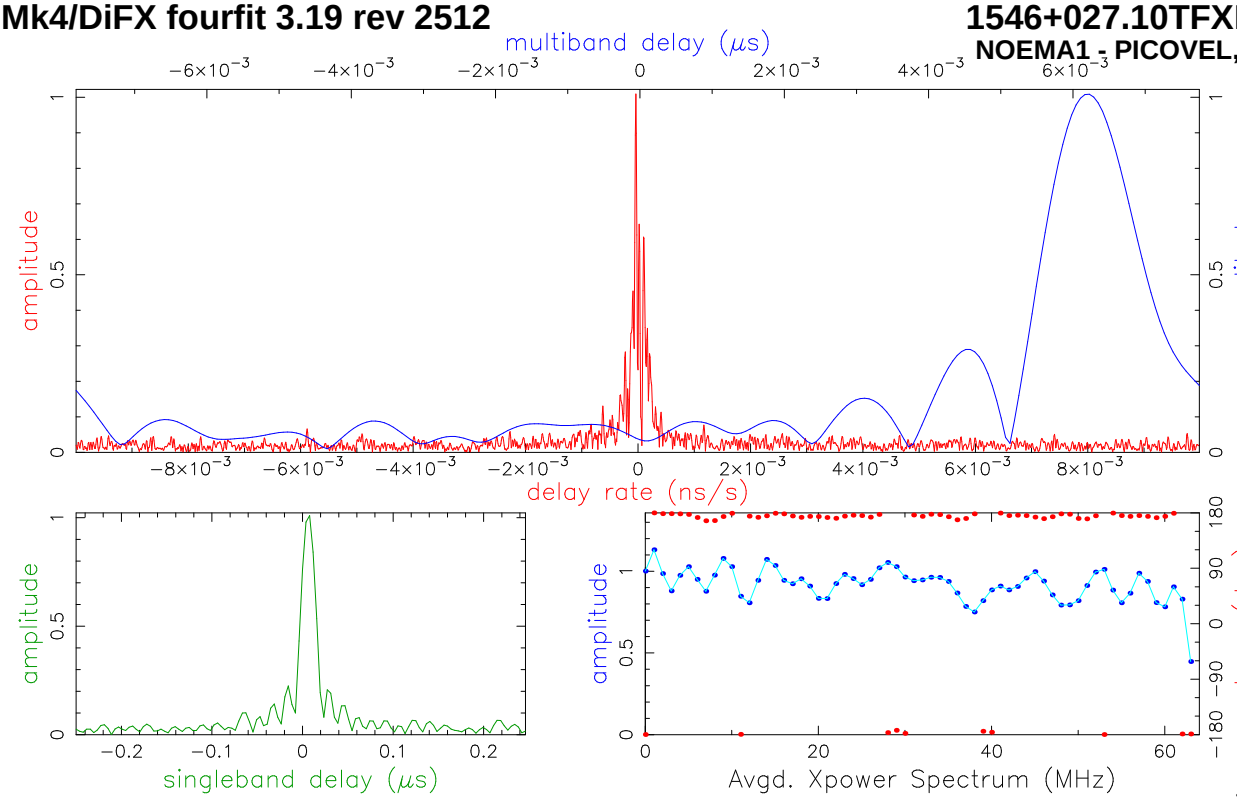
Mk4/DiFX fourfit 3.19 rev 2512

1546+027.10TFXR, No0030, tP

NOEMA1 - PICOVEL, fgroup B, pol LL

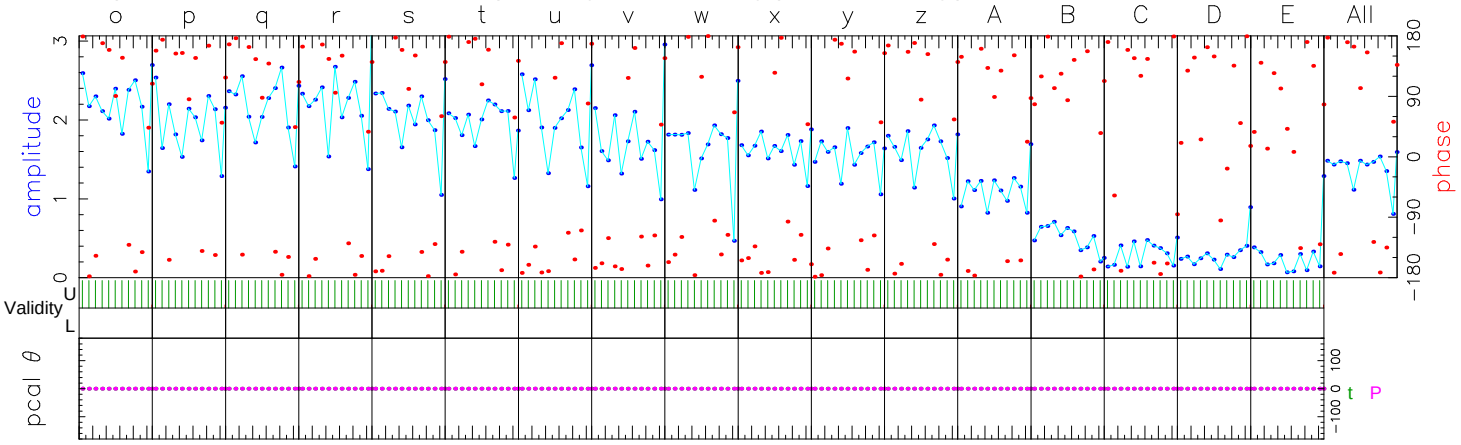


Fringe quality 2

SNR 70.6
Int time 299.982
Amp 1.022
Phase 179.8
PFD 0.0e+00
Delays (us)
SBD 0.006431
MBD 0.006197
Fringe rate (Hz)
-0.004264
Ion TEC 0.000
Ref freq (MHz)
100060.0000
AP (sec) 0.500

Exp. tjan24
Exper # 16383
Yr:day 2020:024
Start 071500.00
Stop 072000.00
FRT 071730.00
Corr/FF/build
2020:042:131502
2020:043:093204
2019:065:170717
RA & Dec (J2000)
15h49m29.436846s
+02°37'01.163319"

Amp. and Phase vs. time for each freq., 12 segs, 54 APs / seg (27.00 sec / seg.), time ticks 30 sec



	100060.00	100124.00	100188.00	100252.00	100316.00	100380.00	100444.00	100508.00	100572.00	100636.00	100700.00	100764.00	100828.00	100892.00	100956.00	101020.00	101084.00	Freq (MHz)	All
	177.0	164.0	170.4	171.4	-179.9	-177.6	-163.7	-165.1	-153.1	-157.1	-176.0	172.1	155.5	130.1	176.7	110.0	111.8	Phase	179.8
	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.1	1.1	1.2	0.8	0.4	0.2	0.1	0.1	Ampl.	1.1
	66.5	66.6	66.7	66.7	66.6	67.0	66.5	66.4	66.7	66.9	66.3	66.6	66.5	67.0	121.9	8.5	71.5	Sbd box	66.6
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	B14UL	B15UL	B16UL	B17UL	B18UL	B19UL	B20UL	B21UL	B22UL	B23UL	B24UL	B25UL	B26UL	B27UL	B28UL	B29UL	B30UL	Chan ids	
																		Tracks	
P	B15UL	B16UL	B17UL	B18UL	B19UL	B20UL	B21UL	B22UL	B23UL	B24UL	B25UL	B26UL	B27UL	B28UL	B29UL	B30UL	B31UL	Chan ids	
																		Tracks	

Group delay (usec)(sbd)	-1.55162523378E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	6.19725E-03	+/-	7.2E-06
Sband delay (usec)	-1.55162500028E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	6.43075E-03	+/-	1.2E-04
Phase delay (usec)	-1.55163142604E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	4.99014E-06	+/-	4.5E-08
Delay rate (us/s)	-1.98630979105E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.26169E-08	+/-	2.6E-10
Total phase (deg)	-176.3	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	179.8	+/-	1.6

	RMS	Theor.	Amplitude	1.022 +/- 0.014
ph/seg (deg)	51.8	2.8	Search (2048X128)	0.992
amp/seg (%)	39.6	4.9	Interp.	0.000
ph/frq (deg)	31.4	3.3	Inc. seg. avg.	1.369
amp/frq (%)	50.5	5.8	Inc. frq. avg.	1.053

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: disabled
Sample rate(MSamp/s): 128
Data rate(Mb/s): 4352 nlags: 64 t_cohere infinite

sb window (us)	-0.250	0.250
mb window (us)	-0.008	0.008
dr window (ns/s)	-0.010	0.010
ion window (TEC)	0.00	0.00

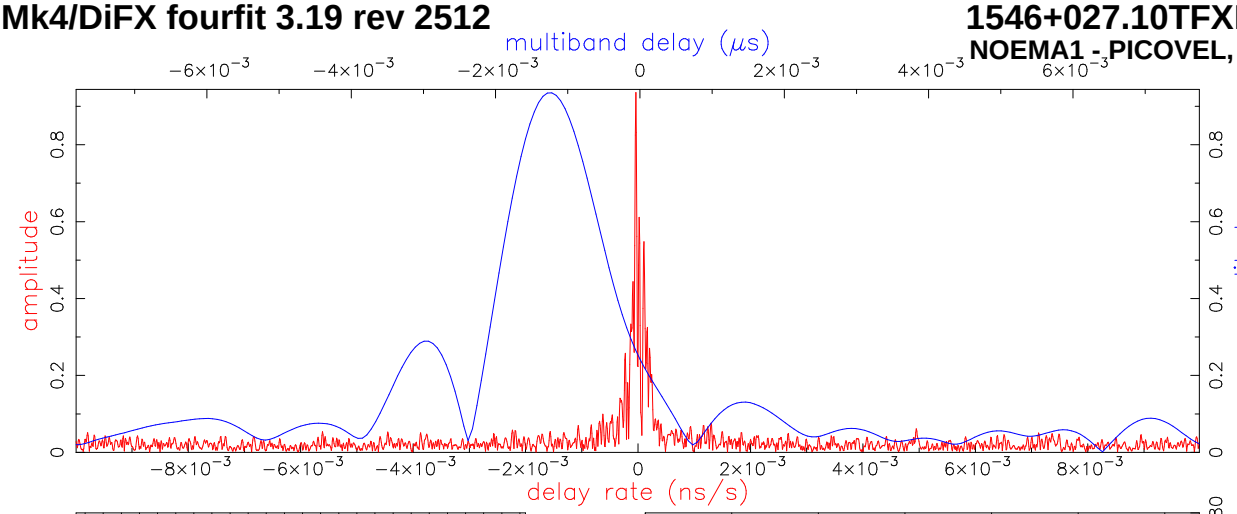
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1336.340 1059.459 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.B.5.10TFXR

Mk4/DiFX fourfit 3.19 rev 2512

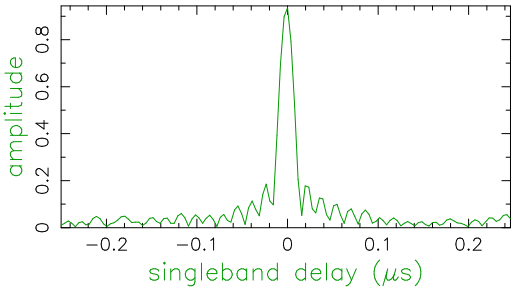
1546+027.10TFXR, No0030, tP

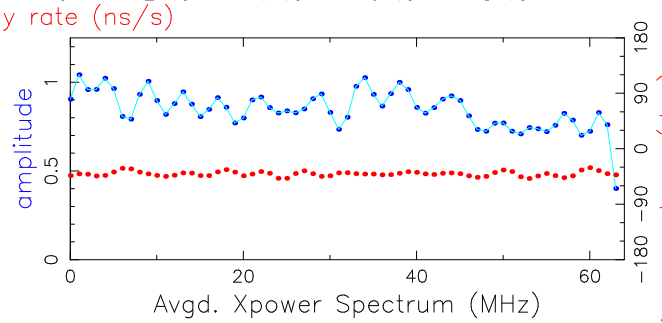
NOEMA1 - PICOVEL, fgroup B, pol RR



Fringe quality 1

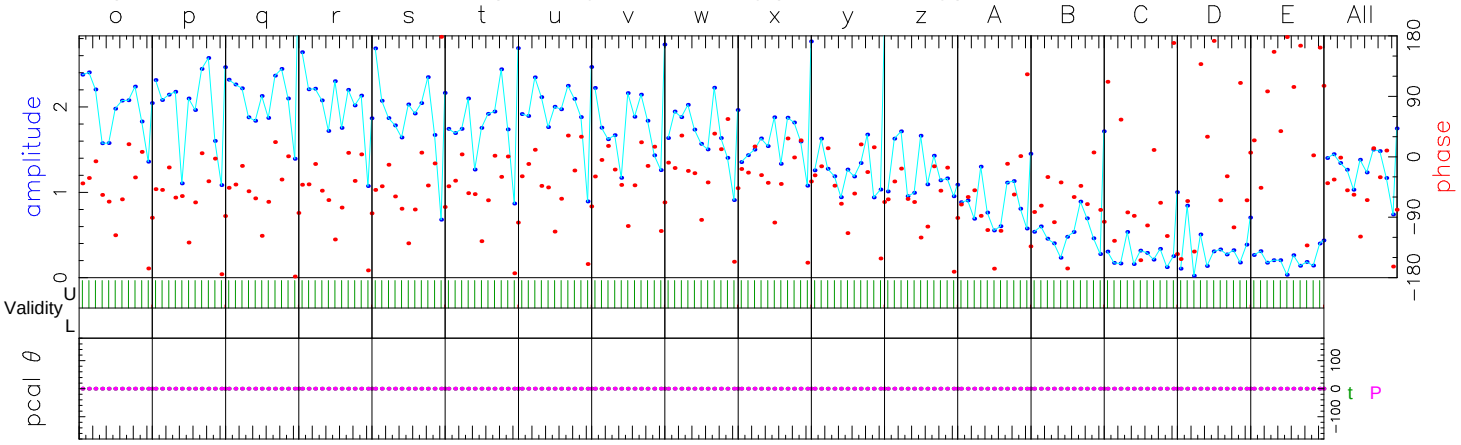
SNR 65.2
Int time 299.976
Amp 0.944
Phase -38.8
PFD 0.0e+00
Delays (us)
SBD -0.001150
MBD -0.001247
Fringe rate (Hz)
-0.004281
Ion TEC 0.000
Ref freq (MHz)
100060.0000
AP (sec) 0.500





Exp. tjan24
Exper # 16383
Yr:day 2020:024
Start 071500.00
Stop 072000.00
FRT 071730.00
Corr/FF/build
2020:042:131502
2020:043:093206
2019:065:170717
RA & Dec (J2000)
15h49m29.436846s
+02°37'01.163319"

Amp. and Phase vs. time for each freq., 12 segs, 54 APs / seg (27.00 sec / seg.), time ticks 30 sec



	100060.00	100124.00	100188.00	100252.00	100316.00	100380.00	100444.00	100508.00	100572.00	100636.00	100700.00	100764.00	100828.00	100892.00	100956.00	101020.00	101084.00	Freq (MHz)	All
	-40.5	-47.1	-42.7	-44.1	-50.3	-40.9	-25.2	-24.8	-6.6	-19.6	-32.7	-57.5	-67.3	-64.7	-110.0	-83.4	108.2	Phase	-38.8
	1.4	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.1	0.9	0.9	0.5	0.4	0.1	0.1	0.1	Ampl.	1.0
	64.6	64.7	64.8	64.5	64.5	64.9	64.8	65.0	64.4	64.7	64.6	64.6	64.5	64.8	127.5	14.9	81.1	Sbd box	64.7
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	B14UR	B15UR	B16UR	B17UR	B18UR	B19UR	B20UR	B21UR	B22UR	B23UR	B24UR	B25UR	B26UR	B27UR	B28UR	B29UR	B30UR	Chan ids	
																		Tracks	
P	B15UR	B16UR	B17UR	B18UR	B19UR	B20UR	B21UR	B22UR	B23UR	B24UR	B25UR	B26UR	B27UR	B28UR	B29UR	B30UR	B31UR	Chan ids	
																		Tracks	

Group delay (usec)(sbd)	-1.55163267828E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	-1.24724E-03	+/-	7.8E-06
Sband delay (usec)	-1.55163258128E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	-1.15025E-03	+/-	1.3E-04
Phase delay (usec)	-1.55163143211E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	-1.07652E-06	+/-	4.9E-08
Delay rate (us/s)	-1.98630979268E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.27800E-08	+/-	2.8E-10
Total phase (deg)	-34.8	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	-38.8	+/-	1.8

	RMS	Theor.	Amplitude	0.944 +/- 0.014
ph/seg (deg)	51.6	3.0	Search (2048X128)	0.918
amp/seg (%)	42.2	5.3	Interp.	0.000
ph/frq (deg)	46.6	3.6	Inc. seg. avg.	1.275
amp/frq (%)	54.5	6.3	Inc. frq. avg.	0.978

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: disabled
Sample rate(MSamp/s): 128
Data rate(Mb/s): 4352 nlags: 64 t_cohere infinite

sb window (us)	-0.250	0.250
mb window (us)	-0.008	0.008
dr window (ns/s)	-0.010	0.010
ion window (TEC)	0.00	0.00

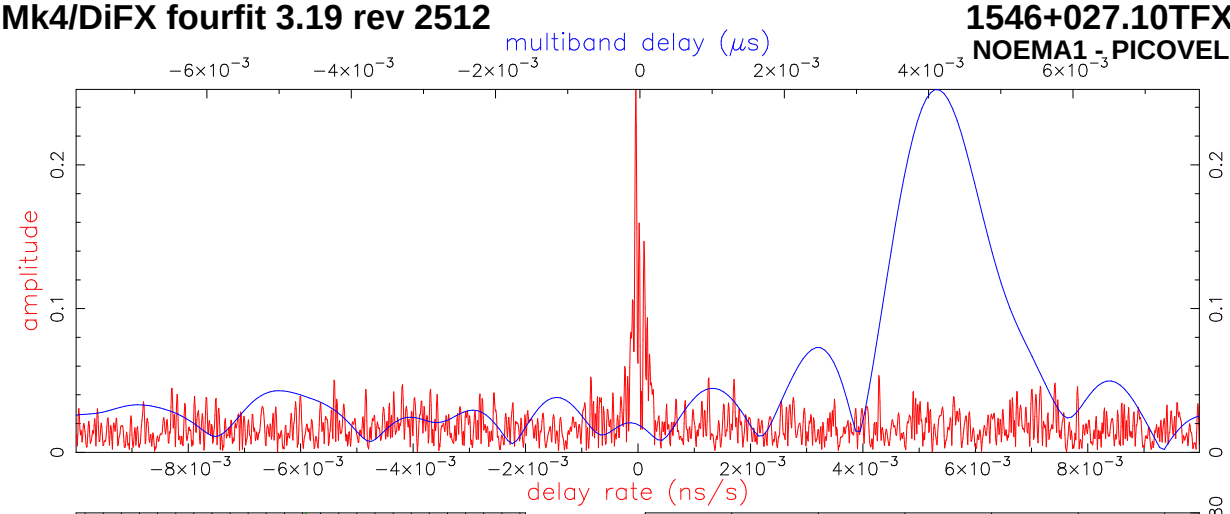
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1336.340 1059.459 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.B.6.10TFXR

Mk4/DiFX fourfit 3.19 rev 2512

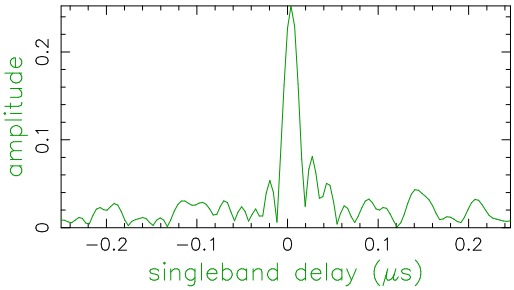
1546+027.10TFXR, No0030, tP

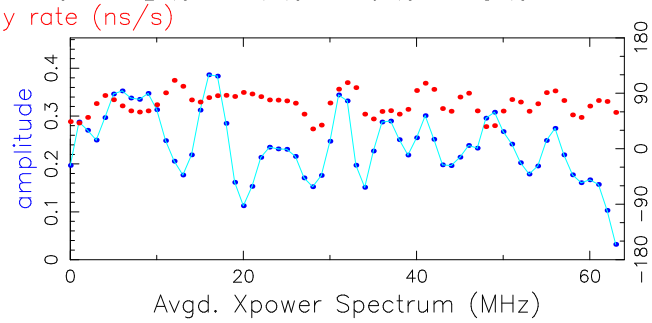
NOEMA1 - PICOVEL, fgroup B, pol LR



Fringe quality 7

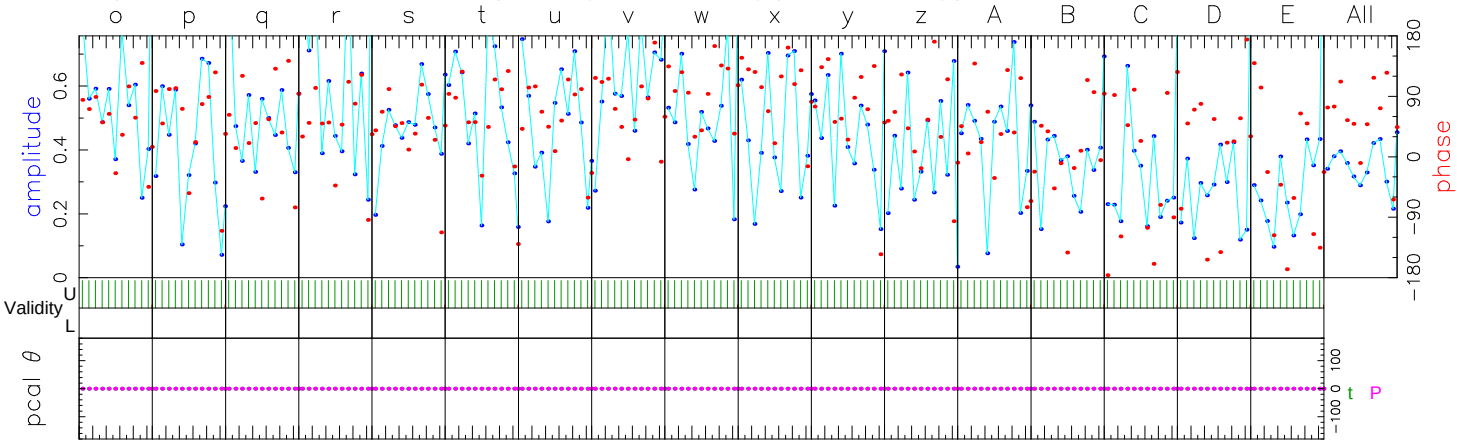
SNR 17.4
Int time 299.976
Amp 0.252
Phase 71.9
PFD 0.0e+00
Delays (us)
SBD 0.003998
MBD 0.004115
Fringe rate (Hz)
-0.004283
Ion TEC 0.000
Ref freq (MHz)
100060.0000
AP (sec) 0.500





Exp. tjan24
Exper # 16383
Yr:day 2020:024
Start 071500.00
Stop 072000.00
FRT 071730.00
Corr/FF/build
2020:042:131502
2020:043:093209
2019:065:170717
RA & Dec (J2000)
15h49m29.436846s
+02°37'01.163319"

Amp. and Phase vs. time for each freq., 12 segs, 54 APs / seg (27.00 sec / seg.), time ticks 30 sec



	100060.00	100124.00	100188.00	100252.00	100316.00	100380.00	100444.00	100508.00	100572.00	100636.00	100700.00	100764.00	100828.00	100892.00	100956.00	101020.00	101084.00	Freq (MHz)	All
	61.2	77.7	50.1	67.5	55.2	82.9	71.1	80.1	110.0	109.8	92.9	45.7	36.6	8.1	98.0	51.7	-86.4	Phase	71.9
	0.4	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	Ampl.	0.3
	66.8	65.5	66.7	66.2	65.8	66.3	66.1	66.5	66.2	66.5	65.5	65.0	66.2	53.6	56.6	77.9	43.0	Sbd box	66.0
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	B14UL	B15UL	B16UL	B17UL	B18UL	B19UL	B20UL	B21UL	B22UL	B23UL	B24UL	B25UL	B26UL	B27UL	B28UL	B29UL	B30UL	Chan ids	
																		Tracks	
P	B15UR	B16UR	B17UR	B18UR	B19UR	B20UR	B21UR	B22UR	B23UR	B24UR	B25UR	B26UR	B27UR	B28UR	B29UR	B30UR	B31UR	Chan ids	
																		Tracks	

Group delay (usec)(sbd)	-1.55162731645E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	4.11458E-03	+/-	2.9E-05
Sband delay (usec)	-1.55162743303E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	3.99800E-03	+/-	4.9E-04
Phase delay (usec)	-1.55163142903E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	1.99724E-06	+/-	1.8E-07
Delay rate (us/s)	-1.98630979296E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.28081E-08	+/-	1.1E-09
Total phase (deg)	-284.1	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	71.9	+/-	6.6

	RMS	Theor.							
			Amplitude	0.252 +/- 0.014	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	54.4	11.4	Search (2048X128)	0.248	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-0.250	0.250
amp/seg (%)	44.0	19.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: disabled	mb window (us)	-0.008	0.008
ph/frq (deg)	49.4	13.6	Inc. seg. avg.	0.339	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.010	0.010
amp/frq (%)	50.4	23.7	Inc. frq. avg.	0.272	Data rate(Mb/s): 4352	nlags: 64 t_cohere infinite	ion window (TEC)	0.00	0.00

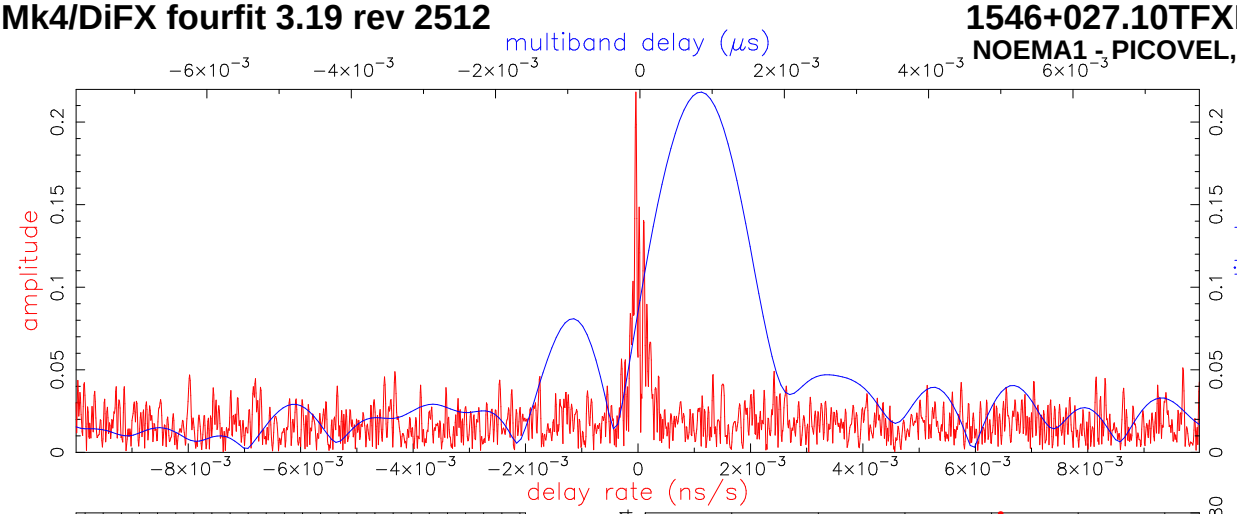
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1336.340 1059.459 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.B.7.10TFXR

Mk4/DiFX fourfit 3.19 rev 2512

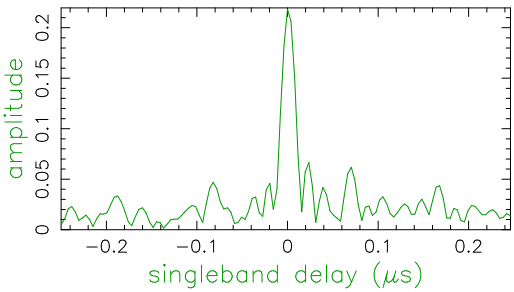
1546+027.10TFXR, No0030, tP

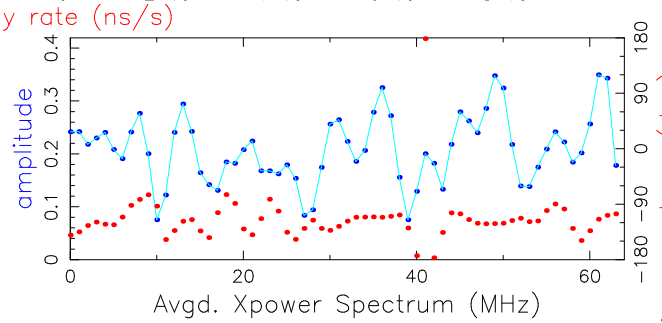
NOEMA1 - PICOVEL, fgroup B, pol RL



Fringe quality 9

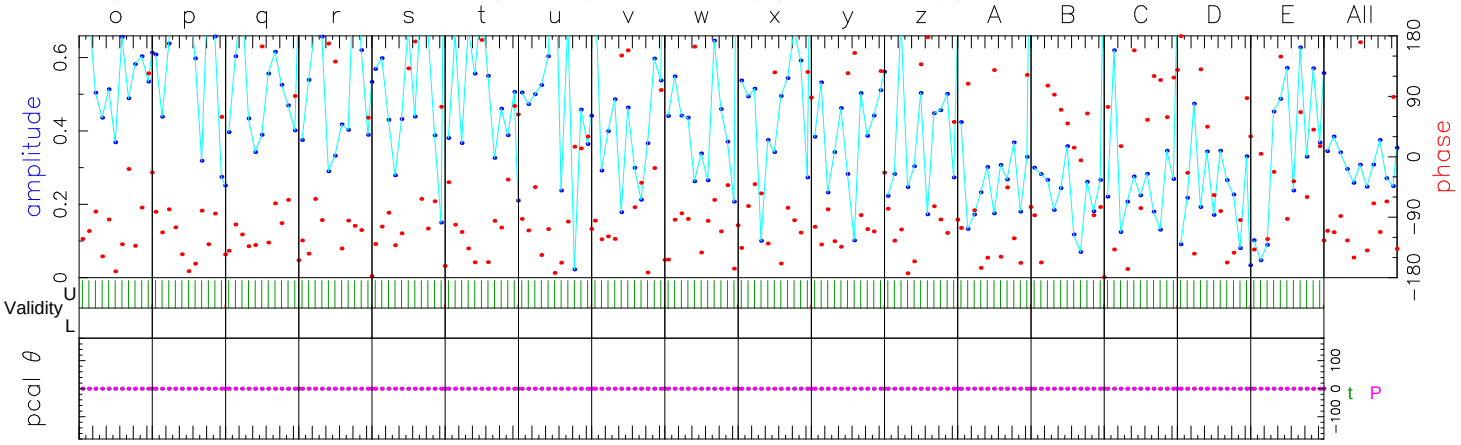
SNR 15.2
Int time 299.982
Amp 0.220
Phase -116.5
PFD 3.5e-43
Delays (us)
SBD 0.001002
MBD 0.000851
Fringe rate (Hz)
-0.004136
Ion TEC 0.000
Ref freq (MHz)
100060.0000
AP (sec) 0.500





Exp. tjan24
Exper # 16383
Yr:day 2020:024
Start 071500.00
Stop 072000.00
FRT 071730.00
Corr/FF/build
2020:042:131502
2020:043:093211
2019:065:170717
RA & Dec (J2000)
15h49m29.436846s
+02°37'01.163319"

Amp. and Phase vs. time for each freq., 12 segs, 54 APs / seg (27.00 sec / seg.), time ticks 30 sec



	100060.00	100124.00	100188.00	100252.00	100316.00	100380.00	100444.00	100508.00	100572.00	100636.00	100700.00	100764.00	100828.00	100892.00	100956.00	101020.00	101084.00	Freq (MHz)	All
	-114.7	-117.4	-115.5	-113.7	-115.9	-127.3	-108.4	-120.6	-102.7	-109.2	-126.5	-121.9	-139.7	53.0	130.8	-132.9	-3.0	Phase	-116.5
	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.0	0.1	0.1	0.1	Ampl.	0.2
	65.1	64.6	65.1	65.5	65.4	65.0	65.7	66.1	65.1	65.9	64.6	65.1	26.0	95.9	21.7	24.3	9.0	Sbd box	65.3
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	B14UR	B15UR	B16UR	B17UR	B18UR	B19UR	B20UR	B21UR	B22UR	B23UR	B24UR	B25UR	B26UR	B27UR	B28UR	B29UR	B30UR	Chan ids	
																		Tracks	
P	B15UL	B16UL	B17UL	B18UL	B19UL	B20UL	B21UL	B22UL	B23UL	B24UL	B25UL	B26UL	B27UL	B28UL	B29UL	B30UL	B31UL	Chan ids	
																		Tracks	

Group delay (usec)(sbd)	-1.55163058048E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	8.50552E-04	+/-	3.3E-05
Sband delay (usec)	-1.55163042903E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	1.00200E-03	+/-	5.7E-04
Phase delay (usec)	-1.55163143427E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	-3.23496E-06	+/-	2.1E-07
Delay rate (us/s)	-1.98630977819E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.13308E-08	+/-	1.2E-09
Total phase (deg)	-112.5	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	-116.5	+/-	7.6

	RMS	Theor.	Amplitude	0.220 +/- 0.014
ph/seg (deg)	57.4	13.1	Search (2048X128)	0.217
amp/seg (%)	45.6	22.8	Interp.	0.000
ph/frq (deg)	60.9	15.6	Inc. seg. avg.	0.301
amp/frq (%)	54.1	27.2	Inc. frq. avg.	0.233

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: disabled
Sample rate(MSamp/s): 128
Data rate(Mb/s): 4352 nlags: 64 t_cohere infinite

sb window (us)	-0.250	0.250
mb window (us)	-0.008	0.008
dr window (ns/s)	-0.010	0.010
ion window (TEC)	0.00	0.00

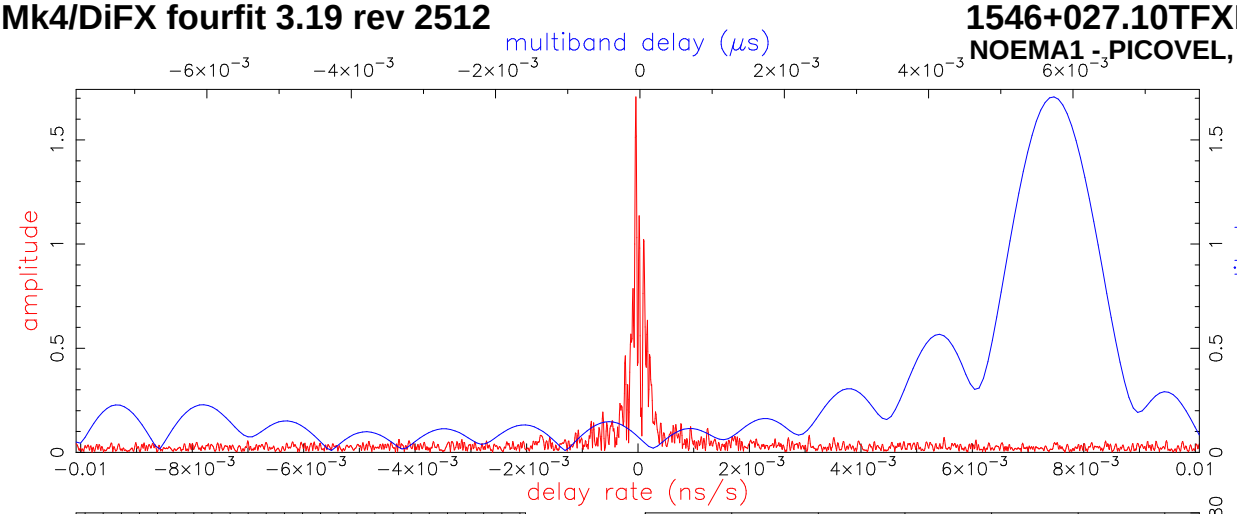
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1336.340 1059.459 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.B.8.10TFXR

Mk4/DiFX fourfit 3.19 rev 2512

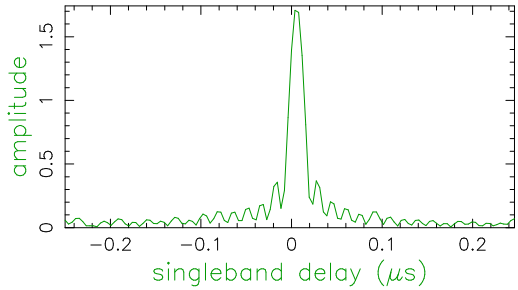
1546+027.10TFXR, No0030, tP

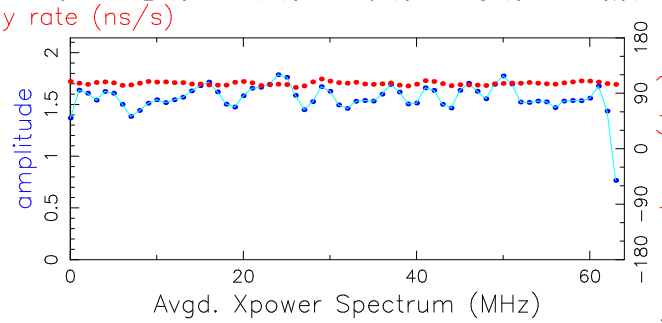
NOEMA1 - PICOVEL, fgroup W, pol LL



Fringe quality 4

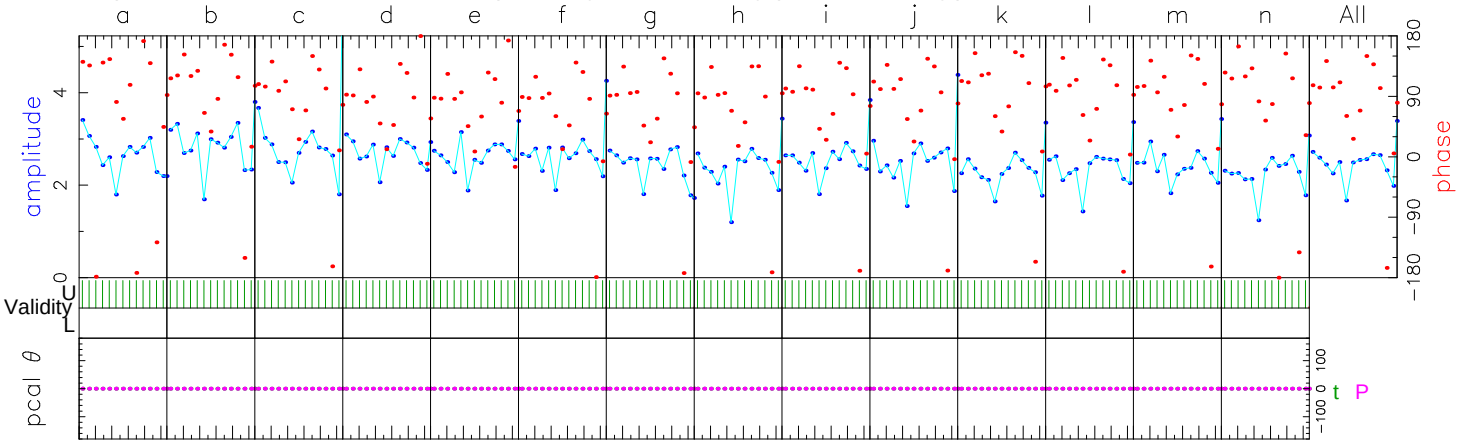
SNR	109.2
Int time	299.982
Amp	1.743
Phase	104.8
PFD	0.0e+00
Delays (us)	
SBD	0.005678
MBD	0.005733
Fringe rate (Hz)	-0.004276
Ion TEC	0.000
Ref freq (MHz)	99164.0000
AP (sec)	0.500





Exp.	tjan24
Exper #	16383
Yr:day	2020:024
Start	071500.00
Stop	072000.00
FRT	071730.00
Corr/FF/build	2020:042:131502
	2020:043:093157
	2019:065:170717
RA & Dec (J2000)	15h49m29.436846s
	+02°37'01.163319"

Amp. and Phase vs. time for each freq., 14 segs, 46 APs / seg (23.00 sec / seg.), time ticks 30 sec



	99164.00	99228.00	99292.00	99356.00	99420.00	99484.00	99548.00	99612.00	99676.00	99740.00	99804.00	99868.00	99932.00	99996.00	Freq (MHz)	All
	139.5	118.6	105.8	88.8	87.0	89.4	93.6	94.5	97.2	104.1	115.7	104.7	108.9	123.3	Phase	104.8
	1.9	2.0	2.0	1.9	1.9	1.8	1.7	1.6	1.8	1.7	1.6	1.7	1.7	1.5	Ampl.	1.8
	66.2	66.3	66.2	66.5	66.3	66.3	66.4	66.7	66.5	66.5	66.6	66.4	66.4	66.7	Sbd box	66.5
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	Chan ids	
															Tracks	
P	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	Chan ids	
															Tracks	

Group delay (usec)(sbd)	-1.55162569776E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	5.73327E-03	+/-	5.6E-06
Sband delay (usec)	-1.55162575328E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	5.67775E-03	+/-	7.9E-05
Phase delay (usec)	-1.55163142809E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	2.93665E-06	+/-	2.9E-08
Delay rate (us/s)	-1.98630979605E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.31173E-08	+/-	1.7E-10
Total phase (deg)	23.2	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	104.8	+/-	1.0

	RMS	Theor.	Amplitude	1.743 +/- 0.016	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	49.5	2.0	Search (2048X64)	1.648	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-0.250 0.250
amp/seg (%)	42.3	3.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: disabled	mb window (us)	-0.008 0.008
ph/frq (deg)	15.7	2.0	Inc. seg. avg.	2.419	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.010 0.010
amp/frq (%)	8.1	3.4	Inc. frq. avg.	1.763	Data rate(Mb/s): 3584	nlags: 64 t_cohere infinite	ion window (TEC)	0.00 0.00

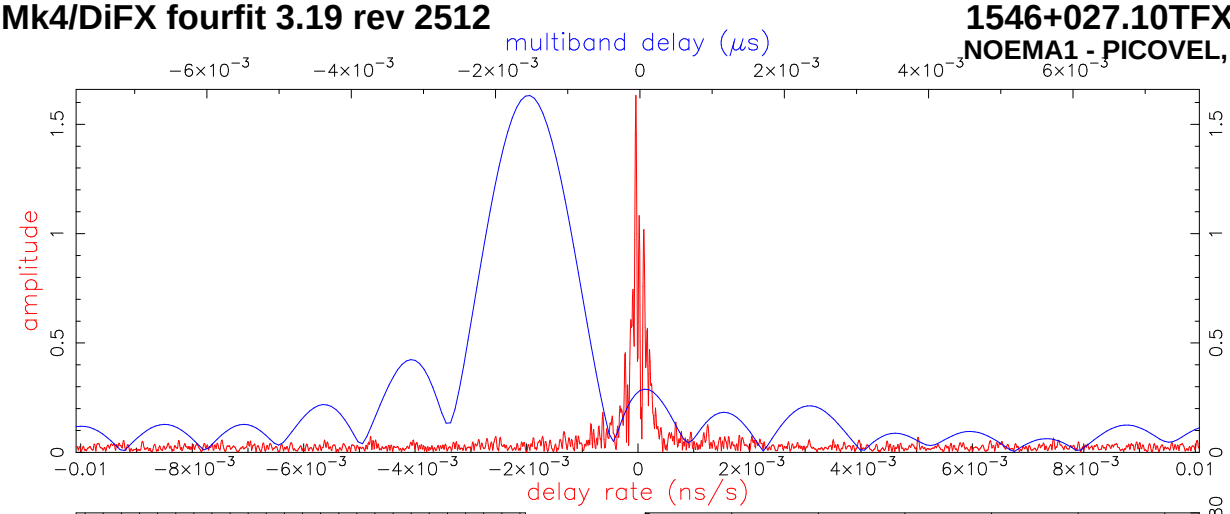
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1324.374 1049.972 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.W.1.10TFXR

Mk4/DiFX fourfit 3.19 rev 2512

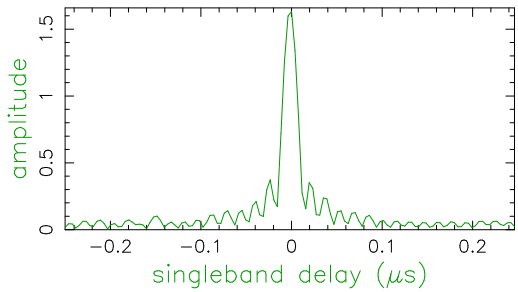
1546+027.10TFXR, No0030, tP

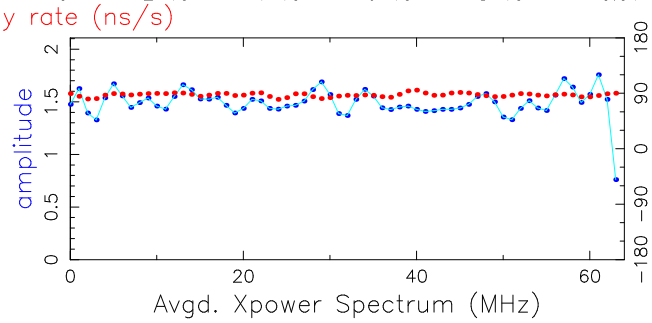
NOEMA1 - PICOVEL, fgroup W, pol RR



Fringe quality 5

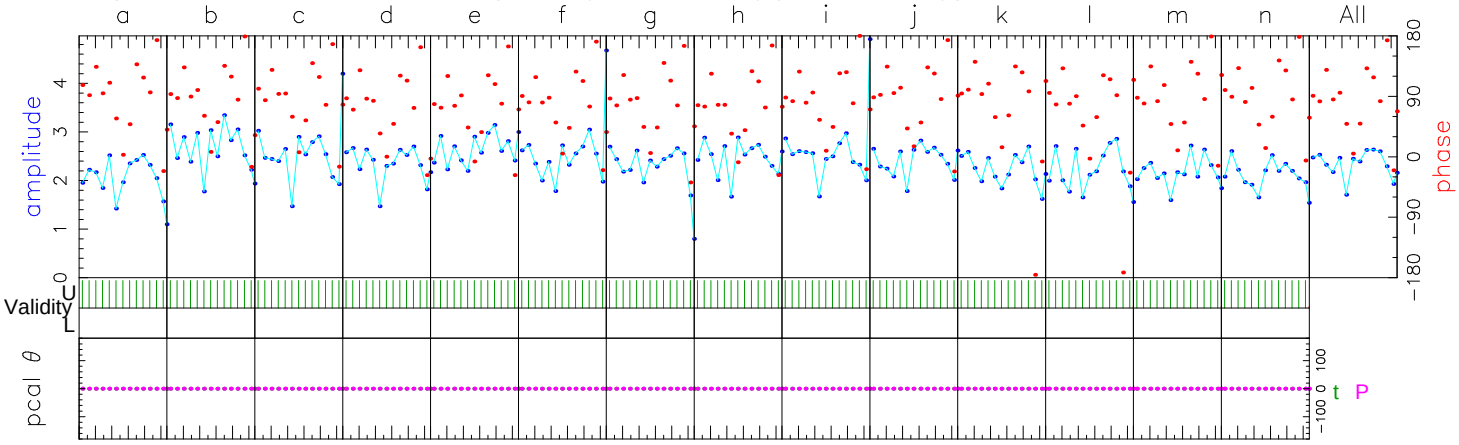
SNR 104.0
Int time 299.976
Amp 1.660
Phase 87.8
PFD 0.0e+00
Delays (us)
SBD -0.001563
MBD -0.001552
Fringe rate (Hz)
-0.004178
Ion TEC 0.000
Ref freq (MHz)
99164.0000
AP (sec) 0.500





Exp. tjan24
Exper # 16383
Yr:day 2020:024
Start 071500.00
Stop 072000.00
FRT 071730.00
Corr/FF/build
2020:042:131502
2020:043:093159
2019:065:170717
RA & Dec (J2000)
15h49m29.436846s
+02°37'01.163319"

Amp. and Phase vs. time for each freq., 14 segs, 46 APs / seg (23.00 sec / seg.), time ticks 30 sec



	99164.00	99228.00	99292.00	99356.00	99420.00	99484.00	99548.00	99612.00	99676.00	99740.00	99804.00	99868.00	99932.00	99996.00	Freq (MHz)	All
	97.8	92.1	90.5	81.8	78.0	82.4	84.6	76.7	87.5	90.6	99.1	87.9	91.3	91.4	Phase	87.8
	1.5	1.9	1.8	1.7	1.8	1.7	1.6	1.6	1.7	1.7	1.6	1.5	1.5	1.5	Ampl.	1.6
	63.8	64.9	64.6	64.4	64.5	64.5	64.6	64.7	64.6	64.7	64.7	64.6	64.6	64.7	Sbd box	64.6
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	Chan ids Tracks	
P	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	Chan ids Tracks	

Group delay (usec)(sbd)	-1.55163298321E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	-1.55218E-03	+/-	5.9E-06
Sband delay (usec)	-1.55163299403E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	-1.56300E-03	+/-	8.3E-05
Phase delay (usec)	-1.55163142857E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	2.45940E-06	+/-	3.1E-08
Delay rate (us/s)	-1.98630978623E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.21347E-08	+/-	1.8E-10
Total phase (deg)	6.2	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	87.8	+/-	1.1

	RMS	Theor.							
			Amplitude	1.660 +/- 0.016	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	50.7	2.1	Search (2048X64)	1.605	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-0.250	0.250
amp/seg (%)	44.8	3.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: disabled	mb window (us)	-0.008	0.008
ph/frq (deg)	7.0	2.1	Inc. seg. avg.	2.353	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.010	0.010
amp/frq (%)	7.4	3.6	Inc. frq. avg.	1.642	Data rate(Mb/s): 3584	nlags: 64 t_cohere infinite	ion window (TEC)	0.00	0.00

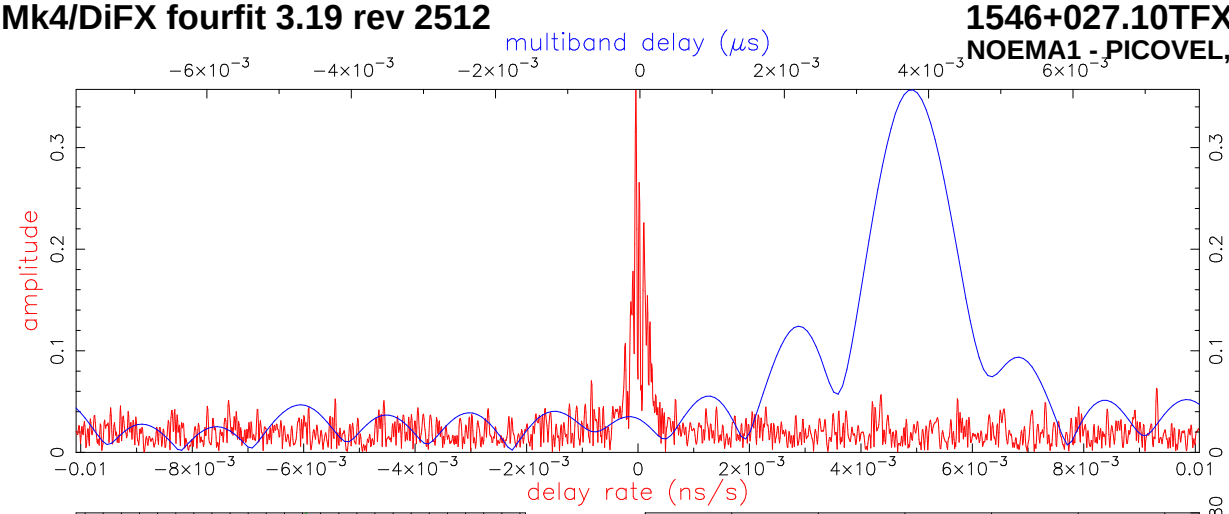
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1324.374 1049.972 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.W.2.10TFXR

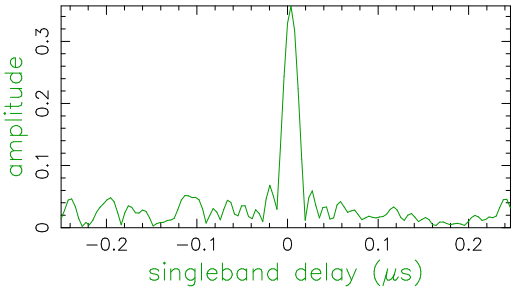
Mk4/DiFX fourfit 3.19 rev 2512

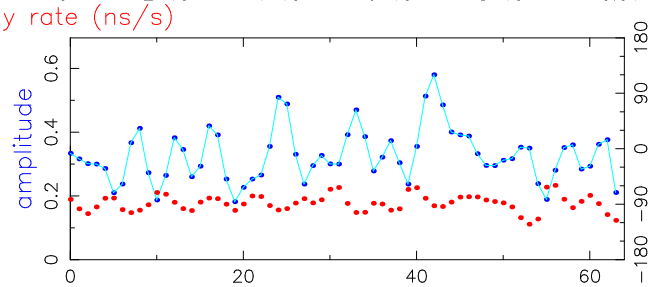
1546+027.10TFXR, No0030, tP

NOEMA1 - PICOVEL, fgroup W, pol LR

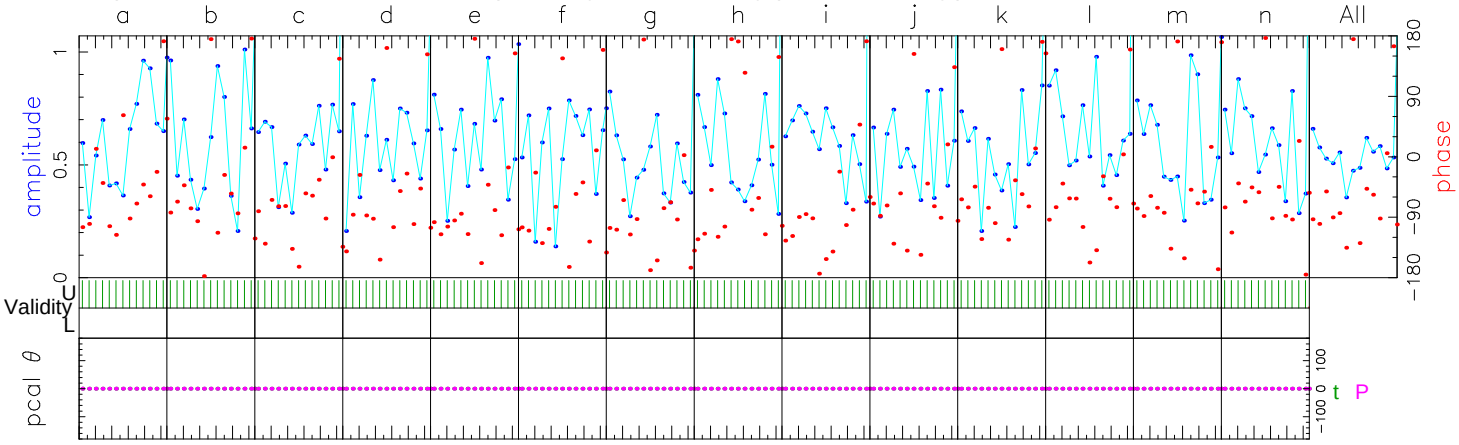


Fringe quality	7
SNR	22.4
Int time	299.976
Amp	0.357
Phase	-91.3
PFD	0.0e+00
Delays (us)	
SBD	0.003549
MBD	0.003761
Fringe rate (Hz)	-0.004345
Ion TEC	0.000
Ref freq (MHz)	99164.0000
AP (sec)	0.500
Exp.	tjan24
Exper #	16383
Yr:day	2020:024
Start	071500.00
Stop	072000.00
FRT	071730.00
Corr/FF/build	2020:042:131502
	2020:043:093200
	2019:065:170717
RA & Dec (J2000)	15h49m29.436846s
	+02°37'01.163319"





Amp. and Phase vs. time for each freq., 14 segs, 46 APs / seg (23.00 sec / seg.), time ticks 30 sec



	99164.00	99228.00	99292.00	99356.00	99420.00	99484.00	99548.00	99612.00	99676.00	99740.00	99804.00	99868.00	99932.00	99996.00	Freq (MHz)	All
	-63.9	-79.5	-79.2	-92.2	-104.3	-115.2	-113.0	-113.1	-108.9	-93.1	-80.4	-84.3	-81.8	-75.0	Phase	-91.3
	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	Ampl.	0.4
	65.7	66.3	65.5	66.1	65.3	66.7	65.6	66.0	65.9	65.7	66.4	65.7	66.0	65.9	Sbd box	65.9
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	Chan ids	
															Tracks	
P	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	Chan ids	
															Tracks	

Group delay (usec)(sbd)	-1.55162767021E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	3.76082E-03	+/-	2.8E-05
Sband delay (usec)	-1.55162788178E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	3.54925E-03	+/-	3.8E-04
Phase delay (usec)	-1.55163143359E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	-2.55741E-06	+/-	1.4E-07
Delay rate (us/s)	-1.98630980305E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.38169E-08	+/-	8.3E-10
Total phase (deg)	-172.9	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	-91.3	+/-	5.1

	RMS	Theor.	Amplitude	0.357 +/- 0.016
ph/seg (deg)	53.4	9.6	Search (2048X64)	0.342
amp/seg (%)	54.3	16.7	Interp.	0.000
ph/frq (deg)	17.2	9.6	Inc. seg. avg.	0.527
amp/frq (%)	13.2	16.7	Inc. frq. avg.	0.366

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: disabled
Sample rate(MSamp/s): 128
Data rate(Mb/s): 3584 nlags: 64 t_cohere infinite

sb window (us)	-0.250	0.250
mb window (us)	-0.008	0.008
dr window (ns/s)	-0.010	0.010
ion window (TEC)	0.00	0.00

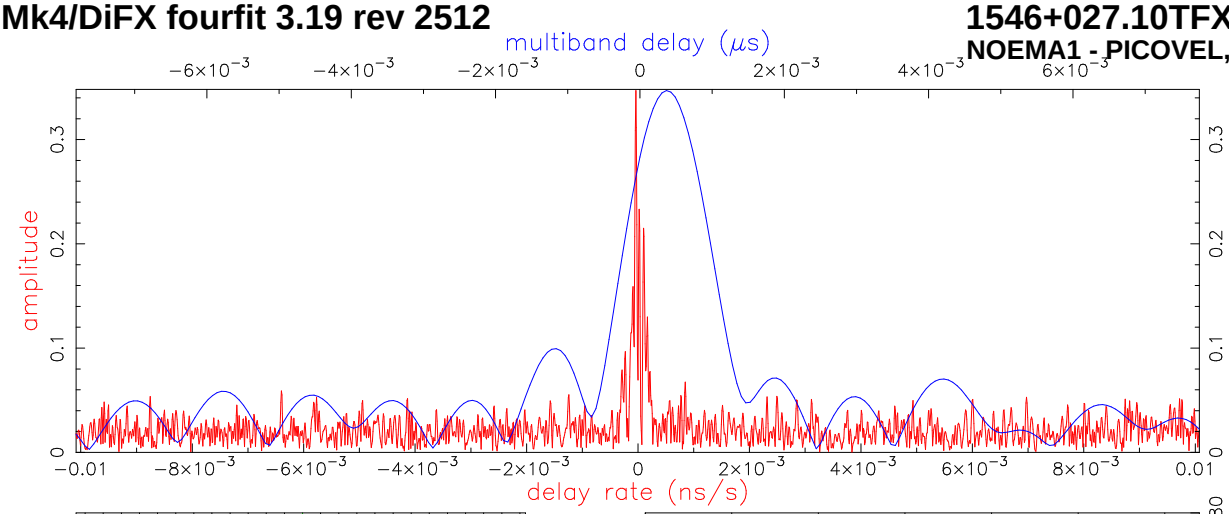
t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1324.374 1049.972 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.W.3.10TFXR

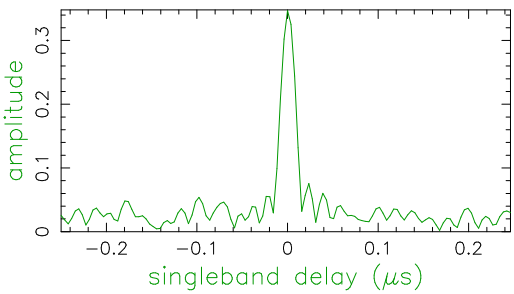
Mk4/DiFX fourfit 3.19 rev 2512

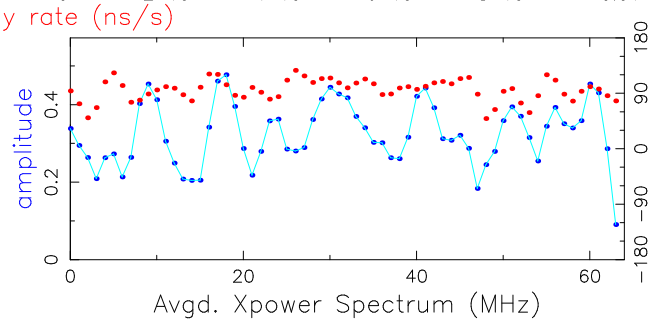
1546+027.10TFXR, No0030, tP

NOEMA1 - PICOVEL, fgroup W, pol RL

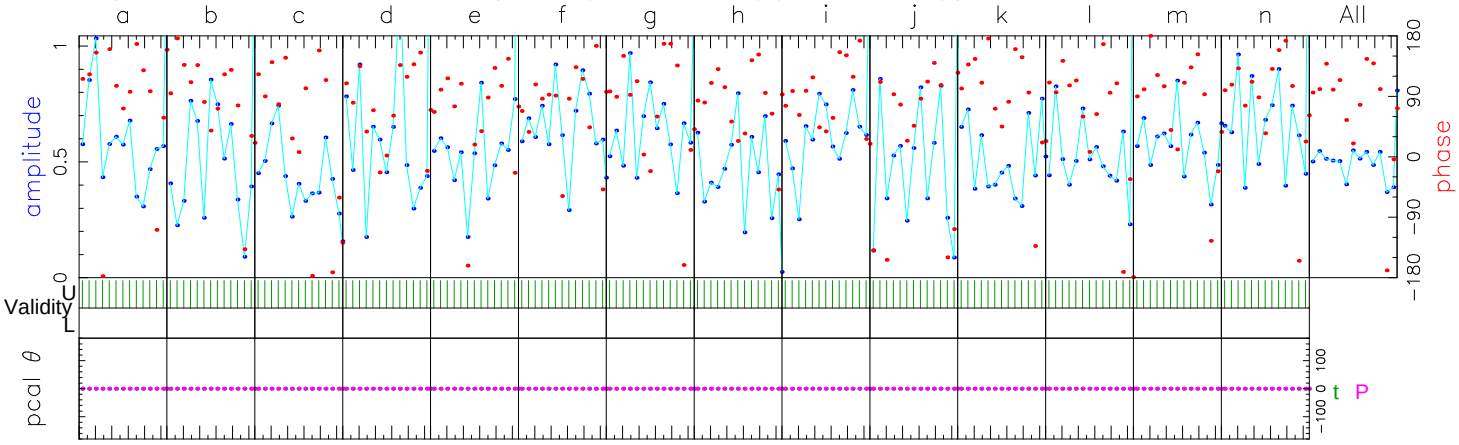


Fringe quality	7
SNR	21.8
Int time	299.982
Amp	0.348
Phase	100.7
PFD	0.0e+00
Delays (us)	
SBD	0.000714
MBD	0.000375
Fringe rate (Hz)	-0.004392
Ion TEC	0.000
Ref freq (MHz)	99164.0000
AP (sec)	0.500
Exp.	tjan24
Exper #	16383
Yr:day	2020:024
Start	071500.00
Stop	072000.00
FRT	071730.00
Corr/FF/build	2020:042:131502
	2020:043:093202
	2019:065:170717
RA & Dec (J2000)	15h49m29.436846s
	+02°37'01.163319"





Amp. and Phase vs. time for each freq., 14 segs, 46 APs / seg (23.00 sec / seg.), time ticks 30 sec



	99164.00	99228.00	99292.00	99356.00	99420.00	99484.00	99548.00	99612.00	99676.00	99740.00	99804.00	99868.00	99932.00	99996.00	Freq (MHz)	All
	126.1	97.2	117.8	95.7	82.3	85.0	97.4	85.7	91.6	103.6	107.4	102.9	99.7	114.5	Phase	100.7
	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.5	Ampl.	0.4
	64.6	65.0	65.9	65.5	64.9	64.6	65.6	65.6	64.9	65.7	65.2	65.1	65.3	65.0	Sbd box	65.2
U/L	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	600/0	APs used	
t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	Chan ids	
															Tracks	
P	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	Chan ids	
															Tracks	

Group delay (usec)(sbd)	-1.55163105626E+03	Apriori delay (usec)	-1.55163143103E+03	Resid mbdelay (usec)	3.74773E-04	+/-	2.8E-05
Sband delay (usec)	-1.55163071728E+03	Apriori clock (usec)	-1.7181767E+00	Resid sbdelay (usec)	7.13750E-04	+/-	3.9E-04
Phase delay (usec)	-1.55163142821E+03	Apriori clockrate (us/s)	-3.7999999E-08	Resid phdelay (usec)	2.82157E-06	+/-	1.5E-07
Delay rate (us/s)	-1.98630980776E-01	Apriori rate (us/s)	-1.98630936488E-01	Resid rate (us/s)	-4.42884E-08	+/-	8.5E-10
Total phase (deg)	19.1	Apriori accel (us/s/s)	8.74425184469E-06	Resid phase (deg)	100.7	+/-	5.3

	RMS	Theor.	Amplitude	0.348 +/- 0.016
ph/seg (deg)	50.7	9.8	Search (2048X64)	0.332
amp/seg (%)	44.8	17.2	Interp.	0.000
ph/frq (deg)	13.3	9.8	Inc. seg. avg.	0.484
amp/frq (%)	16.2	17.2	Inc. frq. avg.	0.350

Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: disabled
Sample rate(MSamp/s): 128
Data rate(Mb/s): 3584 nlags: 64 t_cohere infinite

sb window (us)	-0.250	0.250
mb window (us)	-0.008	0.008
dr window (ns/s)	-0.010	0.010
ion window (TEC)	0.00	0.00

t: az 179.8 el 47.9 pa -0.1 P: az 163.7 el 54.4 pa -12.3 u,v (fr/asec) 1324.374 1049.972 simultaneous interpolator

Control file: cf_1234 Input file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP..10TFXR Output file: /Exps/tjan24/FRINGE_32MHz/2004/No0030/tP.W.4.10TFXR