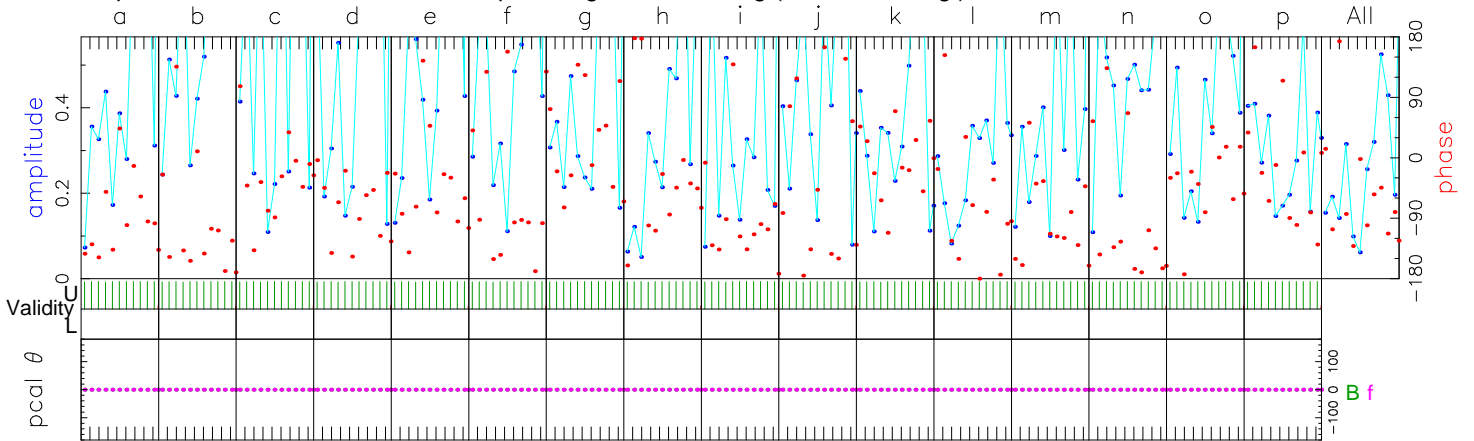


Fringe quality 9

SNR 11.3
Int time 475.402
Amp 0.189
Phase -81.0
PFD 1.1e-20
Delays (us)
SBD 0.002084
MBD 0.005473
Fringe rate (Hz)
-0.007346
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101144
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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	
	-74.6	-132.1	-27.0	-68.8	-70.8	-125.9	16.0	-49.4	-116.8	-179.7	-8.0	-114.6	-93.5	-159.0	-17.7	-45.6		Phase	-81.0
	0.3	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.1	0.2	0.3	0.3	0.1		Ampl.	0.3
	129.2	129.0	129.7	129.1	129.3	128.4	128.8	129.4	128.7	128.4	129.0	102.9	218.9	129.9	129.1	125.5		Sbd box	129.3
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
B:f	0:0	0:0	0:0	0:0	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	
f	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	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

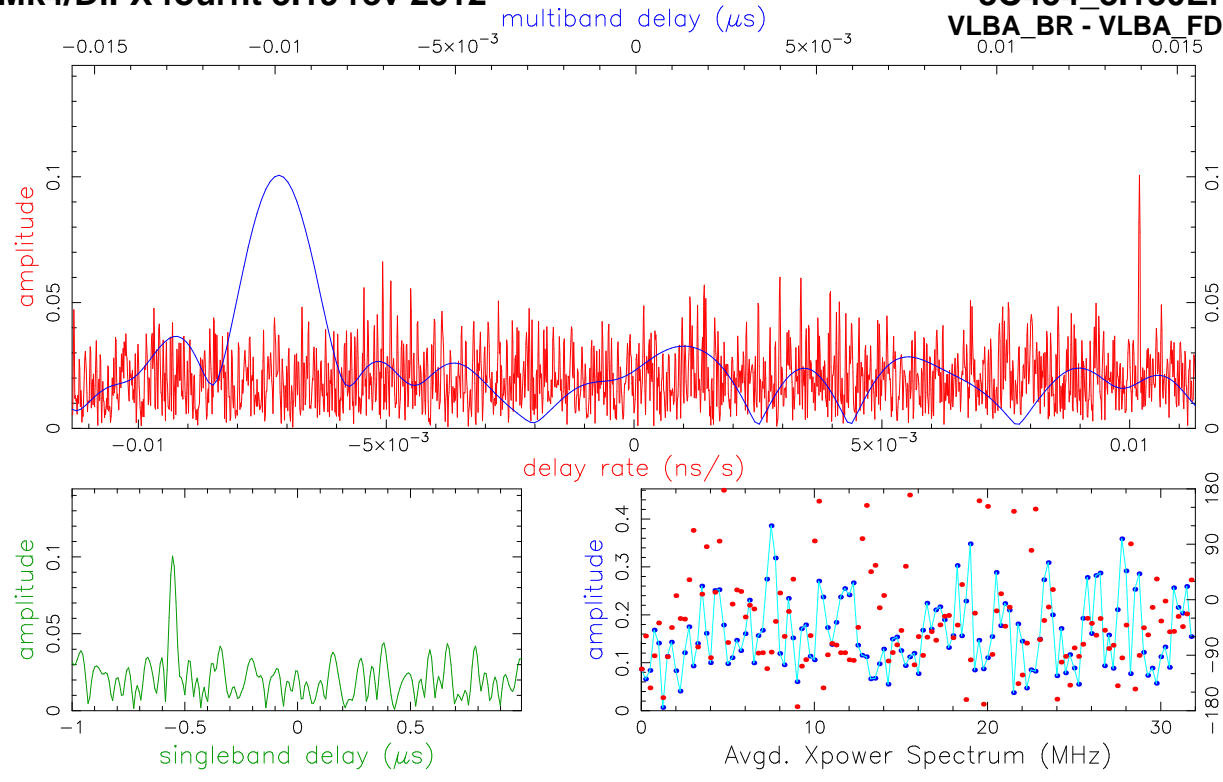
Group delay (usec)(sbd) -4.69618313905E+03 Apriori delay (usec) -4.69618861248E+03 Resid mbdelay (usec) 5.47343E-03 +/- 9.6E-05
 Sband delay (usec) -4.69618652798E+03 Apriori clock (usec) 1.6350012E+01 Resid sbdelay (usec) 2.08450E-03 +/- 1.5E-03
 Phase delay (usec) -4.69618861509E+03 Apriori clockrate (us/s) -1.0905050E-07 Resid phdelay (usec) -2.61146E-06 +/- 3.3E-07
 Delay rate (us/s) -1.78965848785E+00 Apriori rate (us/s) -1.78965840257E+00 Resid rate (us/s) -8.52813E-08 +/- 1.2E-09
 Total phase (deg) -109.5 Apriori accel (us/s/s) 3.33421297523E-05 Resid phase (deg) -81.0 +/- 10.2

RMS Theor. Amplitude 0.189 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 54.6 17.6 Search (2048X64) 0.182 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 81.4 30.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 58.1 20.4 Inc. seg. avg. 0.238 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 81.0 35.5 Inc. frq. avg. 0.284 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

B: az 259.2 el 29.8 pa 40.5 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 10734.972 2923.823 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/Bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/Bf.W.11.130ERS

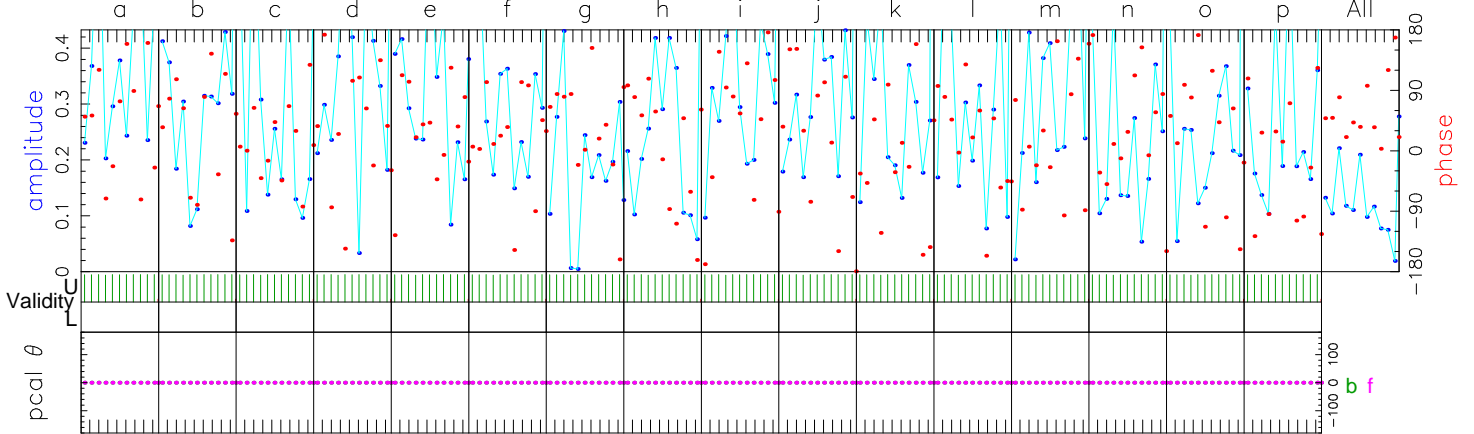
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, bf
VLBA_BR - VLBA_FD, fgroup W, pol LL



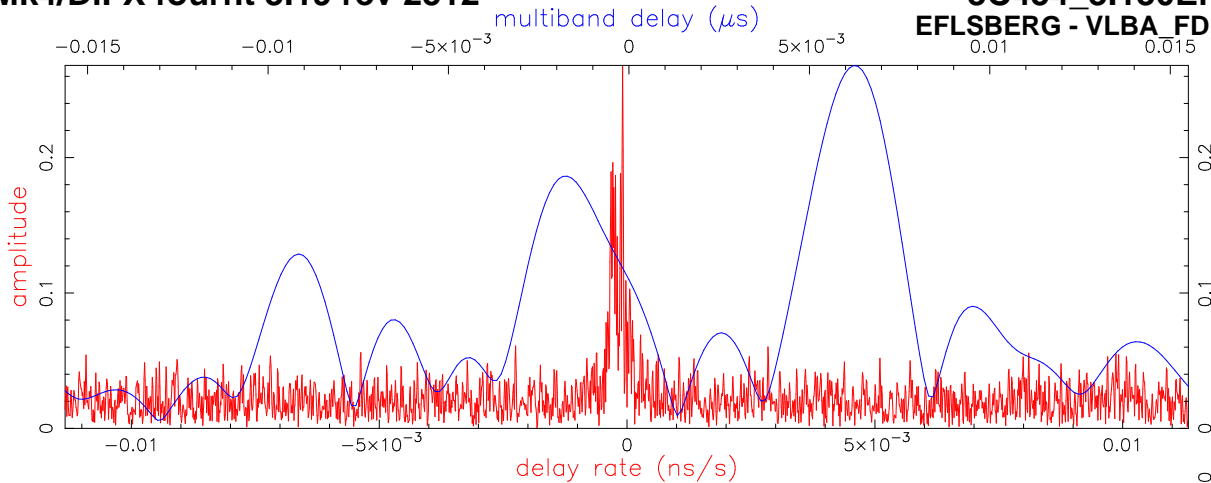
Fringe quality 0
SNR 6.0
Int time 474.405
Amp 0.144
Phase 51.9
PFD 3.9e-01
Delays (us)
SBD -0.553595
MBD -0.009908
Fringe rate (Hz) 0.879169
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014502.56
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101145
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



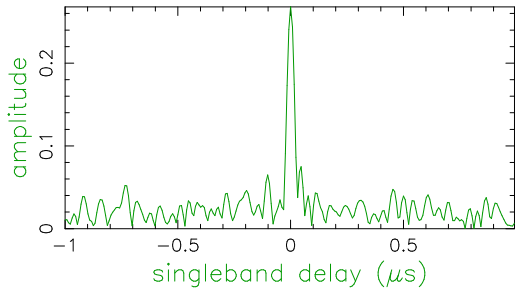
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	59.7	79.8	30.0	77.2	38.7	26.3	62.9	26.9	92.5	92.6	-52.5	46.6	29.9	52.4	68.2	53.7		Phase 51.9					
	0.2	0.2	0.3	0.1	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1		Ampl. 0.1					
	183.4	84.6	52.0	207.9	37.7	111.8	255.1	128.8	90.6	65.3	126.5	2.6	209.0	98.1	92.7	7.6		Sbd box 58.1					
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		APs used					
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
b:f	0:0	0:0	0:0	0:0	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:f	0:0	0:0	0:0	0:0	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					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids					
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks					
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
Group delay (usec)(sbd)			-4.34910886343E+03															Apriori delay (usec)	-4.34856770546E+03	Resid mbdelay (usec)	-9.90797E-03	+/-	1.8E-04
Sband delay (usec)			-4.34912129996E+03															Apriori clock (usec)	-1.0845202E+00	Resid sbdelay (usec)	-5.53595E-01	+/-	2.9E-03
Phase delay (usec)			-4.34856770379E+03															Apriori clockrate (us/s)	-1.5144557E-07	Resid phdelay (usec)	1.67457E-06	+/-	6.2E-07
Delay rate (us/s)			-5.27833297067E-02															Apriori rate (us/s)	-5.27935359903E-02	Resid rate (us/s)	1.02063E-05	+/-	2.2E-09
Total phase (deg)					-1.5													Apriori accel (us/s/s)	3.05391511294E-05	Resid phase (deg)	51.9	+/-	19.1

ph/seg (deg) 47.7 33.1 Amplitude 0.144 +/- 0.024 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 58.8 57.7 Search (2048X64) 0.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 36.4 38.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 47.3 66.6 Inc. seg. avg. 0.145 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
b: az 98.4 el 29.3 pa -43.4 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 370.809 2696.317 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/bf.W.18.130ERS simultaneous interpolator

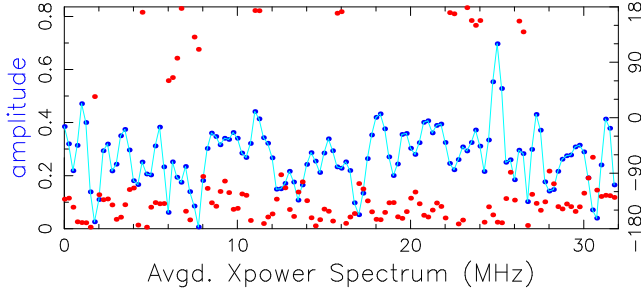


Fringe quality 9

SNR 16.0
Int time 475.402
Amp 0.268
Phase 173.9
PFD 0.0e+00
Delays (us)
SBD 0.000276
MBD 0.006258
Fringe rate (Hz)
-0.007183
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

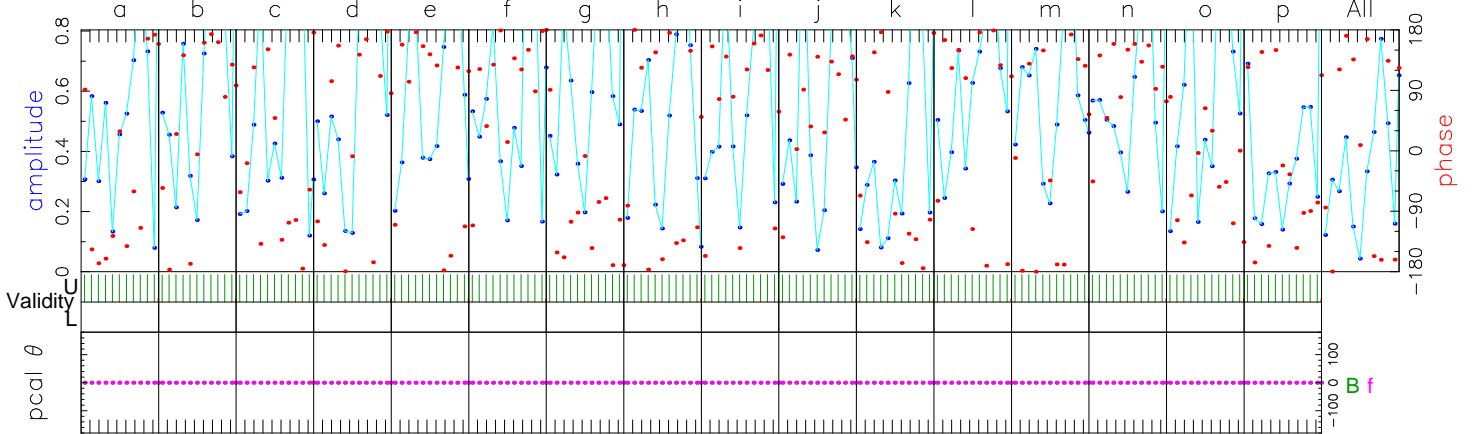


delay rate (ns/s)



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101148
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



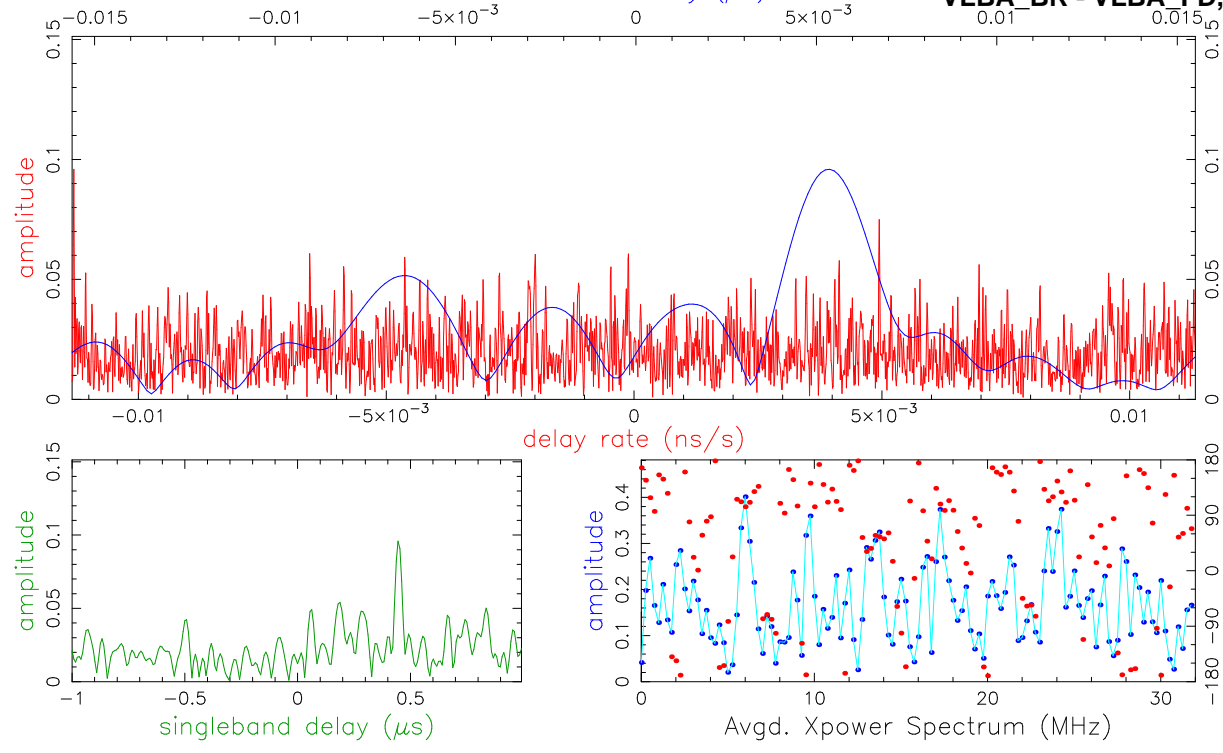
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-142.9	151.9	-137.2	163.4	164.0	129.2	-115.2	-166.4	142.2	100.5	-143.6	173.0	166.5	131.0	-58.8	-138.8		Phase 173.9
	0.3	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.4	0.4	0.1		Ampl. 0.4
	130.1	128.3	129.1	129.2	128.8	129.3	129.1	129.3	128.8	129.5	129.4	128.3	129.5	129.1	128.5	173.3		Sbd box 129.0
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		APs used
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
B:f	0:0	0:0	0:0	0:0	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:f	0:0	0:0	0:0	0:0	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
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks
Group delay (usec)(sbd)	-4.69618235495E+03			Apriori delay (usec)			-4.69618861248E+03			Resid mbdelay (usec)			6.25753E-03			+/-	6.8E-05	
Sband delay (usec)	-4.69618833698E+03			Apriori clock (usec)			1.6350012E+01			Resid sbdelay (usec)			2.75500E-04			+/-	1.1E-03	
Phase delay (usec)	-4.69618860687E+03			Apriori clockrate (us/s)			-1.0905050E-07			Resid phdelay (usec)			5.60831E-06			+/-	2.3E-07	
Delay rate (us/s)	-1.78965848596E+00			Apriori rate (us/s)			-1.78965840257E+00			Resid rate (us/s)			-8.33909E-08			+/-	8.4E-10	
Total phase (deg)	145.4			Apriori accel (us/s/s)			3.33421297523E-05			Resid phase (deg)			173.9			+/-	7.2	

	RMS	Theor.	Amplitude	0.268 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	64.3	12.4	Search (2048X64)	0.249	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	79.0	21.7	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.016 0.016
ph/frq (deg)	54.1	14.3	Inc. seg. avg.	0.320	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	53.8	25.0	Inc. frq. avg.	0.374	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
B: az 259.2 el 29.8 pa 40.5		f: az 96.8 el 43.9 pa -62.8		u,v (fr/asec) 10734.972 2923.823		simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, bf
VLBA_BR - VLBA_FD, fgroup W, pol RR

multiband delay (μ s)

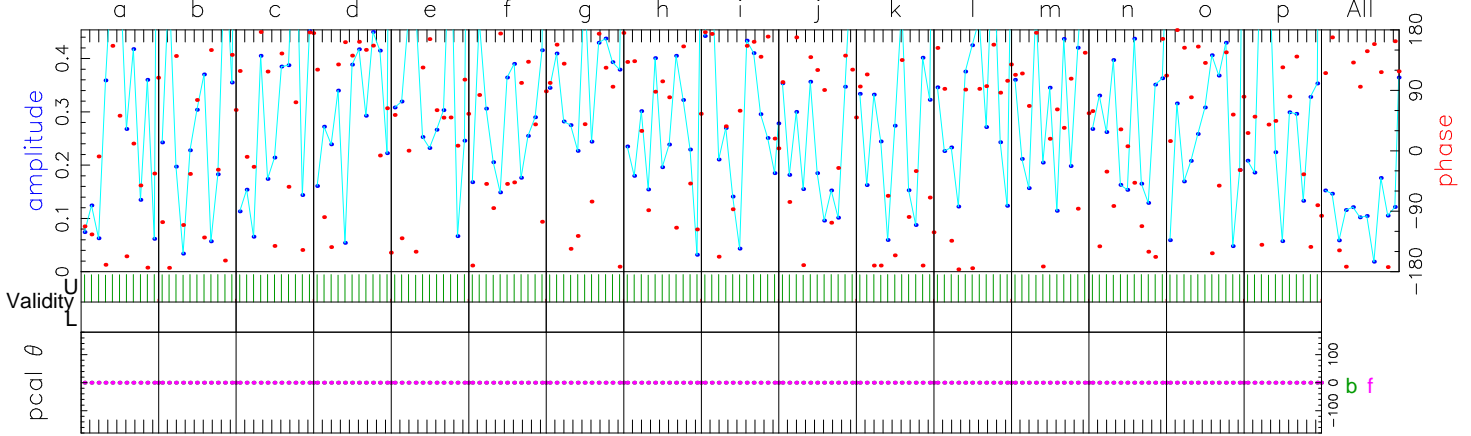


Fringe quality 0

SNR 5.7
Int time 474.405
Amp 0.151
Phase 146.5
PFD 9.0e-01
Delays (us)
SBD 0.447118
MBD 0.005373
Fringe rate (Hz)
-0.975579
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014502.56
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101150
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



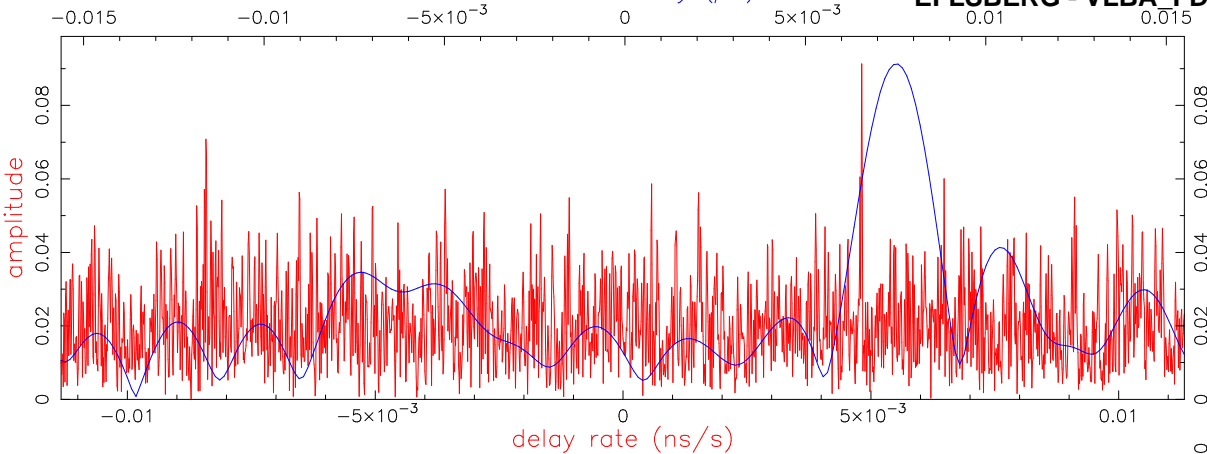
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
150.6	-170.1	149.2	152.8	69.4	-37.8	143.5	111.1	162.0	135.8	-177.5	131.6	115.7	-98.2	158.0	48.3	Phase	146.5	
0.1	0.2	0.2	0.2	0.2	0.1	0.3	0.1	0.3	0.3	0.2	0.4	0.2	0.4	0.1	0.2	0.0	Ampl.	0.2
136.9	28.8	173.8	159.2	211.8	51.5	53.0	56.5	237.3	143.2	232.3	184.6	7.4	255.6	23.1	80.0	Sbd box	186.2	
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
b:f	0:0	0:0	0:0	0:0	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	
f	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	
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

Group delay (usec)(sbd) -4.34812483221E+03 Apriori delay (usec) -4.34856770546E+03 Resid mbdelay (usec) 5.37325E-03 +/- 1.9E-04
 Sband delay (usec) -4.34812058746E+03 Apriori clock (usec) -1.0845202E+00 Resid sbdelay (usec) 4.47118E-01 +/- 3.0E-03
 Phase delay (usec) -4.34856770074E+03 Apriori clockrate (us/s) -1.5144557E-07 Resid phdelay (usec) 4.72421E-06 +/- 6.4E-07
 Delay rate (us/s) -5.28048615009E-02 Apriori rate (us/s) -5.27935359903E-02 Resid rate (us/s) -1.13255E-05 +/- 2.3E-09
 Total phase (deg) 93.1 Apriori accel (us/s/s) 3.05391511294E-05 Resid phase (deg) 146.5 +/- 20.0

RMS Theor. Amplitude 0.151 +/- 0.026 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 34.6 34.6 Search (2048X64) 0.093 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 52.6 60.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 68.6 39.9 Inc. seg. avg. 0.151 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 64.4 69.6 Inc. frq. avg. 0.156 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

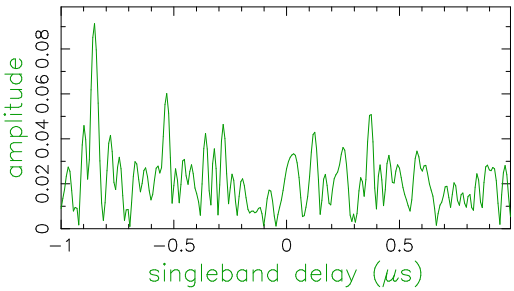
b: az 98.4 el 29.3 pa -43.4 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 370.809 2696.317 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/bf.W.37.130ERS

multiband delay (μ s)

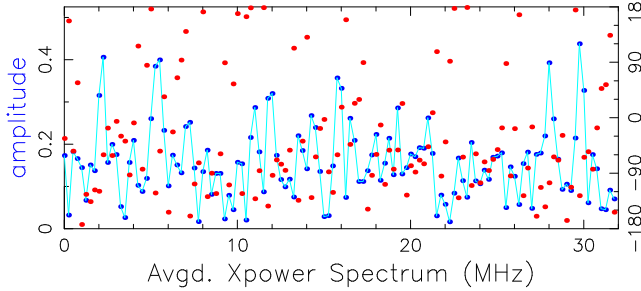


Fringe quality 0

SNR 5.5
Int time 475.402
Amp 0.099
Phase -3.9
PFD 1.0e+00
Delays (us)
SBD -0.852891
MBD 0.007540
Fringe rate (Hz)
0.415747
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

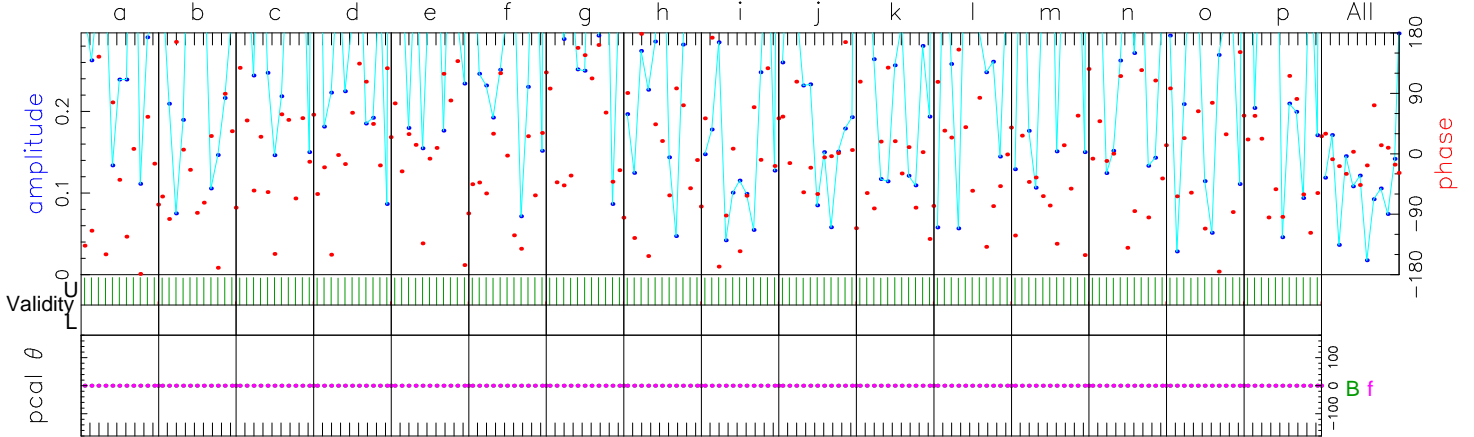


delay rate (ns/s)



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101154
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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					
	-70.4	-47.5	27.4	4.9	33.6	-36.4	56.0	-4.4	116.9	0.8	-25.5	9.4	-27.5	9.3	19.0	-17.1		Phase	-3.9				
	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.2		Ampl.	0.1				
	79.5	132.8	104.7	41.7	177.1	247.1	170.3	203.7	229.2	87.3	108.9	82.6	91.4	219.3	95.9	21.3		Sbd box	19.8				
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		APs used					
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
B:f	0:0	0:0	0:0	0:0	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					
f	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					
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-4.69705607245E+03															Apriori delay (usec)	-4.69618861248E+03	Resid mbdelay (usec)	7.54003E-03	+/-	2.0E-04
Sband delay (usec)			-4.69704150348E+03															Apriori clock (usec)	1.6350012E+01	Resid sbdelay (usec)	-8.52891E-01	+/-	3.2E-03
Phase delay (usec)			-4.69618861261E+03															Apriori clockrate (us/s)	-1.0905050E-07	Resid phdelay (usec)	-1.25171E-07	+/-	6.8E-07
Delay rate (us/s)			-1.78965357616E+00															Apriori rate (us/s)	-1.78965840257E+00	Resid rate (us/s)	4.82641E-06	+/-	2.5E-09
Total phase (deg)					-32.4													Apriori accel (us/s/s)	3.33421297523E-05	Resid phase (deg)	-3.9	+/-	21.0

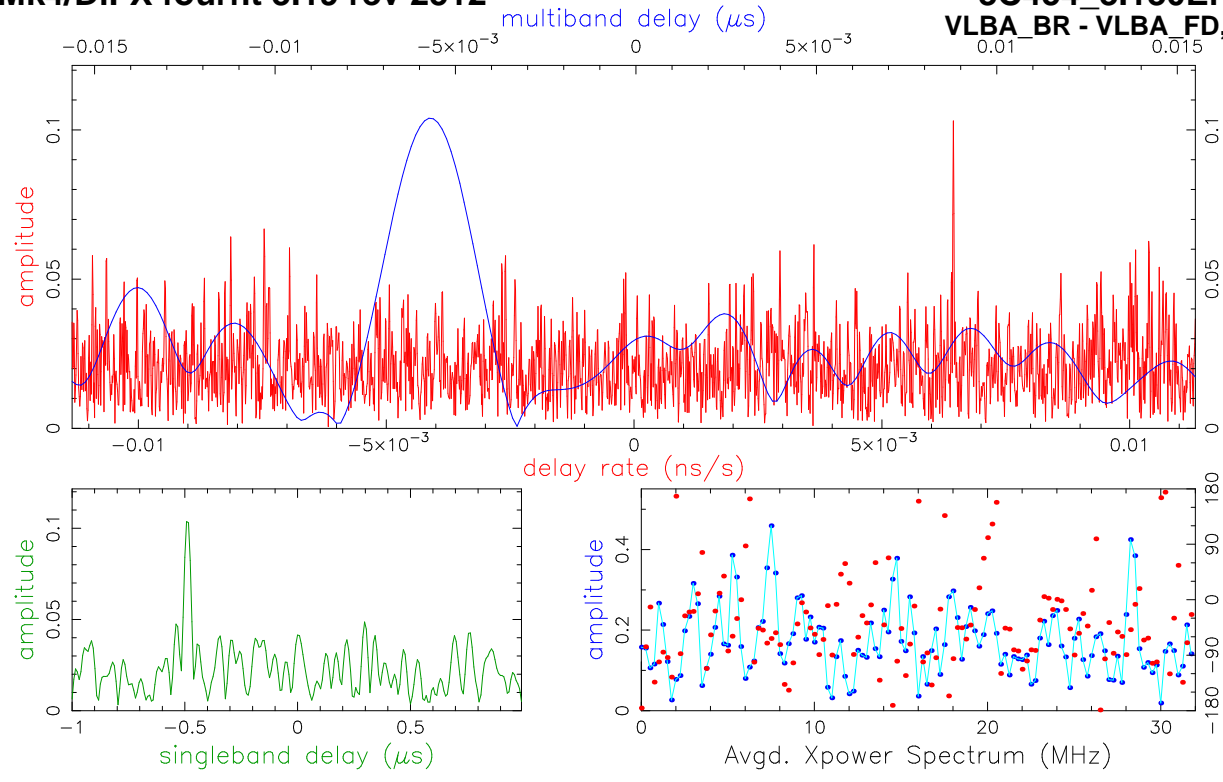
	RMS	Theor.	Amplitude	0.099 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	30.8	36.3	Search (2048X64)	0.090	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	54.3	63.4	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.016 0.016
ph/frq (deg)	46.4	42.0	Inc. seg. avg.	0.094	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	49.5	73.2	Inc. frq. avg.	0.091	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
					nlags: 128	t_cohere infinite

B: az 259.2 el 29.8 pa 40.5 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 10734.972 2923.823 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/Bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/Bf.W.46.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, bf
VLBA_BR - VLBA_FD, fgroup W, pol LR

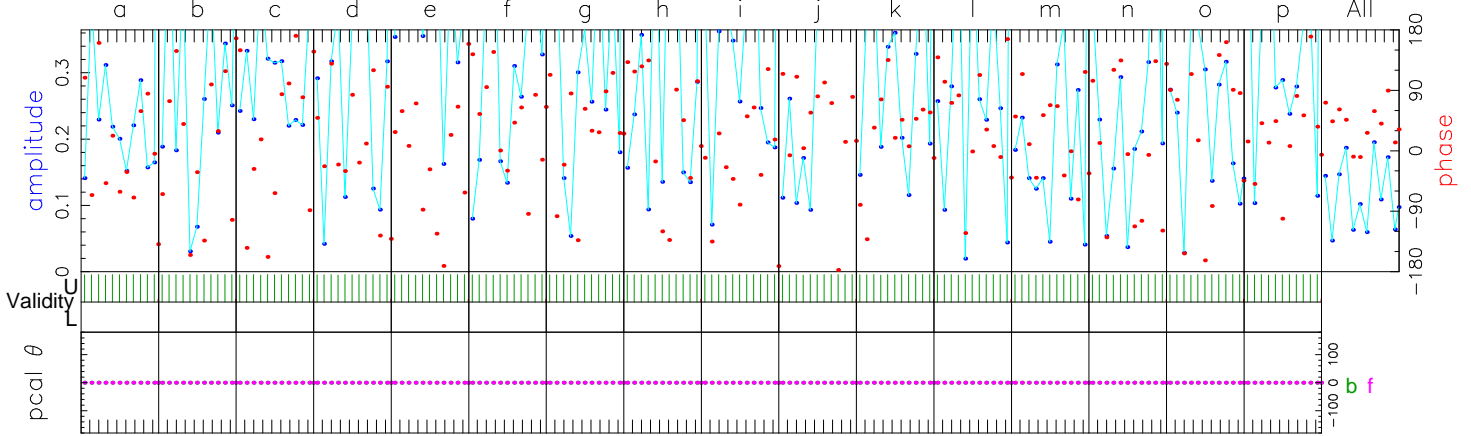


Fringe quality 0

SNR 6.3
Int time 474.405
Amp 0.122
Phase 49.0
PFD 7.1e-02
Delays (us)
SBD -0.488524
MBD -0.005858
Fringe rate (Hz) 0.555745
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014502.56
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101157
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

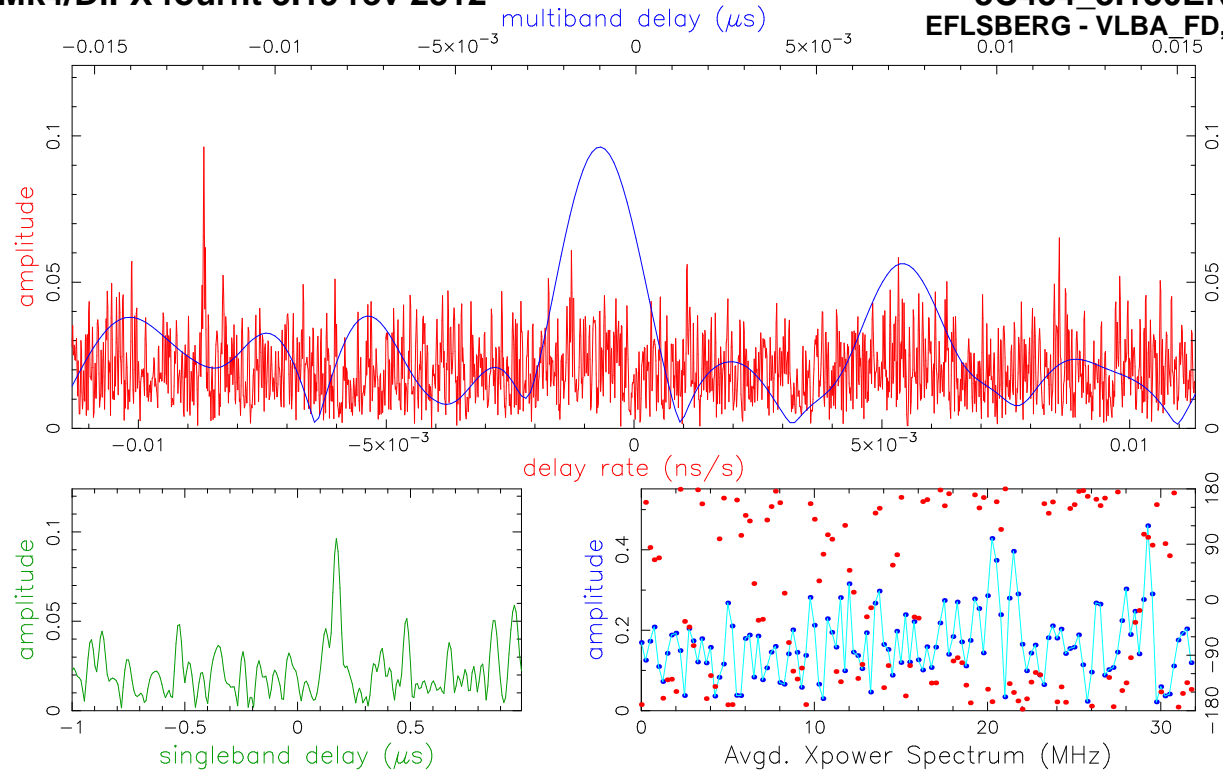


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-28.3	84.4	-179.7	29.8	11.1	72.8	66.5	101.9	9.2	70.2	49.0	47.5	13.0	128.6	113.8	28.1		Phase	49.0				
	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2		Ampl.	0.1				
	51.6	218.8	1.3	175.8	96.1	118.3	237.9	202.2	65.9	229.6	65.6	23.0	179.0	179.9	188.7	71.8		Sbd box	66.5				
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		APs used					
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
b:f	0:0	0:0	0:0	0:0	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					
f	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					
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-4.34904231340E+03															Apriori delay (usec)	-4.34856770546E+03	Resid mbdelay (usec)	-5.85794E-03	+/-	1.7E-04
Sband delay (usec)			-4.34905622996E+03															Apriori clock (usec)	-1.0845202E+00	Resid sbdelay (usec)	-4.88524E-01	+/-	2.7E-03
Phase delay (usec)			-4.34856770388E+03															Apriori clockrate (us/s)	-1.5144557E-07	Resid phdelay (usec)	1.57882E-06	+/-	5.9E-07
Delay rate (us/s)			-5.27870843465E-02															Apriori rate (us/s)	-5.27935359903E-02	Resid rate (us/s)	6.45164E-06	+/-	2.1E-09
Total phase (deg)					-4.5													Apriori accel (us/s/s)	3.05391511294E-05	Resid phase (deg)	49.0	+/-	18.1

ph/seg (deg) 31.7 31.4 Search (2048X64) 0.100 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 50.1 54.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 56.2 36.3 Inc. seg. avg. 0.117 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 51.8 63.3 Inc. frq. avg. 0.125 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 98.4 el 29.3 pa -43.4 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 370.809 2696.317 ion window (TEC) 0.00 0.00 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/bf.W.61.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, Bf
EFLSBERG - VLBA FD, fgroup W, pol RL

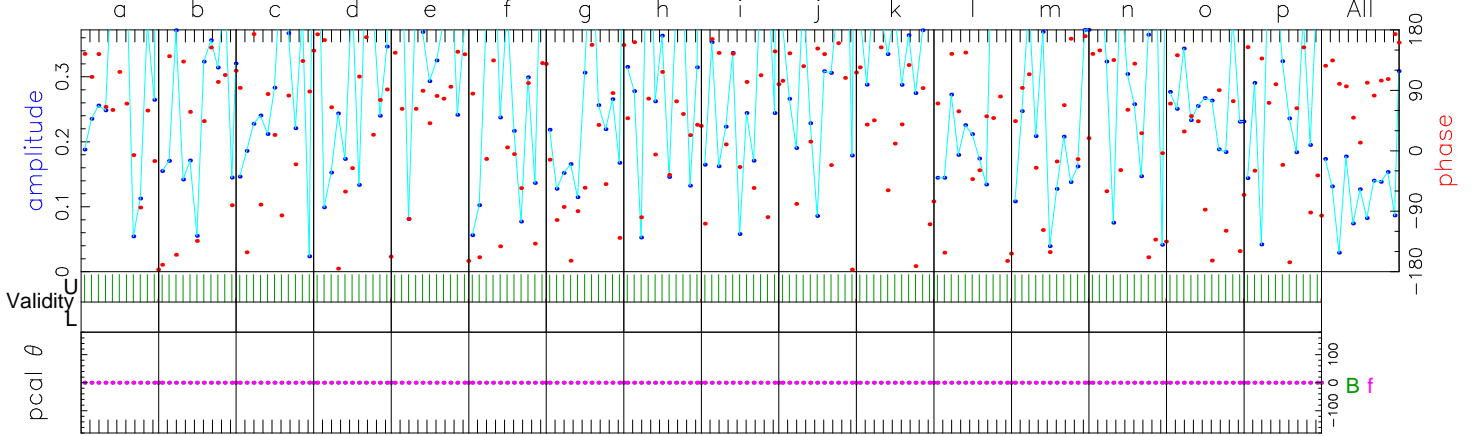


Fringe quality 0

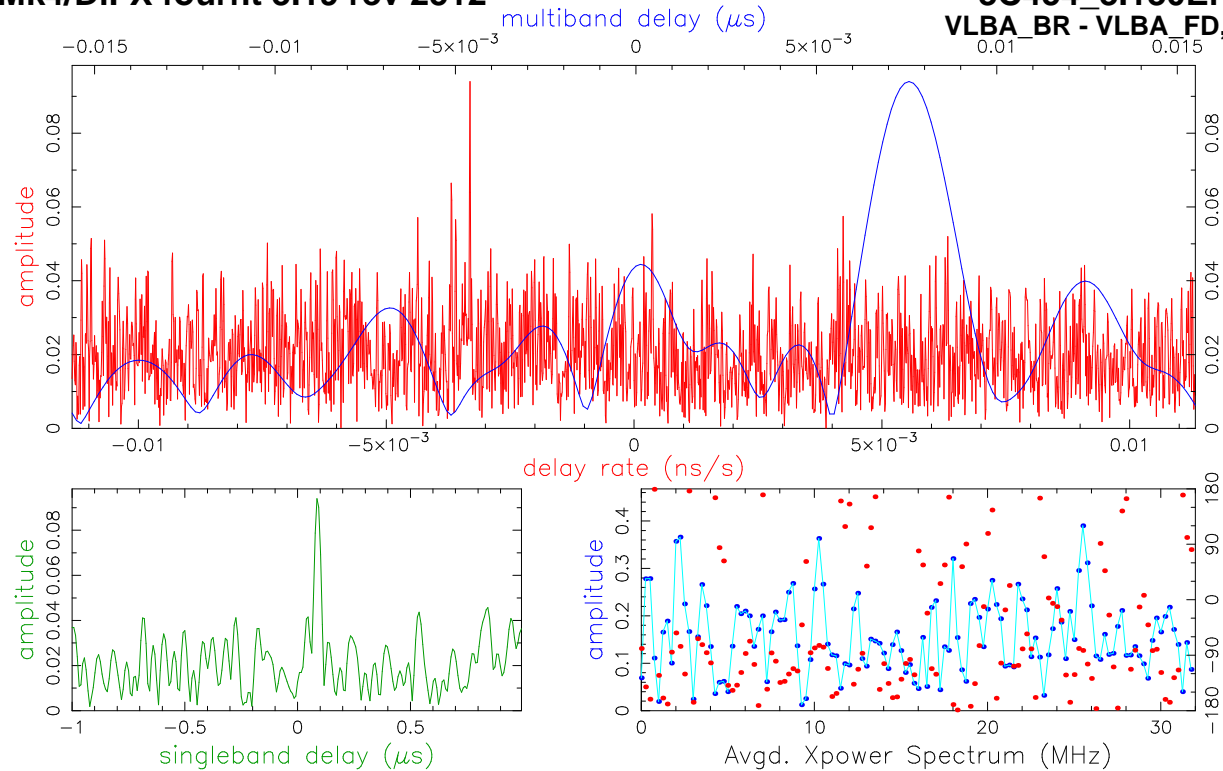
SNR 5.7
Int time 475.402
Amp 0.124
Phase 103.0
PFD 9.1e-01
Delays (us)
SBD 0.172317
MBD -0.001006
Fringe rate (Hz)
-0.748500
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101158
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

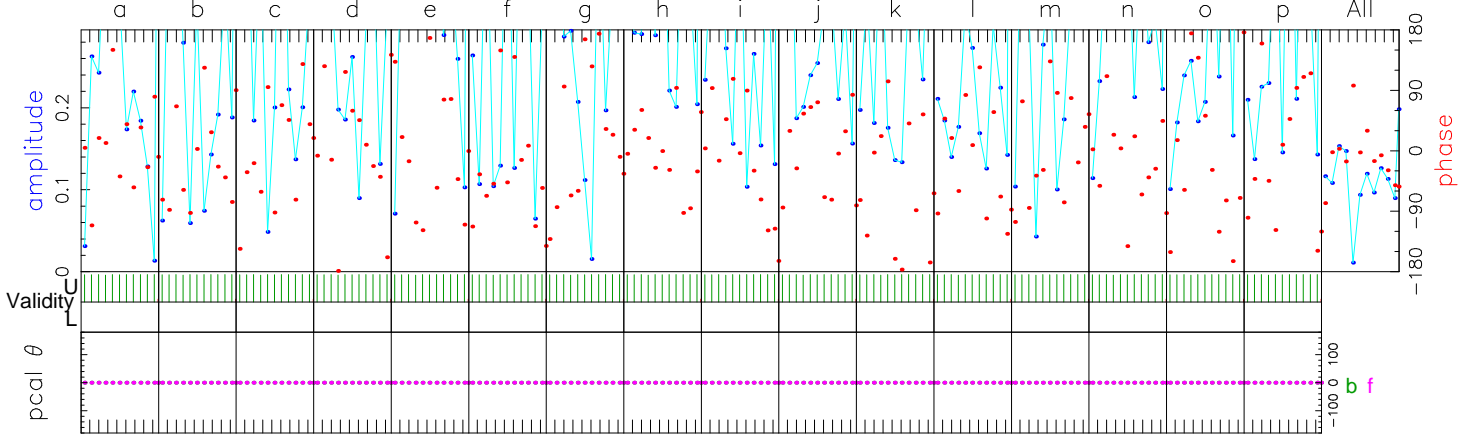


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
B:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks
Group delay (usec)(sbd)	-4.69600211897E+03			Apriori delay (usec)			-4.69618861248E+03			Resid mbdelay (usec)			-1.00649E-03			+/- 1.9E-04		
Sband delay (usec)	-4.69601629598E+03			Apriori clock (usec)			1.6350012E+01			Resid sbdelay (usec)			1.72317E-01			+/- 3.0E-03		
Phase delay (usec)	-4.69618860916E+03			Apriori clockrate (us/s)			-1.0905050E-07			Resid phdelay (usec)			3.32184E-06			+/- 6.4E-07		
Delay rate (us/s)	-1.78966709191E+00			Apriori rate (us/s)			-1.78965840257E+00			Resid rate (us/s)			-8.68934E-06			+/- 2.3E-09		
Total phase (deg)	74.5			Apriori accel (us/s/s)			3.33421297523E-05			Resid phase (deg)			103.0			+/- 20.0		
ph/seg (deg)	RMS	Theor.	Amplitude		0.124 +/- 0.022		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		sb window (us)		-1.000		1.000			
amp/seg (%)	40.9	34.6	Search (2048X64)		0.094		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		SampCntNorm: enabled		mb window (us)		-0.016		0.016			
ph/frq (deg)	52.6	39.9	Interp.		0.000		Bits/sample: 2x2		Sample rate(MISamp/s): 64		dr window (ns/s)		-0.011		0.011			
amp/frq (%)	74.4	69.7	Inc. seg. avg.		0.132		Data rate(Mb/s): 2048		nlags: 128		ion window (TEC)		0.00		0.00			
B: az 259.2 el 29.8 pa 40.5		f: az 96.8 el 43.9 pa -62.8		u,v (fr/asec) 10734.972 2923.823		simultaneous interpolator												



Fringe quality 0
SNR 5.7
Int time 474.405
Amp 0.098
Phase -14.7
PFD 9.8e-01
Delays (us)
SBD 0.088349
MBD 0.007584
Fringe rate (Hz)
-0.285945
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014502.56
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101202
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

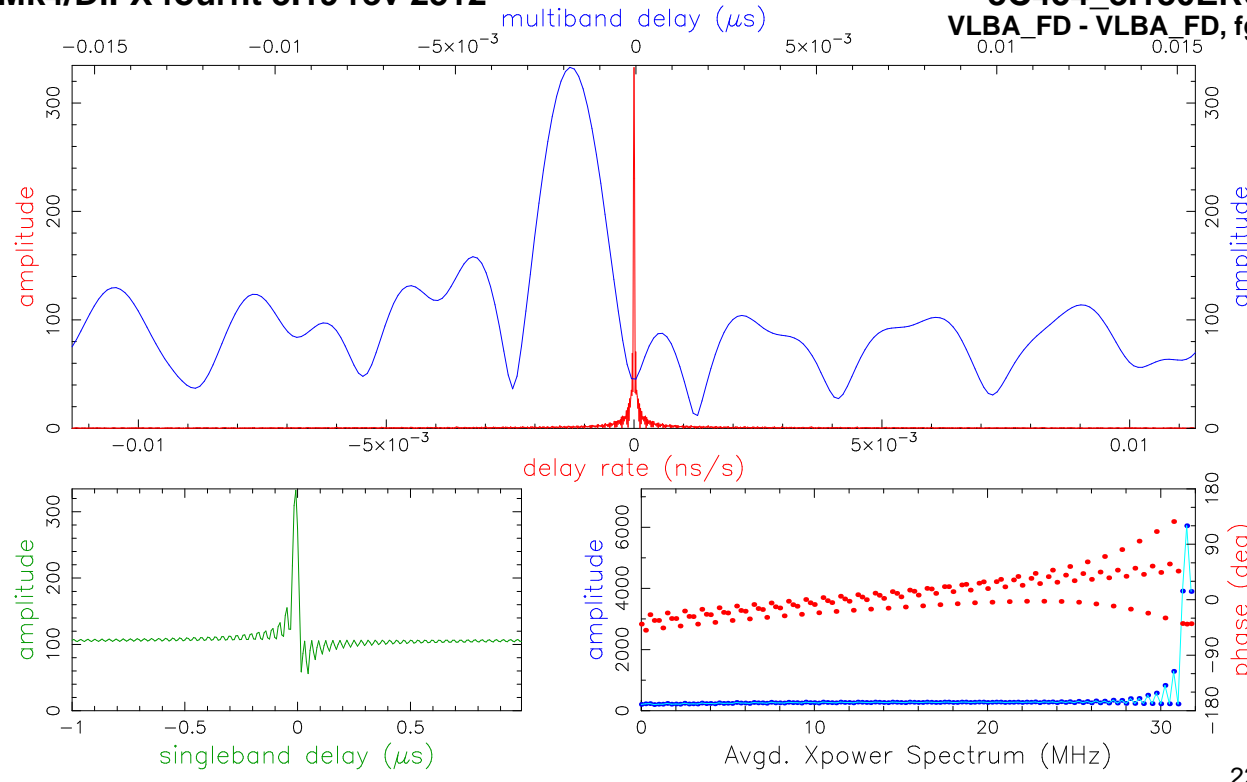


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-5.3	-26.6	4.8	36.7	-34.2	-46.6	-62.3	-7.3	-4.3	3.6	-65.9	0.7	27.9	-15.9	-75.0	104.4	Phase	-14.7	
	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.0	0.1	0.1	0.1	0.2	0.1	Ampl.	0.1	
	133.5	34.7	57.0	80.4	206.3	235.1	66.2	142.2	72.9	70.8	72.2	133.2	92.4	237.5	178.5	223.3	Sbd box	140.3	
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used		
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase		
b:f	0:0	0:0	0:0	0:0	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:f	0:0	0:0	0:0	0:0	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		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids		
b	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks		
Group delay (usec)(sbd)		-4.34846637164E+03									-4.34856770546E+03						Resid mbdelay (usec)	7.58382E-03	+/- 1.9E-04
Sband delay (usec)		-4.34847935596E+03									-1.0845202E+00						Resid sbdelay (usec)	8.83495E-02	+/- 3.0E-03
Phase delay (usec)		-4.34856770593E+03									-1.5144557E-07						Resid phdelay (usec)	-4.72700E-07	+/- 6.5E-07
Delay rate (us/s)		-5.27968555310E-02									-5.27935359903E-02						Resid rate (us/s)	-3.31954E-06	+/- 2.4E-09
Total phase (deg)					-68.1						3.05391511294E-05						Resid phase (deg)	-14.7	+/- 20.3

ph/seg (deg) 43.3 35.1 Search (2048X64) 0.091 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 41.0 61.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 46.2 40.5 Inc. seg. avg. 0.094 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 55.8 70.7 Inc. frq. avg. 0.095 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 98.4 el 29.3 pa -43.4 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 370.809 2696.317 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/bf..130ERS Output file: /Exps/c192b/v2/1234/No0145/bf.W.78.130ERS simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, ff
VLBA_FD - VLBA_FD, fgroup W, pol LR

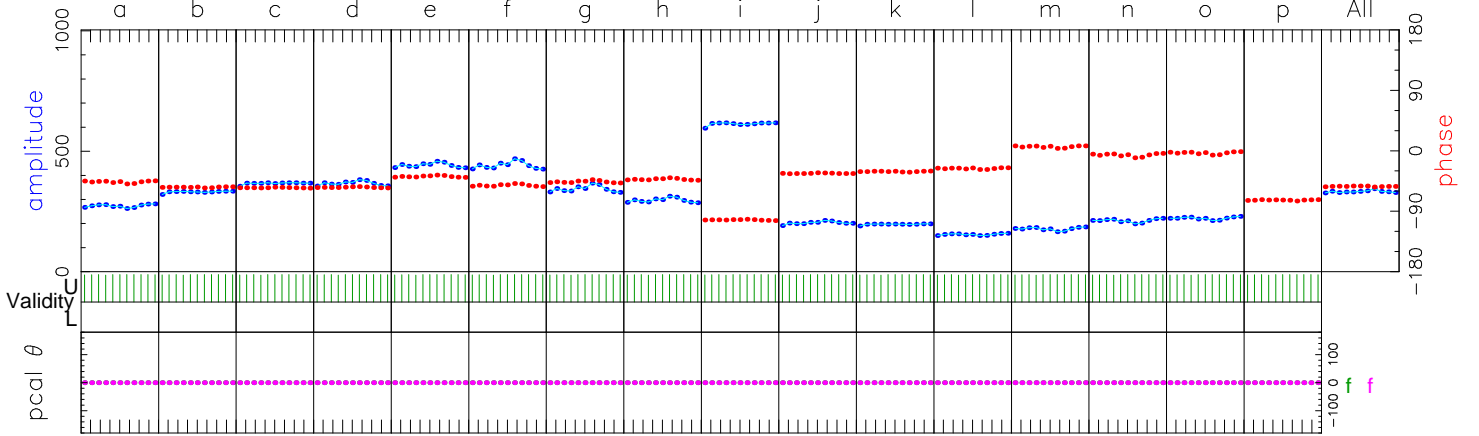


Fringe quality 5

SNR 19964.3
Int time 475.809
Amp 334.688
Phase -53.0
PFD 0.0e+00
Delays (us)
SBD -0.009493
MBD -0.001770
Fringe rate (Hz) -0.000002
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build 2020:079:143639
2020:086:101217
2020:014:135814
RA & Dec (J2000) 22h53m57.747940s +16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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					
	-46.3	-54.2	-54.9	-54.4	-38.1	-51.4	-46.0	-42.4	-102.9	-33.6	-30.8	-26.3	6.1	-6.2	-3.2	-73.4		Phase	-53.0				
	273.5	331.4	366.9	367.0	442.1	441.3	343.5	296.8	613.8	203.1	197.0	154.8	178.1	212.1	222.1	1277.6		Ampl.	370.1				
	128.8	128.7	128.7	128.9	128.7	128.8	128.8	128.7	126.8	129.1	128.7	129.2	128.9	128.8	128.7	126.8		Sbd box	127.8				
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
f:f	0:0	0:0	0:0	0:0	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					
f	1000	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					
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-1.76978125000E-03															Apriori delay (usec)	0.0000000000E+00	Resid mbdelay (usec)	-1.76978E-03	+/-	5.4E-08
Sband delay (usec)			-9.49350000000E-03															Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-9.49350E-03	+/-	8.6E-07
Phase delay (usec)			-1.70888755590E-06															Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-1.70889E-06	+/-	1.9E-10
Delay rate (us/s)			-1.77139404896E-11															Apriori rate (us/s)	0.0000000000E+00	Resid rate (us/s)	-1.77139E-11	+/-	6.7E-13
Total phase (deg)																		Apriori accel (us/s/s)	0.0000000000E+00	Resid phase (deg)	-53.0	+/-	0.0

ph/seg (deg) 0.4 0.0
amp/seg (%) 1.5 0.0
ph/frq (deg) 30.6 0.0
amp/frq (%) 79.0 0.0

f: az 96.8 el 43.9 pa -62.8
Control file: cf_1234_gmva

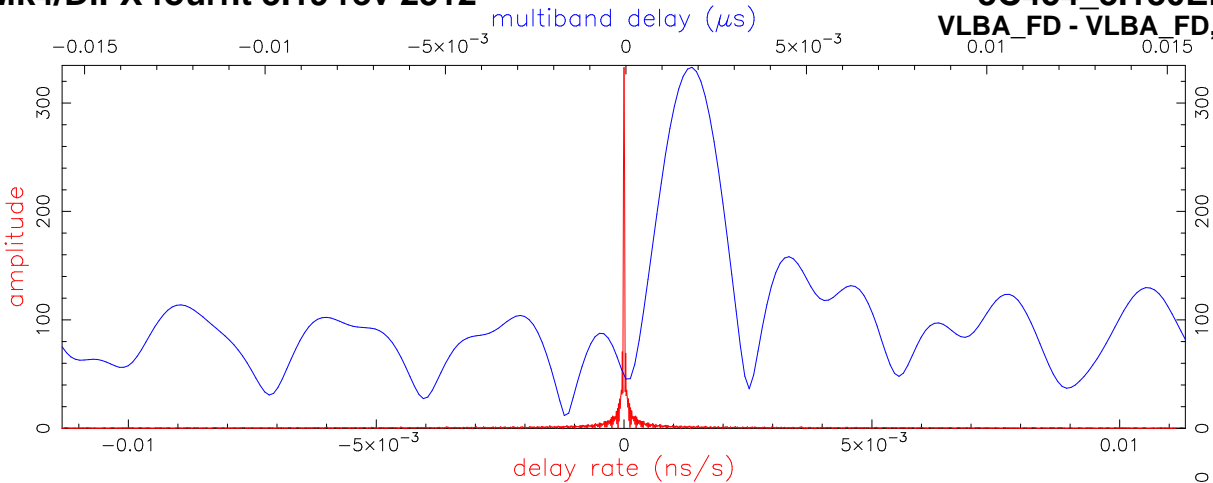
f: az 96.8 el 43.9 pa -62.8
Input file: /Exps/c192b/v2/1234/No0145/ff..130ERS

u,v (fr/asec) 0.000 0.000
Output file: /Exps/c192b/v2/1234/No0145/ff.W.123.130ERS

simultaneous interpolator

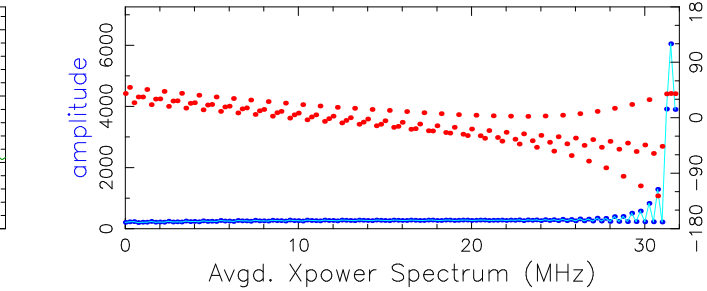
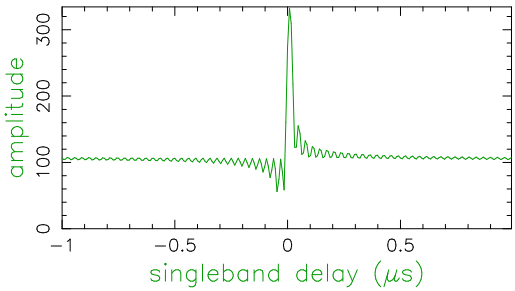
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, ff
VLBA_FD - VLBA_FD, fgroup W, pol RL



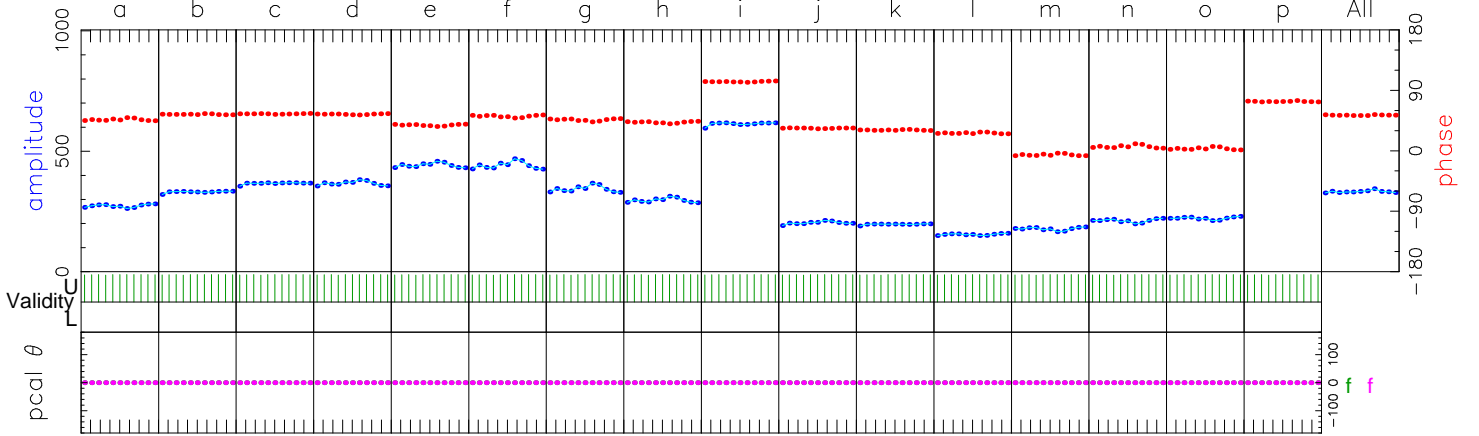
Fringe quality 5

SNR 19964.3
Int time 475.809
Amp 334.688
Phase 53.0
PFD 0.0e+00
Delays (us)
SBD 0.009493
MBD 0.001770
Fringe rate (Hz)
0.000002
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101222
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)			1.76978125000E-03														1.76978E-03	+/- 5.4E-08
Sband delay (usec)			9.49350000000E-03														9.49350E-03	+/- 8.6E-07
Phase delay (usec)			1.7088875553E-06														1.70889E-06	+/- 1.9E-10
Delay rate (us/s)			1.77139404896E-11														1.77139E-11	+/- 6.7E-13
Total phase (deg)					53.0												53.0	+/- 0.0

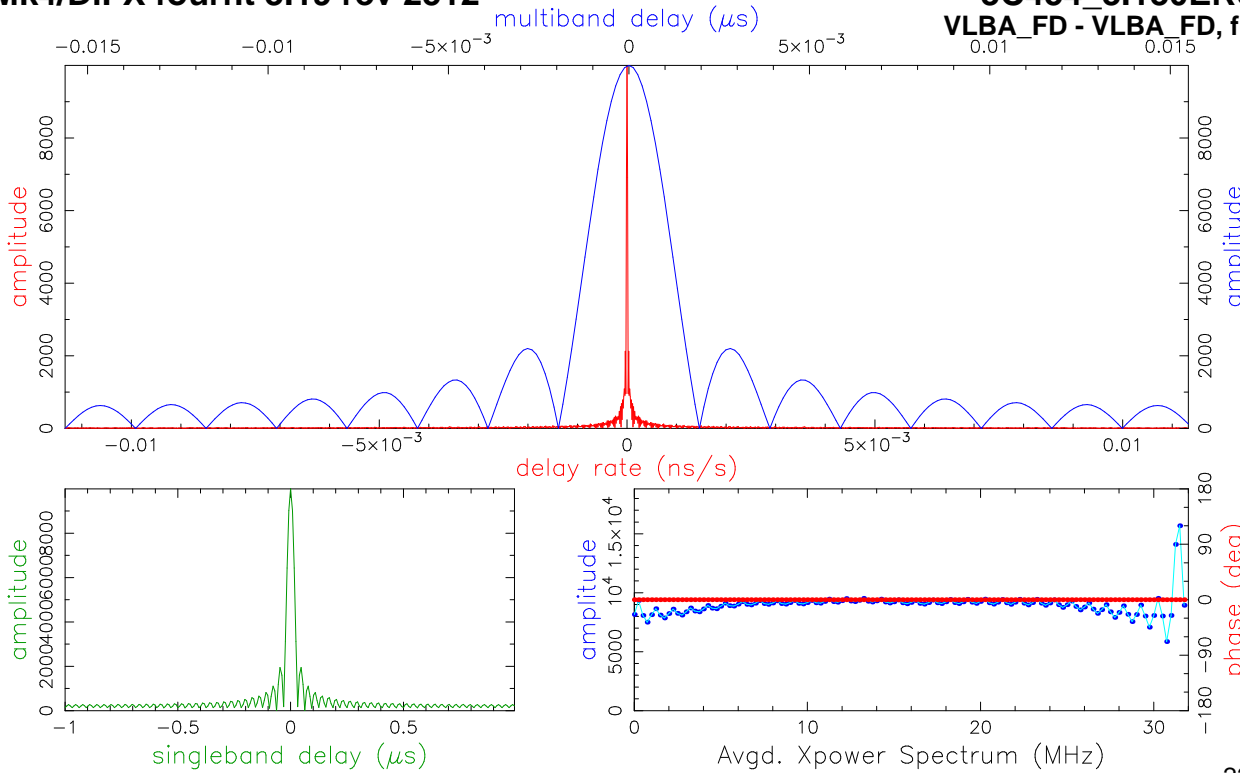
ph/seg (deg) 0.4 0.0
amp/seg (%) 1.5 0.0
ph/frq (deg) 30.6 0.0
amp/frq (%) 79.0 0.0

f: az 96.8 el 43.9 pa -62.8
f: az 96.8 el 43.9 pa -62.8
u,v (fr/asec) 0.000 0.000

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/ff..130ERS Output file: /Exps/c192b/v2/1234/No0145/ff.W.140.130ERS

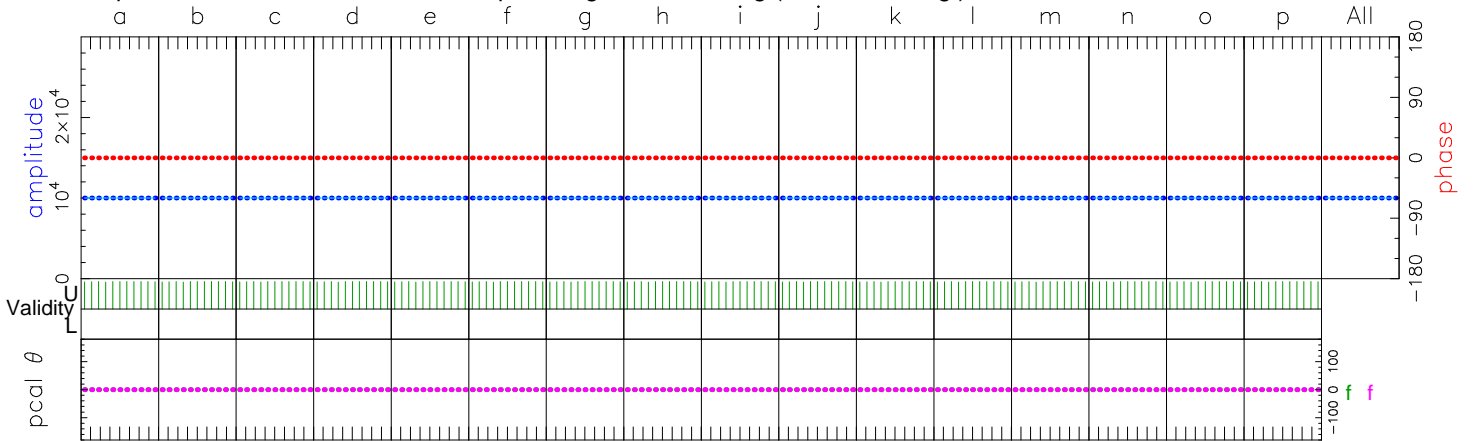
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, ff
VLBA_FD - VLBA_FD, fgroup W, pol LL



Fringe quality 9
SNR 596504.4
Int time 475.809
Amp 9999.997
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101205
2020:014:135814
RA & Dec (J2000) 22h53m57.747940s +16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



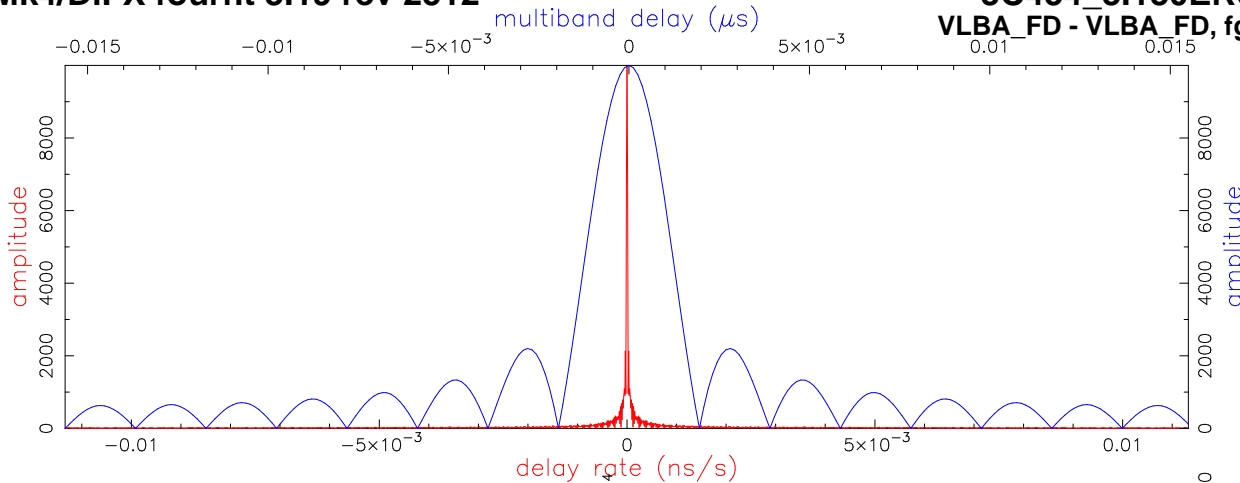
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

Group delay (usec)(sbd)	0.0000000000E+00	Apriori delay (usec)	0.0000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	1.8E-09
Sband delay (usec)	0.0000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	2.9E-08
Phase delay (usec)	1.53825879622E-21	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	1.53826E-21	+/-	6.2E-12
Delay rate (us/s)	0.0000000000E+00	Apriori rate (us/s)	0.0000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	2.2E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.0000000000E+00	Resid phase (deg)	0.0	+/-	0.0

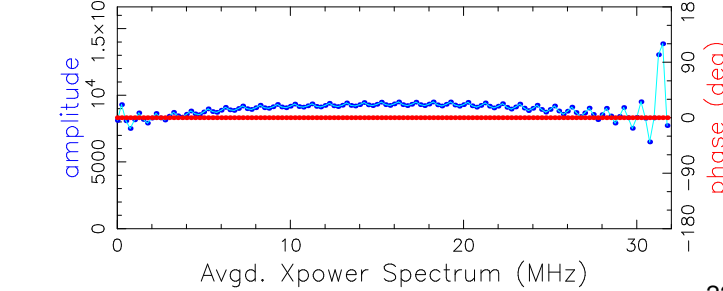
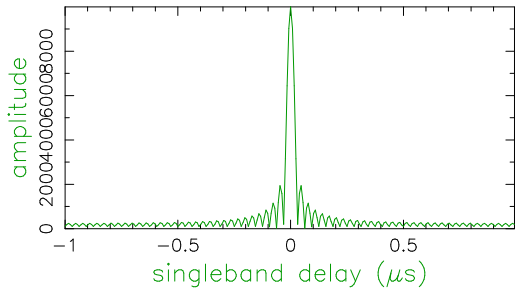
ph/seg (deg) 0.0 0.0 Theor. Amplitude 9999.997 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 0.0 0.0 Search (2048X64) 9999.997 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 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
az 96.8 el 43.9 pa -62.8 f: az 96.8 el 43.9 pa -62.8 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/c192b/v2/1234/No0145/ff..130ERS Output file: /Exps/c192b/v2/1234/No0145/ff.W.83.130ERS simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

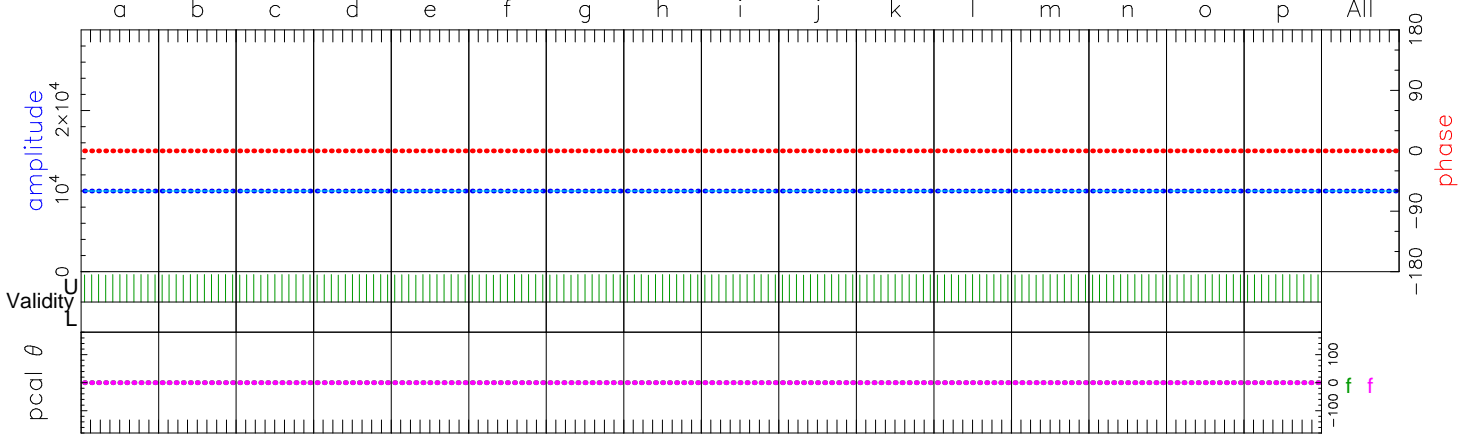
3C454_3.130ERS, No0145, ff
VLBA_FD - VLBA_FD, fgroup W, pol RR



Fringe quality 9
SNR 596504.2
Int time 475.809
Amp 9999.993
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. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101210
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

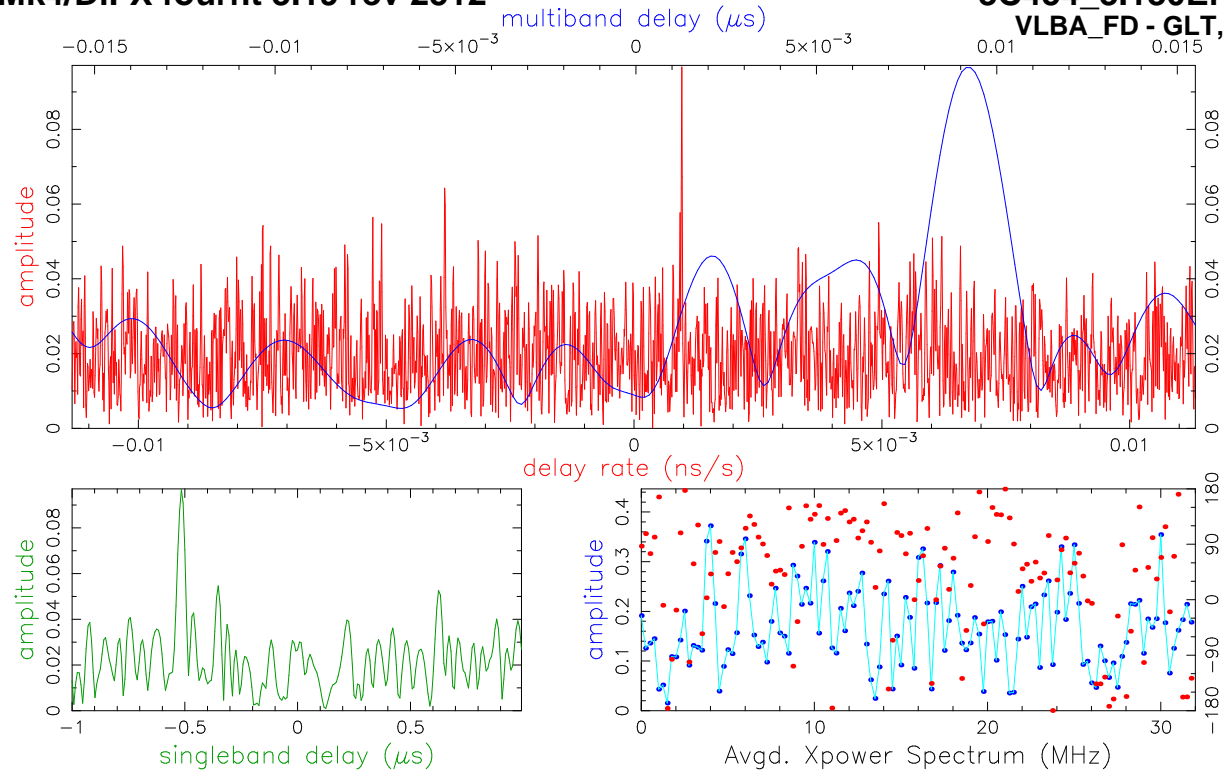


Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



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 935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used		
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase		
f:f 0:0	0:0	0:0	0:0	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:f 0:0	0:0	0:0	0:0	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		
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids		
f 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
f	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			+/-	1.8E-09	
Sband delay (usec)	0.0000000000E+00			Apriori clock (usec)			0.0000000E+00			Resid sbdelay (usec)			0.00000E+00			+/-	2.9E-08	
Phase delay (usec)	4.07833472069E-20			Apriori clockrate (us/s)			0.0000000E+00			Resid phdelay (usec)			4.07833E-20			+/-	6.2E-12	
Delay rate (us/s)	0.0000000000E+00			Apriori rate (us/s)			0.0000000000E+00			Resid rate (us/s)			0.00000E+00			+/-	2.2E-14	
Total phase (deg)	0.0			Apriori accel (us/s/s)			0.0000000000E+00			Resid phase (deg)			0.0			+/-	0.0	

RMS Theor. Amplitude 9999.993 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (2048X64) 9999.993 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. 9999.993 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 f: az 96.8 el 43.9 pa -62.8 f: az 96.8 el 43.9 pa -62.8 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/ff..130ERS Output file: /Exps/c192b/v2/1234/No0145/ff.W.98.130ERS

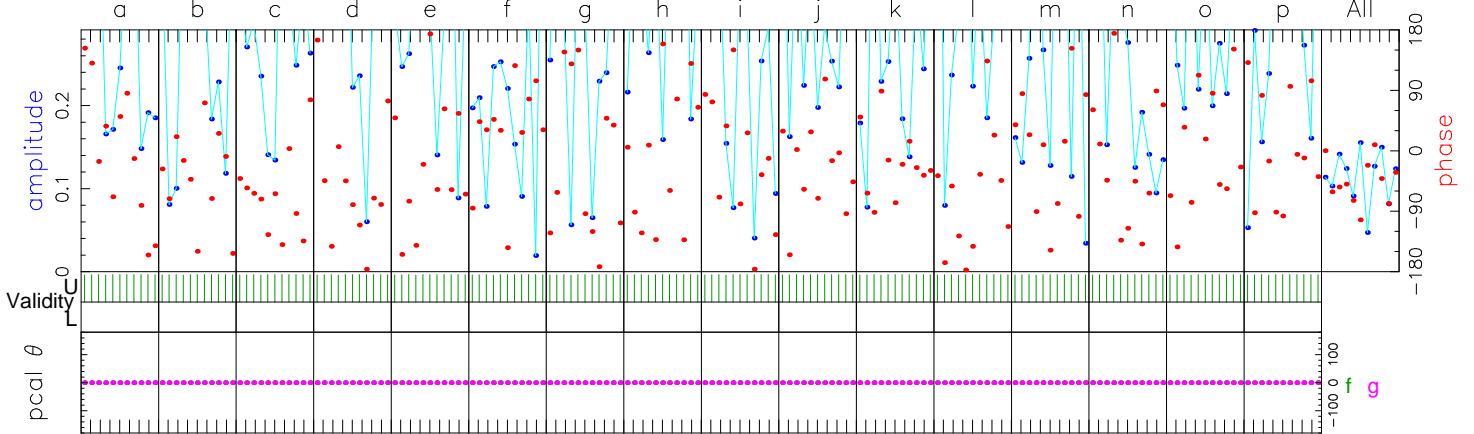


Fringe quality 0

SNR 5.8
Int time 475.438
Amp 0.097
Phase -47.2
PFD 8.6e-01
Delays (us)
SBD -0.514569
MBD 0.009212
Fringe rate (Hz) 0.082970
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

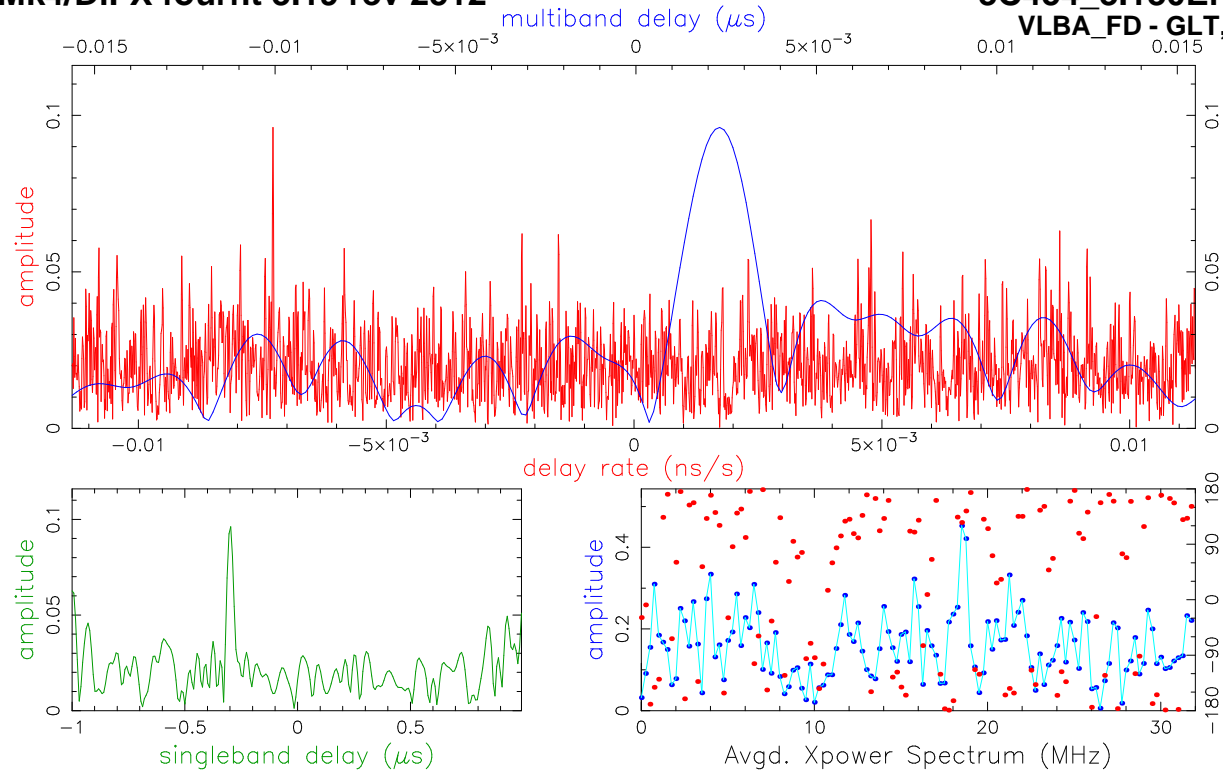
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101213
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



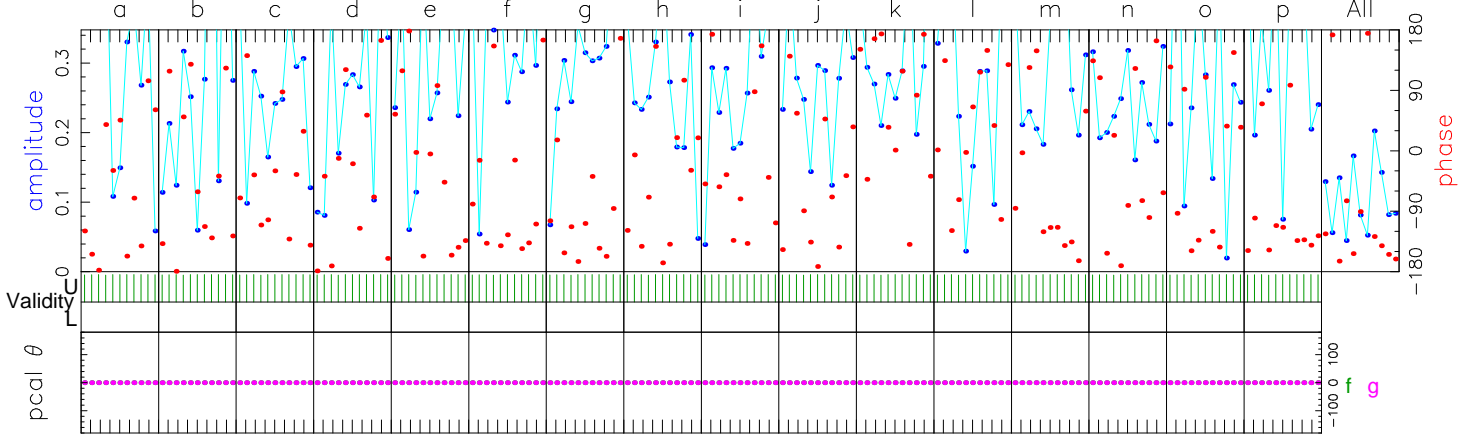
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	37.0	-35.5	-79.4	-61.5	-67.1	44.5	-122.1	-104.7	-2.9	-17.9	-37.5	-79.2	-52.8	-73.4	-42.2	-44.1	Phase	-47.2
	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	0.1	Ampl.	0.1
	70.8	137.6	156.3	116.0	141.5	54.3	143.4	255.7	120.9	64.1	61.5	55.2	83.7	7.4	26.0	203.4	Sbd box	63.1
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
fg	0:0	0:0	0:0	0:0	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	
fg	0:0	0:0	0:0	0:0	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	
g	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	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	4.57793859910E+03			Apriori delay (usec)			4.57846063713E+03			Resid mbdelay (usec)			9.21197E-03			+/-	1.9E-04	
Sband delay (usec)	4.57794606863E+03			Apriori clock (usec)			-8.3401477E-01			Resid sbdelay (usec)			-5.14569E-01			+/-	3.0E-03	
Phase delay (usec)	4.57846063561E+03			Apriori clockrate (us/s)			-1.6594950E-07			Resid phdelay (usec)			-1.52210E-06			+/-	6.4E-07	
Delay rate (us/s)	8.67275863208E-01			Apriori rate (us/s)			8.67274900012E-01			Resid rate (us/s)			9.63196E-07			+/-	2.3E-09	
Total phase (deg)	54.4			Apriori accel (us/s/s)			-3.89916267121E-05			Resid phase (deg)			-47.2			+/-	19.9	

ph/seg (deg) 32.1 32.9 Search (2048X64) 0.094 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 36.5 57.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 47.0 39.7 Inc. seg. avg. 0.099 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 52.8 69.3 Inc. frq. avg. 0.098 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 96.8 el 43.9 pa -62.8 g: az 165.7 el 29.3 pa -3.3 u,v (fr/asec) -5244.748 -4802.308 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fg..130ERS Output file: /Exps/c192b/v2/1234/No0145/fg.W.108.130ERS



Fringe quality 0
SNR 5.8
Int time 475.438
Amp 0.116
Phase -142.4
PFD 8.2e-01
Delays (us)
SBD -0.299410
MBD 0.002321
Fringe rate (Hz)
-0.628135
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101219
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



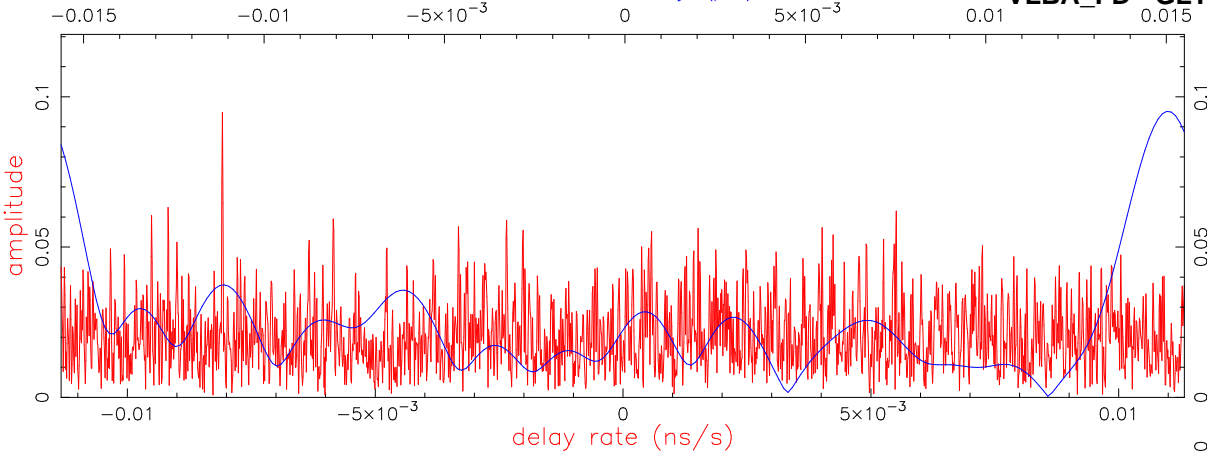
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-156.8	-173.4	-63.6	-178.2	-159.7	-137.3	-132.0	-123.8	-106.4	-146.3	175.7	154.9	-130.2	-135.3	-150.3	-142.6	Phase	-142.4
	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.2	Ampl.	0.1
	139.9	150.1	10.1	250.4	245.2	89.5	67.1	48.0	172.5	218.8	198.5	148.4	72.9	53.9	40.7	89.2	Sbd box	90.7
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
fg	0:0	0:0	0:0	0:0	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	
fg	0:0	0:0	0:0	0:0	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	
g	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	
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

Group delay (usec)(sbd) 4.57815045827E+03 Apriori delay (usec) 4.57846063713E+03 Resid mbdelay (usec) 2.32115E-03 +/- 1.9E-04
 Sband delay (usec) 4.57816122713E+03 Apriori clock (usec) -8.3401477E-01 Resid sbdelay (usec) -2.99410E-01 +/- 3.0E-03
 Phase delay (usec) 4.57846063254E+03 Apriori clockrate (us/s) -1.6594950E-07 Resid phdelay (usec) -4.59061E-06 +/- 6.4E-07
 Delay rate (us/s) 8.67267607985E-01 Apriori rate (us/s) 8.67274900012E-01 Resid rate (us/s) -7.29203E-06 +/- 2.3E-09
 Total phase (deg) -40.8 Apriori accel (us/s/s) -3.89916267121E-05 Resid phase (deg) -142.4 +/- 19.8

RMS Theor. Amplitude 0.116 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 34.1 32.8 Search (2048X64) 0.092 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 51.5 57.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 34.5 39.5 Inc. seg. avg. 0.110 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 57.9 69.0 Inc. frq. avg. 0.106 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

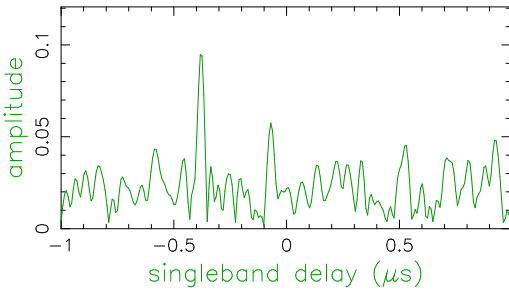
f: az 96.8 el 43.9 pa -62.8 g: az 165.7 el 29.3 pa -3.3 u,v (fr/asec) -5244.748 -4802.308 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fg..130ERS Output file: /Exps/c192b/v2/1234/No0145/fg.W.127.130ERS

multiband delay (μ s)

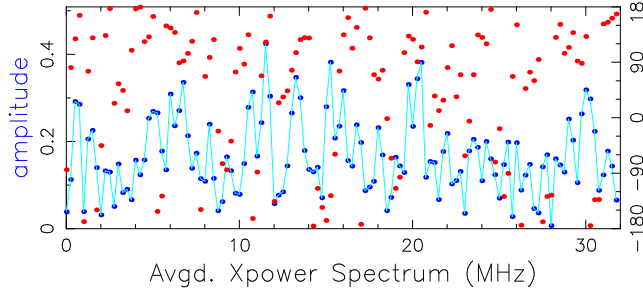


Fringe quality 0

SNR 5.8
Int time 475.339
Amp 0.121
Phase -161.4
PFD 8.4e-01
Delays (us)
SBD -0.379221
MBD -0.016094
Fringe rate (Hz)
-0.696931
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

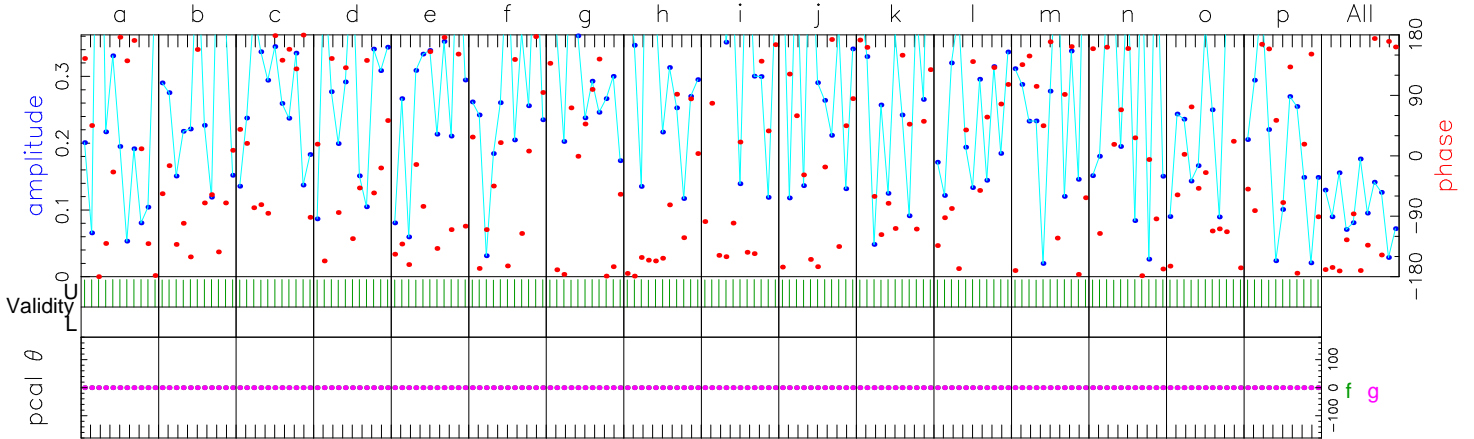


delay rate (ns/s)



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101223
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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
	-175.0	-105.1	-139.0	-118.9	-148.1	-175.4	131.5	-163.3	-154.2	172.3	-180.0	153.4	-171.0	-175.5	-72.0	-159.8	Phase	-161.4
	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.1	0.2	0.0	0.2	0.1	0.1	0.1	Ampl.	0.1
	149.9	159.2	73.2	218.6	85.3	36.3	12.0	199.1	80.4	156.7	102.0	163.6	71.0	172.2	170.4	238.7	Sbd box	80.5
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
f:g	0:0	0:0	0:0	0:0	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	
fg	0:0	0:0	0:0	0:0	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	
g	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	
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd)	4.57806954360E+03	Apriori delay (usec)	4.57846063713E+03	Resid mbdelay (usec)	-1.60935E-02	+/-	1.9E-04
Sband delay (usec)	4.57808141613E+03	Apriori clock (usec)	-8.3401477E-01	Resid sbdelay (usec)	-3.79221E-01	+/-	3.0E-03
Phase delay (usec)	4.57846063192E+03	Apriori clockrate (us/s)	-1.6594950E-07	Resid phdelay (usec)	-5.20428E-06	+/-	6.4E-07
Delay rate (us/s)	8.67266809338E-01	Apriori rate (us/s)	8.67274900012E-01	Resid rate (us/s)	-8.09067E-06	+/-	2.3E-09
Total phase (deg)		Apriori accel (us/s/s)	-3.89916267121E-05	Resid phase (deg)	-161.4	+/-	19.8

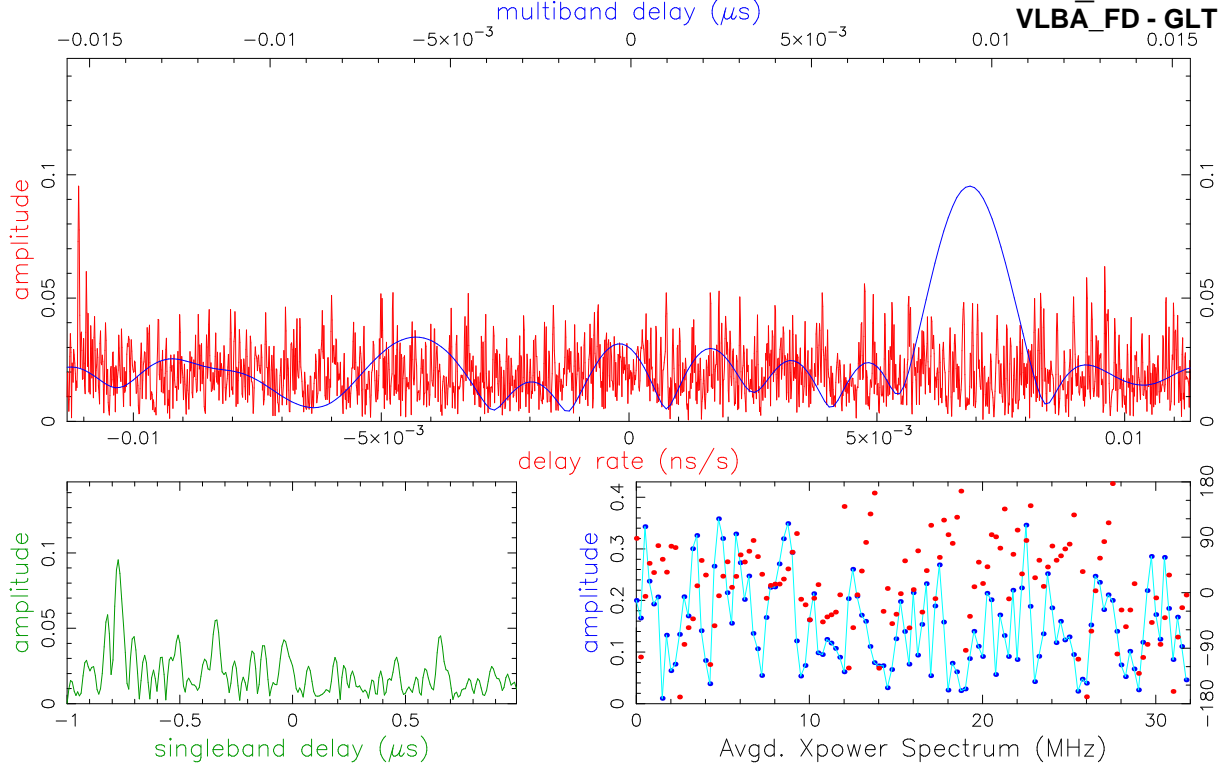
ph/seg (deg)	RMS 31.6	Theor. 32.9	Amplitude Search (2048X64)	0.121 +/- 0.021	0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	43.9	57.3	Interp.	0.000	0.093	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	39.6	39.6	Inc. seg. avg.	0.114	0.114	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016	
amp/frq (%)	49.5	69.2	Inc. frq. avg.	0.115	0.115	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

f: az 96.8 el 43.9 pa -62.8 g: az 165.7 el 29.3 pa -3.3 u,v (fr/asec) -5244.748 -4802.308 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fg..130ERS Output file: /Exps/c192b/v2/1234/No0145/fg.W.144.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fg
VLBA_FD - GLT, fgroup W, pol LL



Fringe quality 0

SNR 5.7

Int time 475.339

Amp 0.147

Phase -170.7

PFD 9.5e-01

Delays (us)

SBD -0.774408

MBD 0.009367

Fringe rate (Hz)

-0.957919

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192b

Exper # 16383

Yr:day 2019:278

Start 014501.54

Stop 015300.26

FRT 014900.00

Corr/FF/build

2020:079:143639

2020:086:101208

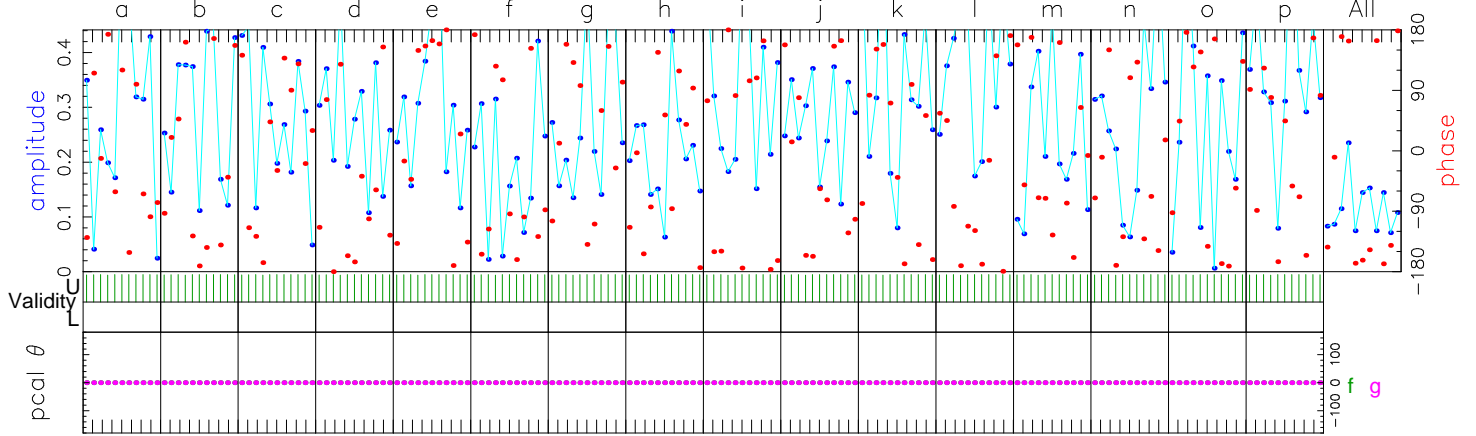
2020:014:135814

RA & Dec (J2000)

22h53m57.747940s

+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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
-146.3	-169.0	152.6	-150.6	176.0	-152.8	-179.2	-143.3	155.7	-149.2	159.5	-153.2	-124.6	-117.8	167.4	-178.3	Phase	-170.7
0.1	0.2	0.1	0.1	0.3	0.2	0.1	0.0	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.0	Ampl.	0.1
67.9	38.5	83.6	80.4	98.2	63.5	133.3	98.9	12.2	8.5	159.1	246.7	49.9	54.4	157.3	33.0	Sbd box	29.9
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
fg	0:0	0:0	0:0	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	
fg	0:0	0:0	0:0	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	PC amp	
f	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
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks

Group delay (usec)(sbd) 4.57768875370E+03 Apriori delay (usec) 4.57846063713E+03 Resid mbdelay (usec) 9.36657E-03 +/- 1.9E-04

Sband delay (usec) 4.57768622913E+03 Apriori clock (usec) -8.3401477E-01 Resid sbdelay (usec) -7.74408E-01 +/- 3.0E-03

Phase delay (usec) 4.57846063162E+03 Apriori clockrate (us/s) -1.6594950E-07 Resid phdelay (usec) -5.50424E-06 +/- 6.5E-07

Delay rate (us/s) 8.67263779526E-01 Apriori rate (us/s) 8.67274900012E-01 Resid rate (us/s) -1.11205E-05 +/- 2.3E-09

Total phase (deg) -69.1 Apriori accel (us/s/s) -3.89916267121E-05 Resid phase (deg) -170.7 +/- 20.1

RMS Theor. Amplitude 0.147 +/- 0.026 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

ph/seg (deg) 52.3 33.4 Search (2048X64) 0.088 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

amp/seg (%) 54.4 58.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

ph/frq (deg) 29.2 40.3 Inc. seg. avg. 0.155 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

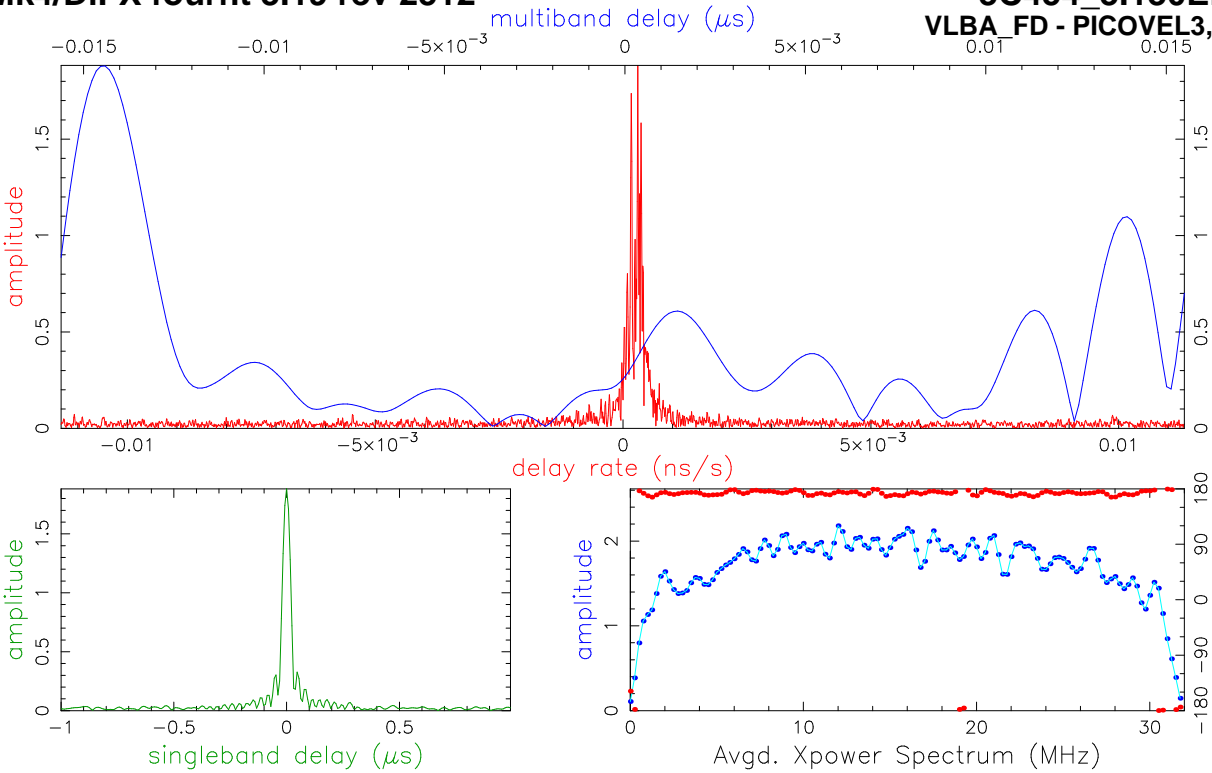
amp/frq (%) 56.4 70.3 Inc. frq. avg. 0.132 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 g: az 165.7 el 29.3 pa -3.3 u,v (fr/asec) -5244.748 -4802.308 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fg..130ERS Output file: /Exps/c192b/v2/1234/No0145/fg.W.88.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fi
VLBA_FD - PICOVEL3, fgroup W, pol RR

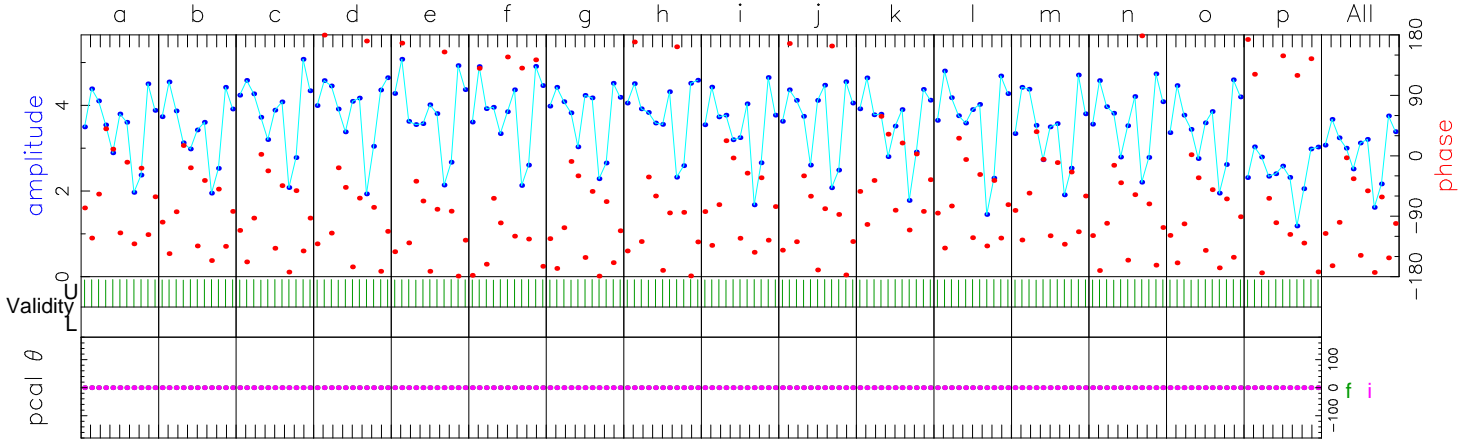


Fringe quality 2

SNR 112.3
Int time 475.809
Amp 1.882
Phase -105.4
PFD 0.0e+00
Delays (us)
SBD -0.000375
MBD -0.014460
Fringe rate (Hz)
0.026104
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

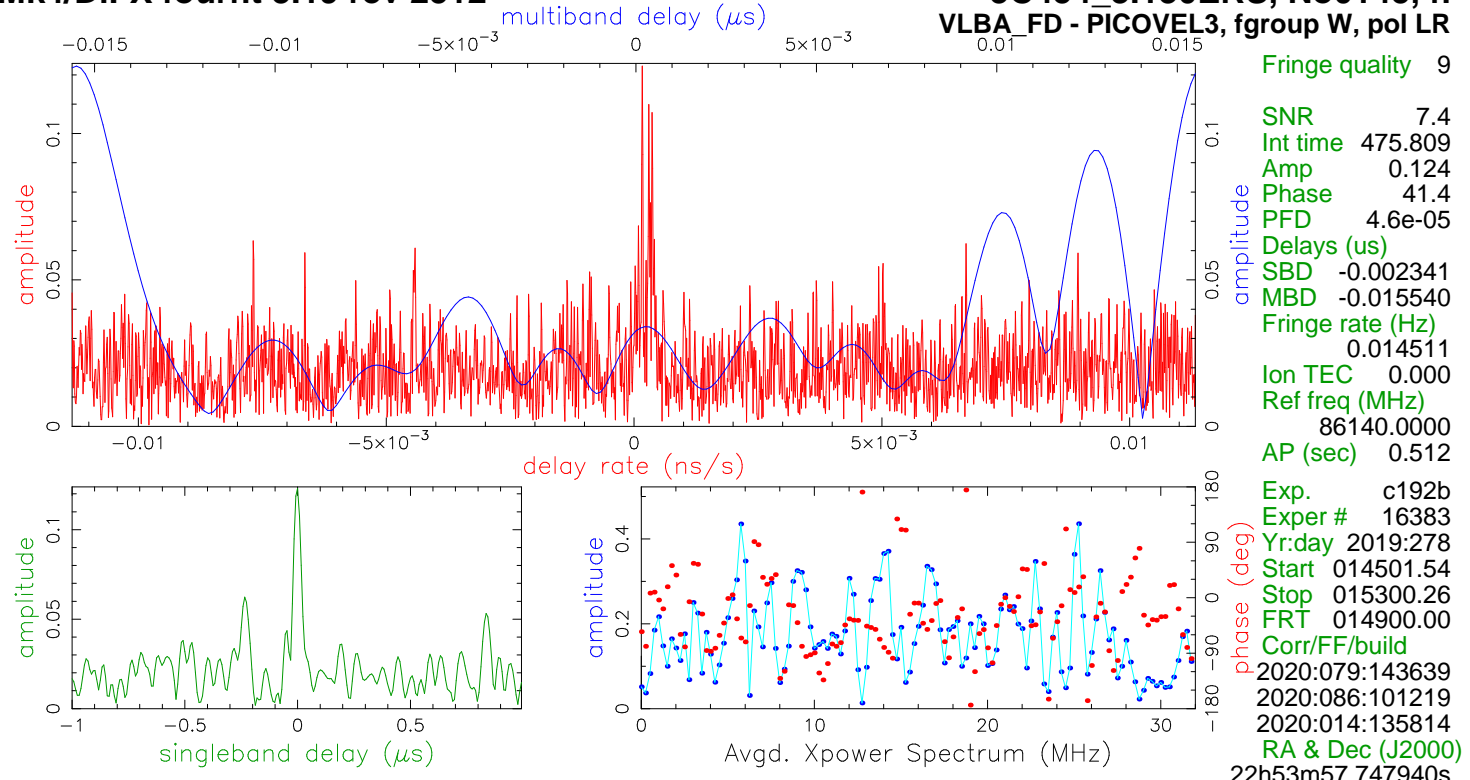
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101214
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

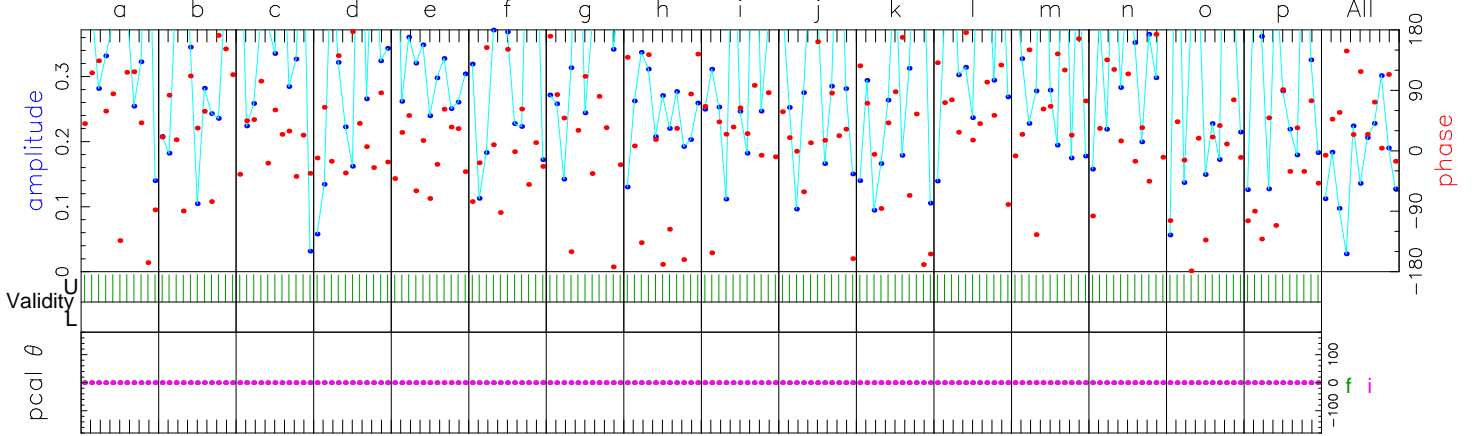


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-67.4	-90.6	-98.1	-118.4	-134.2	-169.2	-112.0	-130.5	-75.2	-131.9	-39.2	-76.9	-68.3	-111.3	-103.8	-173.9		Phase	-105.4				
	2.1	2.2	2.4	2.4	2.5	2.4	2.3	2.4	2.2	2.3	2.3	2.4	2.2	2.3	2.3	1.5		Ampl.	2.3				
	128.3	129.4	128.9	128.8	128.8	128.7	128.9	128.8	128.7	128.7	128.6	128.8	128.7	128.5	128.7	127.2		Sbd box	129.0				
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
fi	0:0	0:0	0:0	0:0	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					
fi	0:0	0:0	0:0	0:0	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					
f	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					
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
Group delay (usec)(sbd)		1.75862834236E+03																Apriori delay (usec)	1.75864280218E+03	Resid mbdelay (usec)	-1.44598E-02	+/-	9.6E-06
Sband delay (usec)		1.75864242718E+03																Apriori clock (usec)	9.9123794E-01	Resid sbdelay (usec)	-3.75000E-04	+/-	1.5E-04
Phase delay (usec)		1.75864279879E+03																Apriori clockrate (us/s)	2.6205050E-07	Resid phdelay (usec)	-3.39751E-06	+/-	3.3E-08
Delay rate (us/s)		1.89581550571E+00																Apriori rate (us/s)	1.89581520267E+00	Resid rate (us/s)	3.03041E-07	+/-	1.2E-10
Total phase (deg)				247.5														Apriori accel (us/s/s)	-1.22903536296E-05	Resid phase (deg)	-105.4	+/-	1.0

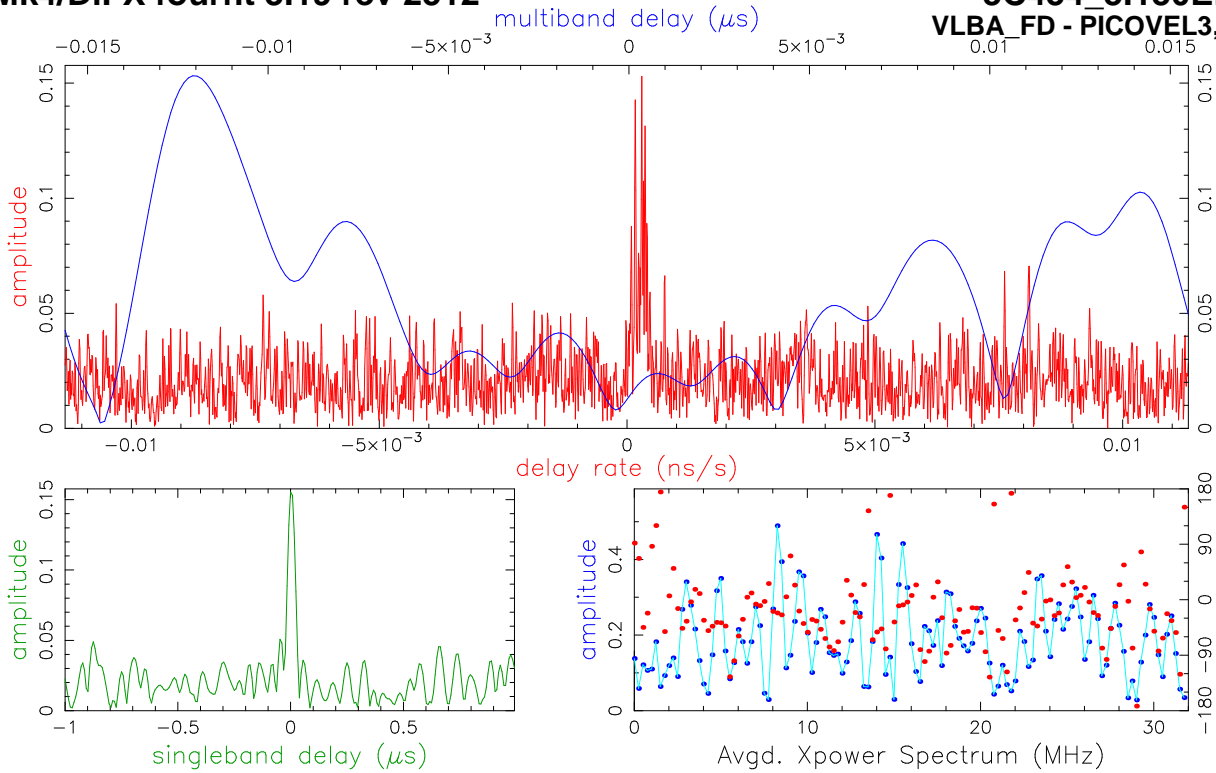
ph/seg (deg) 54.3 1.7 Search (2048X64) 1.731 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 66.7 3.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 38.1 2.0 Inc. seg. avg. 2.978 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 23.1 3.6 Inc. frq. avg. 2.260 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 96.8 el 43.9 pa -62.8 i: az 260.3 el 39.6 pa 54.8 u,v (fr/asec) -11329.526 -999.367 ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fi..130ERS Output file: /Exps/c192b/v2/1234/No0145/fi.W.110.130ERS simultaneous interpolator



Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

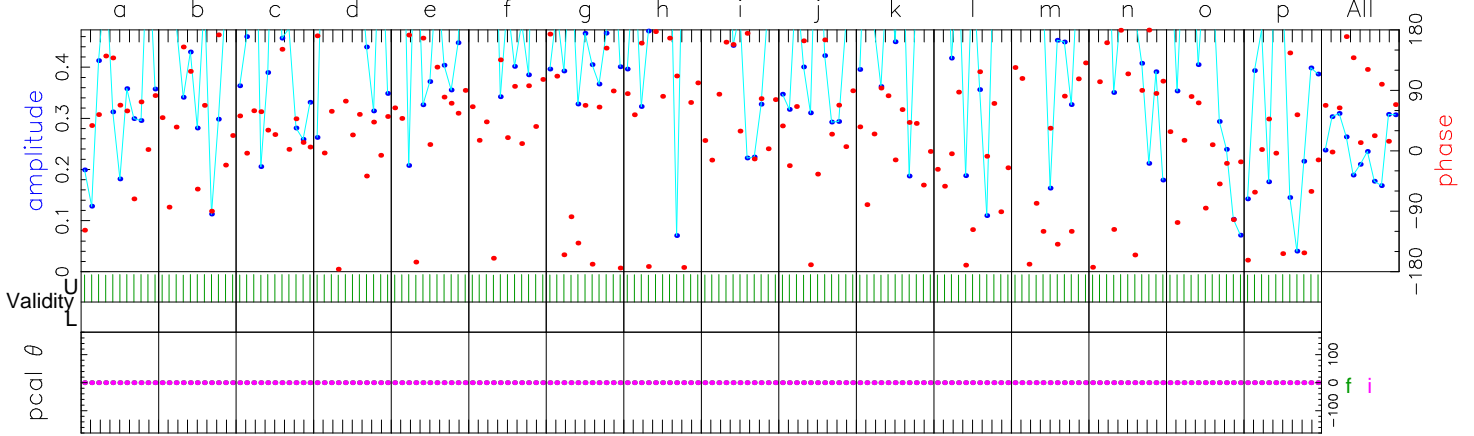


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	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		
fj	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fi	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)	1.75862726227E+03			Apriori delay (usec)			1.75864280218E+03			Resid mbdelay (usec)			-1.55399E-02			+/-	1.5E-04	
Sband delay (usec)	1.75864046118E+03			Apriori clock (usec)			9.9123794E-01			Resid sbdelay (usec)			-2.34100E-03			+/-	2.3E-03	
Phase delay (usec)	1.75864280352E+03			Apriori clockrate (us/s)			2.6205050E-07			Resid phdelay (usec)			1.33519E-06			+/-	5.0E-07	
Delay rate (us/s)	1.89581537113E+00			Apriori rate (us/s)			1.89581520267E+00			Resid rate (us/s)			1.68455E-07			+/-	1.8E-09	
Total phase (deg)	34.3			Apriori accel (us/s/s)			-1.22903536296E-05			Resid phase (deg)			41.4			+/-	15.5	
ph/seg (deg)	RMS	Theor.	Amplitude			0.124 +/- 0.017			Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5						
amp/seg (%)	53.2	25.7	Search (2048X64)			0.120			Pcal rate: 0.000E+00, 0.000E+00 (us/s)			sb window (us)			-1.000	1.000		
ph/frq (deg)	67.8	44.9	Interp.			0.000			Bits/sample: 2x2			SampCntNorm: enabled			mb window (us)	-0.016	0.016	
amp/frq (%)	56.2	31.0	Inc. seg. avg.			0.152			Sample rate(MISamp/s): 64			dr window (ns/s)			-0.011	0.011		
	60.5	54.1	Inc. frq. avg.			0.148			Data rate(Mb/s): 2048			nlags: 128 t_cohere infinite			ion window (TEC)	0.00	0.00	
f: az 96.8 el 43.9 pa -62.8 i: az 260.3 el 39.6 pa 54.8 u,v (fr/asec) -11329.526 -999.367 simultaneous interpolator																		
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fi..130ERS Output file: /Exps/c192b/v2/1234/No0145/fi.W.128.130ERS																		

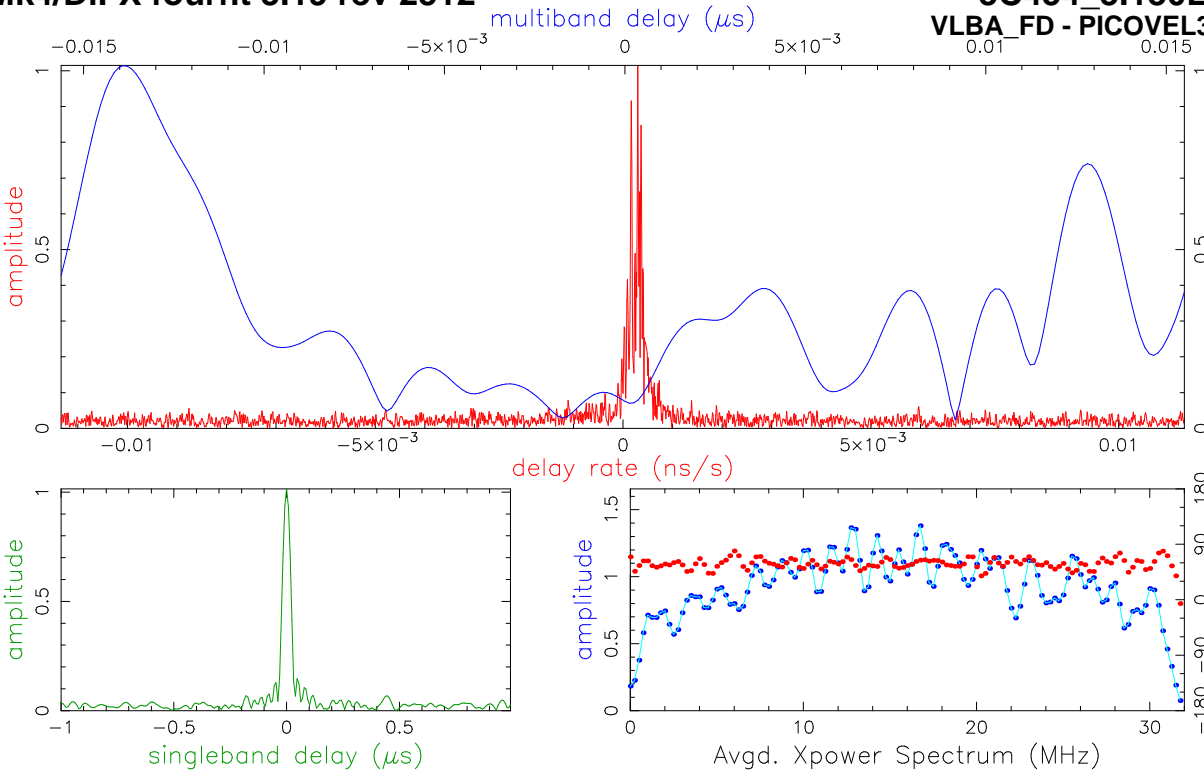


Fringe quality 9
SNR 9.4
Int time 475.809
Amp 0.158
Phase 63.1
PFD 2.1e-12
Delays (us)
SBD 0.003140
MBD -0.012129
Fringe rate (Hz) 0.026182
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101224
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	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		
fj	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fi	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	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		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)		1.75863067326E+03																
Sband delay (usec)		1.75864594218E+03																
Phase delay (usec)		1.75864280422E+03																
Delay rate (us/s)		1.89581550662E+00																
Total phase (deg)					55.9													
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
pcal mode: MANUAL, MANUAL																		
PC period (AP's) 5, 5																		
Search (2048X64)																		
Interp.																		
Inc. seg. avg.																		
Inc. frq. avg.																		
0.158 +/- 0.017																		
0.140																		
0.000																		
0.232																		
0.235																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
SampCntNorm: enabled																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
simultaneous interpolator																		

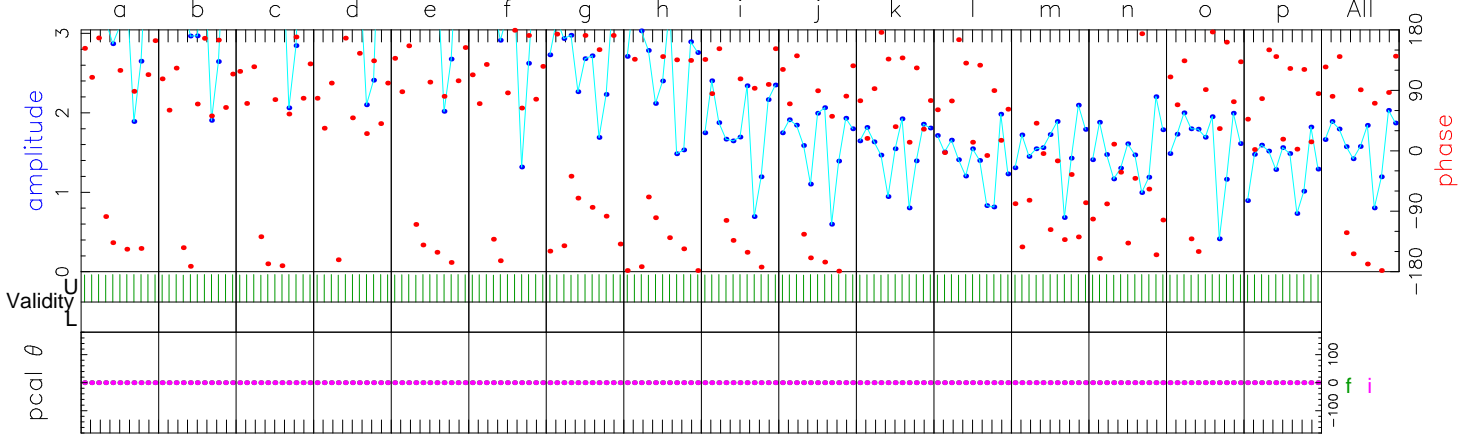


Fringe quality 1

SNR 60.5
Int time 475.809
Amp 1.015
Phase 137.4
PFD 0.0e+00
Delays (us)
SBD -0.000179
MBD -0.013877
Fringe rate (Hz) 0.026123
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

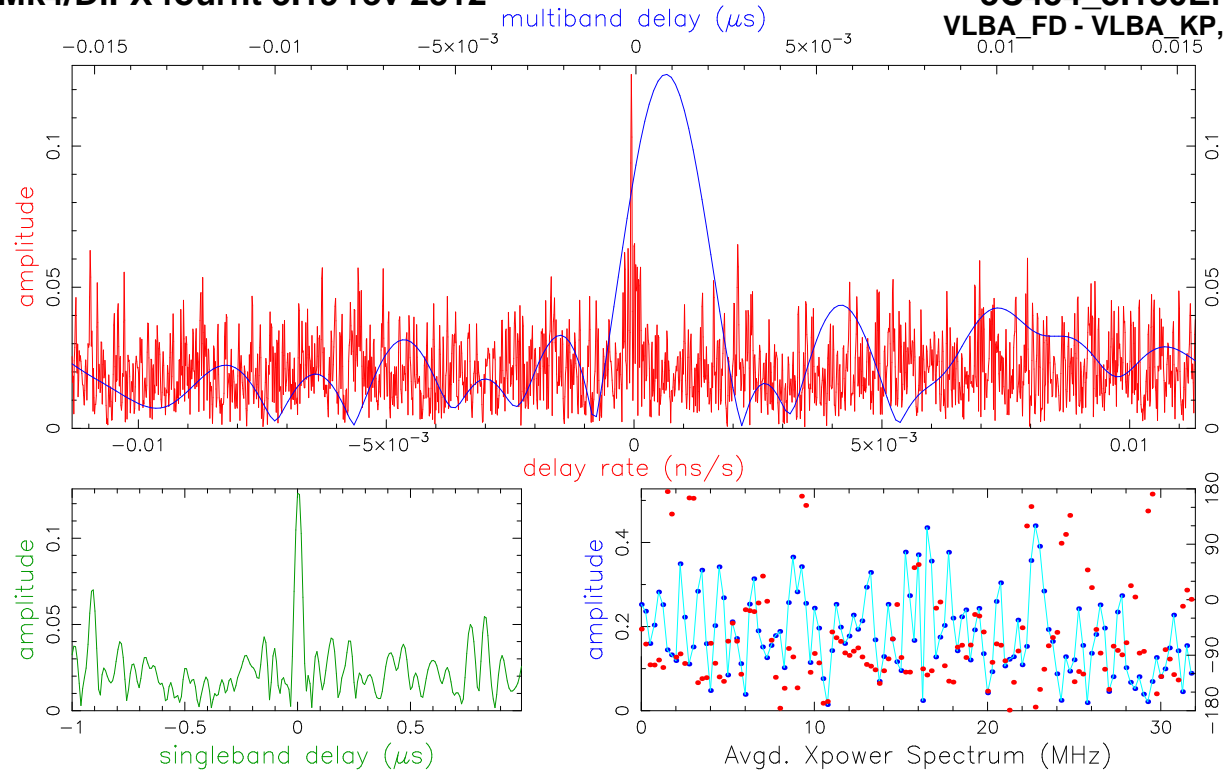
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101209
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



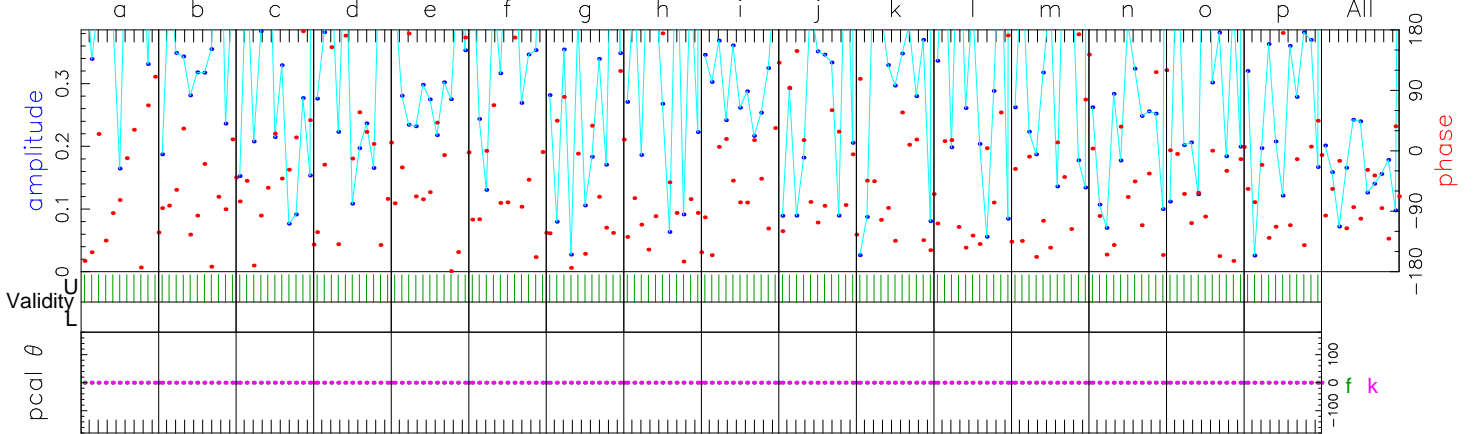
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	161.8	116.6	125.1	91.2	148.7	128.1	-140.5	-175.2	150.2	132.5	80.3	60.1	-73.4	-103.7	133.1	70.3	Phase	137.4
	2.2	2.1	2.4	2.3	2.2	2.0	1.8	1.7	1.1	1.0	1.0	0.8	0.9	0.9	1.0	0.8	Ampl.	1.5
	127.9	129.1	128.9	128.8	128.7	128.8	128.8	128.8	129.4	129.0	128.9	129.3	129.0	128.5	128.8	127.0	Sbd box	129.0
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
fi	0:0	0:0	0:0	0:0	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	
fi	0:0	0:0	0:0	0:0	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	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)			1.75862892508E+03					Apriori delay (usec)	1.75864280218E+03				Resid mbdelay (usec)	-1.38771E-02			+/-	1.8E-05
Sband delay (usec)			1.75864262268E+03					Apriori clock (usec)	9.9123794E-01				Resid sbdelay (usec)	-1.79500E-04			+/-	2.8E-04
Phase delay (usec)			1.75864280662E+03					Apriori clockrate (us/s)	2.6205050E-07				Resid phdelay (usec)	4.43089E-06			+/-	6.1E-08
Delay rate (us/s)			1.89581550594E+00					Apriori rate (us/s)	1.89581520267E+00				Resid rate (us/s)	3.03268E-07			+/-	2.2E-10
Total phase (deg)				130.3				Apriori accel (us/s/s)	-1.22903536296E-05				Resid phase (deg)		137.4		+/-	1.9

ph/seg (deg) 54.3 3.1 Amplitude 1.015 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 67.3 5.5 Search (2048X64) 0.927 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 67.0 3.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 76.4 6.6 Inc. seg. avg. 1.604 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 f: az 96.8 el 43.9 pa -62.8 i: az 260.3 el 39.6 pa 54.8 u,v (fr/asec) -11329.526 -999.367 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fi..130ERS Output file: /Exps/c192b/v2/1234/No0145/fi.W.92.130ERS simultaneous interpolator



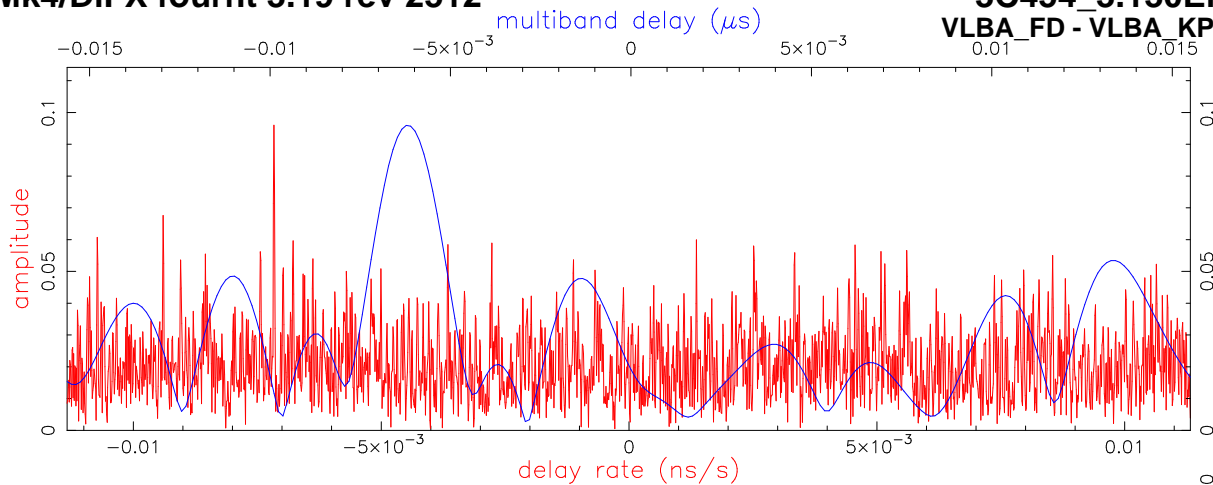
Fringe quality 9
SNR 7.6
Int time 469.113
Amp 0.129
Phase -79.7
PFD 8.4e-06
Delays (us)
SBD 0.003713
MBD 0.000789
Fringe rate (Hz)
-0.004909
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014506.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101216
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



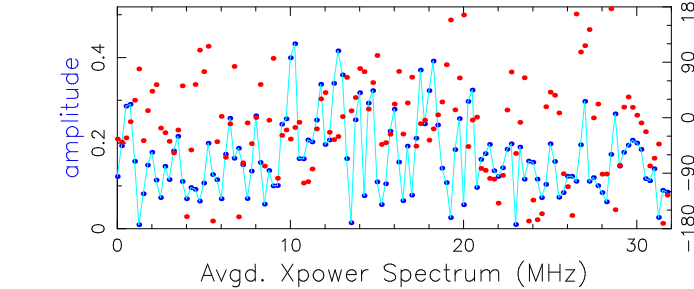
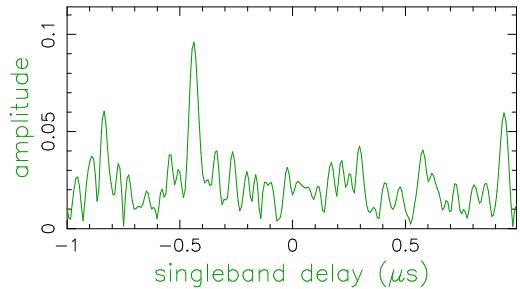
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-164.9	-65.2	-57.5	-129.9	-95.6	-78.0	-96.4	-105.5	-44.7	-60.3	-60.7	-84.3	-100.0	-67.9	-72.5	-76.8	Phase	-79.7	
	0.0	0.2	0.2	0.1	0.1	0.2	0.0	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	Ampl.	0.1	
	92.5	129.6	136.2	143.9	40.6	128.3	28.8	130.0	129.0	18.0	90.4	27.7	122.9	254.5	6.6	152.0	Sbd box	129.5	
U/L	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	APs used		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
f:k	0:0	0:0	0:0	0:0	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:k	0:0	0:0	0:0	0:0	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		
k	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		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks		
																	Chan ids		
																	Tracks		
Group delay (usec)(sbd)			1.84788396928E+03					Apriori delay (usec)	1.84788318040E+03								Resid mbdelay (usec)	7.88878E-04	+/- 1.4E-04
Sband delay (usec)			1.84788689340E+03					Apriori clock (usec)	8.6836326E-01								Resid sbdelay (usec)	3.71300E-03	+/- 2.3E-03
Phase delay (usec)			1.84788317783E+03					Apriori clockrate (us/s)	1.0362949E-07								Resid phdelay (usec)	-2.57098E-06	+/- 4.9E-07
Delay rate (us/s)			-9.39626298730E-02					Apriori rate (us/s)	-9.39625728808E-02								Resid rate (us/s)	-5.69921E-08	+/- 1.8E-09
Total phase (deg)					-22.3			Apriori accel (us/s/s)	-1.04438361771E-05								Resid phase (deg)	-79.7	+/- 15.0

ph/seg (deg) 49.9 26.1 Search (2048X64) 0.124 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 48.9 45.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 31.9 30.1 Inc. seg. avg. 0.147 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 45.6 52.5 Inc. frq. avg. 0.120 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 96.8 el 43.9 pa -62.8 k: az 93.4 el 37.2 pa -61.8 u,v (fr/asec) 541.553 -410.516 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fk..130ERS Output file: /Exps/c192b/v2/1234/No0145/fk.W.116.130ERS



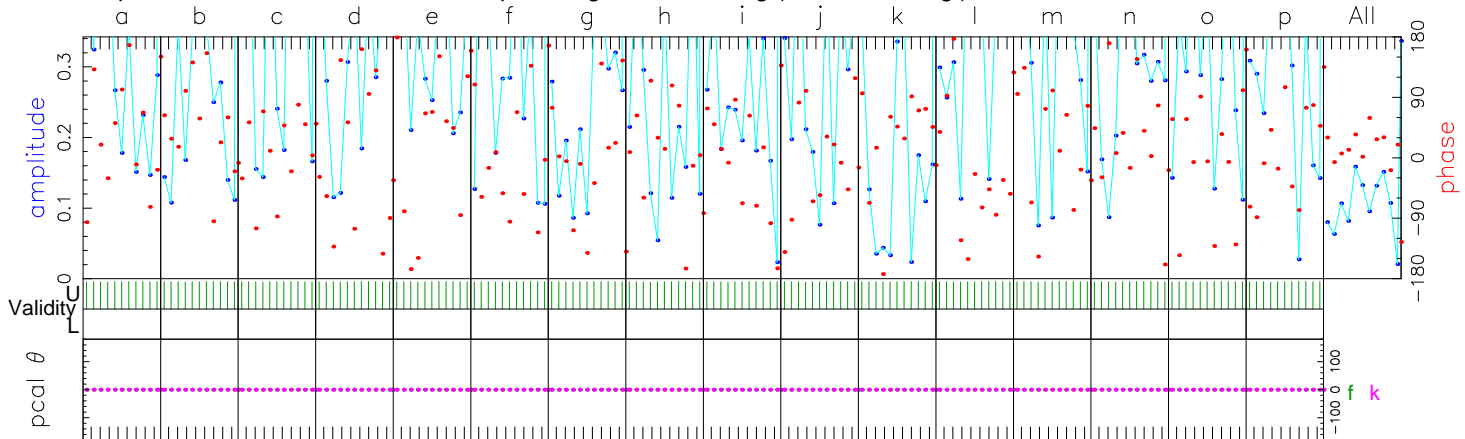
Fringe quality 0

SNR 5.7
Int time 469.113
Amp 0.114
Phase 19.2
PFD 9.4e-01
Delays (us)
SBD -0.439267
MBD -0.006179
Fringe rate (Hz)
-0.617477
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014506.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101221
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0		
f	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		
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		

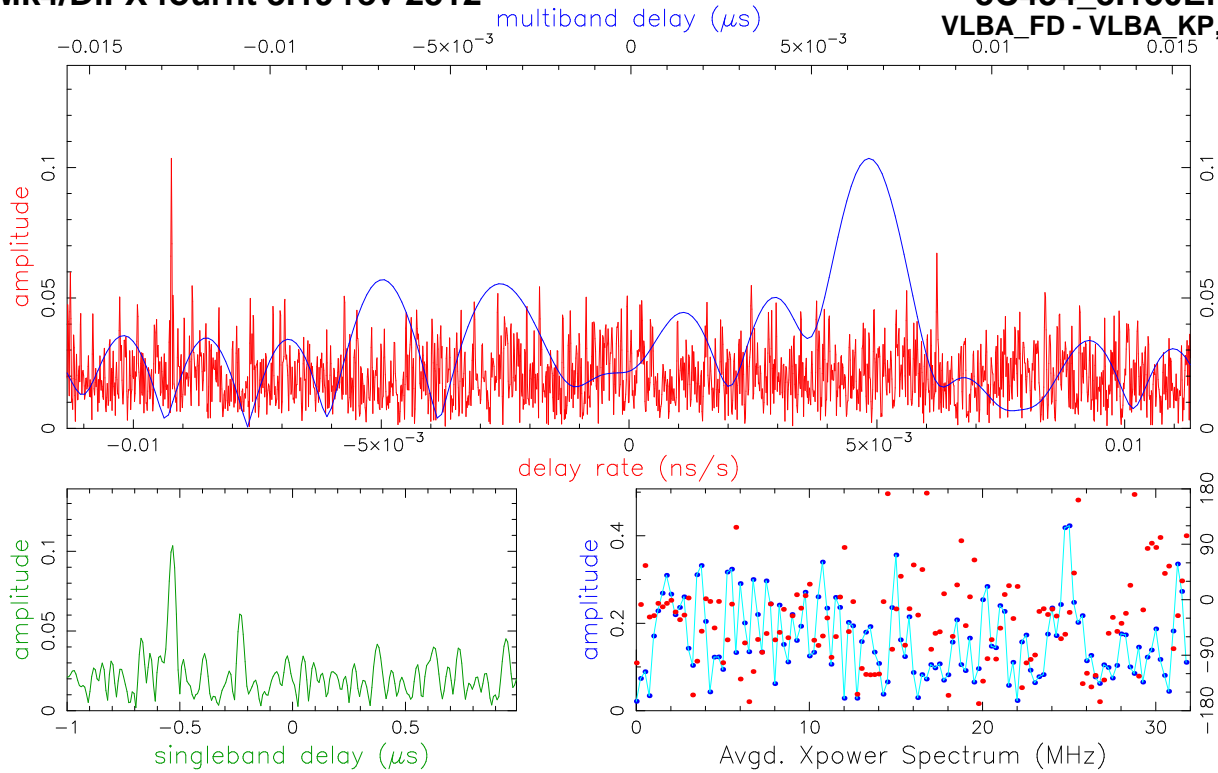
Group delay (usec)(sbd)	1.84743950190E+03	Apriori delay (usec)	1.84788318040E+03	Resid mbdelay (usec)	-6.17850E-03	+/-	1.9E-04
Sband delay (usec)	1.84744391290E+03	Apriori clock (usec)	8.6836326E-01	Resid sbdelay (usec)	-4.39267E-01	+/-	3.0E-03
Phase delay (usec)	1.84788318102E+03	Apriori clockrate (us/s)	1.0362949E-07	Resid phdelay (usec)	6.19455E-07	+/-	6.5E-07
Delay rate (us/s)	-9.39697411811E-02	Apriori rate (us/s)	-9.39625728808E-02	Resid rate (us/s)	-7.16830E-06	+/-	2.4E-09
Total phase (deg)		Apriori accel (us/s/s)	-1.04438361771E-05	Resid phase (deg)	19.2	+/-	20.1

ph/seg (deg)	RMS 21.1	Theor. 34.8	Amplitude Search (2048X64)	0.114 +/- 0.020	0.090	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	41.2	60.7	Interp.	0.000	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	56.5	40.2	Inc. seg. avg.	0.103	0.103	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	57.0	70.1	Inc. frq. avg.	0.124	0.124	Sample rate(MSamp/s): 64	mb window (us) -0.016 0.016
						Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 128	t_cohere infinite
							ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 k: az 93.4 el 37.2 pa -61.8 u, v (fr/asec) 541.553 -410.516 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fk..130ERS Output file: /Exps/c192b/v2/1234/No0145/fk.W.137.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fk
VLBA_FD - VLBA_KP, fgroup W, pol RL

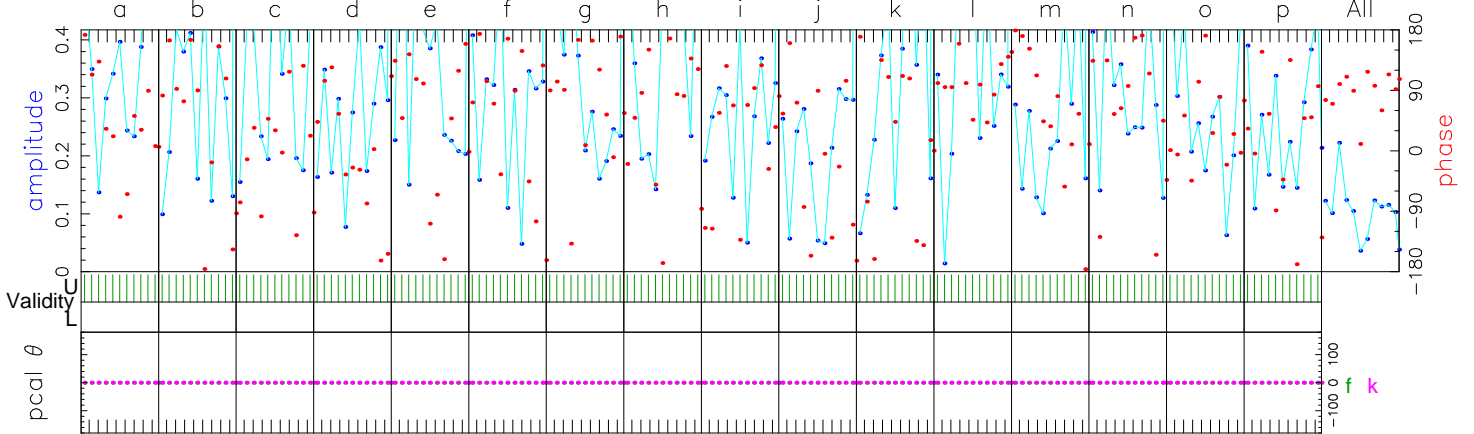


Fringe quality 0

SNR 6.2
Int time 469.113
Amp 0.139
Phase 90.5
PFD 1.7e-01
Delays (us)
SBD -0.533316
MBD 0.006578
Fringe rate (Hz)
-0.796181
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014506.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101227
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	Phase	90.5
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	0.2
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	60.7
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	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 freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	ManI PC	
k	1000	1000	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	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL			Tracks	

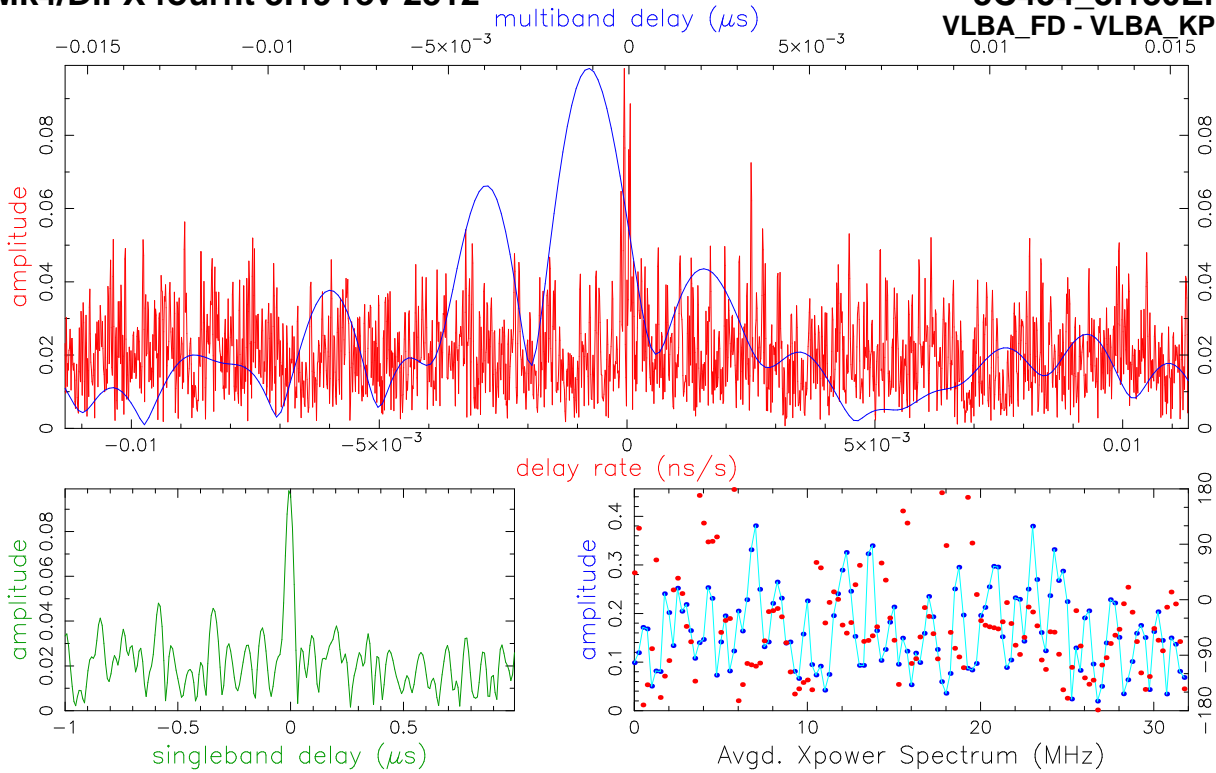
Group delay (usec)(sbd) 1.84735850834E+03 Apriori delay (usec) 1.84788318040E+03 Resid mbdelay (usec) 6.57795E-03 +/- 1.7E-04
 Sband delay (usec) 1.84734986440E+03 Apriori clock (usec) 8.6836326E-01 Resid sbdelay (usec) -5.33316E-01 +/- 2.8E-03
 Phase delay (usec) 1.84788318332E+03 Apriori clockrate (us/s) 1.0362949E-07 Resid phdelay (usec) 2.91919E-06 +/- 6.0E-07
 Delay rate (us/s) -9.39718157556E-02 Apriori rate (us/s) -9.39625728808E-02 Resid rate (us/s) -9.24287E-06 +/- 2.2E-09
 Total phase (deg) 148.0 Apriori accel (us/s/s) -1.04438361771E-05 Resid phase (deg) 90.5 +/- 18.6

RMS Theor. Amplitude 0.139 +/- 0.023 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 29.8 32.2 Search (2048X64) 0.101 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 43.1 56.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 61.2 37.2 Inc. seg. avg. 0.128 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 71.3 64.9 Inc. frq. avg. 0.150 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 k: az 93.4 el 37.2 pa -61.8 u,v (fr/asec) 541.553 -410.516 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fk..130ERS Output file: /Exps/c192b/v2/1234/No0145/fk.W.156.130ERS

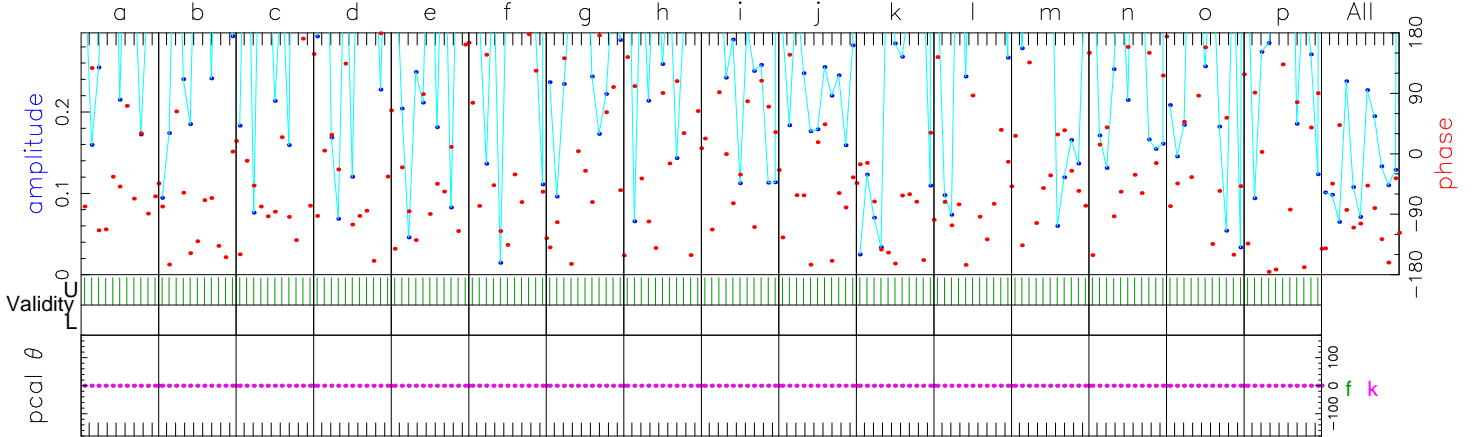
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fk
VLBA_FD - VLBA_KP, fgroup W, pol LL



Fringe quality 0
SNR 5.9
Int time 469.113
Amp 0.099
Phase -83.9
PFD 6.7e-01
Delays (us)
SBD -0.005019
MBD -0.001107
Fringe rate (Hz)
-0.004901
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014506.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101209
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



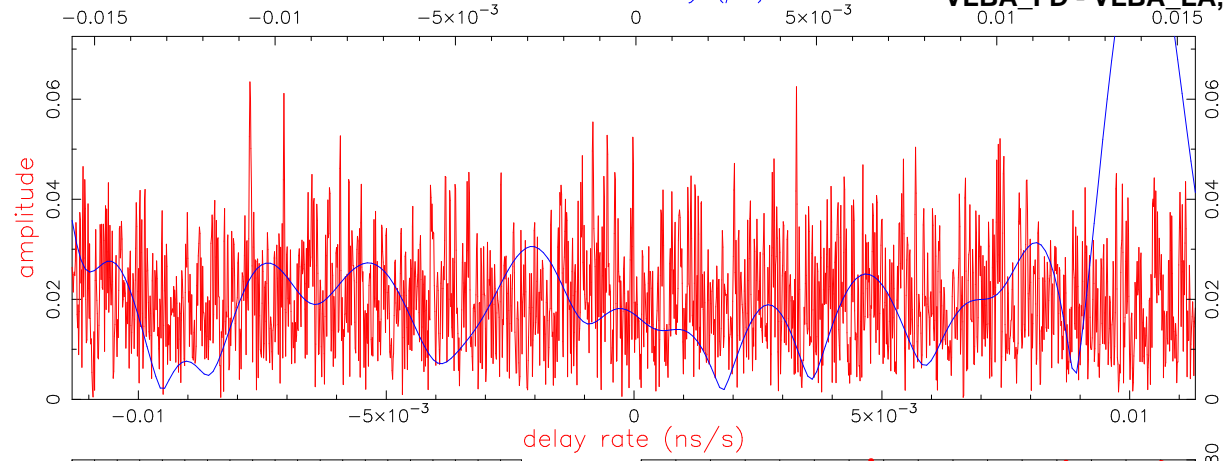
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-62.6	-103.4	-93.2	-76.1	-110.1	-83.3	-62.9	93.1	14.4	-72.9	-106.4	-84.6	-46.3	-65.6	-86.8	-164.7	Phase	-83.9
	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Ampl.	0.1
	77.0	129.0	228.3	226.6	184.2	86.0	253.3	205.0	83.4	3.1	131.5	95.9	148.6	52.4	76.9	221.0	Sbd box	128.4
U/L	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	925/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	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:k	0:0	0:0	0:0	0:0	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	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 1.84788207296E+03 Apriori delay (usec) 1.84788318040E+03 Resid mbdelay (usec) -1.10743E-03 +/- 1.8E-04
 Sband delay (usec) 1.84787816090E+03 Apriori clock (usec) 8.6836326E-01 Resid sbdelay (usec) -5.01950E-03 +/- 2.9E-03
 Phase delay (usec) 1.84788317769E+03 Apriori clockrate (us/s) 1.0362949E-07 Resid phdelay (usec) -2.70544E-06 +/- 6.3E-07
 Delay rate (us/s) -9.39626297745E-02 Apriori rate (us/s) -9.39625728808E-02 Resid rate (us/s) -5.68936E-08 +/- 2.3E-09
 Total phase (deg) -26.5 Apriori accel (us/s/s) -1.04438361771E-05 Resid phase (deg) -83.9 +/- 19.5

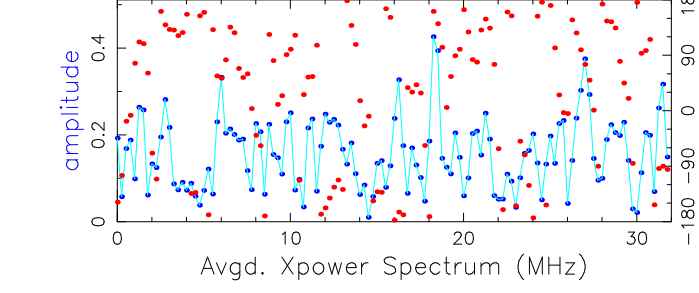
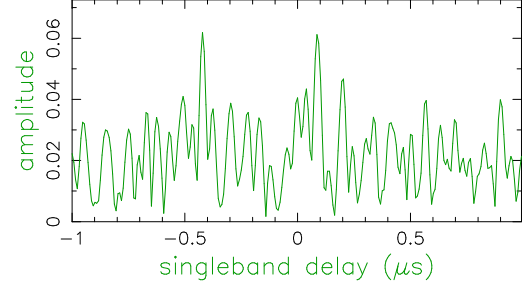
RMS Theor. Amplitude 0.099 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 55.2 33.8 Search (2048X64) 0.097 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 71.2 59.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 60.9 39.1 Inc. seg. avg. 0.115 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 59.5 68.2 Inc. frq. avg. 0.094 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 k: az 93.4 el 37.2 pa -61.8 u,v (fr/asec) 541.553 -410.516 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fk..130ERS Output file: /Exps/c192b/v2/1234/No0145/fk.W.93.130ERS

multiband delay (μ s)

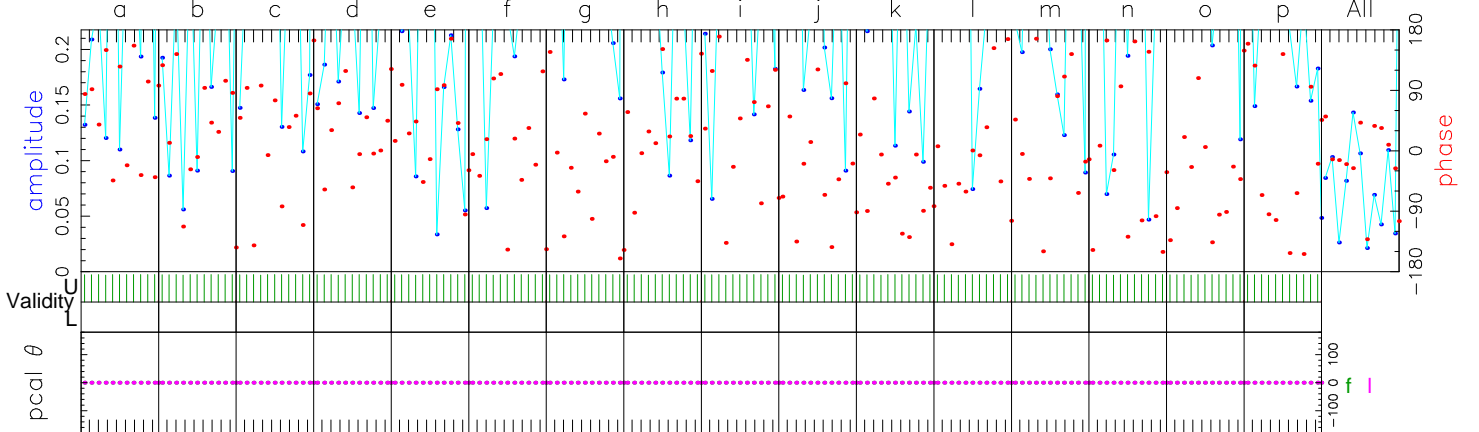


Fringe quality 0
SNR 3.7
Int time 472.441
Amp 0.073
Phase 4.1
PFD 1.0e+00
Delays (us)
SBD 0.087849
MBD -0.016113
Fringe rate (Hz)
-0.609552
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



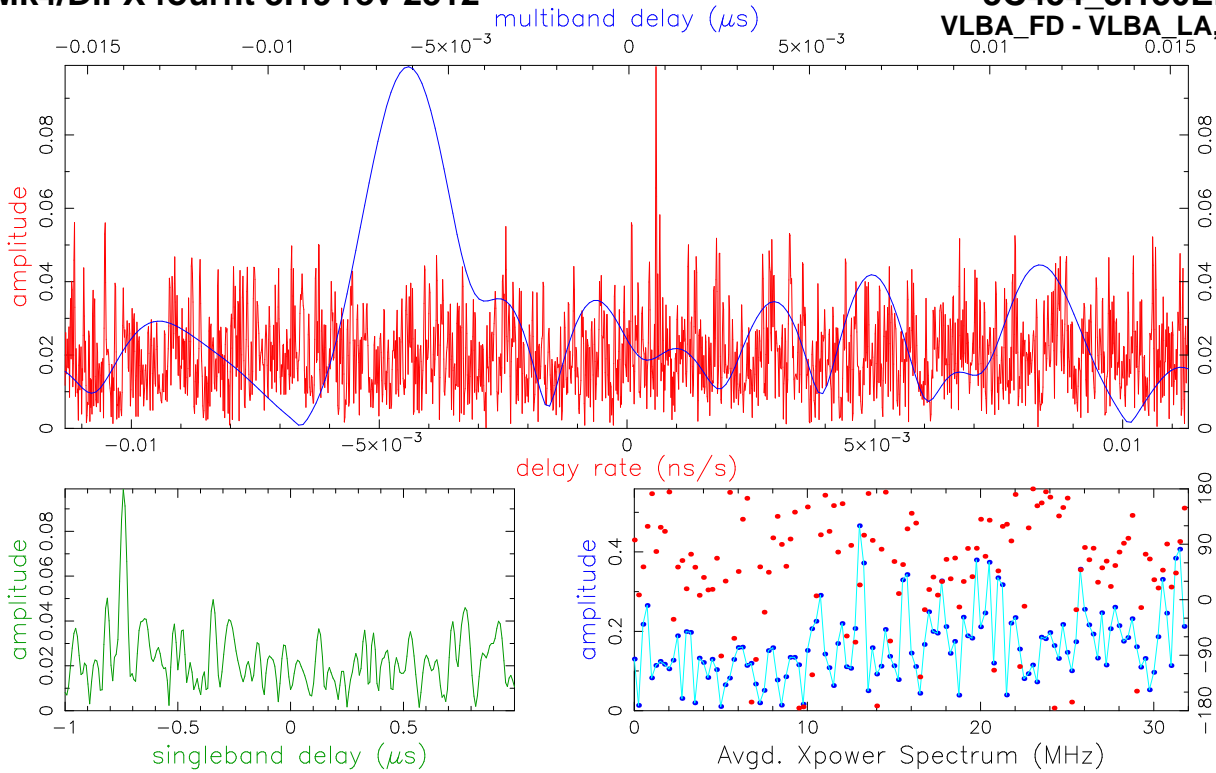
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014504.61
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101215
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



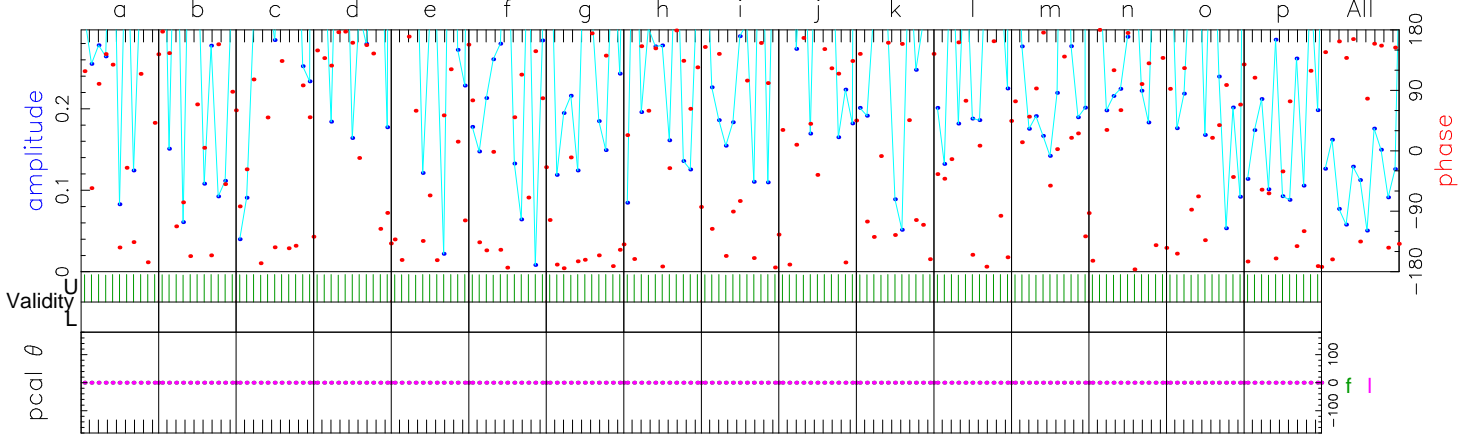
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
l	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		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)		7.33415878853E+02																
Sband delay (usec)		7.33426091635E+02																
Phase delay (usec)		7.33338242267E+02																
Delay rate (us/s)		2.08027602048E-02																
Total phase (deg)			68.0															
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
Pcal mode: MANUAL, MANUAL																		
Pcal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
simultaneous interpolator																		

f: az 96.8 el 43.9 pa -62.8 l: az 99.9 el 41.2 pa -56.1 u,v (fr/asec) -135.702 -780.693
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fl..130ERS Output file: /Exps/c192b/v2/1234/No0145/fl.W.113.130ERS



Fringe quality 0
SNR 5.9
Int time 472.441
Amp 0.099
Phase 169.8
PFD 6.6e-01
Delays (us)
SBD -0.740986
MBD -0.006106
Fringe rate (Hz)
0.050671
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014504.61
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101221
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

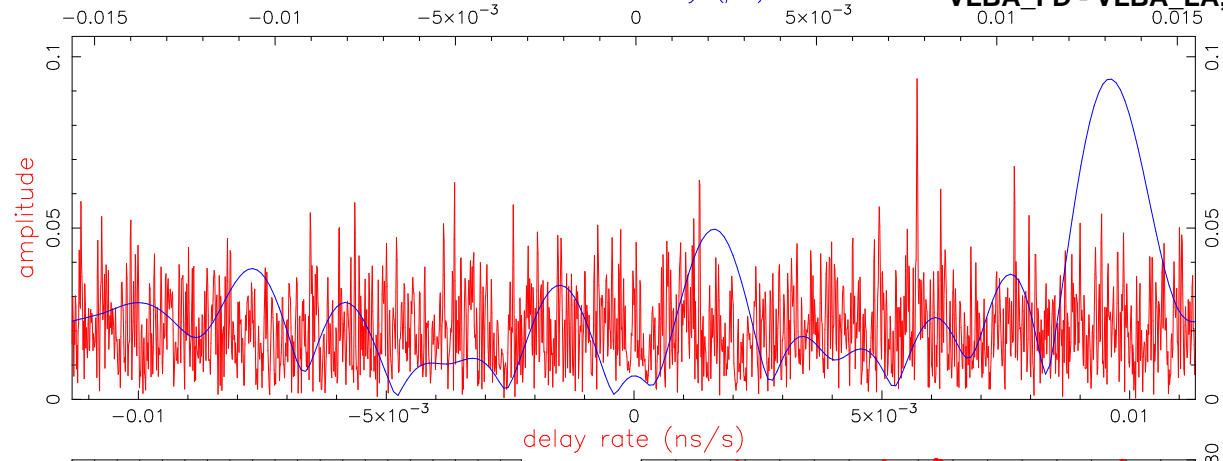


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)		7.32582136356E+02																
Sband delay (usec)		7.32597256635E+02																
Phase delay (usec)		7.33338247611E+02																
Delay rate (us/s)		2.08104247384E-02																
Total phase (deg)				233.7														
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
simultaneous interpolator																		

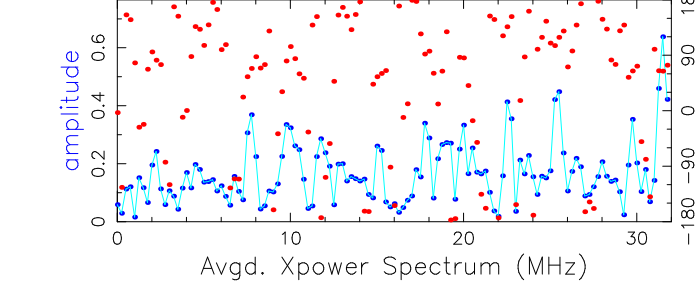
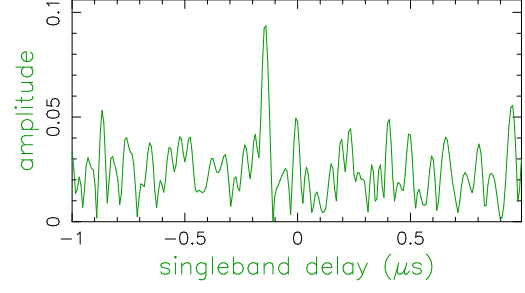
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fl
VLBA_FD - VLBA_LA, fgroup W, pol RL

multiband delay (μ s)

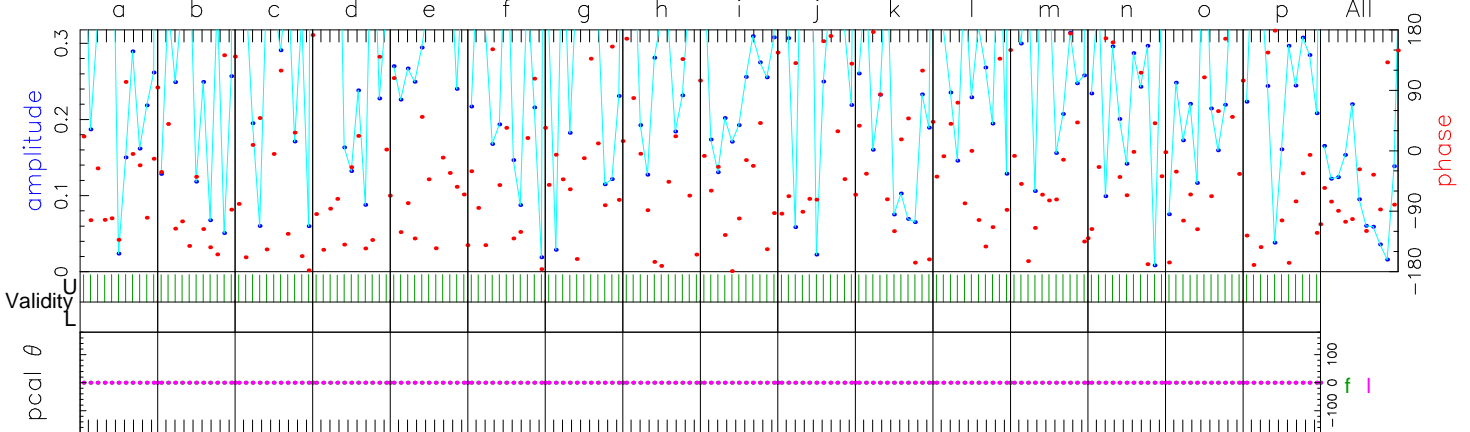


Fringe quality 0
SNR 5.7
Int time 472.441
Amp 0.106
Phase -82.0
PFD 9.8e-01
Delays (us)
SBD -0.144002
MBD 0.013128
Fringe rate (Hz)
0.493032
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014504.61
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101226
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

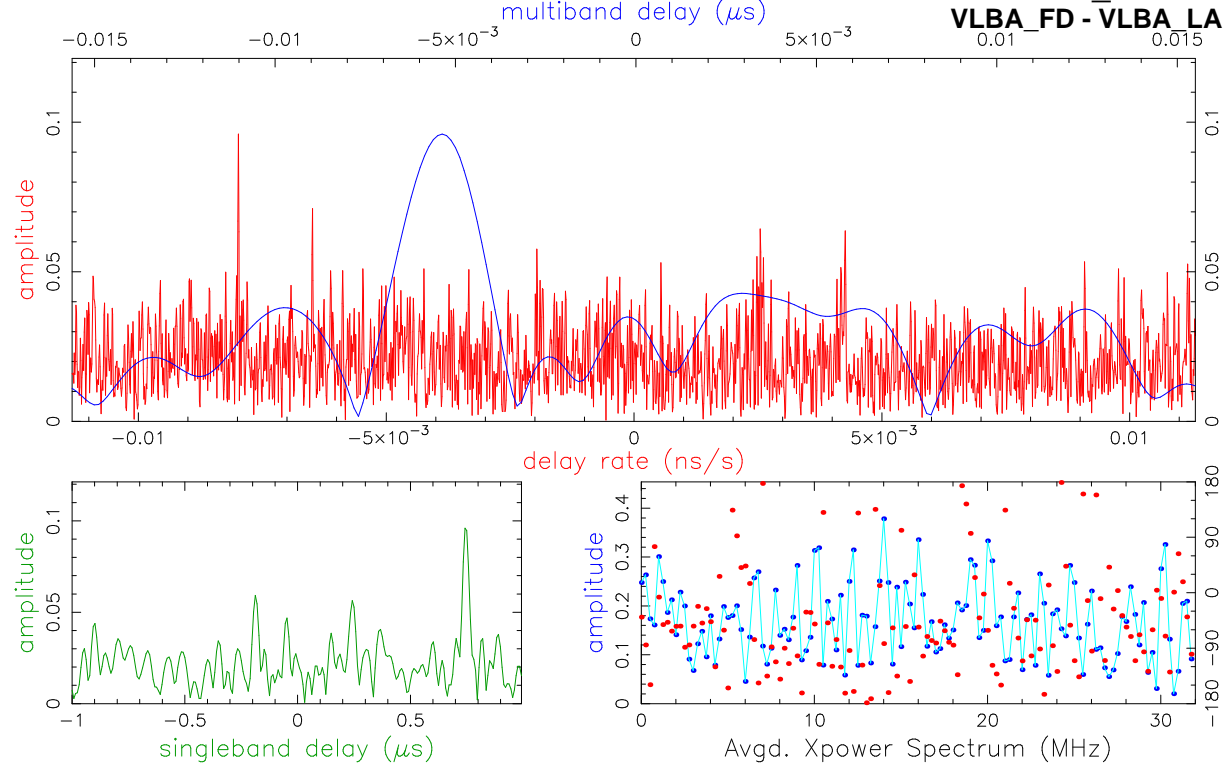


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
l	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		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)		7.33195119885E+02																
Sband delay (usec)		7.33194240135E+02																
Phase delay (usec)		7.33338239490E+02																
Delay rate (us/s)		2.08155601097E-02																
Total phase (deg)					-18.1													
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
simultaneous interpolator																		

f: az 96.8 el 43.9 pa -62.8 l: az 99.9 el 41.2 pa -56.1 u,v (fr/asec) -135.702 -780.693
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fl..130ERS Output file: /Exps/c192b/v2/1234/No0145/fl.W.153.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fl
VLBA_FD - VLBA_LA, fgroup W, pol LL

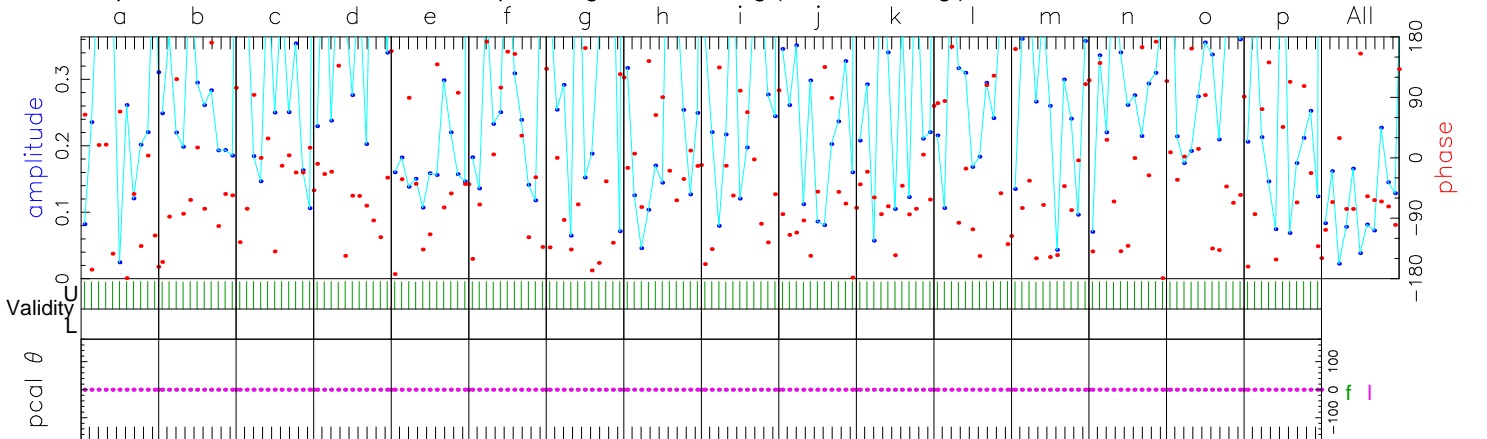


Fringe quality 0

SNR 5.8
Int time 472.441
Amp 0.121
Phase -75.5
PFD 7.6e-01
Delays (us)
SBD 0.745582
MBD -0.005380
Fringe rate (Hz)
-0.688469
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014504.61
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101209
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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
	-96.0	-83.5	-27.4	-73.1	-69.9	178.6	-101.2	-16.2	-75.4	-101.5	-59.6	-149.6	-80.7	-147.6	-31.6	16.2	Phase	-75.5
	0.1	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.0	Ampl.	0.1
	243.7	120.4	72.5	223.7	35.0	221.9	218.3	102.2	25.7	106.4	225.0	84.5	248.5	123.3	209.8	23.7	Sbd box	224.4
U/L	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	929/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:l	0:0	0:0	0:0	0:0	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:l	0:0	0:0	0:0	0:0	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	
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	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	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

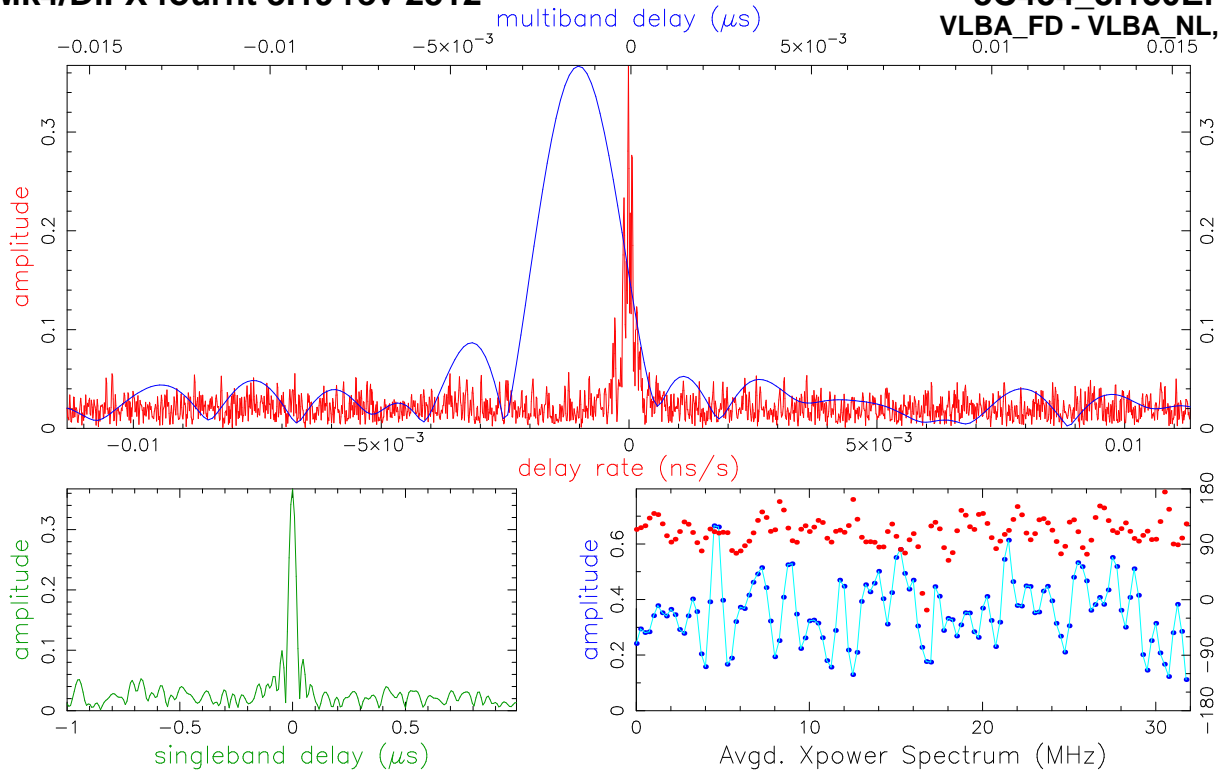
Group delay (usec)(sbd) 7.34082862126E+02 Apriori delay (usec) 7.33338242135E+02 Resid mbdelay (usec) -5.38001E-03 +/- 1.9E-04
 Sband delay (usec) 7.34083823635E+02 Apriori clock (usec) 1.2243521E+00 Resid sbdelay (usec) 7.45582E-01 +/- 3.0E-03
 Phase delay (usec) 7.33338239701E+02 Apriori clockrate (us/s) 2.6052251E-07 Resid phdelay (usec) -2.43354E-06 +/- 6.3E-07
 Delay rate (us/s) 2.08018440596E-02 Apriori rate (us/s) 2.08098364989E-02 Resid rate (us/s) -7.99244E-06 +/- 2.3E-09
 Total phase (deg) -11.6 Apriori accel (us/s/s) -6.26202162361E-06 Resid phase (deg) -75.5 +/- 19.7

RMS Theor. Amplitude 0.121 +/- 0.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 53.2 34.1 Search (2048X64) 0.094 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 63.8 59.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 53.6 39.3 Inc. seg. avg. 0.117 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 67.2 68.7 Inc. frq. avg. 0.128 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 l: az 99.9 el 41.2 pa -56.1 u,v (fr/asec) -135.702 -780.693 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fl..130ERS Output file: /Exps/c192b/v2/1234/No0145/fl.W.90.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fn
VLBA_FD - VLBA_NL, fgroup W, pol RR

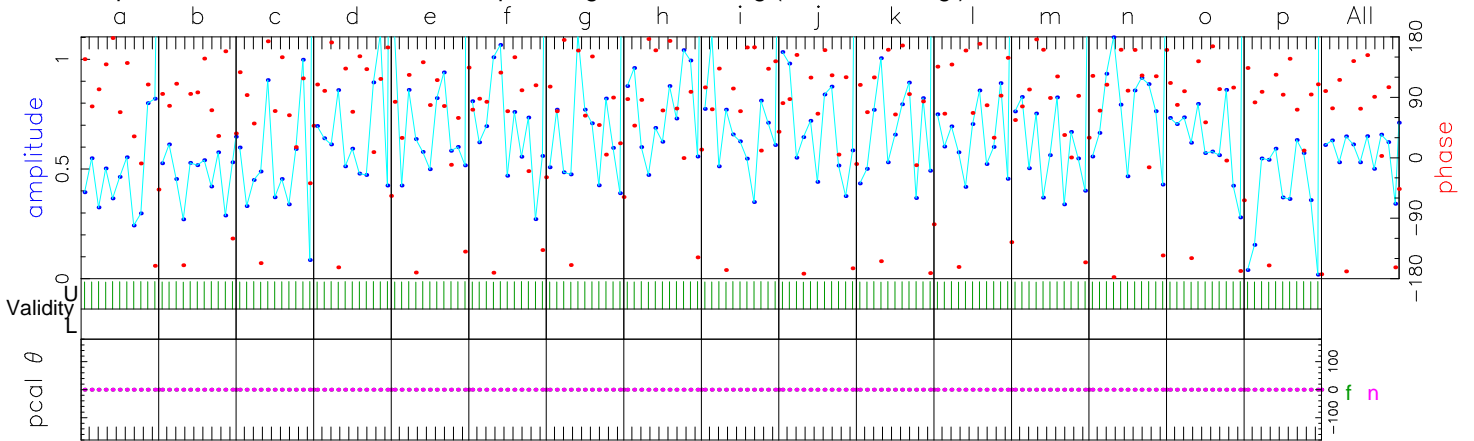


Fringe quality 7

SNR 21.8
Int time 470.645
Amp 0.368
Phase 112.1
PFD 0.0e+00
Delays (us)
SBD -0.001140
MBD -0.001468
Fringe rate (Hz)
-0.000517
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014505.63
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101214
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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					
	123.0	103.9	113.9	124.3	98.4	113.0	99.4	94.5	112.3	119.8	123.6	117.0	95.3	131.9	108.7	103.6		Phase 112.1					
	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.3	0.2		Ampl. 0.4					
	129.7	129.6	128.9	128.1	129.4	129.2	129.3	129.1	128.6	128.7	128.6	128.6	128.2	128.8	128.6	128.5		Sbd box 128.9					
U/L	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0		APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
f:n	0:0	0:0	0:0	0:0	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					
fn	0:0	0:0	0:0	0:0	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					
n	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					
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-1.50769600136E+03															Apriori delay (usec)	-1.50769453373E+03	Resid mbdelay (usec)	-1.46762E-03	+/-	4.9E-05
Sband delay (usec)			-1.50769567423E+03															Apriori clock (usec)	-2.6045895E+01	Resid sbdelay (usec)	-1.14050E-03	+/-	7.9E-04
Phase delay (usec)			-1.50769453012E+03															Apriori clockrate (us/s)	-2.2517302E-07	Resid phdelay (usec)	3.61410E-06	+/-	1.7E-07
Delay rate (us/s)			3.06121041711E-01															Apriori rate (us/s)	3.06121047708E-01	Resid rate (us/s)	-5.99723E-09	+/-	6.2E-10
Total phase (deg)					63.2													Apriori accel (us/s/s)	2.93919193116E-06	Resid phase (deg)	112.1	+/-	5.3

ph/seg (deg) 54.3 9.1
amp/seg (%) 61.8 15.9
ph/frq (deg) 11.9 10.5
amp/frq (%) 18.0 18.3

RMS Theor. Amplitude 0.368 +/- 0.017
Search (2048X64) 0.347
Interp. 0.000
Inc. seg. avg. 0.569
Inc. frq. avg. 0.368

f: az 96.8 el 43.9 pa -62.8
n: az 118.8 el 50.1 pa -42.7
u,v (fr/asec) -1821.183 -1251.091

Group delay (usec)(sbd) -1.50769600136E+03
Sband delay (usec) -1.50769567423E+03
Phase delay (usec) -1.50769453012E+03
Delay rate (us/s) 3.06121041711E-01
Total phase (deg) 63.2

Apriori delay (usec) -1.50769453373E+03
Apriori clock (usec) -2.6045895E+01
Apriori clockrate (us/s) -2.2517302E-07
Apriori rate (us/s) 3.06121047708E-01
Apriori accel (us/s/s) 2.93919193116E-06

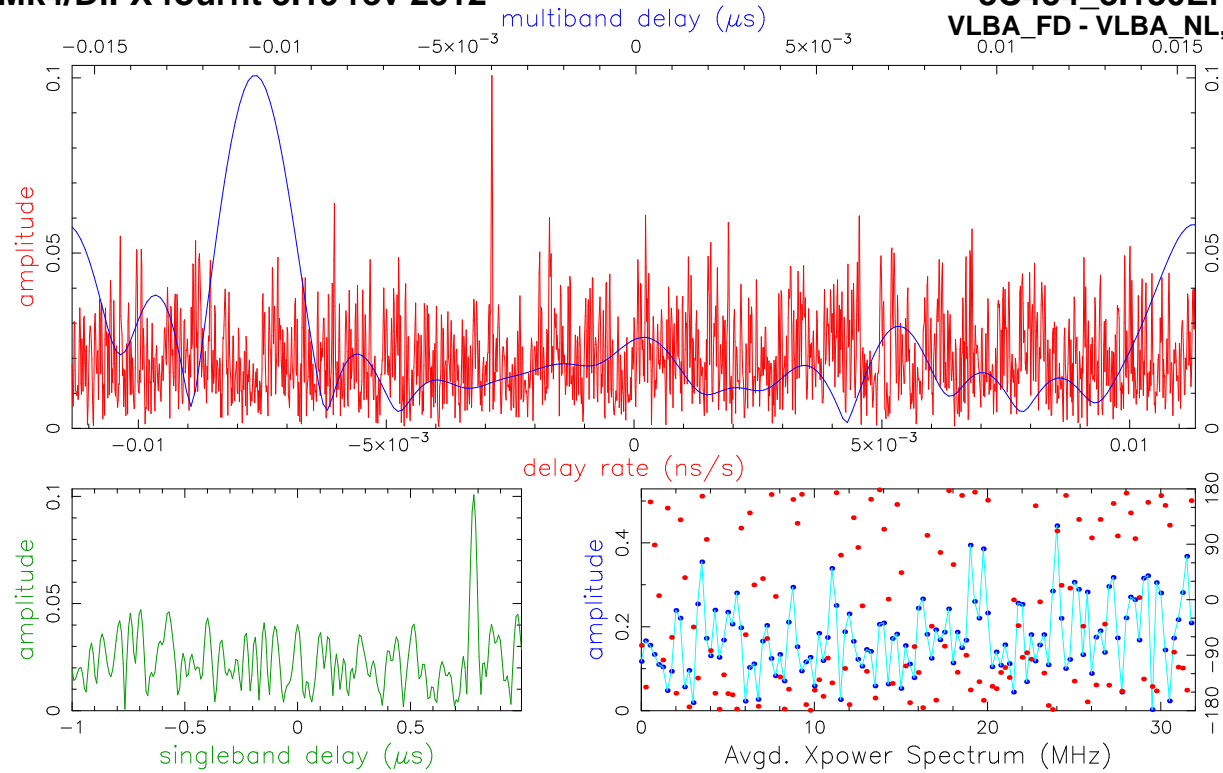
Resid mbdelay (usec) -1.46762E-03
Resid sbdelay (usec) -1.14050E-03
Resid phdelay (usec) 3.61410E-06
Resid rate (us/s) -5.99723E-09
Resid phase (deg) 112.1

PCal mode: MANUAL, MANUAL
PCal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2
Sample rate(MISamp/s): 64
Data rate(Mb/s): 2048

PC period (AP's) 5, 5
sb window (us) -1.000 1.000
SampCntNorm: enabled
mb window (us) -0.016 0.016
dr window (ns/s) -0.011 0.011
ion window (TEC) 0.00 0.00
nlags: 128 t_cohere infinite

simultaneous interpolator

Control file: cf_1234_gmva
Input file: /Exps/c192b/v2/1234/No0145/fn..130ERS
Output file: /Exps/c192b/v2/1234/No0145/fn.W.112.130ERS

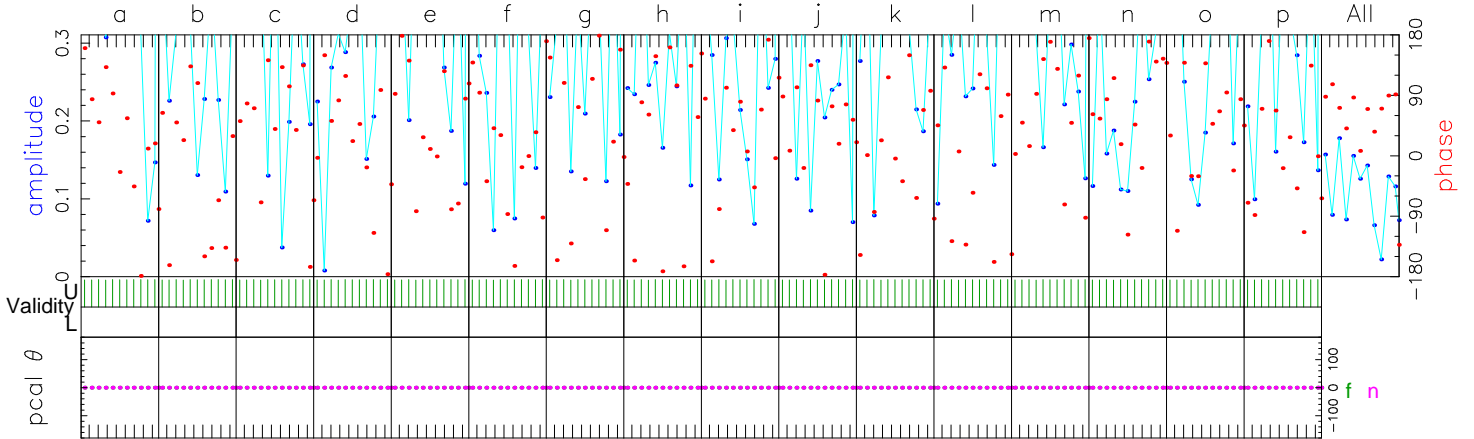


Fringe quality 0

SNR 6.0
Int time 470.646
Amp 0.104
Phase 72.3
PFD 4.3e-01
Delays (us)
SBD 0.780384
MBD -0.010559
Fringe rate (Hz)
-0.247126
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014505.63
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101219
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

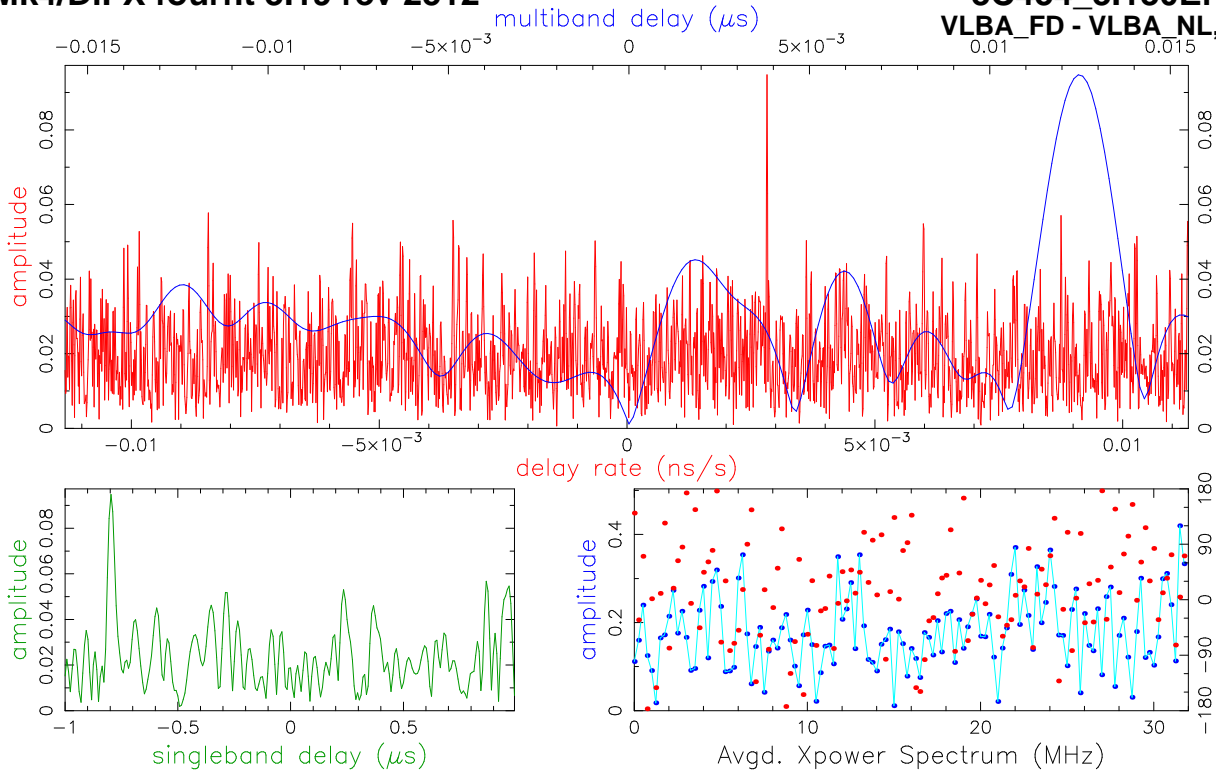


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	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		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)			-1.50692384310E+03															
Sband delay (usec)			-1.50691414923E+03															
Phase delay (usec)			-1.50769453140E+03															
Delay rate (us/s)			3.06118178821E-01															
Total phase (deg)				23.5														
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
PCal mode: MANUAL, MANUAL																		
PCal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		

ph/seg (deg) 29.4 33.2 Search (2048X64) 0.097 PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 46.4 57.9 Interp. 0.000 PCal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 39.7 38.3 Inc. seg. avg. 0.100 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 44.5 66.9 Inc. frq. avg. 0.100 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 96.8 el 43.9 pa -62.8 n: az 118.8 el 50.1 pa -42.7 u,v (fr/asec) -1821.183 -1251.091 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fn..130ERS Output file: /Exps/c192b/v2/1234/No0145/fn.W.130ERS

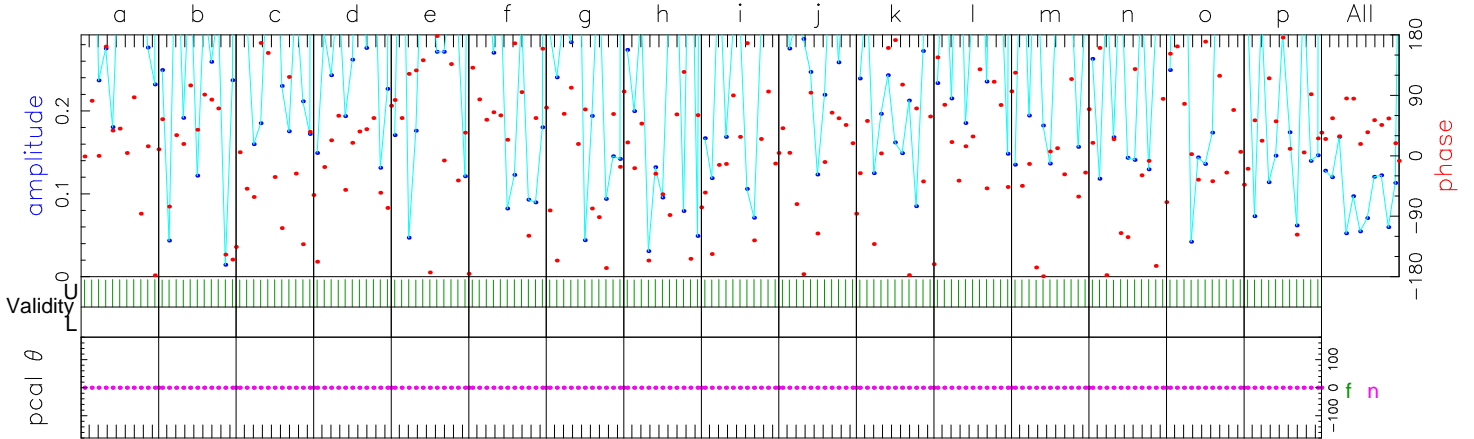
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fn
VLBA_FD - VLBA_NL, fgroup W, pol RL



Fringe quality 0
SNR 5.6
Int time 470.645
Amp 0.097
Phase 42.8
PFD 9.9e-01
Delays (us)
SBD -0.796350
MBD 0.012479
Fringe rate (Hz) 0.243246
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014505.63
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101225
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

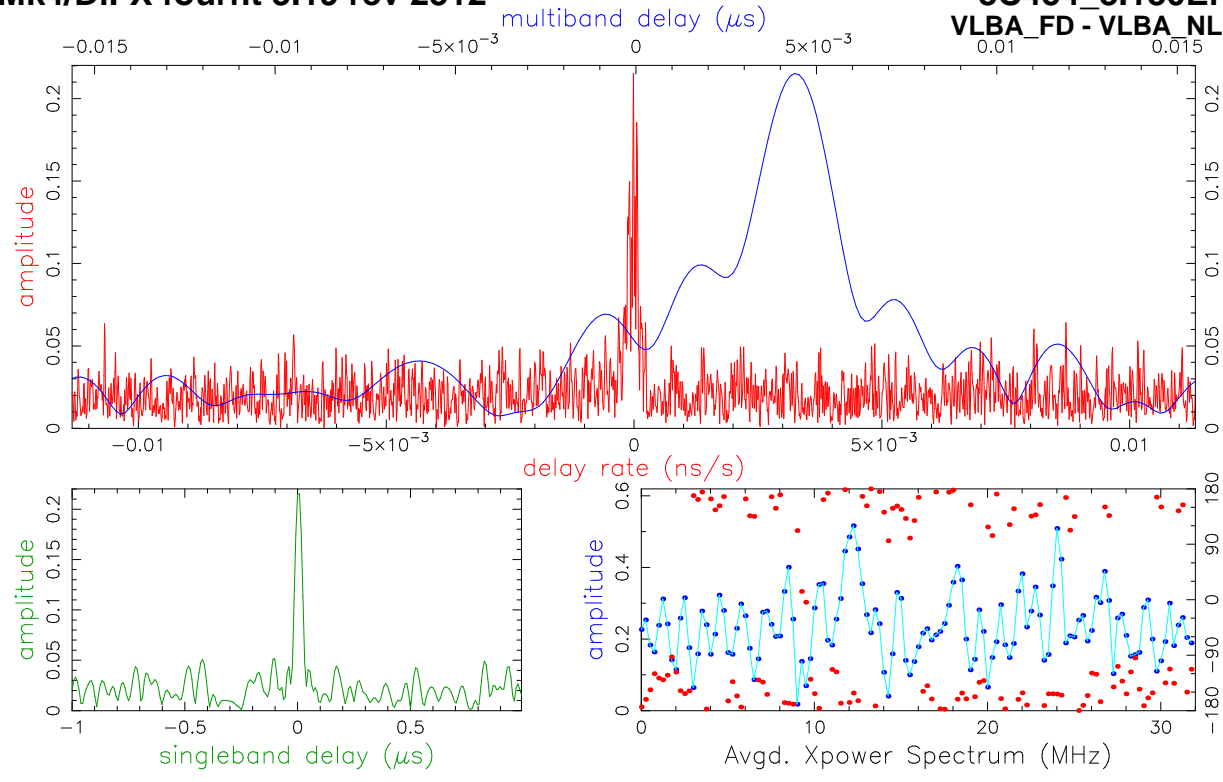


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fn	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	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		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

Group delay (usec)(sbd) -1.50849455473E+03 Apriori delay (usec) -1.50769453373E+03 Resid mbdelay (usec) 1.24790E-02 +/- 1.9E-04
Sband delay (usec) -1.50849088373E+03 Apriori clock (usec) -2.6045895E+01 Resid sbdelay (usec) -7.96350E-01 +/- 3.1E-03
Phase delay (usec) -1.50769453235E+03 Apriori clockrate (us/s) -2.2517302E-07 Resid phdelay (usec) 1.38128E-06 +/- 6.6E-07
Delay rate (us/s) 3.06123871558E-01 Apriori rate (us/s) 3.06121047708E-01 Resid rate (us/s) 2.82385E-06 +/- 2.4E-09
Total phase (deg) -6.0 Apriori accel (us/s/s) 2.93919193116E-06 Resid phase (deg) 42.8 +/- 20.4

RMS Theor. Amplitude 0.097 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
ph/seg (deg) 23.1 35.3 Search (2048X64) 0.093 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
amp/seg (%) 42.7 61.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
ph/frq (deg) 64.4 40.7 Inc. seg. avg. 0.088 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
amp/frq (%) 63.2 71.1 Inc. frq. avg. 0.099 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 n: az 118.8 el 50.1 pa -42.7 u,v (fr/asec) -1821.183 -1251.091 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fn..130ERS Output file: /Exps/c192b/v2/1234/No0145/fn.W.151.130ERS

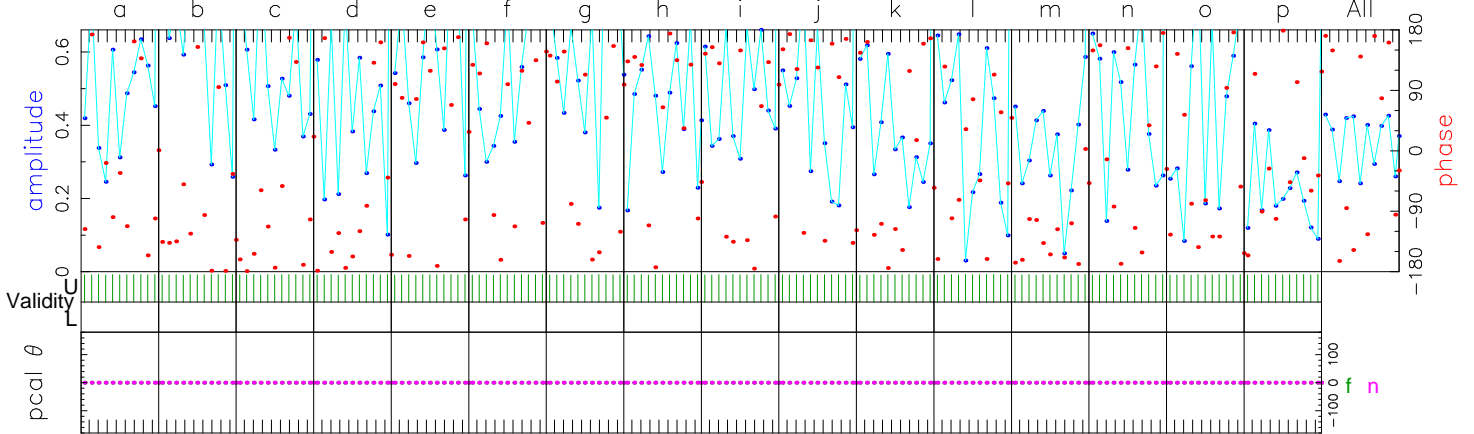


Fringe quality 9

SNR 13.1
Int time 470.645
Amp 0.220
Phase -172.4
PFD 3.0e-30
Delays (us)
SBD 0.003994
MBD 0.004383
Fringe rate (Hz) -0.000503
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014505.63
Stop 015300.26
FRT 014900.00
Corr/FF/build 2020:079:143639
2020:086:101208
2020:014:135814
RA & Dec (J2000) 22h53m57.747940s +16°08'53.560909"

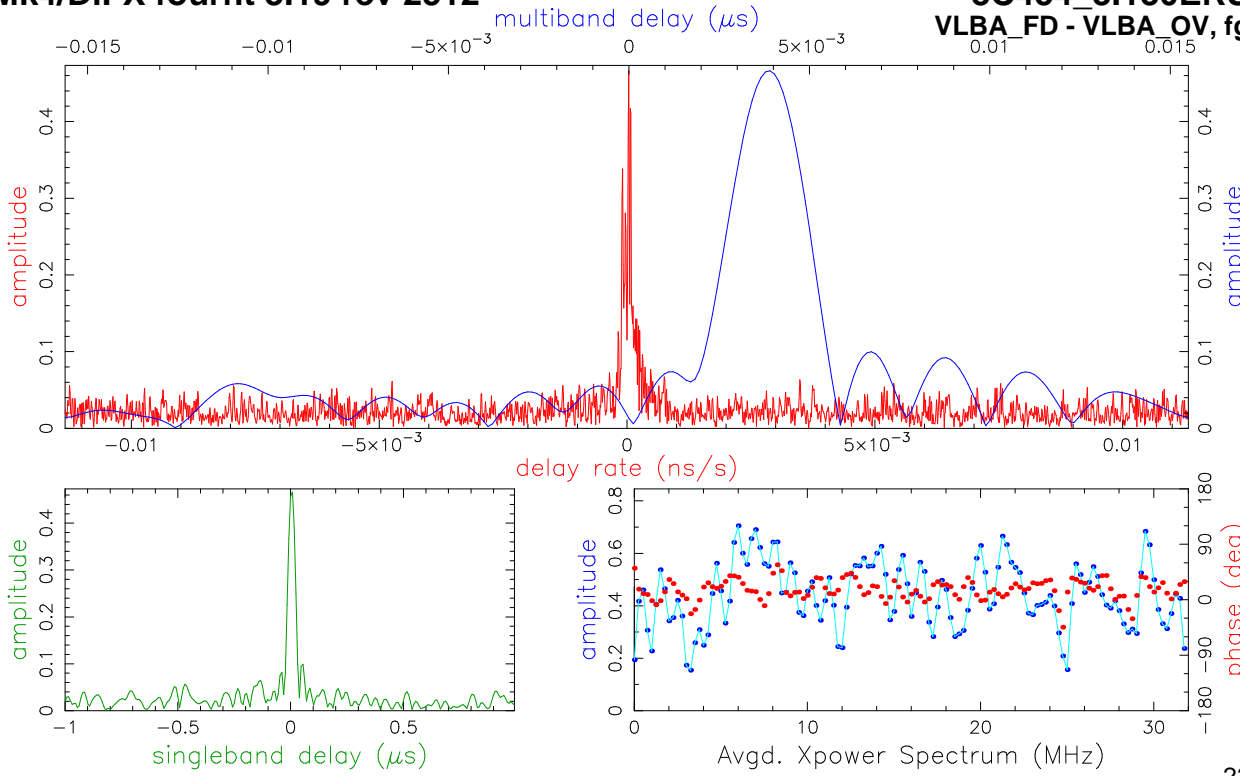
Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec



	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	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0	927/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fn	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
n	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		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

Group delay (usec)(sbd)	-1.50769015082E+03	Apriori delay (usec)	-1.50769453373E+03	Resid mbdelay (usec)	4.38291E-03	+/-	8.3E-05
Sband delay (usec)	-1.50769053923E+03	Apriori clock (usec)	-2.6045895E+01	Resid sbdelay (usec)	3.99450E-03	+/-	1.3E-03
Phase delay (usec)	-1.50769453929E+03	Apriori clockrate (us/s)	-2.2517302E-07	Resid phdelay (usec)	-5.56041E-06	+/-	2.8E-07
Delay rate (us/s)	3.06121041865E-01	Apriori rate (us/s)	3.06121047708E-01	Resid rate (us/s)	-5.84347E-09	+/-	1.0E-09
Total phase (deg)	-221.3	Apriori accel (us/s/s)	2.93919193116E-06	Resid phase (deg)	-172.4	+/-	8.8

ph/seg (deg)	55.7	RMS	70.9	Theor.	15.2	Amplitude	0.220 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	70.9	Search (2048X64)	0.202	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
ph/frq (deg)	46.7	Inc. seg. avg.	0.345	Inc. frq. avg.	0.245	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
amp/frq (%)	42.1	Inc. frq. avg.	0.245	Sample rate (MSamp/s):	64	Data rate (Mb/s):	2048	nlags:	128	t_cohere	infinite
f: az 96.8 el 43.9 pa -62.8		n: az 118.8 el 50.1 pa -42.7		u,v (fr/asec)	-1821.183 -1251.091	ion window (TEC)	0.00	0.00			

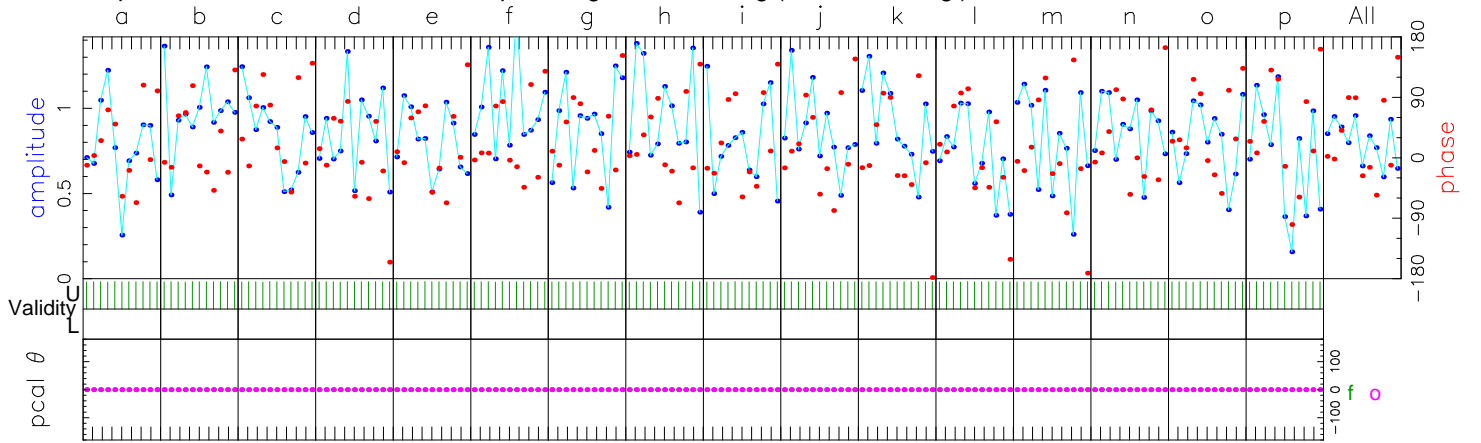


Fringe quality 7

SNR 28.2
Int time 474.336
Amp 0.473
Phase 22.3
PFD 0.0e+00
Delays (us)
SBD 0.004703
MBD 0.003861
Fringe rate (Hz) 0.003034
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101217
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

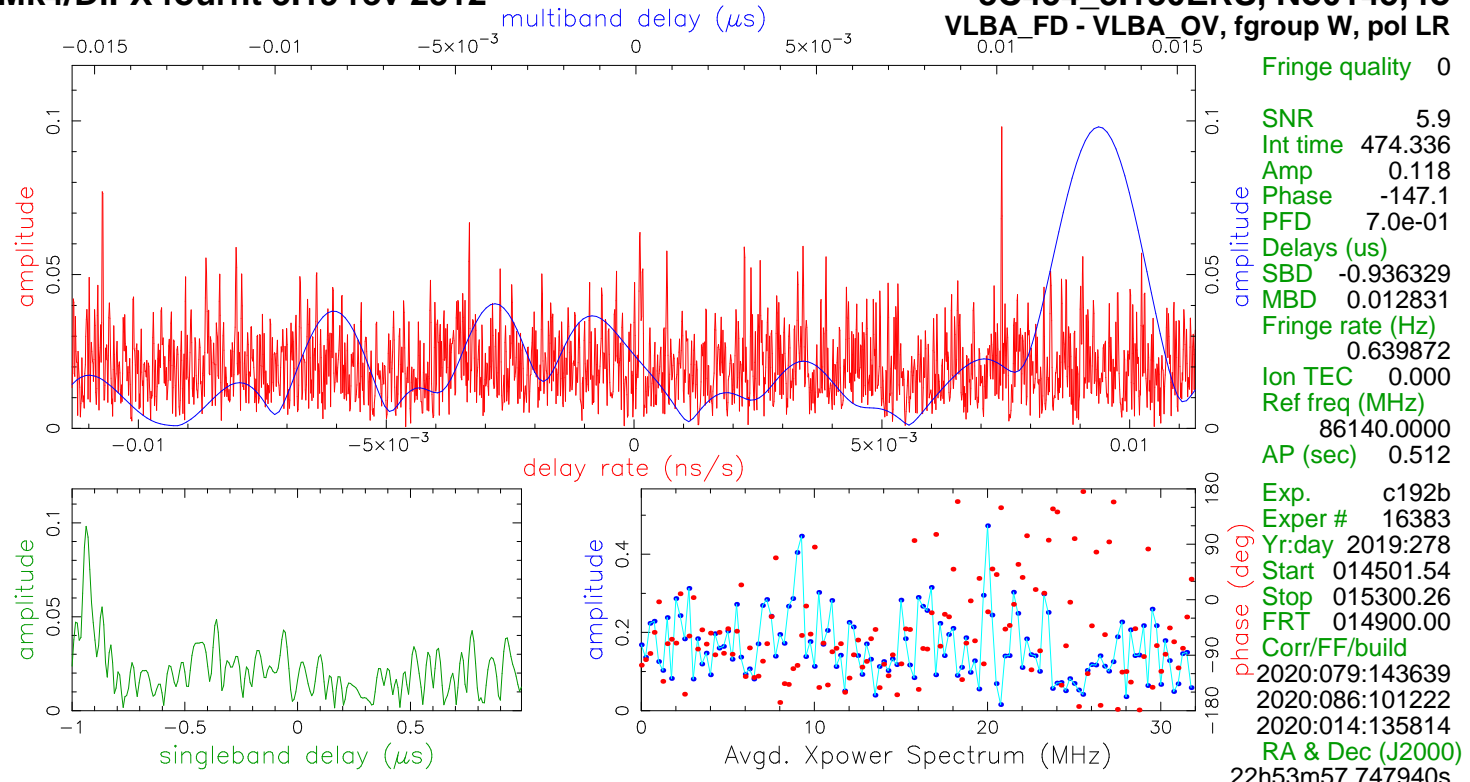


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000	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		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		

Group delay (usec)(sbd) 3.60328029662E+03 Apriori delay (usec) 3.60327643599E+03 Resid mbdelay (usec) 3.86063E-03 +/- 3.8E-05
 Sband delay (usec) 3.60328113899E+03 Apriori clock (usec) -1.6188345E+01 Resid sbdelay (usec) 4.70300E-03 +/- 6.1E-04
 Phase delay (usec) 3.60327643671E+03 Apriori clockrate (us/s) -9.1930498E-08 Resid phdelay (usec) 7.19202E-07 +/- 1.3E-07
 Delay rate (us/s) -1.03788675023E-01 Apriori rate (us/s) -1.03788710244E-01 Resid rate (us/s) 3.52210E-08 +/- 4.7E-10
 Total phase (deg) 92.9 Apriori accel (us/s/s) -2.22582122292E-05 Resid phase (deg) 22.3 +/- 4.1

ph/seg (deg) RMS Theor. Amplitude 0.473 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 61.3 6.7 Search (2048X64) 0.462 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 75.4 11.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 12.7 8.1 Inc. seg. avg. 0.803 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 17.6 14.2 Inc. frq. avg. 0.470 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 o: az 93.0 el 31.4 pa -55.9 u,v (fr/asec) 578.584 -1325.077 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fo..130ERS Output file: /Exps/c192b/v2/1234/No0145/fo.W.122.130ERS



Fringe quality 0

SNR 5.9

Int time 474.336

Amp 0.118

Phase -147.1

PFD 7.0e-01

Delays (us)

SBD -0.936329

MBD 0.012831

Fringe rate (Hz) 0.639872

Ion TEC 0.000

Ref freq (MHz) 86140.0000

AP (sec) 0.512

Exp. c192b

Exper # 16383

Yr:day 2019:278

Start 014501.54

Stop 015300.26

FRT 014900.00

Corr/FF/build

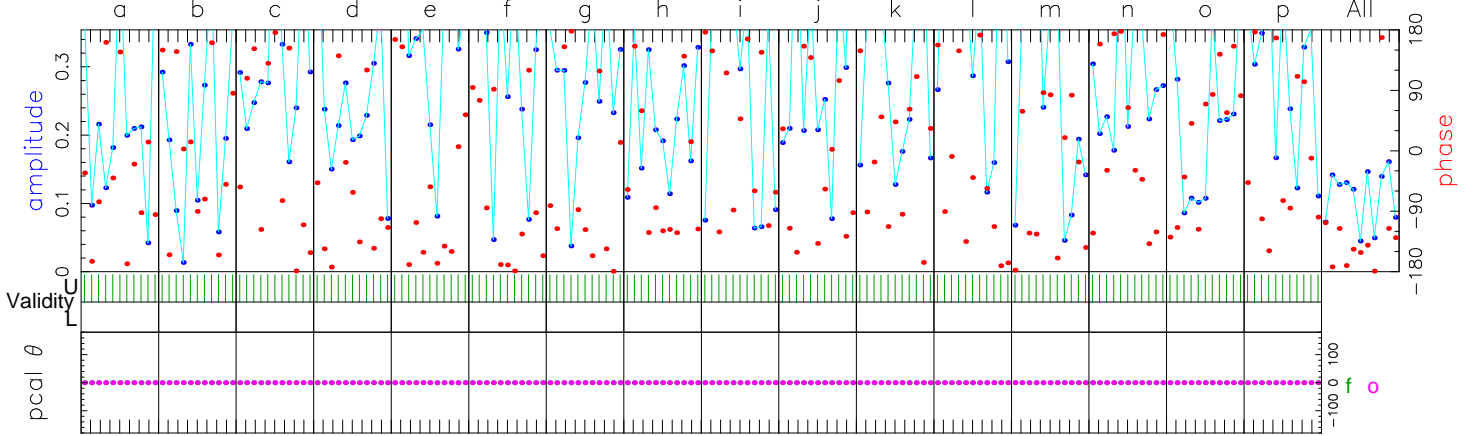
2020:079:143639

2020:086:101222

2020:014:135814

RA & Dec (J2000) 22h53m57.747940s +16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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					
	-95.8	157.9	-156.8	-108.6	-164.0	-174.5	-140.4	-135.4	-164.1	-140.9	75.6	-144.4	-167.8	-130.9	120.8	-105.0		Phase -147.1					
	0.1	0.0	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.0	0.2	0.1	0.1	0.1	0.1		Ampl. 0.1					
	21.7	31.2	47.7	94.5	59.1	118.2	167.9	71.0	163.8	160.5	63.3	7.0	231.5	128.9	213.8	105.2		Sbd box 9.1					
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
fo	0:0	0:0	0:0	0:0	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					
fo	0:0	0:0	0:0	0:0	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					
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			3.60235176659E+03															Apriori delay (usec)	3.60327643599E+03	Resid mbdelay (usec)	1.28306E-02	+/-	1.8E-04
Sband delay (usec)			3.60234010649E+03															Apriori clock (usec)	-1.6188345E+01	Resid sbdelay (usec)	-9.36329E-01	+/-	2.9E-03
Phase delay (usec)			3.60327643125E+03															Apriori clockrate (us/s)	-9.1930498E-08	Resid phdelay (usec)	-4.74389E-06	+/-	6.3E-07
Delay rate (us/s)			-1.03781281969E-01															Apriori rate (us/s)	-1.03788710244E-01	Resid rate (us/s)	7.42828E-06	+/-	2.3E-09
Total phase (deg)					-76.5													Apriori accel (us/s/s)	-2.22582122292E-05	Resid phase (deg)	-147.1	+/-	19.6

ph/seg (deg) 27.2 32.5 Search (2048X64) 0.097 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 41.7 56.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 52.5 39.1 Inc. seg. avg. 0.114 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

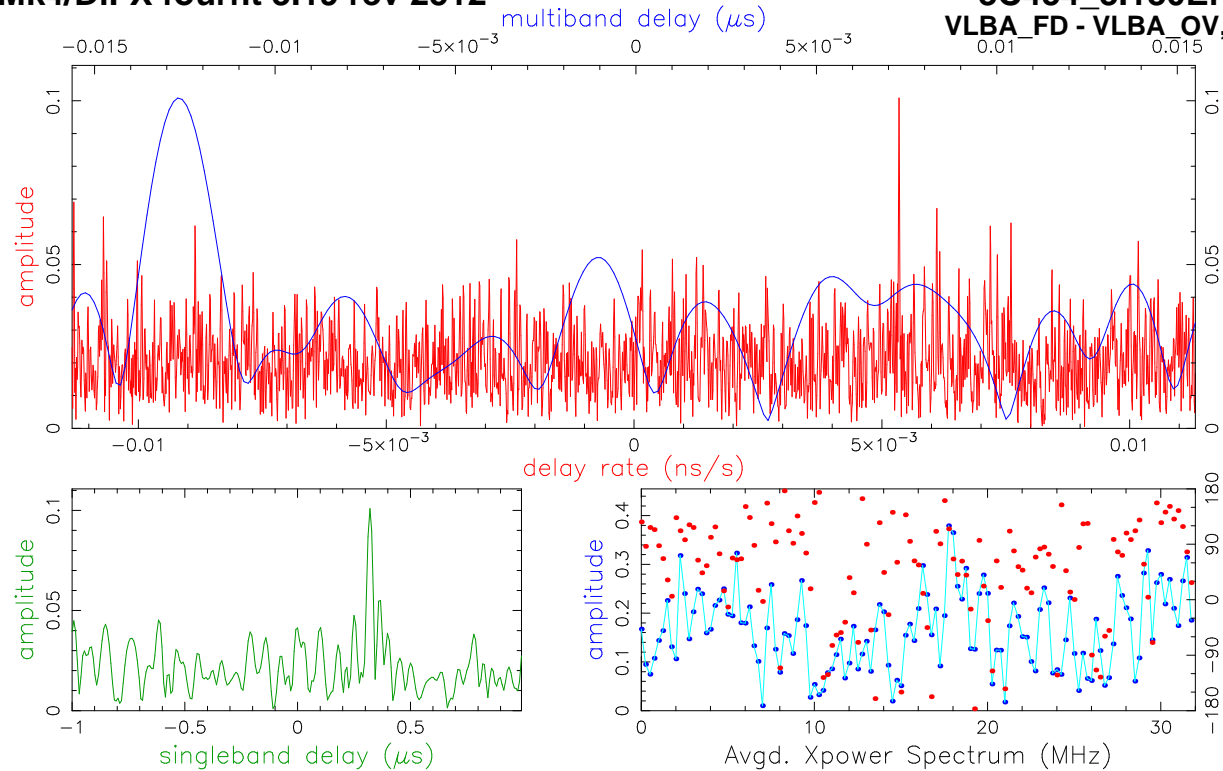
amp/frq (%) 53.1 68.3 Inc. frq. avg. 0.111 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011

f: az 96.8 el 43.9 pa -62.8 o: az 93.0 el 31.4 pa -55.9 u,v (fr/asec) 578.584 -1325.077 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fo...130ERS Output file: /Exps/c192b/v2/1234/No0145/fo.W.139.130ERS

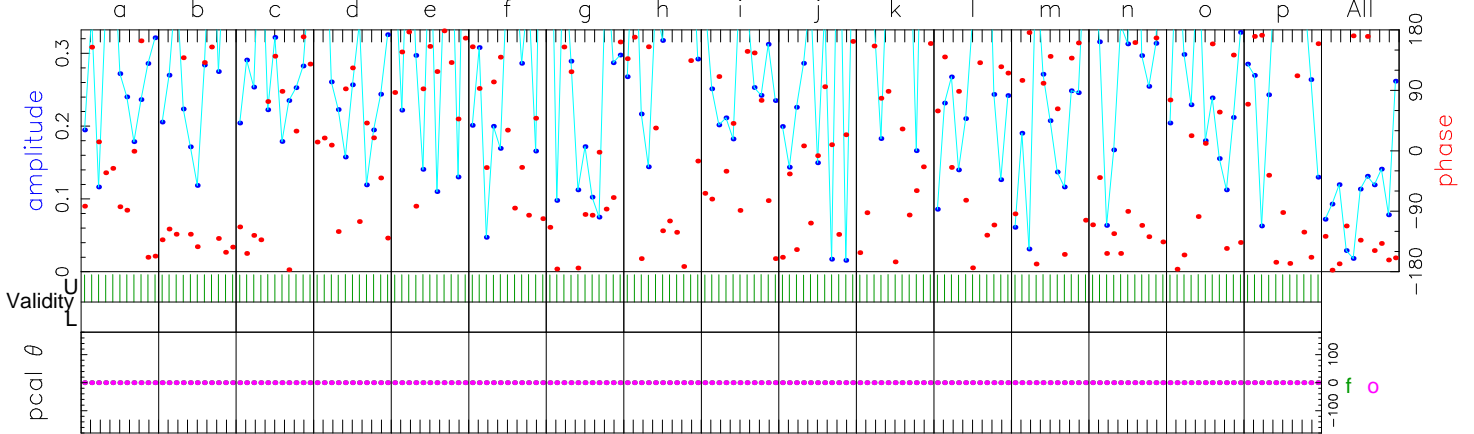
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fo
VLBA_FD - VLBA_OV, fgroup W, pol RL



Fringe quality 0
SNR 6.0
Int time 474.336
Amp 0.111
Phase -156.4
PFD 3.8e-01
Delays (us)
SBD 0.320828
MBD -0.012665
Fringe rate (Hz)
0.461529
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101228
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec



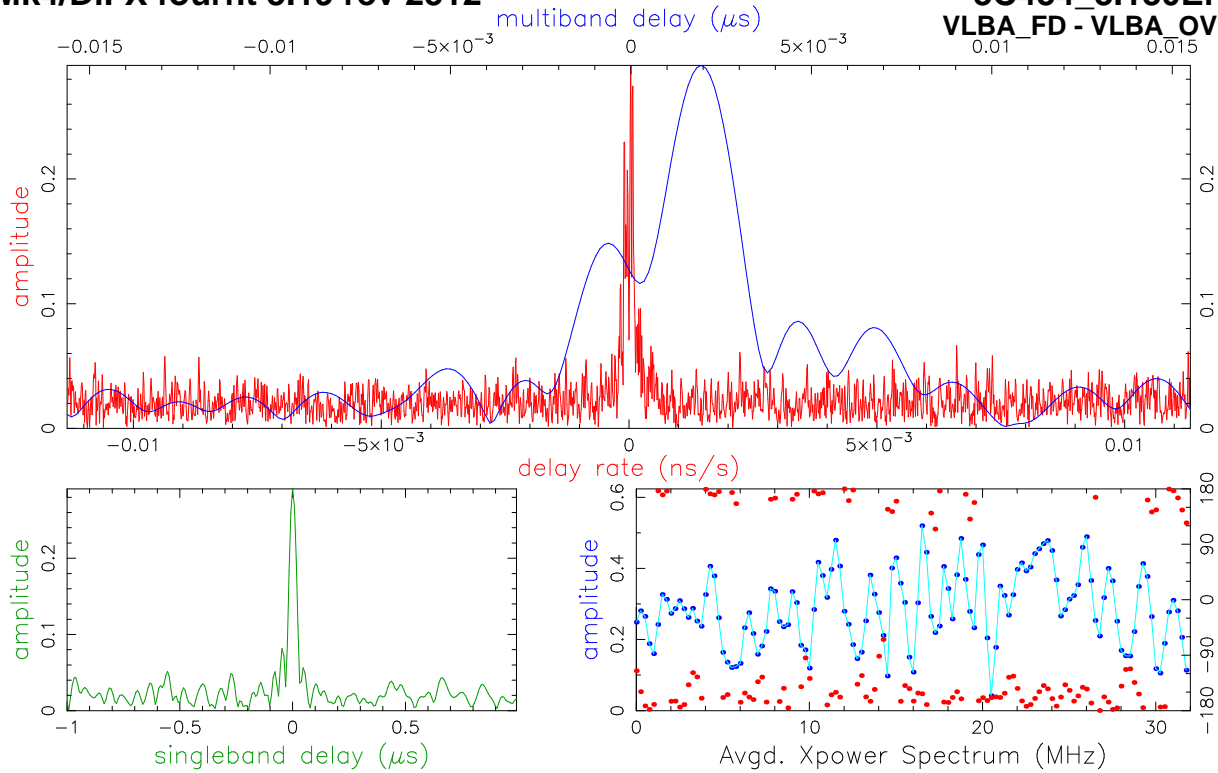
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-90.7	-156.8	173.2	-1.9	150.7	-66.9	-137.2	-164.3	-99.2	-139.3	-143.9	-179.8	166.1	-136.5	-167.1	-155.8	Phase	-156.4
	0.1	0.3	0.2	0.1	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	Ampl.	0.1
	160.6	170.2	200.4	173.6	250.4	212.7	101.4	41.5	9.5	197.3	39.3	155.8	225.4	170.2	91.7	223.1	Sbd box	170.1
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
fo	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
o	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	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)		3.60360752136E+03				Apriori delay (usec)		3.60327643599E+03				Resid mbdelay (usec)		-1.26646E-02			+/-	1.8E-04
Sband delay (usec)		3.60359726449E+03				Apriori clock (usec)		-1.6188345E+01				Resid sbdelay (usec)		3.20828E-01			+/-	2.9E-03
Phase delay (usec)		3.60327643095E+03				Apriori clockrate (us/s)		-9.1930498E-08				Resid phdelay (usec)		-5.04442E-06			+/-	6.1E-07
Delay rate (us/s)		-1.03783352355E-01				Apriori rate (us/s)		-1.03788710244E-01				Resid rate (us/s)		5.35789E-06			+/-	2.2E-09
Total phase (deg)					-85.8	Apriori accel (us/s/s)		-2.22582122292E-05				Resid phase (deg)		-156.4			+/-	19.1

ph/seg (deg) 24.4 31.6
amp/seg (%) 61.7 55.2
ph/frq (deg) 57.7 38.1
amp/frq (%) 70.6 66.6
f: az 96.8 el 43.9 pa -62.8
o: az 93.0 el 31.4 pa -55.9
u,v (fr/asec) 578.584 -1325.077
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
simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fo...130ERS Output file: /Exps/c192b/v2/1234/No0145/fo.W.158.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fo
VLBA_FD - VLBA_OV, fgroup W, pol LL

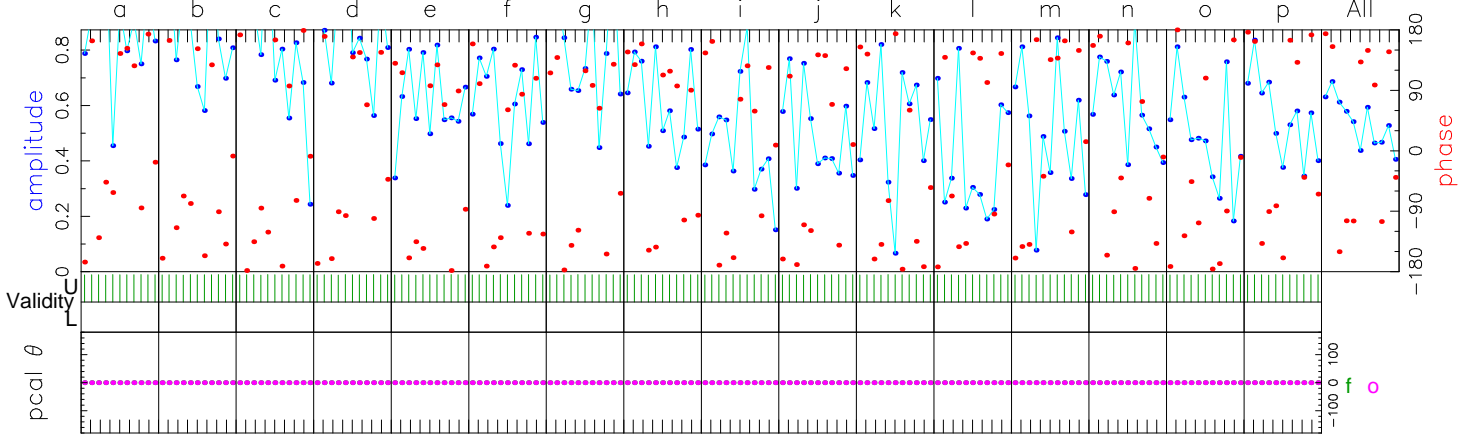


Fringe quality 7

SNR 17.3
Int time 474.336
Amp 0.291
Phase -173.4
PFD 0.0e+00
Delays (us)
SBD 0.000521
MBD 0.001945
Fringe rate (Hz) 0.003006
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101210
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

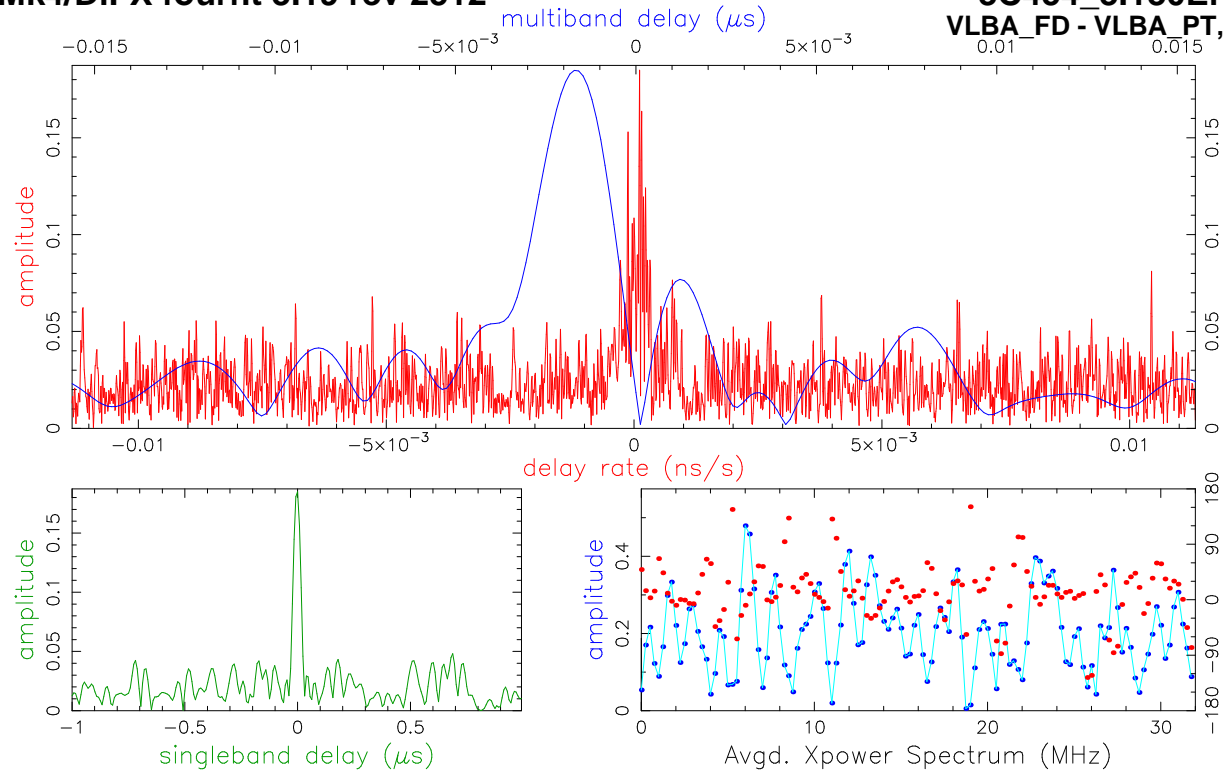


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
fo	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

Group delay (usec)(sbd)	3.60327838053E+03	Apriori delay (usec)	3.60327643599E+03	Resid mbdelay (usec)	1.94454E-03	+/-	6.2E-05
Sband delay (usec)	3.60327695699E+03	Apriori clock (usec)	-1.6188345E+01	Resid sbdelay (usec)	5.21000E-04	+/-	9.9E-04
Phase delay (usec)	3.60327643040E+03	Apriori clockrate (us/s)	-9.1930498E-08	Resid phdelay (usec)	-5.59129E-06	+/-	2.1E-07
Delay rate (us/s)	-1.03788675343E-01	Apriori rate (us/s)	-1.03788710244E-01	Resid rate (us/s)	3.49014E-08	+/-	7.7E-10
Total phase (deg)		Apriori accel (us/s/s)	-2.22582122292E-05	Resid phase (deg)	-173.4	+/-	6.6

ph/seg (deg)	65.7	RMS	11.0	Theor.	11.0	Amplitude	0.291 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5
amp/seg (%)	90.5	Search (2048X64)	0.289	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
ph/frq (deg)	26.5	Inc. seg. avg.	0.531	Inc. frq. avg.	0.313	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
amp/frq (%)	31.8	Inc. frq. avg.	0.313	Sample rate (MSamp/s):	64	Data rate (Mb/s):	2048	nlags:	128	t_cohere	infinite
f: az 96.8 el 43.9 pa -62.8		o: az 93.0 el 31.4 pa -55.9		u, v (fr/asec)	578.584 -1325.077			ion window (TEC)	0.00	0.00	simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fo...130ERS Output file: /Exps/c192b/v2/1234/No0145/fo.W.97.130ERS

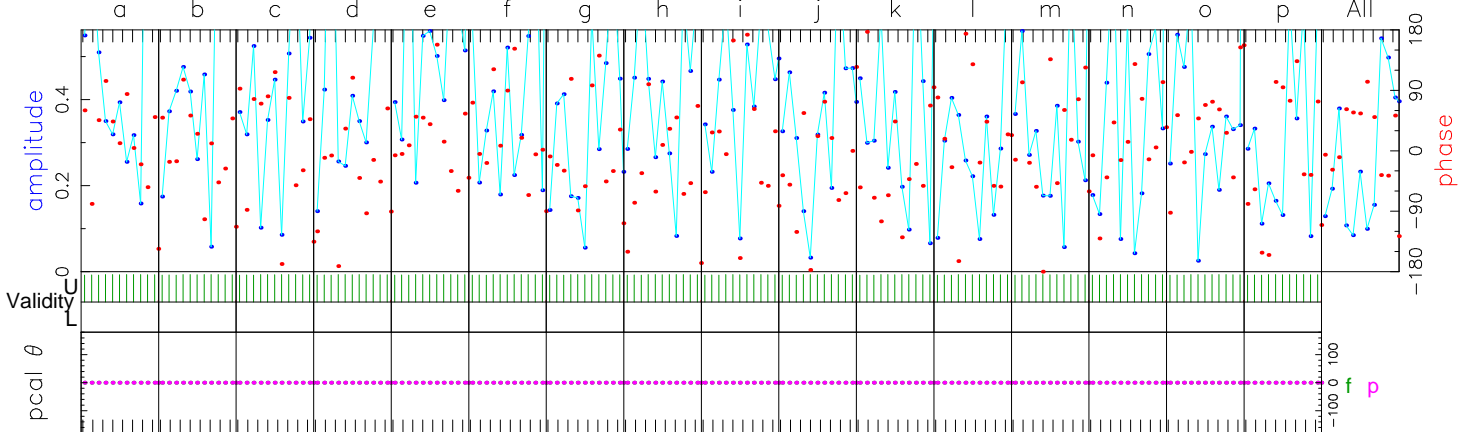


Fringe quality 9

SNR 10.6
Int time 426.834
Amp 0.187
Phase 2.6
PFD 1.6e-17
Delays (us)
SBD -0.002918
MBD -0.001688
Fringe rate (Hz) 0.009931
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014549.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101215
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 76 APs / seg (38.91 sec / seg.), time ticks 60 sec



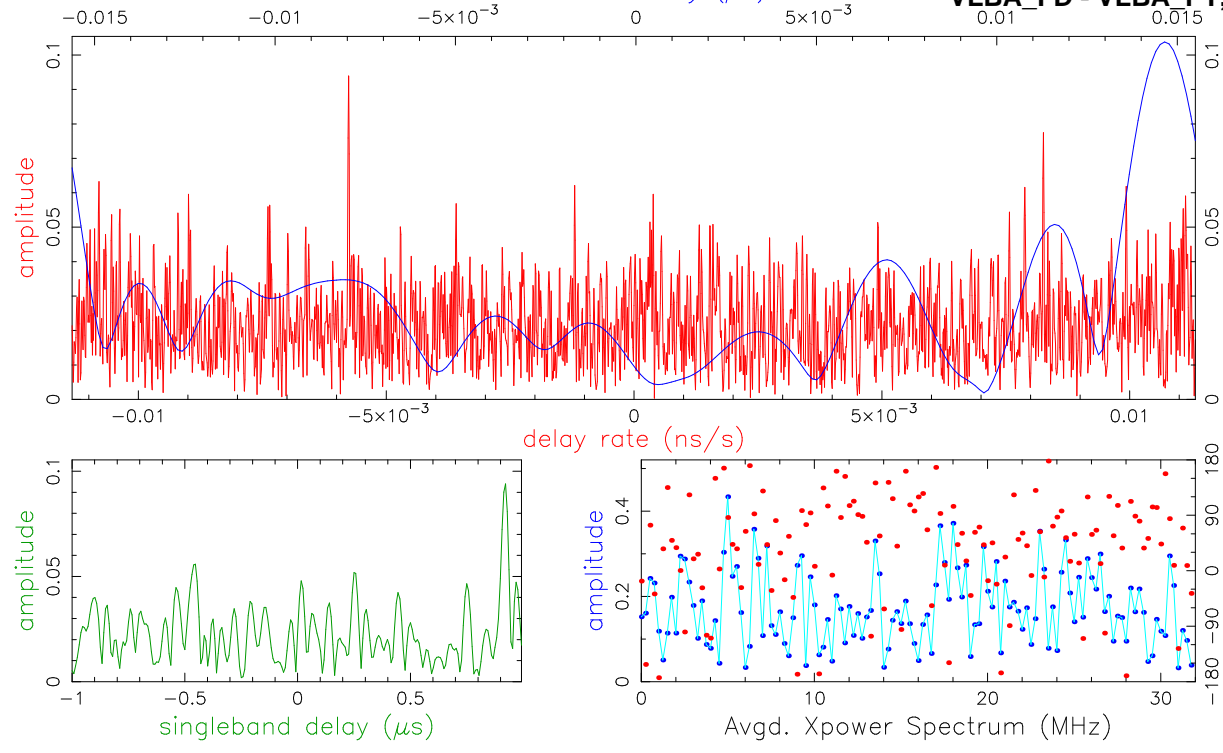
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All						
U/L	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	APs used	128.6					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs						
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase						
f:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC						
fp	0:0	0:0	0:0	0:0	0:0	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						
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids						
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks						
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids						
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks						
Group delay (usec)(sbd)		1.07312945009E+03																Apriori delay (usec)	1.07313113833E+03	Resid mbdelay (usec)	-1.68824E-03	+/-	1.0E-04	
Sband delay (usec)		1.07312821983E+03																	Apriori clock (usec)	-1.1484302E+01	Resid sbdelay (usec)	-2.91850E-03	+/-	1.6E-03
Phase delay (usec)		1.07313113841E+03																	Apriori clockrate (us/s)	-2.9483610E-07	Resid phdelay (usec)	8.23568E-08	+/-	3.5E-07
Delay rate (us/s)		-2.16528365853E-02																	Apriori rate (us/s)	-2.16529518740E-02	Resid rate (us/s)	1.15289E-07	+/-	1.4E-09
Total phase (deg)			94.5																Apriori accel (us/s/s)	-7.47258015472E-06	Resid phase (deg)	2.6	+/-	10.8

ph/seg (deg) 51.6 18.8 Search (2048X64) 0.171 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 93.7 32.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 29.0 21.7 Inc. seg. avg. 0.244 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 37.2 37.8 Inc. frq. avg. 0.190 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 96.8 el 43.9 pa -62.8 p: az 97.4 el 39.9 pa -58.5 u,v (fr/asec) 115.470 -631.273 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fp..130ERS Output file: /Exps/c192b/v2/1234/No0145/fp.W.115.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

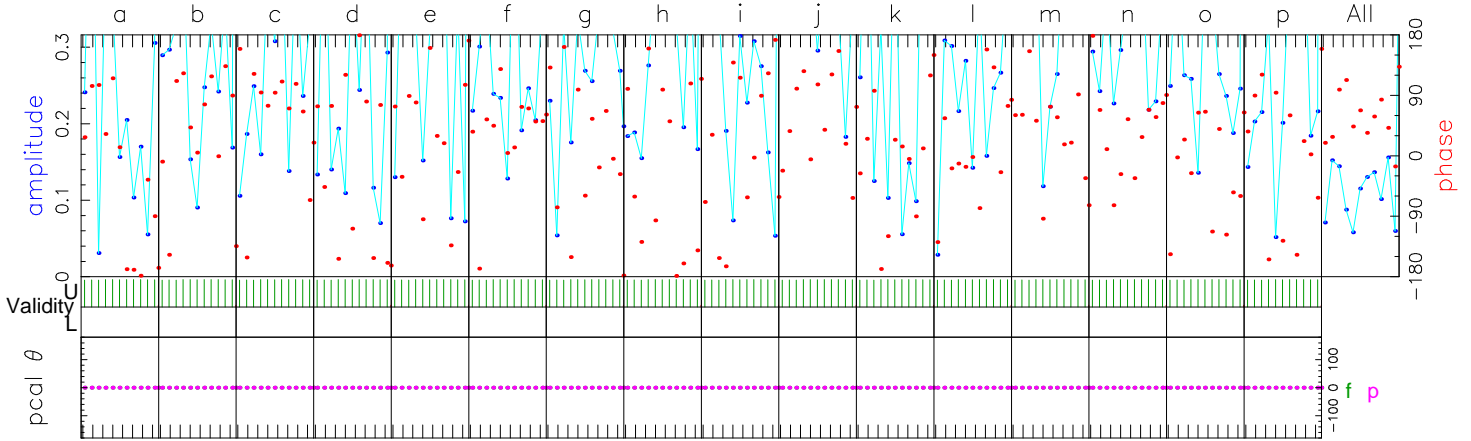
3C454_3.130ERS, No0145, fp
VLBA_FD - VLBA_PT, fgroup W, pol LR

multiband delay (μ s)



Fringe quality 0
SNR 5.3
Int time 426.834
Amp 0.105
Phase 56.0
PFD 1.0e+00
Delays (us)
SBD 0.919829
MBD -0.016113
Fringe rate (Hz)
-0.496898
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014549.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101220
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 76 APs / seg (38.91 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	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0		APs used
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
f:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC
fp	0:0	0:0	0:0	0:0	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
f	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
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
																		Tracks

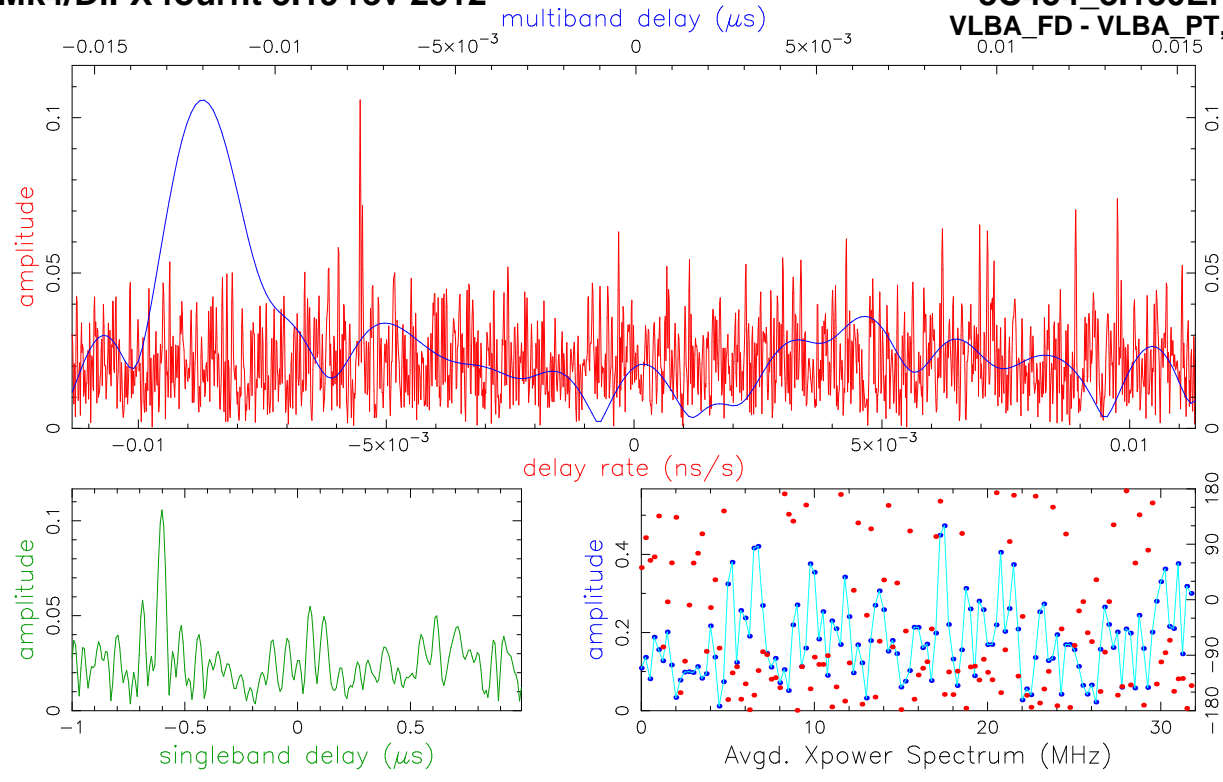
Group delay (usec)(sbd) 1.07405252504E+03 Apriori delay (usec) 1.07313113833E+03 Resid mbdelay (usec) -1.61133E-02 +/- 2.0E-04
 Sband delay (usec) 1.07405096733E+03 Apriori clock (usec) -1.1484302E+01 Resid sbdelay (usec) 9.19829E-01 +/- 3.2E-03
 Phase delay (usec) 1.07313114013E+03 Apriori clockrate (us/s) -2.9483610E-07 Resid phdelay (usec) 1.80685E-06 +/- 6.9E-07
 Delay rate (us/s) -2.16587203627E-02 Apriori rate (us/s) -2.16529518740E-02 Resid rate (us/s) -5.76849E-06 +/- 2.8E-09
 Total phase (deg) 148.0 Apriori accel (us/s/s) -7.47258015472E-06 Resid phase (deg) 56.0 +/- 21.5

RMS Theor. Amplitude 0.105 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 36.0 37.2 Search (2048X64) 0.102 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 47.4 64.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 56.6 42.9 Inc. seg. avg. 0.103 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 68.8 74.9 Inc. frq. avg. 0.107 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 p: az 97.4 el 39.9 pa -58.5 u,v (fr/asec) 115.470 -631.273 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fp..130ERS Output file: /Exps/c192b/v2/1234/No0145/fp.W.133.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fp
VLBA_FD - VLBA_PT, fgroup W, pol RL

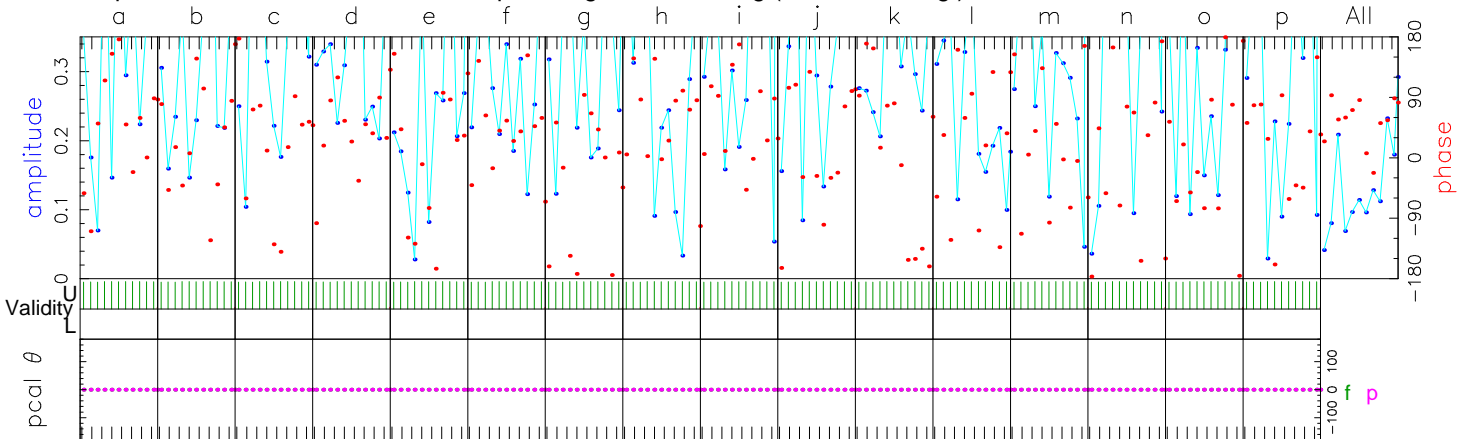


Fringe quality 0

SNR 6.0
Int time 426.833
Amp 0.117
Phase 56.6
PFD 4.5e-01
Delays (us)
SBD -0.601909
MBD -0.012009
Fringe rate (Hz)
-0.476734
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014549.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101225
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

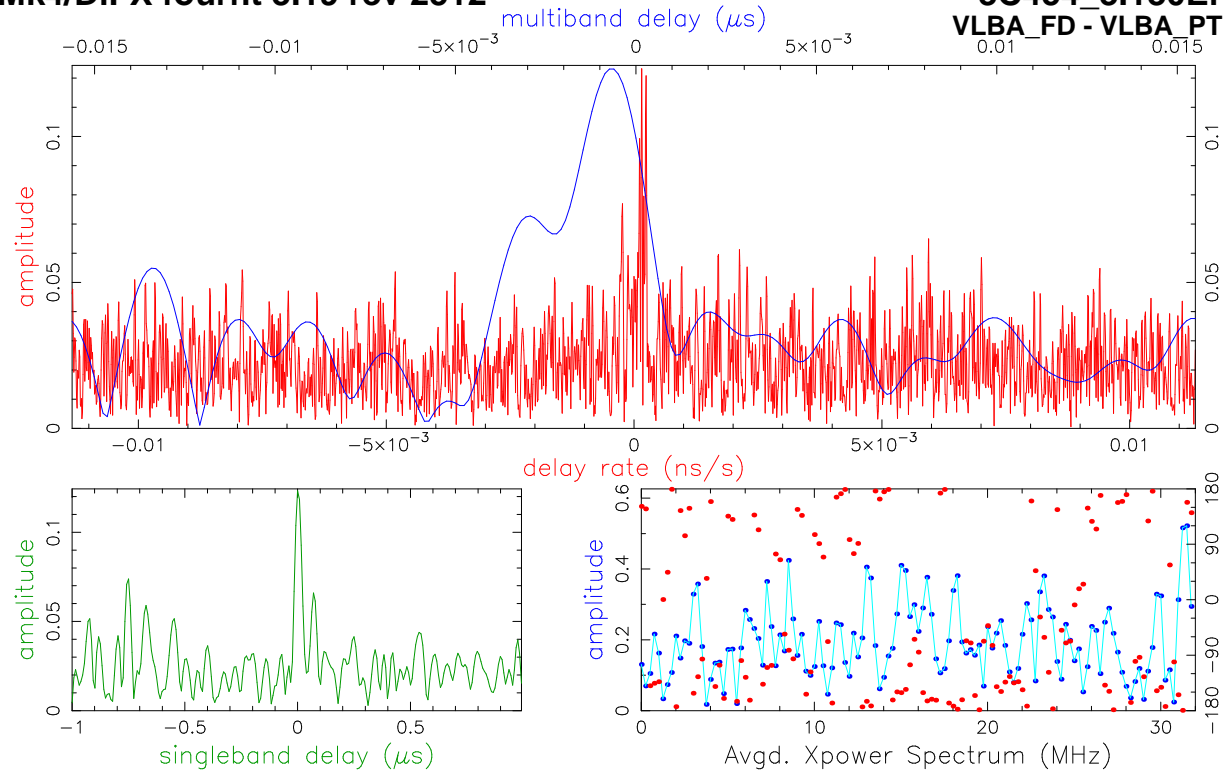
Amp. and Phase vs. time for each freq., 12 segs, 76 APs / seg (38.91 sec / seg.), time ticks 60 sec



	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	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
fp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
p	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		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

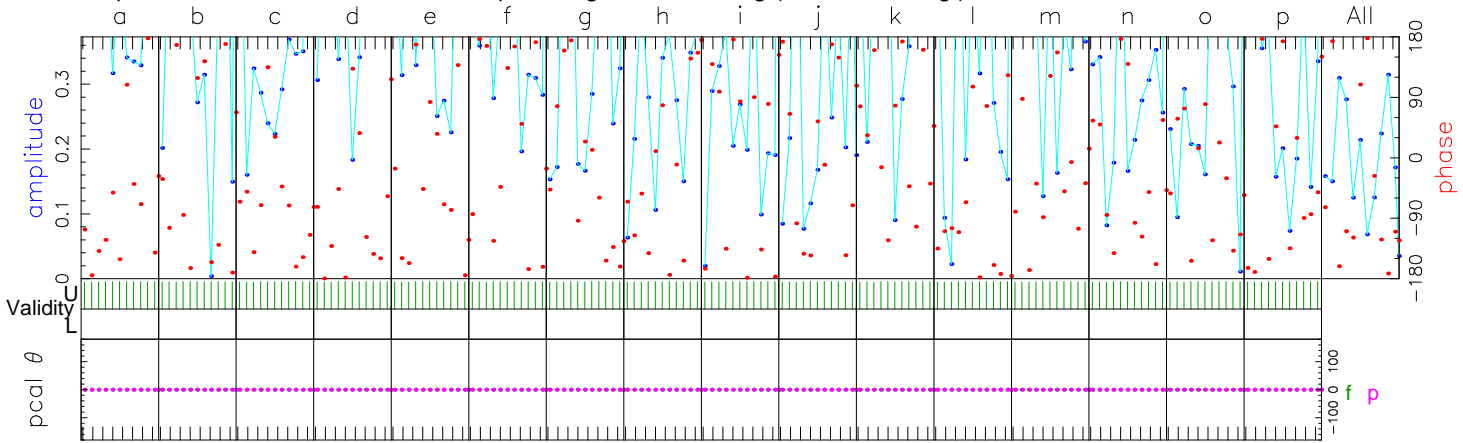
Group delay (usec)(sbd) 1.07252537899E+03 Apriori delay (usec) 1.07313113833E+03 Resid mbdelay (usec) -1.20093E-02 +/- 1.8E-04
 Sband delay (usec) 1.07252922933E+03 Apriori clock (usec) -1.1484302E+01 Resid sbdelay (usec) -6.01909E-01 +/- 2.9E-03
 Phase delay (usec) 1.07313114015E+03 Apriori clockrate (us/s) -2.9483610E-07 Resid phdelay (usec) 1.82487E-06 +/- 6.2E-07
 Delay rate (us/s) -2.16584862808E-02 Apriori rate (us/s) -2.16529518740E-02 Resid rate (us/s) -5.53441E-06 +/- 2.5E-09
 Total phase (deg) 148.5 Apriori accel (us/s/s) -7.47258015472E-06 Resid phase (deg) 56.6 +/- 19.2

ph/seg (deg) 34.7 33.2 Search (2048X64) 0.102 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 57.6 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) 33.1 38.4 Inc. seg. avg. 0.118 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 62.5 67.0 Inc. frq. avg. 0.108 Sample rate(MSamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 96.8 el 43.9 pa -62.8 p: az 97.4 el 39.9 pa -58.5 u,v (fr/asec) 115.470 -631.273 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fp..130ERS Output file: /Exps/c192b/v2/1234/No0145/fp.W.148.130ERS



Fringe quality 0
SNR 7.0
Int time 426.834
Amp 0.124
Phase -141.2
PFD 6.5e-04
Delays (us)
SBD 0.002342
MBD -0.000636
Fringe rate (Hz)
0.013161
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014549.66
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101209
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 76 APs / seg (38.91 sec / seg.), time ticks 60 sec

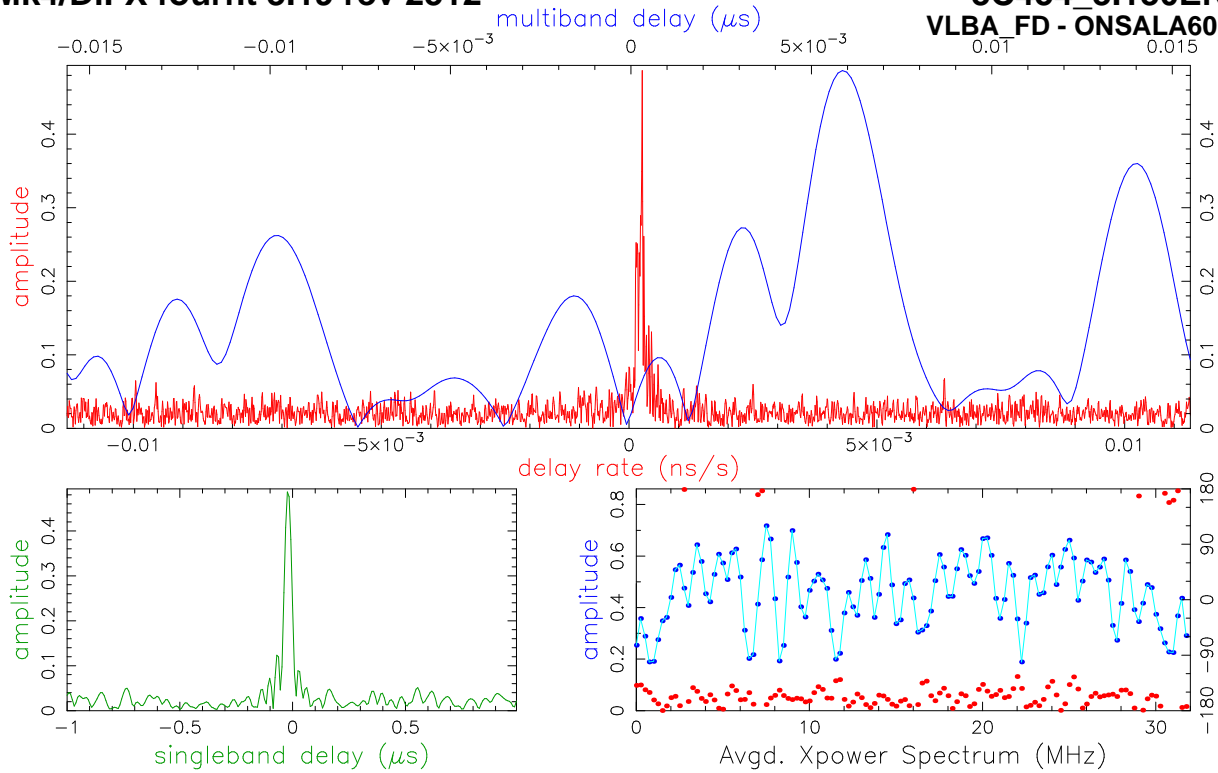


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-132.8	-147.0	-97.5	-132.0	-159.1	-172.9	-153.0	-164.3	135.7	-104.9	-96.4	-174.7	-78.5	-161.1	-35.9	-148.0	Phase	-141.2
	0.3	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	Ampl.	0.1
	129.2	128.3	129.3	128.8	26.1	195.2	80.7	165.8	137.8	32.5	42.0	43.3	255.5	33.3	105.8	130.2	Sbd box	129.3
U/L	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	841/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
fp	0:0	0:0	0:0	0:0	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	
p	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	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 1.07313050241E+03 Apriori delay (usec) 1.07313113833E+03 Resid mbdelay (usec) -6.35913E-04 +/- 1.5E-04
 Sband delay (usec) 1.07313347983E+03 Apriori clock (usec) -1.1484302E+01 Resid sbdelay (usec) 2.34150E-03 +/- 2.5E-03
 Phase delay (usec) 1.07313113377E+03 Apriori clockrate (us/s) -2.9483610E-07 Resid phdelay (usec) -4.55363E-06 +/- 5.3E-07
 Delay rate (us/s) -2.16527990912E-02 Apriori rate (us/s) -2.16529518740E-02 Resid rate (us/s) 1.52783E-07 +/- 2.1E-09
 Total phase (deg) -49.3 Apriori accel (us/s/s) -7.47258015472E-06 Resid phase (deg) -141.2 +/- 16.3

RMS Theor. Amplitude 0.124 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 58.4 28.3 Search (2048X64) 0.119 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 83.5 49.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 47.0 32.6 Inc. seg. avg. 0.172 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 64.4 56.9 Inc. frq. avg. 0.131 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 p: az 97.4 el 39.9 pa -58.5 u,v (fr/asec) 115.470 -631.273 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fp..130ERS Output file: /Exps/c192b/v2/1234/No0145/fp.W.91.130ERS

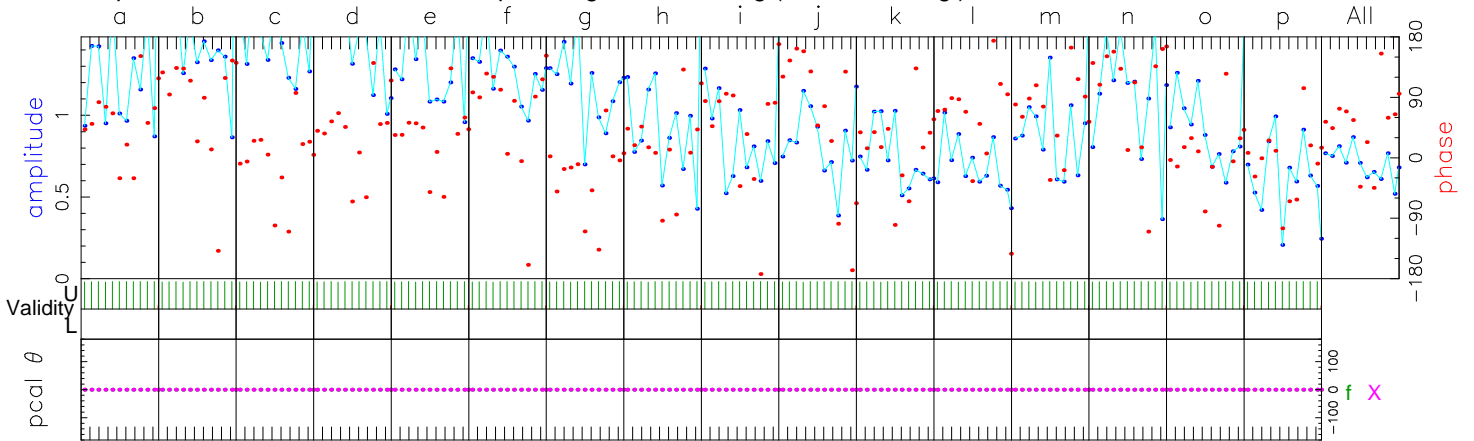


Fringe quality 5

SNR 29.4
Int time 475.552
Amp 0.494
Phase 48.8
PFD 0.0e+00
Delays (us)
SBD -0.020442
MBD 0.005892
Fringe rate (Hz)
0.023128
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101211
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

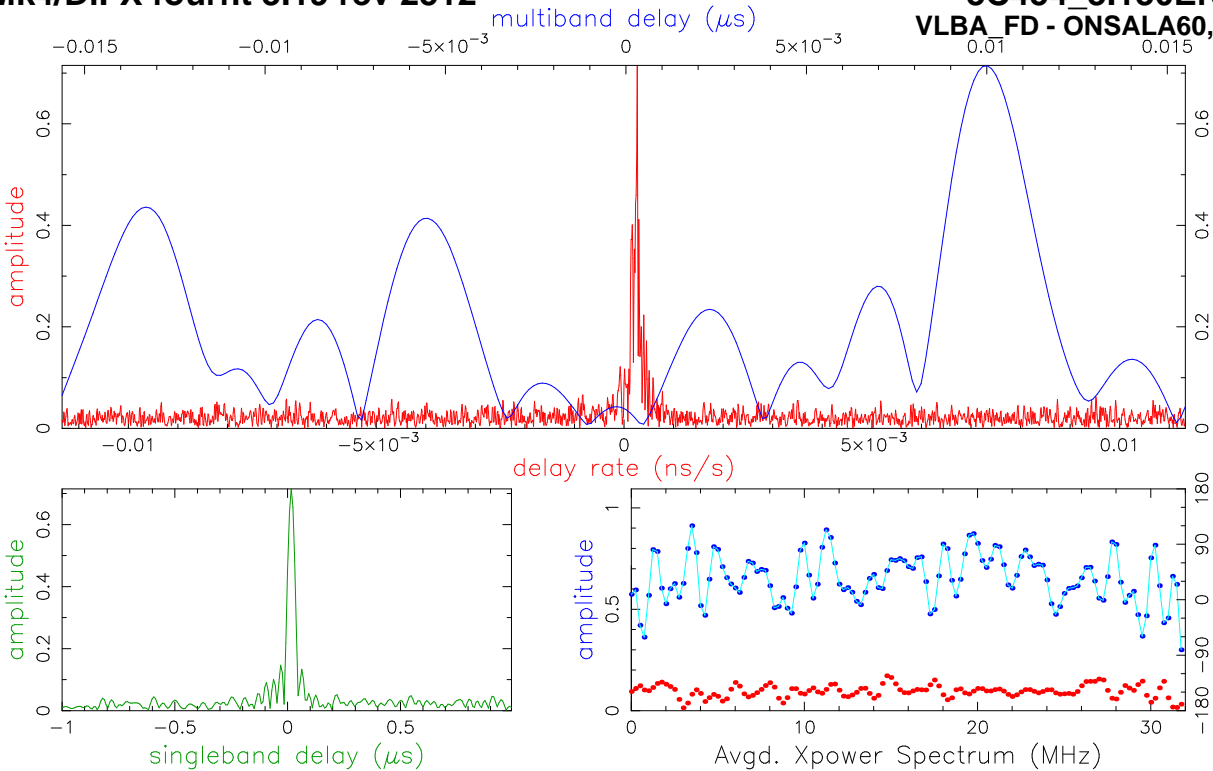
Group delay (usec)(sbd) 6.02278159889E+03 Apriori delay (usec) 6.02280695704E+03 Resid mbdelay (usec) 5.89186E-03 +/- 3.7E-05
 Sband delay (usec) 6.02278651554E+03 Apriori clock (usec) -3.1909124E+01 Resid sbdelay (usec) -2.04415E-02 +/- 5.9E-04
 Phase delay (usec) 6.02280695861E+03 Apriori clockrate (us/s) -6.1894950E-07 Resid phdelay (usec) 1.57211E-06 +/- 1.3E-07
 Delay rate (us/s) 1.68842358445E+00 Apriori rate (us/s) 1.68842331596E+00 Resid rate (us/s) 2.68489E-07 +/- 4.5E-10
 Total phase (deg) 149.2 Apriori accel (us/s/s) -4.27103163610E-05 Resid phase (deg) 48.8 +/- 3.9

ph/seg (deg) RMS Theor. Amplitude 0.494 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 52.7 6.7 Search (2048X64) 0.472 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 47.6 11.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 50.5 7.8 Inc. seg. avg. 0.703 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 58.7 13.6 Inc. frq. avg. 0.693 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 X: az 260.0 el 25.6 pa 33.6 u,v (fr/asec) -10148.340 -3743.351 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fX..130ERS Output file: /Exps/c192b/v2/1234/No0145/fX.W.101.130ERS

Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fX
VLBA_FD - ONSALA60, fgroup W, pol RR

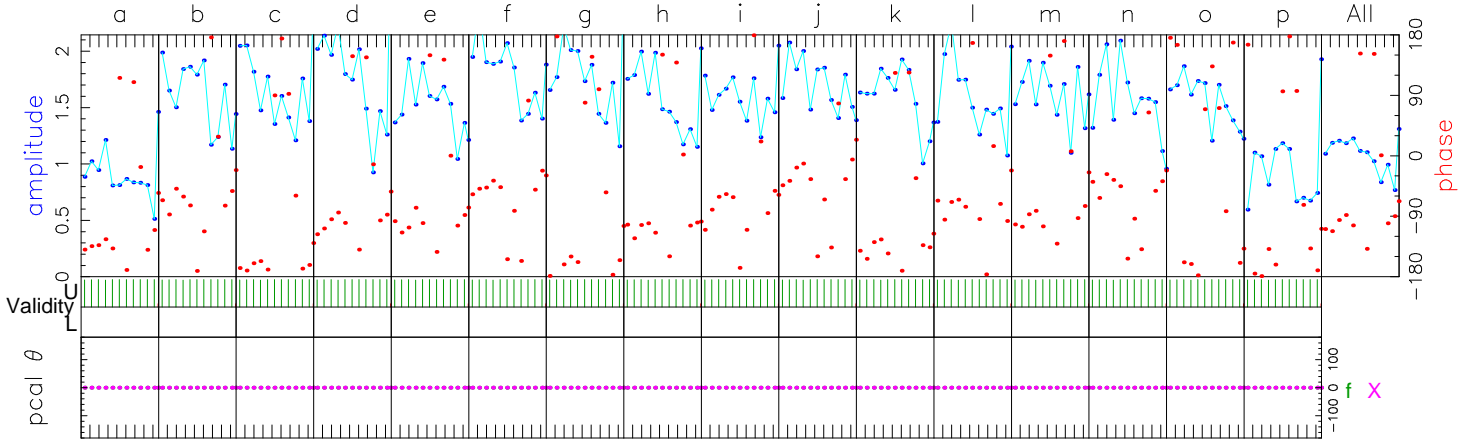


Fringe quality 1

SNR 42.6
Int time 475.552
Amp 0.715
Phase -113.5
PFD 0.0e+00
Delays (us)
SBD 0.016081
MBD 0.009979
Fringe rate (Hz) 0.023152
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101216
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

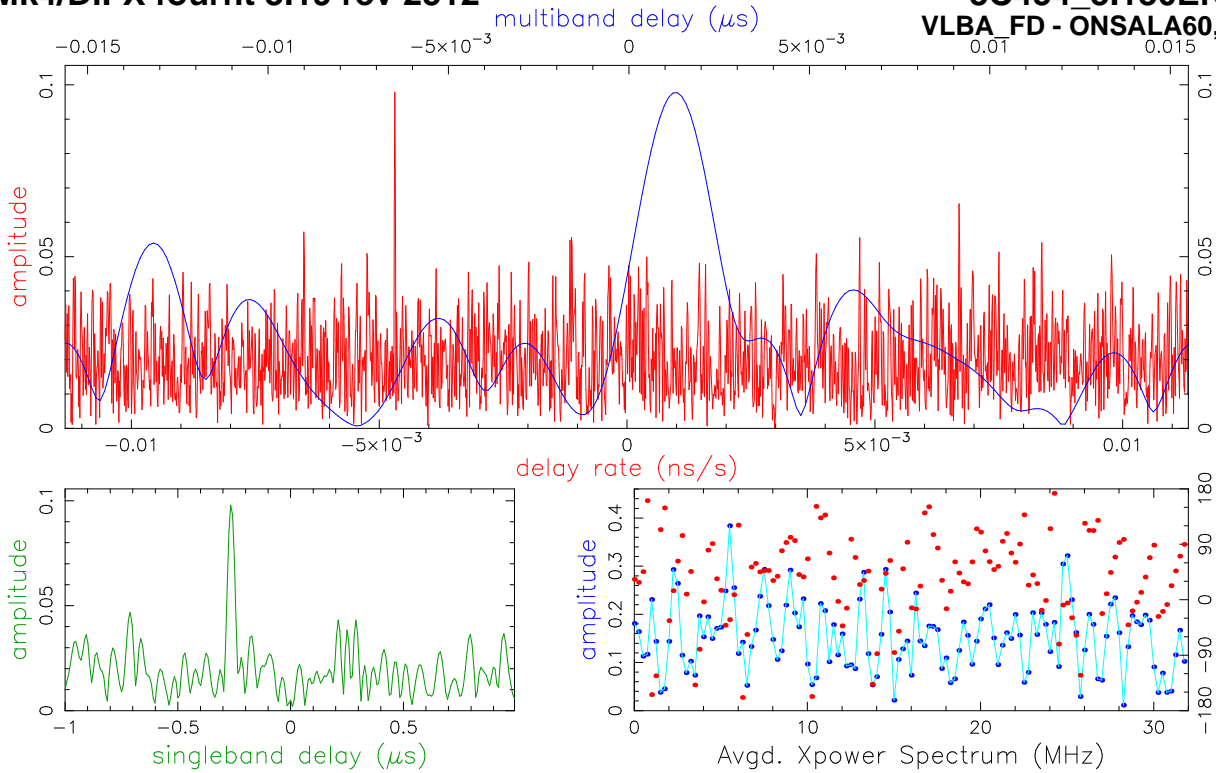


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks
Group delay (usec)(sbd)	6.02281693642E+03			Apriori delay (usec)			6.02280695704E+03			Resid mbdelay (usec)			9.97939E-03			+/- 2.5E-05		
Sband delay (usec)	6.02282303804E+03			Apriori clock (usec)			-3.1909124E+01			Resid sbdelay (usec)			1.60810E-02			+/- 4.0E-04		
Phase delay (usec)	6.02280695338E+03			Apriori clockrate (us/s)			-6.1894950E-07			Resid phdelay (usec)			-3.65916E-06			+/- 8.7E-08		
Delay rate (us/s)	1.68842358474E+00			Apriori rate (us/s)			1.68842331596E+00			Resid rate (us/s)			2.68774E-07			+/- 3.1E-10		
Total phase (deg)	-13.0			Apriori accel (us/s/s)			-4.27103163610E-05			Resid phase (deg)			-113.5			+/- 2.7		

ph/seg (deg) 55.1 4.7 Theor. Amplitude 0.715 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 53.6 8.1 Search (2048X64) 0.685 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 49.5 5.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 48.7 9.4 Inc. seg. avg. 1.066 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 f: az 96.8 el 43.9 pa -62.8 X: az 260.0 el 25.6 pa 33.6 u,v (fr/asec) -10148.340 -3743.351 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fX..130ERS Output file: /Exps/c192b/v2/1234/No0145/fX.W.121.130ERS simultaneous interpolator

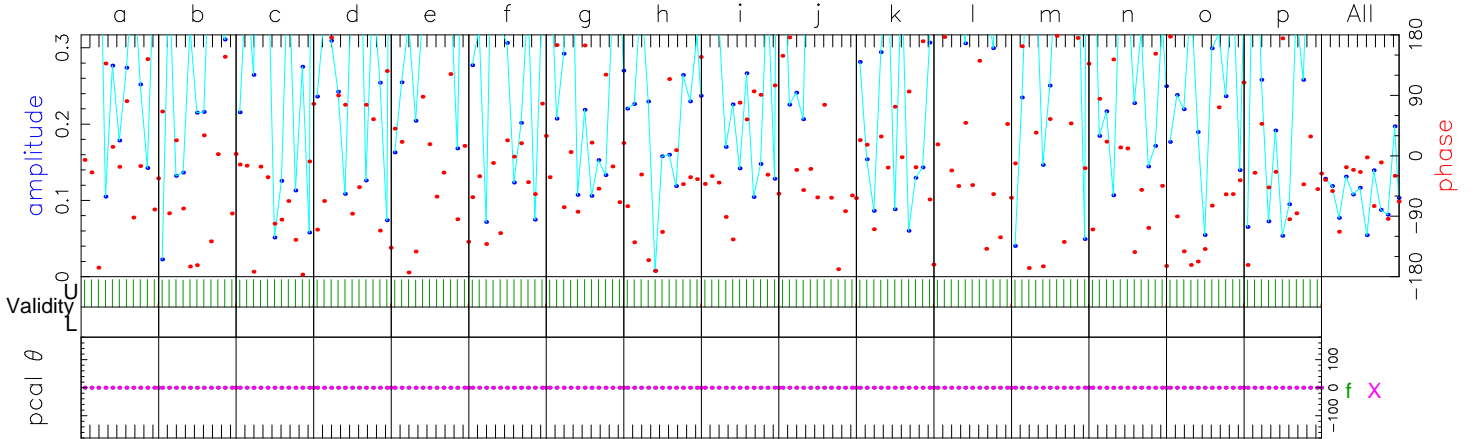
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fX
VLBA_FD - ONSALA60, fgroup W, pol LR



Fringe quality 0
SNR 5.9
Int time 475.552
Amp 0.106
Phase -40.6
PFD 6.7e-01
Delays (us)
SBD -0.263650
MBD 0.001295
Fringe rate (Hz)
-0.403537
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101222
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 sec / seg.), time ticks 60 sec

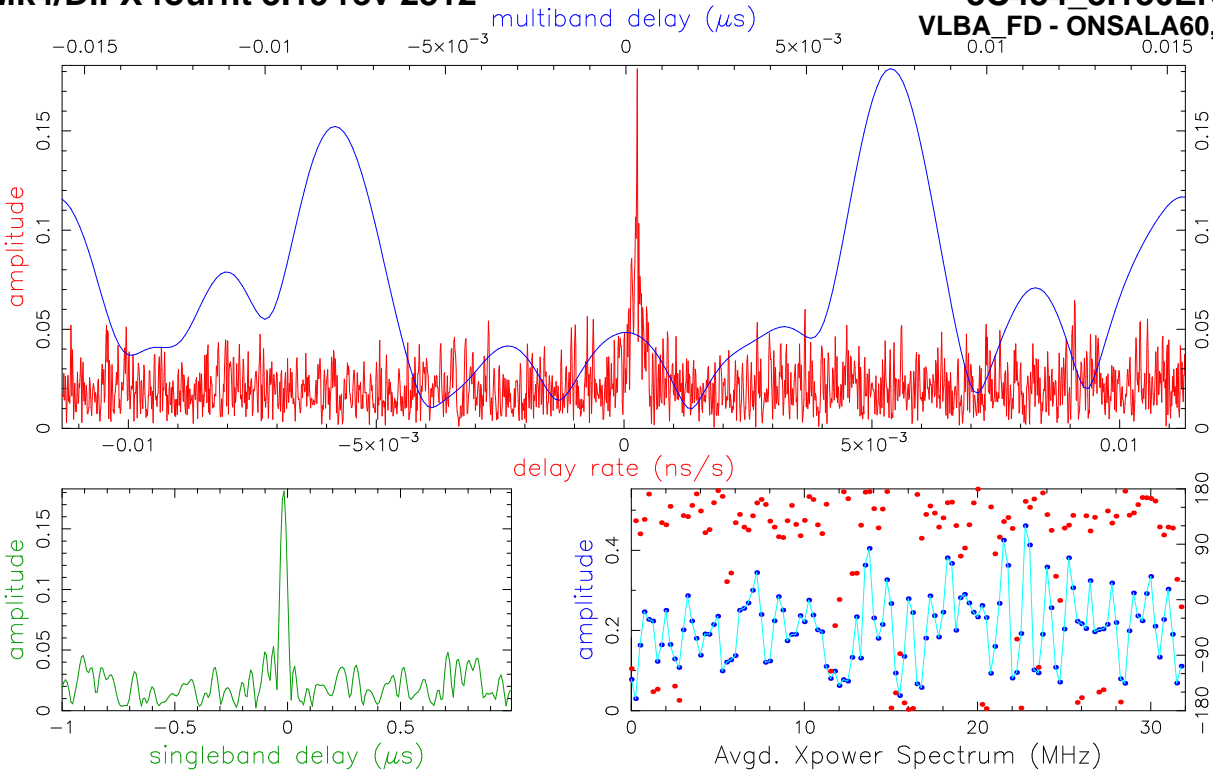


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-38.8	-105.4	-42.4	-75.1	10.1	-17.0	-35.7	-59.4	-24.1	-59.8	-5.0	-33.2	156.3	-42.2	-103.9	-25.6		Phase	-40.6
	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2		Ampl.	0.1
	29.5	105.3	25.7	78.5	241.9	92.1	214.7	218.7	239.0	100.0	60.2	103.7	220.9	68.2	156.4	164.0		Sbd box	95.3
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0		APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC	
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks	
Group delay (usec)(sbd)	6.02255825173E+03			Apriori delay (usec)			6.02280695704E+03			Resid mbdelay (usec)			1.29469E-03			+/- 1.8E-04			
Sband delay (usec)	6.02254330704E+03			Apriori clock (usec)			-3.1909124E+01			Resid sbdelay (usec)			-2.63650E-01			+/- 2.9E-03			
Phase delay (usec)	6.02280695573E+03			Apriori clockrate (us/s)			-6.1894950E-07			Resid phdelay (usec)			-1.31062E-06			+/- 6.3E-07			
Delay rate (us/s)	1.68841863129E+00			Apriori rate (us/s)			1.68842331596E+00			Resid rate (us/s)			-4.68467E-06			+/- 2.3E-09			
Total phase (deg)	59.9			Apriori accel (us/s/s)			-4.27103163610E-05			Resid phase (deg)			-40.6			+/- 19.5			

ph/seg (deg) RMS Theor. Amplitude 0.106 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 34.5 33.8 Search (2048X64) 0.096 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 39.8 59.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 54.6 39.1 Inc. seg. avg. 0.103 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 40.6 68.2 Inc. frq. avg. 0.111 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 f: az 96.8 el 43.9 pa -62.8 X: az 260.0 el 25.6 pa 33.6 u,v (fr/asec) -10148.340 -3743.351 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fX..130ERS Output file: /Exps/c192b/v2/1234/No0145/fX.W.141.130ERS

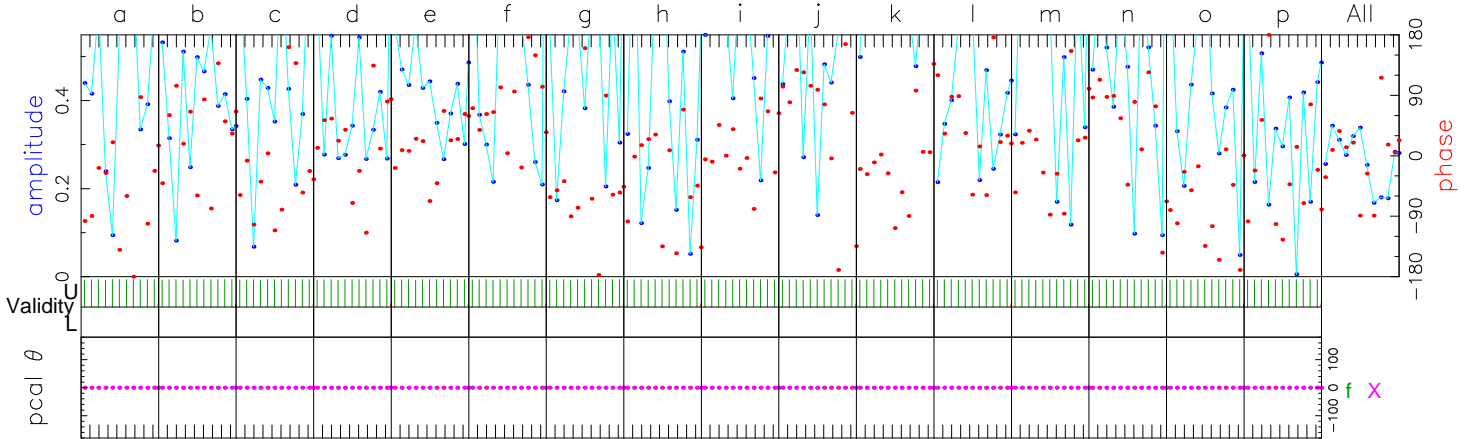
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fX
VLBA_FD - ONSALA60, fgroup W, pol RL



Fringe quality 9
SNR 10.9
Int time 475.552
Amp 0.183
Phase -2.8
PFD 4.5e-19
Delays (us)
SBD -0.018034
MBD 0.007303
Fringe rate (Hz) 0.023161
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015259.74
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101228
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 84 APs / seg (43.01 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
	-74.9	20.6	-50.3	23.2	9.0	68.8	-77.7	-10.5	4.6	112.0	-23.7	30.4	-2.3	71.5	-73.3	-60.5	Phase	-2.8
	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.2	0.5	0.4	0.5	0.2	0.4	0.3	0.3	0.2	Ampl.	0.3
	147.1	109.1	126.2	20.3	127.0	126.2	126.6	63.7	127.3	126.8	126.8	71.2	126.7	126.1	125.5	125.3	Sbd box	126.7
U/L	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	934/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

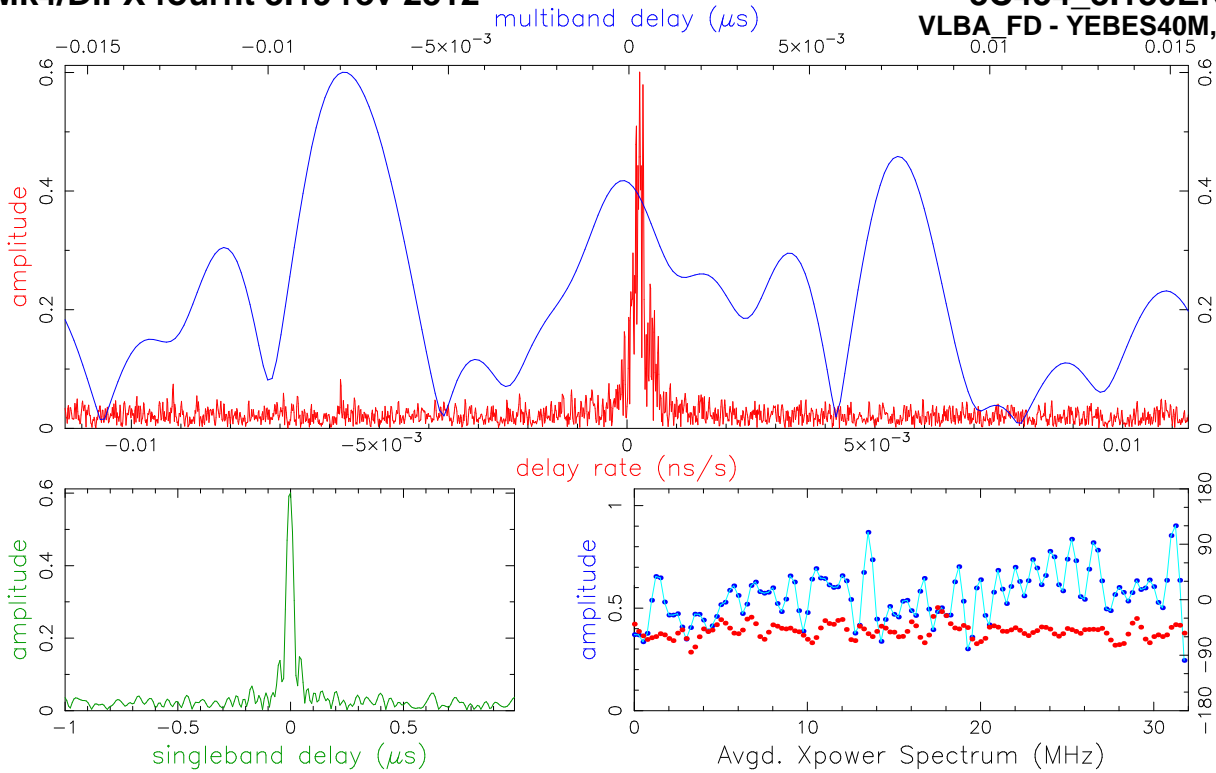
Group delay (usec)(sbd) 6.02278301030E+03 Apriori delay (usec) 6.02280695704E+03 Resid mbdelay (usec) 7.30326E-03 +/- 9.9E-05
 Sband delay (usec) 6.02278892354E+03 Apriori clock (usec) -3.1909124E+01 Resid sbdelay (usec) -1.80335E-02 +/- 1.6E-03
 Phase delay (usec) 6.02280695694E+03 Apriori clockrate (us/s) -6.1894950E-07 Resid phdelay (usec) -9.18759E-08 +/- 3.4E-07
 Delay rate (us/s) 1.68842358484E+00 Apriori rate (us/s) 1.68842331596E+00 Resid rate (us/s) 2.68875E-07 +/- 1.2E-09
 Total phase (deg) 97.6 Apriori accel (us/s/s) -4.27103163610E-05 Resid phase (deg) -2.8 +/- 10.5

RMS Theor. Amplitude 0.183 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 54.9 18.2 Search (2048X64) 0.175 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 55.7 31.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 58.7 21.0 Inc. seg. avg. 0.252 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 81.1 36.6 Inc. frq. avg. 0.273 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 X: az 260.0 el 25.6 pa 33.6 u,v (fr/asec) -10148.340 -3743.351 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fX..130ERS Output file: /Exps/c192b/v2/1234/No0145/fX.W.159.130ERS

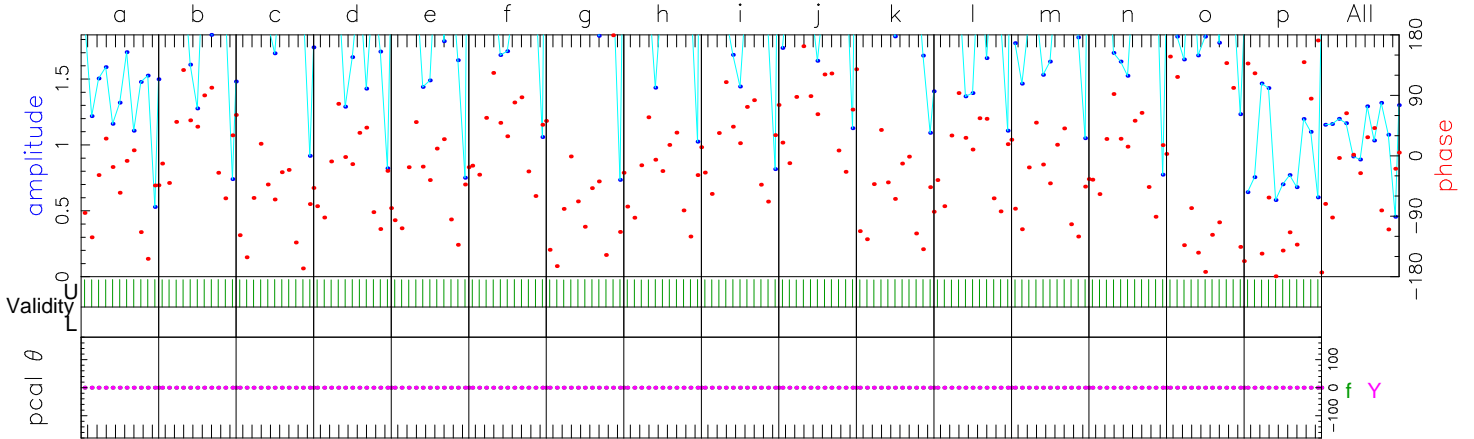
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fY
VLBA_FD - YEBES40M, fgroup W, pol RR



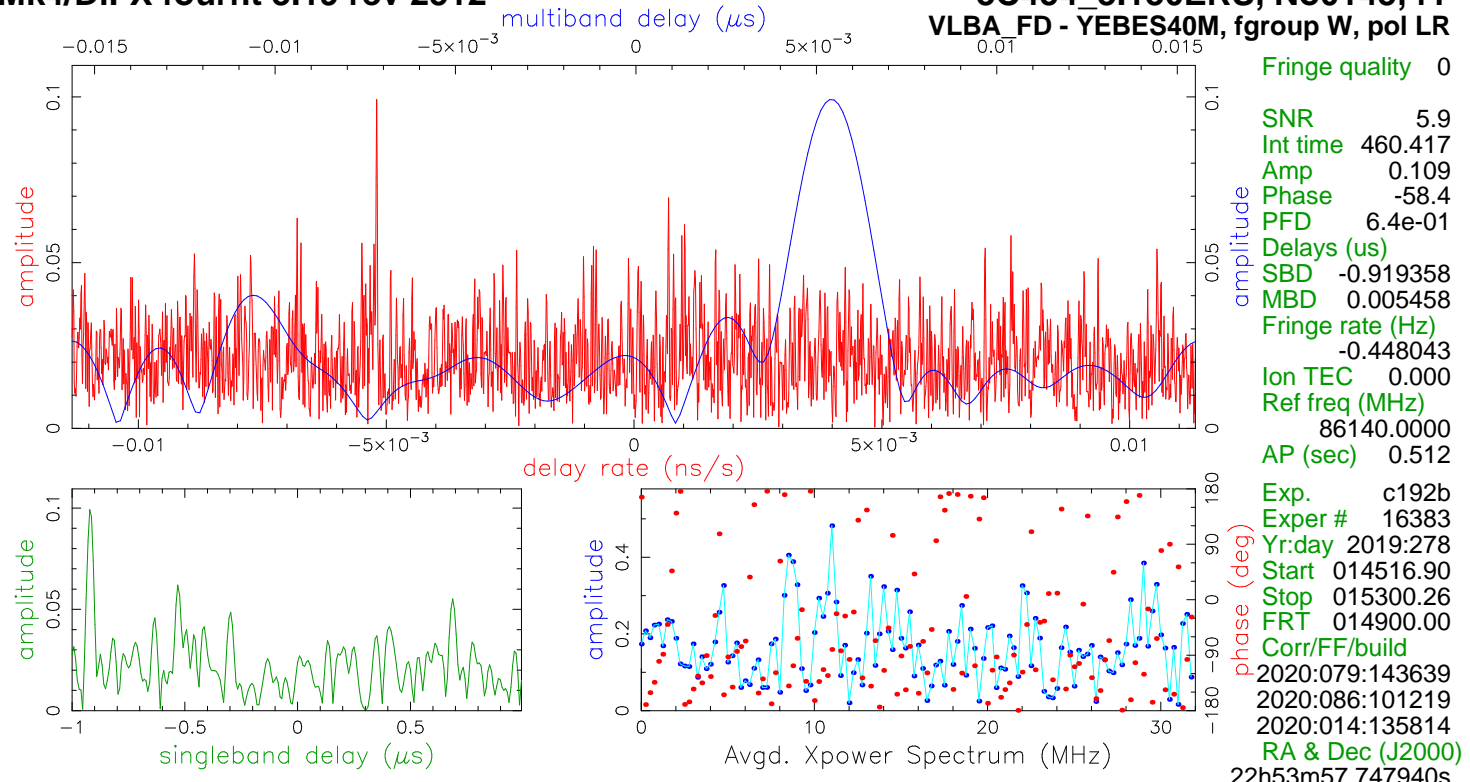
Fringe quality 3
SNR 35.9
Int time 460.417
Amp 0.612
Phase -25.3
PFD 0.0e+00
Delays (us)
SBD -0.003324
MBD -0.007887
Fringe rate (Hz)
0.022398
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014516.90
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101214
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 82 APs / seg (41.98 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
	-52.2	35.4	-74.8	-26.0	-40.1	30.3	-100.4	-29.8	19.8	63.5	-60.6	3.1	-36.1	1.2	-164.3	-171.4	Phase	-25.3
	0.8	0.9	1.1	0.9	1.0	1.2	1.2	1.3	1.0	1.1	1.3	1.0	1.0	1.2	1.1	0.4	Ampl.	1.0
	128.2	129.3	128.7	128.1	129.1	128.3	128.9	128.9	128.7	128.5	128.6	128.4	128.3	128.0	128.0	126.4	Sbd box	128.6
U/L	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	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	
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		
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)			1.99734649855E+03					Apriori delay (usec)	1.99735438587E+03				Resid mbdelay (usec)	-7.88732E-03	+/-	3.0E-05		
Sband delay (usec)			1.99735106187E+03					Apriori clock (usec)	-9.2021904E+00				Resid sbdelay (usec)	-3.32400E-03	+/-	4.8E-04		
Phase delay (usec)			1.99735438506E+03					Apriori clockrate (us/s)	-3.1094951E-07				Resid phdelay (usec)	-8.15498E-07	+/-	1.0E-07		
Delay rate (us/s)			1.85390531787E+00					Apriori rate (us/s)	1.85390505785E+00				Resid rate (us/s)	2.60024E-07	+/-	3.8E-10		
Total phase (deg)				262.3				Apriori accel (us/s/s)	-1.50937707699E-05				Resid phase (deg)	-25.3	+/-	3.2		

ph/seg (deg) 54.8 5.5 Search (2048X64) 0.553 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 82.5 9.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 70.3 6.4 Inc. seg. avg. 1.055 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 76.7 11.1 Inc. frq. avg. 1.029 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
f: az 96.8 el 43.9 pa -62.8 Y: az 257.7 el 38.7 pa 50.5 u,v (fr/asec) -11084.815 -1463.850 ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fY..130ERS Output file: /Exps/c192b/v2/1234/No0145/fY.W.109.130ERS simultaneous interpolator



Fringe quality 0

SNR 5.9

Int time 460.417

Amp 0.109

Phase -58.4

PFD 6.4e-01

Delays (us)

SBD -0.919358

MBD 0.005458

Fringe rate (Hz)

-0.448043

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192b

Exper # 16383

Yr:day 2019:278

Start 014516.90

Stop 015300.26

FRT 014900.00

Corr/FF/build

2020:079:143639

2020:086:101219

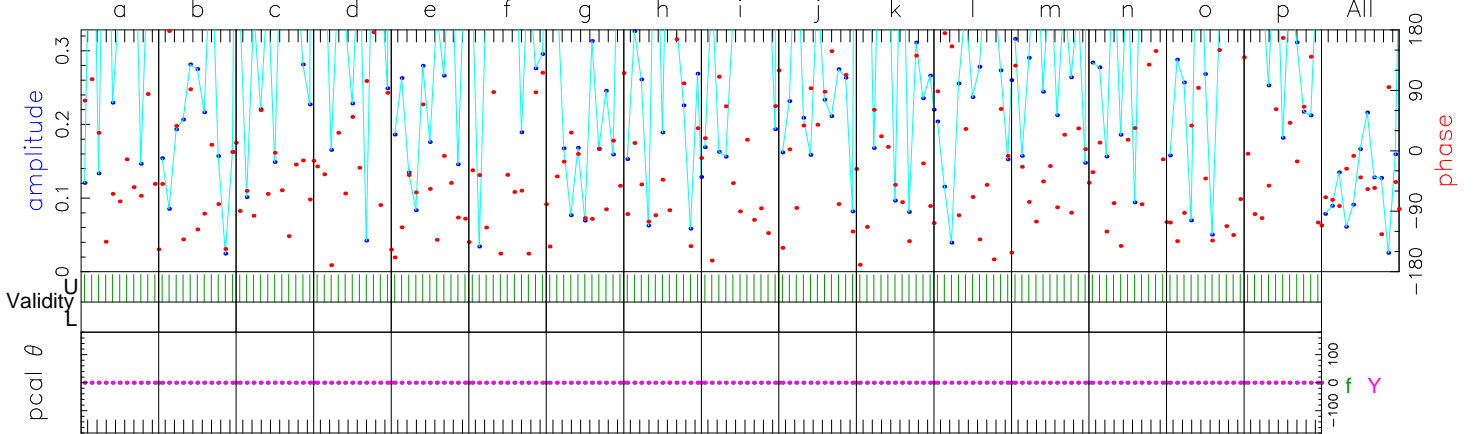
2020:014:135814

RA & Dec (J2000)

22h53m57.747940s

+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 82 APs / seg (41.98 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
	-50.4	-39.1	-57.6	-30.9	-79.3	-89.4	-55.9	-74.0	-77.2	24.7	-59.0	-68.2	-39.1	-41.4	-120.6	-28.1	Phase	-58.4
	0.1	0.1	0.2	0.1	0.2	0.0	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1	0.1	Ampl.	0.1
	85.1	69.0	231.7	144.3	80.9	183.6	226.6	51.9	1.8	92.9	87.0	40.9	136.7	80.0	215.4	17.6	Sbd box	11.3
U/L	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	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)	1.99642234338E+03			Apriori delay (usec)			1.99735438587E+03			Resid mbdelay (usec)			5.45751E-03			+/- 1.8E-04		
Sband delay (usec)	1.99643502737E+03			Apriori clock (usec)			-9.2021904E+00			Resid sbdelay (usec)			-9.19358E-01			+/- 2.9E-03		
Phase delay (usec)	1.99735438399E+03			Apriori clockrate (us/s)			-3.1094951E-07			Resid phdelay (usec)			-1.88440E-06			+/- 6.3E-07		
Delay rate (us/s)	1.85389985651E+00			Apriori rate (us/s)			1.85390505785E+00			Resid rate (us/s)			-5.20134E-06			+/- 2.3E-09		
Total phase (deg)	229.2			Apriori accel (us/s/s)			-1.50937707699E-05			Resid phase (deg)			-58.4			+/- 19.5		

ph/seg (deg) RMS Theor. Amplitude 0.109 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

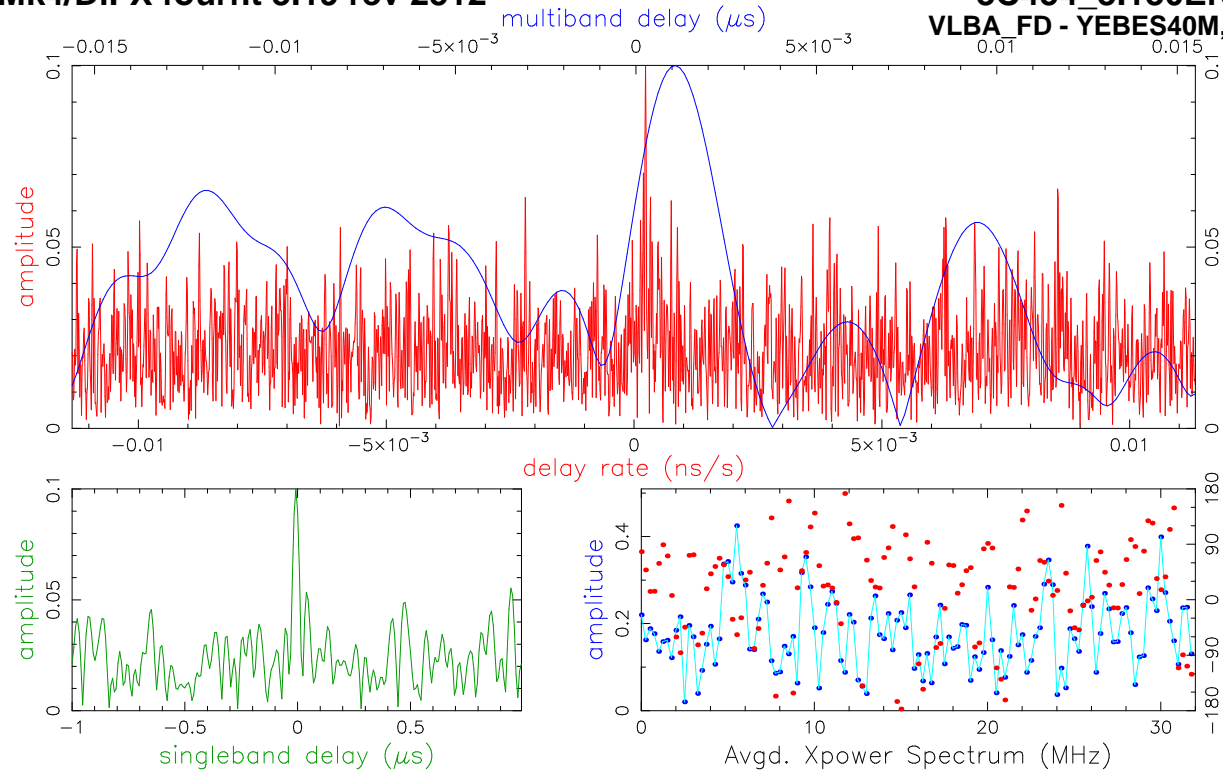
amp/seg (%) 54.6 33.7 Search (2048X64) 0.096 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 55.9 58.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 33.4 39.0 Inc. seg. avg. 0.109 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

f: az 96.8 el 43.9 pa -62.8 Y: az 257.7 el 38.7 pa 50.5 u,v (fr/asec) -11084.815 -1463.850 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fY...130ERS Output file: /Exps/c192b/v2/1234/No0145/fY.W.129.130ERS simultaneous interpolator

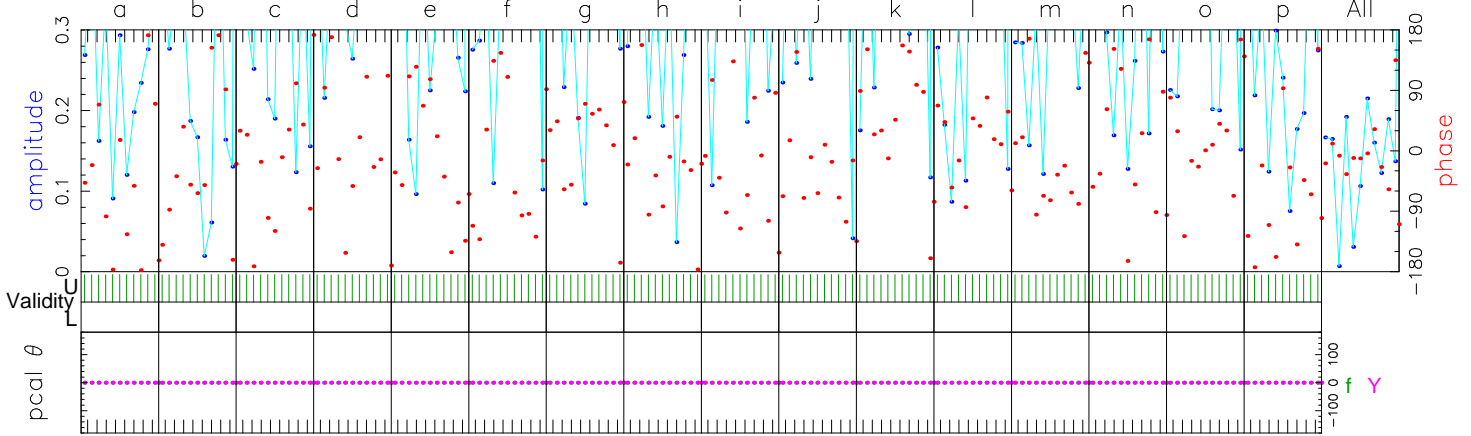


Fringe quality 0

SNR 5.9
Int time 460.417
Amp 0.100
Phase -11.2
PFD 6.6e-01
Delays (us)
SBD -0.007504
MBD 0.001084
Fringe rate (Hz) 0.019681
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014516.90
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101225
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 82 APs / seg (41.98 sec / seg.), time ticks 60 sec

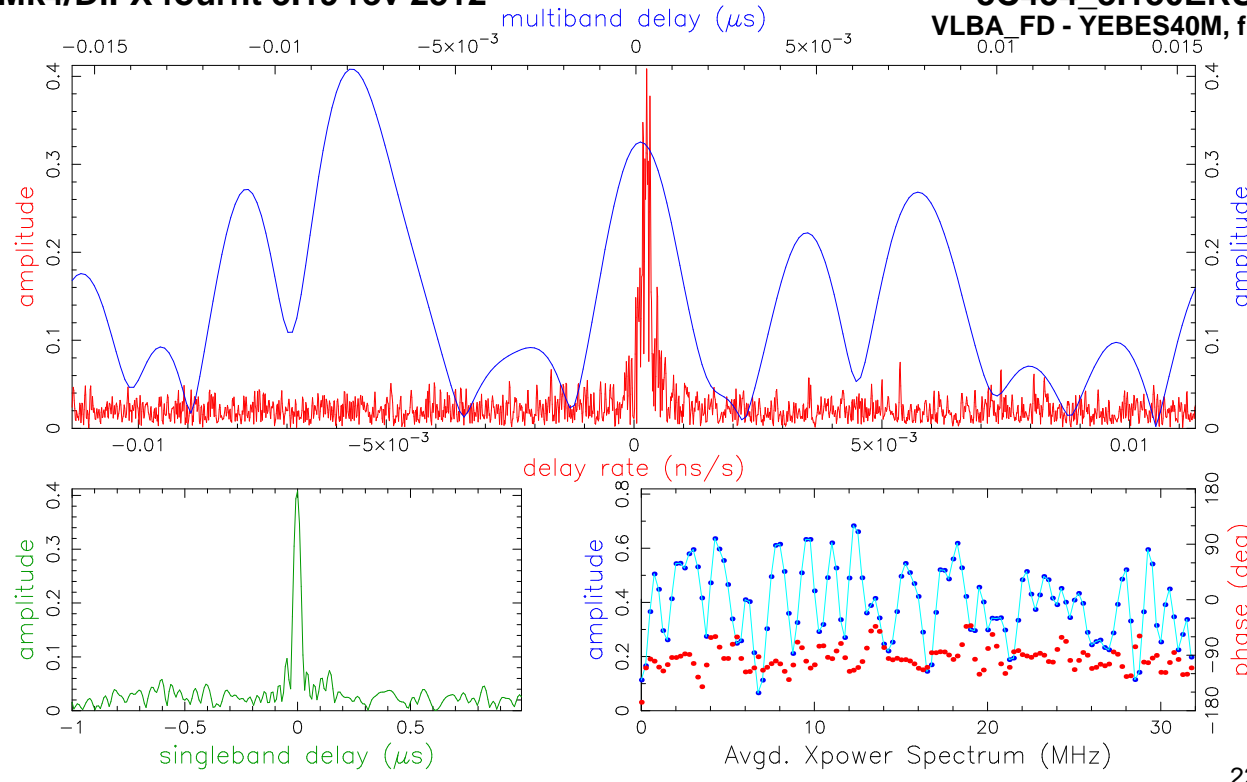


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-41.6	-108.4	2.4	13.5	-35.6	-113.7	33.9	-22.9	-36.1	-47.7	89.7	29.5	-48.9	-26.7	-5.5	-110.6	Phase	-11.2
	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.1	Ampl.	0.1
	76.5	80.1	127.8	7.1	186.6	142.2	127.2	129.5	49.5	211.0	129.3	127.7	142.4	20.0	249.7	162.7	Sbd box	128.0
U/L	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	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	
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	
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	
																	Chan ids	
																	Tracks	

Group delay (usec)(sbd) 1.99735546993E+03 Apriori delay (usec) 1.99735438587E+03 Resid mbdelay (usec) 1.08406E-03 +/- 1.8E-04
 Sband delay (usec) 1.99734688187E+03 Apriori clock (usec) -9.2021904E+00 Resid sbdelay (usec) -7.50400E-03 +/- 2.9E-03
 Phase delay (usec) 1.99735438551E+03 Apriori clockrate (us/s) -3.1094951E-07 Resid phdelay (usec) -3.61756E-07 +/- 6.3E-07
 Delay rate (us/s) 1.85390528632E+00 Apriori rate (us/s) 1.85390505785E+00 Resid rate (us/s) 2.28474E-07 +/- 2.4E-09
 Total phase (deg) 276.4 Apriori accel (us/s/s) -1.50937707699E-05 Resid phase (deg) -11.2 +/- 19.5

ph/seg (deg) RMS Theor. Amplitude 0.100 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 49.5 33.8 Search (2048X64) 0.097 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 75.2 59.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 59.6 39.0 Inc. seg. avg. 0.117 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 94.0 68.1 Inc. frq. avg. 0.129 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Y: az 257.7 el 38.7 pa 50.5 u,v (fr/asec) -11084.815 -1463.850 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fY..130ERS Output file: /Exps/c192b/v2/1234/No0145/fY.W.149.130ERS

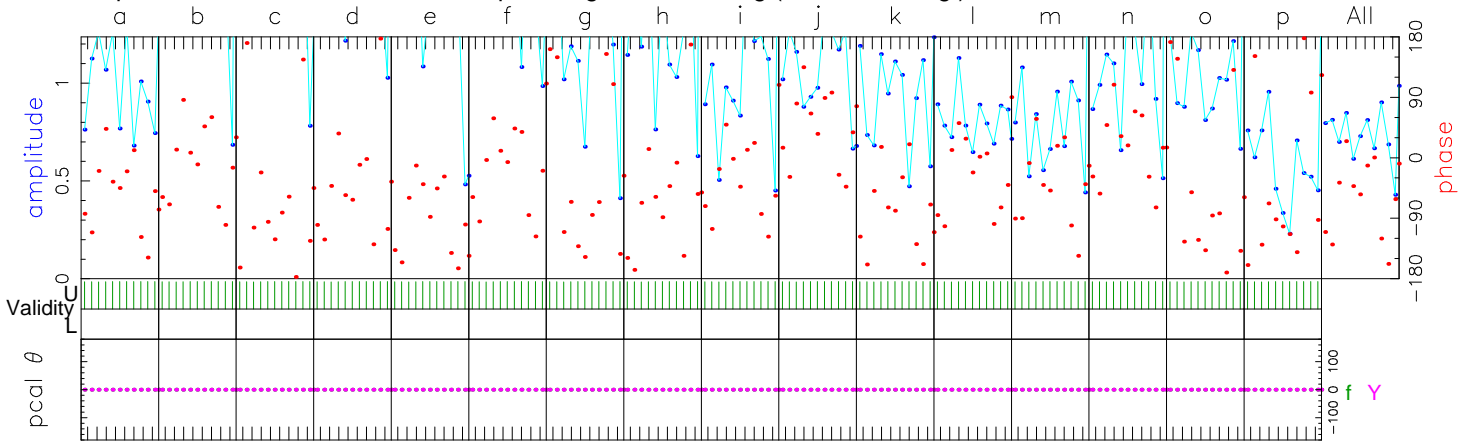


Fringe quality 5

SNR 24.2
Int time 460.417
Amp 0.412
Phase -63.3
PFD 0.0e+00
Delays (us)
SBD -0.002455
MBD -0.007897
Fringe rate (Hz) 0.022417
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014516.90
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101209
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 12 segs, 82 APs / seg (41.98 sec / seg.), time ticks 60 sec

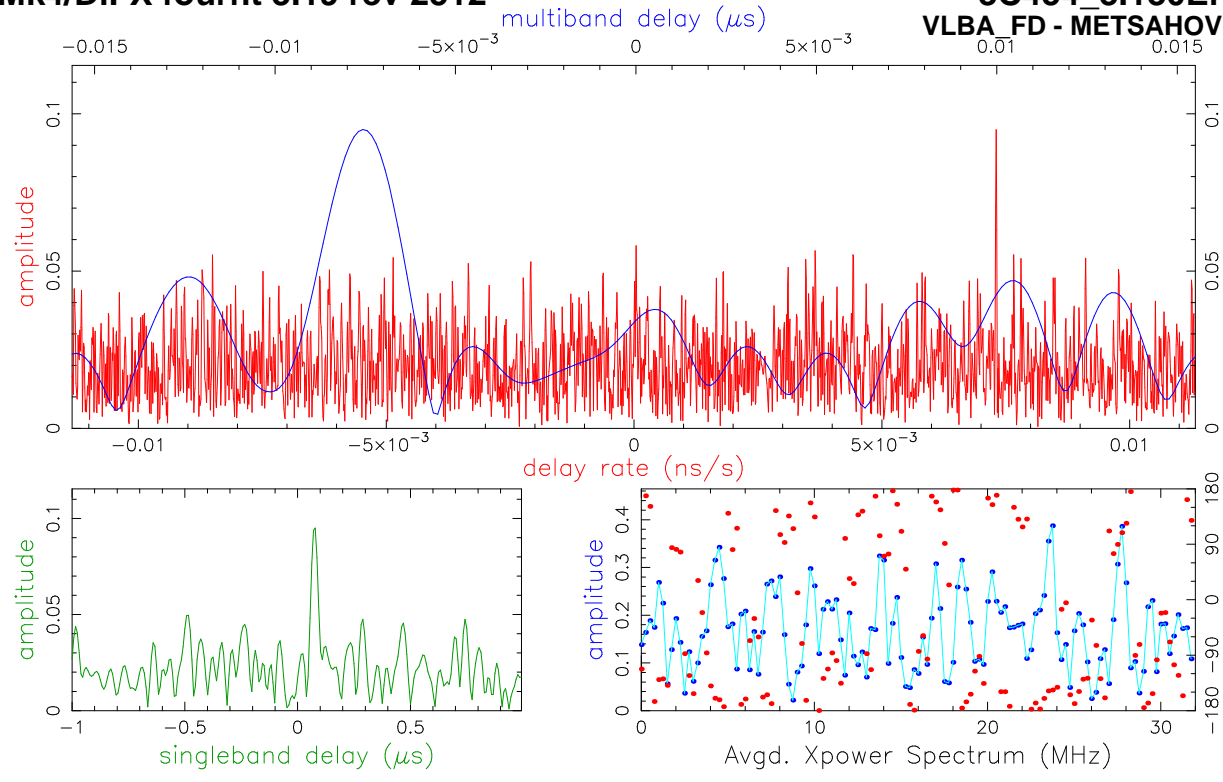


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-49.3	-16.1	-124.1	-70.4	-86.1	-21.1	-153.9	-94.5	-34.4	41.0	-82.6	-25.7	-49.5	16.9	-139.8	-134.8	Phase	-63.3
	0.6	0.9	1.1	0.9	0.9	0.9	0.6	0.5	0.6	0.6	0.5	0.5	0.4	0.7	0.6	0.4	Ampl.	0.7
	127.2	129.3	128.4	128.6	128.8	128.5	128.1	128.7	129.5	128.6	128.6	129.0	128.4	128.5	127.9	128.9	Sbd box	128.7
U/L	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	905/0	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 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: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	
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) 1.99734648840E+03 Apriori delay (usec) 1.99735438587E+03 Resid mbdelay (usec) -7.89747E-03 +/- 4.5E-05
 Sband delay (usec) 1.99735193087E+03 Apriori clock (usec) -9.2021904E+00 Resid sbdelay (usec) -2.45500E-03 +/- 7.1E-04
 Phase delay (usec) 1.99735438383E+03 Apriori clockrate (us/s) -3.1094951E-07 Resid phdelay (usec) -2.04117E-06 +/- 1.5E-07
 Delay rate (us/s) 1.85390531809E+00 Apriori rate (us/s) 1.85390505785E+00 Resid rate (us/s) 2.60243E-07 +/- 5.7E-10
 Total phase (deg) 224.3 Apriori accel (us/s/s) -1.50937707699E-05 Resid phase (deg) -63.3 +/- 4.7

RMS Theor. Amplitude 0.412 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 56.0 8.2 Search (2048X64) 0.376 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 82.3 14.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 59.0 9.5 Inc. seg. avg. 0.720 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 79.3 16.5 Inc. frq. avg. 0.656 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Y: az 257.7 el 38.7 pa 50.5 u,v (fr/asec) -11084.815 -1463.850 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fY...130ERS Output file: /Exps/c192b/v2/1234/No0145/fY.W.94.130ERS

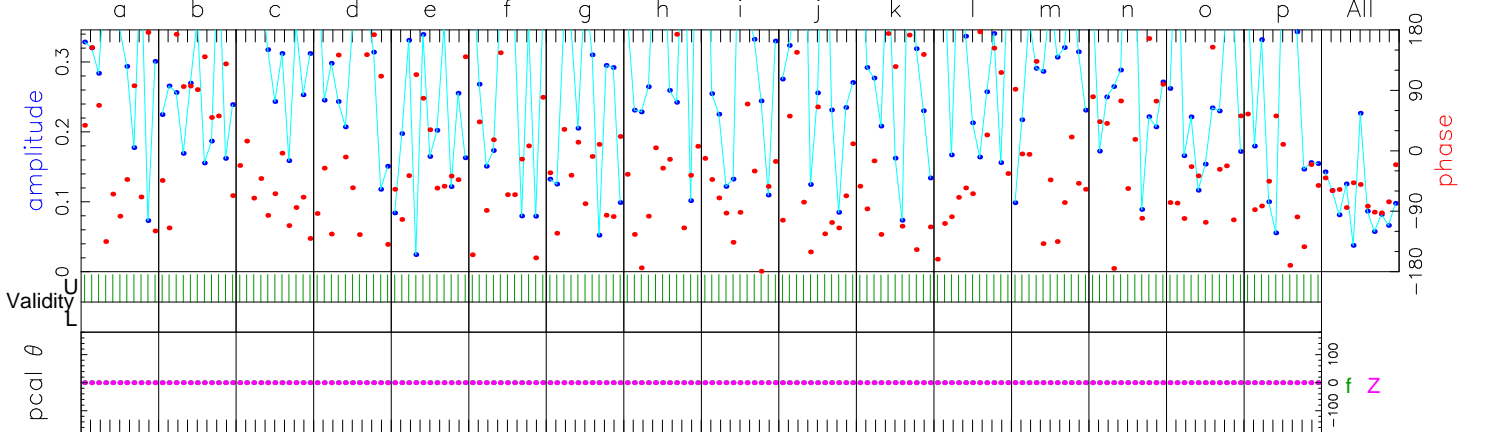


Fringe quality 0

SNR 5.8
Int time 475.316
Amp 0.115
Phase -60.9
PFD 8.8e-01
Delays (us)
SBD 0.074739
MBD -0.007597
Fringe rate (Hz) 0.630615
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101210
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

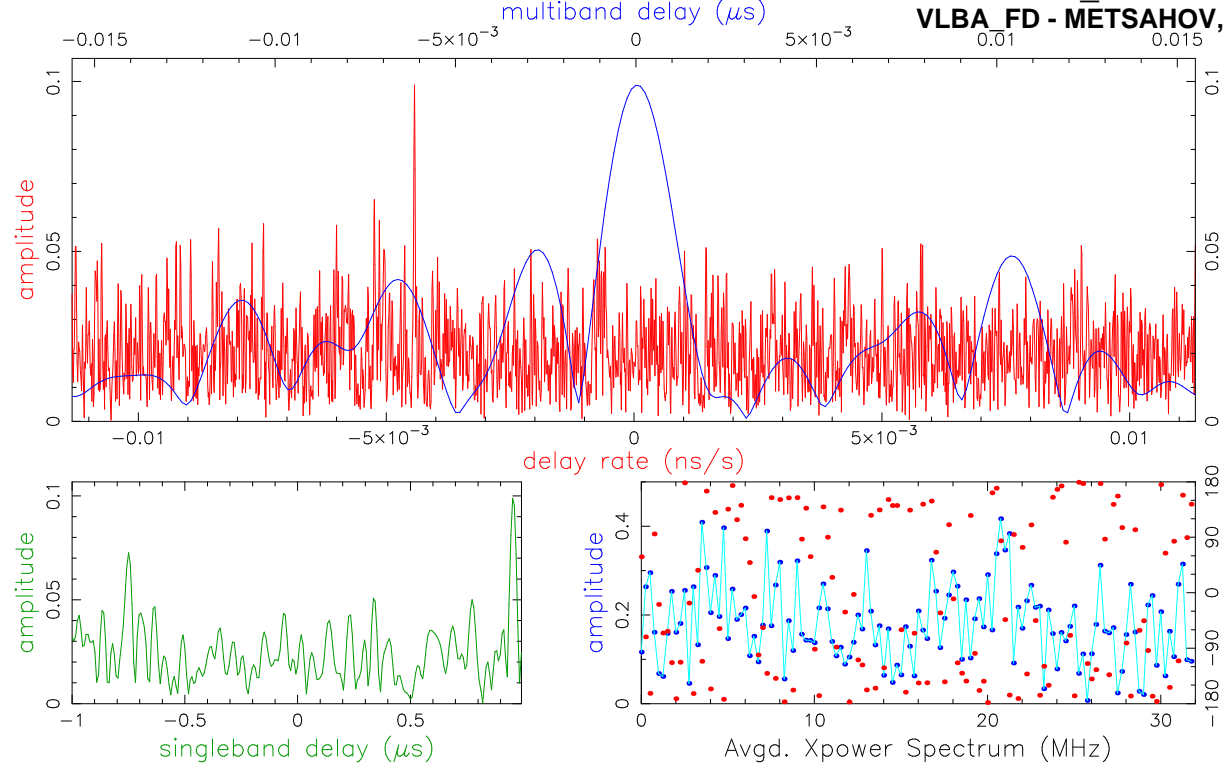


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-82.3	88.4	-56.2	-126.1	-32.6	-39.6	-41.5	-44.6	-44.0	-97.8	-141.1	-90.2	-44.1	51.8	-64.9	-57.4		Phase -60.9
	0.2	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1		Ampl. 0.1
	187.6	38.1	138.9	166.6	117.5	223.7	247.6	7.2	182.0	108.4	183.3	218.2	171.2	17.6	137.2	216.8		Sbd box 138.6
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		APs used
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
f:Z	0:0	0:0	0:0	0:0	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:Z	0:0	0:0	0:0	0:0	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
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

Group delay (usec)(sbd) 8.34779124146E+03 Apriori delay (usec) 8.34770508817E+03 Resid mbdelay (usec) -7.59671E-03 +/- 1.9E-04
 Sband delay (usec) 8.34777982717E+03 Apriori clock (usec) 2.8350312E-01 Resid sbdelay (usec) 7.47390E-02 +/- 3.0E-03
 Phase delay (usec) 8.34770508621E+03 Apriori clockrate (us/s) -1.0724231E-07 Resid phdelay (usec) -1.96263E-06 +/- 6.4E-07
 Delay rate (us/s) 1.67119511151E+00 Apriori rate (us/s) 1.67118779070E+00 Resid rate (us/s) 7.32081E-06 +/- 2.3E-09
 Total phase (deg) 45.3 Apriori accel (us/s/s) -5.57097833506E-05 Resid phase (deg) -60.9 +/- 19.9

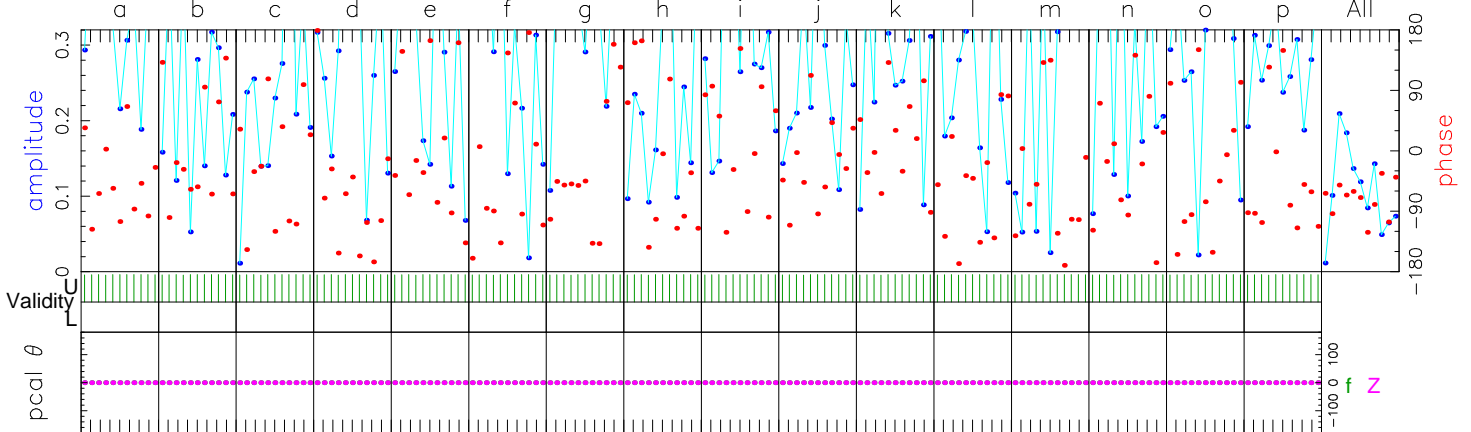
RMS Theor. Amplitude 0.115 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 22.3 33.0 Search (2048X64) 0.093 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 51.1 57.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 60.3 39.8 Inc. seg. avg. 0.104 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 57.7 69.5 Inc. frq. avg. 0.127 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Z: az 269.8 el 19.0 pa 31.1 u,v (fr/asec) -10069.012 -4259.421 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fZ..130ERS Output file: /Exps/c192b/v2/1234/No0145/fZ.W.100.130ERS



Fringe quality 0
SNR 6.0
Int time 475.316
Amp 0.107
Phase -69.8
PFD 4.5e-01
Delays (us)
SBD 0.955758
MBD 0.000053
Fringe rate (Hz)
-0.382248
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101216
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 sec / seg.), time ticks 60 sec

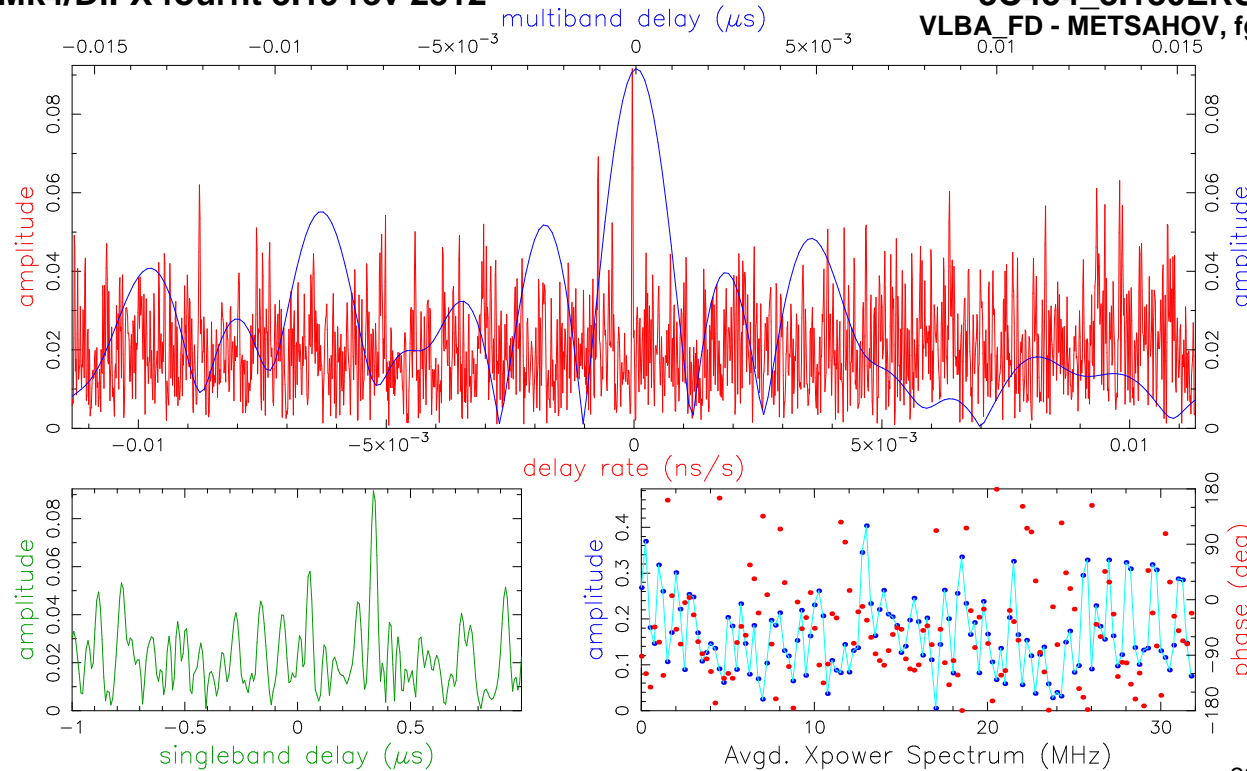


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	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
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks

Group delay (usec)(sbd) 8.34867389138E+03 Apriori delay (usec) 8.34770508817E+03 Resid mbdelay (usec) 5.32122E-05 +/- 1.8E-04
 Sband delay (usec) 8.34866084617E+03 Apriori clock (usec) 2.8350312E-01 Resid sbdelay (usec) 9.55758E-01 +/- 2.9E-03
 Phase delay (usec) 8.34770508592E+03 Apriori clockrate (us/s) -1.0724231E-07 Resid phdelay (usec) -2.24939E-06 +/- 6.2E-07
 Delay rate (us/s) 1.67118335318E+00 Apriori rate (us/s) 1.67118779070E+00 Resid rate (us/s) -4.43752E-06 +/- 2.2E-09
 Total phase (deg) 36.4 Apriori accel (us/s/s) -5.57097833506E-05 Resid phase (deg) -69.8 +/- 19.2

ph/seg (deg) RMS Theor. Amplitude 0.107 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 25.9 31.8 Search (2048X64) 0.096 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 56.3 55.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 39.2 38.4 Inc. seg. avg. 0.099 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 49.5 67.0 Inc. frq. avg. 0.103 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Z: az 269.8 el 19.0 pa 31.1 u,v (fr/asec) -10069.012 -4259.421 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fZ..130ERS Output file: /Exps/c192b/v2/1234/No0145/fZ.W.119.130ERS

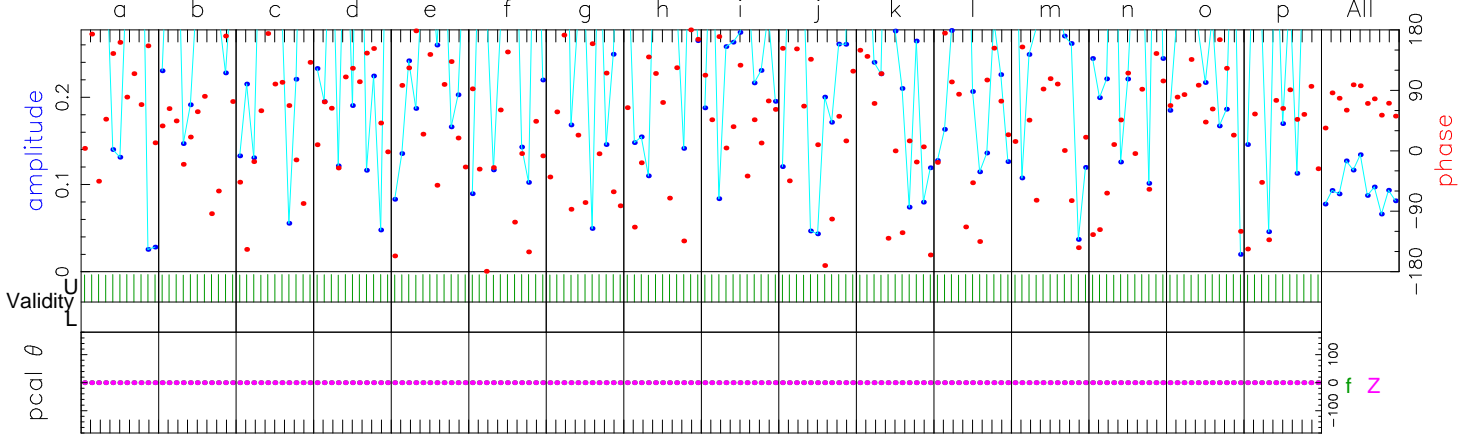


Fringe quality 0

SNR 5.5
Int time 475.316
Amp 0.092
Phase 73.3
PFD 1.0e+00
Delays (us)
SBD 0.338208
MBD 0.000003
Fringe rate (Hz)
-0.002644
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101221
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase
f:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL				Chan ids
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR				Tracks

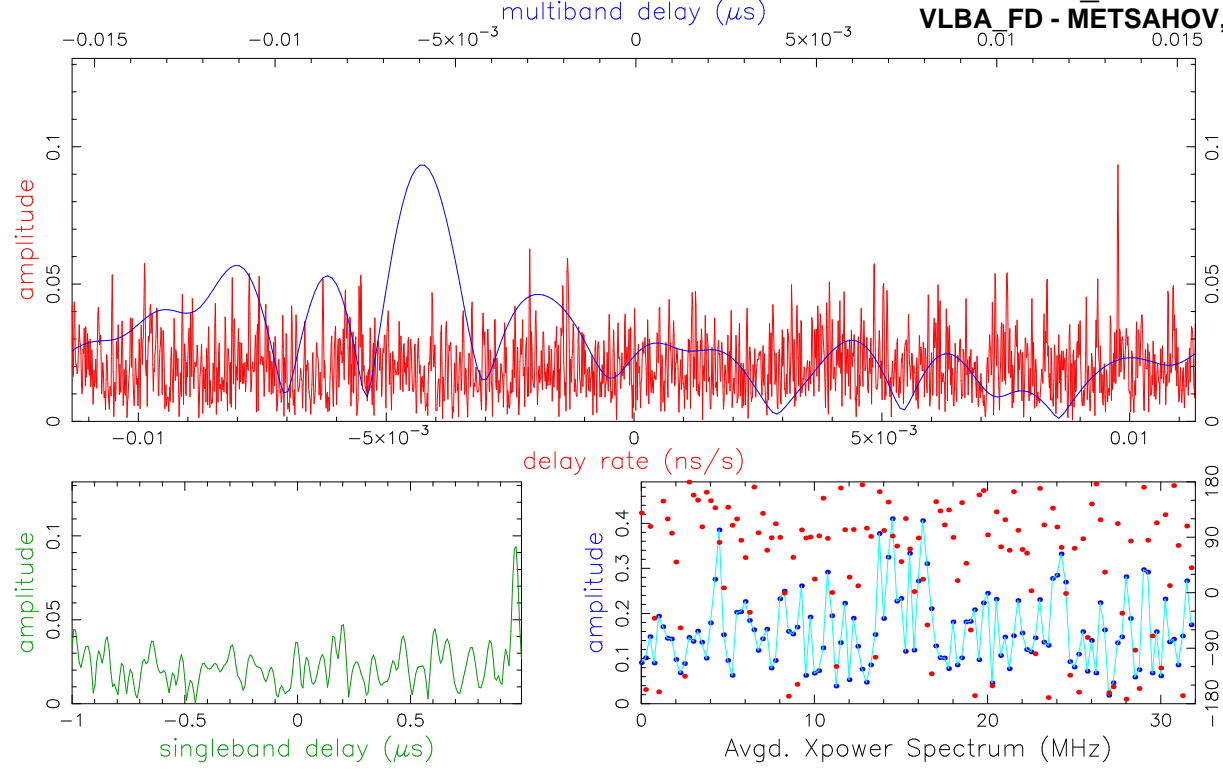
Group delay (usec)(sbd) 8.34804884154E+03 Apriori delay (usec) 8.34770508817E+03 Resid mbdelay (usec) 3.36950E-06 +/- 2.0E-04
 Sband delay (usec) 8.34804329667E+03 Apriori clock (usec) 2.8350312E-01 Resid sbdelay (usec) 3.38208E-01 +/- 3.1E-03
 Phase delay (usec) 8.34770509053E+03 Apriori clockrate (us/s) -1.0724231E-07 Resid phdelay (usec) 2.36233E-06 +/- 6.7E-07
 Delay rate (us/s) 1.67118776001E+00 Apriori rate (us/s) 1.67118779070E+00 Resid rate (us/s) -3.06890E-08 +/- 2.4E-09
 Total phase (deg) 179.5 Apriori accel (us/s/s) -5.57097833506E-05 Resid phase (deg) 73.3 +/- 20.8

ph/seg (deg) RMS Theor. Amplitude 0.092 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 19.0 34.5 Search (2048X64) 0.090 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 22.2 60.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 52.2 41.6 Inc. seg. avg. 0.082 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 65.1 72.6 Inc. frq. avg. 0.090 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Z: az 269.8 el 19.0 pa 31.1 u,v (fr/asec) -10069.012 -4259.421 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fZ..130ERS Output file: /Exps/c192b/v2/1234/No0145/fZ.W.135.130ERS

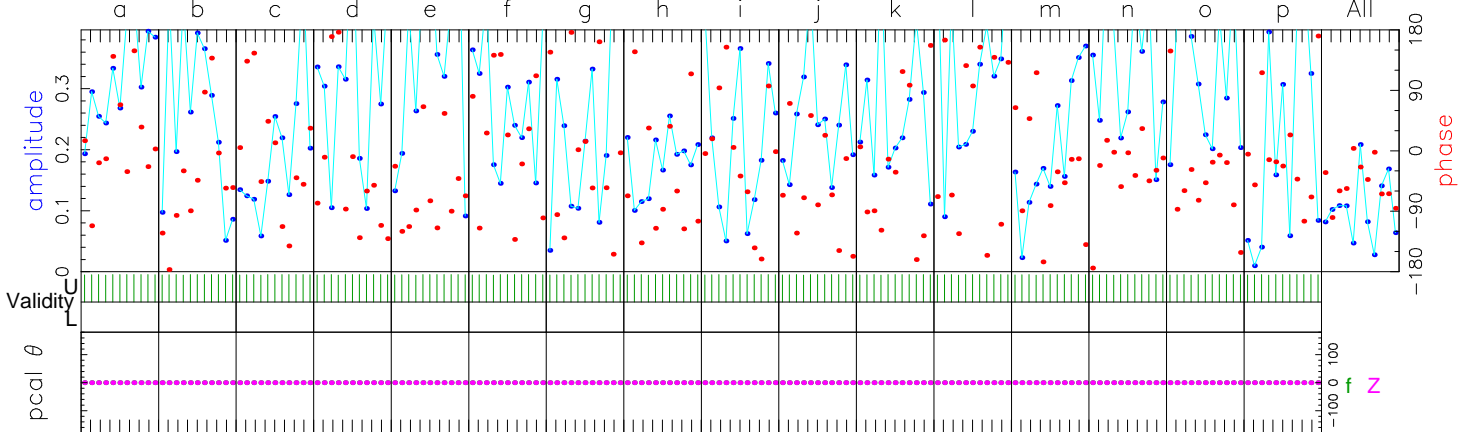
Mk4/DiFX fourfit 3.19 rev 2512

3C454_3.130ERS, No0145, fZ
VLBA_FD - METSAHOV, fgroup W, pol RL



Fringe quality 0
SNR 5.7
Int time 475.316
Amp 0.132
Phase -52.0
PFD 9.6e-01
Delays (us)
SBD 0.965392
MBD -0.005913
Fringe rate (Hz) 0.842169
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192b
Exper # 16383
Yr:day 2019:278
Start 014501.54
Stop 015300.26
FRT 014900.00
Corr/FF/build
2020:079:143639
2020:086:101225
2020:014:135814
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560909"

Amp. and Phase vs. time for each freq., 11 segs, 85 APs / seg (43.52 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	
	6.9	-68.8	-27.2	-80.3	-68.6	23.4	-77.1	-88.4	5.9	-47.4	-119.7	-163.1	-36.8	-15.7	-55.4	-48.5		Phase	-52.0
	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.2		Ampl.	0.1
	91.5	220.6	178.2	251.3	254.7	21.0	3.4	215.9	79.6	88.3	255.6	82.7	163.6	252.1	251.9	118.4		Sbd box	252.6
U/L	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0	935/0		APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
f:Z	0:0	0:0	0:0	0:0	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:Z	0:0	0:0	0:0	0:0	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	
Z	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	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks	

Group delay (usec)(sbd) 8.34866792511E+03 Apriori delay (usec) 8.34770508817E+03 Resid mbdelay (usec) -5.91306E-03 +/- 1.9E-04
 Sband delay (usec) 8.34867047967E+03 Apriori clock (usec) 2.8350312E-01 Resid sbdelay (usec) 9.65392E-01 +/- 3.0E-03
 Phase delay (usec) 8.34770508649E+03 Apriori clockrate (us/s) -1.0724231E-07 Resid phdelay (usec) -1.67555E-06 +/- 6.5E-07
 Delay rate (us/s) 1.67119756745E+00 Apriori rate (us/s) 1.67118779070E+00 Resid rate (us/s) 9.77675E-06 +/- 2.4E-09
 Total phase (deg) 54.2 Apriori accel (us/s/s) -5.57097833506E-05 Resid phase (deg) -52.0 +/- 20.2

ph/seg (deg) RMS Theor. Amplitude 0.132 +/- 0.023 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 31.0 33.4 Search (2048X64) 0.092 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 53.8 58.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 50.0 40.3 Inc. seg. avg. 0.123 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 69.1 70.4 Inc. frq. avg. 0.138 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 96.8 el 43.9 pa -62.8 Z: az 269.8 el 19.0 pa 31.1 u,v (fr/asec) -10069.012 -4259.421 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192b/v2/1234/No0145/fZ..130ERS Output file: /Exps/c192b/v2/1234/No0145/fZ.W.150.130ERS