

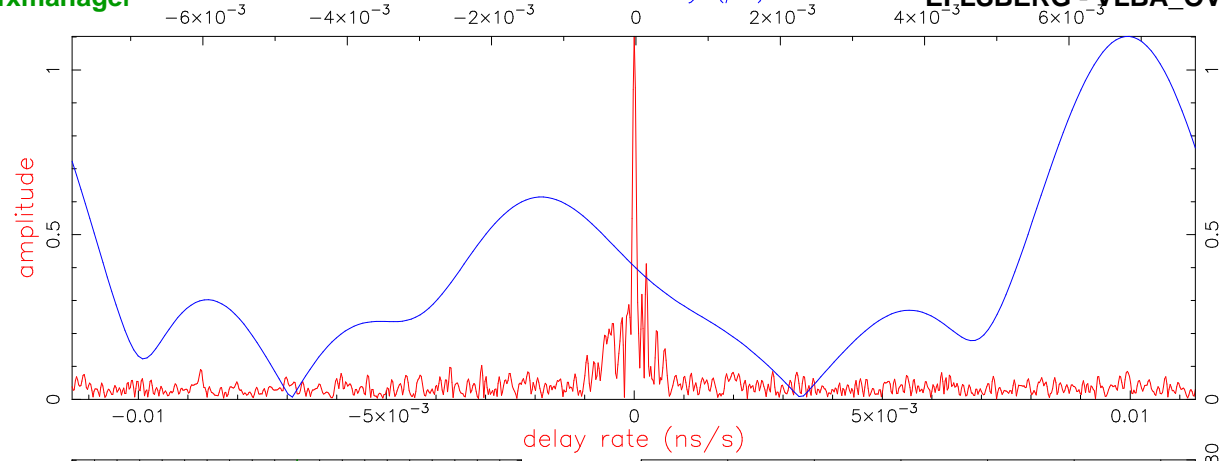
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Bo

EFLSBERG - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)



Fringe quality 5

SNR 40.4

Int time 179.971

Amp 1.102

Phase -54.4

PFD 0.0e+00

Delays (us)

SBD -0.000015

MBD 0.006813

Fringe rate (Hz)

-0.000532

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c202a

Exper # 16383

Yr:day 2020:284

Start 002000.00

Stop 002300.22

FRT 002130.00

Corr/FF/build

2021:010:050910

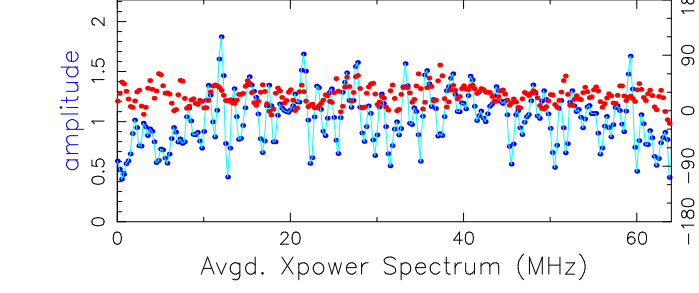
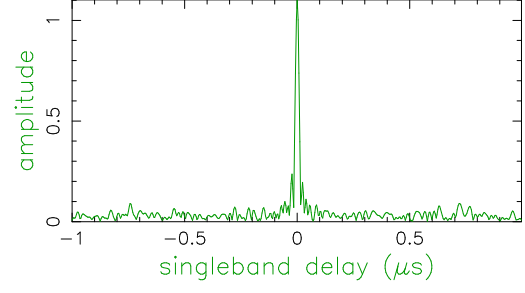
2021:010:155940

2020:247:085004

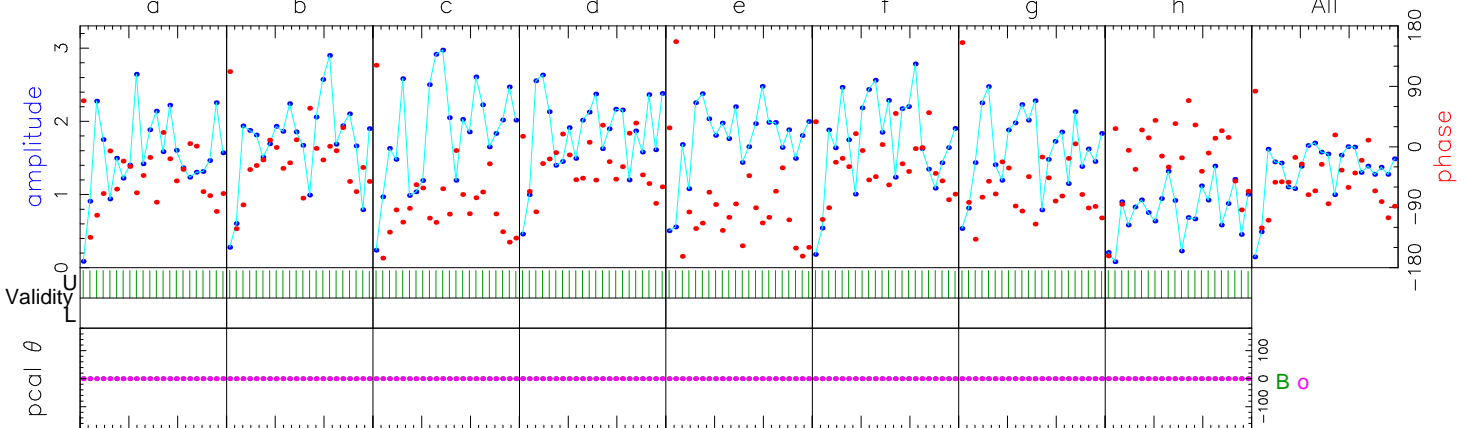
RA & Dec (J2000)

20h15m28.729803s

+37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-51.2	-22.4	-95.3	-30.8	-107.2	-29.3	-69.7	-10.0	Phase	-54.4
	1.2	1.4	1.5	1.5	1.4	1.4	1.3	0.6	Ampl.	1.3
	257.2	256.9	256.9	257.6	257.9	257.7	257.4	257.4	Sbd box	257.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.00846318719E+03		Apriori delay (usec)		-8.00846999972E+03		Resid mbdelay (usec)		6.81253E-03	+/- 2.7E-05
Sband delay (usec)	-8.00847001447E+03		Apriori clock (usec)		-1.1288929E+01		Resid sbdelay (usec)		-1.47500E-05	+/- 2.1E-04
Phase delay (usec)	-8.00847000148E+03		Apriori clockrate (us/s)		-9.9999998E-08		Resid phdelay (usec)		-1.75487E-06	+/- 9.1E-08
Delay rate (us/s)	-1.39056642867E+00		Apriori rate (us/s)		-1.39056642249E+00		Resid rate (us/s)		-6.18146E-09	+/- 8.8E-10
Total phase (deg)			Apriori accel (us/s/s)		5.39249061932E-05		Resid phase (deg)		-54.4	+/- 2.8

ph/seg (deg) 45.9 6.6 Search (1024X32) 1.089 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 39.6 11.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 38.5 4.0 Inc. seg. avg. 1.317 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 31.6 7.0 Inc. frq. avg. 1.301 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011

B: az 293.9 el 29.6 pa 46.9 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 10048.620 4337.890 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo.W.15.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

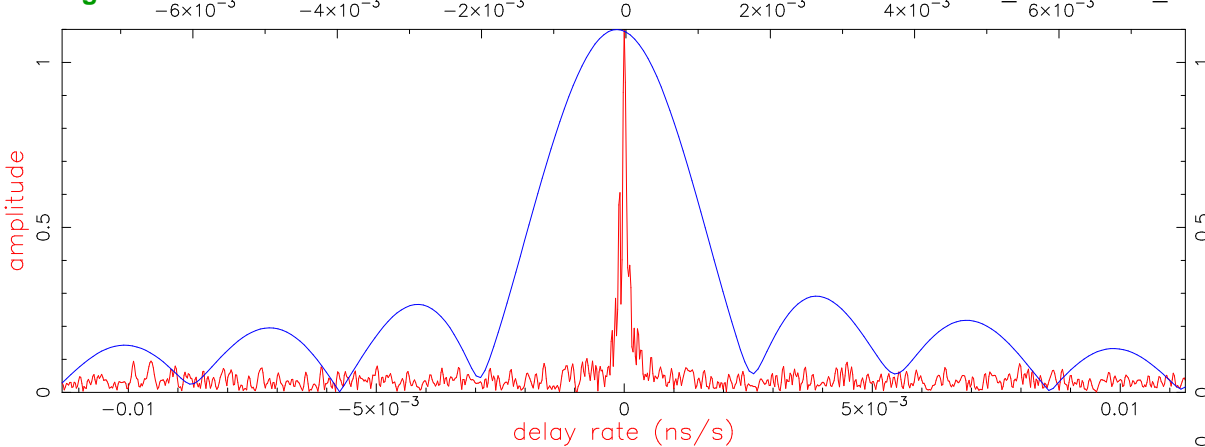
fxmanager

2013+370.1HXRW8, No0228, bo

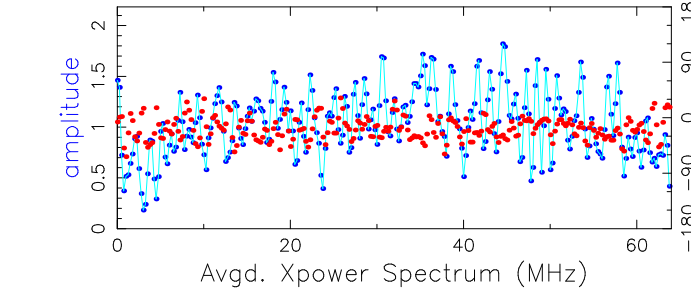
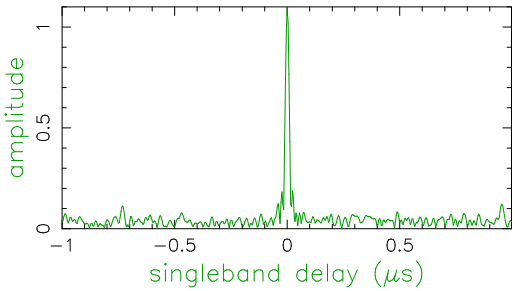
VLBA_BR - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

Fringe quality 8

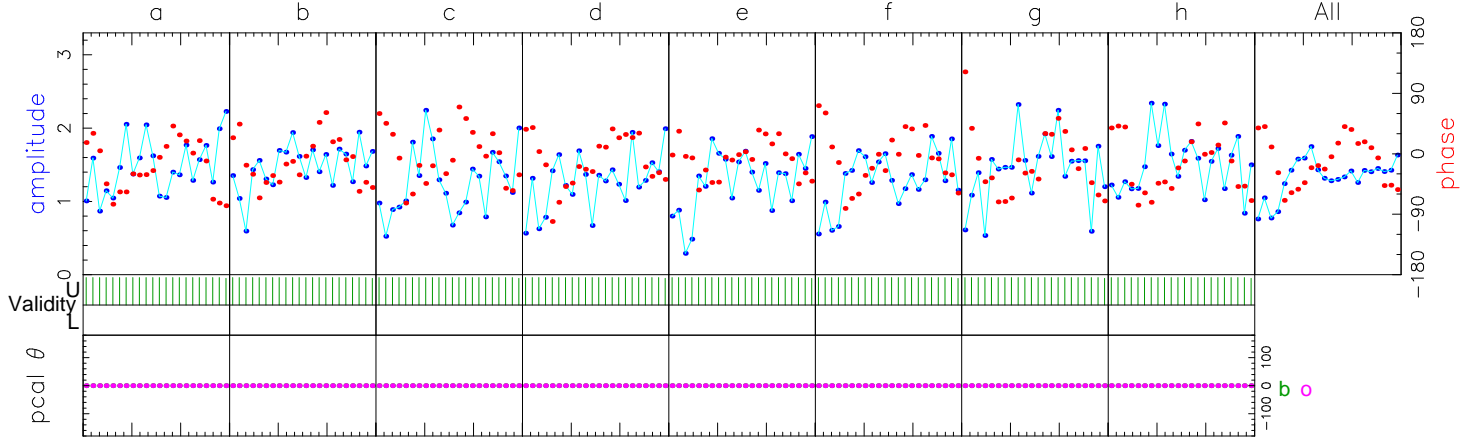


SNR 40.4
 Int time 179.975
 Amp 1.100
 Phase -14.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.000240
 MBD -0.000120
 Fringe rate (Hz)
 0.000089
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155942
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-21.7	-12.7	-8.0	-11.4	-11.2	-12.5	-14.5	-20.1		-14.2	
	1.2	1.2	1.0	1.0	1.1	1.0	1.1	1.2		1.1	
	257.2	257.1	257.2	256.7	257.3	256.7	256.9	257.3		257.1	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
b	1000	1000	1000	1000	1000	1000	1000	1000			
o	1000	1000	1000	1000	1000	1000	1000	1000			
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
b	1000	1000	1000	1000	1000	1000	1000	1000			
o	1000	1000	1000	1000	1000	1000	1000	1000			
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR			
Chan ids											
Tracks											
Chan ids											
Tracks											
Group delay (usec)(sbd)	-1.22131639120E+02				-1.22131518745E+02				Resid mbdelay (usec)	-1.20375E-04	+/- 2.7E-05
Sband delay (usec)	-1.22131278995E+02				-2.3110071E+01				Resid sbdelay (usec)	2.39750E-04	+/- 2.1E-04
Phase delay (usec)	-1.22131519204E+02				9.9999998E-08				Resid phdelay (usec)	-4.58263E-07	+/- 9.2E-08
Delay rate (us/s)	-8.17213838161E-02				-8.17213848435E-02				Resid rate (us/s)	1.02741E-09	+/- 8.8E-10
Total phase (deg)			-23.1		1.00626708036E-05				Resid phase (deg)	-14.2	+/- 2.8

	RMS	Theor.	Amplitude	1.100 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	34.8	6.7	Search (1024X32)	1.092	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	30.7	11.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	5.0	4.0	Inc. seg. avg.	1.314	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	7.3	7.0	Inc. frq. avg.	1.100	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

b: az 95.9 el 59.3 pa -56.4 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 597.690 1582.341 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo.W.27.1HXRW8

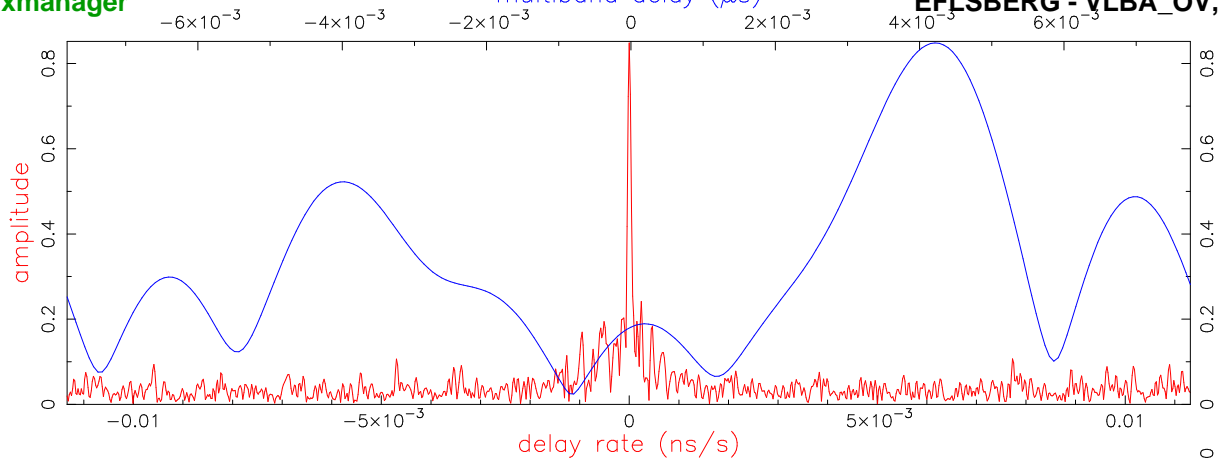
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Bo

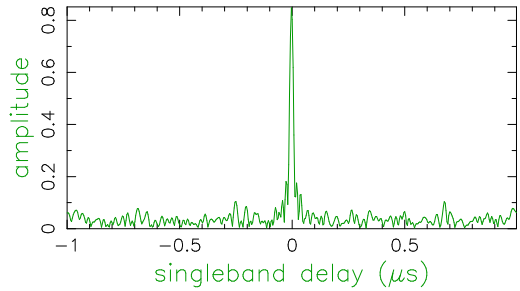
EFLSBERG - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

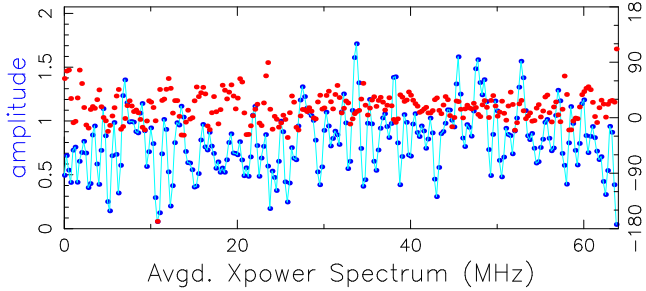


Fringe quality 5

SNR 31.3
 Int time 179.971
 Amp 0.852
 Phase -67.9
 PFD 0.0e+00
 Delays (us)
 SBD -0.003068
 MBD 0.004239
 Fringe rate (Hz)
 -0.000505
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

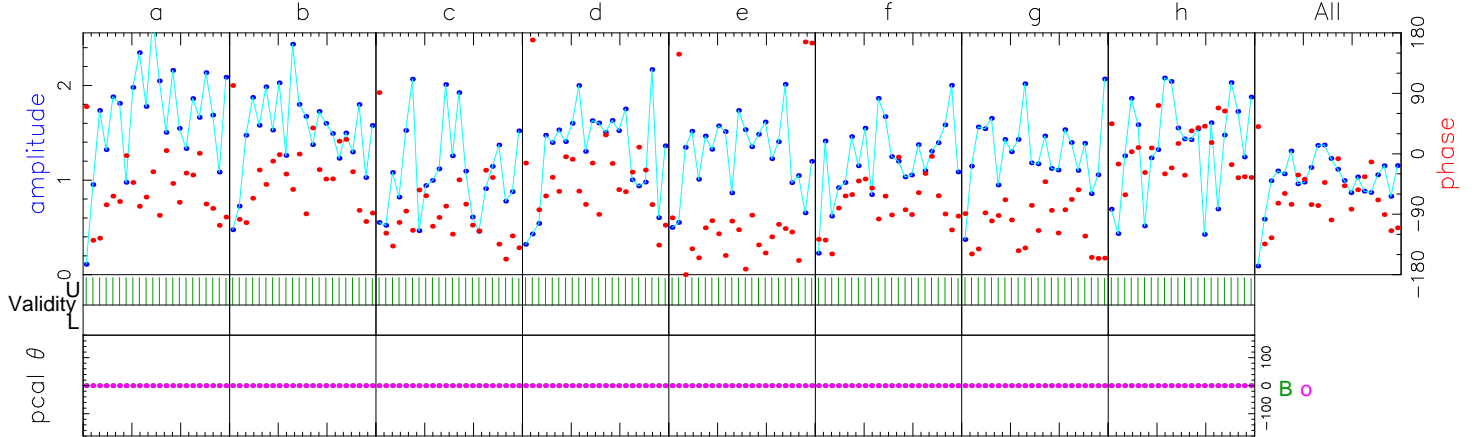


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155943
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-61.2	-38.5	-95.9	-45.2	-133.6	-71.7	-107.9	-0.3		-67.9
	1.4	1.2	0.8	1.0	1.1	1.0	1.1	1.1	Ampl.	1.1
	256.4	255.9	256.5	257.0	257.0	256.9	257.5	256.9	Sbd box	256.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.00846576032E+03		Apriori delay (usec)		-8.00846999972E+03		Resid mbdelay (usec)		4.23941E-03	+/- 3.5E-05
Sband delay (usec)	-8.00847306797E+03		Apriori clock (usec)		-1.1288929E+01		Resid sbdelay (usec)		-3.06825E-03	+/- 2.8E-04
Phase delay (usec)	-8.00847000191E+03		Apriori clockrate (us/s)		-9.9999998E-08		Resid phdelay (usec)		-2.18935E-06	+/- 1.2E-07
Delay rate (us/s)	-1.39056642835E+00		Apriori rate (us/s)		-1.39056642249E+00		Resid rate (us/s)		-5.86261E-09	+/- 1.1E-09
Total phase (deg)			Apriori accel (us/s/s)		5.39249061932E-05		Resid phase (deg)		-67.9	+/- 3.7

ph/seg (deg) 40.9 8.6 Search (1024X32) 0.828 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 36.3 15.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 46.0 5.2 Inc. seg. avg. 0.995 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 32.3 9.0 Inc. frq. avg. 1.084 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 B: az 293.9 el 29.6 pa 46.9 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 10048.620 4337.890 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo.W.37.1HXRW8

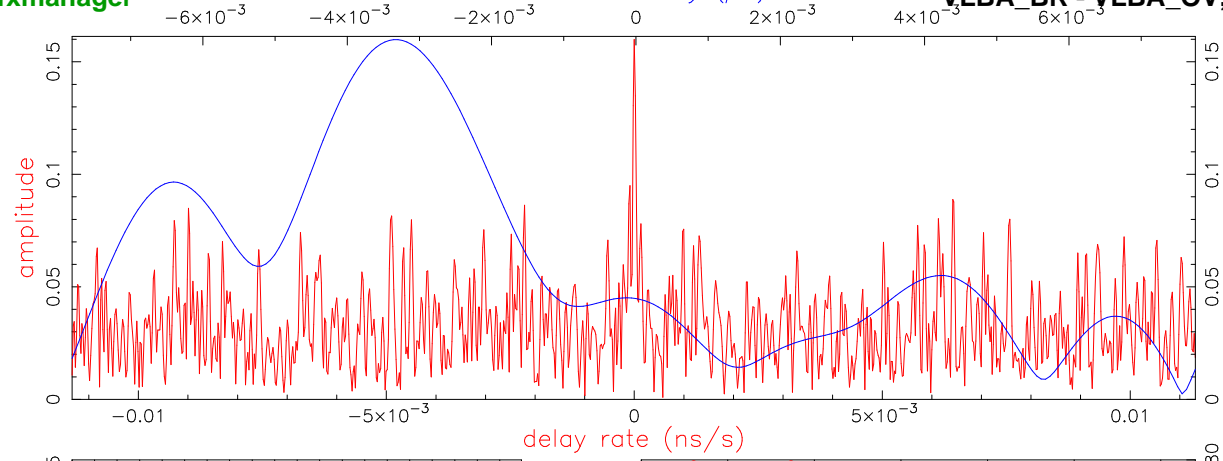
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

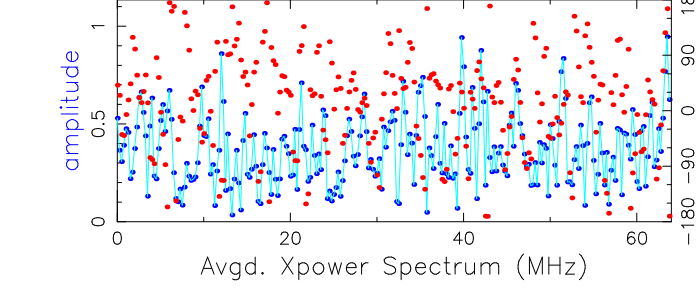
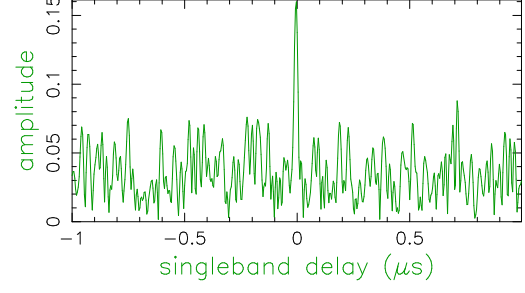
2013+370.1HXRW8, No0228, bo

VLBA_BR - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

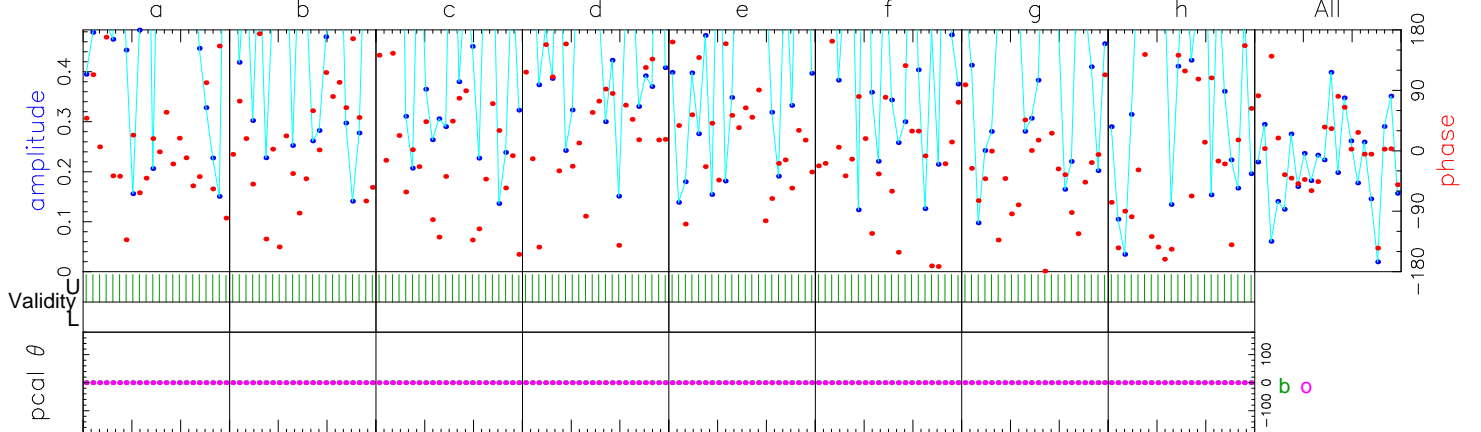


Fringe quality 0
 SNR 5.9
 Int time 179.975
 Amp 0.161
 Phase 4.3
 PFD 3.4e-01
 Delays (us)
 SBD -0.005127
 MBD -0.003342
 Fringe rate (Hz) 0.000316
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155944
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.22134861120E+02									
Sband delay (usec)	-1.22136646245E+02									
Phase delay (usec)	-1.22131518606E+02									
Delay rate (us/s)	-8.17213811746E-02									
Total phase (deg)			-4.6							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
pcal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
simultaneous interpolator										

b: az 95.9 el 59.3 pa -56.4 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 597.690 1582.341
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo.W.51.1HXRW8

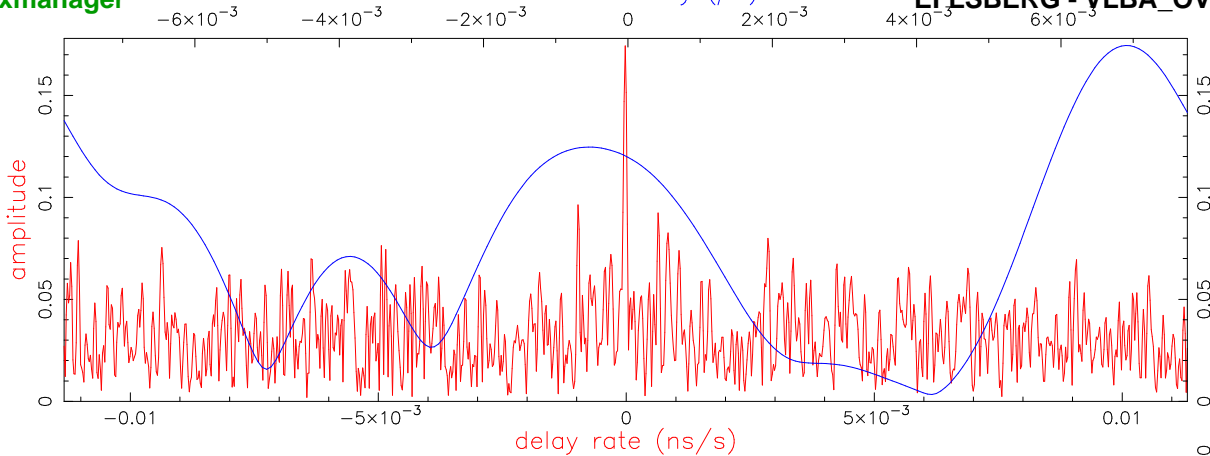
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Bo

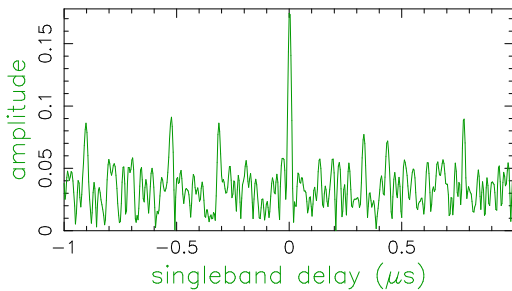
EFLSBERG - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

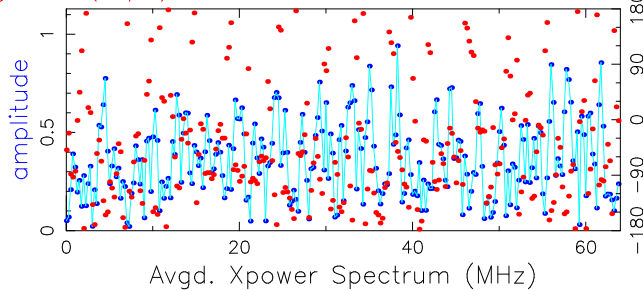


Fringe quality 0

SNR 6.5
Int time 179.971
Amp 0.178
Phase -148.1
PFD 9.3e-03
Delays (us)
SBD 0.001810
MBD 0.006969
Fringe rate (Hz)
-0.002035
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

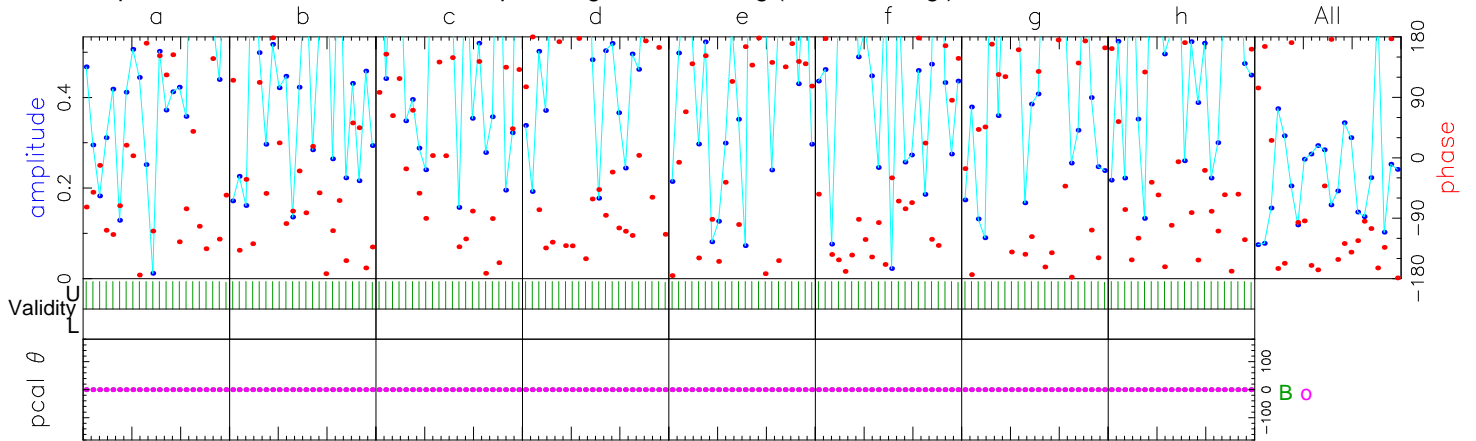


delay rate (ns/s)



Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:155945
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-109.9	-101.2	122.2	-129.8	152.1	-136.7	-175.6	-90.7	Phase	-148.1
	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.2	Ampl.	0.2
	476.8	17.6	216.4	257.8	258.0	258.1	257.6	255.9	Sbd box	257.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.00846303090E+03		Apriori delay (usec)	-8.00846999972E+03	Resid mbdelay (usec)	6.96883E-03	+/-	1.7E-04		
Sband delay (usec)	-8.00846819022E+03		Apriori clock (usec)	-1.1288929E+01	Resid sbdelay (usec)	1.80950E-03	+/-	1.3E-03		
Phase delay (usec)	-8.00847000450E+03		Apriori clockrate (us/s)	-9.9999998E-08	Resid phdelay (usec)	-4.77531E-06	+/-	5.7E-07		
Delay rate (us/s)	-1.39056644611E+00		Apriori rate (us/s)	-1.39056642249E+00	Resid rate (us/s)	-2.36219E-08	+/-	5.4E-09		
Total phase (deg)		-67.4	Apriori accel (us/s/s)	5.39249061932E-05	Resid phase (deg)	-148.1	+/-	17.6		

	RMS	Theor.	Amplitude	0.178 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	57.7	41.2	Search (1024X32)	0.174	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	73.8	71.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	57.4	24.8	Inc. seg. avg.	0.187	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	57.5	43.3	Inc. frq. avg.	0.221	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

B: az 293.9 el 29.6 pa 46.9 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 10048.620 4337.890 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo.W.62.1HXRW8

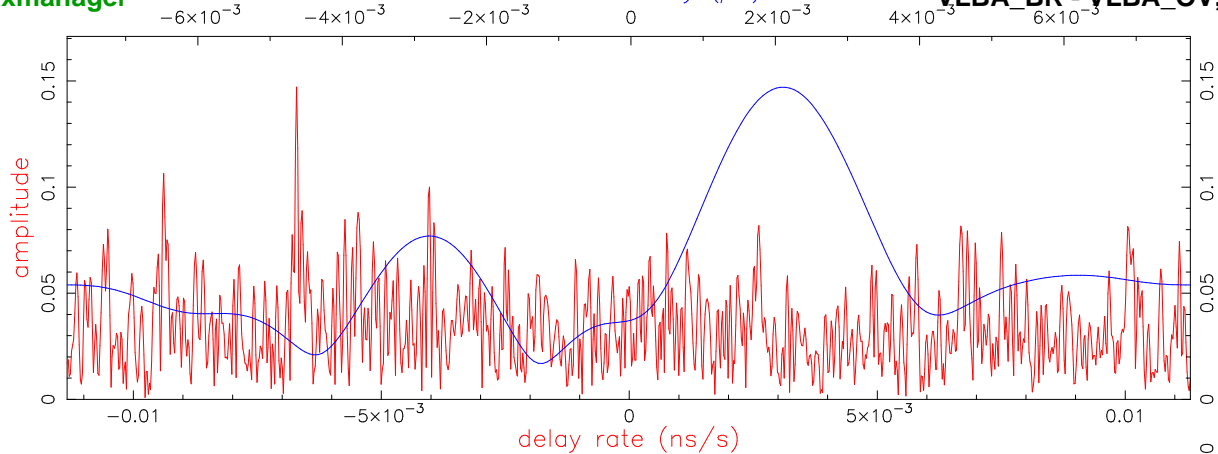
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, bo

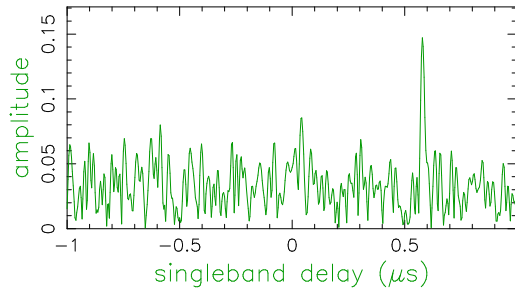
VLBA_BR - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

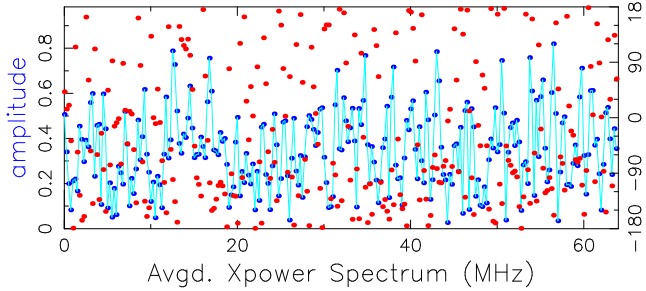


Fringe quality 0

SNR 5.4
 Int time 179.975
 Amp 0.171
 Phase 29.1
 PFD 1.0e+00
 Delays (us)
 SBD 0.578797
 MBD 0.002135
 Fringe rate (Hz)
 -0.578396
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

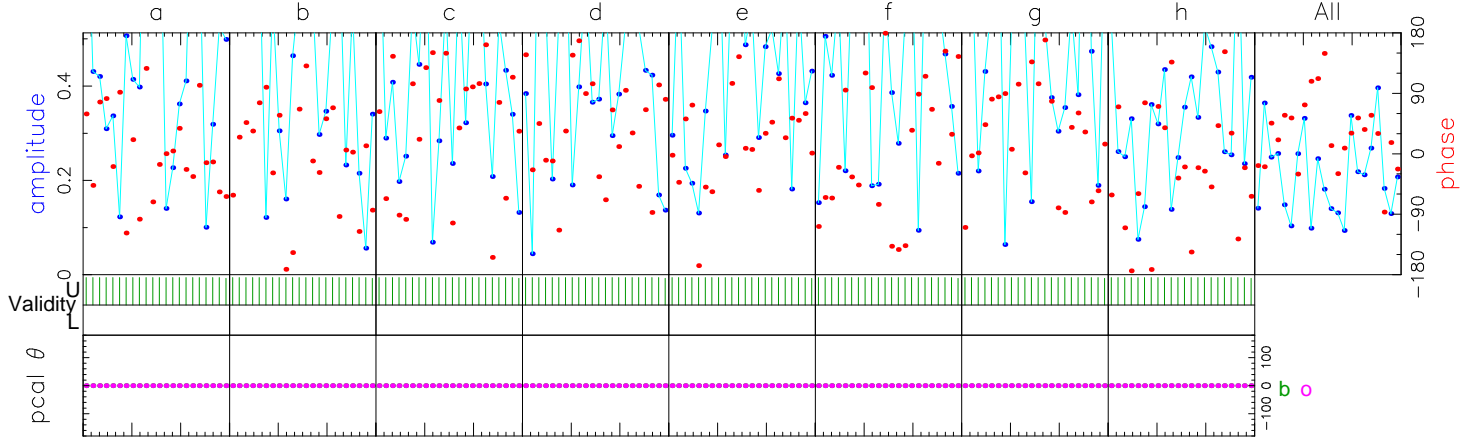


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155946
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-5.9	19.6	100.0	34.8	27.1	32.1	38.4	-45.0	Phase	29.1
	0.2	0.3	0.2	0.2	0.3	0.1	0.2	0.1	Ampl.	0.2
	407.2	283.3	127.7	83.9	66.7	111.2	214.9	34.0	Sbd box	405.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.21551258320E+02		Apriori delay (usec)		-1.22131518745E+02		Resid mbdelay (usec)		2.13542E-03	+/- 2.0E-04
Sband delay (usec)	-1.21552721745E+02		Apriori clock (usec)		-2.3110071E+01		Resid sbdelay (usec)		5.78797E-01	+/- 1.6E-03
Phase delay (usec)	-1.22131517806E+02		Apriori clockrate (us/s)		9.9999998E-08		Resid phdelay (usec)		9.39336E-07	+/- 6.8E-07
Delay rate (us/s)	-8.17280994472E-02		Apriori rate (us/s)		-8.17213848435E-02		Resid rate (us/s)		-6.71460E-06	+/- 6.6E-09
Total phase (deg)	20.2		Apriori accel (us/s/s)		1.00626708036E-05		Resid phase (deg)		29.1	+/- 21.2

	RMS	Theor.	Amplitude	0.171 +/- 0.032	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	52.6	49.7	Search (1024X32)	0.143	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	74.0	86.8	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	44.6	30.0	Inc. seg. avg.	0.180	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	49.7	52.3	Inc. frq. avg.	0.183	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
					nlags: 256	t_cohere infinite

b: az 95.9 el 59.3 pa -56.4 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 597.690 1582.341 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo.W.71.1HXRW8

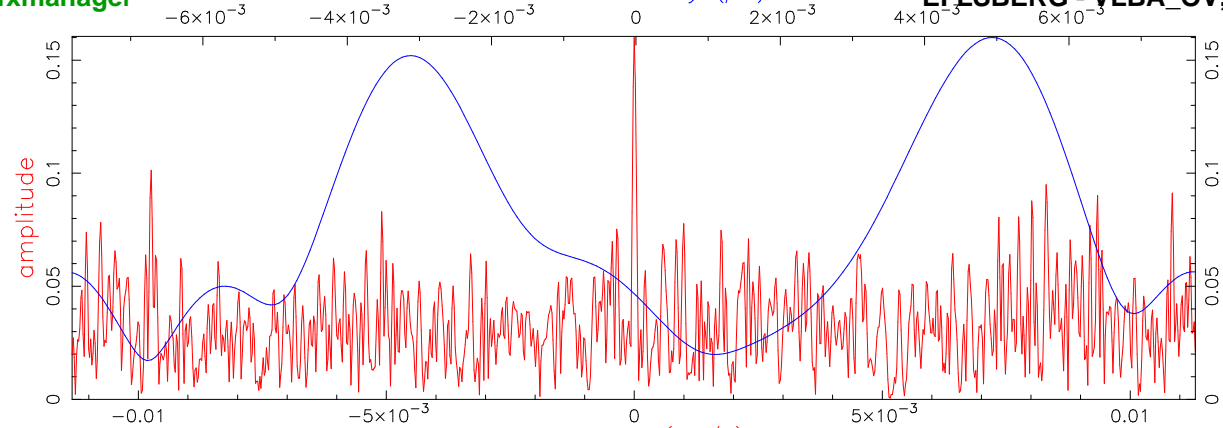
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

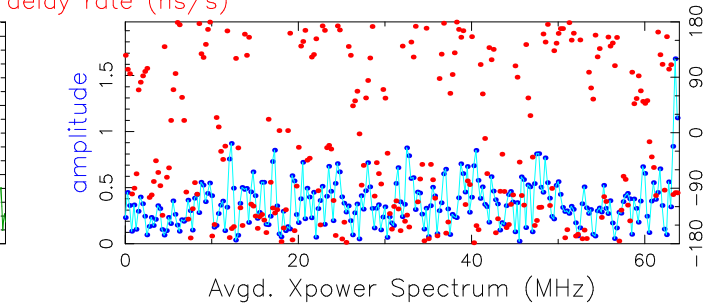
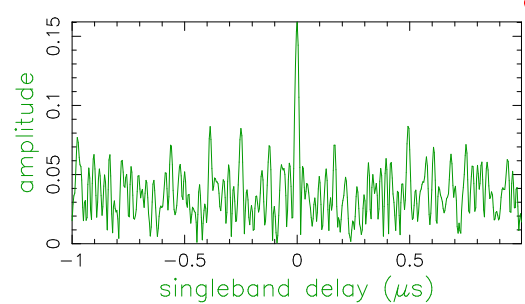
2013+370.1HXRW8, No0228, Bo

EFLSBERG - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

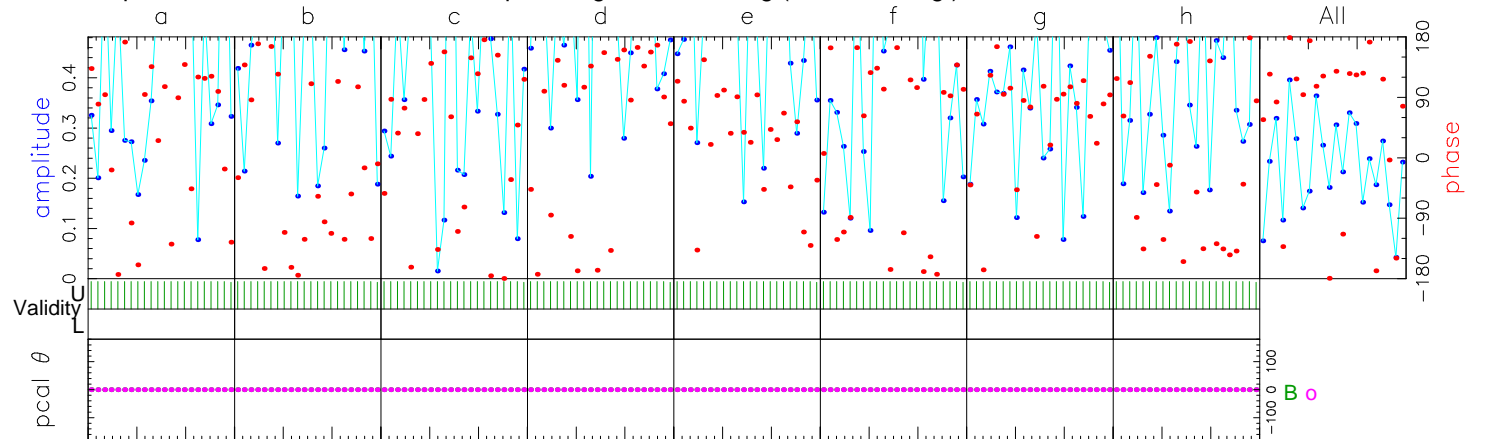


Fringe quality 0
 SNR 5.9
 Int time 179.971
 Amp 0.161
 Phase 132.4
 PFD 3.9e-01
 Delays (us)
 SBD -0.000798
 MBD 0.004922
 Fringe rate (Hz) 0.000304
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155947
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	108.9	-157.4	101.9	155.3	58.1	152.9	87.4	-160.2	Phase	132.4
B	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.2	Ampl.	0.2
o	349.7	253.9	26.4	256.7	256.5	257.3	7.2	162.0	Sbd box	256.8
B	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B: o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B: o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	-8.00846507750E+03		Apriori delay (usec)		-8.00846999972E+03		Resid mbdelay (usec)		4.92222E-03	+/- 1.8E-04
Sband delay (usec)	-8.00847079797E+03		Apriori clock (usec)		-1.1288929E+01		Resid sbdelay (usec)		-7.98250E-04	+/- 1.5E-03
Phase delay (usec)	-8.00846999545E+03		Apriori clockrate (us/s)		-9.9999998E-08		Resid phdelay (usec)		4.26808E-06	+/- 6.3E-07
Delay rate (us/s)	-1.39056641896E+00		Apriori rate (us/s)		-1.39056642249E+00		Resid rate (us/s)		3.53429E-09	+/- 6.0E-09
Total phase (deg)			Apriori accel (us/s/s)		5.39249061932E-05		Resid phase (deg)		132.4	+/- 19.5

ph/seg (deg) 57.3 45.6 Search (1024X32) 0.159 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 69.9 79.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 56.9 27.5 Inc. seg. avg. 0.172 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 63.6 48.0 Inc. frq. avg. 0.210 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 B: az 293.9 el 29.6 pa 46.9 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 10048.620 4337.890 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Bo.W.76.1HXRW8

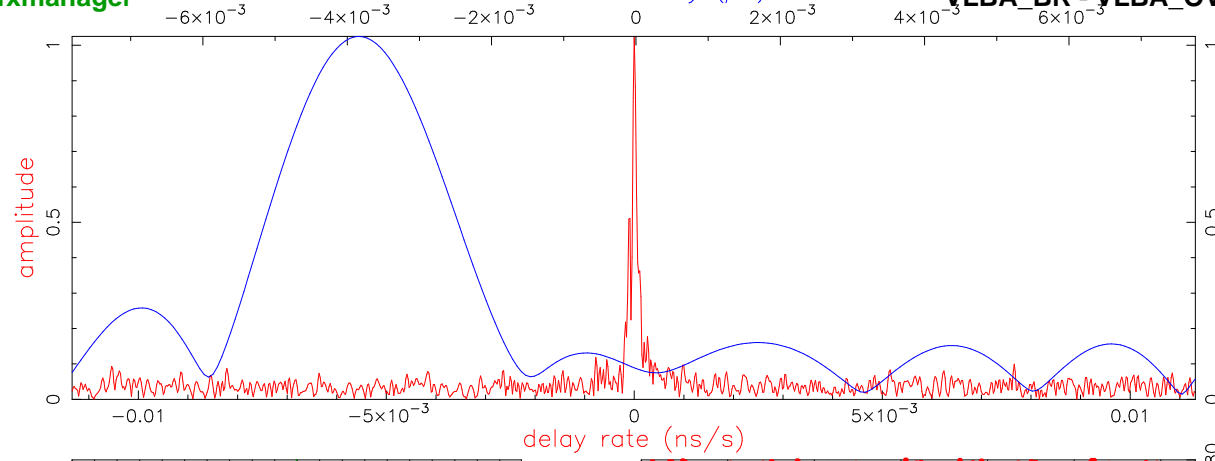
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

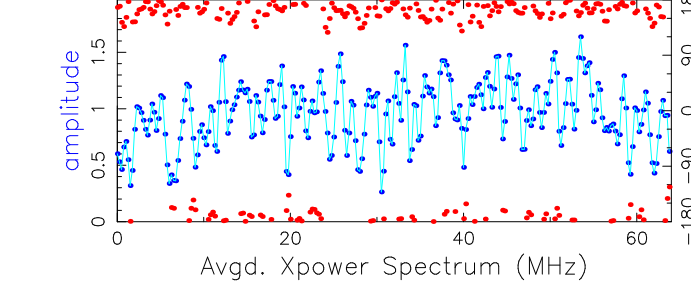
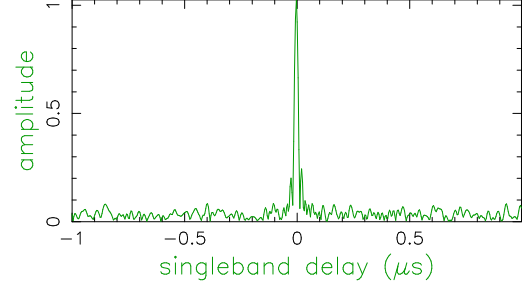
2013+370.1HXRW8, No0228, bo

VLBA_BR - VLBA_OV, fgroup W, pol LL

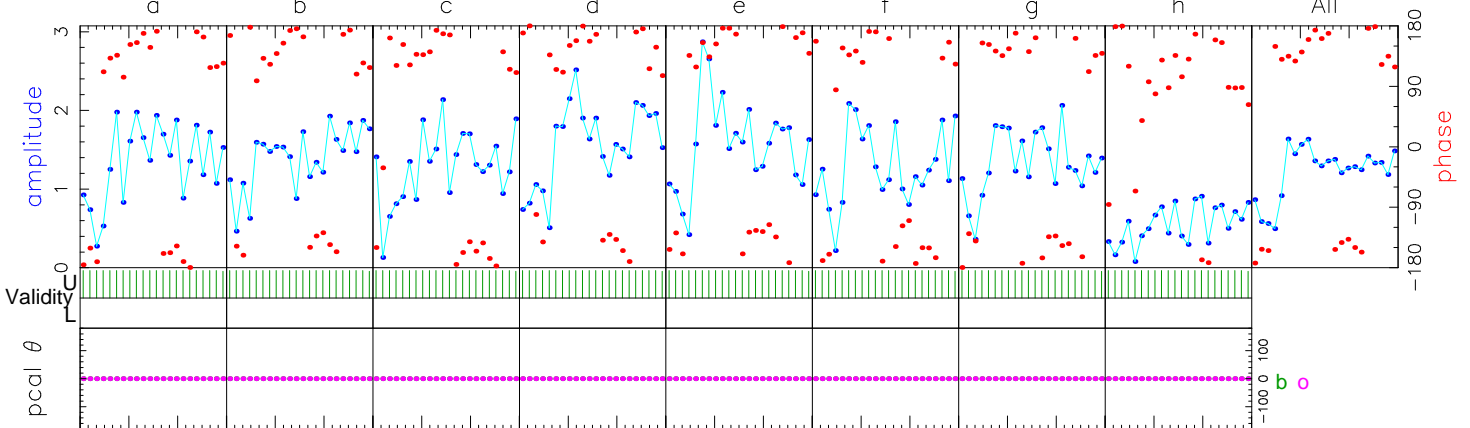
multiband delay (μ s)



Fringe quality 6
 SNR 37.6
 Int time 179.975
 Amp 1.025
 Phase 167.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.004051
 MBD -0.003843
 Fringe rate (Hz)
 0.000159
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155940
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.22135361839E+02	Apriori delay (usec)	-1.22131518745E+02	Resid mbdelay (usec)	-3.84309E-03	+/-	2.9E-05
Sband delay (usec)	-1.22135569745E+02	Apriori clock (usec)	-2.3110071E+01	Resid sbdelay (usec)	-4.05100E-03	+/-	2.3E-04
Phase delay (usec)	-1.22131513358E+02	Apriori clockrate (us/s)	9.9999998E-08	Resid phdelay (usec)	5.38712E-06	+/-	9.8E-08
Delay rate (us/s)	-8.17213830012E-02	Apriori rate (us/s)	-8.17213848435E-02	Resid rate (us/s)	1.84225E-09	+/-	9.4E-10
Total phase (deg)	158.2	Apriori accel (us/s/s)	1.00626708036E-05	Resid phase (deg)	167.1	+/-	3.0

ph/seg (deg)	33.5	Theor.	7.1	Amplitude	1.025 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	36.9	Search (1024X32)	1.022	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	18.6	Inc. seg. avg.	1.211	Inc. frq. avg.	1.041	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	25.6	Inc. frq. avg.	1.041			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

b: az 95.9 el 59.3 pa -56.4 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 597.690 1582.341 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/bo.W.8.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

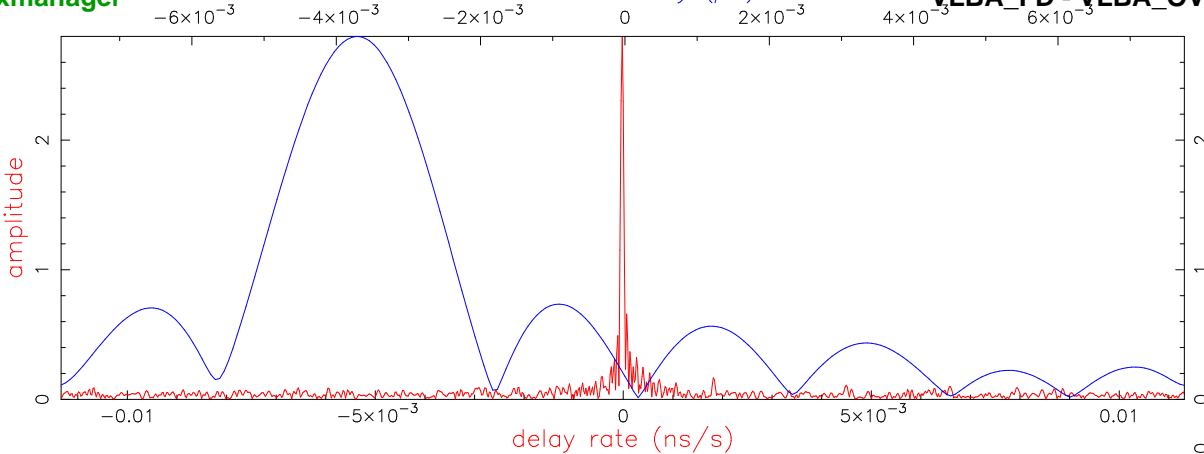
fxmanager

2013+370.1HXRW8, No0228, fo

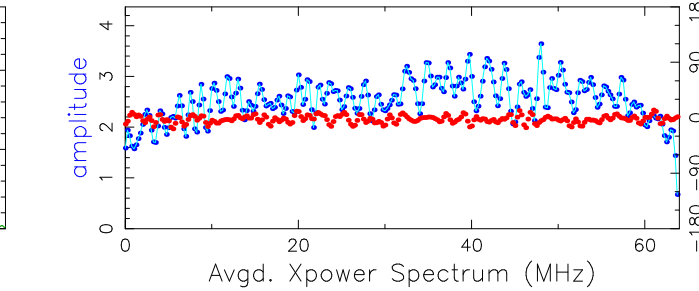
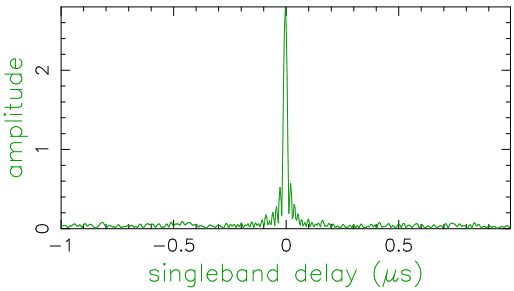
VLBA_FD - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

Fringe quality 9

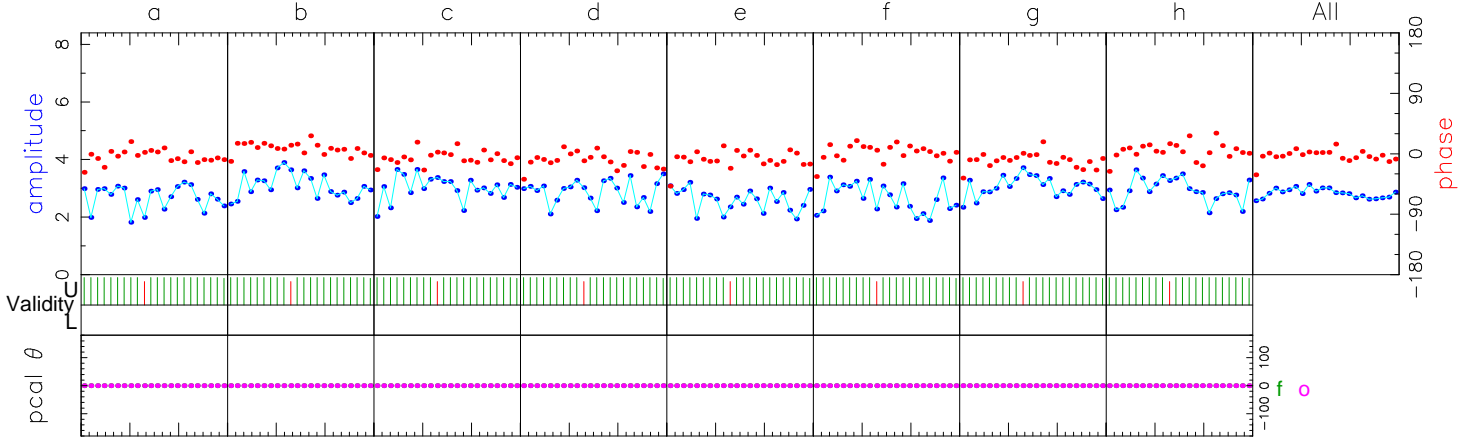


SNR 102.4
Int time 178.742
Amp 2.800
Phase -2.7
PFD 0.0e+00
Delays (us)
SBD -0.003728
MBD -0.003705
Fringe rate (Hz)
-0.001151
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



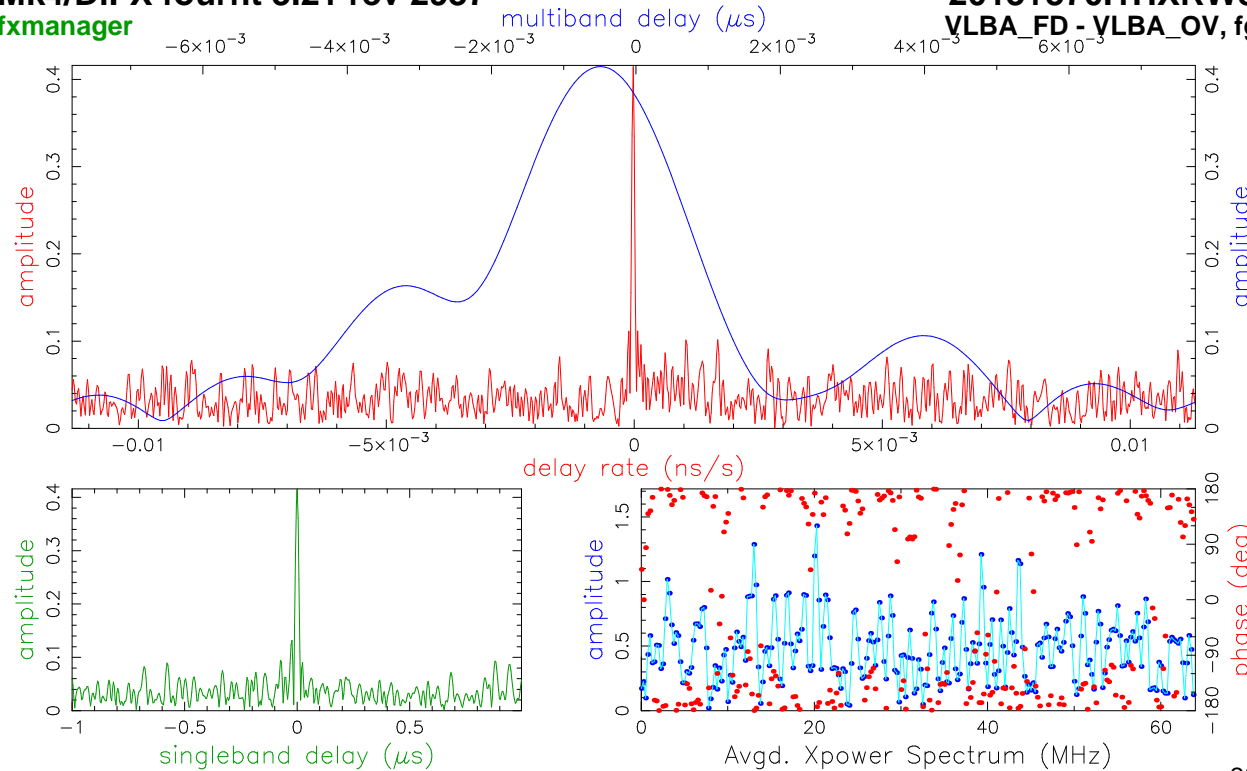
Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:155952
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



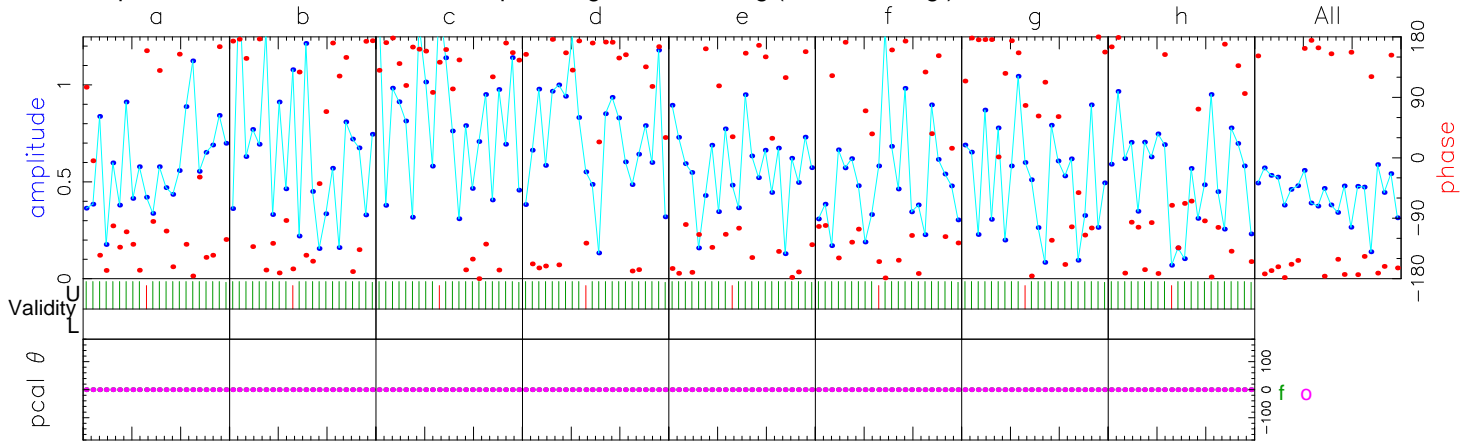
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	351/0	351/0	351/0	351/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)		1.47749006373E+03		Apriori delay (usec)	1.47749376878E+03		Resid mbdelay (usec)	-3.70505E-03	+/-	1.1E-05
Sband delay (usec)		1.47749004053E+03		Apriori clock (usec)	-1.3542355E+01		Resid sbdelay (usec)	-3.72825E-03	+/-	8.4E-05
Phase delay (usec)		1.47749376870E+03		Apriori clockrate (us/s)	5.0000000E-07		Resid phdelay (usec)	-8.60686E-08	+/-	3.6E-08
Delay rate (us/s)		-1.79537228700E-01		Apriori rate (us/s)	-1.79537215342E-01		Resid rate (us/s)	-1.33577E-08	+/-	3.5E-10
Total phase (deg)			84.8	Apriori accel (us/s/s)	-1.44419261918E-05		Resid phase (deg)	-2.7	+/-	1.1

ph/seg (deg) 8.5 2.6 Search (1024X32) 2.672 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 5.7 4.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 7.4 1.6 Inc. seg. avg. 2.826 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 6.5 2.8 Inc. frq. avg. 2.816 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
f: az 65.1 el 69.1 pa -101.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1279.343 -1543.042 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo.W.107.1HXRW8



Fringe quality 9
SNR 15.2
Int time 178.742
Amp 0.416
Phase -177.1
PFD 9.7e-44
Delays (us)
SBD -0.000689
MBD -0.000513
Fringe rate (Hz)
-0.001175
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:155953
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	351/0	351/0	351/0	351/0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		1.47749325539E+03			1.47749376878E+03				Resid mbdelay (usec)	-5.13393E-04 +/- 7.1E-05
Sband delay (usec)		1.47749307978E+03			-1.3542355E+01				Resid sbdelay (usec)	-6.89000E-04 +/- 5.7E-04
Phase delay (usec)		1.47749376307E+03			5.0000000E-07				Resid phdelay (usec)	-5.71116E-06 +/- 2.4E-07
Delay rate (us/s)		-1.79537228986E-01			-1.79537215342E-01				Resid rate (us/s)	-1.36440E-08 +/- 2.3E-09
Total phase (deg)			-89.7		-1.44419261918E-05				Resid phase (deg)	-177.1 +/- 7.5

ph/seg (deg) 22.8 17.6 Search (1024X32) 0.403 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 26.3 30.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 19.5 10.7 Inc. seg. avg. 0.421 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 37.4 18.6 Inc. frq. avg. 0.428 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
f: az 65.1 el 69.1 pa -101.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1279.343 -1543.042 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo.W.121.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

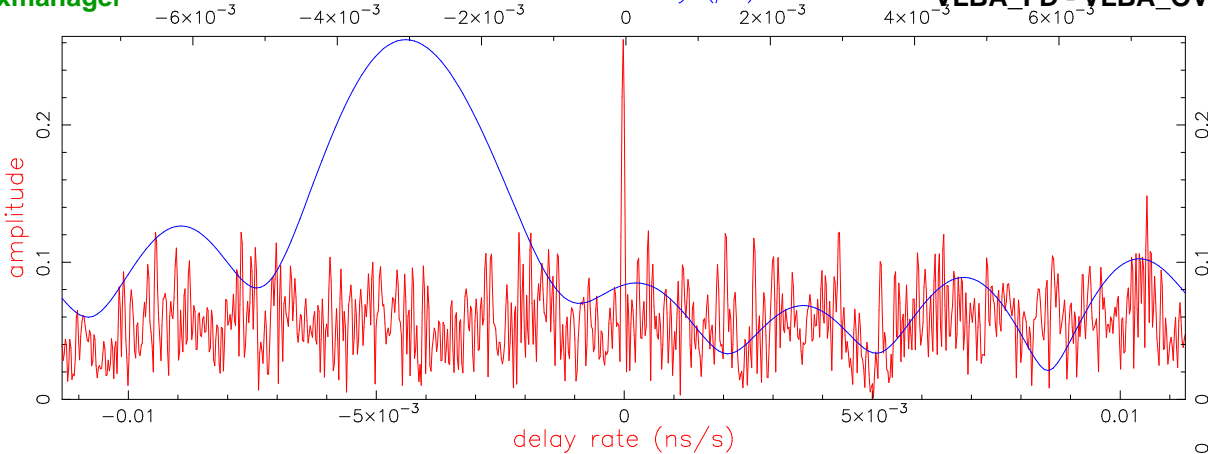
fxmanager

2013+370.1HXRW8, No0228, fo

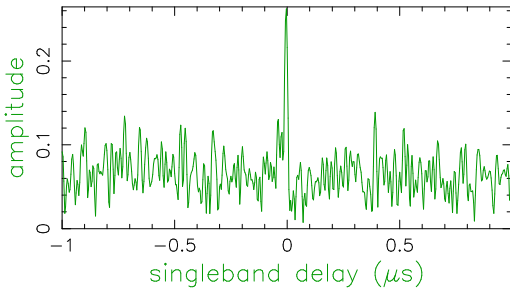
VLBA_FD - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

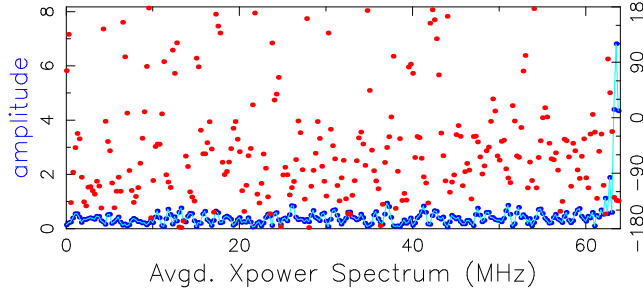
Fringe quality 9



SNR 9.7
 Int time 178.742
 Amp 0.265
 Phase -114.0
 PFD 8.0e-14
 Delays (us)
 SBD -0.004977
 MBD -0.003051
 Fringe rate (Hz)
 -0.002203
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

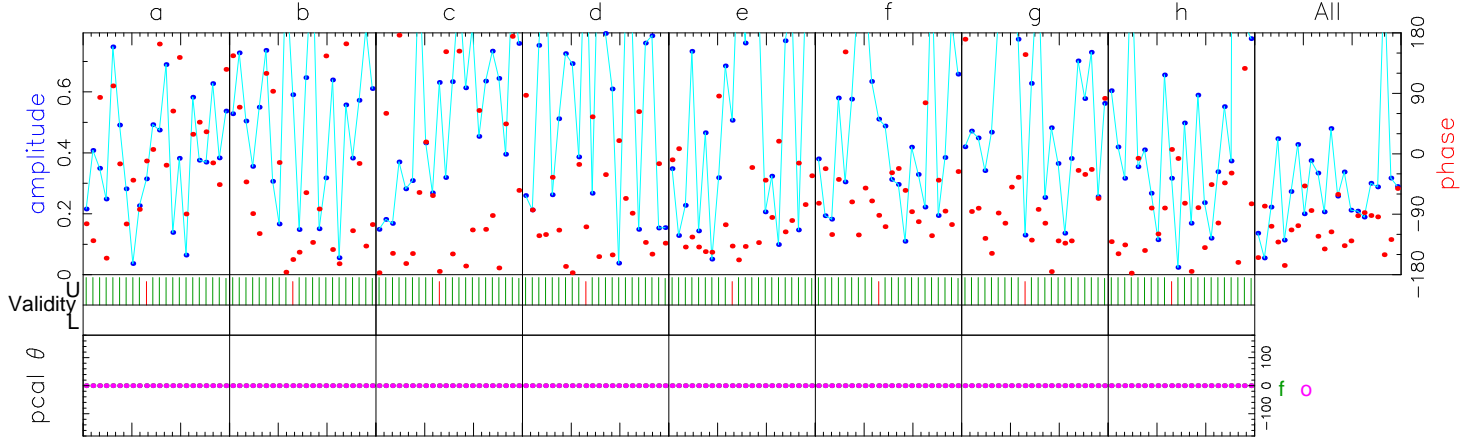


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155955
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	19.9	-144.5	-143.2	-117.4	-100.5	-80.1	-85.5	-143.2	Phase	-114.0
	0.1	0.2	0.2	0.4	0.3	0.4	0.3	0.6	Ampl.	0.3
	4.0	257.1	319.7	256.2	257.0	256.4	256.9	254.7	Sbd box	255.7
U/L	351/0	351/0	351/0	351/0	351/0	351/0	351/0	351/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.47749071801E+03		Apriori delay (usec)	1.47749376878E+03	Resid mbdelay (usec)	-3.05077E-03	+/-	1.1E-04		
Sband delay (usec)	1.47748879153E+03		Apriori clock (usec)	-1.3542355E+01	Resid sbdelay (usec)	-4.97725E-03	+/-	8.9E-04		
Phase delay (usec)	1.47749376511E+03		Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-3.67477E-06	+/-	3.8E-07		
Delay rate (us/s)	-1.79537240912E-01		Apriori rate (us/s)	-1.79537215342E-01	Resid rate (us/s)	-2.55704E-08	+/-	3.7E-09		
Total phase (deg)		-26.5	Apriori accel (us/s/s)	-1.44419261918E-05	Resid phase (deg)	-114.0	+/-	11.8		

ph/seg (deg) 32.5 27.7 Search (1024X32) 0.260 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 69.9 48.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 61.5 16.8 Inc. seg. avg. 0.270 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 50.5 29.2 Inc. frq. avg. 0.302 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 65.1 el 69.1 pa -101.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1279.343 -1543.042 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo.W.135.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

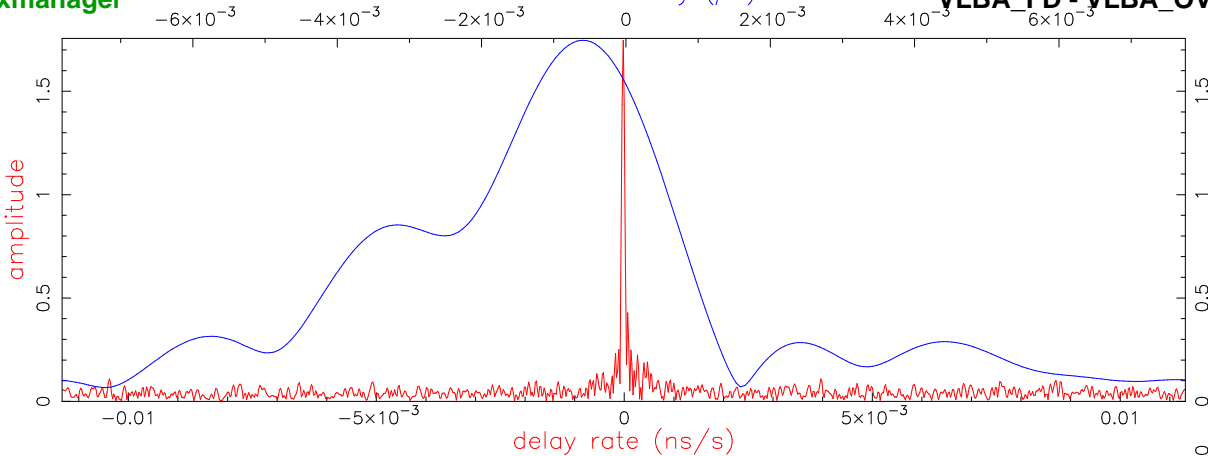
fxmanager

2013+370.1HXRW8, No0228, fo

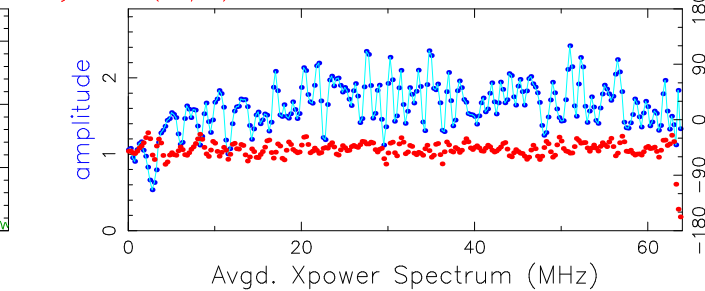
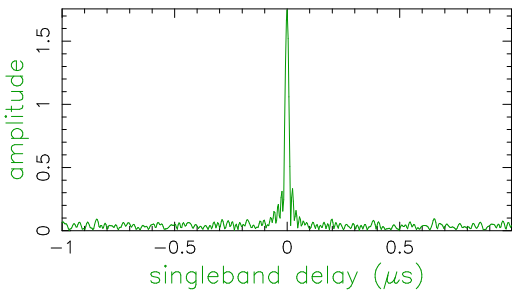
VLBA_FD - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

Fringe quality 5

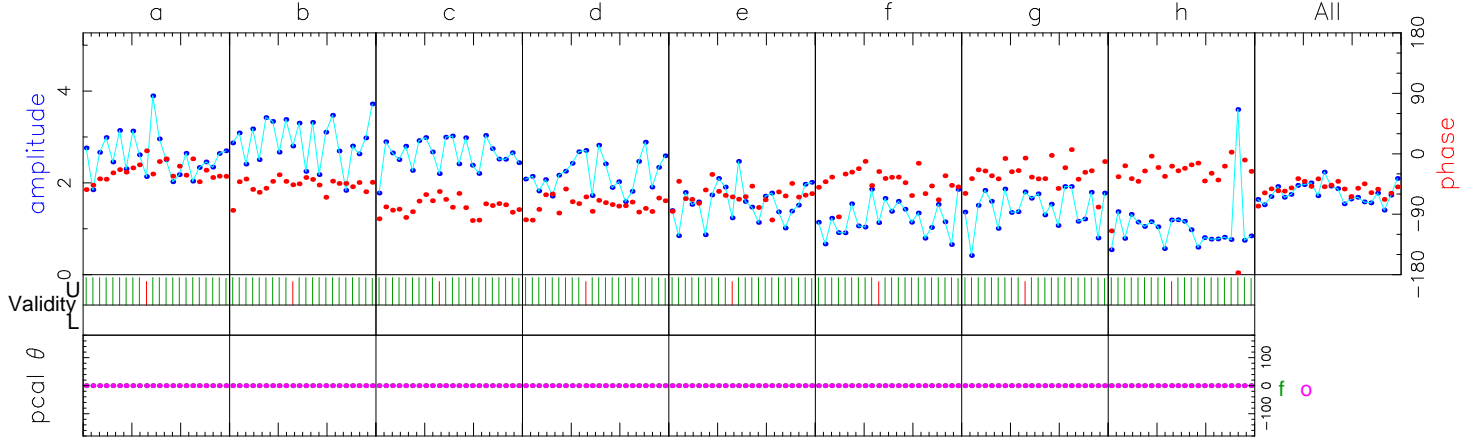


SNR 64.2
 Int time 178.742
 Amp 1.756
 Phase -51.7
 PFD 0.0e+00
 Delays (us)
 SBD -0.000936
 MBD -0.000615
 Fringe rate (Hz)
 -0.001224
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155950
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	351/0	351/0	351/0	351/0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.47749315354E+03	Apriori delay (usec)	1.47749376878E+03	Resid mbdelay (usec)	-6.15237E-04	+/-	1.7E-05
Sband delay (usec)	1.47749283328E+03	Apriori clock (usec)	-1.3542355E+01	Resid sbdelay (usec)	-9.35500E-04	+/-	1.3E-04
Phase delay (usec)	1.47749376711E+03	Apriori clockrate (us/s)	5.0000000E-07	Resid phdelay (usec)	-1.66763E-06	+/-	5.8E-08
Delay rate (us/s)	-1.79537229554E-01	Apriori rate (us/s)	-1.79537215342E-01	Resid rate (us/s)	-1.42122E-08	+/-	5.5E-10
Total phase (deg)	35.7	Apriori accel (us/s/s)	-1.44419261918E-05	Resid phase (deg)	-51.7	+/-	1.8

ph/seg (deg)	RMS 9.5	Theor. 4.2	Amplitude 1.756 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	11.4	7.3	Search (1024X32) 1.696	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000	
ph/frq (deg)	23.1	2.5	Inc. seg. avg. 1.765	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008
amp/frq (%)	41.4	4.4	Inc. frq. avg. 1.861	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011	
				Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite
						ion window (TEC) 0.00 0.00

f: az 65.1 el 69.1 pa -101.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1279.343 -1543.042 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/fo.W.87.1HXRW8

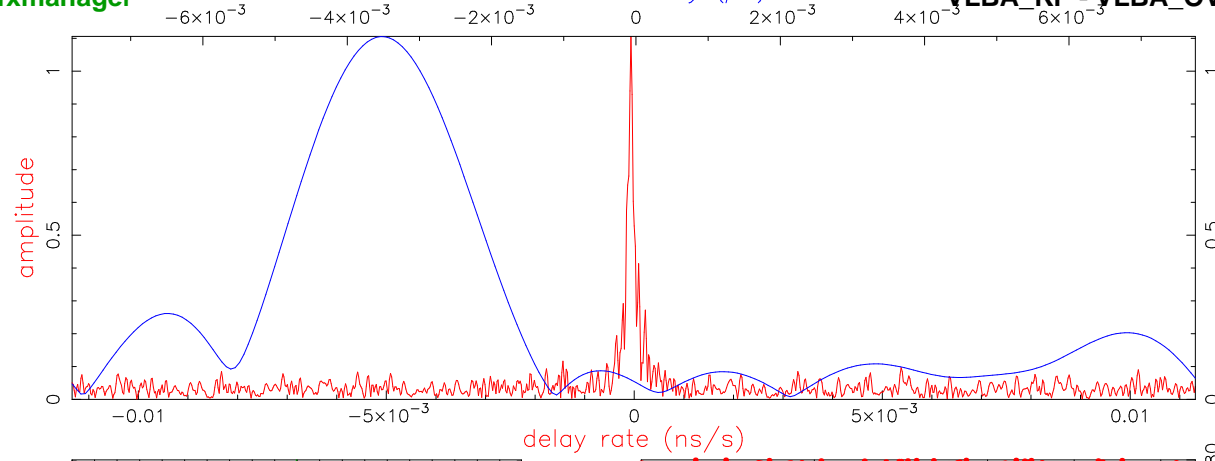
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, ko

VLBA_KP - VLBA_OV, fgroup W, pol LL

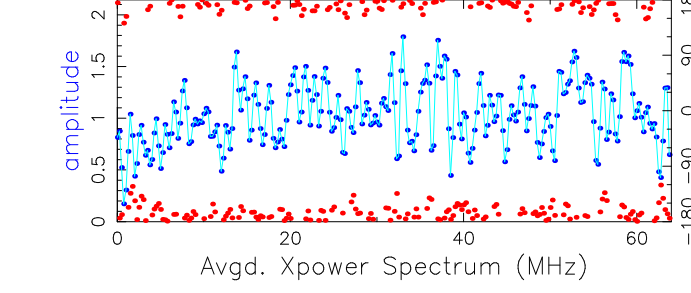
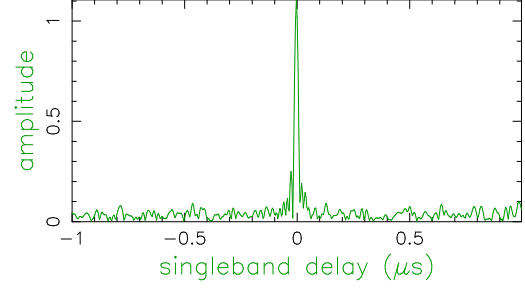
multiband delay (μ s)



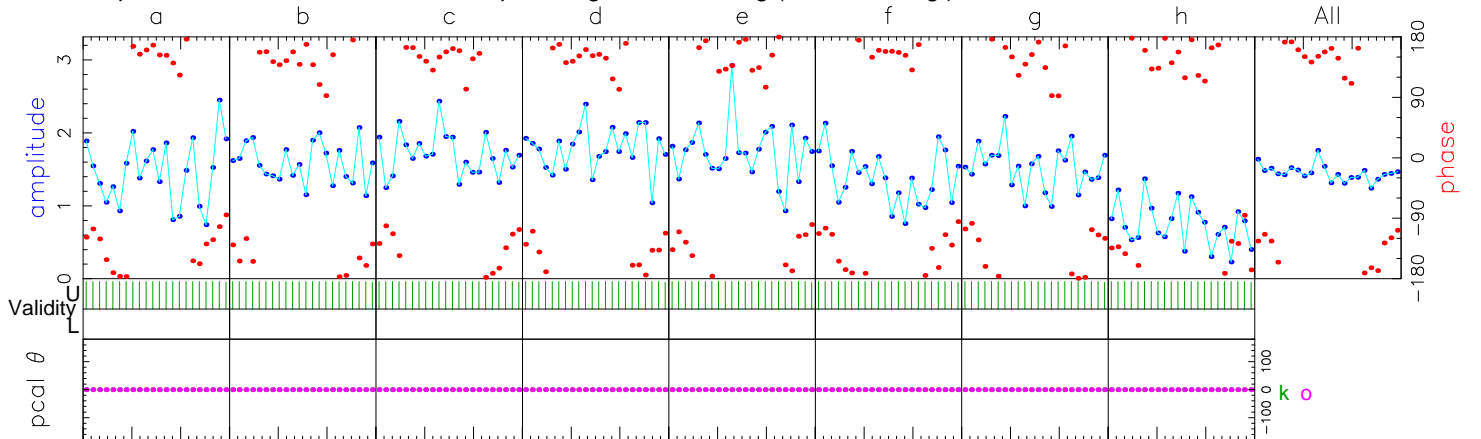
Fringe quality 7

SNR 40.6
 Int time 179.975
 Amp 1.106
 Phase -176.9
 PFD 0.0e+00
 Delays (us)
 SBD -0.003637
 MBD -0.003511
 Fringe rate (Hz)
 -0.005641
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155957
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-161.4	171.6	-179.9	178.1	179.3	-161.5	-177.1	176.5	Phase	-176.9
	1.1	1.2	1.3	1.4	1.3	1.1	1.1	0.6	Ampl.	1.1
	256.2	256.0	256.3	256.0	256.2	255.9	256.0	255.8	Sbd box	256.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	6.53260447707E+02		Apriori delay (usec)		6.53263959106E+02		Resid mbdelay (usec)		-3.51140E-03	+/- 2.7E-05
Sband delay (usec)	6.53260321856E+02		Apriori clock (usec)		-2.1066143E+01		Resid sbdelay (usec)		-3.63725E-03	+/- 2.1E-04
Phase delay (usec)	6.53263953401E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		-5.70534E-06	+/- 9.1E-08
Delay rate (us/s)	-6.08568588448E-02		Apriori rate (us/s)		-6.08567933557E-02		Resid rate (us/s)		-6.54891E-08	+/- 8.8E-10
Total phase (deg)			Apriori accel (us/s/s)		-8.75310390235E-06		Resid phase (deg)		-176.9	+/- 2.8

ph/seg (deg) 41.3 6.6 Search (1024X32) 1.101 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 32.8 11.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 10.8 4.0 Inc. seg. avg. 1.443 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 21.4 7.0 Inc. frq. avg. 1.117 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.6 el 63.6 pa -92.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 430.077 -1059.110 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko.W.159.1HXRW8

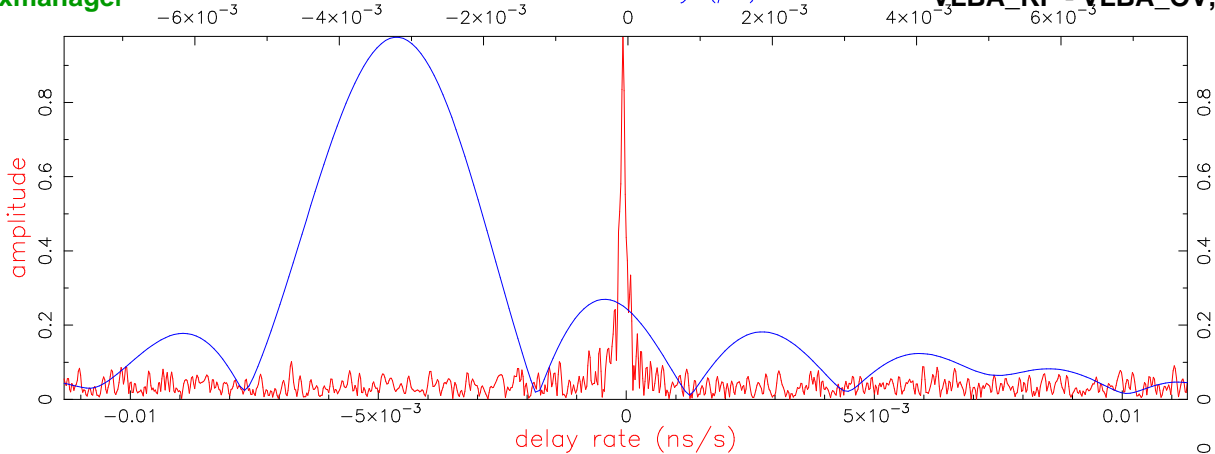
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, ko

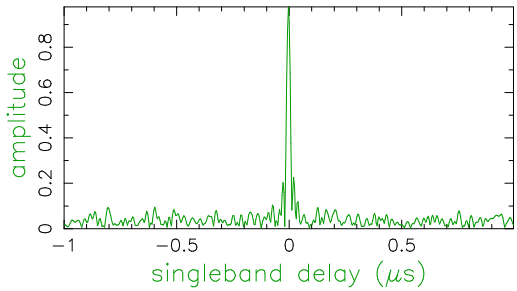
VLBA_KP - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

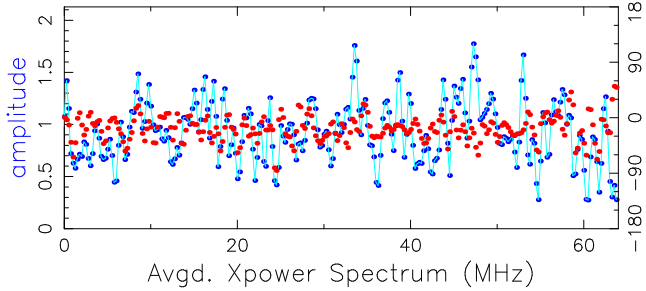


Fringe quality 8

SNR 35.9
 Int time 179.975
 Amp 0.978
 Phase -18.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.003322
 MBD -0.003192
 Fringe rate (Hz)
 -0.005606
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

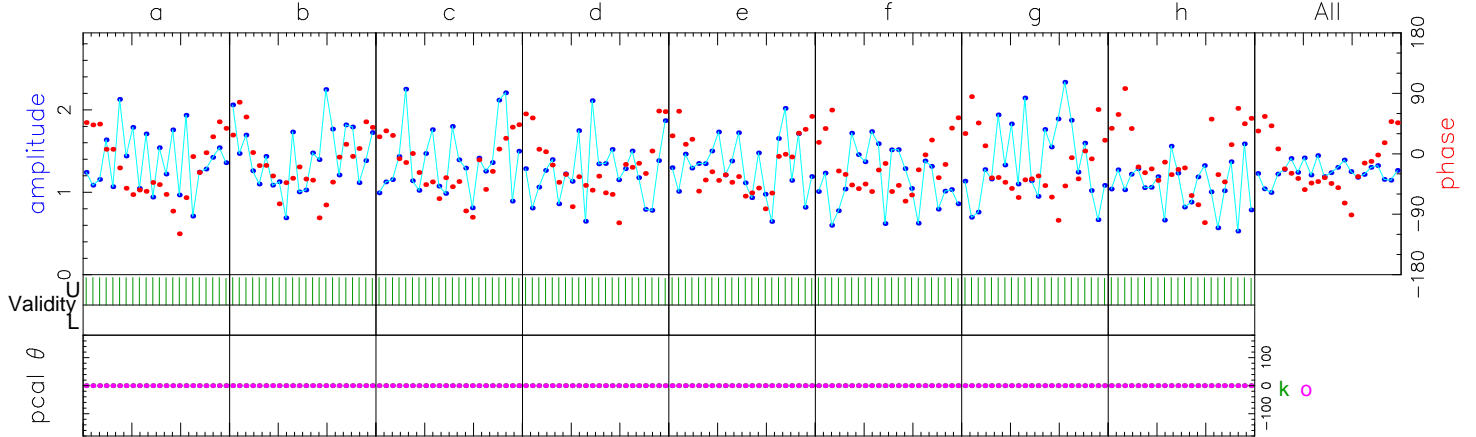


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:155959
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-22.4	-10.8	-16.2	-20.1	-15.8	-24.7	-29.3	-4.4		-18.5
	1.0	1.0	1.1	0.9	1.1	0.9	1.1	0.7		1.0
	256.4	256.1	256.0	256.6	255.5	256.5	256.3	256.4		256.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	6.53260767457E+02		Apriori delay (usec)		6.53263959106E+02		Resid mbdelay (usec)		-3.19165E-03	+/- 3.0E-05
Sband delay (usec)	6.53260636856E+02		Apriori clock (usec)		-2.1066143E+01		Resid sbdelay (usec)		-3.32225E-03	+/- 2.4E-04
Phase delay (usec)	6.53263958511E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		-5.95242E-07	+/- 1.0E-07
Delay rate (us/s)	-6.08568584310E-02		Apriori rate (us/s)		-6.08567933557E-02		Resid rate (us/s)		-6.50753E-08	+/- 9.9E-10
Total phase (deg)	139.0		Apriori accel (us/s/s)		-8.75310390235E-06		Resid phase (deg)		-18.5	+/- 3.2

ph/seg (deg) 40.4 7.5 Search (1024X32) 0.956 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 29.8 13.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 8.6 4.5 Inc. seg. avg. 1.238 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 12.6 7.9 Inc. frq. avg. 0.981 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.6 el 63.6 pa -92.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 430.077 -1059.110 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko.W.163.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

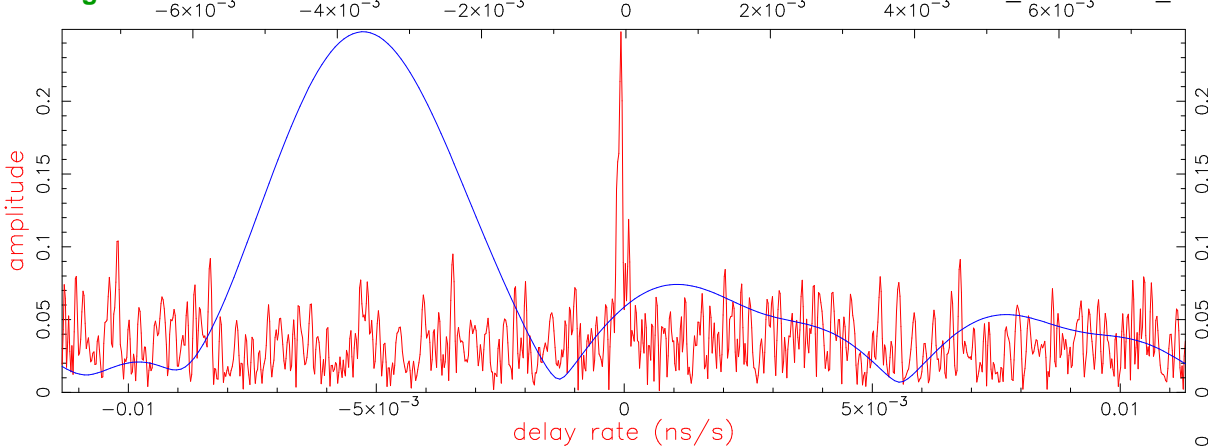
fxmanager

2013+370.1HXRW8, No0228, ko

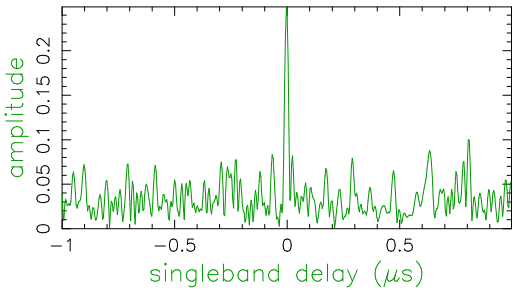
VLBA_KP - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

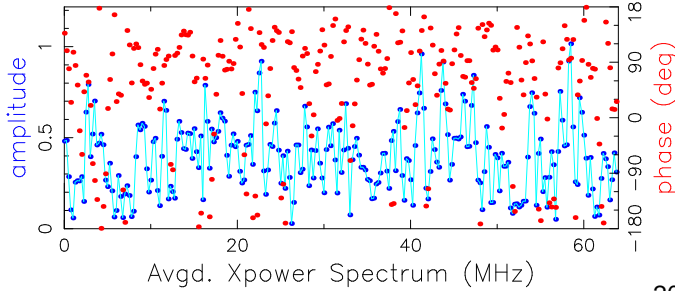
Fringe quality 9



SNR 9.1
 Int time 179.975
 Amp 0.249
 Phase 112.1
 PFD 1.1e-11
 Delays (us)
 SBD -0.002820
 MBD -0.003622
 Fringe rate (Hz)
 -0.006028
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

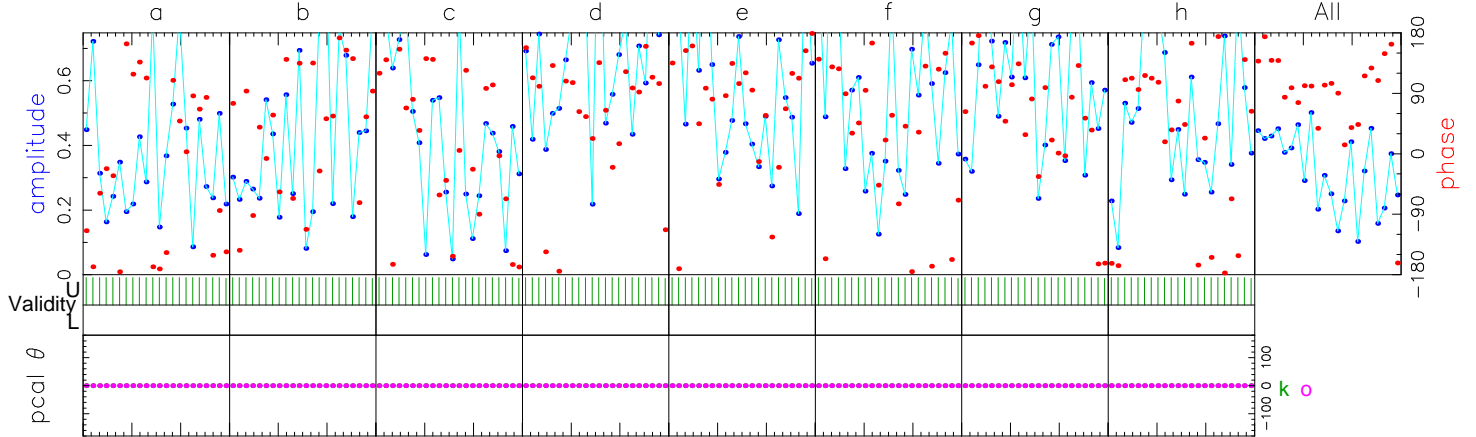


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160002
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	164.1	85.3	112.2	106.1	117.7	125.8	91.4	126.1	Phase	112.1
	0.1	0.1	0.2	0.4	0.4	0.3	0.4	0.3	Ampl.	0.2
	7.7	239.6	1.5	255.7	256.1	256.4	257.6	448.8	Sbd box	256.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.53260336801E+02		Apriori delay (usec)		6.53263959106E+02		Resid mbdelay (usec)		-3.62231E-03	+/- 1.2E-04
Sband delay (usec)	6.53261139106E+02		Apriori clock (usec)		-2.1066143E+01		Resid sbdelay (usec)		-2.82000E-03	+/- 9.4E-04
Phase delay (usec)	6.53263962722E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		3.61568E-06	+/- 4.0E-07
Delay rate (us/s)	-6.0856863300E-02		Apriori rate (us/s)		-6.08567933557E-02		Resid rate (us/s)		-6.99743E-08	+/- 3.9E-09
Total phase (deg)	269.6		Apriori accel (us/s/s)		-8.75310390235E-06		Resid phase (deg)		112.1	+/- 12.5

ph/seg (deg) 45.6 29.4 Search (1024X32) 0.243 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 56.0 51.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 26.8 17.7 Inc. seg. avg. 0.288 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 45.9 30.9 Inc. frq. avg. 0.248 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.6 el 63.6 pa -92.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 430.077 -1059.110 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko.W.185.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

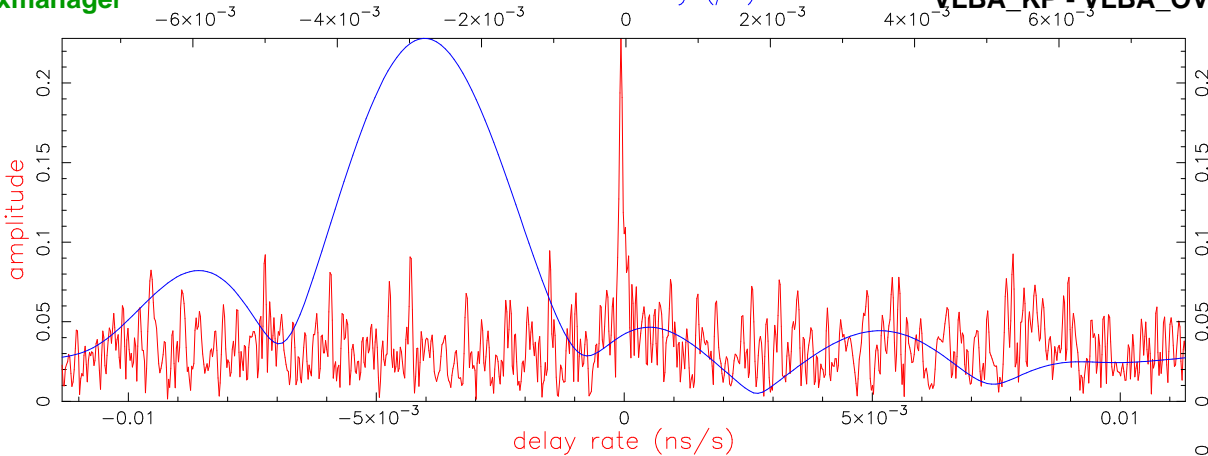
fxmanager

2013+370.1HXRW8, No0228, ko

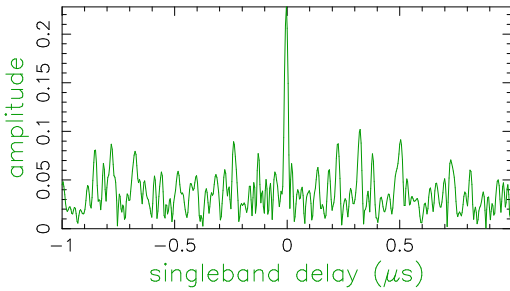
VLBA_KP - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

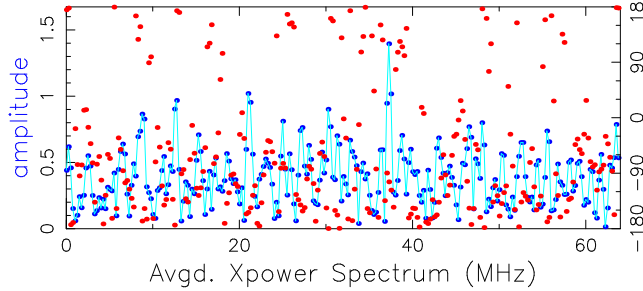
Fringe quality 9



SNR 8.4
 Int time 179.975
 Amp 0.228
 Phase -146.0
 PFD 1.1e-08
 Delays (us)
 SBD -0.004032
 MBD -0.002792
 Fringe rate (Hz)
 -0.005648
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

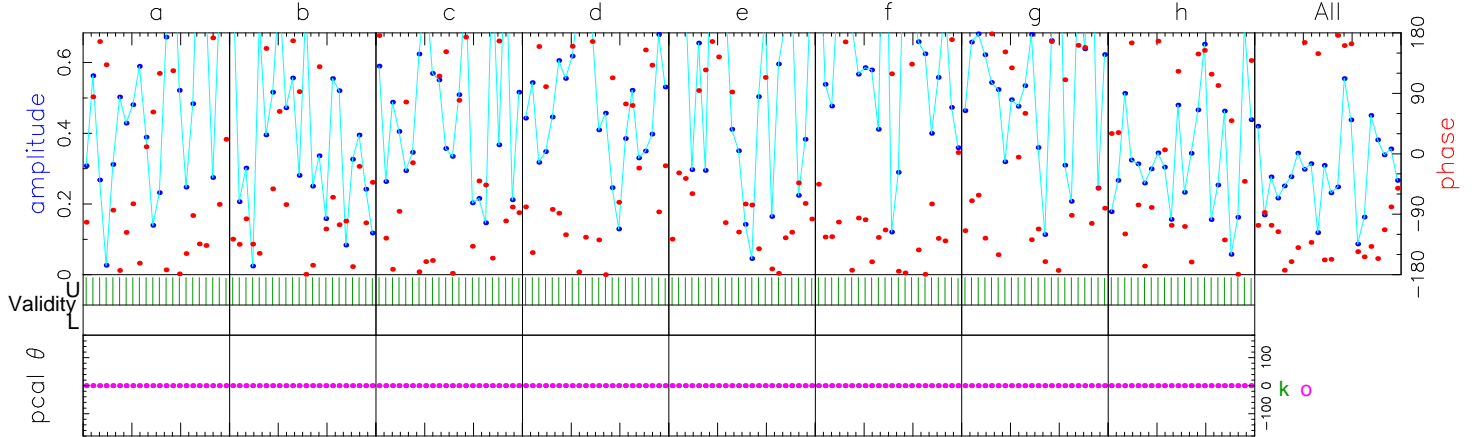


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160004
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-148.6	-133.8	-159.6	-151.8	-136.0	-138.6	-144.2	-171.5	Phase	-146.0
	0.2	0.2	0.3	0.2	0.2	0.4	0.3	0.1	Ampl.	0.2
	12.5	191.8	183.6	394.0	257.3	255.5	255.2	433.9	Sbd box	256.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	6.53261167332E+02	Apriori delay (usec)	6.53263959106E+02	Resid mbdelay (usec)	-2.79177E-03	+/-	1.3E-04
Sband delay (usec)	6.53259927356E+02	Apriori clock (usec)	-2.1066143E+01	Resid sbdelay (usec)	-4.03175E-03	+/-	1.0E-03
Phase delay (usec)	6.53263954399E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	-4.70693E-06	+/-	4.4E-07
Delay rate (us/s)	-6.08568589185E-02	Apriori rate (us/s)	-6.08567933557E-02	Resid rate (us/s)	-6.55628E-08	+/-	4.2E-09
Total phase (deg)		Apriori accel (us/s/s)	-8.75310390235E-06	Resid phase (deg)	-146.0	+/-	13.7

ph/seg (deg)	40.9	32.1	Search (1024X32)	0.226	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	56.8	56.1	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	14.0	19.4	Inc. seg. avg.	0.256	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	39.7	33.8	Inc. frq. avg.	0.219	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 69.6 el 63.6 pa -92.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 430.077 -1059.110 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/ko.W.207.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

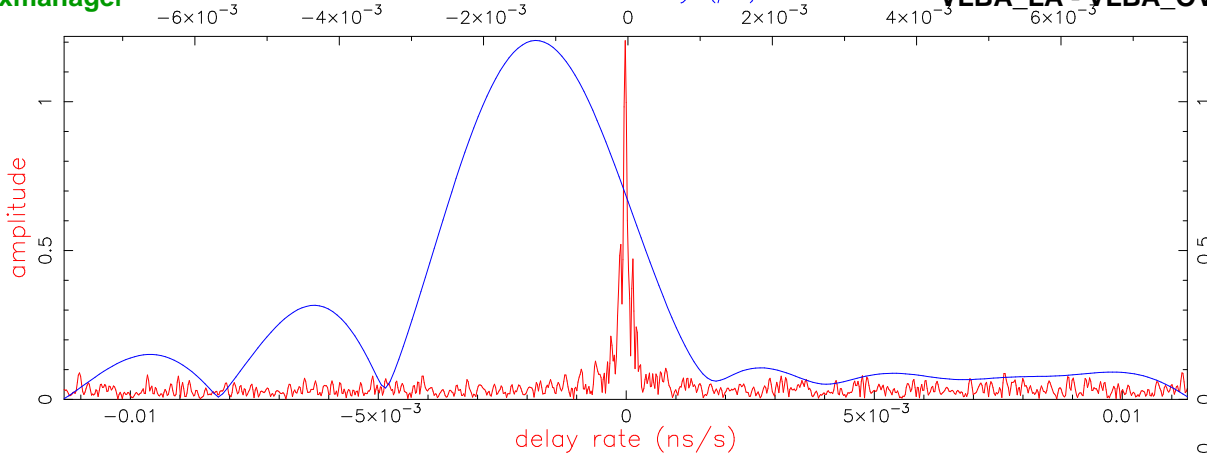
fxmanager

2013+370.1HXRW8, No0228, lo

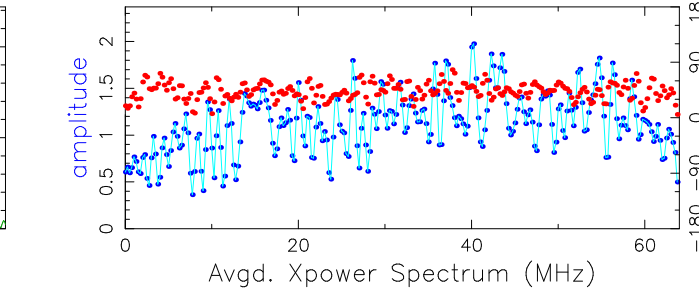
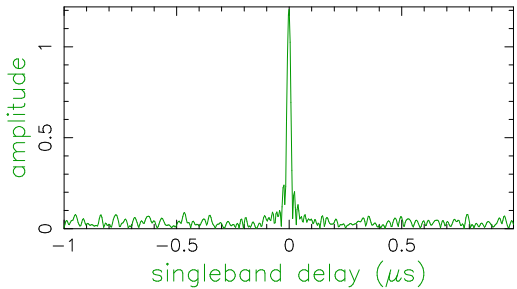
VLBA_LA - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

Fringe quality 6

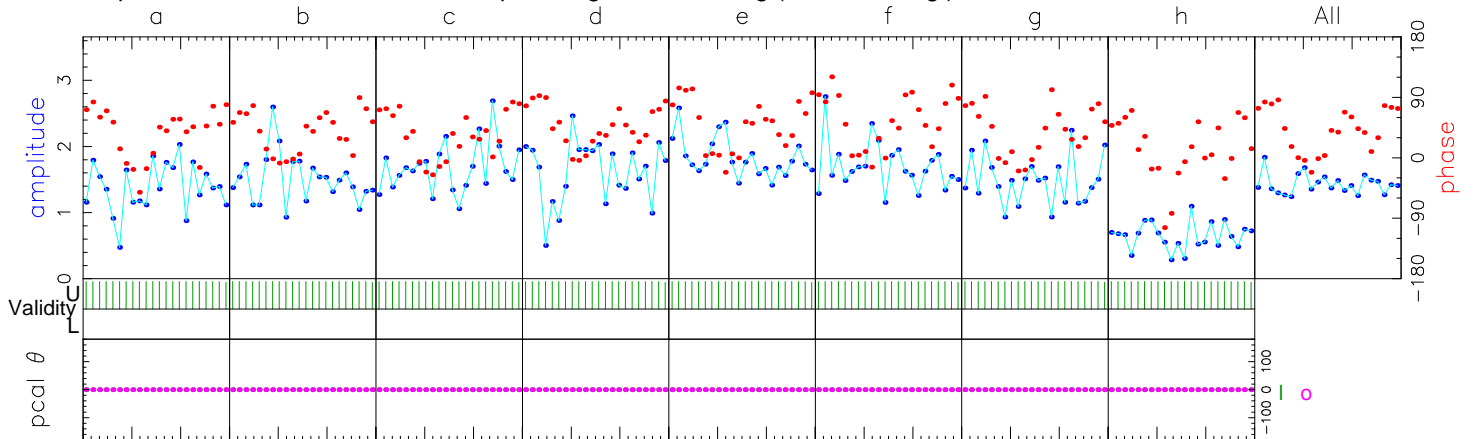


SNR 44.7
Int time 179.974
Amp 1.220
Phase 41.2
PFD 0.0e+00
Delays (us)
SBD -0.001403
MBD -0.001305
Fringe rate (Hz)
-0.001819
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160000
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.44264116824E+03	Apriori delay (usec)	1.44264247354E+03	Resid mbdelay (usec)	-1.30530E-03	+/-	2.4E-05
Sband delay (usec)	1.44264107004E+03	Apriori clock (usec)	-2.1792999E+01	Resid sbdelay (usec)	-1.40350E-03	+/-	1.9E-04
Phase delay (usec)	1.44264247487E+03	Apriori clockrate (us/s)	0.000000E+00	Resid phdelay (usec)	1.32973E-06	+/-	8.3E-08
Delay rate (us/s)	-1.67077373074E-01	Apriori rate (us/s)	-1.67077351957E-01	Resid rate (us/s)	-2.11164E-08	+/-	7.9E-10
Total phase (deg)	282.7	Apriori accel (us/s/s)	-9.17742645248E-06	Resid phase (deg)	41.2	+/-	2.6

ph/seg (deg)	32.7	Theor.	Amplitude	1.220 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	21.0	6.0	Search (1024X32)	1.190	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	13.1	3.6	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	23.4	6.3	Inc. seg. avg.	1.424	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011	
			Inc. frq. avg.	1.219	Data rate(Mb/s):	2048	ion window (TEC)	0.00 0.00	

l: az 78.2 el 68.9 pa -86.1 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1194.800 -698.972 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo.W.171.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

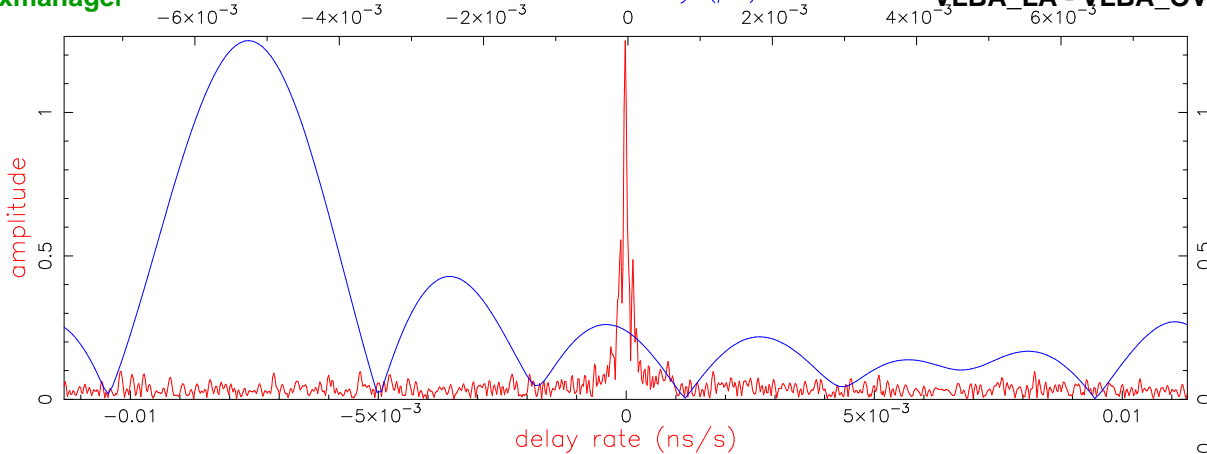
fxmanager

2013+370.1HXRW8, No0228, lo

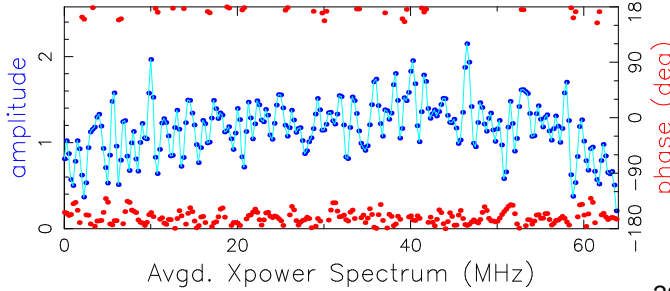
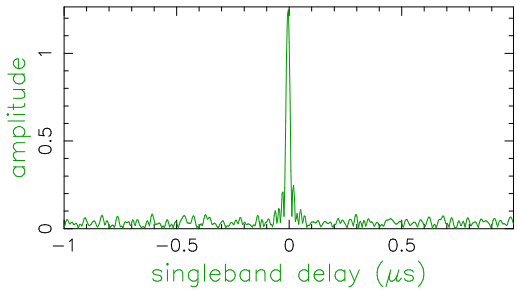
VLBA_LA - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

Fringe quality 8

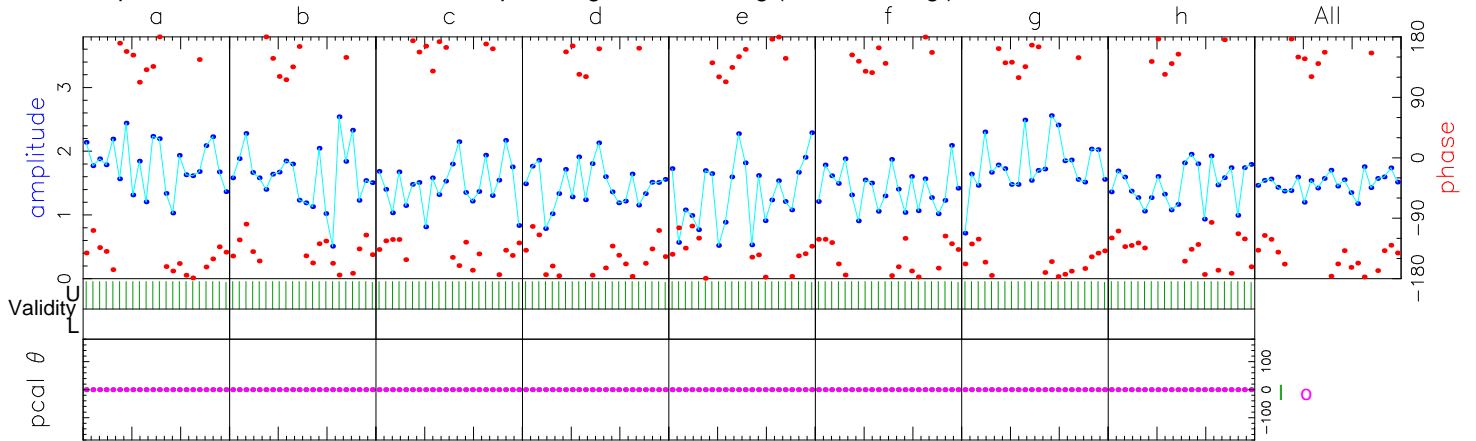


SNR 46.4
 Int time 179.974
 Amp 1.265
 Phase -166.4
 PFD 0.0e+00
 Delays (us)
 SBD -0.005336
 MBD -0.005285
 Fringe rate (Hz)
 -0.001689
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160002
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

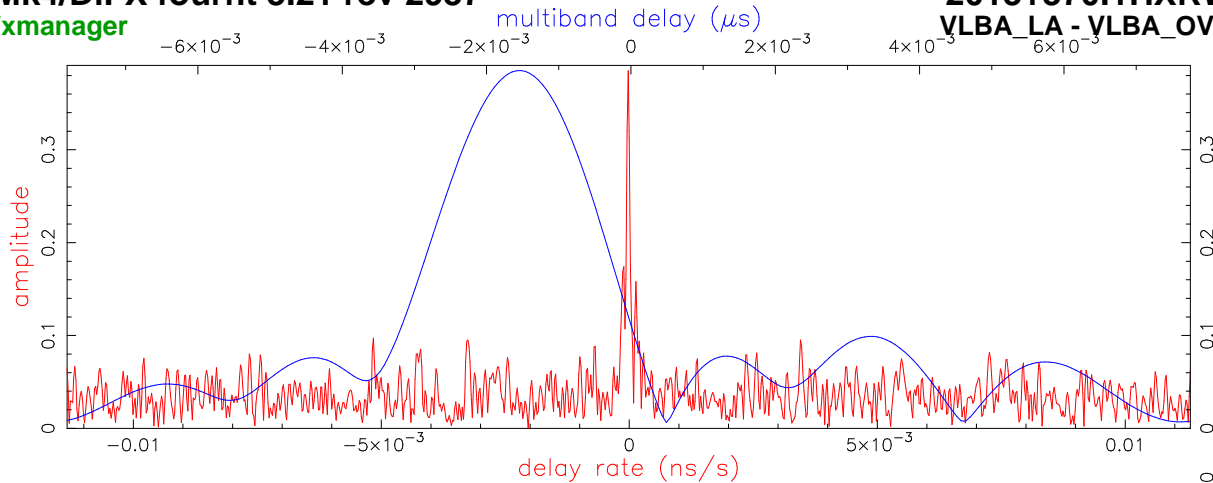
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



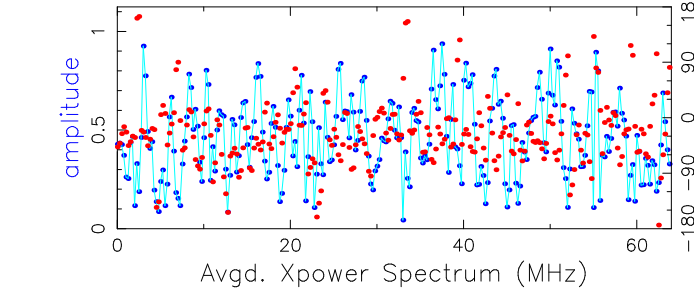
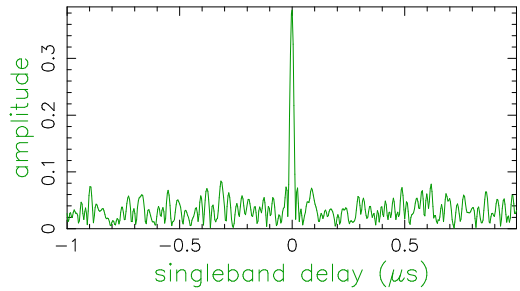
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.44263718874E+03				1.44264247354E+03				Resid mbdelay (usec)	-5.28480E-03 +/- 2.3E-05
Sband delay (usec)	1.44263713704E+03				-2.1792999E+01				Resid sbdelay (usec)	-5.33650E-03 +/- 1.9E-04
Phase delay (usec)	1.44264246817E+03				0.0000000E+00				Resid phdelay (usec)	-5.36568E-06 +/- 8.0E-08
Delay rate (us/s)	-1.67077371562E-01				-1.67077351957E-01				Resid rate (us/s)	-1.96044E-08 +/- 7.7E-10
Total phase (deg)			75.0		-9.17742645248E-06				Resid phase (deg)	-166.4 +/- 2.5
	RMS	Theor.	Amplitude	1.265 +/- 0.027					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	34.0	5.8	Search (1024X32)	1.239					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	21.7	10.1	Interp.	0.000					Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	8.3	3.5	Inc. seg. avg.	1.491					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	11.9	6.1	Inc. frq. avg.	1.257					Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

l: az 78.2 el 68.9 pa -86.1 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1194.800 -698.972 simultaneous interpolator

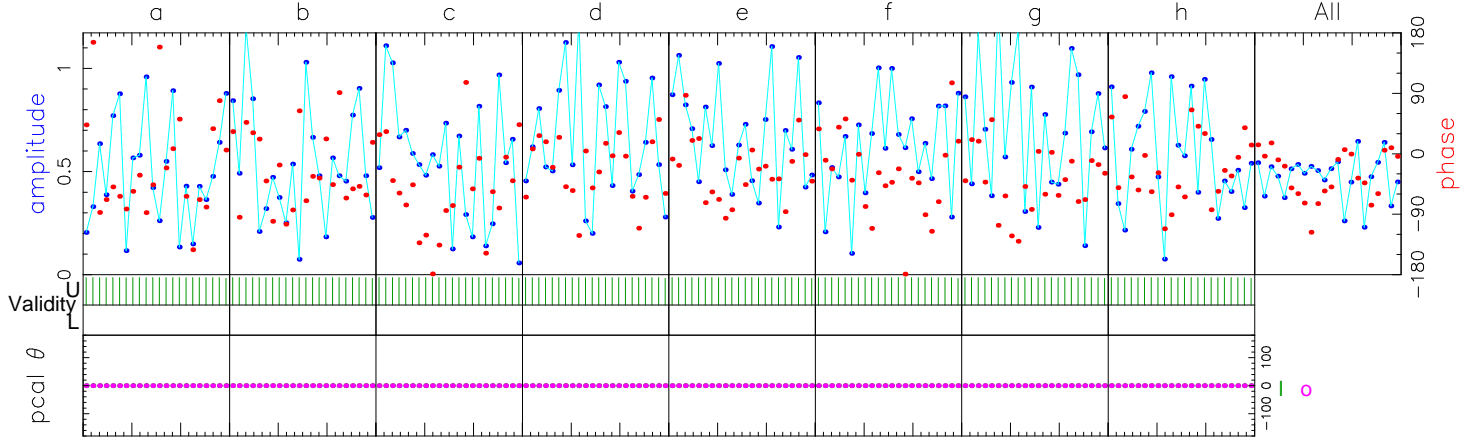
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo.W.190.1HXRW8



Fringe quality 9
SNR 14.3
Int time 179.974
Amp 0.391
Phase -31.6
PFD 3.7e-38
Delays (us)
SBD -0.001576
MBD -0.001580
Fringe rate (Hz)
-0.001631
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160005
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-41.7	-29.0	-50.9	-16.0	-24.3	-28.3	-48.6	-19.5	Phase	-31.6
	0.3	0.3	0.3	0.5	0.5	0.4	0.5	0.4	Ampl.	0.4
	256.9	256.2	257.1	257.0	256.1	256.5	257.0	256.5	Sbd box	256.6
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.44264089336E+03			Apriori delay (usec)	1.44264247354E+03			Resid mbdelay (usec)	-1.58017E-03	+/- 7.6E-05
Sband delay (usec)	1.44264089804E+03			Apriori clock (usec)	-2.1792999E+01			Resid sbdelay (usec)	-1.57550E-03	+/- 6.0E-04
Phase delay (usec)	1.44264247252E+03			Apriori clockrate (us/s)	0.000000E+00			Resid phdelay (usec)	-1.02005E-06	+/- 2.6E-07
Delay rate (us/s)	-1.67077370894E-01			Apriori rate (us/s)	-1.67077351957E-01			Resid rate (us/s)	-1.89369E-08	+/- 2.5E-09
Total phase (deg)		209.8		Apriori accel (us/s/s)	-9.17742645248E-06			Resid phase (deg)	-31.6	+/- 8.0

	RMS	Theor.	Amplitude	0.391 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	35.9	18.7	Search (1024X32)	0.384	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	33.7	32.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	14.3	11.3	Inc. seg. avg.	0.450	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	18.2	19.7	Inc. frq. avg.	0.387	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

l: az 78.2 el 68.9 pa -86.1 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 1194.800 -698.972 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/lo.W.216.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

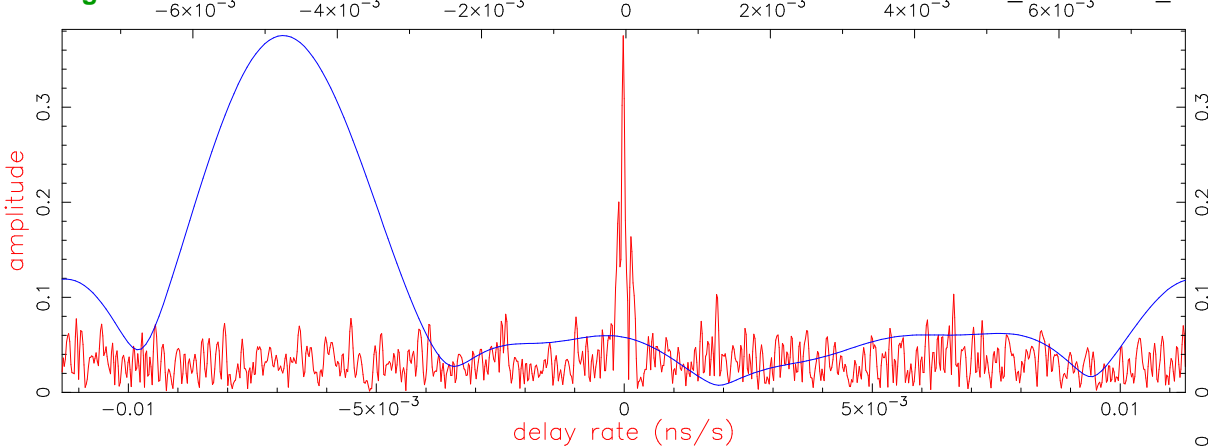
fxmanager

2013+370.1HXRW8, No0228, lo

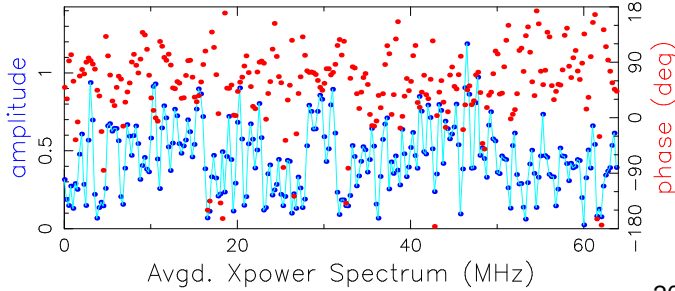
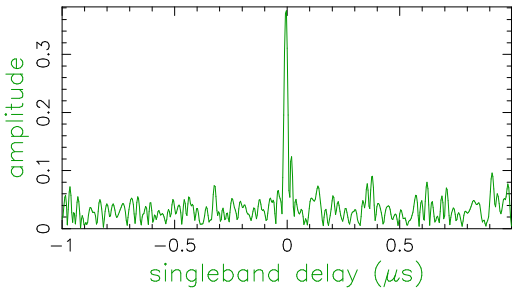
VLBA_LA - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

Fringe quality 9

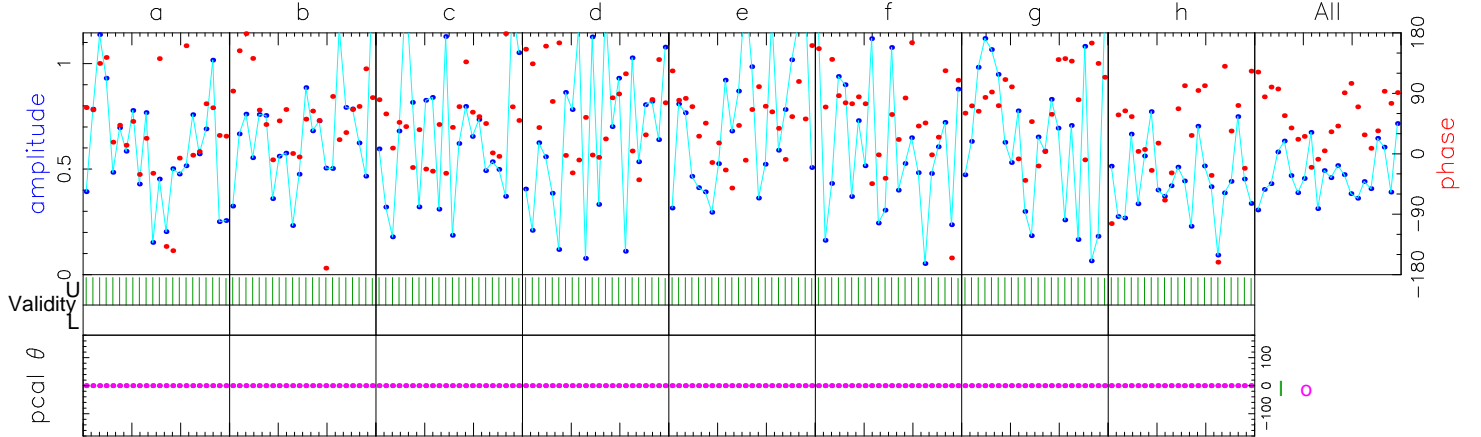


SNR 14.0
 Int time 179.974
 Amp 0.382
 Phase 54.0
 PFD 4.2e-36
 Delays (us)
 SBD -0.005592
 MBD -0.004792
 Fringe rate (Hz)
 -0.001833
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160007
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
l:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC		
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
o	1000	1000	1000	1000	1000	1000	1000	1000			
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks		
Group delay (usec)(sbd)		1.44263768105E+03			1.44264247354E+03				Resid mbdelay (usec)	-4.79249E-03 +/- 7.7E-05	
Sband delay (usec)		1.44263688104E+03			-2.1792999E+01				Resid sbdelay (usec)	-5.59250E-03 +/- 6.1E-04	
Phase delay (usec)		1.44264247528E+03			0.0000000E+00				Resid phdelay (usec)	1.74136E-06 +/- 2.6E-07	
Delay rate (us/s)		-1.67077373231E-01			-1.67077351957E-01				Resid rate (us/s)	-2.12737E-08 +/- 2.5E-09	
Total phase (deg)			295.4		-9.17742645248E-06				Resid phase (deg)	54.0 +/- 8.2	
ph/seg (deg)	RMS 39.6	Theor. 19.2	Amplitude 0.382 +/- 0.027	Search (1024X32) 0.373	Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5	sb window (us)	-1.000 1.000	
amp/seg (%)	39.2	33.5	Interp. 0.000		Pcal rate: 0.000E+00, 0.000E+00 (us/s)			SampCntNorm: enabled	mb window (us)	-0.008 0.008	
ph/frq (deg)	18.3	11.6	Inc. seg. avg. 0.454		Bits/sample: 2x2			Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011 0.011	
amp/frq (%)	23.7	20.2	Inc. frq. avg. 0.382		Data rate(Mb/s): 2048			nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

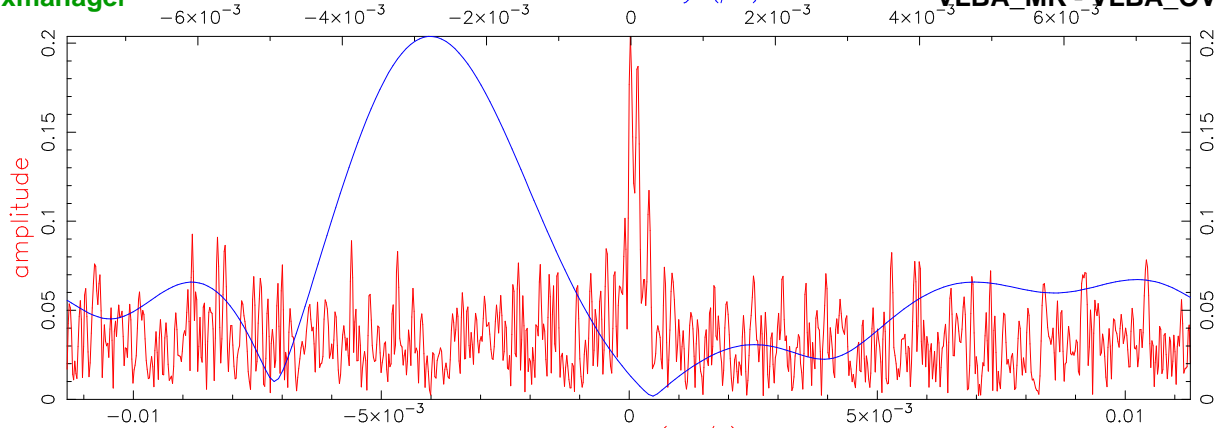
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, mo

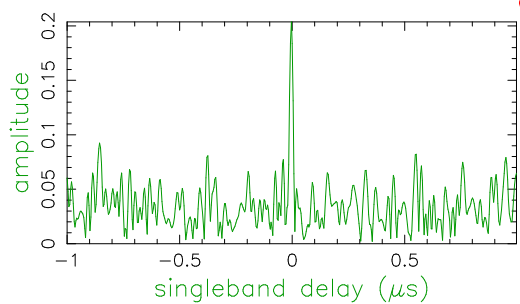
VLBA_MK - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

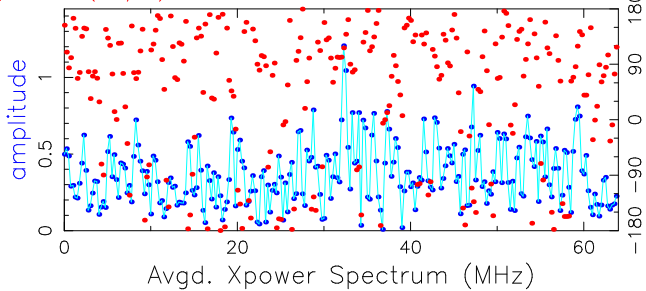


Fringe quality 9

SNR 7.5
 Int time 179.975
 Amp 0.204
 Phase 110.9
 PFD 1.2e-05
 Delays (us)
 SBD -0.003915
 MBD -0.002781
 Fringe rate (Hz)
 0.001952
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

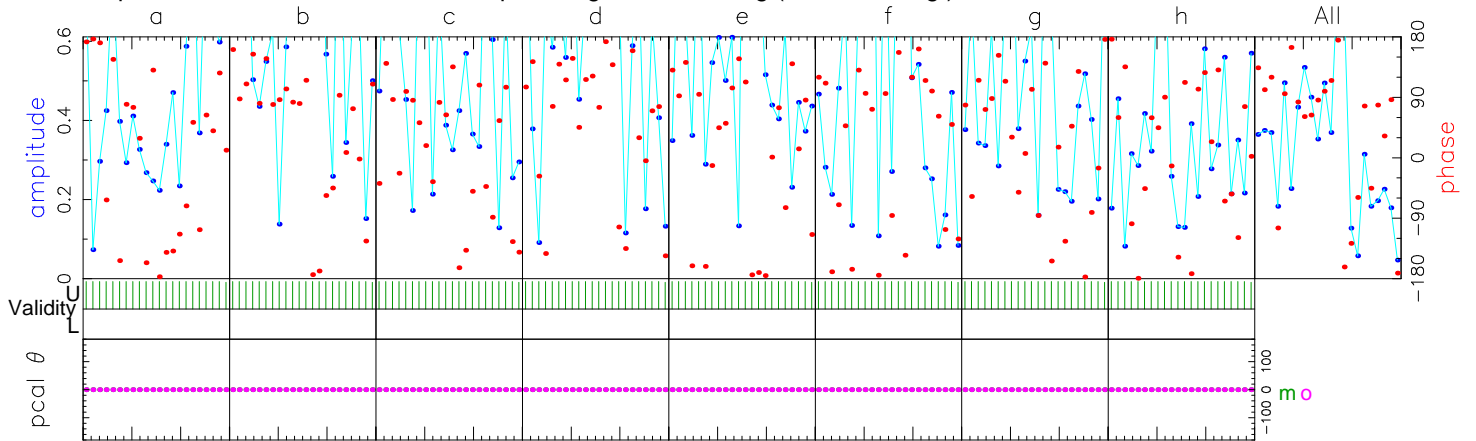


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160002
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	118.2	107.7	58.0	124.9	118.7	123.5	110.5	65.1	Phase	110.9
m	0.1	0.4	0.1	0.3	0.3	0.3	0.1	0.1	Ampl.	0.2
o	151.9	256.2	472.2	256.1	396.0	257.0	423.1	504.7	Sbd box	256.0
m	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-9.96799648325E+03	Apriori delay (usec)	-9.96799370265E+03	Resid mbdelay (usec)	-2.78061E-03	+/-	1.5E-04
Sband delay (usec)	-9.96799761765E+03	Apriori clock (usec)	-8.0361423E+00	Resid sbdelay (usec)	-3.91500E-03	+/-	1.2E-03
Phase delay (usec)	-9.96799369907E+03	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	3.57482E-06	+/-	4.9E-07
Delay rate (us/s)	5.19018933738E-01	Apriori rate (us/s)	5.19018911080E-01	Resid rate (us/s)	2.26583E-08	+/-	4.8E-09
Total phase (deg)	-85.7	Apriori accel (us/s/s)	3.48133440879E-05	Resid phase (deg)	110.9	+/-	15.3

ph/seg (deg)	RMS 75.6	Theor. 36.0	Amplitude Search (1024X32)	0.204 +/- 0.027	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	112.5	62.7	Interp.	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000	
ph/frq (deg)	29.9	21.7	Inc. seg. avg.	0.283	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008
amp/frq (%)	56.0	37.8	Inc. frq. avg.	0.202	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011	
m: az 56.9 el 23.2 pa -82.0	o: az 78.1 el 59.7 pa -78.0	u, v (fr/asec) -3711.539 227.531			Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC) 0.00 0.00

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo.W.186.1HXRW8 simultaneous interpolator

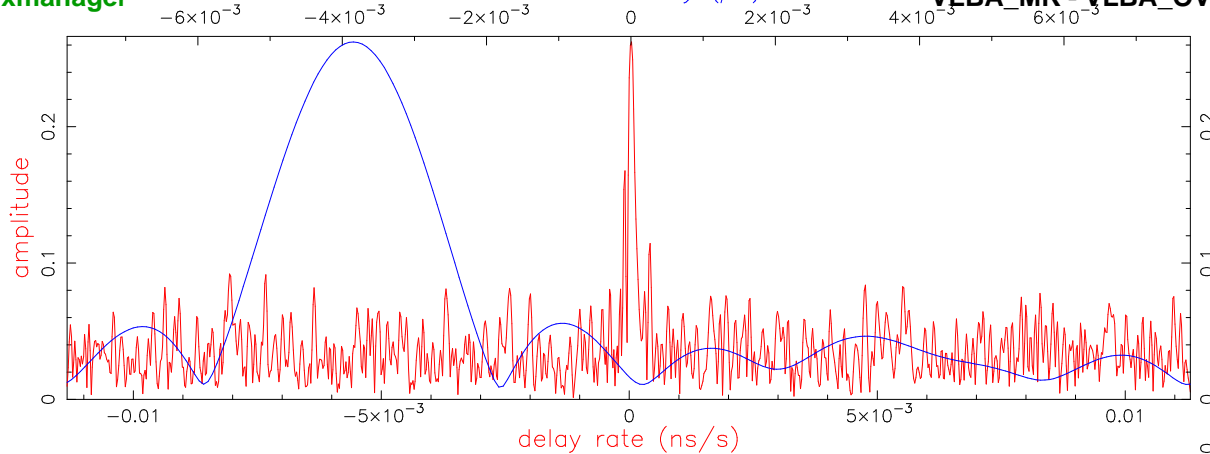
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, mo

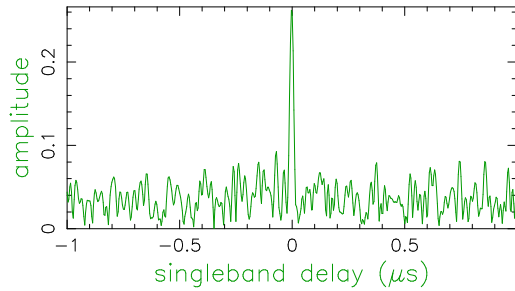
VLBA_MK - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

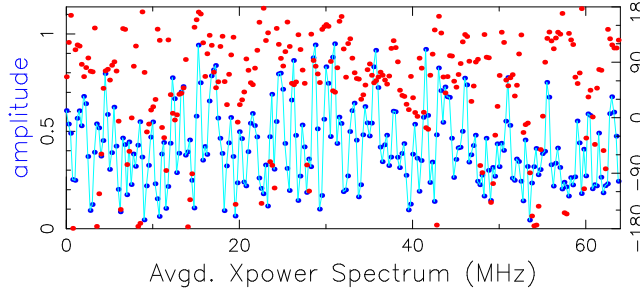


Fringe quality 9

SNR 9.8
 Int time 179.975
 Amp 0.266
 Phase 103.6
 PFD 3.2e-14
 Delays (us)
 SBD -0.002242
 MBD -0.003825
 Fringe rate (Hz) 0.004746
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

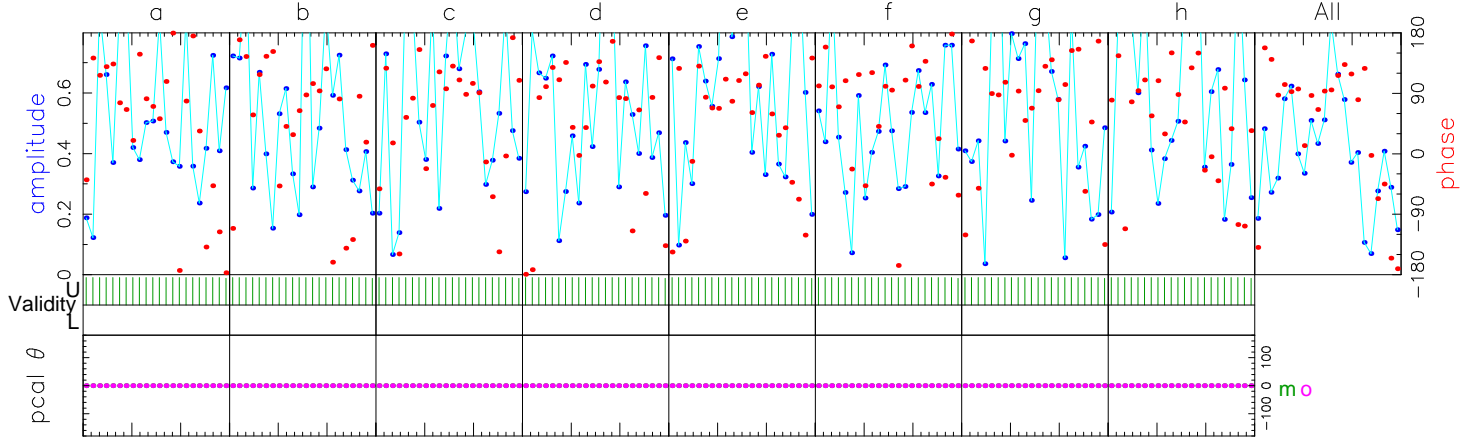


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160004
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
m	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-9.96799752811E+03	Apriori delay (usec)	-9.96799370265E+03	Resid mbdelay (usec)	-3.82546E-03	+/-	1.1E-04
Sband delay (usec)	-9.96799594490E+03	Apriori clock (usec)	-8.0361423E+00	Resid sbdelay (usec)	-2.24225E-03	+/-	8.8E-04
Phase delay (usec)	-9.96799369931E+03	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	3.33934E-06	+/-	3.8E-07
Delay rate (us/s)	5.19018966182E-01	Apriori rate (us/s)	5.19018911080E-01	Resid rate (us/s)	5.51017E-08	+/-	3.6E-09
Total phase (deg)	-93.0	Apriori accel (us/s/s)	3.48133440879E-05	Resid phase (deg)	103.6	+/-	11.7

ph/seg (deg)	RMS 70.9	Theor. 27.5	Amplitude Search (1024X32)	0.266 +/- 0.027	0.263	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	86.4	48.0	Interp.	0.000	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	9.0	16.6	Inc. seg. avg.	0.359	0.359	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	15.5	29.0	Inc. frq. avg.	0.254	0.254	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

m: az 56.9 el 23.2 pa -82.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) -3711.539 227.531 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo.W.205.1HXRW8

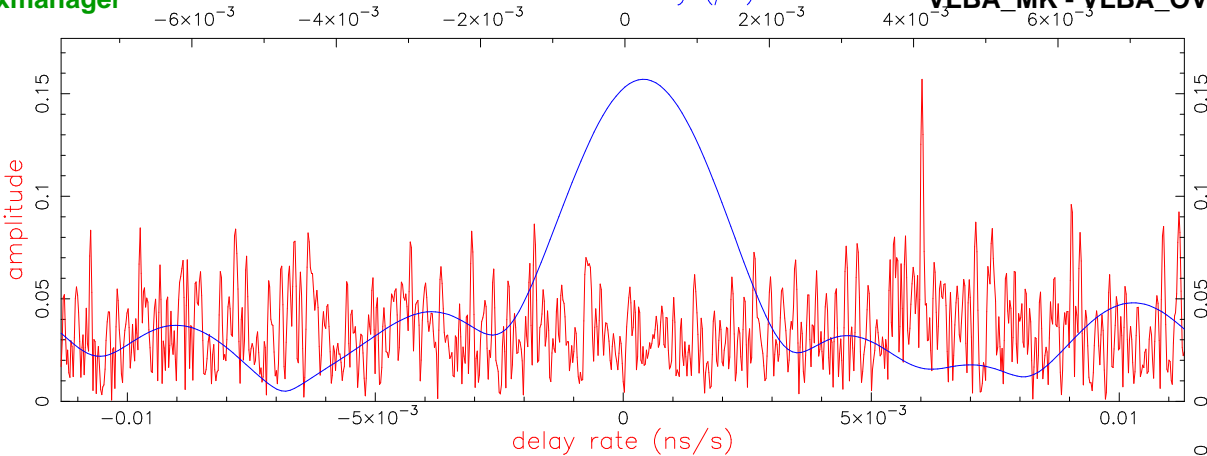
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, mo

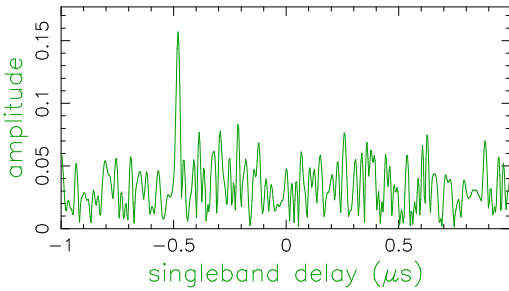
VLBA_MK - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

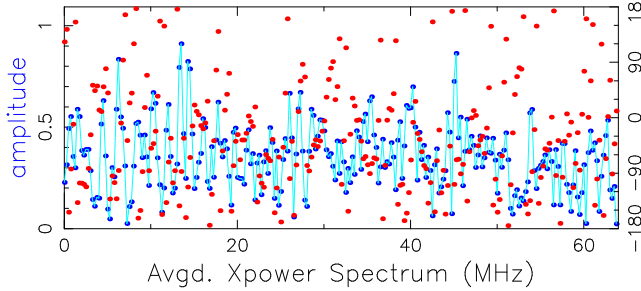


Fringe quality 0

SNR 5.8
 Int time 179.975
 Amp 0.177
 Phase 164.5
 PFD 6.4e-01
 Delays (us)
 SBD -0.480100
 MBD 0.000250
 Fringe rate (Hz)
 0.518635
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

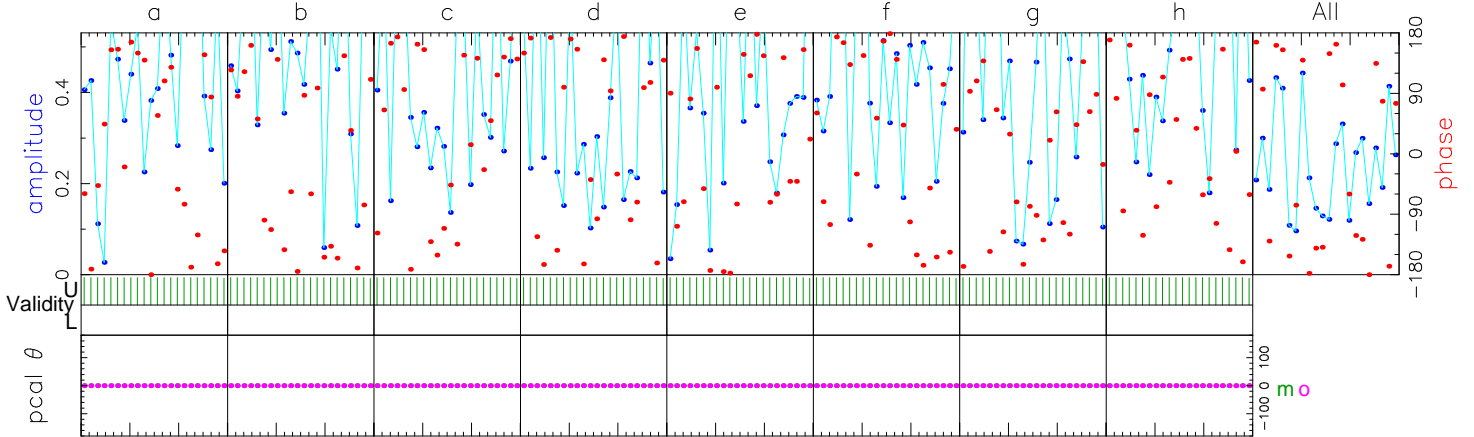


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160006
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	178.0	156.8	151.3	174.9	149.4	178.7	127.8	-174.2	Phase	164.5
m	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	Ampl.	0.2
o	130.5	395.8	60.5	458.0	261.9	471.6	51.2	449.5	Sbd box	134.1
m	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m	1000	1000	1000	1000	1000	1000	1000	1000	Manl PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-9.96847782752E+03	Apriori delay (usec)	-9.96799370265E+03	Resid mbdelay (usec)	2.50130E-04	+/-	1.9E-04
Sband delay (usec)	-9.96847380290E+03	Apriori clock (usec)	-8.0361423E+00	Resid sbdelay (usec)	-4.80100E-01	+/-	1.5E-03
Phase delay (usec)	-9.96799369734E+03	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	5.30542E-06	+/-	6.4E-07
Delay rate (us/s)	5.19024931914E-01	Apriori rate (us/s)	5.19018911080E-01	Resid rate (us/s)	6.02083E-06	+/-	6.2E-09
Total phase (deg)	-32.0	Apriori accel (us/s/s)	3.48133440879E-05	Resid phase (deg)	164.5	+/-	19.9

ph/seg (deg)	61.1	Theor.	46.6	Amplitude	0.177 +/- 0.031	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	89.0	Search (1024X32)	0.153	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	21.4	Inc. seg. avg.	0.208	Inc. frq. avg.	0.165	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	34.7	Inc. frq. avg.	0.165			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	
						Data rate (Mb/s):	2048	ion window (TEC)	0.00 0.00	

m: az 56.9 el 23.2 pa -82.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) -3711.539 227.531 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo.W.222.1HXRW8

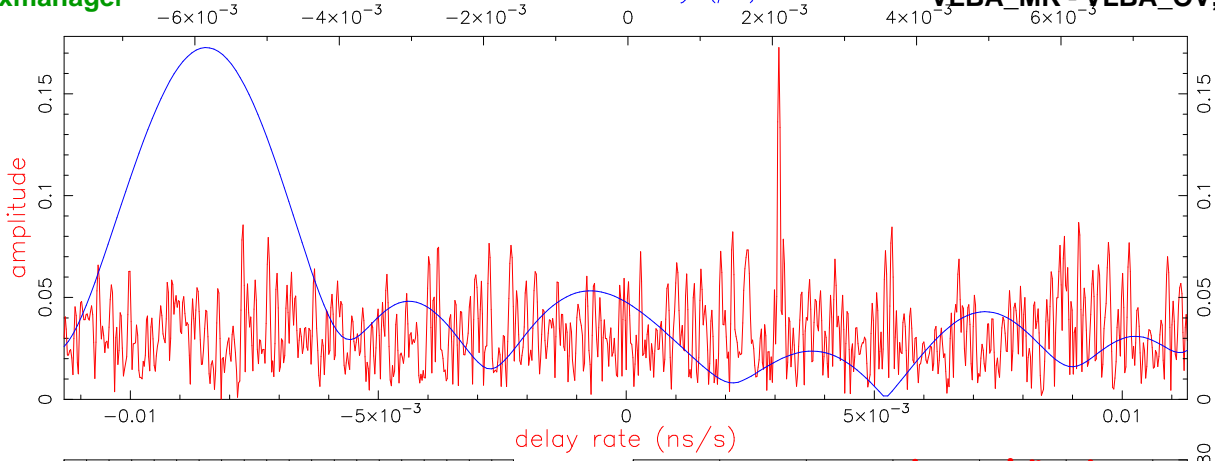
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, mo

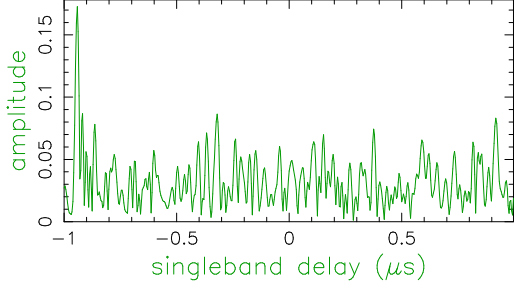
VLBA_MK - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

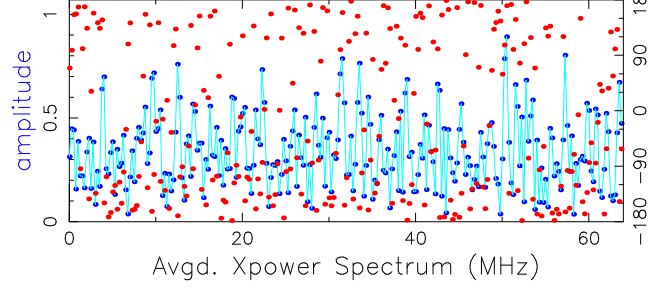


Fringe quality 0

SNR 6.3
 Int time 179.975
 Amp 0.178
 Phase -147.6
 PFD 3.1e-02
 Delays (us)
 SBD -0.941729
 MBD -0.005853
 Fringe rate (Hz)
 0.265552
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

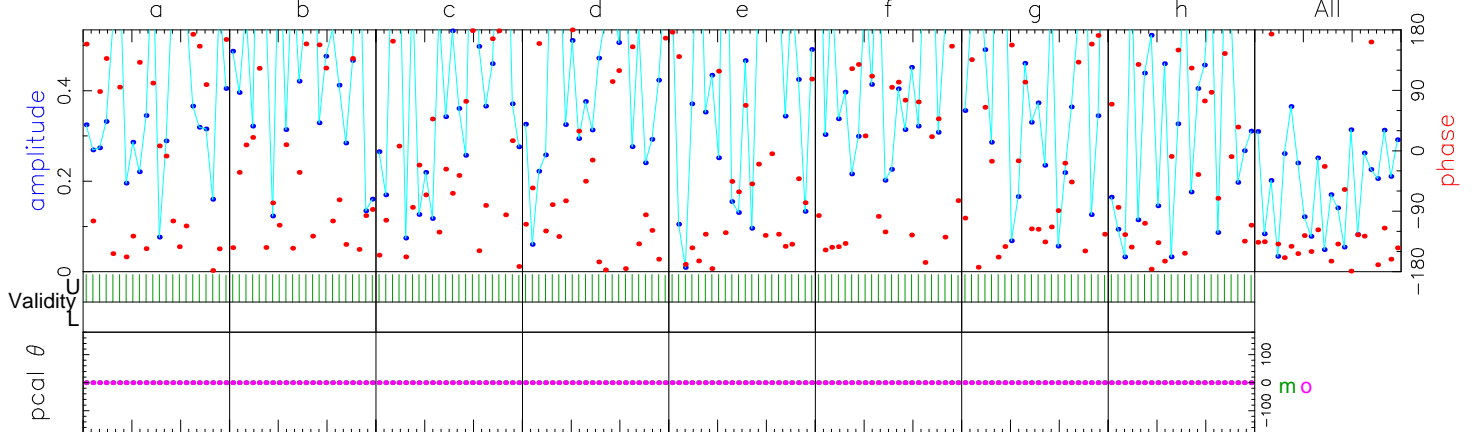


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160008
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-177.5	-140.5	-120.0	-151.1	-130.5	-142.8	-150.9	-173.2	Phase	-147.6
	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	Ampl.	0.2
	18.6	368.5	26.7	15.1	14.0	161.9	13.4	353.1	Sbd box	15.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-9.96893705534E+03		Apriori delay (usec)		-9.96799370265E+03		Resid mbdelay (usec)		-5.85269E-03	+/- 1.7E-04
Sband delay (usec)	-9.96893543215E+03		Apriori clock (usec)		-8.0361423E+00		Resid sbdelay (usec)		-9.41729E-01	+/- 1.4E-03
Phase delay (usec)	-9.96799370741E+03		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		-4.76026E-06	+/- 5.8E-07
Delay rate (us/s)	5.19021993873E-01		Apriori rate (us/s)		5.19018911080E-01		Resid rate (us/s)		3.08279E-06	+/- 5.6E-09
Total phase (deg)			Apriori accel (us/s/s)		3.48133440879E-05		Resid phase (deg)		-147.6	+/- 18.1

ph/seg (deg) 39.1 42.4 Search (1024X32) 0.168 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 57.7 74.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 21.2 25.6 Inc. seg. avg. 0.157 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 26.0 44.6 Inc. frq. avg. 0.170 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 m: az 56.9 el 23.2 pa -82.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) -3711.539 227.531 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/mo.W.240.1HXRW8

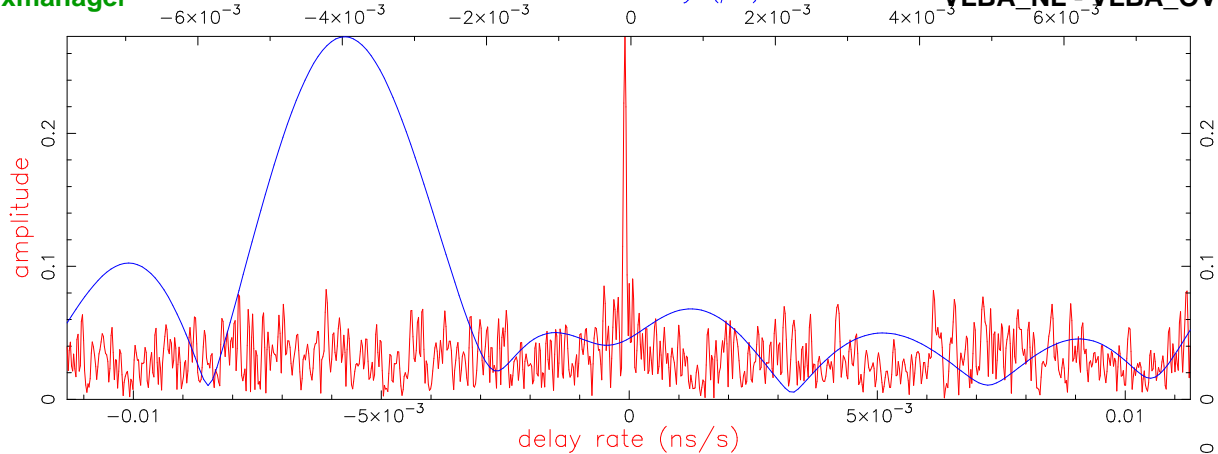
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, no

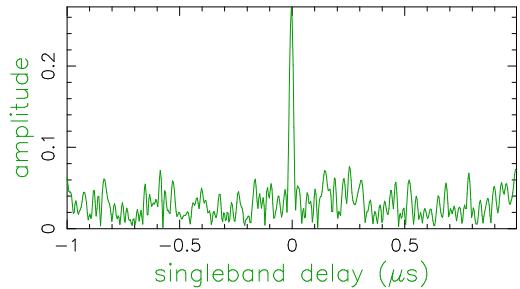
VLBA_NL - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

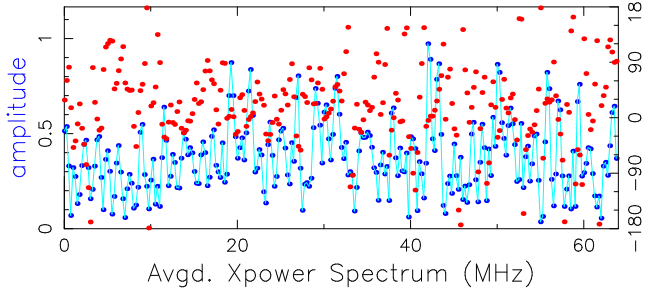


Fringe quality 9

SNR 10.0
 Int time 179.973
 Amp 0.273
 Phase 25.0
 PFD 2.9e-15
 Delays (us)
 SBD -0.003465
 MBD -0.003962
 Fringe rate (Hz)
 -0.006782
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

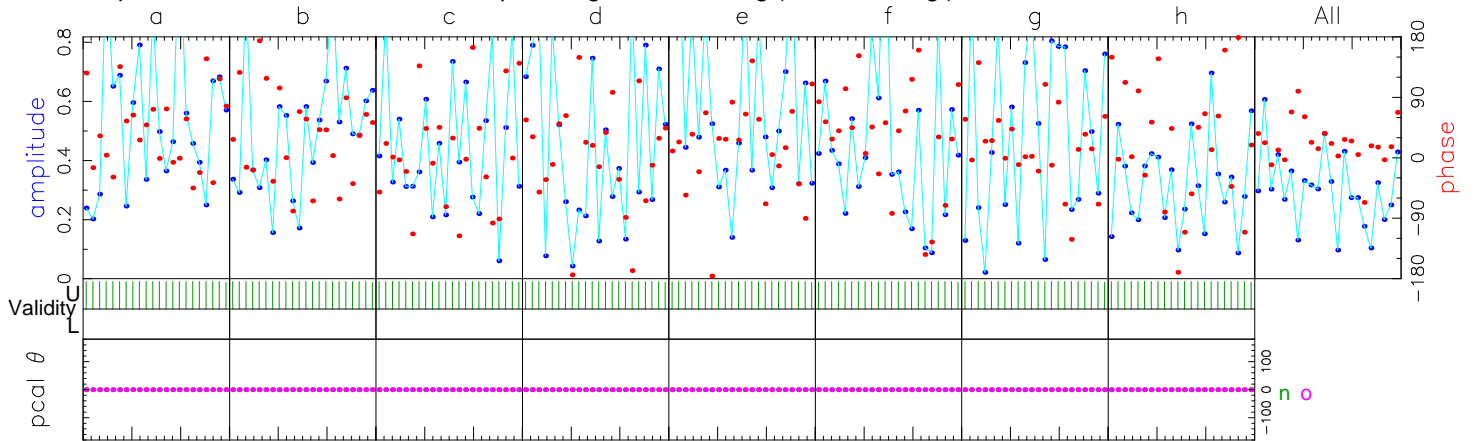


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160010
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	31.3	28.3	-0.2	15.6	29.3	47.5	15.4	20.8	Phase	25.0
	0.3	0.3	0.2	0.2	0.4	0.3	0.4	0.1	Ampl.	0.3
	257.5	255.2	505.7	130.6	255.6	255.4	256.7	392.0	Sbd box	256.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	2.51598503822E+03	Apriori delay (usec)	2.51598900039E+03	Resid mbdelay (usec)	-3.96217E-03	+/-	1.1E-04
Sband delay (usec)	2.51598553539E+03	Apriori clock (usec)	-2.1241425E+01	Resid sbdelay (usec)	-3.46500E-03	+/-	8.6E-04
Phase delay (usec)	2.51598900120E+03	Apriori clockrate (us/s)	6.0000003E-07	Resid phdelay (usec)	8.06677E-07	+/-	3.7E-07
Delay rate (us/s)	-4.25732807163E-01	Apriori rate (us/s)	-4.25732728436E-01	Resid rate (us/s)	-7.87278E-08	+/-	3.5E-09
Total phase (deg)	202.7	Apriori accel (us/s/s)	-9.32342858085E-06	Resid phase (deg)	25.0	+/-	11.4

ph/seg (deg)	32.6	Theor.	26.8	Amplitude	0.273 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	46.0	Search (1024X32)	0.261	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	15.3	Inc. seg. avg.	0.275	Inc. frq. avg.	0.269	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	29.1	Inc. frq. avg.	0.269	Sample rate(MISamp/s): 128		Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	dr window (ns/s)	-0.011 0.011
n: az 113.1 el 80.0 pa -58.6		o: az 78.1 el 59.7 pa -78.0		u,v (fr/asec) 3056.876 -144.830				ion window (TEC)	0.00 0.00	

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/no..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/no.W.249.1HXRW8 simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

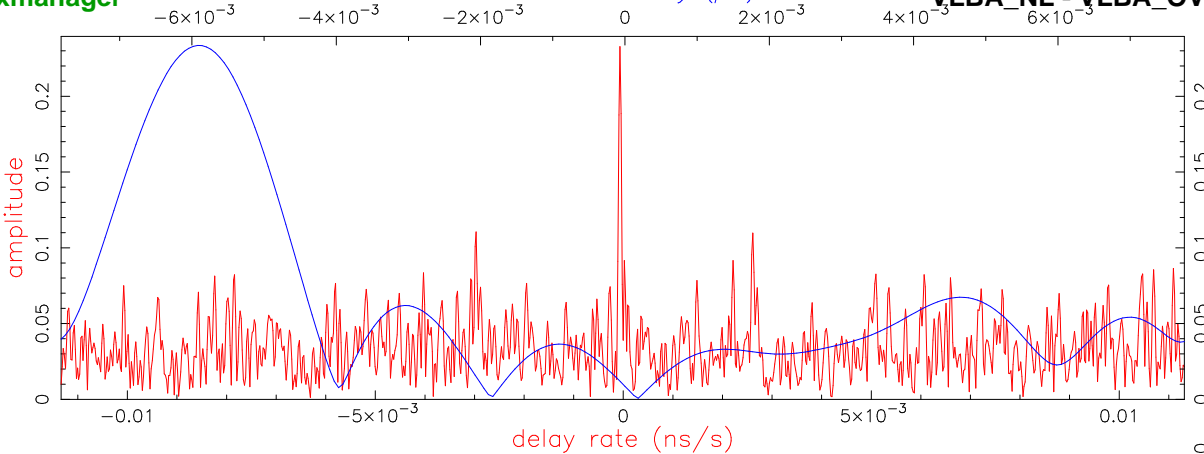
fxmanager

2013+370.1HXRW8, No0228, no

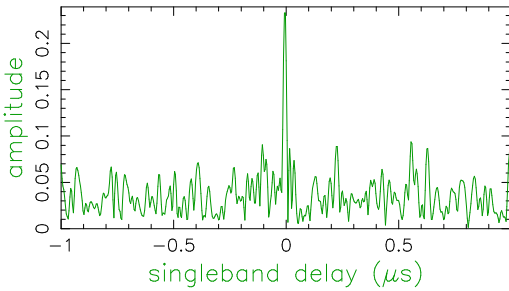
VLBA_NL - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

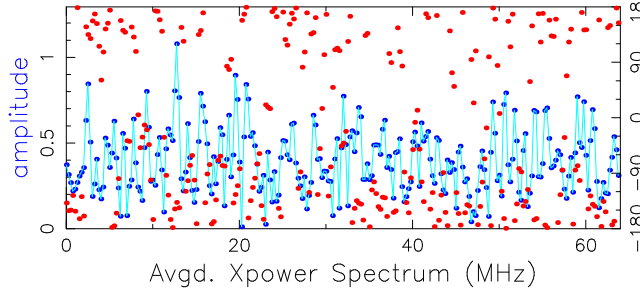
Fringe quality 9



SNR 8.8
Int time 179.973
Amp 0.239
Phase -163.7
PFD 2.9e-10
Delays (us)
SBD -0.005845
MBD -0.005809
Fringe rate (Hz)
-0.006409
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

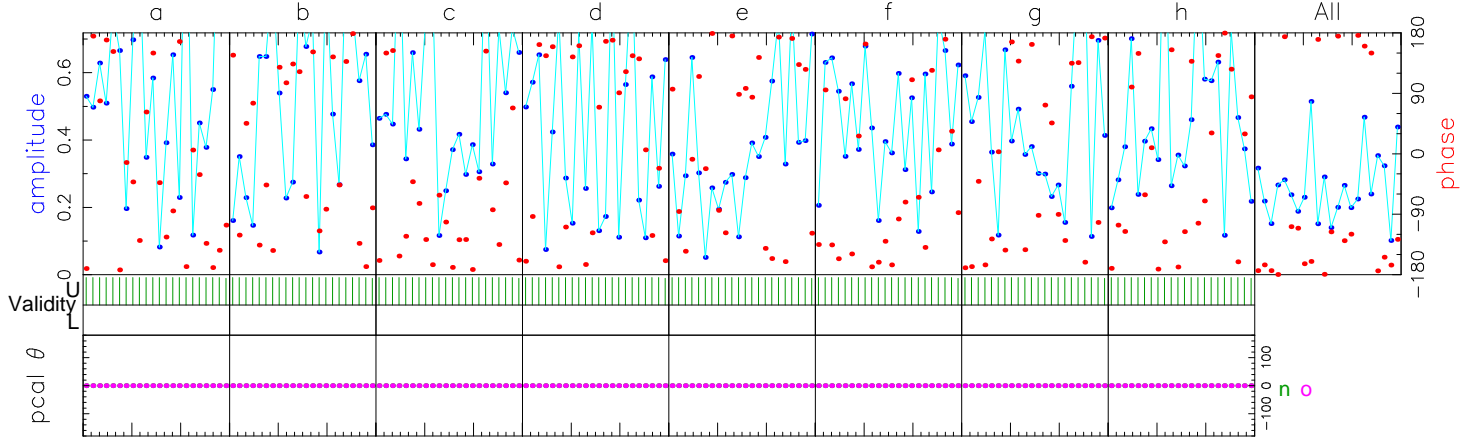


delay rate (ns/s)



Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160012
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-152.4	-166.2	-145.0	-176.6	174.2	-160.1	-168.4	-161.6	Phase	-163.7
	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.1	Ampl.	0.2
	254.9	256.3	11.6	254.7	147.8	368.4	256.1	149.0	Sbd box	255.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.51598319180E+03		Apriori delay (usec)		2.51598900039E+03		Resid mbdelay (usec)		-5.80859E-03	+/- 1.2E-04
Sband delay (usec)	2.51598315539E+03		Apriori clock (usec)		-2.1241425E+01		Resid sbdelay (usec)		-5.84500E-03	+/- 9.8E-04
Phase delay (usec)	2.51598899511E+03		Apriori clockrate (us/s)		6.0000003E-07		Resid phdelay (usec)		-5.27949E-06	+/- 4.2E-07
Delay rate (us/s)	-4.25732802833E-01		Apriori rate (us/s)		-4.25732728436E-01		Resid rate (us/s)		-7.43971E-08	+/- 4.0E-09
Total phase (deg)	14.0		Apriori accel (us/s/s)		-9.32342858085E-06		Resid phase (deg)		-163.7	+/- 13.0

	RMS	Theor.	Amplitude	0.239 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	29.4	30.6	Search (1024X32)	0.227	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	44.5	53.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	14.0	18.4	Inc. seg. avg.	0.231	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	26.2	32.2	Inc. frq. avg.	0.227	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
n: az 113.1 el 80.0 pa -58.6	o: az 78.1 el 59.7 pa -78.0		u,v (fr/asec) 3056.876 -144.830		simultaneous interpolator	

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/no..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/no.W.268.1HXRW8

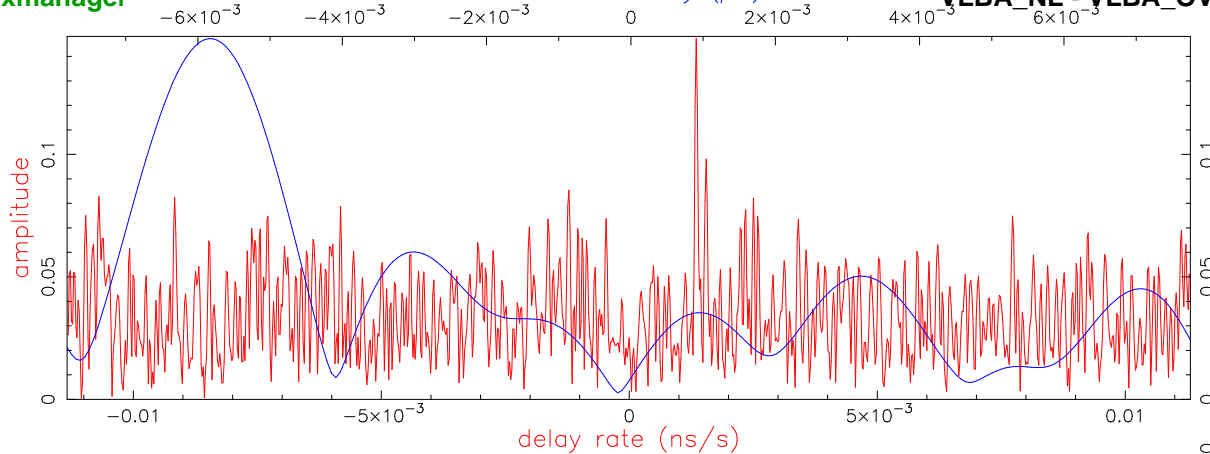
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, no

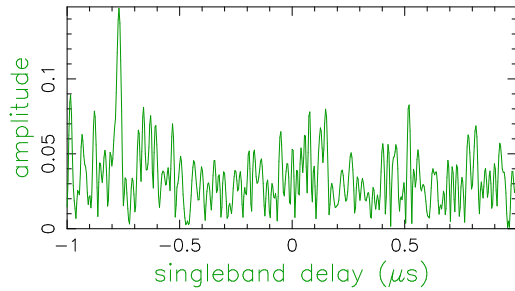
VLBA_NL - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

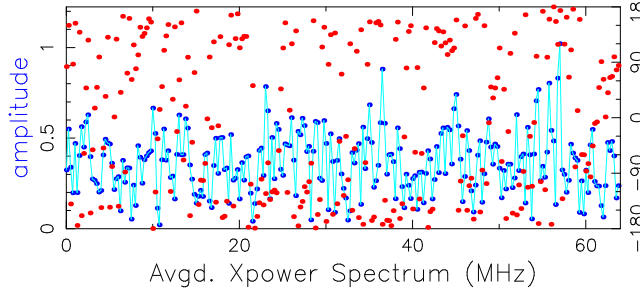


Fringe quality 0

SNR 5.4
 Int time 179.973
 Amp 0.148
 Phase 12.7
 PFD 1.0e+00
 Delays (us)
 SBD -0.769783
 MBD -0.005841
 Fringe rate (Hz)
 0.116178
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

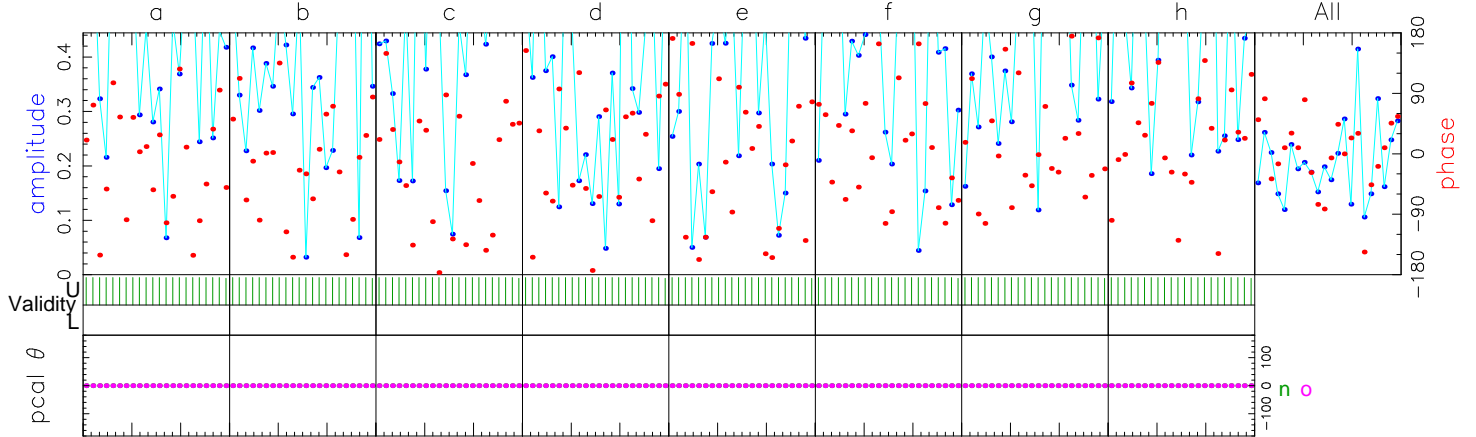


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160014
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	2.51521753445E+03					2.51598900039E+03			Resid mbdelay (usec)	-5.84094E-03 +/- 2.0E-04
Sband delay (usec)	2.51521921739E+03					-2.1241425E+01			Resid sbdelay (usec)	-7.69783E-01 +/- 1.6E-03
Phase delay (usec)	2.51598900080E+03					6.0000003E-07			Resid phdelay (usec)	4.11093E-07 +/- 6.8E-07
Delay rate (us/s)	-4.25731379727E-01					-4.25732728436E-01			Resid rate (us/s)	1.34871E-06 +/- 6.6E-09
Total phase (deg)			190.4			-9.32342858085E-06			Resid phase (deg)	12.7 +/- 21.2

ph/seg (deg) 55.4 49.7 Search (1024X32) 0.145 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 64.3 86.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 21.2 30.0 Inc. seg. avg. 0.153 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 30.1 52.3 Inc. frq. avg. 0.136 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 n: az 113.1 el 80.0 pa -58.6 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 3056.876 -144.830 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/no..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/no.W.282.1HXRW8

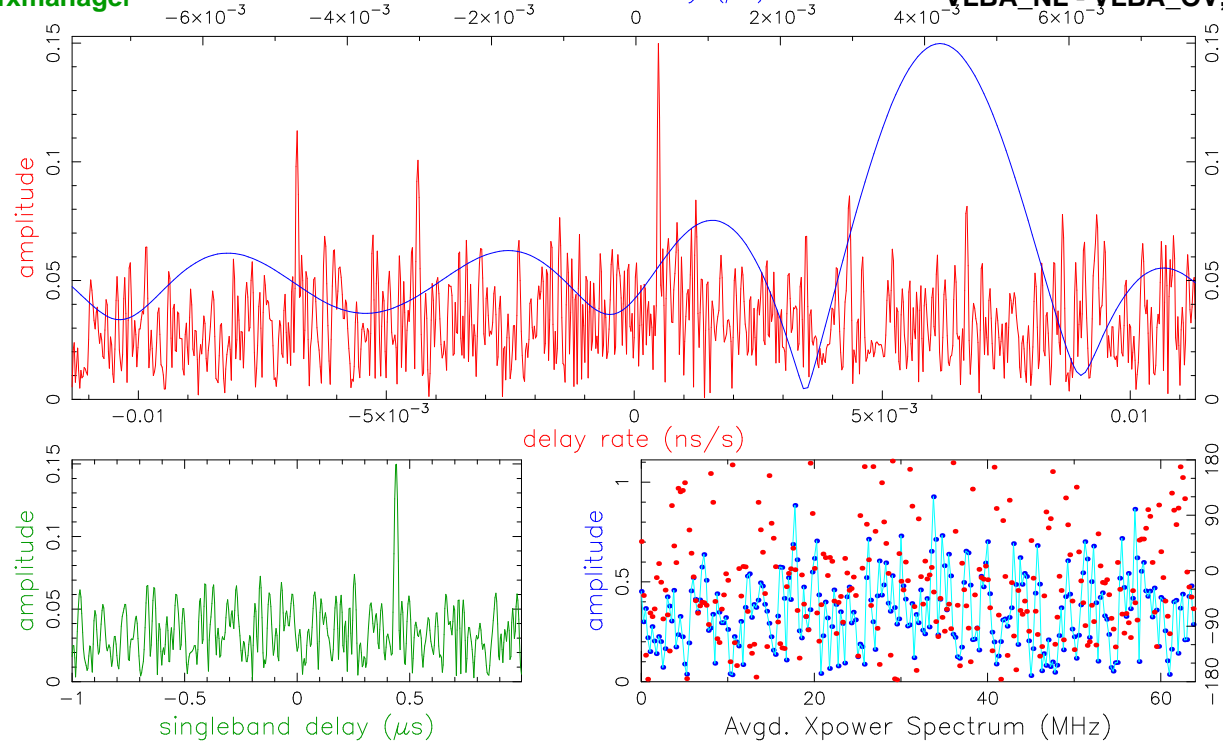
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, no

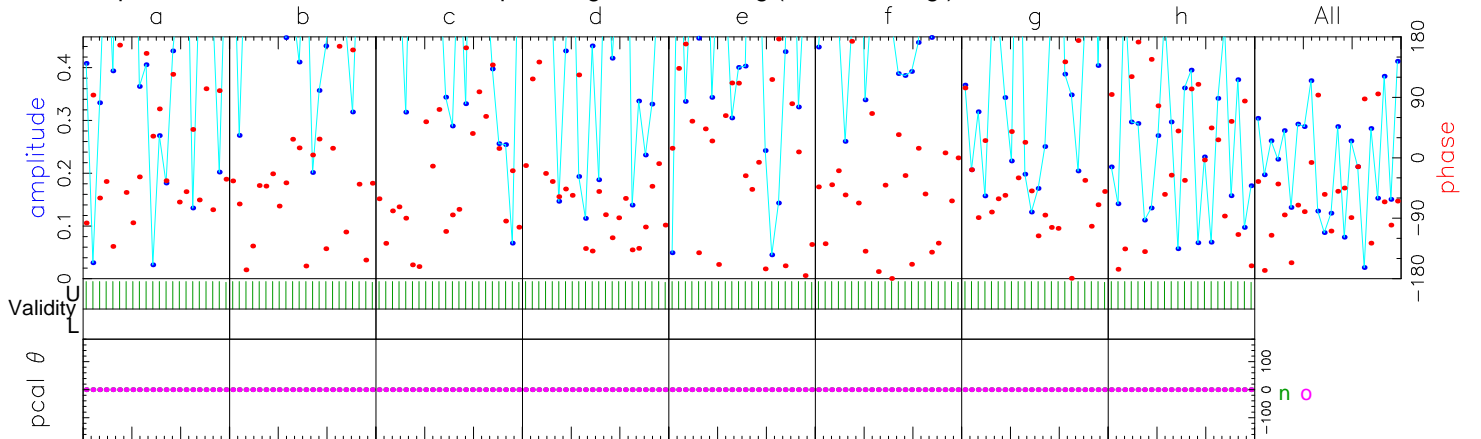
VLBA_NL - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)



Fringe quality 0
 SNR 5.6
 Int time 179.973
 Amp 0.153
 Phase -70.2
 PFD 9.2e-01
 Delays (us)
 SBD 0.439539
 MBD 0.004189
 Fringe rate (Hz) 0.042366
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160016
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-69.5	-71.1	-87.8	-68.1	92.6	-63.0	-74.4	-79.3	Phase	-70.2
	0.1	0.2	0.1	0.3	0.1	0.2	0.3	0.0	Ampl.	0.2
	181.1	240.0	426.8	440.8	402.3	299.2	370.6	391.6	Sbd box	369.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
n:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.51643068929E+03		Apriori delay (usec)		2.51598900039E+03		Resid mbdelay (usec)		4.18891E-03	+/- 1.9E-04
Sband delay (usec)	2.51642853914E+03		Apriori clock (usec)		-2.1241425E+01		Resid sbdelay (usec)		4.39539E-01	+/- 1.5E-03
Phase delay (usec)	2.51598899813E+03		Apriori clockrate (us/s)		6.0000003E-07		Resid phdelay (usec)		-2.26370E-06	+/- 6.6E-07
Delay rate (us/s)	-4.25732236604E-01		Apriori rate (us/s)		-4.25732728436E-01		Resid rate (us/s)		4.91831E-07	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-9.32342858085E-06		Resid phase (deg)		-70.2	+/- 20.5

ph/seg (deg) 72.3 48.0 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 82.0 83.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 67.0 28.9 Inc. seg. avg. 0.166 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 57.3 50.5 Inc. frq. avg. 0.151 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 n: az 113.1 el 80.0 pa -58.6 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 3056.876 -144.830 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/no..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/no.W.302.1HXRW8

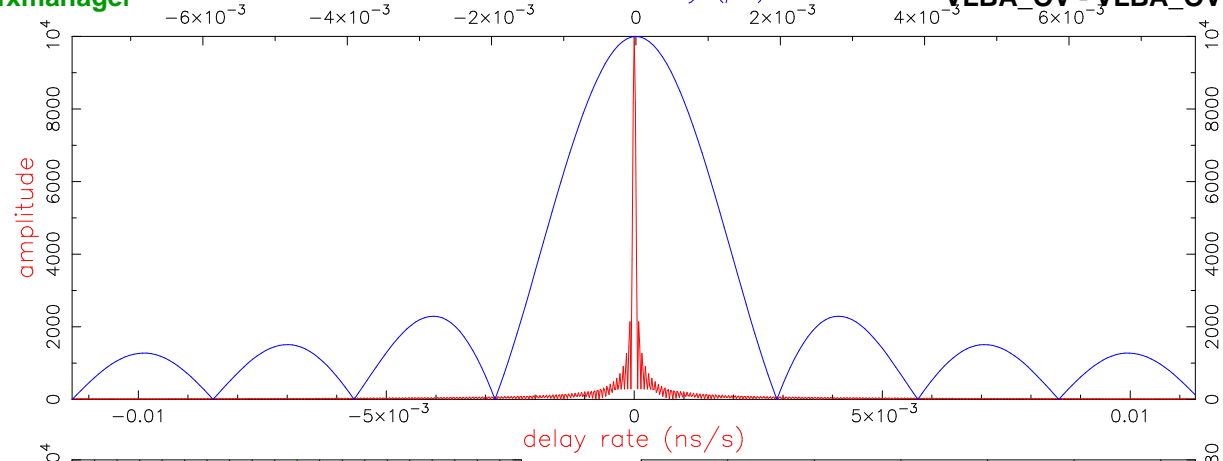
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

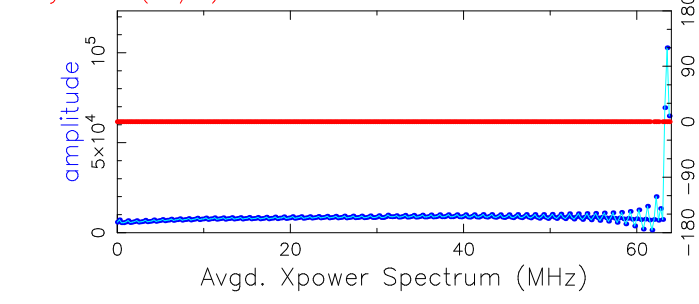
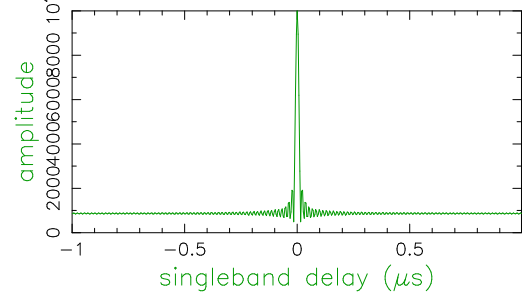
2013+370.1HXRW8, No0228, oo

VLBA_OV - VLBA_OV, fgroup W, pol LL

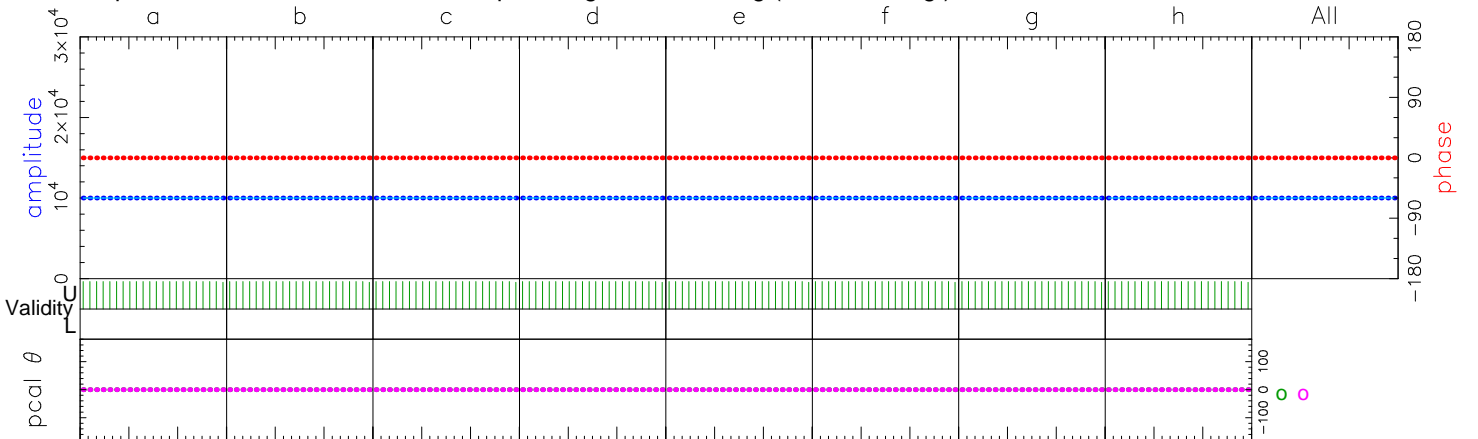
multiband delay (μ s)



Fringe quality 9
 SNR 366863.1
 Int time 179.975
 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. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160011
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514663"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	10000.0
o	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	257.0
o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
o	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC amp	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
									Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		+/- 3.0E-09
Sband delay (usec)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		+/- 2.3E-08
Phase delay (usec)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		+/- 1.0E-11
Delay rate (us/s)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00		+/- 9.7E-14
Total phase (deg)			0.0							+/- 0.0
	RMS	Theor.	Amplitude	10000.000 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	0.0	0.0	Search (1024X32)	10000.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	0.0	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	0.0	0.0	Inc. seg. avg.	10000.000	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.000	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
o: az 78.1 el 59.7 pa -78.0			o: az 78.1 el 59.7 pa -78.0		u,v (fr/asec) 0.000 0.000					simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo.W.253.1HXRW8

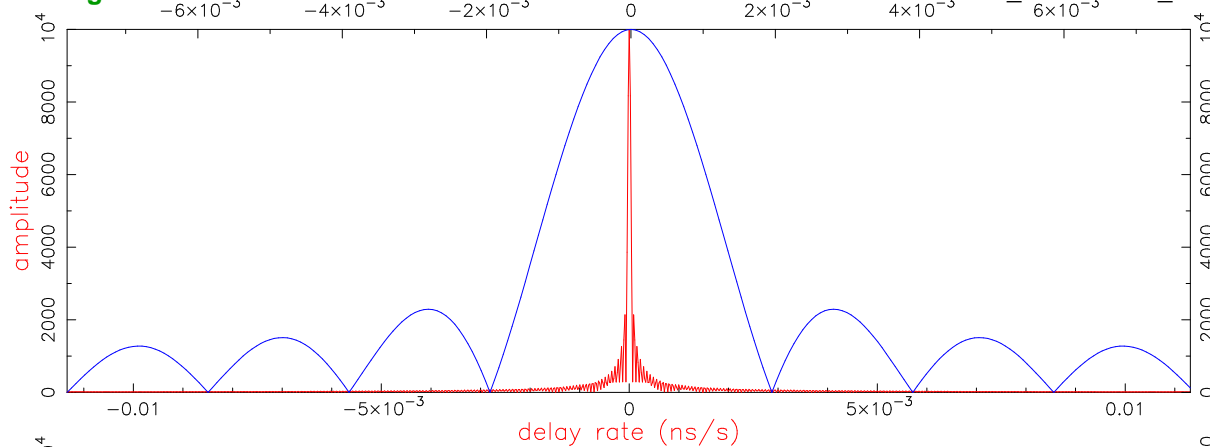
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oo

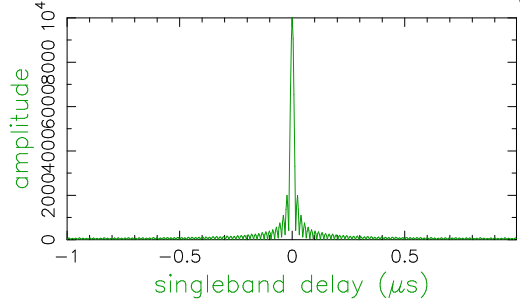
VLBA_OV - VLBA_OV, fgroup W, pol RR

multiband delay (μ s)

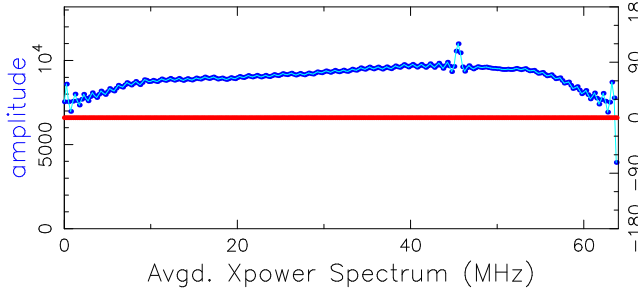


Fringe quality 9

SNR 366863.1
 Int time 179.975
 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

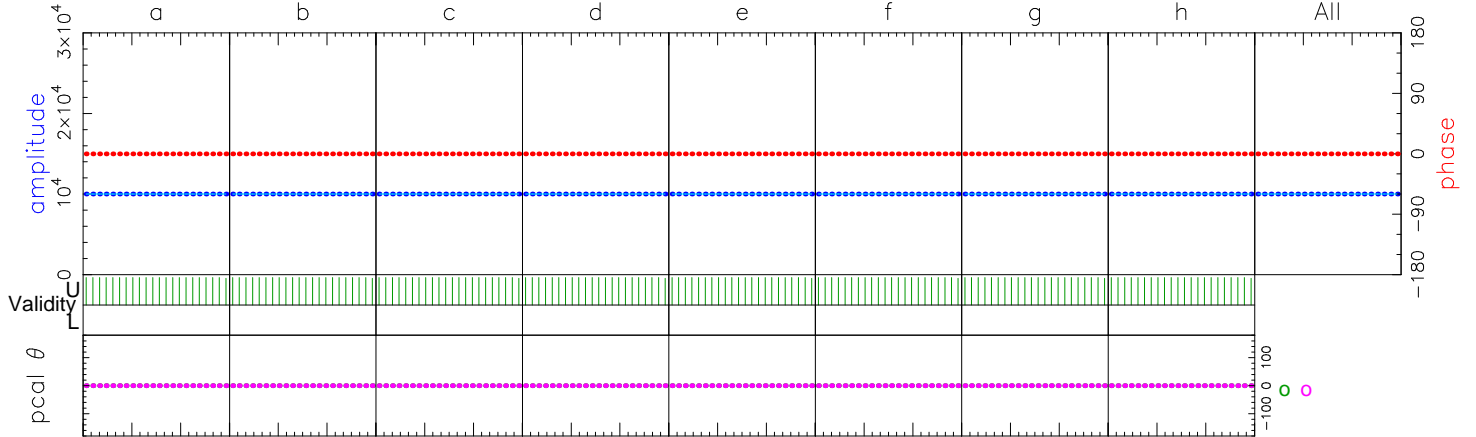


delay rate (ns/s)



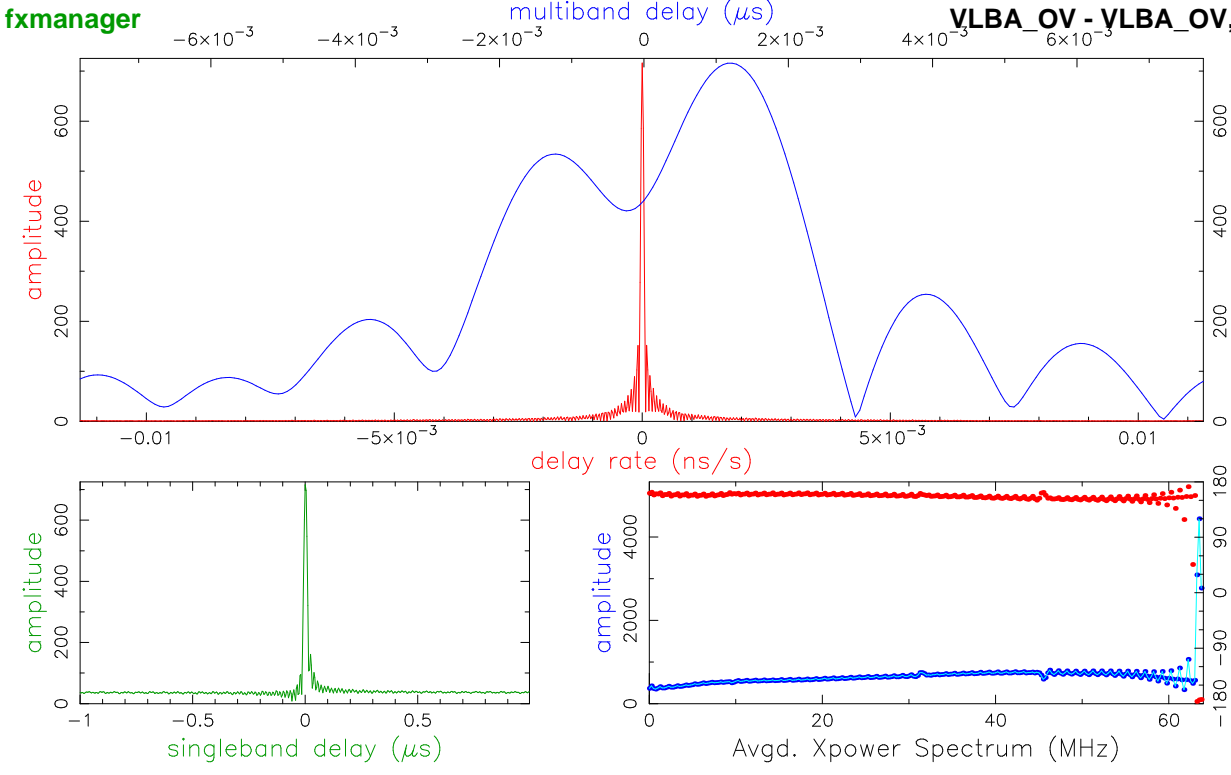
Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160012
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514663"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.00000E+00	+/- 3.0E-09
Sband delay (usec)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.00000E+00	+/- 2.3E-08
Phase delay (usec)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.00000E+00	+/- 1.0E-11
Delay rate (us/s)	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.000000000000E+00	0.00000E+00	+/- 9.7E-14
Total phase (deg)			0.0						0.0	+/- 0.0
RMS		Theor.								
ph/seg (deg)	0.0	0.0	Amplitude	10000.000 +/- 0.027	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000
amp/seg (%)	0.0	0.0	Search (1024X32)	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000
ph/frq (deg)	0.0	0.0	Interp.	0.000	0.000	0.000	0.000	0.000	0.000	0.000
amp/frq (%)	0.0	0.0	Inc. seg. avg.	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000
	0.0	0.0	Inc. frq. avg.	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000	10000.000
o: az 78.1 el 59.7 pa -78.0			o: az 78.1 el 59.7 pa -78.0			u,v (fr/asec) 0.000 0.000				simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo.W.269.1HXRW8

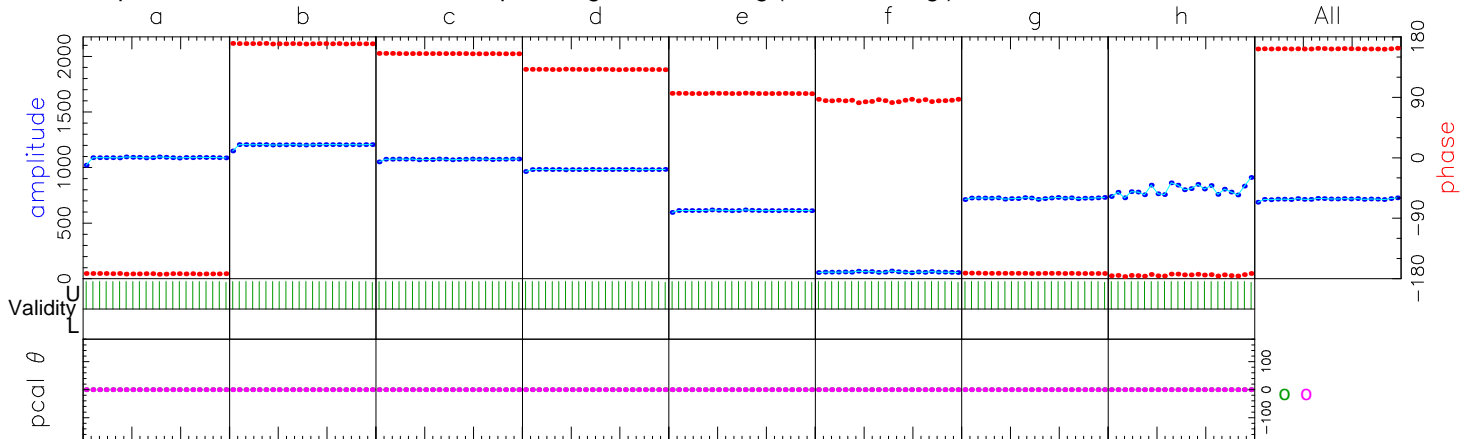


Fringe quality 5

SNR 26611.7
Int time 179.975
Amp 725.385
Phase 162.1
PFD 0.0e+00
Delays (us)
SBD 0.001416
MBD 0.001200
Fringe rate (Hz) 0.000011
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160015
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-172.6	169.7	155.0	131.5	95.7	84.8	-171.9	-174.6	Phase	162.1
	1086.9	1202.9	1073.6	981.6	613.6	60.6	724.0	798.9	Ampl.	817.8
	257.2	256.9	257.1	257.0	256.9	259.5	257.1	257.5	Sbd box	257.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd) 1.19956250000E-03 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) 1.19956E-03 +/- 4.1E-08
 Sband delay (usec) 1.41575000000E-03 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 1.41575E-03 +/- 3.2E-07
 Phase delay (usec) 5.22801760302E-06 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 5.22802E-06 +/- 1.4E-10
 Delay rate (us/s) 1.27540371525E-10 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) 1.27540E-10 +/- 1.3E-12
 Total phase (deg) 162.1 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) 162.1 +/- 0.0

RMS Theor. Amplitude 725.385 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.3 0.0 Search (1024X32) 700.805 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 1.6 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 47.1 0.0 Inc. seg. avg. 716.119 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 48.9 0.0 Inc. frq. avg. 817.767 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

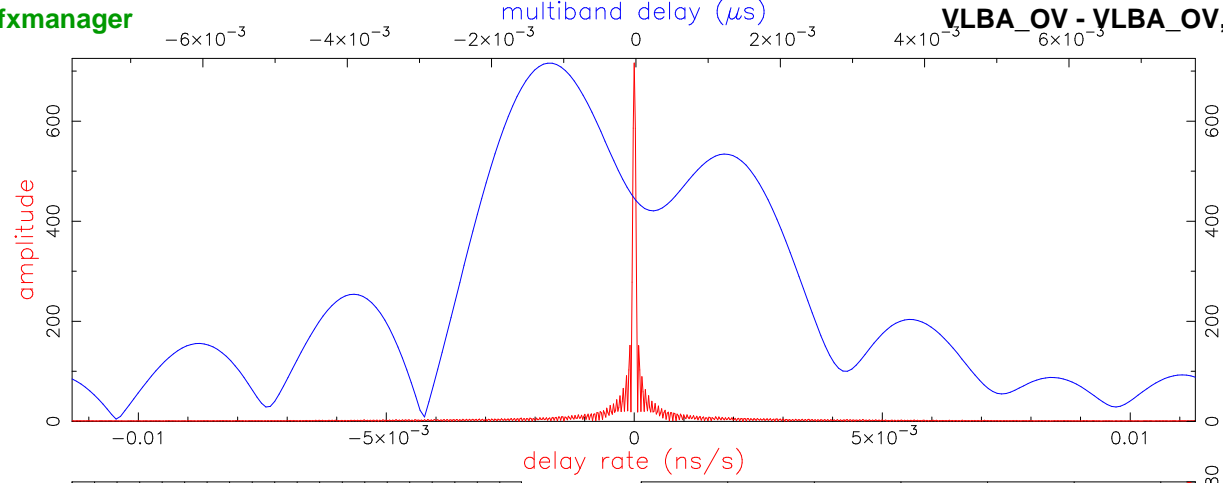
o: az 78.1 el 59.7 pa -78.0 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo.W.294.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oo

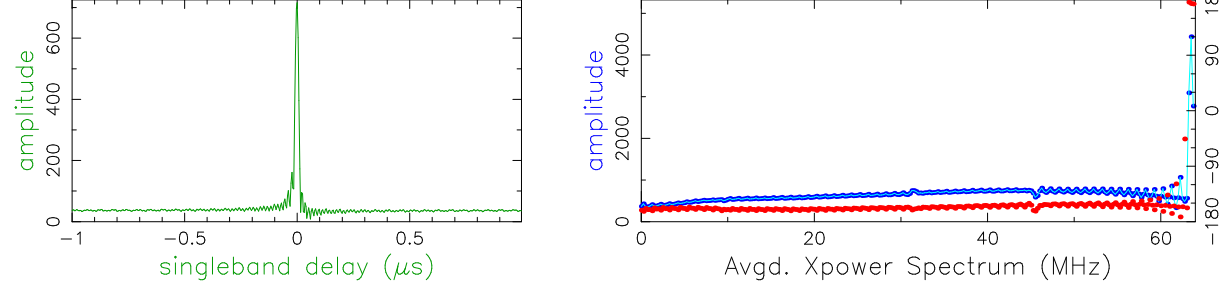
VLBA_OV - VLBA_OV, fgroup W, pol RL



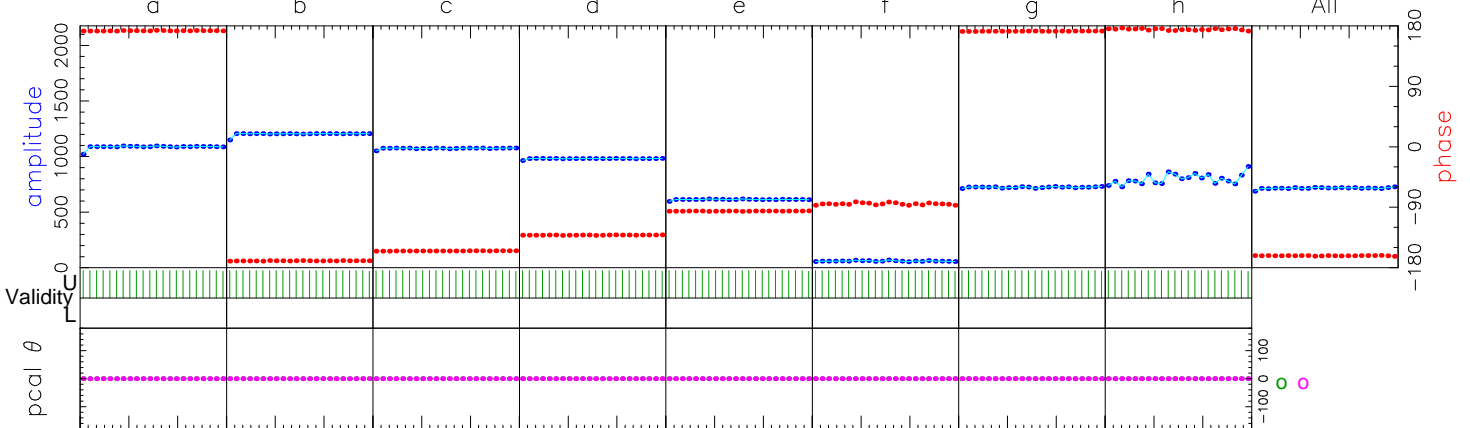
Fringe quality 5

SNR 26611.7
 Int time 179.975
 Amp 725.385
 Phase -162.1
 PFD 0.0e+00
 Delays (us)
 SBD -0.001416
 MBD -0.001200
 Fringe rate (Hz)
 -0.000011
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160017
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	-1.19956250000E-03	-1.41575000000E-03	-1.27540371525E-10	-131.5	-95.7	-84.8	171.9	174.6		
Sband delay (usec)	-1.19956250000E-03	-1.41575000000E-03	-1.27540371525E-10	700.805	700.805	700.805	700.805	700.805		
Phase delay (usec)	-5.22801760303E-06	-5.22801760303E-06	-5.22801760303E-06	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00	0.0000000E+00		
Delay rate (us/s)	-1.27540371525E-10	-1.27540371525E-10	-1.27540371525E-10	0.00000000000E+00	0.00000000000E+00	0.00000000000E+00	0.00000000000E+00	0.00000000000E+00		
Total phase (deg)			-162.1							
ph/seg (deg)	0.3	0.0		725.385 +/- 0.027						
amp/seg (%)	1.6	0.0		700.805						
ph/frq (deg)	47.1	0.0		0.000						
amp/frq (%)	48.9	0.0		716.119						
o: az 78.1 el 59.7 pa -78.0	o: az 78.1 el 59.7 pa -78.0		u,v (fr/asec) 0.000 0.000		simultaneous interpolator					

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oo.W.316.1HXRW8

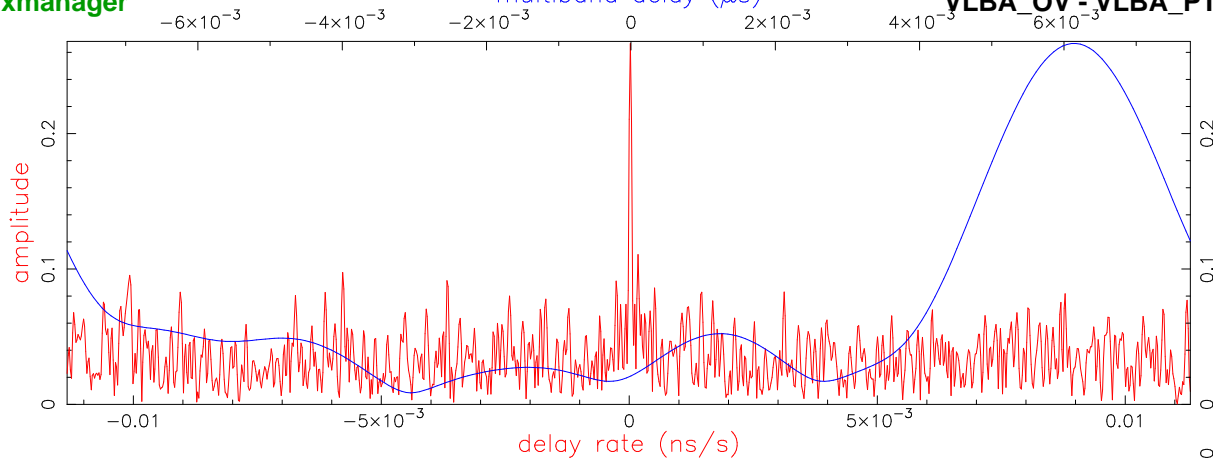
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, op

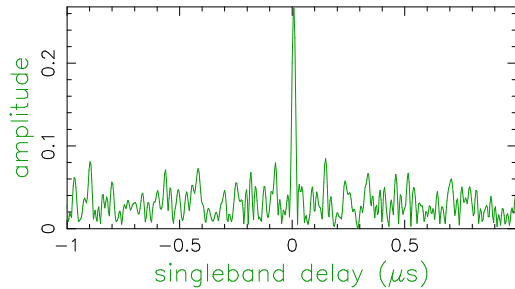
VLBA_OV - VLBA_PT, fgroup W, pol LL

multiband delay (μ s)

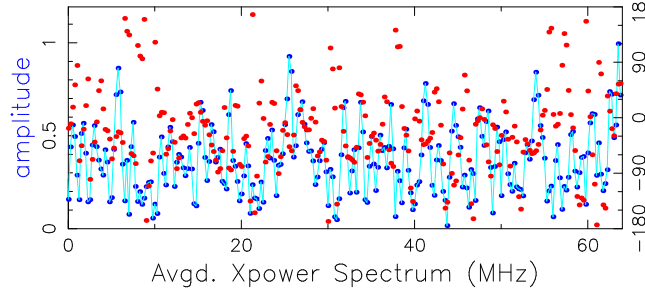


Fringe quality 9

SNR 9.8
 Int time 179.974
 Amp 0.268
 Phase -16.9
 PFD 1.7e-14
 Delays (us)
 SBD 0.006847
 MBD 0.006123
 Fringe rate (Hz)
 0.002468
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

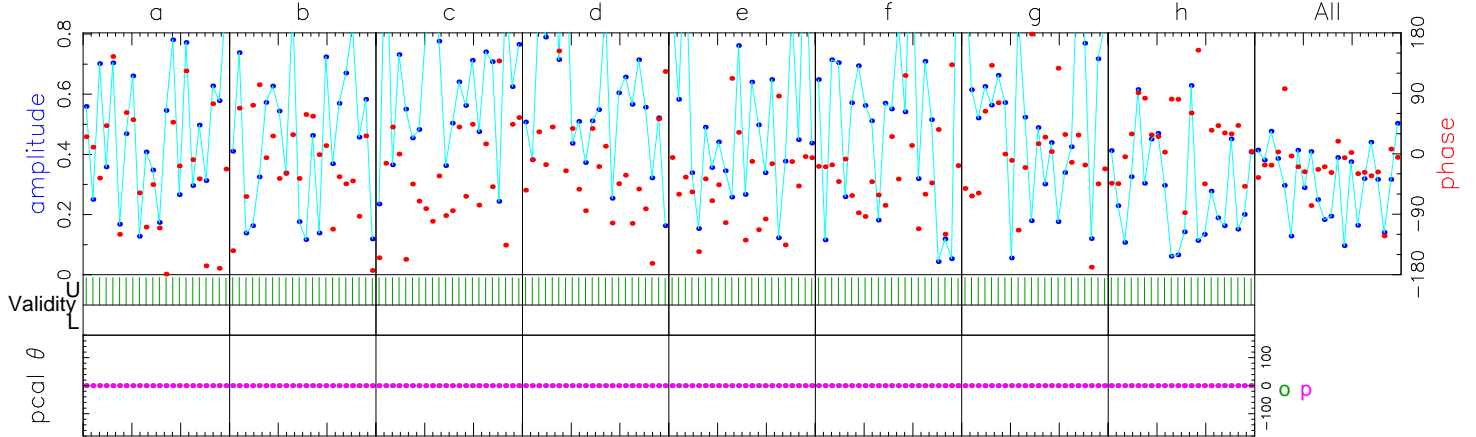


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160011
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.19176143881E+03	Apriori delay (usec)	-1.19176756202E+03	Resid mbdelay (usec)	6.12321E-03	+/-	1.1E-04
Sband delay (usec)	-1.19176071477E+03	Apriori clock (usec)	2.1331356E+01	Resid sbdelay (usec)	6.84725E-03	+/-	8.8E-04
Phase delay (usec)	-1.19176756256E+03	Apriori clockrate (us/s)	-5.0000000E-07	Resid phdelay (usec)	-5.46434E-07	+/-	3.8E-07
Delay rate (us/s)	1.29299400858E-01	Apriori rate (us/s)	1.29299372211E-01	Resid rate (us/s)	2.86470E-08	+/-	3.6E-09
Total phase (deg)	-302.1	Apriori accel (us/s/s)	9.27654186469E-06	Resid phase (deg)	-16.9	+/-	11.7

ph/seg (deg)	38.1	Theor.	27.3	Amplitude	0.268 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	46.4	Search (1024X32)	0.259	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	30.0	Inc. seg. avg.	0.281	Inc. seg. avg.	0.281	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	32.4	Inc. frq. avg.	0.275	Inc. frq. avg.	0.275	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
o: az 78.1 el 59.7 pa -78.0		p: az 74.4 el 67.1 pa -89.0		u, v (fr/asec)	-922.614 851.520	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/op...1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/op.W.255.1HXRW8

simultaneous interpolator

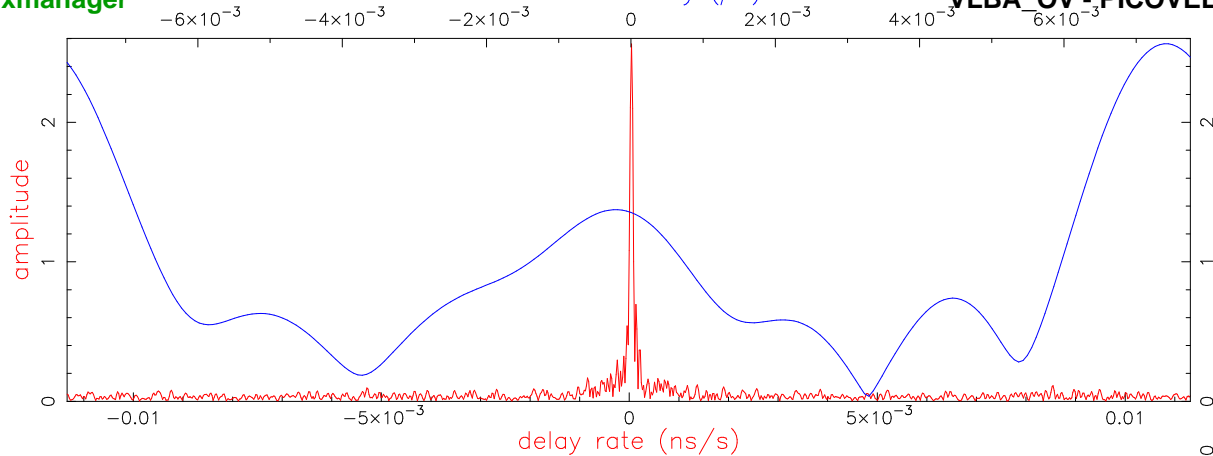
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oP

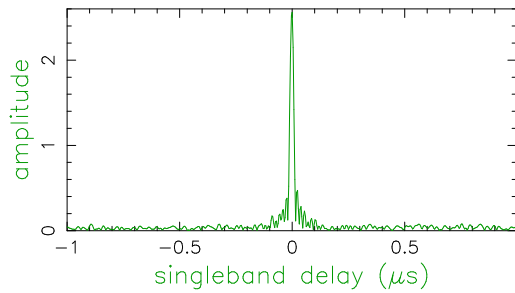
VLBA_OV - PICOVEL, fgroup W, pol LL

multiband delay (μ s)

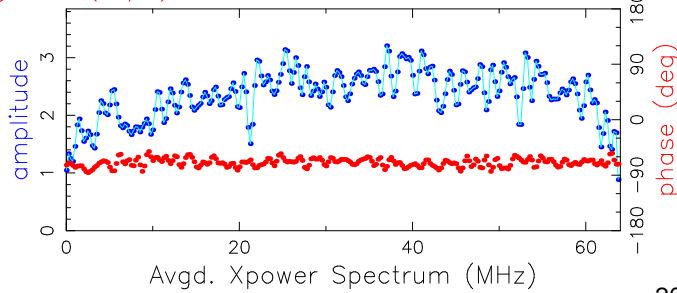


Fringe quality 5

SNR 95.4
 Int time 179.784
 Amp 2.602
 Phase -173.5
 PFD 0.0e+00
 Delays (us)
 SBD -0.001610
 MBD 0.007366
 Fringe rate (Hz)
 0.004109
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

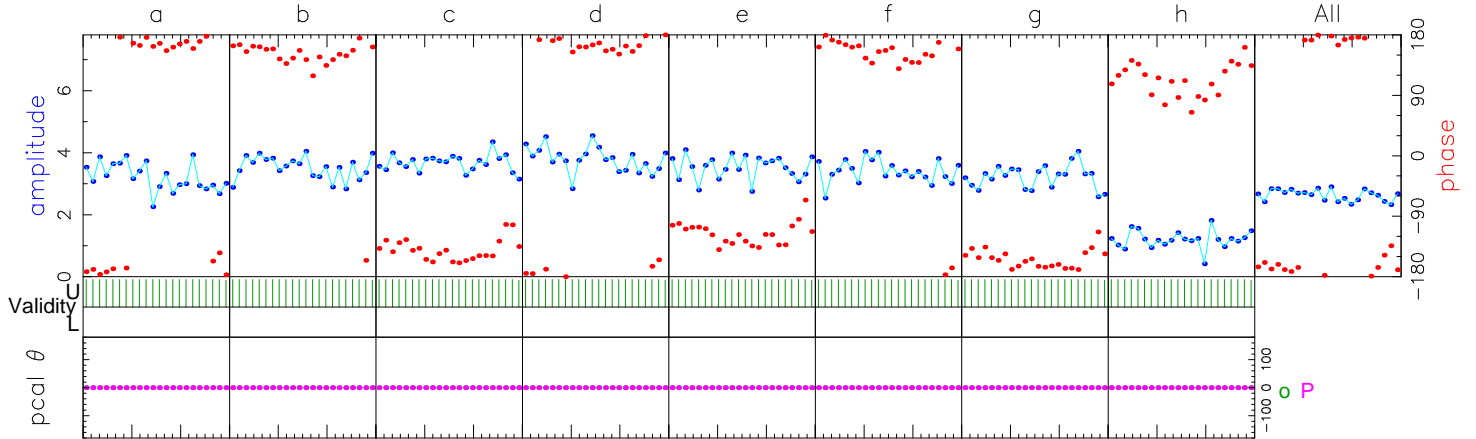


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160011
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	7.65756414773E+03	Apriori delay (usec)	7.65757240710E+03	Resid mbdelay (usec)	7.36563E-03	+/-	1.1E-05
Sband delay (usec)	7.65757079685E+03	Apriori clock (usec)	2.1600107E+01	Resid sbdelay (usec)	-1.61025E-03	+/-	9.0E-05
Phase delay (usec)	7.65757240150E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-5.59492E-06	+/-	3.9E-08
Delay rate (us/s)	1.56645534034E+00	Apriori rate (us/s)	1.56645529263E+00	Resid rate (us/s)	4.77072E-08	+/-	3.7E-10
Total phase (deg)	-120.4	Apriori accel (us/s/s)	-4.04578973088E-05	Resid phase (deg)	-173.5	+/-	1.2

ph/seg (deg)	14.1	RMS	2.8	Theor.	2.602 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	6.9	Search (1024X32)	2.543	Amplitude	2.602 +/- 0.027	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	45.0	Inc. seg. avg.	2.632	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	34.9	Inc. frq. avg.	3.081	Inc. seg. avg.	2.632	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
o: az 78.1 el 59.7 pa -78.0		P: az 295.7 el 30.8 pa 64.8		Inc. frq. avg.	3.081	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
Control file: cf_1234_gmva		Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP..1HXRW8		u,v (fr/asec)	-11301.388 -2333.450					simultaneous interpolator	

Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP.W.256.1HXRW8

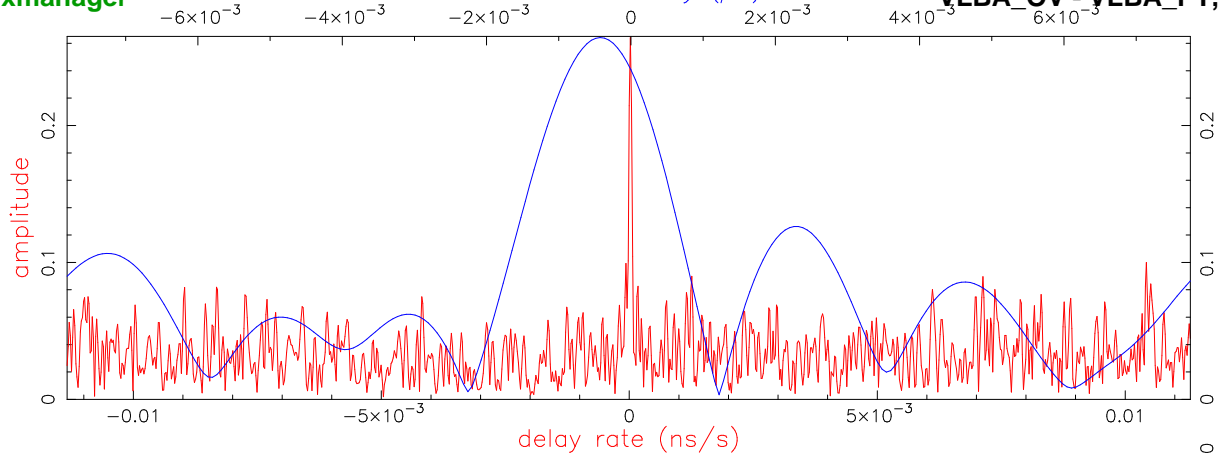
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, op

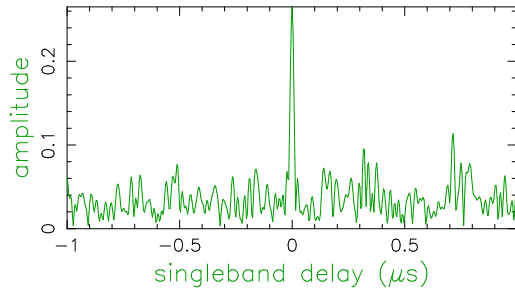
VLBA_OV - VLBA_PT, fgroup W, pol RR

multiband delay (μ s)

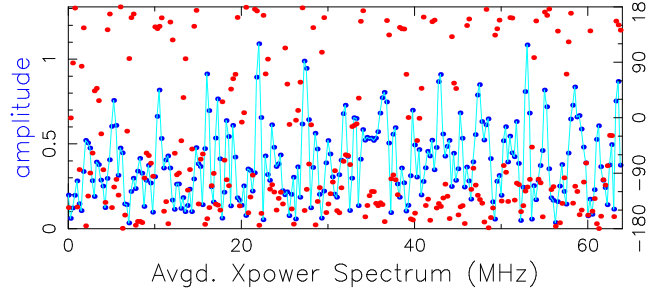


Fringe quality 9

SNR 9.7
 Int time 179.974
 Amp 0.265
 Phase -150.6
 PFD 4.9e-14
 Delays (us)
 SBD -0.000724
 MBD -0.000435
 Fringe rate (Hz)
 0.001909
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

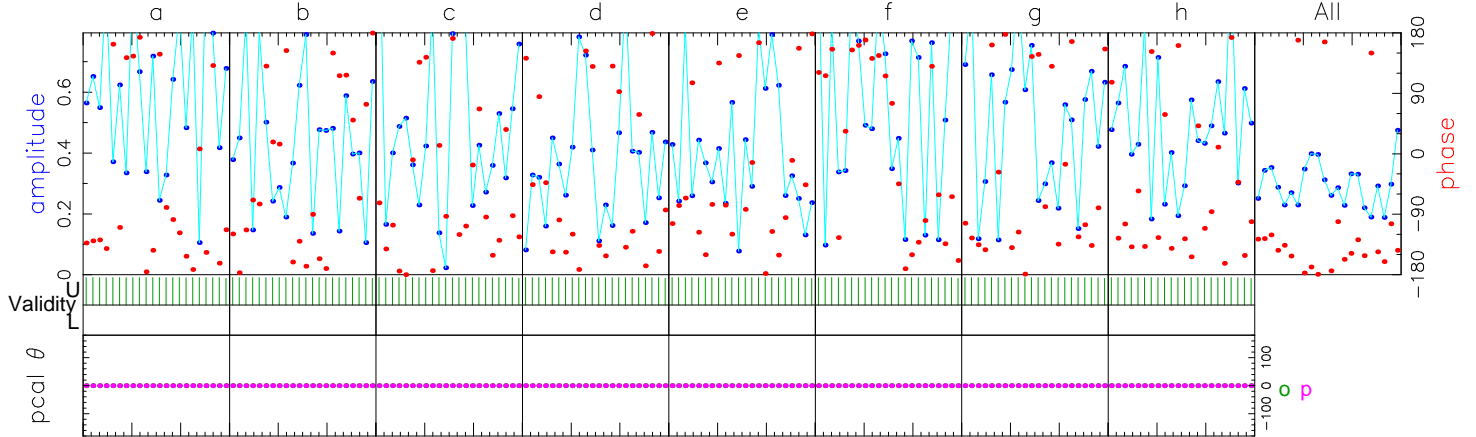


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160013
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-152.5	-157.5	-130.5	-161.3	-124.8	168.7	-147.8	-132.8	Phase	-150.6
	0.5	0.2	0.3	0.2	0.2	0.3	0.3	0.3	Ampl.	0.3
	257.2	292.0	256.0	387.1	477.3	257.1	256.2	488.8	Sbd box	256.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.19176799703E+03			Apriori delay (usec)	-1.19176756202E+03		Resid mbdelay (usec)	-4.35013E-04		+/- 1.1E-04
Sband delay (usec)	-1.19176828652E+03			Apriori clock (usec)	2.1331356E+01		Resid sbdelay (usec)	-7.24500E-04		+/- 8.9E-04
Phase delay (usec)	-1.19176756687E+03			Apriori clockrate (us/s)	-5.0000000E-07		Resid phdelay (usec)	-4.85659E-06		+/- 3.8E-07
Delay rate (us/s)	1.29299394376E-01			Apriori rate (us/s)	1.29299372211E-01		Resid rate (us/s)	2.21651E-08		+/- 3.7E-09
Total phase (deg)		-75.8		Apriori accel (us/s/s)	9.27654186469E-06		Resid phase (deg)	-150.6		+/- 11.8

ph/seg (deg) 27.9 27.6 Search (1024X32) 0.264 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 28.9 48.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 23.1 16.7 Inc. seg. avg. 0.265 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 31.3 29.1 Inc. frq. avg. 0.270 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 o: az 78.1 el 59.7 pa -78.0 p: az 74.4 el 67.1 pa -89.0 u,v (fr/asec) -922.614 851.520 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/op..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/op.W.275.1HXRW8

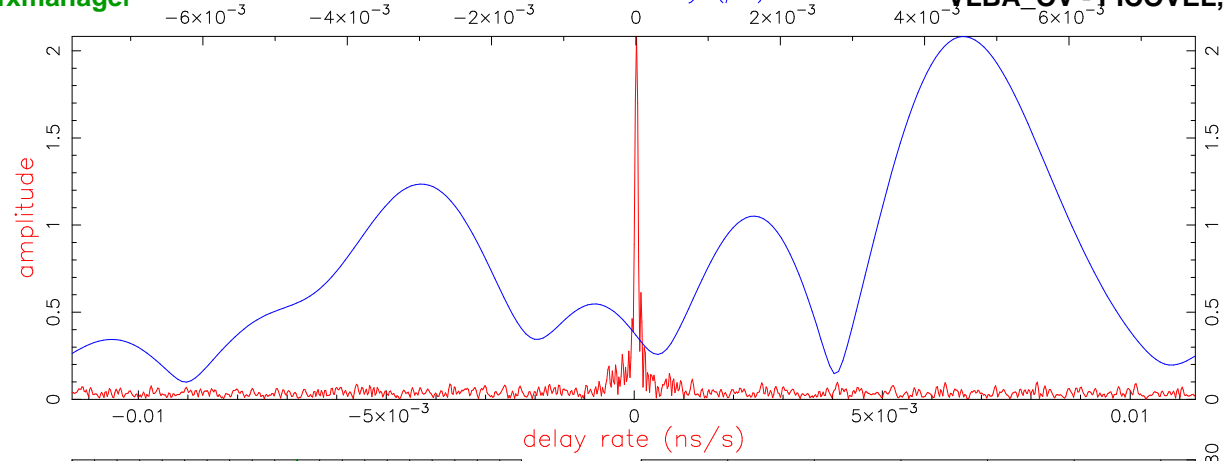
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oP

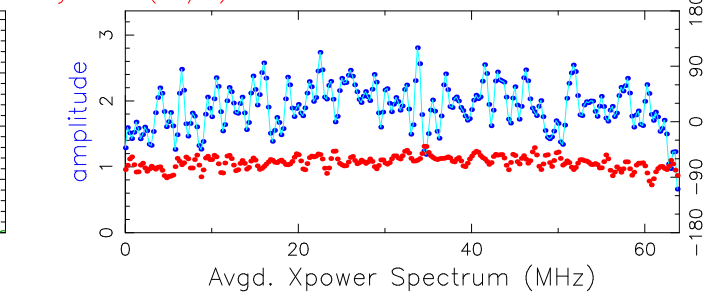
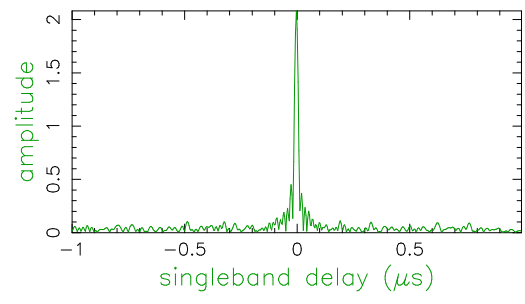
VLBA_OV - PICOVEL, fgroup W, pol RR

multiband delay (μ s)



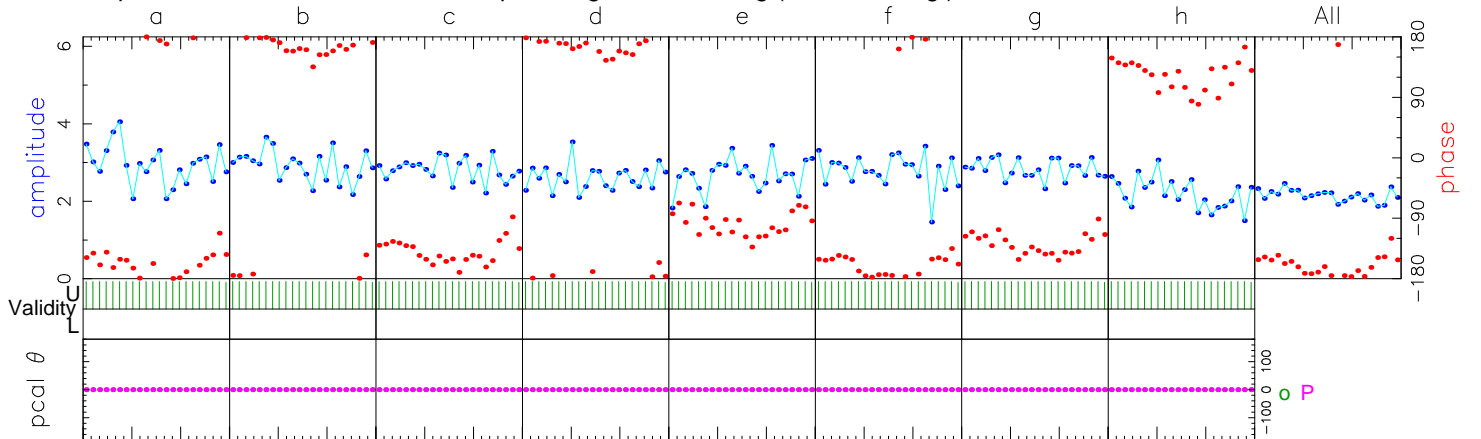
Fringe quality 5

SNR 76.4
 Int time 179.784
 Amp 2.082
 Phase -160.7
 PFD 0.0e+00
 Delays (us)
 SBD -0.003687
 MBD 0.004543
 Fringe rate (Hz)
 0.004110
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160013
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-159.5	171.0	-140.0	170.8	-98.4	-164.2	-128.3	121.9	Phase	-160.7
	2.8	2.8	2.7	2.5	2.6	2.7	2.7	2.1	Ampl.	2.6
	255.5	255.8	255.6	255.5	255.4	255.6	255.1	253.9	Sbd box	256.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	7.65756132514E+03	Apriori delay (usec)	7.65757240710E+03	Resid mbdelay (usec)	4.54304E-03	+/-	1.4E-05
Sband delay (usec)	7.65756871985E+03	Apriori clock (usec)	2.1600107E+01	Resid sbdelay (usec)	-3.68725E-03	+/-	1.1E-04
Phase delay (usec)	7.65757240192E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-5.18135E-06	+/-	4.8E-08
Delay rate (us/s)	1.56645534035E+00	Apriori rate (us/s)	1.56645529263E+00	Resid rate (us/s)	4.77171E-08	+/-	4.7E-10
Total phase (deg)	-107.6	Apriori accel (us/s/s)	-4.04578973088E-05	Resid phase (deg)	-160.7	+/-	1.5

ph/seg (deg)	15.1	Theor.	3.5	Amplitude	2.082 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	8.0		6.1	Search (1024X32)	2.056	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	46.5		2.1	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	27.6		3.7	Inc. seg. avg.	2.151	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	2.608	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

o: az 78.1 el 59.7 pa -78.0 P: az 295.7 el 30.8 pa 64.8 u,v (fr/asec) -11301.388 -2333.450 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP.W.277.1HXRW8

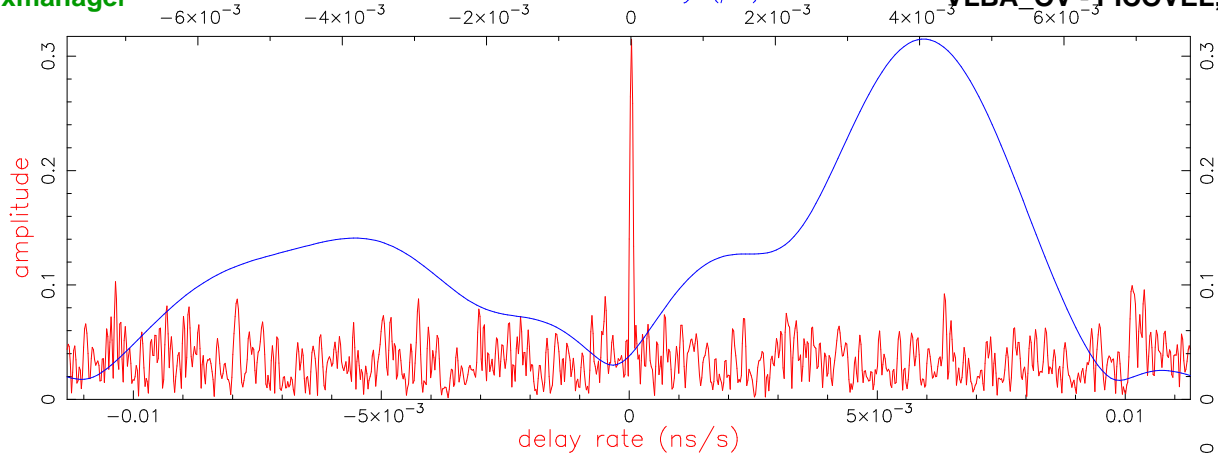
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oP

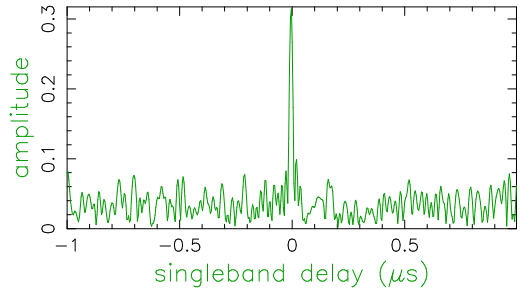
VLBA_OV - PICOVEL, fgroup W, pol LR

multiband delay (μ s)

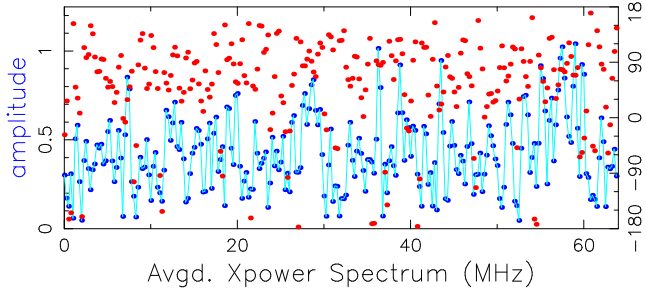


Fringe quality 9

SNR 11.6
 Int time 179.784
 Amp 0.317
 Phase -28.6
 PFD 6.7e-23
 Delays (us)
 SBD -0.005003
 MBD 0.004006
 Fringe rate (Hz)
 0.004263
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

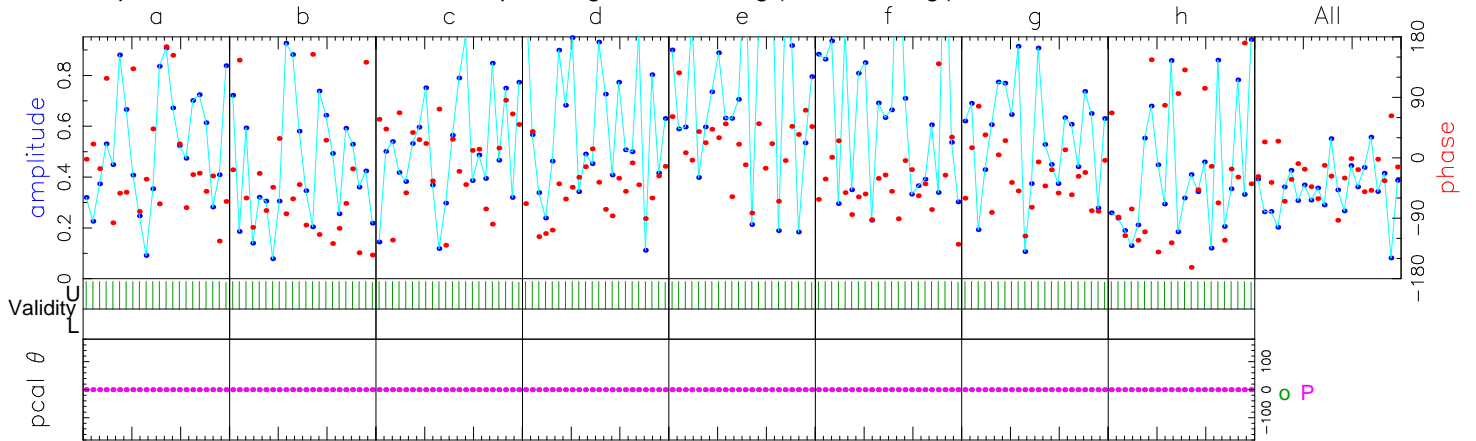


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160015
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-49.8	-68.4	6.3	-44.9	22.4	-43.5	-26.1	-97.0	Phase	-28.6
	0.2	0.3	0.3	0.5	0.6	0.5	0.5	0.1	Ampl.	0.4
	3.8	256.0	255.2	255.6	255.4	255.5	254.9	252.6	Sbd box	255.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	7.65756078767E+03	Apriori delay (usec)	7.65757240710E+03	Resid mbdelay (usec)	4.00557E-03	+/-	9.3E-05
Sband delay (usec)	7.65756740410E+03	Apriori clock (usec)	2.1600107E+01	Resid sbdelay (usec)	-5.00300E-03	+/-	7.4E-04
Phase delay (usec)	7.65757240618E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-9.22200E-07	+/-	3.2E-07
Delay rate (us/s)	1.56645534212E+00	Apriori rate (us/s)	1.56645529263E+00	Resid rate (us/s)	4.94842E-08	+/-	3.1E-09
Total phase (deg)		Apriori accel (us/s/s)	-4.04578973088E-05	Resid phase (deg)	-28.6	+/-	9.8

ph/seg (deg)	33.2	Theor.	23.1	Amplitude	0.317 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	34.4	Search (1024X32)	0.310	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	42.9	Inc. seg. avg.	0.325	Inc. frq. avg.	0.362	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	53.2	Inc. frq. avg.	0.362	Sample rate(MISamp/s): 128		Data rate(Mb/s): 2048	nlags: 256
				ion window (TEC)	0.00	0.00	

o: az 78.1 el 59.7 pa -78.0 P: az 295.7 el 30.8 pa 64.8 u,v (fr/asec) -11301.388 -2333.450 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP.W.291.1HXRW8

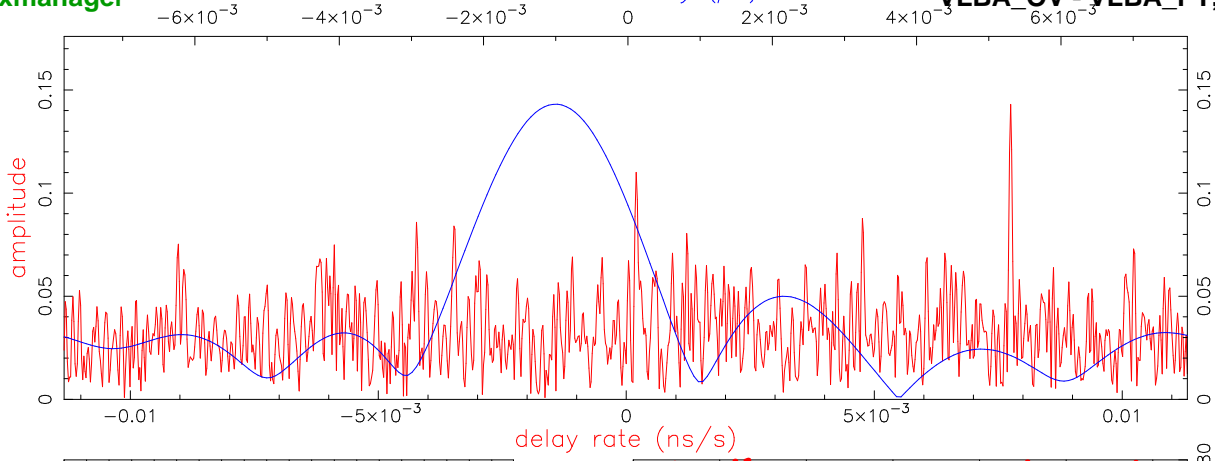
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, op

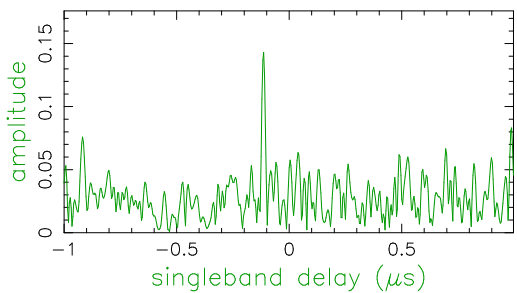
VLBA_OV - VLBA_PT, fgroup W, pol LR

multiband delay (μ s)

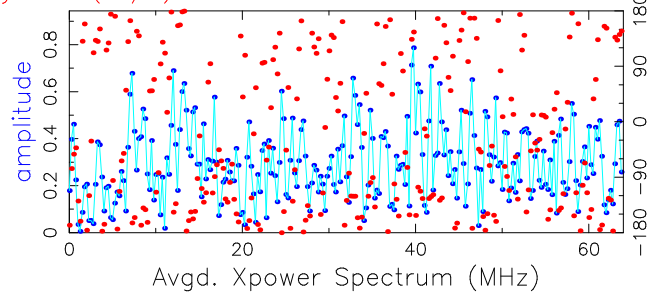


Fringe quality 0

SNR 5.3
 Int time 179.974
 Amp 0.176
 Phase -29.5
 PFD 1.0e+00
 Delays (us)
 SBD -0.114331
 MBD -0.001039
 Fringe rate (Hz)
 0.667974
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

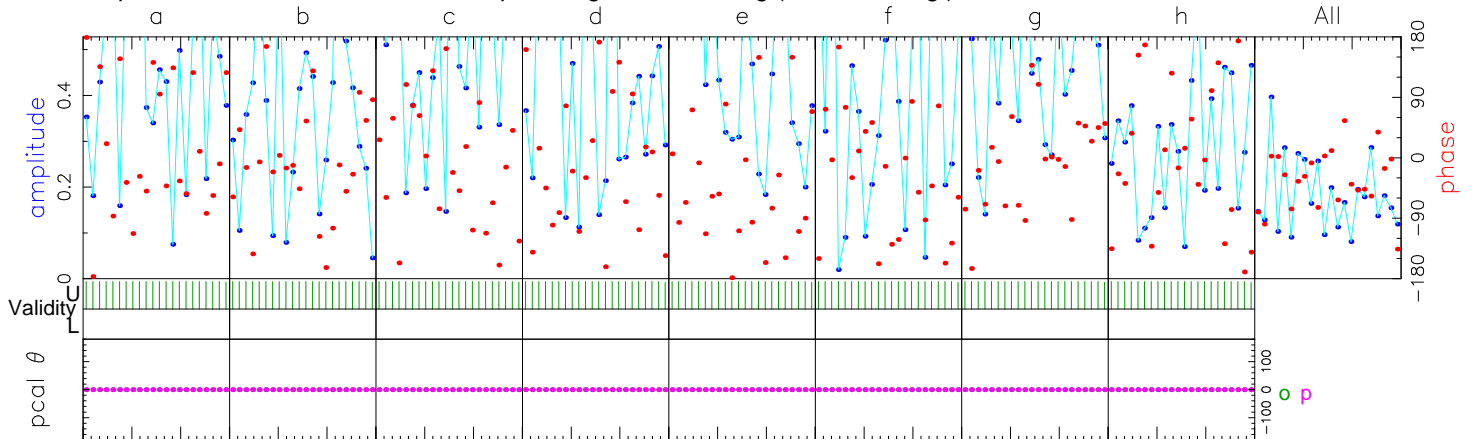


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160015
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

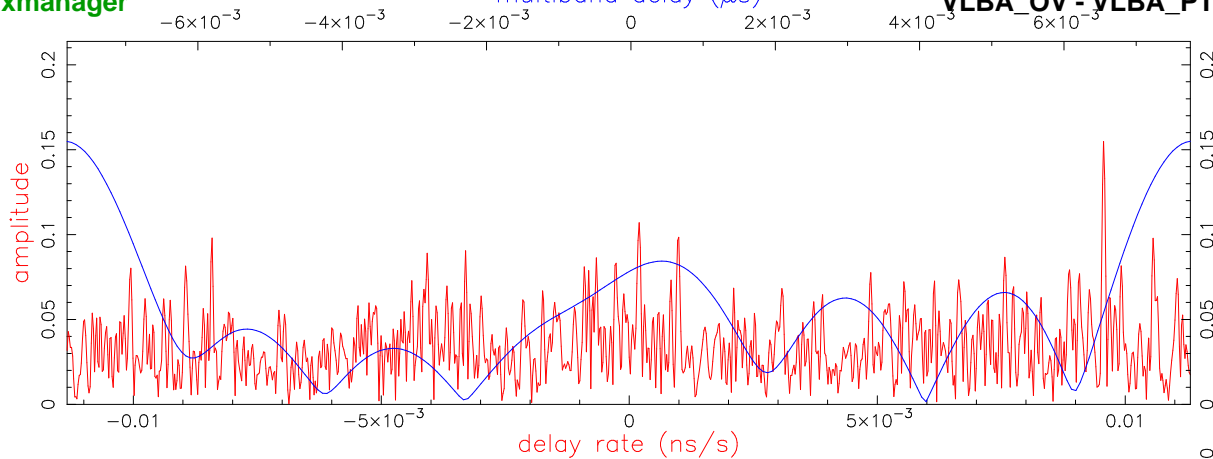
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.19187797648E+03									
Sband delay (usec)	-1.19188189352E+03									
Phase delay (usec)	-1.19176756297E+03									
Delay rate (us/s)	1.29307126729E-01									
Total phase (deg)			-314.7							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
Pcal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								
o: az 78.1 el 59.7 pa -78.0										
p: az 74.4 el 67.1 pa -89.0										
u,v (fr/asec) -922.614 851.520										
Control file: cf_1234_gmva										
Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/op...1HXRW8										
Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/op.W.296.1HXRW8										

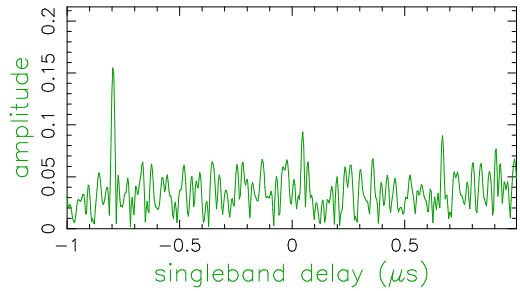
simultaneous interpolator

multiband delay (μs)

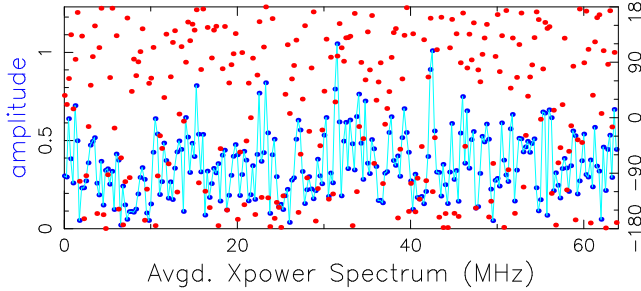


Fringe quality 0

SNR 5.7
Int time 179.974
Amp 0.214
Phase -117.0
PFD 6.9e-01
Delays (us)
SBD -0.795630
MBD 0.007819
Fringe rate (Hz)
0.824291
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

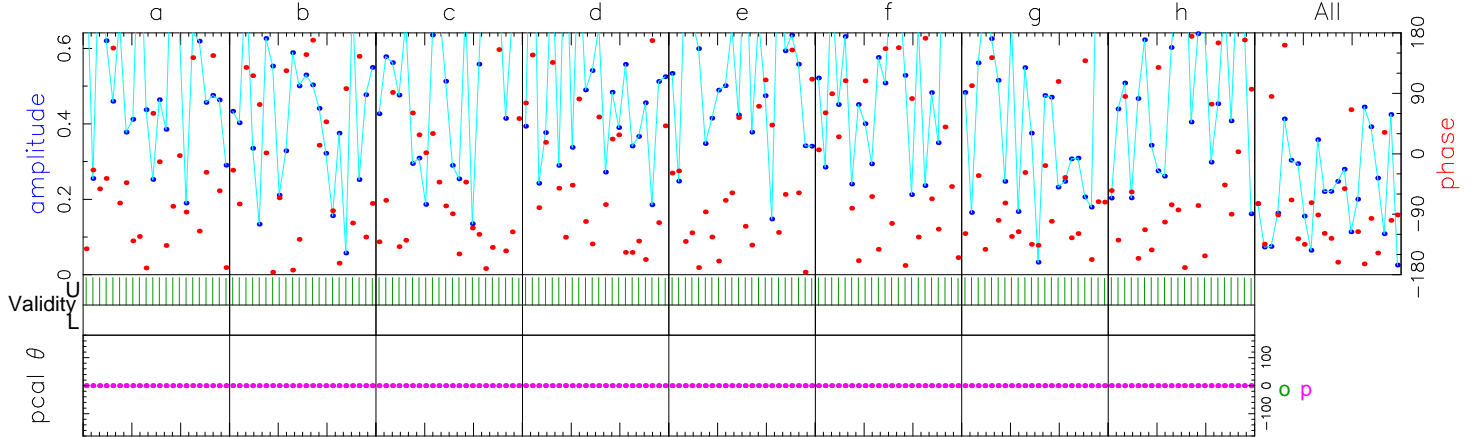


delay rate (ns/s)



Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002000.00
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160017
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-91.9	-157.4	-114.6	-172.3	-113.2	-165.1	-98.1	-121.9	Phase	-117.0
	0.3	0.1	0.2	0.1	0.3	0.1	0.3	0.3	Ampl.	0.2
	188.1	220.1	4.2	86.9	95.4	200.2	52.2	167.4	Sbd box	53.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.19255661816E+03	Apriori delay (usec)	-1.19176756202E+03	Resid mbdelay (usec)	7.81886E-03	+/-	1.9E-04
Sband delay (usec)	-1.19256319227E+03	Apriori clock (usec)	2.1331356E+01	Resid sbdelay (usec)	-7.95630E-01	+/-	1.5E-03
Phase delay (usec)	-1.19176756579E+03	Apriori clockrate (us/s)	-5.0000000E-07	Resid phdelay (usec)	-3.77429E-06	+/-	6.4E-07
Delay rate (us/s)	1.29308941409E-01	Apriori rate (us/s)	1.29299372211E-01	Resid rate (us/s)	9.56920E-06	+/-	6.2E-09
Total phase (deg)	-42.2	Apriori accel (us/s/s)	9.27654186469E-06	Resid phase (deg)	-117.0	+/-	20.0

ph/seg (deg)	68.8	Theor.	46.8	Amplitude	0.214 +/- 0.037	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	91.0		81.7	Search (1024X32)	0.152	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	36.6		28.2	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	44.1		49.3	Inc. seg. avg.	0.234	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.207	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

o: az 78.1 el 59.7 pa -78.0 p: az 74.4 el 67.1 pa -89.0 u,v (fr/asec) -922.614 851.520 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/op..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/op.W.311.1HXRW8

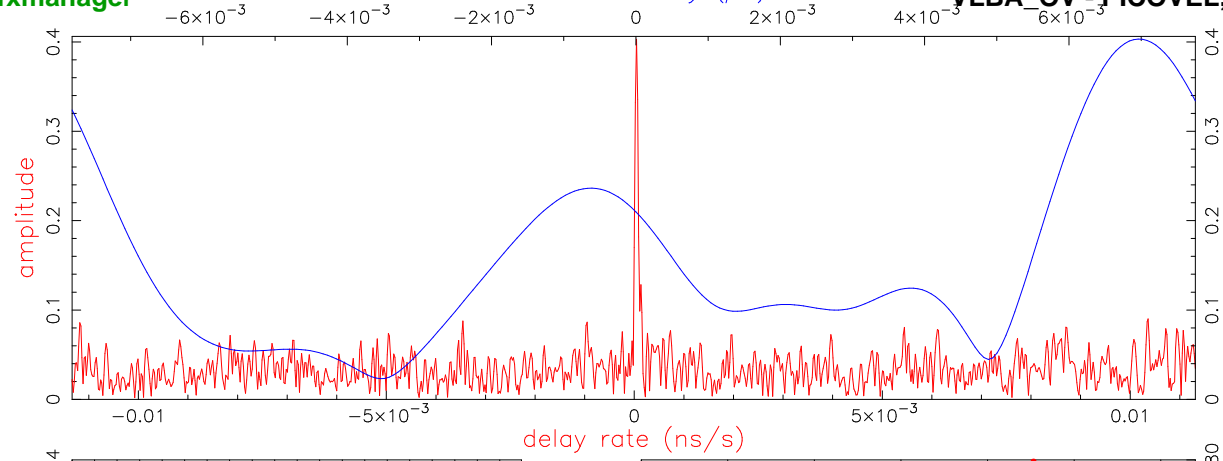
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oP

VLBA_OV - PICOVEL, fgroup W, pol RL

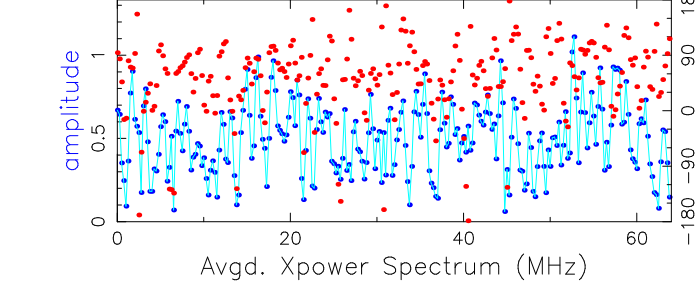
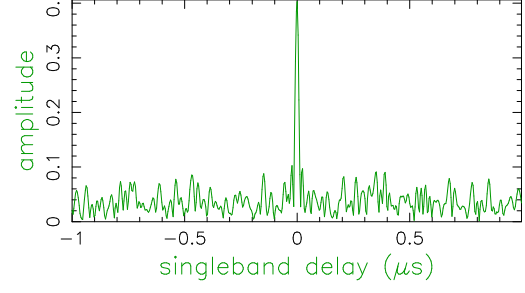
multiband delay (μ s)



Fringe quality 7

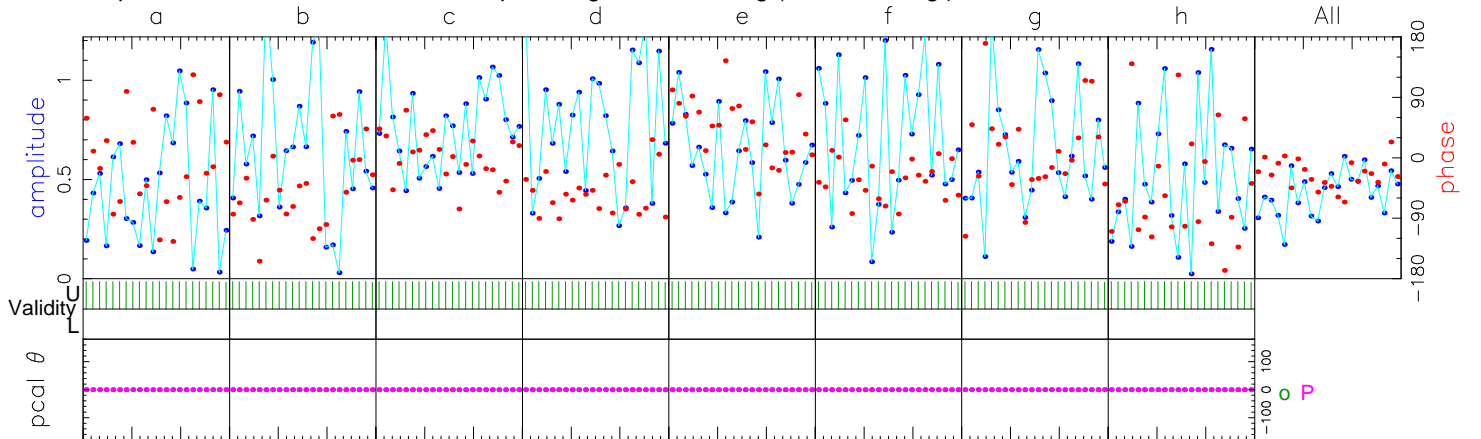
SNR 14.9
 Int time 179.784
 Amp 0.406
 Phase -26.1
 PFD 1.1e-41
 Delays (us)
 SBD -0.001100
 MBD 0.006917
 Fringe rate (Hz) 0.004031
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160017
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-39.2	-57.2	-0.2	-52.8	42.1	-32.0	4.7	-87.6	Phase	-26.1
	0.3	0.5	0.7	0.7	0.5	0.6	0.5	0.3	Ampl.	0.5
	258.0	256.8	256.3	256.3	255.5	256.2	255.6	253.9	Sbd box	256.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

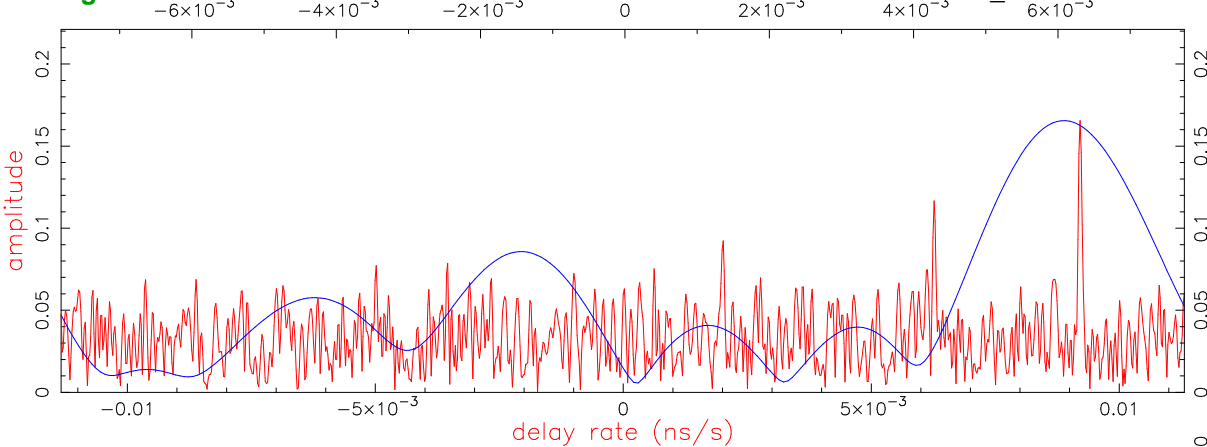
Group delay (usec)(sbd)	7.65756369932E+03	Apriori delay (usec)	7.6575240710E+03	Resid mbdelay (usec)	6.91722E-03	+/-	7.3E-05
Sband delay (usec)	7.65757130735E+03	Apriori clock (usec)	2.1600107E+01	Resid sbdelay (usec)	-1.09975E-03	+/-	5.8E-04
Phase delay (usec)	7.65757240626E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-8.40627E-07	+/-	2.5E-07
Delay rate (us/s)	1.56645533943E+00	Apriori rate (us/s)	1.56645529263E+00	Resid rate (us/s)	4.67988E-08	+/-	2.4E-09
Total phase (deg)	27.0	Apriori accel (us/s/s)	-4.04578973088E-05	Resid phase (deg)	-26.1	+/-	7.7

ph/seg (deg)	21.3	18.0	Search (1024X32)	0.400	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	27.8	31.5	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	44.6	10.9	Inc. seg. avg.	0.413	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	40.8	19.0	Inc. frq. avg.	0.489	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

o: az 78.1 el 59.7 pa -78.0 P: az 295.7 el 30.8 pa 64.8 u,v (fr/asec) -11301.388 -2333.450 simultaneous interpolator

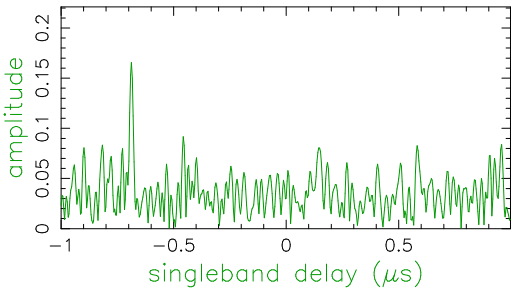
Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oP.W.312.1HXRW8

multiband delay (μ s)

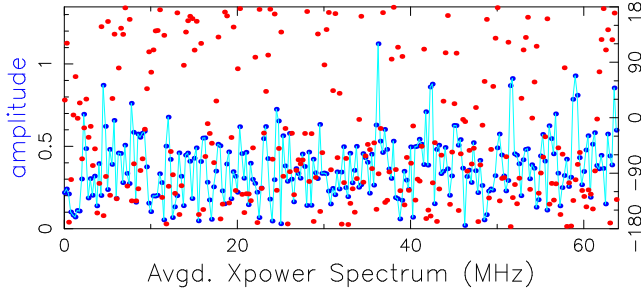


Fringe quality 0

SNR 5.8
 Int time 162.059
 Amp 0.221
 Phase 161.1
 PFD 6.3e-01
 Delays (us)
 SBD -0.687819
 MBD 0.006077
 Fringe rate (Hz)
 0.794424
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

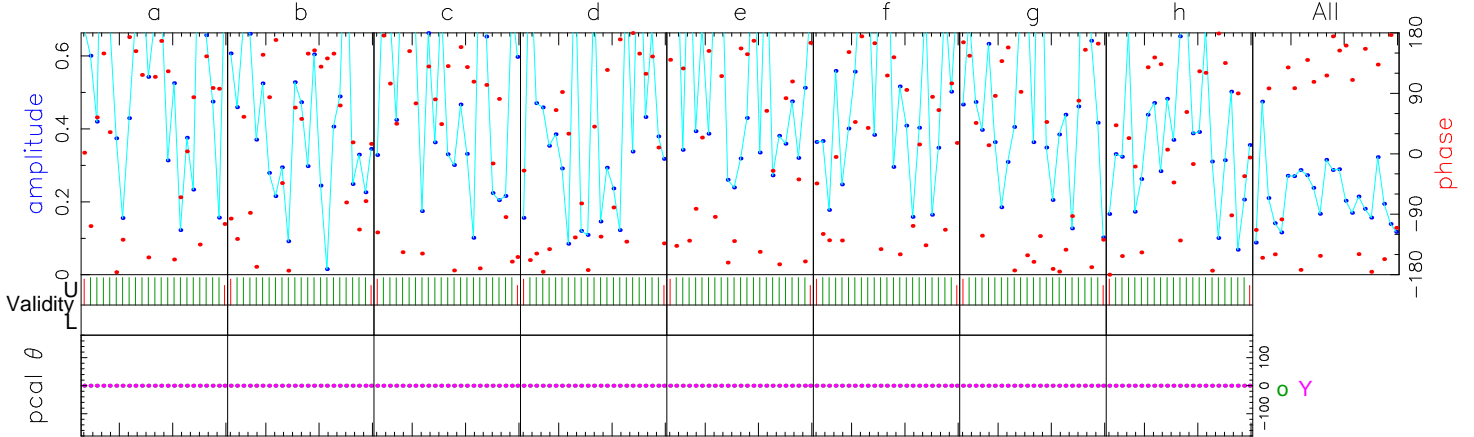


delay rate (ns/s)



Exp. c202a
 Yr:day # 16383
 Start 2020:284
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160012
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	156.3	173.5	147.9	-178.6	172.5	155.2	168.0	98.2	Phase	161.1
o	0.3	0.0	0.4	0.3	0.3	0.1	0.3	0.1	Ampl.	0.2
Y	292.4	466.9	431.5	37.1	200.3	454.2	236.8	162.9	Sbd box	80.9
o	319/0	319/0	319/0	319/0	319/0	319/0	319/0	319/0	APs used	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	7.25494201218E+03	Apriori delay (usec)	7.25562343489E+03	Resid mbdelay (usec)	6.07729E-03	+/-	1.9E-04
Sband delay (usec)	7.25493561614E+03	Apriori clock (usec)	9.7161808E+00	Resid sbdelay (usec)	-6.87819E-01	+/-	1.5E-03
Phase delay (usec)	7.25562344008E+03	Apriori clockrate (us/s)	-2.1999999E-07	Resid phdelay (usec)	5.19384E-06	+/-	6.4E-07
Delay rate (us/s)	1.52190992194E+00	Apriori rate (us/s)	1.52190069947E+00	Resid rate (us/s)	9.22247E-06	+/-	6.8E-09
Total phase (deg)	46.2	Apriori accel (us/s/s)	-4.15839896089E-05	Resid phase (deg)	161.1	+/-	19.9

ph/seg (deg)	RMS 48.5	Theor. 47.6	Amplitude Search (1024X32)	0.221 +/- 0.038	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	62.7	83.2	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	28.7	28.1	Inc. seg. avg.	0.223	Sample rate(MISamp/s): 128	nlags: 256	dr window (ns/s)	-0.011	0.011
amp/frq (%)	54.2	49.0	Inc. frq. avg.	0.206	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00

o: az 78.1 el 59.7 pa -78.0 Y: az 293.9 el 32.0 pa 60.7 u,v (fr/asec) -10982.363 -2733.156 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY.W.262.1HXRW8

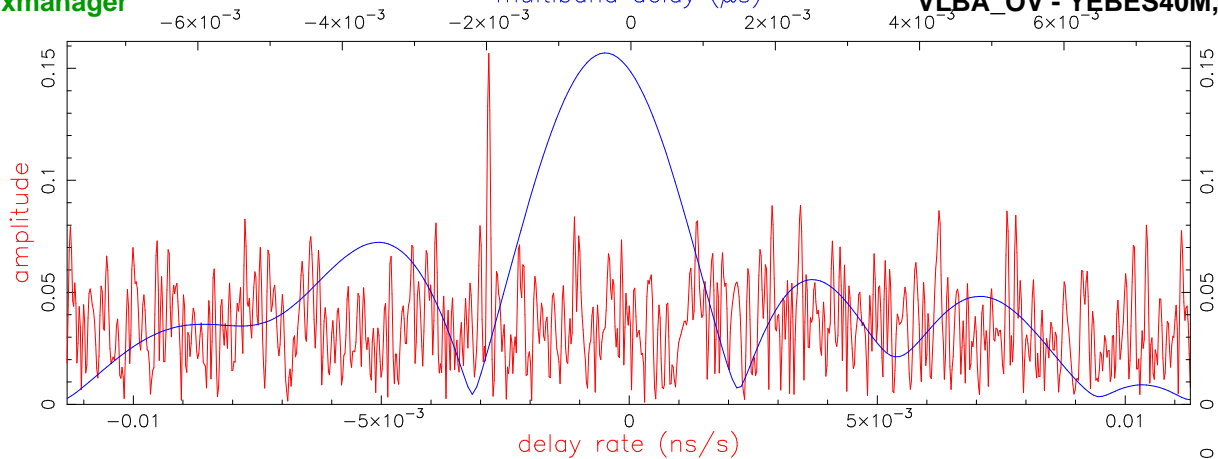
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oY

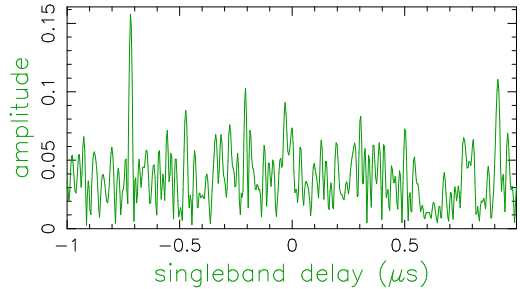
VLBA_OV - YEBES40M, fgroup W, pol RR

multiband delay (μ s)

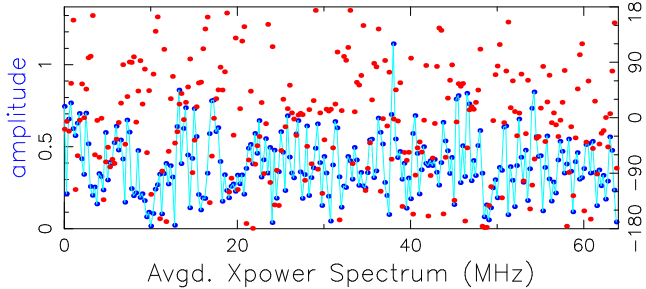


Fringe quality 0

SNR 5.5
 Int time 162.059
 Amp 0.162
 Phase 13.0
 PFD 9.9e-01
 Delays (us)
 SBD -0.717744
 MBD -0.000297
 Fringe rate (Hz)
 -0.245392
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

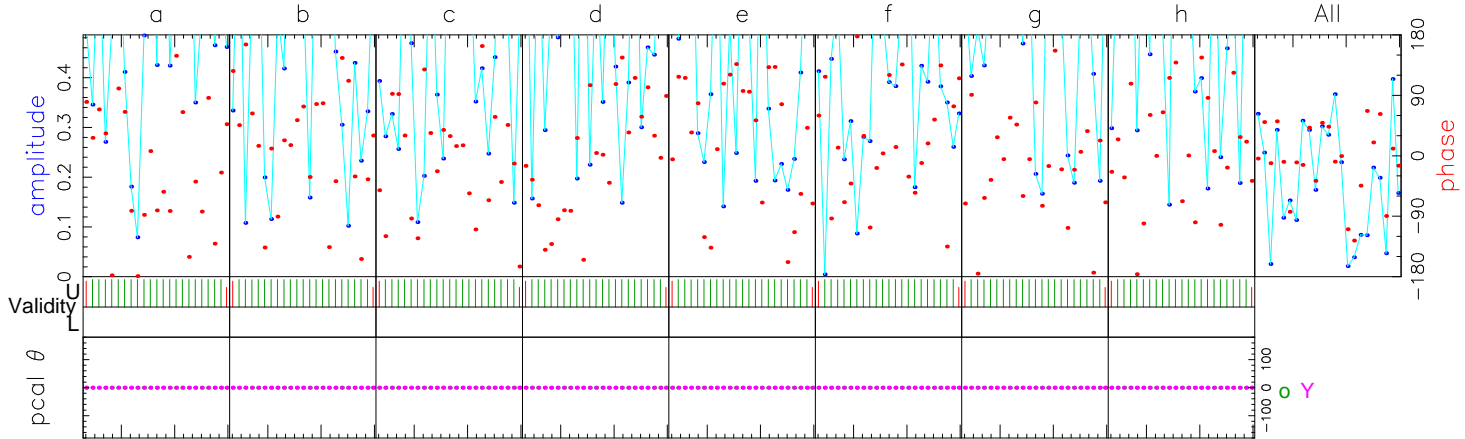


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002016.90
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160014
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	319/0	319/0	319/0	319/0	319/0	319/0	319/0	319/0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
o	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	7.25490438765E+03	Apriori delay (usec)		7.25562343489E+03	Resid mbdelay (usec)		-2.97237E-04	+/-	2.0E-04
Sband delay (usec)	7.25490569139E+03	Apriori clock (usec)		9.7161808E+00	Resid sbdelay (usec)		-7.17744E-01	+/-	1.6E-03
Phase delay (usec)	7.25562343531E+03	Apriori clockrate (us/s)		-2.1999999E-07	Resid phdelay (usec)		4.19644E-07	+/-	6.7E-07
Delay rate (us/s)	1.52189785071E+00	Apriori rate (us/s)		1.52190069947E+00	Resid rate (us/s)		-2.84875E-06	+/-	7.1E-09
Total phase (deg)	258.2	Apriori accel (us/s/s)		-4.15839896089E-05	Resid phase (deg)		13.0	+/-	20.9

	RMS	Theor.	Amplitude	0.162 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	57.5	50.0	Search (1024X32)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/seg (%)	75.6	87.3	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	27.7	29.5	Inc. seg. avg.	0.146	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00
amp/frq (%)	33.0	51.5	Inc. frq. avg.	0.153					

o: az 78.1 el 59.7 pa -78.0 Y: az 293.9 el 32.0 pa 60.7 u,v (fr/asec) -10982.363 -2733.156 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY.W.283.1HXRW8

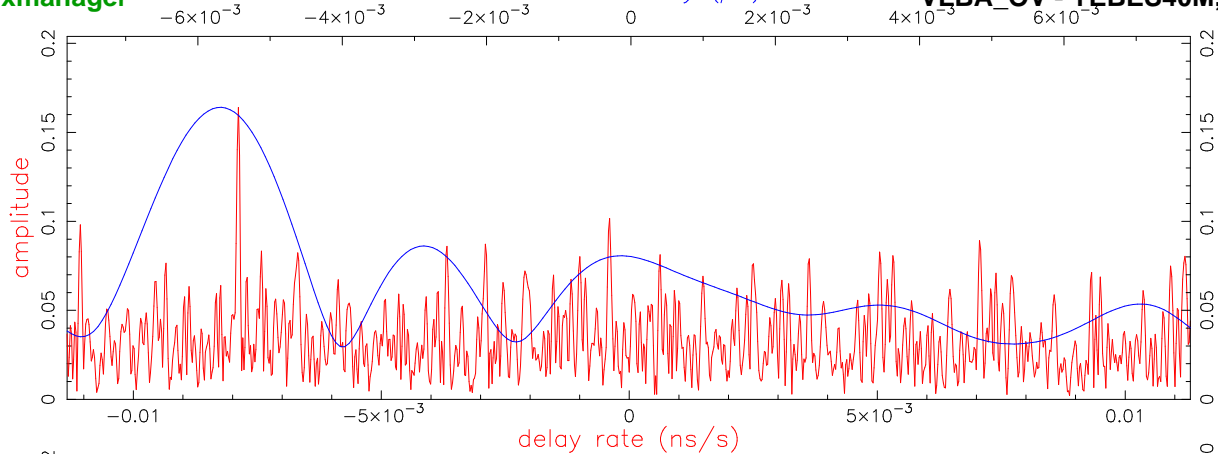
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, oY

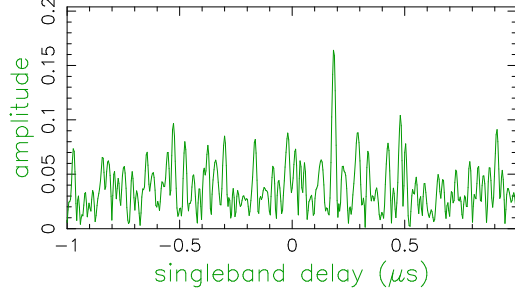
VLBA_OV - YEBES40M, fgroup W, pol LR

multiband delay (μ s)

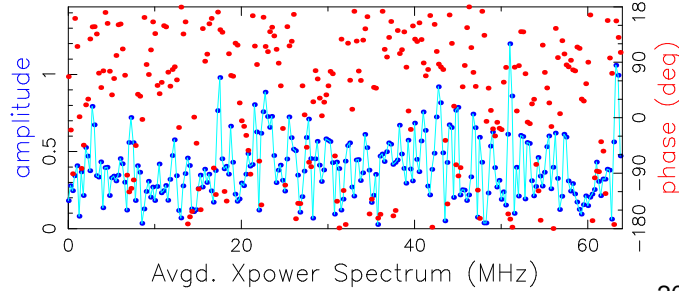


Fringe quality 0

SNR 5.8
Int time 162.059
Amp 0.204
Phase 153.2
PFD 6.4e-01
Delays (us)
SBD 0.184886
MBD -0.005668
Fringe rate (Hz)
-0.680230
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

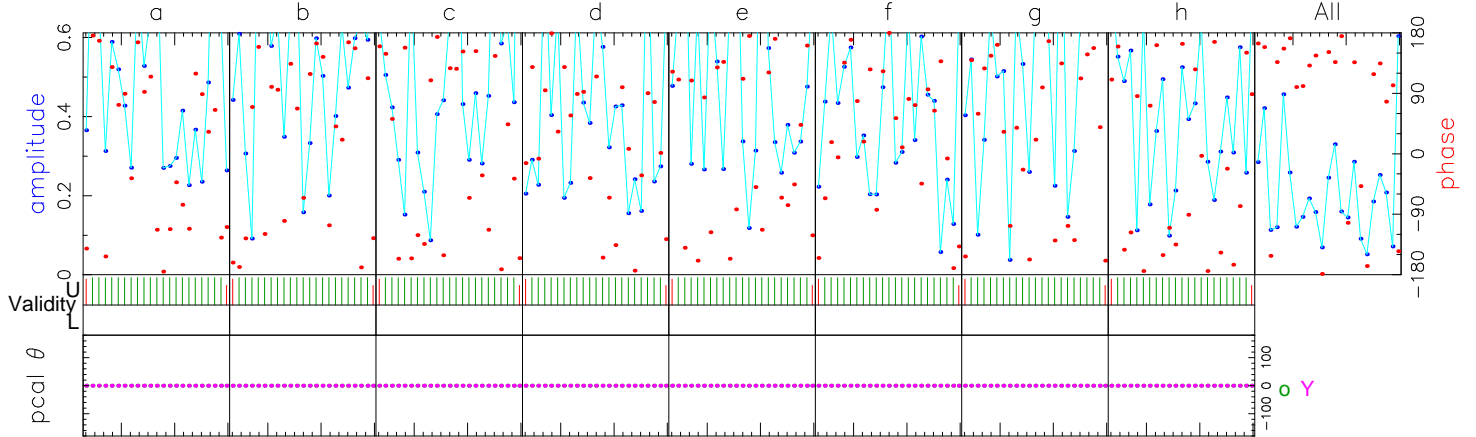


delay rate (ns/s)



Exp. c202a
Exper # 16383
Yr:day 2020:284
Start 002016.90
Stop 002300.22
FRT 002130.00
Corr/FF/build
2021:010:050910
2021:010:160016
2020:247:085004
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	151.9	154.3	167.8	95.6	-155.2	81.1	126.3	-174.2	Phase	153.2
	0.2	0.3	0.4	0.2	0.3	0.1	0.3	0.2	Ampl.	0.2
	321.8	157.0	304.5	286.9	225.8	393.1	214.0	116.0	Sbd box	304.3
U/L	319/0	319/0	319/0	319/0	319/0	319/0	319/0	319/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	7.25580526656E+03	Apriori delay (usec)	7.25562343489E+03	Resid mbdelay (usec)	-5.66832E-03	+/-	1.9E-04
Sband delay (usec)	7.25580832039E+03	Apriori clock (usec)	9.7161808E+00	Resid sbdelay (usec)	1.84886E-01	+/-	1.5E-03
Phase delay (usec)	7.25562343983E+03	Apriori clockrate (us/s)	-2.1999999E-07	Resid phdelay (usec)	4.93984E-06	+/-	6.4E-07
Delay rate (us/s)	1.52189280267E+00	Apriori rate (us/s)	1.52190069947E+00	Resid rate (us/s)	-7.89679E-06	+/-	6.8E-09
Total phase (deg)	38.4	Apriori accel (us/s/s)	-4.15839896089E-05	Resid phase (deg)	153.2	+/-	19.9

ph/seg (deg)	52.3	Theor.	47.7	Amplitude	0.204 +/- 0.035	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	81.4	Search (1024X32)	0.157	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	46.9	Inc. seg. avg.	0.193	Inc. frq. avg.	0.220	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	41.4	Inc. frq. avg.	0.220			Sample rate(MISamp/s): 128	mb window (us) -0.008 0.008
						Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
						nlags: 256	t_cohere infinite
							ion window (TEC) 0.00 0.00

o: az 78.1 el 59.7 pa -78.0 Y: az 293.9 el 32.0 pa 60.7 u,v (fr/asec) -10982.363 -2733.156 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY.W.306.1HXRW8

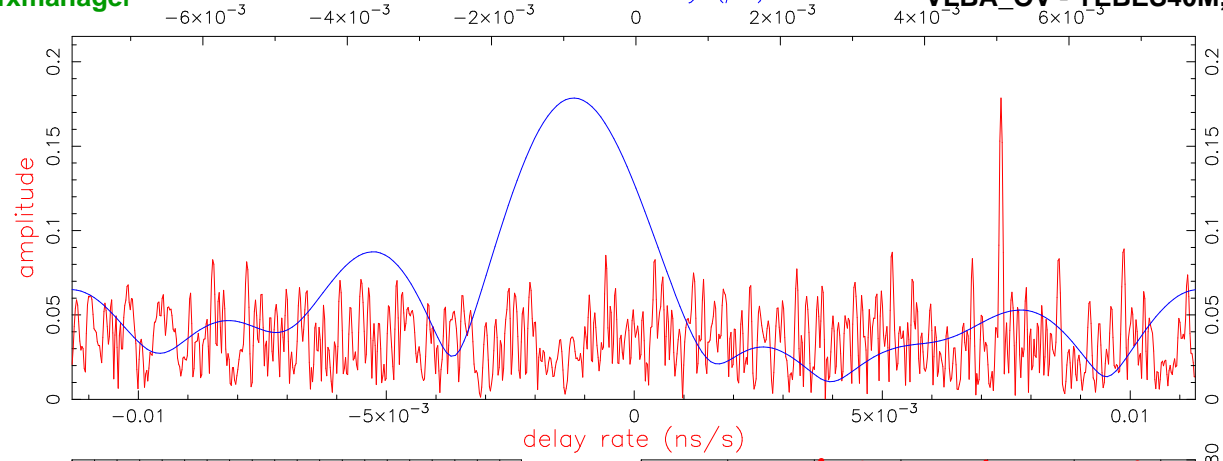
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

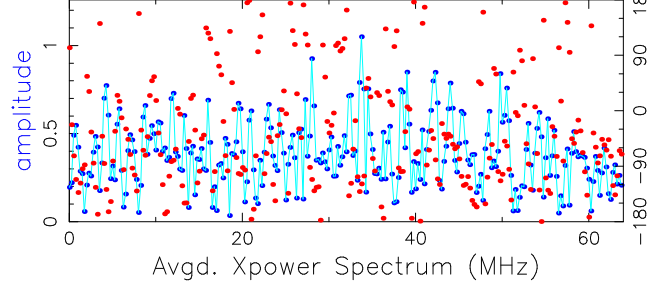
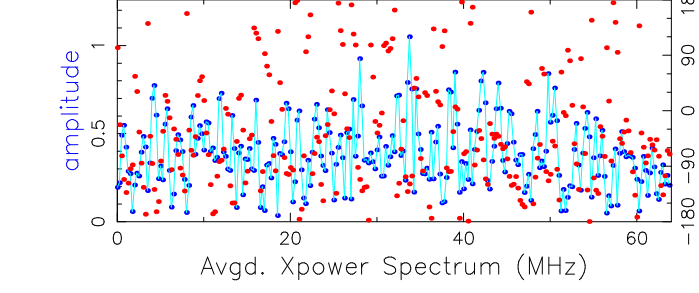
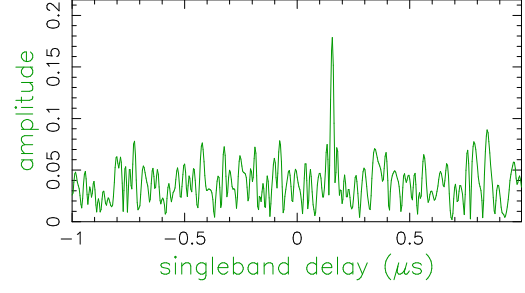
2013+370.1HXRW8, No0228, oY

VLBA_OV - YEBES40M, fgroup W, pol RL

multiband delay (μ s)

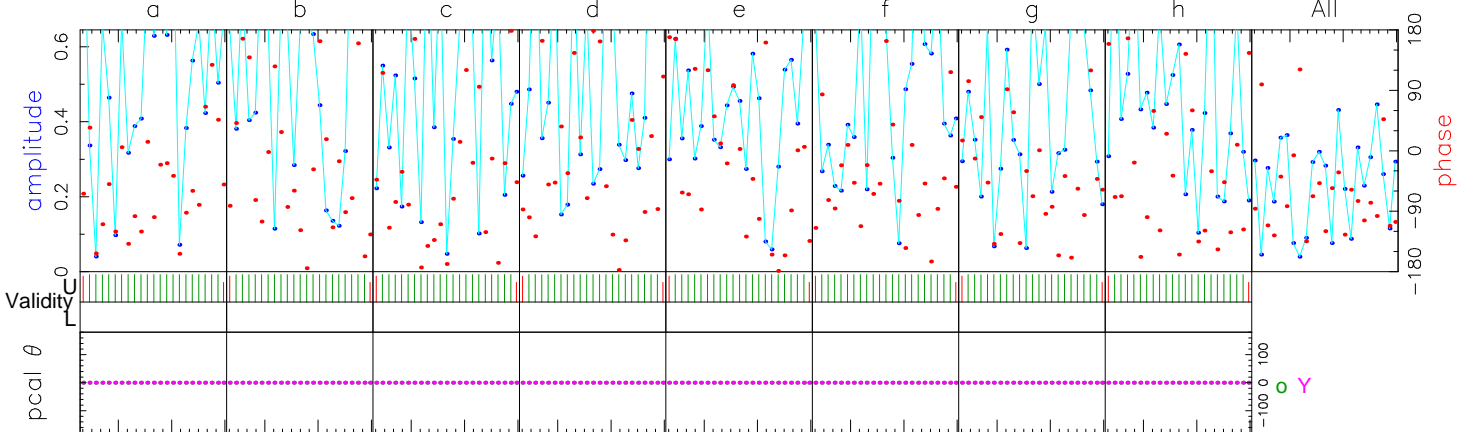


Fringe quality 0
 SNR 6.2
 Int time 162.059
 Amp 0.215
 Phase -79.1
 PFD 5.8e-02
 Delays (us)
 SBD 0.155541
 MBD -0.000882
 Fringe rate (Hz) 0.638510
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002016.90
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160018
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 14 APs / seg (7.17 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-47.4	-108.9	-110.7	-80.7	-81.9	-77.4	-63.4	-73.5	Phase	-79.1
	0.3	0.3	0.2	0.2	0.1	0.3	0.2	0.2	Ampl.	0.2
	296.1	183.0	188.5	464.1	472.6	507.9	258.6	302.6	Sbd box	296.8
U/L	319/0	319/0	319/0	319/0	319/0	319/0	319/0	319/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
o:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	7.25577880269E+03	Apriori delay (usec)		7.25562343489E+03	Resid mbdelay (usec)		-8.82197E-04	+/-	1.7E-04
Sband delay (usec)	7.25577897589E+03	Apriori clock (usec)		9.7161808E+00	Resid sbdelay (usec)		1.55541E-01	+/-	1.4E-03
Phase delay (usec)	7.25562343233E+03	Apriori clockrate (us/s)		-2.1999999E-07	Resid phdelay (usec)		-2.55156E-06	+/-	5.9E-07
Delay rate (us/s)	1.52190811193E+00	Apriori rate (us/s)		1.52190069947E+00	Resid rate (us/s)		7.41247E-06	+/-	6.3E-09
Total phase (deg)	166.0	Apriori accel (us/s/s)		-4.15839896089E-05	Resid phase (deg)		-79.1	+/-	18.4

ph/seg (deg)	65.4	Theor.	44.0	Amplitude	0.215 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	74.6	Search (1024X32)	0.177	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	23.0	Inc. seg. avg.	0.218	Inc. frq. avg.	0.209	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	36.0	Inc. frq. avg.	0.209			Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

o: az 78.1 el 59.7 pa -78.0 Y: az 293.9 el 32.0 pa 60.7 u,v (fr/asec) -10982.363 -2733.156 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/oY.W.323.1HXRW8

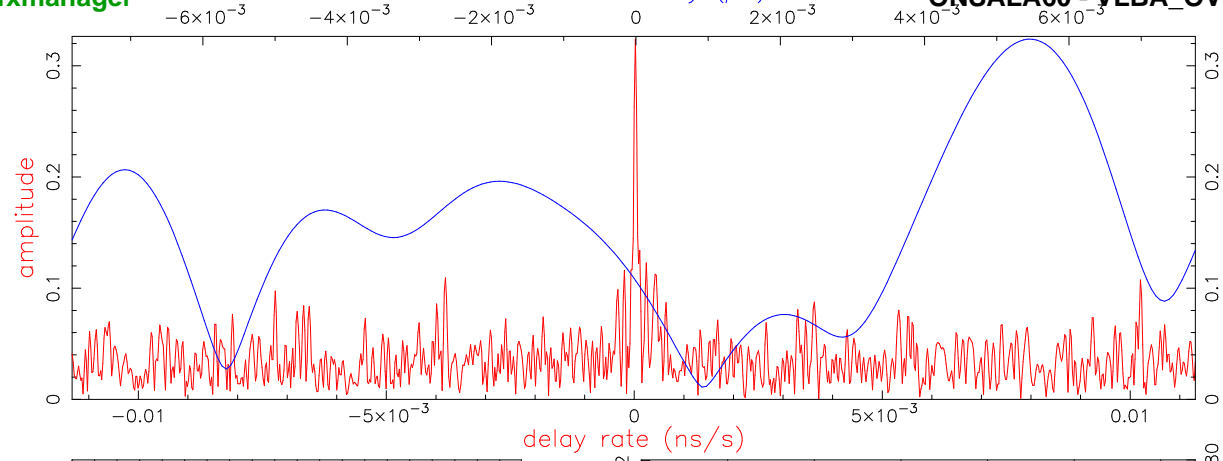
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Xo

ONSALA60 - VLBA_OV, fgroup W, pol LL

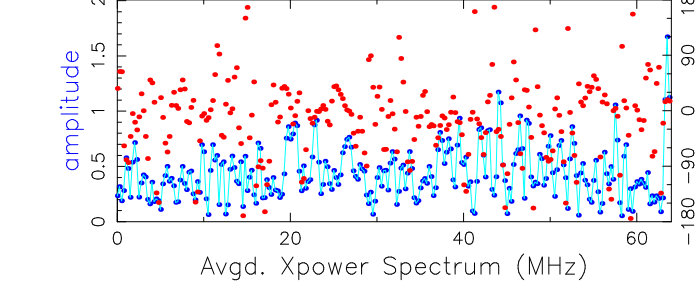
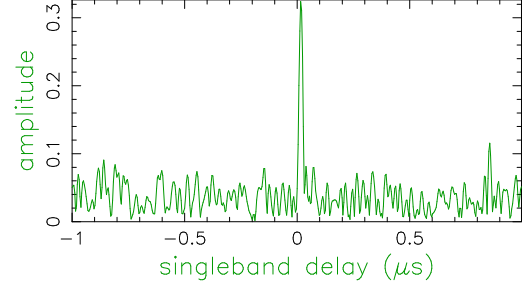
multiband delay (μ s)



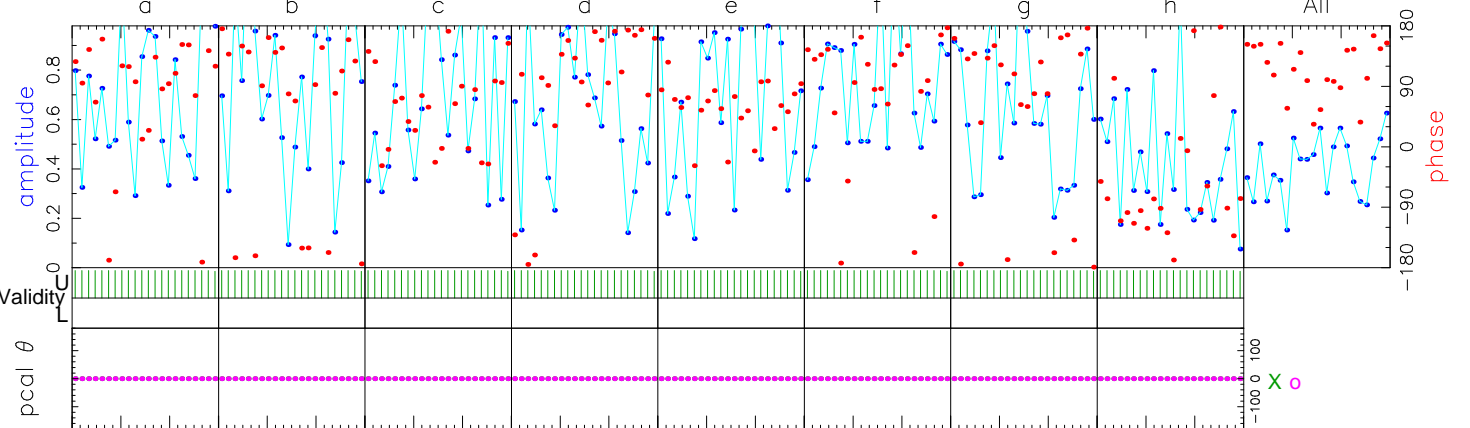
Fringe quality 9

SNR 12.0
 Int time 179.967
 Amp 0.326
 Phase 119.0
 PFD 1.2e-24
 Delays (us)
 SBD 0.016748
 MBD 0.005448
 Fringe rate (Hz) 0.002079
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build 2021:010:050910
 2021:010:160011
 2020:247:085004
 RA & Dec (J2000) 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	122.0	155.0	55.9	140.9	57.0	130.5	133.8	-90.8	Phase	119.0
X	0.4	0.6	0.4	0.5	0.6	0.5	0.5	0.2	Ampl.	0.5
o	262.0	261.4	260.3	261.5	260.9	261.7	262.0	264.0	Sbd box	261.3
X	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-7.94591305655E+03			Apriori delay (usec)	-7.94593412914E+03			Resid mbdelay (usec)	5.44758E-03	+/- 9.1E-05
Sband delay (usec)	-7.94591738164E+03			Apriori clock (usec)	2.6920425E+01			Resid sbdelay (usec)	1.67475E-02	+/- 7.2E-04
Phase delay (usec)	-7.94593412530E+03			Apriori clockrate (us/s)	6.2800004E-07			Resid phdelay (usec)	3.83596E-06	+/- 3.1E-07
Delay rate (us/s)	-1.27121210499E+00			Apriori rate (us/s)	-1.27121212913E+00			Resid rate (us/s)	2.41335E-08	+/- 3.0E-09
Total phase (deg)		-199.2		Apriori accel (us/s/s)	5.8620597777E-05			Resid phase (deg)	119.0	+/- 9.6

ph/seg (deg) 39.8 22.4 Search (1024X32) 0.323 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 44.9 39.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 73.6 13.5 Inc. seg. avg. 0.381 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 54.4 23.6 Inc. frq. avg. 0.451 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 X: az 293.7 el 29.7 pa 38.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 9194.493 5121.835 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo.W.257.1HXRW8

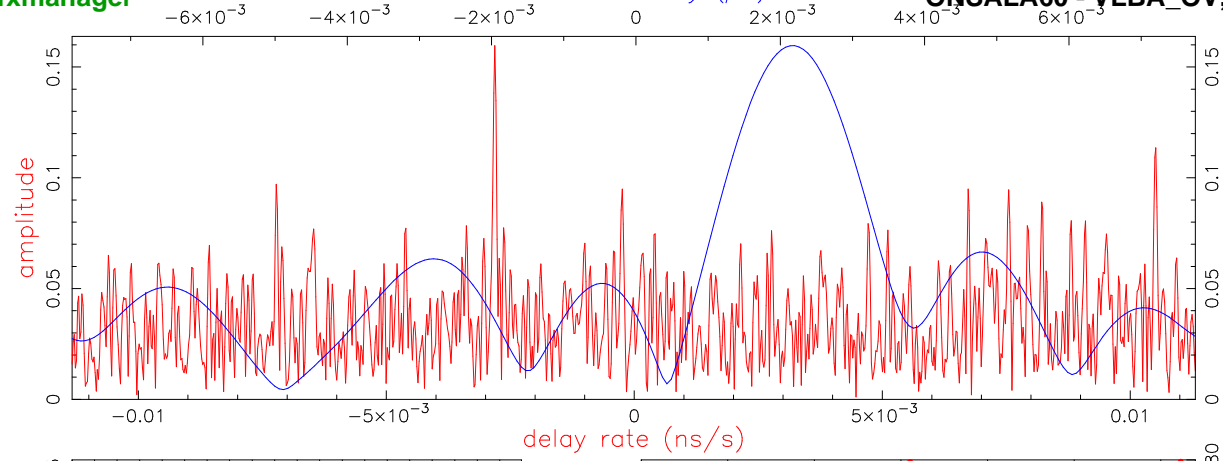
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Xo

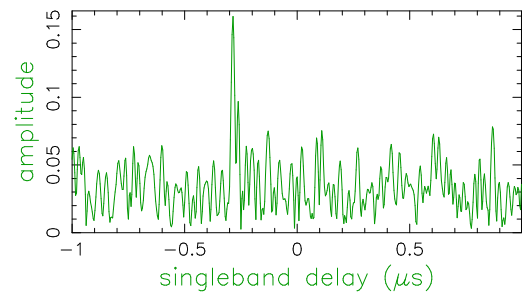
ONSALA60 - VLBA_OV, fgroup W, pol LR

multiband delay (μ s)

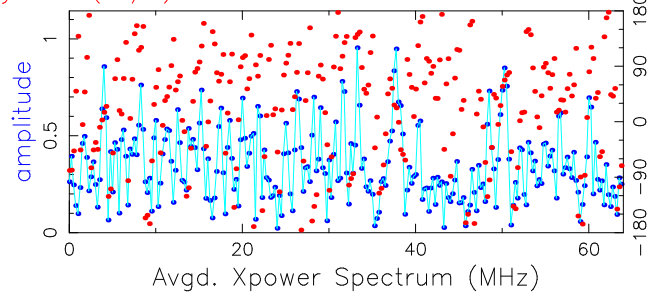


Fringe quality 0

SNR 5.9
 Int time 179.967
 Amp 0.164
 Phase -2.4
 PFD 4.5e-01
 Delays (us)
 SBD -0.285249
 MBD 0.002169
 Fringe rate (Hz)
 -0.242479
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

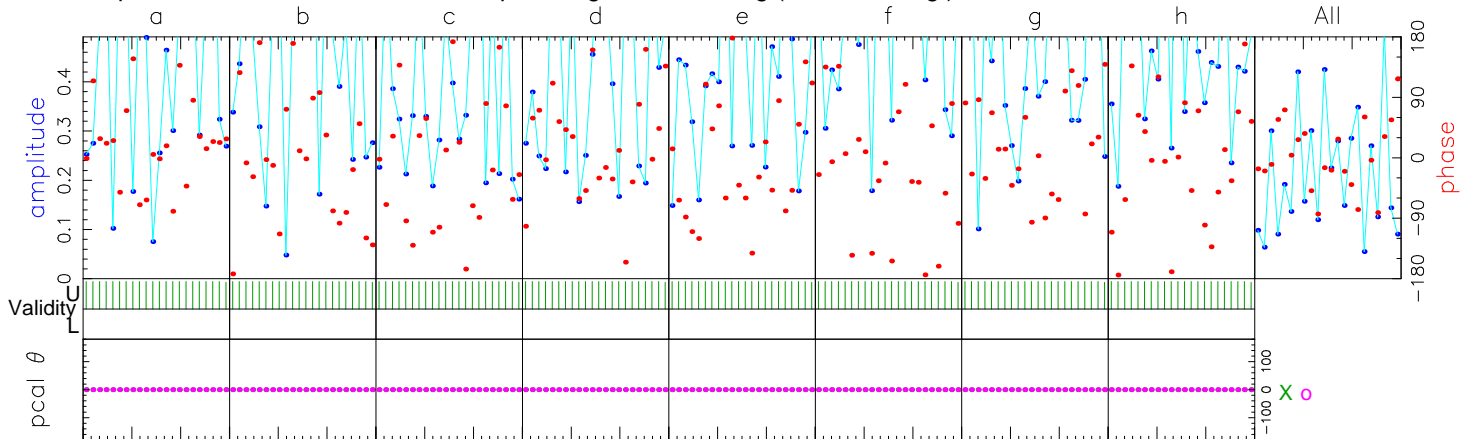


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160015
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	11.7	-10.2	-33.5	22.3	-44.6	-2.4	0.1	14.6	Phase	-2.4
	0.3	0.1	0.1	0.2	0.2	0.1	0.2	0.2	Ampl.	0.2
	257.2	501.4	48.9	160.1	458.6	207.6	182.3	465.6	Sbd box	184.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.94621321035E+03		Apriori delay (usec)		-7.94593412914E+03		Resid mbdelay (usec)		2.16879E-03	+/- 1.9E-04
Sband delay (usec)	-7.94621937789E+03		Apriori clock (usec)		2.6920425E+01		Resid sbdelay (usec)		-2.85249E-01	+/- 1.5E-03
Phase delay (usec)	-7.94593412921E+03		Apriori clockrate (us/s)		6.2800004E-07		Resid phdelay (usec)		-7.85152E-08	+/- 6.3E-07
Delay rate (us/s)	-1.27121494407E+00		Apriori rate (us/s)		-1.27121212913E+00		Resid rate (us/s)		-2.81494E-06	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		5.86205977777E-05		Resid phase (deg)		-2.4	+/- 19.6

ph/seg (deg) 51.4 45.9 Theor. Amplitude 0.164 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 86.4 80.1 Search (1024X32) 0.158 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 25.5 27.7 Inc. seg. avg. 0.169 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 32.4 48.3 Inc. frq. avg. 0.157 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 X: az 293.7 el 29.7 pa 38.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 9194.493 5121.835 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo.W.290.1HXRW8

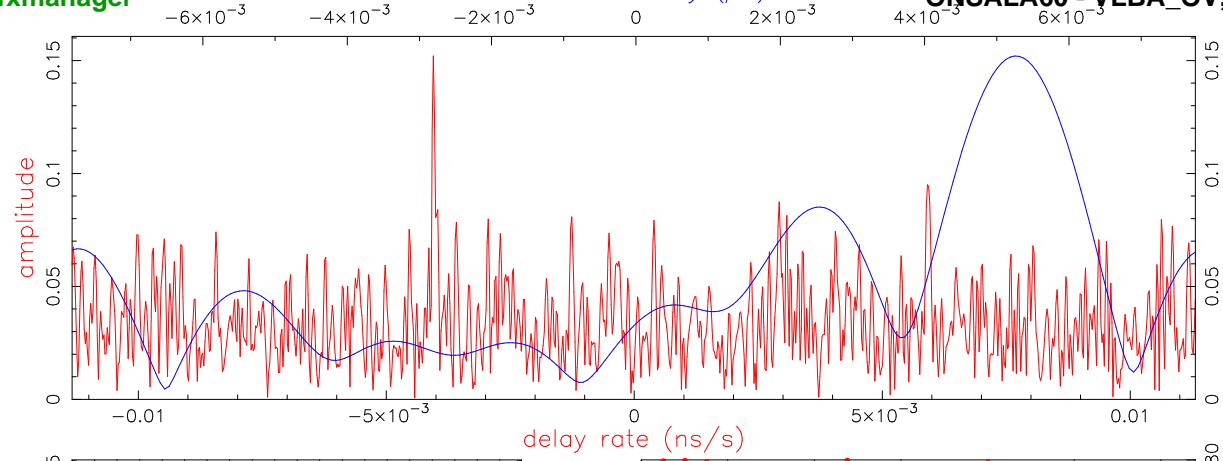
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

2013+370.1HXRW8, No0228, Xo

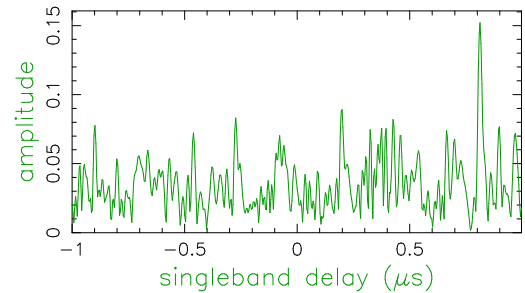
ONSALA60 - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

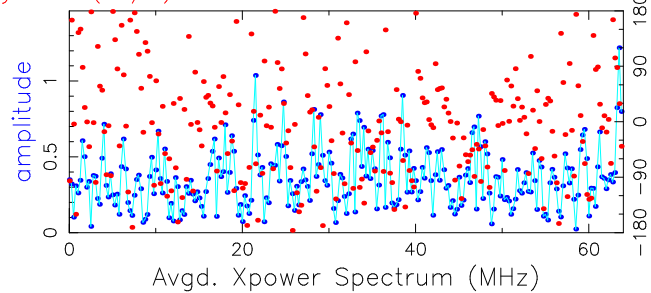


Fringe quality 0

SNR 5.6
 Int time 179.967
 Amp 0.161
 Phase -86.6
 PFD 9.4e-01
 Delays (us)
 SBD 0.811792
 MBD 0.005239
 Fringe rate (Hz)
 -0.349312
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

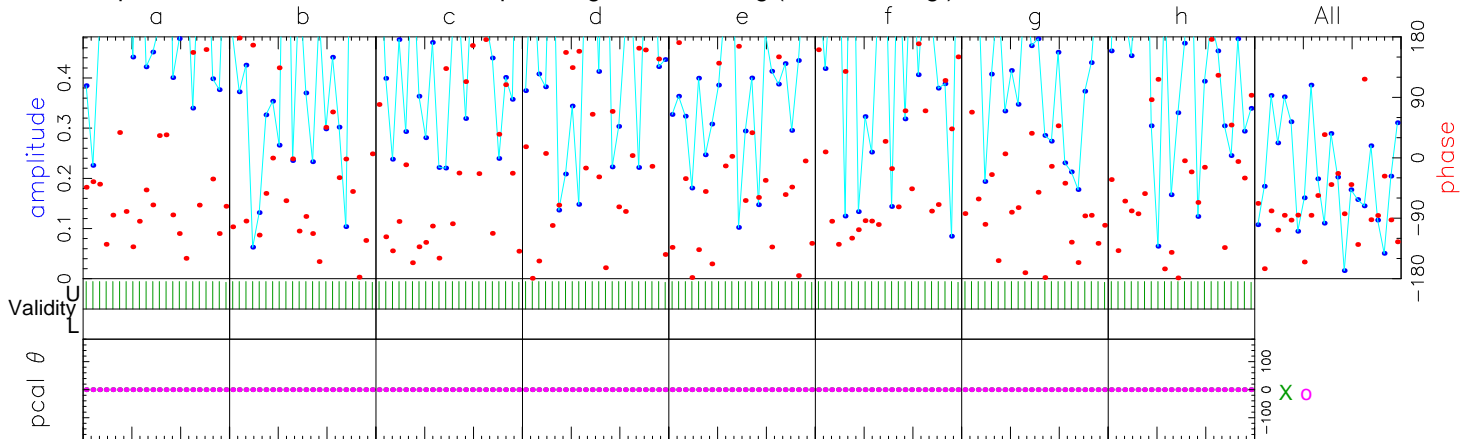


delay rate (ns/s)



Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160016
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-74.3	-81.4	-130.0	-116.3	-75.1	-101.7	-79.8	-70.2	Phase	-86.6
	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.2	Ampl.	0.2
	464.7	241.3	488.7	94.0	234.2	354.1	352.6	191.5	Sbd box	464.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-7.94511638978E+03	Apriori delay (usec)	-7.94593412914E+03	Resid mbdelay (usec)	5.23935E-03	+/-	1.9E-04
Sband delay (usec)	-7.94512233689E+03	Apriori clock (usec)	2.6920425E+01	Resid sbdelay (usec)	8.11792E-01	+/-	1.5E-03
Phase delay (usec)	-7.94593413193E+03	Apriori clockrate (us/s)	6.2800004E-07	Resid phdelay (usec)	-2.79146E-06	+/-	6.6E-07
Delay rate (us/s)	-1.27121618429E+00	Apriori rate (us/s)	-1.27121212913E+00	Resid rate (us/s)	-4.05517E-06	+/-	6.4E-09
Total phase (deg)	-44.7	Apriori accel (us/s/s)	5.8620597777E-05	Resid phase (deg)	-86.6	+/-	20.5

ph/seg (deg)	55.2	Theor.	48.1	Amplitude	0.161 +/- 0.029	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	74.9	Search (1024X32)	0.147	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	24.5	Inc. seg. avg.	0.159	Inc. frq. avg.	0.150	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	42.1	Inc. frq. avg.	0.150			Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011	
						Data rate(Mb/s):	2048	ion window (TEC)	0.00 0.00	
						nlags:	256	t_cohere	infinite	

X: az 293.7 el 29.7 pa 38.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 9194.493 5121.835 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Xo.W.305.1HXRW8

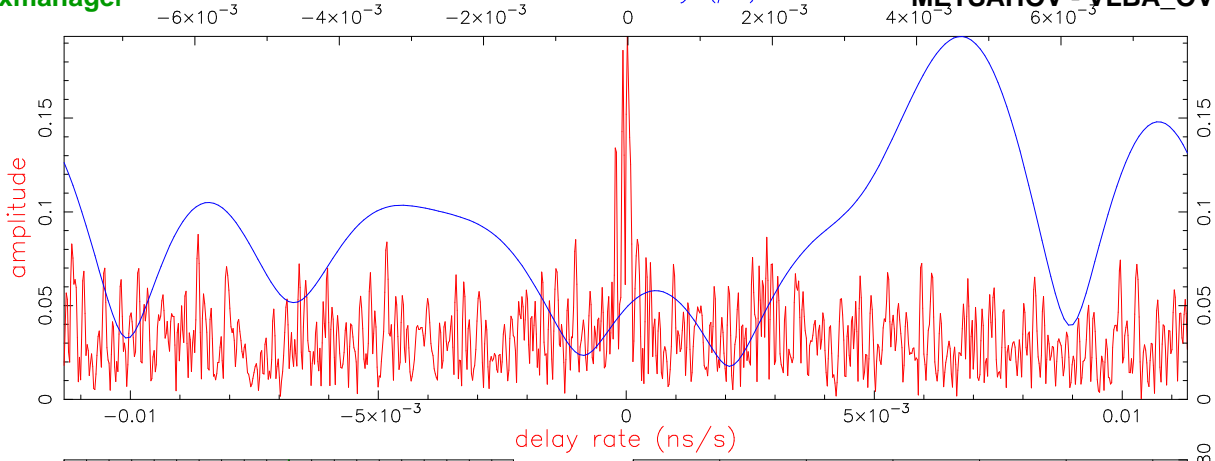
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

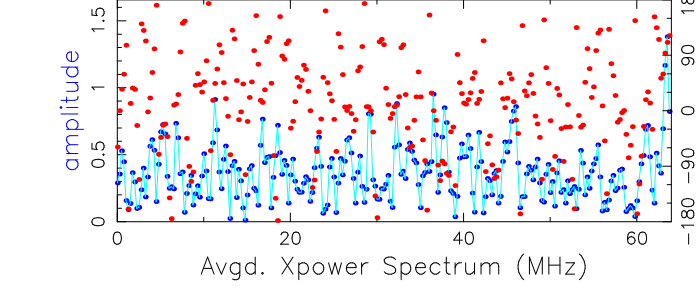
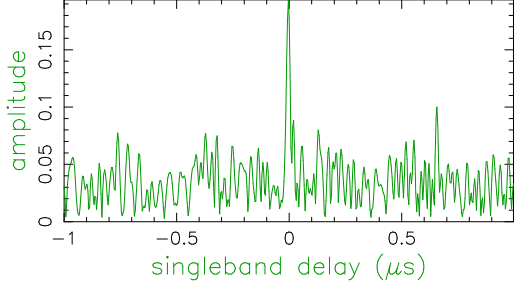
2013+370.1HXRW8, No0228, Zo

MEṬSAHOV - VLBA_OV, fgroup W, pol LL

multiband delay (μ s)

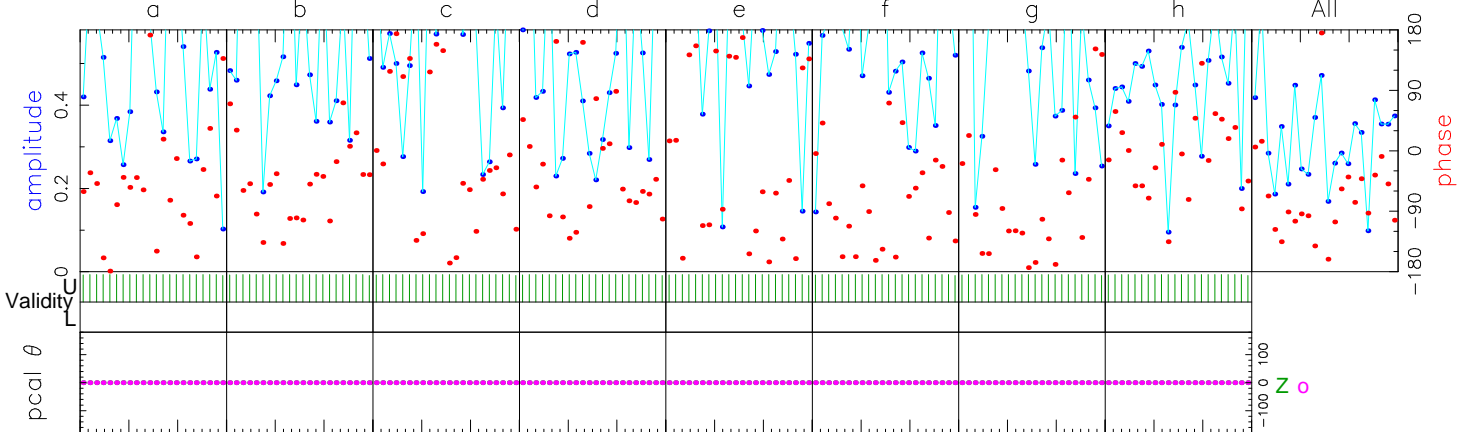


Fringe quality 0
 SNR 7.1
 Int time 179.709
 Amp 0.194
 Phase -73.9
 PFD 1.9e-04
 Delays (us)
 SBD -0.003689
 MBD 0.004613
 Fringe rate (Hz) 0.002714
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160020
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-62.0	-48.8	-139.6	-61.7	-162.5	-100.0	-94.4	-1.3	Phase	-73.9
	0.3	0.4	0.1	0.3	0.2	0.3	0.3	0.3	Ampl.	0.2
	256.2	255.5	318.0	256.6	270.7	256.3	256.9	256.1	Sbd box	256.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -9.44759342007E+03 Apriori delay (usec) -9.44758240762E+03 Resid mbdelay (usec) 4.61255E-03 +/- 1.5E-04
 Sband delay (usec) -9.44758609687E+03 Apriori clock (usec) -2.1252373E+01 Resid sbdelay (usec) -3.68925E-03 +/- 1.2E-03
 Phase delay (usec) -9.44758241000E+03 Apriori clockrate (us/s) 1.1600001E-07 Resid phdelay (usec) -2.38164E-06 +/- 5.2E-07
 Delay rate (us/s) -1.19936137010E+00 Apriori rate (us/s) -1.19936140161E+00 Resid rate (us/s) 3.15096E-08 +/- 5.0E-09
 Total phase (deg) -287.1 Apriori accel (us/s/s) 6.80974396050E-05 Resid phase (deg) -73.9 +/- 16.1

ph/seg (deg) 51.1 37.9 Search (1024X32) 0.183 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 90.4 66.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 57.0 22.8 Inc. seg. avg. 0.266 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 51.9 39.9 Inc. frq. avg. 0.250 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 Z: az 301.5 el 25.3 pa 32.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 8685.139 5871.504 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo.W.330.1HXRW8

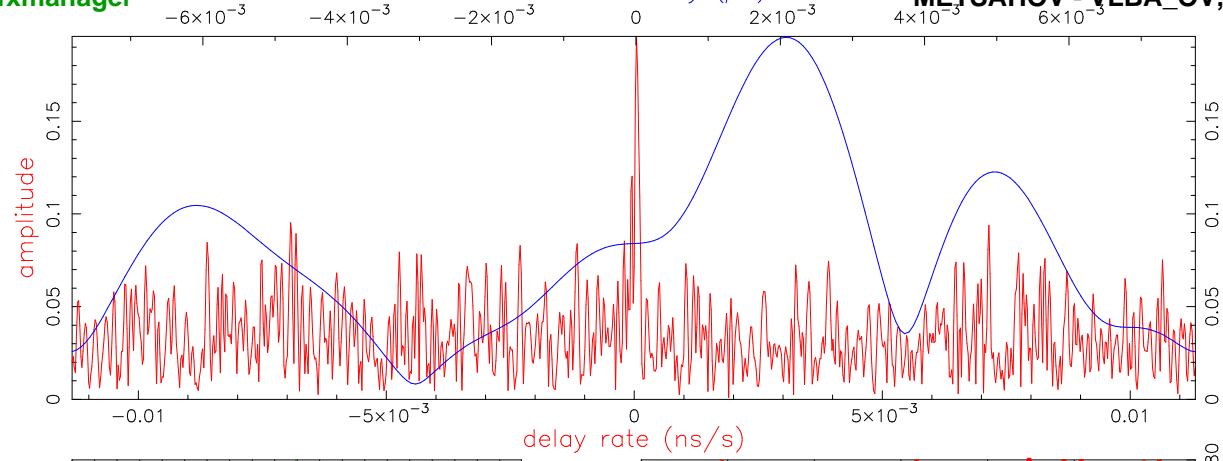
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

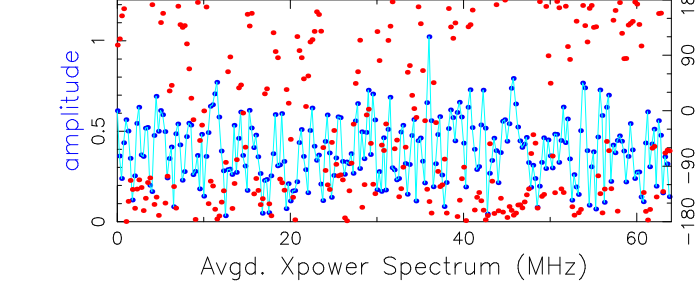
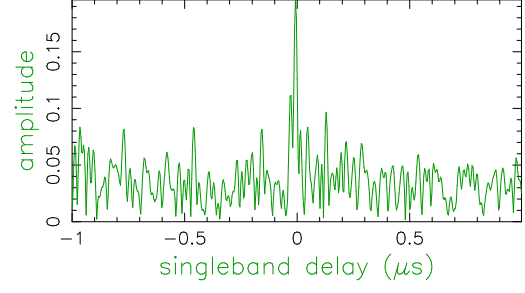
2013+370.1HXRW8, No0228, Zo

METSAHOV - VLBA_OV, fgroup W, pol RR

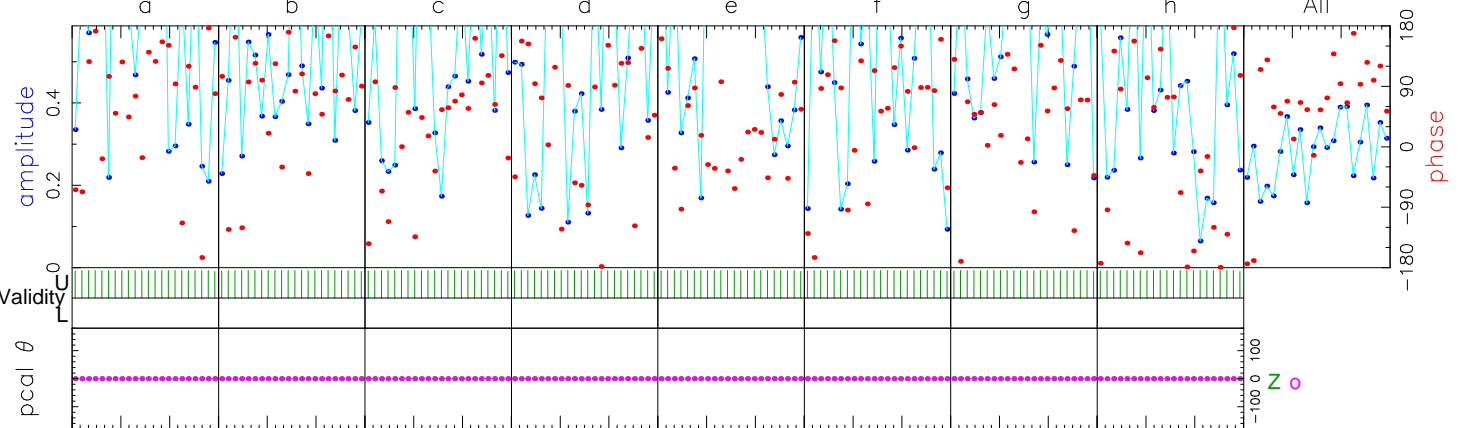
multiband delay (μ s)



Fringe quality 0
 SNR 7.2
 Int time 179.709
 Amp 0.196
 Phase 88.1
 PFD 1.1e-04
 Delays (us)
 SBD -0.007220
 MBD 0.002088
 Fringe rate (Hz) 0.003230
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160022
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-9.44759594443E+03									
Sband delay (usec)	-9.44758962737E+03									
Phase delay (usec)	-9.44758240478E+03									
Delay rate (us/s)	-1.19936136410E+00									
Total phase (deg)			-125.2							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)									88.1	+/- 16.0
Pcal mode:	MANUAL	MANUAL								
Pcal rate:	0.000E+00	0.000E+00								
Bits/sample:	2x2									
Sample rate(MISamp/s):	128									
Data rate(Mb/s):	2048									
PC period (AP's)	5	5								
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								

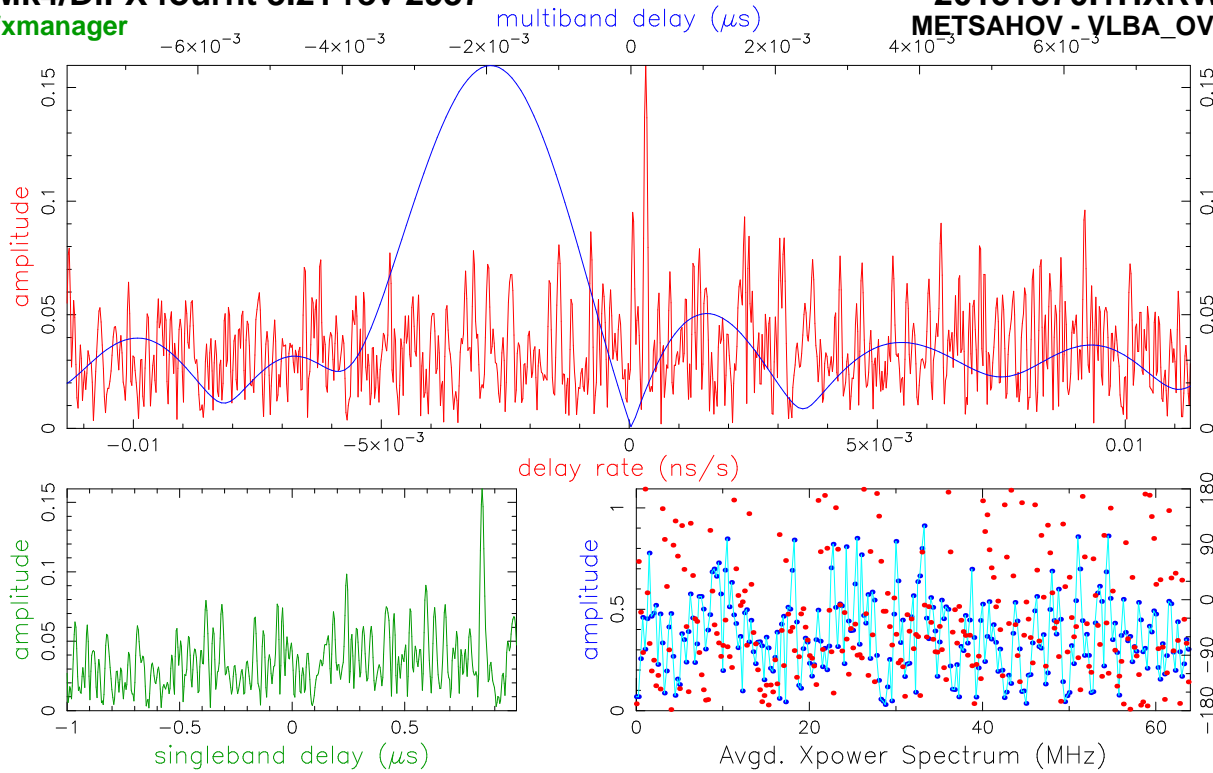
ph/seg (deg) 51.1 37.4 Search (1024X32) 0.191 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 58.7 65.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 46.8 22.6 Inc. seg. avg. 0.234 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 40.8 39.4 Inc. frq. avg. 0.235 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 Z: az 301.5 el 25.3 pa 32.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 8685.139 5871.504 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo.W.340.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

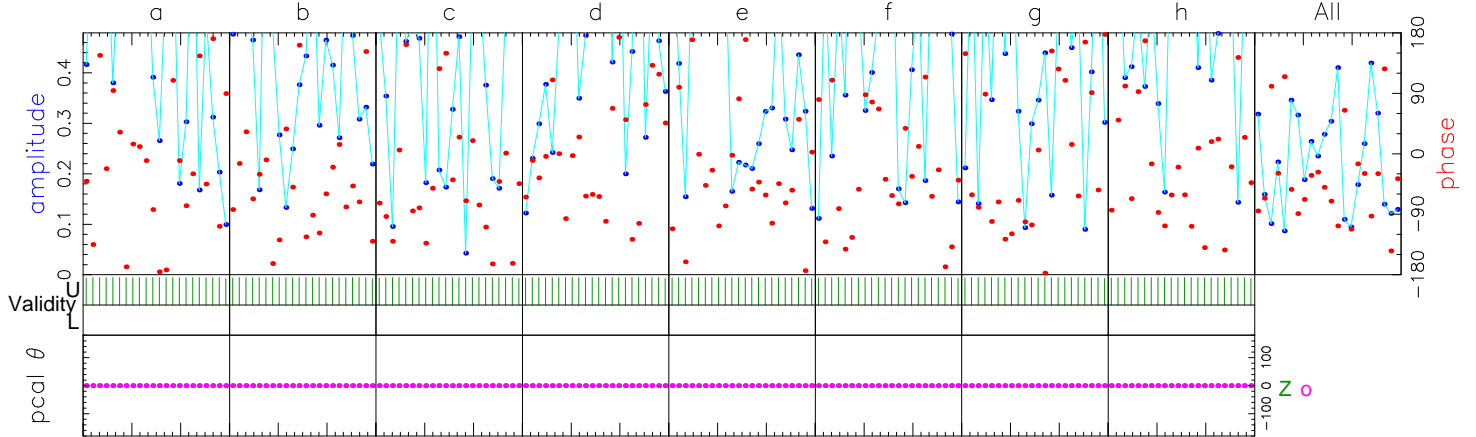
2013+370.1HXRW8, No0228, Zo

METSAHOV - VLBA_OV, fgroup W, pol LR



Fringe quality 0
 SNR 5.9
 Int time 179.709
 Amp 0.160
 Phase -61.0
 PFD 4.5e-01
 Delays (us)
 SBD 0.843590
 MBD -0.001954
 Fringe rate (Hz)
 0.028998
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160024
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-37.8	-64.6	-60.1	-60.5	-65.2	-70.5	-94.1	-40.0	Phase	-61.0
	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.2	Ampl.	0.1
	72.8	473.3	452.9	9.2	283.4	131.4	304.6	498.8	Sbd box	473.0
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	

Group delay (usec)(sbd) -9.44674061125E+03 Apriori delay (usec) -9.44758240762E+03 Resid mbdelay (usec) -1.95363E-03 +/- 1.9E-04
 Sband delay (usec) -9.44673881737E+03 Apriori clock (usec) -2.1252373E+01 Resid sbdelay (usec) 8.43590E-01 +/- 1.5E-03
 Phase delay (usec) -9.44758240959E+03 Apriori clockrate (us/s) 1.1600001E-07 Resid phdelay (usec) -1.96857E-06 +/- 6.3E-07
 Delay rate (us/s) -1.19936106497E+00 Apriori rate (us/s) -1.19936140161E+00 Resid rate (us/s) 3.36640E-07 +/- 6.1E-09
 Total phase (deg) -274.3 Apriori accel (us/s/s) 6.80974396050E-05 Resid phase (deg) -61.0 +/- 19.6

RMS Theor. Amplitude 0.160 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 75.3 45.9 Search (1024X32) 0.158 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 76.2 80.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 19.1 27.7 Inc. seg. avg. 0.172 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 32.5 48.3 Inc. frq. avg. 0.148 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

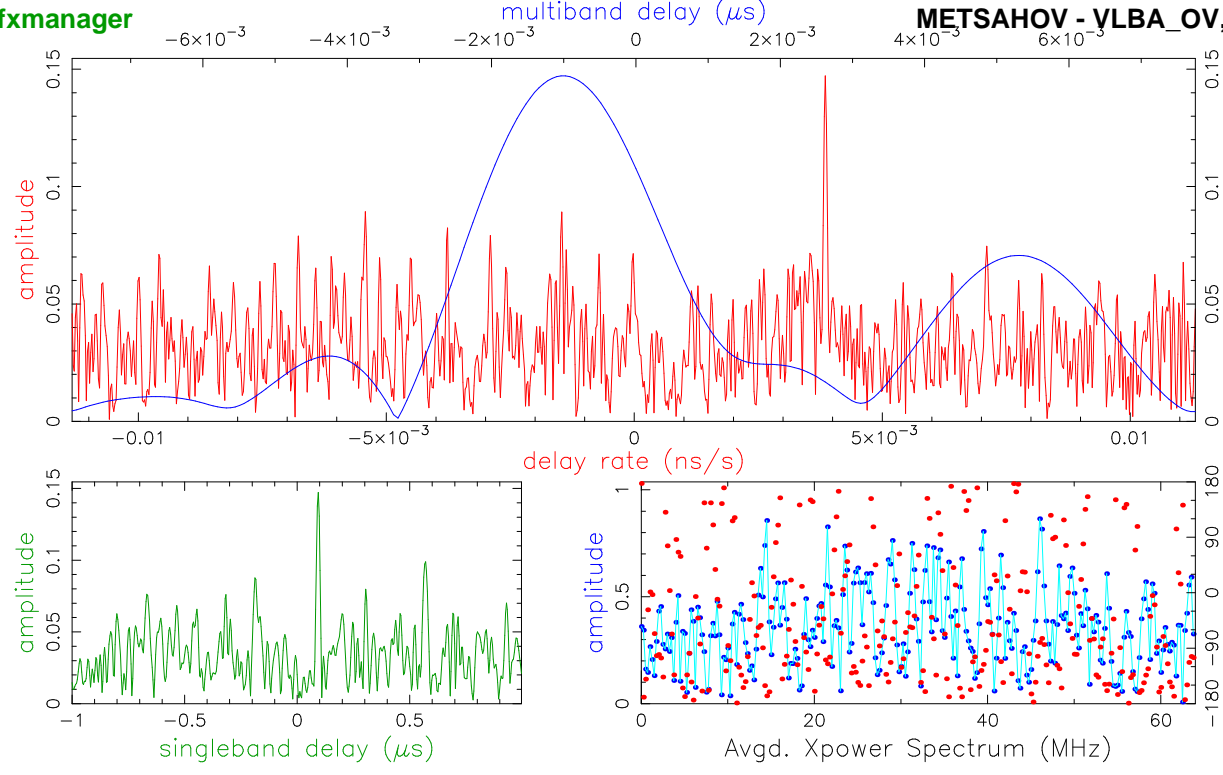
Z: az 301.5 el 25.3 pa 32.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 8685.139 5871.504 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo.W.350.1HXRW8

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

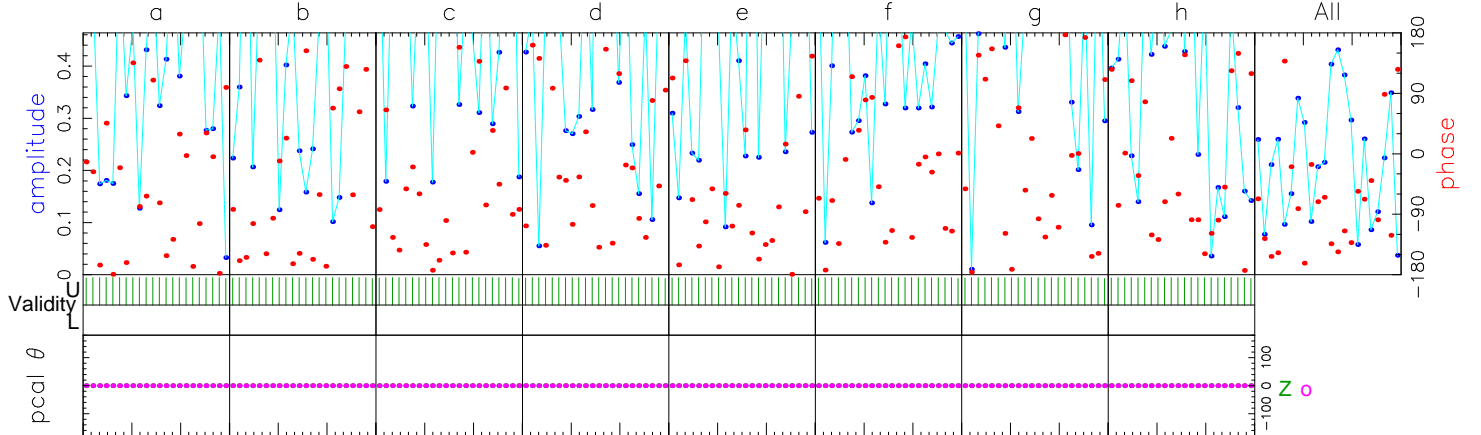
2013+370.1HXRW8, No0228, Zo

METSAHOV - VLBA_OV, fgroup W, pol RL



Fringe quality 0
 SNR 5.4
 Int time 179.709
 Amp 0.155
 Phase -113.0
 PFD 1.0e+00
 Delays (us)
 SBD 0.093240
 MBD -0.001027
 Fringe rate (Hz)
 0.331576
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c202a
 Exper # 16383
 Yr:day 2020:284
 Start 002000.00
 Stop 002300.22
 FRT 002130.00
 Corr/FF/build
 2021:010:050910
 2021:010:160025
 2020:247:085004
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-80.4	-148.6	-107.5	-105.5	-116.3	-77.0	-143.2	-109.8	Phase	-113.0
	0.1	0.2	0.3	0.1	0.3	0.2	0.1	0.1	Ampl.	0.1
	404.8	24.2	86.3	370.4	433.8	319.9	271.1	50.4	Sbd box	280.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-9.44748968498E+03		Apriori delay (usec)		-9.44758240762E+03		Resid mbdelay (usec)		-1.02736E-03	+/- 2.0E-04
Sband delay (usec)	-9.44748916787E+03		Apriori clock (usec)		-2.1252373E+01		Resid sbdelay (usec)		9.32397E-02	+/- 1.6E-03
Phase delay (usec)	-9.44758241126E+03		Apriori clockrate (us/s)		1.1600001E-07		Resid phdelay (usec)		-3.64250E-06	+/- 6.8E-07
Delay rate (us/s)	-1.19935755234E+00		Apriori rate (us/s)		-1.19936140161E+00		Resid rate (us/s)		3.84927E-06	+/- 6.6E-09
Total phase (deg)			Apriori accel (us/s/s)		6.80974396050E-05		Resid phase (deg)		-113.0	+/- 21.2

ph/seg (deg) 65.7 49.7 Search (1024X32) 0.145 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 92.9 86.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 27.8 30.0 Inc. seg. avg. 0.169 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 46.7 52.3 Inc. frq. avg. 0.147 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 Z: az 301.5 el 25.3 pa 32.2 o: az 78.1 el 59.7 pa -78.0 u,v (fr/asec) 8685.139 5871.504 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo..1HXRW8 Output file: /Exps/c202a/v1/v1_3mm/1234/No0228/Zo.W.358.1HXRW8