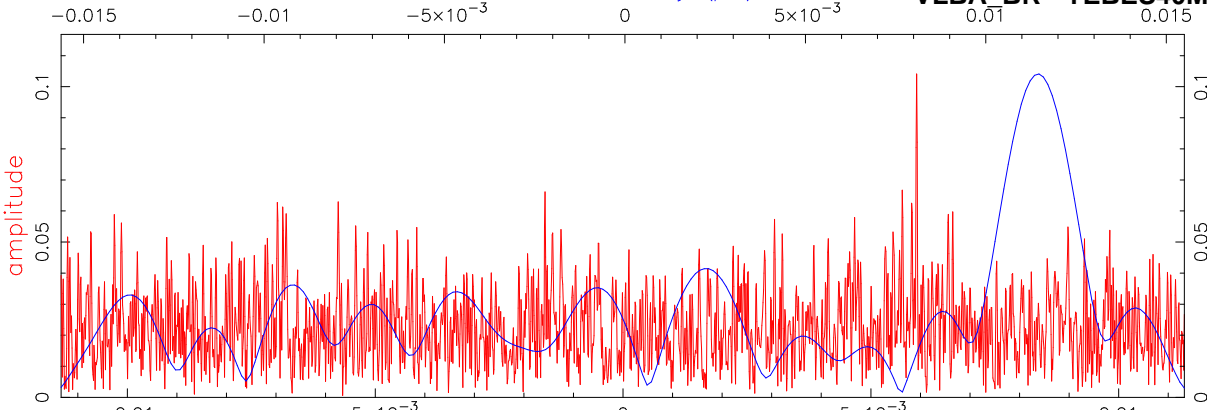
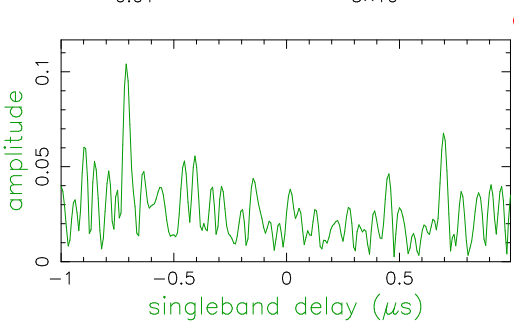


multiband delay ( $\mu$ s)

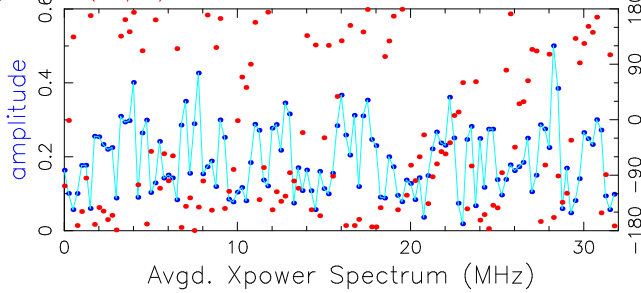


Fringe quality 0

SNR 5.7  
 Int time 400.941  
 Amp 0.117  
 Phase 3.1  
 PFD 9.5e-01  
 Delays (us)  
 SBD -0.710528  
 MBD 0.011457  
 Fringe rate (Hz) 0.510563  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

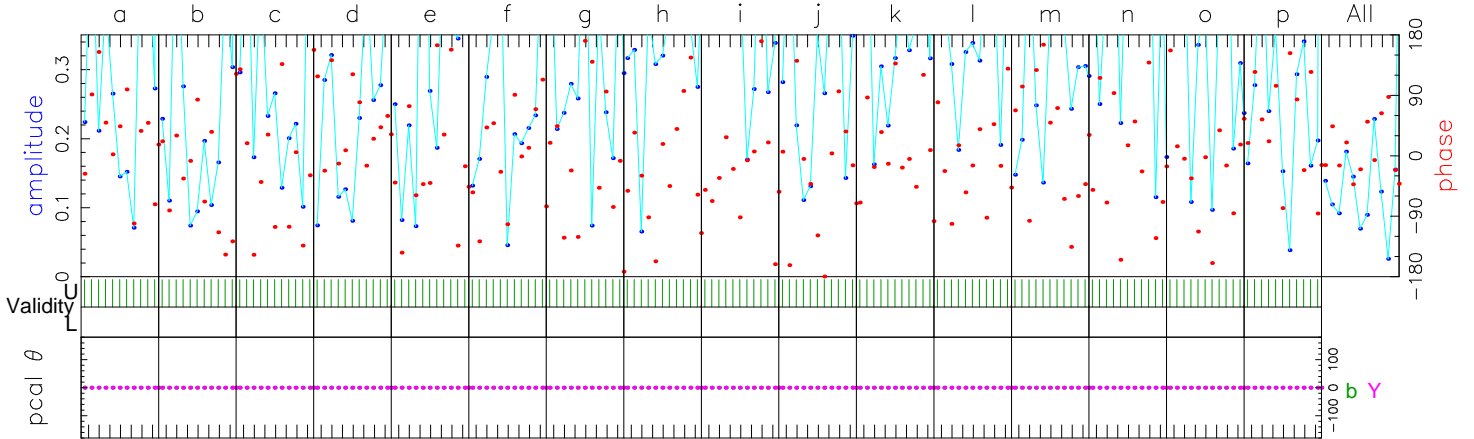


delay rate (ns/s)



Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build 2020:083:003228  
 2020:093:042750  
 2020:014:135814  
 RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

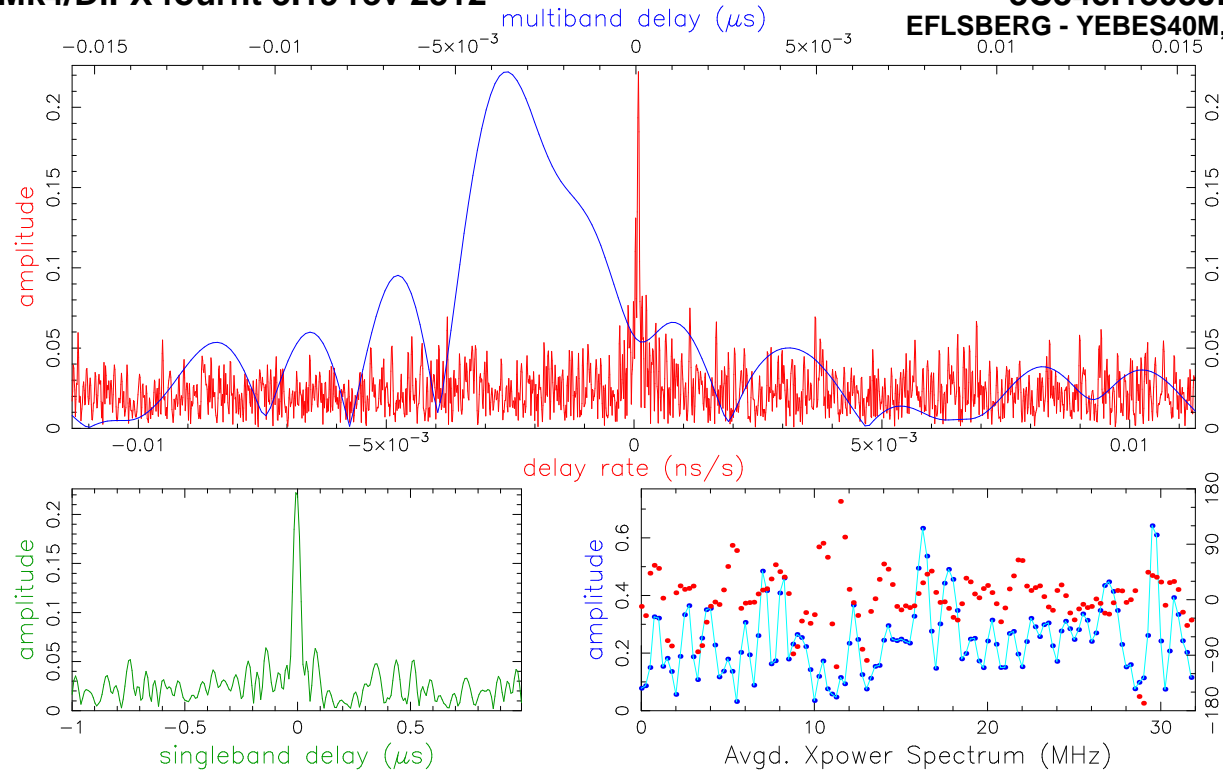


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	44.9	-42.6	-24.9	37.3	-32.7	34.0	-23.0	-6.6	-39.0	6.5	13.9	-0.7	-32.6	18.5	-5.6	54.2		Phase	3.1
	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.2	0.1	0.1	0.2	0.1		Ampl.	0.1
	235.1	160.3	127.9	63.8	125.2	184.5	35.2	236.0	209.4	82.1	166.9	13.6	204.1	186.5	219.3	4.2		Sbd box	38.1
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used	
b	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	
b: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	
b: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	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
b	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	
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)	-6.83120333837E+03			Apriori delay (usec)			-6.83049604516E+03			Resid mbdelay (usec)			1.14568E-02			+/- 1.9E-04			
Sband delay (usec)	-6.83120657316E+03			Apriori clock (usec)			-1.0264677E+01			Resid sbdelay (usec)			-7.10528E-01			+/- 3.0E-03			
Phase delay (usec)	-6.83049604506E+03			Apriori clockrate (us/s)			-4.6239510E-07			Resid phdelay (usec)			1.00419E-07			+/- 6.5E-07			
Delay rate (us/s)	1.32586969168E+00			Apriori rate (us/s)			1.32586376455E+00			Resid rate (us/s)			5.92713E-06			+/- 2.8E-09			
Total phase (deg)	-115.7			Apriori accel (us/s/s)			4.31182720075E-05			Resid phase (deg)			3.1			+/- 20.1			

	RMS	Theor.	Amplitude	0.117 +/- 0.020	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	41.4	34.8	Search (2048X64)	0.100	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	60.8	60.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	32.6	40.2	Inc. seg. avg.	0.118	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	51.6	70.1	Inc. frq. avg.	0.109	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

b: az 66.1 el 33.9 pa -52.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9803.997 3585.603 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/bY..1305JH Output file: /Exps/c192a/v2/1234/No0001/bY.W.101.1305JH

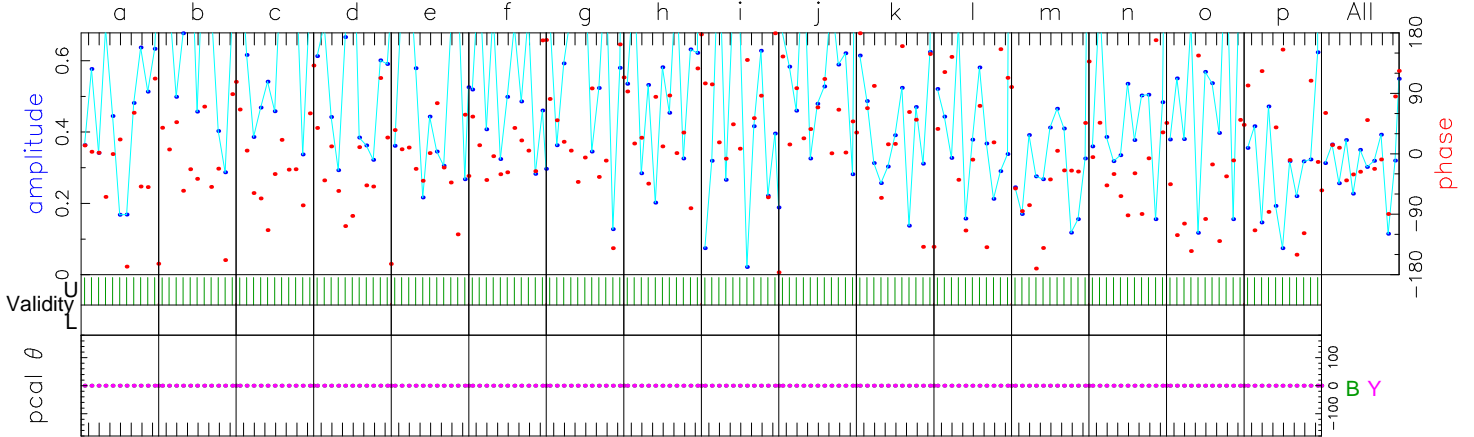


Fringe quality 9

SNR 12.4  
Int time 401.317  
Amp 0.226  
Phase 3.7  
PFD 1.6e-26  
Delays (us)  
SBD -0.004437  
MBD -0.003562  
Fringe rate (Hz) 0.007979  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042754  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



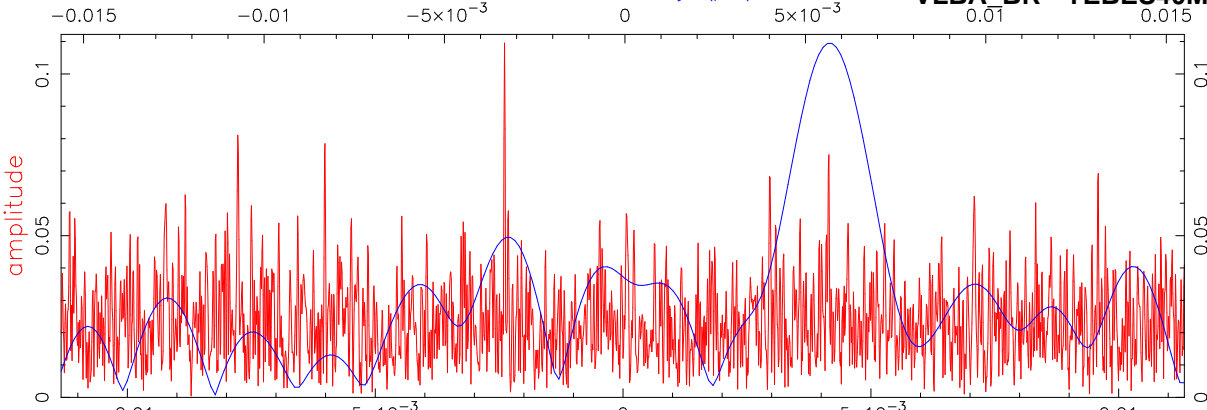
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-7.4	8.2	-7.7	-33.8	-9.9	6.9	9.6	25.2	41.5	48.2	116.0	68.3	-41.0	-23.0	-67.4	-60.3		Phase	3.7				
	0.2	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.1	0.1	0.2	0.3	0.2	0.1		Ampl.	0.3				
	129.5	128.7	127.8	127.8	128.9	129.0	129.0	129.1	128.6	128.9	21.9	4.1	51.1	128.0	184.8	1.5		Sbd box	128.4				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used					
B	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					
B: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					
B: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					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
W	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)			-1.16629986668E+03															Apriori delay (usec)	-1.16629630439E+03	Resid mbdelay (usec)	-3.56229E-03	+/-	8.7E-05
Sband delay (usec)			-1.16630074139E+03															Apriori clock (usec)	7.1870832E+00	Resid sbdelay (usec)	-4.43700E-03	+/-	1.4E-03
Phase delay (usec)			-1.16629630427E+03															Apriori clockrate (us/s)	-4.2000000E-07	Resid phdelay (usec)	1.19317E-07	+/-	3.0E-07
Delay rate (us/s)			-1.05711745119E-02															Apriori rate (us/s)	-1.05712671409E-02	Resid rate (us/s)	9.26290E-08	+/-	1.3E-09
Total phase (deg)					-233.8													Apriori accel (us/s/s)	1.50620676164E-05	Resid phase (deg)	3.7	+/-	9.3

	RMS	Theor.	Amplitude	0.226 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	48.9	16.0	Search (2048X64)	0.217	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	49.0	28.0	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.016 0.016
ph/frq (deg)	49.6	18.5	Inc. seg. avg.	0.293	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	51.3	32.3	Inc. frq. avg.	0.259	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

B: az 269.2 el 56.7 pa 55.8 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 106.525 1816.010 simultaneous interpolator

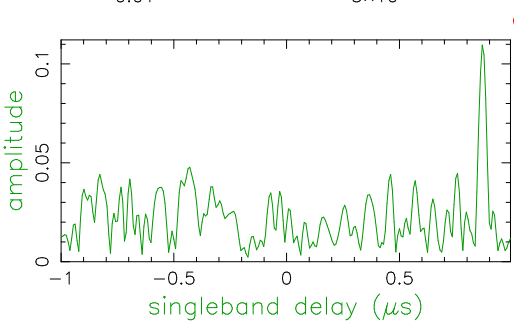
Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/BY..1305JH Output file: /Exps/c192a/v2/1234/No0001/BY.W.116.1305JH

multiband delay ( $\mu$ s)

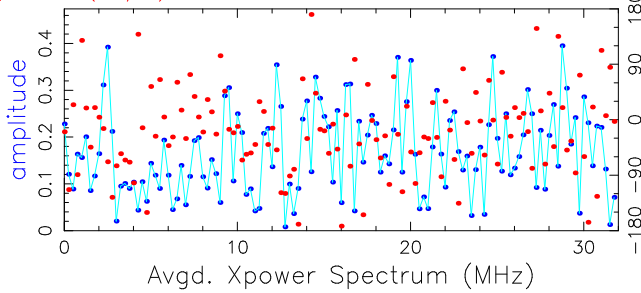


Fringe quality 0

SNR 6.0
Int time 400.941
Amp 0.112
Phase -85.4
PFD 3.4e-01
Delays (us)
SBD 0.869133
MBD 0.005696
Fringe rate (Hz) -0.206301
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512



delay rate (ns/s)



Exp. c192a
Exper # 16383
Yr:day 2019:276
Start 183017.92
Stop 183659.84
FRT 183330.00
Corr/FF/build
2020:083:003228
2020:093:042754
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

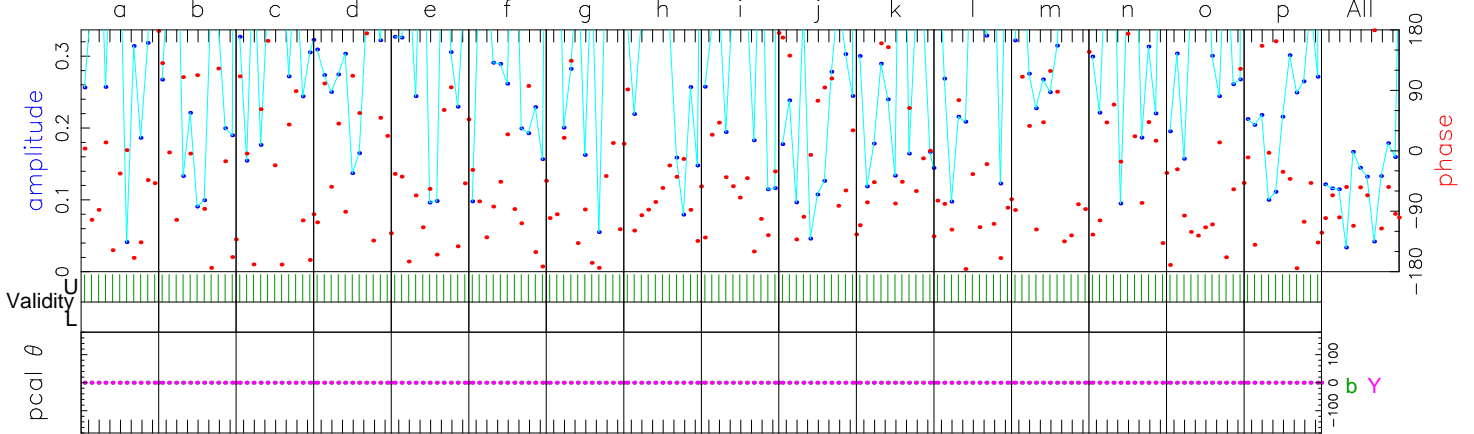


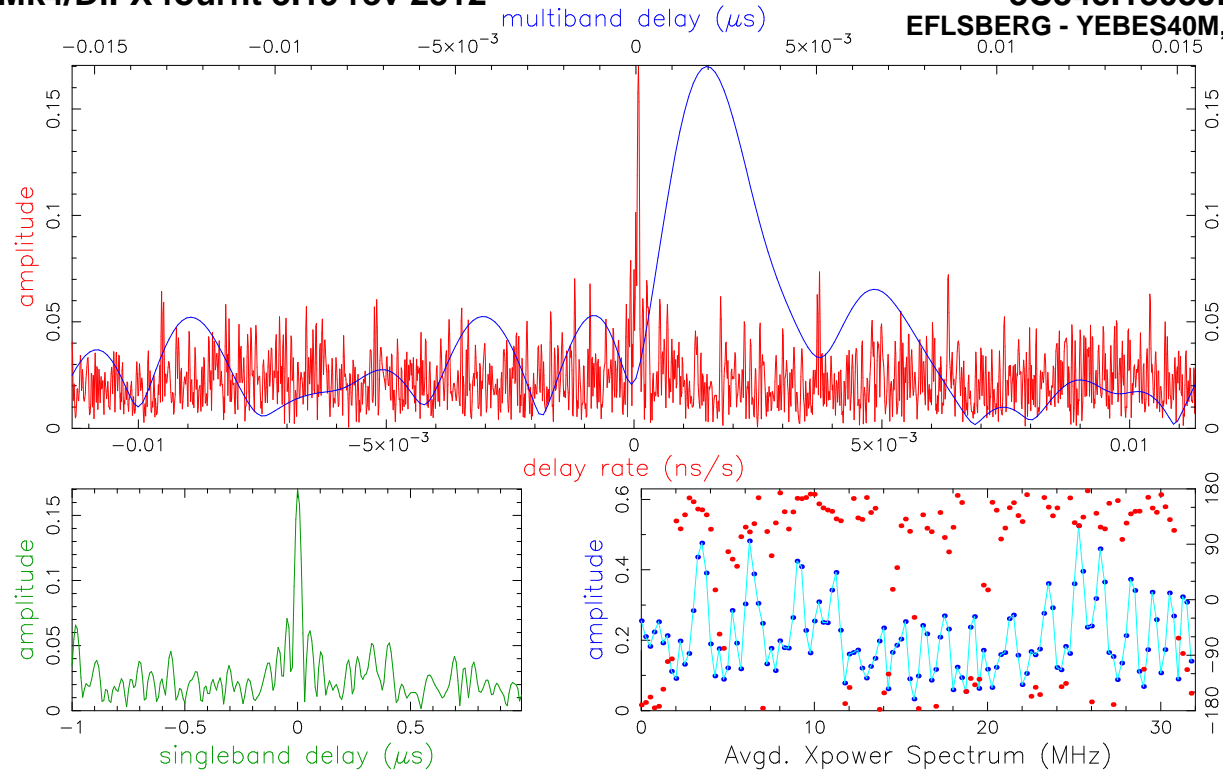
Table with 17 columns of frequency data (86012.00 to 86492.00 MHz) and 17 columns of parameters (UL, b, Y, b:Y, b:Y, b, Y, b, Y, b, Y, b, Y, b, Y, b, Y). Includes summary statistics for group delay, sband delay, phase delay, delay rate, and total phase.

Summary statistics table with columns for RMS, Theor., Amplitude, Search, Interp., Inc. seg. avg., Inc. frq. avg., Pcal mode, Pcal rate, Bits/sample, Sample rate, Data rate, nlags, t\_cohere, sb window, mb window, dr window, ion window, and simultaneous interpolator.

b: az 66.1 el 33.9 pa -52.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9803.997 3585.603 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/bY..1305JH Output file: /Exps/c192a/v2/1234/No0001/bY.W.117.1305JH

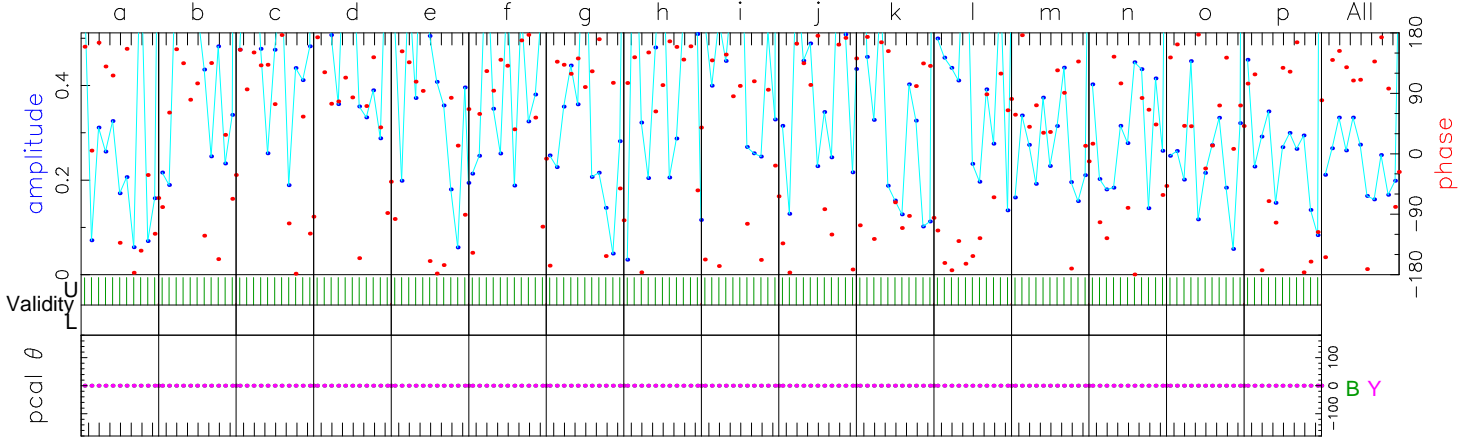
Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, BY  
EFLSBERG - YEBES40M, fgroup W, pol RL



Fringe quality 9  
SNR 9.3  
Int time 401.317  
Amp 0.170  
Phase 145.0  
PFD 3.9e-12  
Delays (us)  
SBD 0.001286  
MBD 0.001974  
Fringe rate (Hz) 0.007604  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042759  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

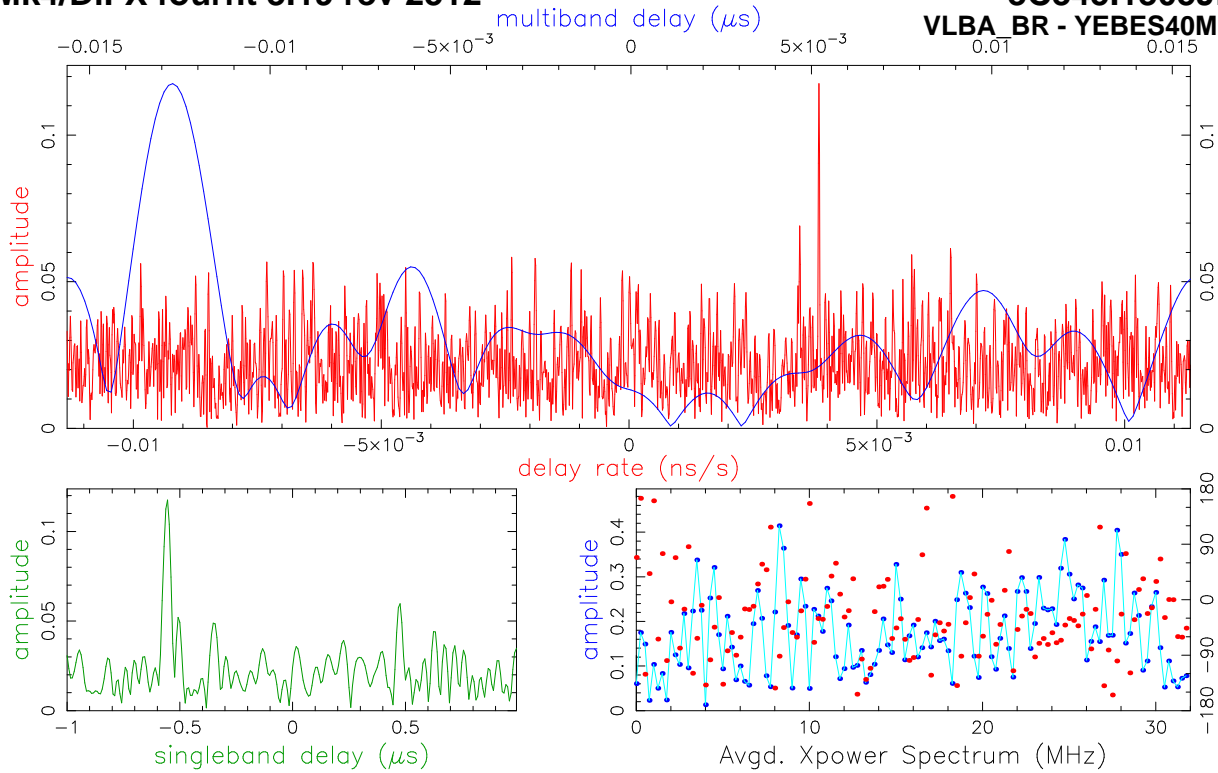


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	177.4	133.4	142.8	113.0	159.3	134.4	132.5	137.3	134.9	171.4	-146.7	-166.2	80.0	68.3	67.5	156.8	Phase	145.0
B	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.0	0.1	0.1	Ampl.	0.2
Y	43.4	100.6	128.6	129.6	127.7	28.6	139.9	129.7	129.6	128.0	130.5	163.2	217.8	202.5	195.4	123.0	Sbd box	129.2
B:Y	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
B:Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	
B	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	
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) -1.16629433040E+03 Apriori delay (usec) -1.16629630439E+03 Resid mbdelay (usec) 1.97399E-03 +/- 1.2E-04  
Sband delay (usec) -1.16629501889E+03 Apriori clock (usec) 7.1870832E+00 Resid sbdelay (usec) 1.28550E-03 +/- 1.8E-03  
Phase delay (usec) -1.16629629971E+03 Apriori clockrate (us/s) -4.2000000E-07 Resid phdelay (usec) 4.67584E-06 +/- 4.0E-07  
Delay rate (us/s) -1.05711788709E-02 Apriori rate (us/s) -1.05712671409E-02 Resid rate (us/s) 8.82700E-08 +/- 1.7E-09  
Total phase (deg) -92.5 Apriori accel (us/s/s) 1.50620676164E-05 Resid phase (deg) 145.0 +/- 12.3

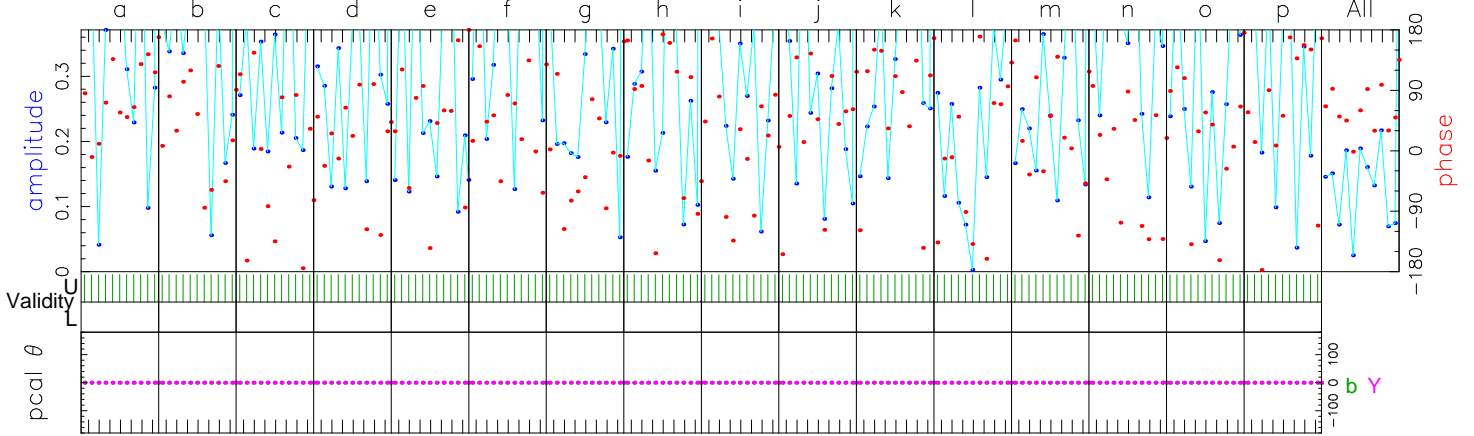
RMS Theor. Amplitude 0.170 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
ph/seg (deg) 53.6 21.3 Search (2048X64) 0.170 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
amp/seg (%) 57.2 37.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
ph/frq (deg) 43.8 24.5 Inc. seg. avg. 0.226 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
amp/frq (%) 42.8 42.8 Inc. frq. avg. 0.189 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

B: az 269.2 el 56.7 pa 55.8 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 106.525 1816.010 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/BY..1305JH Output file: /Exps/c192a/v2/1234/No0001/BY.W.130.1305JH



Fringe quality 0  
SNR 6.5  
Int time 400.941  
Amp 0.124  
Phase 66.8  
PFD 2.8e-02  
Delays (us)  
SBD -0.556430  
MBD -0.012732  
Fringe rate (Hz)  
0.330192  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042739  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

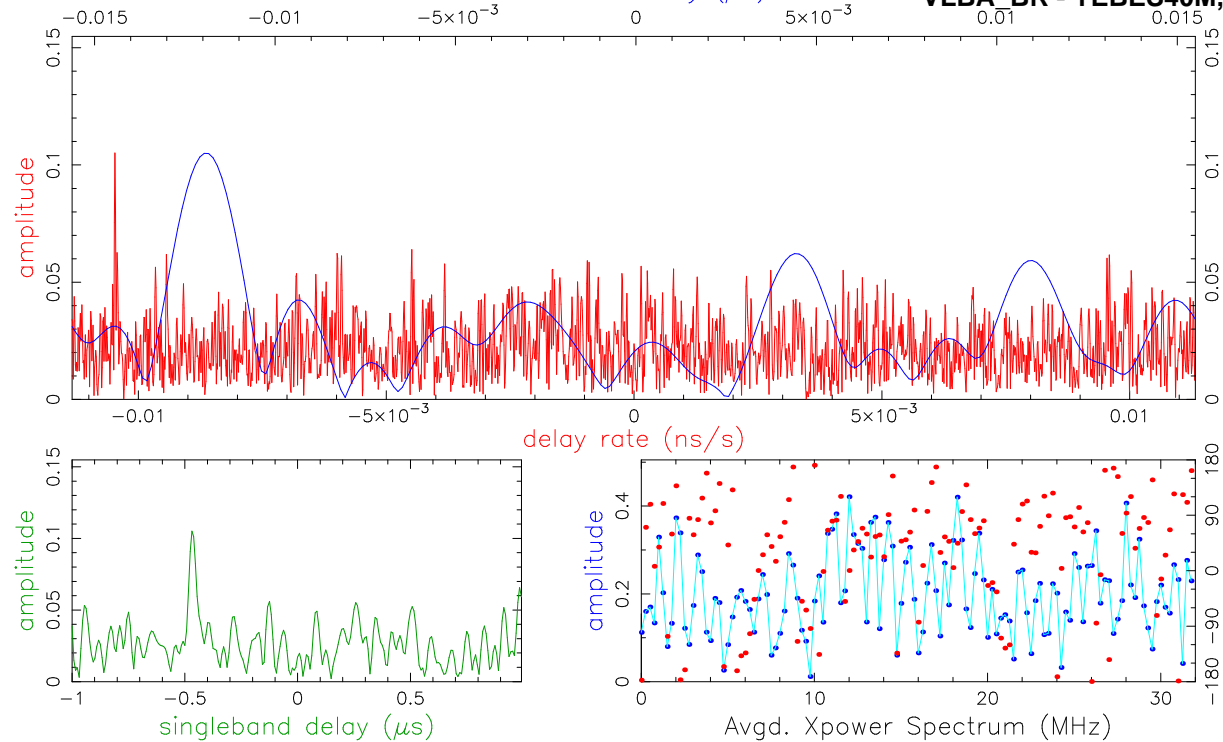
Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



	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
	87.4	59.0	22.5	43.5	78.7	44.7	5.0	130.0	47.6	69.1	118.2	92.7	5.0	30.2	57.9	112.6	Phase	66.8
	0.3	0.2	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	Ampl.	0.1
	43.8	224.3	66.1	132.4	35.3	46.4	163.1	236.9	55.0	132.7	57.9	30.5	231.4	139.6	137.4	53.1	Sbd box	57.8
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
b	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	
b: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	
b: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	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	-6.83104002666E+03			Apriori delay (usec)			-6.83049604516E+03			Resid mbdelay (usec)			-1.27315E-02			+/- 1.7E-04		
Sband delay (usec)	-6.83105247516E+03			Apriori clock (usec)			-1.0264677E+01			Resid sbdelay (usec)			-5.56430E-01			+/- 2.7E-03		
Phase delay (usec)	-6.83049604300E+03			Apriori clockrate (us/s)			-4.6239510E-07			Resid phdelay (usec)			2.15442E-06			+/- 5.7E-07		
Delay rate (us/s)	1.32586759775E+00			Apriori rate (us/s)			1.32586376455E+00			Resid rate (us/s)			3.83320E-06			+/- 2.5E-09		
Total phase (deg)	-52.0			Apriori accel (us/s/s)			4.31182720075E-05			Resid phase (deg)			66.8			+/- 17.7		

ph/seg (deg) RMS Theor. Amplitude 0.124 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 59.4 53.6 Search (2048X64) 0.113 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 40.1 35.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 49.0 61.9 Inc. seg. avg. 0.121 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.126 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 b: az 66.1 el 33.9 pa -52.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9803.997 3585.603 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/bY..1305JH Output file: /Exps/c192a/v2/1234/No0001/bY.W.65.1305JH

multiband delay ( $\mu$ s)

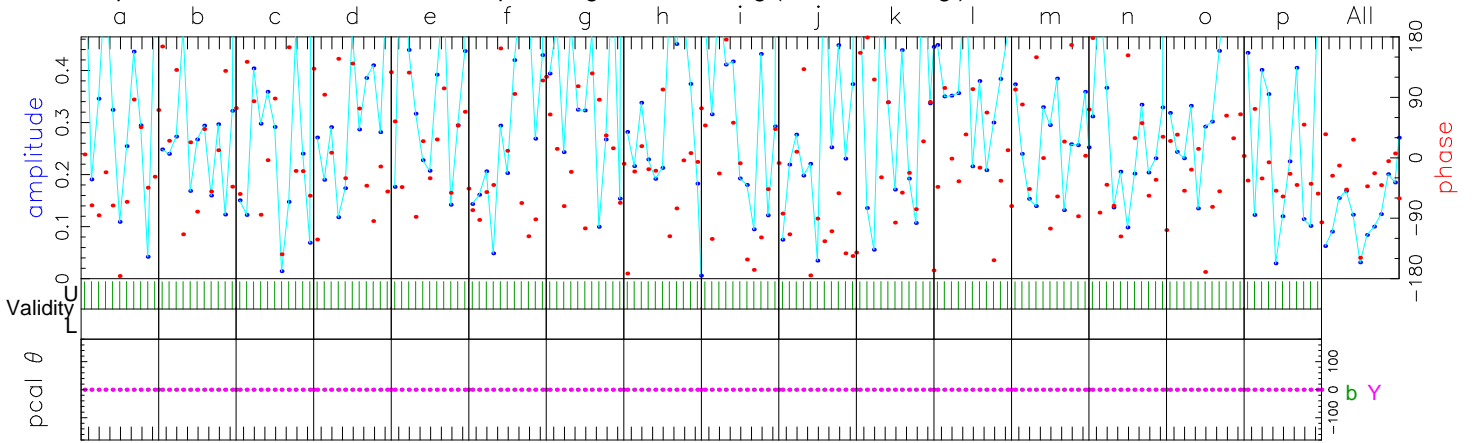


Fringe quality 0

SNR 5.8  
 Int time 400.941  
 Amp 0.155  
 Phase -15.3  
 PFD 8.2e-01  
 Delays (us)  
 SBD -0.466550  
 MBD -0.011880  
 Fringe rate (Hz)  
 -0.903219  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042744  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.80967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

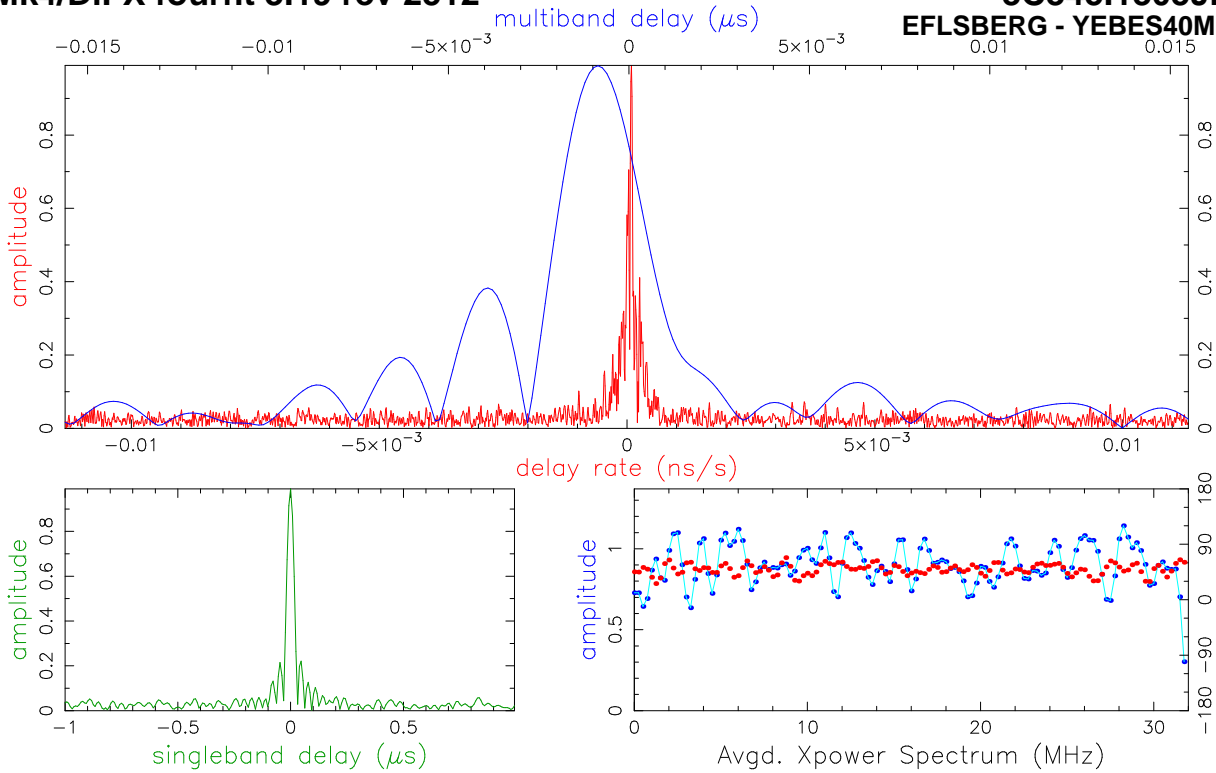


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-21.3	-18.7	8.7	-36.8	29.0	-104.5	20.9	-28.4	-15.1	-117.7	14.9	3.5	-14.6	-48.0	16.1	-33.6		Phase -15.3
	0.3	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.3	0.1	0.2	0.3	0.3		Ampl. 0.2
	44.5	1.7	34.8	235.6	104.1	65.4	41.9	123.2	217.6	227.6	141.7	9.1	110.0	31.3	155.9	254.0		Sbd box 69.3
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used
b	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
b: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
b: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
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Y	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
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks

Group delay (usec)(sbd)	-6.83097667501E+03	Apriori delay (usec)	-6.83049604516E+03	Resid mbdelay (usec)	-1.18799E-02	+/-	1.9E-04
Sband delay (usec)	-6.83096259566E+03	Apriori clock (usec)	-1.0264677E+01	Resid sbdelay (usec)	-4.66550E-01	+/-	3.0E-03
Phase delay (usec)	-6.83049604565E+03	Apriori clockrate (us/s)	-4.6239510E-07	Resid phdelay (usec)	-4.94517E-07	+/-	6.4E-07
Delay rate (us/s)	1.32585327908E+00	Apriori rate (us/s)	1.32586376455E+00	Resid rate (us/s)	-1.04855E-05	+/-	2.7E-09
Total phase (deg)		Apriori accel (us/s/s)	4.31182720075E-05	Resid phase (deg)	-15.3	+/-	19.8

ph/seg (deg) 48.0 34.2 Search (2048X64) 0.103 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 50.7 59.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 43.6 39.5 Inc. seg. avg. 0.150 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 62.2 69.0 Inc. frq. avg. 0.158 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 b: az 66.1 el 33.9 pa -52.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9803.997 3585.603 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/bY..1305JH Output file: /Exps/c192a/v2/1234/No0001/bY.W.83.1305JH

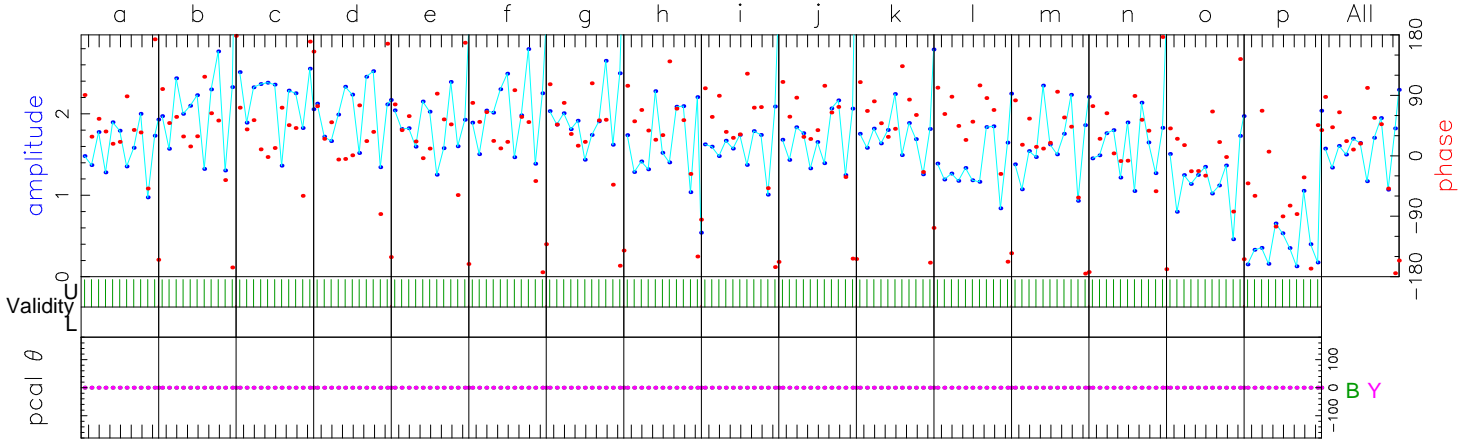


Fringe quality 2

SNR 54.2  
Int time 401.317  
Amp 0.990  
Phase 48.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.000918  
MBD -0.000870  
Fringe rate (Hz) 0.007829  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042745  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

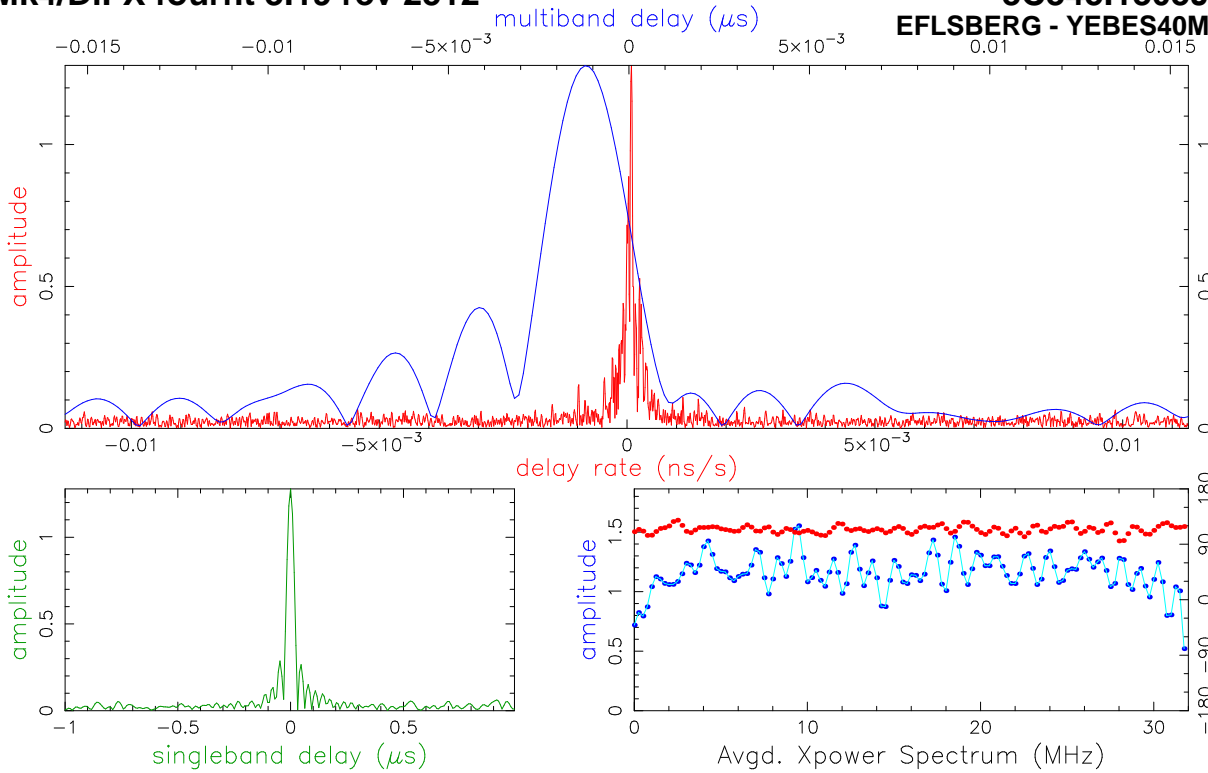


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
Group delay (usec)(sbd)	44.9	54.6	36.9	28.0	41.7	47.5	57.9	60.9	70.3	66.7	70.3	73.6	43.2	34.8	13.3	-60.1	48.8	Phase
Sband delay (usec)	1.1	1.3	1.4	1.3	1.2	1.3	1.1	1.0	1.0	1.0	1.1	0.9	1.0	1.0	0.7	0.2	1.0	Ampl.
Phase delay (usec)	129.1	128.7	128.8	128.8	129.0	128.8	129.1	129.1	128.9	129.0	128.9	128.8	128.6	128.8	127.8	119.1	128.9	128.9
Delay rate (us/s)	U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0
Total phase (deg)	B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	B:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
	B:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
	Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
	W	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
																		Tracks
Apriori delay (usec)	-1.16629717402E+03		Apriori clock (usec)		7.1870832E+00		Resid mbdelay (usec)		-8.69635E-04		+/-		2.0E-05					
Apriori clockrate (us/s)	-1.16629630281E+03		Apriori rate (us/s)		-1.05711762486E-02		Resid sbdelay (usec)		-9.17500E-04		+/-		3.2E-04					
Apriori accel (us/s/s)	-188.7		Apriori phase (deg)		-1.57526E-06		Resid phdelay (usec)		1.57526E-06		+/-		6.8E-08					
			Resid rate (us/s)		9.08924E-08		Resid phase (deg)		48.8		+/-		2.1					

ph/seg (deg) 58.1 3.7 Search (2048X64) 0.982 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 62.8 6.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 33.9 4.2 Inc. seg. avg. 1.553 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 28.4 7.4 Inc. frq. avg. 1.043 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

B: az 269.2 el 56.7 pa 55.8 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 106.525 1816.010 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/BY..1305JH Output file: /Exps/c192a/v2/1234/No0001/BY.W.85.1305JH

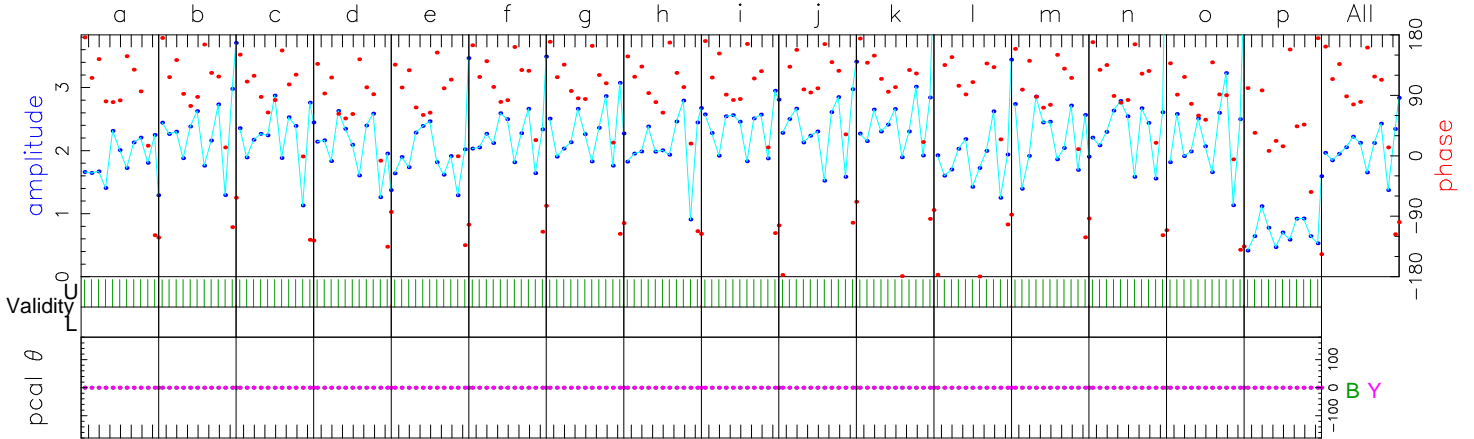


Fringe quality 3

SNR 70.1  
Int time 401.317  
Amp 1.279  
Phase 116.6  
PFD 0.0e+00  
Delays (us)  
SBD -0.000765  
MBD -0.001198  
Fringe rate (Hz) 0.007961  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042750  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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				
	114.3	123.7	113.7	93.4	100.3	121.4	120.8	116.5	122.8	135.3	132.8	136.5	114.9	120.9	95.6	50.6		Phase 116.6				
	1.1	1.3	1.5	1.4	1.2	1.5	1.4	1.4	1.4	1.5	1.5	1.2	1.4	1.5	1.5	0.4		Ampl. 1.3				
	129.4	128.9	128.8	128.6	129.2	128.9	129.0	129.1	128.8	128.9	128.7	128.6	129.1	128.9	128.3	127.1		Sbd box 128.9				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used				
B	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				
B: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				
B: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				
Y	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				
B	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)			-1.16629750249E+03															Apriori delay (usec)	-1.16629630439E+03	Resid mbdelay (usec)	-1.19810E-03	+/- 1.5E-05
Sband delay (usec)			-1.16629706889E+03															Apriori clock (usec)	7.1870832E+00	Resid sbdelay (usec)	-7.64500E-04	+/- 2.5E-04
Phase delay (usec)			-1.16629630063E+03															Apriori clockrate (us/s)	-4.2000000E-07	Resid phdelay (usec)	3.76002E-06	+/- 5.3E-08
Delay rate (us/s)			-1.05711747181E-02															Apriori rate (us/s)	-1.05712671409E-02	Resid rate (us/s)	9.24228E-08	+/- 2.3E-10
Total phase (deg)																		Apriori accel (us/s/s)	1.50620676164E-05	Resid phase (deg)	116.6	+/- 1.6

ph/seg (deg) 57.3 2.8  
amp/seg (%) 61.8 4.9  
ph/frq (deg) 22.0 3.3  
amp/frq (%) 20.8 5.7

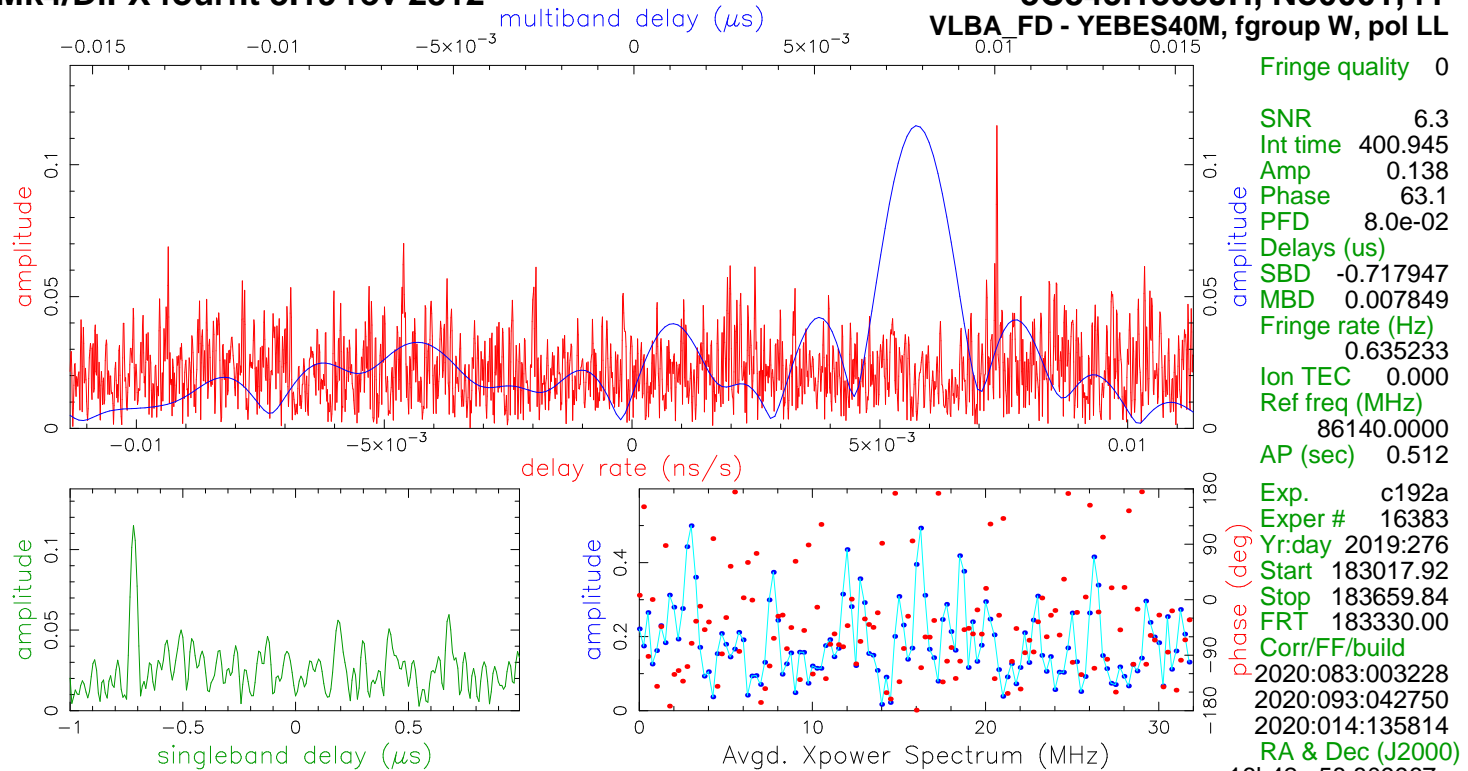
RMS Theor. Amplitude 1.279 +/- 0.018  
Search (2048X64) 1.243  
Interp. 0.000  
Inc. seg. avg. 2.010  
Inc. frq. avg. 1.322

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

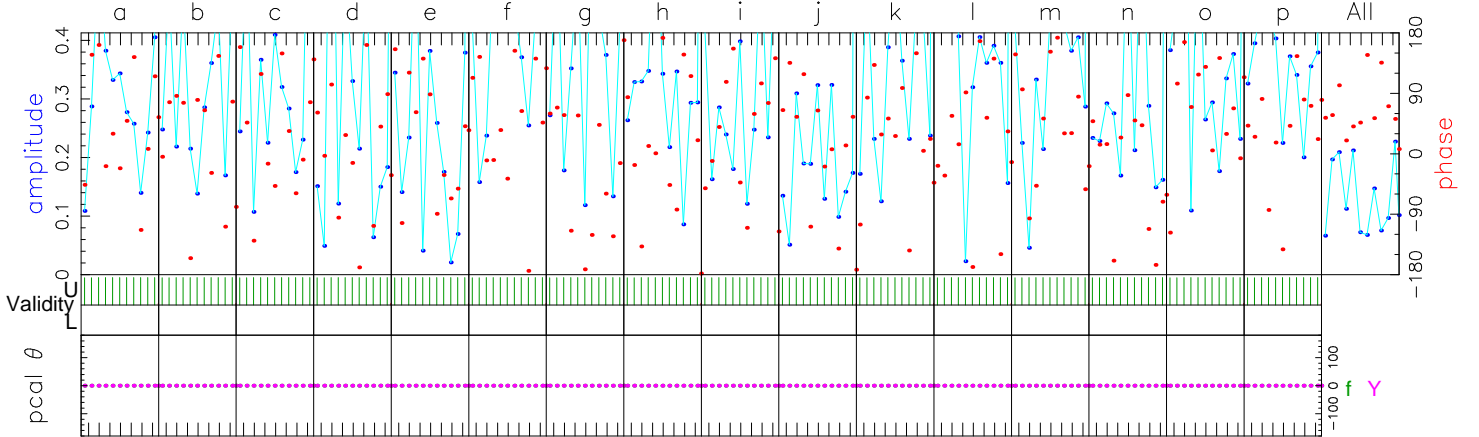
sb window (us) -1.000 1.000  
mb window (us) -0.016 0.016  
dr window (ns/s) -0.011 0.011  
ion window (TEC) 0.00 0.00

B: az 269.2 el 56.7 pa 55.8 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 106.525 1816.010 simultaneous interpolator





Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



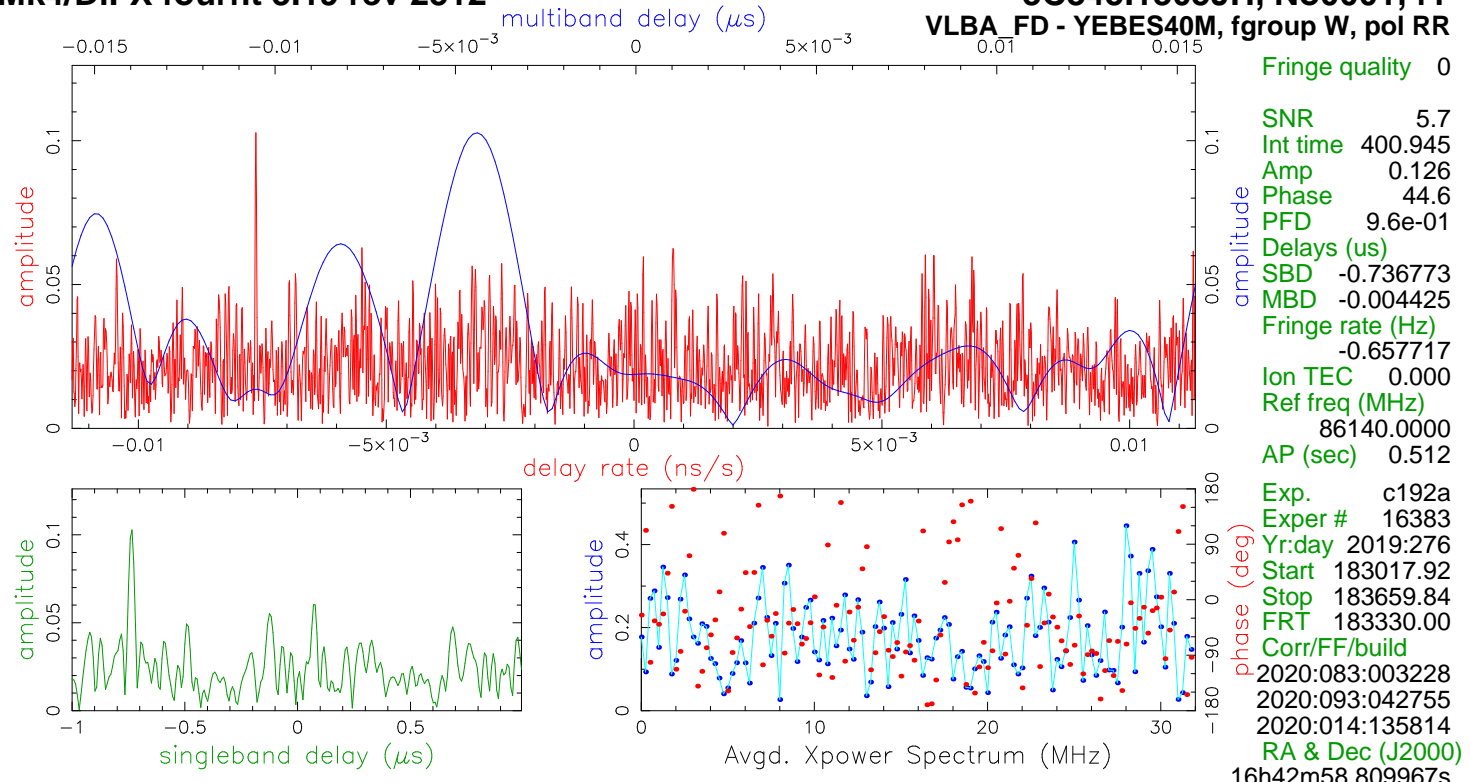
86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
69.7	76.2	58.7	85.5	71.1	65.7	14.6	-1.4	77.8	48.3	64.2	38.9	85.0	42.8	113.7	47.3	Phase	63.1	
0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	Ampl.	0.1	
72.2	34.5	92.0	224.9	255.1	102.8	143.4	25.1	165.2	231.2	191.0	53.6	199.0	249.8	61.5	163.9	Sbd box	37.1	
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used		
f	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	PC phase		
f: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	ManI PC		
f: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	PC amp		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	

Group delay (usec)(sbd)	-5.80435965466E+03	Apriori delay (usec)	-5.80364875393E+03	Resid mbdelay (usec)	7.84928E-03	+/-	1.7E-04
Sband delay (usec)	-5.80436670143E+03	Apriori clock (usec)	-9.1971989E+00	Resid sbdelay (usec)	-7.17947E-01	+/-	2.7E-03
Phase delay (usec)	-5.80364875190E+03	Apriori clockrate (us/s)	-3.1094951E-07	Resid phdelay (usec)	2.03501E-06	+/-	5.9E-07
Delay rate (us/s)	1.46606996194E+00	Apriori rate (us/s)	1.46606258752E+00	Resid rate (us/s)	7.37442E-06	+/-	2.5E-09
Total phase (deg)		Apriori accel (us/s/s)	2.06987568677E-05	Resid phase (deg)	63.1	+/-	18.2

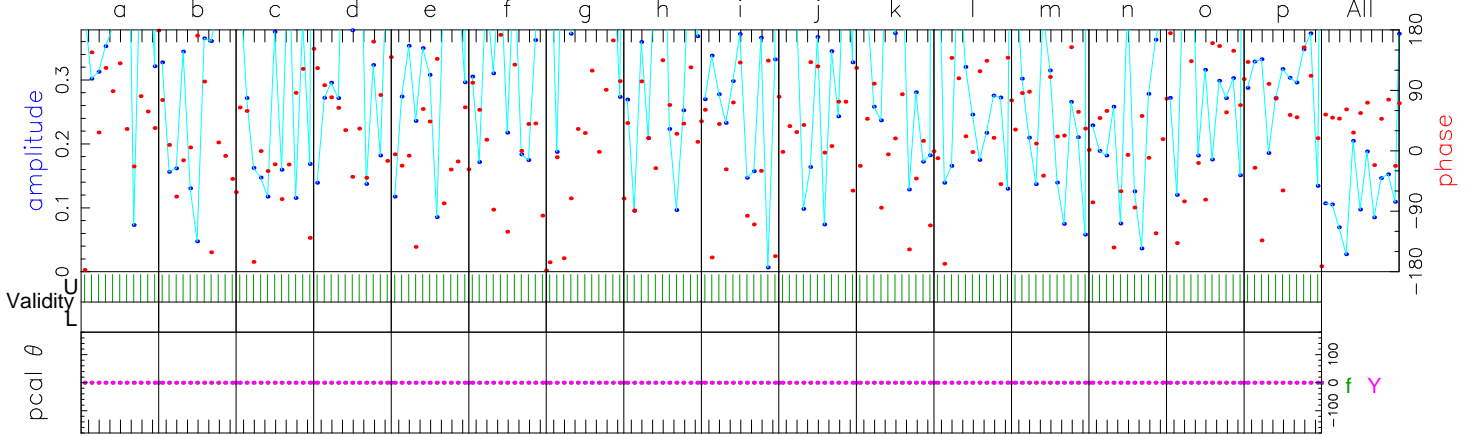
ph/seg (deg)	RMS	Theor.	Amplitude	0.138 +/- 0.022	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	39.3	31.5	Search (2048X64)	0.114	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	56.7	55.0	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016	
amp/frq (%)	29.3	36.4	Inc. seg. avg.	0.140	Sample rate(MISamp/s):	64	dr window (ns/s)	-0.011 0.011		
	33.1	63.5	Inc. frq. avg.	0.127	Data rate(Mb/s):	2048	nlags: 128	t_cohere infinite	ion window (TEC)	0.00 0.00

f: az 61.0 el 37.1 pa -78.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10890.829 532.173 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/fY...1305JH Output file: /Exps/c192a/v2/1234/No0001/fY.W.103.1305JH



Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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				
	84.4	-0.3	25.4	40.0	-7.1	85.5	105.6	67.8	81.3	41.6	11.0	46.3	50.3	-21.3	162.5	85.9	Phase	44.6				
	0.3	0.2	0.1	0.3	0.2	0.0	0.1	0.2	0.0	0.3	0.2	0.1	0.2	0.1	0.1	0.1	Ampl.	0.1				
	36.0	112.1	208.5	66.1	117.0	115.3	186.2	155.4	70.3	187.6	80.2	49.2	245.2	234.6	249.9	107.2	Sbd box	34.7				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
f	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					
f: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					
f: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					
f	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					
f	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)			-5.80437192887E+03														Apriori delay (usec)	-5.80364875393E+03	Resid mbdelay (usec)	-4.42493E-03	+/-	1.9E-04
Sband delay (usec)			-5.80438552693E+03														Apriori clock (usec)	-9.1971989E+00	Resid sbdelay (usec)	-7.36773E-01	+/-	3.0E-03
Phase delay (usec)			-5.80364875250E+03														Apriori clockrate (us/s)	-3.1094951E-07	Resid phdelay (usec)	1.43711E-06	+/-	6.5E-07
Delay rate (us/s)			1.46605495207E+00														Apriori rate (us/s)	1.46606258752E+00	Resid rate (us/s)	-7.63545E-06	+/-	2.8E-09
Total phase (deg)					-194.4												Apriori accel (us/s/s)	2.06987568677E-05	Resid phase (deg)	44.6	+/-	20.1

ph/seg (deg) RMS Theor. Amplitude 0.126 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

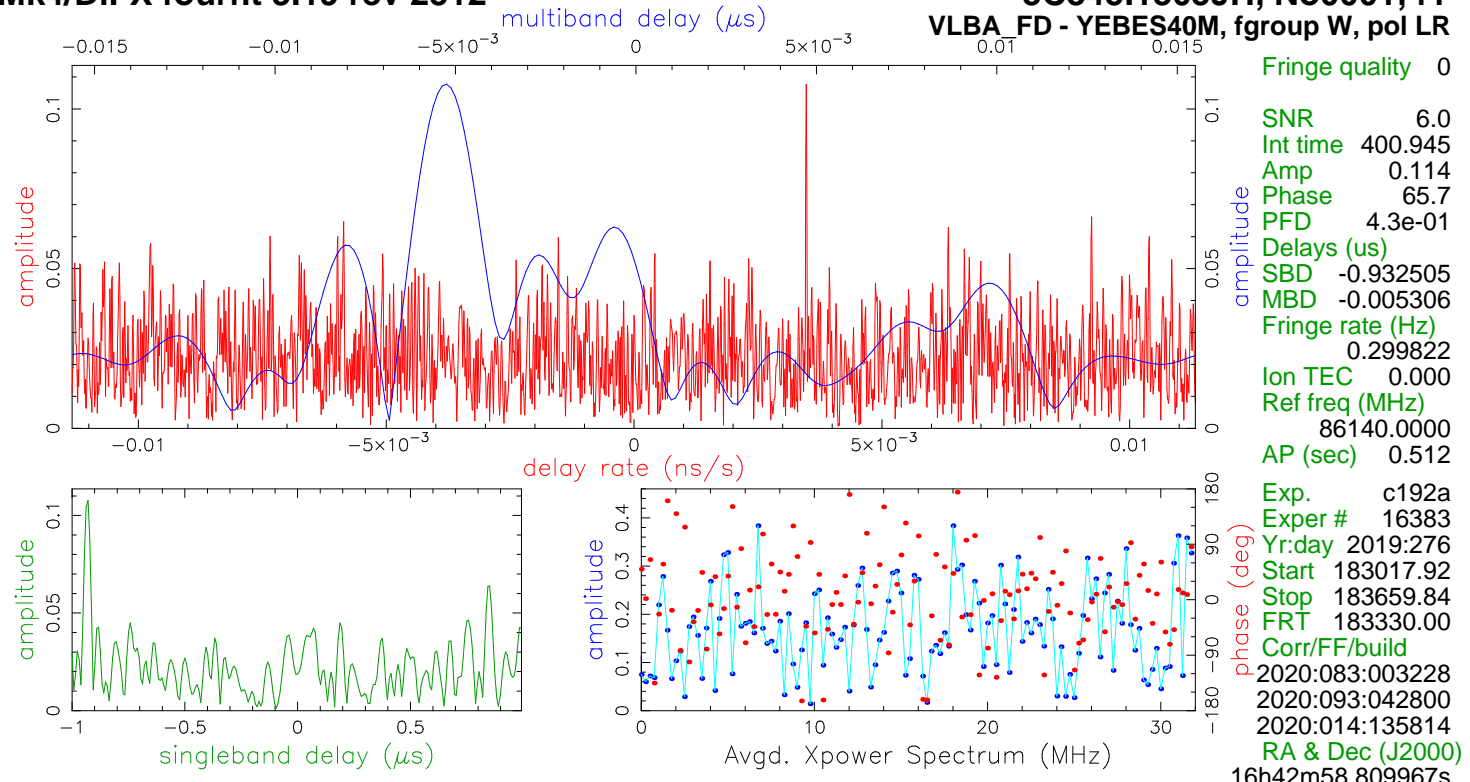
amp/seg (%) 52.5 60.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 50.1 40.3 Inc. seg. avg. 0.122 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 72.5 70.3 Inc. frq. avg. 0.129 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011

f: az 61.0 el 37.1 pa -78.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10890.829 532.173 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/fY...1305JH Output file: /Exps/c192a/v2/1234/No0001/fY.W.122.1305JH



Fringe quality 0

SNR 6.0

Int time 400.945

Amp 0.114

Phase 65.7

PFD 4.3e-01

Delays (us)

SBD -0.932505

MBD -0.005306

Fringe rate (Hz)

0.299822

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183017.92

Stop 183659.84

FRT 183330.00

Corr/FF/build

2020:083:003228

2020:093:042800

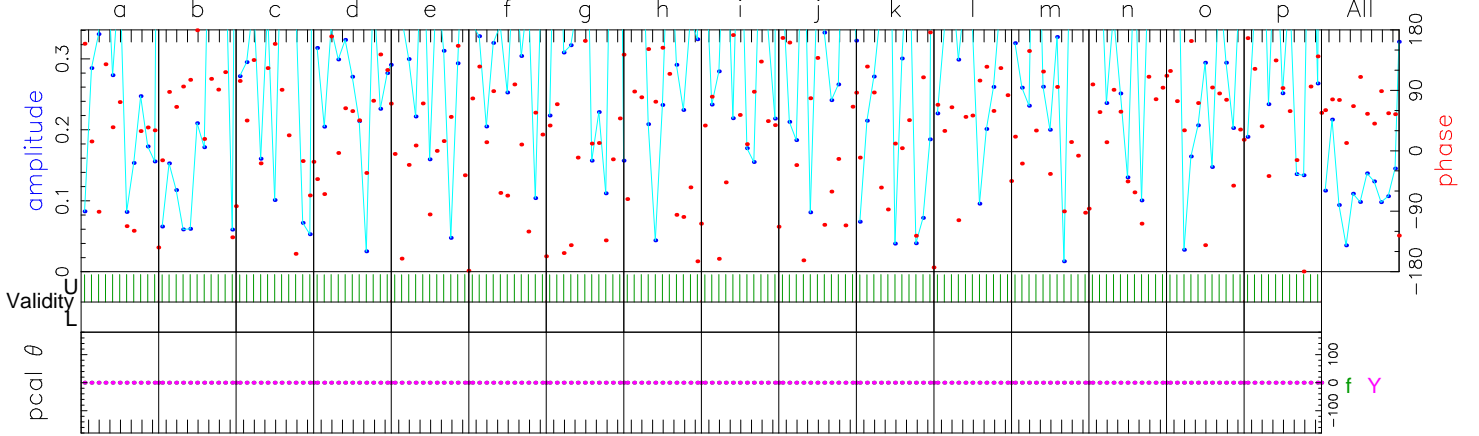
2020:014:135814

RA & Dec (J2000)

16h42m58.80967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
52.6	101.9	89.2	64.3	0.2	46.2	40.8	154.3	58.7	-152.6	-19.9	68.7	15.0	73.2	81.2	92.9	92.9	Phase	65.7
0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	Ampl.	0.1
237.2	113.0	50.3	245.2	71.8	181.8	26.0	226.6	255.5	118.7	39.7	249.1	247.8	85.0	25.6	11.4	11.4	Sbd box	9.6
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
f	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	
f: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	
f: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	
f	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		
f	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)	-5.80459155993E+03			Apriori delay (usec)			-5.80364875393E+03			Resid mbdelay (usec)			-5.30599E-03			+/- 1.8E-04		
Sband delay (usec)	-5.80458125893E+03			Apriori clock (usec)			-9.1971989E+00			Resid sbdelay (usec)			-9.32505E-01			+/- 2.9E-03		
Phase delay (usec)	-5.80364875181E+03			Apriori clockrate (us/s)			-3.1094951E-07			Resid phdelay (usec)			2.11977E-06			+/- 6.2E-07		
Delay rate (us/s)	1.46606606816E+00			Apriori rate (us/s)			1.46606258752E+00			Resid rate (us/s)			3.48064E-06			+/- 2.7E-09		
Total phase (deg)	-173.2			Apriori accel (us/s/s)			2.06987568677E-05			Resid phase (deg)			65.7			+/- 19.2		

ph/seg (deg) 27.2 33.2 Amplitude 0.114 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

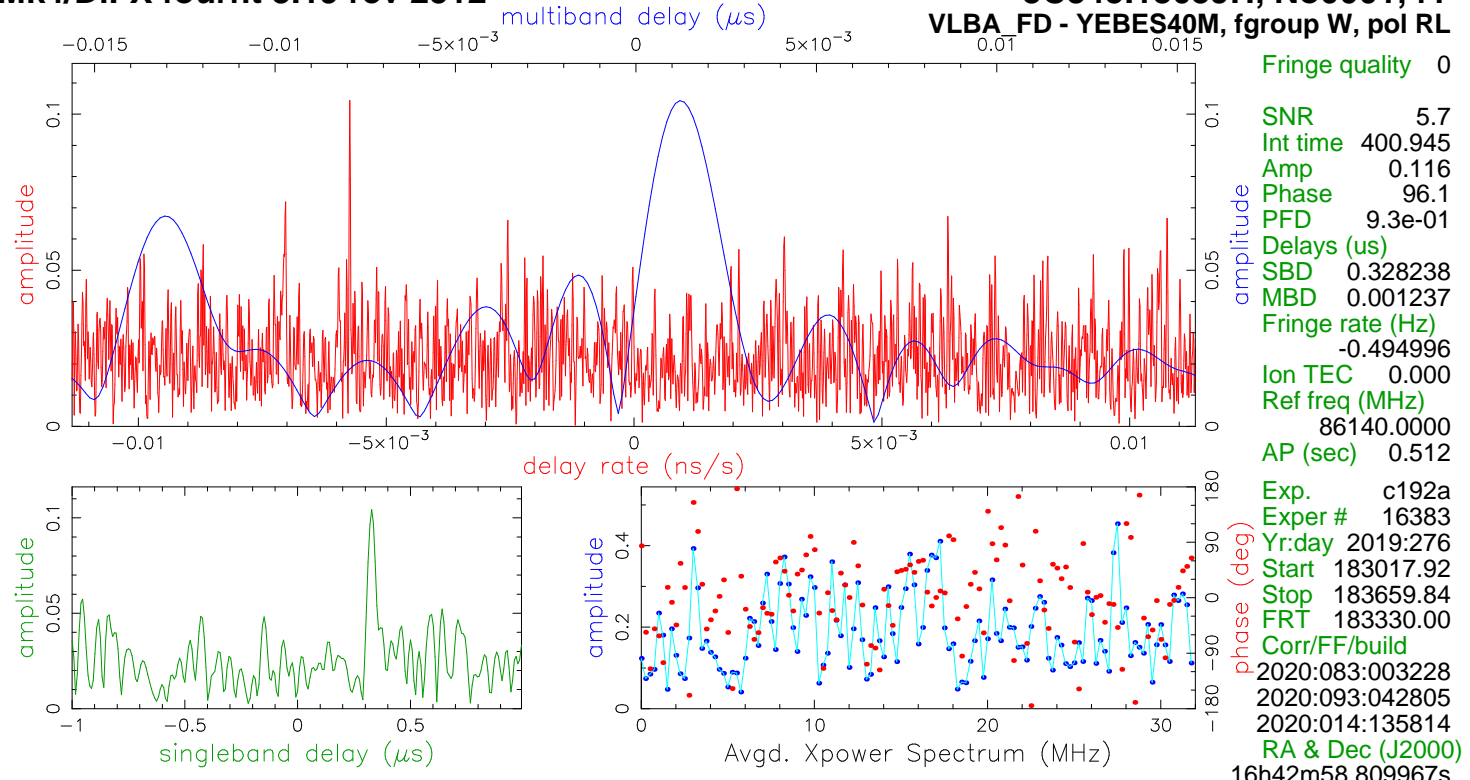
amp/seg (%) 40.6 57.9 Search (2048X64) 0.104 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 57.5 38.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

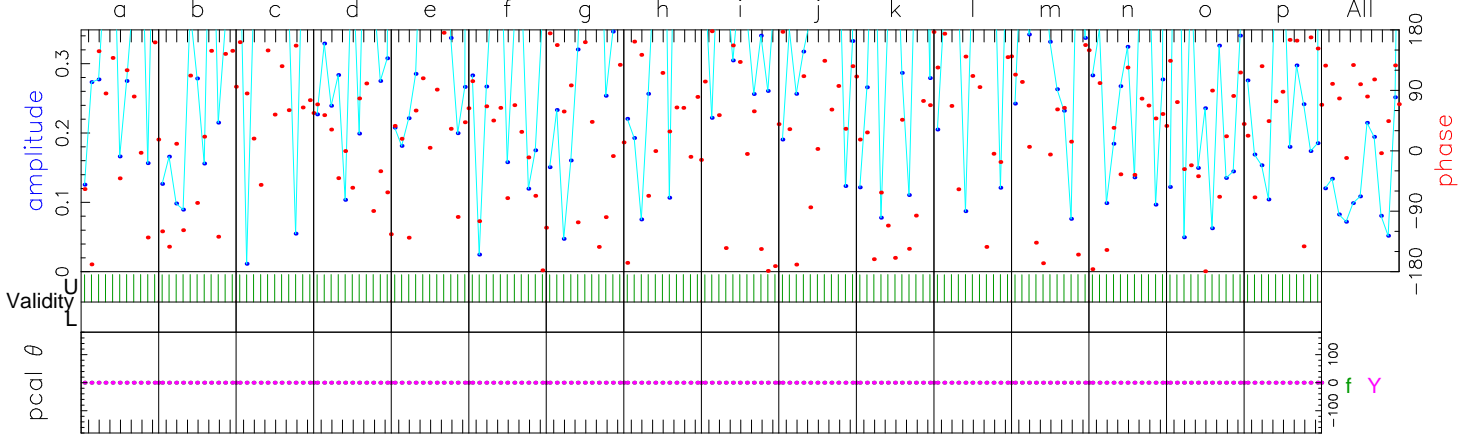
amp/frq (%) 56.4 66.9 Inc. seg. avg. 0.105 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

f: az 61.0 el 37.1 pa -78.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10890.829 532.173 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/fY..1305JH Output file: /Exps/c192a/v2/1234/No0001/fY.W.139.1305JH simultaneous interpolator



Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
119.5	160.7	87.8	-1.0	67.7	56.2	159.4	62.4	141.3	97.0	-172.2	111.3	139.5	74.0	53.8	111.7	111.7	Phase	96.1
0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	Ampl.	0.1
132.1	211.0	242.7	95.5	78.1	198.4	151.2	244.1	247.7	145.1	13.5	121.1	212.2	181.2	5.9	18.2	18.2	Sbd box	171.0
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
f	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	
f: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	
f: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	
f	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		
f	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)	-5.80333501724E+03	Apriori delay (usec)	-5.80364875393E+03	Resid mbdelay (usec)	1.23669E-03	+/-	1.9E-04
Sband delay (usec)	-5.80332051643E+03	Apriori clock (usec)	-9.1971989E+00	Resid sbdelay (usec)	3.28238E-01	+/-	3.0E-03
Phase delay (usec)	-5.80364875084E+03	Apriori clockrate (us/s)	-3.1094951E-07	Resid phdelay (usec)	3.09835E-06	+/-	6.5E-07
Delay rate (us/s)	1.46605684111E+00	Apriori rate (us/s)	1.46606258752E+00	Resid rate (us/s)	-5.74641E-06	+/-	2.8E-09
Total phase (deg)	-142.9	Apriori accel (us/s/s)	2.06987568677E-05	Resid phase (deg)	96.1	+/-	20.1

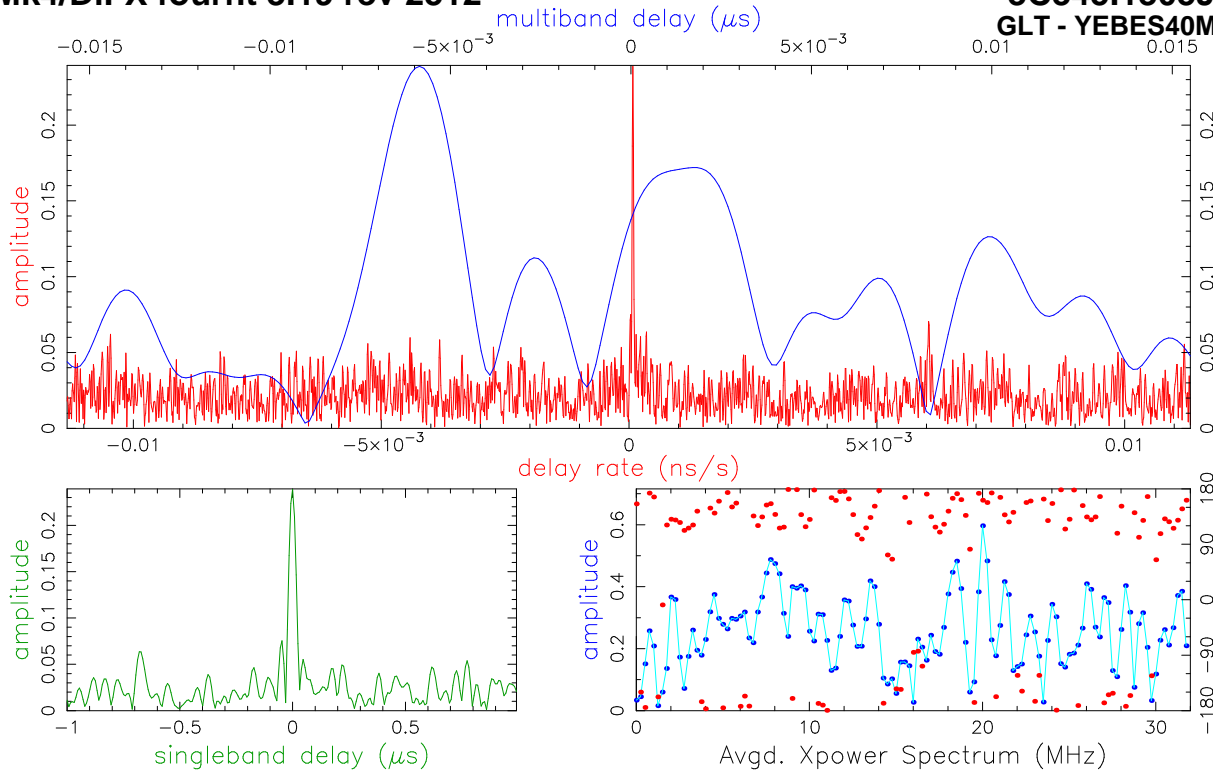
ph/seg (deg)	RMS 50.0	Theor. 34.7	Amplitude Search (2048X64)	0.116 +/- 0.020	0.103	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	74.4	60.6	Interp.	0.000	0.103	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	51.3	40.1	Inc. seg. avg.	0.123	0.123	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	50.2	70.0	Inc. frq. avg.	0.124	0.124	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
						nlags: 128	t_cohere infinite

f: az 61.0 el 37.1 pa -78.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10890.829 532.173 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/fY..1305JH Output file: /Exps/c192a/v2/1234/No0001/fY.W.157.1305JH

# Mk4/DiFX fourfit 3.19 rev 2512

**3C345.1305JH, No0001, gY**  
**GLT - YEBES40M, fgroup W, pol LL**

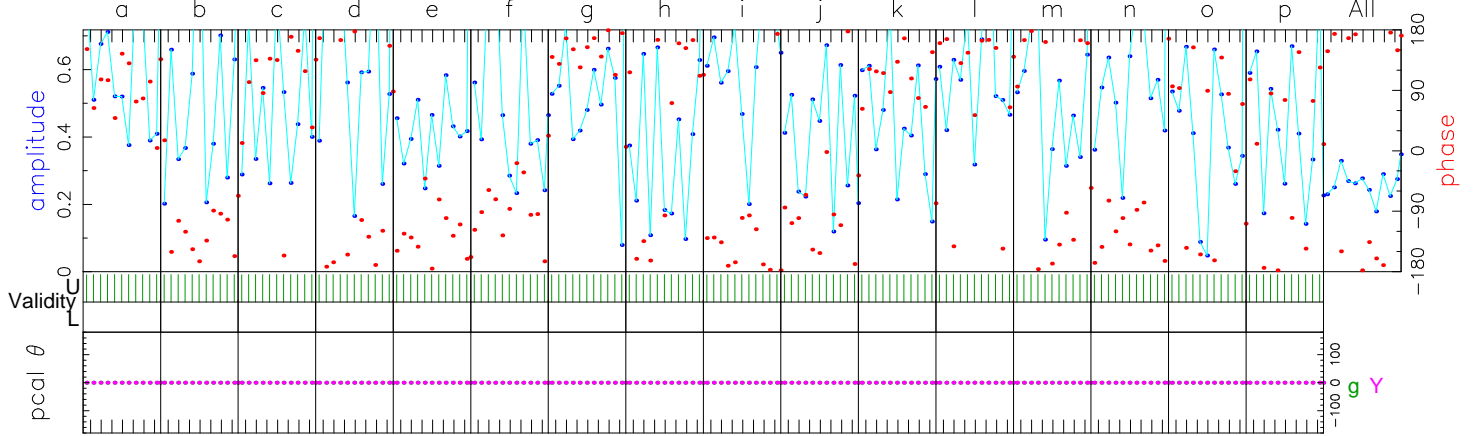


**Fringe quality 9**

SNR 13.1  
 Int time 401.182  
 Amp 0.239  
 Phase -178.6  
 PFD 1.6e-30  
 Delays (us)  
 SBD -0.001318  
 MBD -0.005868  
 Fringe rate (Hz) 0.006737  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build 2020:083:003228  
 2020:093:042806  
 2020:014:135814  
 RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

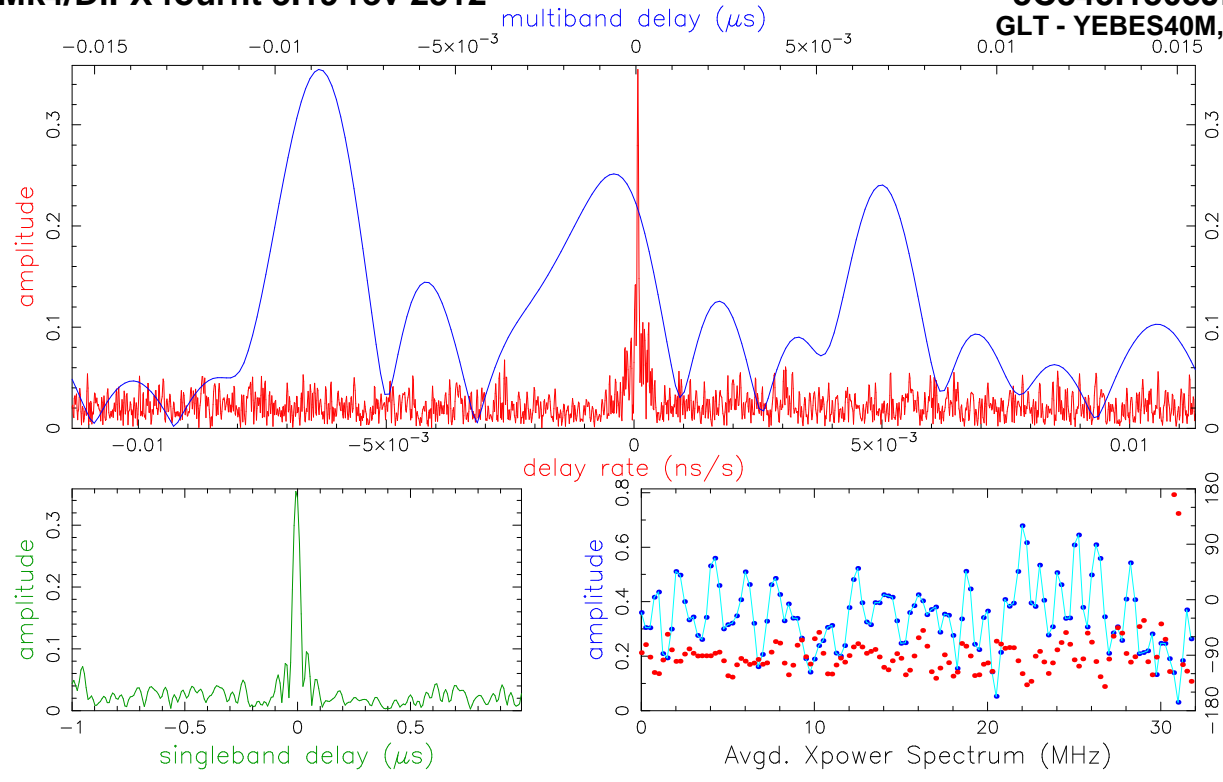


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
g: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		
g: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		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
g	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	
Group delay (usec)(sbd)		-2.27657266767E+03																
Sband delay (usec)		-2.27656811672E+03																
Phase delay (usec)		-2.27656680498E+03																
Delay rate (us/s)		6.75820061079E-01																
Total phase (deg)			-209.3															
		Apriori delay (usec)				-2.27656679922E+03				Resid mbdelay (usec)				-5.86845E-03 +/- 8.2E-05				
		Apriori clock (usec)				-8.3558588E+00				Resid sbdelay (usec)				-1.31750E-03 +/- 1.3E-03				
		Apriori clockrate (us/s)				-1.4500001E-07				Resid phdelay (usec)				-5.75981E-06 +/- 2.8E-07				
		Apriori rate (us/s)				6.75819982870E-01				Resid rate (us/s)				7.82092E-08 +/- 1.2E-09				
		Apriori accel (us/s/s)				3.54163203504E-05				Resid phase (deg)				-178.6 +/- 8.7				
		RMS		Theor.		Amplitude		0.239 +/- 0.018		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5						
ph/seg (deg)		22.4	15.1	Search (2048X64)		0.238		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000 1.000						
amp/seg (%)		17.5	26.4	Interp.		0.000		Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)		-0.016 0.016				
ph/frq (deg)		58.5	17.5	Inc. seg. avg.		0.249		Sample rate(MISamp/s): 64		dr window (ns/s)		-0.011 0.011						
amp/frq (%)		77.4	30.5	Inc. frq. avg.		0.371		Data rate(Mb/s): 2048		nlags: 128		t_cohere infinite		ion window (TEC)		0.00 0.00		
g: az 142.5 el 51.0 pa -10.6		Y: az 280.2 el 62.9 pa 77.1		u,v (fr/asec)		-4969.863 4579.881										simultaneous interpolator		

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/gY..1305JH Output file: /Exps/c192a/v2/1234/No0001/gY.W.161.1305JH

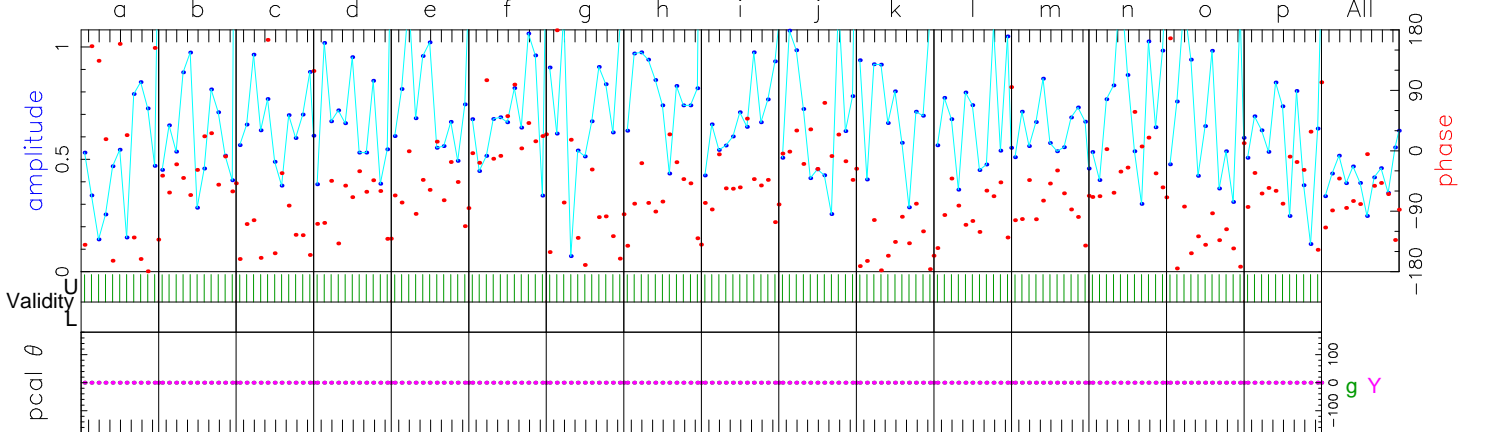
Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, gY  
GLT - YEBES40M, fgroup W, pol RR



Fringe quality 8  
SNR 19.7  
Int time 401.222  
Amp 0.359  
Phase -74.0  
PFD 0.0e+00  
Delays (us)  
SBD -0.005172  
MBD -0.008774  
Fringe rate (Hz) 0.006512  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042811  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
-170.5	-33.1	-132.1	-76.7	-51.4	25.4	-120.7	-66.5	-53.4	2.7	-141.8	-92.6	-83.0	-26.2	-136.2	-55.9	Phase	-74.0
0.4	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.4	Ampl.	0.5
129.3	129.4	128.9	128.7	128.1	128.0	128.8	128.2	128.6	128.4	128.6	128.7	128.7	128.5	128.3	128.2	Sbd box	128.3
U/L 785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
g 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
Y 1000	1000	1000	1000	1000	1000	1000	1000	1000	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		
g 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	

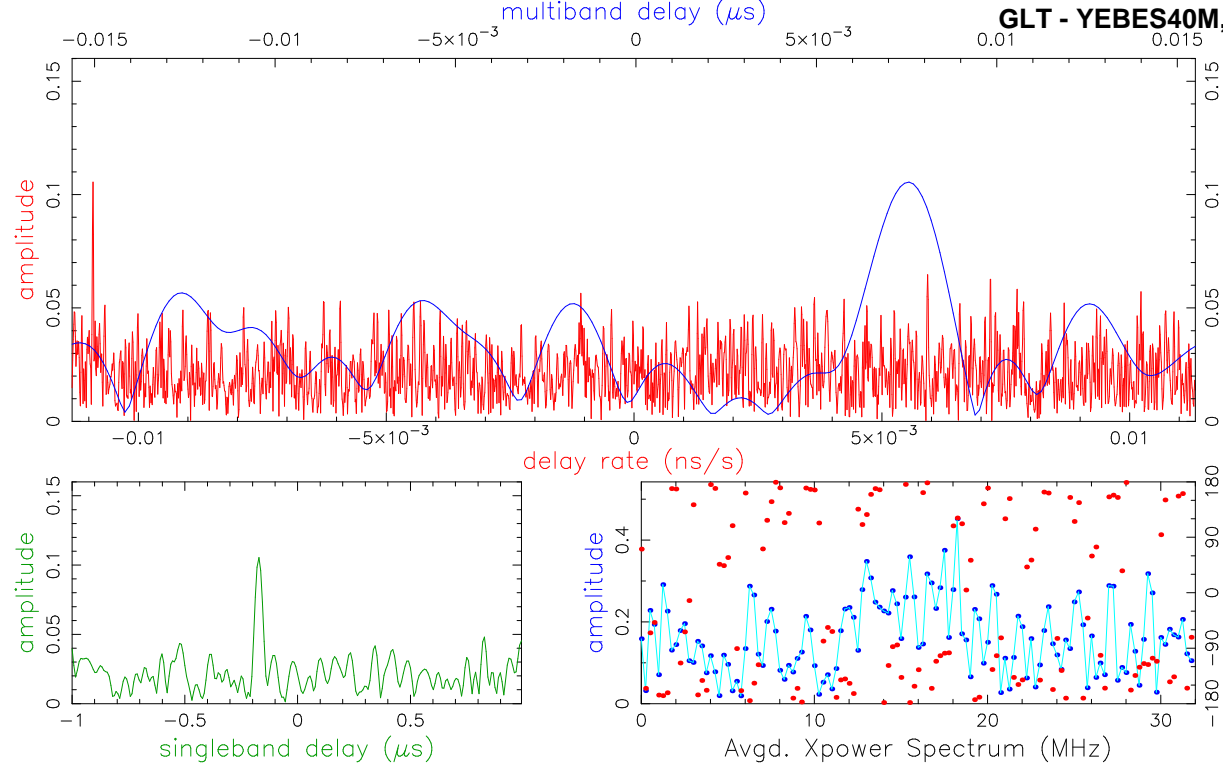
Group delay (usec)(sbd) -2.27657557345E+03 Apriori delay (usec) -2.27656679922E+03 Resid mbdelay (usec) -8.77423E-03 +/- 5.5E-05  
 Sband delay (usec) -2.27657197122E+03 Apriori clock (usec) -8.3558588E+00 Resid sbdelay (usec) -5.17200E-03 +/- 8.8E-04  
 Phase delay (usec) -2.27656680161E+03 Apriori clockrate (us/s) -1.4500001E-07 Resid phdelay (usec) -2.38493E-06 +/- 1.9E-07  
 Delay rate (us/s) 6.75820058469E-01 Apriori rate (us/s) 6.75819982870E-01 Resid rate (us/s) 7.55996E-08 +/- 8.1E-10  
 Total phase (deg) -104.6 Apriori accel (us/s/s) 3.54163203504E-05 Resid phase (deg) -74.0 +/- 5.8

RMS Theor. Amplitude 0.359 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 33.6 10.1 Search (2048X64) 0.351 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 28.3 17.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 56.6 11.7 Inc. seg. avg. 0.411 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 55.3 20.4 Inc. frq. avg. 0.535 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

g: az 142.5 el 51.0 pa -10.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -4969.863 4579.881 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/gY..1305JH Output file: /Exps/c192a/v2/1234/No0001/gY.W.176.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, gY  
GLT - YEBES40M, fgroup W, pol LR

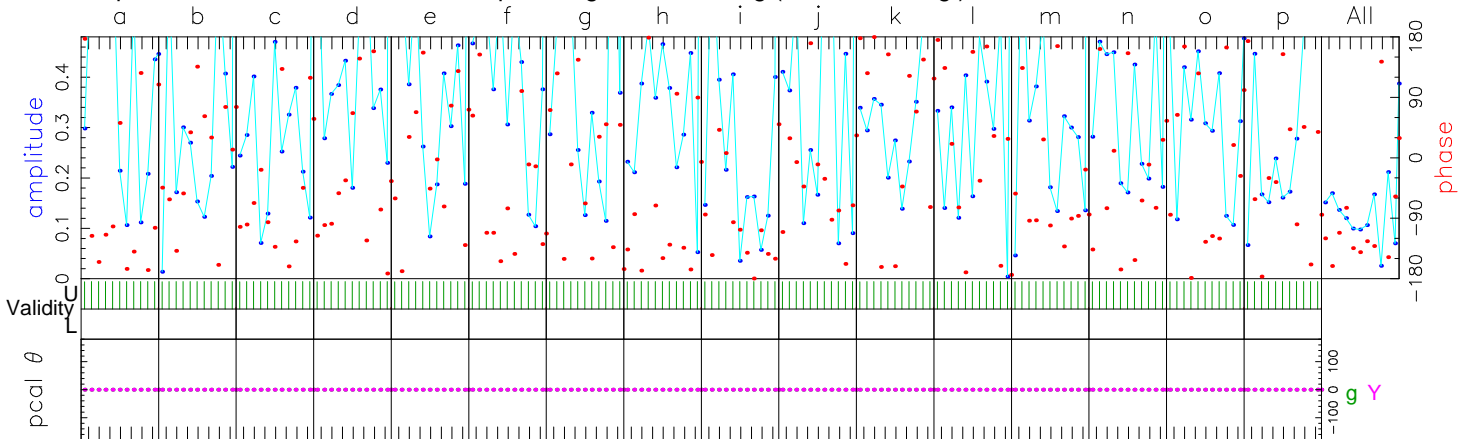


Fringe quality 0

SNR 5.8  
Int time 401.182  
Amp 0.160  
Phase -127.7  
PFD 8.4e-01  
Delays (us)  
SBD -0.172514  
MBD 0.007551  
Fringe rate (Hz)  
-0.941303  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042816  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	-129.5	-5.7	-115.7	-111.0	74.9	-145.6	-169.9	-147.2	-126.6	-57.8	168.1	-176.1	-103.4	-98.1	-144.3	-18.8	Phase	-127.7
	0.5	0.1	0.2	0.3	0.0	0.3	0.1	0.3	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.1	Ampl.	0.2
	106.3	156.0	60.0	1.6	46.1	193.6	136.9	52.3	148.5	200.1	7.9	76.9	167.7	9.3	62.6	61.6	Sbd box	106.9
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
g	1000	1000	1000	1000	1000	1000	1000	1000	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		
g	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	

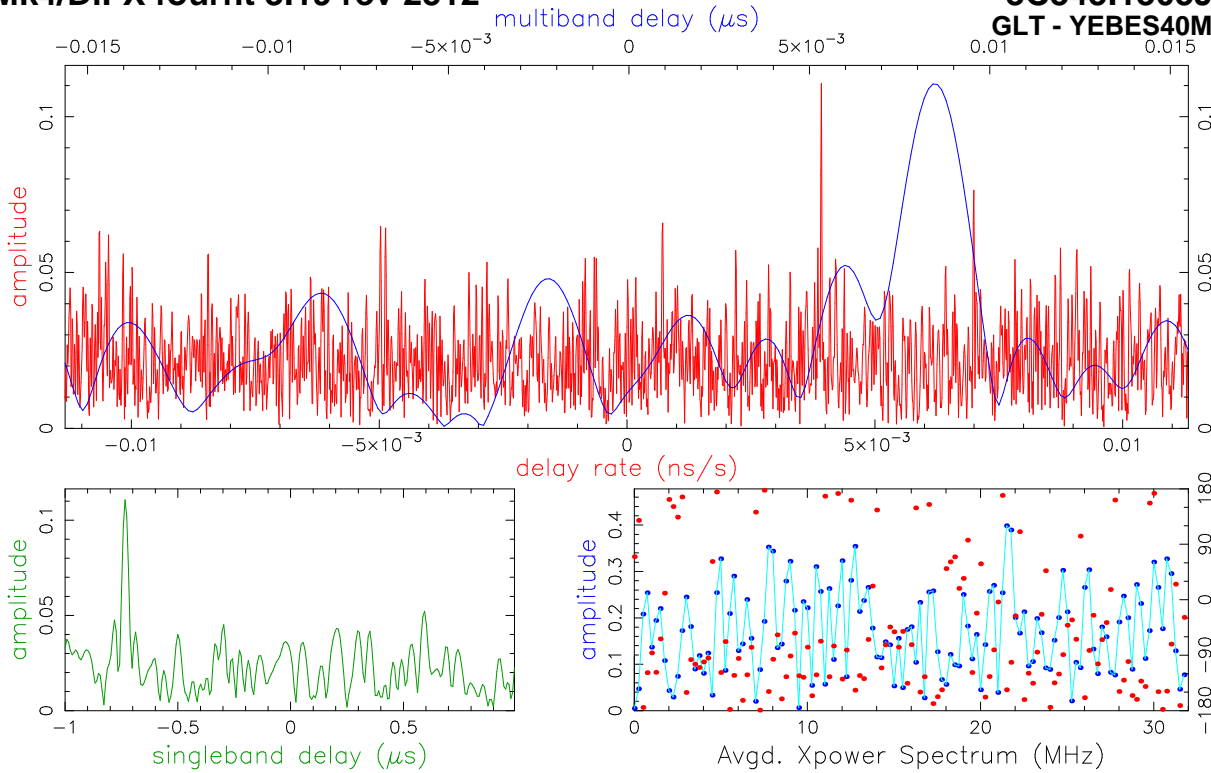
Group delay (usec)(sbd) -2.27674674856E+03 Apriori delay (usec) -2.27656679922E+03 Resid mbdelay (usec) 7.55067E-03 +/- 1.9E-04  
 Sband delay (usec) -2.27673931372E+03 Apriori clock (usec) -8.3558588E+00 Resid sbdelay (usec) -1.72514E-01 +/- 3.0E-03  
 Phase delay (usec) -2.27656680334E+03 Apriori clockrate (us/s) -1.4500001E-07 Resid phdelay (usec) -4.11797E-06 +/- 6.4E-07  
 Delay rate (us/s) 6.75809055279E-01 Apriori rate (us/s) 6.75819982870E-01 Resid rate (us/s) -1.09276E-05 +/- 2.8E-09  
 Total phase (deg) -158.4 Apriori accel (us/s/s) 3.54163203504E-05 Resid phase (deg) -127.7 +/- 19.8

RMS Theor. Amplitude 0.160 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 41.6 34.3 Search (2048X64) 0.104 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 53.0 59.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 69.4 39.6 Inc. seg. avg. 0.160 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 78.3 69.2 Inc. frq. avg. 0.169 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

g: az 142.5 el 51.0 pa -10.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -4969.863 4579.881 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/gY..1305JH Output file: /Exps/c192a/v2/1234/No0001/gY.W.196.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, gY  
GLT - YEBES40M, fgroup W, pol RL

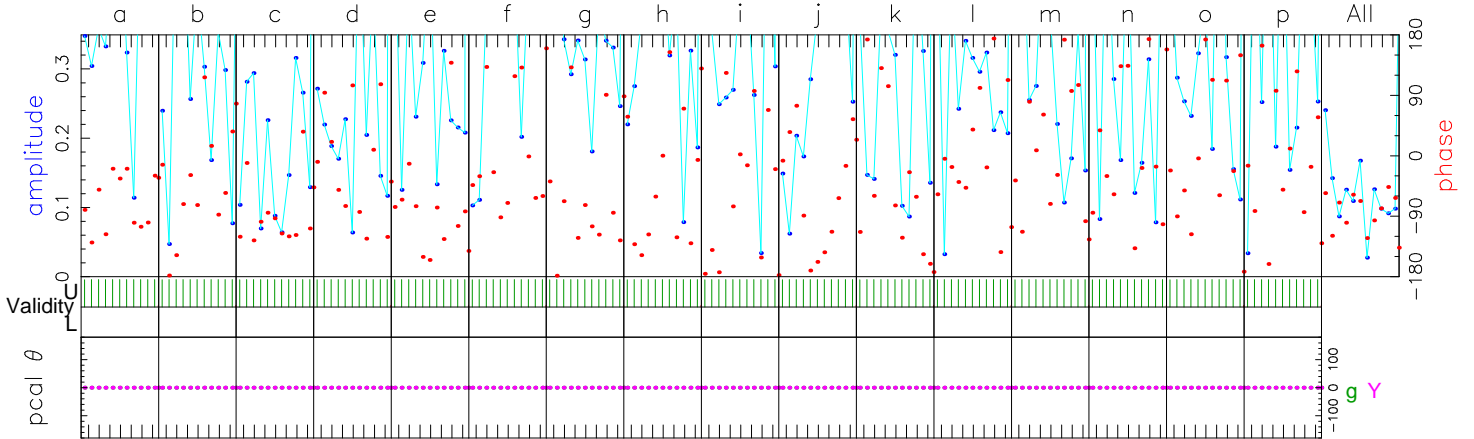


Fringe quality 0

SNR 6.1  
Int time 401.222  
Amp 0.116  
Phase -76.7  
PFD 2.9e-01  
Delays (us)  
SBD -0.733428  
MBD 0.008470  
Fringe rate (Hz) 0.337768  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042821  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



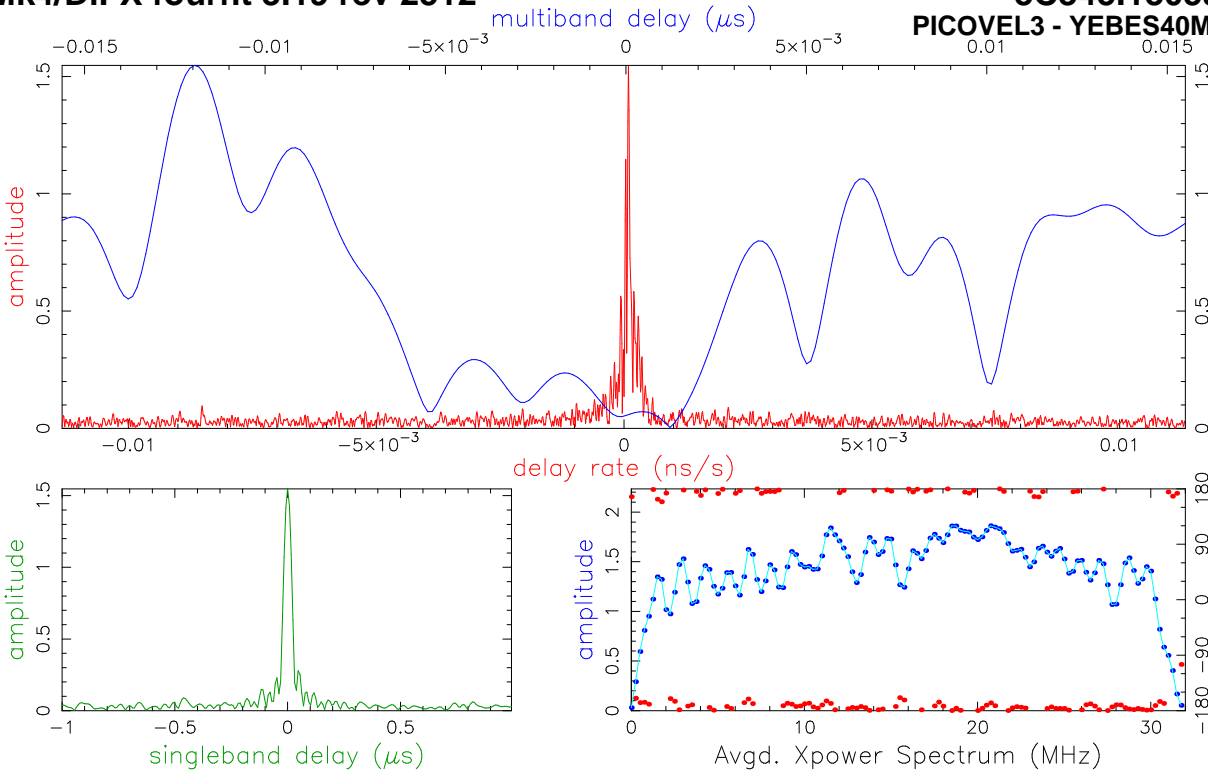
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-64.7	-73.1	-89.2	-36.8	-104.6	-51.3	-111.1	-105.2	58.1	-94.0	-125.7	-25.0	-20.0	-93.1	-59.5	-80.0		Phase -76.7
	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1		Ampl. 0.1
	35.2	19.0	228.1	106.5	156.3	111.4	8.2	84.4	135.9	226.9	193.1	90.6	82.8	218.8	46.7	54.3		Sbd box 35.1
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		PC freqs
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
g:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
g	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
g	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)	-2.27730832961E+03	Apriori delay (usec)	-2.27656679922E+03	Resid mbdelay (usec)	8.46961E-03	+/-	1.8E-04
Sband delay (usec)	-2.27730022722E+03	Apriori clock (usec)	-8.3558588E+00	Resid sbdelay (usec)	-7.33428E-01	+/-	2.8E-03
Phase delay (usec)	-2.27656680170E+03	Apriori clockrate (us/s)	-1.4500001E-07	Resid phdelay (usec)	-2.47380E-06	+/-	6.1E-07
Delay rate (us/s)	6.75823904020E-01	Apriori rate (us/s)	6.75819982870E-01	Resid rate (us/s)	3.92115E-06	+/-	2.6E-09
Total phase (deg)	-107.4	Apriori accel (us/s/s)	3.54163203504E-05	Resid phase (deg)	-76.7	+/-	18.9

g: az 142.5 el 51.0 pa -10.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -4969.863 4579.881 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/gY..1305JH Output file: /Exps/c192a/v2/1234/No0001/gY.W.215.1305JH



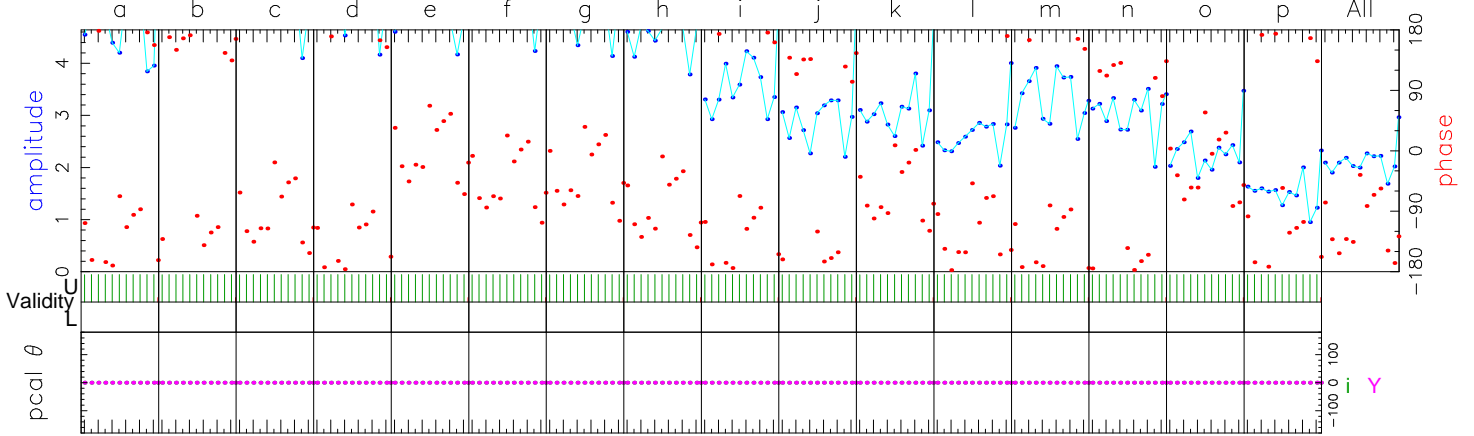


Fringe quality 2

SNR 75.0  
 Int time 313.918  
 Amp 1.548  
 Phase -107.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000202  
 MBD -0.011939  
 Fringe rate (Hz) 0.007199  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

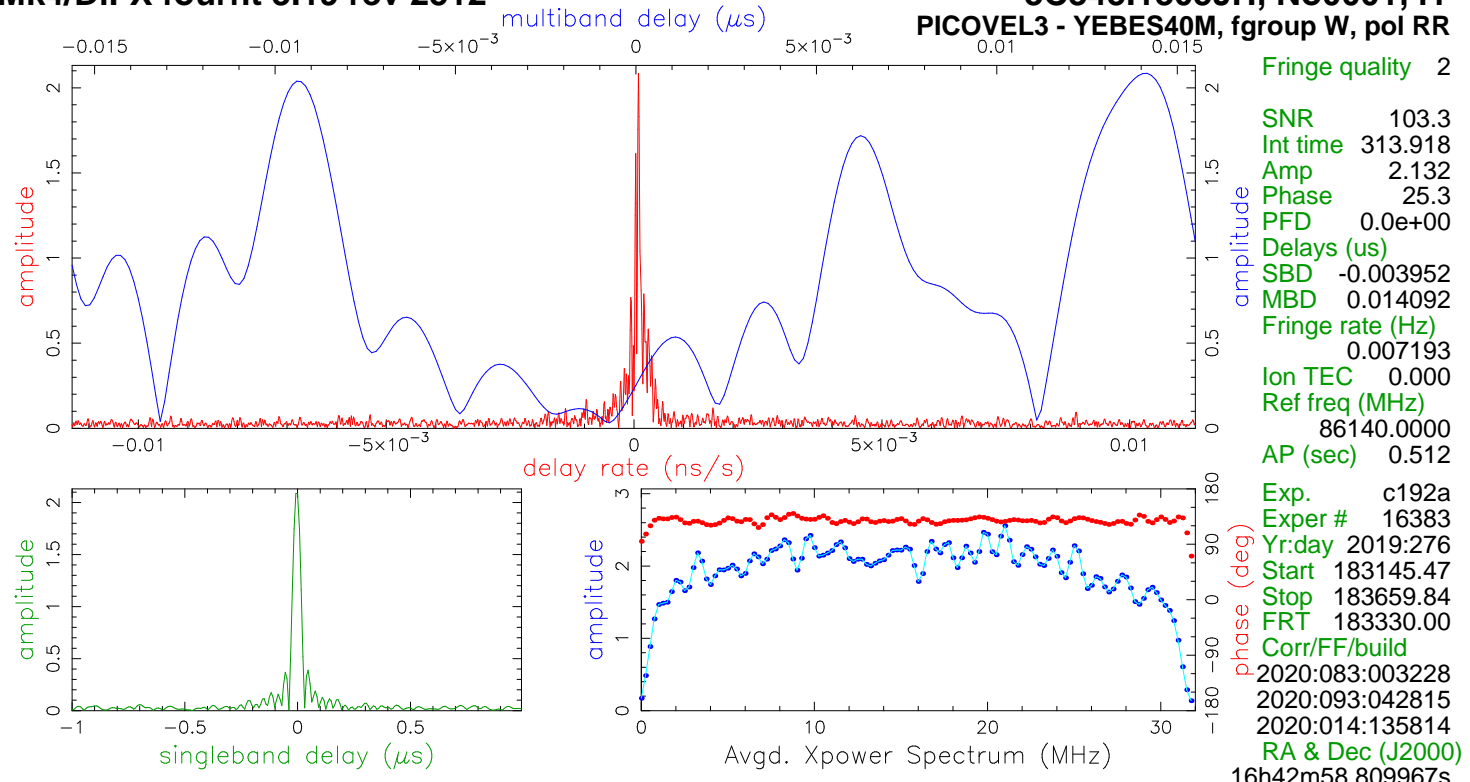
Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183145.47  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042810  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 55 APs / seg (28.16 sec / seg.), time ticks 30 sec

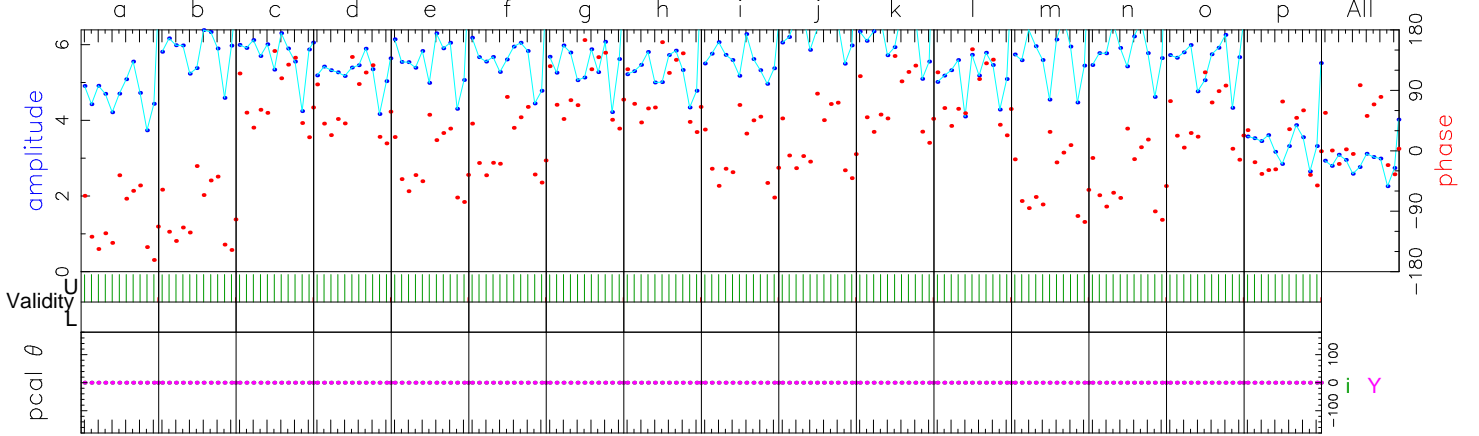


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-139.6	-165.7	-91.5	-143.9	0.9	-43.5	-35.1	-82.2	-139.8	165.2	-59.9	-122.8	-145.2	152.4	-29.2	-146.4	Phase	-107.4
	3.5	4.0	3.9	4.0	3.6	3.7	3.5	3.3	2.6	2.1	2.3	1.8	2.4	2.2	1.6	1.0	Ampl.	2.8
	129.3	129.0	128.9	129.0	129.0	128.8	128.9	129.0	129.1	129.1	129.2	128.5	128.7	128.9	128.1	128.4	Sbd box	129.0
UL	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	APs used	
i	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	
i: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	
i: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	
Y	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	
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)	-1.06407177009E+02			Apriori delay (usec)			-1.06395238026E+02			Resid mbdelay (usec)			-1.19390E-02			+/- 1.4E-05		
Sband delay (usec)	-1.06395036026E+02			Apriori clock (usec)			-1.0140948E+01			Resid sbdelay (usec)			2.02000E-04			+/- 2.3E-04		
Phase delay (usec)	-1.06395241488E+02			Apriori clockrate (us/s)			-5.7299998E-07			Resid phdelay (usec)			-3.46175E-06			+/- 4.9E-08		
Delay rate (us/s)	-2.28605227189E-02			Apriori rate (us/s)			-2.28606062926E-02			Resid rate (us/s)			8.35737E-08			+/- 2.7E-10		
Total phase (deg)	-36.6			Apriori accel (us/s/s)			-2.87098733080E-06			Resid phase (deg)			-107.4			+/- 1.5		

ph/seg (deg) 42.7 2.6 Search (2048X64) 1.472 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 36.5 4.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 64.4 3.1 Inc. seg. avg. 2.077 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 102.8 5.3 Inc. frq. avg. 2.844 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 i: az 286.6 el 62.3 pa 84.7 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 164.667 -508.882 ion window (TEC) 0.00 0.00 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/iY...1305JH Output file: /Exps/c192a/v2/1234/No0001/iY.W.172.1305JH



Amp. and Phase vs. time for each freq., 12 segs, 55 APs / seg (28.16 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
	-100.3	-91.7	81.8	70.3	-14.8	9.9	94.0	89.8	-4.6	17.2	75.9	85.1	-46.8	-40.7	46.6	4.0	Phase	25.3
	3.5	4.3	4.2	3.8	4.1	4.1	4.0	3.9	4.0	4.6	4.6	3.8	4.2	4.2	4.2	2.5	Ampl.	4.0
	128.9	129.1	128.8	128.4	129.1	128.8	128.9	128.9	129.0	128.9	128.8	128.6	128.8	128.9	128.4	128.1	Sbd box	128.5
U/L	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	APs used	
i	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	
i: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	
i: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	
Y	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		
i	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	

Group delay (usec)(sbd) -1.06412395572E+02 Apriori delay (usec) -1.06395238026E+02 Resid mbdelay (usec) 1.40925E-02 +/- 1.0E-05

Sband delay (usec) -1.06399190526E+02 Apriori clock (usec) -1.0140948E+01 Resid sbdelay (usec) -3.95250E-03 +/- 1.7E-04

Phase delay (usec) -1.06395237210E+02 Apriori clockrate (us/s) -5.7299998E-07 Resid phdelay (usec) 8.15526E-07 +/- 3.6E-08

Delay rate (us/s) -2.28605227905E-02 Apriori rate (us/s) -2.28606062926E-02 Resid rate (us/s) 8.35021E-08 +/- 2.0E-10

Total phase (deg) -264.0 Apriori accel (us/s/s) -2.87098733080E-06 Resid phase (deg) 25.3 +/- 1.1

RMS Theor. Amplitude 2.132 +/- 0.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

ph/seg (deg) 44.1 1.9 Search (2048X64) 2.022 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

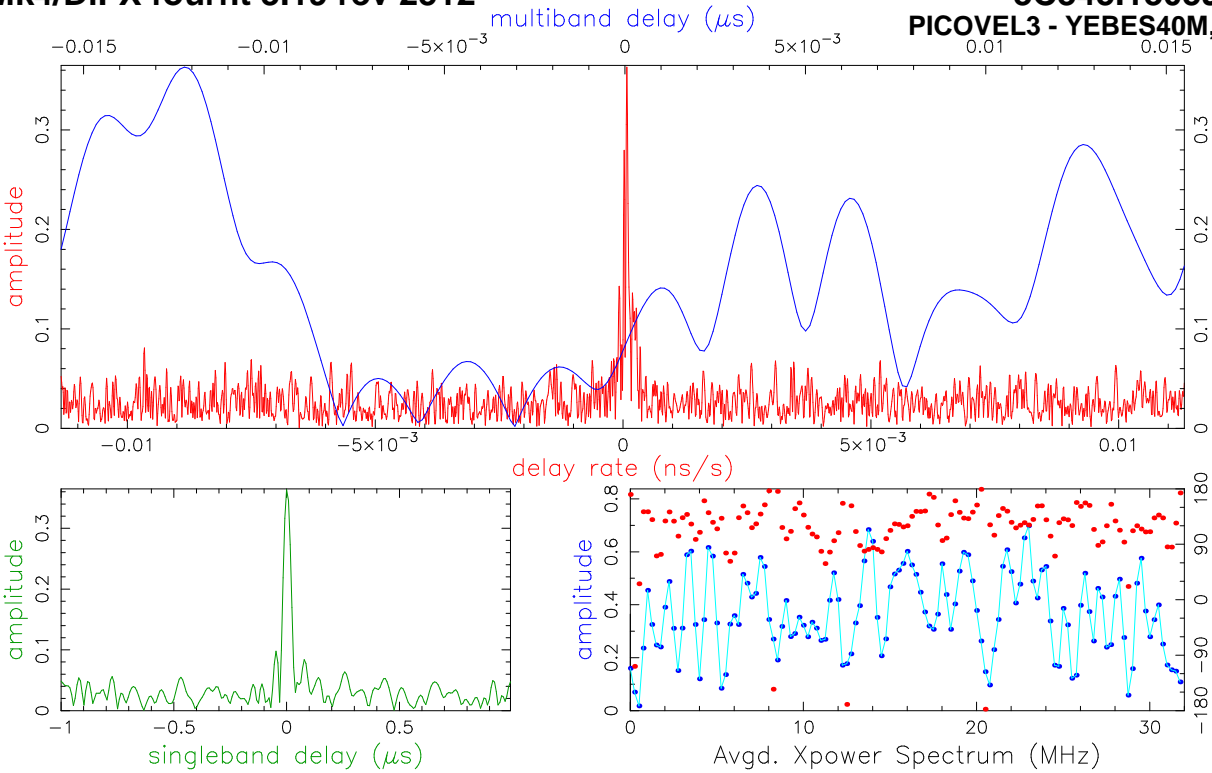
amp/seg (%) 36.6 3.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

ph/frq (deg) 67.1 2.2 Inc. seg. avg. 2.860 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

amp/frq (%) 90.3 3.9 Inc. frq. avg. 3.996 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

i: az 286.6 el 62.3 pa 84.7 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 164.667 -508.882 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/iY...1305JH Output file: /Exps/c192a/v2/1234/No0001/iY.W.193.1305JH

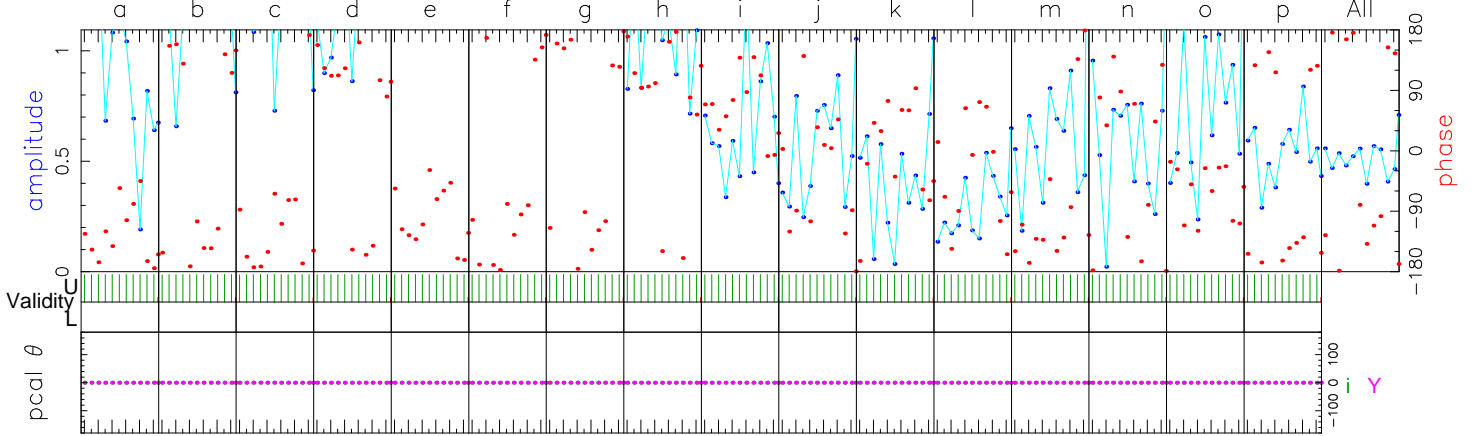


Fringe quality 7

SNR 17.7  
 Int time 313.918  
 Amp 0.365  
 Phase -154.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001797  
 MBD -0.012184  
 Fringe rate (Hz)  
 0.007139  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

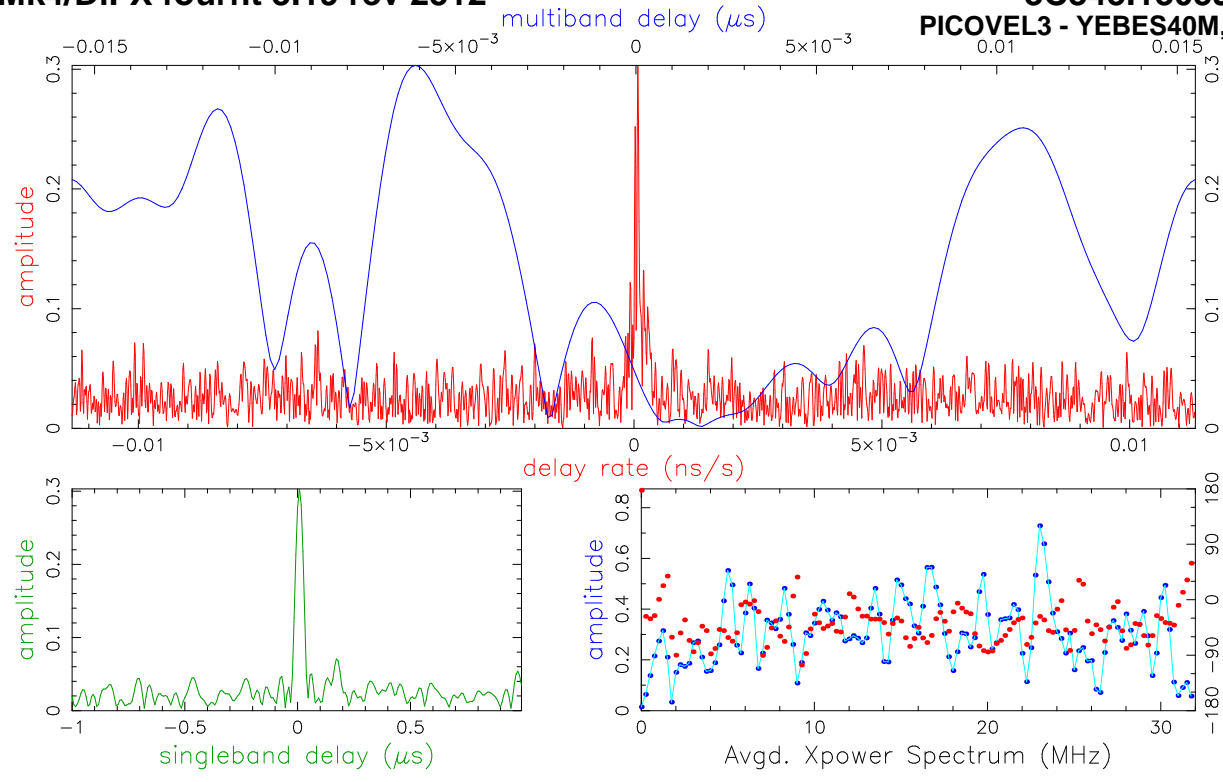
Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183145.47  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042820  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 55 APs / seg (28.16 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				
	-128.6	-170.2	-131.9	148.1	-95.0	-152.4	-166.8	133.6	66.1	-19.8	10.5	-2.5	-129.5	150.3	-58.0	179.0	Phase	-154.5				
	0.7	0.9	0.9	0.9	1.1	1.1	1.0	0.7	0.5	0.2	0.1	0.1	0.4	0.3	0.6	0.4	Ampl.	0.6				
	128.6	129.1	128.2	128.2	129.2	128.5	129.0	128.6	128.3	234.0	32.0	190.3	128.3	129.5	128.7	128.1	Sbd box	129.2				
U/L	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	APs used					
i	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					
i: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					
i: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					
Y	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					
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)			-1.06407422195E+02														Apriori delay (usec)	-1.06395238026E+02	Resid mbdelay (usec)	-1.21842E-02	+/-	6.1E-05
Sband delay (usec)			-1.06393440526E+02														Apriori clock (usec)	-1.0140948E+01	Resid sbdelay (usec)	1.79750E-03	+/-	9.7E-04
Phase delay (usec)			-1.06395243008E+02														Apriori clockrate (us/s)	-5.7299998E-07	Resid phdelay (usec)	-4.98226E-06	+/-	2.1E-07
Delay rate (us/s)			-2.28605234161E-02														Apriori rate (us/s)	-2.28606062926E-02	Resid rate (us/s)	8.28764E-08	+/-	1.2E-09
Total phase (deg)																	Apriori accel (us/s/s)	-2.87098733080E-06	Resid phase (deg)	-154.5	+/-	6.5

ph/seg (deg) 44.4 11.2 Theor. Amplitude 0.365 +/- 0.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 42.1 19.6 Search (2048X64) 0.350 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 90.7 13.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 114.9 22.6 Inc. seg. avg. 0.495 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 i: az 286.6 el 62.3 pa 84.7 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 164.667 -508.882 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 simultaneous interpolator

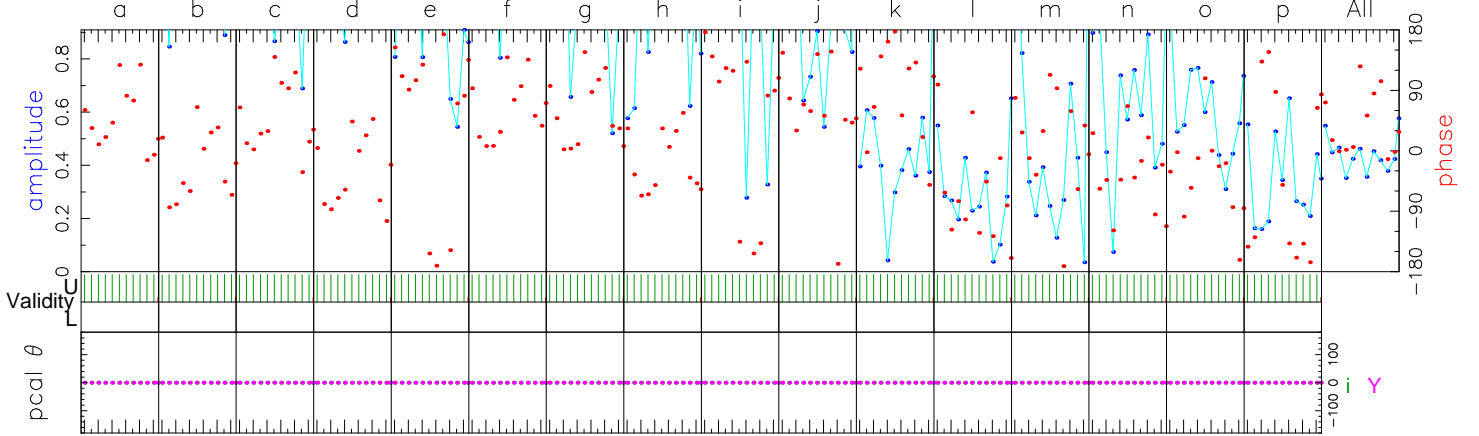


Fringe quality 9

SNR 14.7  
Int time 313.918  
Amp 0.303  
Phase 39.6  
PFD 4.6e-40  
Delays (us)  
SBD 0.008113  
MBD -0.006107  
Fringe rate (Hz) 0.006885  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183145.47  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042825  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 55 APs / seg (28.16 sec / seg.), time ticks 30 sec



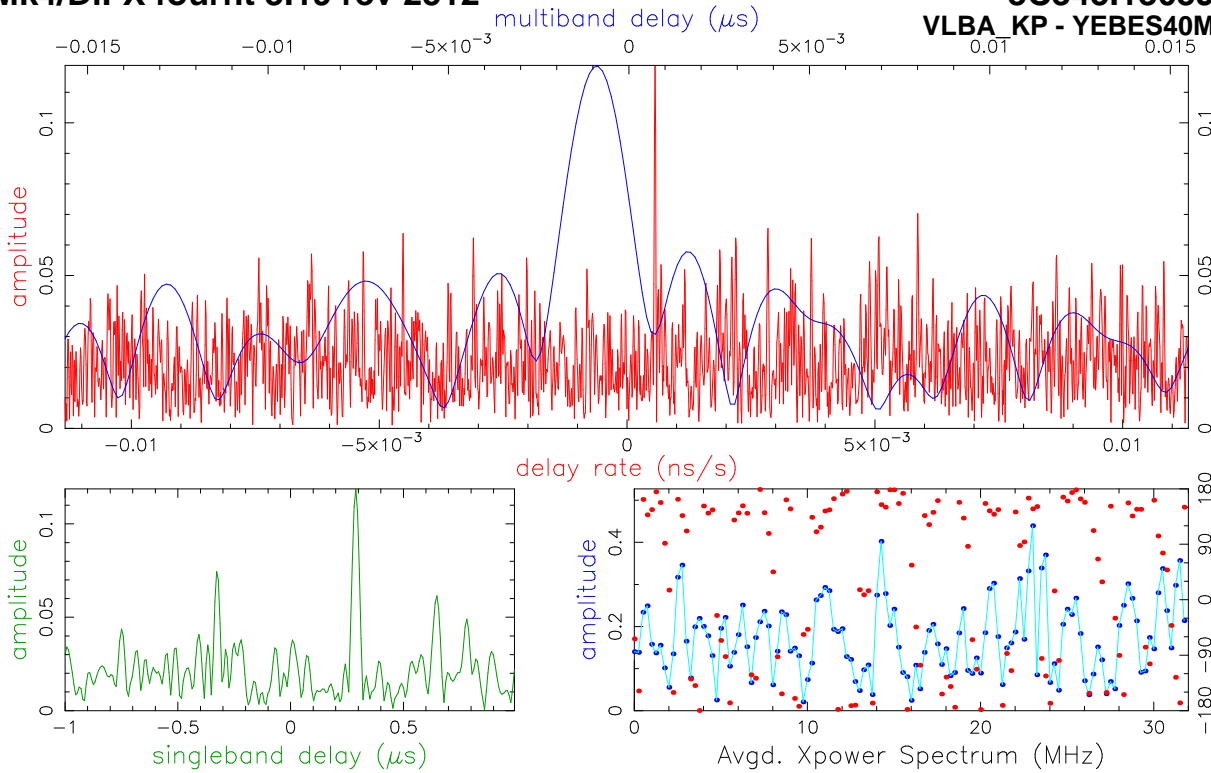
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0	614/0		
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i: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		
i: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		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)			-1.06401344757E+02															
Sband delay (usec)			-1.06387124526E+02															
Phase delay (usec)			-1.06395236750E+02															
Delay rate (us/s)			-2.28605263694E-02															
Total phase (deg)					-249.7													
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																
Bits/sample:	2x2																	
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																

ph/seg (deg) 46.4 13.5  
amp/seg (%) 46.5 23.6  
ph/frq (deg) 78.5 15.6  
amp/frq (%) 126.8 27.2

i: az 286.6 el 62.3 pa 84.7  
Y: az 280.2 el 62.9 pa 77.1  
u,v (fr/asec) 164.667 -508.882

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/iY..1305JH Output file: /Exps/c192a/v2/1234/No0001/iY.W.229.1305JH

simultaneous interpolator

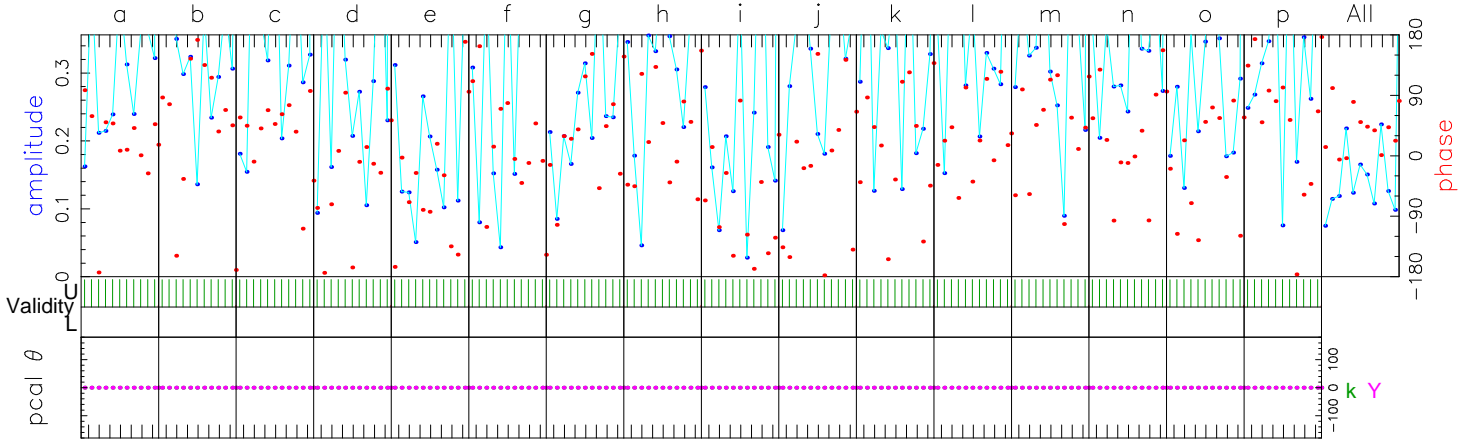


Fringe quality 0

SNR 6.5  
Int time 401.317  
Amp 0.119  
Phase 31.1  
PFD 2.2e-02  
Delays (us)  
SBD 0.288473  
MBD -0.000901  
Fringe rate (Hz) 0.048629  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042815  
2020:014:135814  
RA & Dec (J2000) 16h42m58.80967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

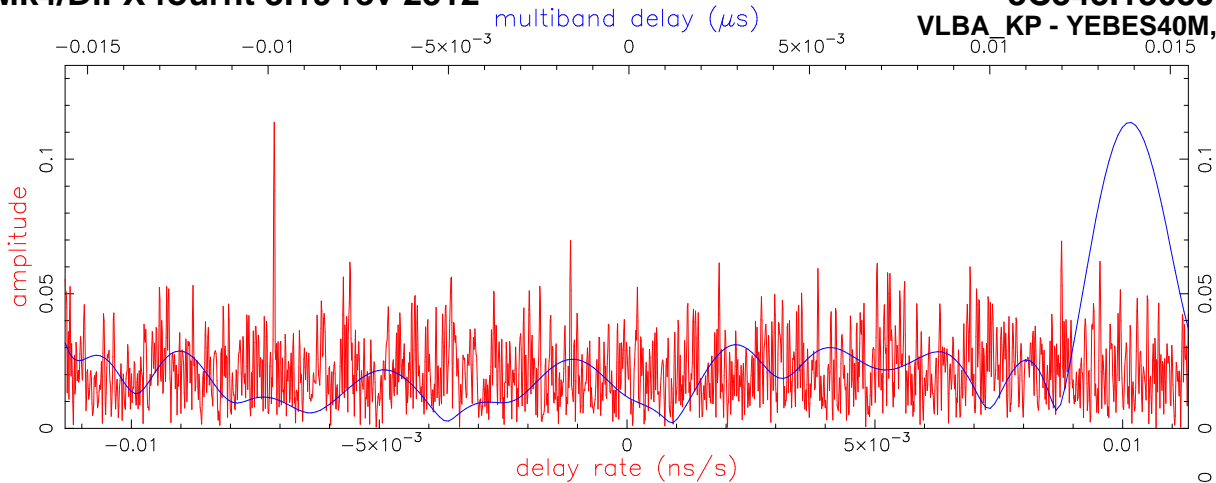


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0			
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
k: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			
k: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			
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
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	
Group delay (usec)(sbd)	-7.34478591956E+03			Apriori delay (usec)			-7.34506626815E+03			Resid mbdelay (usec)			-9.01409E-04			+/- 1.7E-04			
Sband delay (usec)	-7.3447779515E+03			Apriori clock (usec)			-1.0053901E+01			Resid sbdelay (usec)			2.88473E-01			+/- 2.7E-03			
Phase delay (usec)	-7.34506626715E+03			Apriori clockrate (us/s)			-4.1457899E-07			Resid phdelay (usec)			1.00195E-06			+/- 5.7E-07			
Delay rate (us/s)	1.50371867609E+00			Apriori rate (us/s)			1.50371811156E+00			Resid rate (us/s)			5.64534E-07			+/- 2.4E-09			
Total phase (deg)	-90.7			Apriori accel (us/s/s)			3.03133681505E-05			Resid phase (deg)			31.1			+/- 17.6			

ph/seg (deg) 32.9 30.5 Search (2048X64) 0.117 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 46.8 53.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 54.3 35.3 Inc. seg. avg. 0.123 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 58.6 61.5 Inc. frq. avg. 0.127 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 60.1 el 32.1 pa -73.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -11154.627 1298.420 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/KY..1305JH Output file: /Exps/c192a/v2/1234/No0001/KY.W.190.1305JH

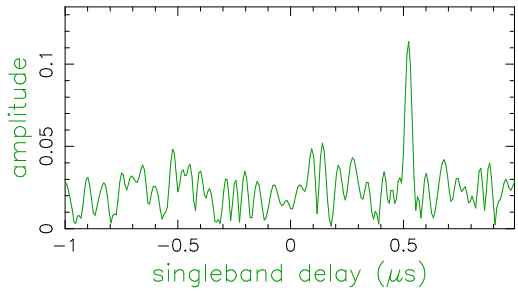
Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, kY  
VLBA\_KP - YEBES40M, fgroup W, pol RR

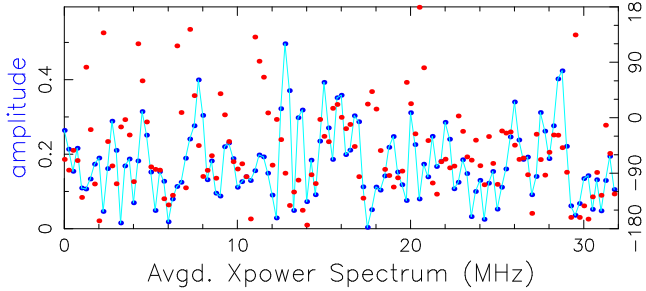


Fringe quality 0

SNR 6.2  
Int time 401.317  
Amp 0.135  
Phase -11.9  
PFD 1.1e-01  
Delays (us)  
SBD 0.522298  
MBD 0.013870  
Fringe rate (Hz)  
-0.614358  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

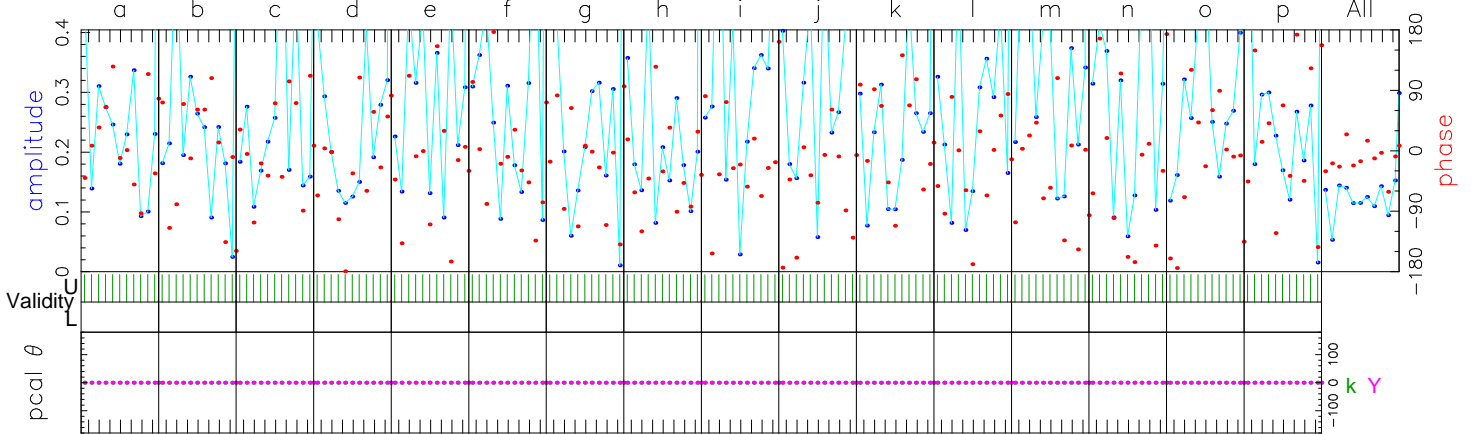


delay rate (ns/s)



Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042820  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.80967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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	0.3	-2.8	10.0	-17.4	3.6	-55.5	-7.4	-34.4	-25.0	-47.4	63.6	-4.6	-19.5	-4.4	7.5	-14.1	Phase	-11.9				
k	0.2	0.1	0.2	0.2	0.0	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.1	Ampl.	0.1				
Y	82.8	142.3	140.2	29.8	205.5	72.0	172.4	182.5	180.7	238.7	144.1	68.1	47.0	164.0	80.9	50.2	Sbd box	195.9				
k:Y	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
k:Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
k: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					
k:Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC					
k:Y	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					
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)			-7.34455239827E+03														Apriori delay (usec)	-7.34506626815E+03	Resid mbdelay (usec)	1.38699E-02	+/-	1.7E-04
Sband delay (usec)			-7.34454397065E+03														Apriori clock (usec)	-1.0053901E+01	Resid sbdelay (usec)	5.22298E-01	+/-	2.8E-03
Phase delay (usec)			-7.34506626853E+03														Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	-3.82678E-07	+/-	5.9E-07
Delay rate (us/s)			1.50371097948E+00														Apriori rate (us/s)	1.50371811156E+00	Resid rate (us/s)	-7.13208E-06	+/-	2.6E-09
Total phase (deg)																	Apriori accel (us/s/s)	3.03133681505E-05	Resid phase (deg)	-11.9	+/-	18.4

ph/seg (deg) 21.7 31.8  
amp/seg (%) 27.1 55.5  
ph/frq (deg) 28.1 36.7  
amp/frq (%) 41.6 64.1

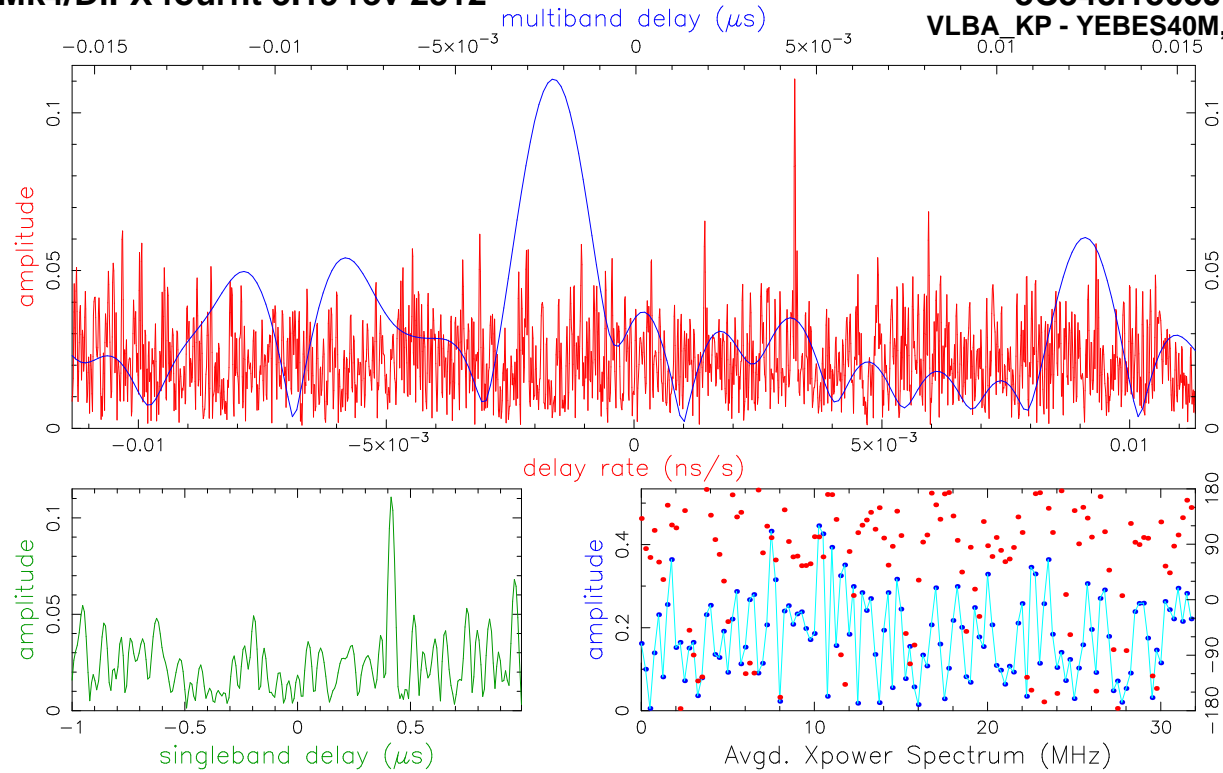
RMS Theor. Amplitude 0.135 +/- 0.022  
Search (2048X64) 0.111  
Interp. 0.000  
Inc. seg. avg. 0.125  
Inc. frq. avg. 0.123

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

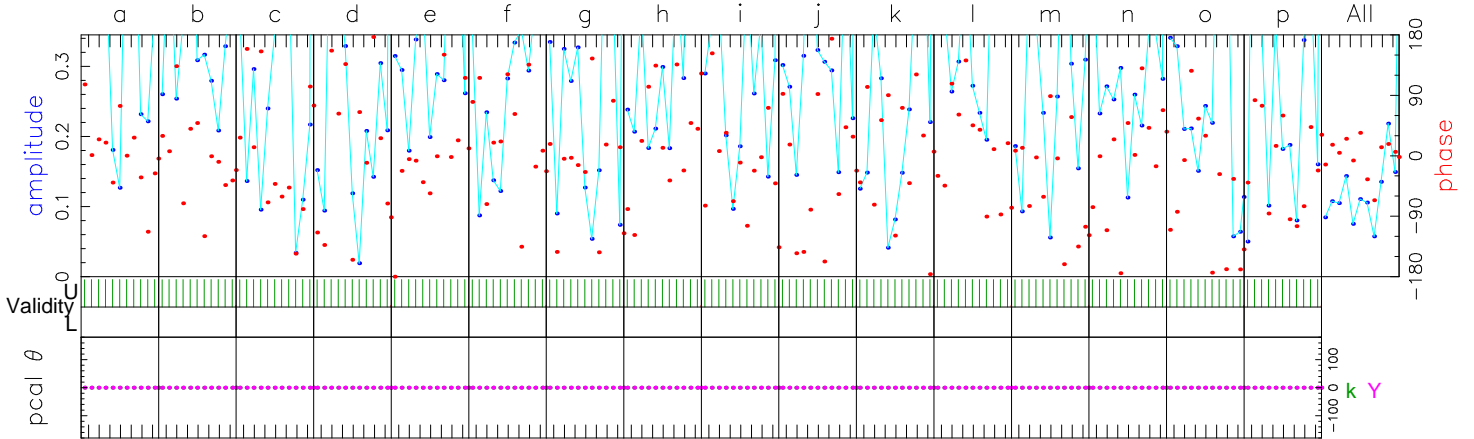
k: az 60.1 el 32.1 pa -73.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -11154.627 1298.420 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/KY..1305JH Output file: /Exps/c192a/v2/1234/No0001/KY.W.212.1305JH



Fringe quality 0  
SNR 6.1  
Int time 401.317  
Amp 0.115  
Phase 6.1  
PFD 2.6e-01  
Delays (us)  
SBD 0.415668  
MBD -0.002277  
Fringe rate (Hz)  
0.279582  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042825  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



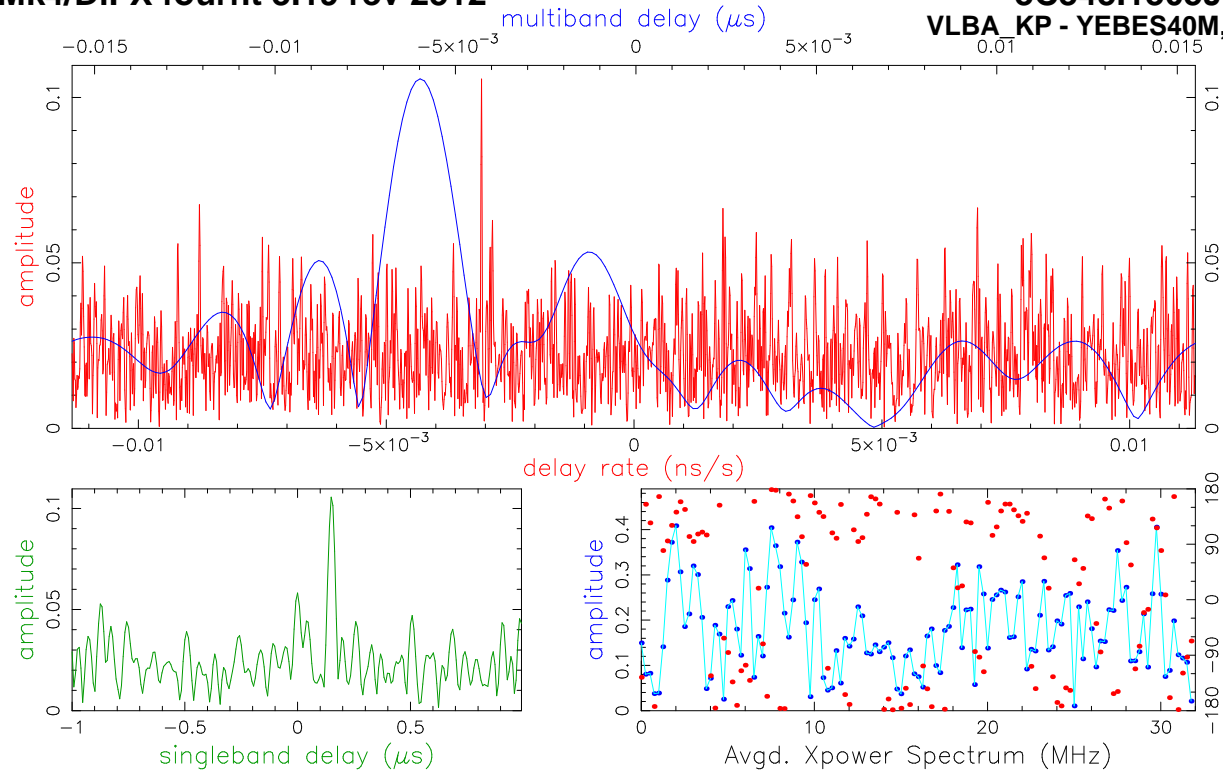
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All								
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used							
k	1000	1000	1000	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	1000	1000	1000	PC freqs						
k: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	0:0	0:0	0:0	PC phase						
k: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	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	1000	1000	1000	PC amp						
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp						
k	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						
																				Tracks						
Group delay (usec)(sbd)		-7.34466229518E+03																		Apriori delay (usec)	-7.34506626815E+03	Resid mbdelay (usec)	-2.27703E-03	+/-	1.8E-04	
Sband delay (usec)		-7.34465060065E+03																			Apriori clock (usec)	-1.0053901E+01	Resid sbdelay (usec)	4.15668E-01	+/-	2.8E-03
Phase delay (usec)		-7.34506626795E+03																			Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	1.96714E-07	+/-	6.1E-07
Delay rate (us/s)		1.50372135722E+00																			Apriori rate (us/s)	1.50371811156E+00	Resid rate (us/s)	3.24566E-06	+/-	2.6E-09
Total phase (deg)																					Apriori accel (us/s/s)	3.03133681505E-05	Resid phase (deg)	6.1	+/-	18.8

ph/seg (deg) 28.4 32.6 28.4 32.6  
amp/seg (%) 47.0 56.9 47.0 56.9  
ph/frq (deg) 51.8 37.6 51.8 37.6  
amp/frq (%) 66.9 65.7 66.9 65.7

RMS Theor. Amplitude 0.115 +/- 0.019  
Search (2048X64) 0.109  
Interp. 0.000  
Inc. seg. avg. 0.107  
Inc. frq. avg. 0.114

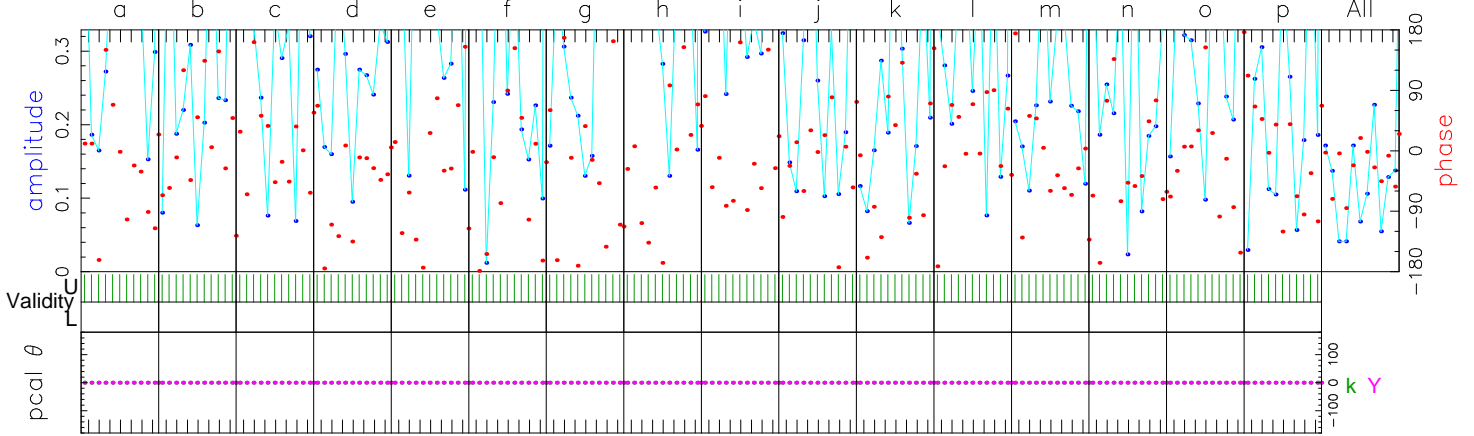
PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
PCal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion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

k: az 60.1 el 32.1 pa -73.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -11154.627 1298.420 simultaneous interpolator



Fringe quality 0  
SNR 5.8  
Int time 401.317  
Amp 0.110  
Phase -24.1  
PFD 7.6e-01  
Delays (us)  
SBD 0.150680  
MBD -0.005933  
Fringe rate (Hz)  
-0.265856  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042831  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.80967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

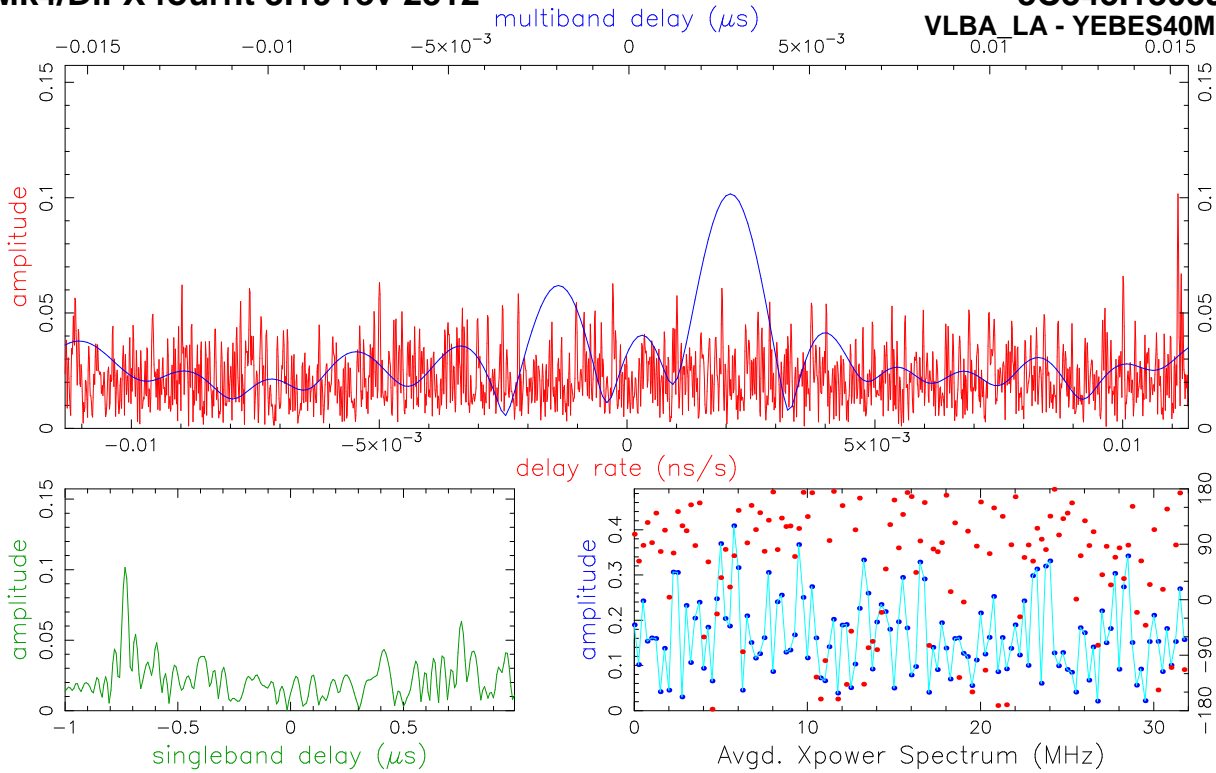


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-19.1	5.1	-18.9	-37.1	-1.3	-55.6	-123.0	-22.2	-46.4	-10.6	6.8	39.0	-31.5	-54.2	-39.6	-16.8	Phase	-24.1				
	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.0	0.2	0.1	0.1	0.1	0.1	Ampl.	0.1				
	22.9	124.8	30.6	228.9	143.2	35.0	237.7	23.9	11.7	149.7	123.5	165.4	26.8	252.7	56.3	128.5	Sbd box	148.3				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
k	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					
k: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					
k: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					
k	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					
k	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					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-7.34491595142E+03														Apriori delay (usec)	-7.34506626815E+03	Resid mbdelay (usec)	-5.93327E-03	+/-	1.9E-04
Sband delay (usec)			-7.34491558815E+03														Apriori clock (usec)	-1.0053901E+01	Resid sbdelay (usec)	1.50680E-01	+/-	3.0E-03
Phase delay (usec)			-7.34506626893E+03														Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	-7.78497E-07	+/-	6.3E-07
Delay rate (us/s)			1.50371502523E+00														Apriori rate (us/s)	1.50371811156E+00	Resid rate (us/s)	-3.08633E-06	+/-	2.7E-09
Total phase (deg)																	Apriori accel (us/s/s)	3.03133681505E-05	Resid phase (deg)	-24.1	+/-	19.7

ph/seg (deg) 31.5 34.1 Amplitude 0.110 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 59.0 59.5 Search (2048X64) 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 37.1 39.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 49.4 68.7 Inc. seg. avg. 0.104 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.105 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

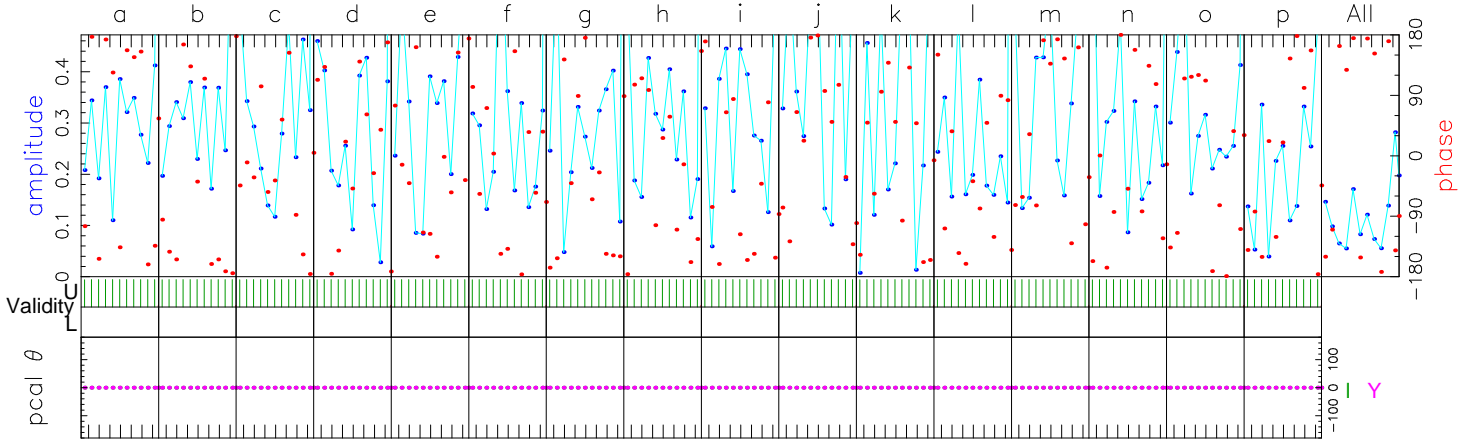
k: az 60.1 el 32.1 pa -73.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -11154.627 1298.420 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/KY..1305JH Output file: /Exps/c192a/v2/1234/No0001/KY.W.252.1305JH





Fringe quality 0  
SNR 5.6  
Int time 401.317  
Amp 0.157  
Phase -166.9  
PFD 1.0e+00  
Delays (us)  
SBD -0.733131  
MBD 0.002806  
Fringe rate (Hz) 0.959301  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042825  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

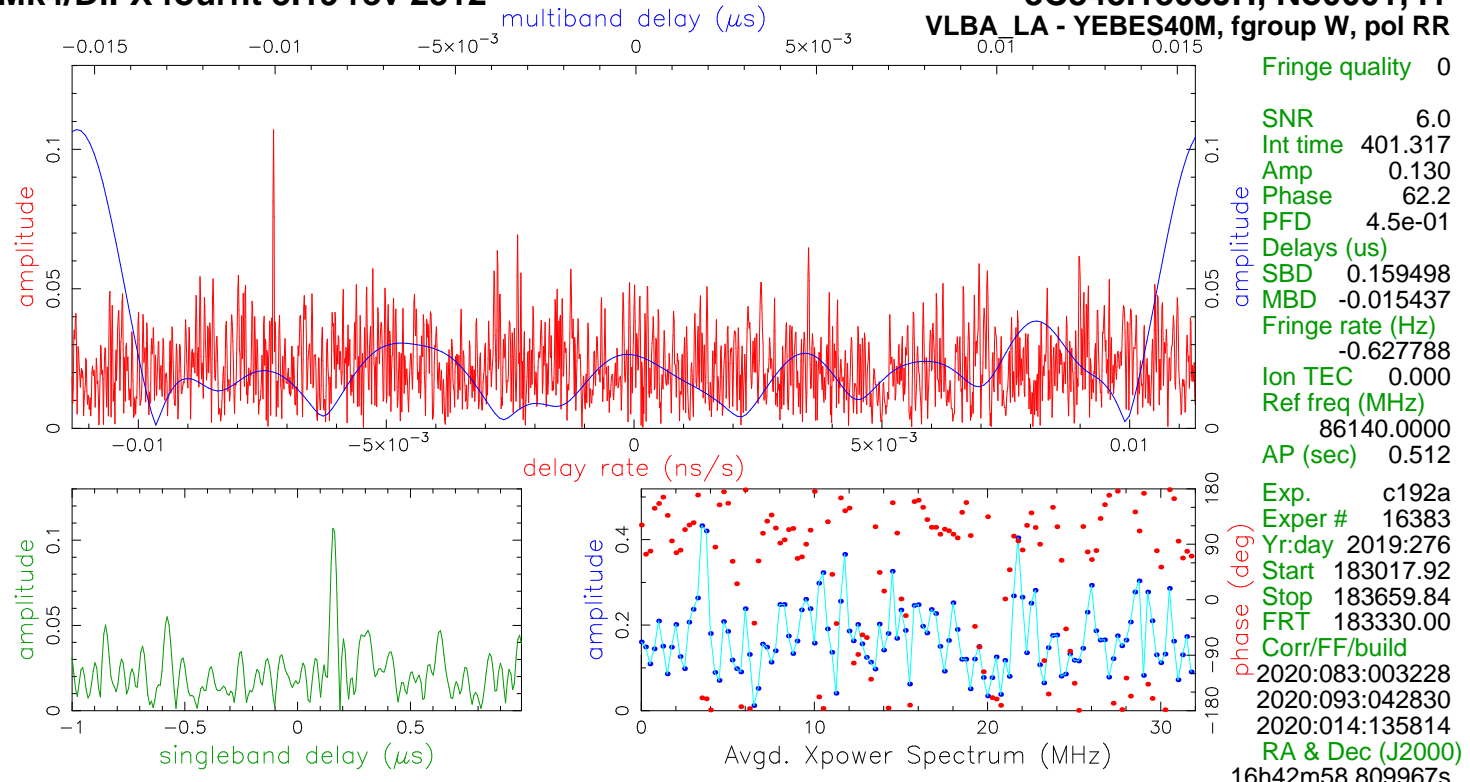


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-173.8	-173.6	-70.0	127.2	-52.4	-144.4	-147.3	131.2	-155.3	179.4	148.7	-130.1	-142.4	-164.2	169.3	178.9	Phase	-166.9
	0.4	0.4	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.3	0.2	0.2	Ampl.	0.2
	164.0	35.5	124.4	252.3	209.4	155.9	95.1	208.4	249.6	207.2	42.3	225.3	146.3	147.9	205.5	1.5	Sbd box	35.2
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
I	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	
I: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	
I: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	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
I	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
I	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	

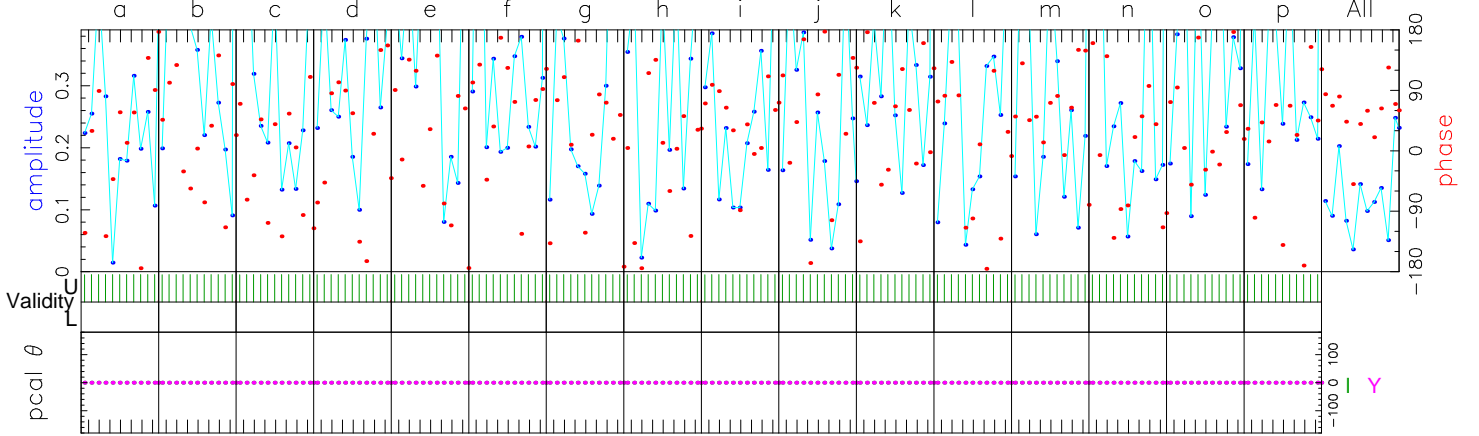
Group delay (usec)(sbd) -5.61907565901E+03 Apriori delay (usec) -5.61832846513E+03 Resid mbdelay (usec) 2.80612E-03 +/- 1.9E-04  
 Sband delay (usec) -5.61906159563E+03 Apriori clock (usec) -1.0392235E+01 Resid sbdelay (usec) -7.33131E-01 +/- 3.1E-03  
 Phase delay (usec) -5.61832847051E+03 Apriori clockrate (us/s) -5.7147201E-07 Resid phdelay (usec) -5.38170E-06 +/- 6.6E-07  
 Delay rate (us/s) 1.42969614130E+00 Apriori rate (us/s) 1.42968500476E+00 Resid rate (us/s) 1.11365E-05 +/- 2.9E-09  
 Total phase (deg) -161.9 Apriori accel (us/s/s) 2.51222621771E-05 Resid phase (deg) -166.9 +/- 20.5

RMS Theor. Amplitude 0.157 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 34.1 35.5 Search (2048X64) 0.098 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 64.8 62.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 51.2 41.0 Inc. seg. avg. 0.152 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 60.5 71.6 Inc. frq. avg. 0.159 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

I: az 63.9 el 37.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10610.991 1328.915 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/IY..1305JH Output file: /Exps/c192a/v2/1234/No0001/IY.W.230.1305JH



Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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				
	91.0	39.0	18.3	95.2	78.8	101.2	61.5	-0.9	54.8	74.3	24.3	98.9	78.7	57.3	33.1	58.9	Phase	62.2				
	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	Ampl.	0.1				
	104.4	252.3	182.4	35.2	47.9	39.5	33.5	131.3	249.8	68.2	71.5	233.9	43.1	234.1	74.8	113.6	Sbd box	149.4				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
I	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					
I: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					
I: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					
I	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					
I	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)			-5.61815640185E+03														Apriori delay (usec)	-5.61832846513E+03	Resid mbdelay (usec)	-1.54367E-02	+/-	1.8E-04
Sband delay (usec)			-5.61816896713E+03														Apriori clock (usec)	-1.0392235E+01	Resid sbdelay (usec)	1.59498E-01	+/-	2.9E-03
Phase delay (usec)			-5.61832846312E+03														Apriori clockrate (us/s)	-5.7147201E-07	Resid phdelay (usec)	2.00427E-06	+/-	6.2E-07
Delay rate (us/s)			1.42967771677E+00														Apriori rate (us/s)	1.42968500476E+00	Resid rate (us/s)	-7.28800E-06	+/-	2.7E-09
Total phase (deg)					-292.9												Apriori accel (us/s/s)	2.51222621771E-05	Resid phase (deg)	62.2	+/-	19.2

ph/seg (deg) 42.3 33.2 Search (2048X64) 0.130 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

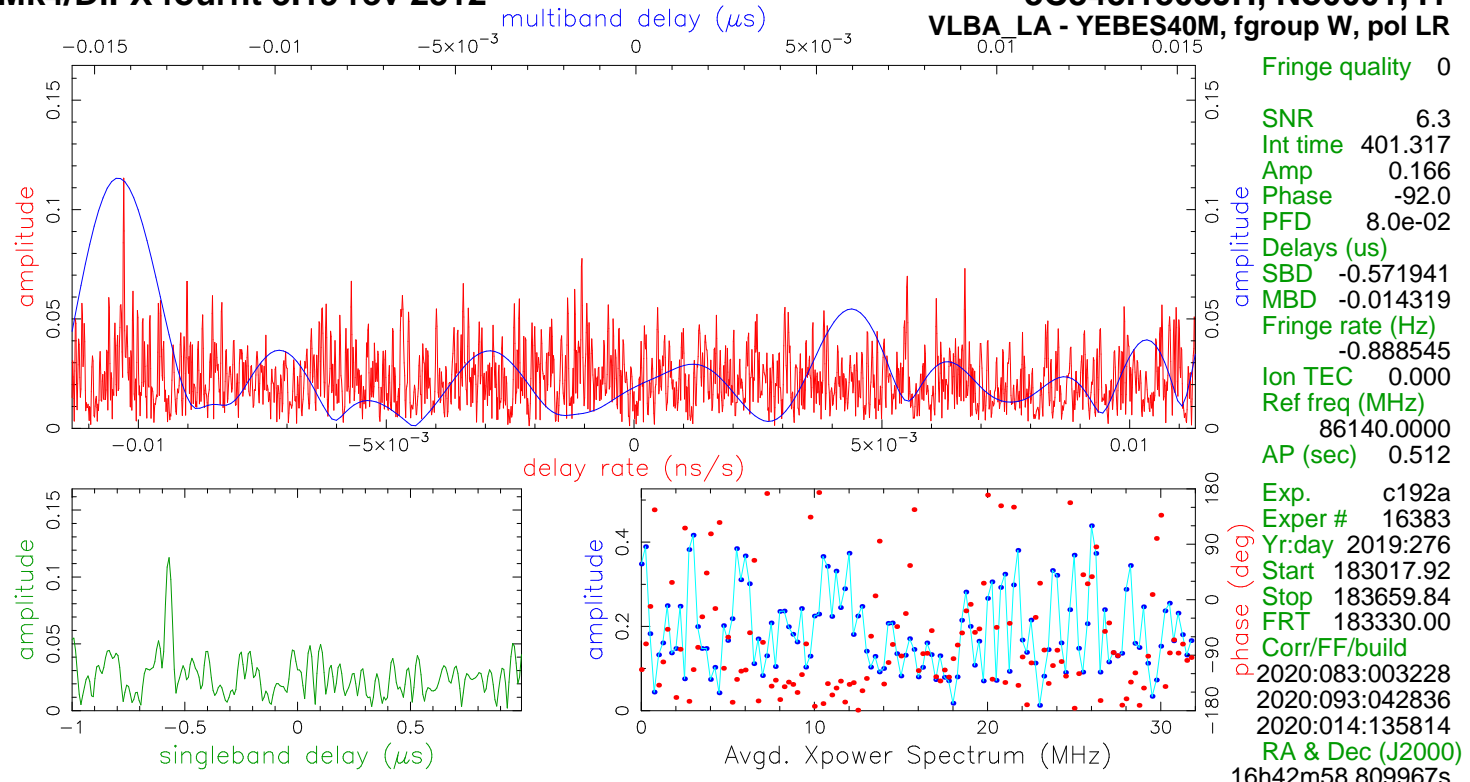
amp/seg (%) 55.6 58.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 32.0 38.4 Inc. seg. avg. 0.122 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

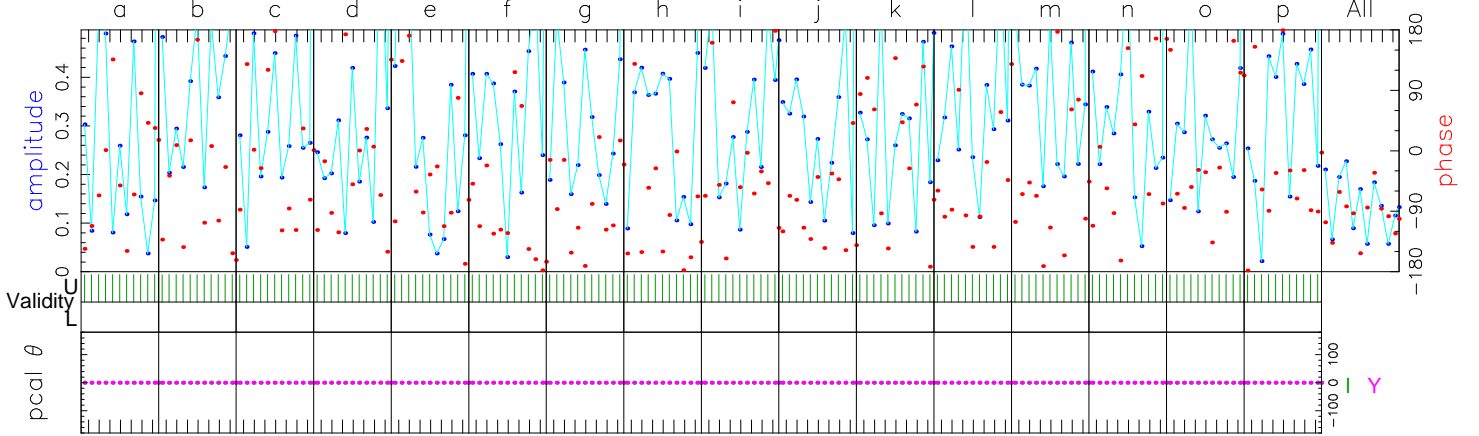
amp/frq (%) 42.1 66.9 Inc. frq. avg. 0.119 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011

I: az 63.9 el 37.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10610.991 1328.915 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/IY..1305JH Output file: /Exps/c192a/v2/1234/No0001/IY.W.249.1305JH



Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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				
	-49.8	-87.3	-83.1	-70.9	-156.1	-132.3	-72.2	-110.0	-74.3	-90.5	106.4	-73.2	-91.1	-127.6	-72.8	-85.2	Phase	-92.0				
	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.1	0.2	0.2	0.2	0.2	0.3	Ampl.	0.2				
	97.9	136.6	202.7	77.6	205.3	19.9	3.1	218.8	127.8	224.0	202.9	86.5	196.6	77.0	255.6	1.4	Sbd box	55.8				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
I	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					
I: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					
I: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					
Y	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						
	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)			-5.61890528400E+03														Apriori delay (usec)	-5.61832846513E+03	Resid mbdelay (usec)	-1.43189E-02	+/-	1.7E-04
Sband delay (usec)			-5.61890040663E+03														Apriori clock (usec)	-1.0392235E+01	Resid sbdelay (usec)	-5.71941E-01	+/-	2.7E-03
Phase delay (usec)			-5.61832846809E+03														Apriori clockrate (us/s)	-5.7147201E-07	Resid phdelay (usec)	-2.96580E-06	+/-	5.9E-07
Delay rate (us/s)			1.42967468964E+00														Apriori rate (us/s)	1.42968500476E+00	Resid rate (us/s)	-1.03151E-05	+/-	2.5E-09
Total phase (deg)																	Apriori accel (us/s/s)	2.51222621771E-05	Resid phase (deg)	-92.0	+/-	18.2

ph/seg (deg) RMS Theor. Amplitude 0.166 +/- 0.026 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 56.1 55.0 Search (2048X64) 0.109 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 51.6 36.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 34.5 63.5 Inc. seg. avg. 0.172 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

l: az 63.9 el 37.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10610.991 1328.915 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

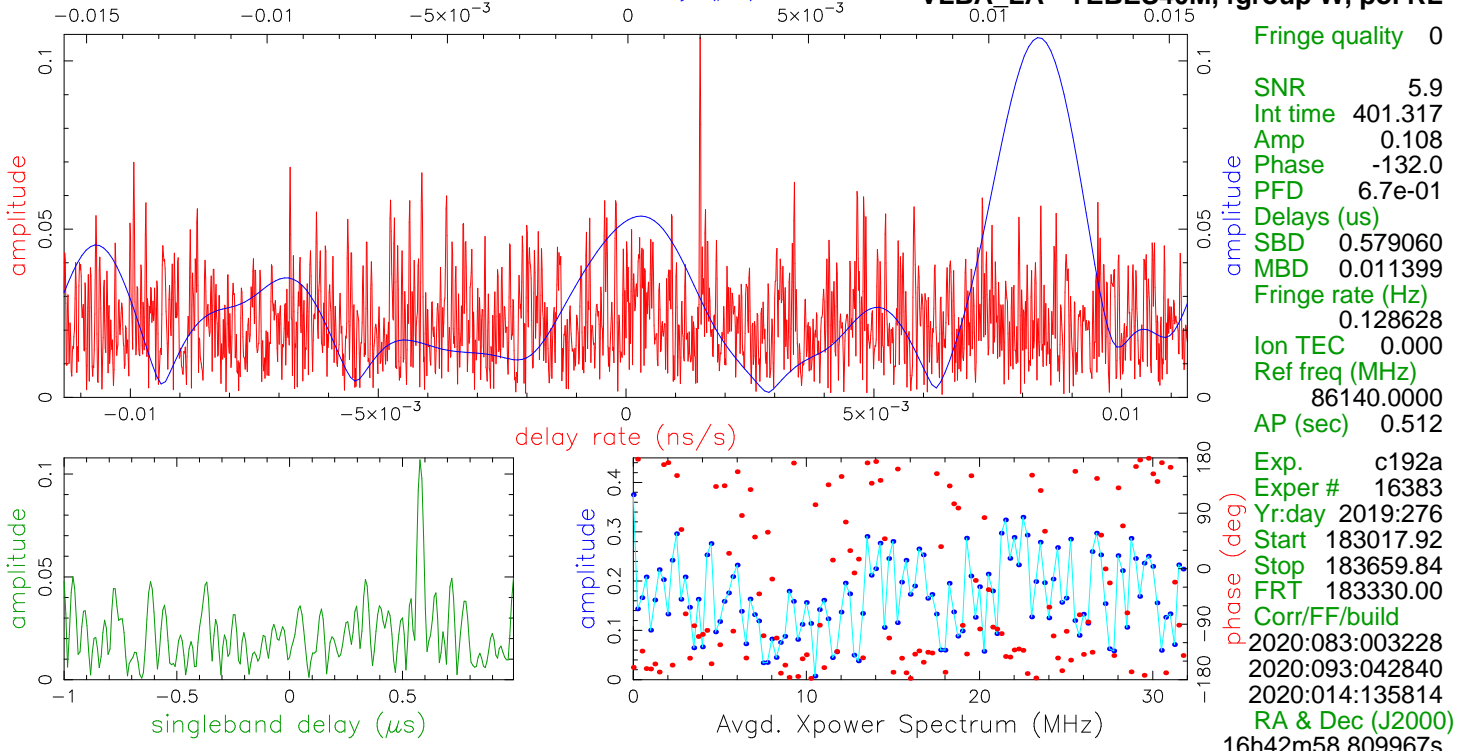
Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/IY..1305JH Output file: /Exps/c192a/v2/1234/No0001/IY.W.273.1305JH simultaneous interpolator

# Mk4/DiFX fourfit 3.19 rev 2512

# 3C345.1305JH, No0001, IY

VLBA\_LA - YEBES40M, fgroup W, pol RL

multiband delay ( $\mu$ s)



Fringe quality 0

SNR 5.9

Int time 401.317

Amp 0.108

Phase -132.0

PFD 6.7e-01

Delays (us)

SBD 0.579060

MBD 0.011399

Fringe rate (Hz) 0.128628

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183017.92

Stop 183659.84

FRT 183330.00

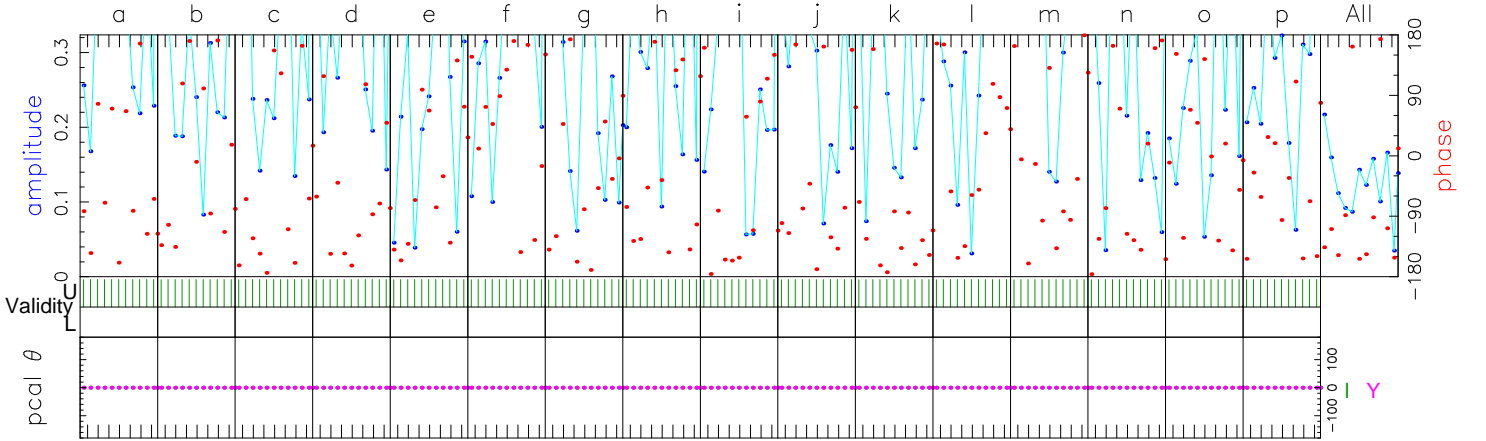
Corr/FF/build 2020:083:003228

2020:093:042840

2020:014:135814

RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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	
-107.9	-117.0	-137.5	-112.7	-65.7	150.2	-118.3	-140.0	-164.6	-111.0	-135.6	98.9	-106.0	-170.9	-87.4	-80.7	Phase	-132.0	
0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.1	Ampl.	0.1	
40.0	143.7	91.1	5.0	53.7	128.9	52.5	102.9	235.1	227.3	218.5	135.1	21.3	56.9	193.4	151.1	Sbd box	203.1	
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used		
I	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	PC freqs		
I: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	PC phase		
I: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	ManI PC		
I	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	PC amp		
I	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) -5.61775456624E+03 Apriori delay (usec) -5.61832846513E+03 Resid mbdelay (usec) 1.13989E-02 +/- 1.8E-04

Sband delay (usec) -5.61774940463E+03 Apriori clock (usec) -1.0392235E+01 Resid sbdelay (usec) 5.79060E-01 +/- 2.9E-03

Phase delay (usec) -5.61832846939E+03 Apriori clockrate (us/s) -5.7147201E-07 Resid phdelay (usec) -4.25747E-06 +/- 6.3E-07

Delay rate (us/s) 1.42968649801E+00 Apriori rate (us/s) 1.42968500476E+00 Resid rate (us/s) 1.49325E-06 +/- 2.7E-09

Total phase (deg) -127.0 Apriori accel (us/s/s) 2.51222621771E-05 Resid phase (deg) -132.0 +/- 19.5

ph/seg (deg) RMS Theor. Amplitude 0.108 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

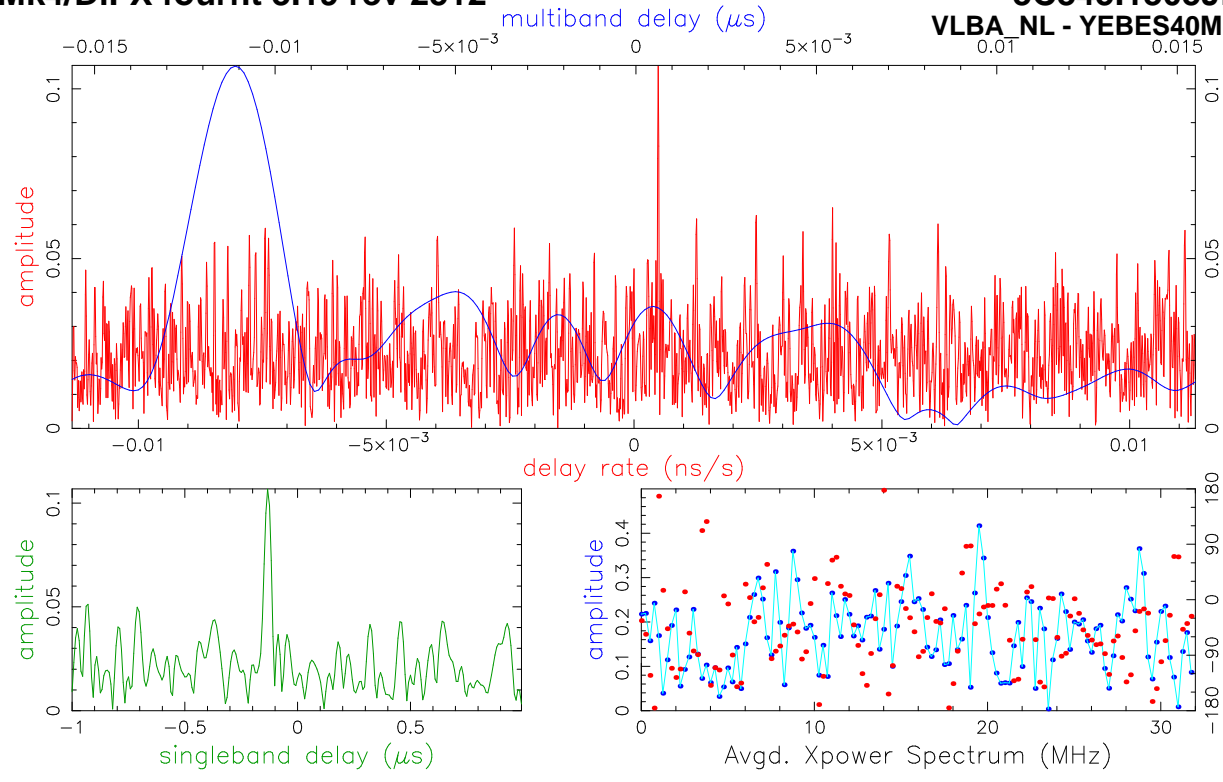
amp/seg (%) 36.0 33.8 Search (2048X64) 0.105 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 47.2 59.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 51.3 39.0 Inc. seg. avg. 0.109 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

az 63.9 el 37.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10610.991 1328.915 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/IY..1305JH Output file: /Exps/c192a/v2/1234/No0001/IY.W.298.1305JH simultaneous interpolator

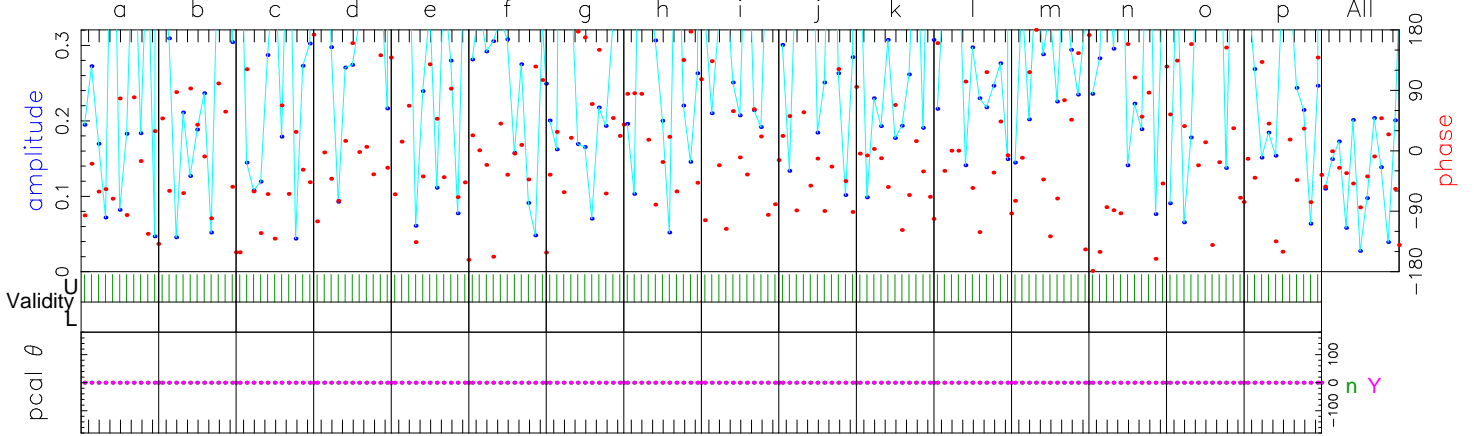


Fringe quality 0

SNR 5.9  
Int time 401.317  
Amp 0.107  
Phase -26.4  
PFD 7.1e-01  
Delays (us)  
SBD -0.131943  
MBD -0.011093  
Fringe rate (Hz)  
0.041996  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042834  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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						
	-66.6	28.0	-88.7	-15.9	-12.6	9.6	-22.7	17.9	-52.5	-31.0	-27.9	-12.2	-147.5	-117.1	-12.5	-15.0		Phase	-26.4					
	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1		Ampl.	0.1					
	148.0	70.0	246.4	215.0	223.5	57.2	101.6	198.6	171.1	141.9	113.8	39.2	227.4	102.6	12.8	210.1		Sbd box	112.1					
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used						
n	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						
n: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						
n: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						
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids						
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks						
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids						
																			Tracks					
Group delay (usec)(sbd)			-2.23108308077E+03																Apriori delay (usec)	-2.23094698734E+03	Resid mbdelay (usec)	-1.10934E-02	+/-	1.8E-04
Sband delay (usec)			-2.23107893084E+03																Apriori clock (usec)	1.6823357E+01	Resid sbdelay (usec)	-1.31943E-01	+/-	2.9E-03
Phase delay (usec)			-2.23094698819E+03																Apriori clockrate (us/s)	-8.5776492E-08	Resid phdelay (usec)	-8.50419E-07	+/-	6.3E-07
Delay rate (us/s)			1.24174275932E+00																Apriori rate (us/s)	1.24174227179E+00	Resid rate (us/s)	4.87530E-07	+/-	2.7E-09
Total phase (deg)																			Apriori accel (us/s/s)	1.31303277888E-05	Resid phase (deg)	-26.4	+/-	19.6

ph/seg (deg) RMS Theor. Amplitude 0.107 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 37.5 33.9 Search (2048X64) 0.106 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 63.5 59.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 50.8 39.2 Inc. seg. avg. 0.109 Sample rate(MSamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 47.6 68.4 Inc. frq. avg. 0.104 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

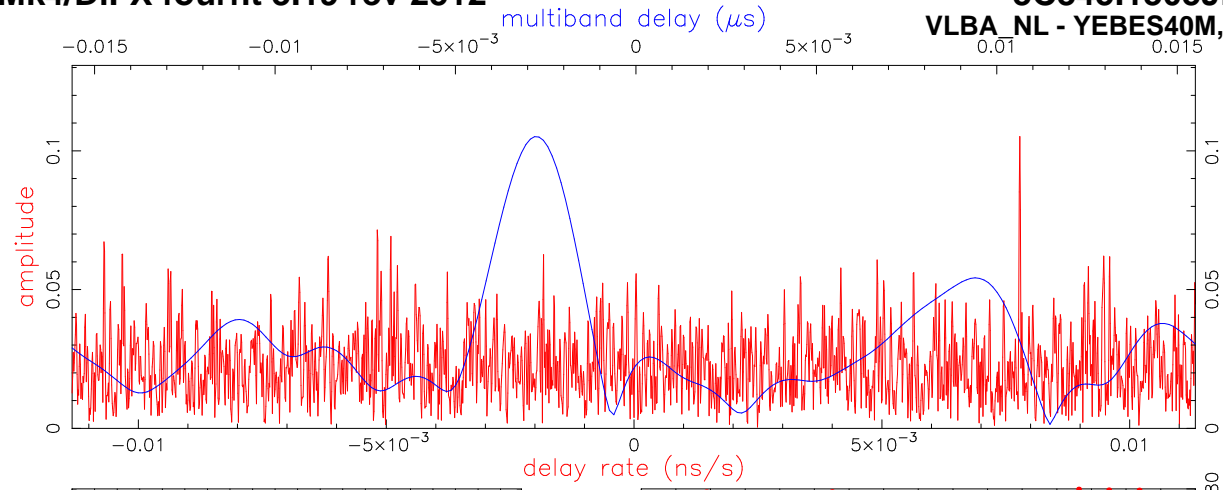
n: az 74.7 el 50.6 pa -69.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9229.806 1082.076 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/nY..1305JH Output file: /Exps/c192a/v2/1234/No0001/nY.W.264.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

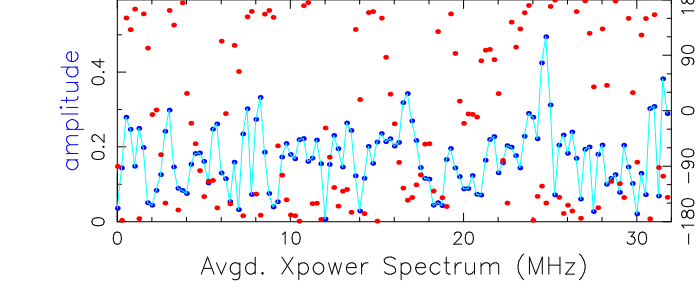
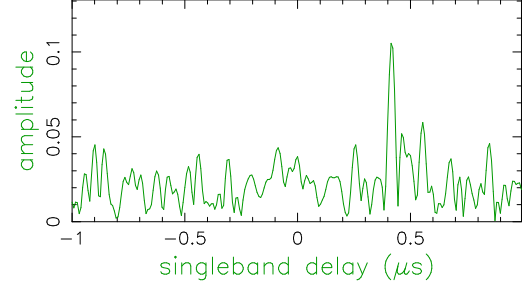
3C345.1305JH, No0001, nY

VLBA\_NL - YEBES40M, fgroup W, pol RR



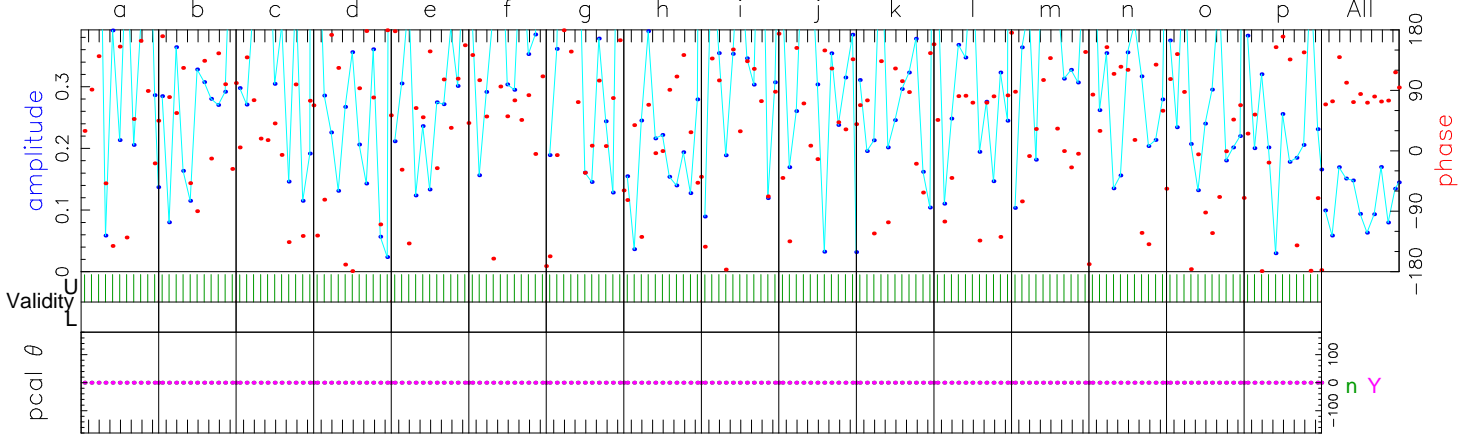
Fringe quality 0

SNR 5.9  
 Int time 401.317  
 Amp 0.131  
 Phase 90.4  
 PFD 7.1e-01  
 Delays (us)  
 SBD 0.417021  
 MBD -0.002738  
 Fringe rate (Hz)  
 0.671233  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042839  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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	117.5	61.9	43.5	-175.2	103.6	85.8	130.2	18.8	105.7	50.1	103.8	73.8	46.6	99.0	79.8	165.6	Phase	90.4
n	0.2	0.1	0.3	0.1	0.1	0.3	0.2	0.1	0.3	0.2	0.1	0.2	0.2	0.2	0.0	0.1	Ampl.	0.1
Y	201.3	39.0	70.9	115.0	133.0	182.6	206.5	214.9	180.9	146.6	198.7	140.4	58.9	57.5	225.2	54.8	Sbd box	182.4
n	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n: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	
n: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	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	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	

Group delay (usec)(sbd) -2.23054347527E+03 Apriori delay (usec) -2.23094698734E+03 Resid mbdelay (usec) -2.73793E-03 +/- 1.8E-04  
 Sband delay (usec) -2.23052996634E+03 Apriori clock (usec) 1.6823357E+01 Resid sbdelay (usec) 4.17021E-01 +/- 2.9E-03  
 Phase delay (usec) -2.23094698442E+03 Apriori clockrate (us/s) -8.5776492E-08 Resid phdelay (usec) 2.91667E-06 +/- 6.3E-07  
 Delay rate (us/s) 1.24175006414E+00 Apriori rate (us/s) 1.24174227179E+00 Resid rate (us/s) 7.79235E-06 +/- 2.7E-09  
 Total phase (deg) -85.8 Apriori accel (us/s/s) 1.31303277888E-05 Resid phase (deg) 90.4 +/- 19.6

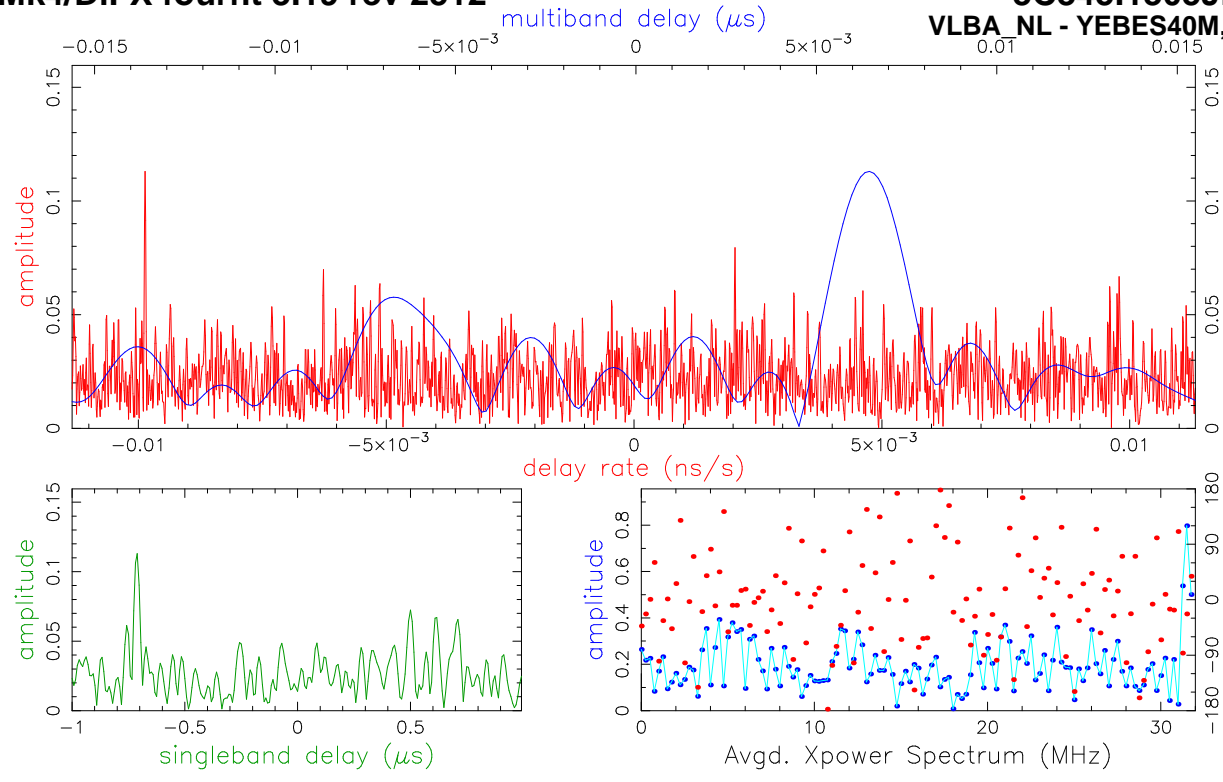
RMS Theor. Amplitude 0.131 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 21.9 33.9 Search (2048X64) 0.102 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 37.6 59.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 46.0 39.2 Inc. seg. avg. 0.120 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 64.1 68.4 Inc. frq. avg. 0.132 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

n: az 74.7 el 50.6 pa -69.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9229.806 1082.076 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/nY..1305JH Output file: /Exps/c192a/v2/1234/No0001/nY.W.289.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

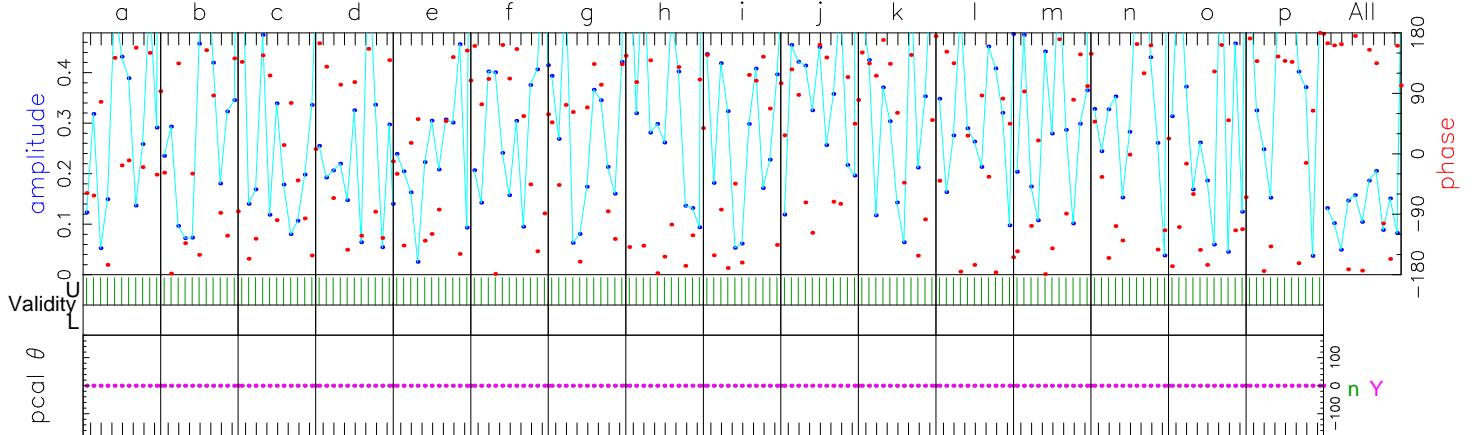
3C345.1305JH, No0001, nY

VLBA\_NL - YEBES40M, fgroup W, pol LR



Fringe quality 0  
 SNR 6.3  
 Int time 401.317  
 Amp 0.160  
 Phase 170.8  
 PFD 1.0e-01  
 Delays (us)  
 SBD -0.713138  
 MBD 0.006483  
 Fringe rate (Hz)  
 -0.851308  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042843  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	-4.6	178.0	179.5	160.9	-135.5	-170.9	94.2	-163.2	166.9	169.9	139.8	144.4	163.4	167.8	-134.7	160.2	Phase	170.8
	0.0	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.2	0.4	Ampl.	0.2
	13.3	211.8	129.0	137.8	100.5	28.9	127.5	116.9	149.3	12.4	208.7	135.0	124.8	219.8	21.2	100.8	Sbd box	37.7
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
n	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	
n: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	
n: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	
Y	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		
n	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	

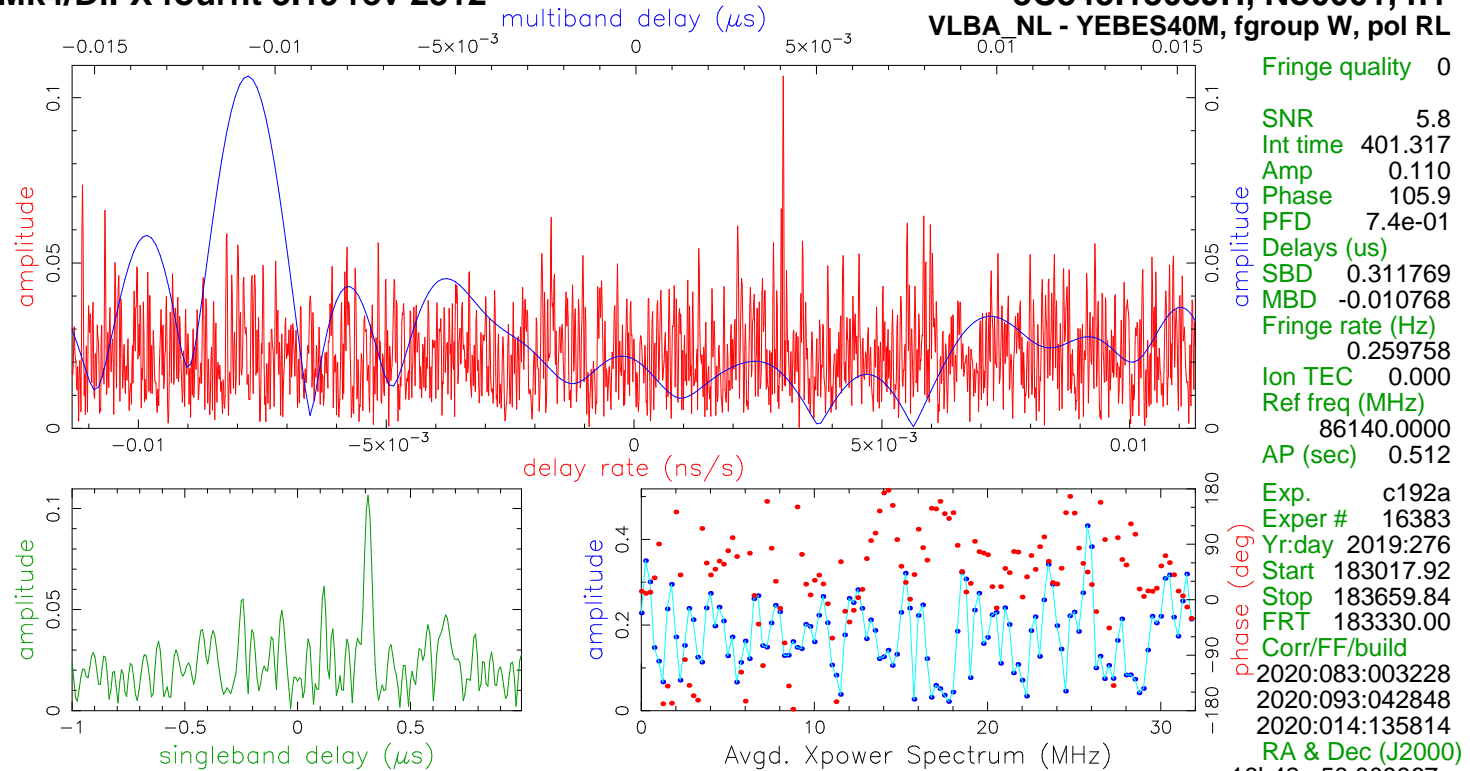
Group delay (usec)(sbd) -2.23165925426E+03 Apriori delay (usec) -2.23094698734E+03 Resid mbdelay (usec) 6.48308E-03 +/- 1.7E-04  
 Sband delay (usec) -2.23166012534E+03 Apriori clock (usec) 1.6823357E+01 Resid sbdelay (usec) -7.13138E-01 +/- 2.8E-03  
 Phase delay (usec) -2.23094698183E+03 Apriori clockrate (us/s) -8.5776492E-08 Resid phdelay (usec) 5.50935E-06 +/- 5.9E-07  
 Delay rate (us/s) 1.24173238894E+00 Apriori rate (us/s) 1.24174227179E+00 Resid rate (us/s) -9.88285E-06 +/- 2.5E-09  
 Total phase (deg) -5.4 Apriori accel (us/s/s) 1.31303277888E-05 Resid phase (deg) 170.8 +/- 18.3

RMS Theor. Amplitude 0.160 +/- 0.026 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 31.7 31.7 Search (2048X64) 0.109 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 48.8 55.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 57.1 36.6 Inc. seg. avg. 0.157 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 60.5 63.9 Inc. frq. avg. 0.156 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

n: az 74.7 el 50.6 pa -69.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9229.806 1082.076 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/nY..1305JH Output file: /Exps/c192a/v2/1234/No0001/nY.W.308.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, nY  
VLBA\_NL - YEBES40M, fgroup W, pol RL



Fringe quality 0

SNR 5.8

Int time 401.317

Amp 0.110

Phase 105.9

PFD 7.4e-01

Delays (us)

SBD 0.311769

MBD -0.010768

Fringe rate (Hz)

0.259758

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183017.92

Stop 183659.84

FRT 183330.00

Corr/FF/build

2020:083:003228

2020:093:042848

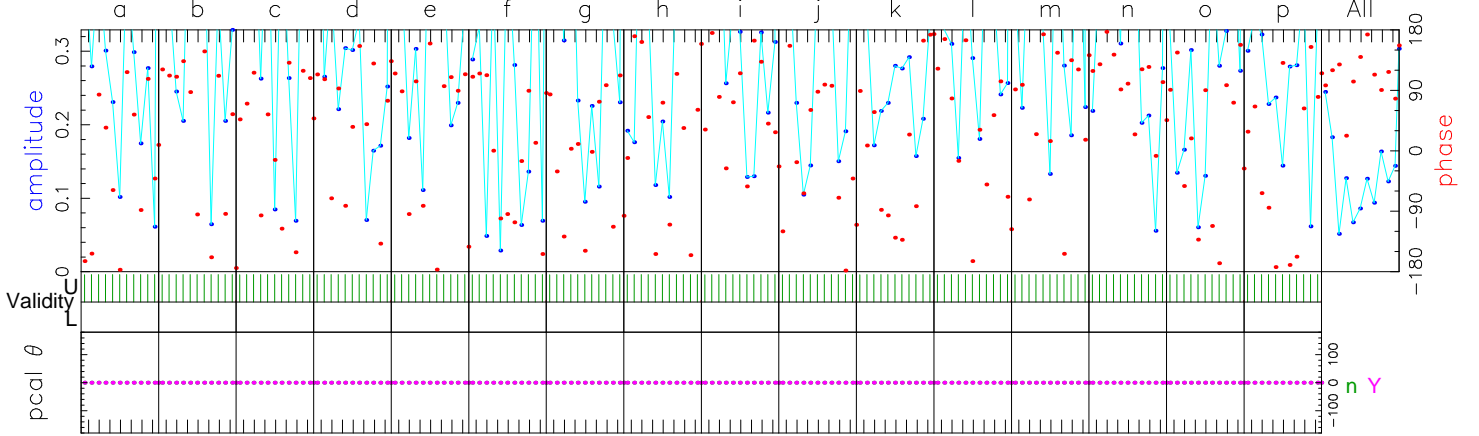
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
111.6	120.0	97.5	111.5	126.5	10.0	11.7	102.2	82.0	119.7	-145.2	113.8	122.0	110.9	108.8	101.0	101.0	Phase	105.9
0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.2	0.3	0.1	0.1	0.1	Ampl.	0.1
161.9	251.6	110.4	47.6	167.3	54.7	72.4	115.9	66.2	1.5	36.3	102.3	193.9	169.9	235.2	153.7	153.7	Sbd box	168.9
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
n	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	
n: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	
n: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	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
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) -2.23064525550E+03 Apriori delay (usec) -2.23094698734E+03 Resid mbdelay (usec) -1.07682E-02 +/- 1.8E-04

Sband delay (usec) -2.23063521784E+03 Apriori clock (usec) 1.6823357E+01 Resid sbdelay (usec) 3.11769E-01 +/- 3.0E-03

Phase delay (usec) -2.23094698393E+03 Apriori clockrate (us/s) -8.5776492E-08 Resid phdelay (usec) 3.41456E-06 +/- 6.3E-07

Delay rate (us/s) 1.24174528732E+00 Apriori rate (us/s) 1.24174227179E+00 Resid rate (us/s) 3.01553E-06 +/- 2.7E-09

Total phase (deg) -70.4 Apriori accel (us/s/s) 1.31303277888E-05 Resid phase (deg) 105.9 +/- 19.6

ph/seg (deg) RMS Theor. Amplitude 0.110 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 36.6 34.0 Search (2048X64) 0.100 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 54.9 59.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

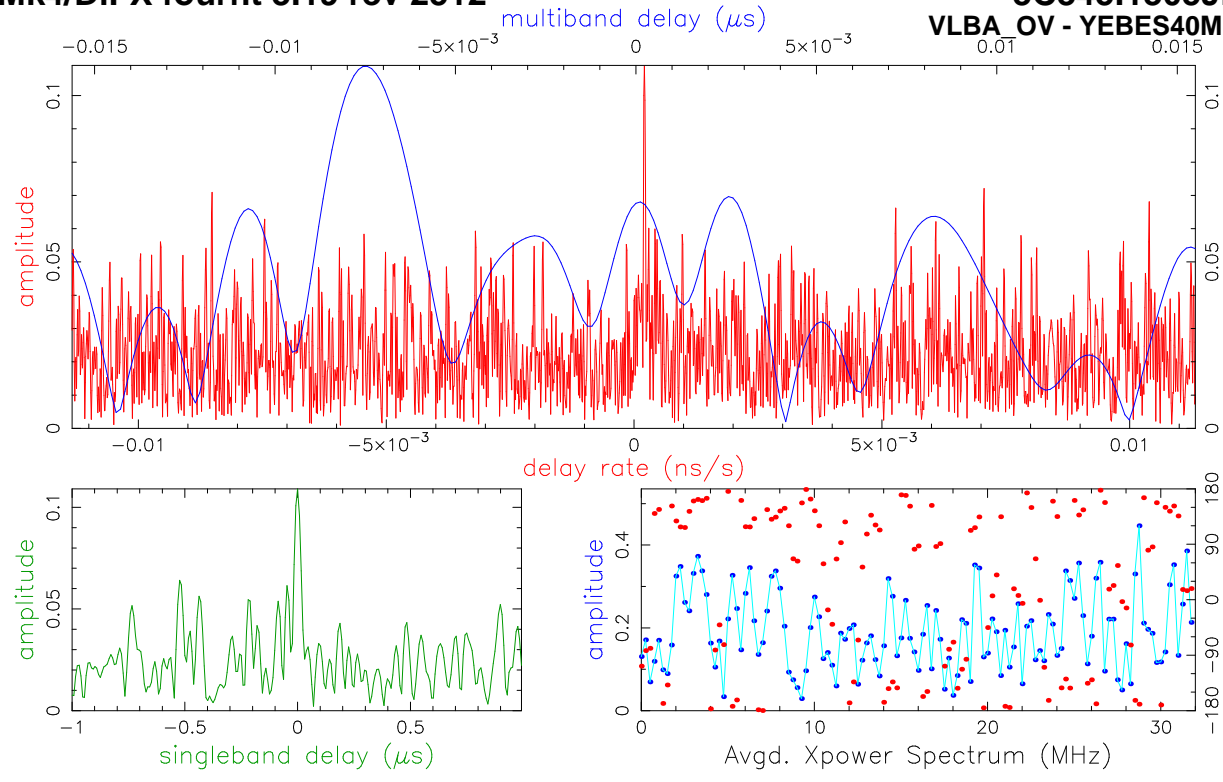
amp/frq (%) 47.7 39.3 Inc. seg. avg. 0.113 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

amp/frq (%) 67.6 68.5 Inc. frq. avg. 0.102 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

n: az 74.7 el 50.6 pa -69.4 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -9229.806 1082.076 simultaneous interpolator

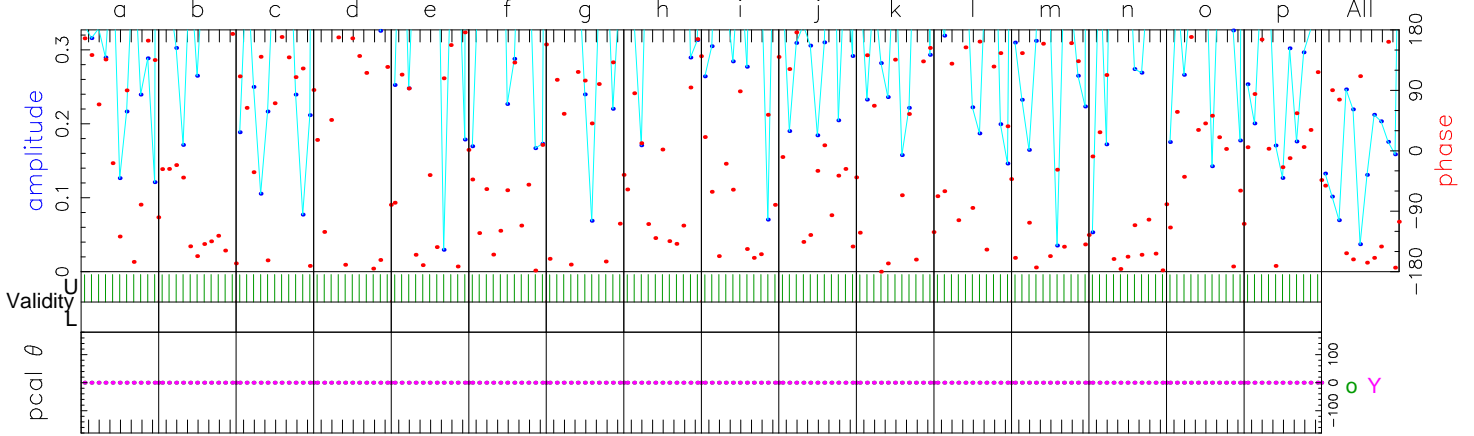
Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/nY..1305JH Output file: /Exps/c192a/v2/1234/No0001/nY.W.325.1305JH





Fringe quality 0  
SNR 6.0  
Int time 401.317  
Amp 0.109  
Phase -165.4  
PFD 4.5e-01  
Delays (us)  
SBD -0.001080  
MBD -0.007512  
Fringe rate (Hz)  
0.018132  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042835  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

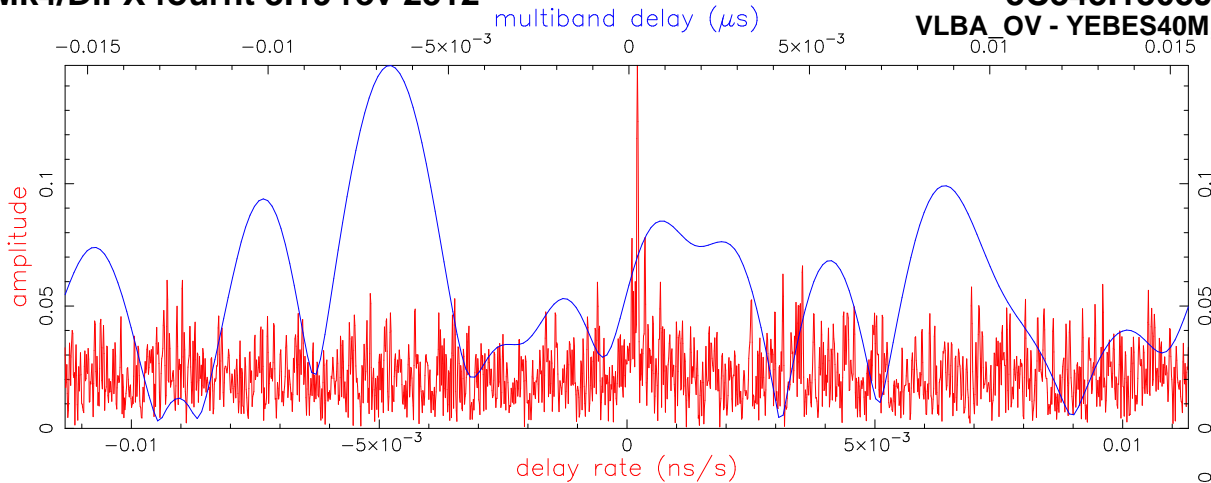


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
157.8	-121.0	123.9	151.7	-175.7	-106.4	146.2	-112.8	-120.8	-79.0	157.4	-167.4	-174.8	-155.8	24.8	40.8	40.8	Phase	-165.4
0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.3	0.1	0.1	0.1	Ampl.	0.2
104.4	143.4	127.4	128.6	182.4	128.8	35.1	128.3	196.3	186.3	203.6	29.8	128.7	128.8	62.2	100.9	100.9	Sbd box	128.9
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
o	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	
o: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	
o: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	
o	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	
o	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	

Group delay (usec)(sbd) -8.03083165006E+03 Apriori delay (usec) -8.03082413832E+03 Resid mbdelay (usec) -7.51174E-03 +/- 1.8E-04  
 Sband delay (usec) -8.03082521882E+03 Apriori clock (usec) 6.9777994E+00 Resid sbdelay (usec) -1.08050E-03 +/- 2.9E-03  
 Phase delay (usec) -8.03082414365E+03 Apriori clockrate (us/s) -2.1901900E-07 Resid phdelay (usec) -5.33254E-06 +/- 6.2E-07  
 Delay rate (us/s) 1.47259723002E+00 Apriori rate (us/s) 1.47259701952E+00 Resid rate (us/s) 2.10496E-07 +/- 2.7E-09  
 Total phase (deg) -264.3 Apriori accel (us/s/s) 3.95125131510E-05 Resid phase (deg) -165.4 +/- 19.2

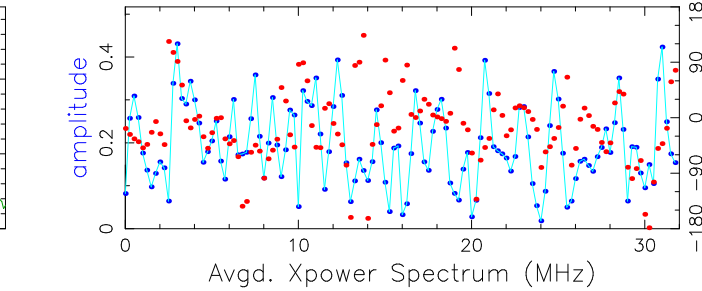
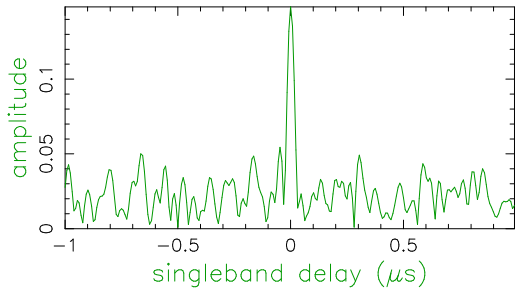
ph/seg (deg) RMS Theor. Amplitude 0.109 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 65.1 33.2 Search (2048X64) 0.107 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 75.9 58.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 76.7 38.4 Inc. seg. avg. 0.133 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 86.6 67.0 Inc. frq. avg. 0.154 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

o: az 60.7 el 29.9 pa -64.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10905.762 2412.301 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/oY..1305JH Output file: /Exps/c192a/v2/1234/No0001/oY.W.269.1305JH



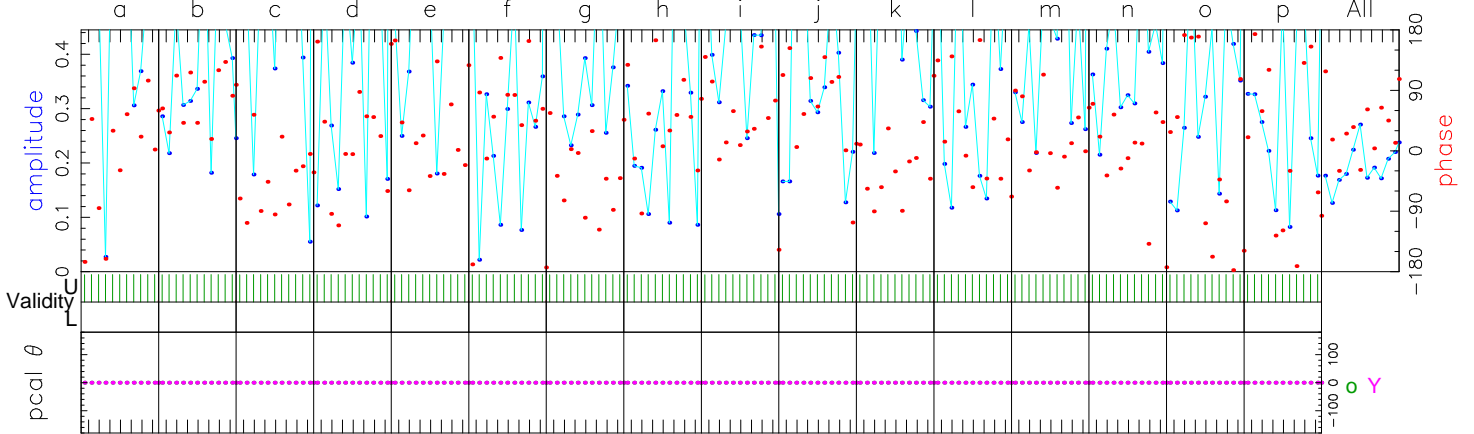
Fringe quality 9

SNR 8.1  
Int time 401.317  
Amp 0.148  
Phase 25.6  
PFD 1.5e-07  
Delays (us)  
SBD 0.000421  
MBD -0.006623  
Fringe rate (Hz)  
0.017855  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042840  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	33.2	90.9	-50.8	30.3	2.6	92.3	-41.1	63.1	61.2	72.2	-24.0	34.5	15.4	19.3	-166.0	167.9	Phase	25.6
	0.2	0.3	0.4	0.2	0.3	0.1	0.2	0.2	0.3	0.2	0.4	0.2	0.3	0.3	0.2	0.1	Ampl.	0.2
	130.6	129.2	128.6	129.5	130.1	201.4	129.3	176.1	129.2	130.2	129.3	131.4	128.3	127.8	162.9	188.6	Sbd box	129.1
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
o	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	
o: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	
o: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	
o	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		
o	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	

Group delay (usec)(sbd)	-8.03083076141E+03	Apriori delay (usec)	-8.03082413832E+03	Resid mbdelay (usec)	-6.62309E-03	+/-	1.3E-04
Sband delay (usec)	-8.03082371782E+03	Apriori clock (usec)	6.9777994E+00	Resid sbdelay (usec)	4.20500E-04	+/-	2.1E-03
Phase delay (usec)	-8.03082413750E+03	Apriori clockrate (us/s)	-2.1901900E-07	Resid phdelay (usec)	8.25167E-07	+/-	4.5E-07
Delay rate (us/s)	1.47259722680E+00	Apriori rate (us/s)	1.47259701952E+00	Resid rate (us/s)	2.07274E-07	+/-	2.0E-09
Total phase (deg)	-73.4	Apriori accel (us/s/s)	3.95125131510E-05	Resid phase (deg)	25.6	+/-	14.1

ph/seg (deg)	RMS 41.3	Theor. 24.4	Amplitude Search (2048X64)	0.148 +/- 0.018	0.143	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	38.3	42.6	Interp.	0.000	0.143	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	73.5	28.2	Inc. seg. avg.	0.176	0.176	Bits/sample: 2x2	mb window (us) -0.016 0.016
amp/frq (%)	84.2	49.2	Inc. frq. avg.	0.218	0.218	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
						nlags: 128	t_cohere infinite

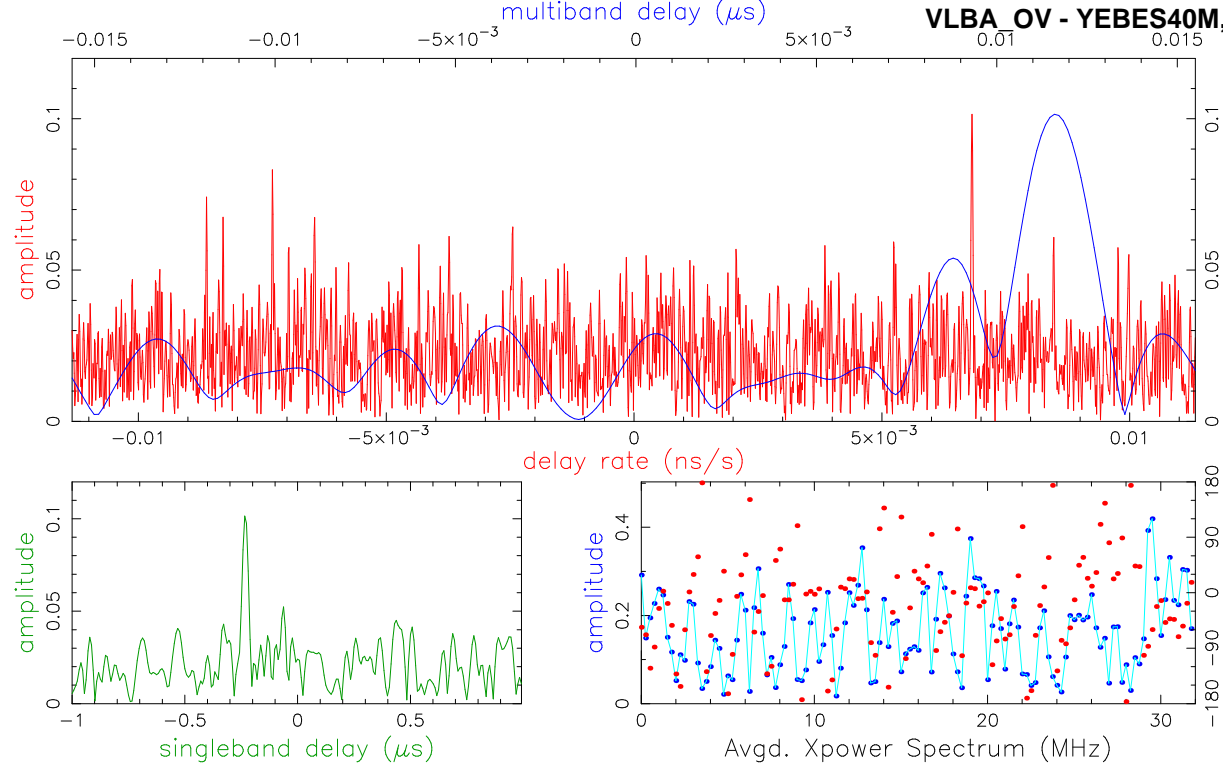
o: az 60.7 el 29.9 pa -64.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10905.762 2412.301 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/oY..1305JH Output file: /Exps/c192a/v2/1234/No0001/oY.W.297.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, oY

VLBA\_OV - YEBES40M, fgroup W, pol LR

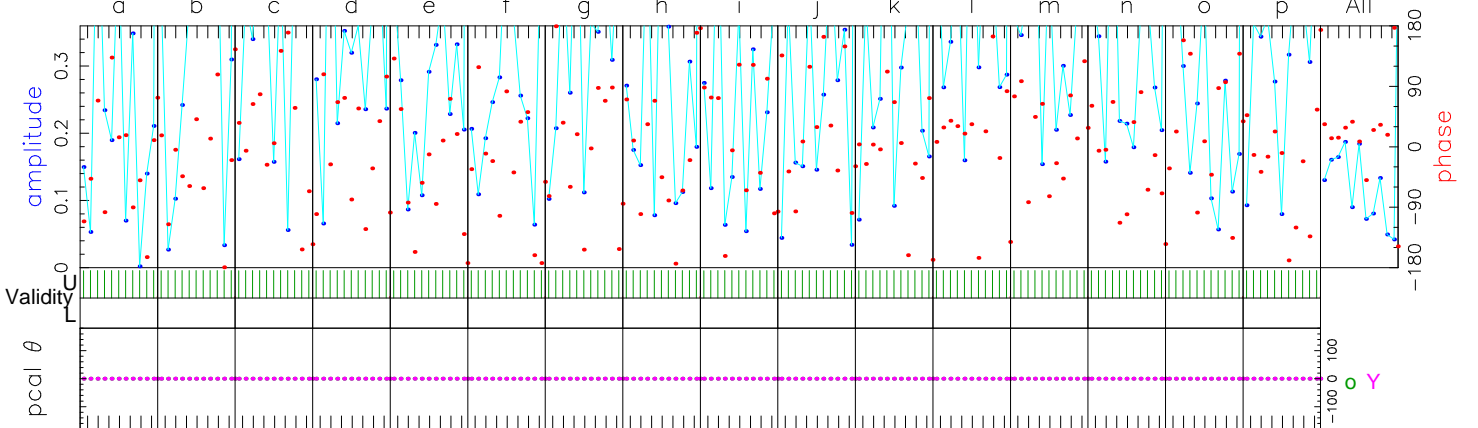


Fringe quality 0

SNR 5.6  
 Int time 401.317  
 Amp 0.120  
 Phase 19.2  
 PFD 9.9e-01  
 Delays (us)  
 SBD -0.231747  
 MBD 0.011609  
 Fringe rate (Hz)  
 0.588294  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042846  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.80967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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					
12.7	2.0	43.0	0.1	11.9	6.2	41.7	-22.1	94.6	39.4	19.7	34.3	27.1	13.2	28.2	-26.2		Phase	19.2					
0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.1	0.1		Ampl.	0.1					
36.9	215.4	137.7	180.0	159.5	69.8	44.4	153.6	210.5	170.6	245.1	99.5	124.1	110.3	72.8	85.5		Sbd box	99.3					
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used					
o	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					
o: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					
o: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					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
o	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)			-8.03106252917E+03															Apriori delay (usec)	-8.03082413832E+03	Resid mbdelay (usec)	1.16092E-02	+/-	1.9E-04
Sband delay (usec)			-8.03105588532E+03															Apriori clock (usec)	6.9777994E+00	Resid sbdelay (usec)	-2.31747E-01	+/-	3.1E-03
Phase delay (usec)			-8.03082413770E+03															Apriori clockrate (us/s)	-2.1901900E-07	Resid phdelay (usec)	6.18483E-07	+/-	6.6E-07
Delay rate (us/s)			1.47260384904E+00															Apriori rate (us/s)	1.47259701952E+00	Resid rate (us/s)	6.82951E-06	+/-	2.8E-09
Total phase (deg)					-79.8													Apriori accel (us/s/s)	3.95125131510E-05	Resid phase (deg)	19.2	+/-	20.3

ph/seg (deg) 54.0 35.2  
 amp/seg (%) 57.8 61.5  
 ph/frq (deg) 29.6 40.7  
 amp/frq (%) 48.3 71.0

RMS Theor. Amplitude 0.120 +/- 0.021  
 Search (2048X64) 0.101  
 Interp. 0.000  
 Inc. seg. avg. 0.117  
 Inc. frq. avg. 0.106

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

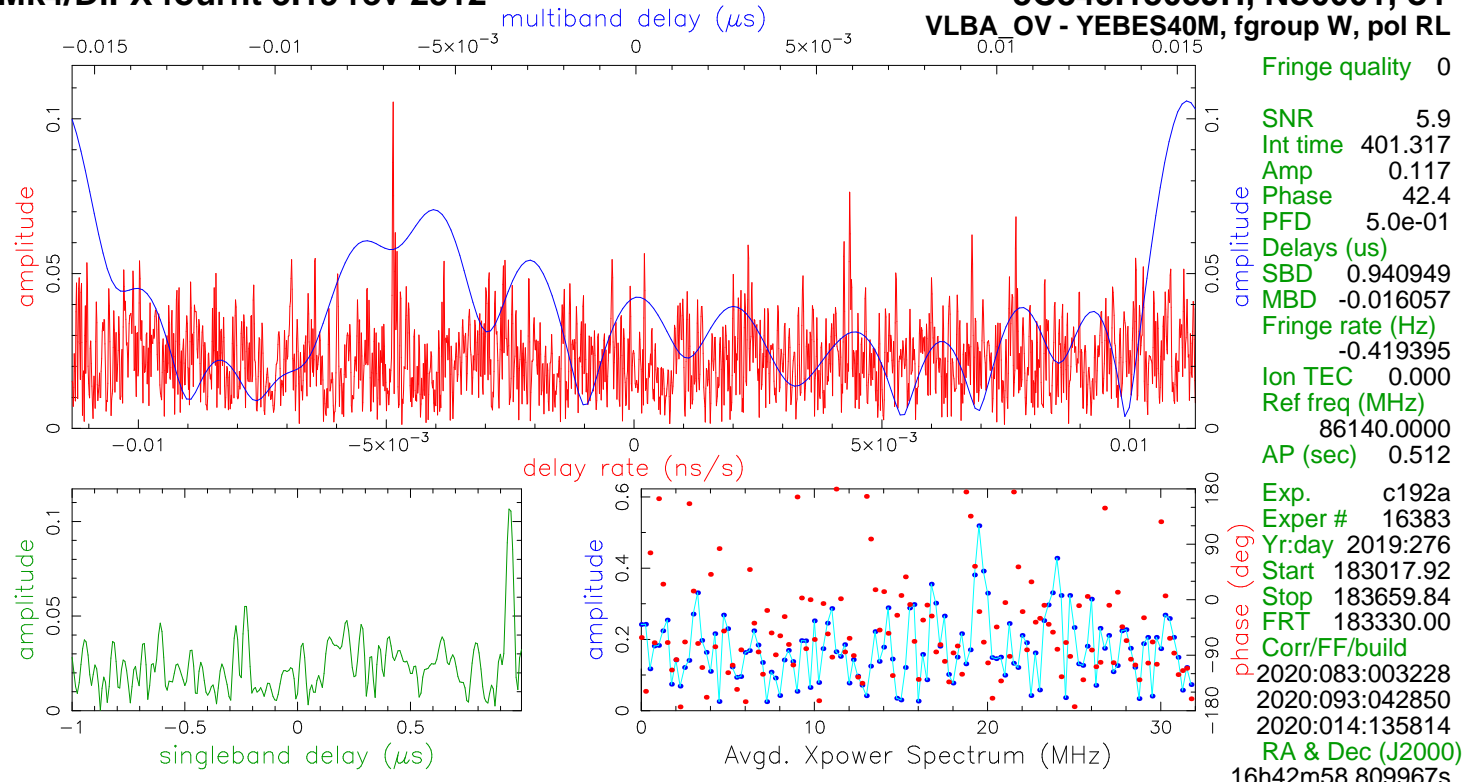
sb window (us) -1.000 1.000  
 mb window (us) -0.016 0.016  
 dr window (ns/s) -0.011 0.011  
 ion window (TEC) 0.00 0.00

o: az 60.7 el 29.9 pa -64.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10905.762 2412.301 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/oY..1305JH Output file: /Exps/c192a/v2/1234/No0001/oY.W.317.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, oY  
VLBA\_OV - YEBES40M, fgroup W, pol RL



Fringe quality 0

SNR 5.9

Int time 401.317

Amp 0.117

Phase 42.4

PFD 5.0e-01

Delays (us)

SBD 0.940949

MBD -0.016057

Fringe rate (Hz)

-0.419395

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183017.92

Stop 183659.84

FRT 183330.00

Corr/FF/build

2020:083:003228

2020:093:042850

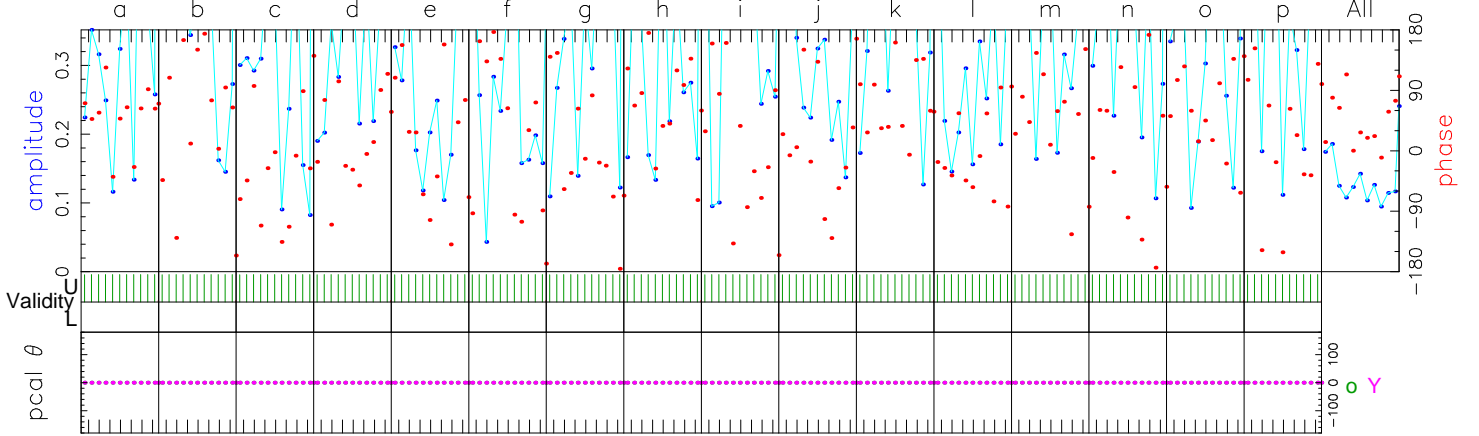
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	63.0	134.5	-32.9	12.7	57.5	-128.3	-23.6	80.8	4.1	-3.7	62.0	-26.9	69.6	82.7	57.5	62.8		Phase 42.4
	0.3	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.1		Ampl. 0.1
	248.9	194.4	46.0	88.8	204.1	191.0	50.5	247.2	30.6	245.2	249.8	72.7	158.1	126.2	74.7	120.5		Sbd box 249.4
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used
o	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
o: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
o: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
o	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
o	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) -8.02987144568E+03 Apriori delay (usec) -8.03082413832E+03 Resid mbdelay (usec) -1.60574E-02 +/- 1.8E-04

Sband delay (usec) -8.02988318882E+03 Apriori clock (usec) 6.9777994E+00 Resid sbdelay (usec) 9.40949E-01 +/- 2.9E-03

Phase delay (usec) -8.03082413695E+03 Apriori clockrate (us/s) -2.1901900E-07 Resid phdelay (usec) 1.36695E-06 +/- 6.2E-07

Delay rate (us/s) 1.47259215076E+00 Apriori rate (us/s) 1.47259701952E+00 Resid rate (us/s) -4.86876E-06 +/- 2.7E-09

Total phase (deg) -56.6 Apriori accel (us/s/s) 3.95125131510E-05 Resid phase (deg) 42.4 +/- 19.3

ph/seg (deg) RMS Theor. Amplitude 0.117 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 36.8 33.4 Search (2048X64) 0.104 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 32.2 58.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

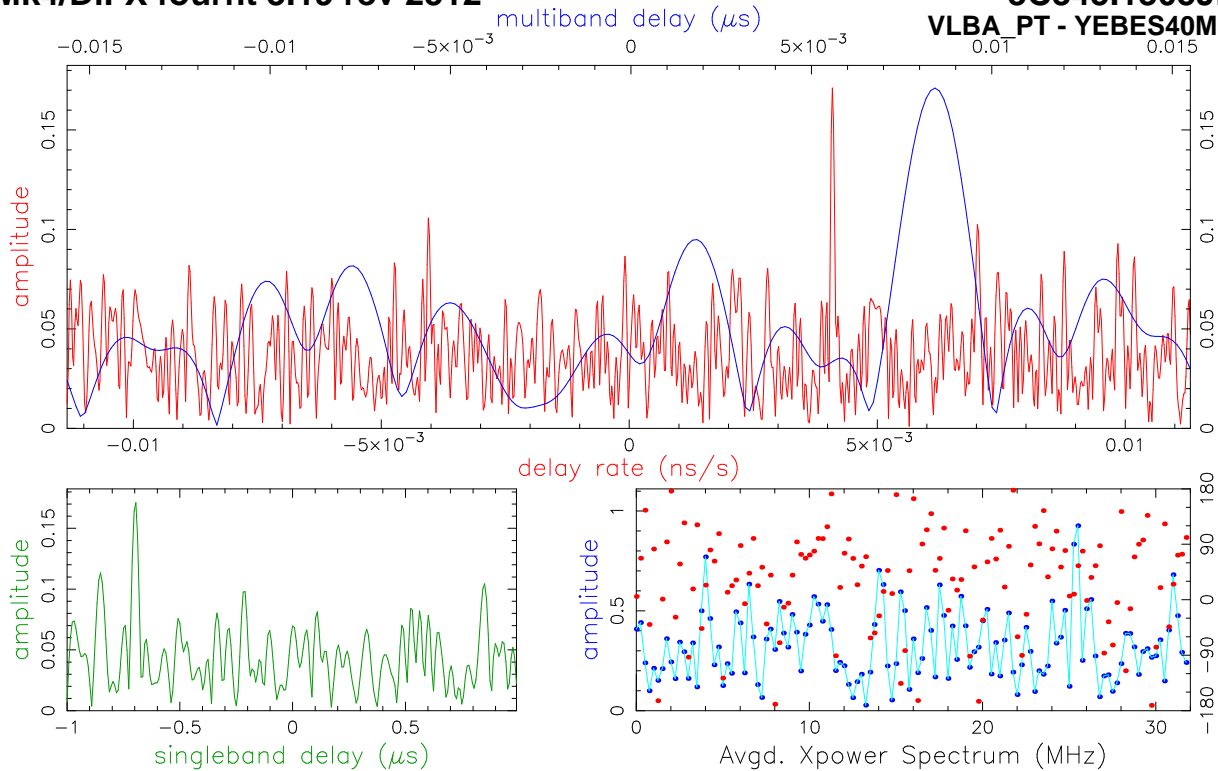
amp/frq (%) 66.8 38.5 Inc. seg. avg. 0.119 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

o: az 60.7 el 29.9 pa -64.6 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10905.762 2412.301 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/oY..1305JH Output file: /Exps/c192a/v2/1234/No0001/oY.W.335.1305JH simultaneous interpolator

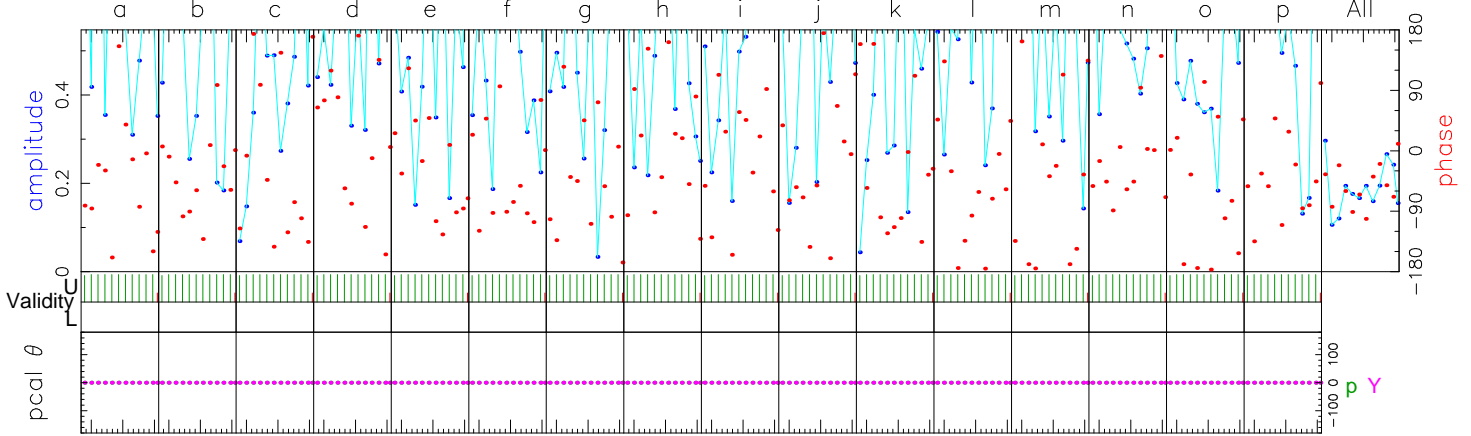
Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, pY  
VLBA\_PT - YEBES40M, fgroup W, pol LL



Fringe quality 0  
SNR 5.6  
Int time 138.716  
Amp 0.182  
Phase -55.3  
PFD 9.6e-01  
Delays (us)  
SBD -0.697728  
MBD 0.008411  
Fringe rate (Hz) 0.353435  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183440.58  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build 2020:083:003228  
2020:093:042835  
2020:014:135814  
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 24 APs / seg (12.29 sec / seg.), time ticks 10 sec

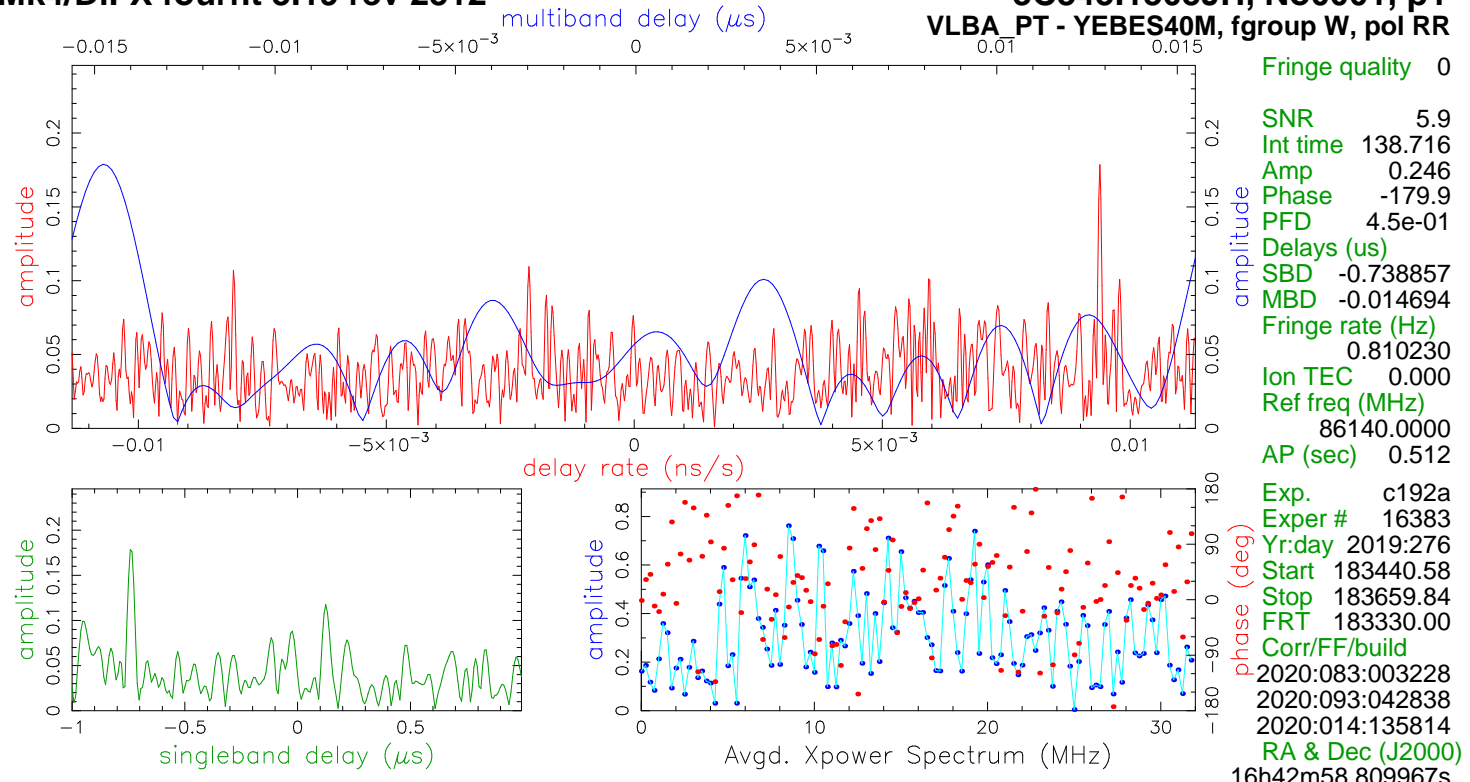


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-66.0	-35.2	-134.1	45.5	-42.6	-67.4	-69.3	-11.6	2.9	-26.6	-102.1	-62.9	-154.4	-30.5	-62.2	-43.8	Phase	-55.3				
	0.3	0.4	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.1	0.3	0.3	0.2	0.3	0.1	0.4	Ampl.	0.2				
	1.9	40.1	58.6	20.1	113.8	148.8	74.2	48.3	253.4	101.2	237.7	233.5	11.3	246.5	253.9	134.3	Sbd box	39.7				
U/L	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	APs used					
p	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					
p: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					
p: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					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids					
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-6.20458011705E+03														Apriori delay (usec)	-6.20386977793E+03	Resid mbdelay (usec)	8.41088E-03	+/-	1.9E-04
Sband delay (usec)			-6.20456750543E+03														Apriori clock (usec)	2.2539244E+00	Resid sbdelay (usec)	-6.97728E-01	+/-	3.1E-03
Phase delay (usec)			-6.20386977971E+03														Apriori clockrate (us/s)	-1.6113413E-08	Resid phdelay (usec)	-1.78210E-06	+/-	6.6E-07
Delay rate (us/s)			1.45818014394E+00														Apriori rate (us/s)	1.45817604092E+00	Resid rate (us/s)	4.10303E-06	+/-	8.3E-09
Total phase (deg)																	Apriori accel (us/s/s)	2.67856082006E-05	Resid phase (deg)	-55.3	+/-	20.6

ph/seg (deg) 28.2 35.7 RMS Theor. Amplitude 0.182 +/- 0.033 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 33.2 62.2 Search (1024X64) 0.167 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 51.0 41.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 58.4 71.9 Inc. seg. avg. 0.169 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 p: az 62.4 el 35.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10820.770 1297.105 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/pY..1305JH Output file: /Exps/c192a/v2/1234/No0001/pY.W.270.1305JH simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, pY  
VLBA\_PT - YEBES40M, fgroup W, pol RR



Fringe quality 0

SNR 5.9

Int time 138.716

Amp 0.246

Phase -179.9

PFD 4.5e-01

Delays (us)

SBD -0.738857

MBD -0.014694

Fringe rate (Hz)

0.810230

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183440.58

Stop 183659.84

FRT 183330.00

Corr/FF/build

2020:083:003228

2020:093:042838

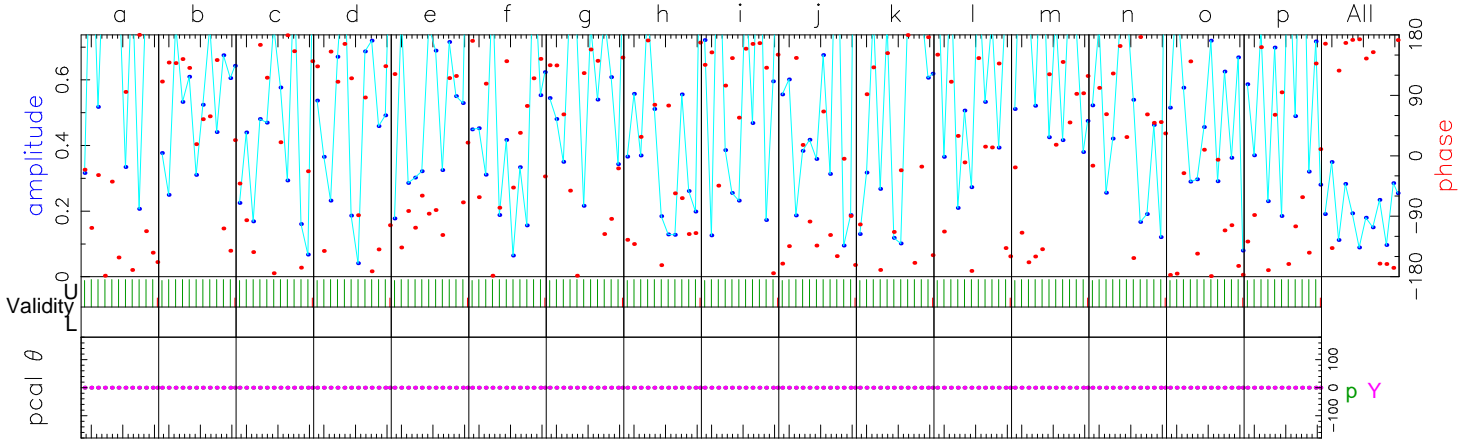
2020:014:135814

RA & Dec (J2000)

16h42m58.80967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 24 APs / seg (12.29 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
	-129.8	124.0	168.1	156.5	-103.6	141.9	-176.7	-148.4	158.2	-143.9	172.0	137.9	168.2	80.0	-148.0	-144.3		Phase -179.9
	0.6	0.3	0.3	0.5	0.3	0.3	0.3	0.2	0.4	0.3	0.4	0.2	0.2	0.3	0.3	0.3		Ampl. 0.3
	255.3	39.0	125.1	159.2	168.0	136.9	70.9	151.5	4.1	119.9	158.9	160.7	131.1	77.6	93.2	68.9		Sbd box 34.4
U/L	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0		APs used
p	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
p: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
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
p	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

Group delay (usec)(sbd) -6.20460322153E+03 Apriori delay (usec) -6.20386977793E+03 Resid mbdelay (usec) -1.46936E-02 +/- 1.8E-04

Sband delay (usec) -6.20460863493E+03 Apriori clock (usec) 2.2539244E+00 Resid sbdelay (usec) -7.38857E-01 +/- 2.9E-03

Phase delay (usec) -6.20386978373E+03 Apriori clockrate (us/s) -1.6113413E-08 Resid phdelay (usec) -5.80123E-06 +/- 6.3E-07

Delay rate (us/s) 1.45818544688E+00 Apriori rate (us/s) 1.45817604092E+00 Resid rate (us/s) 9.40597E-06 +/- 7.8E-09

Total phase (deg) -61.4 Apriori accel (us/s/s) 2.67856082006E-05 Resid phase (deg) -179.9 +/- 19.6

RMS Theor. Amplitude 0.246 +/- 0.042 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

ph/seg (deg) 26.5 33.9 Search (1024X64) 0.176 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

amp/seg (%) 44.9 59.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

ph/frq (deg) 46.8 39.1 Inc. seg. avg. 0.228 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

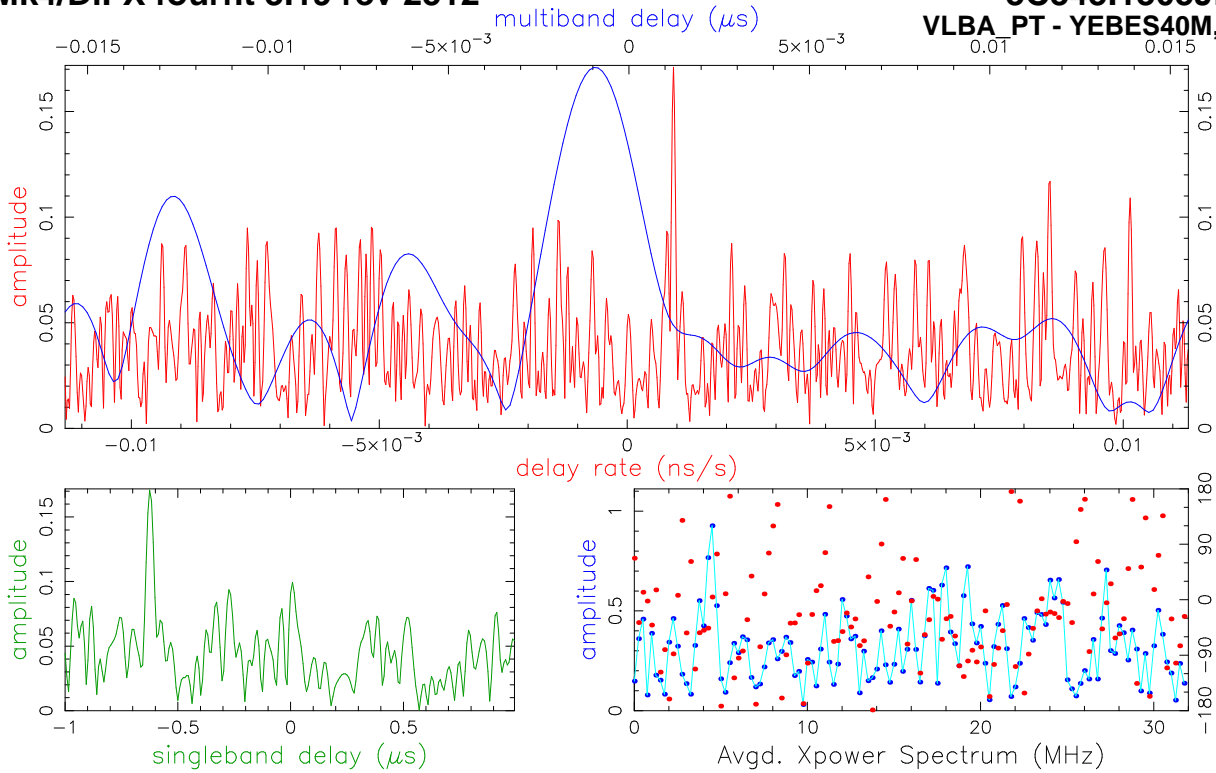
amp/frq (%) 53.2 68.3 Inc. frq. avg. 0.263 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

p: az 62.4 el 35.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10820.770 1297.105 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/pY..1305JH Output file: /Exps/c192a/v2/1234/No0001/pY.W.282.1305JH

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, pY  
VLBA\_PT - YEBES40M, fgroup W, pol LR

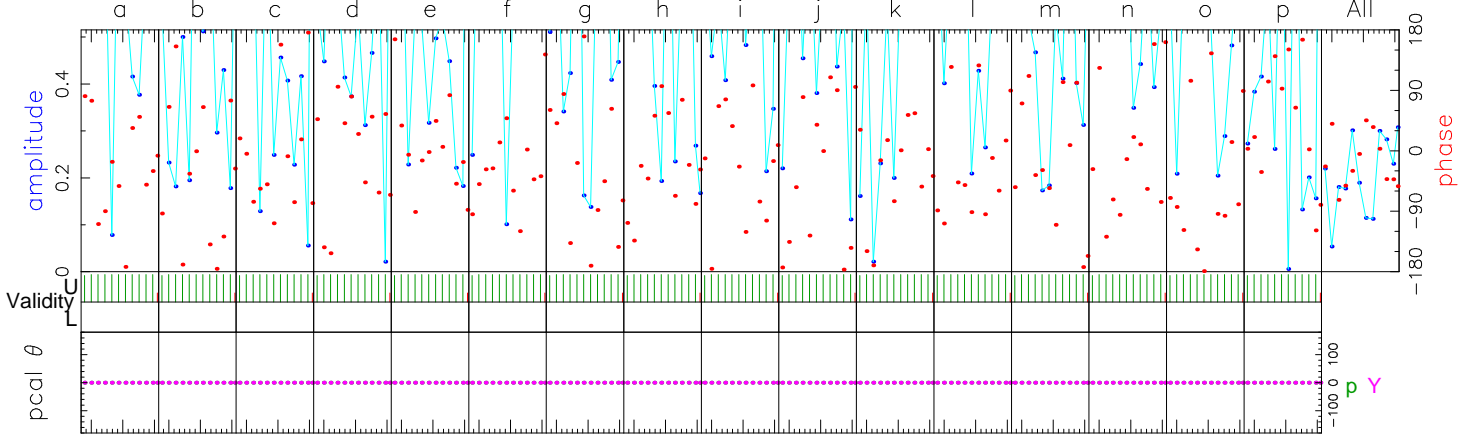


Fringe quality 0

SNR 5.5  
Int time 138.716  
Amp 0.172  
Phase -24.1  
PFD 9.8e-01  
Delays (us)  
SBD -0.623600  
MBD -0.000916  
Fringe rate (Hz)  
0.079872  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183440.58  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042840  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 24 APs / seg (12.29 sec / seg.), time ticks 10 sec

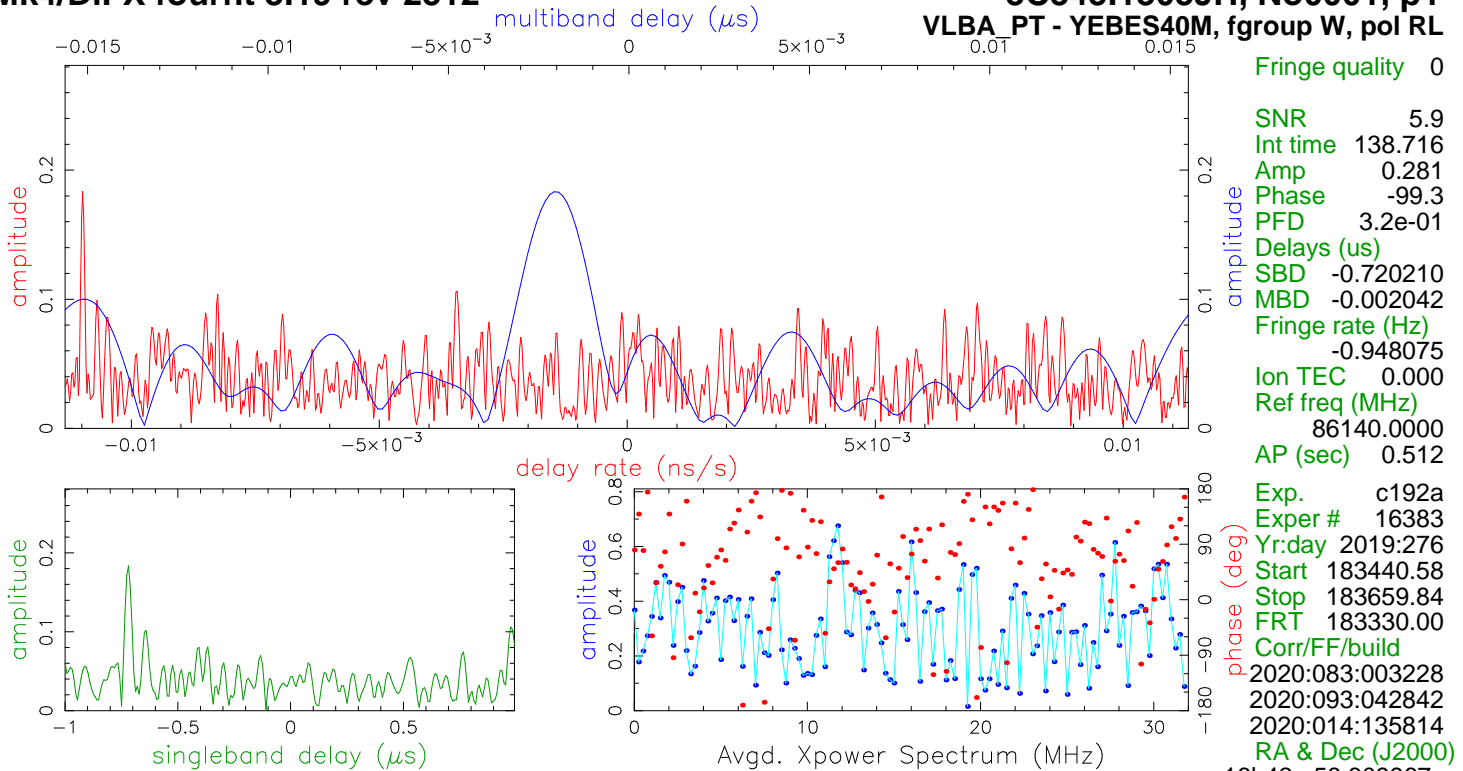


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-29.9	-84.9	-33.2	25.4	1.2	-34.6	-28.4	-12.4	3.6	134.5	0.2	-44.9	18.0	-63.4	-136.0	60.6	Phase	-24.1				
	0.2	0.1	0.3	0.1	0.2	0.5	0.2	0.2	0.2	0.1	0.3	0.3	0.1	0.3	0.2	0.2	Ampl.	0.2				
	235.9	89.2	51.9	80.4	202.3	48.6	147.2	92.8	251.1	46.0	59.3	158.6	197.2	208.7	210.8	125.3	Sbd box	49.2				
U/L	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	APs used					
p	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					
p: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					
p: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					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids					
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-6.20449569393E+03														Apriori delay (usec)	-6.20386977793E+03	Resid mbdelay (usec)	-9.15997E-04	+/-	2.0E-04
Sband delay (usec)			-6.20449337843E+03														Apriori clock (usec)	2.2539244E+00	Resid sbdelay (usec)	-6.23600E-01	+/-	3.1E-03
Phase delay (usec)			-6.20386977871E+03														Apriori clockrate (us/s)	-1.6113413E-08	Resid phdelay (usec)	-7.78000E-07	+/-	6.7E-07
Delay rate (us/s)			1.45817696815E+00														Apriori rate (us/s)	1.45817604092E+00	Resid rate (us/s)	9.27238E-07	+/-	8.3E-09
Total phase (deg)																	Apriori accel (us/s/s)	2.67856082006E-05	Resid phase (deg)	-24.1	+/-	20.8

ph/seg (deg) RMS Theor. Amplitude 0.172 +/- 0.031 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 48.6 62.8 Search (1024X64) 0.169 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 63.9 41.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 72.0 72.5 Inc. seg. avg. 0.167 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 p: az 62.4 el 35.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10820.770 1297.105 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/pY..1305JH Output file: /Exps/c192a/v2/1234/No0001/pY.W.295.1305JH simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, pY  
VLBA\_PT - YEBES40M, fgroup W, pol RL



Fringe quality 0

SNR 5.9

Int time 138.716

Amp 0.281

Phase -99.3

PFD 3.2e-01

Delays (us)

SBD -0.720210

MBD -0.002042

Fringe rate (Hz)

-0.948075

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:276

Start 183440.58

Stop 183659.84

FRT 183330.00

Corr/FF/build

2020:083:003228

2020:093:042842

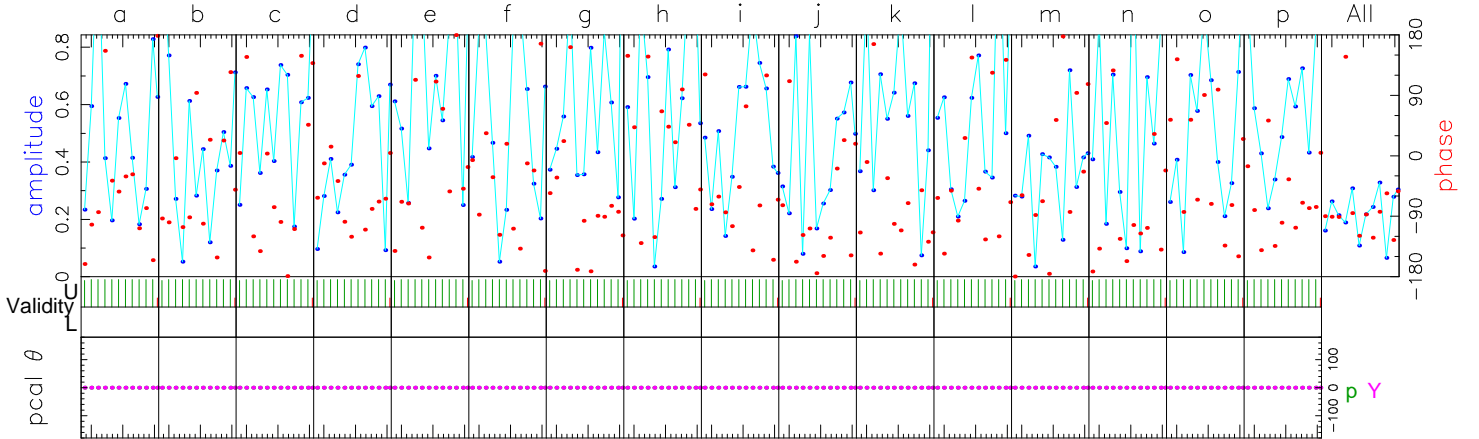
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 24 APs / seg (12.29 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				
	-91.6	-87.0	-154.0	-74.1	-140.8	-61.6	-108.9	71.2	-107.4	-116.9	-102.1	-115.6	-105.0	-127.6	53.3	-68.8	Phase	-99.3				
	0.5	0.3	0.2	0.3	0.2	0.4	0.4	0.2	0.2	0.3	0.6	0.4	0.2	0.4	0.1	0.7	Ampl.	0.3				
	163.6	163.9	62.2	39.7	234.4	102.0	70.5	118.2	61.4	27.4	42.8	181.8	25.7	202.5	43.7	36.1	Sbd box	36.8				
U/L	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	272/0	APs used					
p	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					
p: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					
p: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					
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids					
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-6.20459056991E+03														Apriori delay (usec)	-6.20386977793E+03	Resid mbdelay (usec)	-2.04198E-03	+/-	1.8E-04
Sband delay (usec)			-6.20458998843E+03														Apriori clock (usec)	2.2539244E+00	Resid sbdelay (usec)	-7.20210E-01	+/-	2.9E-03
Phase delay (usec)			-6.20386978113E+03														Apriori clockrate (us/s)	-1.6113413E-08	Resid phdelay (usec)	-3.20369E-06	+/-	6.2E-07
Delay rate (us/s)			1.45816503470E+00														Apriori rate (us/s)	1.45817604092E+00	Resid rate (us/s)	-1.10062E-05	+/-	7.7E-09
Total phase (deg)																	Apriori accel (us/s/s)	2.67856082006E-05	Resid phase (deg)	-99.3	+/-	19.3

ph/seg (deg) RMS Theor. Amplitude 0.281 +/- 0.047 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 46.1 58.4 Search (1024X64) 0.181 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

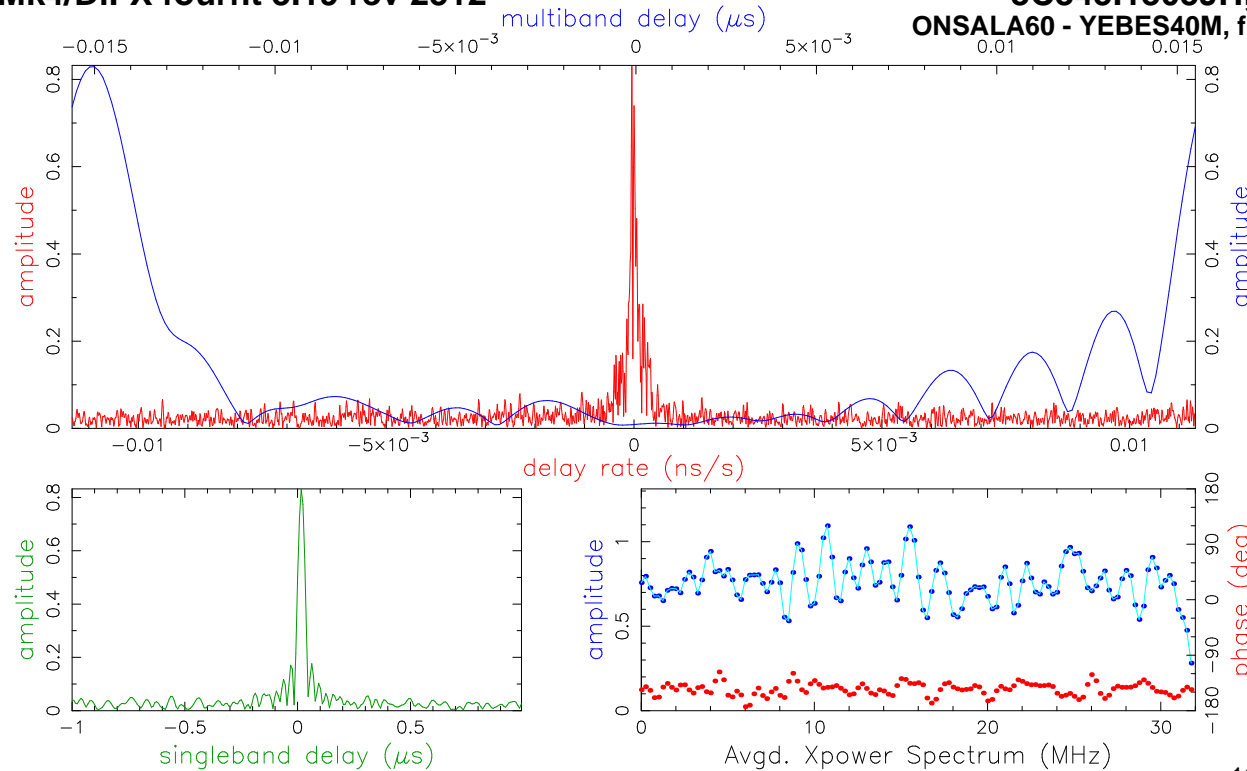
ph/frq (deg) 66.5 38.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 59.1 67.4 Inc. seg. avg. 0.285 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

p: az 62.4 el 35.8 pa -72.0 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -10820.770 1297.105 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/pY..1305JH Output file: /Exps/c192a/v2/1234/No0001/pY.W.303.1305JH simultaneous interpolator



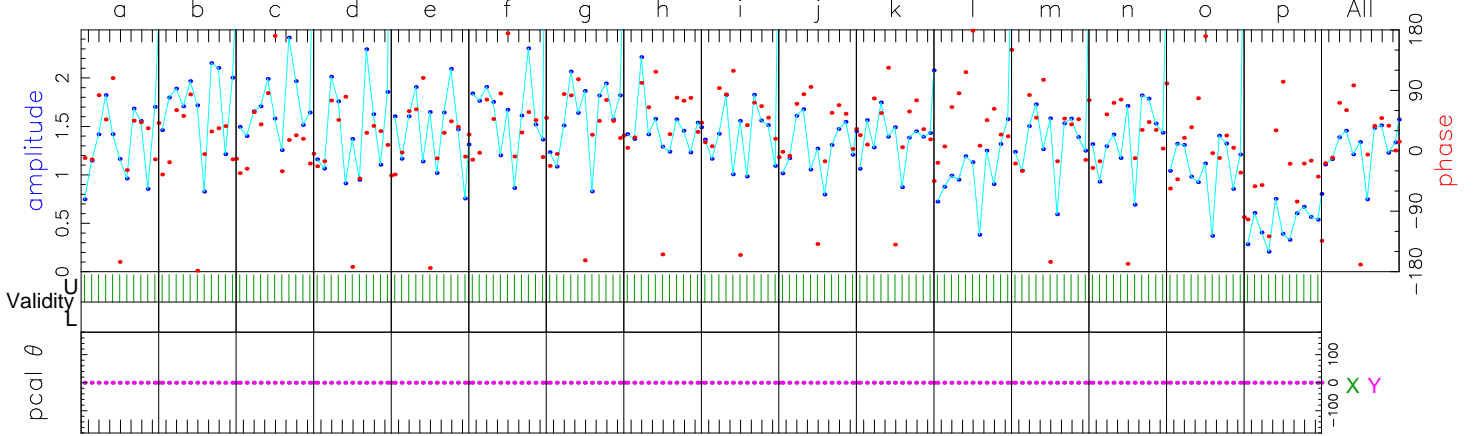


Fringe quality 2

SNR 45.5  
 Int time 400.154  
 Amp 0.832  
 Phase 38.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.016874  
 MBD -0.015062  
 Fringe rate (Hz)  
 -0.003750  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

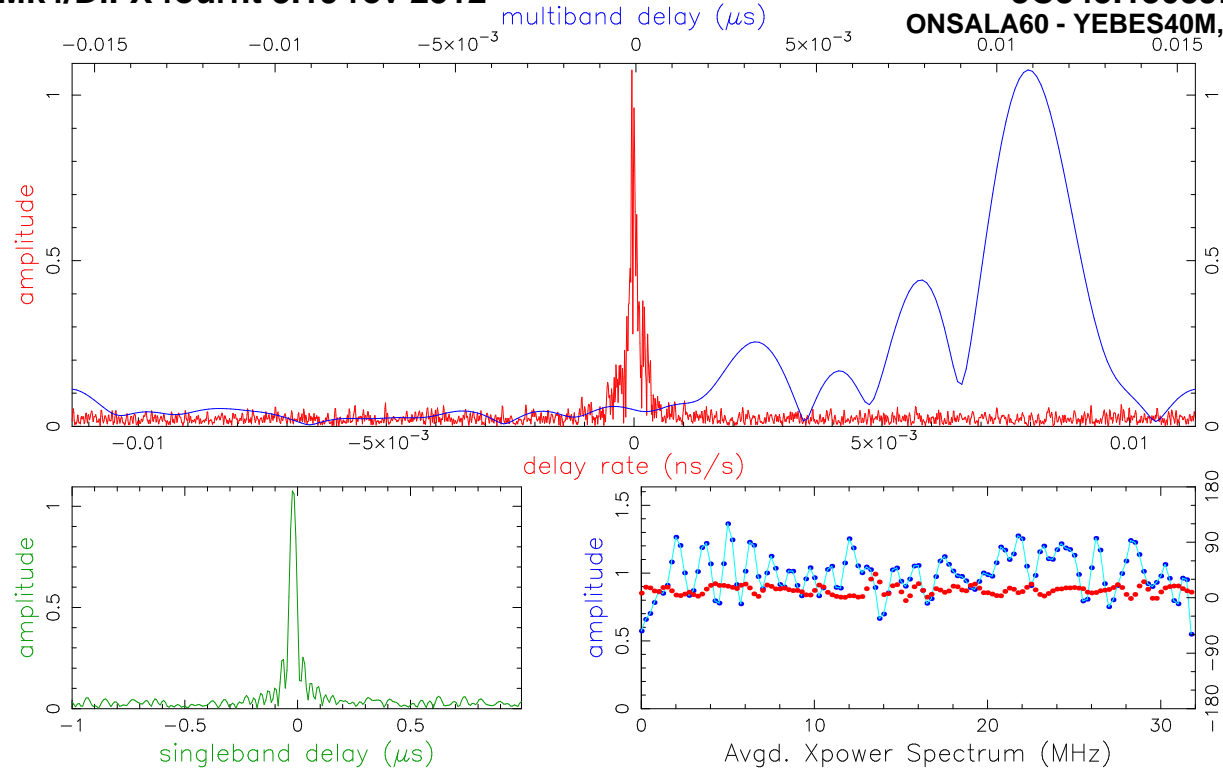
Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183018.95  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042845  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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					
	36.0	28.7	19.0	29.0	35.2	37.9	57.7	66.8	62.4	48.5	49.0	50.8	40.0	33.1	-0.8	-31.6		Phase 38.5					
	0.8	1.1	1.1	1.0	0.9	1.1	1.0	1.0	0.9	0.8	0.9	0.7	0.8	0.9	0.7	0.3		Ampl. 0.9					
	130.6	131.2	131.3	131.5	131.1	131.2	131.7	131.2	131.2	131.1	131.3	130.8	130.7	131.1	131.0	131.2		Sbd box 131.2					
U/L	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0		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	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					
Group delay (usec)(sbd)				-1.86896486404E+03														Apriori delay (usec)	-1.86898105175E+03	Resid mbdelay (usec)	-1.50623E-02	+/-	2.4E-05
Sband delay (usec)				-1.86896417725E+03														Apriori clock (usec)	2.2673275E+01	Resid sbdelay (usec)	1.68745E-02	+/-	3.8E-04
Phase delay (usec)				-1.86898105050E+03														Apriori clockrate (us/s)	3.0800002E-07	Resid phdelay (usec)	1.24208E-06	+/-	8.1E-08
Delay rate (us/s)				3.61590754314E-02														Apriori rate (us/s)	3.61591189695E-02	Resid rate (us/s)	-4.35380E-08	+/-	3.5E-10
Total phase (deg)				-248.6														Apriori accel (us/s/s)	2.39811778223E-05	Resid phase (deg)	38.5	+/-	2.5

ph/seg (deg) 58.2 4.4 Search (2048X64) 0.826 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 58.3 7.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 25.6 5.0 Inc. seg. avg. 1.267 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 24.3 8.8 Inc. frq. avg. 0.875 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 X: az 263.7 el 53.3 pa 44.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -225.260 2884.494 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/XY..1305JH Output file: /Exps/c192a/v2/1234/No0001/XY.W.313.1305JH

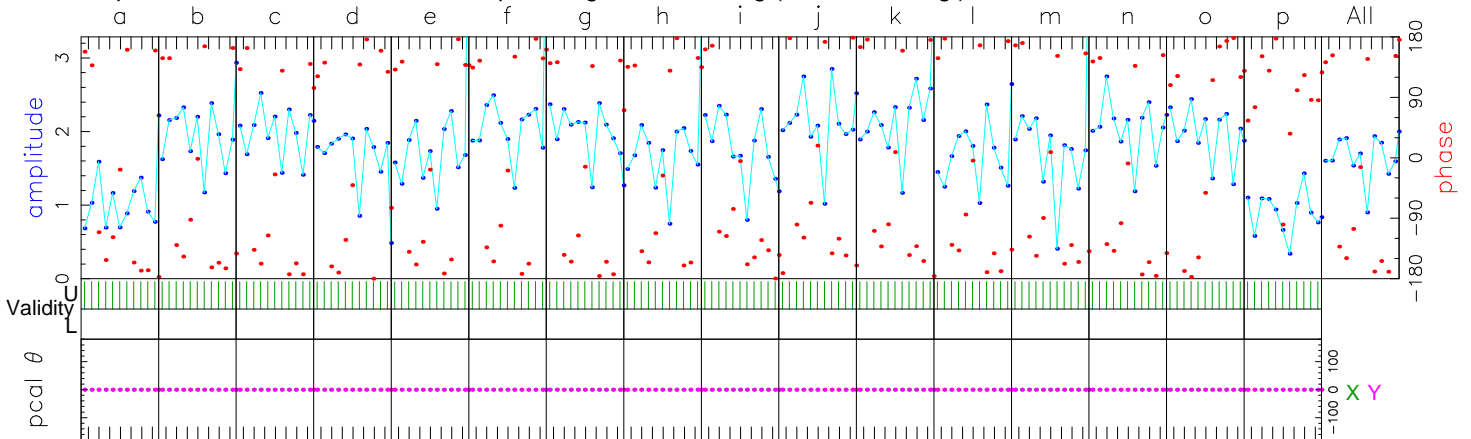


Fringe quality 2

SNR 59.9  
 Int time 400.154  
 Amp 1.096  
 Phase -166.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.020072  
 MBD 0.010914  
 Fringe rate (Hz)  
 -0.003716  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183018.95  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042848  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

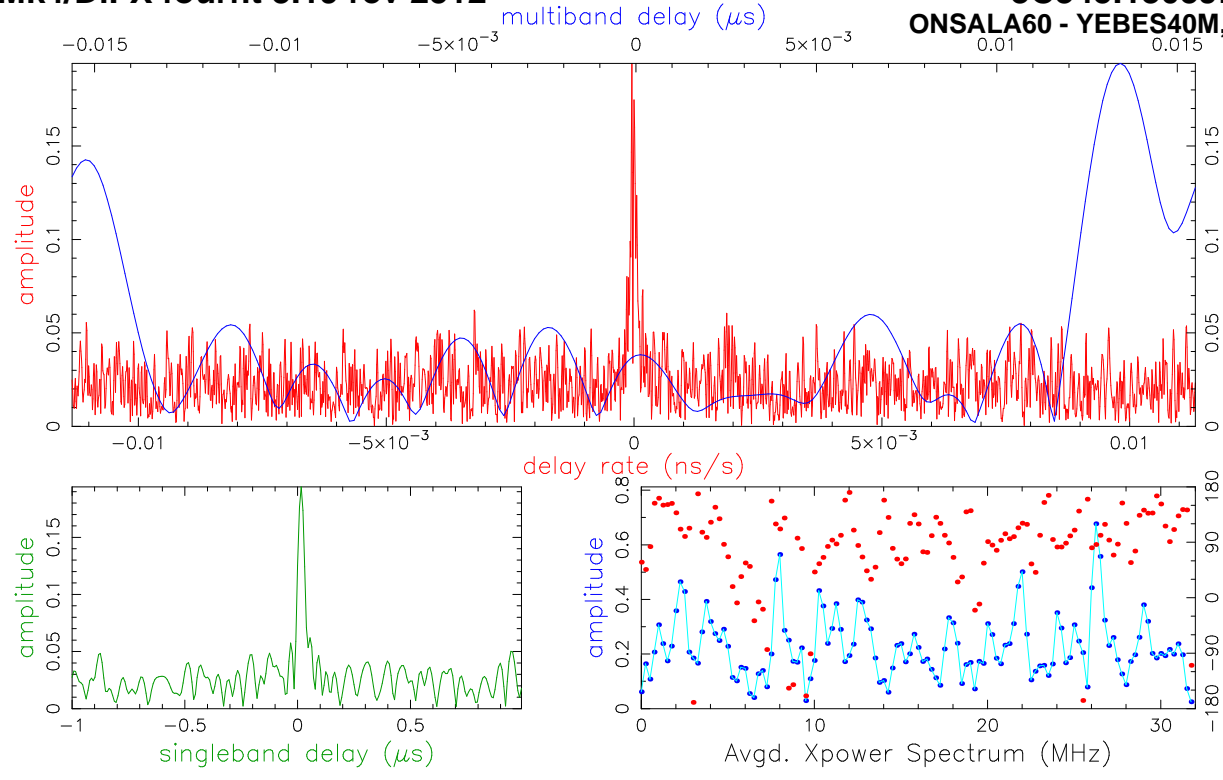
Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



	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
	-161.2	-163.4	-173.3	173.4	-174.7	-170.3	-174.4	-171.5	-136.9	-136.6	-148.4	-153.0	-155.0	-166.9	162.0	111.7	Phase	-166.6
	0.7	1.2	1.3	1.1	1.1	1.3	1.3	1.1	1.2	1.4	1.4	1.1	1.1	1.3	1.3	0.6	Ampl.	1.2
	127.8	126.5	126.4	126.0	127.0	126.2	126.3	126.6	126.8	126.5	126.2	126.4	126.6	125.9	126.3	125.6	Sbd box	126.4
U/L	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	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)			-1.86900138779E+03					Apriori delay (usec)									1.09140E-02	+/- 1.8E-05
Sband delay (usec)			-1.86900112375E+03					Apriori clock (usec)									-2.00720E-02	+/- 2.9E-04
Phase delay (usec)			-1.86898105712E+03					Apriori clockrate (us/s)									-5.37199E-06	+/- 6.2E-08
Delay rate (us/s)			3.61590758275E-02					Apriori rate (us/s)									-4.31419E-08	+/- 2.7E-10
Total phase (deg)								Apriori accel (us/s/s)									-166.6	+/- 1.9
ph/seg (deg)		RMS	Theor.					Amplitude									1.096 +/- 0.018	
amp/seg (%)		57.9	3.3					Search (2048X64)									1.062	
ph/frq (deg)		27.7	3.8					Interp.									0.000	
amp/frq (%)		20.4	6.7					Inc. seg. avg.									1.631	
								Inc. frq. avg.									1.154	
X: az 263.7 el 53.3 pa 44.2								Y: az 280.2 el 62.9 pa 77.1									u,v (fr/asec)	-225.260 2884.494
Control file: cf_1234_gmva								Input file: /Exps/c192a/v2/1234/No0001/XY..1305JH									Output file: /Exps/c192a/v2/1234/No0001/XY.W.327.1305JH	

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, XY  
 ONSALA60 - YEBES40M, fgroup W, pol LR

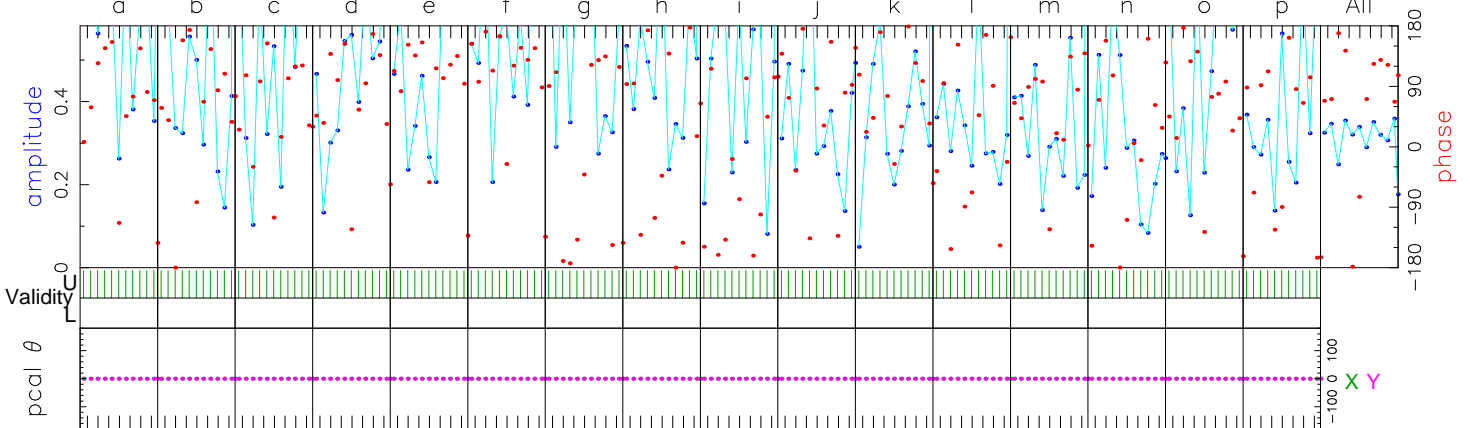


Fringe quality 9

SNR 10.6  
 Int time 400.154  
 Amp 0.194  
 Phase 113.4  
 PFD 1.1e-17  
 Delays (us)  
 SBD 0.015285  
 MBD 0.013418  
 Fringe rate (Hz)  
 -0.003750  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183018.95  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042852  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

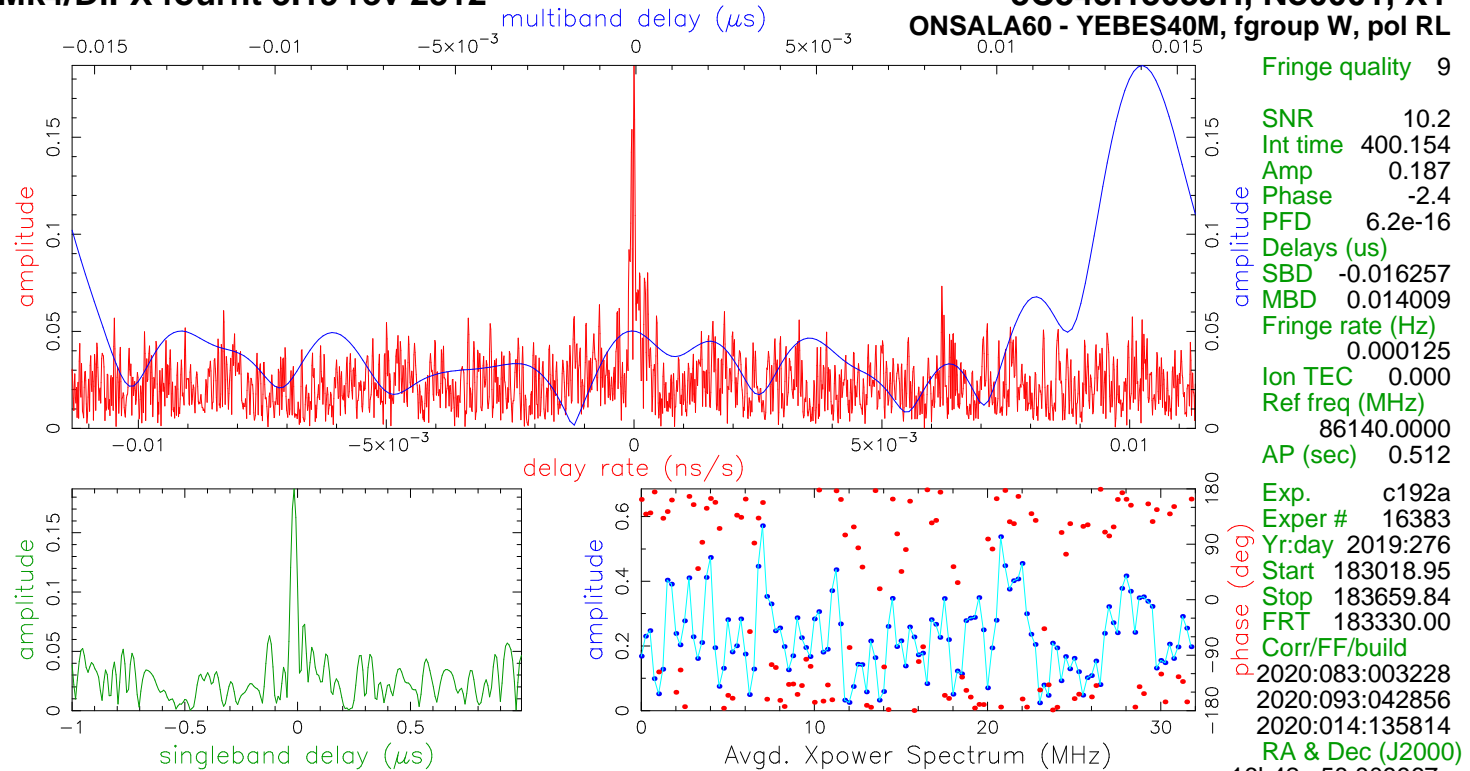


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	92.1	101.0	84.8	103.0	116.1	134.6	148.0	-168.8	-155.4	145.3	87.7	87.8	83.7	105.4	79.4	129.6	Phase	113.4				
	0.4	0.2	0.3	0.2	0.4	0.4	0.3	0.1	0.2	0.1	0.2	0.0	0.2	0.1	0.3	0.1	Ampl.	0.2				
	132.0	89.3	130.3	130.6	131.4	130.2	130.8	66.9	183.1	73.5	93.6	242.4	87.7	118.2	131.3	66.3	Sbd box	131.0				
U/L	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	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)			-1.86896763385E+03														Apriori delay (usec)	-1.86898105175E+03	Resid mbdelay (usec)	1.34179E-02	+/-	1.0E-04
Sband delay (usec)			-1.86896576675E+03														Apriori clock (usec)	2.2673275E+01	Resid sbdelay (usec)	1.52850E-02	+/-	1.6E-03
Phase delay (usec)			-1.86898104809E+03														Apriori clockrate (us/s)	3.0800002E-07	Resid phdelay (usec)	3.65632E-06	+/-	3.5E-07
Delay rate (us/s)			3.61590754321E-02														Apriori rate (us/s)	3.61591189695E-02	Resid rate (us/s)	-4.35373E-08	+/-	1.5E-09
Total phase (deg)					-173.7												Apriori accel (us/s/s)	2.39811778223E-05	Resid phase (deg)	113.4	+/-	10.8

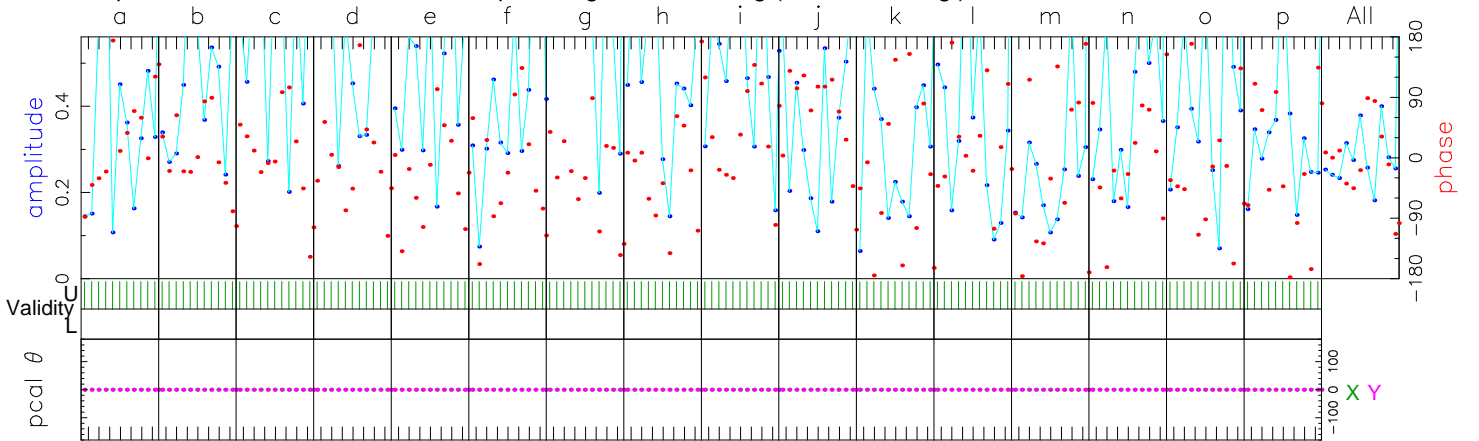
ph/seg (deg) 65.0 18.7 Theor. Amplitude 0.194 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 68.6 32.6 Search (2048X64) 0.189 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 39.9 21.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 60.4 37.7 Inc. seg. avg. 0.307 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 X: az 263.7 el 53.3 pa 44.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -225.260 2884.494 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/XY..1305JH Output file: /Exps/c192a/v2/1234/No0001/XY.W.342.1305JH simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, XY  
 ONSALA60 - YEBES40M, fgroup W, pol RL



Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

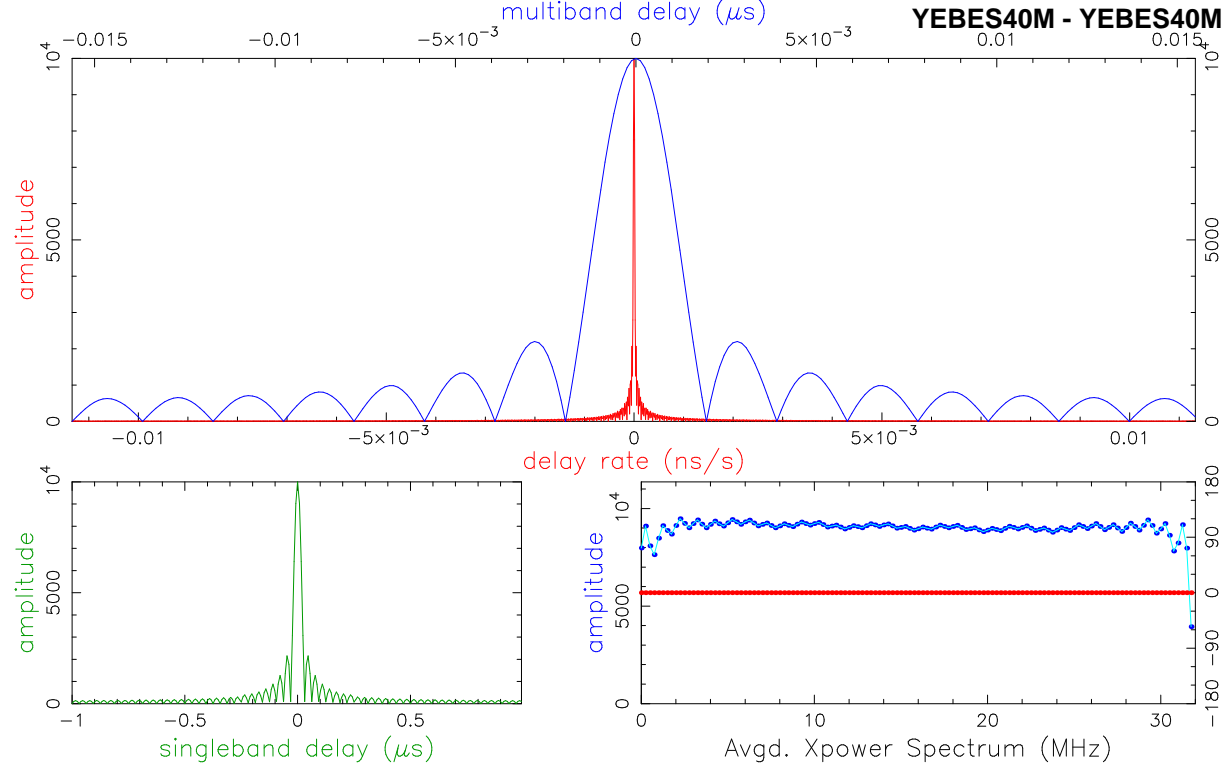


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All		
	3.0	-1.8	13.2	-19.7	-23.0	-29.7	-1.4	-27.2	36.8	60.7	-70.5	7.8	136.8	20.7	-65.7	-27.1		Phase -2.4		
	0.2	0.3	0.3	0.3	0.3	0.2	0.4	0.3	0.3	0.2	0.0	0.2	0.1	0.1	0.2	0.0		Ampl. 0.2		
	127.8	127.3	126.9	126.7	127.2	246.8	126.5	127.1	127.0	126.9	69.0	127.6	20.0	228.8	245.1	234.8		Sbd box 126.9		
U/L	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0	783/0		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	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks		
																		Tracks		
Group delay (usec)(sbd)			-1.86899829253E+03															Apriori delay (usec) -1.86898105175E+03	Resid mbdelay (usec) 1.40092E-02	+/- 1.1E-04
Sband delay (usec)			-1.86899730875E+03															Apriori clock (usec) 2.2673275E+01	Resid sbdelay (usec) -1.62570E-02	+/- 1.7E-03
Phase delay (usec)			-1.86898105182E+03															Apriori clockrate (us/s) 3.0800002E-07	Resid phdelay (usec) -7.74000E-08	+/- 3.6E-07
Delay rate (us/s)			3.61591204163E-02															Apriori rate (us/s) 3.61591189695E-02	Resid rate (us/s) 1.44687E-09	+/- 1.6E-09
Total phase (deg)																		Apriori accel (us/s/s) 2.39811778223E-05	Resid phase (deg) -2.4	+/- 11.2

	RMS	Theor.	Amplitude	0.187 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	55.0	19.4	Search (2048X64)	0.185	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	60.9	33.9	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.016 0.016
ph/frq (deg)	51.5	22.4	Inc. seg. avg.	0.265	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	58.6	39.1	Inc. frq. avg.	0.204	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

X: az 263.7 el 53.3 pa 44.2 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) -225.260 2884.494 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/XY..1305JH Output file: /Exps/c192a/v2/1234/No0001/XY.W.353.1305JH

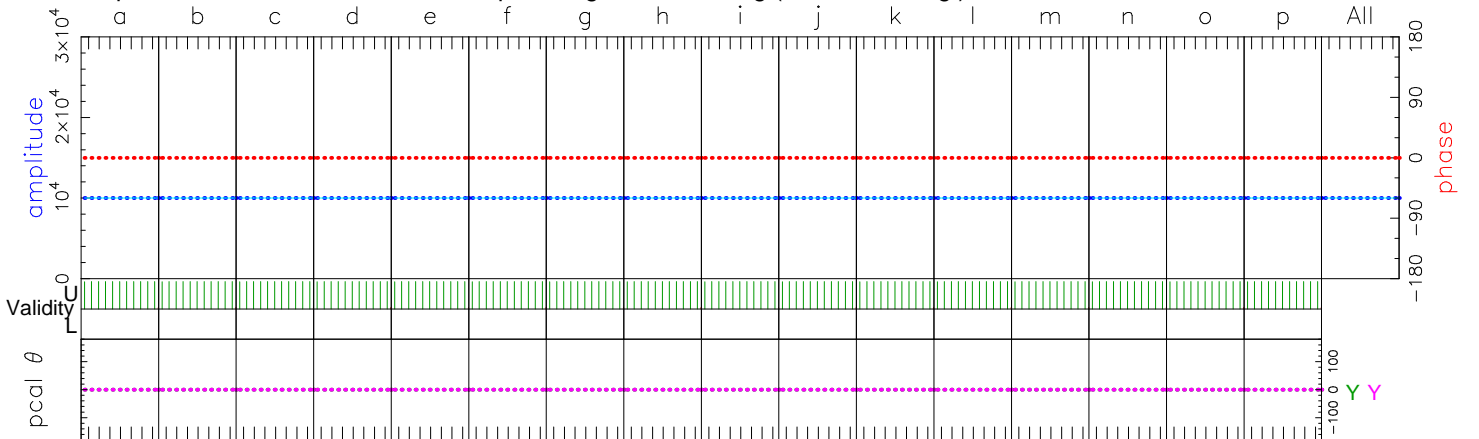


Fringe quality 9

SNR 547824.8  
Int time 401.317  
Amp 10000.004  
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. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042845  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



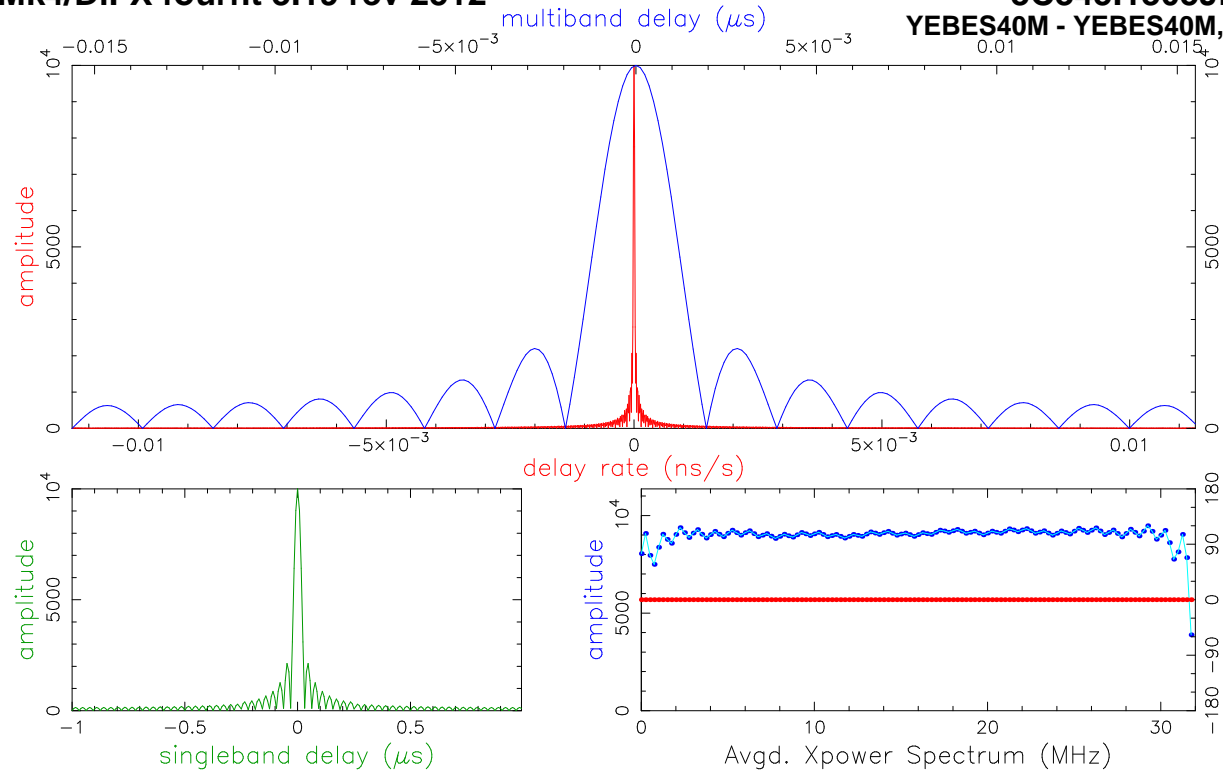
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-0.0	-0.0	0.0	-0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	0.0	Phase	-0.0
	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	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	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Y	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	
Y: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	
Y: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	
Y	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	
Y	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	

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 2.0E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 3.1E-08  
 Phase delay (usec) -1.14510013431E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -1.14510E-20 +/- 6.7E-12  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 2.9E-14  
 Total phase (deg) -0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) -0.0 +/- 0.0

RMS Theor. Amplitude 10000.004 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.0 0.0 Search (2048X64) 10000.003 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. 10000.003 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

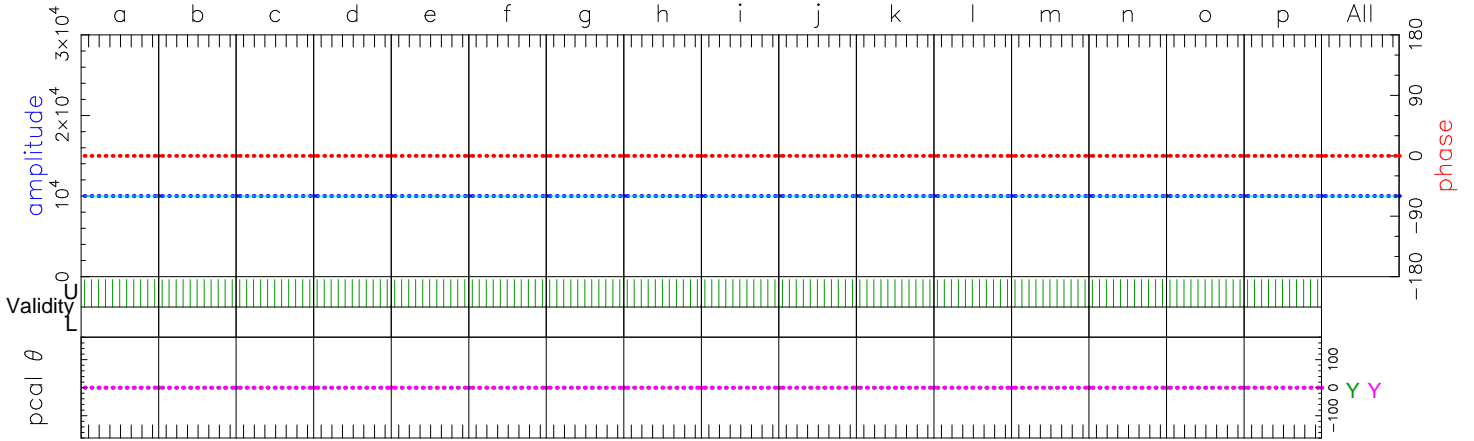
Mk4/DiFX fourfit 3.19 rev 2512

3C345.1305JH, No0001, YY  
 YEBES40M - YEBES40M, fgroup W, pol RR



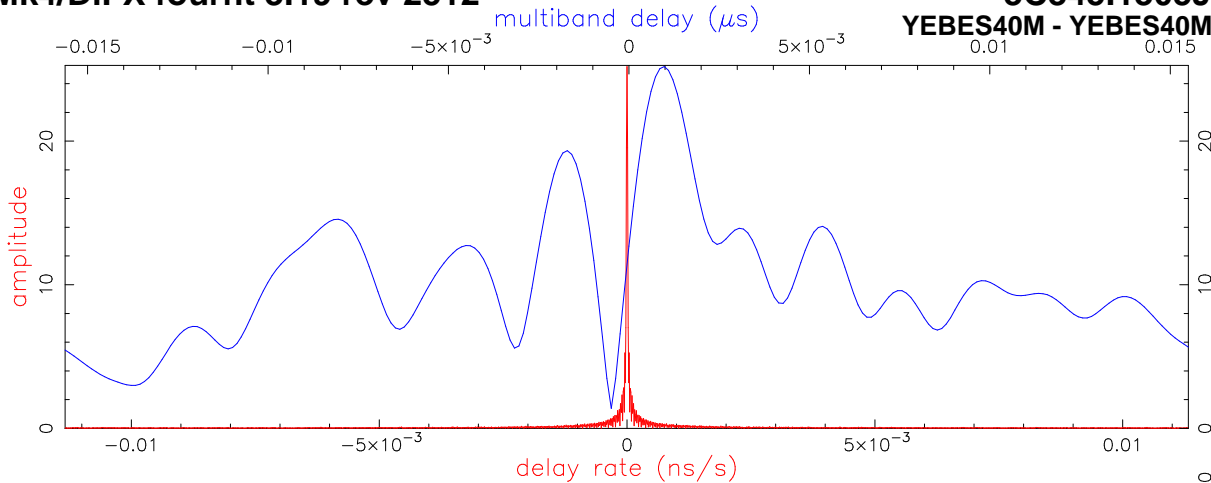
Fringe quality 9  
 SNR 547824.8  
 Int time 401.317  
 Amp 10000.004  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz)  
 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042849  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



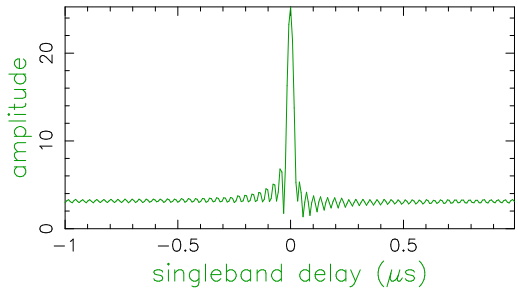
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
0.0	0.0	0.0	-0.0	0.0	0.0	0.0	-0.0	0.0	-0.0	0.0	0.0	0.0	-0.0	-0.0	0.0	0.0	Phase	0.0
10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	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	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Y	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	
Y: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	
Y: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	
Y	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	
Y	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	
Group delay (usec)(sbd)	0.0000000000E+00			Apriori delay (usec)			0.0000000000E+00			Resid mbdelay (usec)			0.00000E+00			+/- 2.0E-09		
Sband delay (usec)	0.0000000000E+00			Apriori clock (usec)			0.0000000E+00			Resid sbdelay (usec)			0.00000E+00			+/- 3.1E-08		
Phase delay (usec)	2.75938439903E-20			Apriori clockrate (us/s)			0.0000000E+00			Resid phdelay (usec)			2.75938E-20			+/- 6.7E-12		
Delay rate (us/s)	0.0000000000E+00			Apriori rate (us/s)			0.0000000000E+00			Resid rate (us/s)			0.00000E+00			+/- 2.9E-14		
Total phase (deg)	0.0			Apriori accel (us/s/s)			0.0000000000E+00			Resid phase (deg)			0.0			+/- 0.0		

ph/seg (deg) 0.0 0.0 Theor. Amplitude 10000.004 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (2048X64) 10000.003 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  
 Y: az 280.2 el 62.9 pa 77.1 Y: az 280.2 el 62.9 pa 77.1 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/c192a/v2/1234/No0001/YY..1305JH Output file: /Exps/c192a/v2/1234/No0001/YY.W.329.1305JH simultaneous interpolator

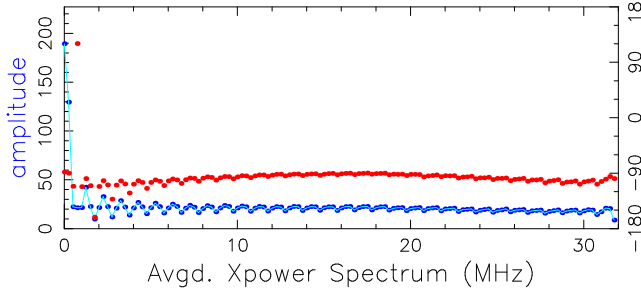


Fringe quality 5

SNR 1384.5  
Int time 401.317  
Amp 25.273  
Phase -108.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.001276  
MBD 0.000944  
Fringe rate (Hz)  
0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

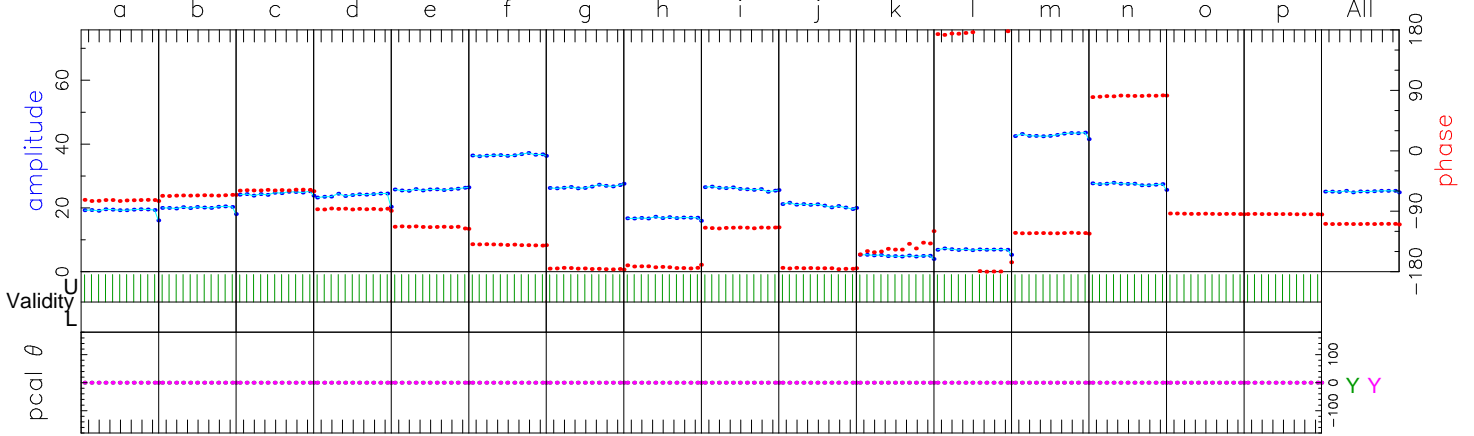


delay rate (ns/s)



Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042852  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

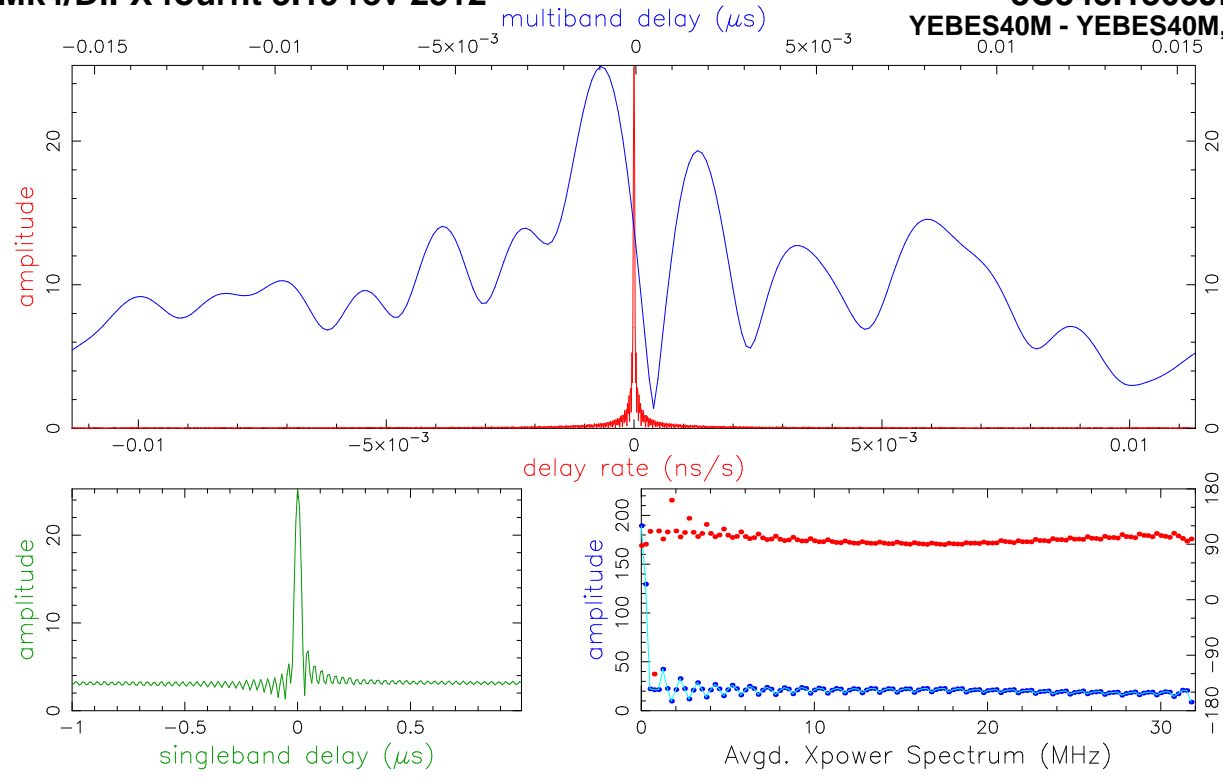
Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



	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
	-73.7	-66.5	-58.6	-86.6	-113.4	-139.9	-175.4	-173.1	-114.6	-174.9	-145.7	177.0	-122.5	81.4	-93.7	-94.2	Phase	-108.8
	19.4	20.1	24.6	24.0	25.8	36.6	26.6	16.9	26.0	20.8	5.0	6.9	43.0	27.5	93.2	118.4	Ampl.	33.4
	129.2	129.3	128.7	128.3	128.9	128.6	129.1	128.6	129.1	127.5	132.9	127.1	127.8	128.6	129.0	129.0	Sbd box	128.8
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Y	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	
Y: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	
Y: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	
Y	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		
Y	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)	9.438750000000E-04			Apriori delay (usec)			0.000000000000E+00			Resid mbdelay (usec)			9.43875E-04			+/- 7.8E-07		
Sband delay (usec)	-1.275500000000E-03			Apriori clock (usec)			0.0000000E+00			Resid sbdelay (usec)			-1.27550E-03			+/- 1.2E-05		
Phase delay (usec)	-3.50975972845E-06			Apriori clockrate (us/s)			0.0000000E+00			Resid phdelay (usec)			-3.50976E-06			+/- 2.7E-09		
Delay rate (us/s)	4.95990333709E-12			Apriori rate (us/s)			0.000000000000E+00			Resid rate (us/s)			4.95990E-12			+/- 1.2E-11		
Total phase (deg)	-108.8			Apriori accel (us/s/s)			0.000000000000E+00			Resid phase (deg)			-108.8			+/- 0.1		

ph/seg (deg) 0.1 0.1 Theor. Amplitude 25.273 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.6 0.3 Search (2048X64) 25.192 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 63.4 0.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 119.7 0.3 Inc. seg. avg. 25.195 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 Y: az 280.2 el 62.9 pa 77.1 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 0.000 0.000 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00  
 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/YY..1305JH Output file: /Exps/c192a/v2/1234/No0001/YY.W.344.1305JH

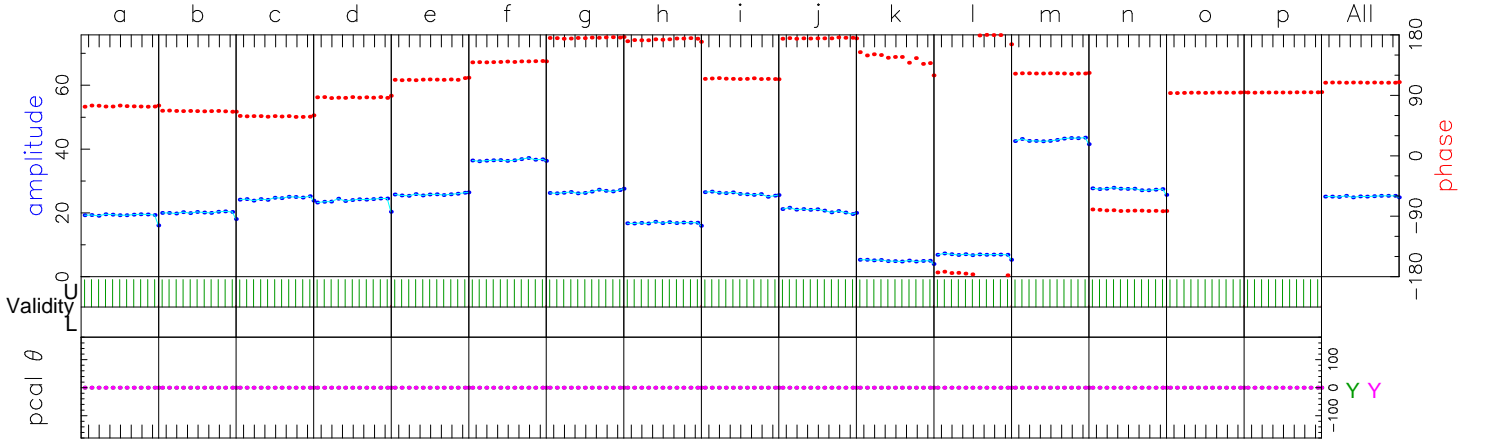


Fringe quality 5

SNR 1384.5  
Int time 401.317  
Amp 25.273  
Phase 108.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.001276  
MBD -0.000944  
Fringe rate (Hz)  
-0.000000  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c192a  
Exper # 16383  
Yr:day 2019:276  
Start 183017.92  
Stop 183659.84  
FRT 183330.00  
Corr/FF/build  
2020:083:003228  
2020:093:042856  
2020:014:135814  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	73.7	66.5	58.6	86.6	113.4	139.9	175.4	173.1	114.6	174.9	145.7	-177.0	122.5	-81.4	93.7	94.2		Phase 108.8
	19.4	20.1	24.6	24.0	25.8	36.6	26.6	16.9	26.0	20.8	5.0	6.9	43.0	27.5	93.2	118.4		Ampl. 33.4
	128.8	128.7	129.3	129.7	129.1	129.4	128.9	129.4	128.9	130.5	125.1	130.9	130.2	129.4	129.0	129.0		Sbd box 129.2
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used
Y	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
Y: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
Y: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
Y	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
Y	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
																		Chan ids
																		Tracks
Group delay (usec)(sbd)			-9.438750000000E-04					Apriori delay (usec)		0.000000000000E+00			Resid mbdelay (usec)		-9.43875E-04		+/- 7.8E-07	
Sband delay (usec)			1.275500000000E-03					Apriori clock (usec)		0.0000000E+00			Resid sbdelay (usec)		1.27550E-03		+/- 1.2E-05	
Phase delay (usec)			3.50975972833E-06					Apriori clockrate (us/s)		0.0000000E+00			Resid phdelay (usec)		3.50976E-06		+/- 2.7E-09	
Delay rate (us/s)			-4.95990333709E-12					Apriori rate (us/s)		0.000000000000E+00			Resid rate (us/s)		-4.95990E-12		+/- 1.2E-11	
Total phase (deg)					108.8			Apriori accel (us/s/s)		0.000000000000E+00			Resid phase (deg)		108.8		+/- 0.1	

ph/seg (deg) 0.1 0.1  
amp/seg (%) 0.6 0.3  
ph/frq (deg) 63.4 0.2  
amp/frq (%) 119.7 0.3

RMS Theor. Amplitude 25.273 +/- 0.018  
Search (2048X64) 25.192  
Interp. 0.000  
Inc. seg. avg. 25.195  
Inc. frq. avg. 33.419

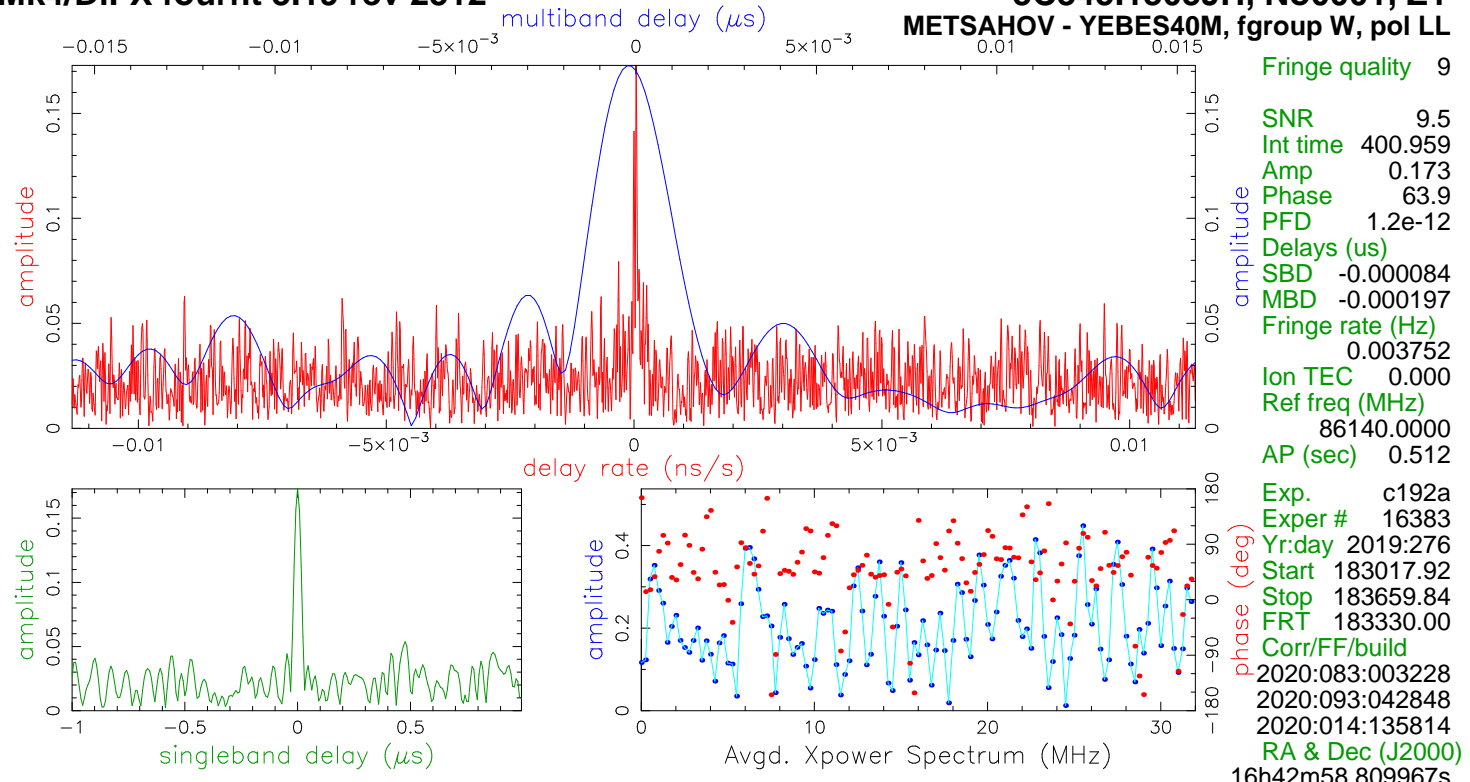
PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
PCal rate: 0.000E+00, 0.000E+00 (us/s)  
Bits/sample: 2x2 SampCntNorm: enabled  
Sample rate(MISamp/s): 64  
Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite

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

Y: az 280.2 el 62.9 pa 77.1 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/YY..1305JH Output file: /Exps/c192a/v2/1234/No0001/YY.W.354.1305JH



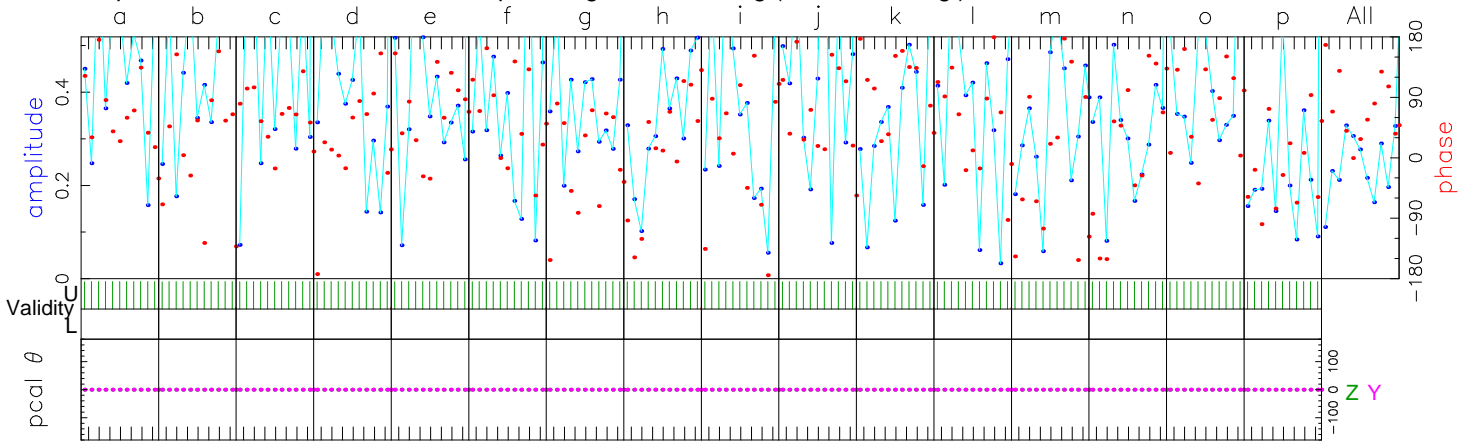


Fringe quality 9

SNR 9.5  
 Int time 400.959  
 Amp 0.173  
 Phase 63.9  
 PFD 1.2e-12  
 Delays (us)  
 SBD -0.000084  
 MBD -0.000197  
 Fringe rate (Hz) 0.003752  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

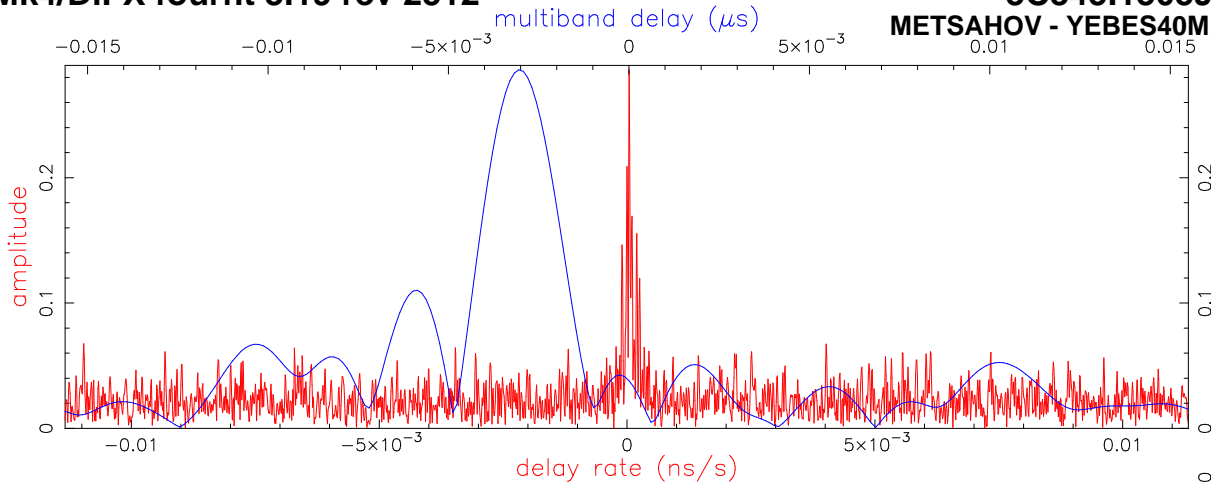
Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build 2020:083:003228  
 2020:093:042848  
 2020:014:135814  
 RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec



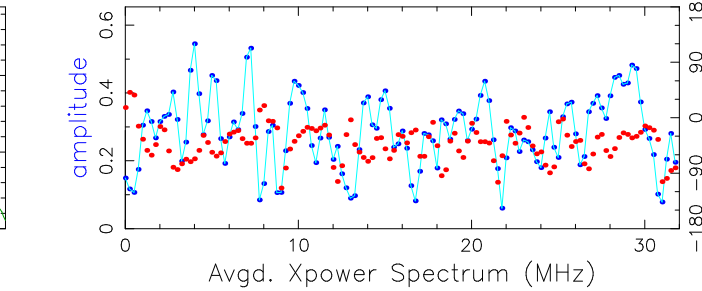
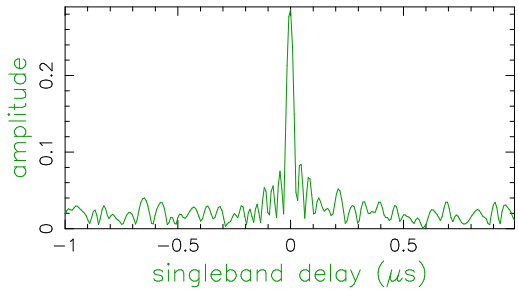
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	69.8	47.2	74.4	35.3	70.4	82.7	25.3	48.9	63.9	67.2	105.0	84.1	78.3	93.2	63.9	-7.0	Phase	63.9				
	0.3	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	Ampl.	0.2				
	128.4	130.9	129.0	39.0	208.7	123.5	32.3	241.4	246.6	128.7	130.3	68.4	180.3	142.2	216.4	82.1	Sbd box	129.0				
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used					
Z	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					
Z: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					
Z: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					
Z	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					
Z	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)			-3.47819770028E+03														Apriori delay (usec)	-3.47819750350E+03	Resid mbdelay (usec)	-1.96786E-04	+/-	1.1E-04
Sband delay (usec)			-3.47819758700E+03														Apriori clock (usec)	-9.4697704E+00	Resid sbdelay (usec)	-8.35000E-05	+/-	1.8E-03
Phase delay (usec)			-3.47819750144E+03														Apriori clockrate (us/s)	-2.0370720E-07	Resid phdelay (usec)	2.06030E-06	+/-	3.9E-07
Delay rate (us/s)			6.82530507524E-03														Apriori rate (us/s)	6.82526151312E-03	Resid rate (us/s)	4.35621E-08	+/-	1.7E-09
Total phase (deg)																	Apriori accel (us/s/s)	3.42149709366E-05	Resid phase (deg)	63.9	+/-	12.1

ph/seg (deg) 50.4 21.0 Search (2048X64) 0.170 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 57.5 36.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 28.7 24.2 Inc. seg. avg. 0.228 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 amp/frq (%) 42.6 42.3 Inc. frq. avg. 0.174 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 271.4 el 46.7 pa 40.3 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 11.248 3725.235 ion window (TEC) 0.00 0.00 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/ZY..1305JH Output file: /Exps/c192a/v2/1234/No0001/ZY.W.326.1305JH



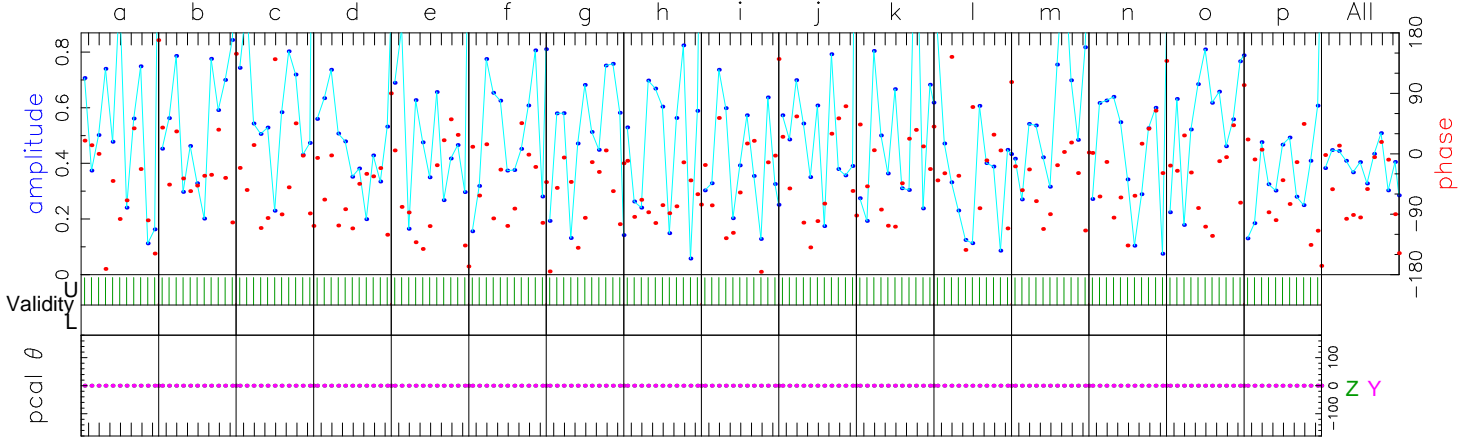
Fringe quality 9

SNR 15.9  
 Int time 400.959  
 Amp 0.290  
 Phase -40.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.002680  
 MBD -0.003039  
 Fringe rate (Hz)  
 0.003642  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042852  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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					
	-35.7	-26.3	-47.3	-55.2	-56.4	-31.8	-52.0	-64.8	-17.2	-13.6	-14.1	-42.5	-35.9	-29.7	-47.9	-62.3		Phase	-40.6				
	0.2	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.2	0.2	0.3	0.2	0.4	0.2	0.4	0.2		Ampl.	0.3				
	129.9	128.7	128.0	129.2	252.0	128.2	128.6	128.6	128.0	127.5	128.8	128.0	128.5	128.3	128.8	136.2		Sbd box	128.7				
U/L	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0		APs used					
Z	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					
Z: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					
Z: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					
Z	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					
Z	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)			-3.47820054203E+03															Apriori delay (usec)	-3.47819750350E+03	Resid mbdelay (usec)	-3.03854E-03	+/-	6.8E-05
Sband delay (usec)			-3.47820018300E+03															Apriori clock (usec)	-9.4697704E+00	Resid sbdelay (usec)	-2.67950E-03	+/-	1.1E-03
Phase delay (usec)			-3.47819750480E+03															Apriori clockrate (us/s)	-2.0370720E-07	Resid phdelay (usec)	-1.30780E-06	+/-	2.3E-07
Delay rate (us/s)			6.82530379771E-03															Apriori rate (us/s)	6.82526151312E-03	Resid rate (us/s)	4.22846E-08	+/-	1.0E-09
Total phase (deg)																		Apriori accel (us/s/s)	3.42149709366E-05	Resid phase (deg)	-40.6	+/-	7.2

ph/seg (deg) 44.6 12.5  
 amp/seg (%) 43.5 21.8  
 ph/frq (deg) 17.3 14.4  
 amp/frq (%) 28.0 25.2

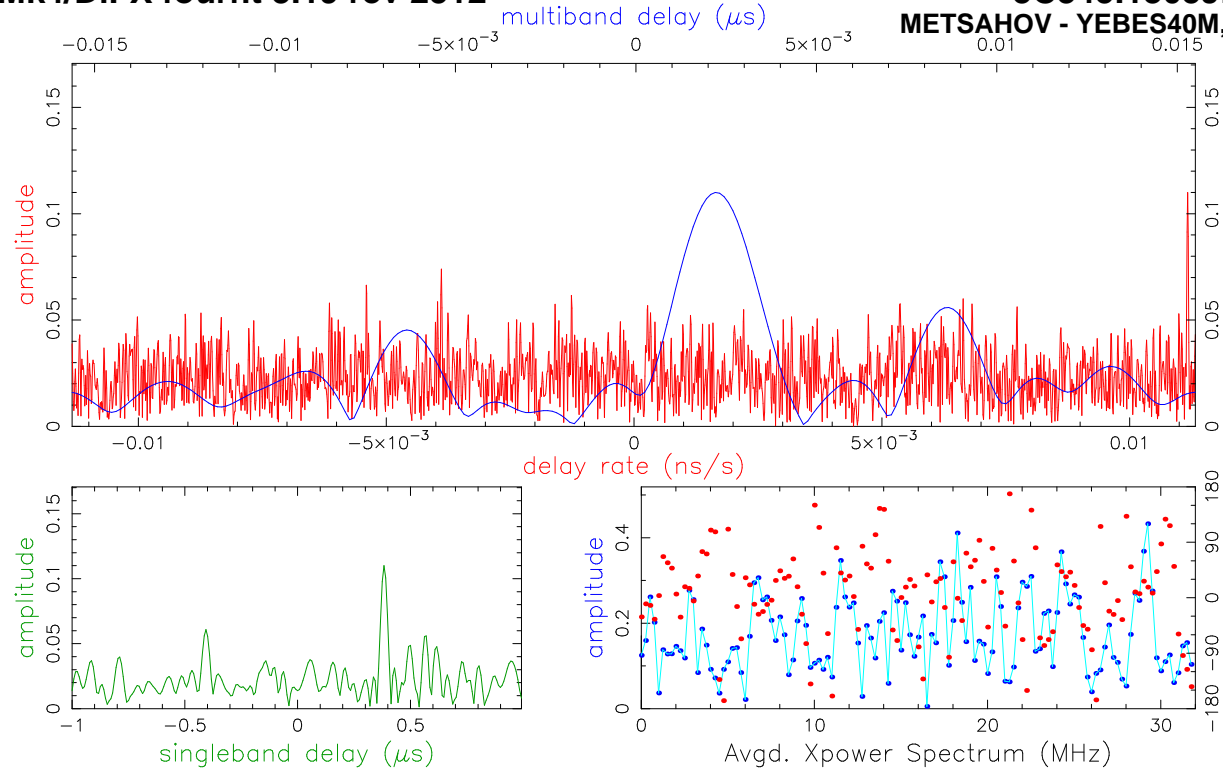
RMS Theor. Amplitude 0.290 +/- 0.018  
 Search (2048X64) 0.282  
 Interp. 0.000  
 Inc. seg. avg. 0.393  
 Inc. frq. avg. 0.288

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

Z: az 271.4 el 46.7 pa 40.3 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 11.248 3725.235 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c192a/v2/1234/No0001/ZY..1305JH Output file: /Exps/c192a/v2/1234/No0001/ZY.W.341.1305JH

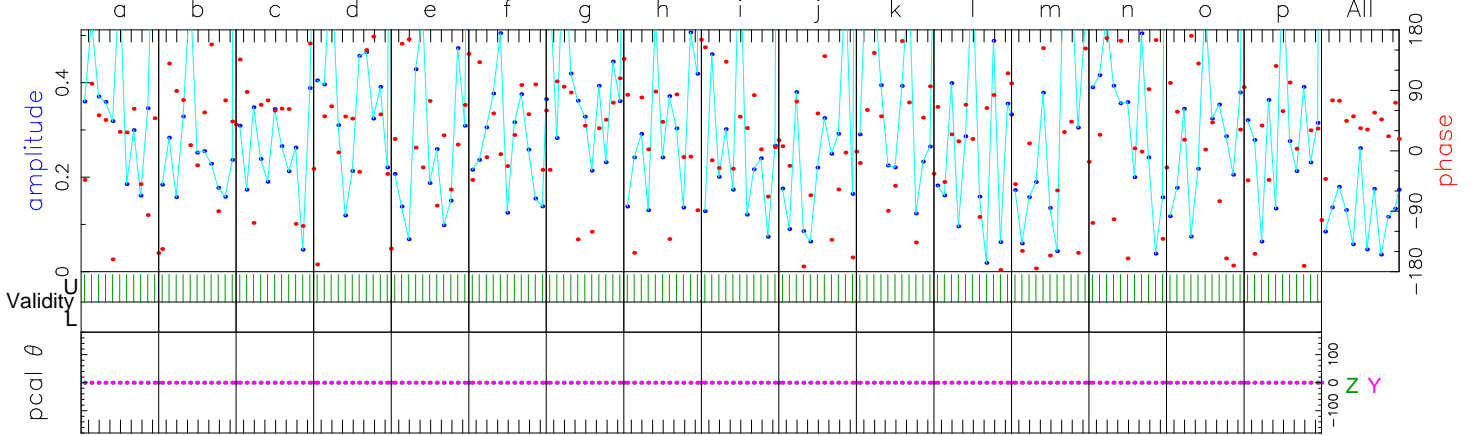


Fringe quality 0

SNR 6.0  
 Int time 400.959  
 Amp 0.171  
 Phase 47.9  
 PFD 3.5e-01  
 Delays (us)  
 SBD 0.383368  
 MBD 0.002226  
 Fringe rate (Hz)  
 0.964115  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build  
 2020:083:003228  
 2020:093:042855  
 2020:014:135814  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 sec

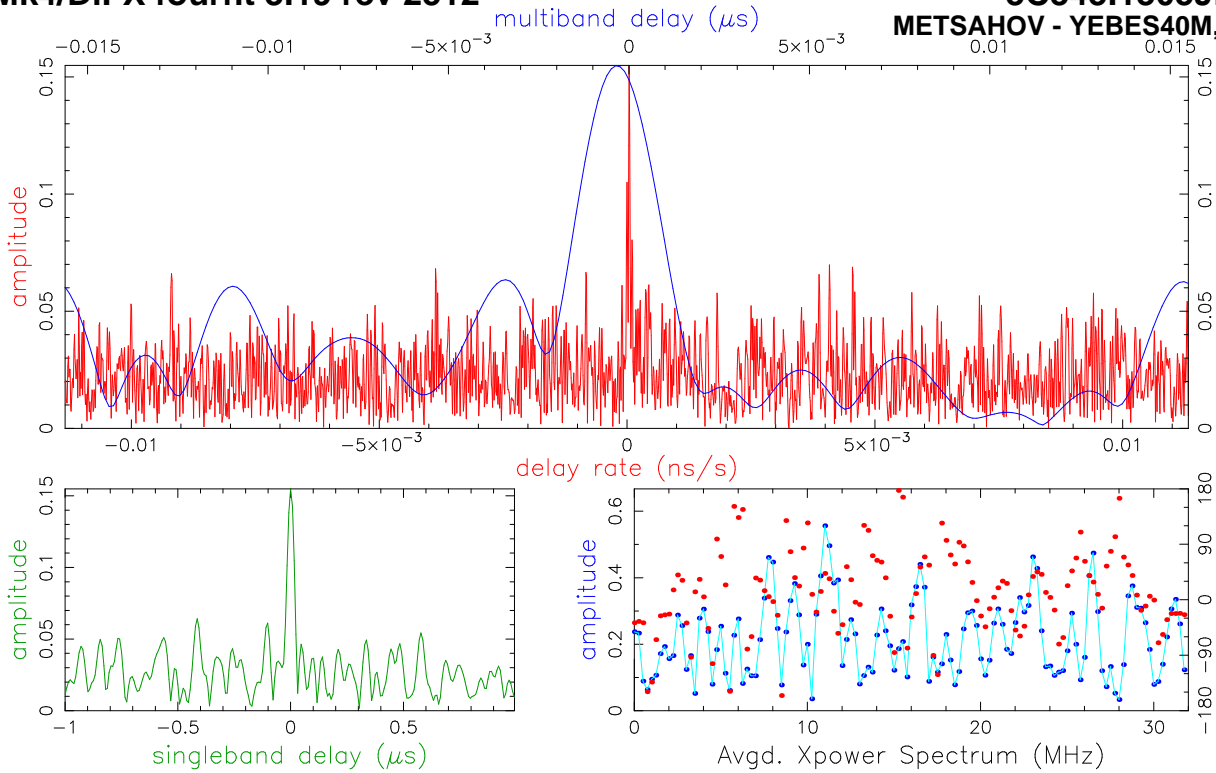


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	40.5	53.2	102.1	62.5	5.9	31.9	68.6	46.7	26.4	12.0	78.3	49.2	88.9	-136.1	30.5	33.4	Phase	47.9
	0.3	0.2	0.1	0.2	0.2	0.3	0.3	0.1	0.3	0.1	0.3	0.3	0.1	0.1	0.2	0.1	Ampl.	0.2
	80.4	13.0	147.9	168.7	94.0	8.9	176.8	160.2	17.1	162.4	231.2	18.2	239.0	17.8	222.2	73.5	Sbd box	178.1
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Z	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	
Z: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	
Z: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	
Z	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		
Z	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) -3.47782027763E+03 Apriori delay (usec) -3.47819750350E+03 Resid mbdelay (usec) 2.22587E-03 +/- 1.8E-04  
 Sband delay (usec) -3.47781413550E+03 Apriori clock (usec) -9.4697704E+00 Resid sbdelay (usec) 3.83368E-01 +/- 2.9E-03  
 Phase delay (usec) -3.47819750195E+03 Apriori clockrate (us/s) -2.0370720E-07 Resid phdelay (usec) 1.54416E-06 +/- 6.1E-07  
 Delay rate (us/s) 6.83645393250E-03 Apriori rate (us/s) 6.82526151312E-03 Resid rate (us/s) 1.11924E-05 +/- 2.6E-09  
 Total phase (deg) -294.6 Apriori accel (us/s/s) 3.42149709366E-05 Resid phase (deg) 47.9 +/- 19.0

RMS Theor. Amplitude 0.171 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 32.0 32.9 Search (2048X64) 0.109 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 59.1 57.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 54.5 38.0 Inc. seg. avg. 0.165 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 48.8 66.4 Inc. frq. avg. 0.162 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 271.4 el 46.7 pa 40.3 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 11.248 3725.235 simultaneous interpolator

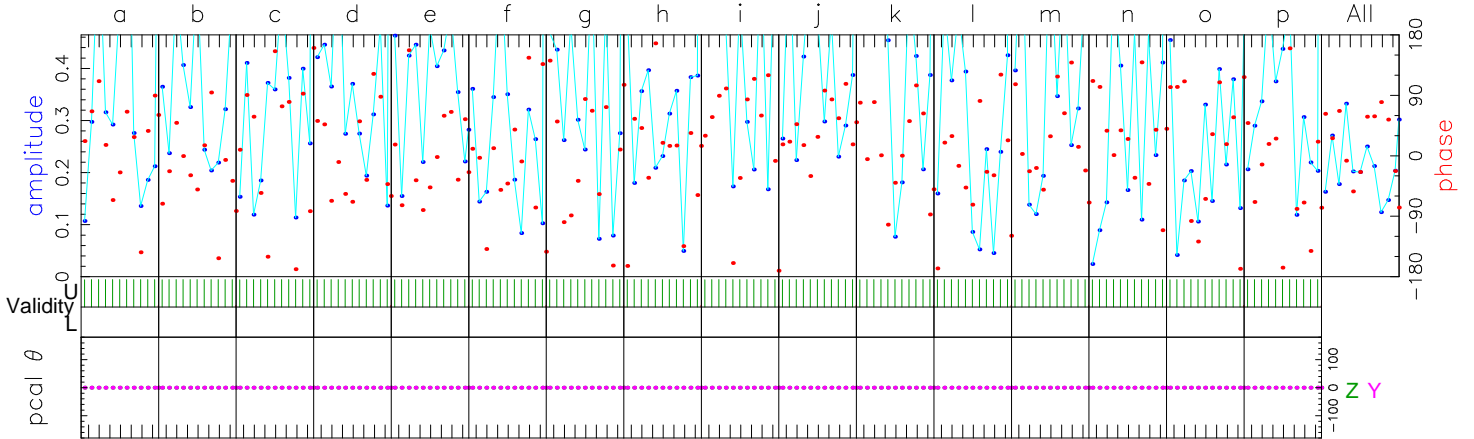


Fringe quality 9

SNR 8.5  
 Int time 400.959  
 Amp 0.155  
 Phase 23.5  
 PFD 8.1e-09  
 Delays (us)  
 SBD 0.000712  
 MBD -0.000332  
 Fringe rate (Hz) 0.003432  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c192a  
 Exper # 16383  
 Yr:day 2019:276  
 Start 183017.92  
 Stop 183659.84  
 FRT 183330.00  
 Corr/FF/build 2020:083:003228  
 2020:093:042859  
 2020:014:135814  
 RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 71 APs / seg (36.35 sec / seg.), time ticks 60 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
	49.1	-19.4	102.4	8.3	3.0	-28.5	54.6	7.9	57.1	34.1	29.0	0.8	29.9	-4.5	80.7	-28.5	Phase	23.5
	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	Ampl.	0.2
	203.7	128.5	200.1	12.0	130.1	39.7	161.8	202.5	128.1	129.5	96.2	252.5	127.8	108.4	151.7	106.9	Sbd box	129.1
UL	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	785/0	APs used	
Z	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	
Z: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	
Z: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	
Z	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		
Z	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) -3.47819783588E+03 Apriori delay (usec) -3.47819750350E+03 Resid mbdelay (usec) -3.32380E-04 +/- 1.3E-04  
 Sband delay (usec) -3.47819679150E+03 Apriori clock (usec) -9.4697704E+00 Resid sbdelay (usec) 7.12000E-04 +/- 2.0E-03  
 Phase delay (usec) -3.47819750274E+03 Apriori clockrate (us/s) -2.0370720E-07 Resid phdelay (usec) 7.58728E-07 +/- 4.4E-07  
 Delay rate (us/s) 6.82530135602E-03 Apriori rate (us/s) 6.82526151312E-03 Resid rate (us/s) 3.98429E-08 +/- 1.9E-09  
 Total phase (deg) -318.9 Apriori accel (us/s/s) 3.42149709366E-05 Resid phase (deg) 23.5 +/- 13.5

RMS Theor. Amplitude 0.155 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 44.3 23.4 Search (2048X64) 0.148 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 50.4 40.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016  
 ph/frq (deg) 39.5 27.0 Inc. seg. avg. 0.192 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 47.5 47.2 Inc. frq. avg. 0.164 Data rate(Mb/s): 2048 nlags: 128 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 271.4 el 46.7 pa 40.3 Y: az 280.2 el 62.9 pa 77.1 u,v (fr/asec) 11.248 3725.235 simultaneous interpolator