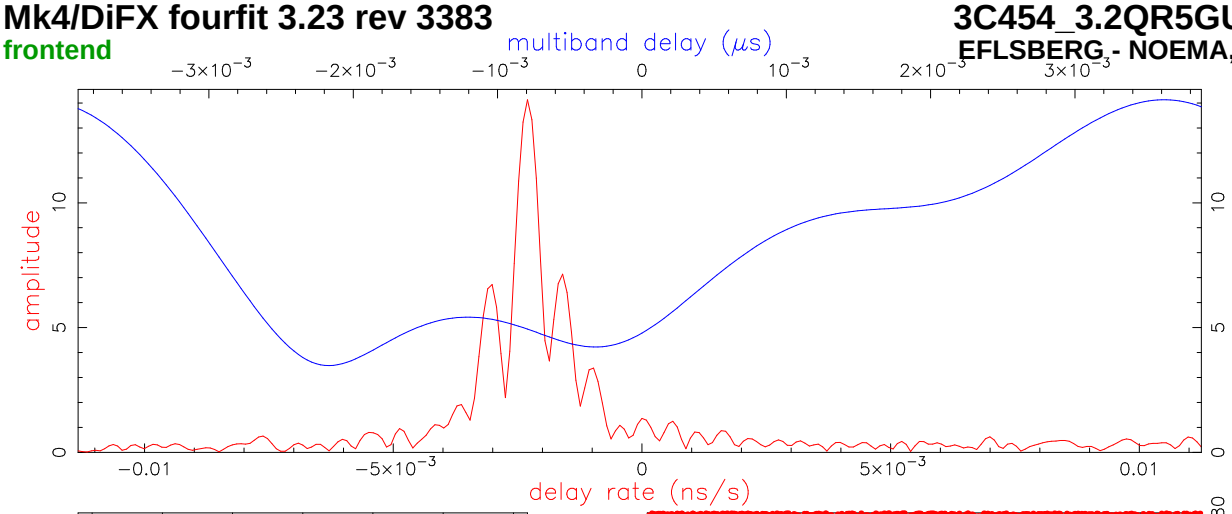
Mk4/DiFX fourfit 3.23 rev 3383

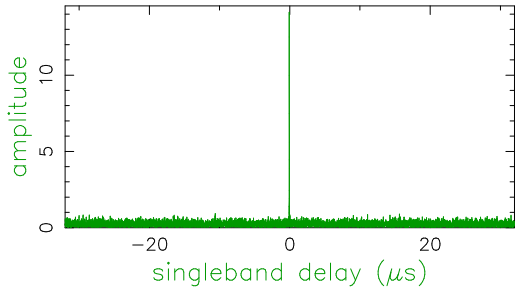
frontend

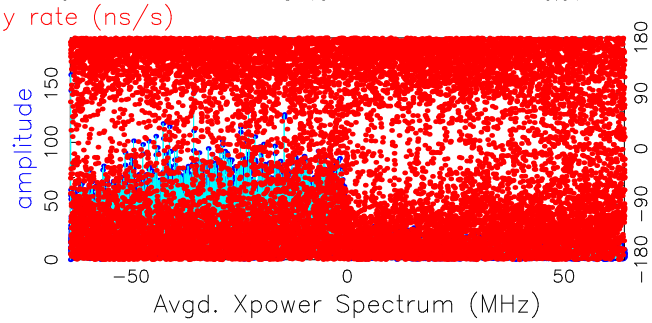
3C454_3.2QR5GU, No0605, BN

EFLSBERG - NOEMA, fgroup W, pol LL

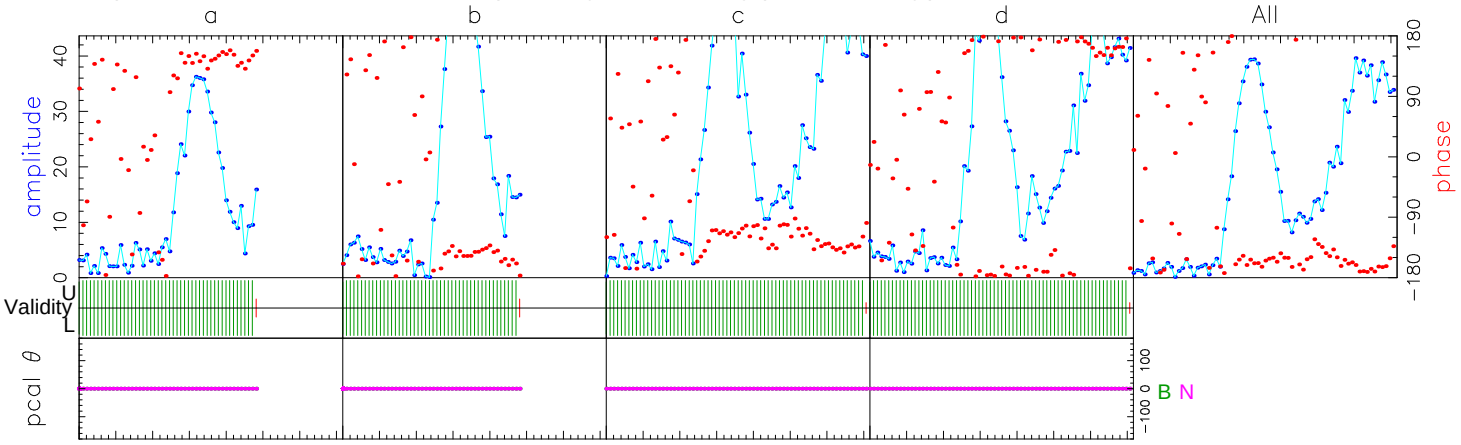


Fringe quality	2
SNR	213.6
Int time	29.806
Amp	14.545
Phase	-338.9
PFD	0.0e+00
Delays (us)	
SBD	-0.071222
MBD	-0.004222
Fringe rate (Hz)	-0.196222
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:125
Start	120000.00
Stop	120035.84
FRT	120330.00
Corr/FF/build	2023:151:103102
	2023:151:125804
	2021:308:113728
RA & Dec (J2000)	22h53m57.747940s
	+16°08'53.560883"





Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 sec / seg.), time ticks 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	144.4	-147.5	-123.0	174.5	Phase	-158.9
	10.2	16.4	20.6	18.8	Ampl.	17.1
	8172.2	8175.1	8174.7	8174.4	Sbd box	8174.8
U/L	48/48	48/48	70/70	70/70	APs used	
B	0	0	0	0	PC freqs	
N	0	0	0	0	PC freqs	
B:N	0:0	0:0	0:0	0:0	PC phase	
B:N	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000		
B	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	
N	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	

Group delay (usec) (SBD)	-4.16563297086E+02	Apriori delay (usec)	-4.16488762211E+02	Resid mbdelay (usec)	-4.22237E-03	+/-	5.2E-06
Sband delay (usec)	-4.16559984211E+02	Apriori clock (usec)	4.6140862E+00	Resid sbdelay (usec)	-7.12220E-02	+/-	2.0E-05
Phase delay (usec)	-4.16488767335E+02	Apriori clockrate (us/s)	2.0100000E-06	Resid phdelay (usec)	-5.12363E-06	+/-	8.7E-09
Delay rate (us/s)	9.70937741253E-02	Apriori rate (us/s)	9.70960520643E-02	Resid rate (us/s)	-2.27794E-06	+/-	9.9E-10
Total phase (deg)	-330.6	Apriori accel (us/s/s)	4.42581291568E-06	Resid phase (deg)	-338.9	+/-	0.3

	RMS	Theor.	Amplitude	14.545 +/- 0.068	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	59.3	2.1	Search (256X16)	13.738	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-32.000 32.000
amp/seg (%)	97.7	3.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	51.7	0.5	Inc. seg. avg.	15.085	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	30.2	0.9	Inc. frq. avg.	17.110	Data rate(Mb/s): 2048	nlags: 8192 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 262.2 el 27.5 pa 41.0 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) -573.125 692.766 simultaneous interpolator

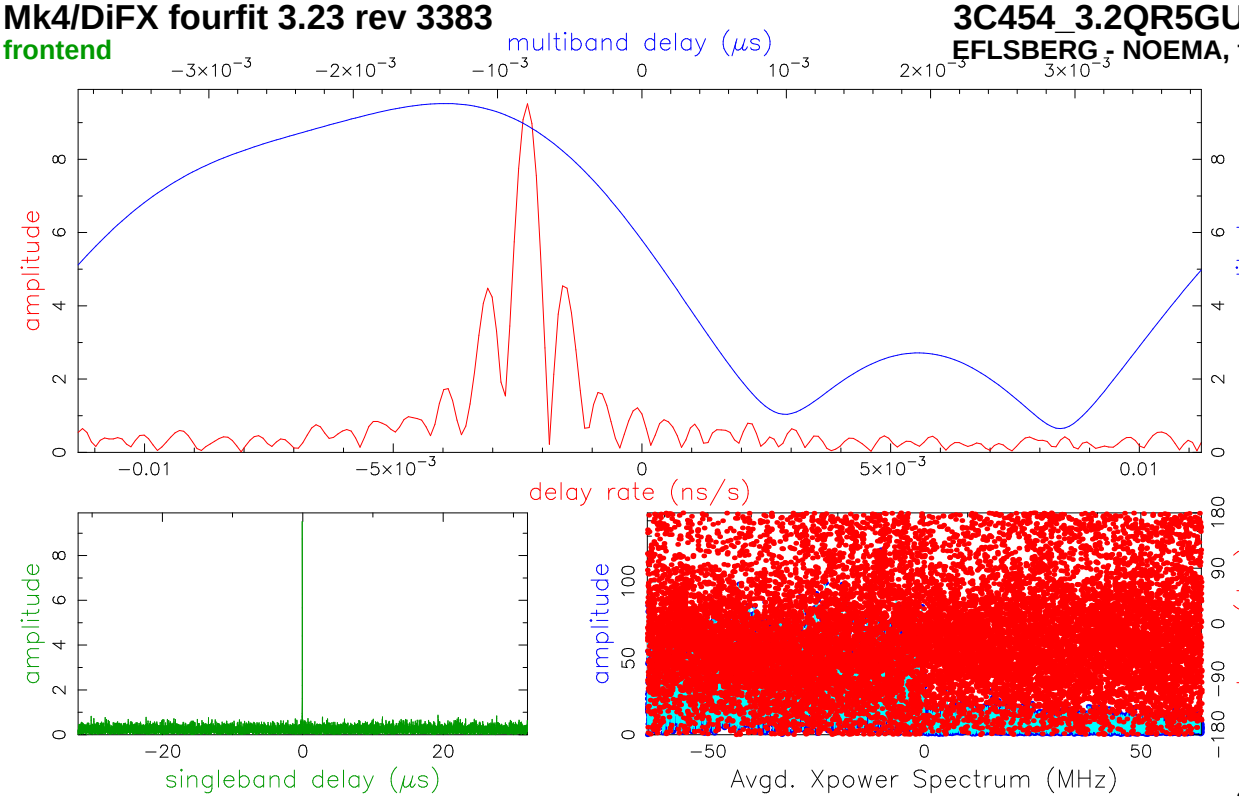
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/BN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/BN.W.1.2QR5GU

Mk4/DiFX fourfit 3.23 rev 3383

frontend

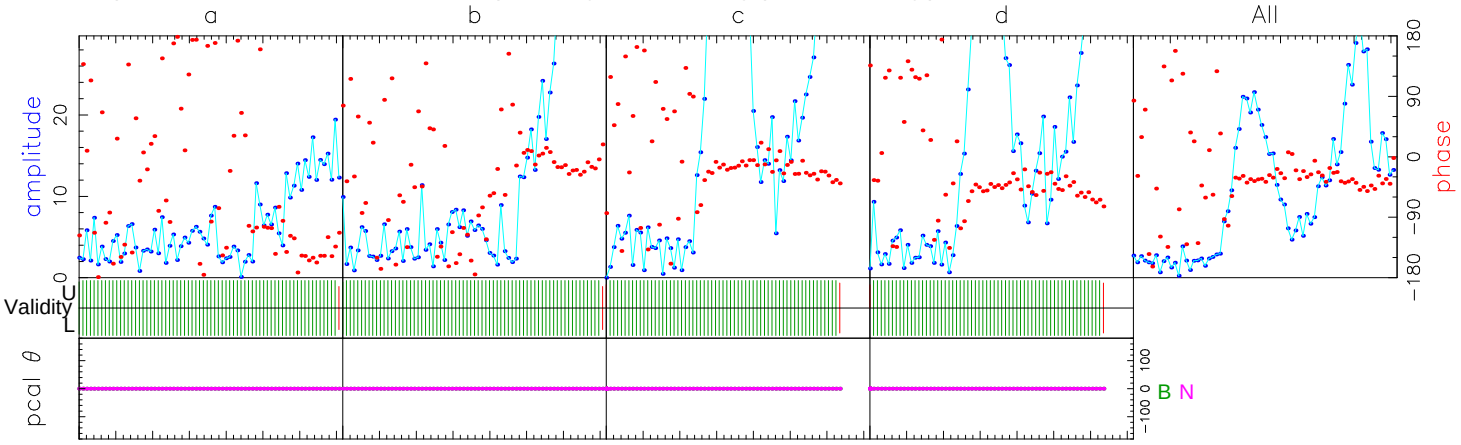
3C454_3.2QR5GU, No0605, BN

EFLSBERG - NOEMA, fgroup W, pol RR



Fringe quality	1
Error code	G
SNR	154.9
Int time	33.808
Amp	9.908
Phase	-34.8
PFD	0.0e+00
Delays (us)	
SBD	-0.067632
MBD	-0.001436
Fringe rate (Hz)	-0.196278
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:125
Start	120000.00
Stop	120035.84
FRT	120330.00
Corr/FF/build	2023:151:103102
	2023:151:125810
	2021:308:113728
RA & Dec (J2000)	22h53m57.747940s
	+16°08'53.560883"

Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 sec / seg.), time ticks 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	-141.6	-14.8	-19.9	-50.1	Phase	-34.8
	4.0	9.3	18.5	15.2	Ampl.	11.5
	8173.2	8175.5	8175.7	8175.0	Sbd box	8175.7
U/L	70/70	70/70	63/62	63/62	APs used	
B	0	0	0	0	PC freqs	
N	0	0	0	0	PC freqs	
B:N	0:0	0:0	0:0	0:0	PC phase	
B:N	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000		
B	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids Tracks	
N	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids Tracks	

Group delay (usec) (SBD)	-4.16552697712E+02	Apriori delay (usec)	-4.16488762211E+02	Resid mbdelay (usec)	-1.43550E-03	+/-	7.2E-06
Sband delay (usec)	-4.16556394461E+02	Apriori clock (usec)	4.6140862E+00	Resid sbdelay (usec)	-6.76323E-02	+/-	2.8E-05
Phase delay (usec)	-4.16488763332E+02	Apriori clockrate (us/s)	2.0100000E-06	Resid phdelay (usec)	-1.12090E-06	+/-	1.2E-08
Delay rate (us/s)	9.70937734677E-02	Apriori rate (us/s)	9.70960520643E-02	Resid rate (us/s)	-2.27860E-06	+/-	1.2E-09
Total phase (deg)	-26.4	Apriori accel (us/s/s)	4.42581291568E-06	Resid phase (deg)	-34.8	+/-	0.4

	RMS	Theor.	Amplitude	9.908 +/- 0.064	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	61.8	3.0	Search (256X16)	9.427	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-32.000 32.000
amp/seg (%)	88.3	5.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	78.3	0.7	Inc. seg. avg.	10.705	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	58.9	1.3	Inc. frq. avg.	11.462	Data rate(Mb/s): 2048	nlags: 8192 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 262.2 el 27.5 pa 41.0 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) -573.125 692.766 simultaneous interpolator

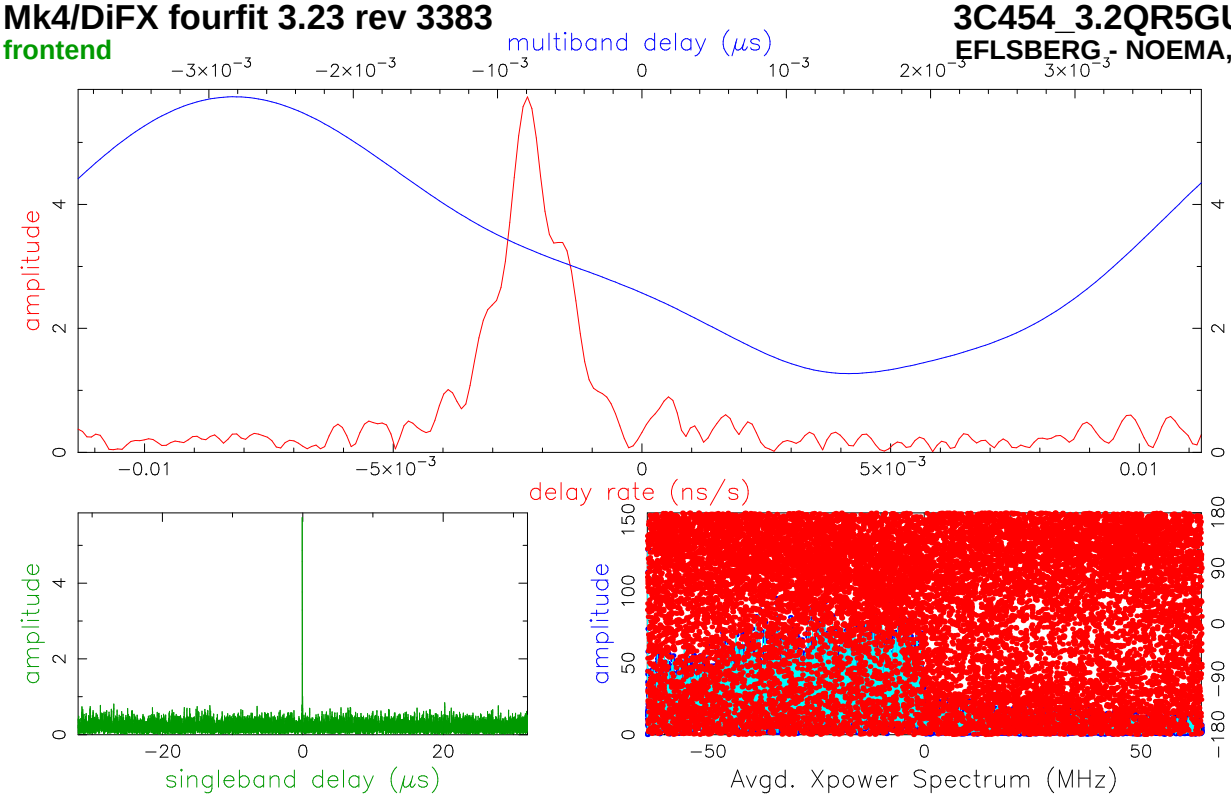
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/BN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/BN.W.2.2QR5GU

Mk4/DiFX fourfit 3.23 rev 3383

frontend

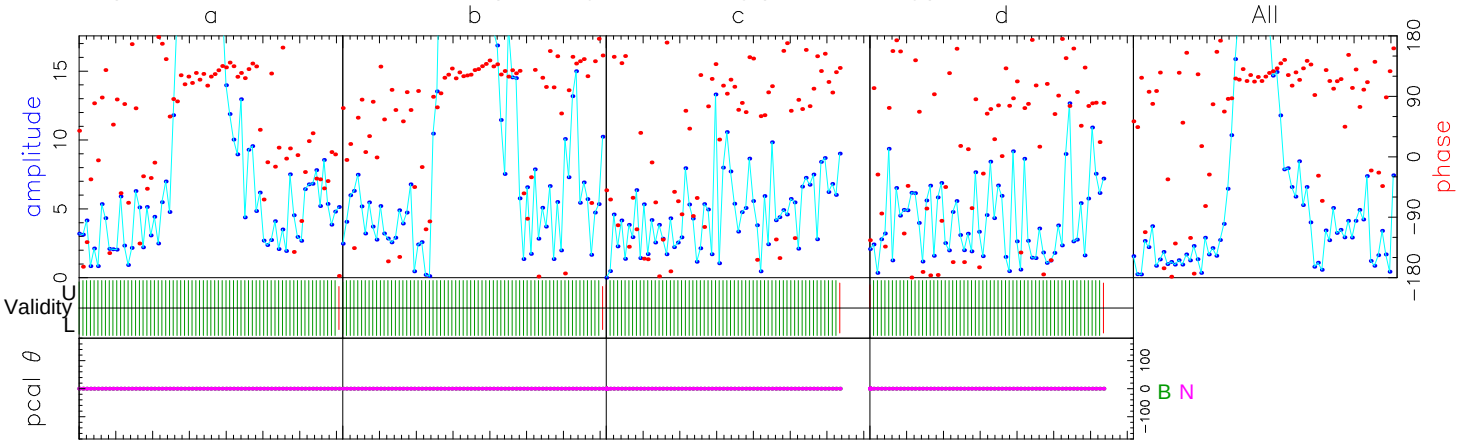
3C454_3.2QR5GU, No0605, BN

EFLSBERG - NOEMA, fgroup W, pol LR



Fringe quality	2
Error code	G
SNR	91.5
Int time	33.808
Amp	5.856
Phase	-61.3
PFD	0.0e+00
Delays (us)	
SBD	-0.069801
MBD	-0.002818
Fringe rate (Hz)	-0.202256
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:125
Start	120000.00
Stop	120035.84
FRT	120330.00
Corr/FF/build	2023:151:103102 2023:151:125815 2021:308:113728
RA & Dec (J2000)	22h53m57.747940s +16°08'53.560883"

Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 sec / seg.), time ticks 1 sec



	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	All
	112.0	123.4	127.0	98.7	Phase	118.7
	6.3	12.2	2.4	1.8	Ampl.	5.9
	8172.2	8175.1	8175.1	8174.0	Sbd box	8175.1
U/L	70/70	70/70	63/62	63/62	APs used	
B	0	0	0	0	PC freqs	
N	0	0	0	0	PC freqs	
B:N	0:0	0:0	0:0	0:0	PC phase	
B:N	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000		
B	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	
N	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids Tracks	

Group delay (usec) (SBD)	-4.16561892962E+02	Apriori delay (usec)	-4.16488762211E+02	Resid mbdelay (usec)	-2.81825E-03	+/-	1.2E-05
Sband delay (usec)	-4.16558562961E+02	Apriori clock (usec)	4.6140862E+00	Resid sbdelay (usec)	-6.98007E-02	+/-	4.7E-05
Phase delay (usec)	-4.16488758382E+02	Apriori clockrate (us/s)	2.0100000E-06	Resid phdelay (usec)	3.82907E-06	+/-	2.0E-08
Delay rate (us/s)	9.70937040744E-02	Apriori rate (us/s)	9.70960520643E-02	Resid rate (us/s)	-2.34799E-06	+/-	2.1E-09
Total phase (deg)	-52.9	Apriori accel (us/s/s)	4.42581291568E-06	Resid phase (deg)	-61.3	+/-	0.6

	RMS	Theor.	Amplitude	5.856 +/- 0.064	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	63.9	5.1	Search (256X16)	5.675	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-32.000 32.000
amp/seg (%)	127.4	8.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004
ph/frq (deg)	16.4	1.3	Inc. seg. avg.	6.587	Data rate(MSamp/s): 128 MBpts 16 Amb 0.008 us		dr window (ns/s)	-0.011 0.011
amp/frq (%)	70.5	2.2	Inc. frq. avg.	5.890	Data rate(Mb/s): 2048	nlags: 8192 t_cohere infinite	ion window (TEC)	0.00 0.00

B: az 262.2 el 27.5 pa 41.0 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) -573.125 692.766 simultaneous interpolator

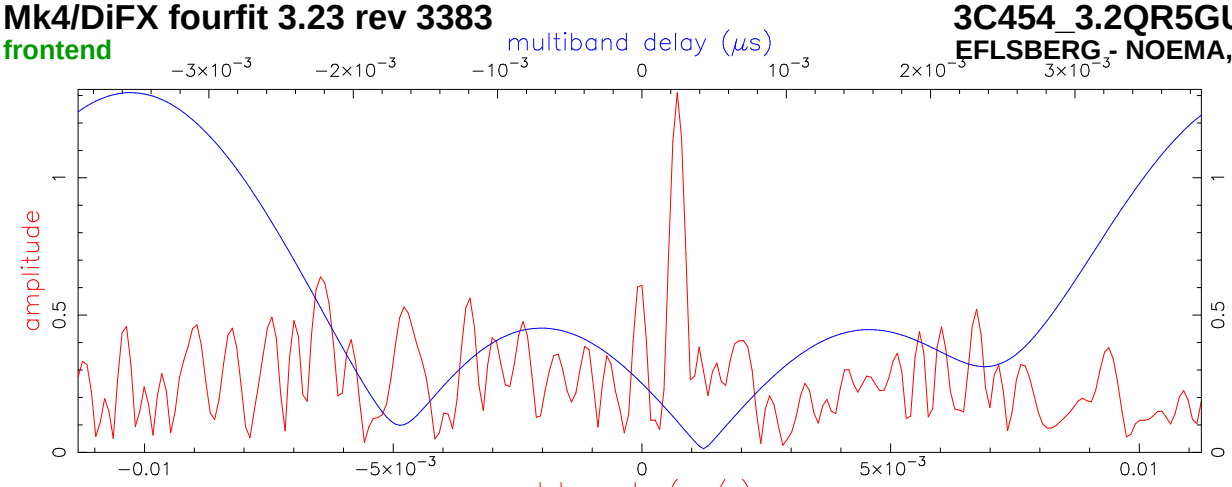
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/BN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/BN.W.3.2QR5GU

Mk4/DiFX fourfit 3.23 rev 3383

frontend

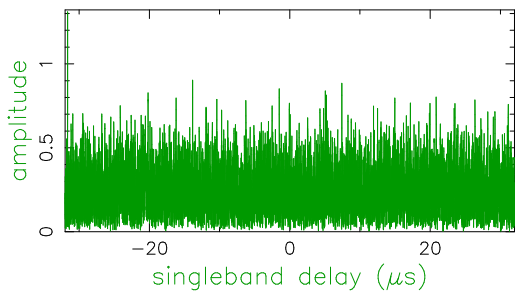
3C454_3.2QR5GU, No0605, BN

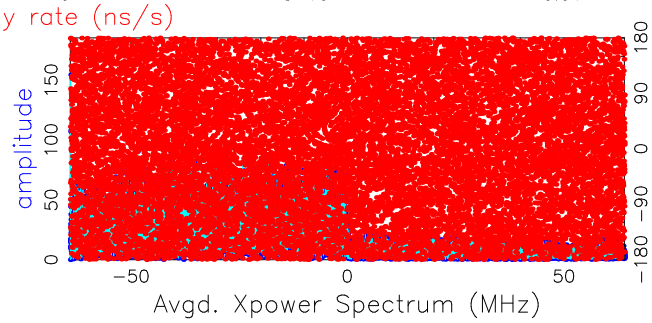
EFLSBERG - NOEMA, fgroup W, pol RL



Fringe quality 9

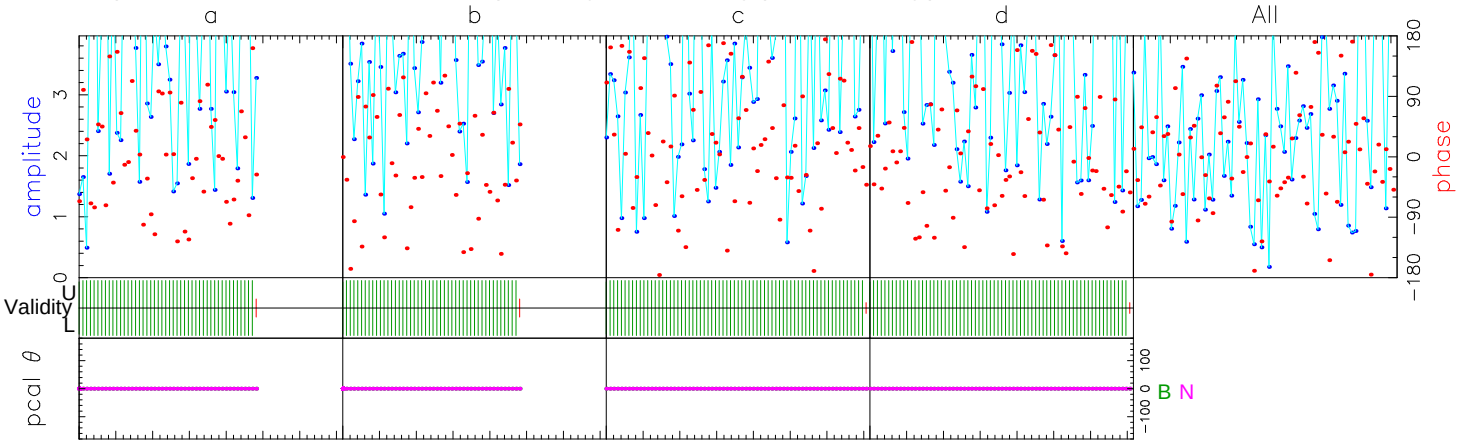
SNR 19.7
Int time 29.806
Amp 1.322
Phase -182.1
PFD 0.0e+00
Delays (us)
SBD -31.649233
MBD -0.003561
Fringe rate (Hz)
0.062360
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512





Exp. f231a
Exper # 1234
Yr:day 2023:125
Start 120000.00
Stop 120035.84
FRT 120330.00
Corr/FF/build
2023:151:103102
2023:151:125821
2021:308:113728
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560883"

Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 sec / seg.), time ticks 1 sec



	a	b	c	d		All
	86076.00	86204.00	86332.00	86460.00	Freq (MHz)	
	-18.3	14.2	8.6	-11.4	Phase	-2.1
	1.5	1.5	1.2	1.3	Ampl.	1.3
	9816.9	11894.9	7602.3	2812.0	Sbd box	90.8
U/L	48/48	48/48	70/70	70/70	APs used	
B	0	0	0	0	PC freqs	
N	0	0	0	0	PC freqs	
B:N	0:0	0:0	0:0	0:0	PC phase	
B:N	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000		
B	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids Tracks	
N	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids Tracks	

Group delay (usec) (SBD)	-4.48140761127E+02	Apriori delay (usec)	-4.16488762211E+02	Resid mbdelay (usec)	-3.56142E-03	+/-	5.6E-05
Sband delay (usec)	-4.48137995461E+02	Apriori clock (usec)	4.6140862E+00	Resid sbdelay (usec)	-3.16492E+01	+/-	2.2E-04
Phase delay (usec)	-4.16488762280E+02	Apriori clockrate (us/s)	2.0100000E-06	Resid phdelay (usec)	-6.92627E-08	+/-	9.4E-08
Delay rate (us/s)	9.70967760005E-02	Apriori rate (us/s)	9.70960520643E-02	Resid rate (us/s)	7.23936E-07	+/-	1.1E-08
Total phase (deg)	-173.8	Apriori accel (us/s/s)	4.42581291568E-06	Resid phase (deg)	-182.1	+/-	2.9

	RMS	Theor.	Amplitude	1.322 +/- 0.067
ph/seg (deg)	72.6	22.3	Search (256X16)	1.274
amp/seg (%)	122.0	39.0	Interp.	0.000
ph/frq (deg)	19.1	5.8	Inc. seg. avg.	2.163
amp/frq (%)	10.8	10.1	Inc. frq. avg.	1.341

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: 8192 t_cohere infinite

sb window (us)	-32.000	32.000
mb window (us)	-0.004	0.004
dr window (ns/s)	-0.011	0.011
ion window (TEC)	0.00	0.00

B: az 262.2 el 27.5 pa 41.0 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) -573.125 692.766 simultaneous interpolator

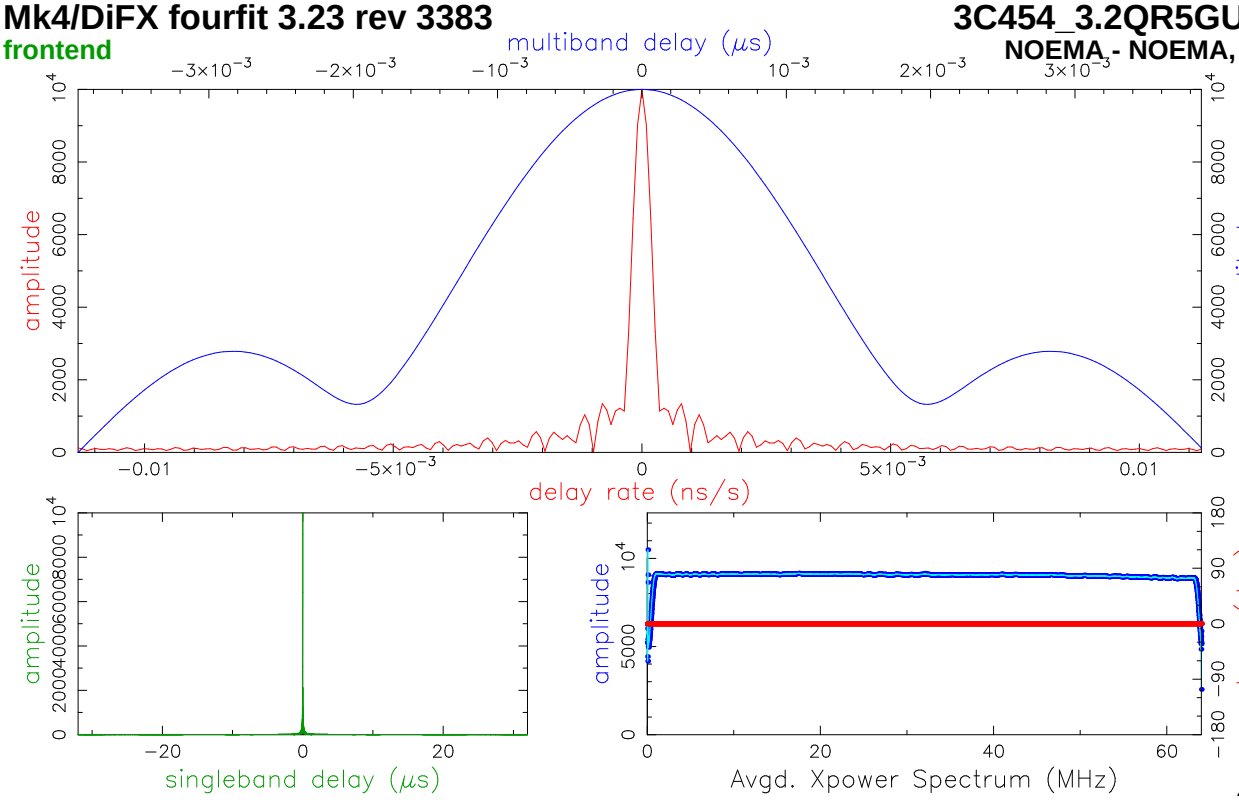
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/BN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/BN.W.4.2QR5GU

Mk4/DiFX fourfit 3.23 rev 3383

frontend

3C454_3.2QR5GU, No0605, NN

NOEMA - NOEMA, fgroup W, pol LL

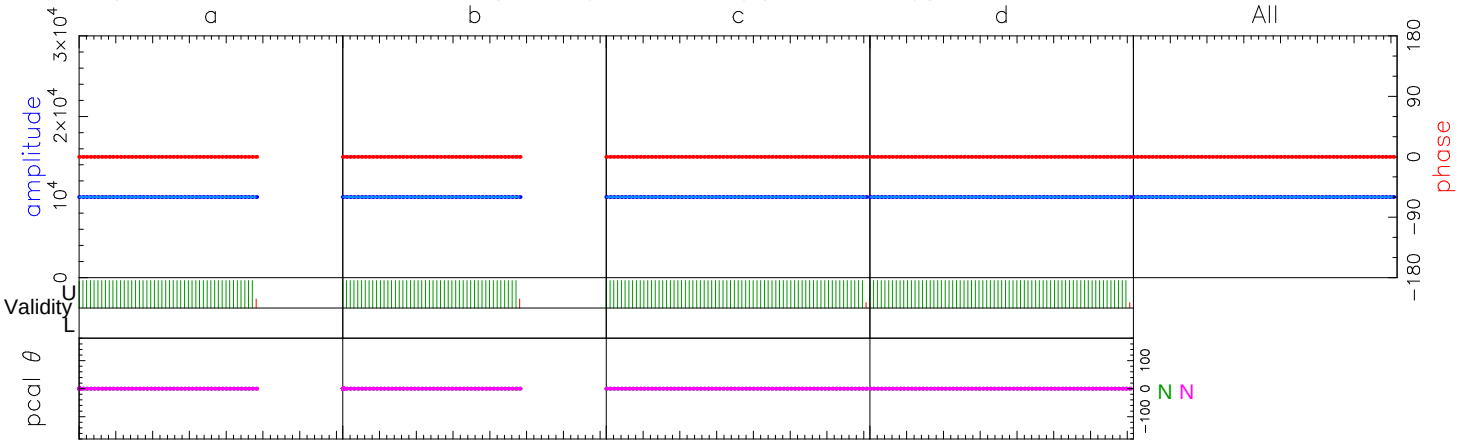


Fringe quality 9

SNR 105594.2
Int time 14.910
Amp 10000.000
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 2023:125
Start 120000.00
Stop 120035.84
FRT 120330.00
Corr/FF/build
2023:151:103102
2023:151:130002
2021:308:113728
RA & Dec (J2000)
22h53m57.747940s
+16°08'53.560883"

Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 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
	8193.0	8193.0	8193.0	8193.0	Sbd box	8193.0
U/L	48/0	48/0	70/0	70/0	APs used	
N	0	0	0	0	PC freqs	
N	0	0	0	0	PC freqs	
N:N	0:0	0:0	0:0	0:0	PC phase	
N:N	0:0	0:0	0:0	0:0	Manl PC	
N	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000		
N	W00UL,W00LL	W01UL,W01LL	W02UL,W02LL	W03UL,W03LL	Chan ids	
					Tracks	
N	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	+/-	8.2E-08
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	3.5E-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	10000.000 +/- 0.095	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.0	0.0	Search (256X16)	10000.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-32.000	32.000
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.	10000.000	Data rate(Mb/s): 1024	nlags: 8192 t_cohere infinite	ion window (TEC)	0.00	0.00

N: az 264.5 el 28.9 pa 47.5 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

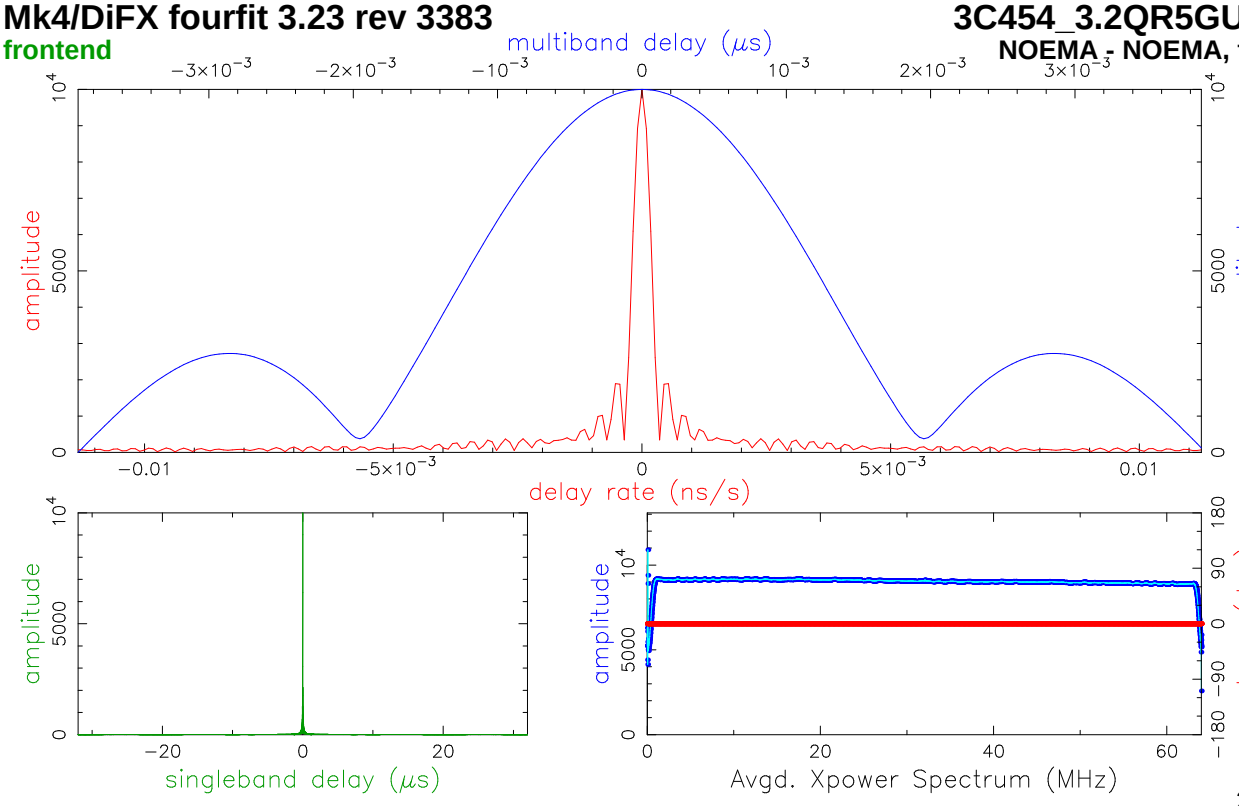
Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/NN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/NN.W.7.2QR5GU

Mk4/DiFX fourfit 3.23 rev 3383

frontend

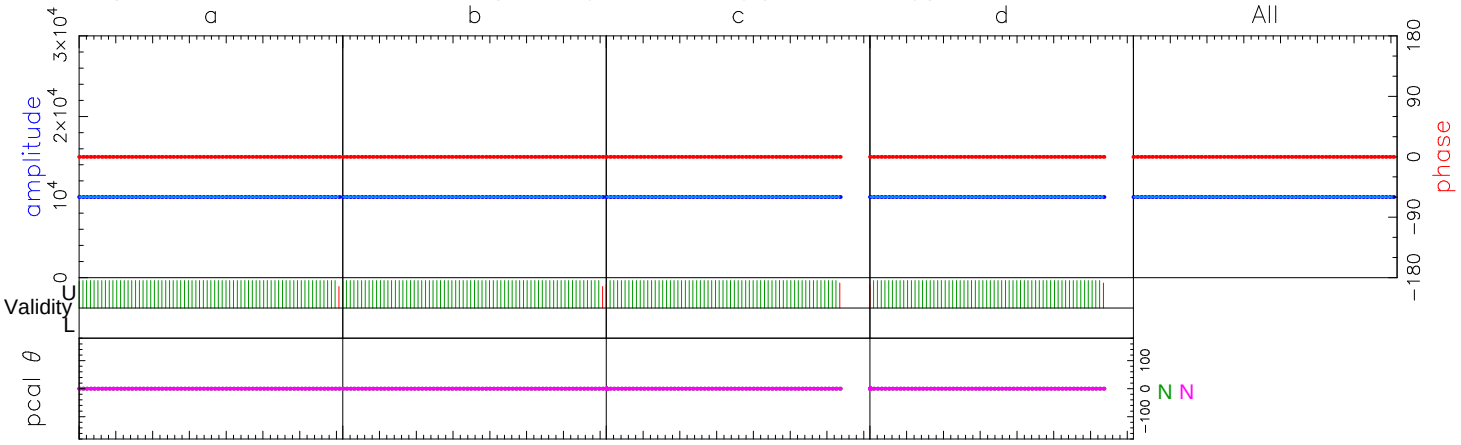
3C454_3.2QR5GU, No0605, NN

NOEMA - NOEMA, fgroup W, pol RR



Fringe quality	9
SNR	112623.1
Int time	16.961
Amp	10000.001
Phase	0.0
PFD	0.0e+00
Delays (us)	
SBD	0.000000
MBD	0.000000
Fringe rate (Hz)	0.000000
Ion TEC	0.000
Ref freq (MHz)	86140.0000
AP (sec)	0.512
Exp.	f231a
Exper #	1234
Yr:day	2023:125
Start	120000.00
Stop	120035.84
FRT	120330.00
Corr/FF/build	2023:151:103102 2023:151:130008 2021:308:113728
RA & Dec (J2000)	22h53m57.747940s +16°08'53.560883"

Amp. and Phase vs. time for each freq., 70 segs, 1 APs / seg (0.51 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
	8193.0	8193.0	8193.0	8193.0	Sbd box 8193.0
U/L	70/0	70/0	63/0	63/0	APs used
N	0	0	0	0	PC freqs
N	0	0	0	0	PC freqs
N:N	0:0	0:0	0:0	0:0	PC phase
N:N	0:0	0:0	0:0	0:0	Manl PC
N	1000	1000	1000	1000	PC amp
N	1000	1000	1000	1000	
N	W00UR,W00LR	W01UR,W01LR	W02UR,W02LR	W03UR,W03LR	Chan ids Tracks
N	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	+/-	9.9E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	7.6E-08
Phase delay (usec)	0.00000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.00000E+00	+/-	3.3E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	3.3E-12
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.						
			Amplitude	10000.001 +/- 0.089	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.0	0.0	Search (256X16)	10000.001	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-32.000 32.000
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.	10000.001	Data rate(Mb/s): 1024	nlags: 8192 t_cohere infinite	ion window (TEC)	0.00 0.00

N: az 264.5 el 28.9 pa 47.5 N: az 264.5 el 28.9 pa 47.5 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/f231a/FRINGE/1234/No0605/NN..2QR5GU Output file: /Exps/f231a/FRINGE/1234/No0605/NN.W.8.2QR5GU