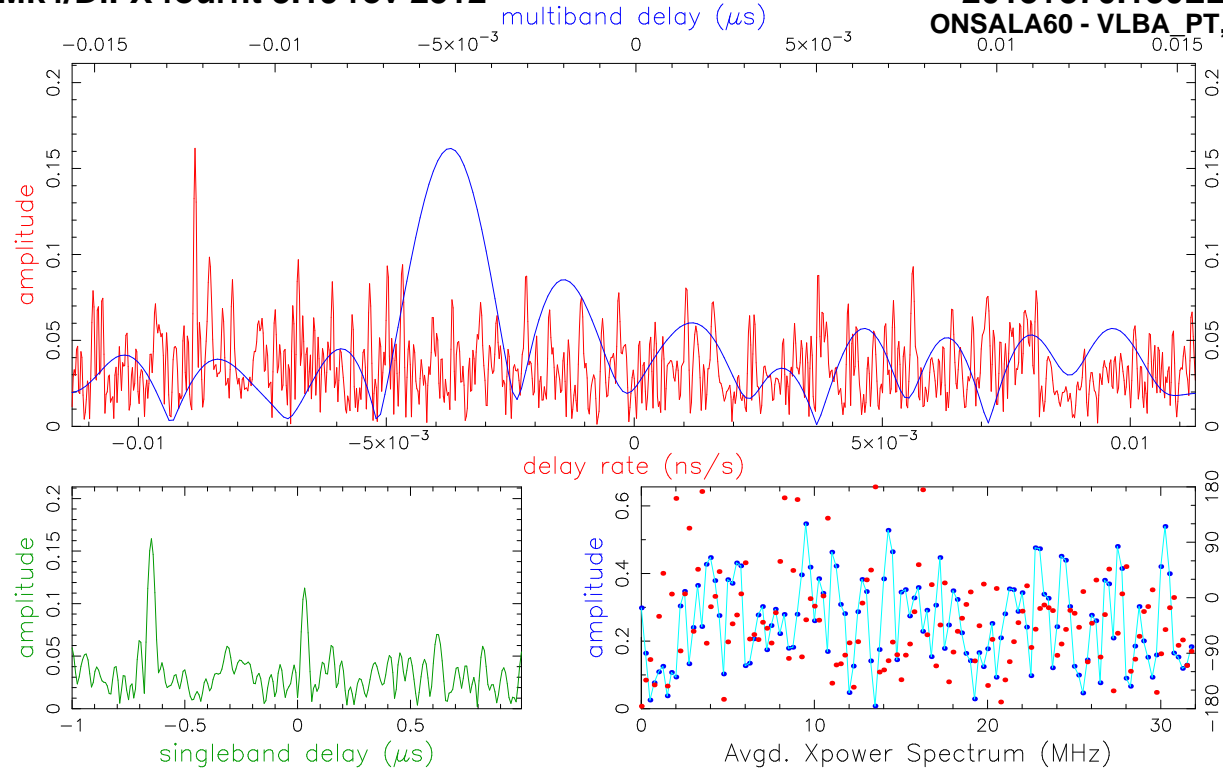
Fringe quality 0  
 SNR 6.5  
 Int time 179.584  
 Amp 0.273  
 Phase -110.7  
 PFD 1.4e-02  
 Delays (us)  
 SBD -0.963823  
 MBD 0.004438  
 Fringe rate (Hz) 0.962196  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052051  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All		
	-114.7	-112.7	-95.3	-57.4	-156.3	-144.2	-134.2	-152.0	-155.9	-105.7	-111.3	-89.5	-28.4	-100.3	-94.7	-98.9	Phase	-110.7		
	0.2	0.4	0.5	0.4	0.3	0.2	0.3	0.4	0.4	0.2	0.3	0.5	0.1	0.4	0.2	0.4	Ampl.	0.3		
	251.4	132.0	8.4	36.0	185.3	109.8	30.0	71.1	150.8	208.1	194.1	76.3	79.7	192.9	52.1	3.4	Sbd box	5.6		
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase			
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC			
X:p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000				
x	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids			
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks			
																	Chan ids			
																	Tracks			
Group delay (usec)(sbd)	2.86419864957E+02				Apriori delay (usec)				2.87384176634E+02				Resid mbdelay (usec)				4.43832E-03		+/-	1.7E-04
Sband delay (usec)	2.86420353634E+02				Apriori clock (usec)				2.0428177E+01				Resid sbdelay (usec)				-9.63823E-01		+/-	2.7E-03
Phase delay (usec)	2.87384173064E+02				Apriori clockrate (us/s)				3.2411343E-07				Resid phdelay (usec)				-3.56937E-06		+/-	5.7E-07
Delay rate (us/s)	-1.45347004484E+00				Apriori rate (us/s)				-1.45348121499E+00				Resid rate (us/s)				1.11701E-05		+/-	5.5E-09
Total phase (deg)	240.4				Apriori accel (us/s/s)				1.76303395406E-05				Resid phase (deg)				-110.7		+/-	17.7

ph/seg (deg) 31.0 29.4 Search (1024X64) 0.164 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 29.8 51.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 36.2 35.5 Inc. seg. avg. 0.273 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 43.0 61.9 Inc. frq. avg. 0.262 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 271.1 el 45.2 pa 42.5 p: az 68.8 el 43.7 pa -75.2 u,v (fr/asec) 10474.464 2958.744 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xp..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xp.W.325.130LL8

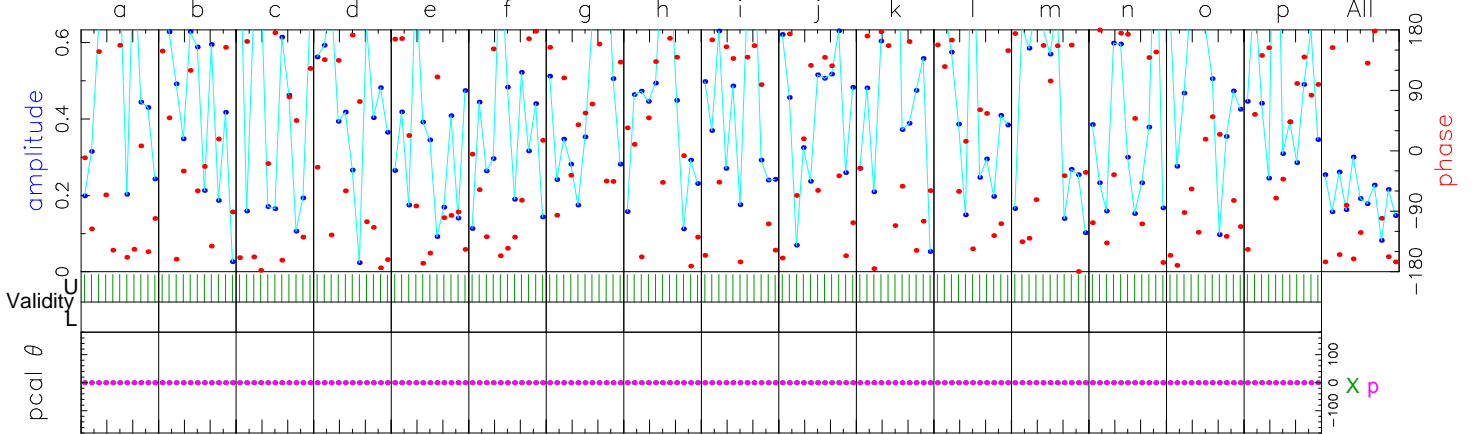


Fringe quality 0

SNR 5.9  
 Int time 179.584  
 Amp 0.211  
 Phase -160.7  
 PFD 3.2e-01  
 Delays (us)  
 SBD -0.649005  
 MBD -0.005153  
 Fringe rate (Hz)  
 -0.764624  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

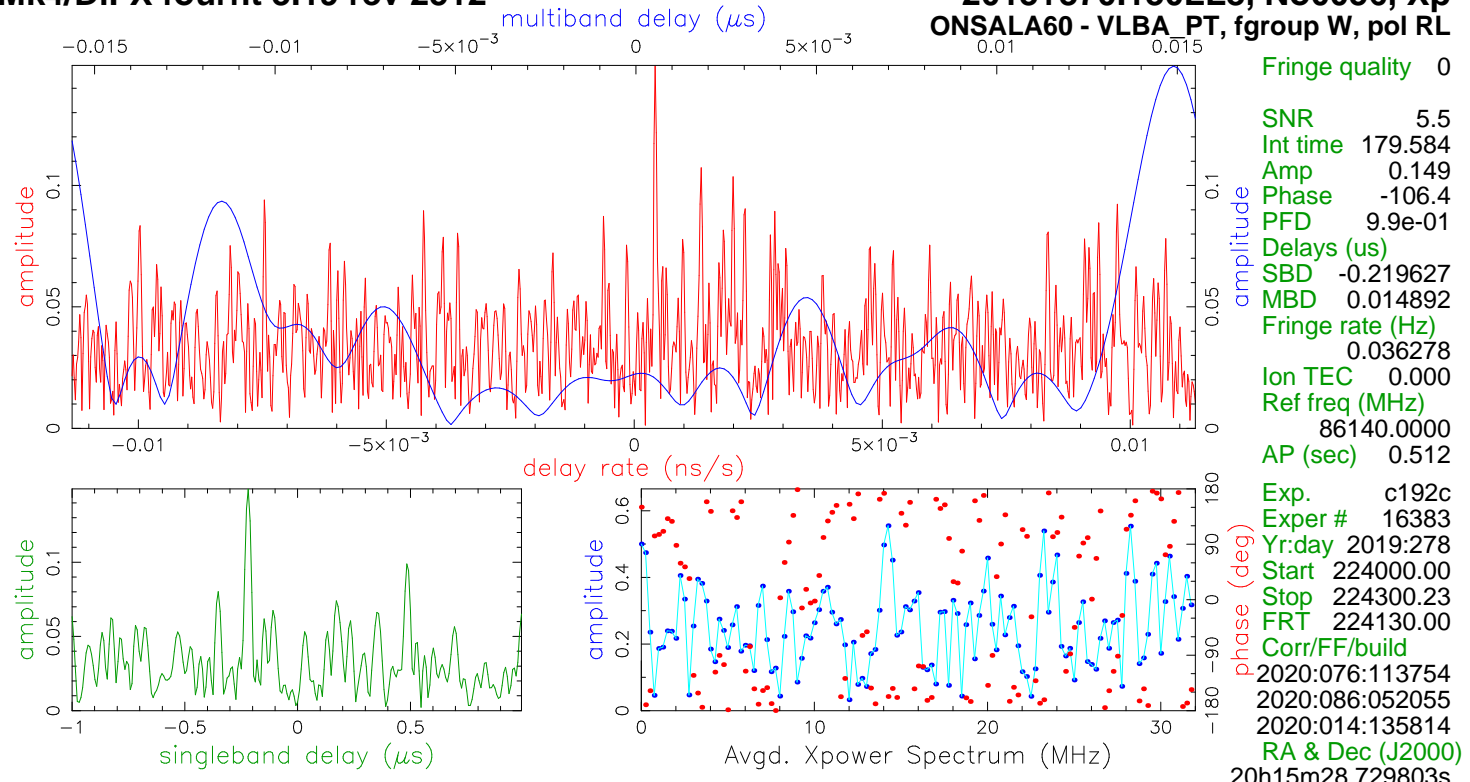
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052053  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-147.0	159.6	177.7	-138.7	-133.2	-139.0	79.9	158.4	168.5	-153.3	-144.9	174.9	-168.8	-177.6	-98.8	87.3	Phase	-160.7
	0.4	0.1	0.4	0.3	0.3	0.3	0.1	0.1	0.3	0.2	0.4	0.3	0.3	0.3	0.4	0.1	Ampl.	0.2
	39.5	247.4	22.1	252.6	15.1	23.2	57.7	69.8	104.2	226.8	221.1	20.0	47.8	30.6	128.5	201.0	Sbd box	45.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X:p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
x	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.86722773787E+02			Apriori delay (usec)			2.87384176634E+02			Resid mbdelay (usec)			-5.15285E-03			+/- 1.8E-04		
Sband delay (usec)	2.86735172134E+02			Apriori clock (usec)			2.0428177E+01			Resid sbdelay (usec)			-6.49005E-01			+/- 2.9E-03		
Phase delay (usec)	2.87384171452E+02			Apriori clockrate (us/s)			3.2411343E-07			Resid phdelay (usec)			-5.18136E-06			+/- 6.2E-07		
Delay rate (us/s)	-1.45349009152E+00			Apriori rate (us/s)			-1.45348121499E+00			Resid rate (us/s)			-8.87653E-06			+/- 6.0E-09		
Total phase (deg)	190.4			Apriori accel (us/s/s)			1.76303395406E-05			Resid phase (deg)			-160.7			+/- 19.3		

ph/seg (deg) 41.5 32.0 Search (1024X64) 0.211 +/- 0.036 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 42.7 55.9 Interp. 0.160 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 52.4 38.7 Inc. seg. avg. 0.223 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 55.5 67.5 Inc. frq. avg. 0.211 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 271.1 el 45.2 pa 42.5 p: az 68.8 el 43.7 pa -75.2 u,v (fr/asec) 10474.464 2958.744 ion window (TEC) 0.00 0.00 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xp..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xp.W.336.130LL8



Fringe quality 0

SNR 5.5

Int time 179.584

Amp 0.149

Phase -106.4

PFD 9.9e-01

Delays (us)

SBD -0.219627

MBD 0.014892

Fringe rate (Hz)

0.036278

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192c

Exper # 16383

Yr:day 2019:278

Start 224000.00

Stop 224300.23

FRT 224130.00

Corr/FF/build

2020:076:113754

2020:086:052055

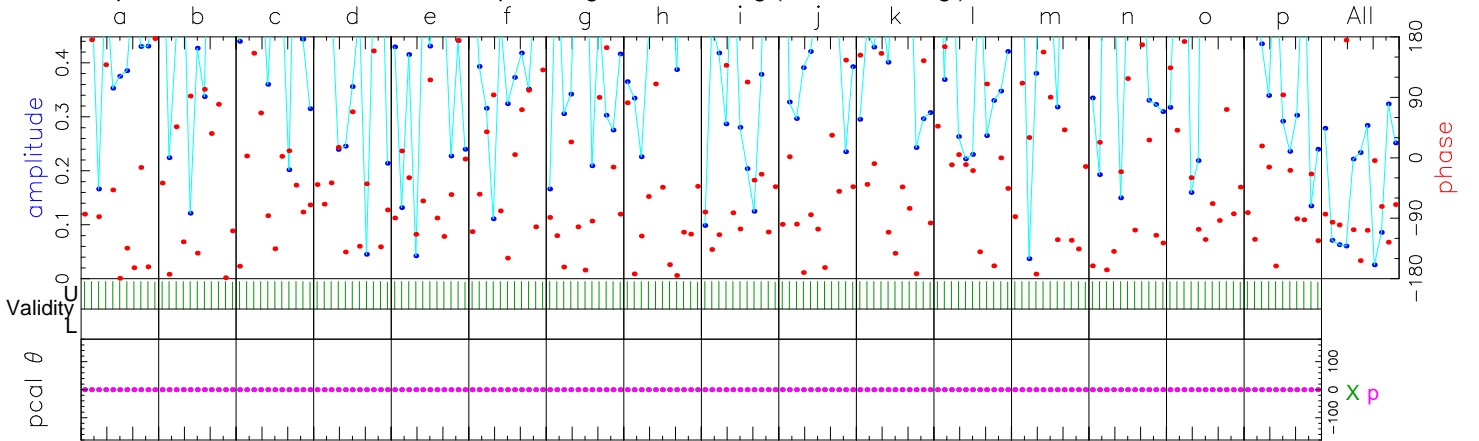
2020:014:135814

RA & Dec (J2000)

20h15m28.729803s

+37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-149.4	176.0	-55.3	-83.1	-84.7	-85.5	-125.9	-119.3	-90.6	-98.9	-107.0	-4.5	-174.8	-151.1	-96.6	-86.7		Phase -106.4
	0.2	0.0	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.3	0.2	0.2		Ampl. 0.1
	175.0	196.0	190.9	138.9	192.4	29.4	61.1	190.1	95.7	248.3	129.4	212.6	69.6	19.8	93.9	42.1		Sbd box 100.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
X:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
X:p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
x	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks
																		Chan ids
																		Tracks
Group delay (usec)(sbd)	2.87149068702E+02			Apriori delay (usec)			2.87384176634E+02			Resid mbdelay (usec)			1.48921E-02			+/- 2.0E-04		
Sband delay (usec)	2.87164550134E+02			Apriori clock (usec)			2.0428177E+01			Resid sbdelay (usec)			-2.19627E-01			+/- 3.1E-03		
Phase delay (usec)	2.87384173203E+02			Apriori clockrate (us/s)			3.2411343E-07			Resid phdelay (usec)			-3.43096E-06			+/- 6.8E-07		
Delay rate (us/s)	-1.45348079384E+00			Apriori rate (us/s)			-1.45348121499E+00			Resid rate (us/s)			4.21147E-07			+/- 6.5E-09		
Total phase (deg)	244.7			Apriori accel (us/s/s)			1.76303395406E-05			Resid phase (deg)			-106.4			+/- 20.9		

ph/seg (deg) 45.1 34.7 Search (1024X64) 0.145 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 72.5 60.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

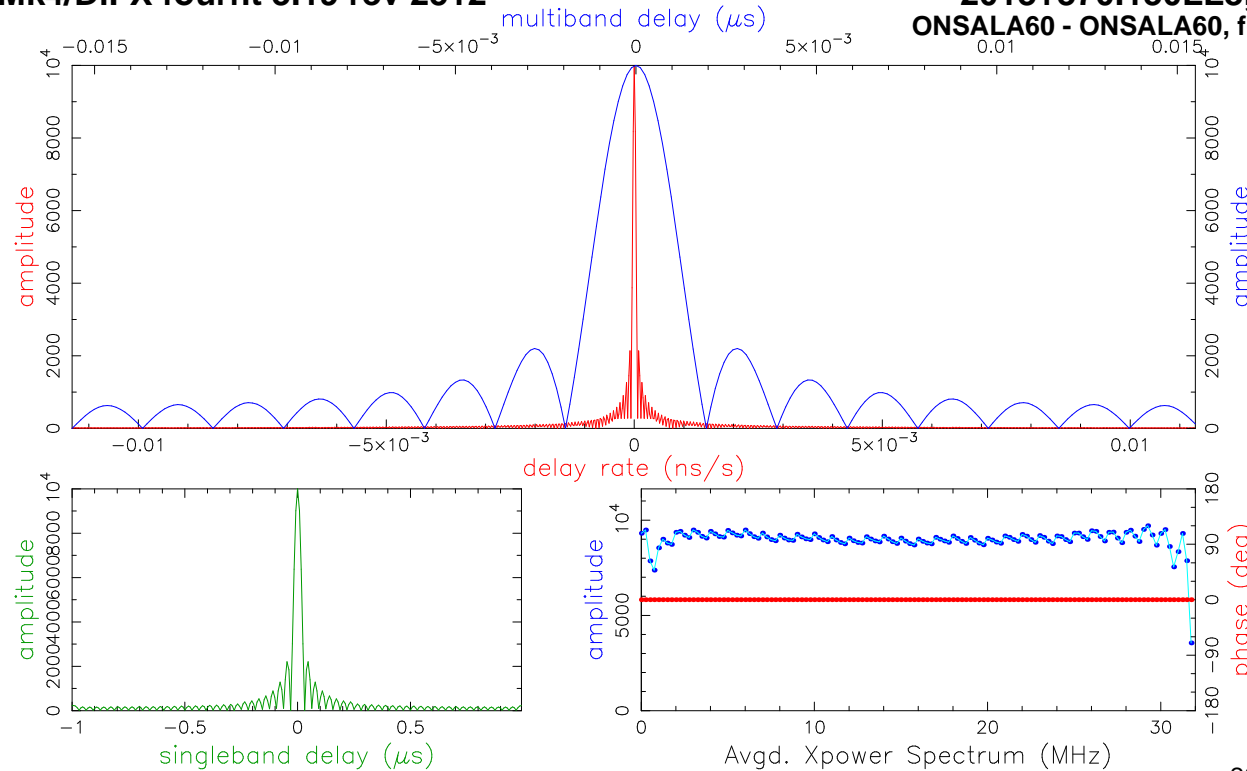
ph/frq (deg) 46.6 41.9 Inc. seg. avg. 0.146 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 51.5 73.1 Inc. frq. avg. 0.144 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011

X: az 271.1 el 45.2 pa 42.5 p: az 68.8 el 43.7 pa -75.2 u,v (fr/asec) 10474.464 2958.744 ion window (TEC) 0.00 0.00 simultaneous interpolator

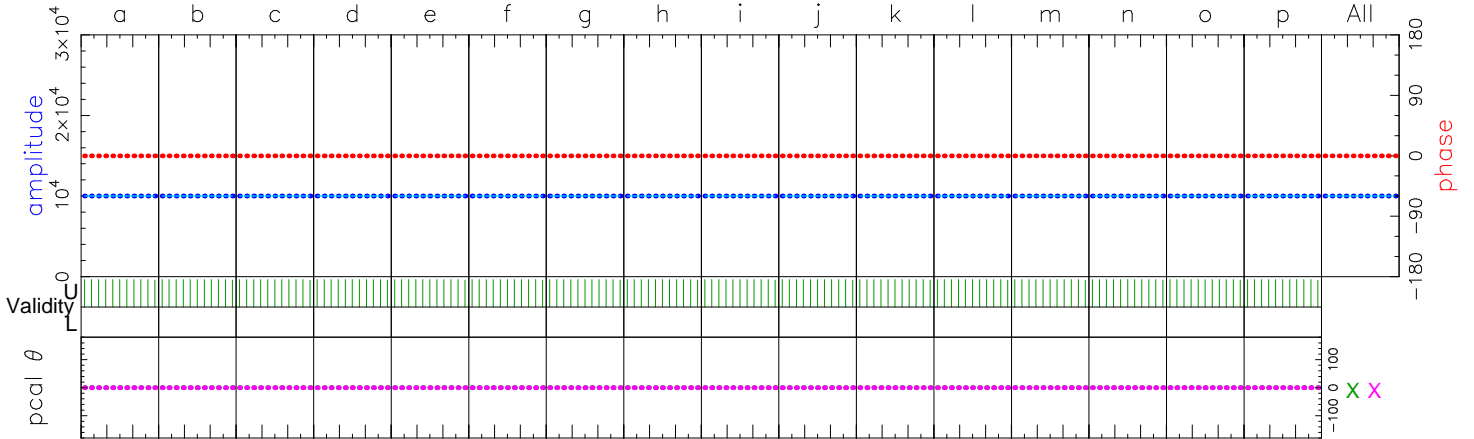
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/Xp..130LL8 Output file: /Exps/c192c/v2/1234/No0056/Xp.W.347.130LL8





Fringe quality 9  
 SNR 366662.0  
 Int time 179.778  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052049  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

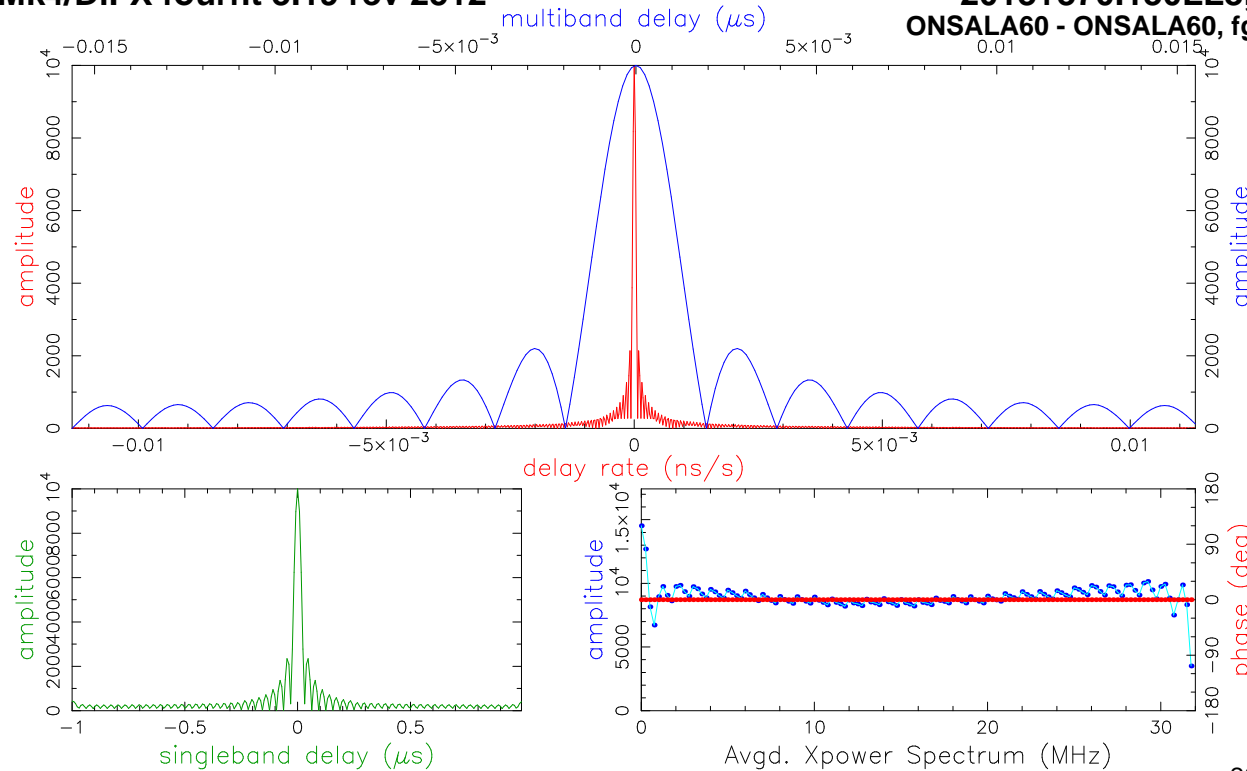


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
0.0	-0.0	-0.0	0.0	0.0	0.0	-0.0	-0.0	0.0	-0.0	-0.0	0.0	0.0	-0.0	-0.0	0.0	0.0	Phase	0.0
10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	Sbd box	129.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 2.9E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 4.7E-08  
 Phase delay (usec) 1.76195889142E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 1.76196E-20 +/- 1.0E-11  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-14  
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

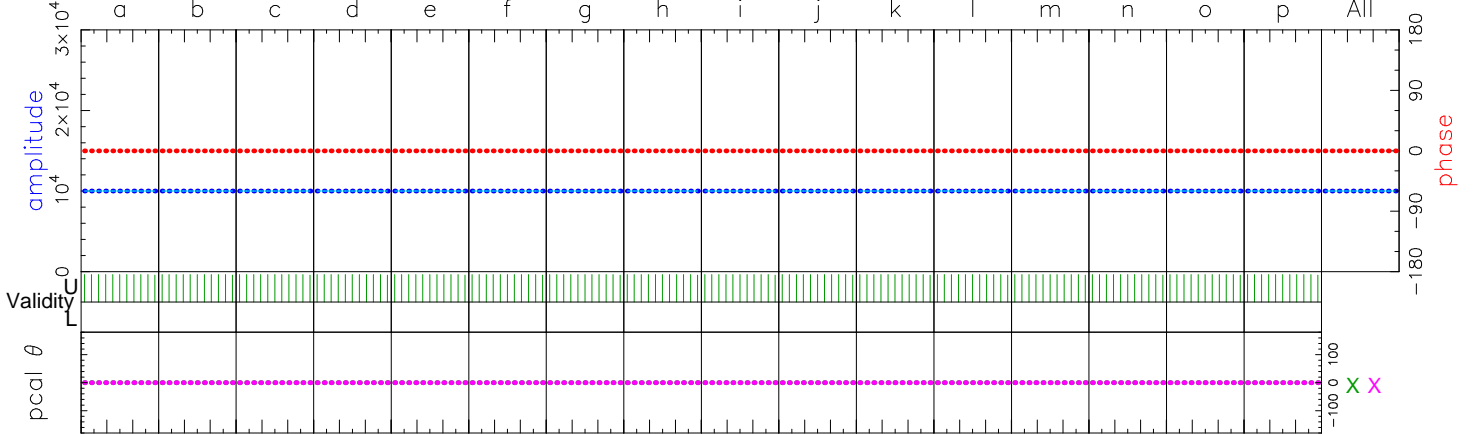
RMS Theor. Amplitude 10000.000 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.0 0.0 Search (1024X64) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.000 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XX.W.313.130LL8



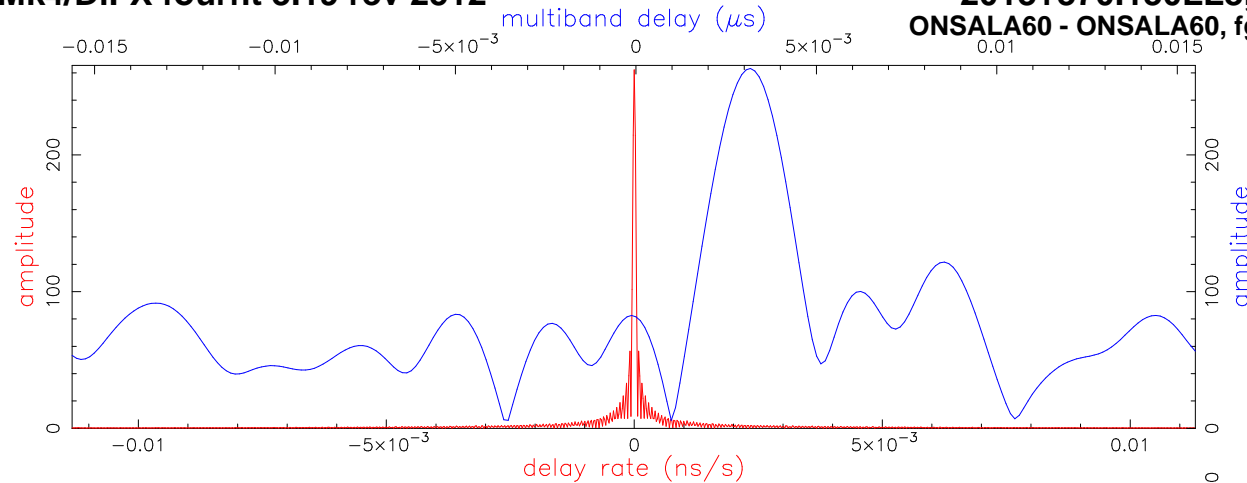
Fringe quality 9  
 SNR 366662.0  
 Int time 179.778  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052051  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



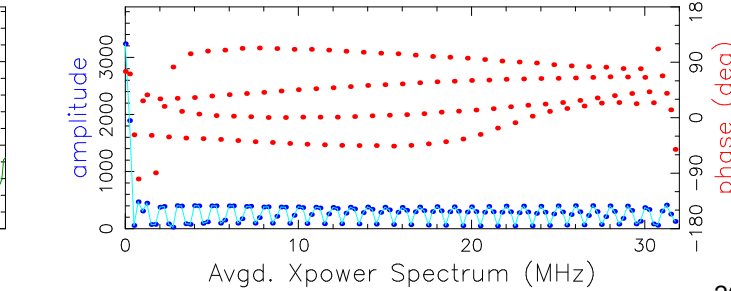
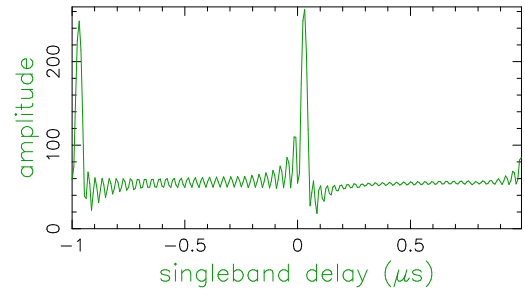
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	-0.0		Phase	0.0
	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0		Ampl.	10000.0
	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0		Sbd box	129.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks	
Group delay (usec)(sbd)	0.000000000000E+00			Apriori delay (usec)			0.000000000000E+00			Resid mbdelay (usec)			0.000000E+00			+/- 2.9E-09			
Sband delay (usec)	0.000000000000E+00			Apriori clock (usec)			0.0000000E+00			Resid sbdelay (usec)			0.000000E+00			+/- 4.7E-08			
Phase delay (usec)	2.18841751352E-19			Apriori clockrate (us/s)			0.0000000E+00			Resid phdelay (usec)			2.18842E-19			+/- 1.0E-11			
Delay rate (us/s)	0.000000000000E+00			Apriori rate (us/s)			0.000000000000E+00			Resid rate (us/s)			0.000000E+00			+/- 9.7E-14			
Total phase (deg)	0.0			Apriori accel (us/s/s)			0.000000000000E+00			Resid phase (deg)			0.0			+/- 0.0			

ph/seg (deg) 0.0 0.0 Theor. Amplitude 10000.000 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (1024X64) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 X: az 271.1 el 45.2 pa 42.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 0.000 0.000 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XX.W.322.130LL8 simultaneous interpolator



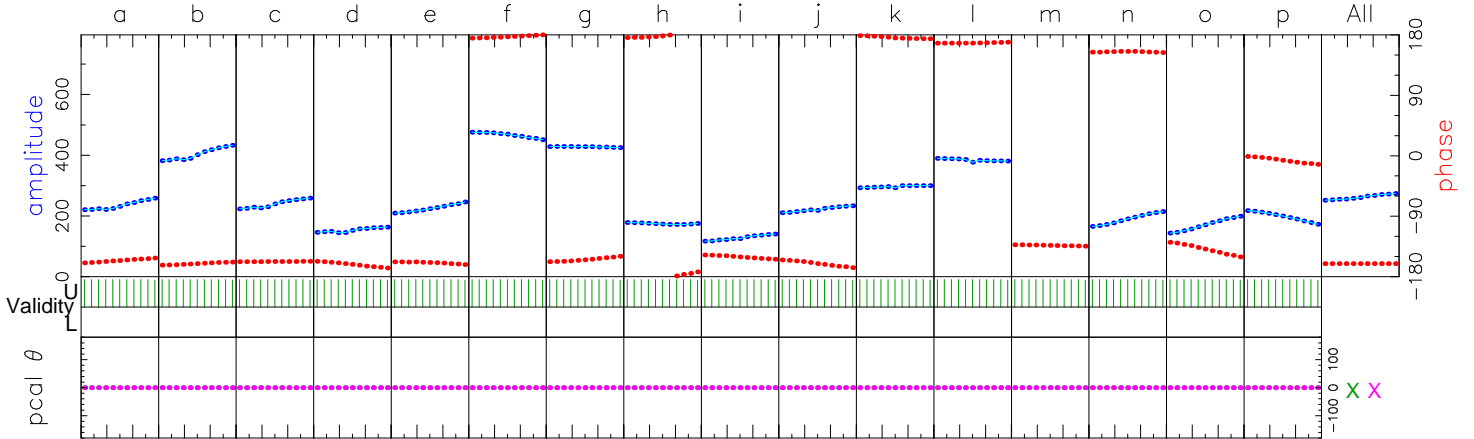
Fringe quality 5

SNR 9734.3  
 Int time 179.778  
 Amp 265.483  
 Phase -160.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.028857  
 MBD 0.003052  
 Fringe rate (Hz)  
 -0.000006  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052053  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

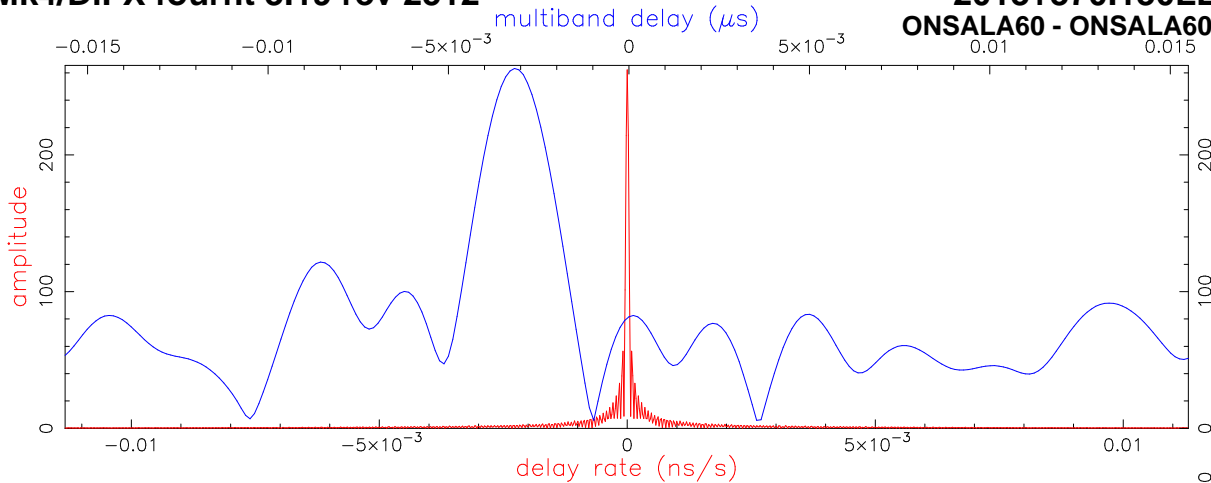
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-155.7	-160.3	-157.3	-161.8	-159.2	177.2	-154.3	179.7	-150.7	-160.5	176.0	168.0	-133.3	154.7	-139.8	-6.4	Phase	-160.5
	235.6	404.0	240.0	153.3	225.2	466.4	427.3	174.5	128.3	221.5	296.9	384.3	961.4	190.0	169.8	197.7	Ampl.	304.8
	131.6	133.6	5.1	5.7	131.8	133.7	133.9	132.3	4.4	5.2	133.4	133.2	131.8	5.5	5.4	135.4	Sbd box	132.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
Group delay (usec)(sbd)			3.43022187500E-02			Apriori delay (usec)		0.00000000000E+00			Resid mbdelay (usec)		3.05222E-03				+/-	1.1E-07
Sband delay (usec)			2.88575000000E-02			Apriori clock (usec)		0.0000000E+00			Resid sbdelay (usec)		2.88575E-02				+/-	1.8E-06
Phase delay (usec)			-5.17501932321E-06			Apriori clockrate (us/s)		0.0000000E+00			Resid phdelay (usec)		-5.17502E-06				+/-	3.8E-10
Delay rate (us/s)			-7.36899924368E-11			Apriori rate (us/s)		0.00000000000E+00			Resid rate (us/s)		-7.36900E-11				+/-	3.6E-12
Total phase (deg)					-160.5	Apriori accel (us/s/s)		0.00000000000E+00			Resid phase (deg)		-160.5				+/-	0.0

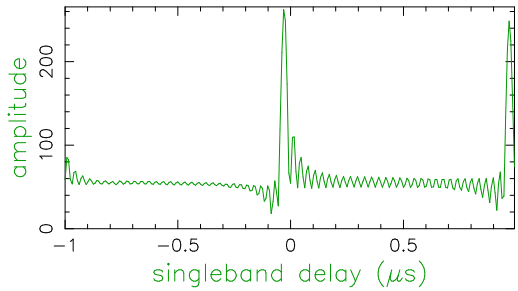
ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 265.483 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 3.1 0.0 Search (1024X64) 258.695 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 45.9 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 75.9 0.0 Inc. seg. avg. 262.262 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 304.765 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XX.W.333.130LL8

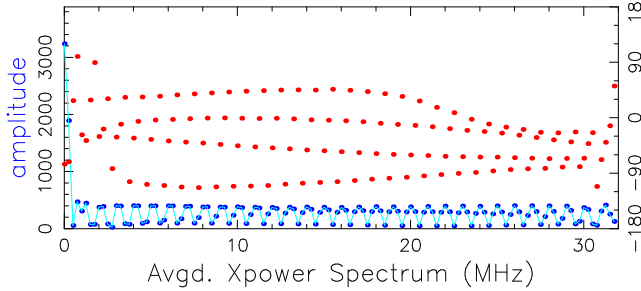


Fringe quality 5

SNR 9734.3  
 Int time 179.778  
 Amp 265.483  
 Phase 160.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.028857  
 MBD -0.003052  
 Fringe rate (Hz)  
 0.000006  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

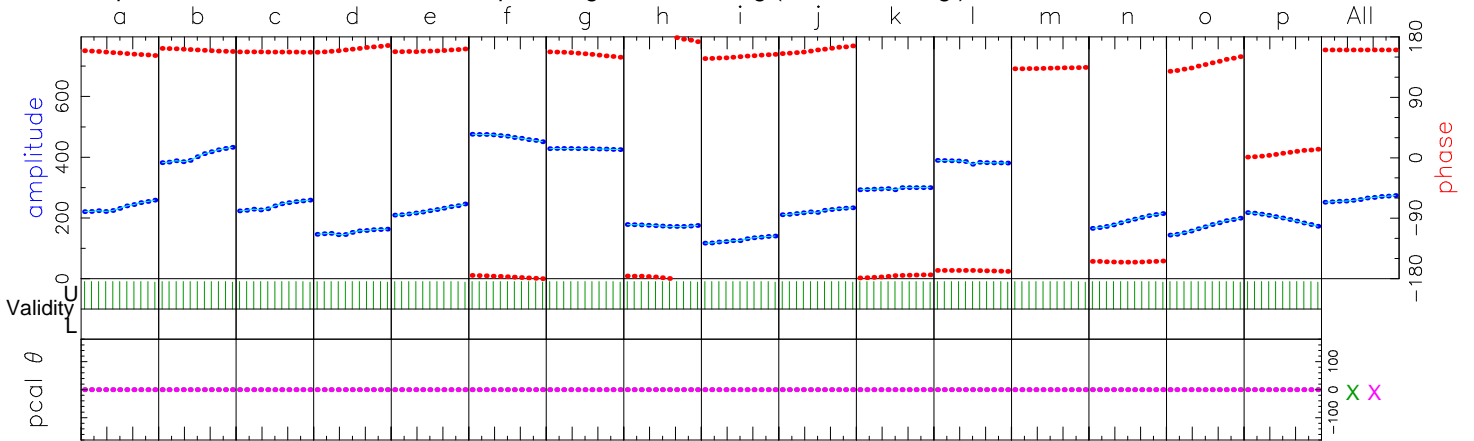


delay rate (ns/s)



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052055  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

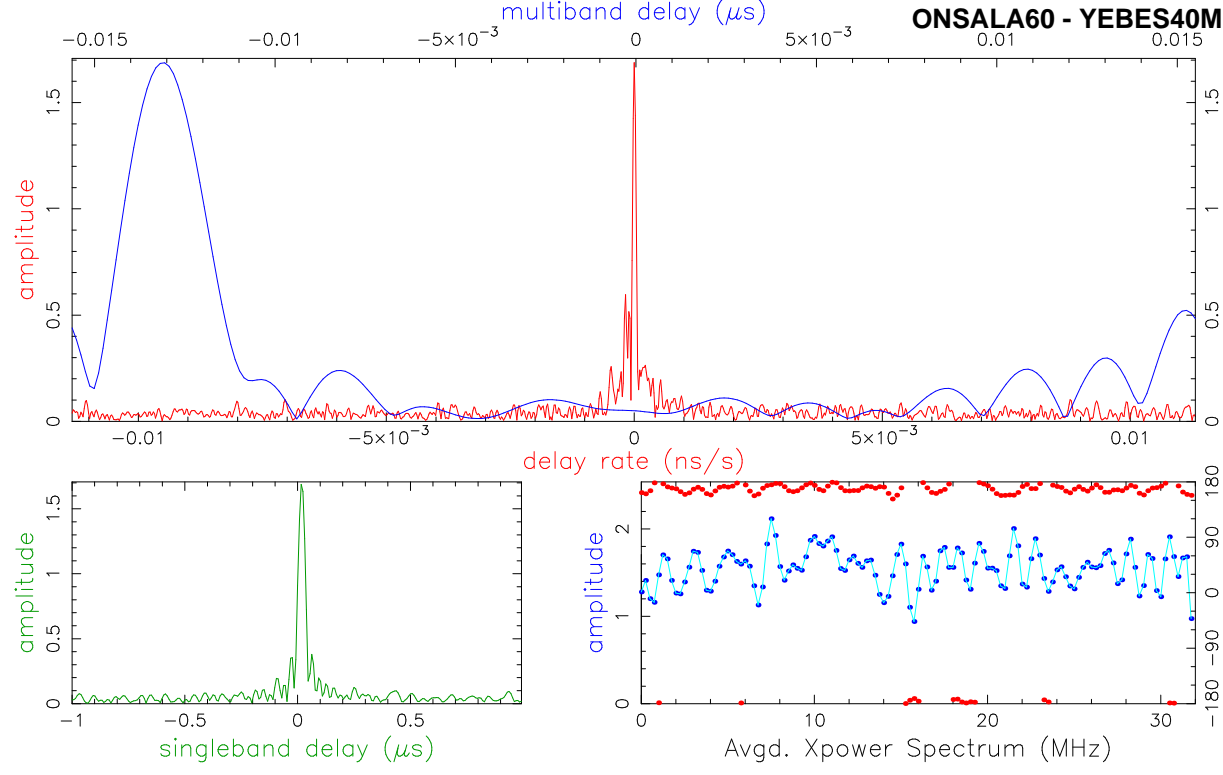
Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	155.7	160.3	157.3	161.8	159.2	-177.2	154.3	-179.7	150.7	160.5	-176.0	-168.0	133.3	-154.7	139.8	6.4	Phase	160.5
	235.6	404.0	240.0	153.3	225.2	466.4	427.3	174.5	128.3	221.5	296.9	384.3	961.4	190.0	169.8	197.7	Ampl.	304.8
	126.4	124.4	252.9	252.3	126.2	124.3	124.1	125.7	253.6	252.8	124.6	124.8	126.2	252.5	252.6	122.6	Sbd box	125.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
Group delay (usec)(sbd)			-3.43022187500E-02					Apriori delay (usec)		0.00000000000E+00			Resid mbdelay (usec)		-3.05222E-03		+/-	1.1E-07
Sband delay (usec)			-2.88575000000E-02					Apriori clock (usec)		0.0000000E+00			Resid sbdelay (usec)		-2.88575E-02		+/-	1.8E-06
Phase delay (usec)			5.17501932316E-06					Apriori clockrate (us/s)		0.0000000E+00			Resid phdelay (usec)		5.17502E-06		+/-	3.8E-10
Delay rate (us/s)			7.36899924368E-11					Apriori rate (us/s)		0.00000000000E+00			Resid rate (us/s)		7.369000E-11		+/-	3.6E-12
Total phase (deg)						160.5		Apriori accel (us/s/s)		0.00000000000E+00			Resid phase (deg)		160.5		+/-	0.0

ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 265.483 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 3.1 0.0 Search (1024X64) 258.695 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 45.9 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 75.9 0.0 Inc. seg. avg. 262.262 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 304.765 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XX.W.344.130LL8

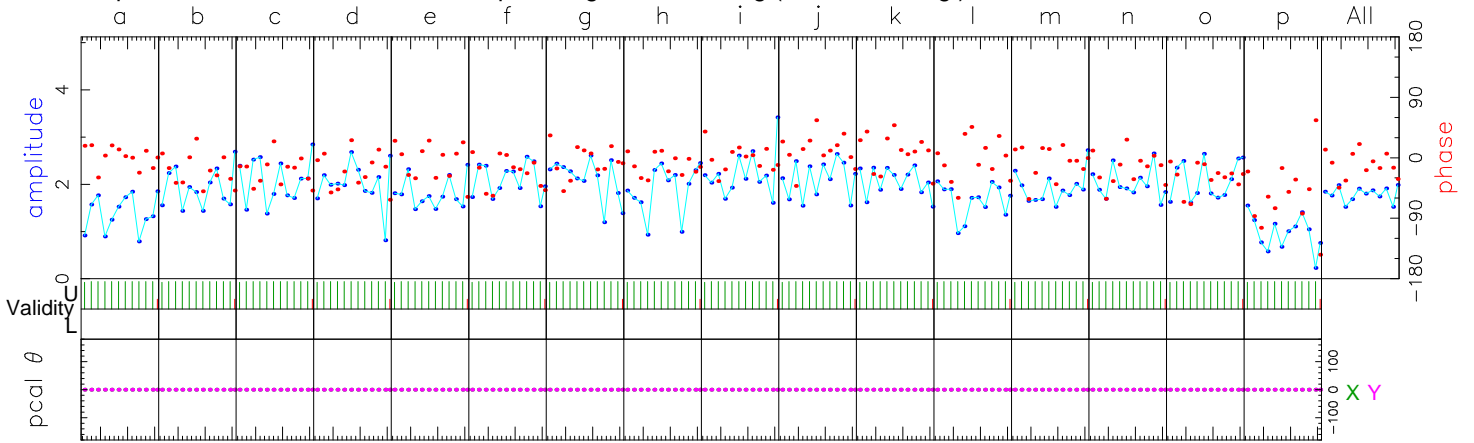


Fringe quality 7

SNR 59.5  
 Int time 162.301  
 Amp 1.708  
 Phase -9.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.018280  
 MBD -0.013087  
 Fringe rate (Hz)  
 -0.000345  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224016.90  
 Stop 224259.71  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052049  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 12 segs, 28 APs / seg (14.34 sec / seg.), time ticks 10 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	1.4	-18.0	-21.1	-15.8	-4.2	-19.1	-4.5	-7.9	0.1	12.6	12.6	0.1	-4.1	-13.8	-29.8	-57.7	Phase	-9.0				
	1.3	1.8	1.9	1.8	1.6	2.0	2.0	1.8	2.0	1.9	1.9	1.5	1.7	1.9	1.9	0.8	Ampl.	1.7				
	130.5	131.5	131.5	131.7	131.2	131.1	131.4	131.6	131.3	131.6	131.2	130.9	131.2	131.2	130.9	131.5	Sbd box	131.3				
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.98808939607E+03														Apriori delay (usec)	-1.98810755914E+03	Resid mbdelay (usec)	-1.30869E-02	+/-	1.8E-05
Sband delay (usec)			-1.98808927964E+03														Apriori clock (usec)	2.2730080E+01	Resid sbdelay (usec)	1.82795E-02	+/-	2.9E-04
Phase delay (usec)			-1.98810755943E+03														Apriori clockrate (us/s)	3.0800002E-07	Resid phdelay (usec)	-2.90700E-07	+/-	6.2E-08
Delay rate (us/s)			1.01723510617E-01														Apriori rate (us/s)	1.01723514625E-01	Resid rate (us/s)	-4.00760E-09	+/-	6.6E-10
Total phase (deg)																	Apriori accel (us/s/s)	2.38628903624E-05	Resid phase (deg)	-9.0	+/-	1.9

ph/seg (deg) 18.7 3.3  
 amp/seg (%) 9.7 5.8  
 ph/frq (deg) 17.9 3.9  
 amp/frq (%) 18.0 6.7

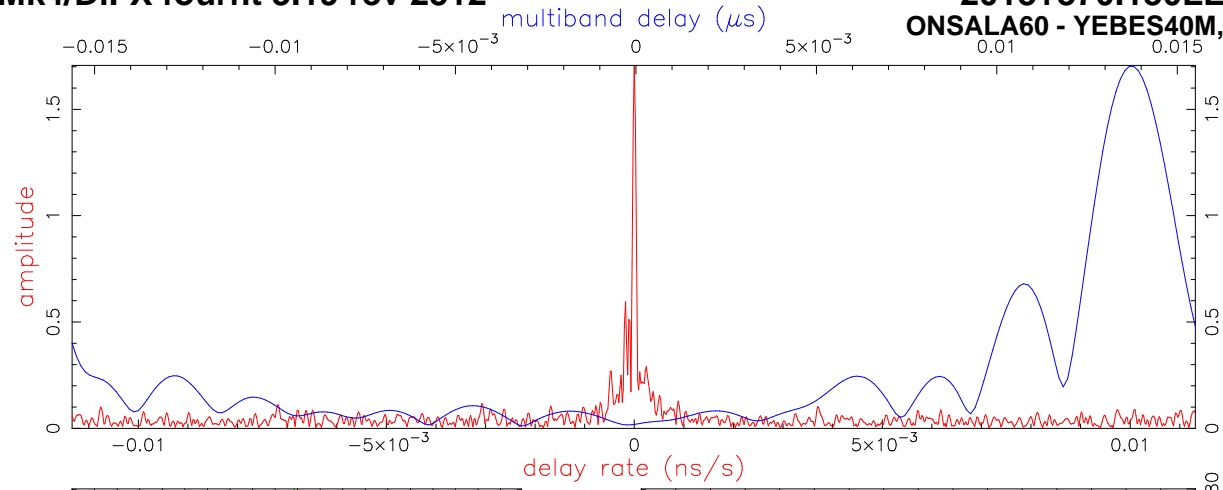
RMS Theor. Amplitude 1.708 +/- 0.029  
 Search (1024X64) 1.676  
 Interp. 0.000  
 Inc. seg. avg. 1.782  
 Inc. frq. avg. 1.739

Group delay (usec)(sbd) -1.98808939607E+03 Apriori delay (usec) -1.98810755914E+03 Resid mbdelay (usec) -1.30869E-02 +/- 1.8E-05  
 Sband delay (usec) -1.98808927964E+03 Apriori clock (usec) 2.2730080E+01 Resid sbdelay (usec) 1.82795E-02 +/- 2.9E-04  
 Phase delay (usec) -1.98810755943E+03 Apriori clockrate (us/s) 3.0800002E-07 Resid phdelay (usec) -2.90700E-07 +/- 6.2E-08  
 Delay rate (us/s) 1.01723510617E-01 Apriori rate (us/s) 1.01723514625E-01 Resid rate (us/s) -4.00760E-09 +/- 6.6E-10  
 Total phase (deg) -60.8 Apriori accel (us/s/s) 2.38628903624E-05 Resid phase (deg) -9.0 +/- 1.9

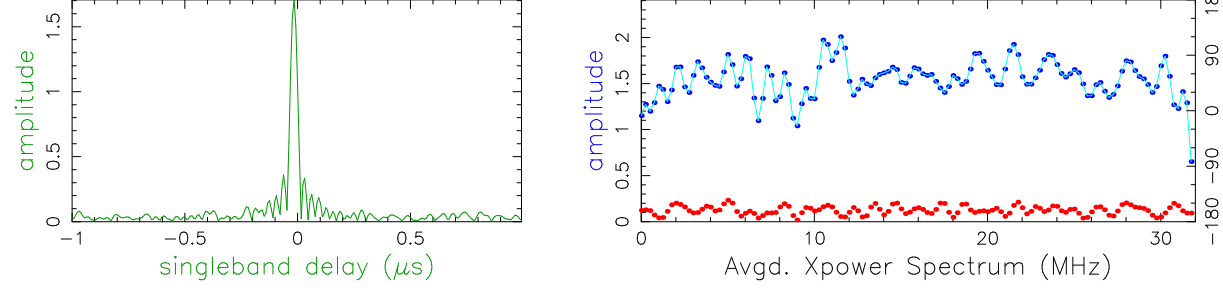
PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 PCal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 Y: az 280.5 el 53.6 pa 69.9 u,v (fr/asec) -711.168 2789.764 simultaneous interpolator

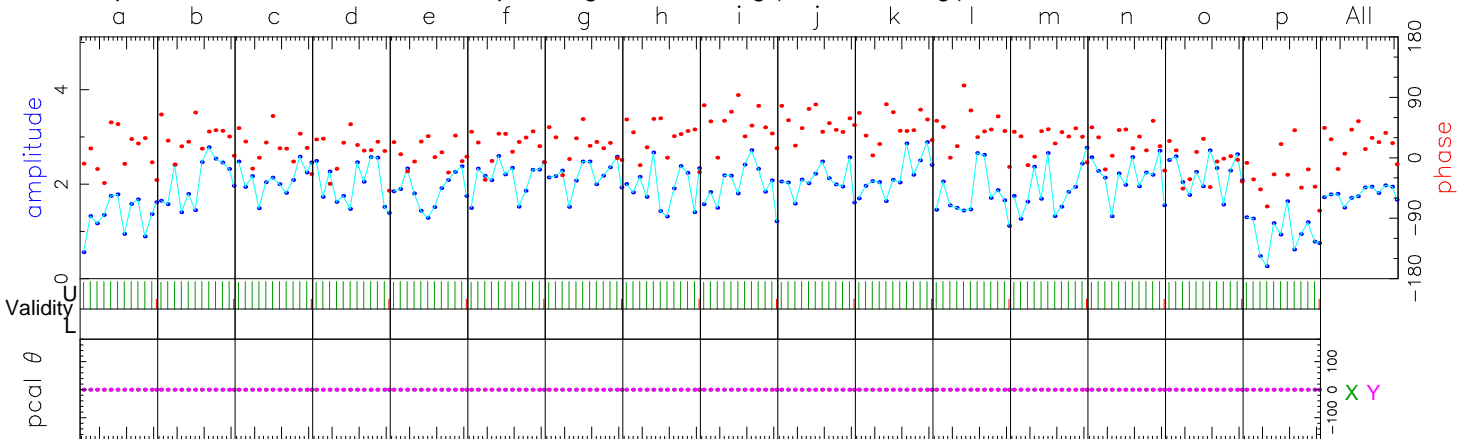
Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XY..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XY.W.311.130LL8



Fringe quality 7  
 SNR 59.5  
 Int time 162.301  
 Amp 1.707  
 Phase 24.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.016465  
 MBD 0.013727  
 Fringe rate (Hz)  
 -0.000398  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224016.90  
 Stop 224259.71  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052051  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

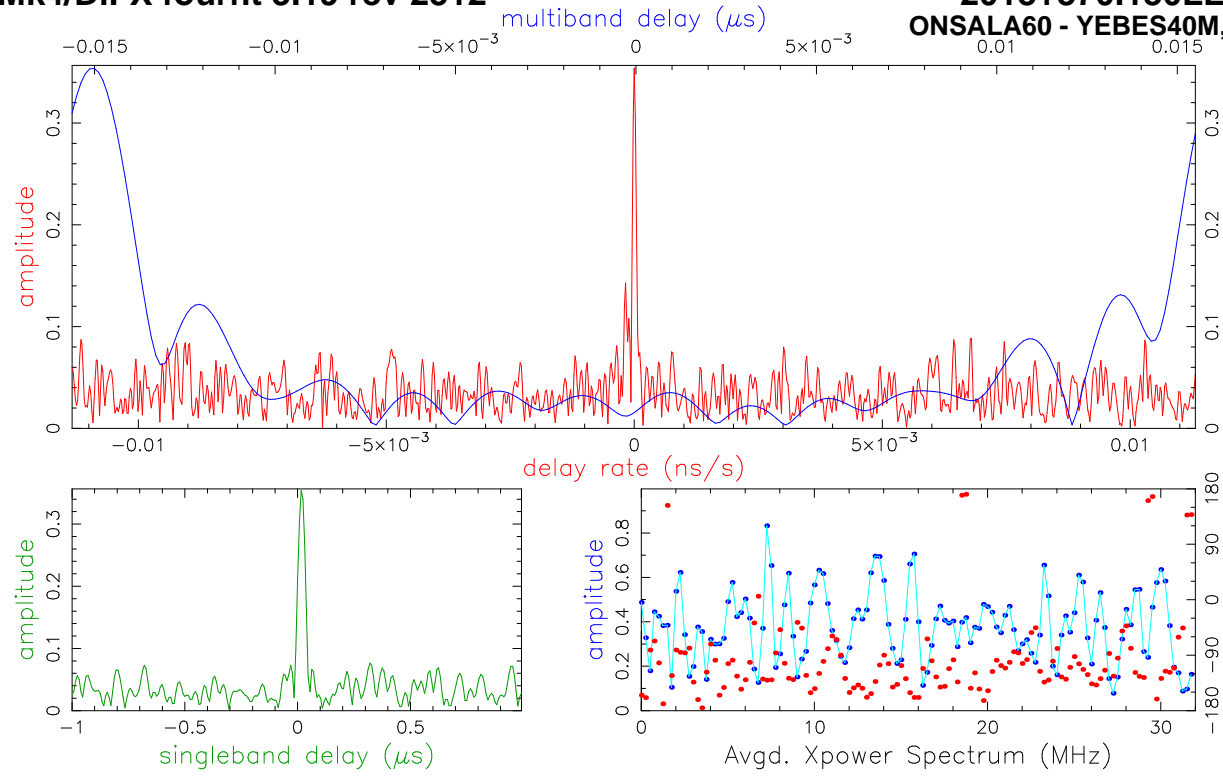


Amp. and Phase vs. time for each freq., 12 segs, 28 APs / seg (14.34 sec / seg.), time ticks 10 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	13.2	30.1	18.6	12.2	4.9	18.7	19.1	32.6	53.1	53.1	46.5	43.2	27.0	24.7	-5.5	-22.3		Phase	24.9				
	1.2	1.9	1.9	1.9	1.8	2.0	2.0	1.8	1.9	2.0	2.0	1.6	1.8	2.0	2.0	0.9		Ampl.	1.8				
	127.1	127.1	126.7	126.6	127.2	126.6	127.0	127.1	127.1	127.2	126.8	126.7	126.7	126.4	126.6	126.9		Sbd box	126.9				
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		APs used					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-1.98812508251E+03															Apriori delay (usec)	-1.98810755914E+03	Resid mbdelay (usec)	1.37266E-02	+/-	1.8E-05
Sband delay (usec)			-1.98812402464E+03															Apriori clock (usec)	2.2730080E+01	Resid sbdelay (usec)	-1.64655E-02	+/-	2.9E-04
Phase delay (usec)			-1.98810755833E+03															Apriori clockrate (us/s)	3.0800002E-07	Resid phdelay (usec)	8.03215E-07	+/-	6.2E-08
Delay rate (us/s)			1.01723510005E-01															Apriori rate (us/s)	1.01723514625E-01	Resid rate (us/s)	-4.61980E-09	+/-	6.6E-10
Total phase (deg)					-26.9													Apriori accel (us/s/s)	2.38628903624E-05	Resid phase (deg)	24.9	+/-	1.9

ph/seg (deg) RMS Theor. Amplitude 1.707 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 19.6 3.3 Search (1024X64) 1.690 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 9.7 5.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 21.5 3.9 Inc. seg. avg. 1.802 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 19.7 6.7 Inc. frq. avg. 1.793 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 X: az 271.1 el 45.2 pa 42.5 Y: az 280.5 el 53.6 pa 69.9 u,v (fr/asec) -711.168 2789.764 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XY..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XY.W.319.130LL8

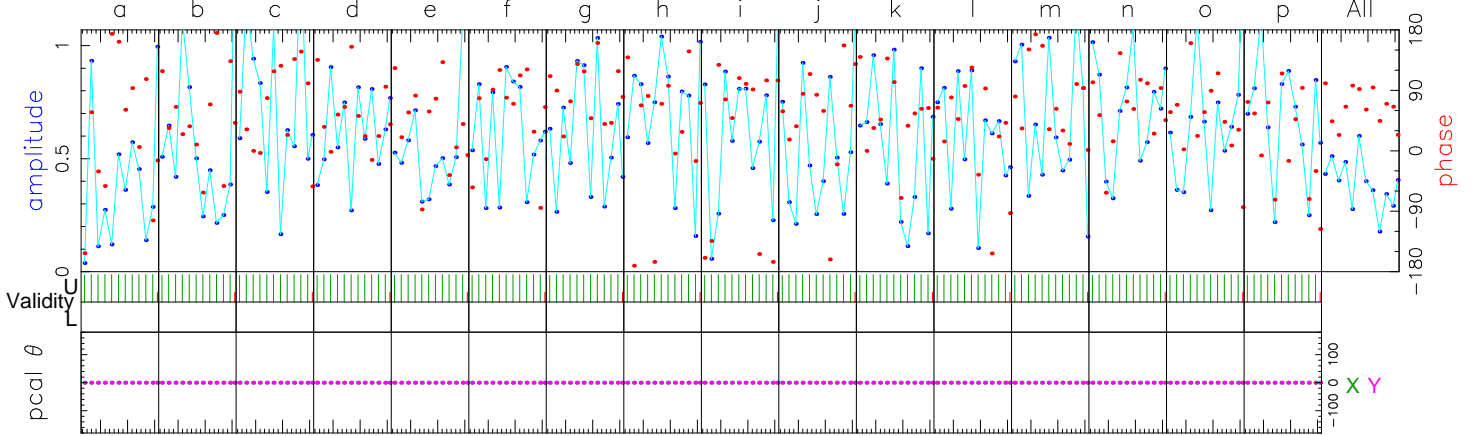


Fringe quality 9

SNR 12.4  
 Int time 162.301  
 Amp 0.357  
 Phase 68.5  
 PFD 5.0e-27  
 Delays (us)  
 SBD 0.017846  
 MBD -0.015059  
 Fringe rate (Hz)  
 -0.000278  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224016.90  
 Stop 224259.71  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052052  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 12 segs, 28 APs / seg (14.34 sec / seg.), time ticks 10 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
55.2	43.8	73.4	41.5	46.5	73.3	100.3	100.1	114.0	84.0	61.2	66.0	74.0	74.4	48.7	32.1	32.1	Phase	68.5				
0.1	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	Ampl.	0.4				
20.4	131.3	131.6	130.4	158.0	228.7	19.7	131.9	100.5	132.4	129.9	131.3	131.2	130.4	130.5	131.8	131.8	Sbd box	131.3				
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used					
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-1.98809136860E+03														Apriori delay (usec)	-1.98810755914E+03	Resid mbdelay (usec)	-1.50595E-02	+/-	8.7E-05
Sband delay (usec)			-1.98808971314E+03														Apriori clock (usec)	2.2730080E+01	Resid sbdelay (usec)	1.78460E-02	+/-	1.4E-03
Phase delay (usec)			-1.98810755693E+03														Apriori clockrate (us/s)	3.0800002E-07	Resid phdelay (usec)	2.20775E-06	+/-	3.0E-07
Delay rate (us/s)			1.01723511395E-01														Apriori rate (us/s)	1.01723514625E-01	Resid rate (us/s)	-3.22961E-09	+/-	3.2E-09
Total phase (deg)					16.6												Apriori accel (us/s/s)	2.38628903624E-05	Resid phase (deg)	68.5	+/-	9.2

ph/seg (deg) 24.9 16.0  
 amp/seg (%) 32.6 27.9  
 ph/frq (deg) 24.2 18.4  
 amp/frq (%) 24.4 32.2

RMS Theor. Amplitude 0.357 +/- 0.029  
 Search (1024X64) 0.352  
 Interp. 0.000  
 Inc. seg. avg. 0.375  
 Inc. frq. avg. 0.365

PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
 Bits/sample: 2x2 SampCntNorm: enabled  
 Sample rate(MISamp/s): 64  
 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite

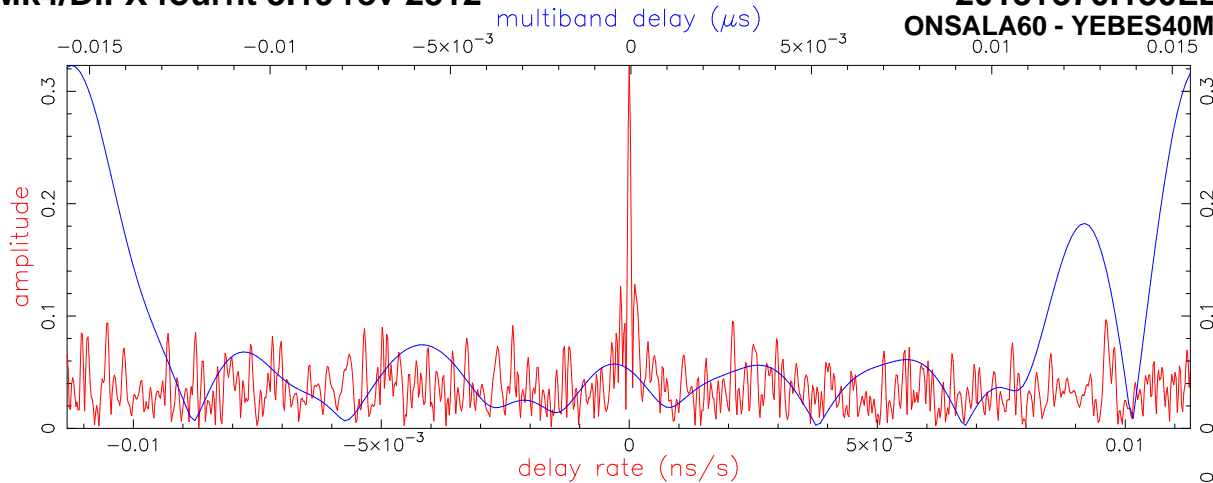
sb window (us) -1.000 1.000  
 mb window (us) -0.016 0.016  
 dr window (ns/s) -0.011 0.011  
 ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 Y: az 280.5 el 53.6 pa 69.9 u,v (fr/asec) -711.168 2789.764 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XY..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XY.W.331.130LL8

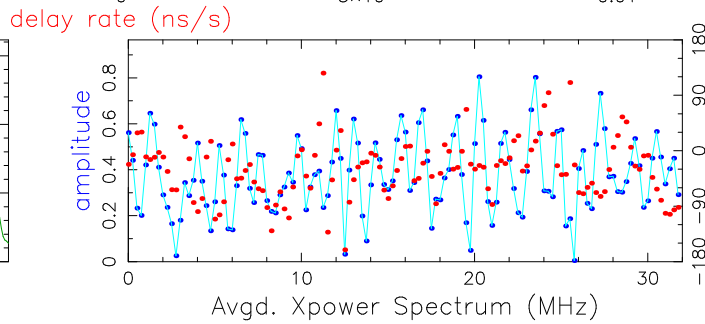
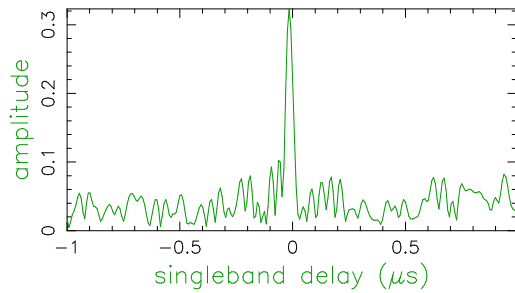
Mk4/DiFX fourfit 3.19 rev 2512

2013+370.130LL8, No0056, XY  
 ONSALA60 - YEBES40M, fgroup W, pol RL



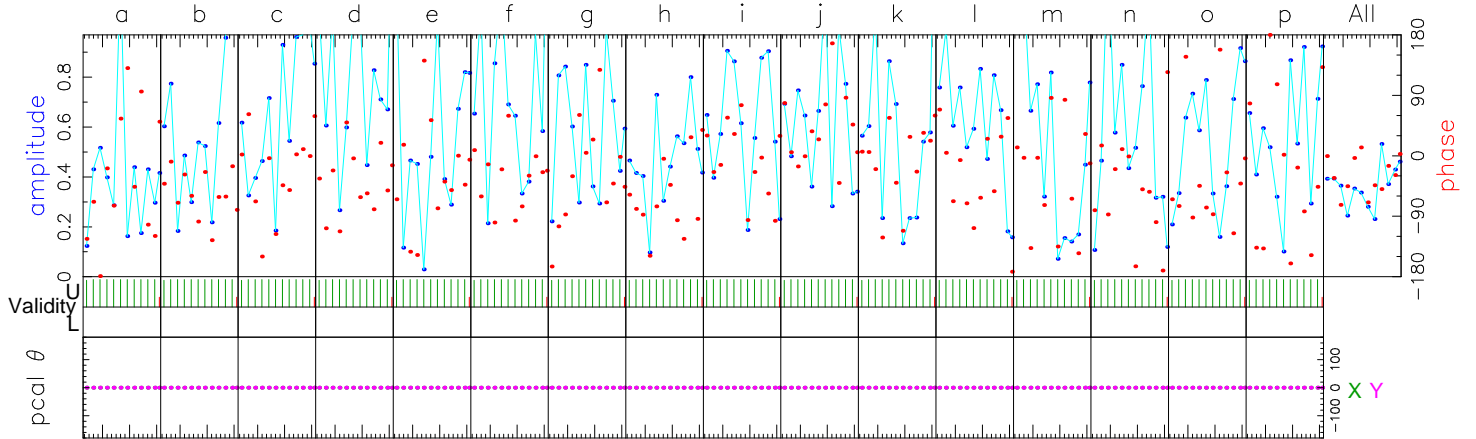
Fringe quality 9

SNR 11.3  
 Int time 162.301  
 Amp 0.323  
 Phase -29.6  
 PFD 5.0e-21  
 Delays (us)  
 SBD -0.015425  
 MBD -0.015499  
 Fringe rate (Hz)  
 -0.000807  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224016.90  
 Stop 224259.71  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052054  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 12 segs, 28 APs / seg (14.34 sec / seg.), time ticks 10 sec



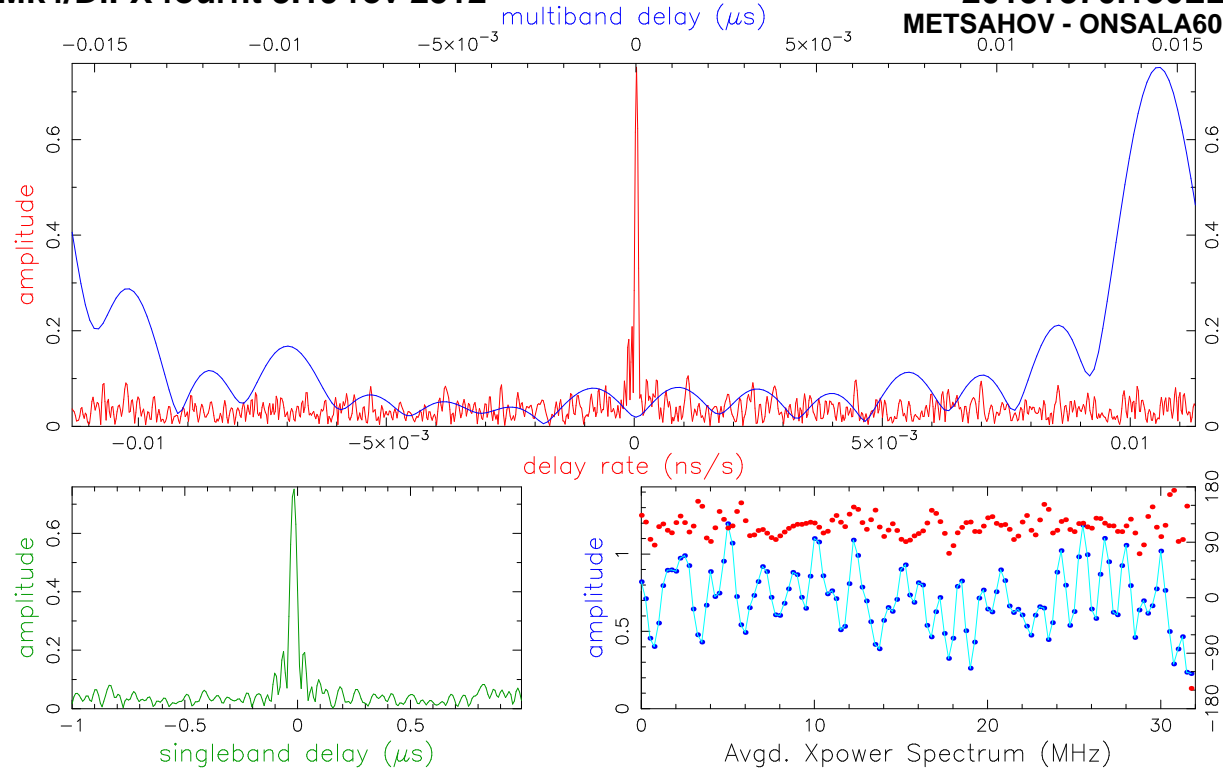
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-32.3	-46.3	-12.0	-35.7	-53.2	-32.1	-46.0	-65.8	1.6	32.3	8.7	-21.7	5.2	-51.6	-73.8	-129.7		Phase -29.6
	0.1	0.5	0.5	0.6	0.3	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.2		Ampl. 0.4
	206.8	127.9	127.5	126.4	125.3	126.4	224.9	127.9	127.4	126.6	126.8	127.1	125.8	32.3	128.8	57.8		Sbd box 127.0
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		APs used
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

Group delay (usec)(sbd) -1.98812305817E+03 Apriori delay (usec) -1.98810755914E+03 Resid mbdelay (usec) -1.54990E-02 +/- 9.6E-05  
 Sband delay (usec) -1.98812298414E+03 Apriori clock (usec) 2.2730080E+01 Resid sbdelay (usec) -1.54250E-02 +/- 1.5E-03  
 Phase delay (usec) -1.98810756009E+03 Apriori clockrate (us/s) 3.0800002E-07 Resid phdelay (usec) -9.55862E-07 +/- 3.3E-07  
 Delay rate (us/s) 1.01723505251E-01 Apriori rate (us/s) 1.01723514625E-01 Resid rate (us/s) -9.37422E-09 +/- 3.5E-09  
 Total phase (deg) -81.5 Apriori accel (us/s/s) 2.38628903624E-05 Resid phase (deg) -29.6 +/- 10.2

RMS Theor. Amplitude 0.323 +/- 0.029 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 26.9 17.6 Search (1024X64) 0.311 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 28.0 30.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 40.3 20.4 Inc. seg. avg. 0.344 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 42.3 35.5 Inc. frq. avg. 0.358 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 271.1 el 45.2 pa 42.5 Y: az 280.5 el 53.6 pa 69.9 u,v (fr/asec) -711.168 2789.764 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/XY..130LL8 Output file: /Exps/c192c/v2/1234/No0056/XY.W.342.130LL8



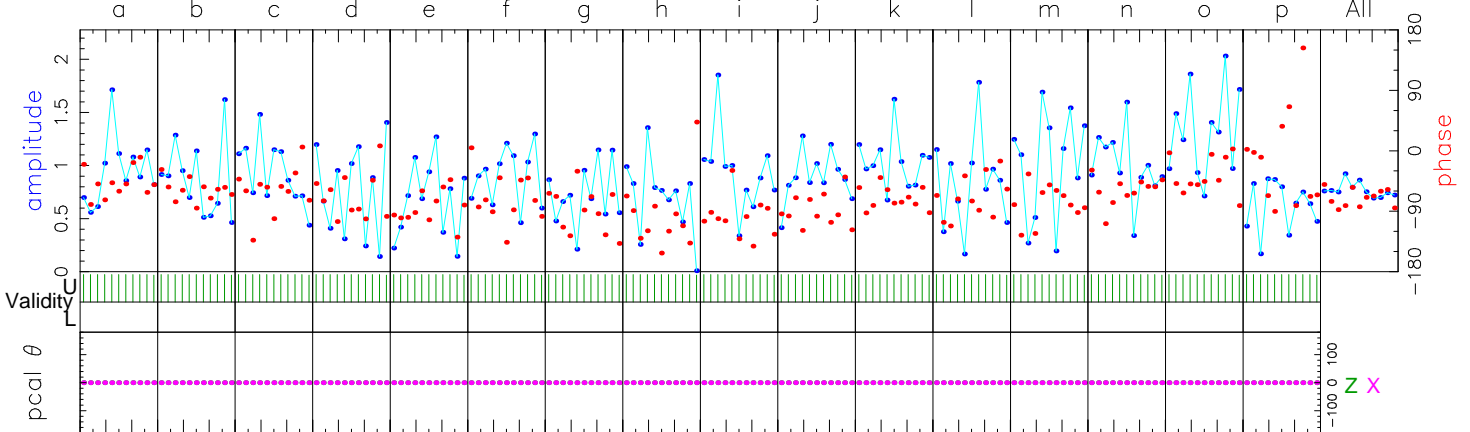


Fringe quality 9

SNR 27.8  
 Int time 179.666  
 Amp 0.759  
 Phase -70.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.018161  
 MBD 0.014447  
 Fringe rate (Hz) 0.004139  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build 2020:076:113754  
 2020:086:052052  
 2020:014:135814  
 RA & Dec (J2000) 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

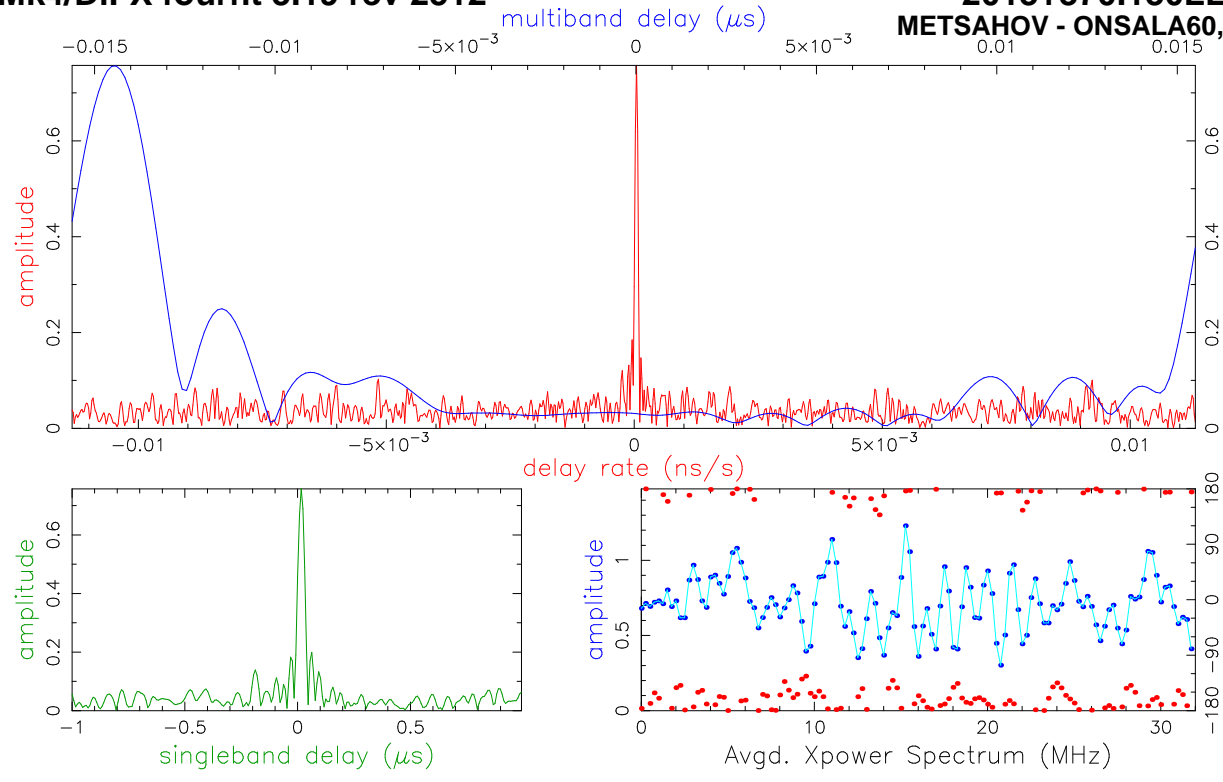


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-47.2	-59.2	-58.5	-76.1	-81.2	-72.8	-89.6	-108.1	-96.3	-90.1	-70.5	-73.9	-78.6	-60.8	-37.2	-43.0		Phase	-70.5
	0.9	0.8	0.8	0.7	0.6	0.7	0.6	0.6	0.9	0.8	1.0	0.7	1.0	0.9	1.2	0.3		Ampl.	0.8
	125.8	127.2	126.7	126.8	125.8	126.3	126.8	125.6	127.1	127.4	126.7	126.4	126.3	126.9	126.9	100.1		Sbd box	126.7
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

Group delay (usec)(sbd) -1.73984585375E+03 Apriori delay (usec) -1.73982905073E+03 Resid mbdelay (usec) 1.44470E-02 +/- 3.9E-05  
 Sband delay (usec) -1.73984721173E+03 Apriori clock (usec) -3.2228081E-01 Resid sbdelay (usec) -1.81610E-02 +/- 6.2E-04  
 Phase delay (usec) -1.73982905300E+03 Apriori clockrate (us/s) -5.1170721E-07 Resid phdelay (usec) -2.27365E-06 +/- 1.3E-07  
 Delay rate (us/s) -2.10604449488E-03 Apriori rate (us/s) -2.10609254359E-03 Resid rate (us/s) 4.80487E-08 +/- 1.3E-09  
 Total phase (deg) -225.1 Apriori accel (us/s/s) 1.08280635602E-05 Resid phase (deg) -70.5 +/- 4.1

ph/seg (deg) RMS 12.7 Theor. 6.8 Amplitude 0.759 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 8.8 11.9 Search (1024X64) 0.737 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 20.4 8.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 25.7 14.4 Inc. seg. avg. 0.765 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.785 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 278.7 el 39.0 pa 38.1 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 23.694 827.116 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/ZX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/ZX.W.329.130LL8

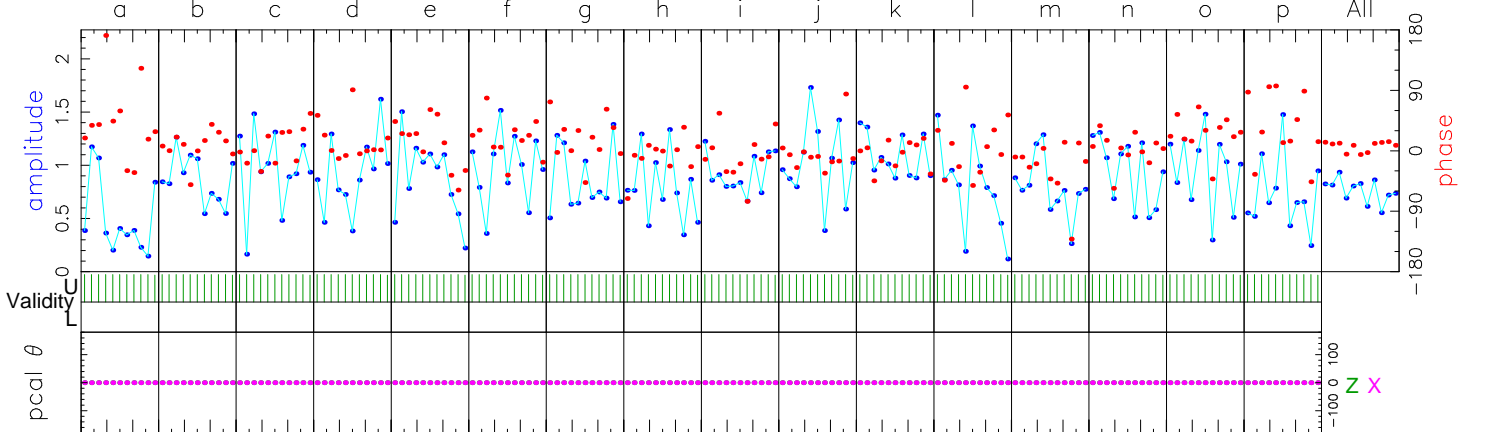


Fringe quality 9

SNR 27.8  
 Int time 179.666  
 Amp 0.757  
 Phase 7.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.016205  
 MBD -0.014445  
 Fringe rate (Hz) 0.004045  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

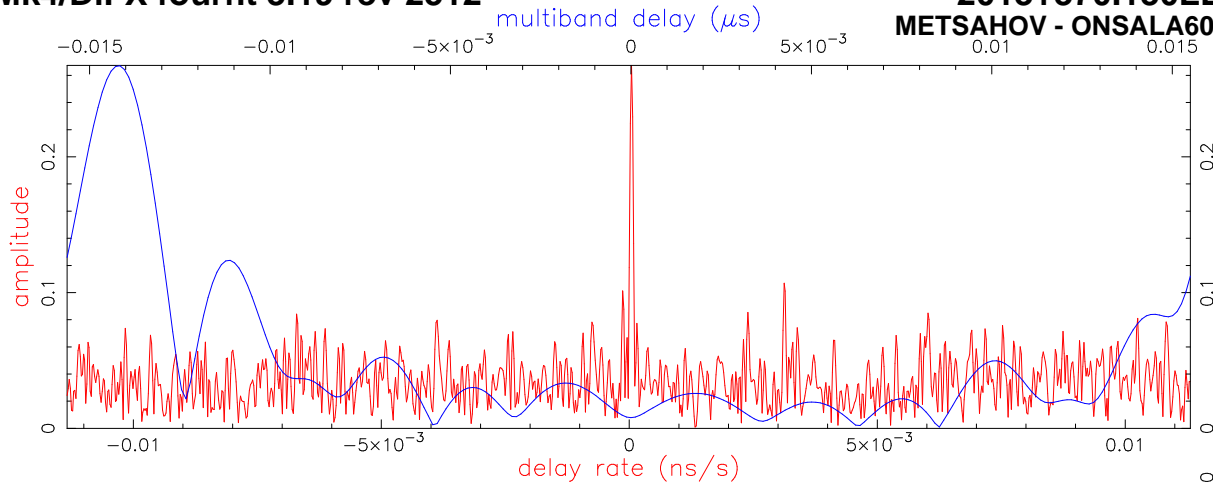
Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052054  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



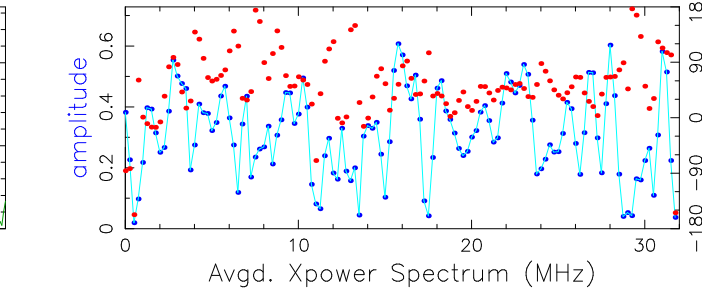
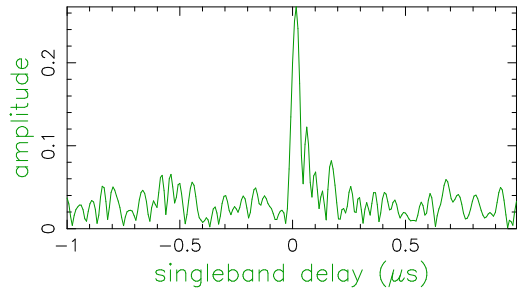
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)		-1.73981224610E+03																
Sband delay (usec)		-1.73981284573E+03																
Phase delay (usec)		-1.73982905050E+03																
Delay rate (us/s)		-2.10604559031E-03																
Total phase (deg)					-147.7													
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): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		

ph/seg (deg) 7.1 6.8 Search (1024X64) 0.744 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 14.1 11.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 17.1 8.3 Inc. seg. avg. 0.757 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 20.7 14.4 Inc. frq. avg. 0.775 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 Z: az 278.7 el 39.0 pa 38.1 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 23.694 827.116 ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/ZX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/ZX.W.341.130LL8 simultaneous interpolator



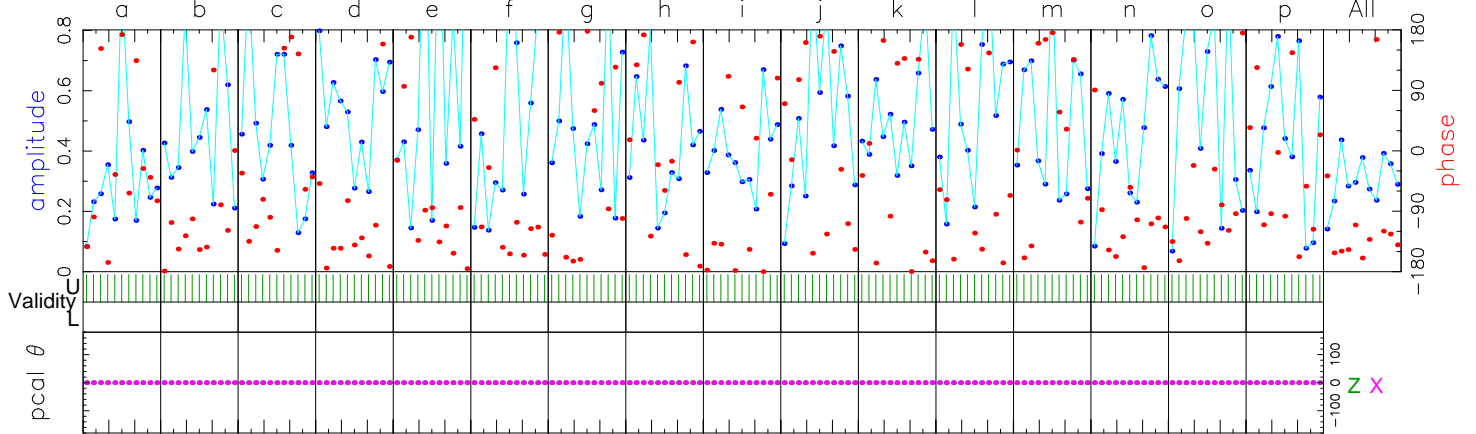
Fringe quality 9

SNR 9.8  
 Int time 179.666  
 Amp 0.267  
 Phase -138.3  
 PFD 2.3e-14  
 Delays (us)  
 SBD 0.014977  
 MBD -0.014202  
 Fringe rate (Hz)  
 0.003989  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052056  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec

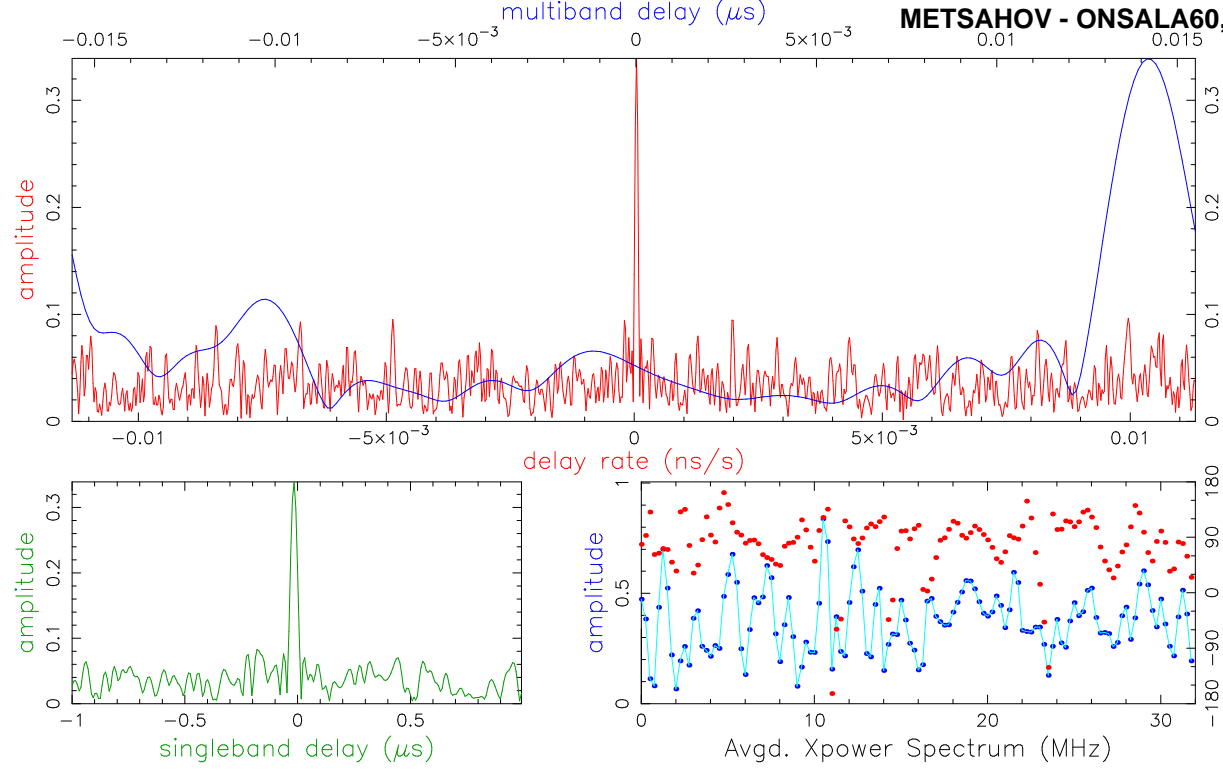


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-123.7	-123.4	-128.9	-135.1	-131.4	-134.6	-147.7	-173.5	-178.3	-147.8	-175.0	-155.2	-170.7	-120.6	-99.0	-80.9	Phase	-138.3
	0.1	0.4	0.3	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.4	0.4	0.1	Ampl.	0.3
	135.0	131.2	150.1	129.9	131.3	132.2	130.2	233.2	202.6	232.8	136.7	150.0	79.7	131.2	150.2	237.3	Sbd box	130.9
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

Group delay (usec)(sbd) -1.73981200310E+03 Apriori delay (usec) -1.73982905073E+03 Resid mbdelay (usec) -1.42024E-02 +/- 1.1E-04  
 Sband delay (usec) -1.73981407373E+03 Apriori clock (usec) -3.2228081E+01 Resid sbdelay (usec) 1.49770E-02 +/- 1.8E-03  
 Phase delay (usec) -1.73982905519E+03 Apriori clockrate (us/s) -5.1170721E-07 Resid phdelay (usec) -4.45927E-06 +/- 3.8E-07  
 Delay rate (us/s) -2.10604623651E-03 Apriori rate (us/s) -2.10609254359E-03 Resid rate (us/s) 4.63071E-08 +/- 3.6E-09  
 Total phase (deg) -292.9 Apriori accel (us/s/s) 1.08280635602E-05 Resid phase (deg) -138.3 +/- 11.7

RMS Theor. Amplitude 0.267 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 37.6 19.4 Search (1024X64) 0.266 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 32.8 33.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 28.6 23.4 Inc. seg. avg. 0.286 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 38.7 40.8 Inc. frq. avg. 0.268 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 278.7 el 39.0 pa 38.1 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 23.694 827.116 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/ZX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/ZX.W.352.130LL8

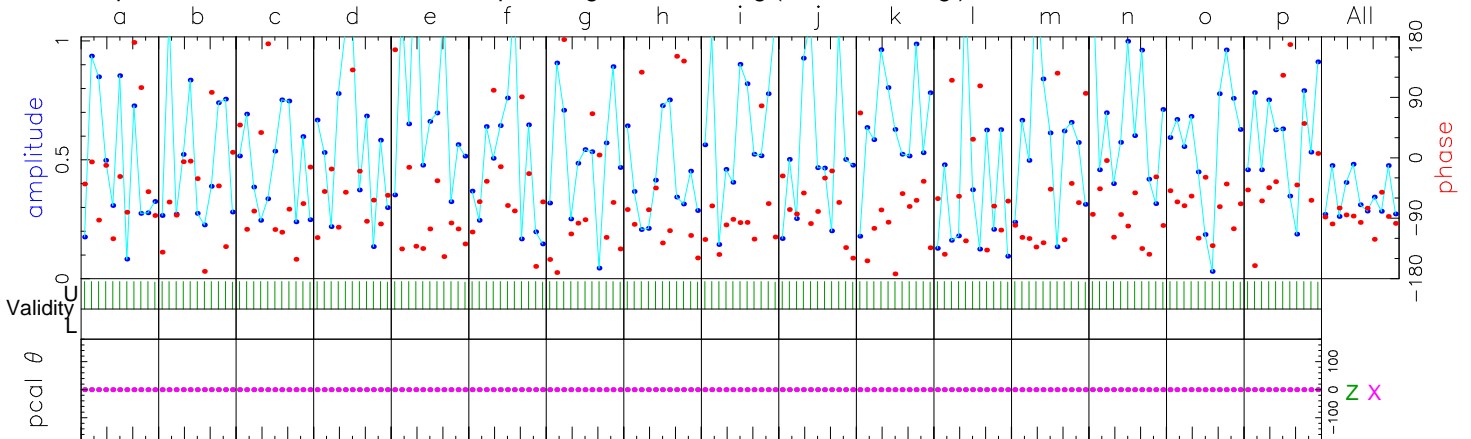


Fringe quality 9

SNR 12.4  
 Int time 179.666  
 Amp 0.339  
 Phase -88.5  
 PFD 4.5e-27  
 Delays (us)  
 SBD -0.016397  
 MBD 0.014196  
 Fringe rate (Hz) 0.004031  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192c  
 Exper # 16383  
 Yr:day 2019:278  
 Start 224000.00  
 Stop 224300.23  
 FRT 224130.00  
 Corr/FF/build  
 2020:076:113754  
 2020:086:052058  
 2020:014:135814  
 RA & Dec (J2000)  
 20h15m28.729803s  
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 11 segs, 32 APs / seg (16.38 sec / seg.), time ticks 30 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-53.2	-51.5	-88.5	-83.1	-119.0	-54.3	-127.5	-115.8	-97.3	-78.0	-93.7	-116.7	-106.1	-86.9	-68.1	-32.0		Phase	-88.5
	0.2	0.3	0.3	0.3	0.5	0.3	0.3	0.3	0.5	0.5	0.3	0.3	0.4	0.5	0.5	0.2		Ampl.	0.4
	212.7	238.9	250.9	38.8	126.9	127.7	125.8	200.8	126.5	127.6	126.3	107.4	126.7	127.0	126.9	112.0		Sbd box	126.9
UL	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

Group delay (usec)(sbd) -1.73984610444E+03 Apriori delay (usec) -1.73982905073E+03 Resid mbdelay (usec) 1.41963E-02 +/- 8.7E-05  
 Sband delay (usec) -1.73984544723E+03 Apriori clock (usec) -3.2228081E+01 Resid sbdelay (usec) -1.63965E-02 +/- 1.4E-03  
 Phase delay (usec) -1.73982905358E+03 Apriori clockrate (us/s) -5.1170721E-07 Resid phdelay (usec) -2.85512E-06 +/- 3.0E-07  
 Delay rate (us/s) -2.10604574336E-03 Apriori rate (us/s) -2.10609254359E-03 Resid rate (us/s) 4.68002E-08 +/- 2.9E-09  
 Total phase (deg) -243.2 Apriori accel (us/s/s) 1.08280635602E-05 Resid phase (deg) -88.5 +/- 9.2

ph/seg (deg) RMS Theor. Amplitude 0.339 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 16.8 15.3 Search (1024X64) 0.338 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 25.8 26.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 29.2 18.4 Inc. seg. avg. 0.340 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 35.5 32.2 Inc. frq. avg. 0.353 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 278.7 el 39.0 pa 38.1 X: az 271.1 el 45.2 pa 42.5 u,v (fr/asec) 23.694 827.116 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192c/v2/1234/No0056/ZX..130LL8 Output file: /Exps/c192c/v2/1234/No0056/ZX.W.360.130LL8