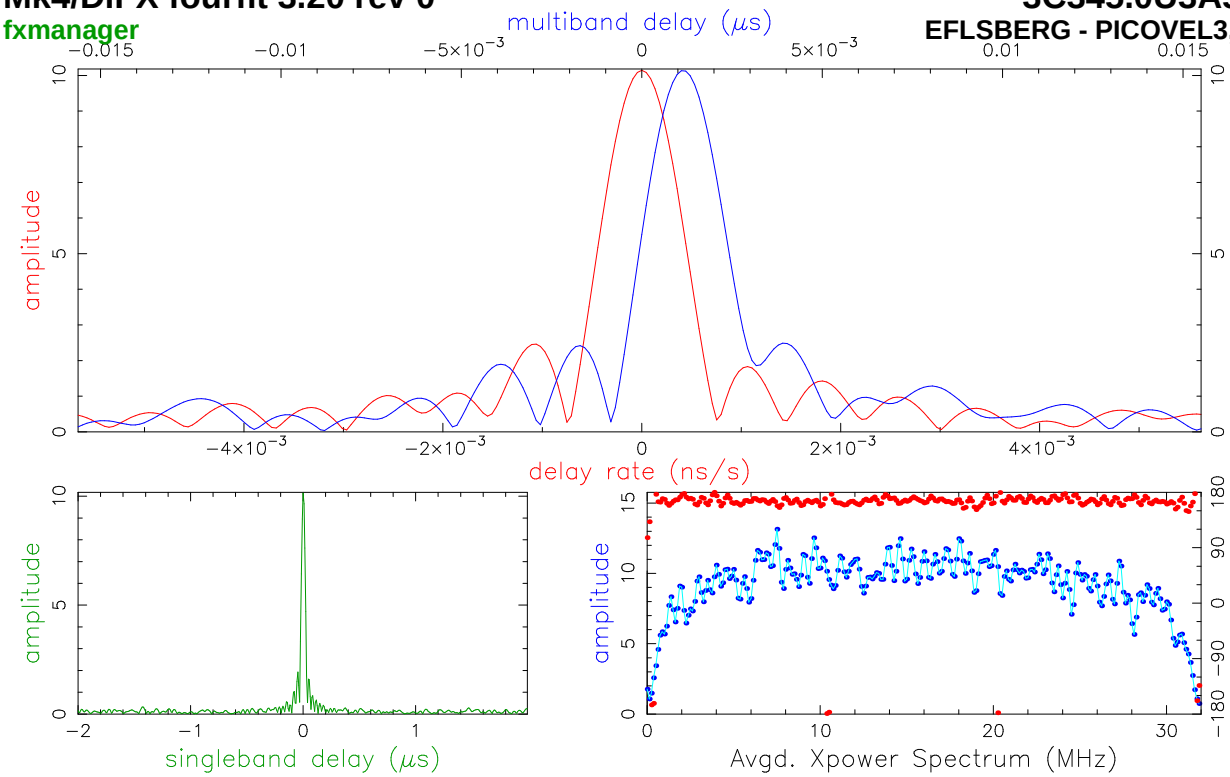
Mk4/DiFX fourfit 3.20 rev 0

fxmanager

3C345.0U3A50, No0002, Bi

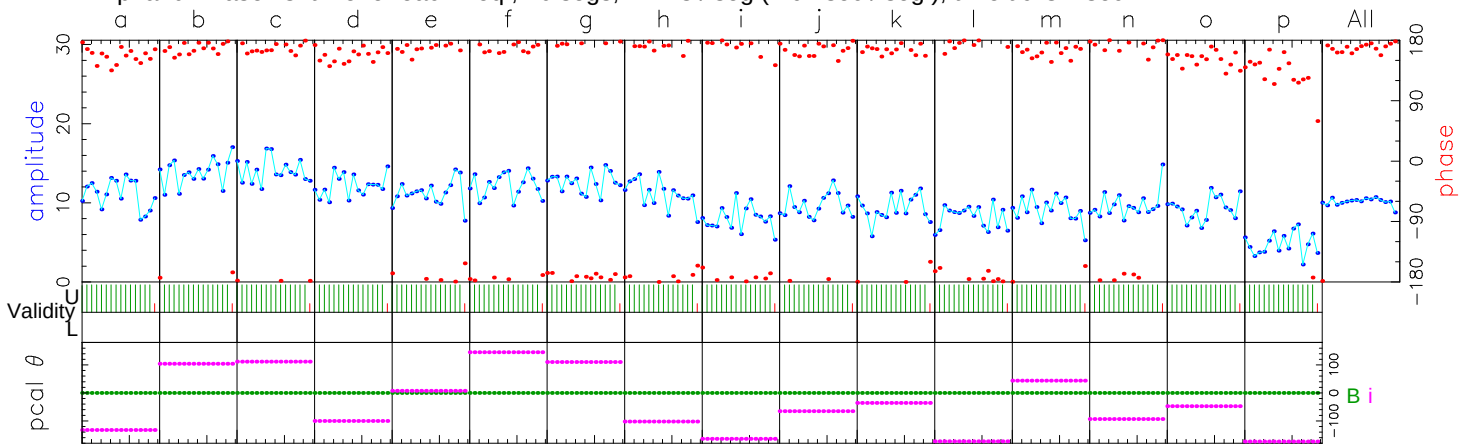
EFLSBERG - PICOVEL3, fgroup W, pol LL



Fringe quality 7

SNR	110.2
Int time	15.655
Amp	10.182
Phase	168.9
PFD	0.0e+00
Delays (us)	
SBD	0.001631
MBD	0.001157
Fringe rate (Hz)	-0.000242
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155421
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	156.0	169.4	169.5	157.7	172.1	172.1	-176.5	177.3	179.0	167.8	167.9	-179.8	164.9	176.1	152.8	138.5	Phase	168.9
	10.9	13.6	14.0	11.9	11.2	12.1	12.6	11.2	8.0	9.6	9.3	8.2	9.2	9.3	9.1	4.5	Ampl.	10.3
	256.5	256.9	257.2	257.7	257.8	257.8	257.6	257.5	258.8	257.1	256.9	256.6	256.6	256.8	256.0	256.6	Sbd box	257.2
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
B	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	
B:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
B	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		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.39486553054E+03	Apriori delay (usec)	2.39486437317E+03	Resid mbdelay (usec)	1.15738E-03	+/-	9.8E-06
Sband delay (usec)	2.39486600417E+03	Apriori clock (usec)	1.7340025E+01	Resid sbdelay (usec)	1.63100E-03	+/-	1.6E-04
Phase delay (usec)	2.39486437861E+03	Apriori clockrate (us/s)	2.3000001E-08	Resid phdelay (usec)	5.44670E-06	+/-	3.4E-08
Delay rate (us/s)	-2.46156842274E-01	Apriori rate (us/s)	-2.46156839462E-01	Resid rate (us/s)	-2.81156E-09	+/-	3.5E-09
Total phase (deg)	206.5	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	168.9	+/-	1.0

	RMS	Theor.							
			Amplitude	10.182 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	6.3	2.1	Search (64X64)	10.026	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	3.5	3.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	12.2	2.1	Inc. seg. avg.	10.199	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	22.8	3.6	Inc. frq. avg.	10.289	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

B: az 88.6 el 54.8 pa -55.8 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

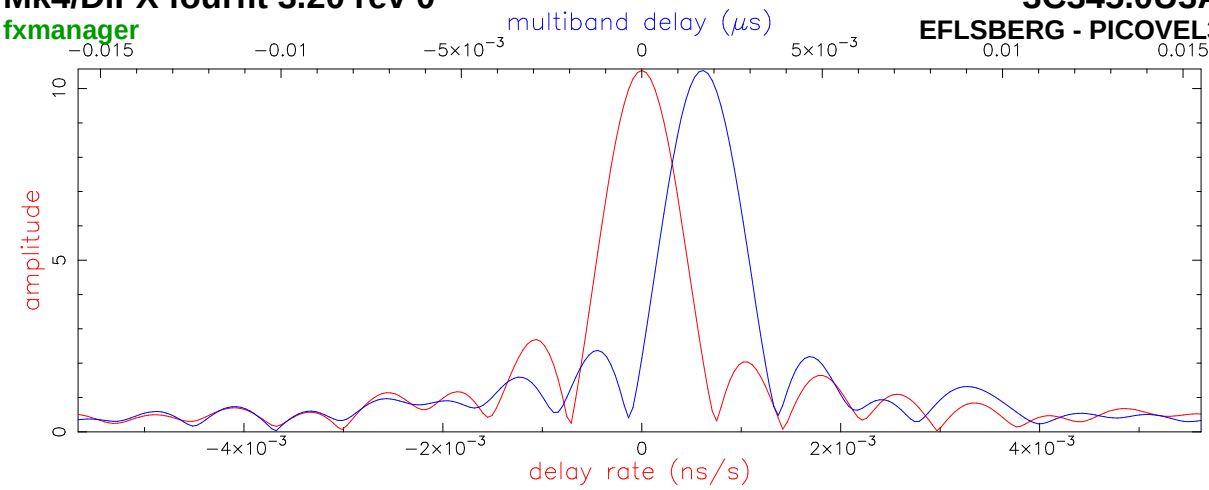
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Bi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Bi.W.1.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

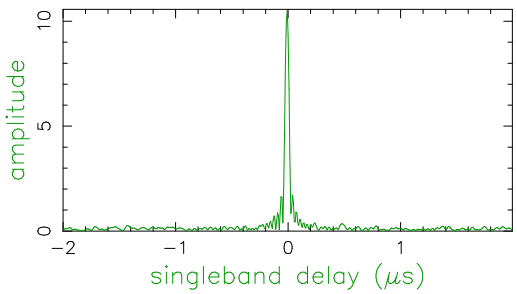
3C345.0U3A50, No0002, Bi

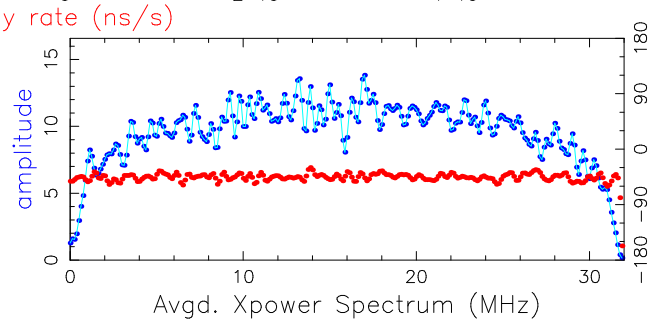
EFLSBERG - PICOVEL3, fgroup W, pol RR



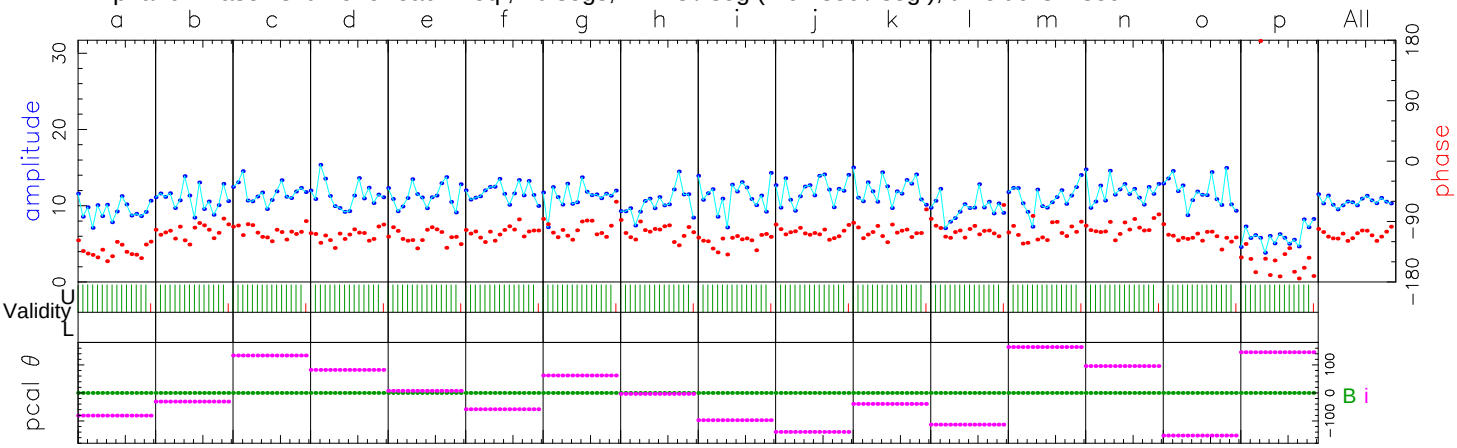
Fringe quality 8

SNR	114.4
Int time	15.655
Amp	10.570
Phase	-109.8
PFD	0.0e+00
Delays (us)	
SBD	-0.009564
MBD	0.001679
Fringe rate (Hz)	-0.000060
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155421
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-133.9	-104.5	-105.5	-111.3	-112.5	-105.9	-100.8	-105.5	-118.8	-106.2	-105.1	-103.3	-105.7	-99.1	-112.2	-154.0	Phase	-109.8
	9.2	10.8	11.6	11.3	11.1	11.7	11.0	10.3	11.1	11.9	12.0	9.7	10.7	11.8	11.9	5.6	Ampl.	10.7
	254.5	255.2	255.7	255.7	256.0	256.1	255.8	255.8	255.7	255.9	256.3	256.0	255.8	256.1	255.4	255.0	Sbd box	255.8
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
B	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	
B:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
B	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		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.39486605204E+03	Apriori delay (usec)	2.39486437317E+03	Resid mbdelay (usec)	1.67887E-03	+/-	9.4E-06
Sband delay (usec)	2.39485480917E+03	Apriori clock (usec)	1.7340025E+01	Resid sbdelay (usec)	-9.56400E-03	+/-	1.5E-04
Phase delay (usec)	2.39486436963E+03	Apriori clockrate (us/s)	2.3000001E-08	Resid phdelay (usec)	-3.53930E-06	+/-	3.2E-08
Delay rate (us/s)	-2.46156840154E-01	Apriori rate (us/s)	-2.46156839462E-01	Resid rate (us/s)	-6.91552E-10	+/-	3.4E-09
Total phase (deg)	-72.1	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	-109.8	+/-	1.0

	RMS	Theor.							
			Amplitude	10.570 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	5.8	2.0	Search (64X64)	10.327	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	5.1	3.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	14.7	2.0	Inc. seg. avg.	10.574	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	14.5	3.5	Inc. frq. avg.	10.719	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

B: az 88.6 el 54.8 pa -55.8 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

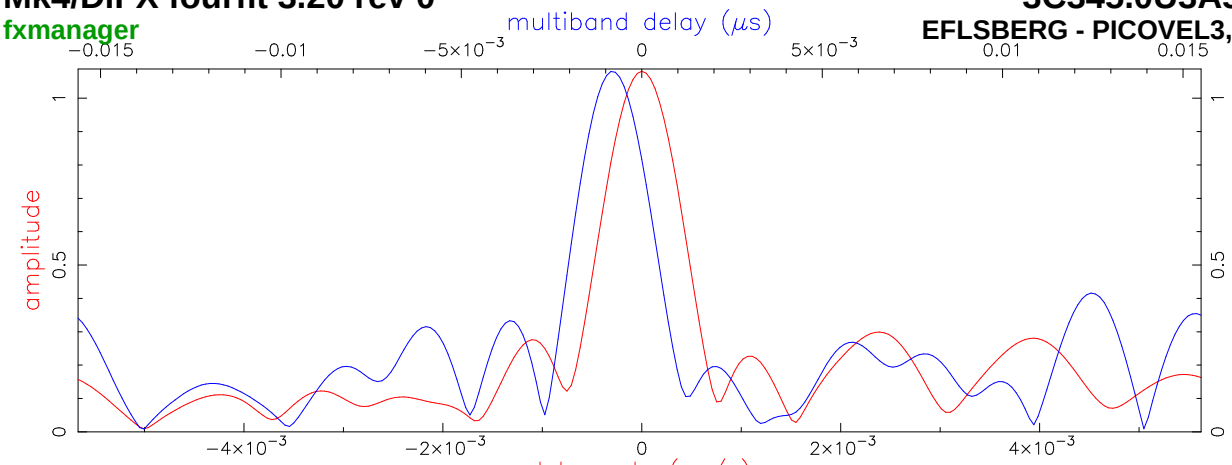
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Bi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Bi.W.2.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

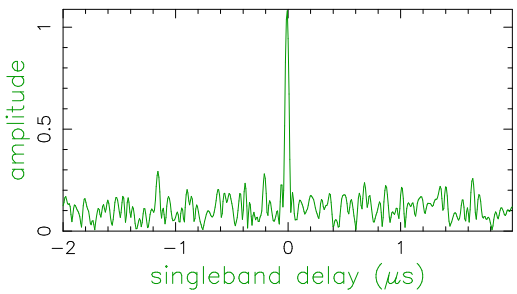
3C345.0U3A50, No0002, Bi

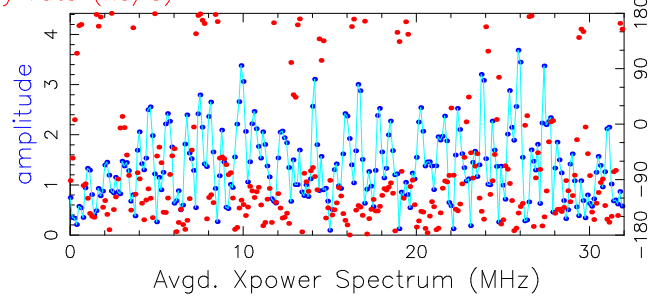
EFLSBERG - PICOVEL3, fgroup W, pol LR



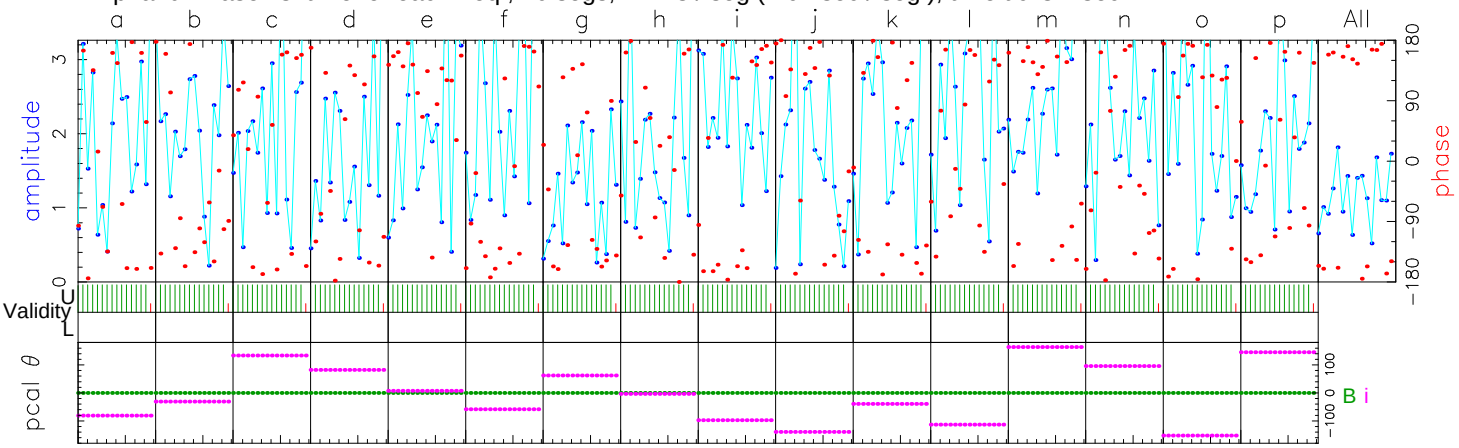
Fringe quality 9

SNR	11.8
Int time	15.655
Amp	1.088
Phase	177.3
PFD	1.8e-24
Delays (us)	
SBD	-0.009936
MBD	-0.000805
Fringe rate (Hz)	-0.001811
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155422
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	175.2	-139.7	146.8	176.3	127.9	-161.8	175.6	-176.3	179.6	163.1	176.2	179.0	-168.8	-142.8	160.5	166.9	Phase	177.3
	1.2	1.4	1.1	1.0	1.4	1.7	0.4	0.5	1.7	1.3	1.4	0.7	1.8	0.9	2.0	0.3	Ampl.	1.1
	260.7	256.8	408.9	9.0	255.6	256.3	206.0	163.1	256.0	257.0	257.1	463.9	256.4	386.0	254.7	46.3	Sbd box	255.7
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
B	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	
B:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
B	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		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.39486356813E+03	Apriori delay (usec)	2.39486437317E+03	Resid mbdelay (usec)	-8.05031E-04	+/-	9.2E-05
Sband delay (usec)	2.39485443717E+03	Apriori clock (usec)	1.7340025E+01	Resid sbdelay (usec)	-9.93600E-03	+/-	1.5E-03
Phase delay (usec)	2.39486437888E+03	Apriori clockrate (us/s)	2.3000001E-08	Resid phdelay (usec)	5.71887E-06	+/-	3.1E-07
Delay rate (us/s)	-2.46156860481E-01	Apriori rate (us/s)	-2.46156839462E-01	Resid rate (us/s)	-2.10187E-08	+/-	3.3E-08
Total phase (deg)	215.0	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	177.3	+/-	9.7

	RMS	Theor.						
			Amplitude	1.088 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	20.2	19.5	Search (64X64)	1.066	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	34.4	34.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	24.1	19.5	Inc. seg. avg.	1.087	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	46.8	34.0	Inc. frq. avg.	1.112	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 88.6 el 54.8 pa -55.8 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

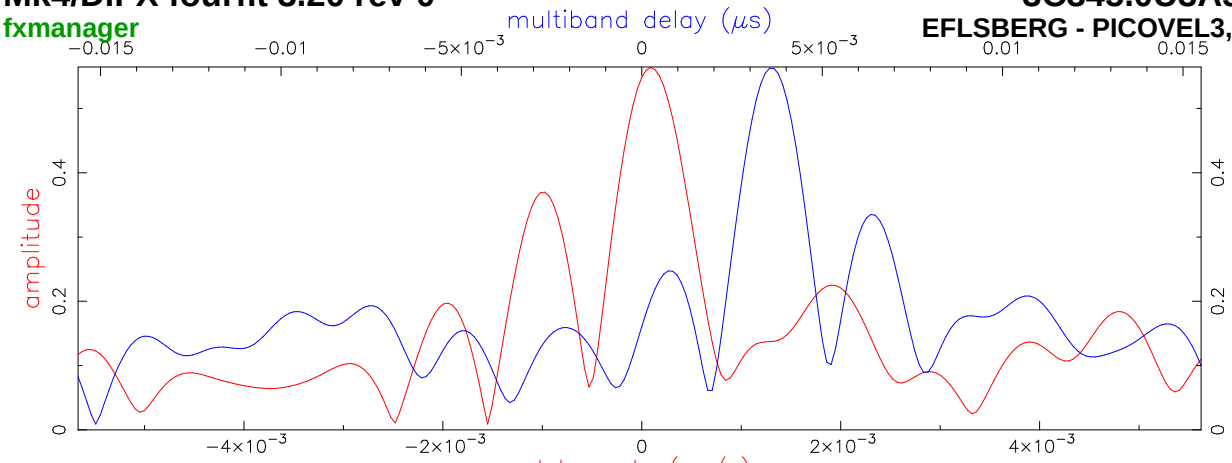
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Bi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Bi.W.4.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

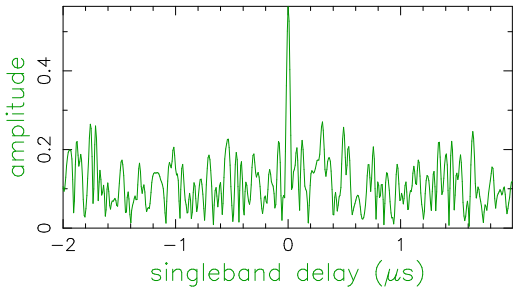
3C345.0U3A50, No0002, Bi

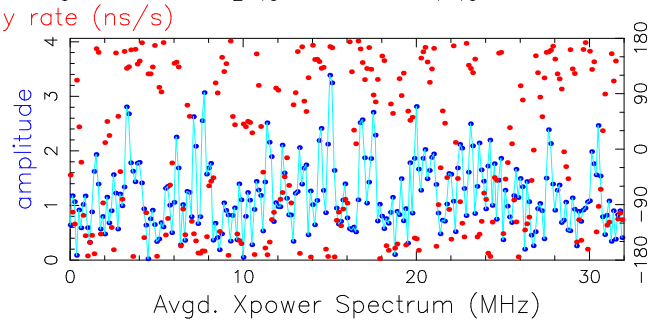
EFLSBERG - PICOVEL3, fgroup W, pol RL



Fringe quality 0

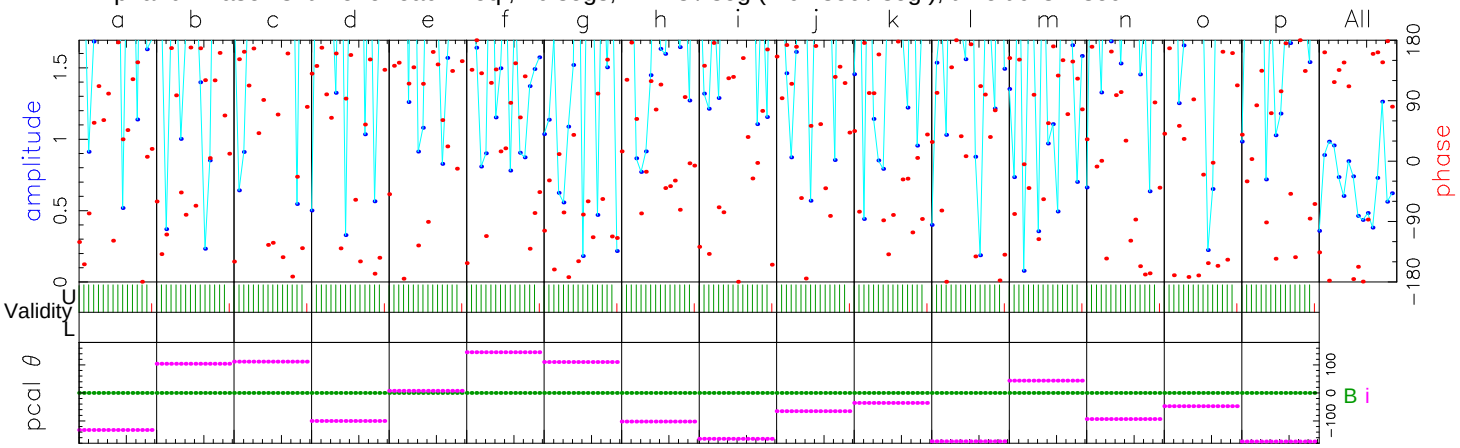
SNR 6.1
Int time 15.655
Amp 0.565
Phase 159.5
PFD 1.7e-02
Delays (us)
SBD 0.001032
MBD 0.003608
Fringe rate (Hz)
0.009016
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155422
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	133.7	159.7	169.4	167.0	154.0	149.4	-105.9	35.8	168.5	142.6	-90.8	142.4	129.1	161.4	164.9	144.3	Phase	159.5
	0.7	0.5	1.0	1.2	1.1	0.6	0.8	0.5	0.6	0.9	0.5	0.7	0.5	0.3	1.4	0.2	Ampl.	0.6
	452.7	335.4	422.4	255.9	256.6	233.7	123.2	436.7	290.8	68.2	176.6	41.8	179.9	470.2	10.6	345.7	Sbd box	257.1
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
B	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	
B:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
B	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		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.39486798158E+03	Apriori delay (usec)	2.39486437317E+03	Resid mbdelay (usec)	3.60842E-03	+/-	1.8E-04
Sband delay (usec)	2.39486540517E+03	Apriori clock (usec)	1.7340025E+01	Resid sbdelay (usec)	1.03200E-03	+/-	2.8E-03
Phase delay (usec)	2.39486437831E+03	Apriori clockrate (us/s)	2.3000001E-08	Resid phdelay (usec)	5.14458E-06	+/-	6.1E-07
Delay rate (us/s)	-2.46156734800E-01	Apriori rate (us/s)	-2.46156839462E-01	Resid rate (us/s)	1.04662E-07	+/-	6.4E-08
Total phase (deg)	197.2	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	159.5	+/-	18.8

	RMS	Theor.							
			Amplitude	0.565 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	42.5	37.5	Search (64X64)	0.550	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	49.6	65.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	52.8	37.5	Inc. seg. avg.	0.572	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	61.5	65.5	Inc. frq. avg.	0.598	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

B: az 88.6 el 54.8 pa -55.8 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

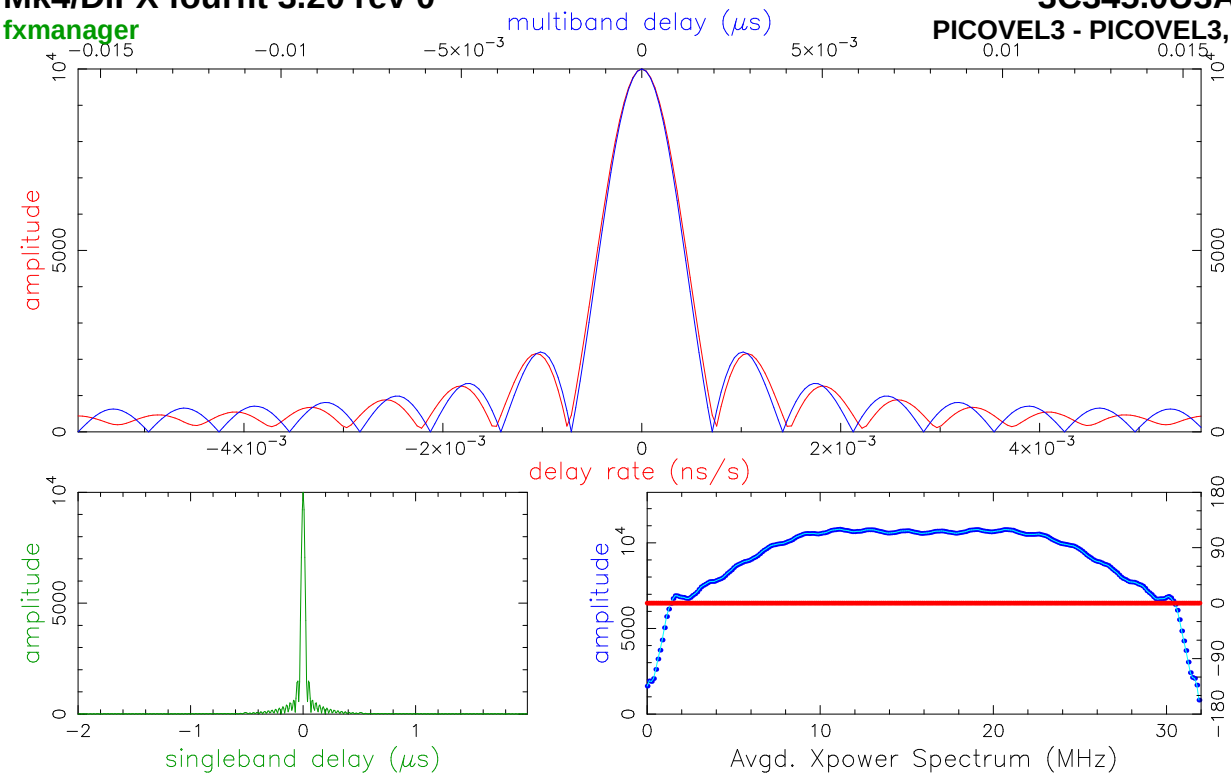
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Bi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Bi.W.7.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

3C345.0U3A50, No0002, ii

PICOVEL3 - PICOVEL3, fgroup W, pol RR

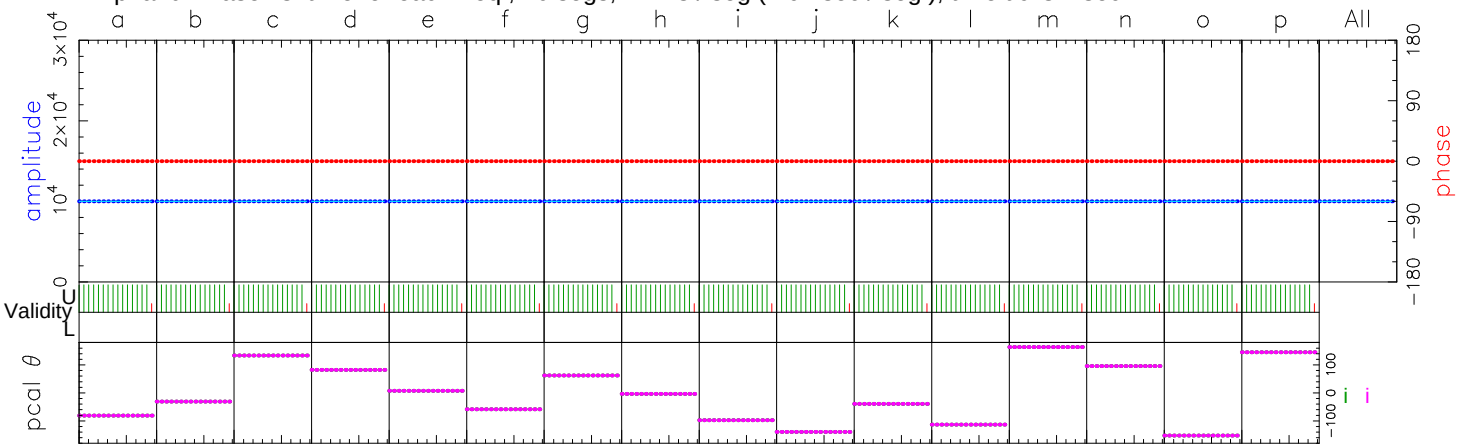


Fringe quality 9

SNR 108242.6
Int time 15.668
Amp 10000.001
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) 1.024

Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	Sbd box	257.0
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
i	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	
i:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
i:i	-81:-81	-31:-31	133:133	82:82	7:7	-58:-58	62:62	-3:-3	-97:-97	-140:-140	-39:-39	-113:-113	164:164	96:96	-152:-152	145:145	Manl PC	
i	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		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	1.0E-08
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	1.6E-07
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	3.4E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	3.6E-12
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.							
			Amplitude	10000.001 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.0	0.0	Search (64X64)	10000.001	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
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(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.001	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

i: az 67.6 el 44.6 pa -74.1 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

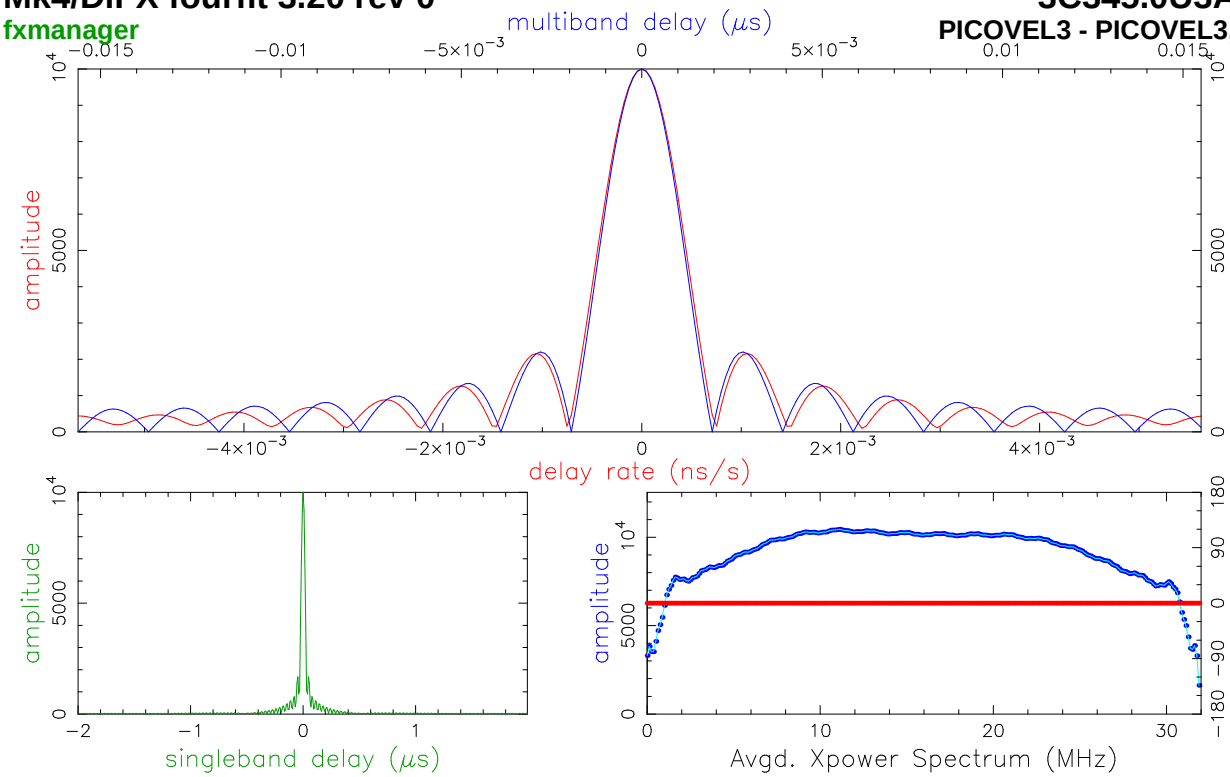
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//ii..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//ii.W.12.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

3C345.0U3A50, No0002, ii

PICOVEL3 - PICOVEL3, fgroup W, pol LL

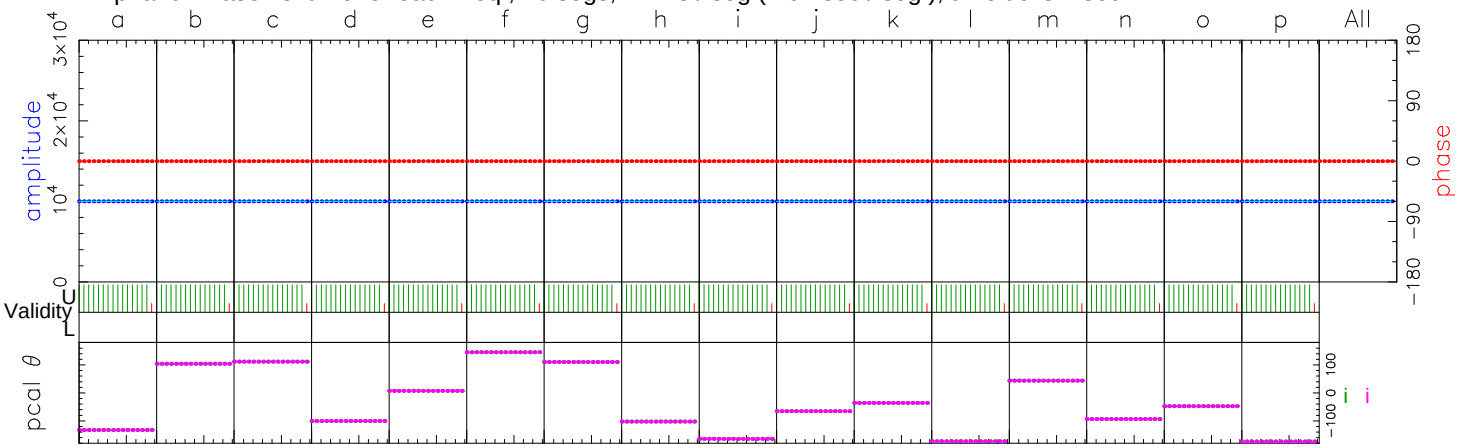


Fringe quality 9

SNR 108242.6
Int time 15.668
Amp 10000.001
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) 1.024

Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155422
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	Sbd box 257.0
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used
i	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
i:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase
i:i	-132:-132	104:104	112:112	-100:-100	7:7	145:145	110:110	-102:-102	-164:-164	-65:-65	-35:-35	-173:-173	44:44	-93:-93	-47:-47	-174:-174	Manl PC
i	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	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids Tracks
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids Tracks

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	1.0E-08
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	1.6E-07
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	3.4E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	3.6E-12
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.							
			Amplitude	10000.001 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.0	0.0	Search (64X64)	10000.001	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
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(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.001	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

i: az 67.6 el 44.6 pa -74.1 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

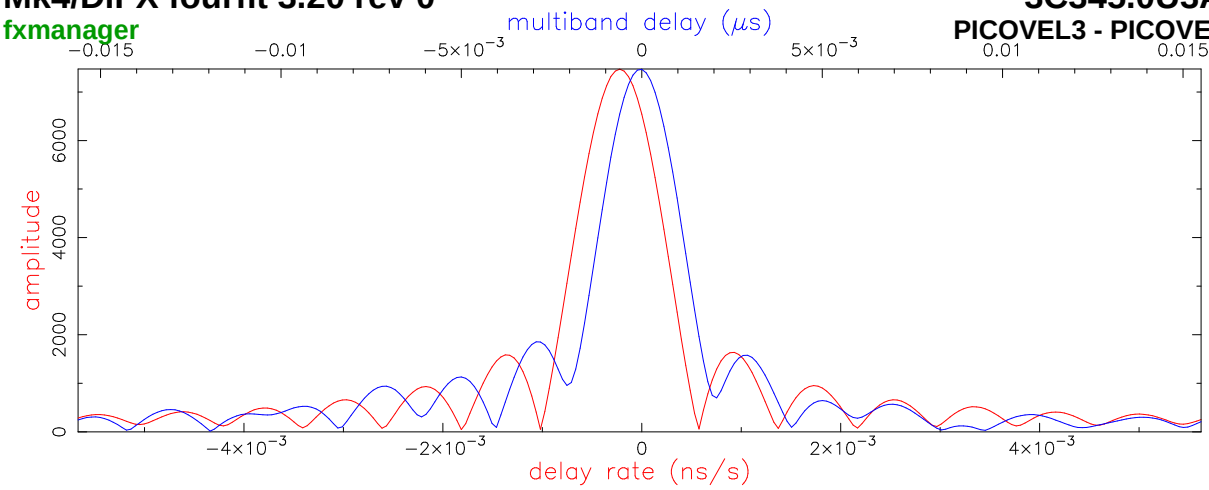
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//ii..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//ii.W.9.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

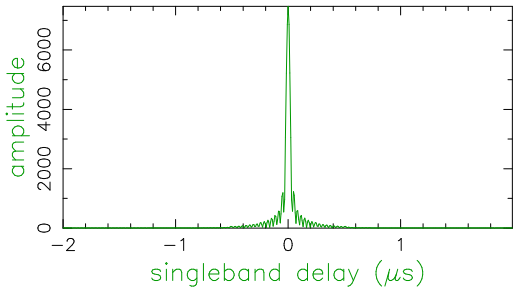
3C345.0U3A50, No0002, iP

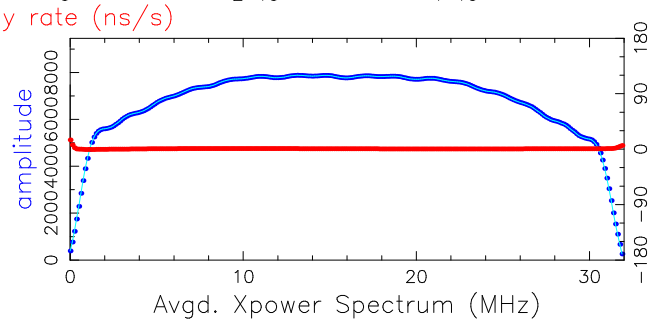
PICOVEL3 - PICOVEL, fgroup W, pol LL



Fringe quality 8

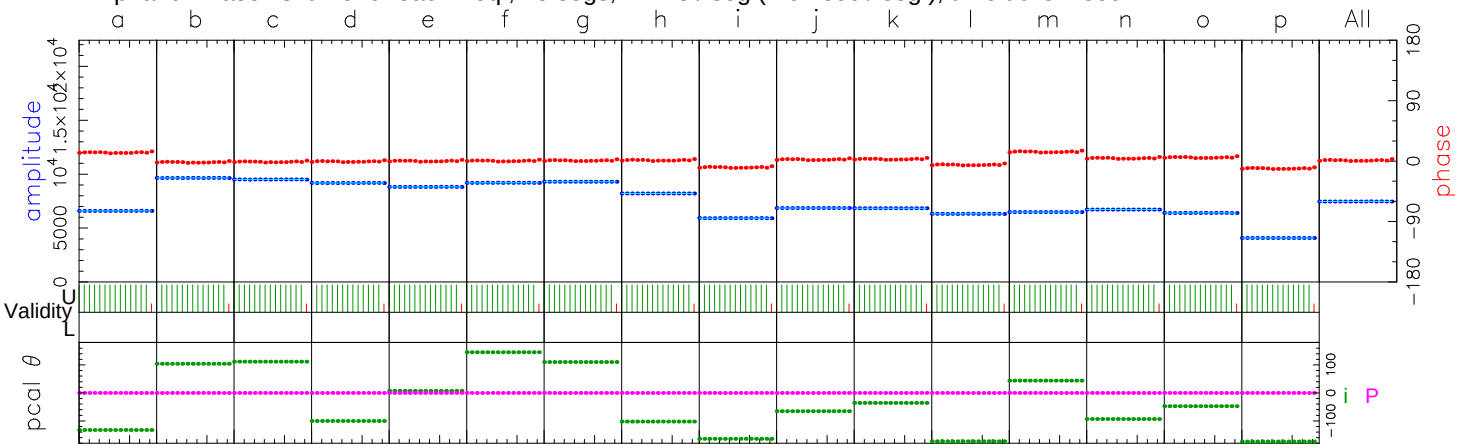
SNR 78008.9
Int time 14.589
Amp 7473.505
Phase 1.0
PFD 0.0e+00
Delays (us)
SBD 0.000024
MBD -0.000040
Fringe rate (Hz)
-0.019859
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 15 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	12.6	-1.7	-1.1	-0.7	0.0	0.3	0.8	1.2	-9.4	2.3	2.8	-5.6	13.7	4.2	5.3	-11.0	Phase	1.0
	6598.5	9653.0	9513.0	9189.3	8827.5	9202.3	9302.4	8218.0	5927.7	6864.0	6844.6	6323.1	6488.7	6718.5	6409.8	4087.7	Ampl.	7510.5
	257.7	257.4	256.7	256.6	256.6	256.5	256.6	256.6	255.5	257.1	257.4	257.5	257.6	257.5	257.4	257.6	Sbd box	257.0
U/L	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	APs used	
i	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	
i: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	
i:P	-132:0	104:0	112:0	-100:0	7:0	145:0	110:0	-102:0	-164:0	-65:0	-35:0	-173:0	44:0	-93:0	-47:0	-174:0	Manl PC	
i	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		
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-4.02798147931E-01	Apriori delay (usec)	-4.02758500001E-01	Resid mbdelay (usec)	-3.96479E-05	+/-	1.4E-08
Sband delay (usec)	-4.02734000001E-01	Apriori clock (usec)	-4.0275955E-01	Resid sbdelay (usec)	2.45000E-05	+/-	2.2E-07
Phase delay (usec)	-4.02758467962E-01	Apriori clockrate (us/s)	2.3000002E-07	Resid phdelay (usec)	3.20389E-08	+/-	4.7E-11
Delay rate (us/s)	-5.47644042549E-10	Apriori rate (us/s)	2.29999999987E-07	Resid rate (us/s)	-2.30548E-07	+/-	5.3E-12
Total phase (deg)	-221.2	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	1.0	+/-	0.0

	RMS	Theor.						
			Amplitude	7473.505 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.6	0.0	Search (32X64)	7170.604	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	0.1	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	6.8	0.0	Inc. seg. avg.	7474.682	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	21.1	0.0	Inc. frq. avg.	7510.506	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

i: az 67.6 el 44.6 pa -74.1 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

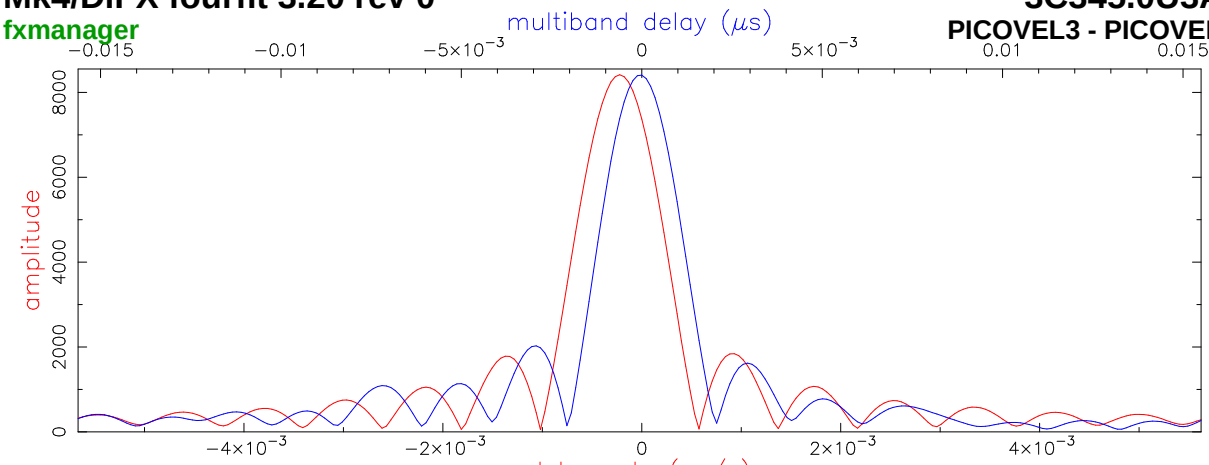
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iP..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iP.W.10.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

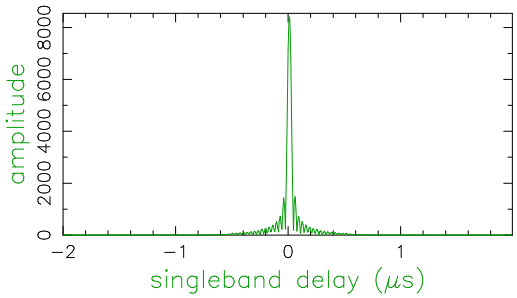
3C345.0U3A50, No0002, iP

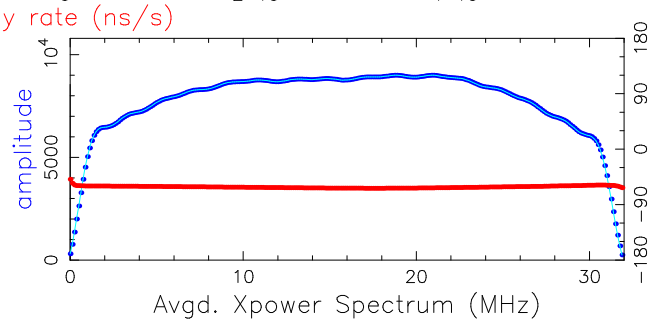
PICOVEL3 - PICOVEL, fgroup W, pol RR



Fringe quality 9

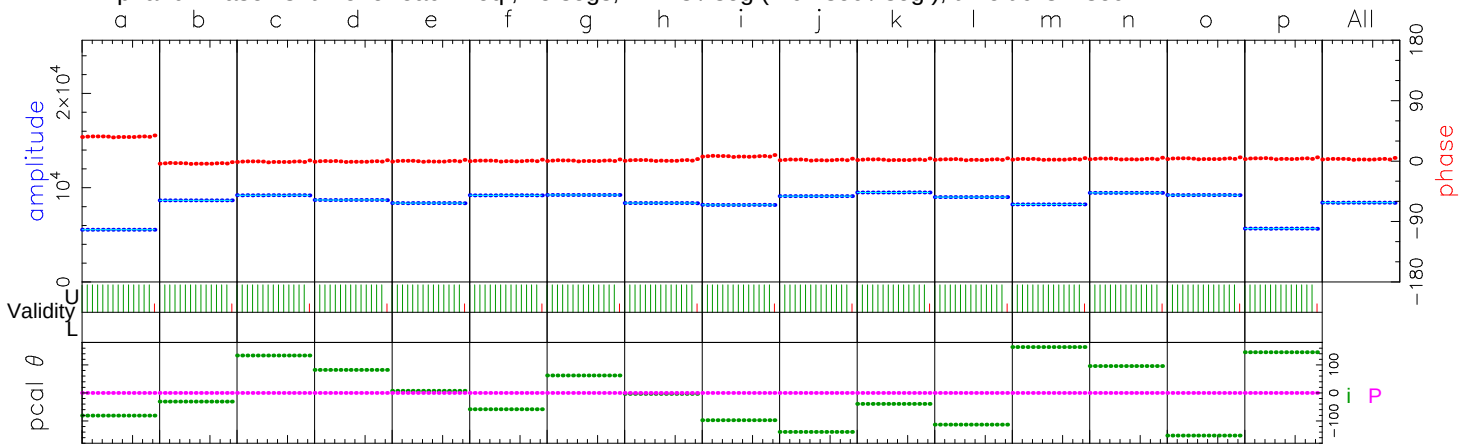
SNR 89261.2
Int time 14.589
Amp 8551.489
Phase 2.8
PFD 0.0e+00
Delays (us)
SBD 0.011176
MBD -0.000030
Fringe rate (Hz)
-0.019816
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 15 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	36.2	-3.4	-0.9	-0.5	-0.1	0.2	0.5	1.0	7.1	1.7	2.0	2.2	2.7	3.1	3.5	3.6	Phase	2.8
	5547.2	8671.8	9211.8	8703.4	8378.9	9206.8	9242.4	8381.6	8186.4	9117.0	9509.0	9018.1	8242.7	9463.8	9232.5	5667.3	Ampl.	8486.3
	260.1	259.0	258.5	258.4	258.4	258.3	258.4	258.1	258.6	258.3	258.2	258.2	258.3	258.2	258.3	258.4	Sbd box	258.4
U/L	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	APs used	
i	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	
i: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	
i:P	-81:0	-31:0	133:0	82:0	7:0	-58:0	62:0	-3:0	-97:0	-140:0	-39:0	-113:0	164:0	96:0	-152:0	145:0	Manl PC	
i	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		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	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)	-4.02788116681E-01	Apriori delay (usec)	-4.02758500001E-01	Resid mbdelay (usec)	-2.96167E-05	+/-	1.2E-08
Sband delay (usec)	-3.91582500001E-01	Apriori clock (usec)	-4.0275955E-01	Resid sbdelay (usec)	1.11760E-02	+/-	1.9E-07
Phase delay (usec)	-4.02758410099E-01	Apriori clockrate (us/s)	2.3000002E-07	Resid phdelay (usec)	8.99021E-08	+/-	4.1E-11
Delay rate (us/s)	-4.88194783613E-11	Apriori rate (us/s)	2.29999999987E-07	Resid rate (us/s)	-2.30049E-07	+/-	4.7E-12
Total phase (deg)	-219.4	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	2.8	+/-	0.0

	RMS	Theor.							
			Amplitude	8551.489 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.6	0.0	Search (32X64)	8075.068	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	1.5	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	9.4	0.0	Inc. seg. avg.	8420.210	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	13.6	0.0	Inc. frq. avg.	8486.294	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

i: az 67.6 el 44.6 pa -74.1 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

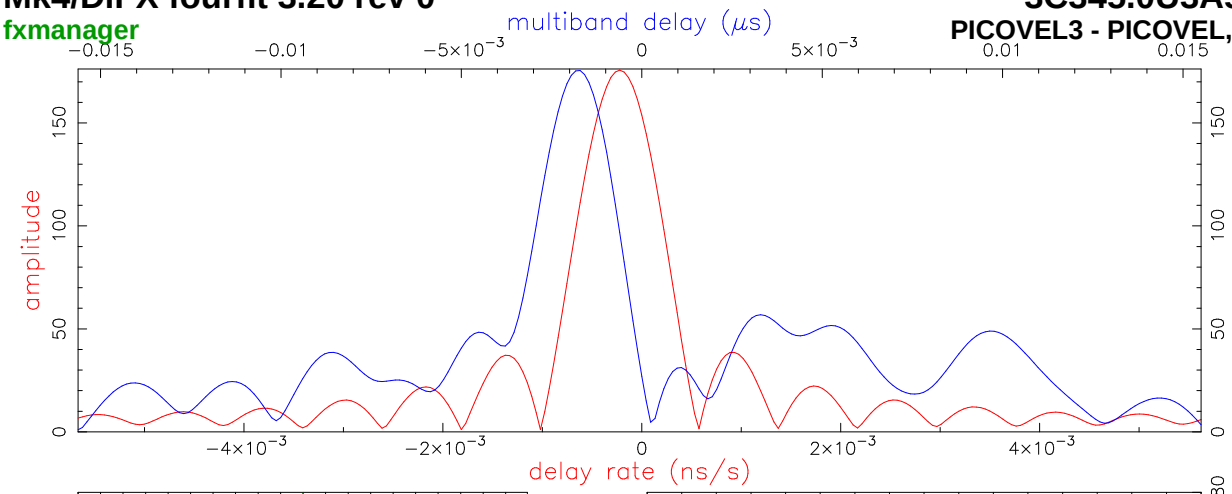
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iP..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iP.W.14.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

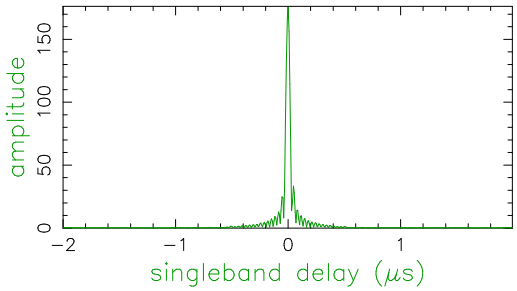
3C345.0U3A50, No0002, iP

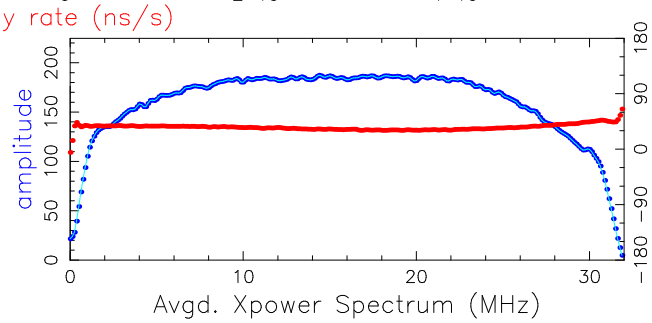
PICOVEL3 - PICOVEL, fgroup W, pol LR



Fringe quality 5

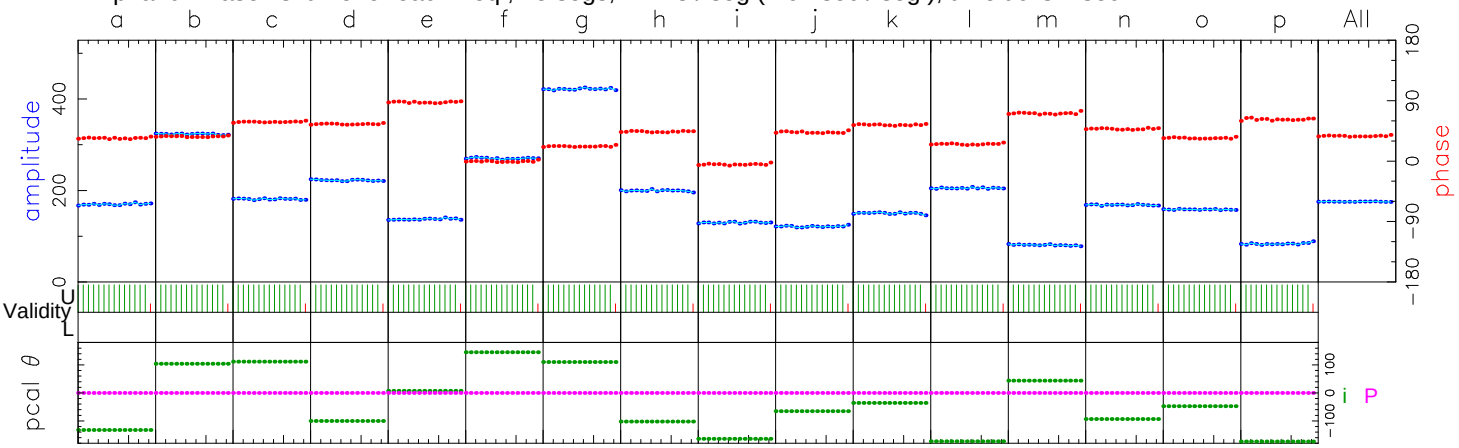
SNR 1839.4
Int time 14.589
Amp 176.221
Phase 37.2
PFD 0.0e+00
Delays (us)
SBD -0.001416
MBD -0.001775
Fringe rate (Hz)
-0.019846
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 15 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	34.1	36.5	58.3	55.0	87.6	-0.5	21.9	43.8	-5.0	42.8	53.9	25.2	70.9	47.9	34.2	62.1	Phase	37.2
	170.1	323.7	181.5	222.6	137.5	270.6	422.1	200.0	130.0	121.5	150.7	205.4	81.0	168.6	158.6	83.5	Ampl.	189.2
	258.4	257.2	256.8	256.0	258.0	257.6	256.3	256.6	254.9	257.8	256.7	257.0	257.8	256.4	258.1	257.3	Sbd box	256.8
U/L	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	APs used	
i	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	
i: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	
i:P	-132:0	104:0	112:0	-100:0	7:0	145:0	110:0	-102:0	-164:0	-65:0	-35:0	-173:0	44:0	-93:0	-47:0	-174:0	Manl PC	
i	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		
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	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)	-4.04533304181E-01	Apriori delay (usec)	-4.02758500001E-01	Resid mbdelay (usec)	-1.77480E-03	+/-	5.9E-07
Sband delay (usec)	-4.04175000001E-01	Apriori clock (usec)	-4.0275955E-01	Resid sbdelay (usec)	-1.41650E-03	+/-	9.4E-06
Phase delay (usec)	-4.02757300318E-01	Apriori clockrate (us/s)	2.3000002E-07	Resid phdelay (usec)	1.19968E-06	+/-	2.0E-09
Delay rate (us/s)	-3.88927135762E-10	Apriori rate (us/s)	2.29999999987E-07	Resid rate (us/s)	-2.30389E-07	+/-	2.3E-10
Total phase (deg)	-185.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	37.2	+/-	0.1

	RMS	Theor.							
			Amplitude	176.221 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.6	0.1	Search (32X64)	165.274	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	0.3	0.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	25.5	0.1	Inc. seg. avg.	175.771	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	49.2	0.2	Inc. frq. avg.	189.222	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

i: az 67.6 el 44.6 pa -74.1 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

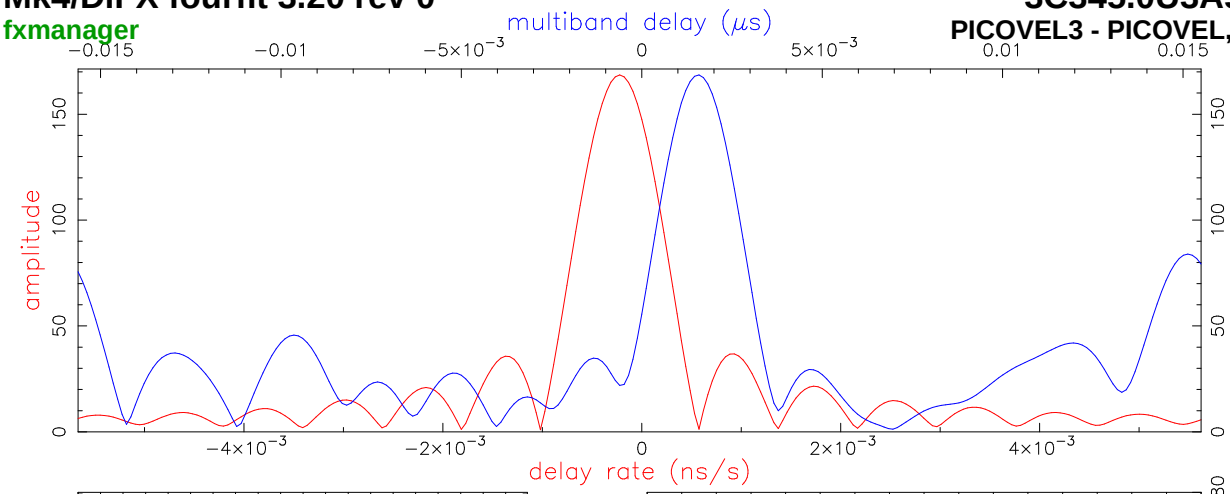
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iP..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iP.W.17.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

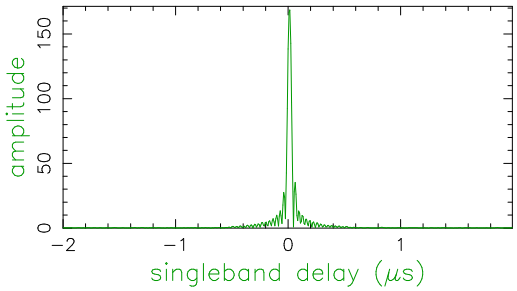
3C345.0U3A50, No0002, iP

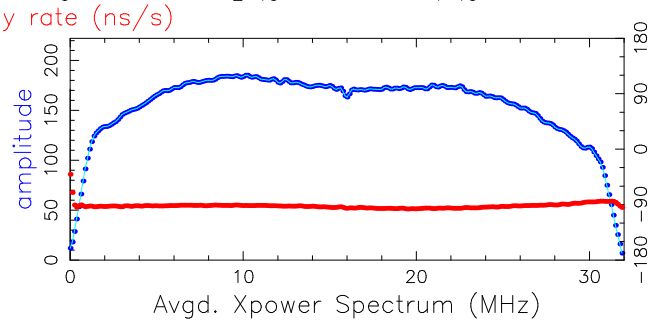
PICOVEL3 - PICOVEL, fgroup W, pol RL



Fringe quality 5

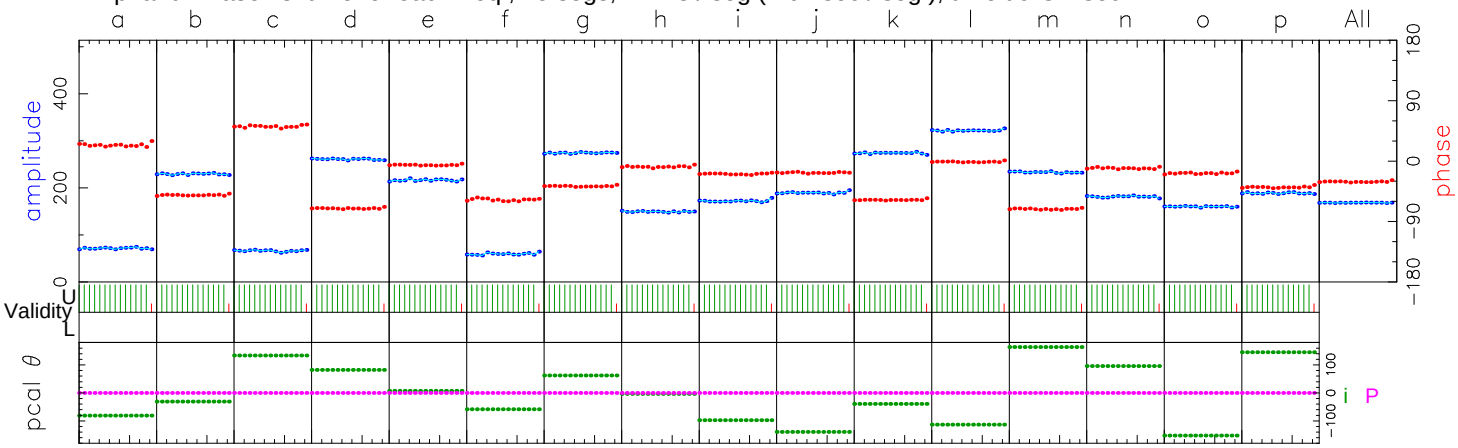
SNR	1788.9
Int time	14.589
Amp	171.382
Phase	-30.8
PFD	0.0e+00
Delays (us)	
SBD	0.012204
MBD	0.001543
Fringe rate (Hz)	-0.019826
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155424
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

Amp. and Phase vs. time for each freq., 15 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	23.5	-50.7	51.5	-70.4	-5.9	-57.5	-37.4	-8.5	-19.1	-17.2	-57.9	-1.1	-71.4	-10.7	-18.2	-39.0	Phase	-30.8
	71.8	230.0	66.4	261.4	216.6	59.5	274.7	149.7	172.0	189.6	274.5	322.1	233.6	181.8	160.5	189.1	Ampl.	190.8
	257.4	258.6	255.8	258.4	258.7	255.6	259.1	257.3	260.0	257.3	258.6	258.6	258.0	259.2	257.1	259.1	Sbd box	258.6
U/L	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	15/0	APs used	
i	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	
i: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	
i:P	-81:0	-31:0	133:0	82:0	7:0	-58:0	62:0	-3:0	-97:0	-140:0	-39:0	-113:0	164:0	96:0	-152:0	145:0	Manl PC	
i	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		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-4.01215554181E-01	Apriori delay (usec)	-4.02758500001E-01	Resid mbdelay (usec)	1.54295E-03	+/-	6.0E-07
Sband delay (usec)	-3.90554500001E-01	Apriori clock (usec)	-4.0275955E-01	Resid sbdelay (usec)	1.22040E-02	+/-	9.6E-06
Phase delay (usec)	-4.02759492052E-01	Apriori clockrate (us/s)	2.3000002E-07	Resid phdelay (usec)	-9.92051E-07	+/-	2.1E-09
Delay rate (us/s)	-1.62188697495E-10	Apriori rate (us/s)	2.29999999987E-07	Resid rate (us/s)	-2.30162E-07	+/-	2.3E-10
Total phase (deg)	-253.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-30.8	+/-	0.1

	RMS	Theor.						
			Amplitude	171.382 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.6	0.1	Search (32X64)	160.656	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	1.6	0.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	35.6	0.1	Inc. seg. avg.	168.652	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	45.3	0.2	Inc. frq. avg.	190.832	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

i: az 67.6 el 44.6 pa -74.1 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

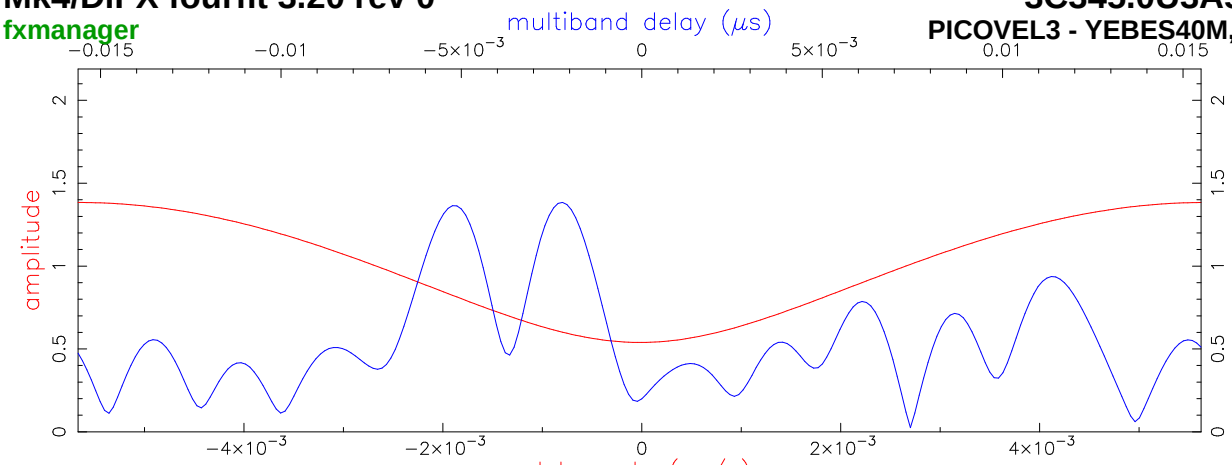
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iP..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iP.W.20.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

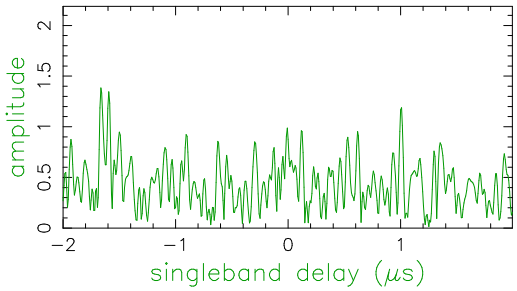
3C345.0U3A50, No0002, iY

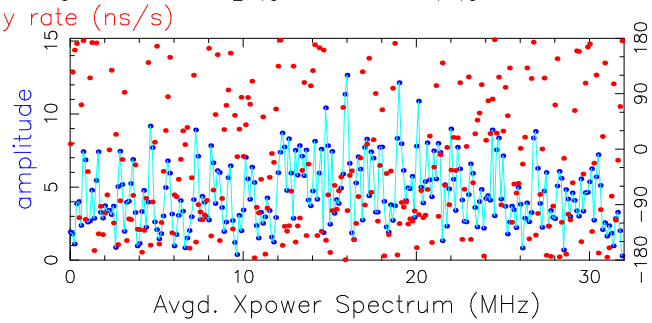
PICOVEL3 - YEBES40M, fgroup W, pol LL



Fringe quality 0

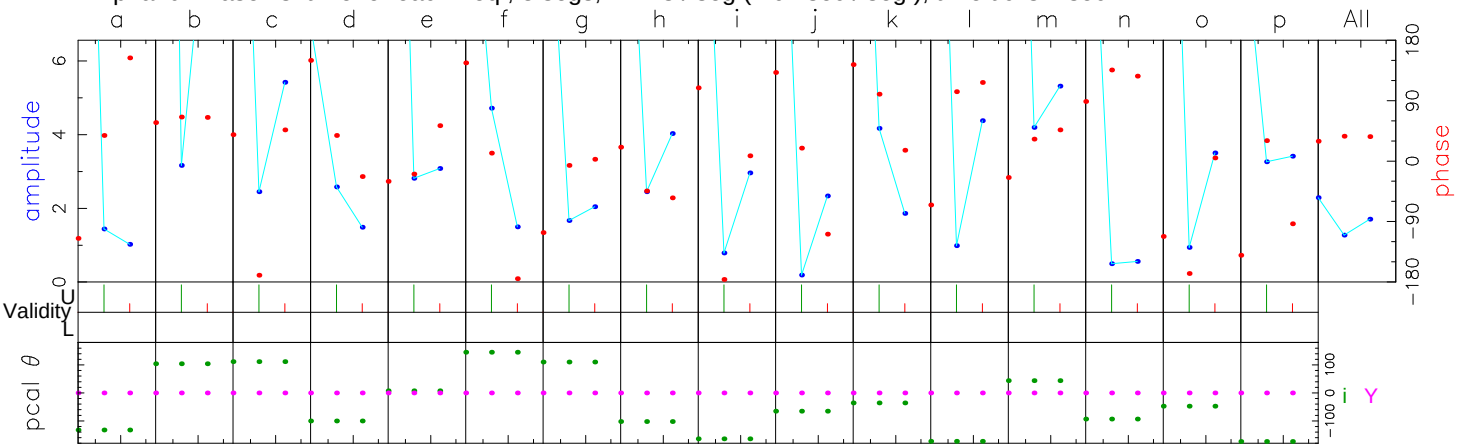
SNR 4.4
Int time 1.356
Amp 2.189
Phase 36.7
PFD 1.0e+00
Delays (us)
SBD -1.661872
MBD -0.002188
Fringe rate (Hz)
-0.488281
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121513.31
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 3 segs, 1 APs / seg (1.02 sec / seg.), time ticks 1 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	47.5	64.7	139.4	30.9	-4.7	13.9	-7.1	-45.7	68.2	-108.0	93.8	111.0	34.7	126.0	-70.9	11.0	Phase	36.7
	1.3	8.2	1.7	3.3	4.1	4.9	2.7	4.5	0.3	0.6	5.2	2.5	7.1	0.9	0.4	3.2	Ampl.	2.3
	307.9	43.5	326.5	140.3	376.9	337.3	343.2	106.2	307.1	254.2	166.7	24.2	44.2	266.2	353.1	14.0	Sbd box	44.3
U/L	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	APs used	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
i:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
i:Y	-132:0	104:0	112:0	-100:0	7:0	145:0	110:0	-102:0	-164:0	-65:0	-35:0	-173:0	44:0	-93:0	-47:0	-174:0	Manl PC	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-3.75436066744E+02	Apriori delay (usec)	-3.73777628273E+02	Resid mbdelay (usec)	-2.18847E-03	+/-	2.4E-04
Sband delay (usec)	-3.75439500273E+02	Apriori clock (usec)	-1.0146519E+01	Resid sbdelay (usec)	-1.66187E+00	+/-	3.9E-03
Phase delay (usec)	-3.73777627091E+02	Apriori clockrate (us/s)	-4.9300001E-07	Resid phdelay (usec)	1.18256E-06	+/-	8.3E-07
Delay rate (us/s)	4.09535453030E-02	Apriori rate (us/s)	4.09592137640E-02	Resid rate (us/s)	-5.66846E-06	+/-	4.7E-07
Total phase (deg)	-287.1	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	36.7	+/-	25.8

	RMS	Theor.						
			Amplitude	2.189 +/- 0.493	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.7	22.4	Search (8X64)	1.408	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	14.4	39.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	72.4	51.6	Inc. seg. avg.	2.020	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	114.5	90.1	Inc. frq. avg.	2.271	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

i: az 67.6 el 44.6 pa -74.1 Y: az 71.0 el 46.1 pa -69.5 u,v (fr/asec) -308.437 -410.141 simultaneous interpolator

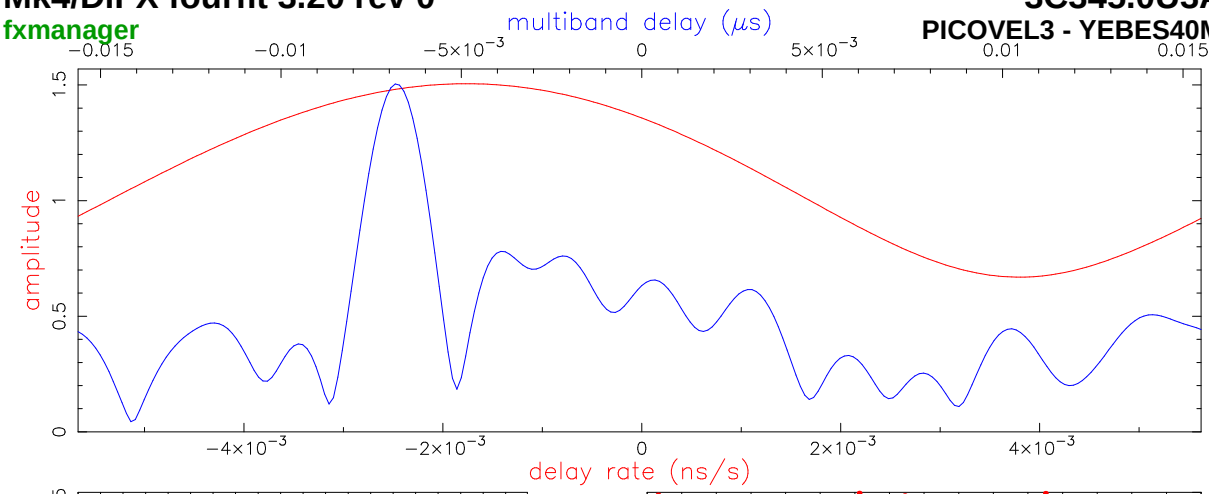
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iY..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iY.W.11.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

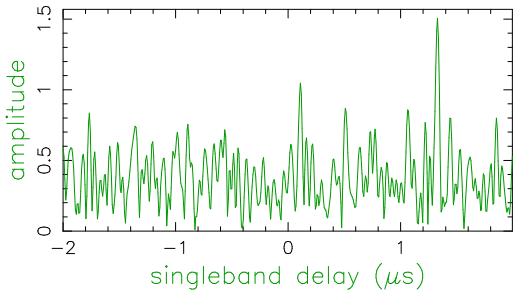
3C345.0U3A50, No0002, iY

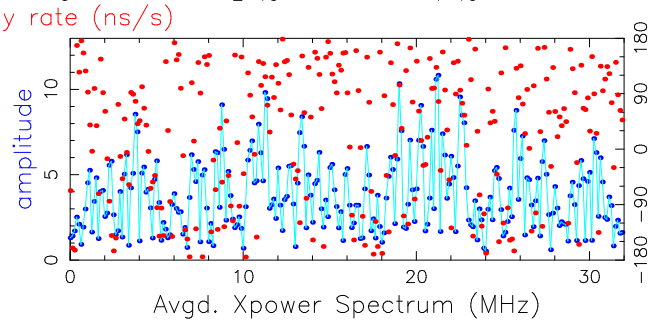
PICOVEL3 - YEBES40M, fgroup W, pol RR



Fringe quality 0

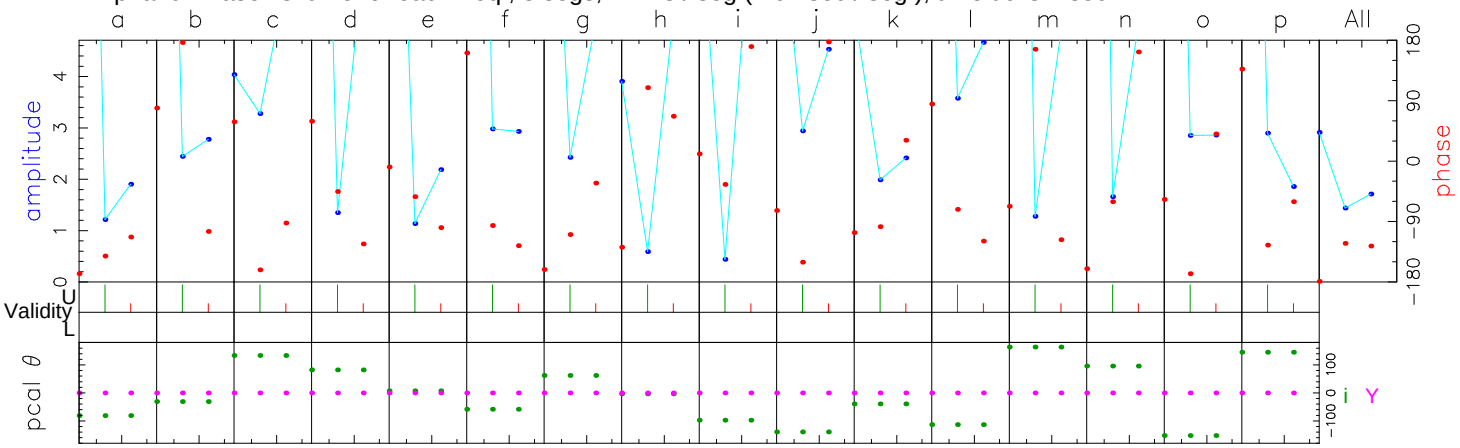
SNR 4.8
Int time 1.356
Amp 1.569
Phase -124.3
PFD 9.3e-01
Delays (us)
SBD 1.327367
MBD -0.006804
Fringe rate (Hz)
-0.153109
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121513.31
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 3 segs, 1 APs / seg (1.02 sec / seg.), time ticks 1 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
	-135.9	-169.4	-138.3	-90.4	-65.9	-107.0	-82.5	78.1	175.9	-159.8	-77.0	-84.6	-144.1	-133.1	-172.7	-119.2	Phase	-124.3
	1.5	2.1	3.3	1.9	1.4	3.0	2.5	1.6	1.4	3.3	1.3	3.6	1.8	1.2	1.6	2.5	Ampl.	1.6
	293.0	470.4	510.3	262.4	402.4	227.5	304.5	385.1	485.5	208.3	152.7	165.6	449.8	80.9	141.2	268.9	Sbd box	426.9
U/L	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	APs used	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
i:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
i:Y	-81:0	-31:0	133:0	82:0	7:0	-58:0	62:0	-3:0	-97:0	-140:0	-39:0	-113:0	164:0	96:0	-152:0	145:0	Manl PC	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-3.72440682532E+02	Apriori delay (usec)	-3.73777628273E+02	Resid mbdelay (usec)	-6.80426E-03	+/-	2.2E-04
Sband delay (usec)	-3.72450261273E+02	Apriori clock (usec)	-1.0146519E+01	Resid sbdelay (usec)	1.32737E+00	+/-	3.6E-03
Phase delay (usec)	-3.73777632281E+02	Apriori clockrate (us/s)	-4.9300001E-07	Resid phdelay (usec)	-4.00797E-06	+/-	7.7E-07
Delay rate (us/s)	4.09574363160E-02	Apriori rate (us/s)	4.09592137640E-02	Resid rate (us/s)	-1.77745E-06	+/-	4.3E-07
Total phase (deg)	-88.1	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	-124.3	+/-	23.9

	RMS	Theor.						
			Amplitude	1.569 +/- 0.327	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	5.0	20.7	Search (8X64)	1.475	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	11.1	36.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	56.9	47.8	Inc. seg. avg.	1.482	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	60.9	83.4	Inc. frq. avg.	1.573	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

i: az 67.6 el 44.6 pa -74.1 Y: az 71.0 el 46.1 pa -69.5 u,v (fr/asec) -308.437 -410.141 simultaneous interpolator

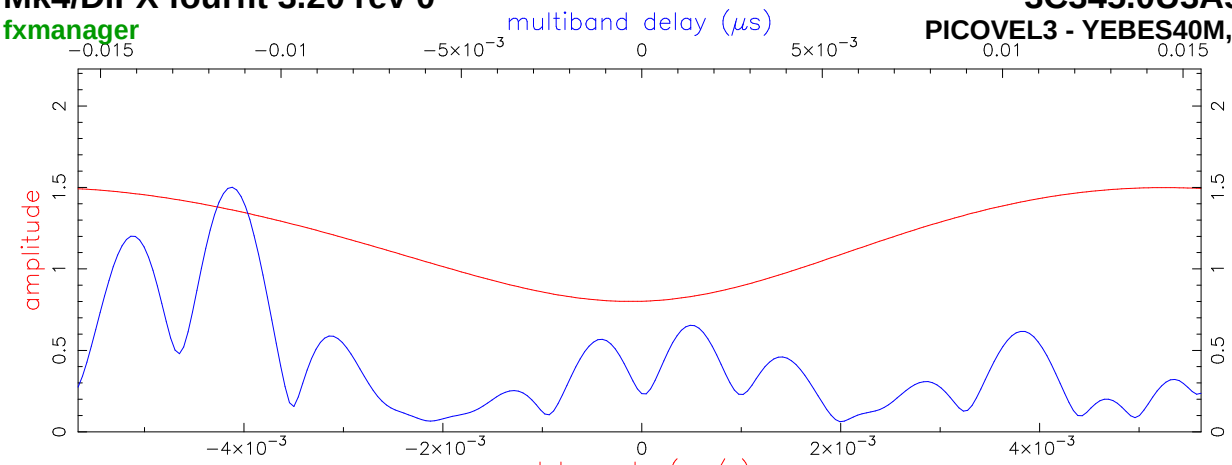
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iY..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iY.W.13.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

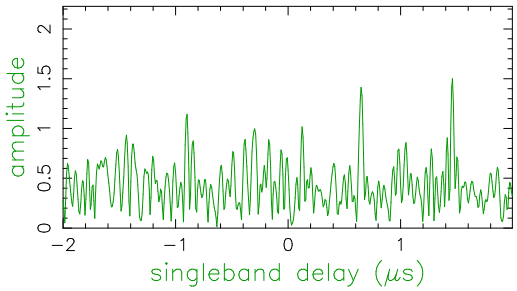
3C345.0U3A50, No0002, iY

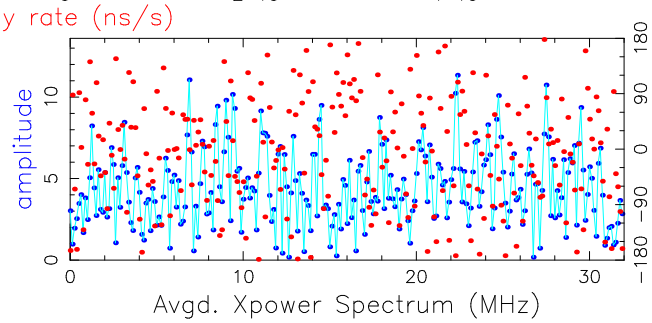
PICOVEL3 - YEBES40M, fgroup W, pol LR



Fringe quality 0

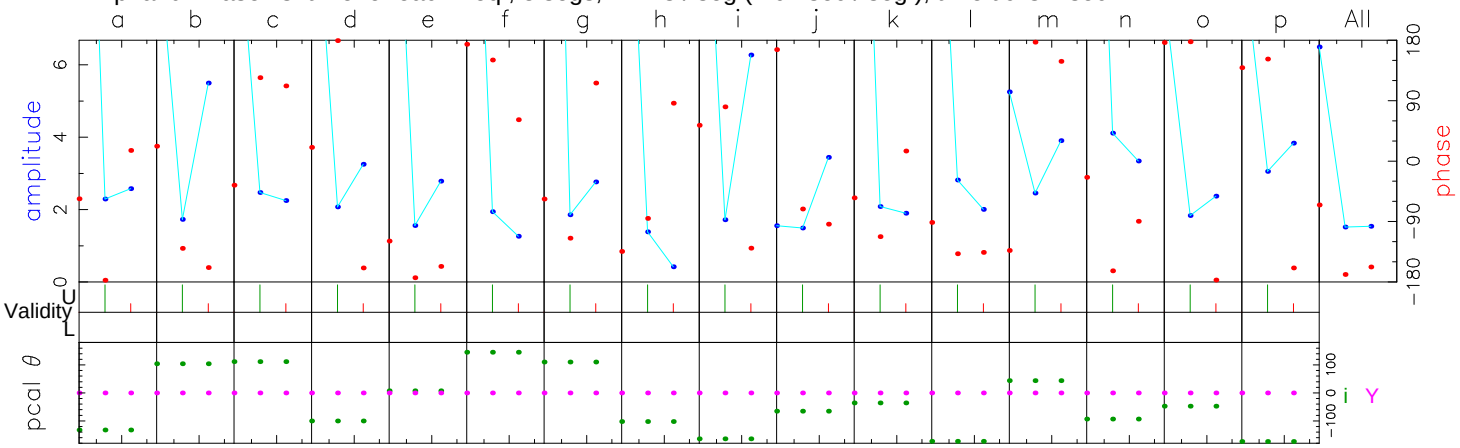
SNR 4.8
Int time 1.356
Amp 2.227
Phase -164.4
PFD 9.1e-01
Delays (us)
SBD 1.458876
MBD -0.011429
Fringe rate (Hz)
0.455594
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121513.31
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155423
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 3 segs, 1 APs / seg (1.02 sec / seg.), time ticks 1 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
	-177.6	-143.7	120.6	-174.2	-165.0	141.6	-131.2	-89.4	162.0	-81.2	-92.8	-135.7	168.2	-148.3	179.0	164.6	Phase	-164.4
	1.6	3.6	3.4	3.3	2.8	2.4	1.7	1.5	1.0	2.8	2.2	4.0	4.0	4.9	3.0	4.5	Ampl.	2.2
	329.3	61.5	42.7	18.7	318.9	131.9	332.6	148.5	206.3	495.3	13.4	504.7	191.4	323.8	382.6	442.7	Sbd box	443.7
U/L	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	APs used	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
i:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
i:Y	-132:0	104:0	112:0	-100:0	7:0	145:0	110:0	-102:0	-164:0	-65:0	-35:0	-173:0	44:0	-93:0	-47:0	-174:0	Manl PC	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-3.72320307592E+02	Apriori delay (usec)	-3.73777628273E+02	Resid mbdelay (usec)	-1.14293E-02	+/-	2.2E-04
Sband delay (usec)	-3.72318752273E+02	Apriori clock (usec)	-1.0146519E+01	Resid sbdelay (usec)	1.45888E+00	+/-	3.6E-03
Phase delay (usec)	-3.73777633574E+02	Apriori clockrate (us/s)	-4.9300001E-07	Resid phdelay (usec)	-5.30055E-06	+/-	7.7E-07
Delay rate (us/s)	4.09645027555E-02	Apriori rate (us/s)	4.09592137640E-02	Resid rate (us/s)	5.28899E-06	+/-	4.3E-07
Total phase (deg)	-128.2	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	-164.4	+/-	23.8

	RMS	Theor.							
			Amplitude	2.227 +/- 0.463	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	9.8	20.6	Search (8X64)	1.446	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	27.8	36.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	48.0	47.6	Inc. seg. avg.	2.157	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	58.1	83.1	Inc. frq. avg.	2.165	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

i: az 67.6 el 44.6 pa -74.1 Y: az 71.0 el 46.1 pa -69.5 u,v (fr/asec) -308.437 -410.141 simultaneous interpolator

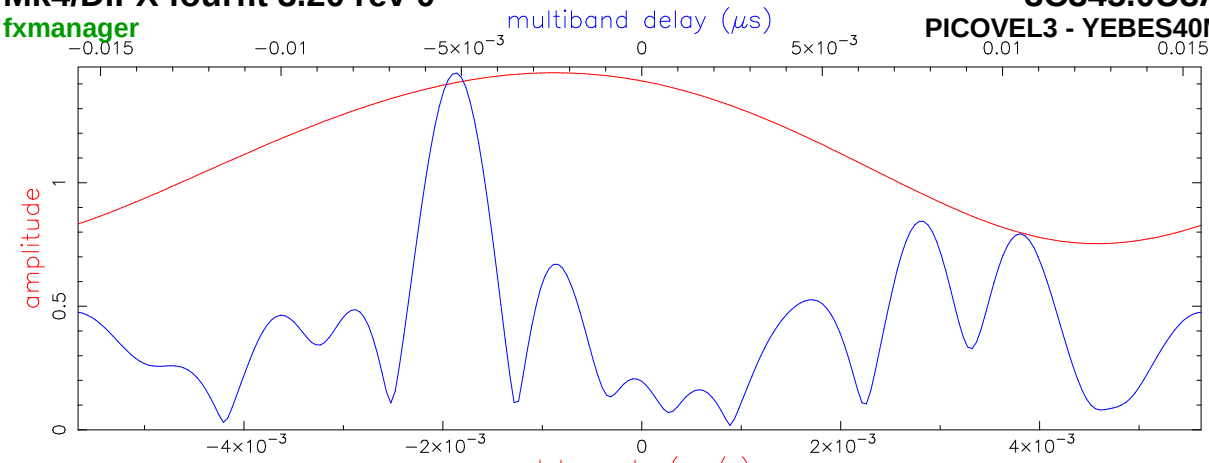
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iY..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iY.W.15.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

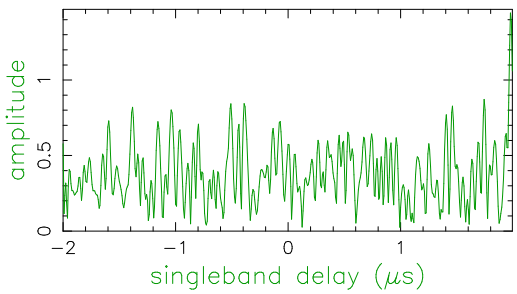
3C345.0U3A50, No0002, iY

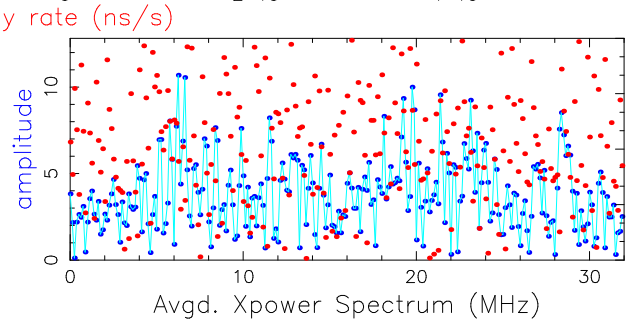
PICOVEL3 - YEBES40M, fgroup W, pol RL



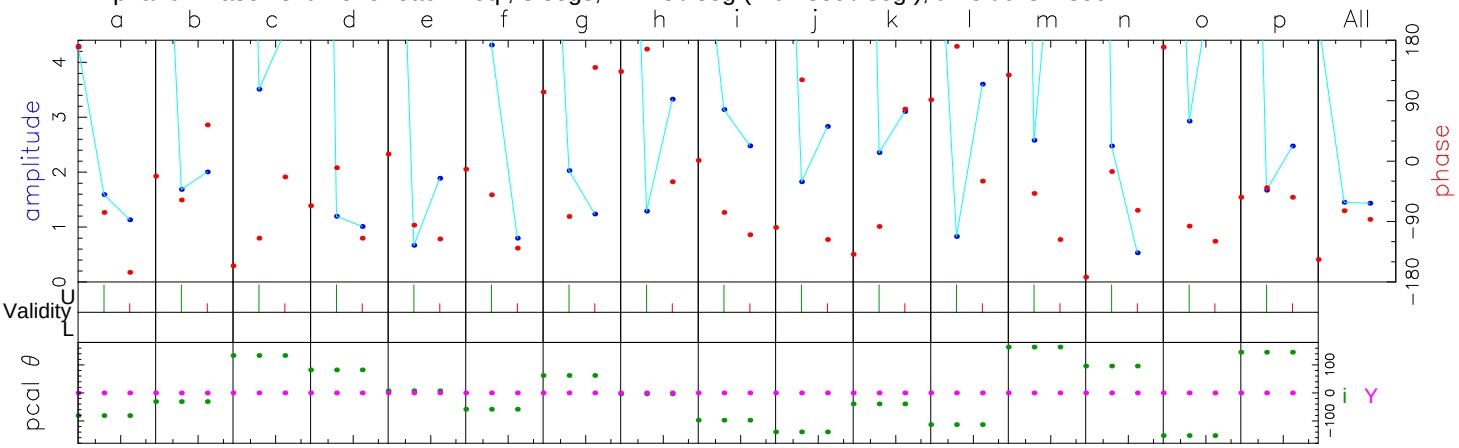
Fringe quality 0

SNR	4.6
Int time	1.356
Amp	1.468
Phase	-78.2
PFD	1.0e+00
Delays (us)	
SBD	1.978920
MBD	-0.005143
Fringe rate (Hz)	-0.065891
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121513.31
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155424
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 3 segs, 1 APs / seg (1.02 sec / seg.), time ticks 1 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
	-90.3	-35.1	-96.0	-33.9	-99.1	-52.7	-91.7	-163.4	-81.7	155.0	-99.9	-64.3	-83.6	-22.2	-107.1	-44.9	Phase	-78.2
	1.2	1.3	3.0	1.1	0.9	3.4	1.3	0.4	2.9	1.1	1.2	0.3	3.0	1.7	3.6	2.0	Ampl.	1.3
	349.1	165.3	450.3	452.0	59.7	339.6	398.0	271.6	494.7	331.7	499.5	84.4	341.0	208.3	146.7	315.3	Sbd box	510.3
U/L	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	3/0	APs used	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
i:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
i:Y	-81:0	-31:0	133:0	82:0	7:0	-58:0	62:0	-3:0	-97:0	-140:0	-39:0	-113:0	164:0	96:0	-152:0	145:0	Manl PC	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	-3.71814021594E+02	Apriori delay (usec)	-3.73777628273E+02	Resid mbdelay (usec)	-5.14332E-03	+/-	2.3E-04
Sband delay (usec)	-3.71798707773E+02	Apriori clock (usec)	-1.0146519E+01	Resid sbdelay (usec)	1.97892E+00	+/-	3.7E-03
Phase delay (usec)	-3.73777630795E+02	Apriori clockrate (us/s)	-4.9300001E-07	Resid phdelay (usec)	-2.52188E-06	+/-	8.0E-07
Delay rate (us/s)	4.09584488392E-02	Apriori rate (us/s)	4.09592137640E-02	Resid rate (us/s)	-7.64925E-07	+/-	4.5E-07
Total phase (deg)	-42.0	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	-78.2	+/-	24.7

	RMS	Theor.						
			Amplitude	1.468 +/- 0.316	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	8.0	21.4	Search (8X64)	1.422	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	19.2	37.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	49.8	49.4	Inc. seg. avg.	1.387	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	73.4	86.2	Inc. frq. avg.	1.291	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

i: az 67.6 el 44.6 pa -74.1 Y: az 71.0 el 46.1 pa -69.5 u,v (fr/asec) -308.437 -410.141 simultaneous interpolator

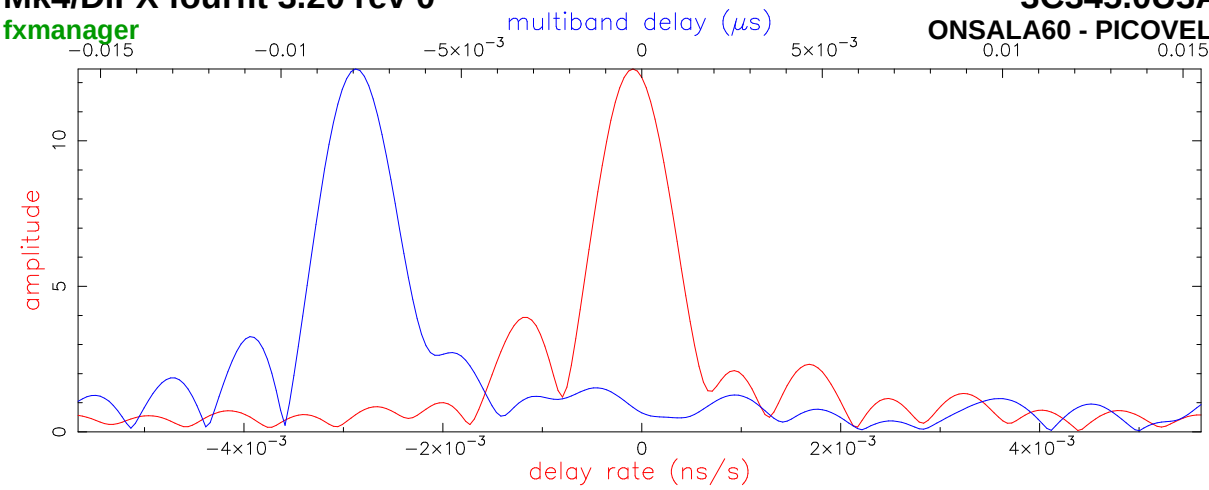
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//iY..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//iY.W.18.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

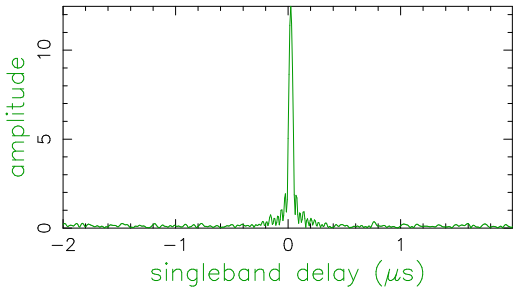
3C345.0U3A50, No0002, Oi

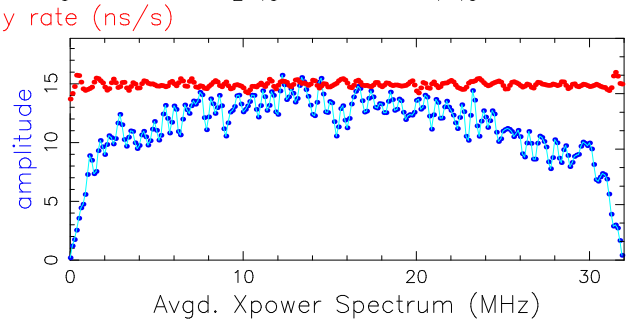
ONSALA60 - PICOVEL3, fgroup W, pol LL



Fringe quality 6

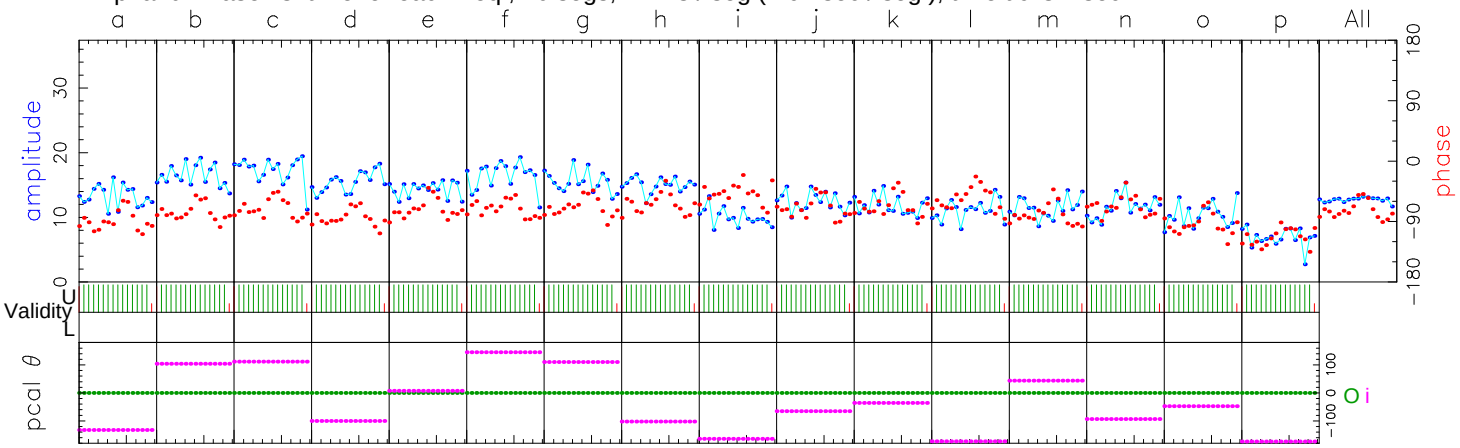
SNR	134.7
Int time	15.614
Amp	12.469
Phase	-73.1
PFD	0.0e+00
Delays (us)	
SBD	0.023689
MBD	-0.007917
Fringe rate (Hz)	-0.005959
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155423
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-88.8	-75.7	-70.6	-85.0	-71.5	-70.4	-67.9	-64.0	-48.8	-68.9	-67.0	-55.4	-80.2	-65.8	-93.7	-113.3	Phase	-73.1
	12.9	16.2	17.1	15.1	14.0	16.4	15.2	14.6	9.9	12.1	11.4	10.7	11.1	11.2	9.9	6.7	Ampl.	12.8
	259.4	259.5	260.2	260.6	260.6	260.2	260.4	260.5	261.6	259.9	259.9	259.3	259.2	259.6	258.9	259.0	Sbd box	260.0
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
O	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	
O:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
O:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
O	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		
O	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85495898040E+03	Apriori delay (usec)	2.85493564721E+03	Resid mbdelay (usec)	-7.91681E-03	+/-	8.0E-06
Sband delay (usec)	2.85495933621E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	2.36890E-02	+/-	1.3E-04
Phase delay (usec)	2.85493564486E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-2.35859E-06	+/-	2.7E-08
Delay rate (us/s)	-3.71599009165E-01	Apriori rate (us/s)	-3.71598939987E-01	Resid rate (us/s)	-6.91779E-08	+/-	2.9E-09
Total phase (deg)	161.3	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	-73.1	+/-	0.9

	RMS	Theor.							
			Amplitude	12.469 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.4	1.7	Search (64X64)	12.246	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	3.4	3.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	16.1	1.7	Inc. seg. avg.	12.762	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	22.6	3.0	Inc. frq. avg.	12.773	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

O: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

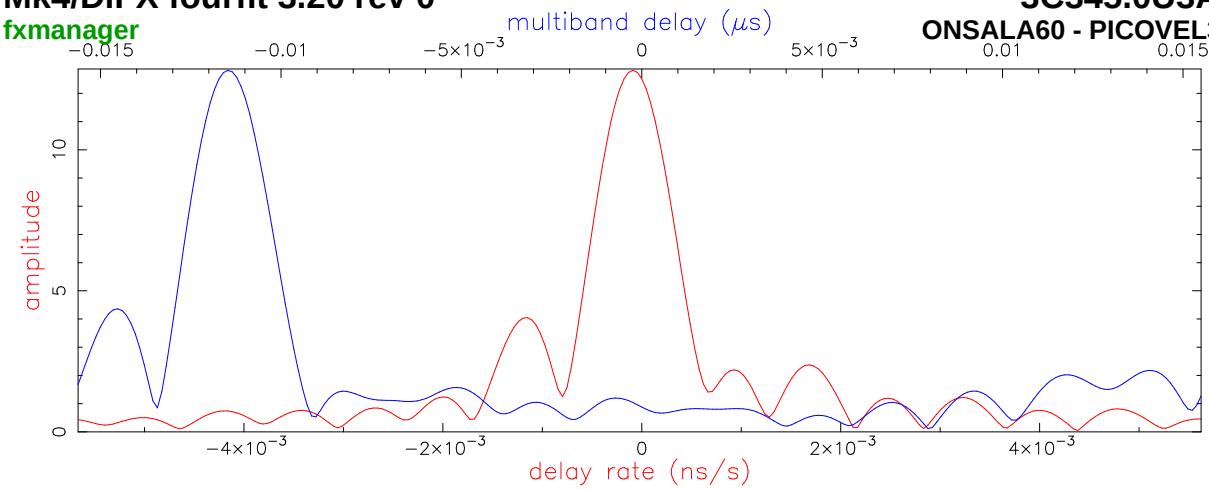
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Oi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Oi.W.16.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

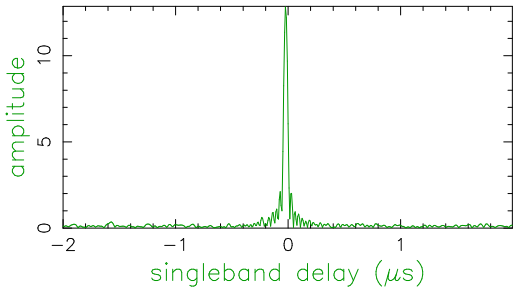
3C345.0U3A50, No0002, Oi

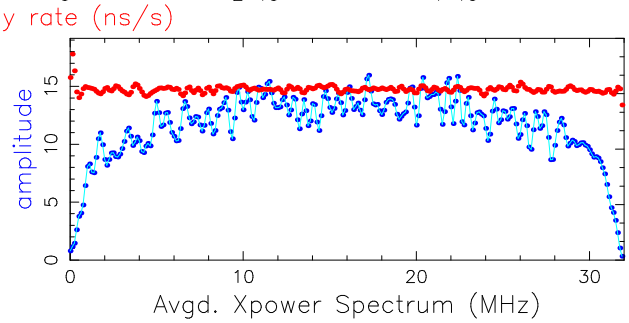
ONSALA60 - PICOVEL3, fgroup W, pol RR



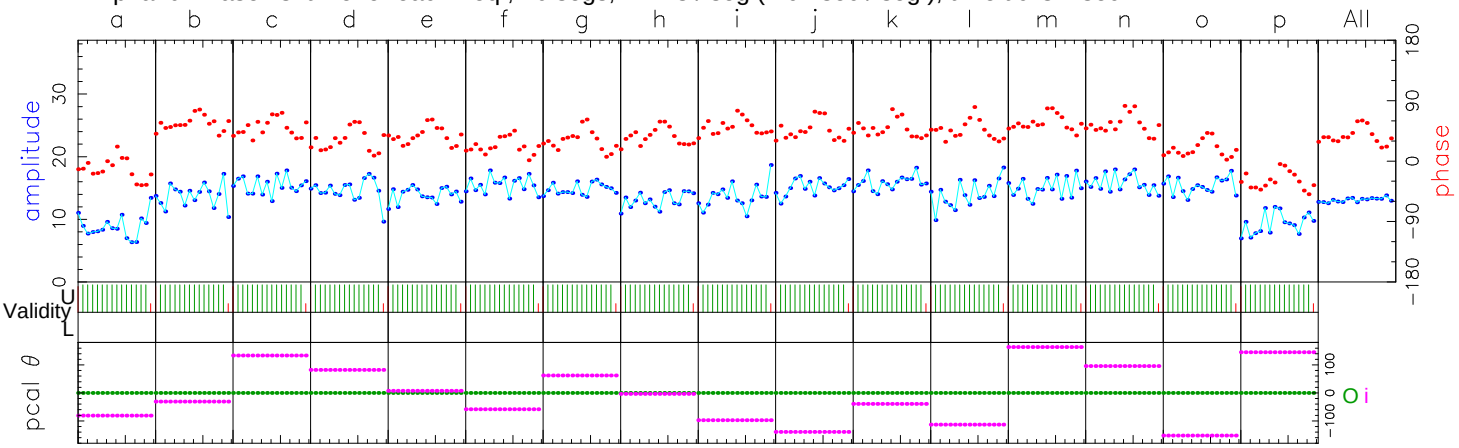
Fringe quality 6

SNR	139.0
Int time	15.614
Amp	12.868
Phase	37.3
PFD	0.0e+00
Delays (us)	
SBD	-0.021827
MBD	-0.011456
Fringe rate (Hz)	-0.006570
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155424
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-12.0	55.8	49.4	29.7	37.5	22.0	30.7	36.7	50.5	46.0	48.6	46.3	56.8	54.8	17.4	-28.9	Phase	37.3
	8.4	13.7	15.1	14.3	13.6	15.3	14.4	12.8	13.2	14.6	15.5	13.5	14.8	15.4	15.1	9.1	Ampl.	13.7
	253.8	253.4	254.1	254.1	254.2	254.1	254.4	254.4	254.1	254.4	254.4	254.2	254.1	254.2	253.7	253.5	Sbd box	254.2
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
O	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	
O:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
O:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
O	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		
O	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85492419112E+03	Apriori delay (usec)	2.85493564721E+03	Resid mbdelay (usec)	-1.14561E-02	+/-	7.8E-06
Sband delay (usec)	2.85491382021E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	-2.18270E-02	+/-	1.2E-04
Phase delay (usec)	2.85493564842E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	1.20292E-06	+/-	2.7E-08
Delay rate (us/s)	-3.71599016262E-01	Apriori rate (us/s)	-3.71598939987E-01	Resid rate (us/s)	-7.62748E-08	+/-	2.8E-09
Total phase (deg)	271.7	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	37.3	+/-	0.8

	RMS	Theor.							
			Amplitude	12.868 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.0	1.6	Search (64X64)	12.370	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	3.2	2.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	25.6	1.6	Inc. seg. avg.	13.105	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	17.0	2.9	Inc. frq. avg.	13.667	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

O: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

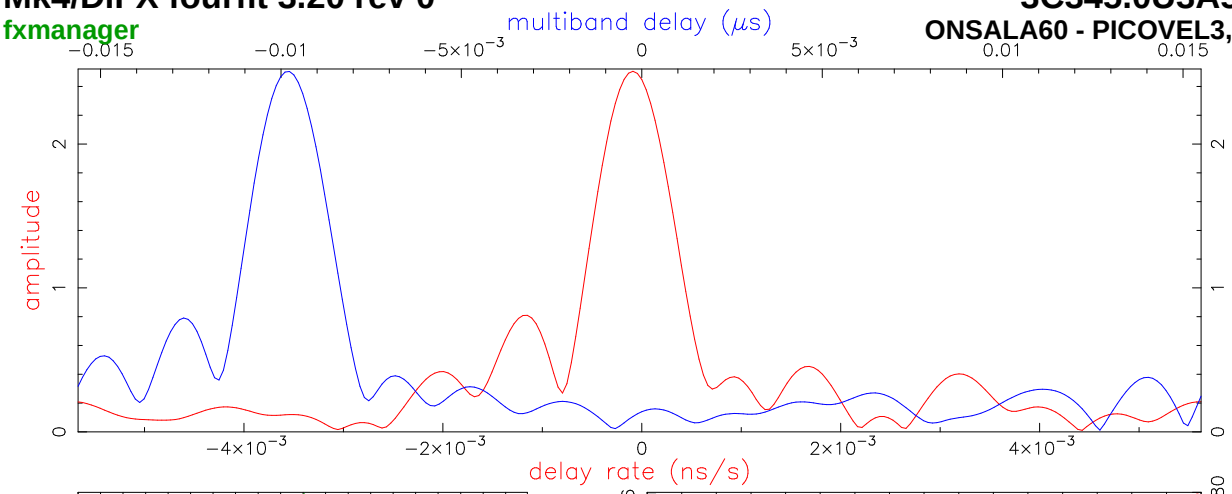
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Oi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Oi.W.19.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

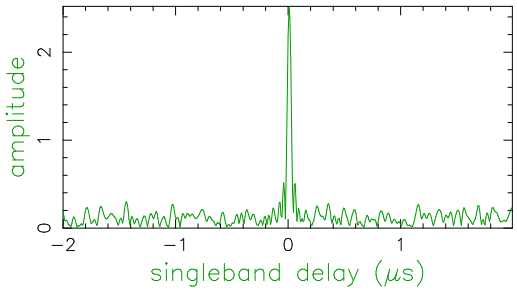
3C345.0U3A50, No0002, Oi

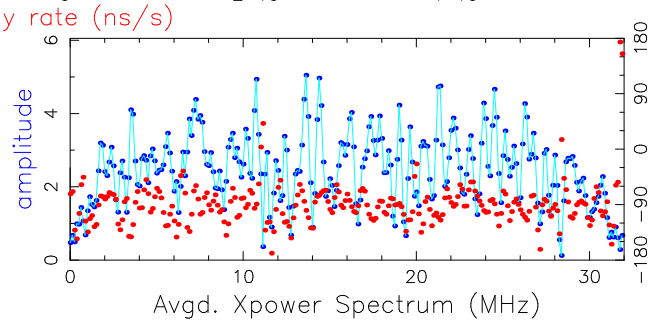
ONSALA60 - PICOVEL3, fgroup W, pol LR



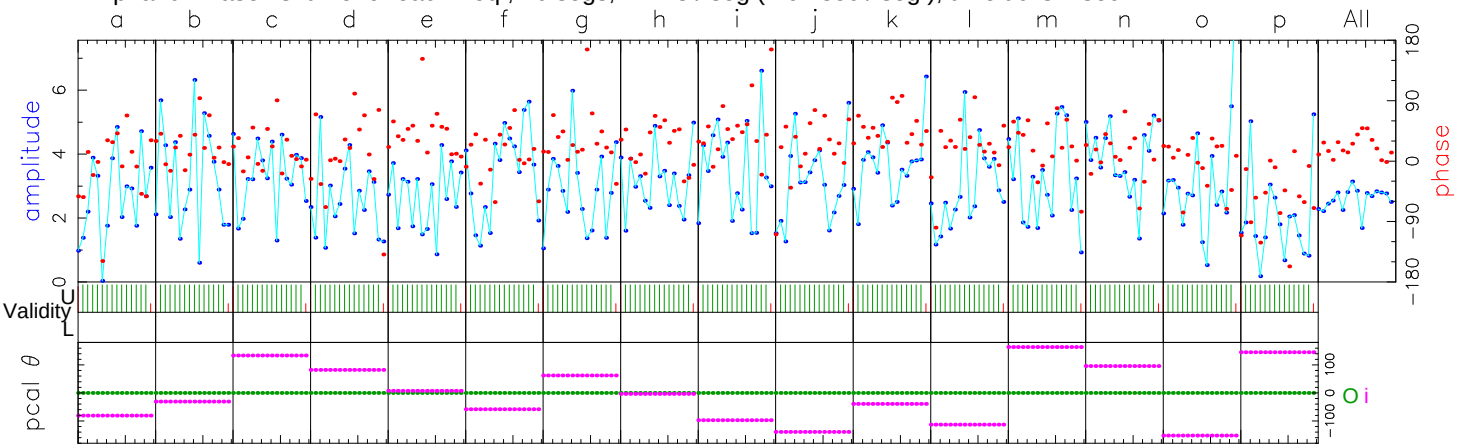
Fringe quality 8

SNR	27.2
Int time	15.614
Amp	2.522
Phase	21.1
PFD	0.0e+00
Delays (us)	
SBD	0.009891
MBD	-0.009794
Fringe rate (Hz)	-0.006489
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155424
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	1.7	22.8	11.4	10.9	39.1	13.8	29.6	25.5	33.7	25.2	45.8	22.6	33.4	16.8	1.9	-51.7	Phase	21.1
	2.1	3.0	3.1	2.0	2.4	2.9	2.5	2.7	2.9	2.4	3.3	2.5	2.9	3.4	2.5	1.3	Ampl.	2.6
	257.7	258.0	257.6	258.4	258.7	258.1	258.3	258.0	258.3	258.2	258.5	258.3	258.1	258.6	258.1	257.4	Sbd box	258.3
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
O	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	
O:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
O:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
O	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		
O	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85495710315E+03	Apriori delay (usec)	2.85493564721E+03	Resid mbdelay (usec)	-9.79406E-03	+/-	4.0E-05
Sband delay (usec)	2.85494553771E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	9.89050E-03	+/-	6.3E-04
Phase delay (usec)	2.85493564789E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	6.79312E-07	+/-	1.4E-07
Delay rate (us/s)	-3.71599015321E-01	Apriori rate (us/s)	-3.71598939987E-01	Resid rate (us/s)	-7.53338E-08	+/-	1.4E-08
Total phase (deg)	255.5	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	21.1	+/-	4.2

	RMS	Theor.							
			Amplitude	2.522 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	15.4	8.4	Search (64X64)	2.463	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	14.0	14.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	23.4	8.4	Inc. seg. avg.	2.568	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	20.5	14.7	Inc. frq. avg.	2.596	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

O: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

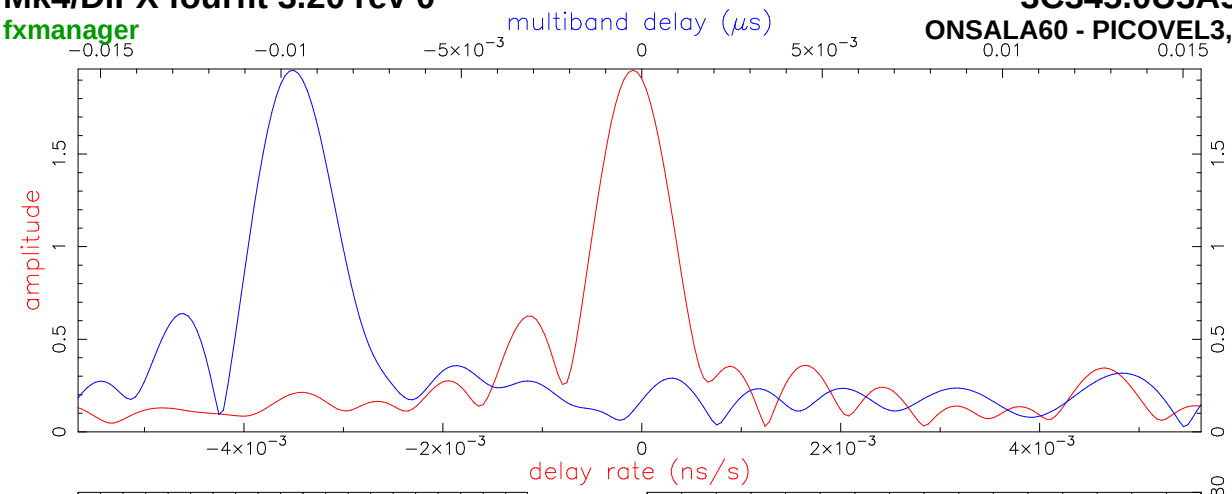
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Oi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Oi.W.22.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

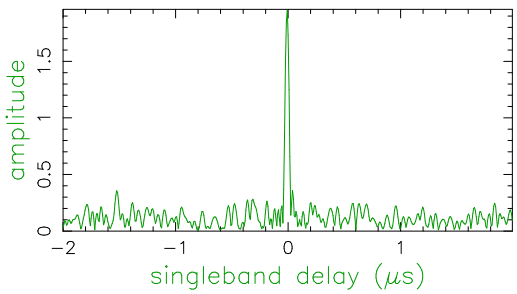
3C345.0U3A50, No0002, Oi

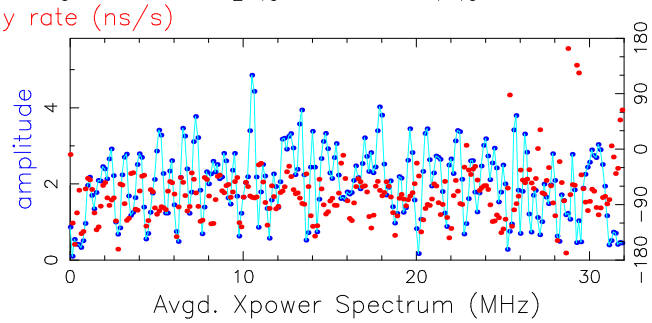
ONSALA60 - PICOVEL3, fgroup W, pol RL



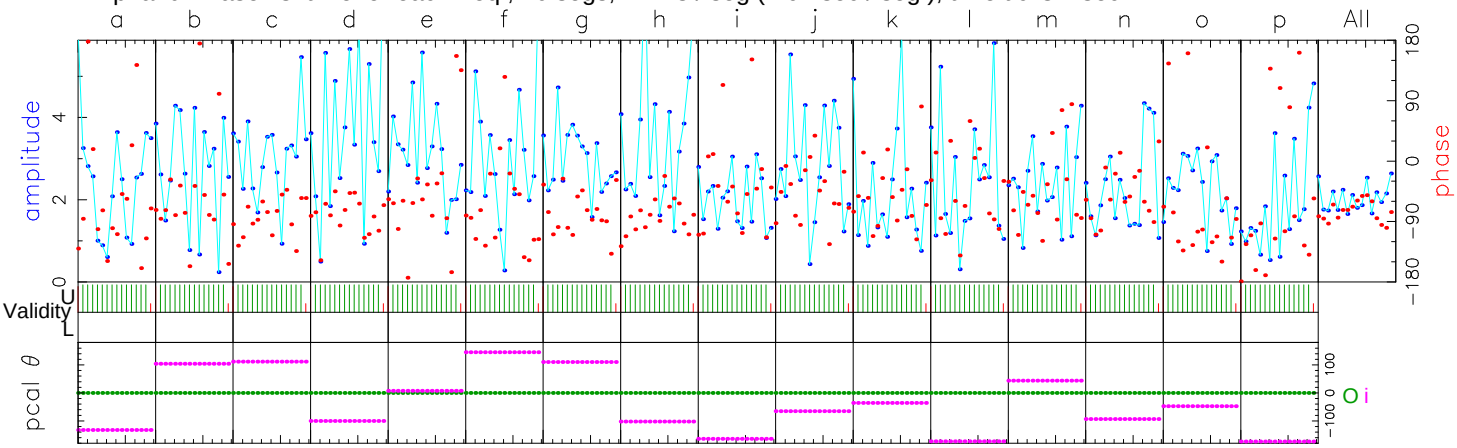
Fringe quality 8

SNR	21.2
Int time	15.614
Amp	1.960
Phase	-74.7
PFD	0.0e+00
Delays (us)	
SBD	-0.009322
MBD	-0.009692
Fringe rate (Hz)	-0.009009
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155424
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-112.2	-64.9	-83.9	-72.4	-65.4	-84.1	-78.9	-85.2	-48.9	-49.2	-60.4	-49.6	-60.7	-56.4	-119.9	-128.0	Phase	-74.7
	1.5	2.4	2.7	3.3	2.2	2.0	2.6	3.2	1.2	2.4	1.8	1.8	1.7	2.0	1.7	1.3	Ampl.	2.1
	255.9	255.4	255.8	255.9	256.9	255.7	256.3	256.8	258.4	255.3	254.6	254.2	255.2	255.1	254.7	254.6	Sbd box	255.8
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
O	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	
O:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
O:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
O	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		
O	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85492595511E+03	Apriori delay (usec)	2.85493564721E+03	Resid mbdelay (usec)	-9.69211E-03	+/-	5.1E-05
Sband delay (usec)	2.85492632471E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	-9.32250E-03	+/-	8.1E-04
Phase delay (usec)	2.85493564481E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-2.40830E-06	+/-	1.7E-07
Delay rate (us/s)	-3.71599044570E-01	Apriori rate (us/s)	-3.71598939987E-01	Resid rate (us/s)	-1.04583E-07	+/-	1.8E-08
Total phase (deg)	159.7	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	-74.7	+/-	5.4

	RMS	Theor.							
			Amplitude	1.960 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	15.0	10.8	Search (64X64)	1.911	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	15.6	18.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	26.0	10.8	Inc. seg. avg.	1.987	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	31.7	18.9	Inc. frq. avg.	2.055	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

O: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

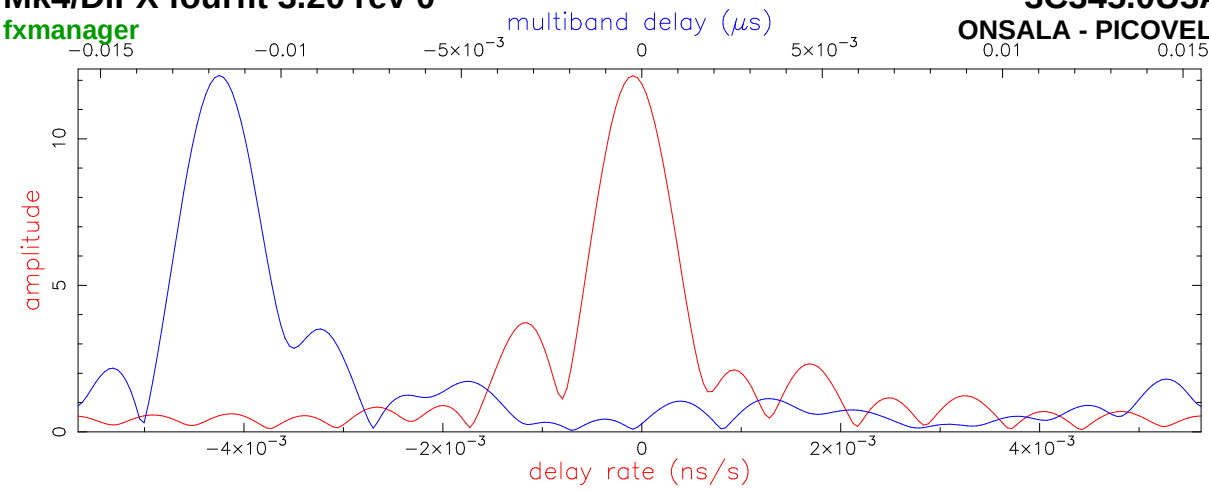
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Oi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Oi.W.23.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

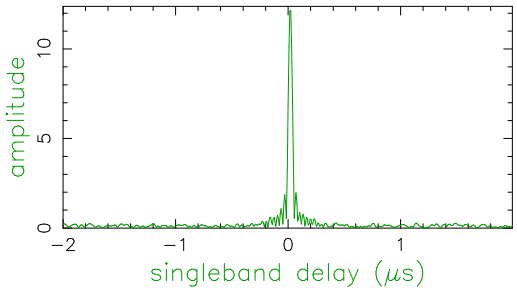
3C345.0U3A50, No0002, Xi

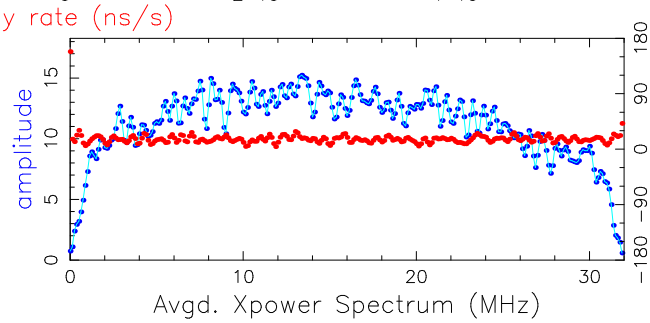
ONSALA - PICOVEL3, fgroup W, pol LL



Fringe quality 6

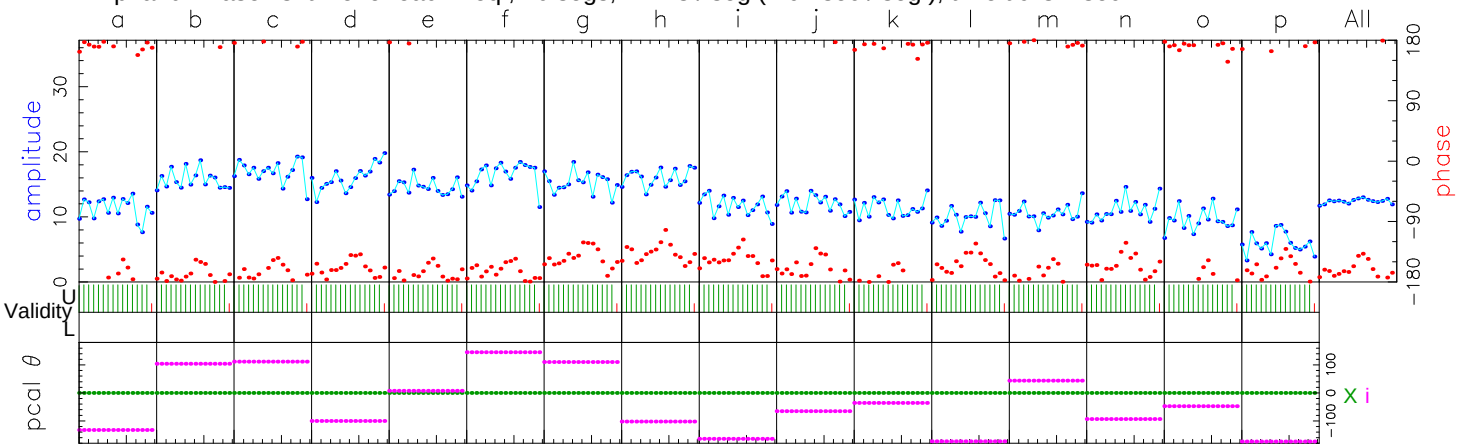
SNR	134.0
Int time	15.655
Amp	12.384
Phase	-162.1
PFD	0.0e+00
Delays (us)	
SBD	0.019716
MBD	-0.011736
Fringe rate (Hz)	-0.006071
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155429
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	179.4	-169.7	-169.2	-159.3	-169.1	-163.8	-143.4	-136.8	-147.2	-159.5	179.4	-153.7	-173.9	-154.2	178.0	-163.7	Phase	-162.1
	11.0	15.5	16.7	15.6	14.4	16.4	14.9	15.5	11.5	11.7	11.0	9.8	10.2	10.5	9.2	5.7	Ampl.	12.5
	258.1	259.2	259.7	260.3	259.9	260.0	260.2	259.9	261.0	259.4	259.2	259.2	258.8	258.9	258.6	258.3	Sbd box	259.5
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
X	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	
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85495516401E+03	Apriori delay (usec)	2.85493565038E+03	Resid mbdelay (usec)	-1.17364E-02	+/-	8.1E-06
Sband delay (usec)	2.85495536688E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	1.97165E-02	+/-	1.3E-04
Phase delay (usec)	2.85493564515E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-5.22839E-06	+/-	2.8E-08
Delay rate (us/s)	-3.71599010192E-01	Apriori rate (us/s)	-3.71598939710E-01	Resid rate (us/s)	-7.04816E-08	+/-	2.9E-09
Total phase (deg)	170.4	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-162.1	+/-	0.9

	RMS	Theor.						
			Amplitude	12.384 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	11.9	1.7	Search (64X64)	11.984	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000 2.000
amp/seg (%)	2.7	3.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016 0.016
ph/frq (deg)	14.0	1.7	Inc. seg. avg.	12.419	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006 0.006
amp/frq (%)	24.7	3.0	Inc. frq. avg.	12.473	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

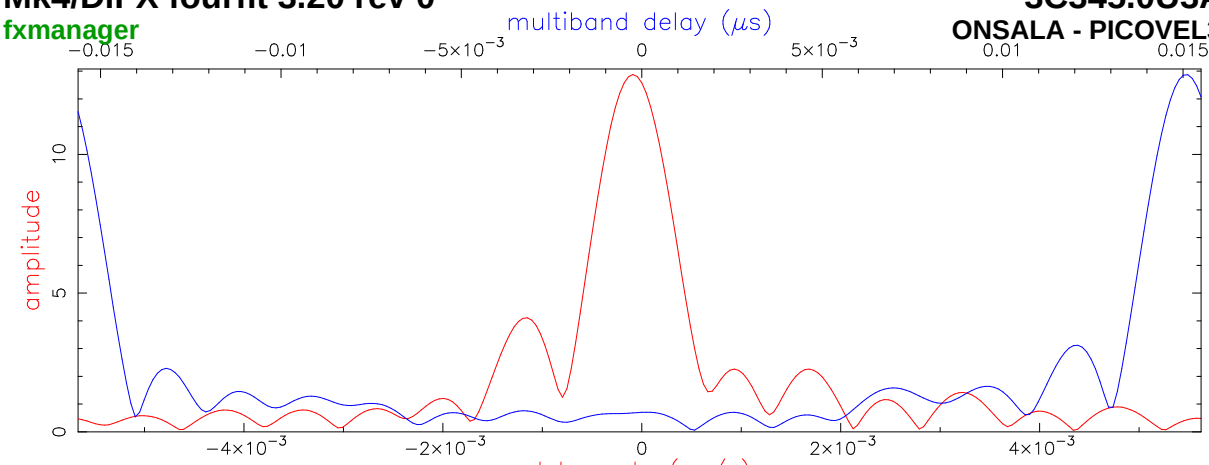
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Xi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Xi.W.45.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

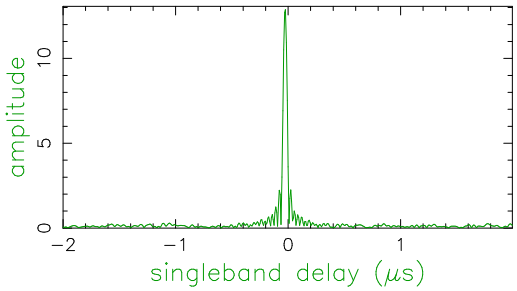
3C345.0U3A50, No0002, Xi

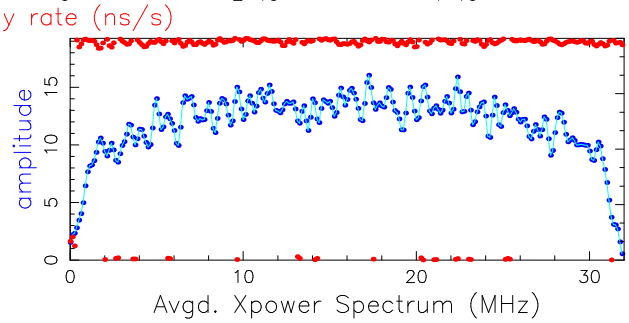
ONSALA - PICOVEL3, fgroup W, pol RR



Fringe quality 7

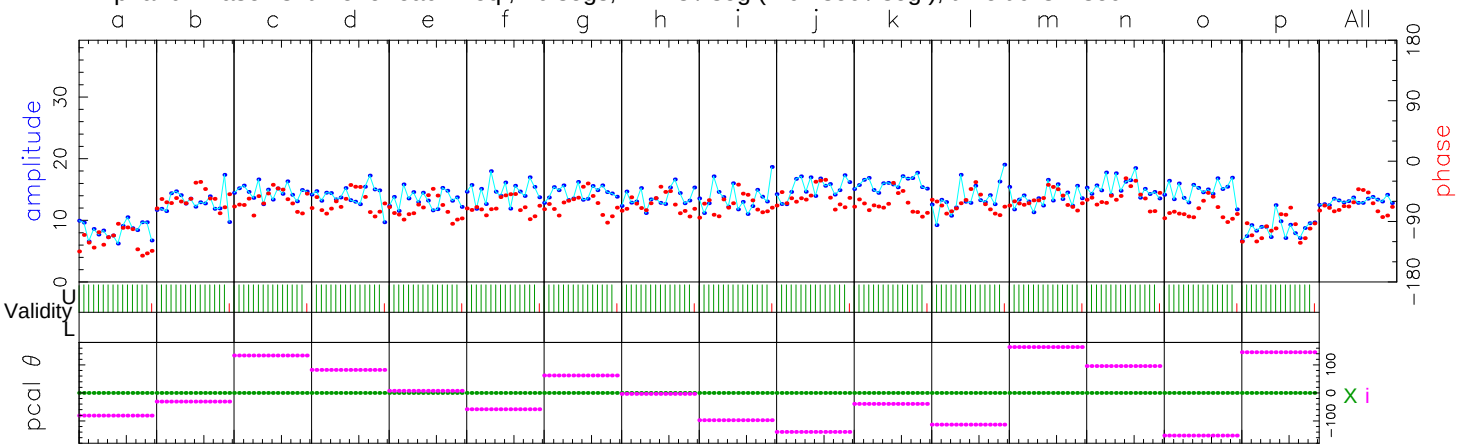
SNR	141.5
Int time	15.655
Amp	13.076
Phase	-65.9
PFD	0.0e+00
Delays (us)	
SBD	-0.026763
MBD	0.015072
Fringe rate (Hz)	-0.006463
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155430
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-117.6	-56.6	-58.8	-62.6	-72.0	-68.2	-64.3	-63.5	-65.8	-53.5	-63.5	-63.0	-57.4	-53.3	-74.8	-100.4	Phase	-65.9
	8.2	12.8	14.2	13.8	13.1	14.4	14.0	13.3	13.2	14.8	15.6	13.0	13.5	15.1	14.7	8.3	Ampl.	13.3
	253.2	252.9	253.6	253.5	253.6	253.7	253.7	253.7	253.8	253.8	253.8	253.7	253.6	253.6	253.5	252.7	Sbd box	253.6
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
X	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	
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85491947194E+03	Apriori delay (usec)	2.85493565038E+03	Resid mbdelay (usec)	1.50716E-02	+/-	7.6E-06
Sband delay (usec)	2.85490888738E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	-2.67630E-02	+/-	1.2E-04
Phase delay (usec)	2.85493564826E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-2.12531E-06	+/-	2.6E-08
Delay rate (us/s)	-3.71599014738E-01	Apriori rate (us/s)	-3.71598939710E-01	Resid rate (us/s)	-7.50277E-08	+/-	2.8E-09
Total phase (deg)	266.7	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-65.9	+/-	0.8

	RMS	Theor.							
			Amplitude	13.076 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.3	1.6	Search (64X64)	12.655	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	3.8	2.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	18.0	1.6	Inc. seg. avg.	13.171	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	15.7	2.8	Inc. frq. avg.	13.250	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

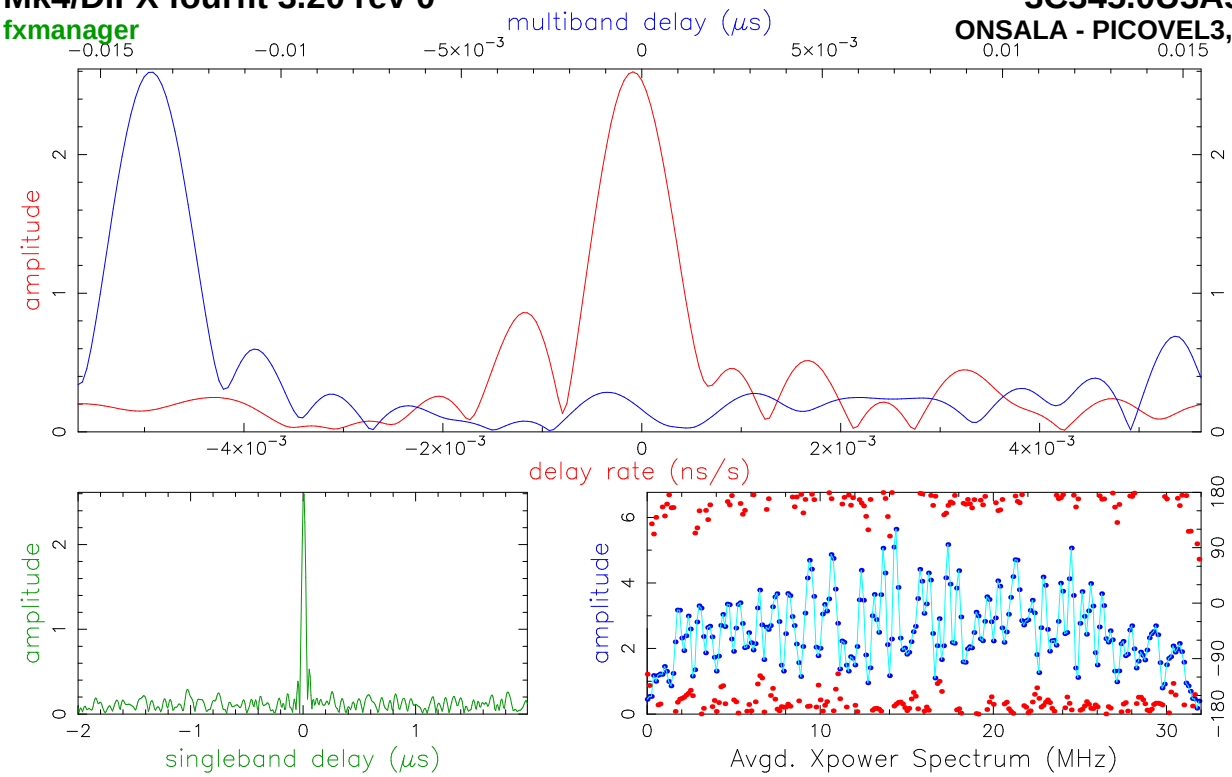
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Xi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Xi.W.49.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

3C345.0U3A50, No0002, Xi

ONSALA - PICOVEL3, fgroup W, pol LR

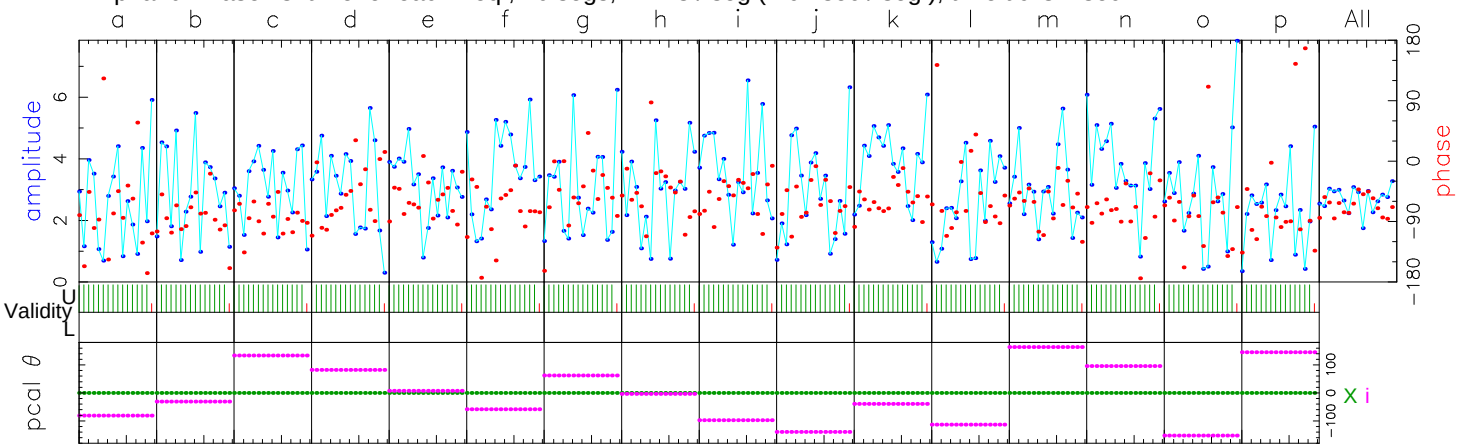


Fringe quality 9

SNR 28.3
Int time 15.655
Amp 2.617
Phase -66.6
PFD 0.0e+00
Delays (us)
SBD 0.005394
MBD -0.013619
Fringe rate (Hz)
-0.006536
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024

Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155430
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-86.2	-72.6	-84.4	-64.5	-62.5	-74.1	-42.4	-49.1	-57.4	-58.3	-57.7	-70.1	-55.7	-71.8	-79.4	-92.0	Phase	-66.6
	1.8	2.7	3.1	2.6	3.0	2.9	2.3	2.5	3.3	2.3	3.6	2.0	2.8	3.5	2.4	1.9	Ampl.	2.6
	256.0	257.6	257.2	258.1	257.9	257.7	257.9	257.2	257.5	257.8	257.8	258.4	257.4	258.0	257.9	257.4	Sbd box	257.7
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
X	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	
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85495328129E+03	Apriori delay (usec)	2.85493565038E+03	Resid mbdelay (usec)	-1.36191E-02	+/-	3.8E-05
Sband delay (usec)	2.85494104438E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	5.39400E-03	+/-	6.1E-04
Phase delay (usec)	2.85493564823E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-2.14927E-06	+/-	1.3E-07
Delay rate (us/s)	-3.71599015588E-01	Apriori rate (us/s)	-3.71598939710E-01	Resid rate (us/s)	-7.58780E-08	+/-	1.4E-08
Total phase (deg)	265.9	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-66.6	+/-	4.0

	RMS	Theor.							
			Amplitude	2.617 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	14.6	8.1	Search (64X64)	2.545	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	14.1	14.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	14.4	8.1	Inc. seg. avg.	2.656	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	20.1	14.1	Inc. frq. avg.	2.635	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

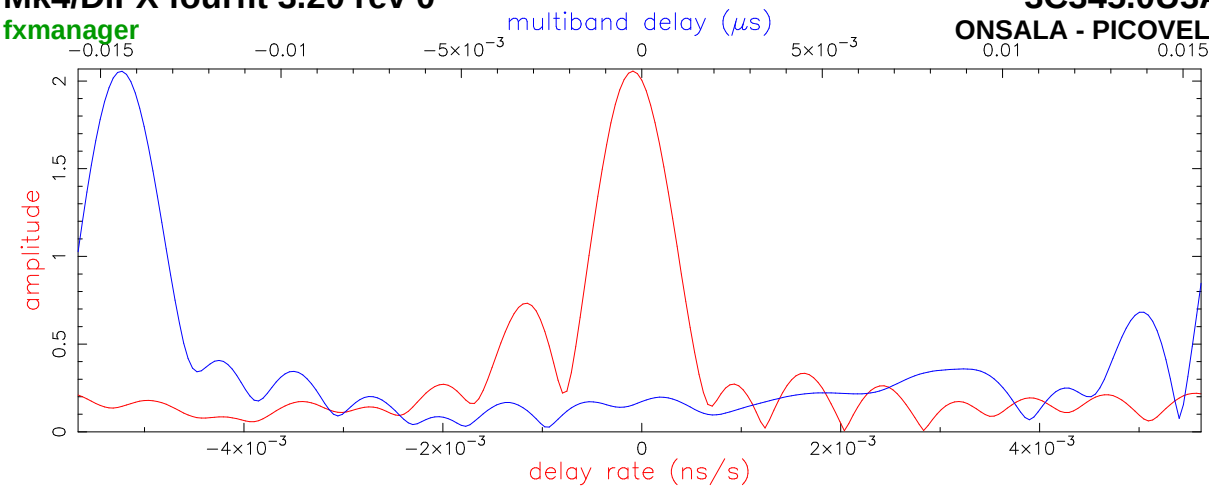
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Xi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Xi.W.51.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

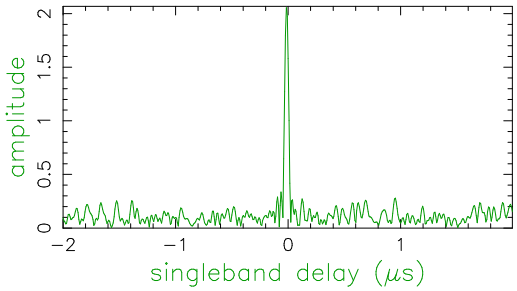
3C345.0U3A50, No0002, Xi

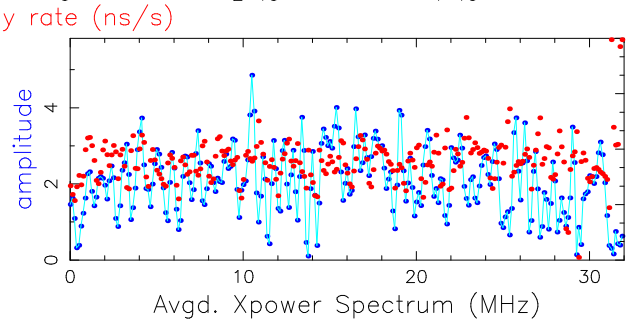
ONSALA - PICOVEL3, fgroup W, pol RL



Fringe quality 9

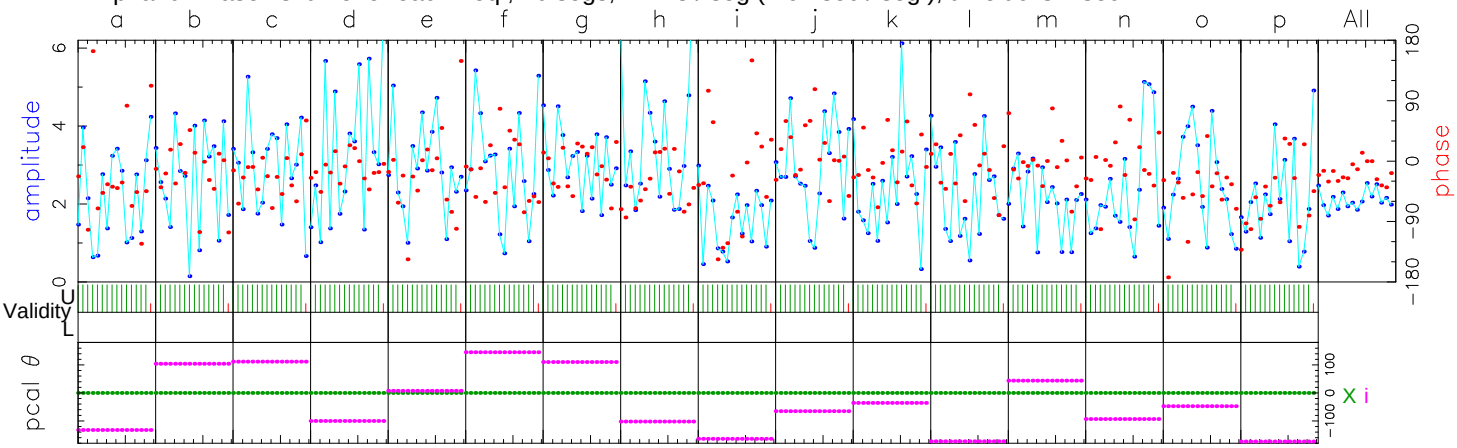
SNR 22.4
Int time 15.655
Amp 2.069
Phase -17.6
PFD 0.0e+00
Delays (us)
SBD -0.013562
MBD -0.014416
Fringe rate (Hz)
-0.009242
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121516.38
FRT 121730.00
Corr/FF/build
2019:277:150046
2019:277:155431
2019:253:110249
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	-38.1	-13.3	-23.6	-8.4	-17.7	-18.5	-10.4	-38.6	-5.7	8.4	-4.4	-8.1	-3.9	-11.8	-43.2	-45.8	Phase	-17.6
	1.5	2.4	2.8	3.0	2.2	2.2	2.7	2.9	0.6	2.4	2.0	1.9	1.8	2.0	2.2	1.5	Ampl.	2.1
	254.4	255.1	255.1	255.5	256.2	255.4	255.9	256.1	257.9	254.8	254.2	253.9	255.4	254.4	254.4	254.5	Sbd box	255.3
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
X	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	
X:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
i	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	2.85492123487E+03	Apriori delay (usec)	2.85493565038E+03	Resid mbdelay (usec)	-1.44155E-02	+/-	4.8E-05
Sband delay (usec)	2.85492208838E+03	Apriori clock (usec)	3.2809792E+01	Resid sbdelay (usec)	-1.35620E-02	+/-	7.7E-04
Phase delay (usec)	2.85493564981E+03	Apriori clockrate (us/s)	7.5100001E-07	Resid phdelay (usec)	-5.67114E-07	+/-	1.7E-07
Delay rate (us/s)	-3.71599047003E-01	Apriori rate (us/s)	-3.71598939710E-01	Resid rate (us/s)	-1.07293E-07	+/-	1.7E-08
Total phase (deg)	315.0	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-17.6	+/-	5.1

	RMS	Theor.							
			Amplitude	2.069 +/- 0.092	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	14.1	10.2	Search (64X64)	1.979	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	11.8	17.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	16.5	10.2	Inc. seg. avg.	2.086	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	28.8	17.9	Inc. frq. avg.	2.095	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 103.2 el 57.0 pa -42.9 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

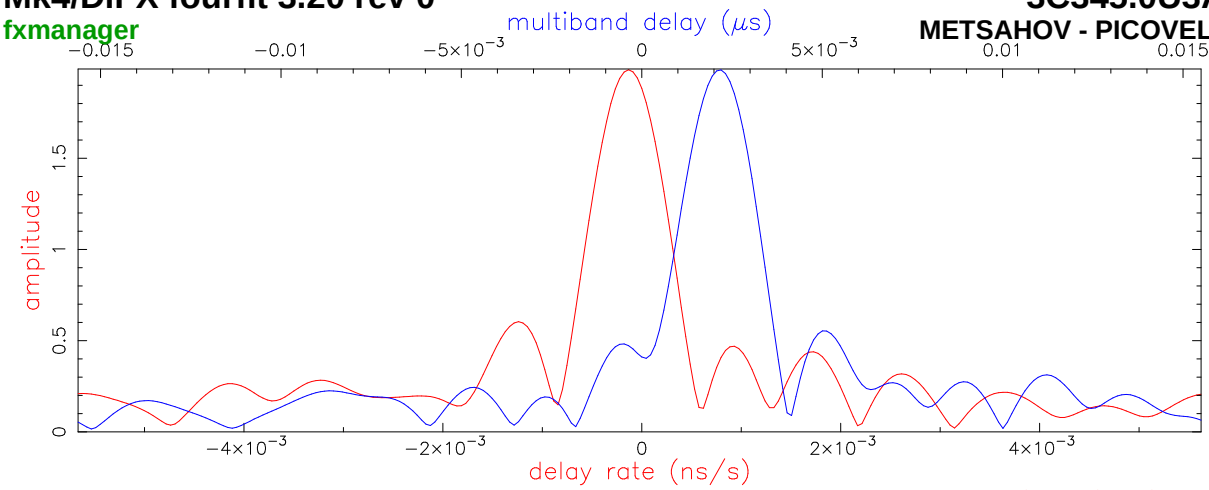
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Xi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Xi.W.53.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

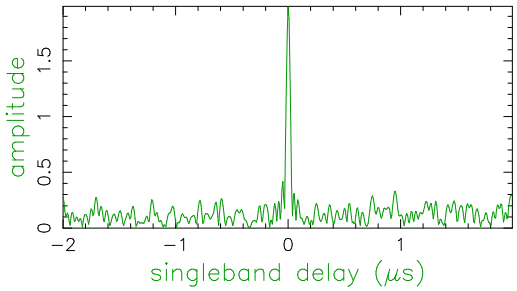
3C345.0U3A50, No0002, Zi

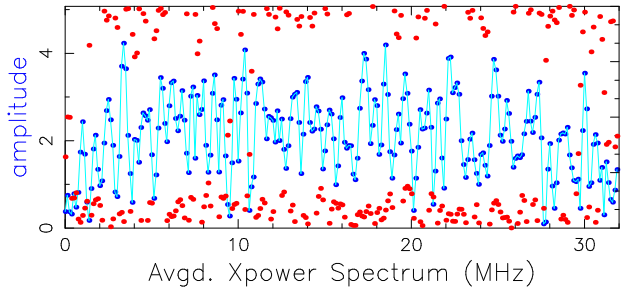
METSAHOV - PICOVEL3, fgroup W, pol LL



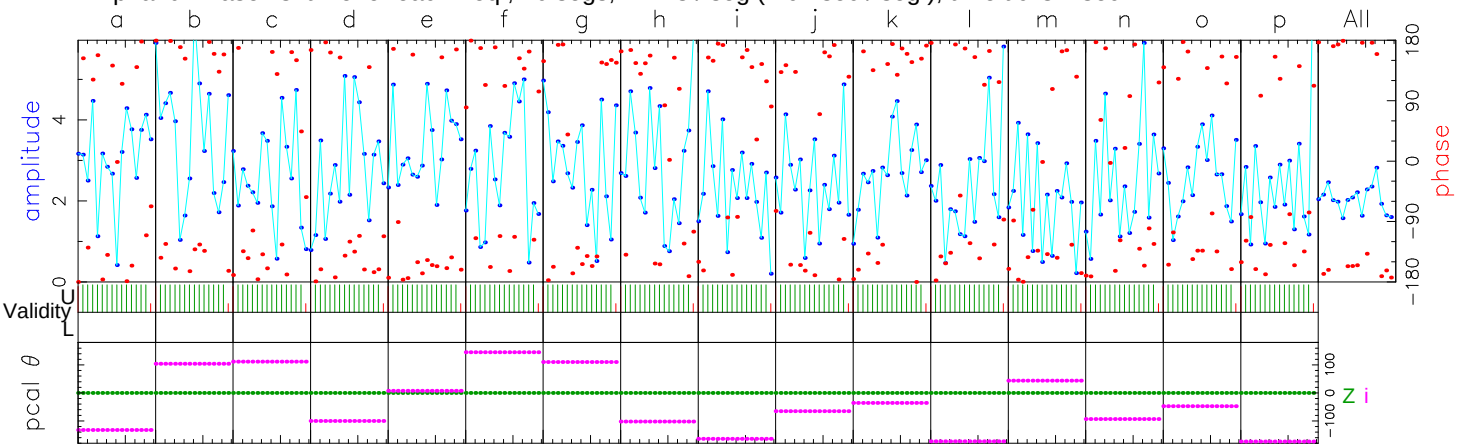
Fringe quality 9

SNR	21.5
Int time	15.616
Amp	1.990
Phase	-171.9
PFD	0.0e+00
Delays (us)	
SBD	0.001238
MBD	0.002171
Fringe rate (Hz)	-0.009688
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155437
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	177.5	-161.0	-163.5	-155.9	-167.2	-178.4	177.2	177.2	163.8	-172.0	168.0	-167.1	-153.2	-162.7	-168.3	-163.6	Phase	-171.9
	2.2	3.2	2.1	2.4	3.0	1.8	2.2	2.2	1.7	1.8	2.3	1.6	1.6	1.4	1.7	1.2	Ampl.	2.0
	255.0	257.2	256.8	258.2	257.4	258.1	257.2	257.5	258.2	258.1	257.0	256.6	257.2	256.3	257.0	255.6	Sbd box	257.2
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
Z	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	
Z:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
Z	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		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	3.71430459529E+03	Apriori delay (usec)	3.71430242396E+03	Resid mbdelay (usec)	2.17133E-03	+/-	5.0E-05
Sband delay (usec)	3.71430366196E+03	Apriori clock (usec)	6.7830849E-01	Resid sbdelay (usec)	1.23800E-03	+/-	8.0E-04
Phase delay (usec)	3.71430241841E+03	Apriori clockrate (us/s)	2.9300000E-07	Resid phdelay (usec)	-5.54317E-06	+/-	1.7E-07
Delay rate (us/s)	-5.09374892345E-01	Apriori rate (us/s)	-5.09374779871E-01	Resid rate (us/s)	-1.12474E-07	+/-	1.8E-08
Total phase (deg)	115.9	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	-171.9	+/-	5.3

	RMS	Theor.							
			Amplitude	1.990 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	16.1	10.7	Search (64X64)	1.919	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	16.7	18.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	13.1	10.7	Inc. seg. avg.	2.038	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	26.2	18.6	Inc. frq. avg.	1.997	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Z: az 122.5 el 61.9 pa -32.7 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

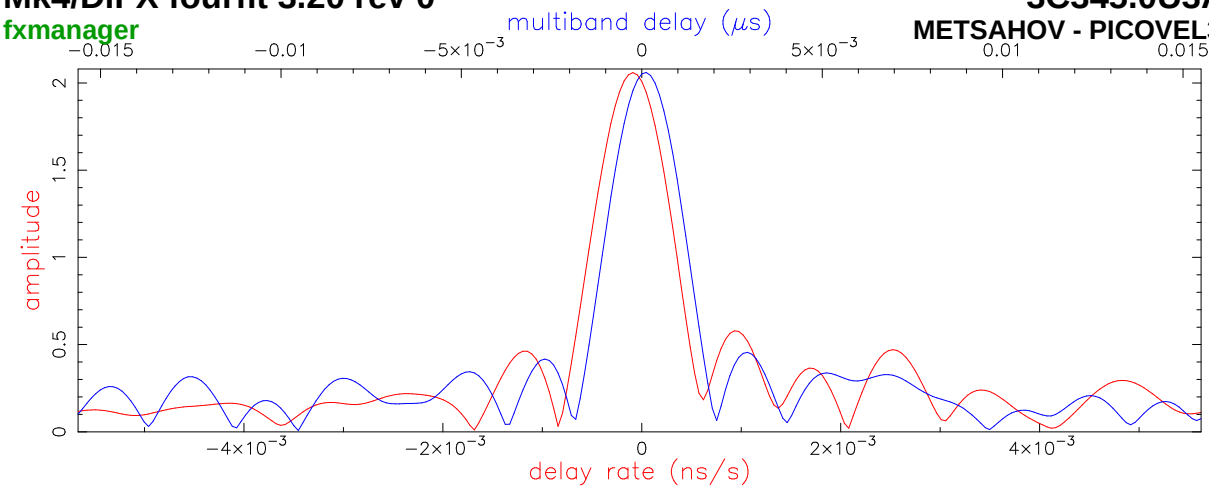
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Zi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Zi.W.74.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

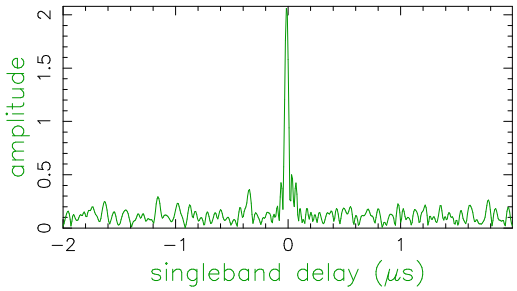
3C345.0U3A50, No0002, Zi

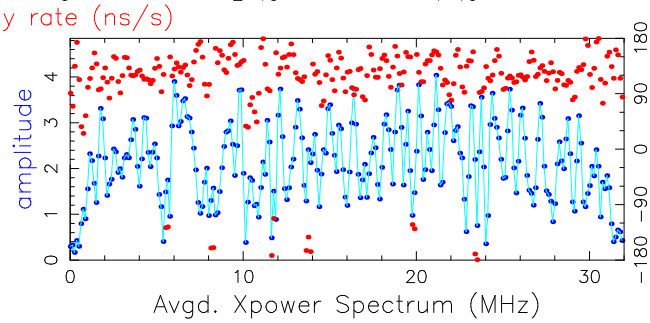
METSAHOV - PICOVEL3, fgroup W, pol RR



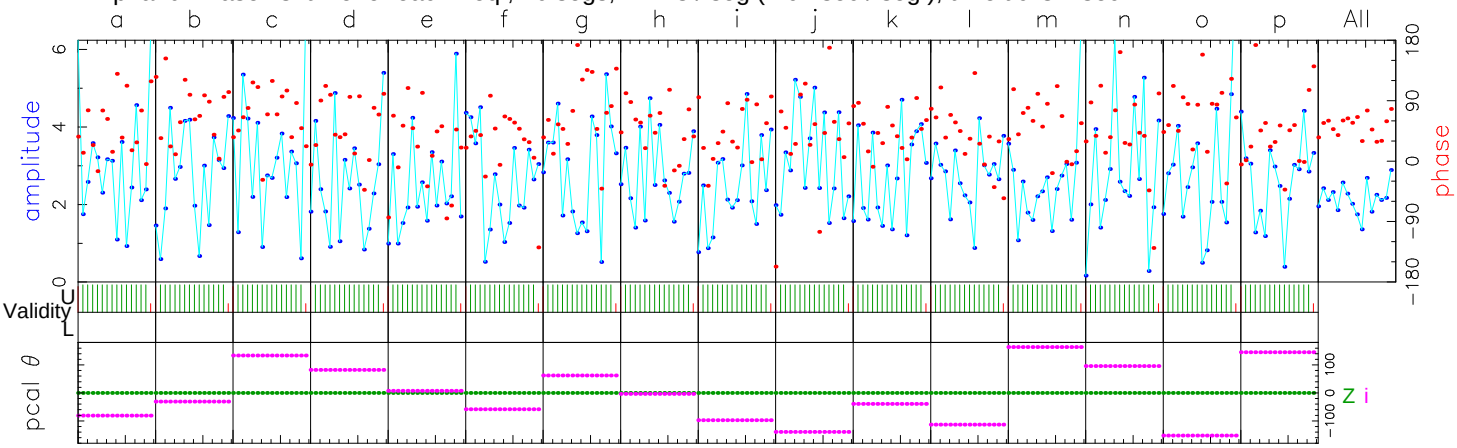
Fringe quality 9

SNR	22.5
Int time	15.616
Amp	2.080
Phase	52.3
PFD	0.0e+00
Delays (us)	
SBD	-0.013053
MBD	0.000133
Fringe rate (Hz)	-0.008870
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155437
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	38.6	70.8	74.2	53.5	37.0	36.6	67.3	54.5	45.5	49.7	46.6	38.6	56.2	58.8	75.7	28.7	Phase	52.3
	2.4	2.0	2.6	2.0	1.7	2.3	2.2	2.2	1.9	2.1	2.3	2.1	1.9	2.0	2.2	2.0	Ampl.	2.1
	255.4	253.8	254.7	255.5	255.5	255.9	255.3	255.9	255.1	255.4	256.0	255.2	255.2	256.0	255.8	254.4	Sbd box	255.3
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
Z	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	
Z:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
Z	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		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	3.71430255744E+03	Apriori delay (usec)	3.71430242396E+03	Resid mbdelay (usec)	1.33489E-04	+/-	4.8E-05
Sband delay (usec)	3.71428937096E+03	Apriori clock (usec)	6.7830849E-01	Resid sbdelay (usec)	-1.30530E-02	+/-	7.7E-04
Phase delay (usec)	3.71430242564E+03	Apriori clockrate (us/s)	2.9300000E-07	Resid phdelay (usec)	1.68573E-06	+/-	1.6E-07
Delay rate (us/s)	-5.09374882844E-01	Apriori rate (us/s)	-5.09374779871E-01	Resid rate (us/s)	-1.02973E-07	+/-	1.7E-08
Total phase (deg)	340.1	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	52.3	+/-	5.1

	RMS	Theor.							
			Amplitude	2.080 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	14.7	10.2	Search (64X64)	2.014	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	16.7	17.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	15.0	10.2	Inc. seg. avg.	2.096	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	10.7	17.8	Inc. frq. avg.	2.091	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Z: az 122.5 el 61.9 pa -32.7 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

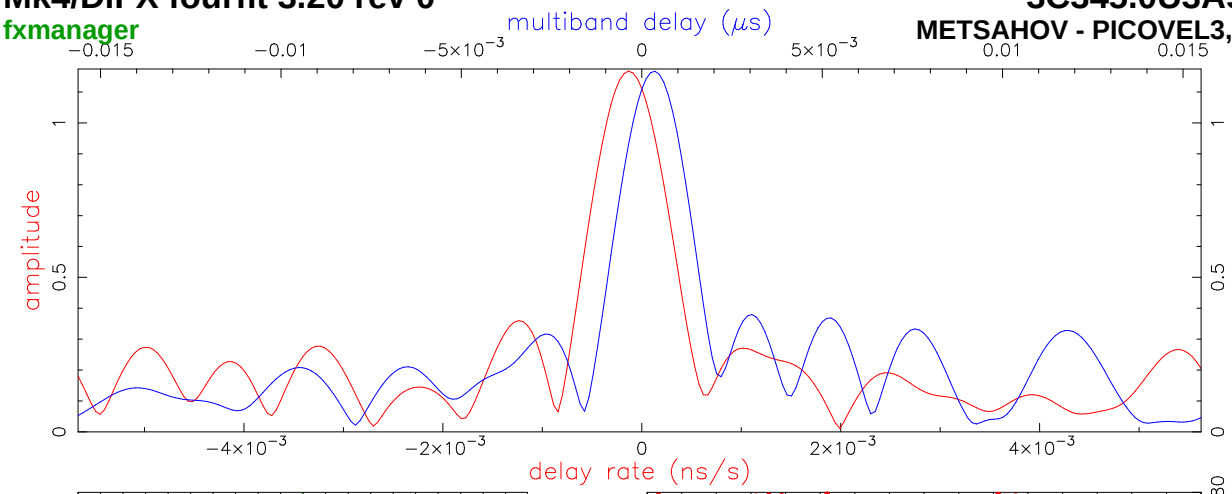
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Zi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Zi.W.77.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

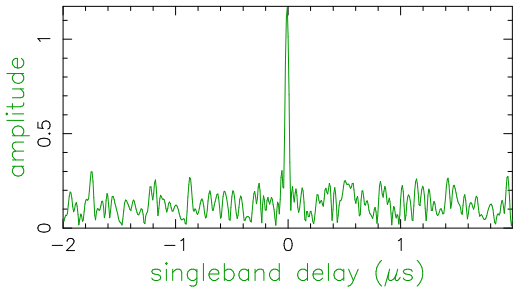
3C345.0U3A50, No0002, Zi

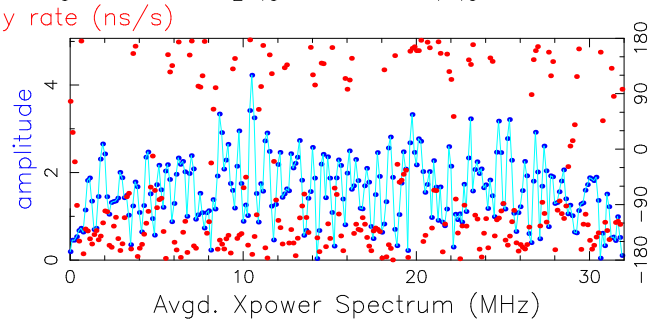
METSAHOV - PICOVEL3, fgroup W, pol LR



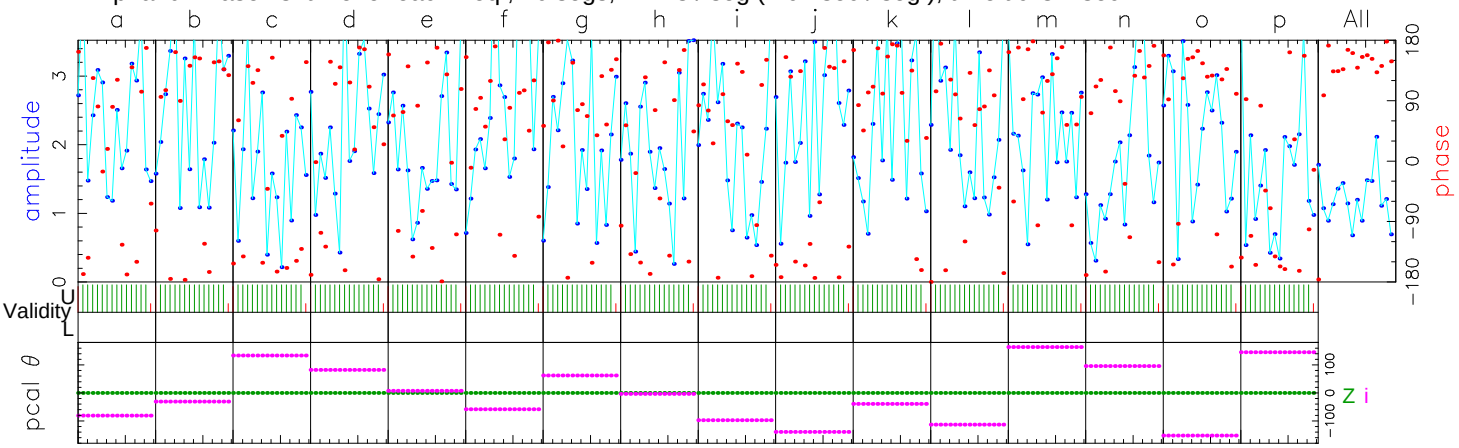
Fringe quality 9

SNR	12.7
Int time	15.616
Amp	1.175
Phase	148.8
PFD	2.3e-29
Delays (us)	
SBD	-0.009793
MBD	0.000353
Fringe rate (Hz)	-0.011711
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155438
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	149.4	155.3	-178.2	163.5	146.2	102.9	132.8	173.3	108.9	170.0	144.1	121.2	149.4	145.4	148.0	-158.3	Phase	148.8
	1.2	2.0	1.2	1.2	0.7	1.4	1.1	0.8	1.2	2.0	1.6	1.3	0.9	1.2	1.6	0.8	Ampl.	1.2
	254.8	255.2	257.4	255.2	310.2	255.1	490.1	473.5	29.9	255.5	256.7	271.3	303.8	255.4	255.9	457.8	Sbd box	255.7
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
Z	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	
Z:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:i	0:-81	0:-31	0:133	0:82	0:7	0:-58	0:62	0:-3	0:-97	0:-140	0:-39	0:-113	0:164	0:96	0:-152	0:145	Manl PC	
Z	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		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	
i	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	3.71430277741E+03	Apriori delay (usec)	3.71430242396E+03	Resid mbdelay (usec)	3.53457E-04	+/-	8.5E-05
Sband delay (usec)	3.71429263096E+03	Apriori clock (usec)	6.7830849E-01	Resid sbdelay (usec)	-9.79300E-03	+/-	1.4E-03
Phase delay (usec)	3.71430242875E+03	Apriori clockrate (us/s)	2.9300000E-07	Resid phdelay (usec)	4.79806E-06	+/-	2.9E-07
Delay rate (us/s)	-5.09374915823E-01	Apriori rate (us/s)	-5.09374779871E-01	Resid rate (us/s)	-1.35952E-07	+/-	3.1E-08
Total phase (deg)	76.6	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	148.8	+/-	9.0

	RMS	Theor.							
			Amplitude	1.175 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	20.9	18.1	Search (64X64)	1.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	30.3	31.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	26.7	18.1	Inc. seg. avg.	1.189	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	32.4	31.5	Inc. frq. avg.	1.212	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Z: az 122.5 el 61.9 pa -32.7 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

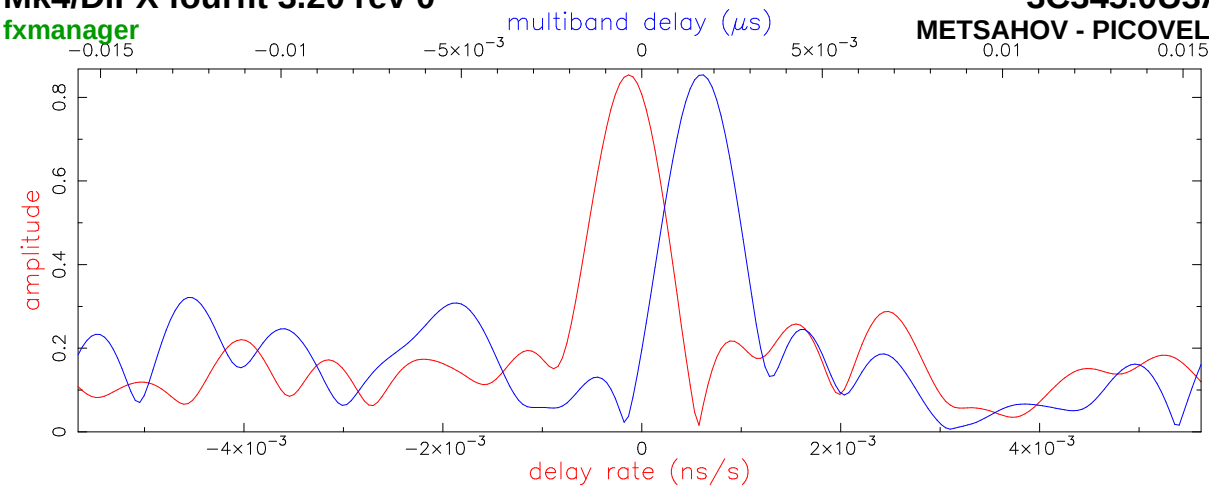
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Zi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Zi.W.79.0U3A50

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

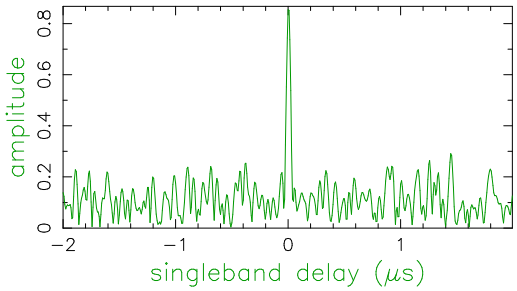
3C345.0U3A50, No0002, Zi

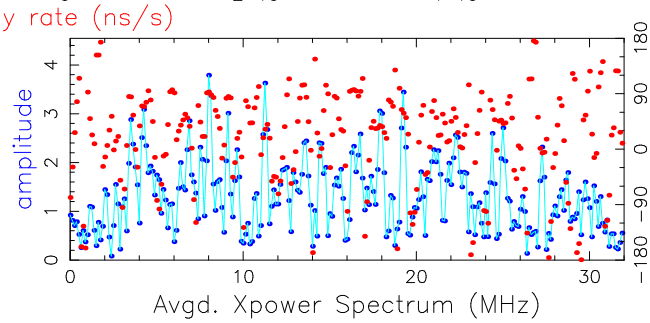
METSAHOV - PICOVEL3, fgroup W, pol RL



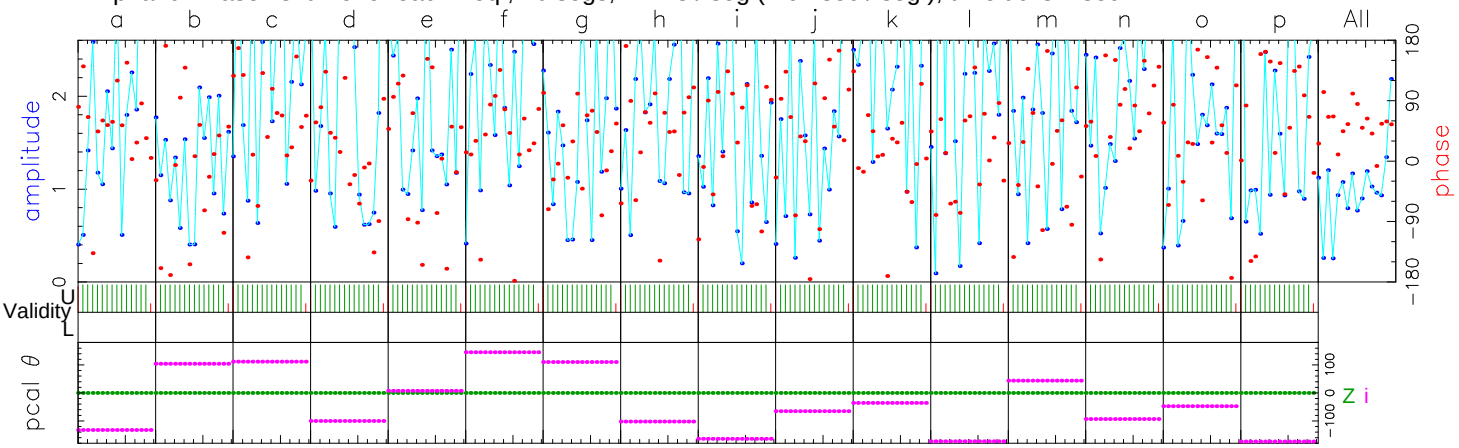
Fringe quality 9

SNR	9.4
Int time	15.616
Amp	0.868
Phase	52.4
PFD	1.7e-13
Delays (us)	
SBD	0.003794
MBD	0.001700
Fringe rate (Hz)	-0.011593
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121516.38
FRT	121730.00
Corr/FF/build	2019:277:150046
	2019:277:155438
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"





Amp. and Phase vs. time for each freq., 16 segs, 1 APs / seg (1.02 sec / seg.), time ticks 2 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
	65.2	9.4	80.8	16.3	93.7	59.4	14.4	41.4	89.3	75.2	27.4	33.4	-4.3	82.3	49.9	72.9	Phase	52.4
	1.2	0.3	1.3	0.7	0.6	1.4	1.0	0.9	0.4	1.0	1.5	1.3	0.8	1.6	0.7	0.7	Ampl.	0.9
	257.0	327.1	257.9	376.8	440.2	258.4	114.8	160.0	161.0	148.7	257.6	258.1	209.3	257.0	336.3	492.7	Sbd box	257.5
U/L	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	16/0	APs used	
Z	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	
Z:i	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:i	0:-132	0:104	0:112	0:-100	0:7	0:145	0:110	0:-102	0:-164	0:-65	0:-35	0:-173	0:44	0:-93	0:-47	0:-174	Manl PC	
Z	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		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
																	Tracks	
i	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
																	Tracks	

Group delay (usec)(sbd)	3.71430412363E+03	Apriori delay (usec)	3.71430242396E+03	Resid mbdelay (usec)	1.69968E-03	+/-	1.2E-04
Sband delay (usec)	3.71430621846E+03	Apriori clock (usec)	6.7830849E-01	Resid sbdelay (usec)	3.79450E-03	+/-	1.8E-03
Phase delay (usec)	3.71430242564E+03	Apriori clockrate (us/s)	2.9300000E-07	Resid phdelay (usec)	1.68876E-06	+/-	3.9E-07
Delay rate (us/s)	-5.09374914452E-01	Apriori rate (us/s)	-5.09374779871E-01	Resid rate (us/s)	-1.34581E-07	+/-	4.2E-08
Total phase (deg)	340.2	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	52.4	+/-	12.2

	RMS	Theor.							
			Amplitude	0.868 +/- 0.093	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	28.9	24.4	Search (64X64)	0.837	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-2.000	2.000
amp/seg (%)	41.7	42.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016
ph/frq (deg)	32.6	24.4	Inc. seg. avg.	0.875	Sample rate(MSamp/s): 64		dr window (ns/s)	-0.006	0.006
amp/frq (%)	43.9	42.7	Inc. frq. avg.	0.885	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Z: az 122.5 el 61.9 pa -32.7 i: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/3333/No0002//Zi..0U3A50 Output file: /Exps/f192a/FRINGE/3333/No0002//Zi.W.82.0U3A50