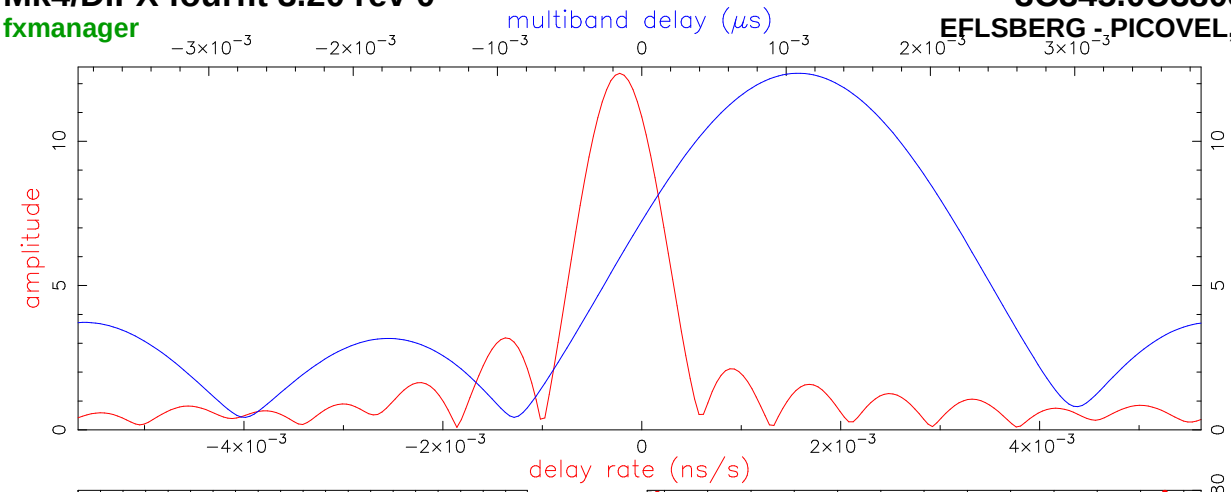
Mk4/DiFX fourfit 3.20 rev 0

fxmanager

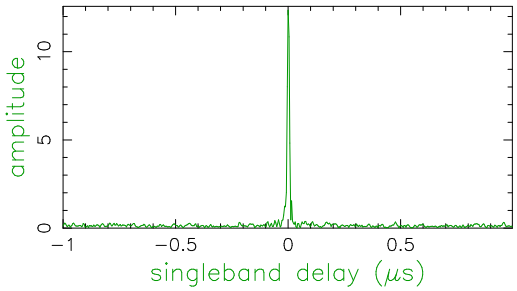
3C345.0U3803, No0002, BP

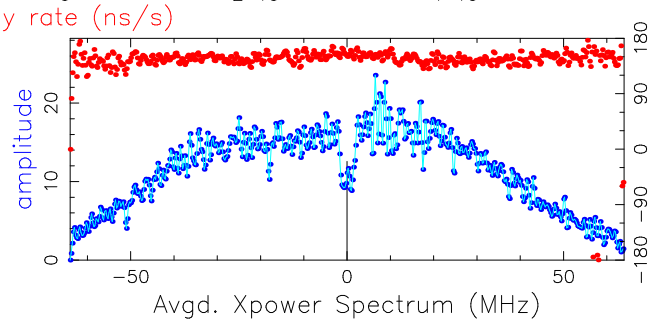
EFLSBERG -PICOVEL, fgroup W, pol LL



Fringe quality 9

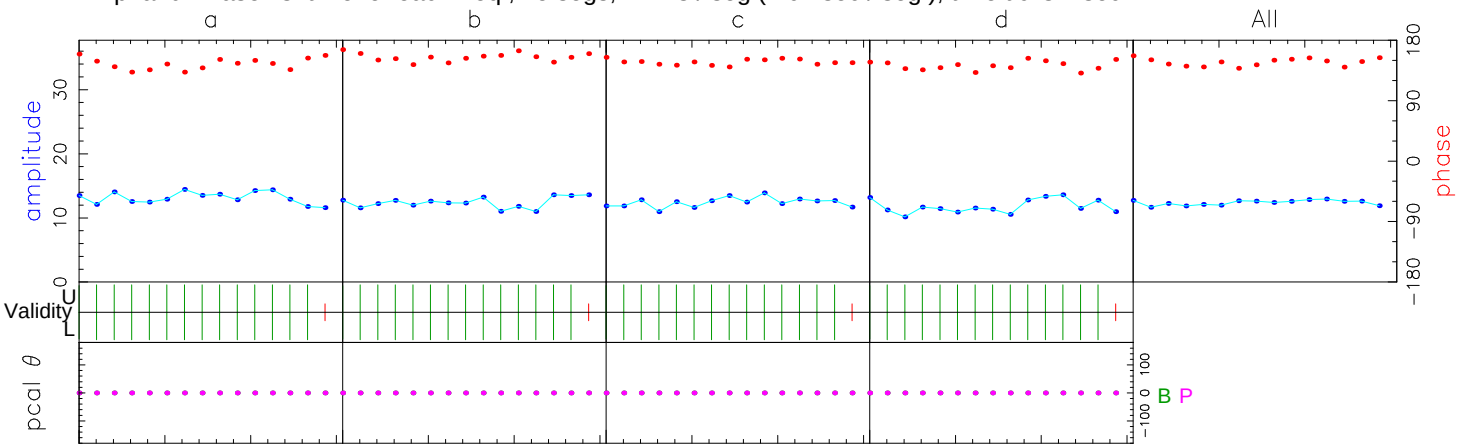
SNR	131.2
Int time	14.577
Amp	12.577
Phase	146.9
PFD	0.0e+00
Delays (us)	
SBD	0.001002
MBD	0.001110
Fringe rate (Hz)	-0.020547
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142207
	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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	144.1	154.4	147.5	141.8	Phase	146.9
	13.1	12.3	12.4	11.8	Ampl.	12.4
	257.2	257.4	257.3	257.0	Sbd box	257.3
U/L	15/15	15/15	15/15	15/15	APs used	
B	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
B:P	0:0	0:0	0:0	0:0	PC phase	
B:P	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
B	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.39446272430E+03	Apriori delay (usec)	2.39446161467E+03	Resid mbdelay (usec)	1.10963E-03	+/-	8.5E-06
Sband delay (usec)	2.39446261642E+03	Apriori clock (usec)	1.6937265E+01	Resid sbdelay (usec)	1.00175E-03	+/-	3.3E-05
Phase delay (usec)	2.39446161940E+03	Apriori clockrate (us/s)	2.5300001E-07	Resid phdelay (usec)	4.73858E-06	+/-	1.4E-08
Delay rate (us/s)	-2.46156847991E-01	Apriori rate (us/s)	-2.46156609462E-01	Resid rate (us/s)	-2.38529E-07	+/-	3.2E-09
Total phase (deg)	322.4	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	146.9	+/-	0.4

	RMS	Theor.							
			Amplitude	12.577 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	5.5	1.7	Search (32X16)	11.819	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	3.3	3.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	6.7	0.9	Inc. seg. avg.	12.417	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	4.0	1.5	Inc. frq. avg.	12.405	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

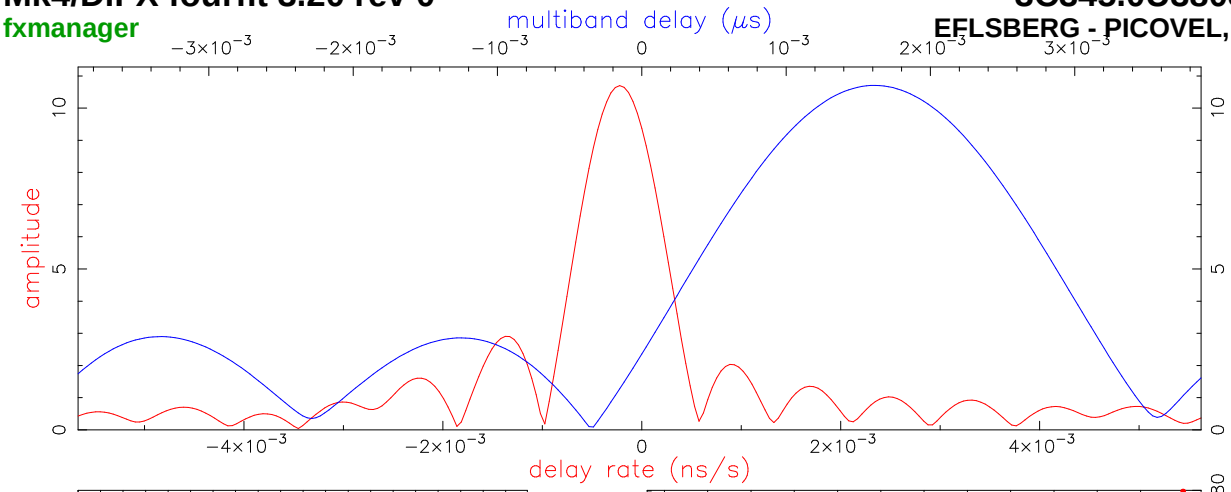
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/BP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/BP.W.22.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

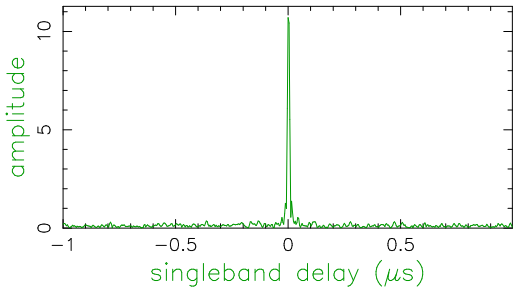
3C345.0U3803, No0002, BP

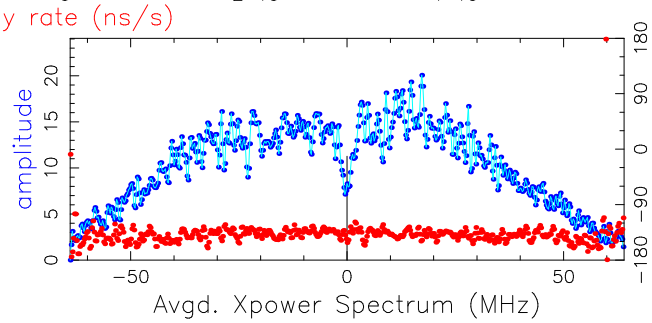
EFLSBERG - PICOVEL, fgroup W, pol RR



Fringe quality 9

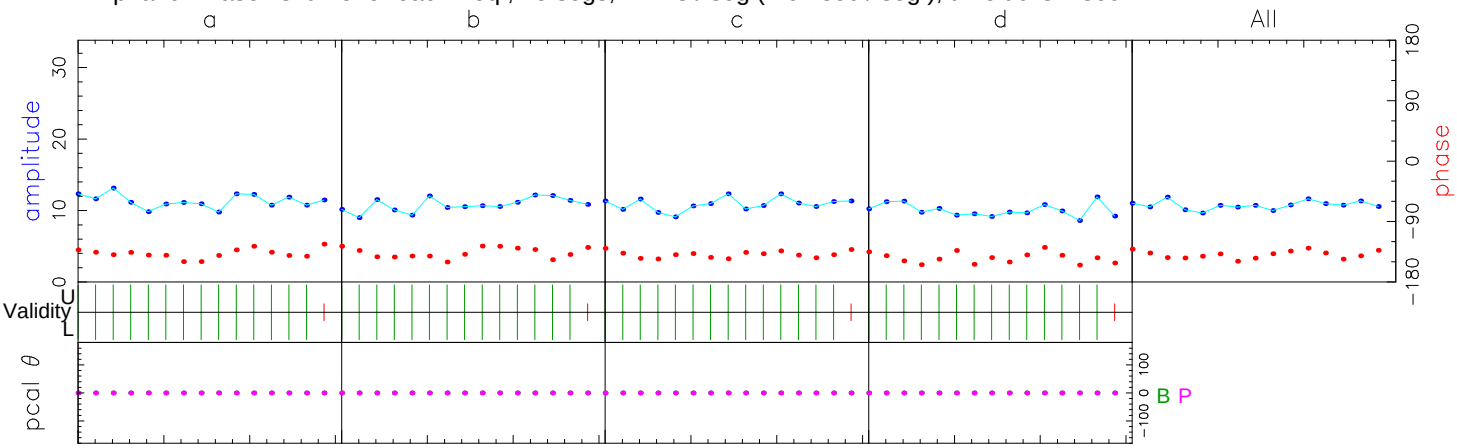
SNR	117.7
Int time	14.577
Amp	11.278
Phase	-139.3
PFD	0.0e+00
Delays (us)	
SBD	0.001758
MBD	0.001654
Fringe rate (Hz)	-0.020490
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142207
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-138.0	-136.8	-139.3	-143.6	Phase	-139.3
	11.3	10.7	10.8	10.0	Ampl.	10.7
	257.4	257.6	257.5	257.3	Sbd box	257.5
U/L	15/15	15/15	15/15	15/15	APs used	
B	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
B:P	0:0	0:0	0:0	0:0	PC phase	
B:P	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
B	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.39446326883E+03	Apriori delay (usec)	2.39446161467E+03	Resid mbdelay (usec)	1.65416E-03	+/-	9.5E-06
Sband delay (usec)	2.39446337292E+03	Apriori clock (usec)	1.6937265E+01	Resid sbdelay (usec)	1.75825E-03	+/-	3.7E-05
Phase delay (usec)	2.39446161017E+03	Apriori clockrate (us/s)	2.5300001E-07	Resid phdelay (usec)	-4.49343E-06	+/-	1.6E-08
Delay rate (us/s)	-2.46156847333E-01	Apriori rate (us/s)	-2.46156609462E-01	Resid rate (us/s)	-2.37871E-07	+/-	3.5E-09
Total phase (deg)	36.1	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	-139.3	+/-	0.5

	RMS	Theor.							
			Amplitude	11.278 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	5.5	1.9	Search (32X16)	10.170	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	6.9	3.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	3.7	1.0	Inc. seg. avg.	10.751	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	6.4	1.7	Inc. frq. avg.	10.715	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

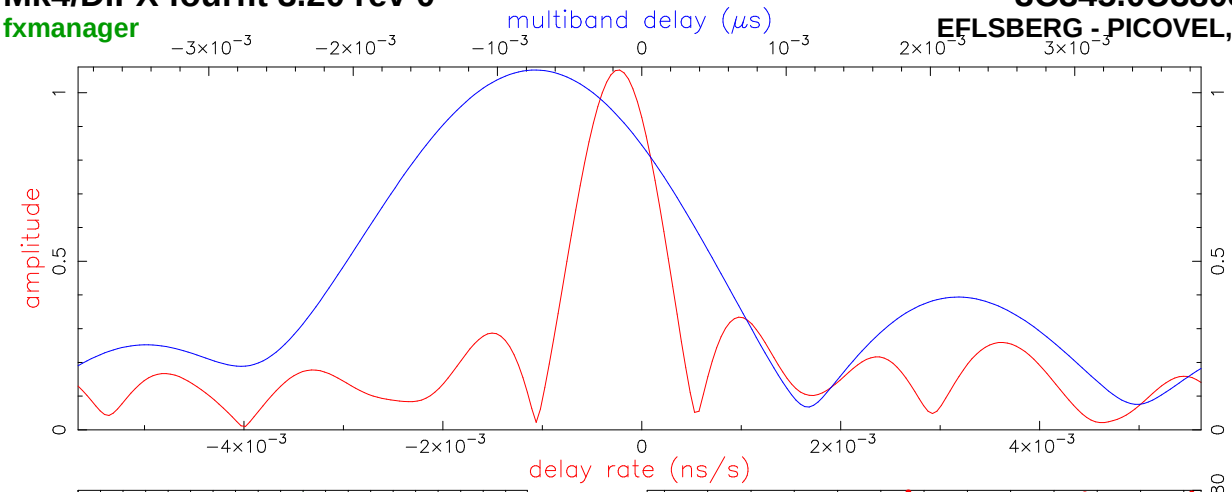
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/BP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/BP.W.23.0U3803

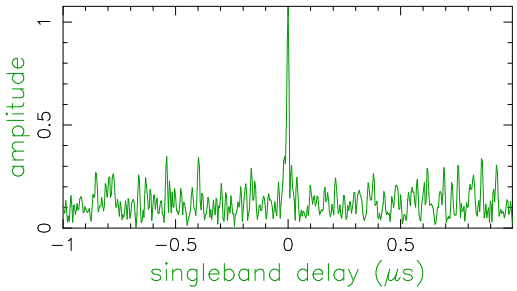
Mk4/DiFX fourfit 3.20 rev 0

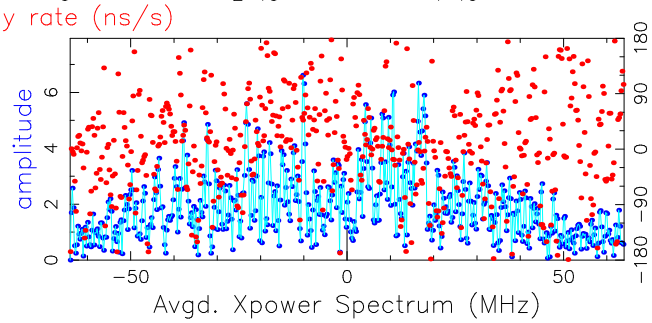
fxmanager

3C345.0U3803, No0002, BP

EFLSBERG - PICOVEL, fgroup W, pol LR

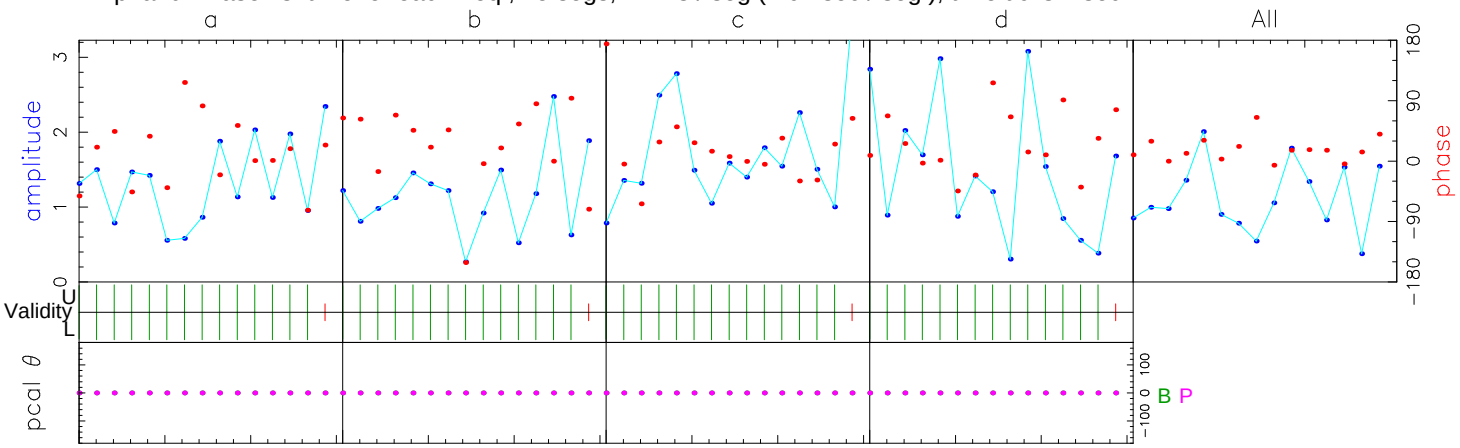






Fringe quality	9
SNR	11.2
Int time	14.577
Amp	1.076
Phase	15.5
PFD	1.1e-22
Delays (us)	
SBD	-0.000694
MBD	-0.000755
Fringe rate (Hz)	-0.017721
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142207
	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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	5.0	33.6	11.1	15.4	Phase	15.5
	1.0	0.9	1.3	1.2	Ampl.	1.1
	256.6	257.4	257.0	256.4	Sbd box	256.8
U/L	15/15	15/15	15/15	15/15	APs used	
B	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
B:P	0:0	0:0	0:0	0:0	PC phase	
B:P	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
B	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.39446085939E+03	Apriori delay (usec)	2.39446161467E+03	Resid mbdelay (usec)	-7.55273E-04	+/-	9.9E-05
Sband delay (usec)	2.39446092067E+03	Apriori clock (usec)	1.6937265E+01	Resid sbdelay (usec)	-6.94000E-04	+/-	3.8E-04
Phase delay (usec)	2.39446161516E+03	Apriori clockrate (us/s)	2.5300001E-07	Resid phdelay (usec)	4.98614E-07	+/-	1.6E-07
Delay rate (us/s)	-2.46156815182E-01	Apriori rate (us/s)	-2.46156609462E-01	Resid rate (us/s)	-2.05720E-07	+/-	3.7E-08
Total phase (deg)	190.9	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	15.5	+/-	5.1

	RMS	Theor.							
			Amplitude	1.076 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	17.6	19.8	Search (32X16)	1.007	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	41.2	34.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	15.1	10.2	Inc. seg. avg.	1.046	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	15.9	17.8	Inc. frq. avg.	1.067	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

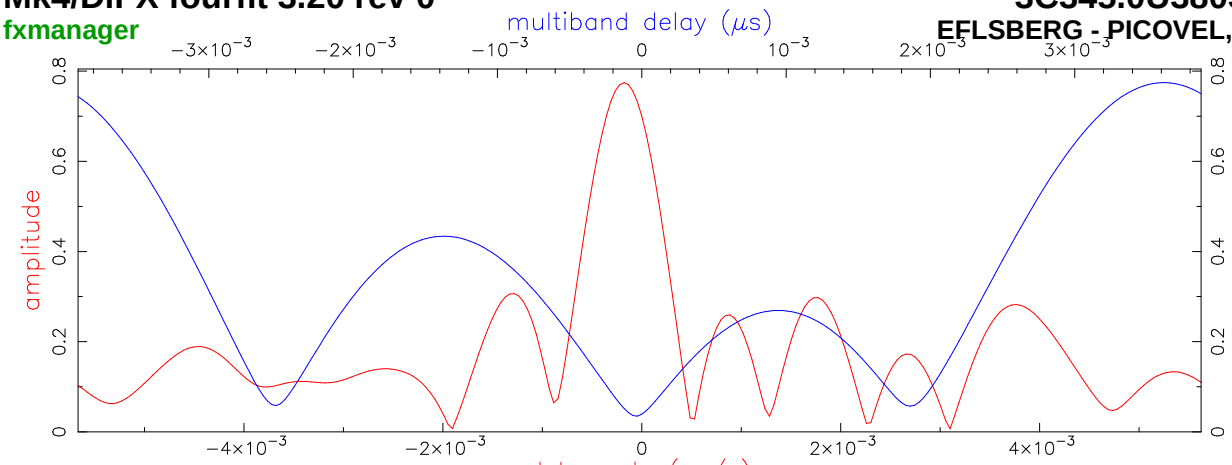
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/BP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/BP.W.24.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

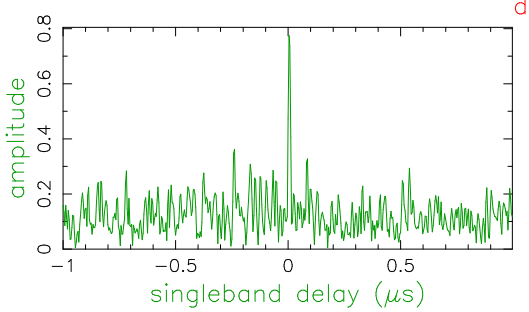
3C345.0U3803, No0002, BP

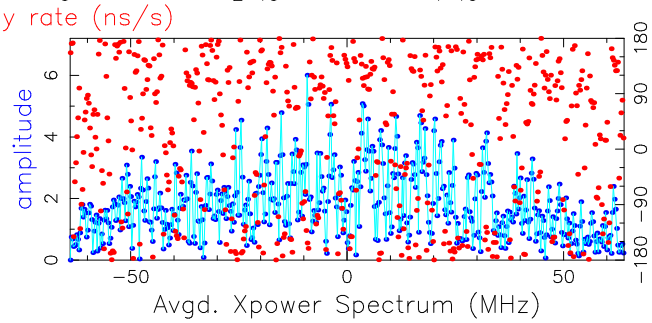
EFLSBERG - PICOVEL, fgroup W, pol RL



Fringe quality 9

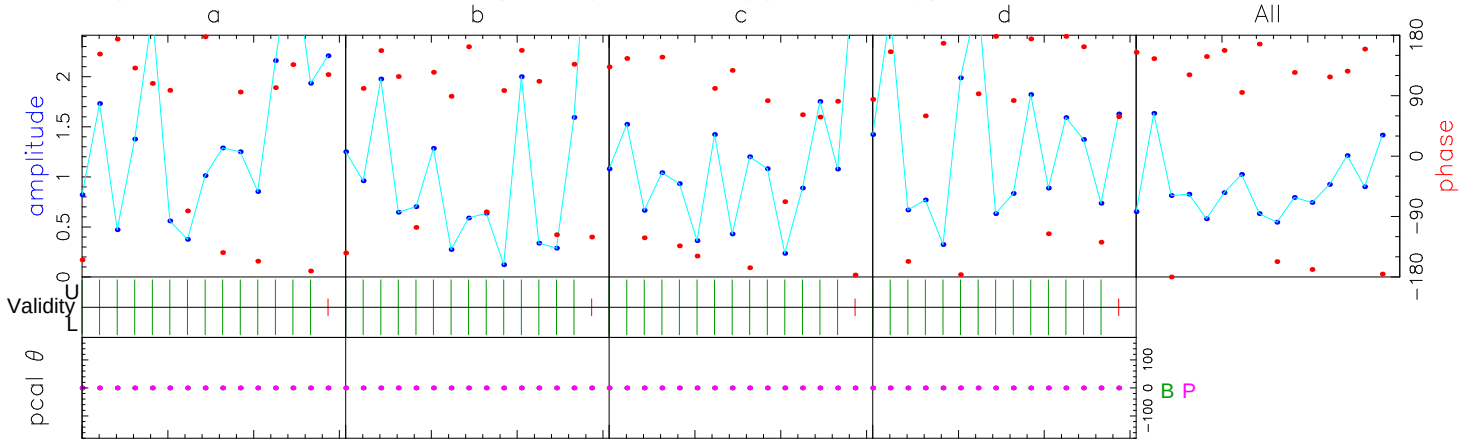
SNR 8.4
Int time 14.577
Amp 0.805
Phase 326.6
PFD 1.2e-10
Delays (us)
SBD 0.005449
MBD -0.004190
Fringe rate (Hz)
-0.014592
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:141742
2019:277:142207
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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	143.9	162.5	128.8	150.2	Phase	146.6
	1.1	0.6	0.6	0.9	Ampl.	0.8
	258.3	395.2	258.8	258.1	Sbd box	258.4
U/L	15/15	15/15	15/15	15/15	APs used	
B	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
B:P	0:0	0:0	0:0	0:0	PC phase	
B:P	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
B	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.39446523679E+03	Apriori delay (usec)	2.39446161467E+03	Resid mbdelay (usec)	-4.19038E-03	+/-	1.3E-04
Sband delay (usec)	2.39446706367E+03	Apriori clock (usec)	1.6937265E+01	Resid sbdelay (usec)	5.44900E-03	+/-	5.1E-04
Phase delay (usec)	2.39446161940E+03	Apriori clockrate (us/s)	2.5300001E-07	Resid phdelay (usec)	4.72894E-06	+/-	2.2E-07
Delay rate (us/s)	-2.46156778858E-01	Apriori rate (us/s)	-2.46156609462E-01	Resid rate (us/s)	-1.69396E-07	+/-	5.0E-08
Total phase (deg)	142.1	Apriori accel (us/s/s)	-4.37610039037E-07	Resid phase (deg)	326.6	+/-	6.8

	RMS	Theor.							
			Amplitude	0.805 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	29.7	26.4	Search (32X16)	0.696	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	36.3	46.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	17.2	13.6	Inc. seg. avg.	0.795	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	25.2	23.8	Inc. frq. avg.	0.767	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 1836.149 1100.365 simultaneous interpolator

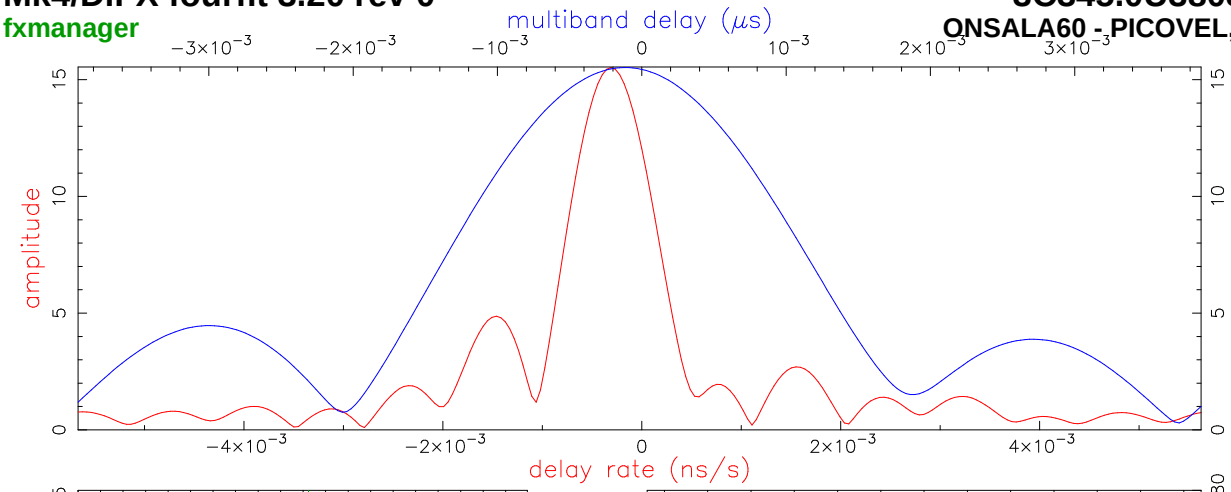
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/BP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/BP.W.25.0U3803

Mk4/DiFX fourfit 3.20 rev 0

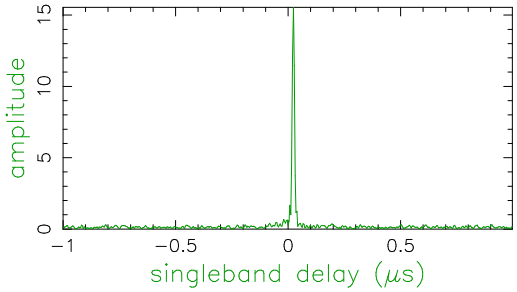
fxmanager

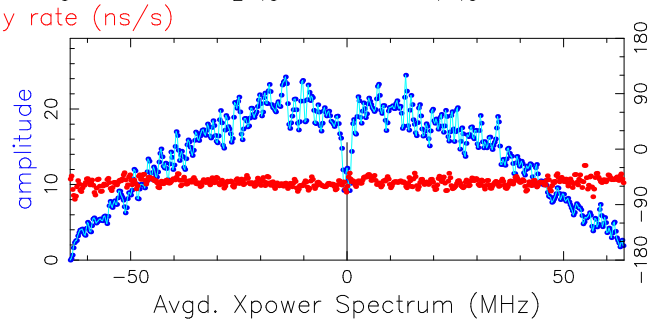
3C345.0U3803, No0002, OP

ONSALA60 -PICOVEL, fgroup W, pol LL

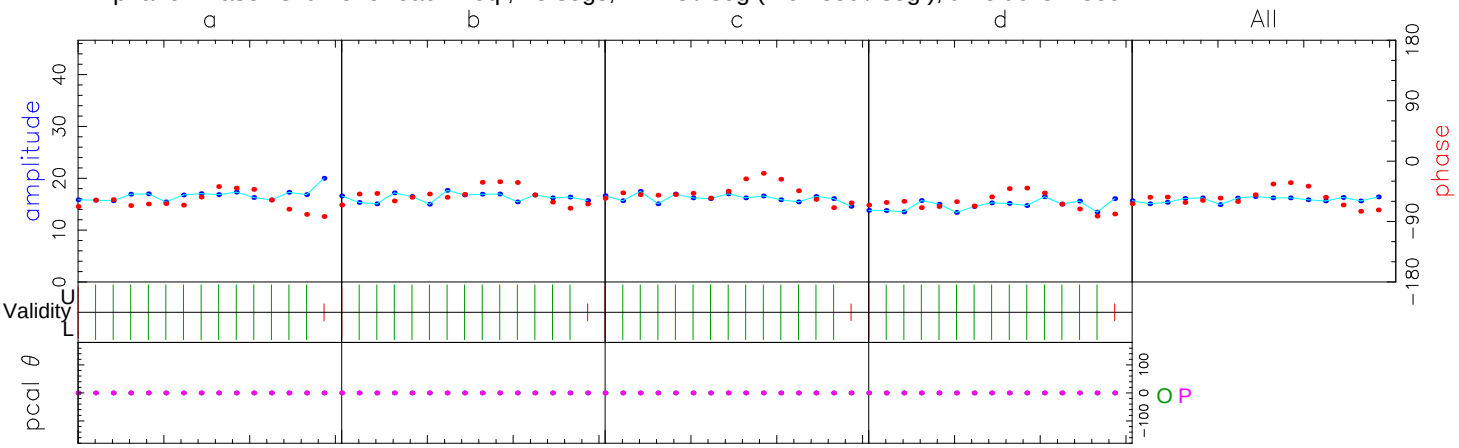


Fringe quality	8
SNR	161.9
Int time	14.536
Amp	15.546
Phase	125.8
PFD	0.0e+00
Delays (us)	
SBD	0.023284
MBD	-0.000119
Fringe rate (Hz)	-0.025445
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142218
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-59.5	-50.6	-46.2	-61.0	Phase	-54.2
	16.2	16.0	15.8	14.4	Ampl.	15.6
	263.0	263.1	263.0	262.7	Sbd box	263.0
U/L	15/15	15/15	15/15	15/15	APs used	
O	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
O:P	0:0	0:0	0:0	0:0	PC phase	
O:P	0:0	0:0	0:0	0:0	Manl PC	
O	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
O	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85455620735E+03	Apriori delay (usec)	2.85453288871E+03	Resid mbdelay (usec)	-1.18867E-04	+/-	6.9E-06
Sband delay (usec)	2.85455617221E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	2.32835E-02	+/-	2.7E-05
Phase delay (usec)	2.85453288697E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	-1.74735E-06	+/-	1.1E-08
Delay rate (us/s)	-3.71599005382E-01	Apriori rate (us/s)	-3.71598709987E-01	Resid rate (us/s)	-2.95395E-07	+/-	2.6E-09
Total phase (deg)	138.0	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	125.8	+/-	0.4

	RMS	Theor.	Amplitude	15.546 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	11.9	1.4	Search (32X16)	15.345	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	3.7	2.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	8.7	0.7	Inc. seg. avg.	15.880	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006 0.006
amp/frq (%)	4.5	1.2	Inc. frq. avg.	15.627	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

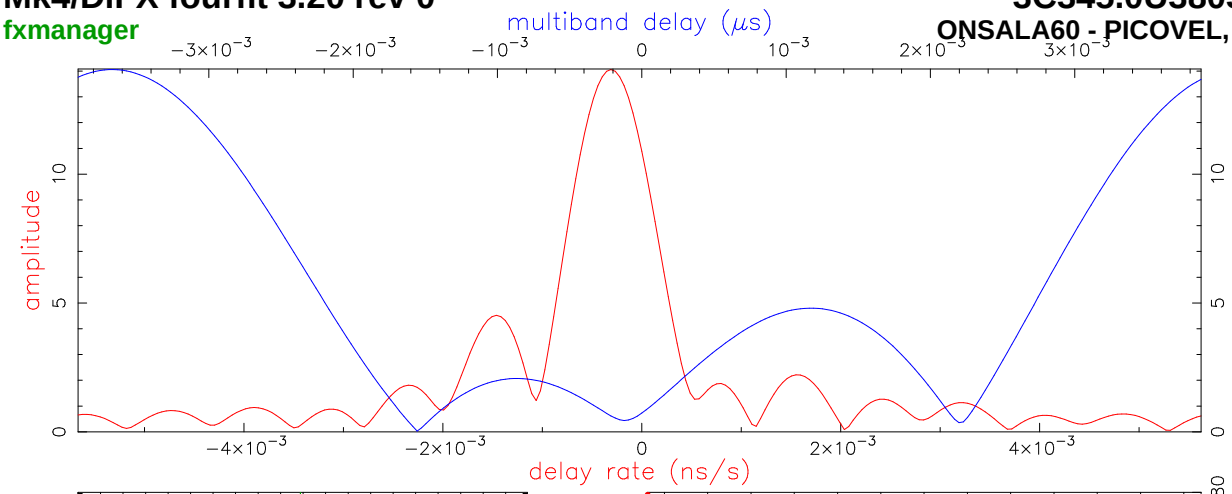
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/OP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/OP.W.42.0U3803

Mk4/DiFX fourfit 3.20 rev 0

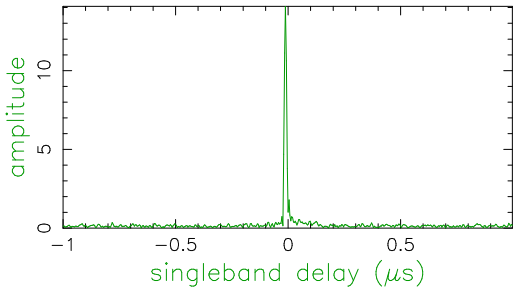
fxmanager

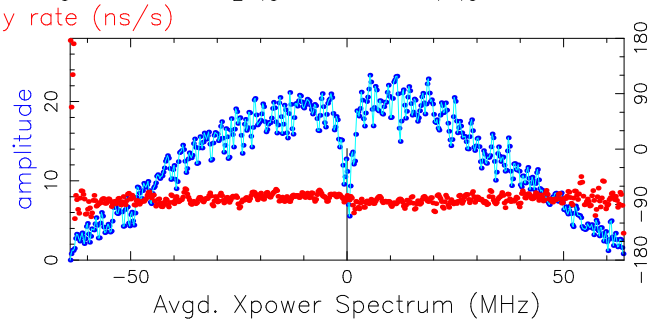
3C345.0U3803, No0002, OP

ONSALA60 - PICOVEL, fgroup W, pol RR

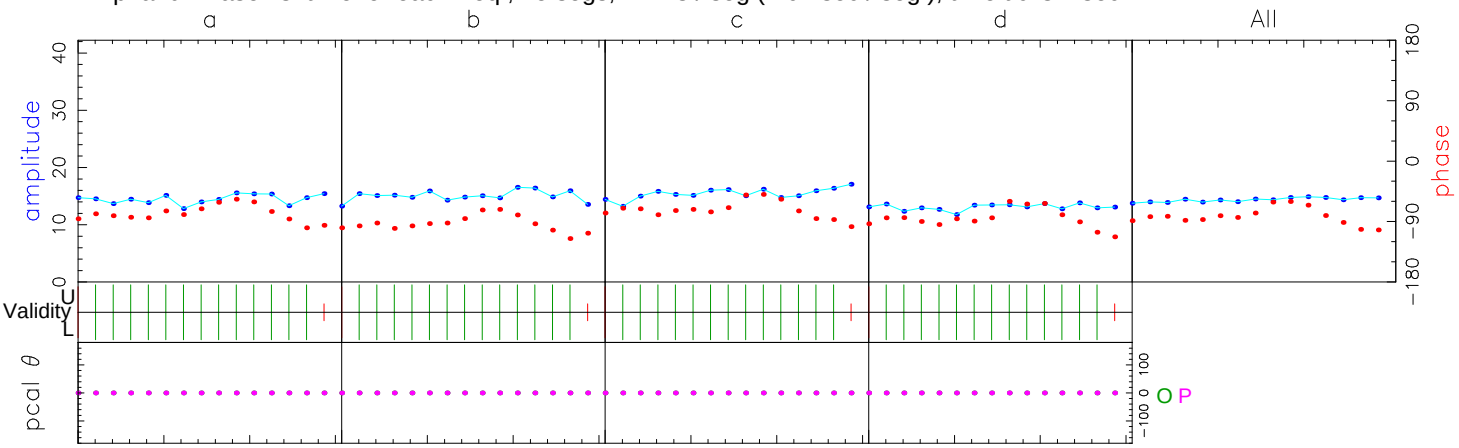


Fringe quality	8
SNR	146.7
Int time	14.536
Amp	14.082
Phase	-261.2
PFD	0.0e+00
Delays (us)	
SBD	-0.011865
MBD	-0.003677
Fringe rate (Hz)	-0.025295
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142218
	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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-77.1	-92.5	-71.6	-84.0	Phase	-81.2
	14.2	14.9	15.1	12.8	Ampl.	14.2
	254.0	254.1	254.0	253.5	Sbd box	254.0
U/L	15/15	15/15	15/15	15/15	APs used	
O	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
O:P	0:0	0:0	0:0	0:0	PC phase	
O:P	0:0	0:0	0:0	0:0	Manl PC	
O	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
O	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85452139963E+03	Apriori delay (usec)	2.85453288871E+03	Resid mbdelay (usec)	-3.67659E-03	+/-	7.6E-06
Sband delay (usec)	2.85452102371E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	-1.18650E-02	+/-	2.9E-05
Phase delay (usec)	2.85453288610E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	-2.61885E-06	+/-	1.3E-08
Delay rate (us/s)	-3.71599003636E-01	Apriori rate (us/s)	-3.71598709987E-01	Resid rate (us/s)	-2.93649E-07	+/-	2.8E-09
Total phase (deg)	-249.0	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	-261.2	+/-	0.4

	RMS	Theor.						
			Amplitude	14.082 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	11.6	1.5	Search (32X16)	13.686	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	3.2	2.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	11.0	0.8	Inc. seg. avg.	14.369	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006 0.006
amp/frq (%)	6.5	1.4	Inc. frq. avg.	14.213	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

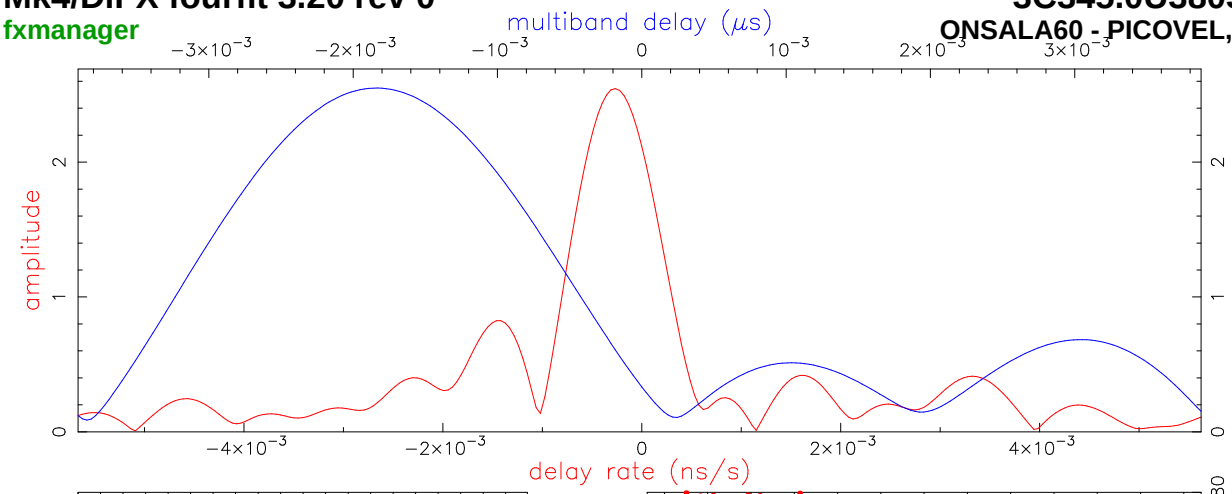
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/OP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/OP.W.43.0U3803

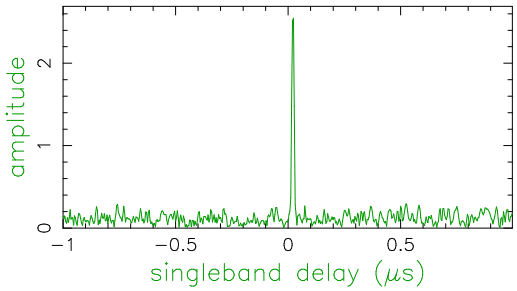
Mk4/DiFX fourfit 3.20 rev 0

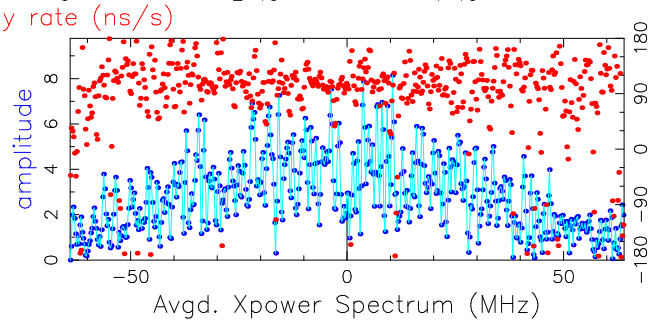
fxmanager

3C345.0U3803, No0002, OP

ONSALA60 - PICOVEL, fgroup W, pol LR

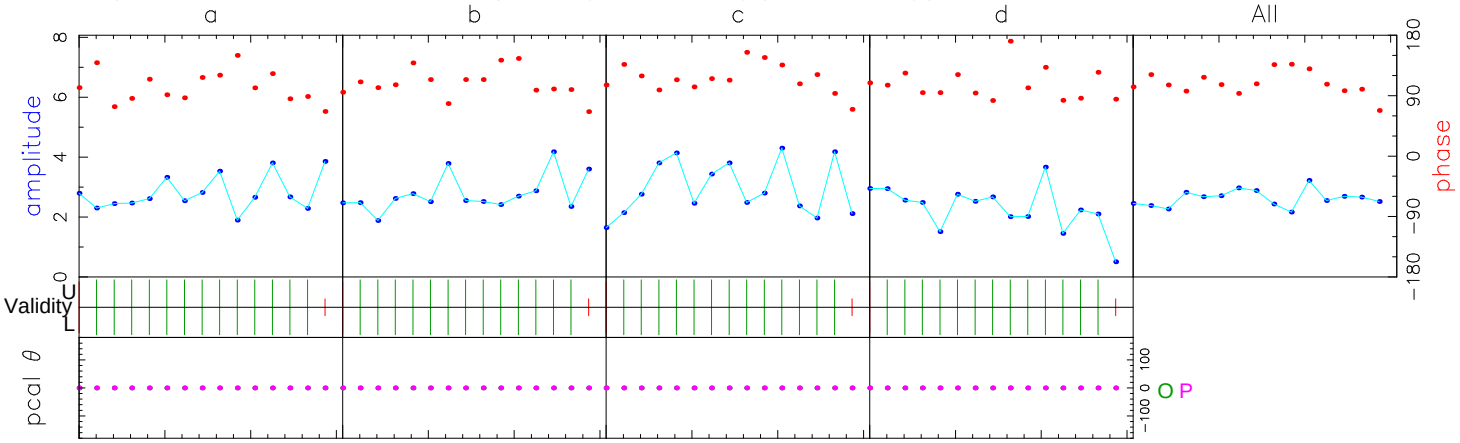






Fringe quality	9
SNR	28.0
Int time	14.536
Amp	2.691
Phase	290.0
PFD	0.0e+00
Delays (us)	
SBD	0.021590
MBD	-0.001896
Fringe rate (Hz)	-0.024629
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142218
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	104.2	108.7	117.0	109.3	Phase	110.0
	2.6	2.6	2.9	2.2	Ampl.	2.6
	262.2	262.7	262.6	262.4	Sbd box	262.5
U/L	15/15	15/15	15/15	15/15	APs used	
O	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
O:P	0:0	0:0	0:0	0:0	PC phase	
O:P	0:0	0:0	0:0	0:0	Manl PC	
O	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
O	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85455443038E+03	Apriori delay (usec)	2.85453288871E+03	Resid mbdelay (usec)	-1.89584E-03	+/-	4.0E-05
Sband delay (usec)	2.85455447871E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	2.15900E-02	+/-	1.5E-04
Phase delay (usec)	2.85453289226E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	3.54678E-06	+/-	6.6E-08
Delay rate (us/s)	-3.71598995904E-01	Apriori rate (us/s)	-3.71598709987E-01	Resid rate (us/s)	-2.85917E-07	+/-	1.5E-08
Total phase (deg)	302.2	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	290.0	+/-	2.0

	RMS	Theor.							
			Amplitude	2.691 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	15.3	7.9	Search (32X16)	2.499	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	10.3	13.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	6.5	4.1	Inc. seg. avg.	2.615	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	9.9	7.1	Inc. frq. avg.	2.551	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

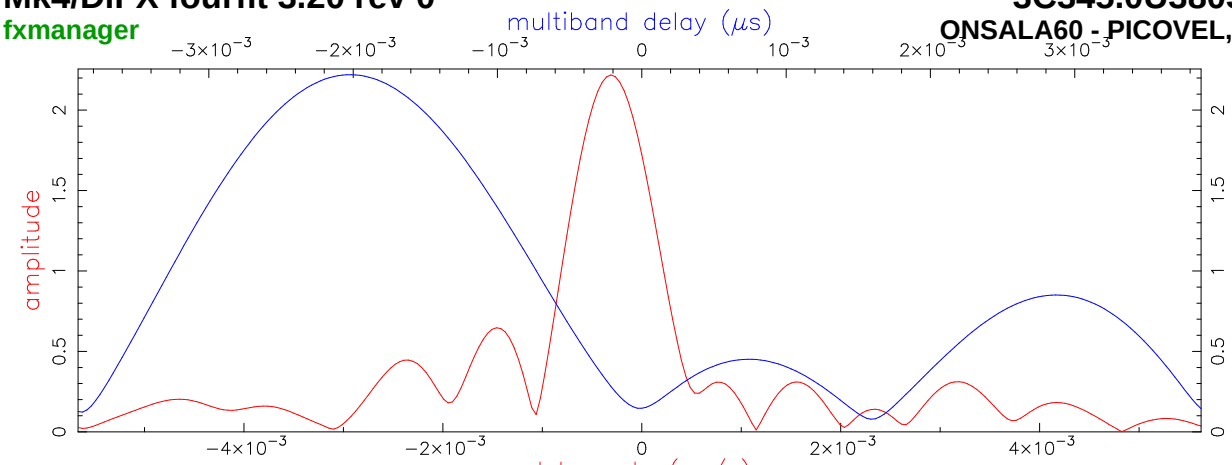
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/OP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/OP.W.44.0U3803

Mk4/DiFX fourfit 3.20 rev 0

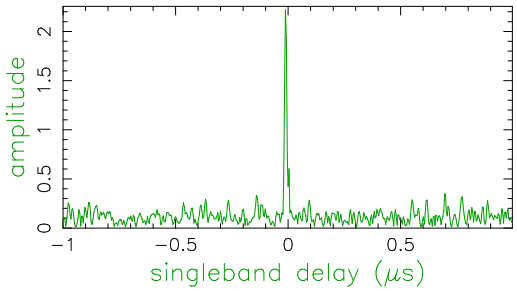
fxmanager

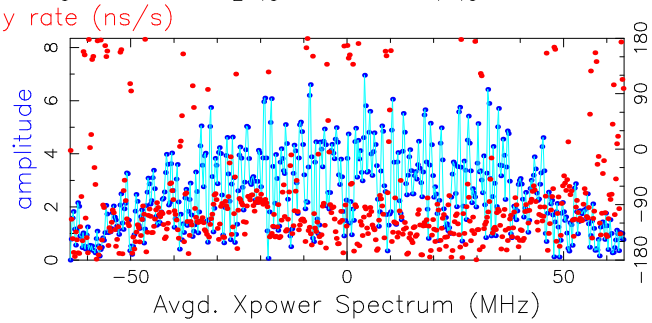
3C345.0U3803, No0002, OP

ONSALA60 - PICOVEL, fgroup W, pol RL

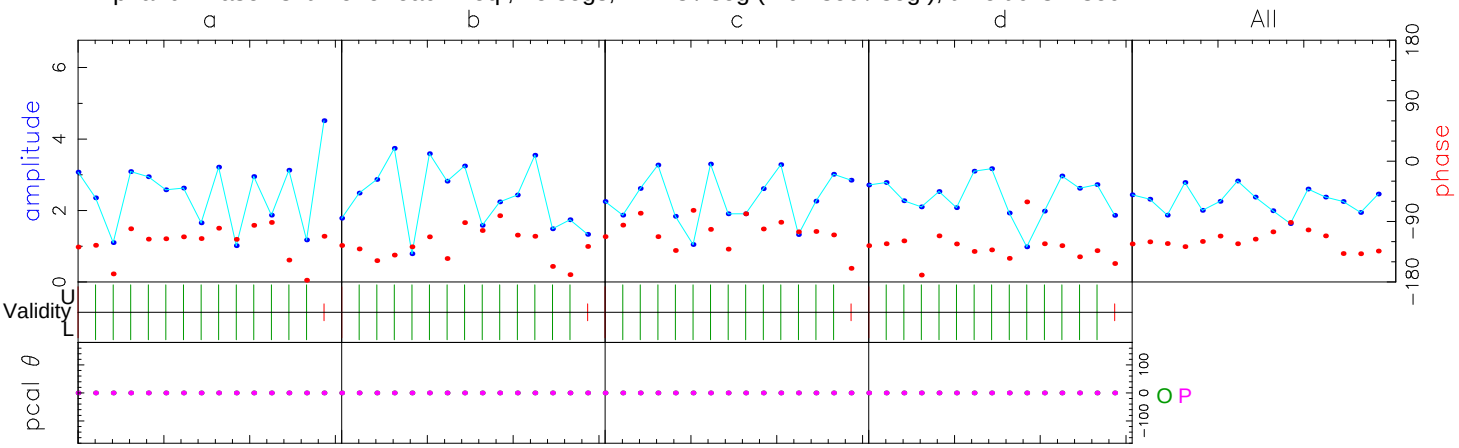


Fringe quality	8
SNR	23.5
Int time	14.536
Amp	2.256
Phase	-298.7
PFD	0.0e+00
Delays (us)	
SBD	-0.010772
MBD	-0.001983
Fringe rate (Hz)	-0.026359
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142219
	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 1 sec



	a	b	c	d	Freq (MHz)	All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-117.3	-123.6	-103.7	-129.5	Phase	-118.7
	2.2	2.2	2.2	2.3	Ampl.	2.2
	254.4	254.4	254.5	253.6	Sbd box	254.2
U/L	15/15	15/15	15/15	15/15	APs used	
O	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
O:P	0:0	0:0	0:0	0:0	PC phase	
O:P	0:0	0:0	0:0	0:0	Manl PC	
O	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
O	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85452309316E+03	Apriori delay (usec)	2.85453288871E+03	Resid mbdelay (usec)	-1.98305E-03	+/-	4.7E-05
Sband delay (usec)	2.85452211671E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	-1.07720E-02	+/-	1.8E-04
Phase delay (usec)	2.85453288489E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	-3.82646E-06	+/-	7.9E-08
Delay rate (us/s)	-3.71599015993E-01	Apriori rate (us/s)	-3.71598709987E-01	Resid rate (us/s)	-3.06006E-07	+/-	1.8E-08
Total phase (deg)	-286.5	Apriori accel (us/s/s)	2.29843240167E-06	Resid phase (deg)	-298.7	+/-	2.4

	RMS	Theor.							
			Amplitude	2.256 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.5	9.4	Search (32X16)	2.205	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	14.7	16.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	13.6	4.9	Inc. seg. avg.	2.240	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	1.4	8.5	Inc. frq. avg.	2.245	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

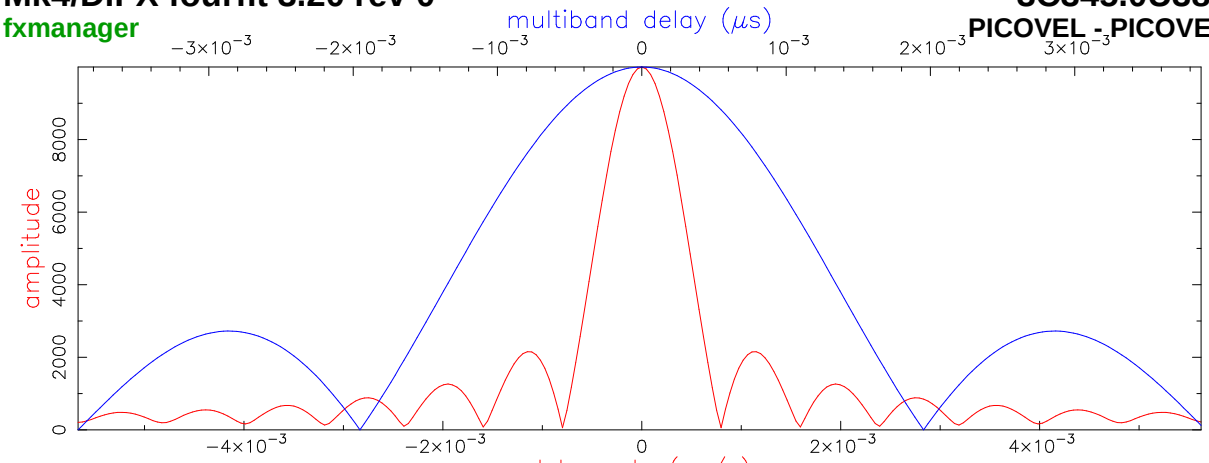
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/OP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/OP.W.45.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

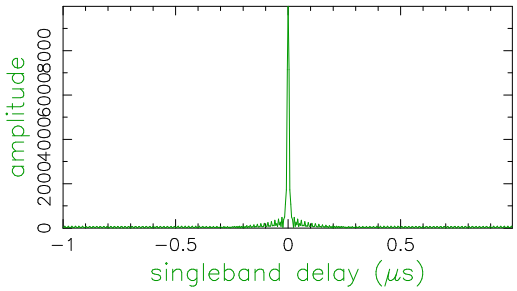
3C345.0U3803, No0002, PP

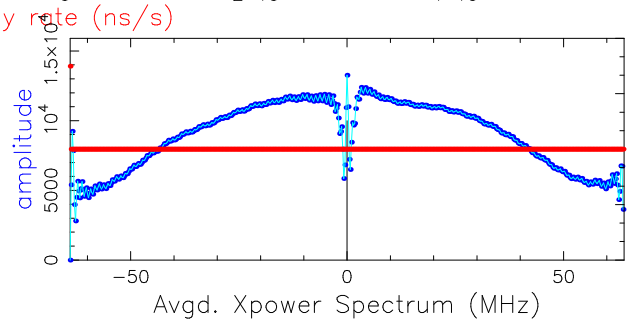
PICOVEL -PICOVEL, fgroup W, pol LL



Fringe quality 9

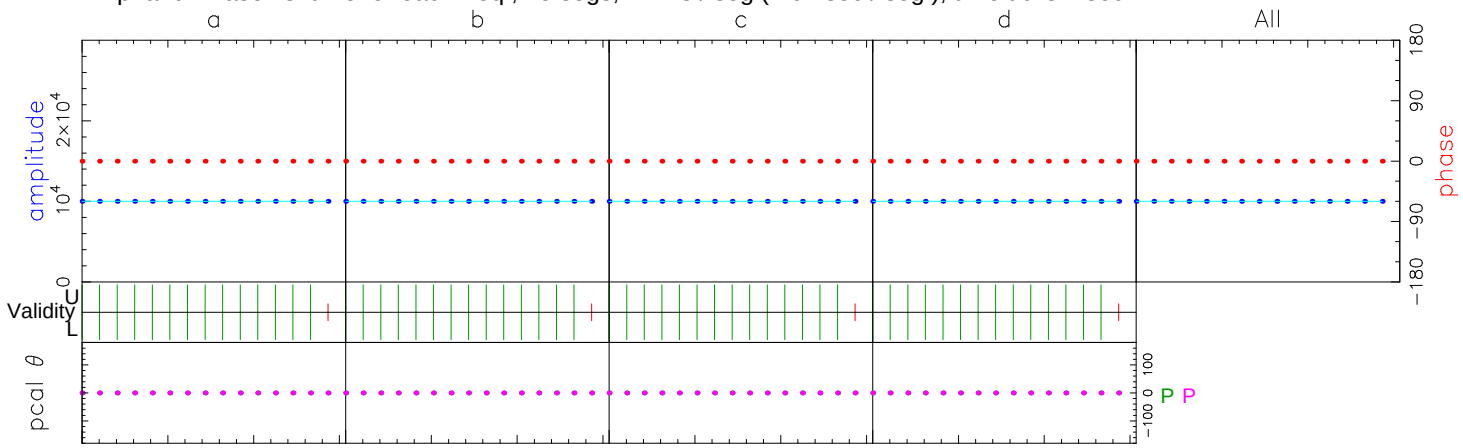
SNR 104510.9
Int time 14.606
Amp 9999.995
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz)
0.000000
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:141742
2019:277:142233
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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	0.0	0.0	0.0	0.0	Phase	0.0
	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
	257.0	257.0	257.0	257.0	Sbd box	257.0
U/L	15/15	15/15	15/15	15/15	APs used	
P	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
P:P	0:0	0:0	0:0	0:0	PC phase	
P:P	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	1.1E-08
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	4.1E-08
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	1.8E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	4.0E-12
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.							
			Amplitude	9999.995 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.0	0.0	Search (32X16)	9999.995	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	0.0	0.0	Inc. frq. avg.	9999.995	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

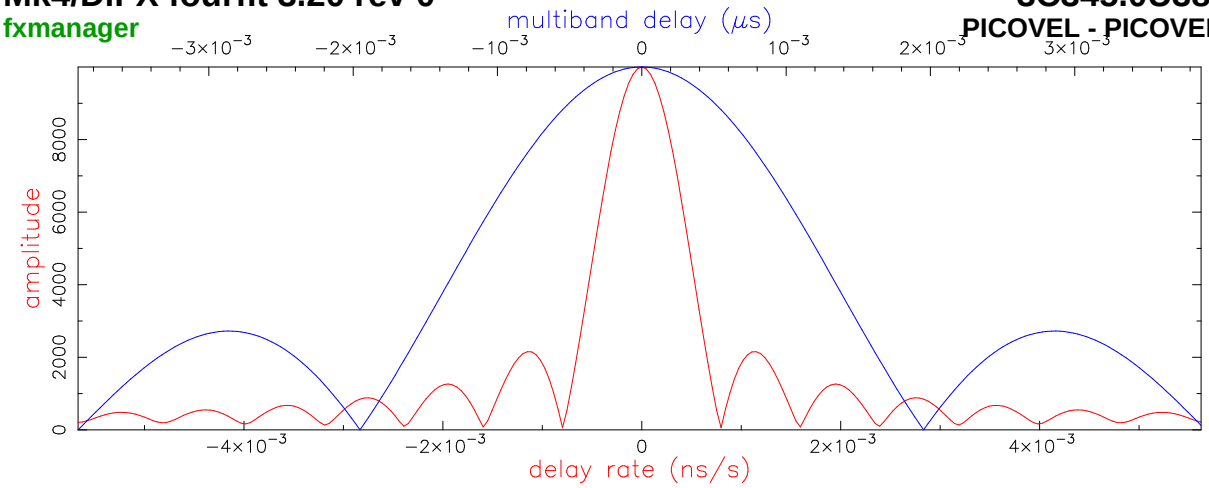
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PP.W.66.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

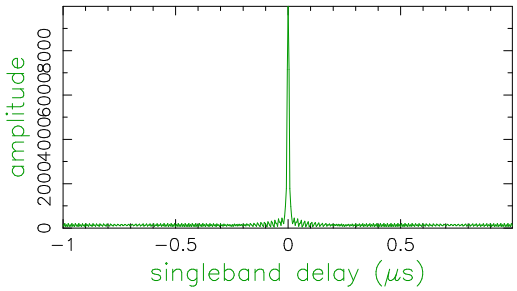
3C345.0U3803, No0002, PP

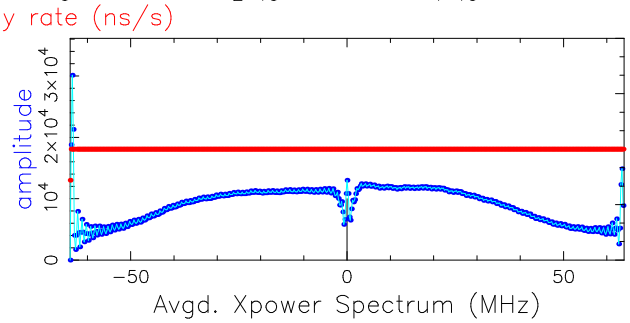
PICOVEL - PICOVEL, fgroup W, pol RR



Fringe quality 9

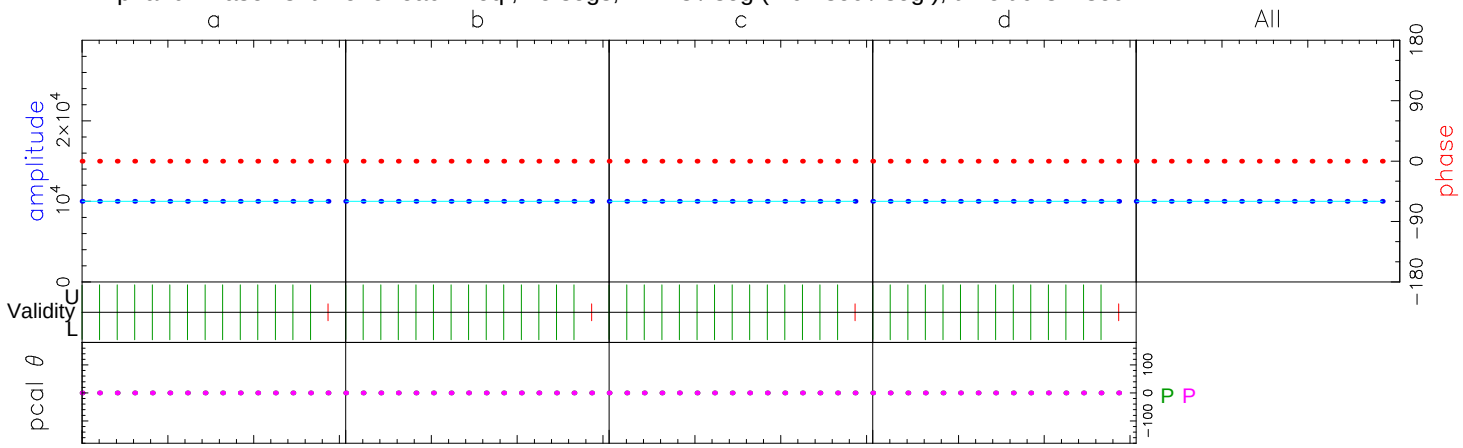
SNR 104510.9
Int time 14.606
Amp 9999.995
Phase 0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz)
0.000000
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:141742
2019:277:142233
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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	0.0	0.0	0.0	0.0	Phase	0.0
	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
	257.0	257.0	257.0	257.0	Sbd box	257.0
U/L	15/15	15/15	15/15	15/15	APs used	
P	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
P:P	0:0	0:0	0:0	0:0	PC phase	
P:P	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	1.1E-08
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	4.1E-08
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	1.8E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	4.0E-12
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.							
			Amplitude	9999.995 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.0	0.0	Search (32X16)	9999.995	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	0.0	0.0	Inc. frq. avg.	9999.995	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

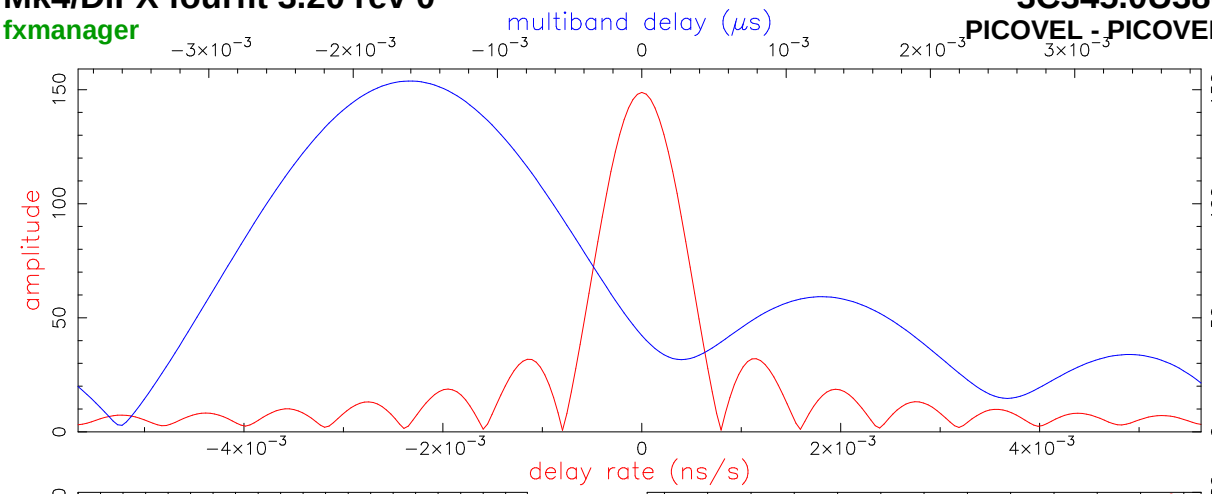
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PP.W.67.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

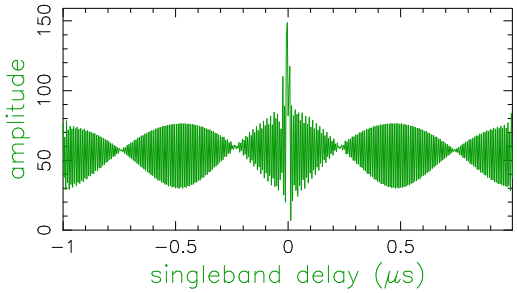
3C345.0U3803, No0002, PP

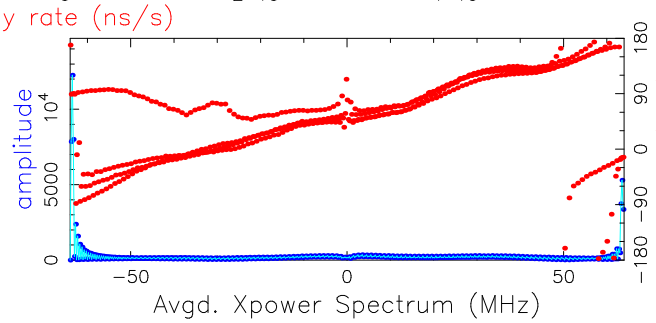
PICOVEL - PICOVEL, fgroup W, pol LR



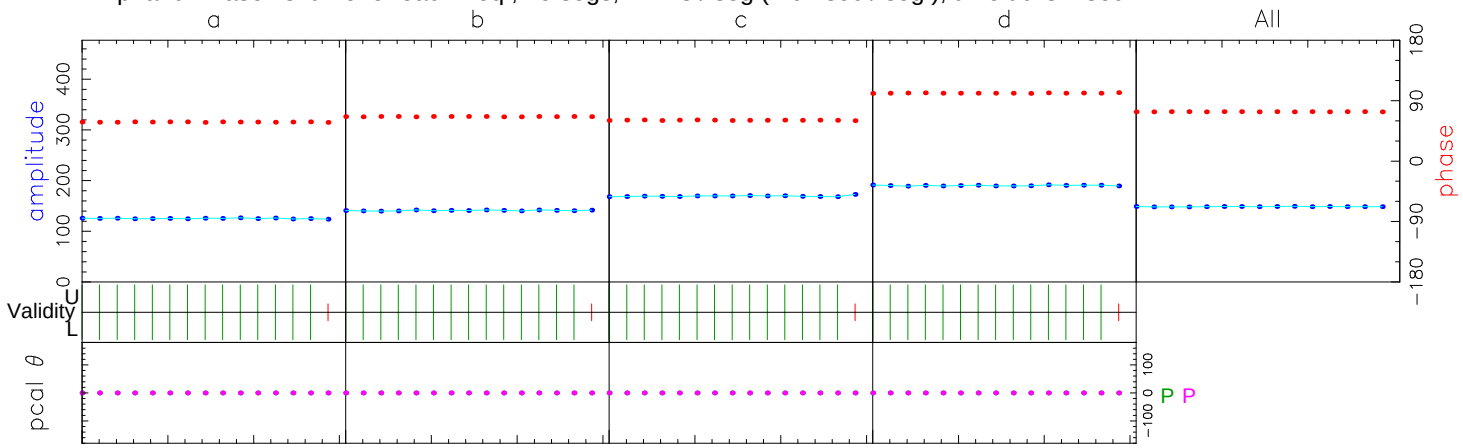
Fringe quality 7

SNR	1662.3
Int time	14.606
Amp	159.053
Phase	73.5
PFD	0.0e+00
Delays (us)	
SBD	-0.005604
MBD	-0.001896
Fringe rate (Hz)	0.000002
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	2019:277:141742
	2019:277:142233
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	58.1	66.2	60.8	101.1	Phase	73.5
	125.5	141.1	169.4	190.4	Ampl.	156.6
	256.9	256.8	256.7	255.0	Sbd box	255.6
U/L	15/15	15/15	15/15	15/15	APs used	
P	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
P:P	0:0	0:0	0:0	0:0	PC phase	
P:P	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	-1.89590625000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-1.89591E-03	+/-	6.7E-07
Sband delay (usec)	-5.60425000000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-5.60425E-03	+/-	2.6E-06
Phase delay (usec)	2.36964366996E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	2.36964E-06	+/-	1.1E-09
Delay rate (us/s)	2.26738438267E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	2.26738E-11	+/-	2.5E-10
Total phase (deg)	73.5	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	73.5	+/-	0.0

	RMS	Theor.							
			Amplitude	159.053 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.2	0.1	Search (32X16)	152.535	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	6.5	0.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	24.6	0.1	Inc. seg. avg.	148.747	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	15.8	0.1	Inc. frq. avg.	156.603	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

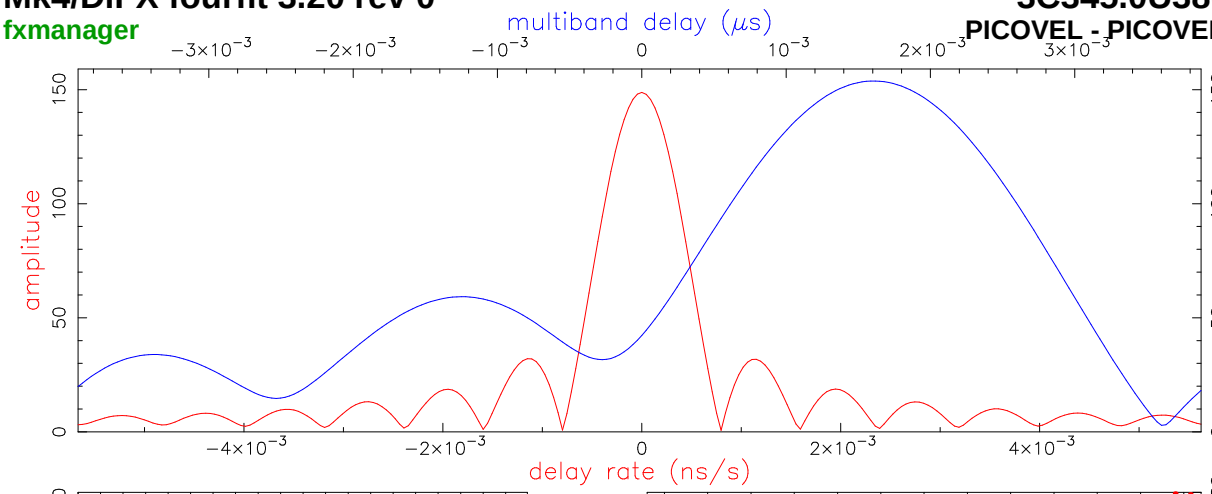
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PP.W.68.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

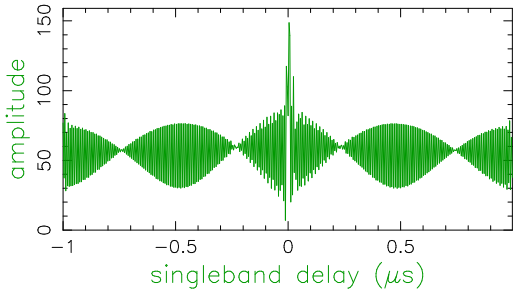
3C345.0U3803, No0002, PP

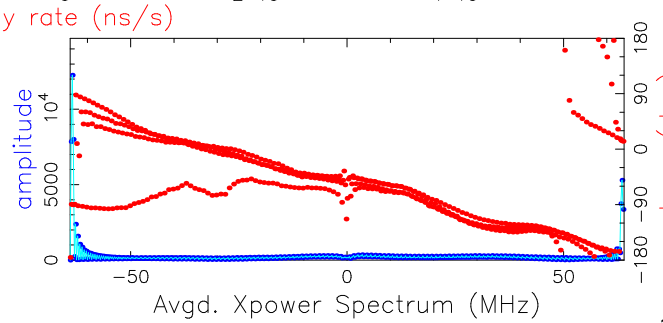
PICOVEL - PICOVEL, fgroup W, pol RL



Fringe quality 7

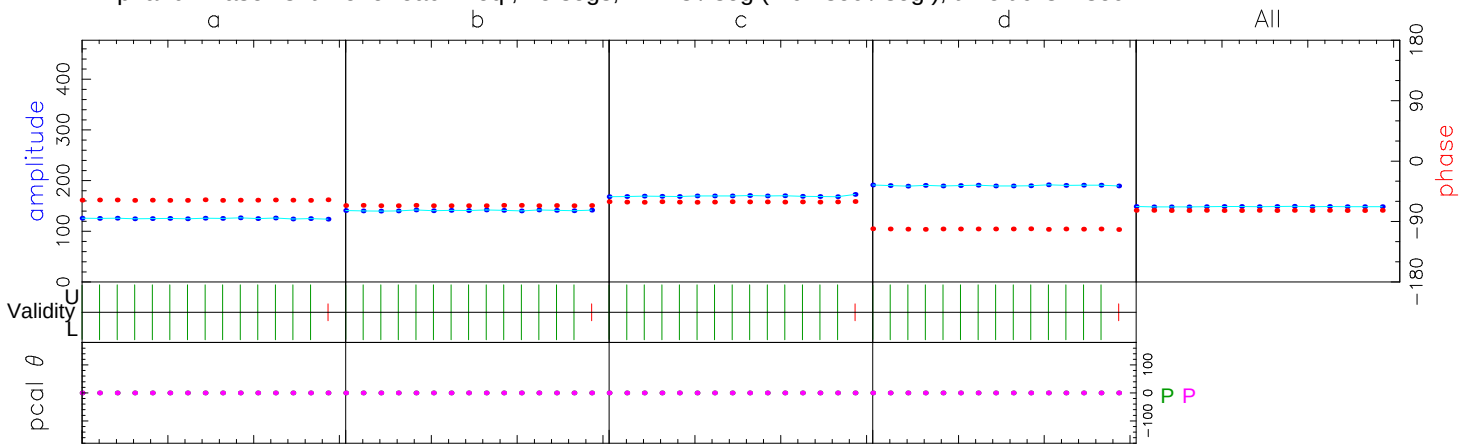
SNR	1662.3
Int time	14.606
Amp	159.053
Phase	-73.5
PFD	0.0e+00
Delays (us)	
SBD	0.005604
MBD	0.001896
Fringe rate (Hz)	-0.000002
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024





Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142233
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-58.1	-66.2	-60.8	-101.1	Phase	-73.5
	125.5	141.1	169.4	190.4	Ampl.	156.6
	257.1	257.2	257.3	259.0	Sbd box	258.4
U/L	15/15	15/15	15/15	15/15	APs used	
P	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
P:P	0:0	0:0	0:0	0:0	PC phase	
P:P	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.89590625000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	1.89591E-03	+/-	6.7E-07
Sband delay (usec)	5.60425000000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	5.60425E-03	+/-	2.6E-06
Phase delay (usec)	-2.36964366890E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.36964E-06	+/-	1.1E-09
Delay rate (us/s)	-2.26738438267E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-2.26738E-11	+/-	2.5E-10
Total phase (deg)	-73.5	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-73.5	+/-	0.0

	RMS	Theor.							
			Amplitude	159.053 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.2	0.1	Search (32X16)	152.535	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	6.5	0.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	24.6	0.1	Inc. seg. avg.	148.747	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	15.8	0.1	Inc. frq. avg.	156.603	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

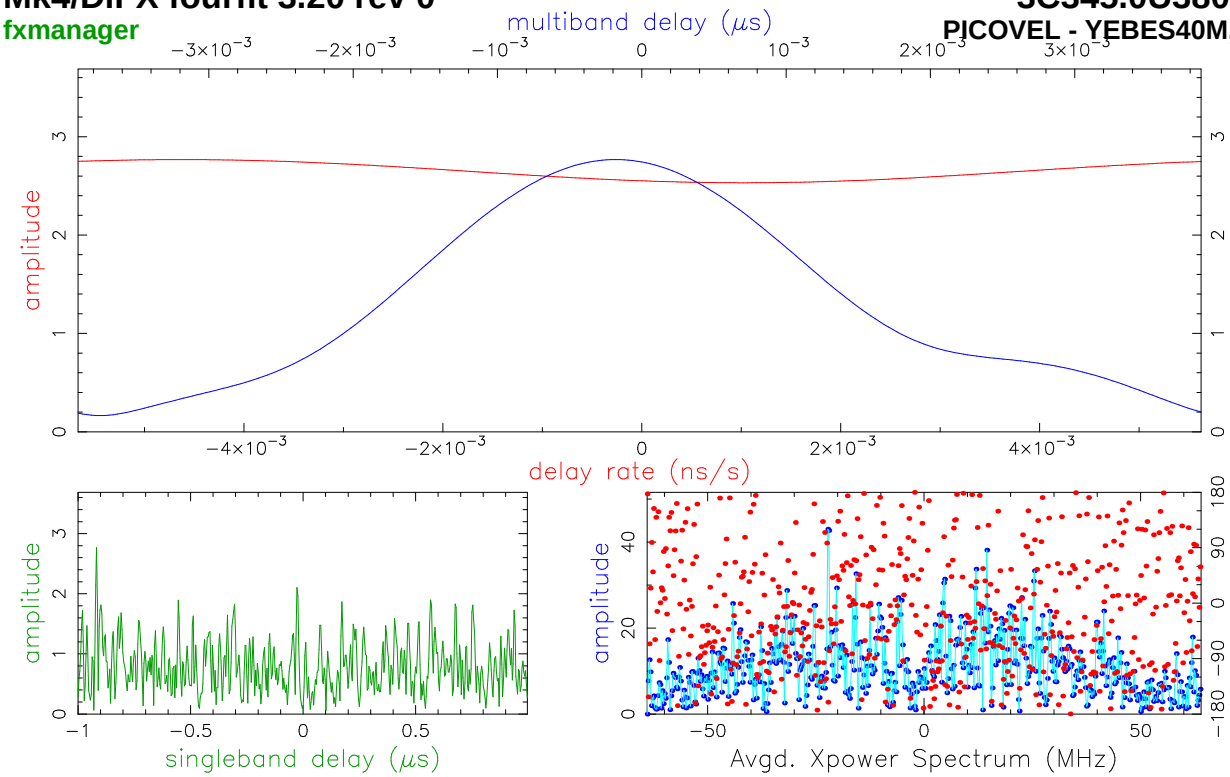
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PP.W.69.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

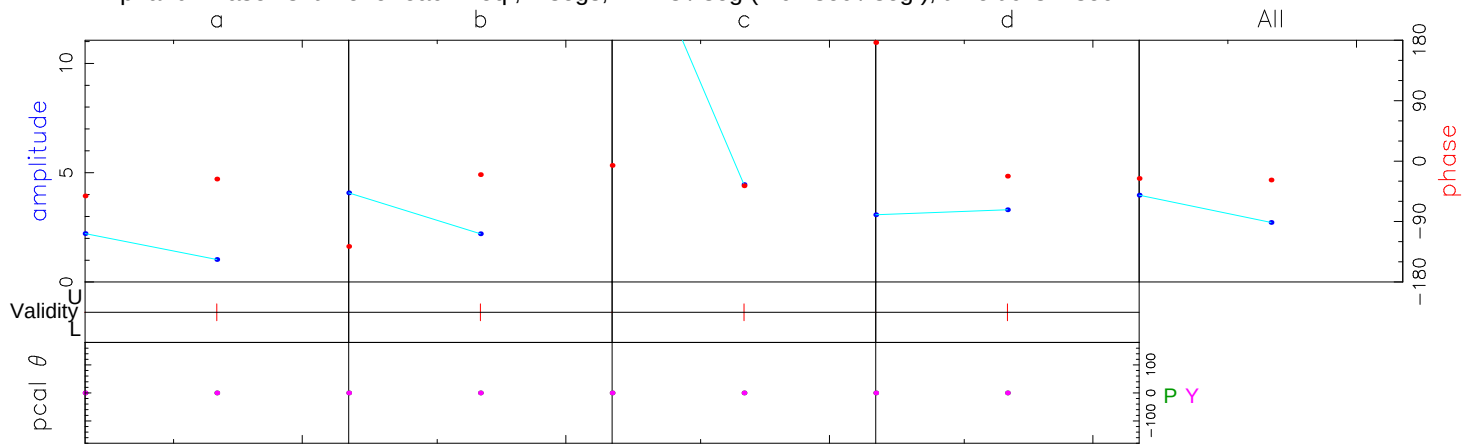
3C345.0U3803, No0002, PY

PICOVEL - YEBES40M, fgroup W, pol LL



Fringe quality	0
SNR	4.3
Int time	0.325
Amp	3.688
Phase	-28.0
PFD	1.0e+00
Delays (us)	
SBD	-0.918350
MBD	-0.000195
Fringe rate (Hz)	-0.394414
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	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742 2019:277:142247 2019:253:110249
RA & Dec (J2000)	16h42m58.809967s +39°48'36.993984"

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



					Freq (MHz)	All
	86076.00	86204.00	86332.00	86460.00		
	-28.1	-23.2	-33.3	-22.9	Phase	-28.0
	1.4	2.8	6.4	4.1	Ampl.	3.3
	70.4	469.9	22.5	149.0	Sbd box	21.9
U/L	2/2	2/2	2/2	2/2	APs used	
P	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	PC freqs	
P:Y	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	
Y	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	

Group delay (usec)(sbd)	-3.74296939392E+02	Apriori delay (usec)	-3.73374869773E+02	Resid mbdelay (usec)	-1.94619E-04	+/-	2.6E-04
Sband delay (usec)	-3.74293219773E+02	Apriori clock (usec)	-9.7437592E+00	Resid sbdelay (usec)	-9.18350E-01	+/-	1.0E-03
Phase delay (usec)	-3.73374870675E+02	Apriori clockrate (us/s)	-7.2300000E-07	Resid phdelay (usec)	-9.01578E-07	+/-	4.3E-07
Delay rate (us/s)	4.09544050080E-02	Apriori rate (us/s)	4.09589837640E-02	Resid rate (us/s)	-4.57876E-06	+/-	7.2E-07
Total phase (deg)	-129.6	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	-28.0	+/-	13.2

	RMS	Theor.							
			Amplitude	3.688 +/- 0.852	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.4	18.7	Search (8X16)	2.761	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	7.6	32.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	6.2	26.5	Inc. seg. avg.	3.491	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	49.8	46.2	Inc. frq. avg.	3.334	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

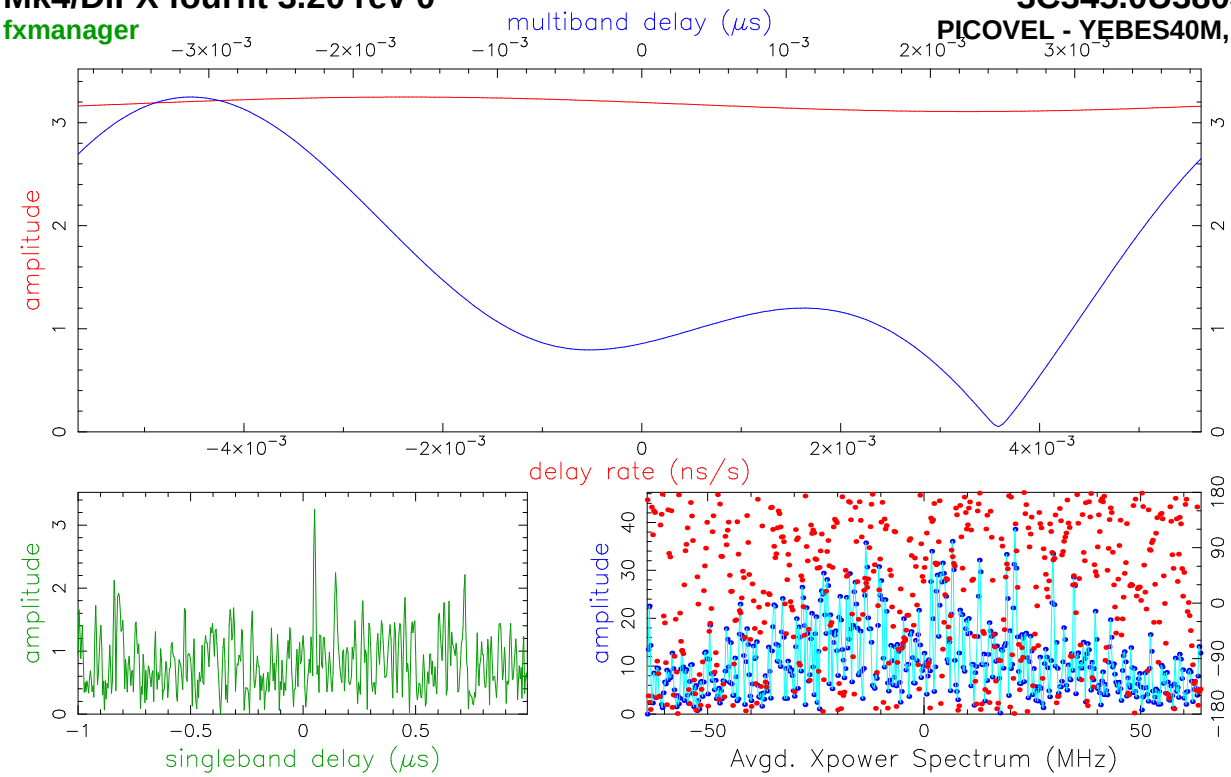
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PY..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PY.W.86.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

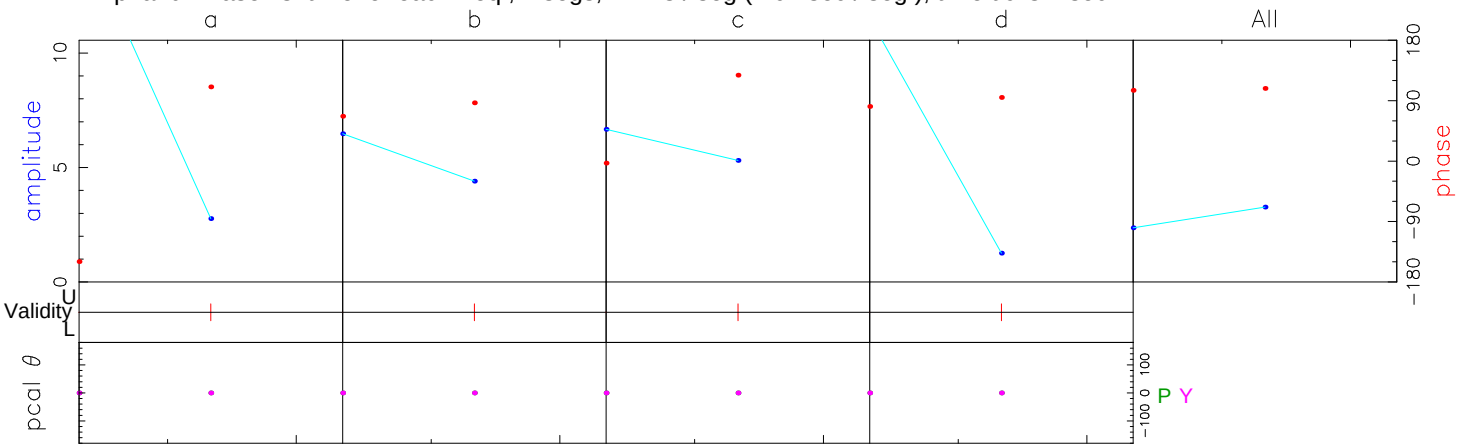
3C345.0U3803, No0002, PY

PICOVEL - YEBES40M, fgroup W, pol RR



Fringe quality	0
SNR	5.1
Int time	0.325
Amp	3.521
Phase	288.1
PFD	1.6e-01
Delays (us)	
SBD	0.050606
MBD	-0.003137
Fringe rate (Hz)	-0.213797
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	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142247
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

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



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	120.4	85.9	126.0	91.9	Phase	108.1
	2.9	4.8	5.4	1.7	Ampl.	3.4
	347.9	269.3	269.7	417.5	Sbd box	270.0
U/L	2/2	2/2	2/2	2/2	APs used	
P	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	PC freqs	
P:Y	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
Y	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.73323319134E+02	Apriori delay (usec)	-3.73374869773E+02	Resid mbdelay (usec)	-3.13686E-03	+/-	2.2E-04
Sband delay (usec)	-3.73324263523E+02	Apriori clock (usec)	-9.7437592E+00	Resid sbdelay (usec)	5.06063E-02	+/-	8.5E-04
Phase delay (usec)	-3.73374866287E+02	Apriori clockrate (us/s)	-7.2300000E-07	Resid phdelay (usec)	3.48594E-06	+/-	3.6E-07
Delay rate (us/s)	4.09565017944E-02	Apriori rate (us/s)	4.09589837640E-02	Resid rate (us/s)	-2.48197E-06	+/-	6.2E-07
Total phase (deg)	186.5	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	288.1	+/-	11.3

	RMS	Theor.						
			Amplitude	3.521 +/- 0.695	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.5	16.0	Search (8X16)	3.229	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	4.7	27.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	24.8	22.6	Inc. seg. avg.	3.388	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006 0.006
amp/frq (%)	43.0	39.5	Inc. frq. avg.	3.440	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

P: 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

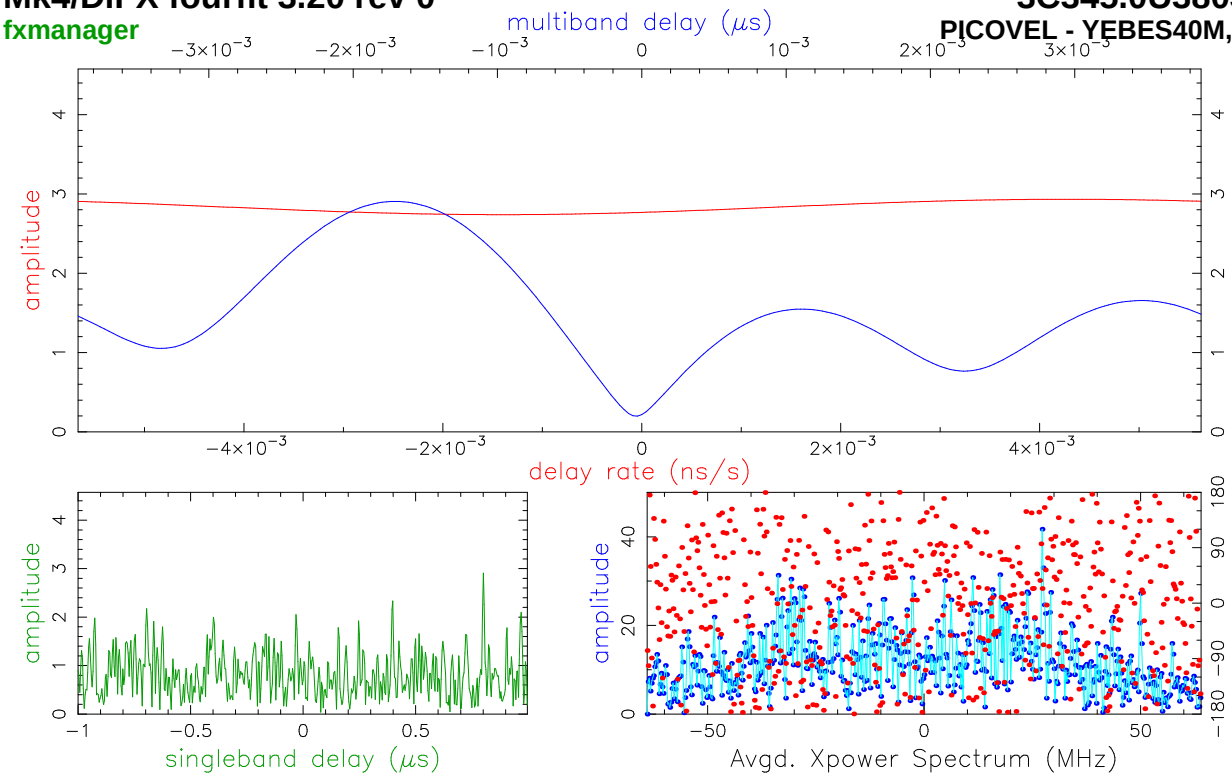
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PY..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PY.W.87.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

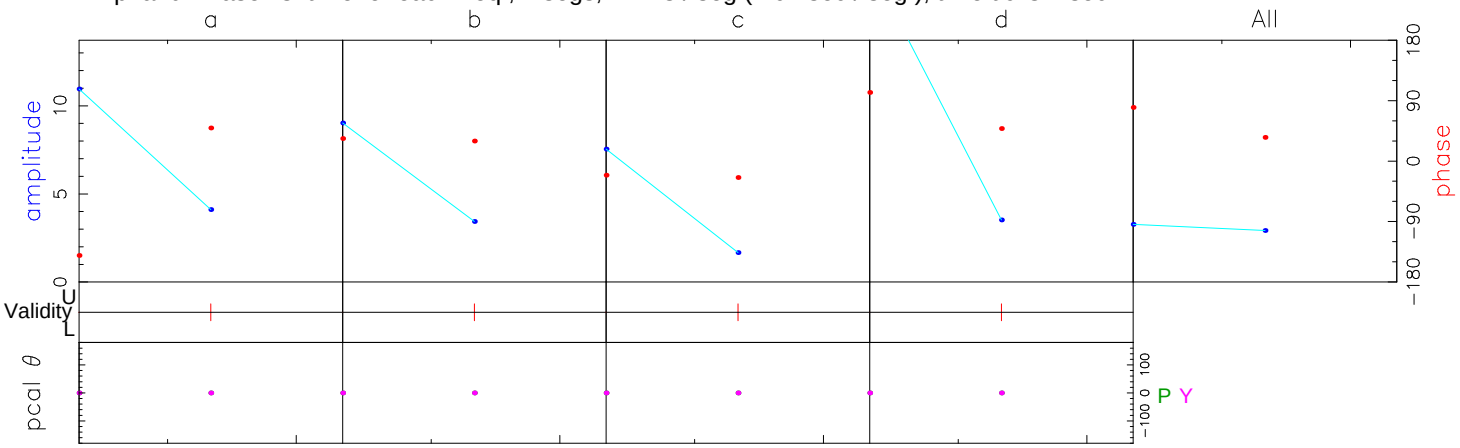
3C345.0U3803, No0002, PY

PICOVEL - YEBES40M, fgroup W, pol LR



Fringe quality	0
SNR	4.5
Int time	0.325
Amp	4.576
Phase	216.7
PFD	8.9e-01
Delays (us)	
SBD	0.801139
MBD	-0.001701
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	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142247
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

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



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	50.1	30.1	-24.0	55.1	Phase	36.7
	5.8	5.7	2.9	5.9	Ampl.	4.6
	504.8	436.2	105.7	195.1	Sbd box	462.1
U/L	2/2	2/2	2/2	2/2	APs used	
P	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	PC freqs	
P:Y	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
Y	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.72571883526E+02	Apriori delay (usec)	-3.73374869773E+02	Resid mbdelay (usec)	-1.70125E-03	+/-	2.4E-04
Sband delay (usec)	-3.72573731273E+02	Apriori clock (usec)	-9.7437592E+00	Resid sbdelay (usec)	8.01139E-01	+/-	9.5E-04
Phase delay (usec)	-3.73374868589E+02	Apriori clockrate (us/s)	-7.2300000E-07	Resid phdelay (usec)	1.18472E-06	+/-	4.1E-07
Delay rate (us/s)	4.09533153030E-02	Apriori rate (us/s)	4.09589837640E-02	Resid rate (us/s)	-5.66846E-06	+/-	6.9E-07
Total phase (deg)	115.1	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	216.7	+/-	12.6

	RMS	Theor.							
			Amplitude	4.576 +/- 1.007	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	7.5	17.8	Search (8X16)	2.938	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	2.2	31.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	46.1	25.2	Inc. seg. avg.	4.394	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	29.3	44.0	Inc. frq. avg.	4.611	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

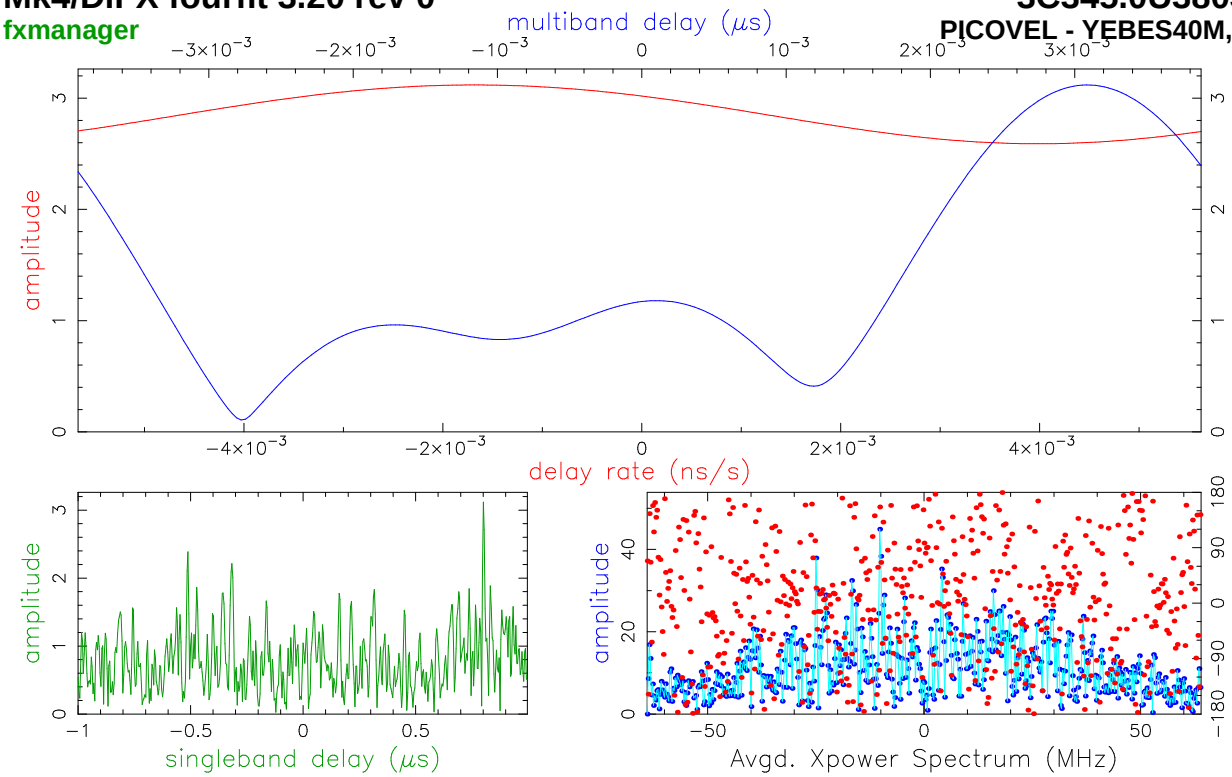
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PY..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PY.W.88.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

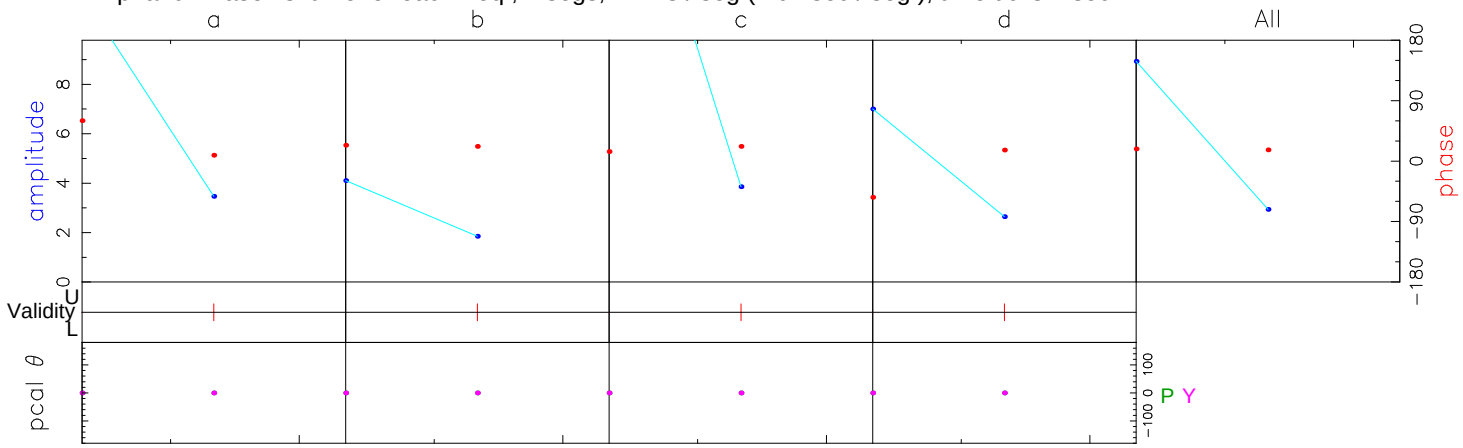
3C345.0U3803, No0002, PY

PICOVEL - YEBES40M, fgroup W, pol RL



Fringe quality	0
SNR	4.9
Int time	0.325
Amp	3.263
Phase	16.9
PFD	3.1e-01
Delays (us)	
SBD	0.801589
MBD	0.003079
Fringe rate (Hz)	-0.140445
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	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142247
	2019:253:110249
RA & Dec (J2000)	16h42m58.809967s
	+39°48'36.993984"

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



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	12.9	22.0	20.7	12.3	Phase	16.9
	3.7	2.0	4.5	2.7	Ampl.	3.0
	428.7	377.2	236.8	154.8	Sbd box	462.2
U/L	2/2	2/2	2/2	2/2	APs used	
P	1000	1000	1000	1000	PC freqs	
Y	0	0	0	0	PC freqs	
P:Y	0:0	0:0	0:0	0:0	PC phase	
P:Y	0:0	0:0	0:0	0:0	Manl PC	
P	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
Y	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	-3.72574915969E+02	Apriori delay (usec)	-3.73374869773E+02	Resid mbdelay (usec)	3.07880E-03	+/-	2.3E-04
Sband delay (usec)	-3.72573280523E+02	Apriori clock (usec)	-9.7437592E+00	Resid sbdelay (usec)	8.01589E-01	+/-	8.8E-04
Phase delay (usec)	-3.73374869228E+02	Apriori clockrate (us/s)	-7.2300000E-07	Resid phdelay (usec)	5.44979E-07	+/-	3.8E-07
Delay rate (us/s)	4.09573533332E-02	Apriori rate (us/s)	4.09589837640E-02	Resid rate (us/s)	-1.63043E-06	+/-	6.4E-07
Total phase (deg)	275.3	Apriori accel (us/s/s)	-1.44919684229E-06	Resid phase (deg)	16.9	+/-	11.7

	RMS	Theor.							
			Amplitude	3.263 +/- 0.664	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.3	16.5	Search (8X16)	3.102	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	32.2	28.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	6.2	23.3	Inc. seg. avg.	3.099	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	29.4	40.7	Inc. frq. avg.	2.989	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

P: 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

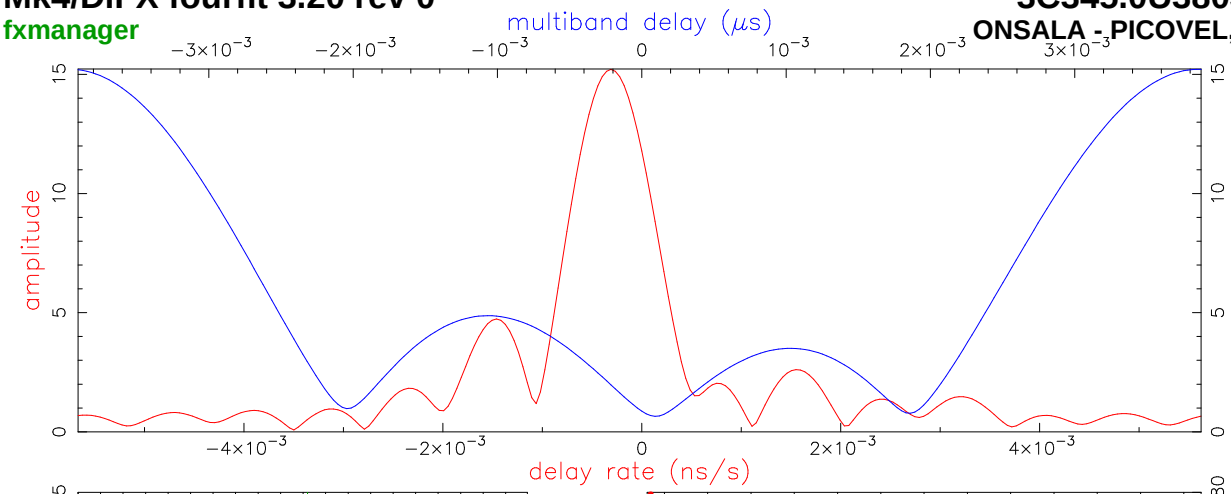
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/PY..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/PY.W.89.0U3803

Mk4/DiFX fourfit 3.20 rev 0

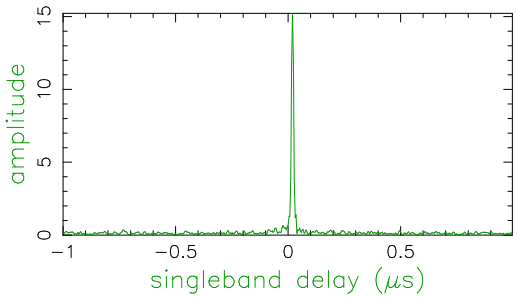
fxmanager

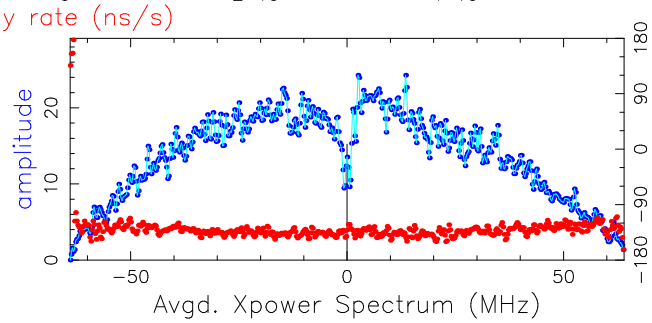
3C345.0U3803, No0002, XP

ONSALA -PICOVEL, fgroup W, pol LL

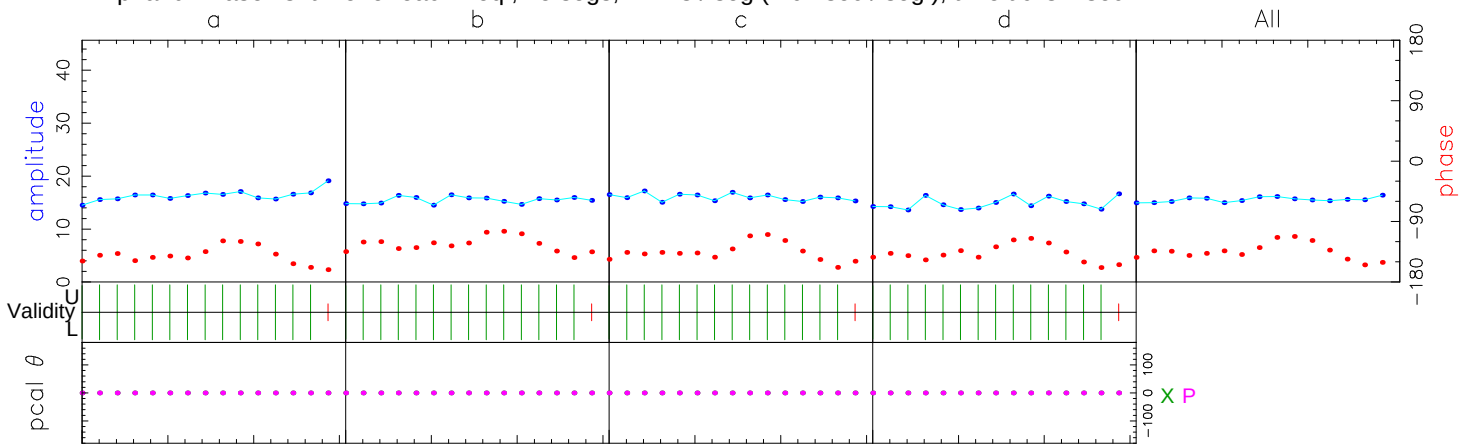


Fringe quality	8
SNR	158.8
Int time	14.576
Amp	15.229
Phase	46.3
PFD	0.0e+00
Delays (us)	
SBD	0.019572
MBD	-0.003959
Fringe rate (Hz)	-0.025334
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142219
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-139.8	-123.4	-134.7	-136.6	Phase	-133.7
	15.9	15.2	15.7	14.5	Ampl.	15.3
	262.1	262.3	261.9	261.7	Sbd box	262.0
U/L	15/15	15/15	15/15	15/15	APs used	
X	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
X	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85455237019E+03	Apriori delay (usec)	2.85453289188E+03	Resid mbdelay (usec)	-3.95919E-03	+/-	7.0E-06
Sband delay (usec)	2.85455246388E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	1.95720E-02	+/-	2.7E-05
Phase delay (usec)	2.85453288757E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	-4.30996E-06	+/-	1.2E-08
Delay rate (us/s)	-3.71599003812E-01	Apriori rate (us/s)	-3.71598709710E-01	Resid rate (us/s)	-2.94102E-07	+/-	2.6E-09
Total phase (deg)	156.7	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	46.3	+/-	0.4

	RMS	Theor.							
			Amplitude	15.229 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	11.8	1.4	Search (32X16)	15.060	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	3.4	2.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	8.7	0.7	Inc. seg. avg.	15.555	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	3.6	1.3	Inc. frq. avg.	15.316	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

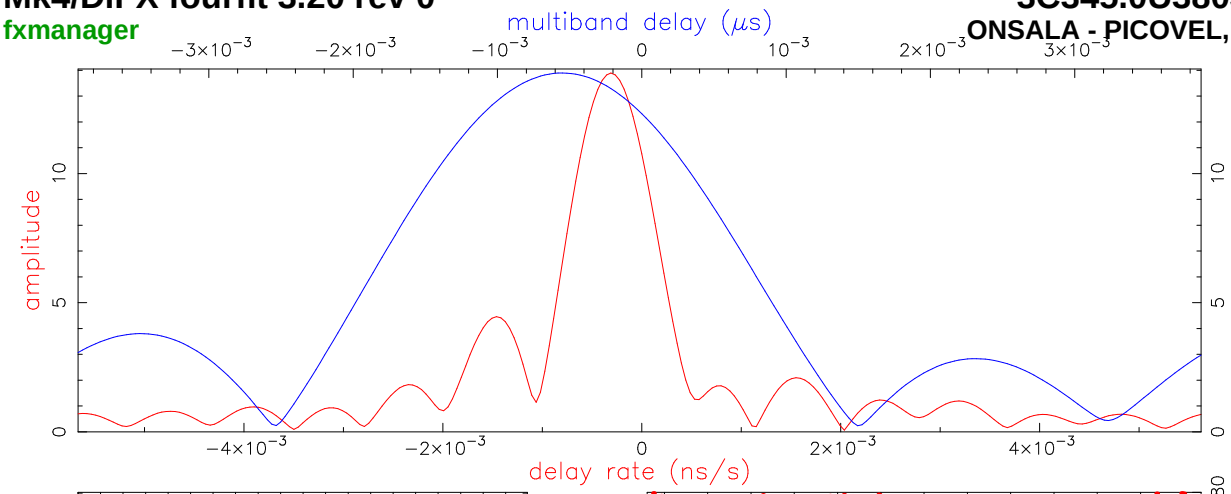
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/XP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/XP.W.46.0U3803

Mk4/DiFX fourfit 3.20 rev 0

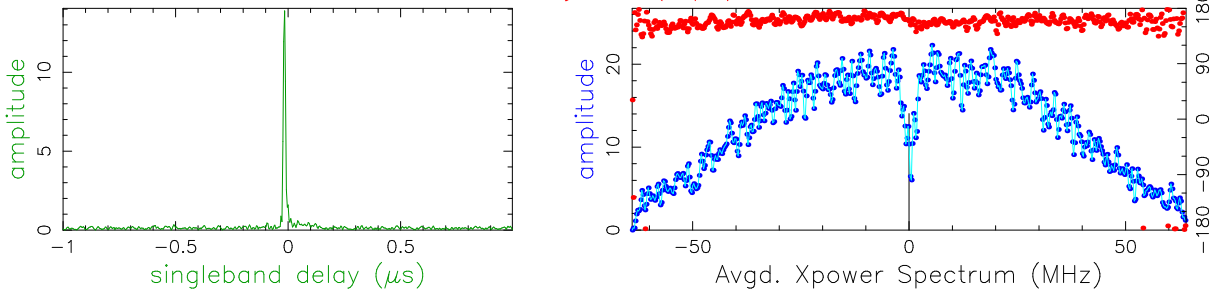
fxmanager

3C345.0U3803, No0002, XP

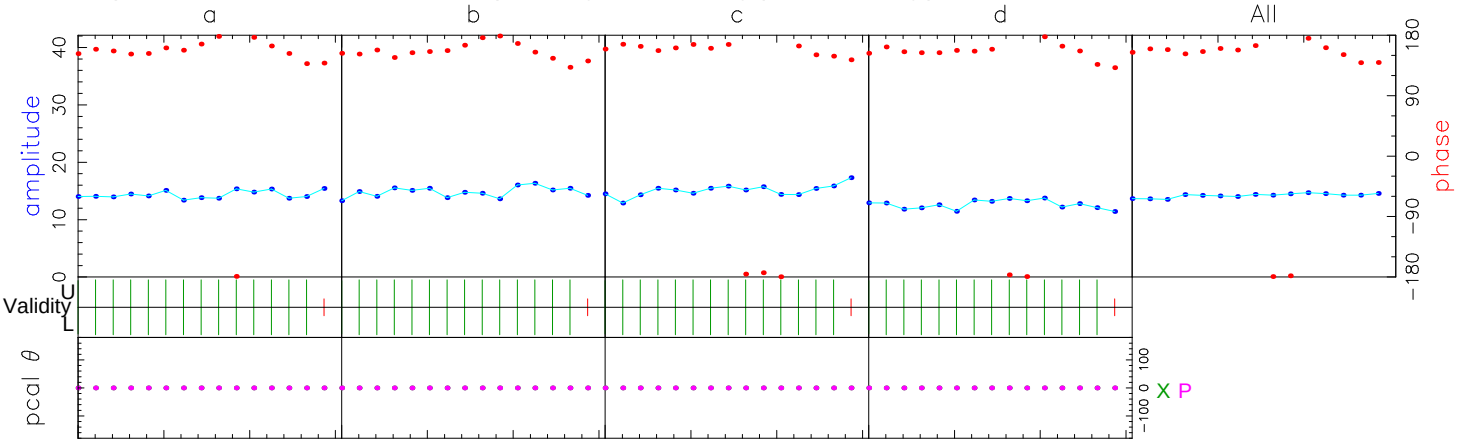
ONSALA - PICOVEL, fgroup W, pol RR



Fringe quality	8
SNR	146.5
Int time	14.576
Amp	14.051
Phase	-199.5
PFD	0.0e+00
Delays (us)	
SBD	-0.016413
MBD	-0.000573
Fringe rate (Hz)	-0.025475
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	2019:277:141742
	2019:277:142219
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	160.2	156.3	164.7	160.5	Phase	160.5
	14.0	14.6	14.7	12.4	Ampl.	13.9
	252.9	252.9	252.8	252.6	Sbd box	252.8
U/L	15/15	15/15	15/15	15/15	APs used	
X	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
X	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85451669433E+03	Apriori delay (usec)	2.85453289188E+03	Resid mbdelay (usec)	-5.72554E-04	+/-	7.6E-06
Sband delay (usec)	2.85451647888E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	-1.64130E-02	+/-	2.9E-05
Phase delay (usec)	2.85453289705E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	5.17408E-06	+/-	1.3E-08
Delay rate (us/s)	-3.71599005445E-01	Apriori rate (us/s)	-3.71598709710E-01	Resid rate (us/s)	-2.95735E-07	+/-	2.8E-09
Total phase (deg)	-89.2	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-199.5	+/-	0.4

	RMS	Theor.						
			Amplitude	14.051 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	11.6	1.5	Search (32X16)	13.764	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	2.6	2.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	4.2	0.8	Inc. seg. avg.	14.196	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006 0.006
amp/frq (%)	6.6	1.4	Inc. frq. avg.	13.927	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

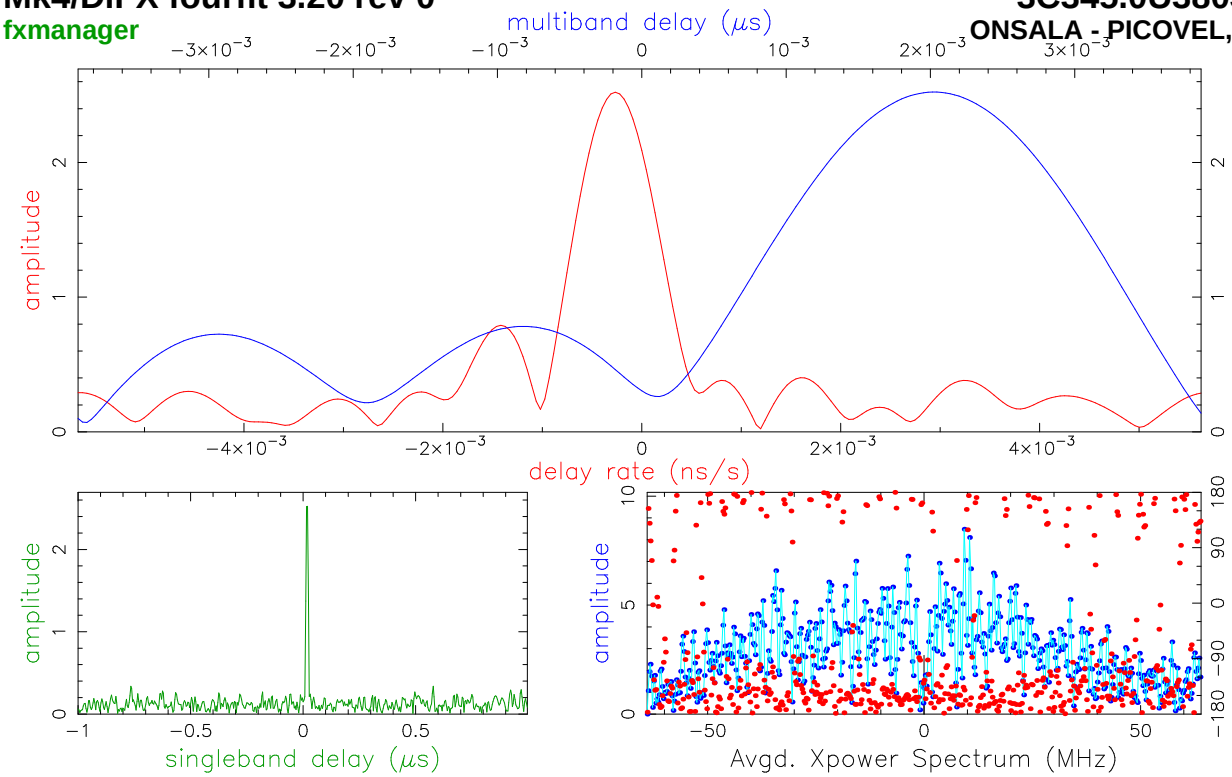
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/XP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/XP.W.47.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

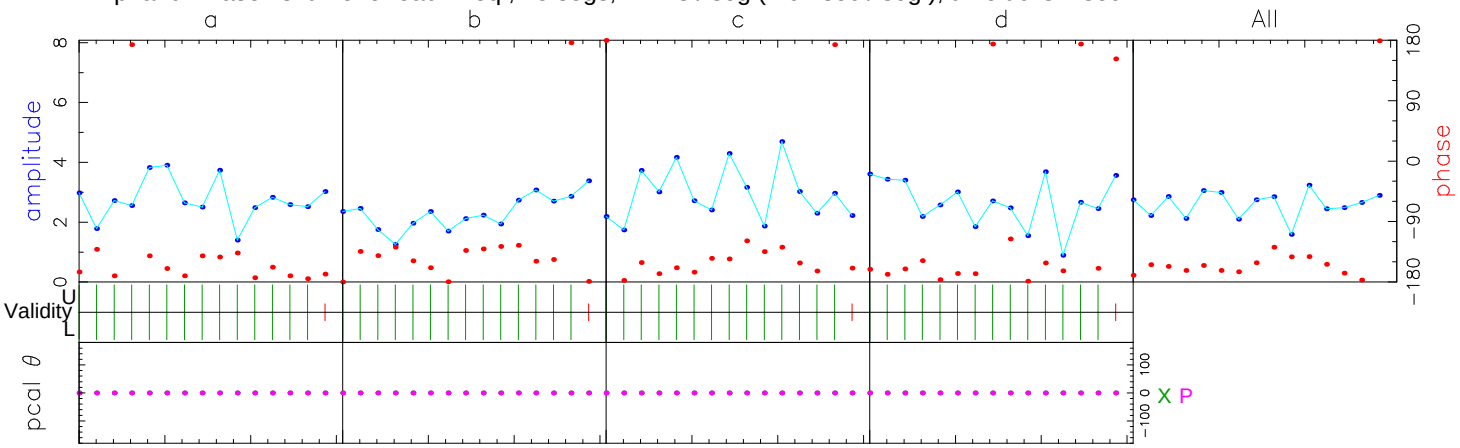
3C345.0U3803, No0002, XP

ONSALA - PICOVEL, fgroup W, pol LR



Fringe quality	9
SNR	28.1
Int time	14.576
Amp	2.695
Phase	203.2
PFD	0.0e+00
Delays (us)	
SBD	0.017580
MBD	0.002063
Fringe rate (Hz)	-0.024562
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	2019:277:141742
	2019:277:142219
	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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-159.3	-149.1	-153.2	-164.7	Phase	-156.8
	2.7	2.1	2.9	2.5	Ampl.	2.5
	261.5	261.8	261.5	261.3	Sbd box	261.5
U/L	15/15	15/15	15/15	15/15	APs used	
X	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
X	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85455058026E+03	Apriori delay (usec)	2.85453289188E+03	Resid mbdelay (usec)	2.06338E-03	+/-	4.0E-05
Sband delay (usec)	2.85455047213E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	1.75803E-02	+/-	1.5E-04
Phase delay (usec)	2.85453288682E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	-5.05568E-06	+/-	6.6E-08
Delay rate (us/s)	-3.71598994856E-01	Apriori rate (us/s)	-3.71598709710E-01	Resid rate (us/s)	-2.85146E-07	+/-	1.5E-08
Total phase (deg)	313.6	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	203.2	+/-	2.0

	RMS	Theor.							
			Amplitude	2.695 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.6	7.9	Search (32X16)	2.480	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	16.4	13.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	8.4	4.1	Inc. seg. avg.	2.565	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	11.3	7.1	Inc. frq. avg.	2.531	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

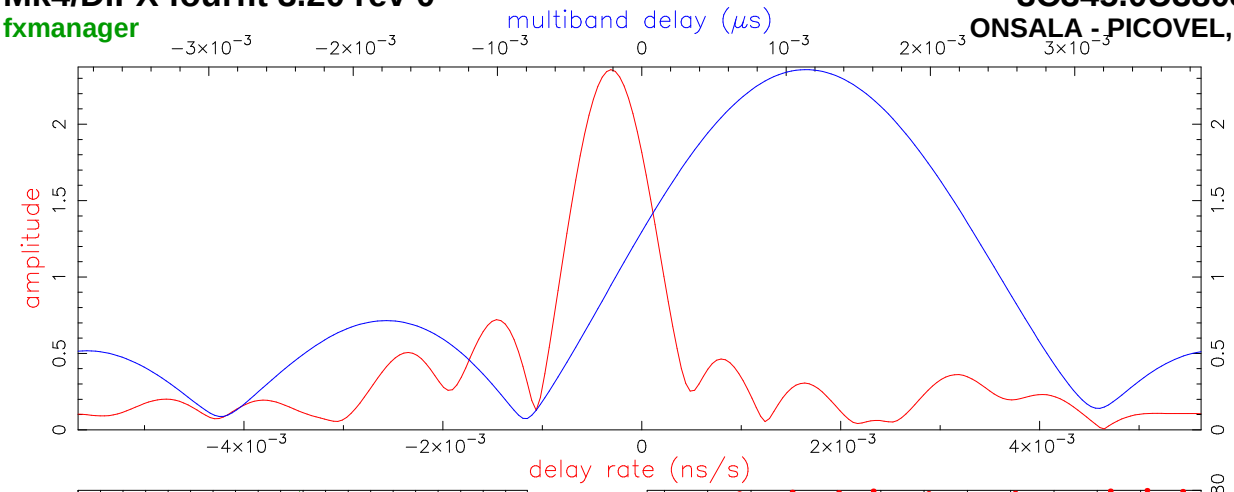
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/XP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/XP.W.48.0U3803

Mk4/DiFX fourfit 3.20 rev 0

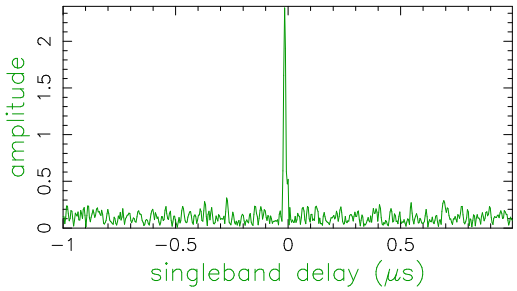
fxmanager

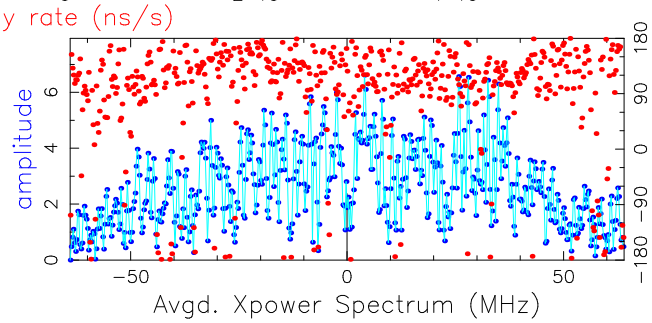
3C345.0U3803, No0002, XP

ONSALA - PICOVEL, fgroup W, pol RL

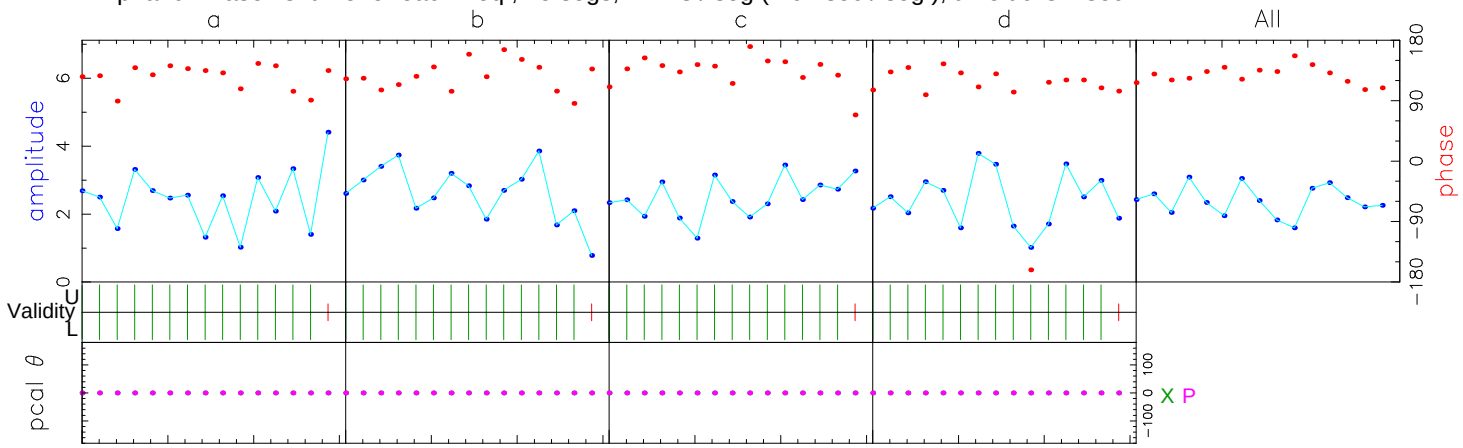


Fringe quality	9
SNR	24.8
Int time	14.576
Amp	2.375
Phase	-231.8
PFD	0.0e+00
Delays (us)	
SBD	-0.015031
MBD	0.001159
Fringe rate (Hz)	-0.026395
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142219
	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 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	127.7	127.1	136.7	121.4	Phase	128.2
	2.3	2.5	2.3	2.3	Ampl.	2.4
	253.3	253.2	253.2	252.7	Sbd box	253.2
U/L	15/15	15/15	15/15	15/15	APs used	
X	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
X	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.85451842555E+03	Apriori delay (usec)	2.85453289188E+03	Resid mbdelay (usec)	1.15866E-03	+/-	4.5E-05
Sband delay (usec)	2.85451786088E+03	Apriori clock (usec)	3.2407028E+01	Resid sbdelay (usec)	-1.50310E-02	+/-	1.7E-04
Phase delay (usec)	2.85453289601E+03	Apriori clockrate (us/s)	9.8100000E-07	Resid phdelay (usec)	4.13394E-06	+/-	7.5E-08
Delay rate (us/s)	-3.71599016124E-01	Apriori rate (us/s)	-3.71598709710E-01	Resid rate (us/s)	-3.06414E-07	+/-	1.7E-08
Total phase (deg)	-121.4	Apriori accel (us/s/s)	2.29843232336E-06	Resid phase (deg)	-231.8	+/-	2.3

	RMS	Theor.							
			Amplitude	2.375 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	12.5	9.0	Search (32X16)	2.299	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	18.3	15.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	7.7	4.6	Inc. seg. avg.	2.380	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	4.1	8.1	Inc. frq. avg.	2.363	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 2776.678 1748.989 simultaneous interpolator

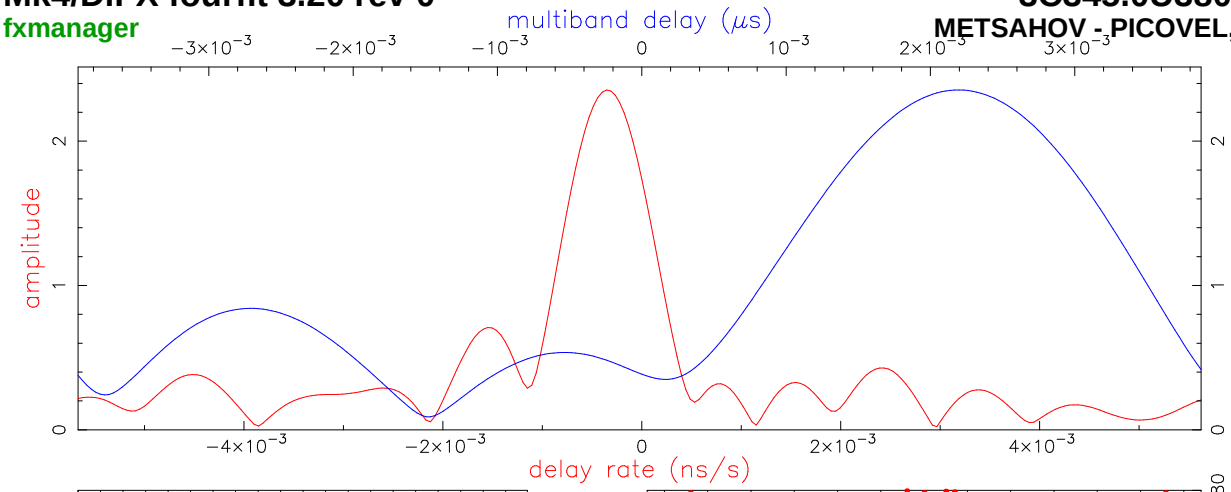
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/XP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/XP.W.49.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

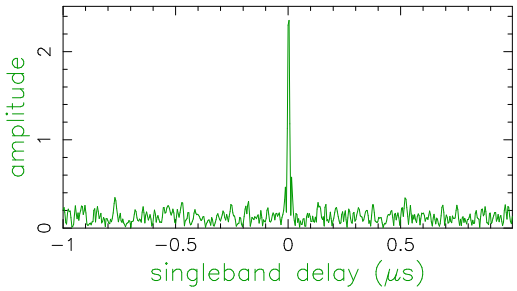
3C345.0U3803, No0002, ZP

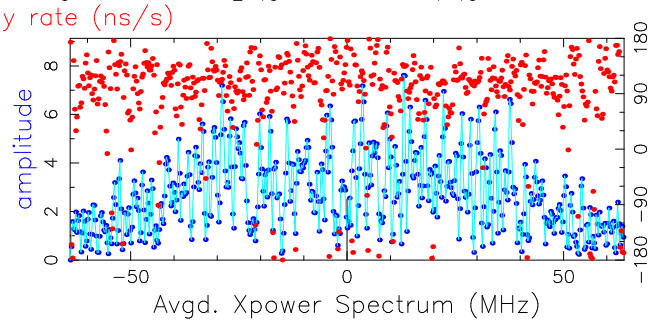
METSAHOV -PICOVEL, fgroup W, pol LL



Fringe quality 8

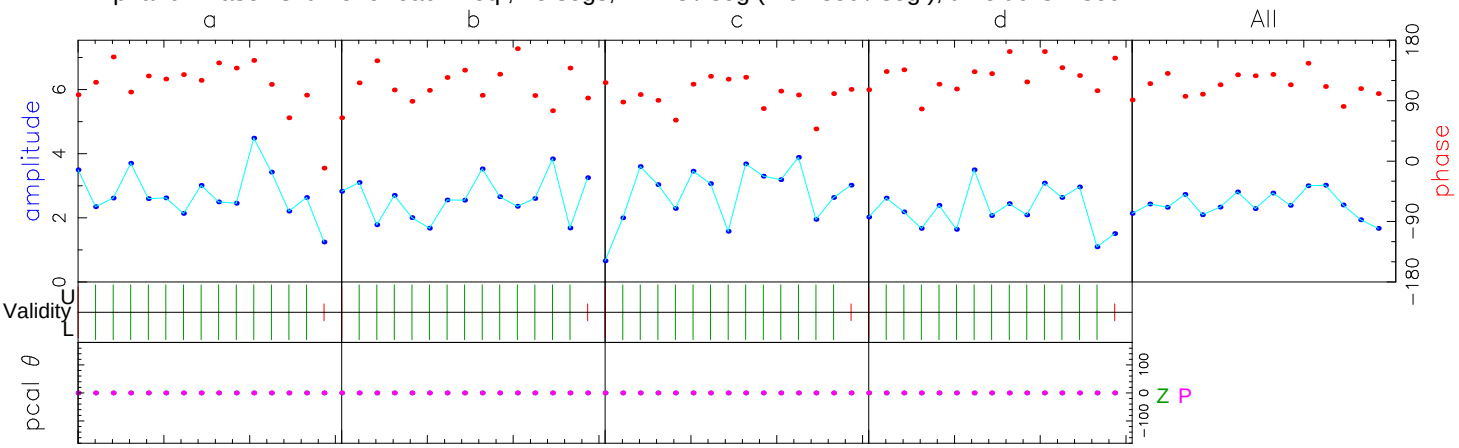
SNR 26.2
Int time 14.538
Amp 2.514
Phase 114.5
PFD 0.0e+00
Delays (us)
SBD 0.002107
MBD 0.002177
Fringe rate (Hz)
-0.030973
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 1.024





Exp. f192a
Exper # 16383
Yr:day 2019:276
Start 121500.00
Stop 121515.36
FRT 121730.00
Corr/FF/build
2019:277:141742
2019:277:142214
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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	120.8	110.3	99.3	129.6	Phase	114.5
	2.6	2.3	2.6	2.2	Ampl.	2.4
	257.7	257.4	257.7	257.4	Sbd box	257.5
U/L	15/15	15/15	15/15	15/15	APs used	
Z	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
Z	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	3.71390184281E+03	Apriori delay (usec)	3.71389966546E+03	Resid mbdelay (usec)	2.17735E-03	+/-	4.3E-05
Sband delay (usec)	3.71390177271E+03	Apriori clock (usec)	2.7554893E-01	Resid sbdelay (usec)	2.10725E-03	+/-	1.6E-04
Phase delay (usec)	3.71389966915E+03	Apriori clockrate (us/s)	5.2300005E-07	Resid phdelay (usec)	3.69157E-06	+/-	7.1E-08
Delay rate (us/s)	-5.09374909433E-01	Apriori rate (us/s)	-5.09374549871E-01	Resid rate (us/s)	-3.59562E-07	+/-	1.6E-08
Total phase (deg)	180.1	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	114.5	+/-	2.2

	RMS	Theor.							
			Amplitude	2.514 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	16.9	8.5	Search (32X16)	2.319	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	13.7	14.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	16.1	4.4	Inc. seg. avg.	2.440	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	8.6	7.6	Inc. frq. avg.	2.398	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

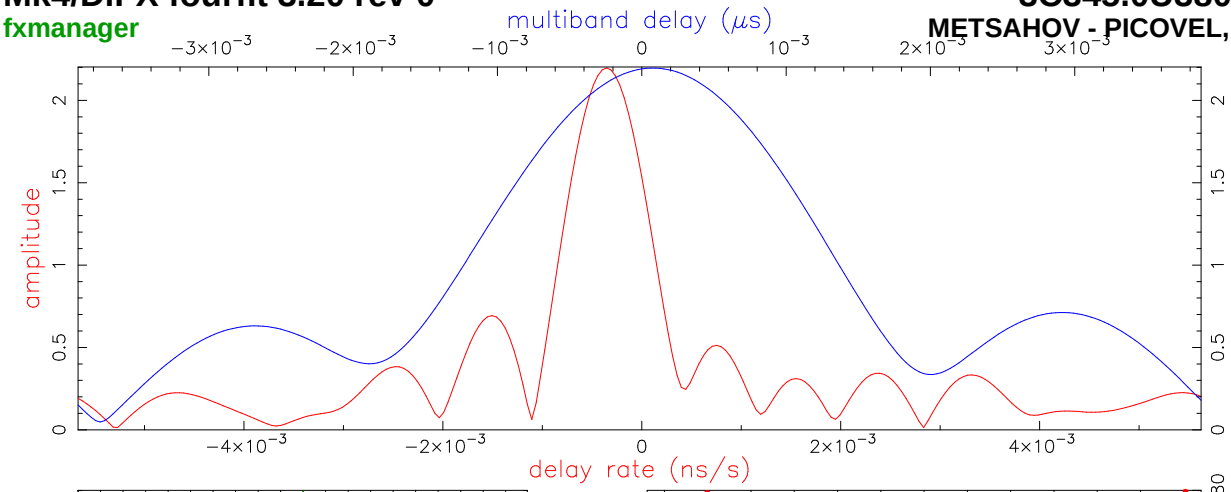
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/ZP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/ZP.W.34.0U3803

Mk4/DiFX fourfit 3.20 rev 0

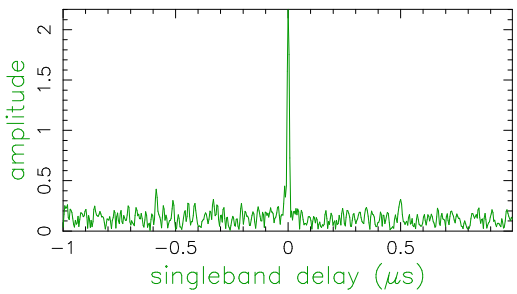
fxmanager

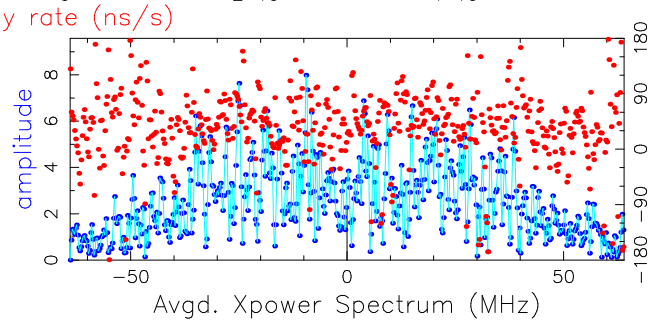
3C345.0U3803, No0002, ZP

METSAHOV - PICOVEL, fgroup W, pol RR

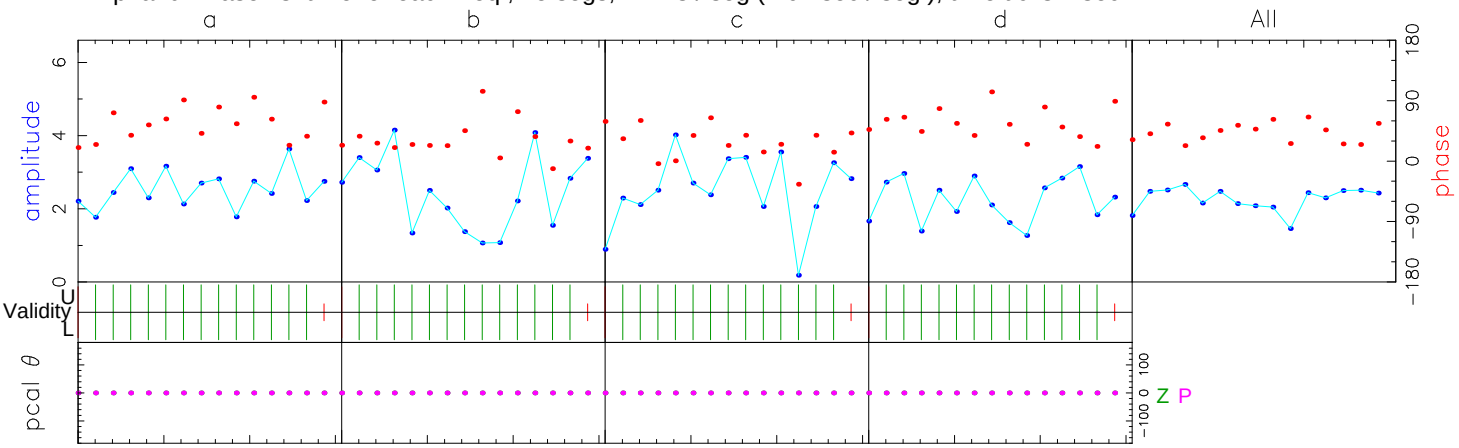


Fringe quality	8
SNR	22.9
Int time	14.538
Amp	2.203
Phase	42.0
PFD	0.0e+00
Delays (us)	
SBD	0.000295
MBD	0.000084
Fringe rate (Hz)	-0.029004
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142214
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	54.9	30.5	27.5	56.5	Phase	42.0
	2.3	2.3	2.4	2.1	Ampl.	2.3
	256.9	257.3	257.1	257.1	Sbd box	257.1
U/L	15/15	15/15	15/15	15/15	APs used	
Z	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
Z	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	3.71389974981E+03	Apriori delay (usec)	3.71389966546E+03	Resid mbdelay (usec)	8.43521E-05	+/-	4.8E-05
Sband delay (usec)	3.71389996046E+03	Apriori clock (usec)	2.7554893E-01	Resid sbdelay (usec)	2.95000E-04	+/-	1.9E-04
Phase delay (usec)	3.71389966681E+03	Apriori clockrate (us/s)	5.2300005E-07	Resid phdelay (usec)	1.35587E-06	+/-	8.1E-08
Delay rate (us/s)	-5.09374886578E-01	Apriori rate (us/s)	-5.09374549871E-01	Resid rate (us/s)	-3.36707E-07	+/-	1.8E-08
Total phase (deg)	107.7	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	42.0	+/-	2.5

	RMS	Theor.							
			Amplitude	2.203 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	13.8	9.7	Search (32X16)	2.179	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	14.6	16.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	19.0	5.0	Inc. seg. avg.	2.234	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	5.1	8.7	Inc. frq. avg.	2.252	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

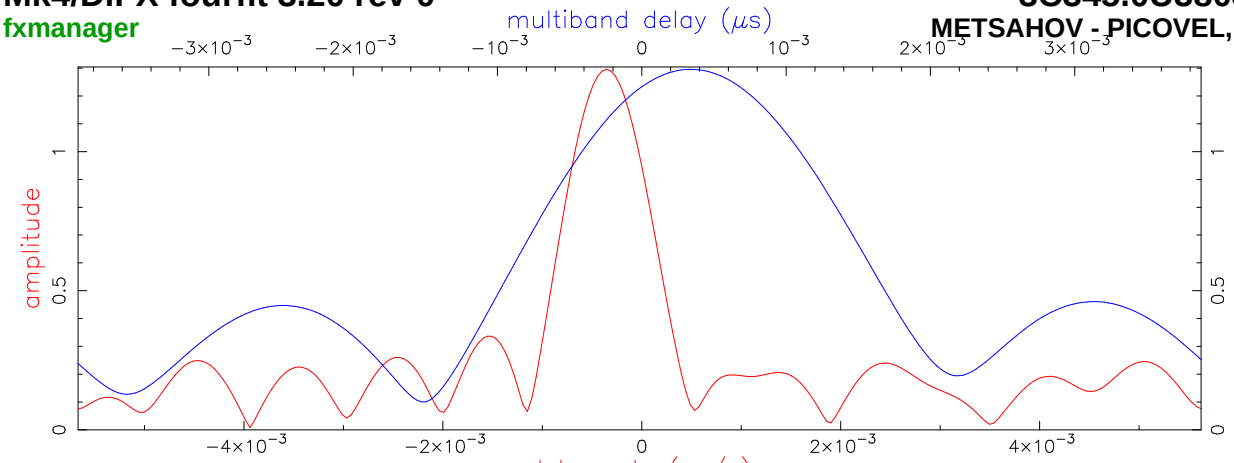
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/ZP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/ZP.W.35.0U3803

Mk4/DiFX fourfit 3.20 rev 0

fxmanager

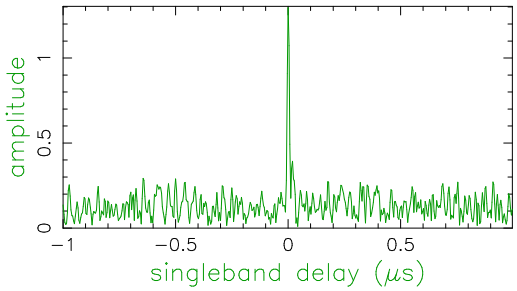
3C345.0U3803, No0002, ZP

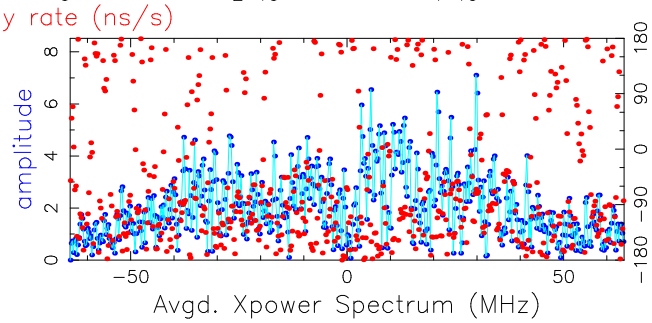
METSAHOV - PICOVEL, fgroup W, pol LR



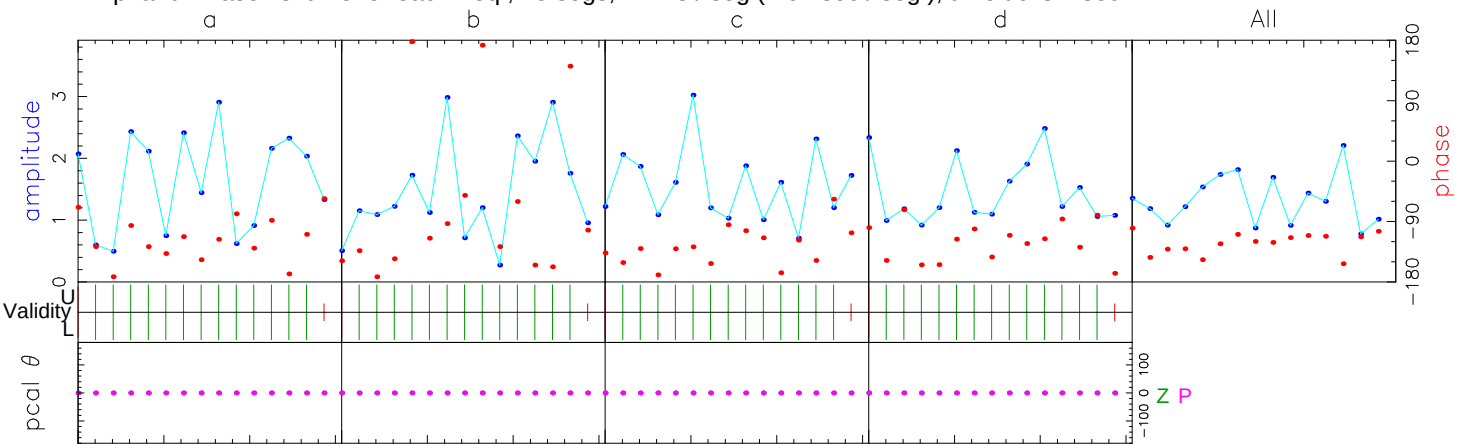
Fringe quality 9

SNR	13.6
Int time	14.538
Amp	1.304
Phase	-124.3
PFD	2.4e-35
Delays (us)	
SBD	0.000537
MBD	0.000341
Fringe rate (Hz)	-0.029682
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	2019:277:141742
	2019:277:142214
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-115.0	-139.3	-131.0	-116.0	Phase	-124.3
	1.5	1.0	1.4	1.4	Ampl.	1.3
	257.2	257.2	256.9	257.2	Sbd box	257.1
U/L	15/15	15/15	15/15	15/15	APs used	
Z	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
Z	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
P	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	

Group delay (usec)(sbd)	3.71390000603E+03	Apriori delay (usec)	3.71389966546E+03	Resid mbdelay (usec)	3.40571E-04	+/-	8.2E-05
Sband delay (usec)	3.71390020246E+03	Apriori clock (usec)	2.7554893E-01	Resid sbdelay (usec)	5.37000E-04	+/-	3.2E-04
Phase delay (usec)	3.71389966145E+03	Apriori clockrate (us/s)	5.2300005E-07	Resid phdelay (usec)	-4.00914E-06	+/-	1.4E-07
Delay rate (us/s)	-5.09374894446E-01	Apriori rate (us/s)	-5.09374549871E-01	Resid rate (us/s)	-3.44574E-07	+/-	3.1E-08
Total phase (deg)	-58.7	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	-124.3	+/-	4.2

	RMS	Theor.							
			Amplitude	1.304 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	15.2	16.3	Search (32X16)	1.290	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	30.9	28.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	14.6	8.4	Inc. seg. avg.	1.299	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	12.4	14.7	Inc. frq. avg.	1.303	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 P: az 67.6 el 44.6 pa -74.1 u,v (fr/asec) 3798.737 1721.660 simultaneous interpolator

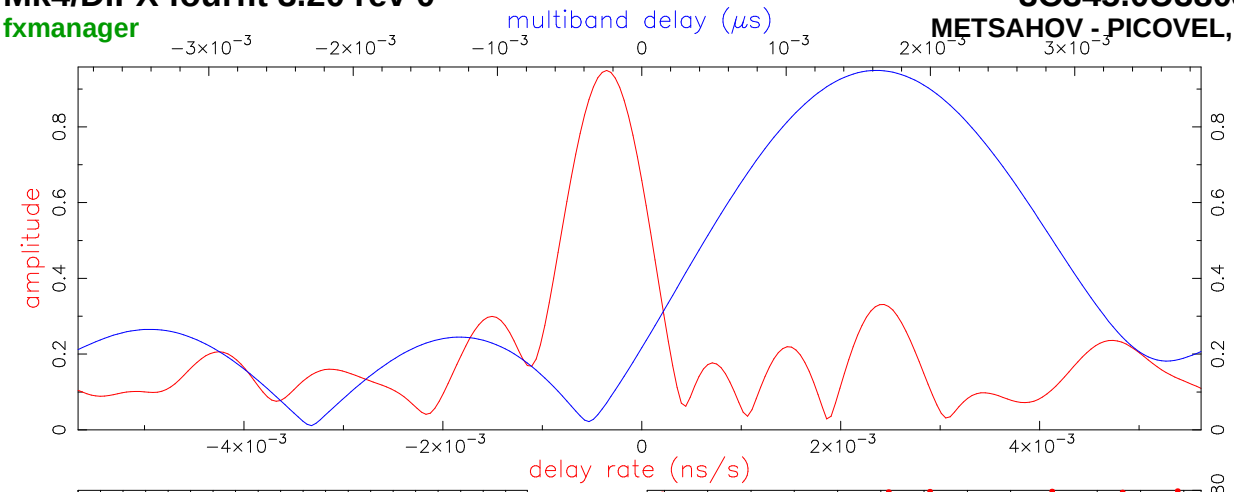
Control file: cf_1234_gmva Input file: /Exps/f192a/FRINGE/2222/No0002/ZP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/ZP.W.36.0U3803

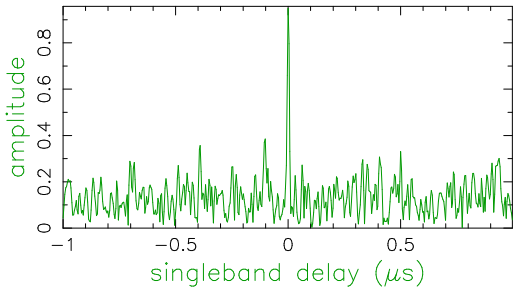
Mk4/DiFX fourfit 3.20 rev 0

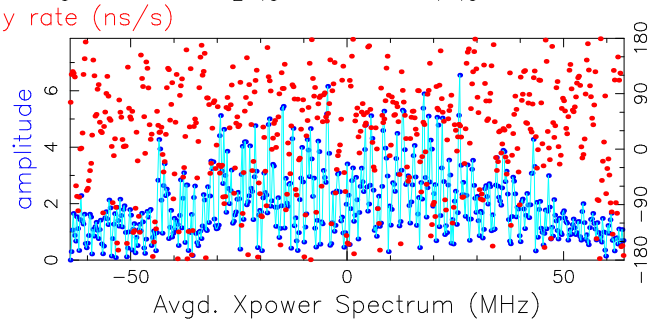
fxmanager

3C345.0U3803, No0002, ZP

METSAHOV - PICOVEL, fgroup W, pol RL

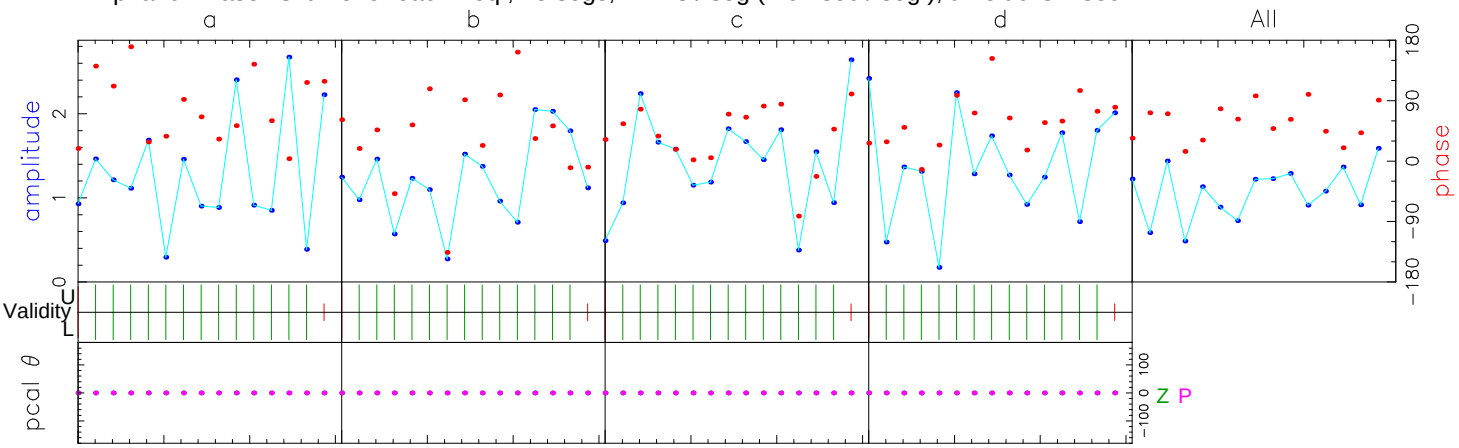






Fringe quality	9
SNR	10.0
Int time	14.538
Amp	0.958
Phase	56.7
PFD	6.6e-17
Delays (us)	
SBD	0.000686
MBD	0.001643
Fringe rate (Hz)	-0.031582
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	1.024
Exp.	f192a
Exper #	16383
Yr:day	2019:276
Start	121500.00
Stop	121515.36
FRT	121730.00
Corr/FF/build	2019:277:141742
	2019:277:142215
	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 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	68.2	47.9	49.1	63.3	Phase	56.7
	0.8	0.9	1.1	1.1	Ampl.	0.9
	256.9	257.0	257.1	257.4	Sbd box	257.2
U/L	15/15	15/15	15/15	15/15	APs used	
Z	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	PC freqs	
Z:P	0:0	0:0	0:0	0:0	PC phase	
Z:P	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000		
Z	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids	
					Tracks	
P	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	

Group delay (usec)(sbd)	3.71390130878E+03	Apriori delay (usec)	3.71389966546E+03	Resid mbdelay (usec)	1.64332E-03	+/-	1.1E-04
Sband delay (usec)	3.71390035146E+03	Apriori clock (usec)	2.7554893E-01	Resid sbdelay (usec)	6.86000E-04	+/-	4.3E-04
Phase delay (usec)	3.71389966728E+03	Apriori clockrate (us/s)	5.2300005E-07	Resid phdelay (usec)	1.82705E-06	+/-	1.9E-07
Delay rate (us/s)	-5.09374916507E-01	Apriori rate (us/s)	-5.09374549871E-01	Resid rate (us/s)	-3.66636E-07	+/-	4.2E-08
Total phase (deg)	122.3	Apriori accel (us/s/s)	-5.94407763619E-07	Resid phase (deg)	56.7	+/-	5.7

	RMS	Theor.							
			Amplitude	0.958 +/- 0.096	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	25.7	22.2	Search (32X16)	0.931	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	31.7	38.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	12.5	11.5	Inc. seg. avg.	0.976	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.006	0.006
amp/frq (%)	12.6	20.1	Inc. frq. avg.	0.942	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 P: 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/2222/No0002/ZP..0U3803 Output file: /Exps/f192a/FRINGE/2222/No0002/ZP.W.37.0U3803