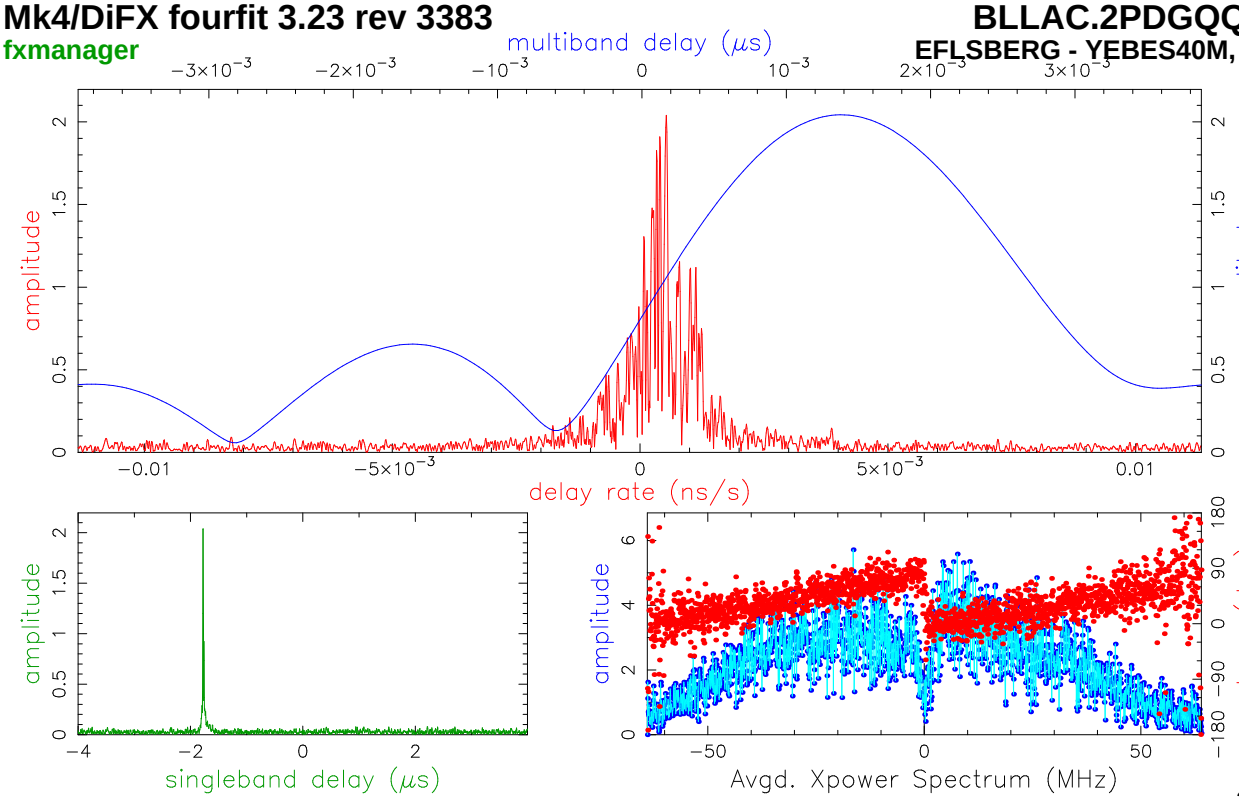
Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

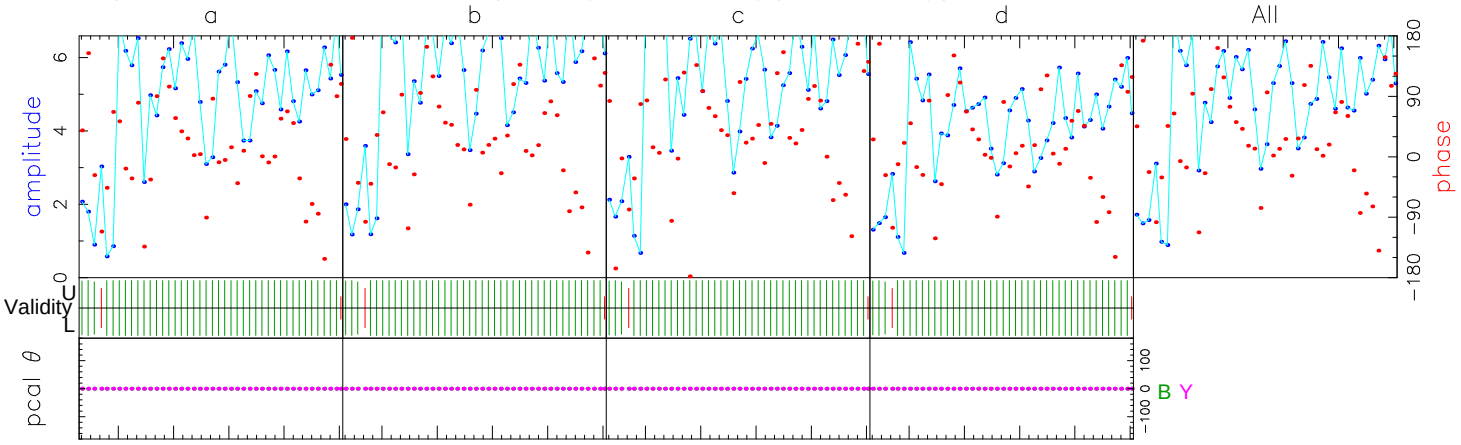
BLLAC.2PDGQQ, No0001, BY

EFLSBERG - YEBES40M, fgroup W, pol LL



Fringe quality	4
SNR	100.4
Int time	279.874
Amp	2.197
Phase	-143.3
PFD	0.0e+00
Delays (us)	
SBD	-1.775349
MBD	0.001312
Fringe rate (Hz)	0.046241
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143723 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	25.5	36.2	57.3	25.5	Phase	36.7
	2.1	2.4	2.2	1.7	Ampl.	2.1
	570.2	570.8	570.7	570.1	Sbd box	570.5
U/L	549/549	549/549	549/549	549/549	APs used	
B	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
B:Y	0:0	0:0	0:0	0:0	PC phase	
B:Y	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
B	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)	-5.70013167985E+02	Apriori delay (usec)	-5.68241042810E+02	Resid mbdelay (usec)	1.31233E-03	+/-	1.1E-05
Sband delay (usec)	-5.70016392310E+02	Apriori clock (usec)	6.2140091E+01	Resid sbdelay (usec)	-1.77535E+00	+/-	4.3E-05
Phase delay (usec)	-5.68241041626E+02	Apriori clockrate (us/s)	5.9999998E-07	Resid phdelay (usec)	1.18469E-06	+/-	1.8E-08
Delay rate (us/s)	9.71510643130E-02	Apriori rate (us/s)	9.71505274956E-02	Resid rate (us/s)	5.36817E-07	+/-	2.3E-10
Total phase (deg)	-297.2	Apriori accel (us/s/s)	1.26465352094E-05	Resid phase (deg)	-143.3	+/-	0.6

	RMS	Theor.	Amplitude	2.197 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	74.8	3.7	Search (2048X16)	1.998	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	140.0	6.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	18.4	1.1	Inc. seg. avg.	4.794	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	11.8	2.0	Inc. frq. avg.	2.094	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 293.3 el 38.1 pa 52.2 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -735.895 1712.850 simultaneous interpolator

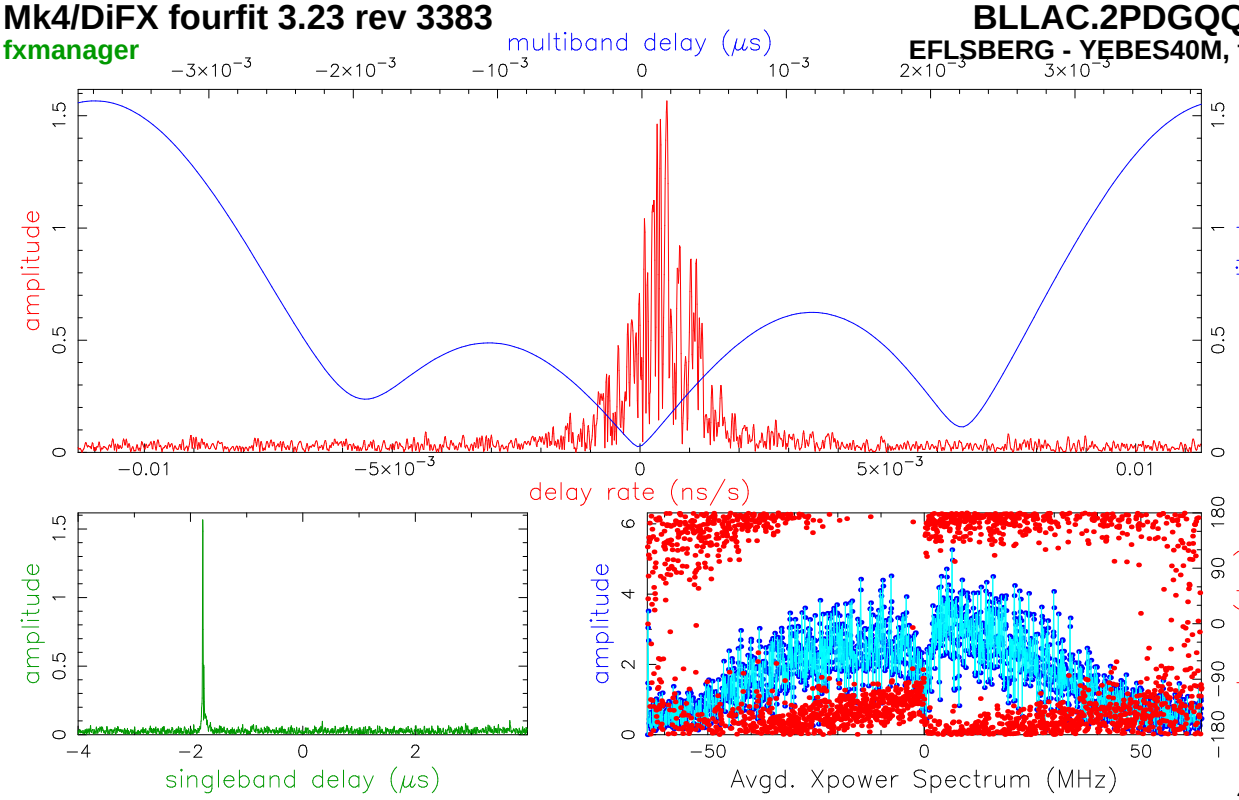
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/BY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/BY.W.25.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

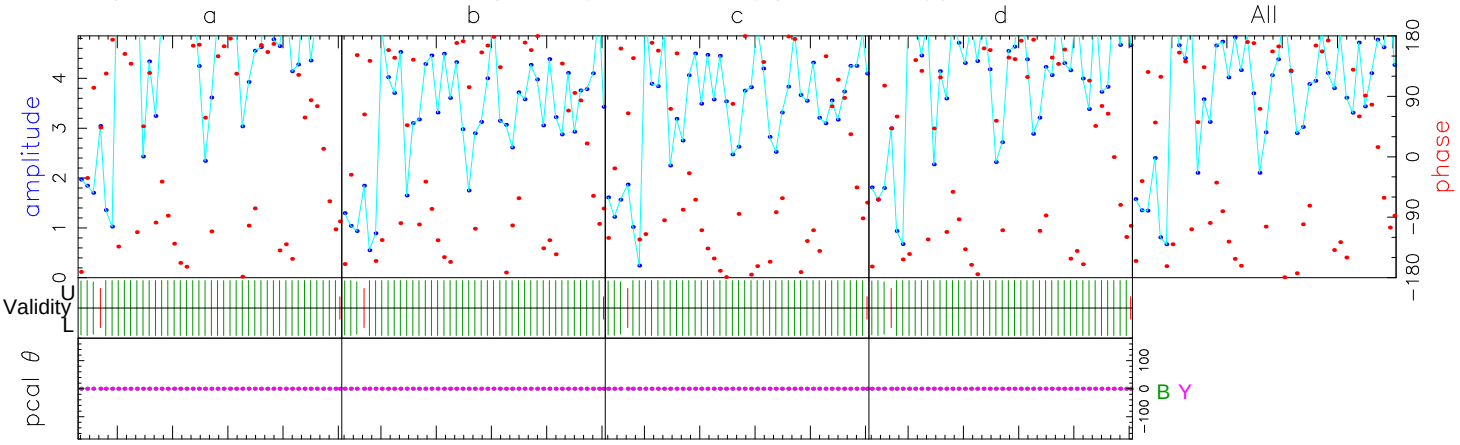
BLLAC.2PDGQQ, No0001, BY

EFLSBERG - YEBES40M, fgroup W, pol RR



Fringe quality	4
SNR	73.9
Int time	279.874
Amp	1.618
Phase	-344.6
PFD	0.0e+00
Delays (us)	
SBD	-1.779744
MBD	-0.003768
Fringe rate (Hz)	0.046376
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143730 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-169.8	-159.6	-149.0	-177.3	Phase	-164.6
	1.9	1.5	1.5	1.6	Ampl.	1.6
	569.1	569.6	569.7	569.0	Sbd box	569.4
U/L	549/549	549/549	549/549	549/549	APs used	
B	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
B:Y	0:0	0:0	0:0	0:0	PC phase	
B:Y	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
B	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)	-5.70018248301E+02	Apriori delay (usec)	-5.68241042810E+02	Resid mbdelay (usec)	-3.76799E-03	+/-	1.5E-05
Sband delay (usec)	-5.70020787060E+02	Apriori clock (usec)	6.2140091E+01	Resid sbdelay (usec)	-1.77974E+00	+/-	5.8E-05
Phase delay (usec)	-5.68241048118E+02	Apriori clockrate (us/s)	5.9999998E-07	Resid phdelay (usec)	-5.30779E-06	+/-	2.5E-08
Delay rate (us/s)	9.71510658803E-02	Apriori rate (us/s)	9.71505274956E-02	Resid rate (us/s)	5.38385E-07	+/-	3.1E-10
Total phase (deg)	-138.6	Apriori accel (us/s/s)	1.26465352094E-05	Resid phase (deg)	-344.6	+/-	0.8

	RMS	Theor.	Amplitude	1.618 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	76.4	5.1	Search (2048X16)	1.545	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	153.9	8.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	15.1	1.5	Inc. seg. avg.	3.741	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	10.0	2.7	Inc. frq. avg.	1.594	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 293.3 el 38.1 pa 52.2 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -735.895 1712.850 simultaneous interpolator

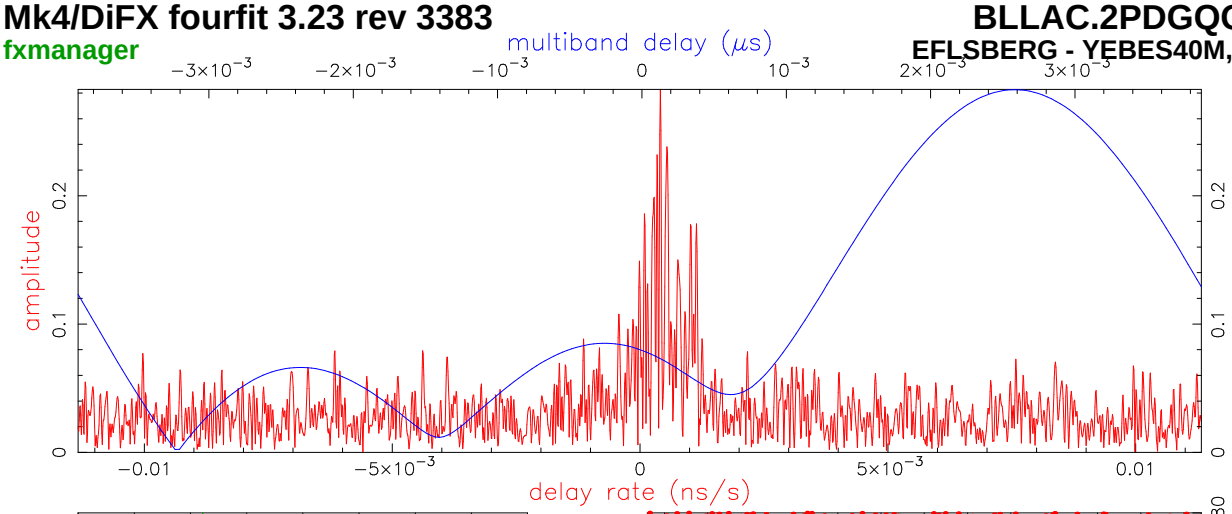
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/BY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/BY.W.26.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

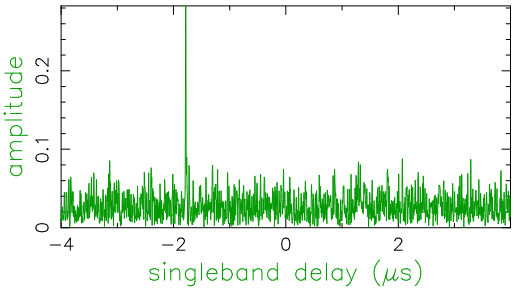
BLLAC.2PDGQQ, No0001, BY

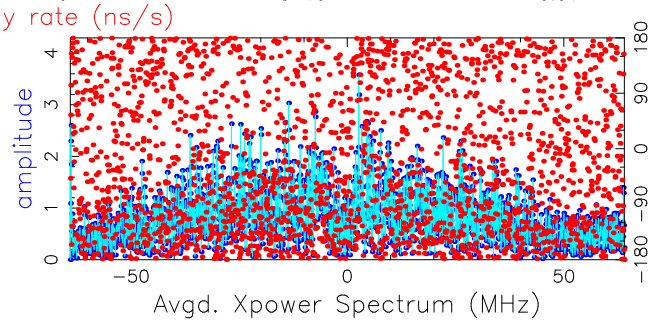
EFLSBERG - YEBES40M, fgroup W, pol LR



Fringe quality 9

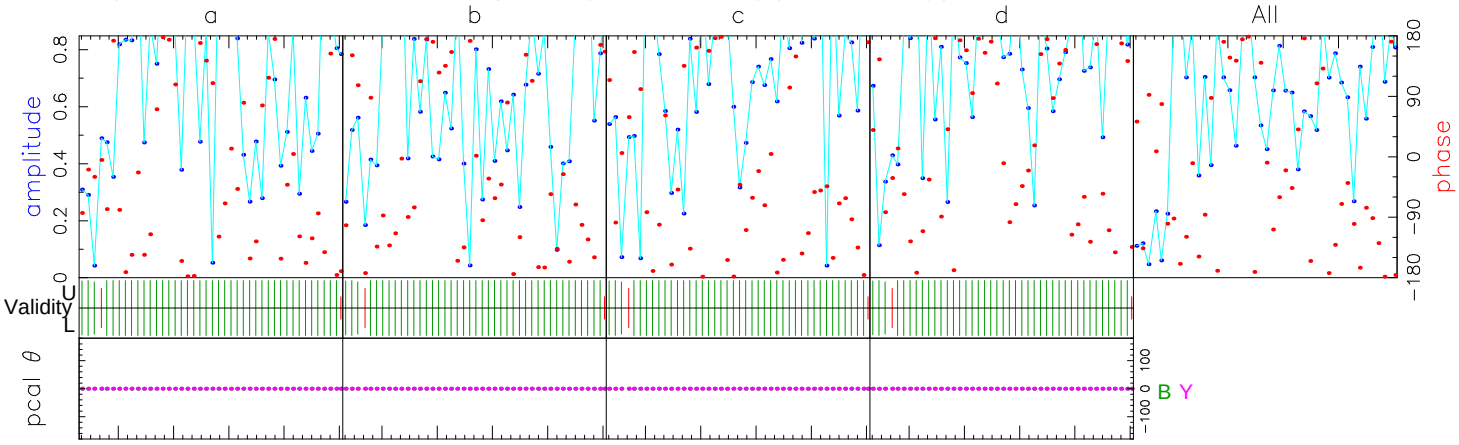
SNR	12.9
Int time	279.874
Amp	0.283
Phase	-144.4
PFD	3.2e-29
Delays (us)	
SBD	-1.781106
MBD	0.002582
Fringe rate (Hz)	0.034962
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512





Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143735 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	-150.8	-139.3	-137.6	-151.1	Phase	-144.4
	0.3	0.2	0.3	0.3	Ampl.	0.3
	568.3	569.1	569.2	568.8	Sbd box	569.0
U/L	549/549	549/549	549/549	549/549	APs used	
B	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
B:Y	0:0	0:0	0:0	0:0	PC phase	
B:Y	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
B	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)	-5.70019710601E+02	Apriori delay (usec)	-5.68241042810E+02	Resid mbdelay (usec)	2.58221E-03	+/-	8.6E-05
Sband delay (usec)	-5.70022148310E+02	Apriori clock (usec)	6.2140091E+01	Resid sbdelay (usec)	-1.78111E+00	+/-	3.3E-04
Phase delay (usec)	-5.68241047468E+02	Apriori clockrate (us/s)	5.9999998E-07	Resid phdelay (usec)	-4.65802E-06	+/-	1.4E-07
Delay rate (us/s)	9.71509333673E-02	Apriori rate (us/s)	9.71505274956E-02	Resid rate (us/s)	4.05872E-07	+/-	1.8E-09
Total phase (deg)	-298.4	Apriori accel (us/s/s)	1.26465352094E-05	Resid phase (deg)	-144.4	+/-	4.4

	RMS	Theor.	Amplitude	0.283 +/- 0.022
ph/seg (deg)	80.9	29.0	Search (2048X16)	0.276
amp/seg (%)	151.5	50.6	Interp.	0.000
ph/frq (deg)	8.9	8.9	Inc. seg. avg.	0.548
amp/frq (%)	12.9	15.5	Inc. frq. avg.	0.281

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: enabled
Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us
Data rate(Mb/s): 2048 nlags: 1024 t_cohere infinite

sb window (us)	-4.000	4.000
mb window (us)	-0.004	0.004
dr window (ns/s)	-0.011	0.011
ion window (TEC)	0.00	0.00

B: az 293.3 el 38.1 pa 52.2 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -735.895 1712.850 simultaneous interpolator

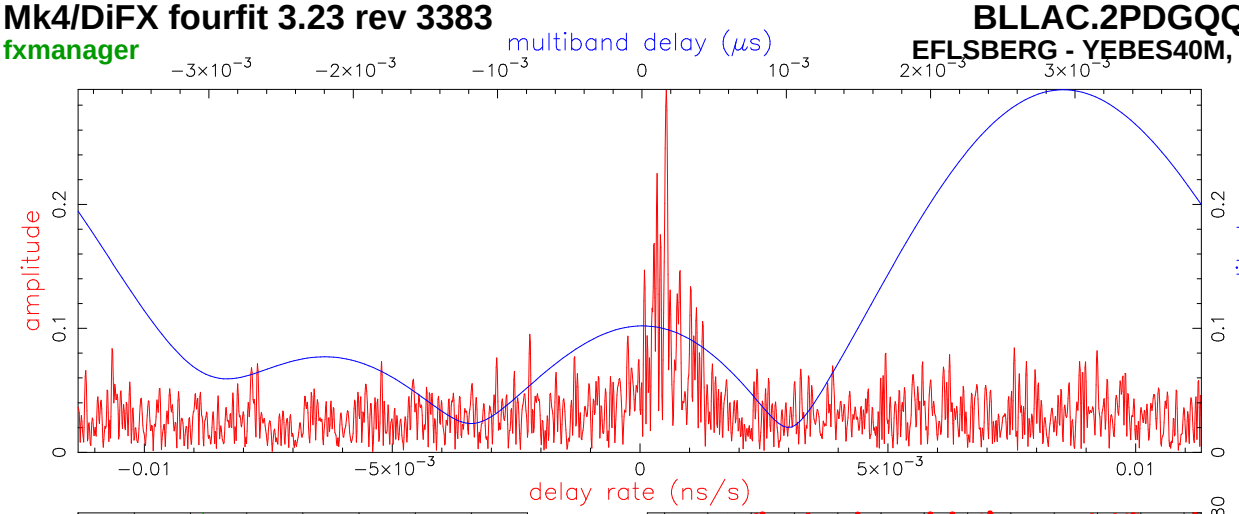
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/BY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/BY.W.27.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

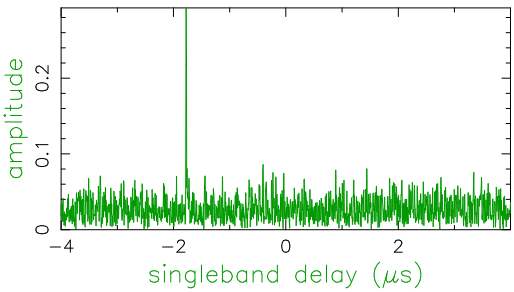
fxmanager

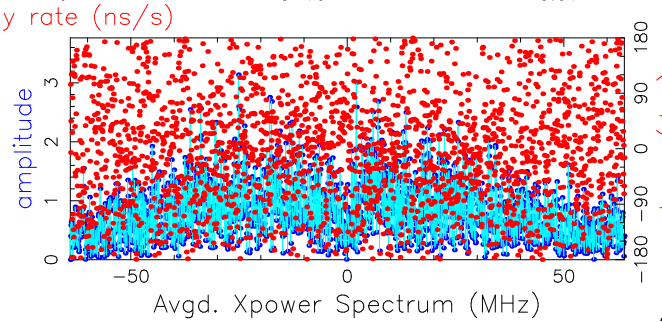
BLLAC.2PDGQQ, No0001, BY

EFLSBERG - YEBES40M, fgroup W, pol RL

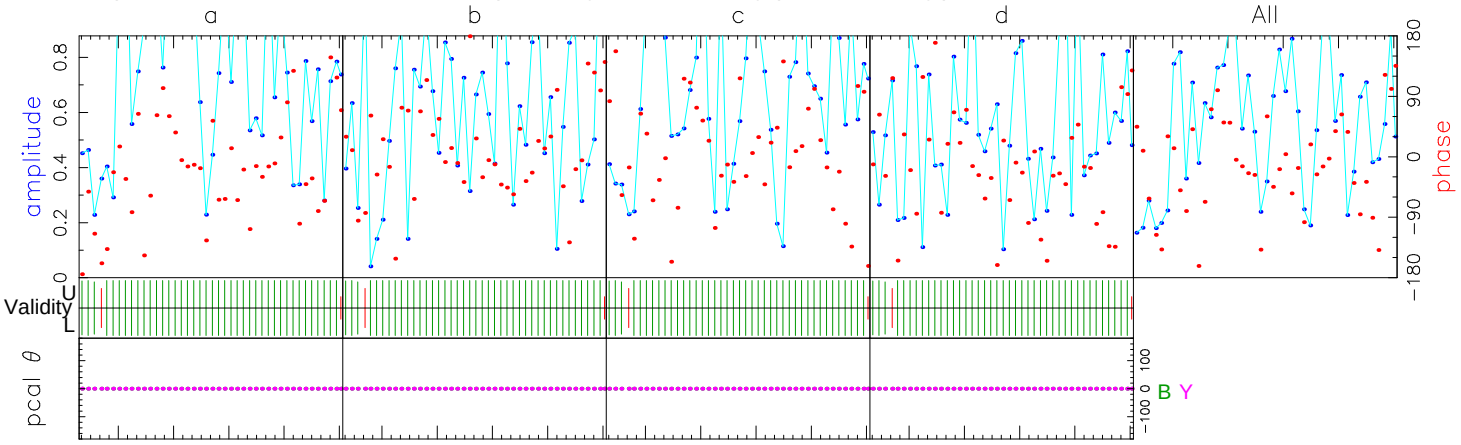


Fringe quality	9
SNR	13.4
Int time	279.874
Amp	0.293
Phase	-184.2
PFD	8.6e-32
Delays (us)	
SBD	-1.773341
MBD	0.002921
Fringe rate (Hz)	0.045698
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143740 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-12.4	3.3	10.2	-19.7	Phase	-4.2
	0.4	0.3	0.3	0.2	Ampl.	0.3
	570.7	571.1	571.1	571.0	Sbd box	571.0
U/L	549/549	549/549	549/549	549/549	APs used	
B	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
B:Y	0:0	0:0	0:0	0:0	PC phase	
B:Y	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
B	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)	-5.70011559235E+02	Apriori delay (usec)	-5.68241042810E+02	Resid mbdelay (usec)	2.92108E-03	+/-	8.3E-05
Sband delay (usec)	-5.70014383810E+02	Apriori clock (usec)	6.2140091E+01	Resid sbdelay (usec)	-1.77334E+00	+/-	3.2E-04
Phase delay (usec)	-5.68241042947E+02	Apriori clockrate (us/s)	5.9999998E-07	Resid phdelay (usec)	-1.36205E-07	+/-	1.4E-07
Delay rate (us/s)	9.71510580040E-02	Apriori rate (us/s)	9.71505274956E-02	Resid rate (us/s)	5.30508E-07	+/-	1.7E-09
Total phase (deg)	-338.2	Apriori accel (us/s/s)	1.26465352094E-05	Resid phase (deg)	-184.2	+/-	4.3

	RMS	Theor.	Amplitude	0.293 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	70.7	28.0	Search (2048X16)	0.290	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	123.3	48.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	16.9	8.6	Inc. seg. avg.	0.500	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	13.7	14.9	Inc. frq. avg.	0.296	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 293.3 el 38.1 pa 52.2 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -735.895 1712.850 simultaneous interpolator

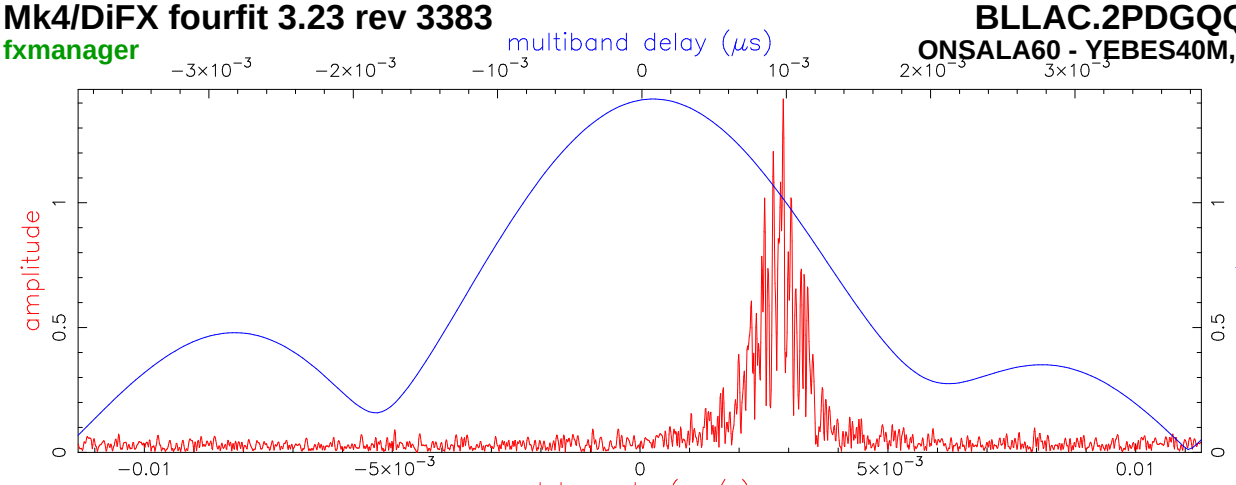
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/BY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/BY.W.28.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

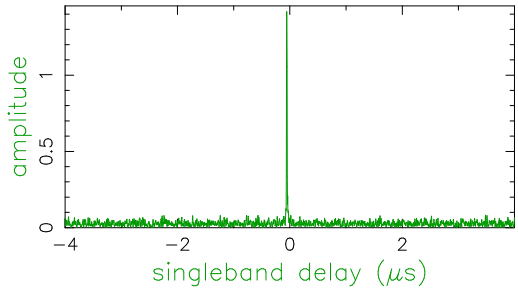
BLLAC.2PDGQQ, No0001, XY

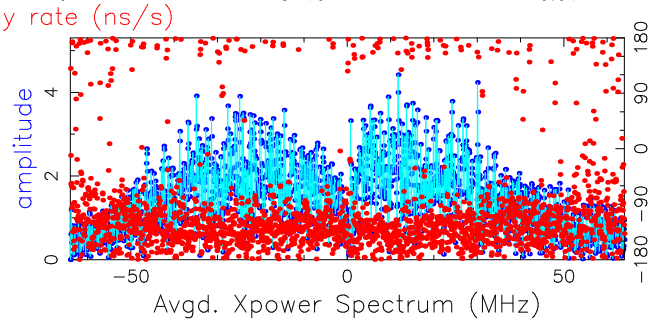
ONSALA60 - YEBES40M, fgroup W, pol LL



Fringe quality 6

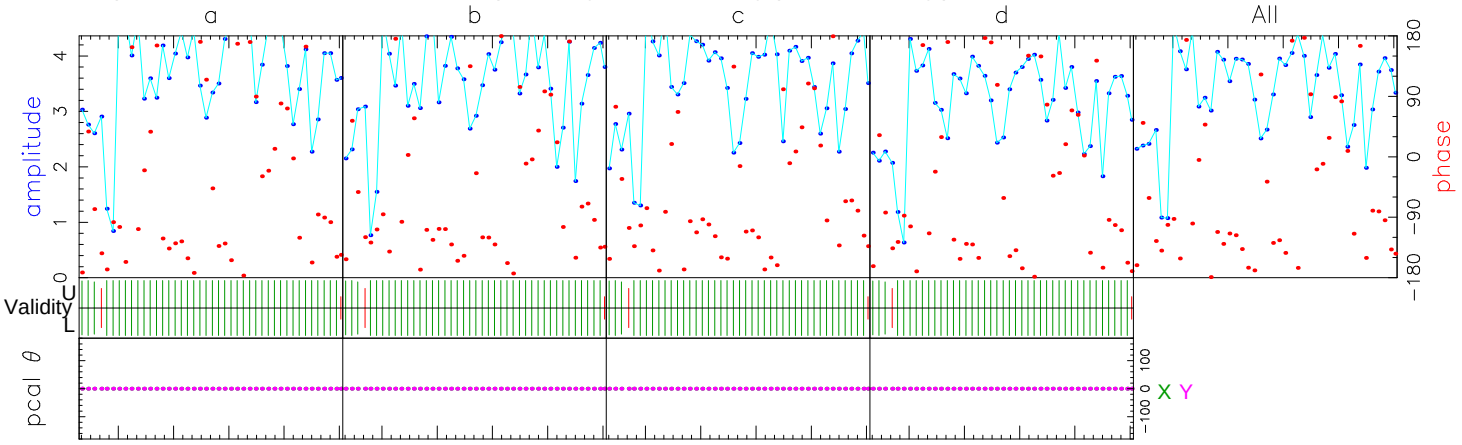
SNR 64.8
Int time 279.874
Amp 1.455
Phase -311.4
PFD 0.0e+00
Delays (us)
SBD -0.054707
MBD 0.000077
Fringe rate (Hz)
0.249172
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512





Exp. f231a
Exper # 1234
Yr:day 2023:124
Start 120017.41
Stop 120500.03
FRT 120230.00
Corr/FF/build
2023:124:143316
2023:124:143804
2021:298:074129
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-141.2	-125.2	-114.0	-147.5	Phase	-131.4
	1.6	1.5	1.6	1.3	Ampl.	1.5
	1011.0	1011.2	1010.9	1010.7	Sbd box	1011.0
U/L	549/549	549/549	549/549	549/549	APs used	
X	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
X:Y	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
X	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)	-4.93916168751E+02	Apriori delay (usec)	-4.93861558366E+02	Resid mbdelay (usec)	7.71151E-05	+/-	1.7E-05
Sband delay (usec)	-4.93916265366E+02	Apriori clock (usec)	1.6230489E+02	Resid sbdelay (usec)	-5.47070E-02	+/-	6.6E-05
Phase delay (usec)	-4.93861562604E+02	Apriori clockrate (us/s)	-7.8000003E-07	Resid phdelay (usec)	-4.23752E-06	+/-	2.9E-08
Delay rate (us/s)	1.97782897599E-01	Apriori rate (us/s)	1.97780004954E-01	Resid rate (us/s)	2.89265E-06	+/-	3.5E-10
Total phase (deg)	-181.0	Apriori accel (us/s/s)	1.81570079614E-05	Resid phase (deg)	-311.4	+/-	0.9

	RMS	Theor.	Amplitude	1.455 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	79.9	5.8	Search (2048X16)	1.380	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	149.3	10.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	18.6	1.8	Inc. seg. avg.	3.434	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	7.7	3.1	Inc. frq. avg.	1.492	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 291.5 el 38.0 pa 42.6 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1508.338 2577.102 simultaneous interpolator

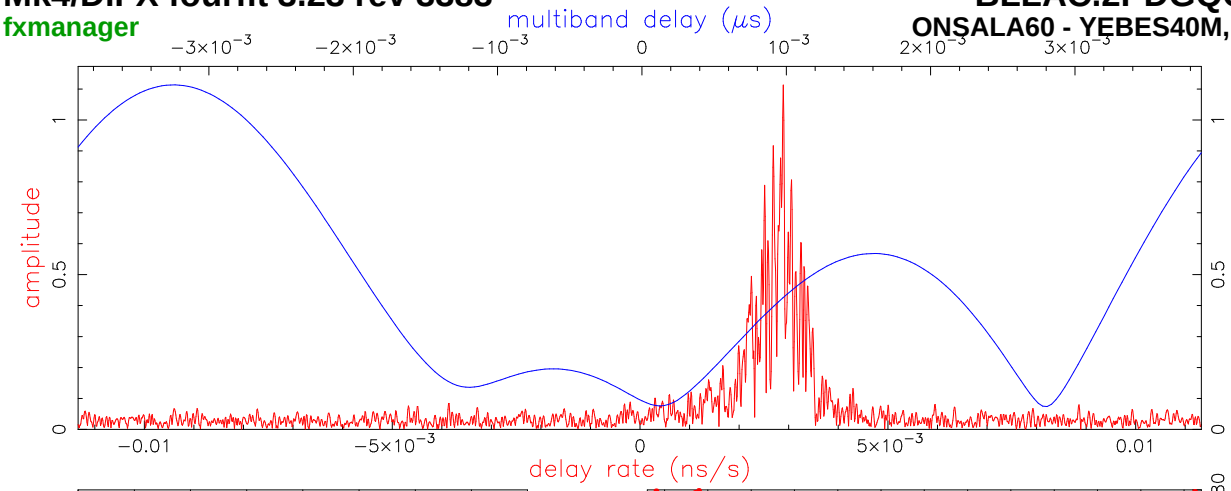
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/XY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/XY.W.33.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

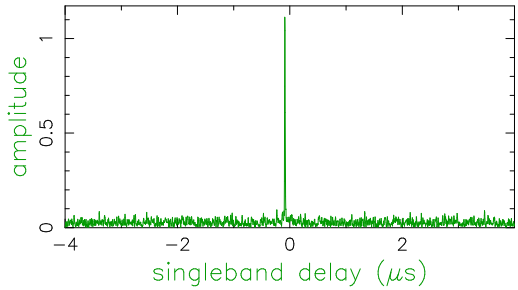
BLLAC.2PDGQQ, No0001, XY

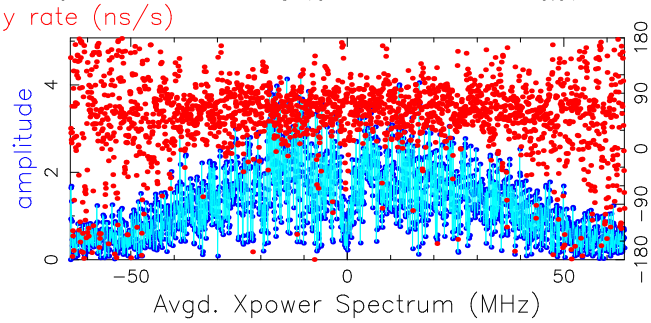
ONSALA60 - YEBES40M, fgroup W, pol RR



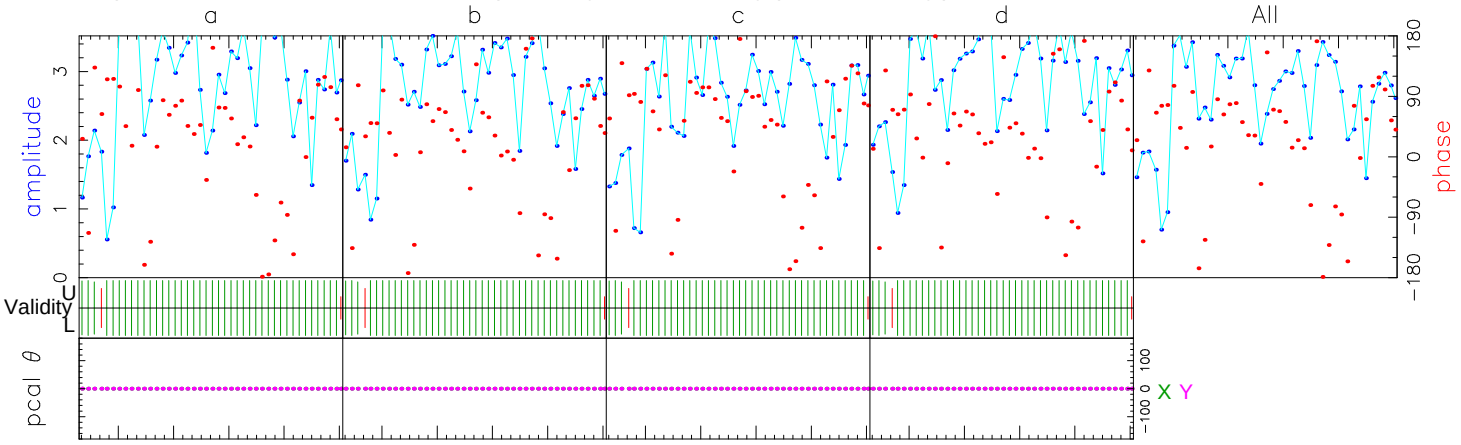
Fringe quality 5

SNR	52.2
Int time	279.874
Amp	1.173
Phase	-115.5
PFD	0.0e+00
Delays (us)	
SBD	-0.088492
MBD	-0.003227
Fringe rate (Hz)	0.249211
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143809 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	65.1	51.2	93.6	48.9	Phase	64.5
	1.2	1.2	1.2	1.2	Ampl.	1.2
	1002.2	1002.5	1002.3	1002.1	Sbd box	1002.3
U/L	549/549	549/549	549/549	549/549	APs used	
X	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
X:Y	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
X	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)	-4.93950722407E+02	Apriori delay (usec)	-4.93861558366E+02	Resid mbdelay (usec)	-3.22654E-03	+/-	2.1E-05
Sband delay (usec)	-4.93950050616E+02	Apriori clock (usec)	1.6230489E+02	Resid sbdelay (usec)	-8.84923E-02	+/-	8.2E-05
Phase delay (usec)	-4.93861556288E+02	Apriori clockrate (us/s)	-7.8000003E-07	Resid phdelay (usec)	2.07840E-06	+/-	3.5E-08
Delay rate (us/s)	1.97782898045E-01	Apriori rate (us/s)	1.97780004954E-01	Resid rate (us/s)	2.89309E-06	+/-	4.4E-10
Total phase (deg)	-345.1	Apriori accel (us/s/s)	1.81570079614E-05	Resid phase (deg)	-115.5	+/-	1.1

	RMS	Theor.	Amplitude	1.173 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	78.8	7.2	Search (2048X16)	1.078	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	143.6	12.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	25.2	2.2	Inc. seg. avg.	2.680	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	3.3	3.8	Inc. frq. avg.	1.199	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 291.5 el 38.0 pa 42.6 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1508.338 2577.102 simultaneous interpolator

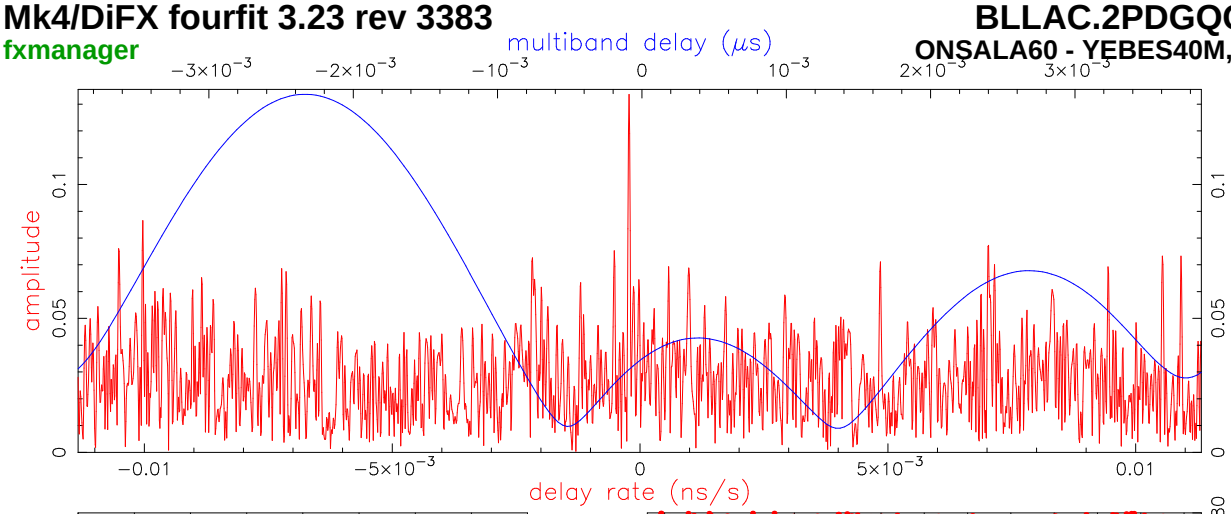
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/XY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/XY.W.34.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

BLLAC.2PDGQQ, No0001, XY

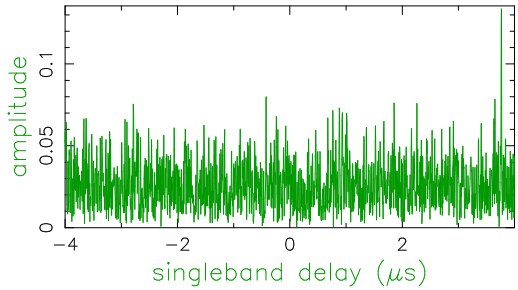
ONSALA60 - YEBES40M, fgroup W, pol LR

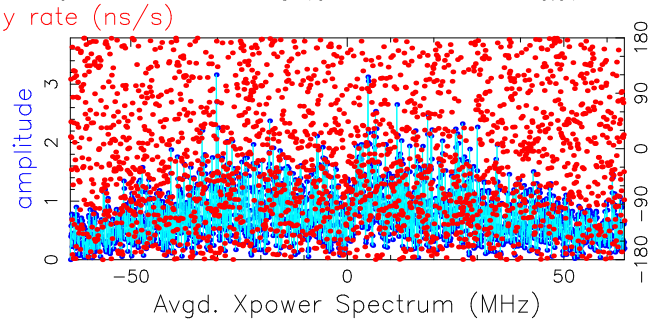


Fringe quality 0

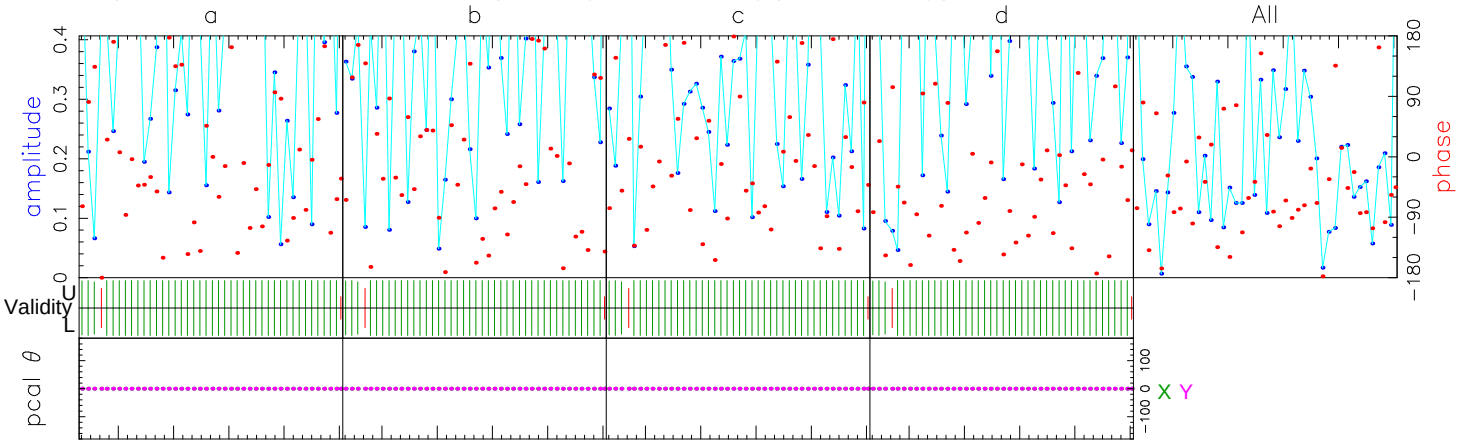
SNR 6.2
Int time 279.874
Amp 0.135
Phase 291.2
PFD 2.6e-01
Delays (us)
SBD 3.764649
MBD -0.002309
Fringe rate (Hz)
-0.019544
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. f231a
Exper # 1234
Yr:day 2023:124
Start 120017.41
Stop 120500.03
FRT 120230.00
Corr/FF/build
2023:124:143316
2023:124:143814
2021:298:074129
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-75.1	-66.9	-44.8	-82.7	Phase	-68.8
	0.1	0.1	0.1	0.2	Ampl.	0.1
	418.7	1470.5	1731.6	1988.3	Sbd box	1988.8
U/L	549/549	549/549	549/549	549/549	APs used	
X	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
X:Y	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
X	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)	-4.90098242321E+02	Apriori delay (usec)	-4.93861558366E+02	Resid mbdelay (usec)	-2.30895E-03	+/-	1.8E-04
Sband delay (usec)	-4.90096909366E+02	Apriori clock (usec)	1.6230489E+02	Resid sbdelay (usec)	3.76465E+00	+/-	6.9E-04
Phase delay (usec)	-4.93861560585E+02	Apriori clockrate (us/s)	-7.8000003E-07	Resid phdelay (usec)	-2.21882E-06	+/-	3.0E-07
Delay rate (us/s)	1.97779778065E-01	Apriori rate (us/s)	1.97780004954E-01	Resid rate (us/s)	-2.26889E-07	+/-	3.7E-09
Total phase (deg)	61.6	Apriori accel (us/s/s)	1.81570079614E-05	Resid phase (deg)	291.2	+/-	9.2

	RMS	Theor.	Amplitude	0.135 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	73.7	60.5	Search (2048X16)	0.129	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-4.000	4.000
amp/seg (%)	121.6	105.5	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	20.2	18.5	Inc. seg. avg.	0.141	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us	dr window (ns/s)	-0.011	0.011
amp/frq (%)	18.9	32.3	Inc. frq. avg.	0.131	Data rate(Mb/s): 2048 nlags: 1024 t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 291.5 el 38.0 pa 42.6 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1508.338 2577.102 simultaneous interpolator

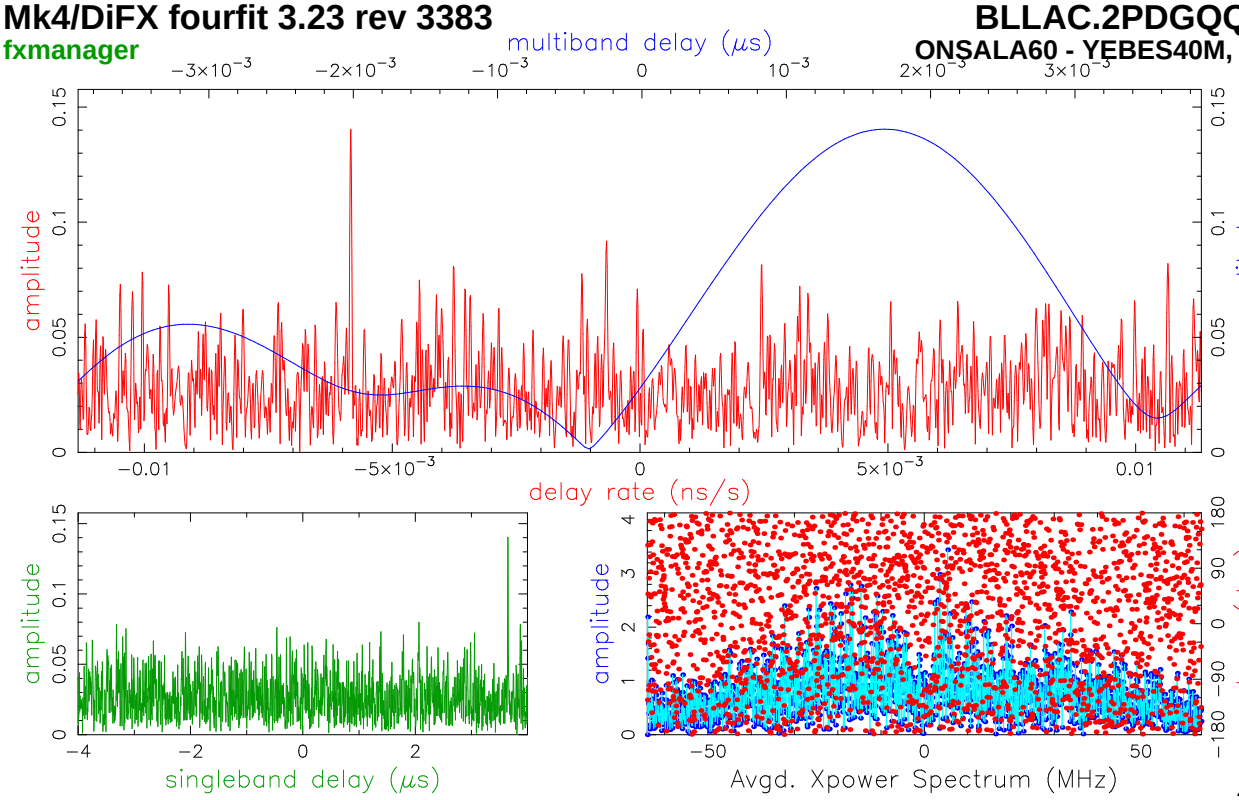
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/XY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/XY.W.35.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

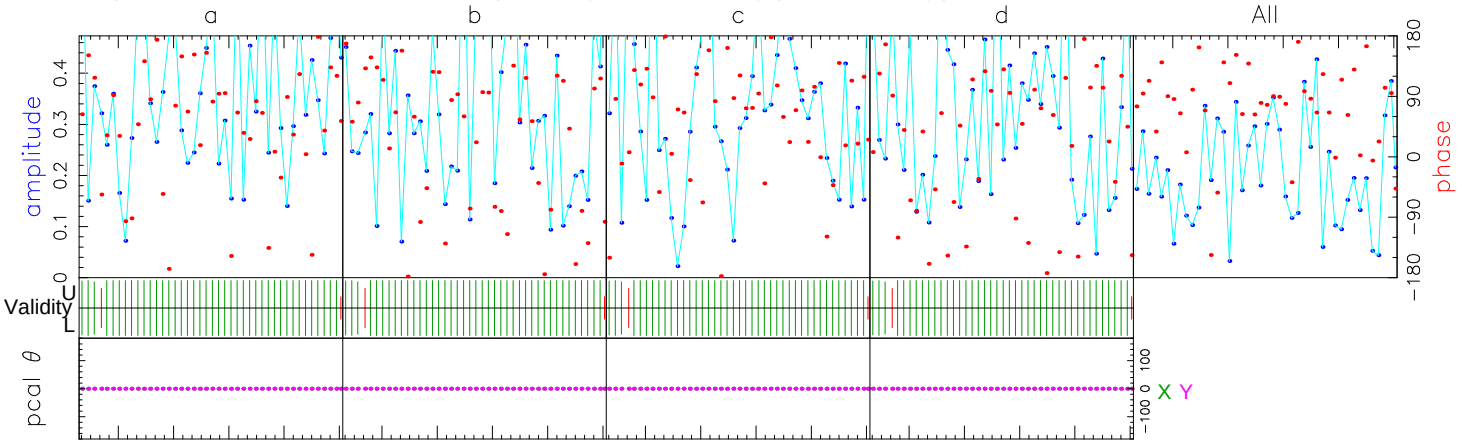
BLLAC.2PDGQQ, No0001, XY

ONSALA60 - YEBES40M, fgroup W, pol RL



Fringe quality	0
SNR	6.5
Int time	279.874
Amp	0.158
Phase	270.3
PFD	5.9e-02
Delays (us)	
SBD	3.649047
MBD	0.001719
Fringe rate (Hz)	-0.502647
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143819 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	86.1	109.1	80.9	88.2	Phase	90.3
	0.2	0.1	0.2	0.1	Ampl.	0.2
	595.5	454.2	1960.1	1872.4	Sbd box	1959.2
U/L	549/549	549/549	549/549	549/549	APs used	
X	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
X:Y	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
X	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)	-4.90211401828E+02	Apriori delay (usec)	-4.93861558366E+02	Resid mbdelay (usec)	1.71904E-03	+/-	1.7E-04
Sband delay (usec)	-4.90212511616E+02	Apriori clock (usec)	1.6230489E+02	Resid sbdelay (usec)	3.64905E+00	+/-	6.7E-04
Phase delay (usec)	-4.93861555453E+02	Apriori clockrate (us/s)	-7.8000003E-07	Resid phdelay (usec)	2.91303E-06	+/-	2.9E-07
Delay rate (us/s)	1.97774169724E-01	Apriori rate (us/s)	1.97780004954E-01	Resid rate (us/s)	-5.83523E-06	+/-	3.5E-09
Total phase (deg)	40.8	Apriori accel (us/s/s)	1.81570079614E-05	Resid phase (deg)	270.3	+/-	8.9

	RMS	Theor.	Amplitude	0.158 +/- 0.024	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	57.1	58.1	Search (2048X16)	0.139	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	85.5	101.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	15.2	17.8	Inc. seg. avg.	0.152	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	18.4	31.0	Inc. frq. avg.	0.152	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

X: az 291.5 el 38.0 pa 42.6 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1508.338 2577.102 simultaneous interpolator

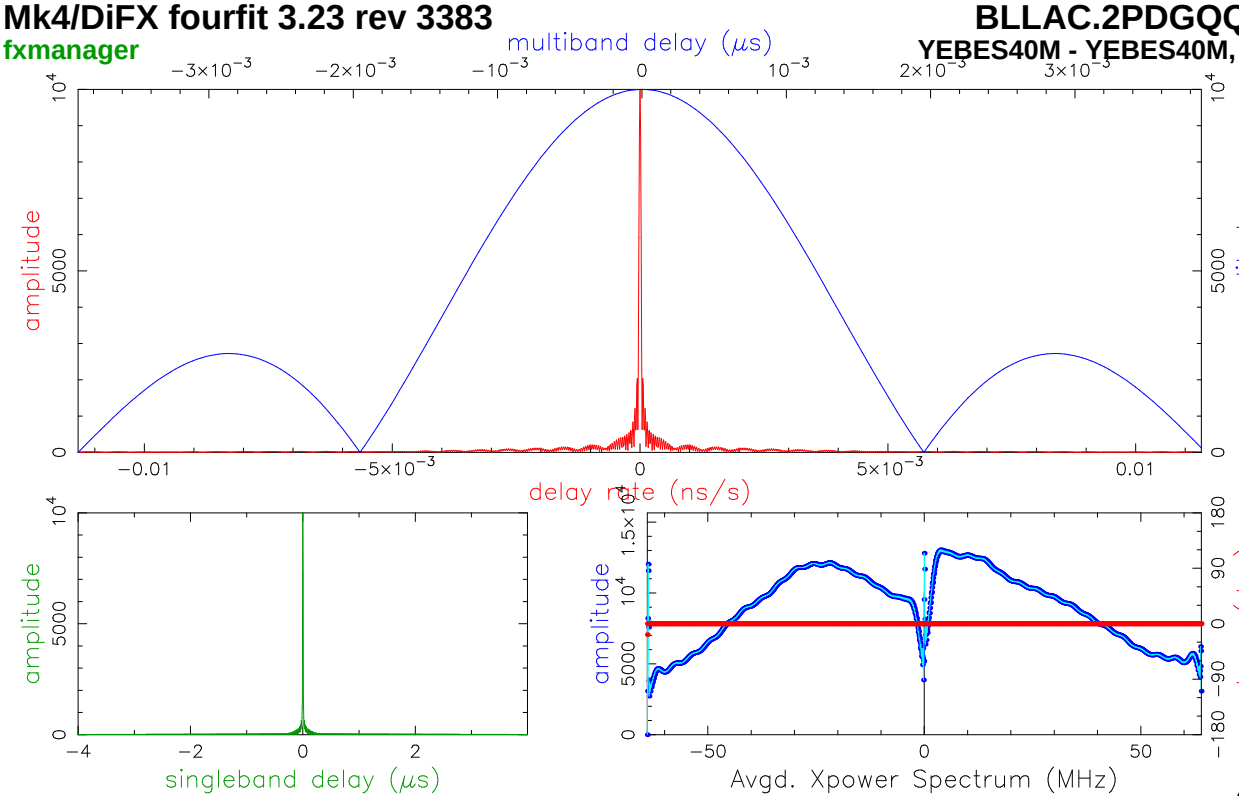
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/XY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/XY.W.36.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

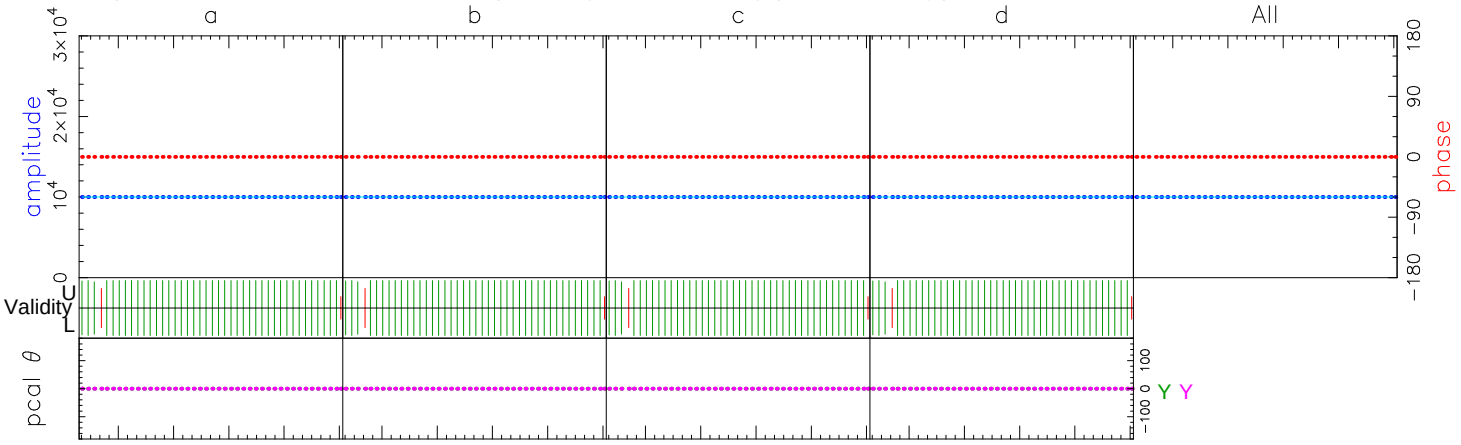
BLLAC.2PDGQQ, No0001, YY

YEBES40M - YEBES40M, fgroup W, pol LL



Fringe quality	9
SNR	457487.5
Int time	279.874
Amp	10000.002
Phase	0.0
PFD	0.0e+00
Delays (us)	
SBD	0.000000
MBD	0.000000
Fringe rate (Hz)	0.000000
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143824 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	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
	1025.0	1025.0	1025.0	1025.0	Sbd box	1025.0
U/L	549/549	549/549	549/549	549/549	APs used	
Y	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Y:Y	0:0	0:0	0:0	0:0	PC phase	
Y:Y	0:0	0:0	0:0	0:0	Manl PC	
Y	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Y	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)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	2.4E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	9.4E-09
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	4.0E-12
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	5.0E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.	Amplitude	10000.002 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.0	0.0	Search (2048X16)	10000.002	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
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	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.002	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

Y: az 295.9 el 40.3 pa 67.5 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

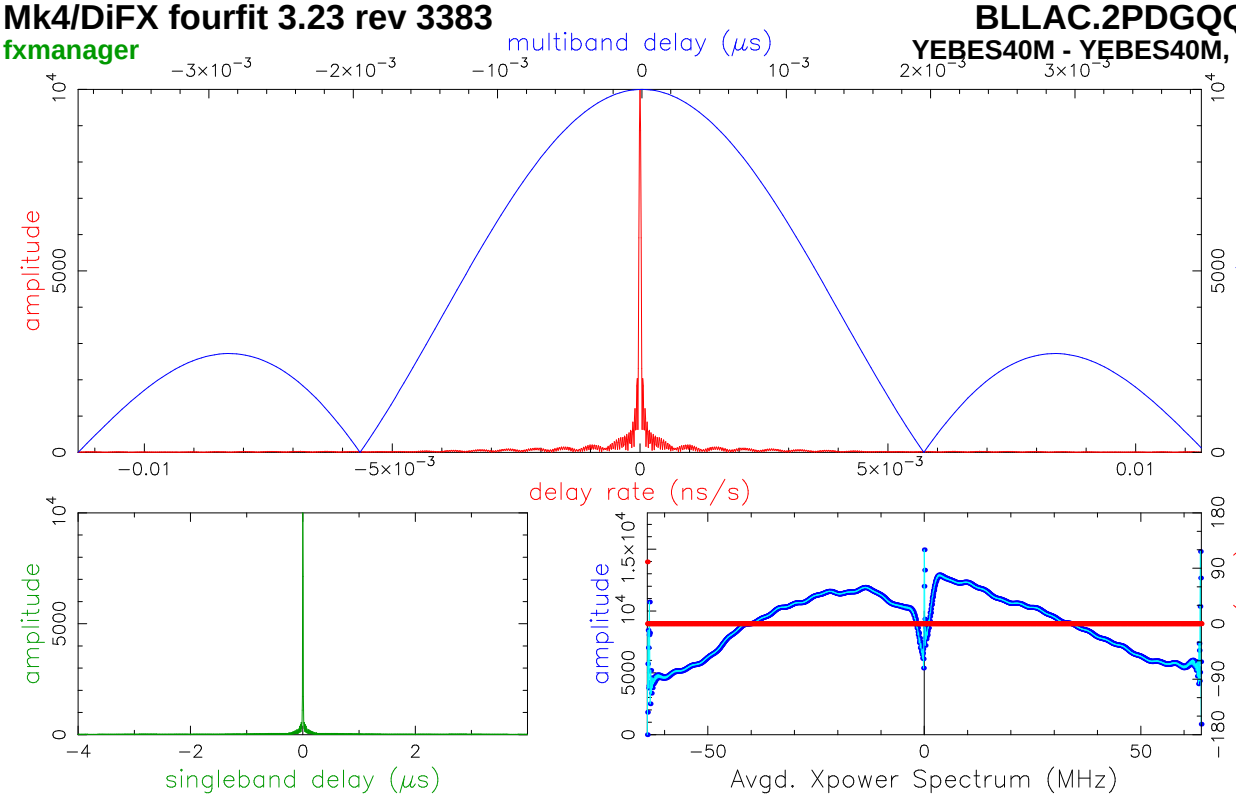
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/YY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/YY.W.37.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

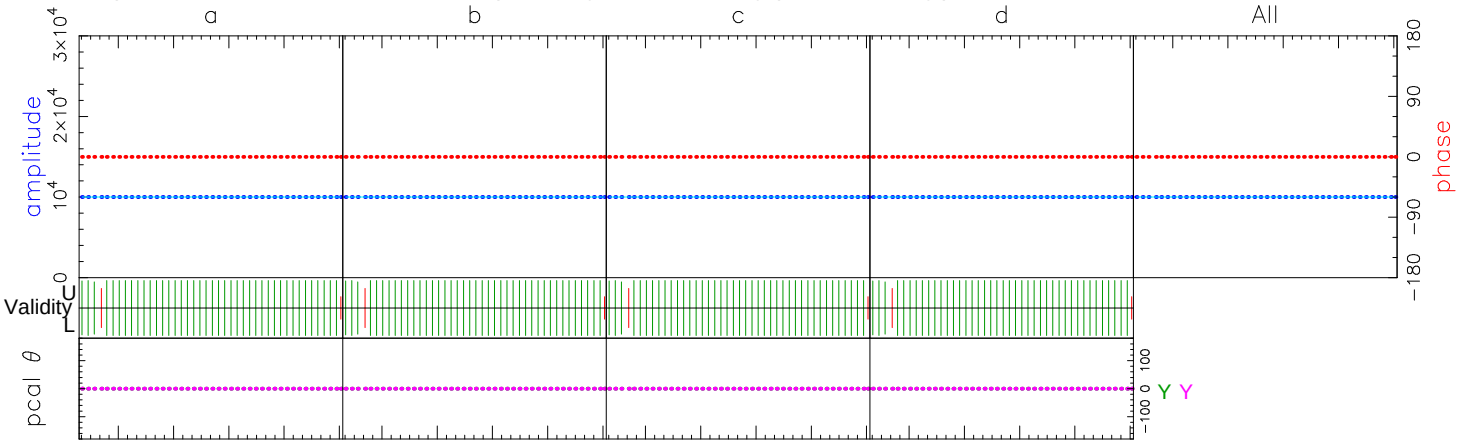
BLLAC.2PDGQQ, No0001, YY

YEBES40M - YEBES40M, fgroup W, pol RR



Fringe quality	9
SNR	457487.5
Int time	279.874
Amp	10000.002
Phase	0.0
PFD	0.0e+00
Delays (us)	
SBD	0.000000
MBD	0.000000
Fringe rate (Hz)	0.000000
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143828 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 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
	1025.0	1025.0	1025.0	1025.0	Sbd box	1025.0
U/L	549/549	549/549	549/549	549/549	APs used	
Y	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Y:Y	0:0	0:0	0:0	0:0	PC phase	
Y:Y	0:0	0:0	0:0	0:0	Manl PC	
Y	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Y	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)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	2.4E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	9.4E-09
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	4.0E-12
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	5.0E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.	Amplitude	10000.002 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.0	0.0	Search (2048X16)	10000.002	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
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	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.002	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

Y: az 295.9 el 40.3 pa 67.5 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

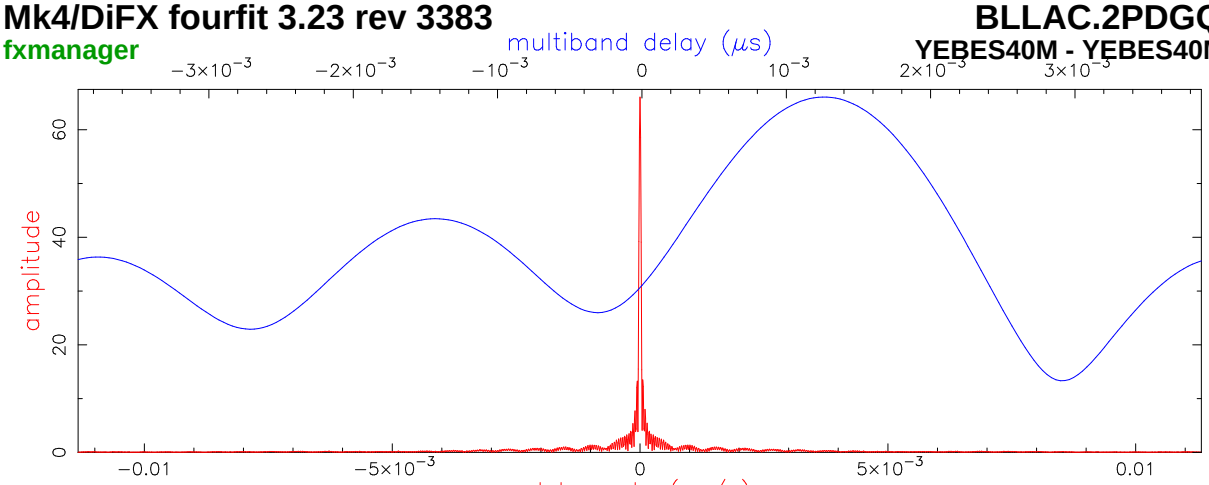
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/YY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/YY.W.38.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

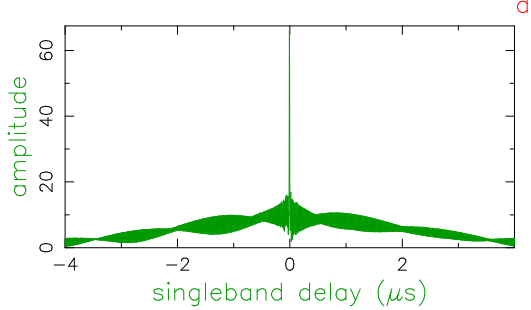
BLLAC.2PDGQQ, No0001, YY

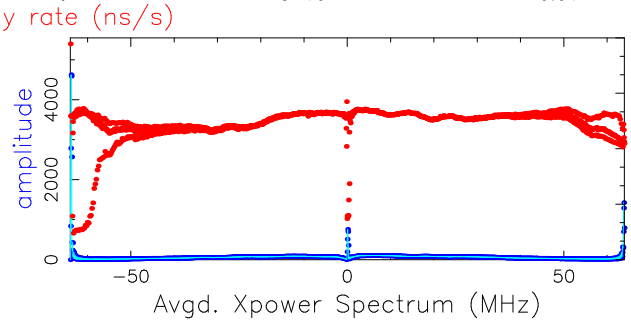
YEBES40M - YEBES40M, fgroup W, pol LR



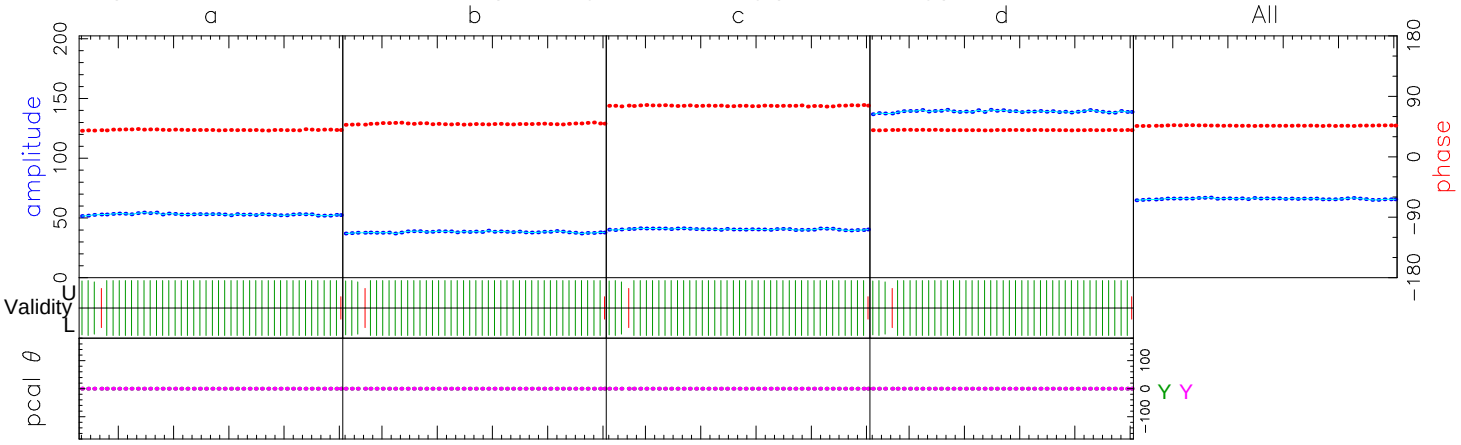
Fringe quality 6

SNR	3087.7
Int time	279.874
Amp	67.493
Phase	-133.7
PFD	0.0e+00
Delays (us)	
SBD	-0.006920
MBD	0.001281
Fringe rate (Hz)	-0.000004
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316
	2023:124:143833
	2021:298:074129
RA & Dec (J2000)	22h02m43.291370s
	+42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	40.0	49.0	75.9	39.7	Phase	46.3
	53.0	38.2	40.6	139.1	Ampl.	67.7
	1023.3	1024.0	1023.4	1023.0	Sbd box	1023.2
U/L	549/549	549/549	549/549	549/549	APs used	
Y	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Y:Y	0:0	0:0	0:0	0:0	PC phase	
Y:Y	0:0	0:0	0:0	0:0	Manl PC	
Y	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Y	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)	-6.53193750000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	1.28056E-03	+/-	3.6E-07
Sband delay (usec)	-6.91975000000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-6.91975E-03	+/-	1.4E-06
Phase delay (usec)	1.49335449306E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	1.49335E-06	+/-	6.0E-10
Delay rate (us/s)	-5.17247062296E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-5.17247E-11	+/-	7.4E-12
Total phase (deg)	-133.7	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-133.7	+/-	0.0

	RMS	Theor.	Amplitude	67.493 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.3	0.1	Search (2048X16)	64.786	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-4.000	4.000
amp/seg (%)	2.2	0.2	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	22.0	0.0	Inc. seg. avg.	66.072	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us	dr window (ns/s)	-0.011	0.011
amp/frq (%)	61.6	0.1	Inc. frq. avg.	67.715	Data rate(Mb/s): 2048 nlags: 1024 t_cohere infinite	ion window (TEC)	0.00	0.00

Y: az 295.9 el 40.3 pa 67.5 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

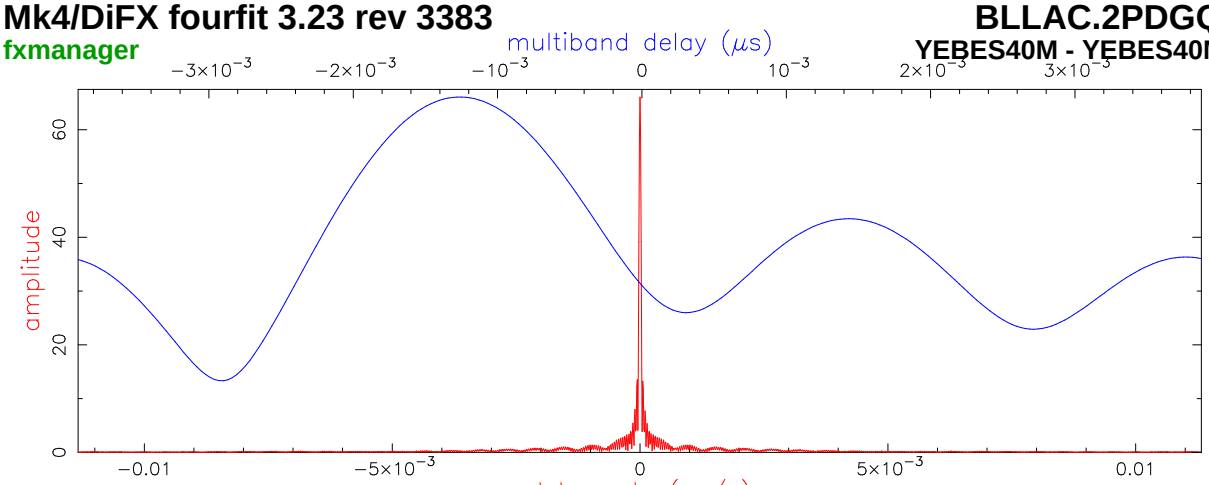
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/YY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/YY.W.39.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

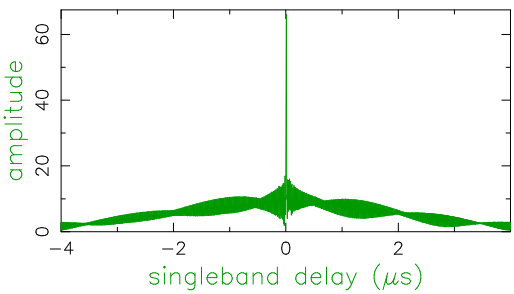
BLLAC.2PDGQQ, No0001, YY

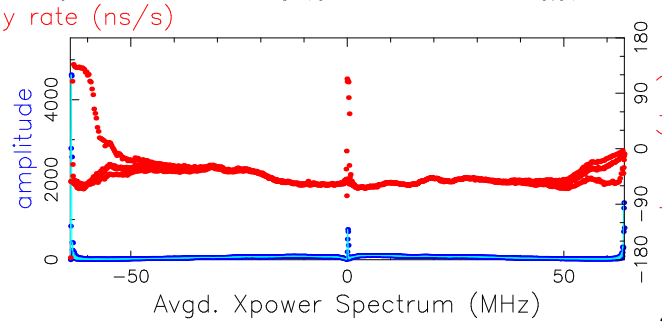
YEBES40M - YEBES40M, fgroup W, pol RL



Fringe quality 6

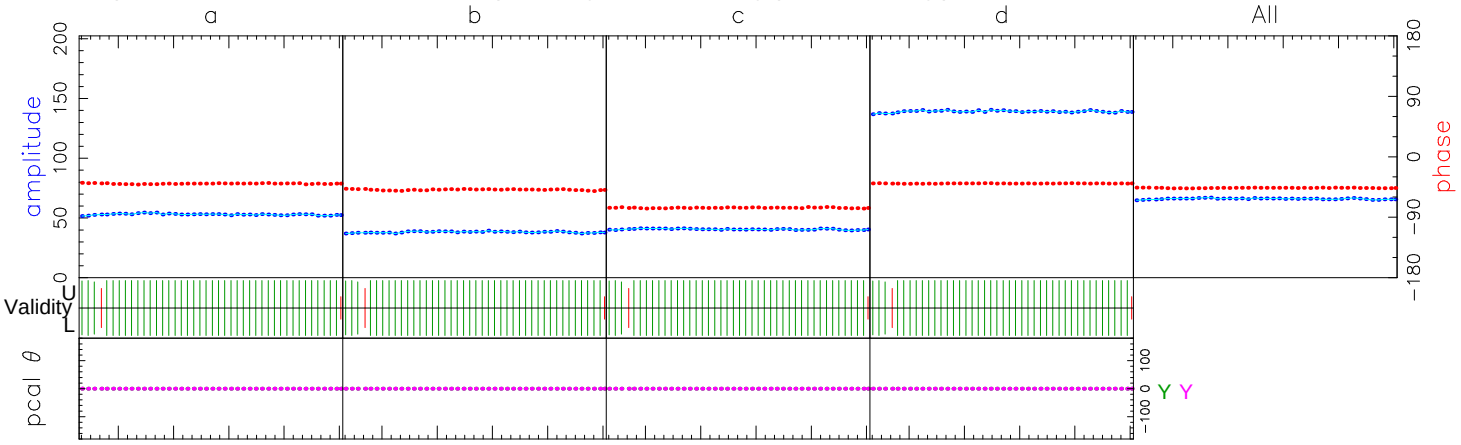
SNR	3087.7
Int time	279.874
Amp	67.493
Phase	133.7
PFD	0.0e+00
Delays (us)	
SBD	0.006920
MBD	-0.001281
Fringe rate (Hz)	0.000004
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512





Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316
	2023:124:143837
	2021:298:074129
RA & Dec (J2000)	22h02m43.291370s
	+42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	-40.0	-49.0	-75.9	-39.7	Phase	-46.3
	53.0	38.2	40.6	139.1	Ampl.	67.7
	1026.7	1026.0	1026.6	1027.0	Sbd box	1026.8
U/L	549/549	549/549	549/549	549/549	APs used	
Y	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Y:Y	0:0	0:0	0:0	0:0	PC phase	
Y:Y	0:0	0:0	0:0	0:0	Manl PC	
Y	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Y	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)	6.53193750000E-03	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-1.28056E-03	+/-	3.6E-07
Sband delay (usec)	6.91975000000E-03	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	6.91975E-03	+/-	1.4E-06
Phase delay (usec)	-1.49335449287E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-1.49335E-06	+/-	6.0E-10
Delay rate (us/s)	5.17247062296E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	5.17247E-11	+/-	7.4E-12
Total phase (deg)	133.7	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	133.7	+/-	0.0

	RMS	Theor.	Amplitude	67.493 +/- 0.022	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.3	0.1	Search (2048X16)	64.786	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	2.2	0.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	22.0	0.0	Inc. seg. avg.	66.072	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	61.6	0.1	Inc. frq. avg.	67.715	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

Y: az 295.9 el 40.3 pa 67.5 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

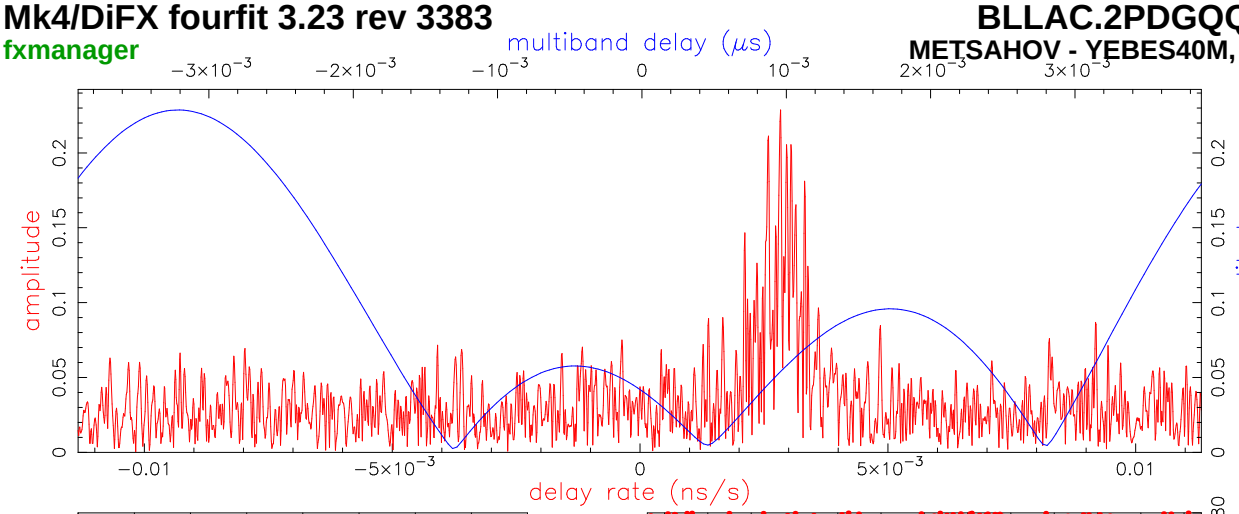
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/YY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/YY.W.40.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

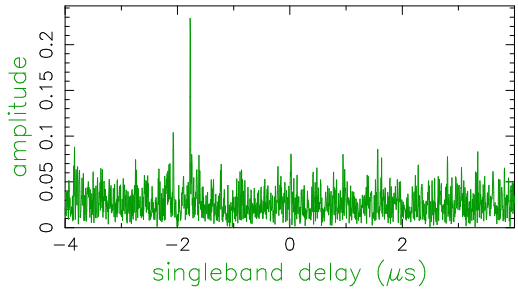
BLLAC.2PDGQQ, No0001, ZY

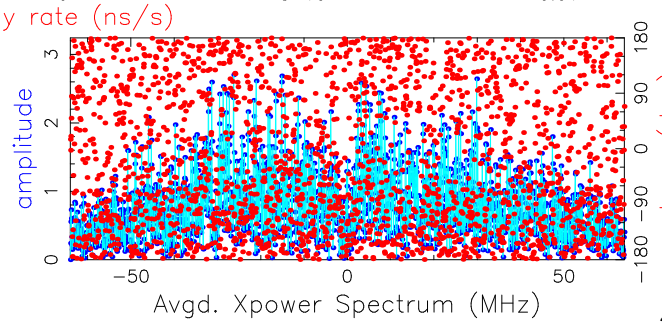
METSAHOV - YEBES40M, fgroup W, pol LL



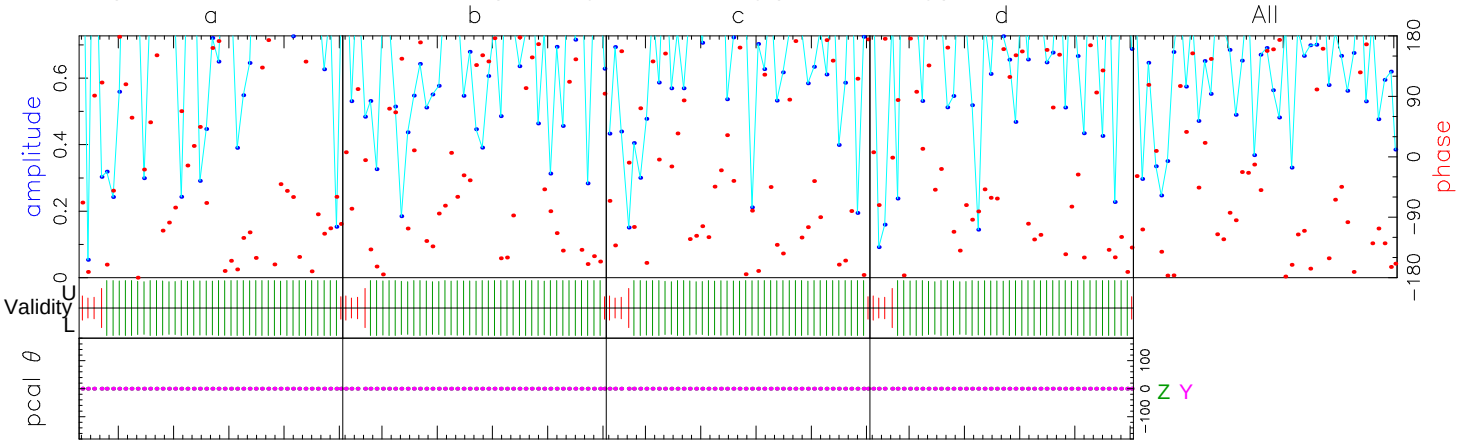
Fringe quality 9

SNR	10.5
Int time	266.155
Amp	0.242
Phase	-145.6
PFD	5.1e-17
Delays (us)	
SBD	-1.772055
MBD	-0.003214
Fringe rate (Hz)	0.244479
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143745 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-143.6	-154.8	-133.7	-149.6	Phase	-145.6
	0.3	0.2	0.2	0.3	Ampl.	0.2
	571.2	571.4	571.5	571.3	Sbd box	571.4
U/L	537/537	537/537	537/537	537/537	APs used	
Z	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Z:Y	0:0	0:0	0:0	0:0	PC phase	
Z:Y	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Z	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)	-1.99295759045E+03	Apriori delay (usec)	-1.99118875149E+03	Resid mbdelay (usec)	-3.21396E-03	+/-	1.1E-04
Sband delay (usec)	-1.99296080674E+03	Apriori clock (usec)	7.0319786E+01	Resid sbdelay (usec)	-1.77206E+00	+/-	4.1E-04
Phase delay (usec)	-1.99118875618E+03	Apriori clockrate (us/s)	-1.4100000E-06	Resid phdelay (usec)	-4.69496E-06	+/-	1.8E-07
Delay rate (us/s)	2.45771691127E-01	Apriori rate (us/s)	2.45768852973E-01	Resid rate (us/s)	2.83815E-06	+/-	2.2E-09
Total phase (deg)	-164.8	Apriori accel (us/s/s)	2.75765521670E-05	Resid phase (deg)	-145.6	+/-	5.4

	RMS	Theor.	Amplitude	0.242 +/- 0.023	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	77.8	35.2	Search (2048X16)	0.223	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	180.9	61.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	11.1	10.9	Inc. seg. avg.	0.541	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	8.5	19.0	Inc. frq. avg.	0.233	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

Z: az 298.4 el 33.3 pa 36.1 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1868.185 3423.014 simultaneous interpolator

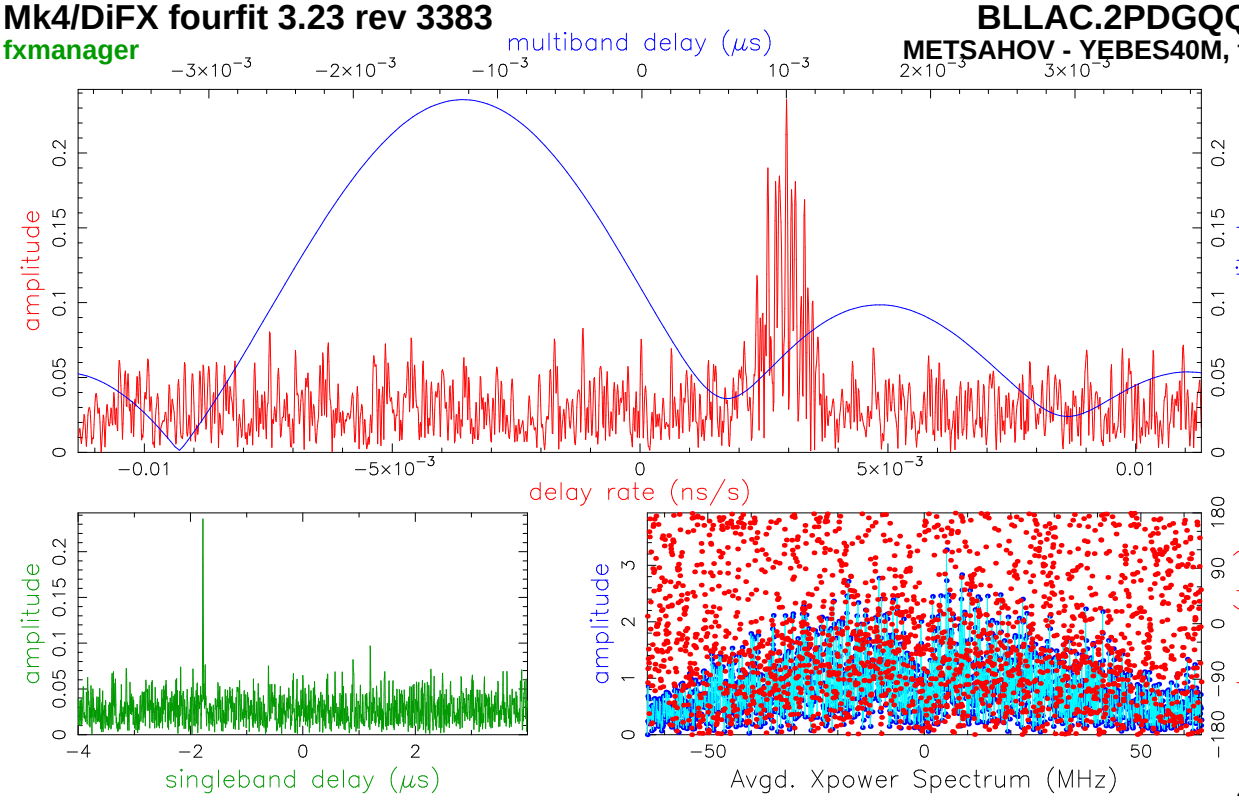
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/ZY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/ZY.W.29.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

BLLAC.2PDGQQ, No0001, ZY

METSAHOV - YEBES40M, fgroup W, pol RR

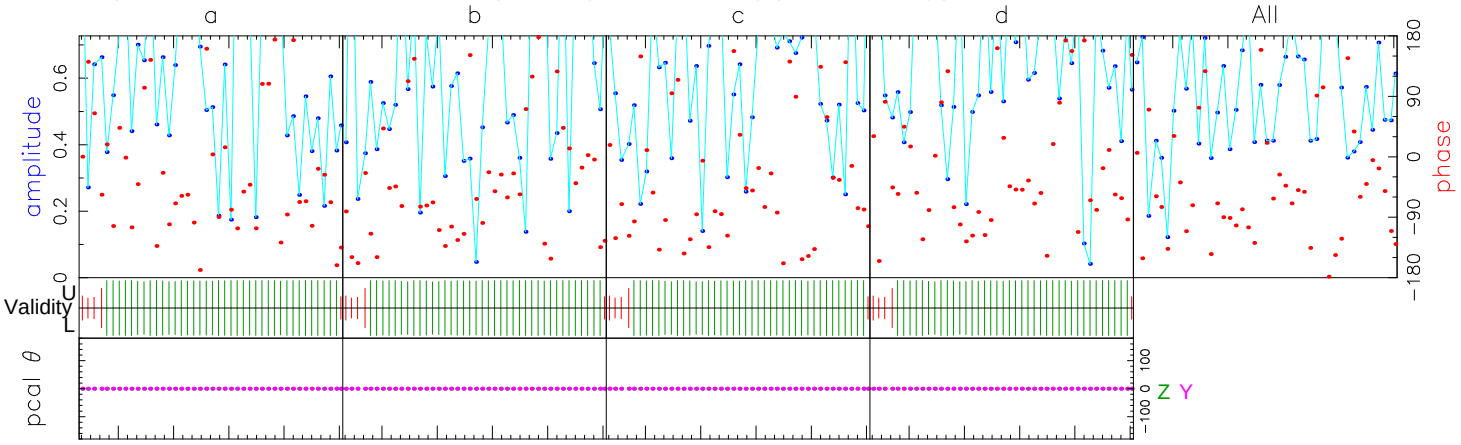


Fringe quality 9

SNR 10.5
Int time 266.155
Amp 0.242
Phase -258.0
PFD 6.4e-17
Delays (us)
SBD -1.777524
MBD -0.001245
Fringe rate (Hz)
0.254918
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. f231a
Exper # 1234
Yr:day 2023:124
Start 120017.41
Stop 120500.03
FRT 120230.00
Corr/FF/build
2023:124:143316
2023:124:143750
2021:298:074129
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	-76.2	-71.7	-95.2	-70.1	Phase	-78.0
	0.2	0.2	0.2	0.3	Ampl.	0.2
	569.5	570.5	570.1	569.8	Sbd box	570.0
U/L	537/537	537/537	537/537	537/537	APs used	
Z	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Z:Y	0:0	0:0	0:0	0:0	PC phase	
Z:Y	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Z	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)	-1.99296343421E+03	Apriori delay (usec)	-1.99118875149E+03	Resid mbdelay (usec)	-1.24522E-03	+/-	1.1E-04
Sband delay (usec)	-1.99296627574E+03	Apriori clock (usec)	7.0319786E+01	Resid sbdelay (usec)	-1.77752E+00	+/-	4.1E-04
Phase delay (usec)	-1.99118875400E+03	Apriori clockrate (us/s)	-1.4100000E-06	Resid phdelay (usec)	-2.51386E-06	+/-	1.8E-07
Delay rate (us/s)	2.45771812316E-01	Apriori rate (us/s)	2.45768852973E-01	Resid rate (us/s)	2.95934E-06	+/-	2.2E-09
Total phase (deg)	-277.1	Apriori accel (us/s/s)	2.75765521670E-05	Resid phase (deg)	-258.0	+/-	5.4

	RMS	Theor.	Amplitude	0.242 +/- 0.023
ph/seg (deg)	77.8	35.2	Search (2048X16)	0.230
amp/seg (%)	150.7	61.5	Interp.	0.000
ph/frq (deg)	14.2	10.9	Inc. seg. avg.	0.472
amp/frq (%)	15.3	19.0	Inc. frq. avg.	0.242

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: enabled
Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us
Data rate(Mb/s): 2048 nlags: 1024 t_cohere infinite

sb window (us)	-4.000	4.000
mb window (us)	-0.004	0.004
dr window (ns/s)	-0.011	0.011
ion window (TEC)	0.00	0.00

Z: az 298.4 el 33.3 pa 36.1 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1868.185 3423.014 simultaneous interpolator

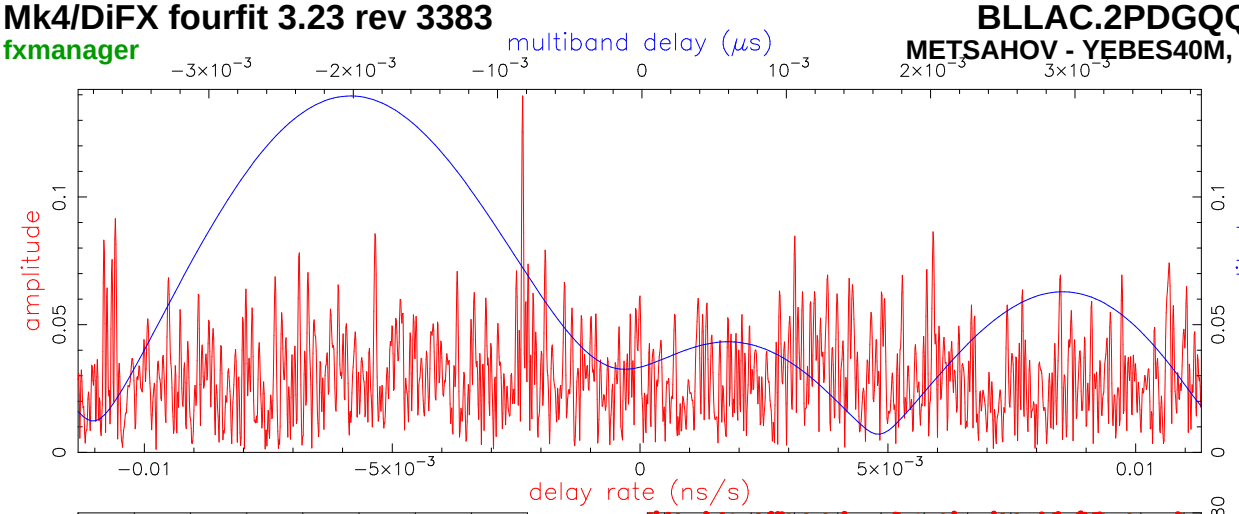
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/ZY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/ZY.W.30.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

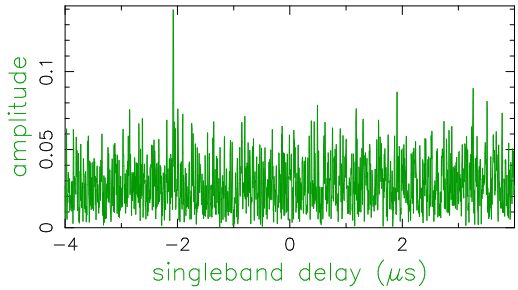
BLLAC.2PDGQQ, No0001, ZY

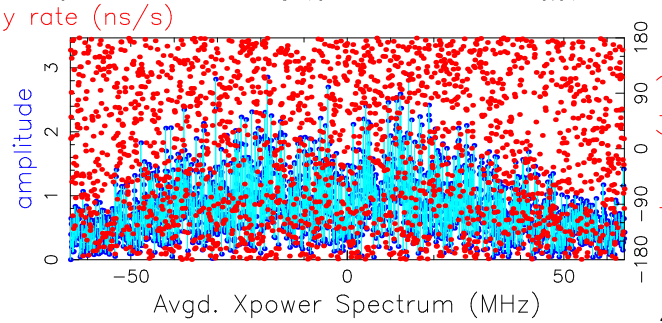
METSAHOV - YEBES40M, fgroup W, pol LR



Fringe quality 0

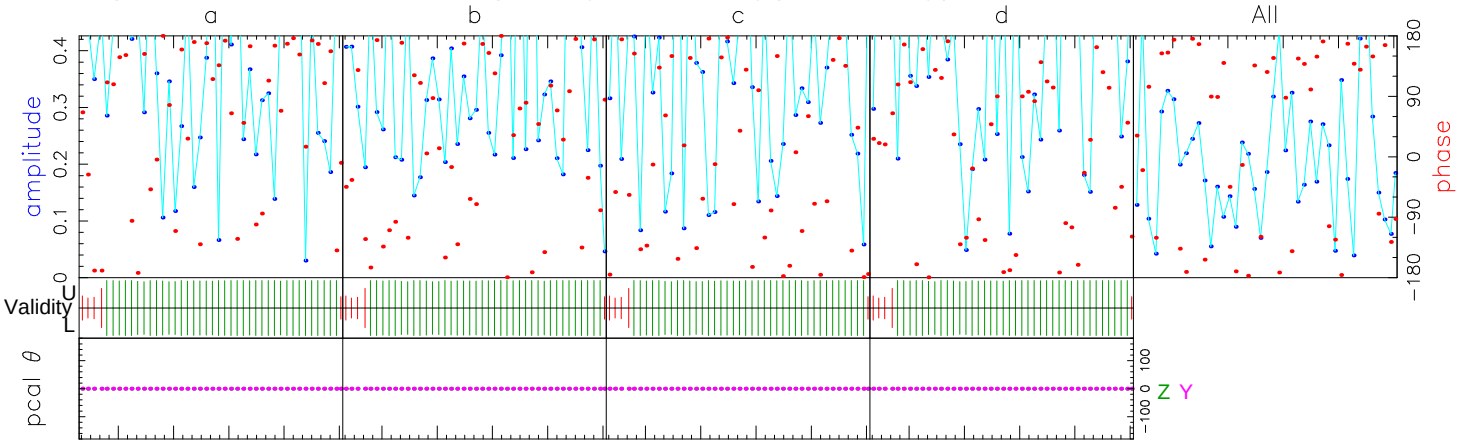
SNR 6.2
Int time 266.155
Amp 0.142
Phase -13.0
PFD 2.2e-01
Delays (us)
SBD -2.074342
MBD -0.002017
Fringe rate (Hz)
-0.204007
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512





Exp. f231a
Exper # 1234
Yr:day 2023:124
Start 120017.41
Stop 120500.03
FRT 120230.00
Corr/FF/build
2023:124:143316
2023:124:143755
2021:298:074129
RA & Dec (J2000)
22h02m43.291370s
+42°16'39.979897"

Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	158.3	173.4	-170.5	148.9	Phase	167.0
	0.2	0.1	0.1	0.1	Ampl.	0.1
	493.9	108.0	1358.2	630.1	Sbd box	494.0
U/L	537/537	537/537	537/537	537/537	APs used	
Z	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Z:Y	0:0	0:0	0:0	0:0	PC phase	
Z:Y	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Z	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)	-1.99326108074E+03	Apriori delay (usec)	-1.99118875149E+03	Resid mbdelay (usec)	-2.01675E-03	+/-	1.8E-04
Sband delay (usec)	-1.99326309299E+03	Apriori clock (usec)	7.0319786E+01	Resid sbdelay (usec)	-2.07434E+00	+/-	6.9E-04
Phase delay (usec)	-1.99118874610E+03	Apriori clockrate (us/s)	-1.4100000E-06	Resid phdelay (usec)	5.38399E-06	+/-	3.0E-07
Delay rate (us/s)	2.45766484653E-01	Apriori rate (us/s)	2.45768852973E-01	Resid rate (us/s)	-2.36832E-06	+/-	3.7E-09
Total phase (deg)	-32.2	Apriori accel (us/s/s)	2.75765521670E-05	Resid phase (deg)	-13.0	+/-	9.2

	RMS	Theor.	Amplitude	0.142 +/- 0.023
ph/seg (deg)	62.4	59.5	Search (2048X16)	0.135
amp/seg (%)	98.8	103.9	Interp.	0.000
ph/frq (deg)	21.8	18.4	Inc. seg. avg.	0.140
amp/frq (%)	15.3	32.1	Inc. frq. avg.	0.140

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: enabled
Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us
Data rate(Mb/s): 2048 nlags: 1024 t_cohere infinite

sb window (us)	-4.000	4.000
mb window (us)	-0.004	0.004
dr window (ns/s)	-0.011	0.011
ion window (TEC)	0.00	0.00

Z: az 298.4 el 33.3 pa 36.1 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1868.185 3423.014 simultaneous interpolator

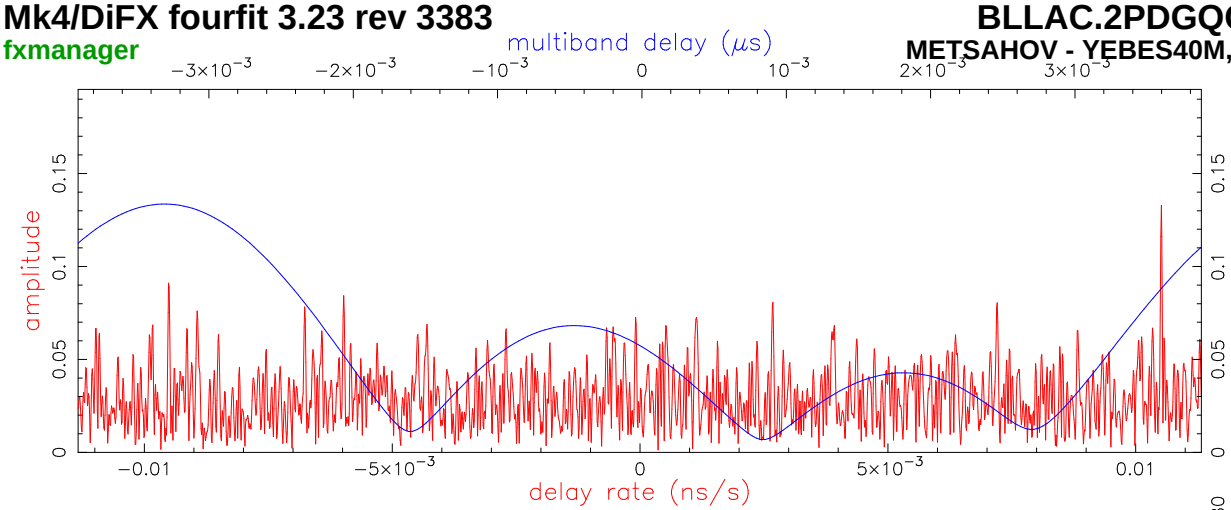
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/ZY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/ZY.W.31.2PDGQQ

Mk4/DiFX fourfit 3.23 rev 3383

fxmanager

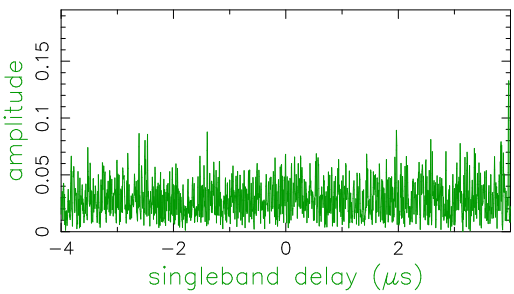
BLLAC.2PDGQQ, No0001, ZY

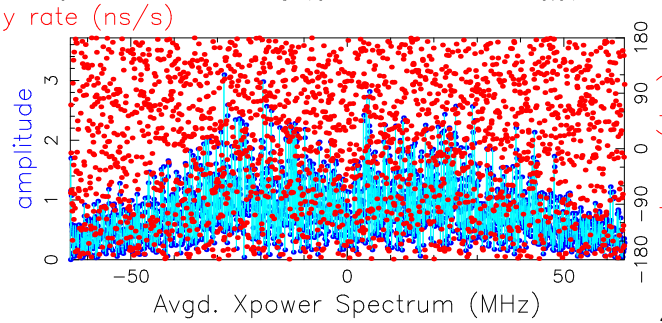
METSAHOV - YEBES40M, fgroup W, pol RL



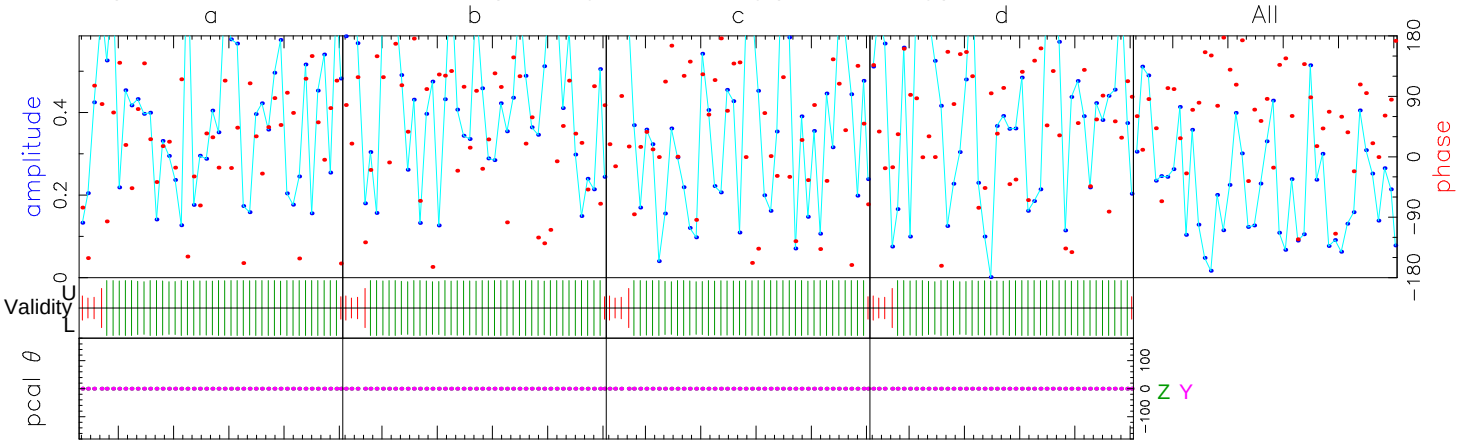
Fringe quality 0

SNR	5.9
Int time	266.155
Amp	0.195
Phase	248.3
PFD	7.8e-01
Delays (us)	
SBD	3.964547
MBD	0.004395
Fringe rate (Hz)	0.906857
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:124
Start	120017.41
Stop	120500.03
FRT	120230.00
Corr/FF/build	2023:124:143316 2023:124:143759 2021:298:074129
RA & Dec (J2000)	22h02m43.291370s +42°16'39.979897"





Amp. and Phase vs. time for each freq., 43 segs, 13 APs / seg (6.66 sec / seg.), time ticks 10 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	50.9	89.6	65.7	72.7	Phase	68.3
	0.2	0.2	0.2	0.2	Ampl.	0.2
	2002.0	188.9	55.8	1049.3	Sbd box	2039.9
U/L	537/537	537/537	537/537	537/537	APs used	
Z	0	0	0	0	PC freqs	
Y	0	0	0	0	PC freqs	
Z:Y	0:0	0:0	0:0	0:0	PC phase	
Z:Y	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000		
Z	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)	-1.98722341946E+03	Apriori delay (usec)	-1.99118875149E+03	Resid mbdelay (usec)	4.39453E-03	+/-	1.9E-04
Sband delay (usec)	-1.98722420474E+03	Apriori clock (usec)	7.0319786E+01	Resid sbdelay (usec)	3.96455E+00	+/-	7.3E-04
Phase delay (usec)	-1.99118874929E+03	Apriori clockrate (us/s)	-1.4100000E-06	Resid phdelay (usec)	2.20253E-06	+/-	3.1E-07
Delay rate (us/s)	2.45779380689E-01	Apriori rate (us/s)	2.45768852973E-01	Resid rate (us/s)	1.05277E-05	+/-	3.9E-09
Total phase (deg)	229.1	Apriori accel (us/s/s)	2.75765521670E-05	Resid phase (deg)	248.3	+/-	9.7

	RMS	Theor.	Amplitude	0.195 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	69.8	62.4	Search (2048X16)	0.131	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-4.000 4.000
amp/seg (%)	113.8	109.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	19.8	19.3	Inc. seg. avg.	0.199	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	17.3	33.7	Inc. frq. avg.	0.190	Data rate(Mb/s): 2048	nlags: 1024 t_cohere infinite	ion window (TEC)	0.00 0.00

Z: az 298.4 el 33.3 pa 36.1 Y: az 295.9 el 40.3 pa 67.5 u,v (fr/asec) -1868.185 3423.014 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0001/ZY..2PDGQQ Output file: /Exps/f231a/FRINGE/1234/No0001/ZY.W.32.2PDGQQ