

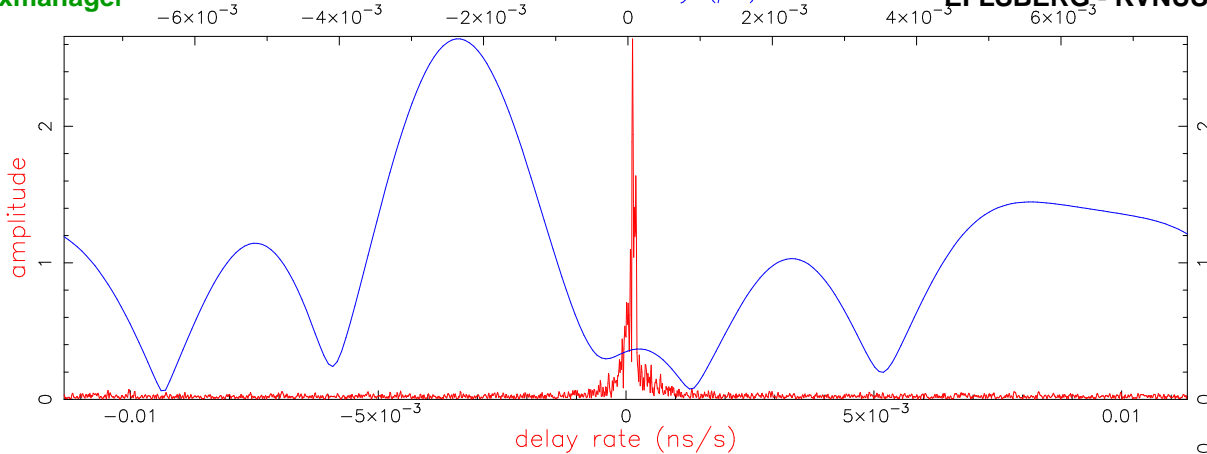
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, Bu

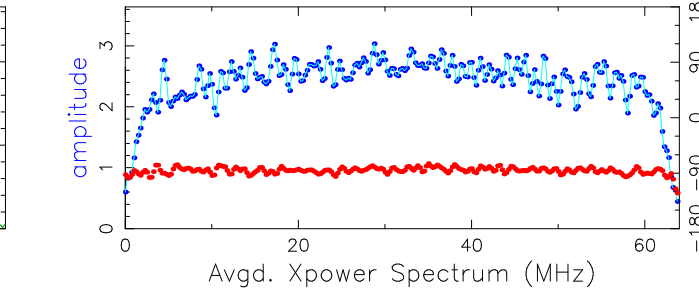
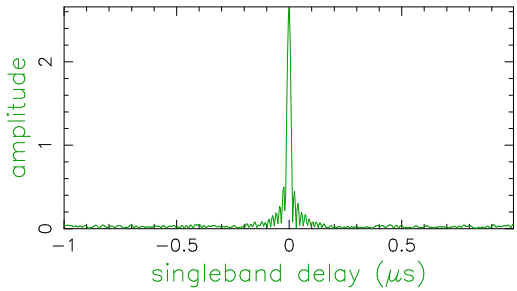
EFLSBERG<sub>3</sub>- KVNUS, fgroup W, pol RR

multiband delay ( $\mu$ s)



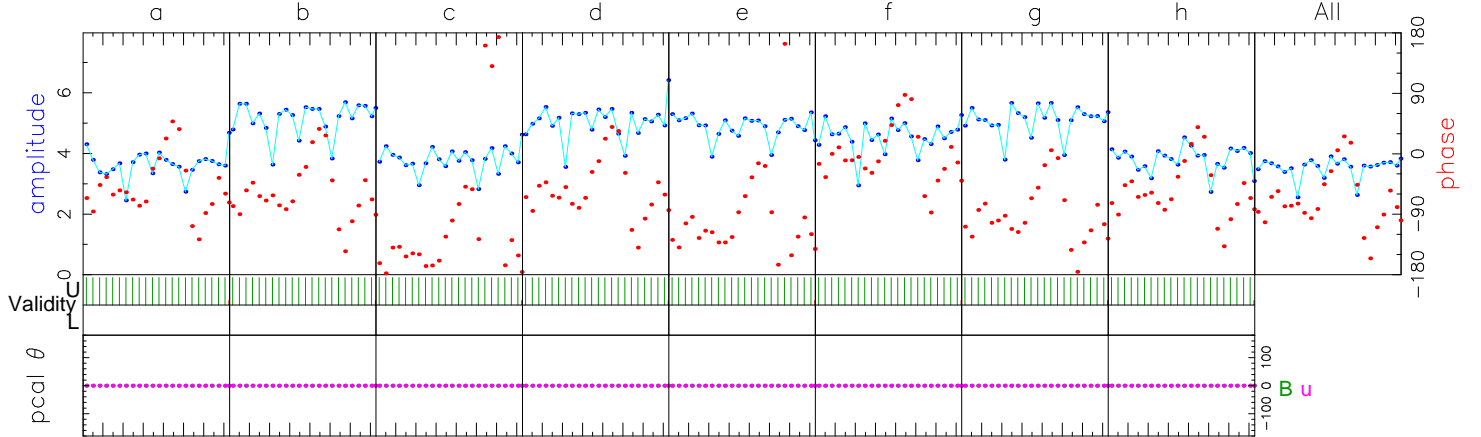
Fringe quality 3

SNR 149.0  
 Int time 419.817  
 Amp 2.659  
 Phase -70.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001089  
 MBD -0.002383  
 Fringe rate (Hz)  
 0.011084  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051045  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-52.1	-59.6	-146.4	-54.2	-110.3	-2.6	-92.4	-55.6	Phase	-70.3
	2.7	3.9	2.8	3.8	3.7	3.4	3.8	2.9	Ampl.	3.4
	255.0	256.8	257.4	257.4	257.8	257.4	257.3	255.9	Sbd box	256.7
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:u	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	
u	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	3.68725565750E+03		Apriori delay (usec)		3.68725804072E+03		Resid mbdelay (usec)		-2.38323E-03	+/- 7.3E-06
Sband delay (usec)	3.68725695172E+03		Apriori clock (usec)		-3.6558311E+01		Resid sbdelay (usec)		-1.08900E-03	+/- 5.8E-05
Phase delay (usec)	3.68725803846E+03		Apriori clockrate (us/s)		-1.1270000E-06		Resid phdelay (usec)		-2.26832E-06	+/- 2.5E-08
Delay rate (us/s)	1.45920981009E+00		Apriori rate (us/s)		1.45920968141E+00		Resid rate (us/s)		1.28678E-07	+/- 1.0E-10
Total phase (deg)	155.7		Apriori accel (us/s/s)		-5.29962857591E-06		Resid phase (deg)		-70.3	+/- 0.8

ph/seg (deg) 43.1 1.8 Search (2048X32) 2.513 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 34.8 3.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 47.2 1.1 Inc. seg. avg. 3.522 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 31.6 1.9 Inc. frq. avg. 3.374 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 80.1 el 51.8 pa -57.9 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) -11319.130 1035.079 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/Bu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/Bu.W.25.1W6KVZ

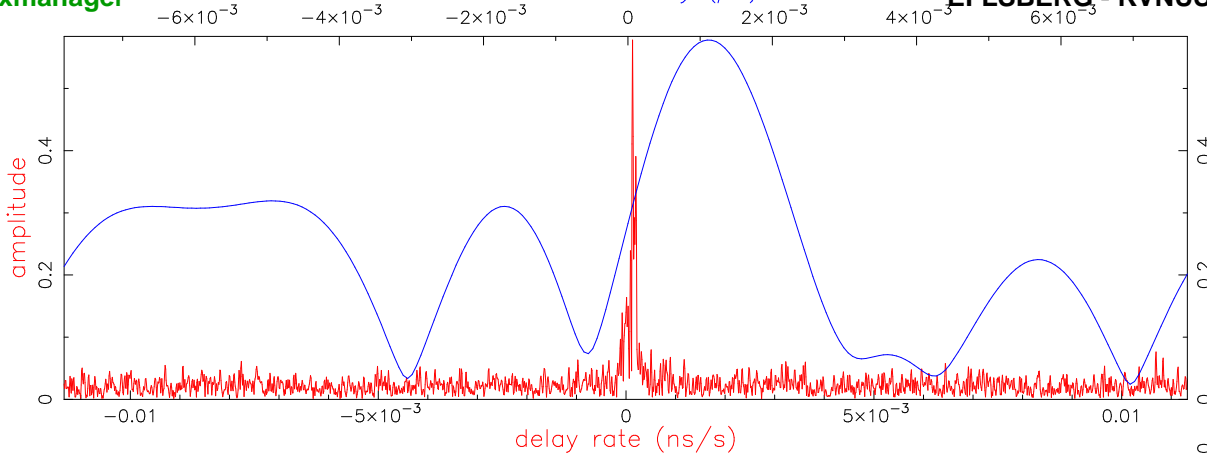
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, Bu

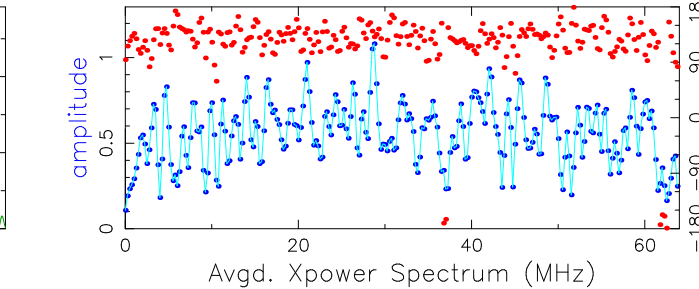
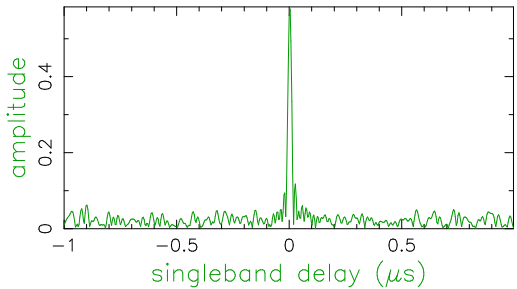
EFLSBERG - KVNUS, fgroup W, pol LR

multiband delay ( $\mu$ s)



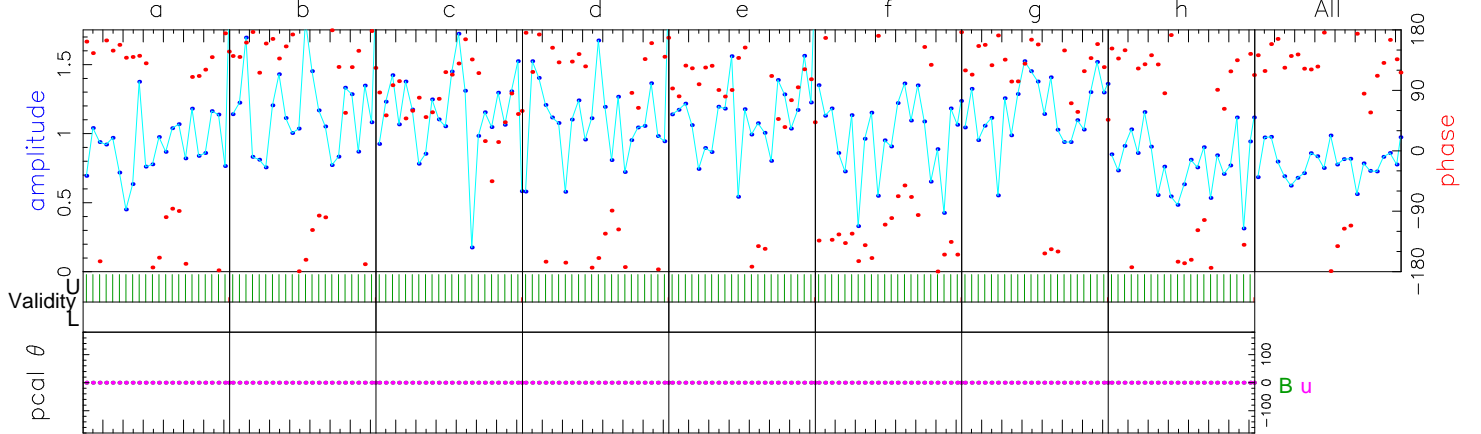
Fringe quality 5

SNR 32.7  
 Int time 419.817  
 Amp 0.584  
 Phase 147.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.002609  
 MBD 0.001087  
 Fringe rate (Hz)  
 0.011105  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051049  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
B	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000		
B:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:u	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		
u	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)		3.68725912765E+03				3.68725804072E+03			1.08693E-03	+/- 3.3E-05
Sband delay (usec)		3.68726064997E+03				-3.6558311E+01			2.60925E-03	+/- 2.6E-04
Phase delay (usec)		3.68725804547E+03				-1.1270000E-06			4.74889E-06	+/- 1.1E-07
Delay rate (us/s)		1.45920981033E+00				1.45920968141E+00			1.28917E-07	+/- 4.7E-10
Total phase (deg)			13.3			-5.29962857591E-06			147.3	+/- 3.5
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)										
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) 45.2 8.4 Search (2048X32) 0.550 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 39.1 14.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 48.5 5.0 Inc. seg. avg. 0.777 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 35.7 8.6 Inc. frq. avg. 0.759 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 80.1 el 51.8 pa -57.9 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) -11319.130 1035.079 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/Bu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/Bu.W.43.1W6KVZ

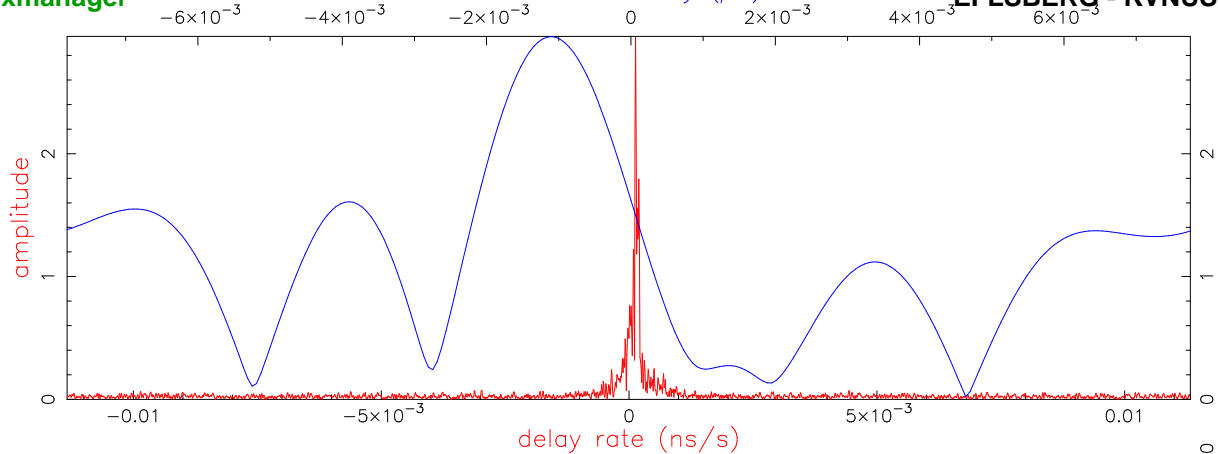
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, Bu

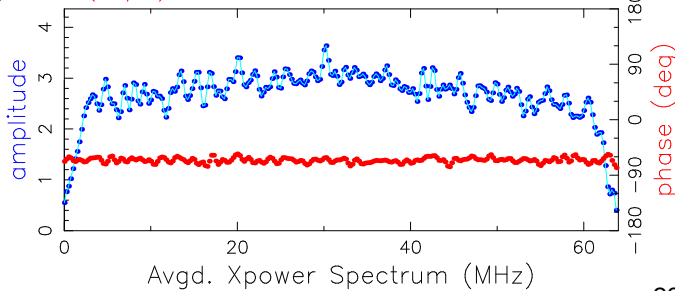
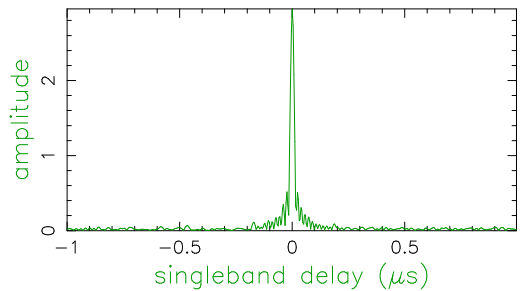
EFLSBERG - KVNUS, fgroup W, pol LL

multiband delay ( $\mu$ s)



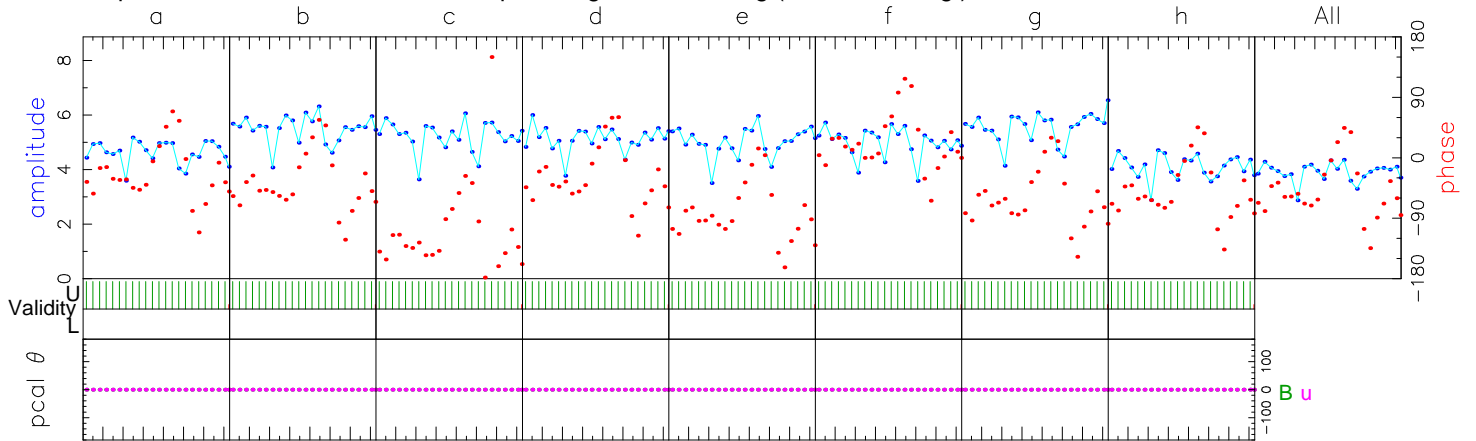
Fringe quality 3

SNR 165.6  
 Int time 419.817  
 Amp 2.955  
 Phase -49.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000314  
 MBD -0.001097  
 Fringe rate (Hz)  
 0.011089  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051041  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-25.5	-40.0	-124.0	-30.3	-83.8	20.5	-63.6	-51.5	Phase	-49.6
	3.6	4.2	3.9	3.9	3.7	3.8	4.2	3.1	Ampl.	3.8
	255.9	256.9	257.8	257.9	258.0	257.8	257.3	256.1	Sbd box	257.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:u	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	
u	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	3.68725694381E+03		Apriori delay (usec)		3.68725804072E+03		Resid mbdelay (usec)		-1.09692E-03	+/- 6.6E-06
Sband delay (usec)	3.68725835472E+03		Apriori clock (usec)		-3.6558311E+01		Resid sbdelay (usec)		3.14000E-04	+/- 5.2E-05
Phase delay (usec)	3.68725803913E+03		Apriori clockrate (us/s)		-1.1270000E-06		Resid phdelay (usec)		-1.59886E-06	+/- 2.2E-08
Delay rate (us/s)	1.45920981014E+00		Apriori rate (us/s)		1.45920968141E+00		Resid rate (us/s)		1.28732E-07	+/- 9.2E-11
Total phase (deg)	176.5		Apriori accel (us/s/s)		-5.29962857591E-06		Resid phase (deg)		-49.6	+/- 0.7

RMS Theor. Amplitude 2.955 +/- 0.018  
 ph/seg (deg) 42.8 1.7 Search (2048X32) 2.789 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 34.2 2.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 46.3 1.0 Inc. seg. avg. 3.907 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 30.4 1.7 Inc. frq. avg. 3.792 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 80.1 el 51.8 pa -57.9 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) -11319.130 1035.079 ion window (TEC) 0.00 0.00  
 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/Bu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/Bu.W.5.1W6KVZ

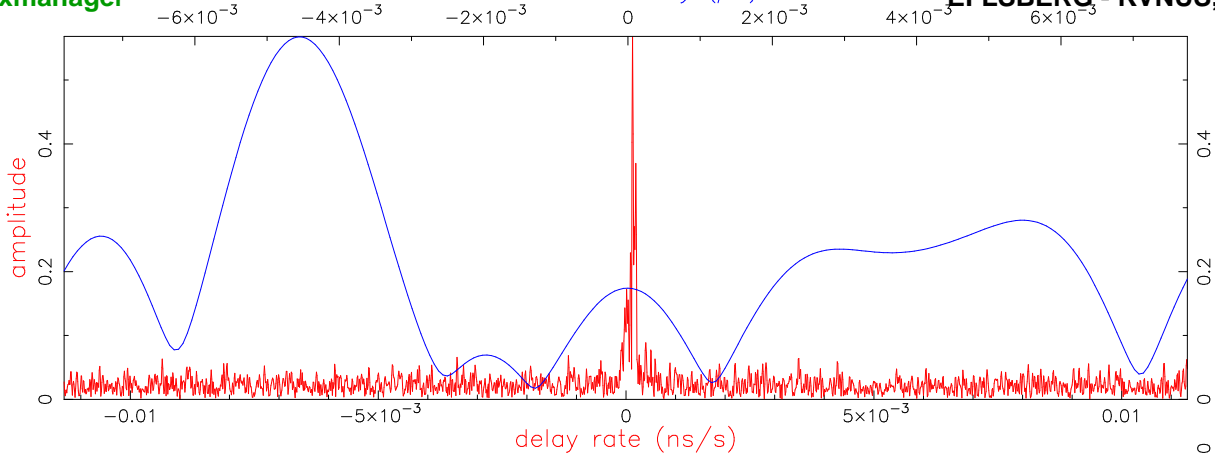
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, Bu

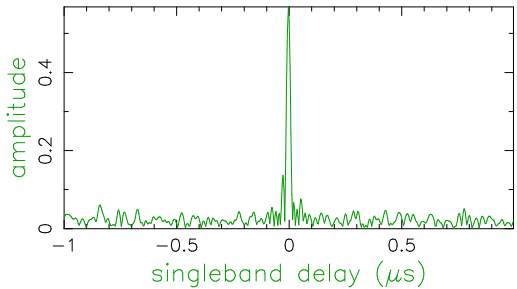
EFLSBERG - KVNUS, fgroup W, pol RL

multiband delay ( $\mu$ s)

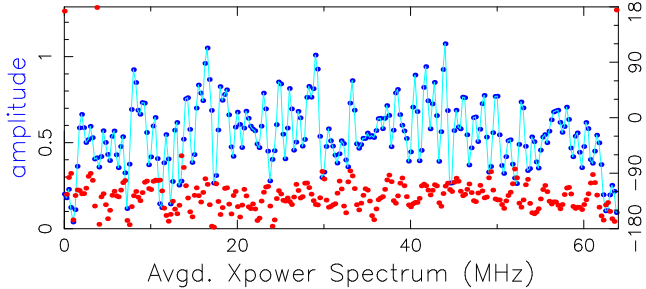


Fringe quality 5

SNR 31.8  
 Int time 419.817  
 Amp 0.568  
 Phase -114.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.003422  
 MBD -0.004536  
 Fringe rate (Hz)  
 0.011054  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

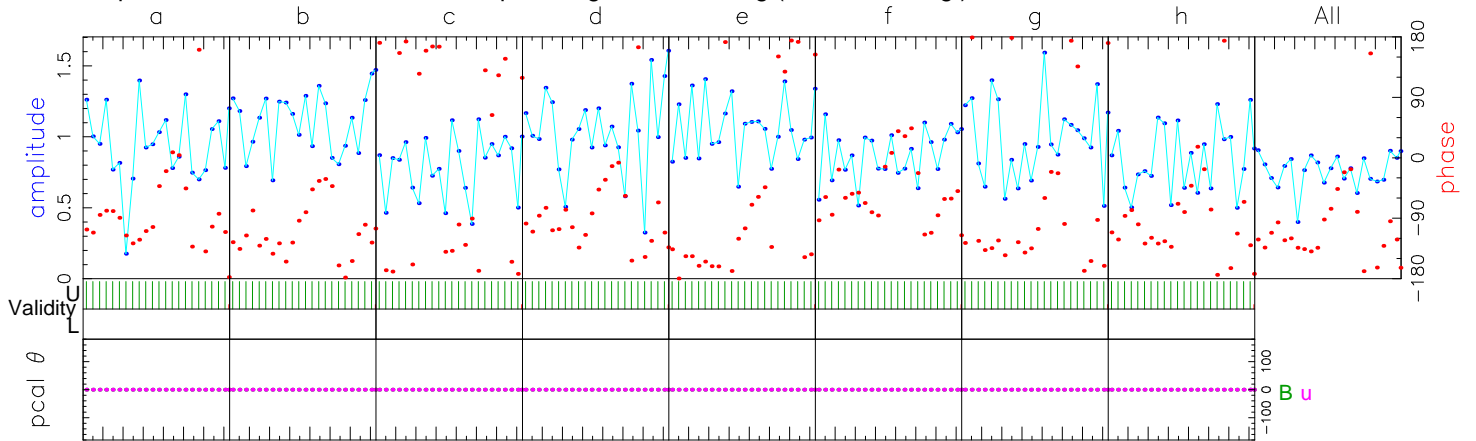


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051052  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-89.8	-111.2	176.9	-95.6	-153.1	-52.7	-130.6	-109.9	Phase	-114.6
	0.7	0.9	0.6	0.8	0.8	0.6	0.7	0.6	Ampl.	0.7
	254.6	256.1	256.5	256.6	257.3	256.7	256.8	255.1	Sbd box	256.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:u	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	
u	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	3.68725350431E+03		Apriori delay (usec)		3.68725804072E+03		Resid mbdelay (usec)		-4.53642E-03	+/- 3.4E-05
Sband delay (usec)	3.68725461897E+03		Apriori clock (usec)		-3.6558311E+01		Resid sbdelay (usec)		-3.42175E-03	+/- 2.7E-04
Phase delay (usec)	3.68725803703E+03		Apriori clockrate (us/s)		-1.1270000E-06		Resid phdelay (usec)		-3.69613E-06	+/- 1.2E-07
Delay rate (us/s)	1.45920980974E+00		Apriori rate (us/s)		1.45920968141E+00		Resid rate (us/s)		1.28330E-07	+/- 4.8E-10
Total phase (deg)	111.4		Apriori accel (us/s/s)		-5.29962857591E-06		Resid phase (deg)		-114.6	+/- 3.6

	RMS	Theor.	Amplitude	0.568 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	44.2	8.6	Search (2048X32)	0.529	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	39.0	15.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	43.3	5.1	Inc. seg. avg.	0.749	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	26.7	8.9	Inc. frq. avg.	0.690	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

B: az 80.1 el 51.8 pa -57.9      u: az 299.2 el 39.0 pa 73.7      u,v (fr/asec) -11319.130 1035.079      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c211a/v2/1234/No0164/Bu..1W6KVZ      Output file: /Exps/c211a/v2/1234/No0164/Bu.W.61.1W6KVZ

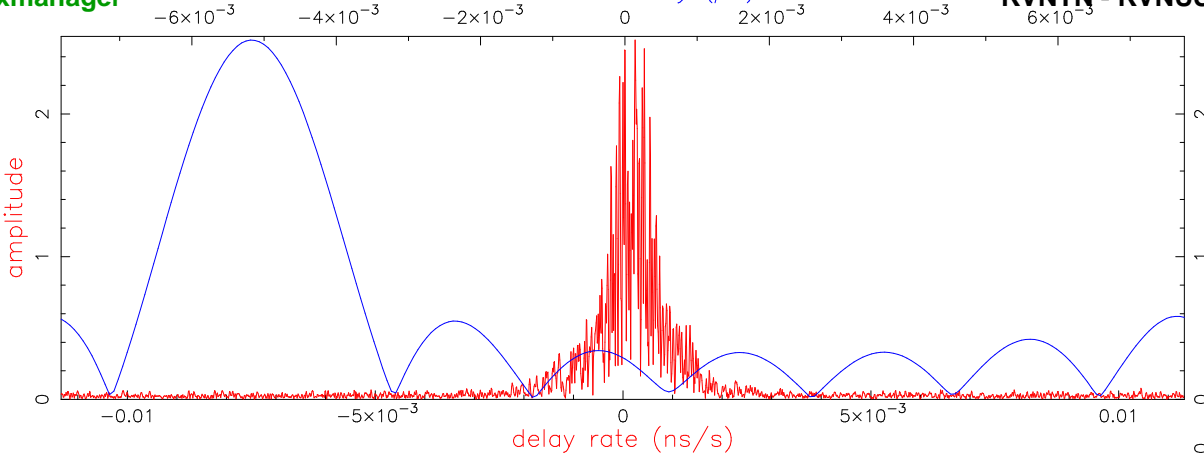
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, tu

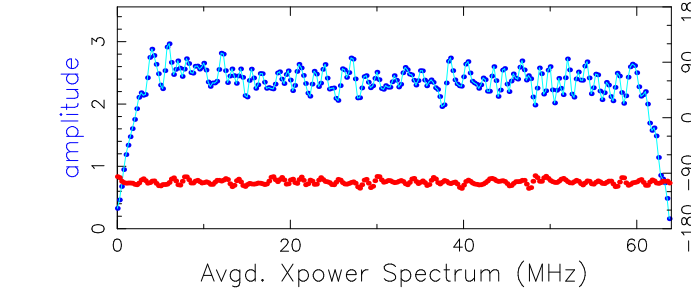
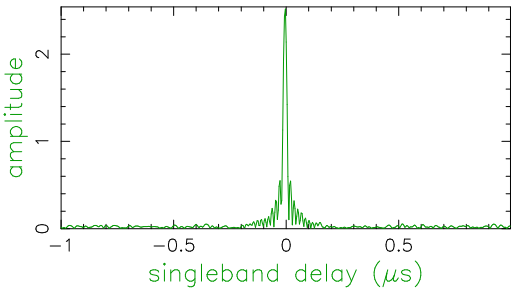
KVNTN - KVNUS, fgroup W, pol LL

multiband delay ( $\mu$ s)



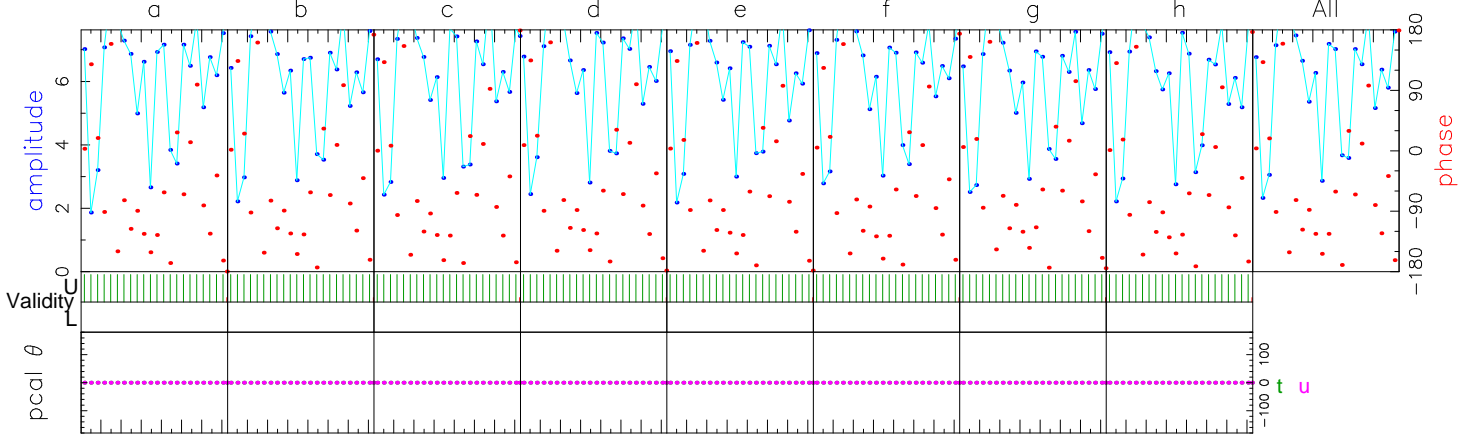
Fringe quality 5

SNR 142.5  
 Int time 419.840  
 Amp 2.543  
 Phase -104.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.005164  
 MBD -0.005171  
 Fringe rate (Hz)  
 0.021066  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051043  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-103.2	-104.9	-106.4	-101.7	-103.6	-105.9	-100.4	-106.2	Phase	-104.0
	2.6	2.6	2.5	2.6	2.5	2.5	2.4	2.5	Ampl.	2.5
	255.6	255.6	255.8	255.8	255.6	255.7	255.8	255.6	Sbd box	255.7
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 2.40084171357E+02 Apriori delay (usec) 2.40089342833E+02 Resid mbdelay (usec) -5.17148E-03 +/- 7.6E-06  
 Sband delay (usec) 2.40084179083E+02 Apriori clock (usec) -1.4760853E+01 Resid sbdelay (usec) -5.16375E-03 +/- 6.0E-05  
 Phase delay (usec) 2.40089339478E+02 Apriori clockrate (us/s) -1.3269999E-06 Resid phdelay (usec) -3.35488E-06 +/- 2.6E-08  
 Delay rate (us/s) -4.96240831208E-03 Apriori rate (us/s) -4.96265286437E-03 Resid rate (us/s) 2.44552E-07 +/- 1.1E-10  
 Total phase (deg) 252.9 Apriori accel (us/s/s) -3.82186686552E-06 Resid phase (deg) -104.0 +/- 0.8

RMS Theor. Amplitude 2.543 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 77.2 1.9 Search (2048X32) 2.473 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 155.9 3.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 2.4 1.1 Inc. seg. avg. 6.060 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 2.0 2.0 Inc. frq. avg. 2.519 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

t: az 300.1 el 39.9 pa 78.4 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) 29.771 -486.671 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/tu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/tu.W.15.1W6KVZ

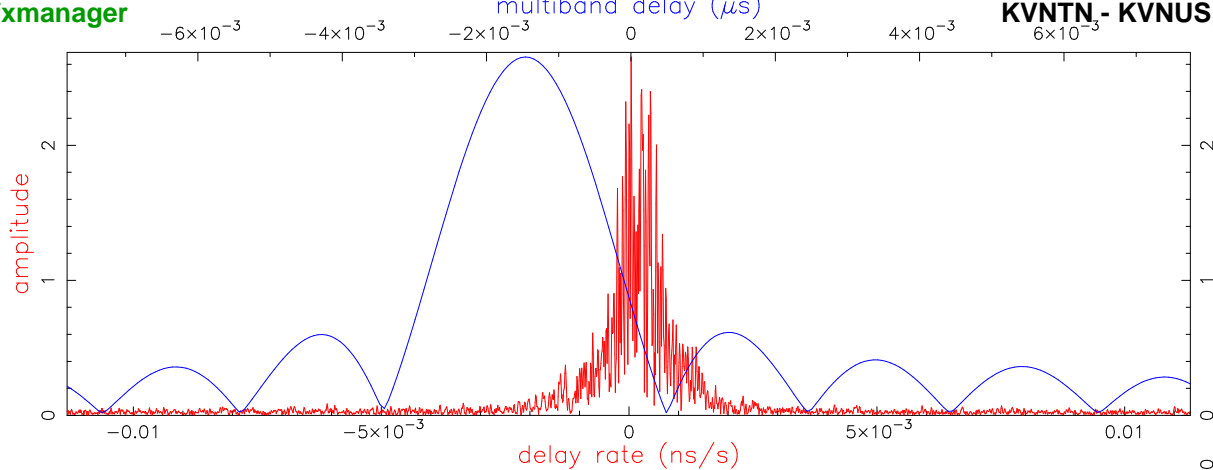


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

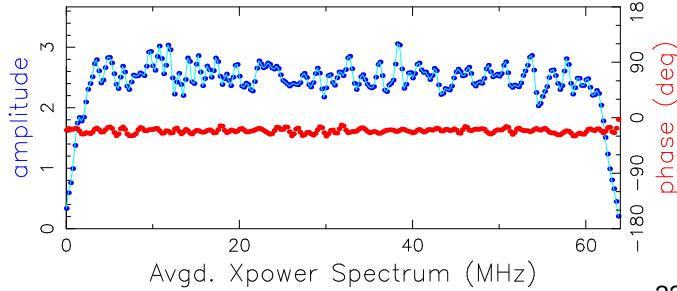
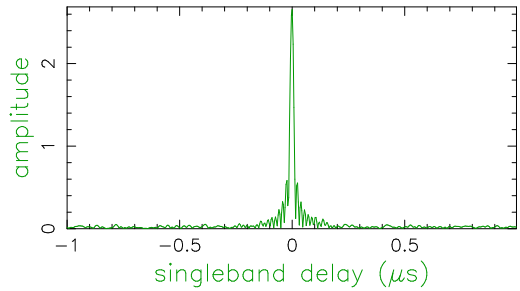
BLLAC.1W6KVZ, No0164, tu

KVNTN- KVNUS, fgroup W, pol RR



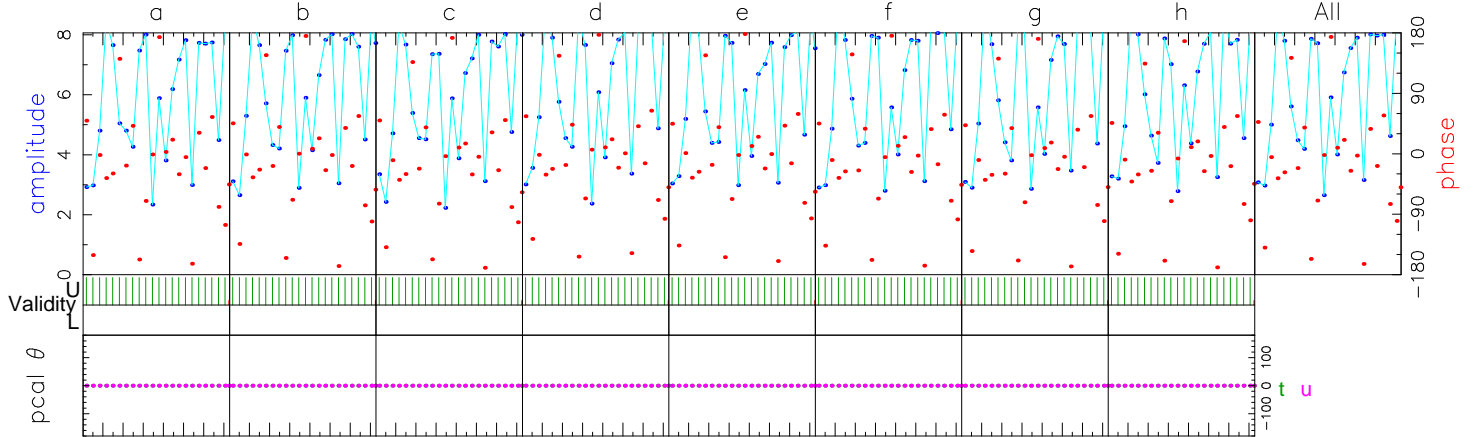
Fringe quality 5

SNR 150.6  
 Int time 419.840  
 Amp 2.688  
 Phase -20.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001439  
 MBD -0.001466  
 Fringe rate (Hz)  
 0.003435  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051047  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-23.2	-19.3	-23.3	-17.5	-19.1	-20.4	-23.0	-20.0	Phase	-20.7
	2.6	2.7	2.6	2.7	2.6	2.7	2.7	2.6	Ampl.	2.7
	256.6	256.6	256.6	256.7	256.6	256.7	256.6	256.6	Sbd box	256.6
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	2.40087876996E+02		Apriori delay (usec)		2.40089342833E+02		Resid mbdelay (usec)		-1.46584E-03	+/- 7.2E-06
Sband delay (usec)	2.40087903833E+02		Apriori clock (usec)		-1.4760853E+01		Resid sbdelay (usec)		-1.43900E-03	+/- 5.7E-05
Phase delay (usec)	2.40089342165E+02		Apriori clockrate (us/s)		-1.3269999E-06		Resid phdelay (usec)		-6.67495E-07	+/- 2.5E-08
Delay rate (us/s)	-4.96261299312E-03		Apriori rate (us/s)		-4.96265286437E-03		Resid rate (us/s)		3.98712E-08	+/- 1.0E-10
Total phase (deg)	336.3		Apriori accel (us/s/s)		-3.82186686552E-06		Resid phase (deg)		-20.7	+/- 0.8

ph/seg (deg) 79.5 1.8 Search (2048X32) 2.534 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 146.5 3.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 2.4 1.1 Inc. seg. avg. 6.047 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 2.2 1.9 Inc. frq. avg. 2.655 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 t: az 300.1 el 39.9 pa 78.4 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) 29.771 -486.671 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/tu...1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/tu.W.32.1W6KVZ

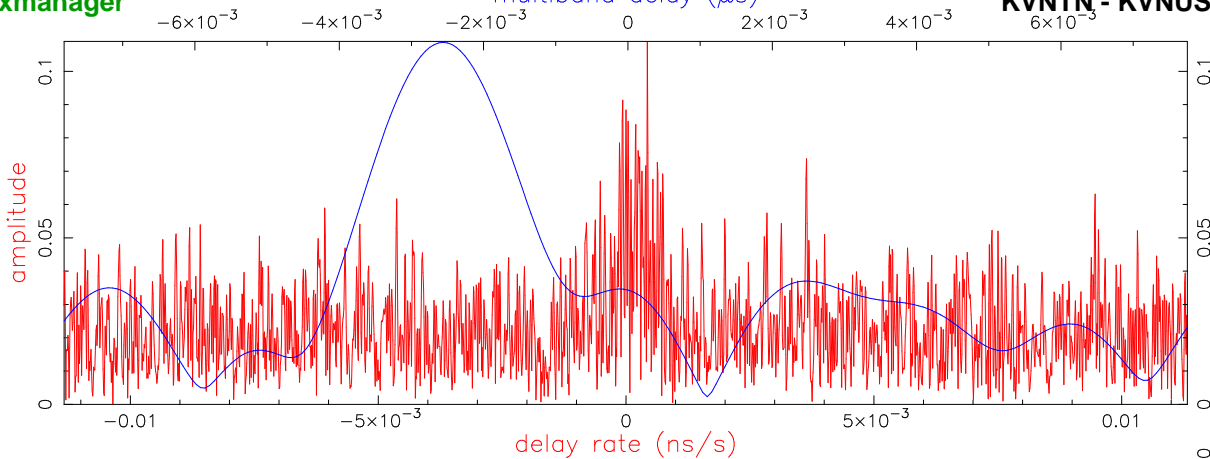
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, tu

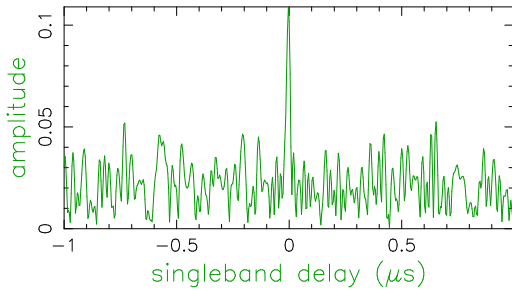
KVNTN - KVNUS, fgroup W, pol LR

multiband delay ( $\mu$ s)

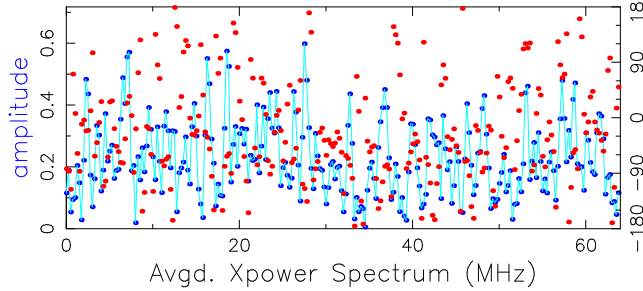


Fringe quality 0

SNR 6.1  
 Int time 419.840  
 Amp 0.109  
 Phase -55.8  
 PFD 2.4e-01  
 Delays (us)  
 SBD -0.003301  
 MBD -0.002581  
 Fringe rate (Hz)  
 0.037135  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

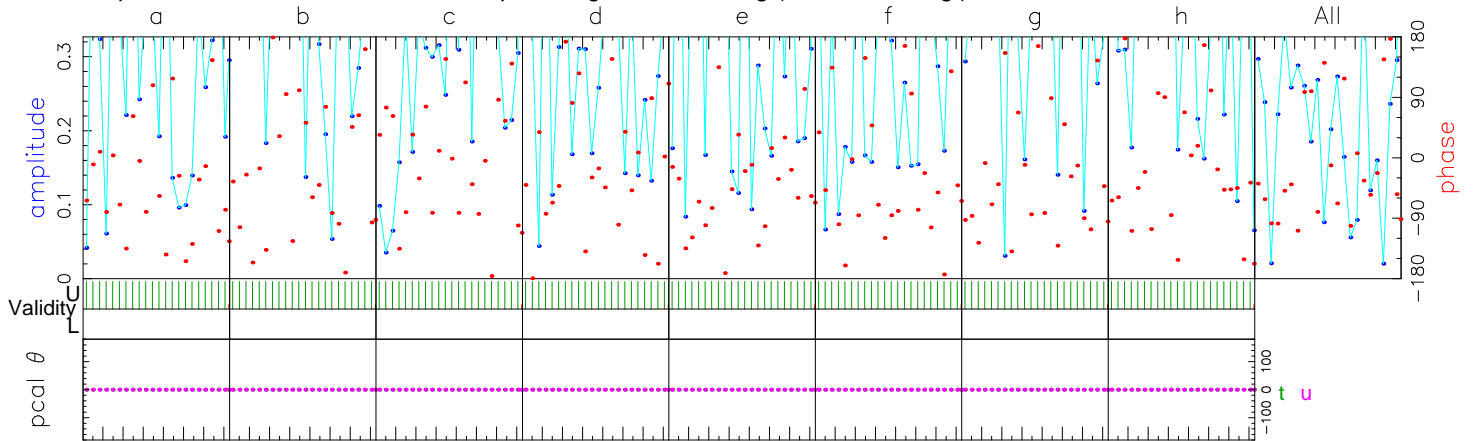


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051050  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-44.7	-76.4	-18.4	-80.9	-55.2	-74.0	-61.2	-40.9	Phase	-55.8
	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	Ampl.	0.1
	100.0	494.6	303.2	304.3	255.3	309.6	156.0	257.0	Sbd box	256.2
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.40086762114E+02		Apriori delay (usec)		2.40089342833E+02		Resid mbdelay (usec)		-2.58072E-03	+/- 1.8E-04
Sband delay (usec)	2.40086041833E+02		Apriori clock (usec)		-1.4760853E+01		Resid sbdelay (usec)		-3.30100E-03	+/- 1.4E-03
Phase delay (usec)	2.40089341032E+02		Apriori clockrate (us/s)		-1.3269999E-06		Resid phdelay (usec)		-1.80096E-06	+/- 6.1E-07
Delay rate (us/s)	-4.96222176303E-03		Apriori rate (us/s)		-4.96265286437E-03		Resid rate (us/s)		4.31101E-07	+/- 2.5E-09
Total phase (deg)	301.1		Apriori accel (us/s/s)		-3.82186686552E-06		Resid phase (deg)		-55.8	+/- 18.8

ph/seg (deg) 85.7 45.0 Search (2048X32) 0.105 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 133.1 78.6 Interp. 0.005 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 22.9 26.6 Inc. seg. avg. 0.158 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 43.5 46.3 Inc. frq. avg. 0.102 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 t: az 300.1 el 39.9 pa 78.4 u: az 299.2 el 39.0 pa 73.7 u, v (fr/asec) 29.771 -486.671 ion window (TEC) 0.00 0.00  
 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/tu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/tu.W.48.1W6KVZ

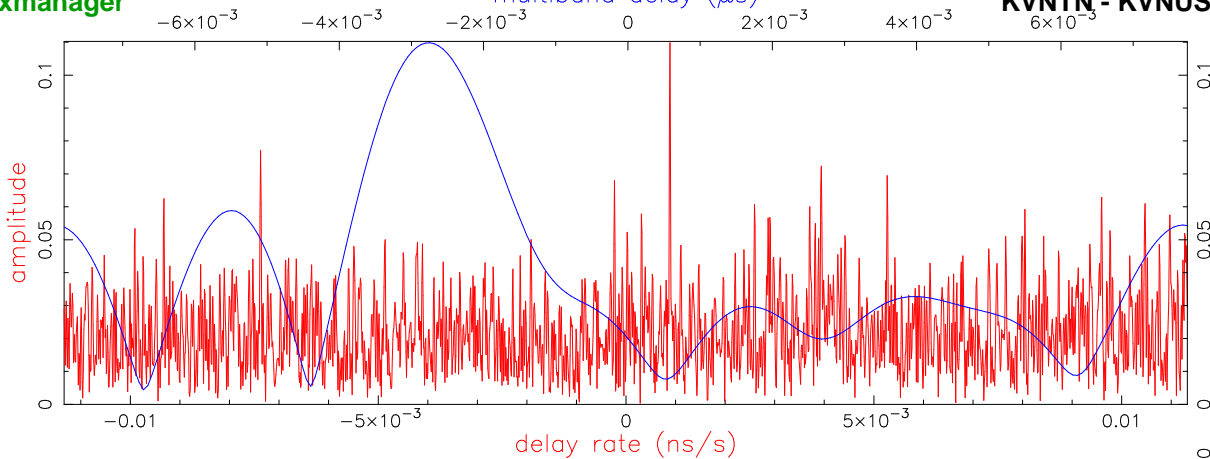
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, tu

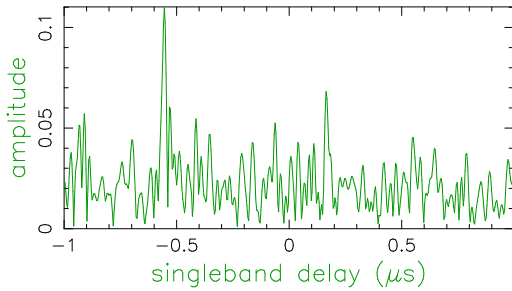
KVNTN - KVNUS, fgroup W, pol RL

multiband delay ( $\mu\text{s}$ )



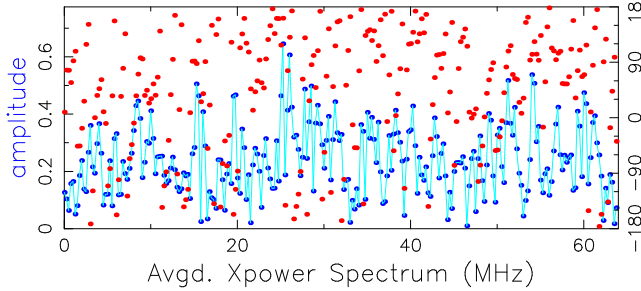
Fringe quality 0

SNR 6.2  
 Int time 419.840  
 Amp 0.110  
 Phase -129.7  
 PFD 1.7e-01  
 Delays (us)  
 SBD -0.554185  
 MBD -0.002761  
 Fringe rate (Hz)  
 0.076743  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



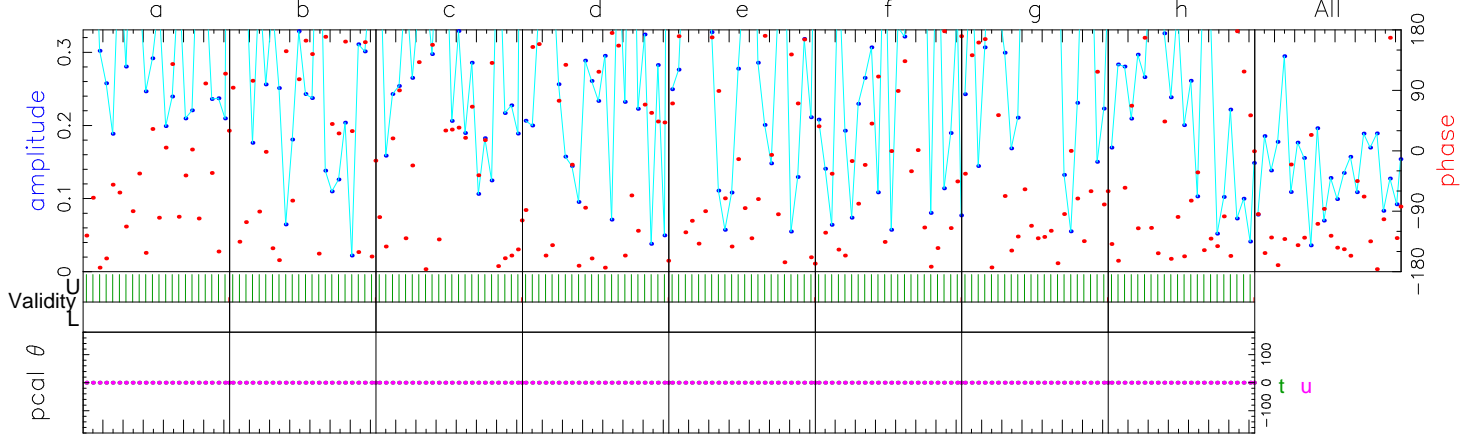
singleband delay ( $\mu\text{s}$ )

delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051054  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-87.1	-165.2	-168.3	-165.0	-131.3	-91.0	-122.0	-133.5	Phase	-129.7
	0.2	0.1	0.0	0.1	0.2	0.1	0.2	0.1	Ampl.	0.1
	379.4	122.2	204.3	166.4	115.5	505.0	115.2	379.0	Sbd box	115.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 2.39539706821E+02 Apriori delay (usec) 2.40089342833E+02 Resid mbdelay (usec) -2.76101E-03 +/- 1.8E-04  
 Sband delay (usec) 2.39535158083E+02 Apriori clock (usec) -1.4760853E+01 Resid sbdelay (usec) -5.54185E-01 +/- 1.4E-03  
 Phase delay (usec) 2.40089338649E+02 Apriori clockrate (us/s) -1.3269999E-06 Resid phdelay (usec) -4.18365E-06 +/- 6.0E-07  
 Delay rate (us/s) -4.96176195661E-03 Apriori rate (us/s) -4.96265286437E-03 Resid rate (us/s) 8.90908E-07 +/- 2.5E-09  
 Total phase (deg) 227.2 Apriori accel (us/s/s) -3.82186686552E-06 Resid phase (deg) -129.7 +/- 18.6

RMS Theor. Amplitude 0.110 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 52.3 44.6 Search (2048X32) 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 57.4 77.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 35.1 26.3 Inc. seg. avg. 0.108 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 42.6 45.9 Inc. frq. avg. 0.112 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

t: az 300.1 el 39.9 pa 78.4 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) 29.771 -486.671 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/tu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/tu.W.66.1W6KVZ

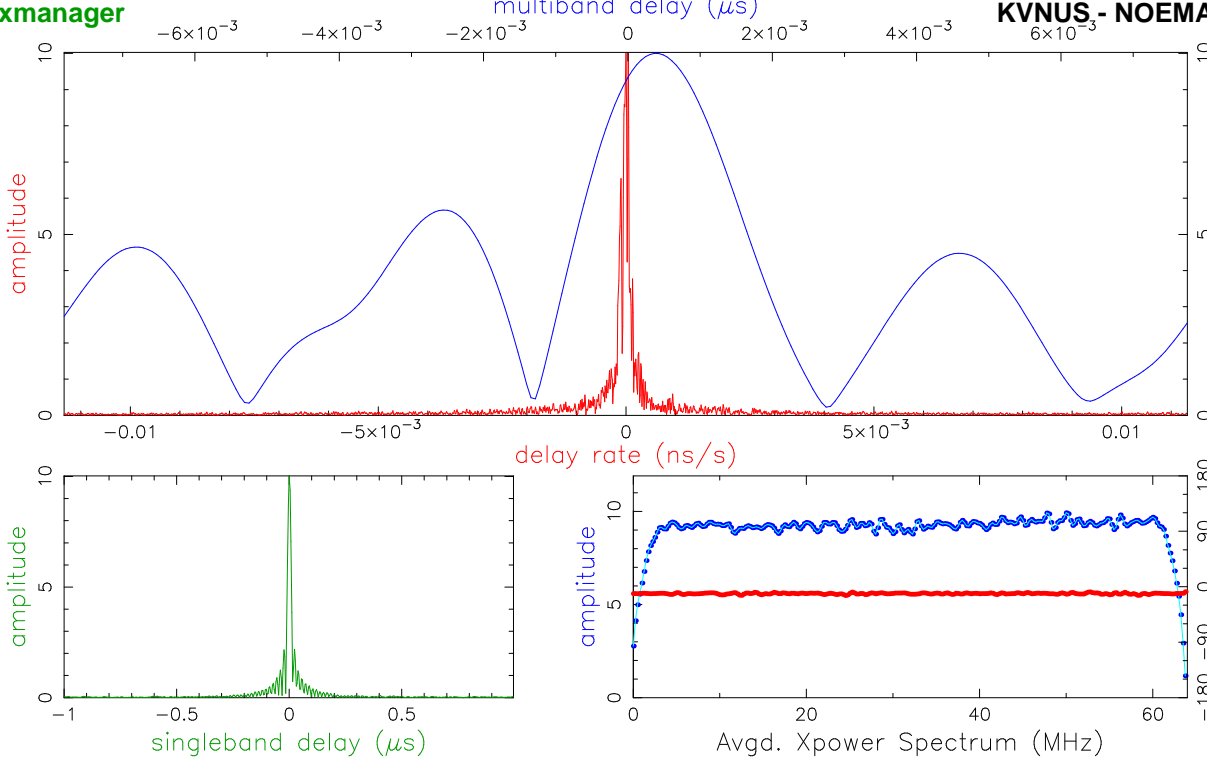


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uN

KVNUS - NOEMA, fgroup W, pol LL

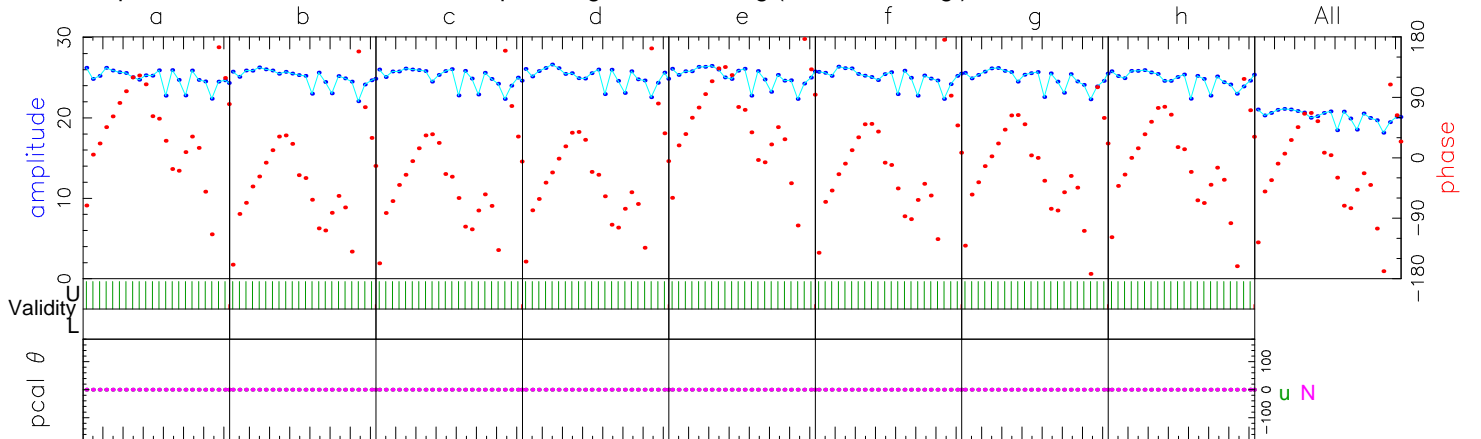


Fringe quality 2

SNR 561.9  
 Int time 419.809  
 Amp 10.029  
 Phase -7.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000673  
 MBD 0.000392  
 Fringe rate (Hz) 0.000253  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051043  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0			
u	1000	1000	1000	1000	1000	1000	1000	1000			
N	1000	1000	1000	1000	1000	1000	1000	1000			
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0			
u	1000	1000	1000	1000	1000	1000	1000	1000			
N	1000	1000	1000	1000	1000	1000	1000	1000			
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL			
Group delay (usec)(sbd)	-3.24428025279E+03	-3.24427997117E+03	-3.24428064467E+03	-1.53812348730E+00	-3.24428064442E+03	2.7795284E+01	8.7619998E-06	-1.53812349023E+00	8.15888176326E-06	3.91625E-04	+/- 1.9E-06
Sband delay (usec)										6.73250E-04	+/- 1.5E-05
Phase delay (usec)										-2.53340E-07	+/- 6.6E-09
Delay rate (us/s)										2.93555E-09	+/- 2.7E-11
Total phase (deg)			-263.5							-7.9	+/- 0.2
RMS	67.9	67.9	67.9	67.9	67.9	67.9	67.9	67.9			
Theor.	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			
Amplitude	10.029	10.029	10.029	10.029	10.029	10.029	10.029	10.029			10.029 +/- 0.018
Search (2048X32)	9.884	9.884	9.884	9.884	9.884	9.884	9.884	9.884			9.884
Interp.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0.000
Inc. seg. avg.	20.185	20.185	20.185	20.185	20.185	20.185	20.185	20.185			20.185
Inc. frq. avg.	12.381	12.381	12.381	12.381	12.381	12.381	12.381	12.381			12.381
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)											
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
u: az 299.2 el 39.0 pa 73.7											
N: az 72.6 el 49.7 pa -67.0											
u,v (fr/asec) 11937.698 -386.371											
Control file: cf_1234_gmva											
Input file: /Exps/c211a/v2/1234/No0164/uN..1W6KVZ											
Output file: /Exps/c211a/v2/1234/No0164/uN.W.19.1W6KVZ											

simultaneous interpolator

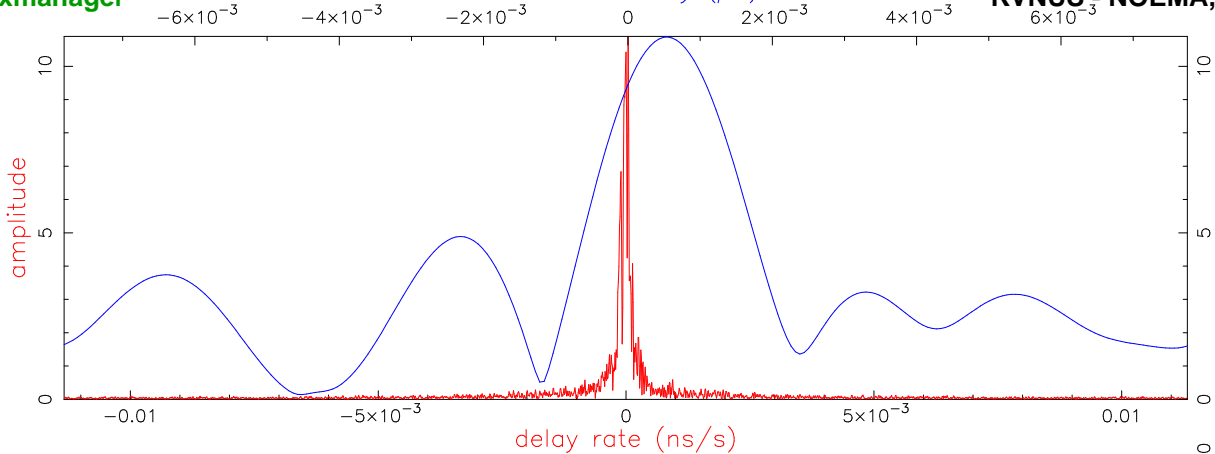
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uN

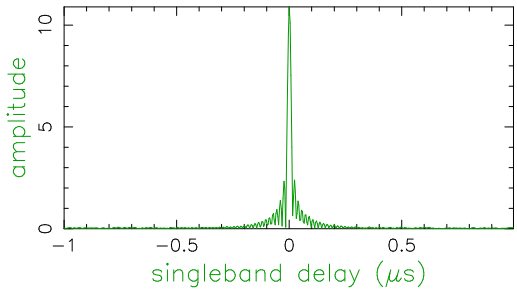
KVNUS - NOEMA, fgroup W, pol RR

multiband delay ( $\mu$ s)

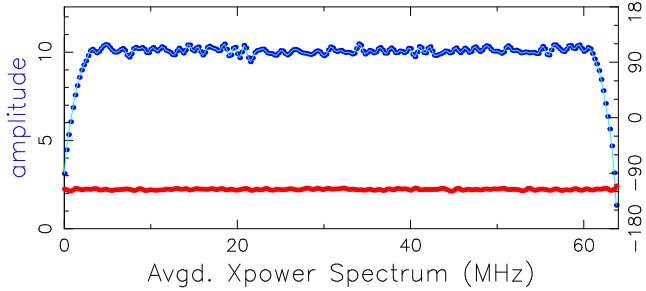


Fringe quality 3

SNR 610.6  
 Int time 419.796  
 Amp 10.897  
 Phase -116.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000503  
 MBD 0.000539  
 Fringe rate (Hz) 0.004116  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

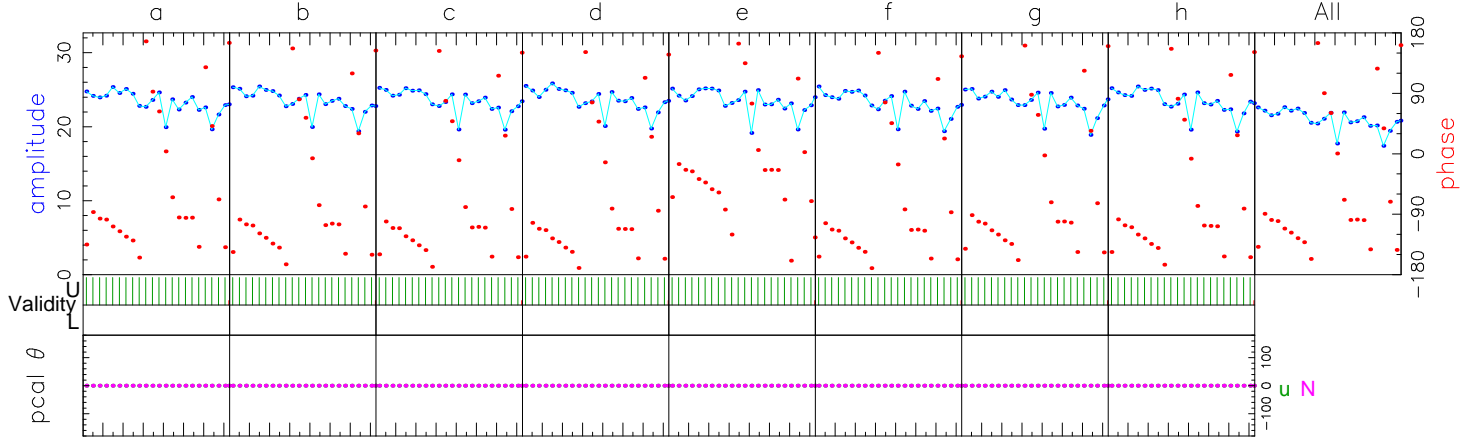


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051048  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-113.9	-123.8	-127.8	-130.4	-43.0	-131.2	-119.8	-125.6	Phase	-116.8
	12.0	12.1	12.2	12.3	12.1	12.0	12.0	12.2	Ampl.	12.1
	257.0	257.1	257.2	257.0	257.1	257.2	257.1	257.1	Sbd box	257.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.24428010554E+03		Apriori delay (usec)		-3.24428064442E+03		Resid mbdelay (usec)		5.38882E-04	+/- 1.8E-06
Sband delay (usec)	-3.24428014142E+03		Apriori clock (usec)		2.7795284E+01		Resid sbdelay (usec)		5.03000E-04	+/- 1.4E-05
Phase delay (usec)	-3.24428064818E+03		Apriori clockrate (us/s)		8.7619998E-06		Resid phdelay (usec)		-3.76501E-06	+/- 6.1E-09
Delay rate (us/s)	-1.53812344245E+00		Apriori rate (us/s)		-1.53812349023E+00		Resid rate (us/s)		4.77837E-08	+/- 2.5E-11
Total phase (deg)			Apriori accel (us/s/s)		8.15888176326E-06		Resid phase (deg)		-116.8	+/- 0.2

ph/seg (deg) 74.8 0.5 Search (2048X32) 10.535 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 93.2 0.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 31.9 0.3 Inc. seg. avg. 20.964 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 11.3 0.5 Inc. frq. avg. 12.120 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 N: az 72.6 el 49.7 pa -67.0 u,v (fr/asec) 11937.698 -386.371 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uN..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uN.W.40.1W6KVZ

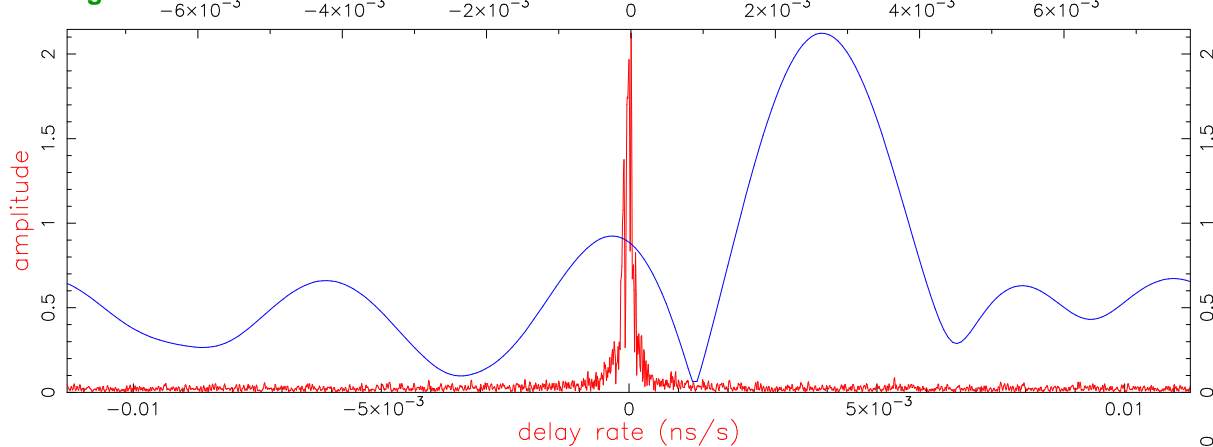
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uN

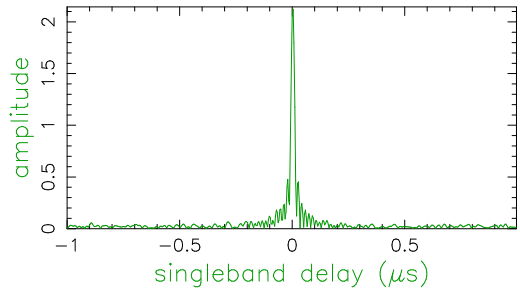
KVNUS- NOEMA, fgroup W, pol LR

multiband delay ( $\mu$ s)

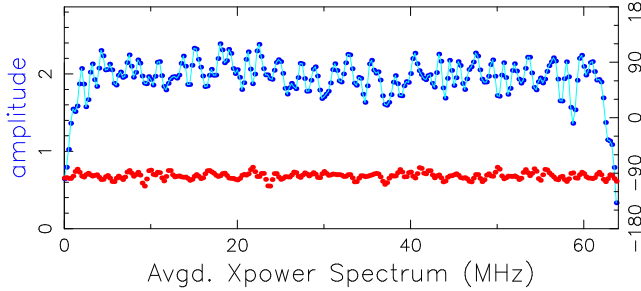


Fringe quality 3

SNR 120.2  
 Int time 419.796  
 Amp 2.146  
 Phase -94.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.002650  
 MBD 0.002643  
 Fringe rate (Hz)  
 0.004117  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

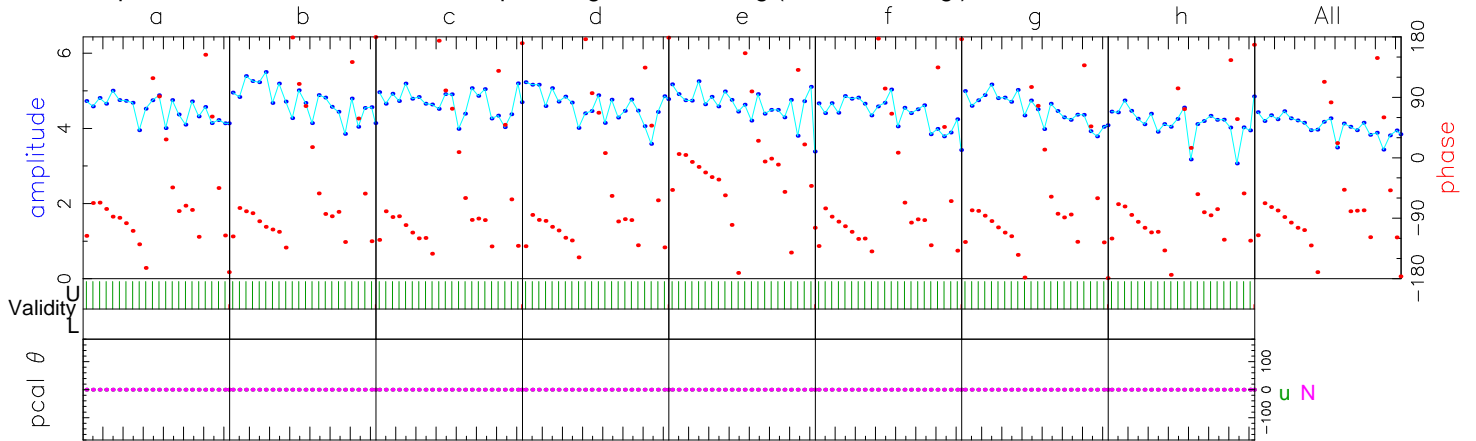


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051052  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-92.0	-98.6	-106.9	-108.0	-21.3	-108.4	-102.7	-98.1	Phase	-94.0
	2.3	2.5	2.4	2.5	2.4	2.3	2.4	2.2	Ampl.	2.4
	257.5	257.7	257.7	257.7	257.8	257.7	257.7	257.6	Sbd box	257.7
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-3.24427800122E+03		Apriori delay (usec)	-3.24428064442E+03	Resid mbdelay (usec)	2.64319E-03	+/-	9.0E-06		
Sband delay (usec)	-3.24427799442E+03		Apriori clock (usec)	2.7795284E+01	Resid sbdelay (usec)	2.65000E-03	+/-	7.2E-05		
Phase delay (usec)	-3.24428064745E+03		Apriori clockrate (us/s)	8.7619998E-06	Resid phdelay (usec)	-3.03223E-06	+/-	3.1E-08		
Delay rate (us/s)	-1.53812344244E+00		Apriori rate (us/s)	-1.53812349023E+00	Resid rate (us/s)	4.77979E-08	+/-	1.3E-10		
Total phase (deg)		-349.7	Apriori accel (us/s/s)	8.15888176326E-06	Resid phase (deg)	-94.0	+/-	1.0		

ph/seg (deg) 74.2 2.3 Search (2048X32) 2.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 90.1 4.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 31.6 1.3 Inc. seg. avg. 4.057 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 11.4 2.4 Inc. frq. avg. 2.369 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 N: az 72.6 el 49.7 pa -67.0 u,v (fr/asec) 11937.698 -386.371 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uN..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uN.W.60.1W6KVZ

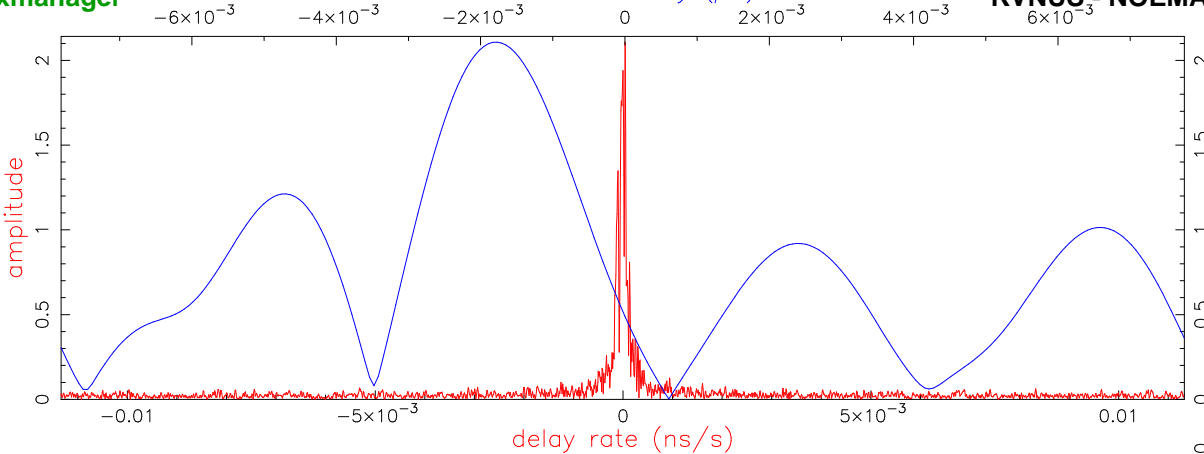
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uN

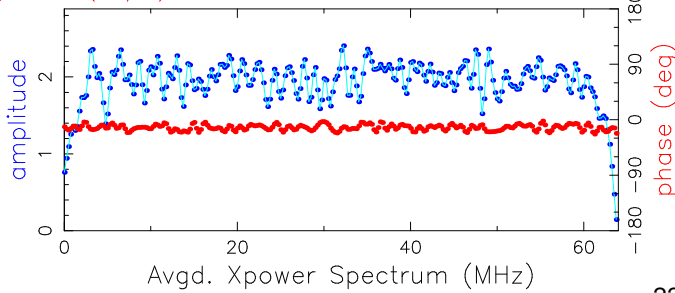
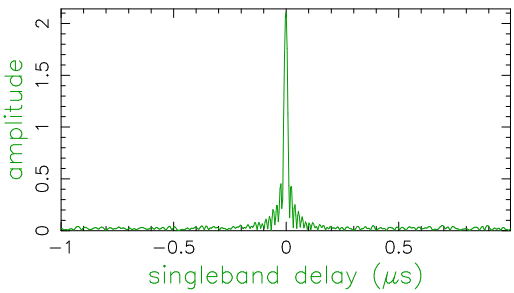
KVNUS- NOEMA, fgroup W, pol RL

multiband delay ( $\mu$ s)



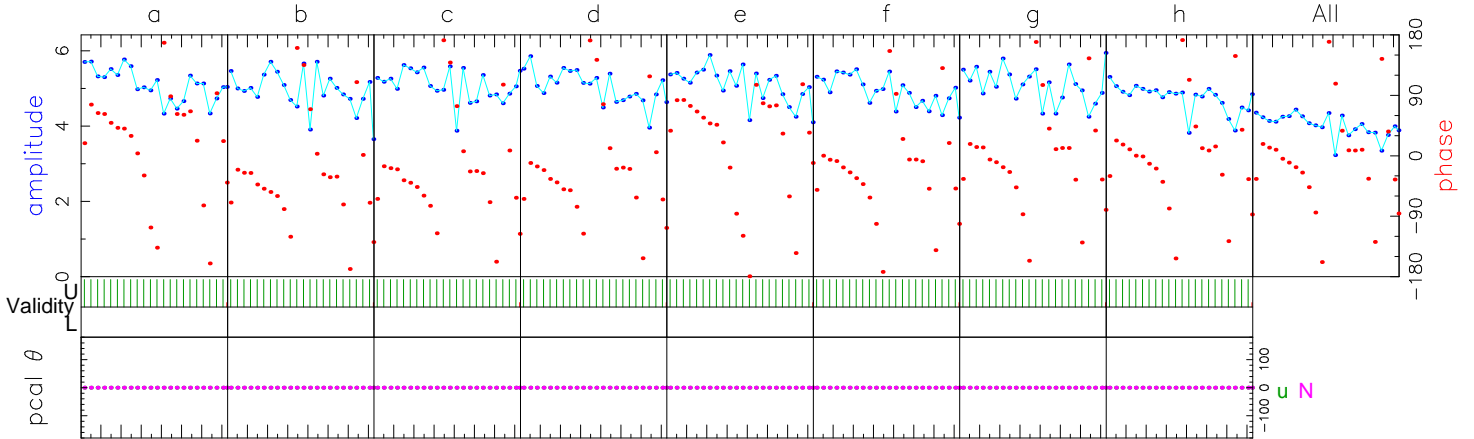
Fringe quality 2

SNR 120.0  
 Int time 419.809  
 Amp 2.142  
 Phase -9.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001573  
 MBD -0.001791  
 Fringe rate (Hz)  
 0.004106  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051055  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-3.24428243510E+03				-3.24428064442E+03				Resid mbdelay (usec)	-1.79068E-03 +/- 9.0E-06
Sband delay (usec)	-3.24428221767E+03				2.7795284E+01				Resid sbdelay (usec)	-1.57325E-03 +/- 7.2E-05
Phase delay (usec)	-3.24428064474E+03				8.7619998E-06				Resid phdelay (usec)	-3.18981E-07 +/- 3.1E-08
Delay rate (us/s)	-1.53812344257E+00				-1.53812349023E+00				Resid rate (us/s)	4.76668E-08 +/- 1.3E-10
Total phase (deg)		-265.6			8.15888176326E-06				Resid phase (deg)	-9.9 +/- 1.0
	RMS	Theor.	Amplitude	2.142 +/- 0.018					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	74.4	2.3	Search (2048X32)	2.026					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	88.9	4.0	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	42.4	1.4	Inc. seg. avg.	4.018					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	22.2	2.4	Inc. frq. avg.	2.614					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
u: az 299.2 el 39.0 pa 73.7			N: az 72.6 el 49.7 pa -67.0						nlags: 256	t_cohere infinite
Control file: cf_1234_gmva			Input file: /Exps/c211a/v2/1234/No0164/uN..1W6KVZ						u,v (fr/asec) 11937.698 -386.371	simultaneous interpolator
									Output file: /Exps/c211a/v2/1234/No0164/uN.W.77.1W6KVZ	

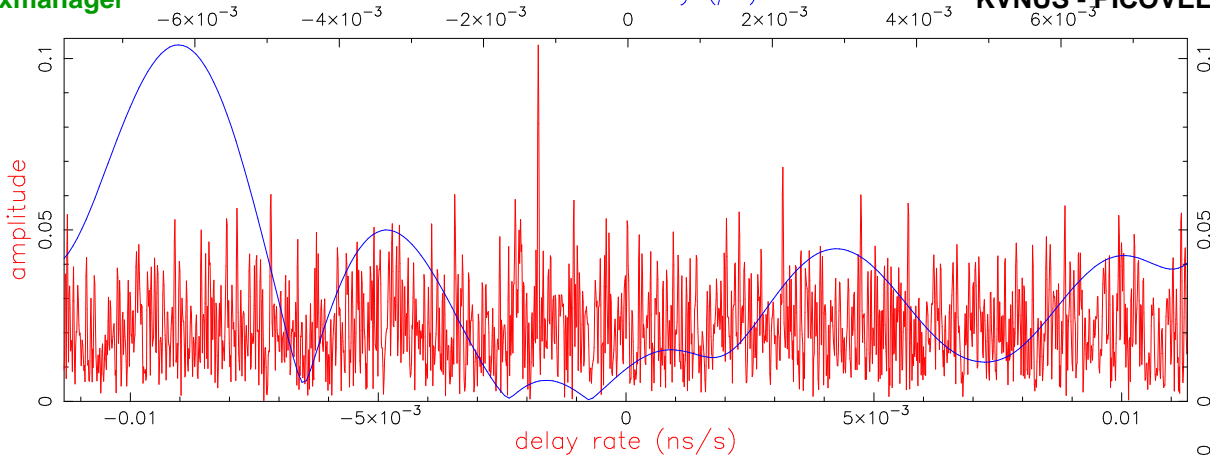
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uP

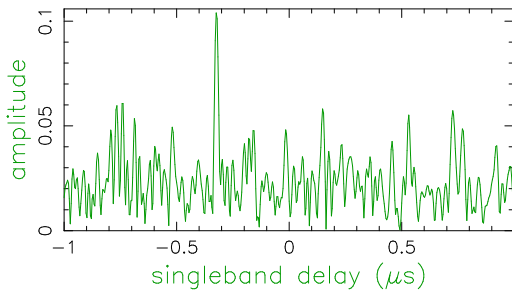
KVNUS - PICOVEL, fgroup W, pol RL

multiband delay ( $\mu$ s)

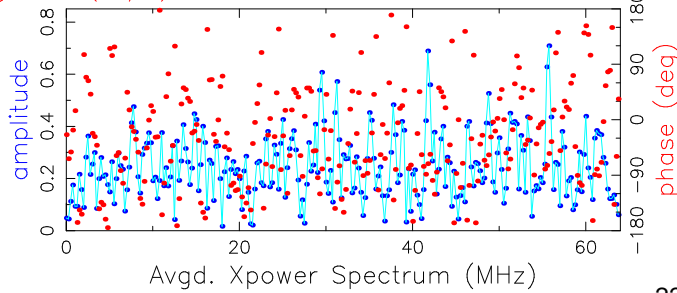


Fringe quality 0

SNR 5.9  
 Int time 419.826  
 Amp 0.106  
 Phase -89.4  
 PFD 6.6e-01  
 Delays (us)  
 SBD -0.322948  
 MBD -0.006190  
 Fringe rate (Hz)  
 -0.152601  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

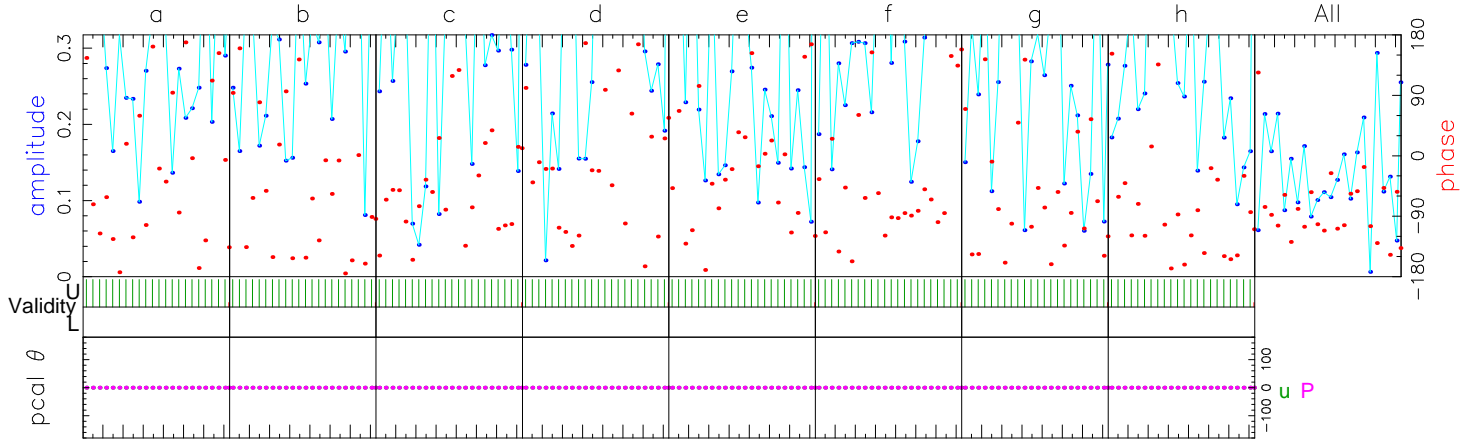


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051104  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-118.0	-100.1	-68.6	-70.0	-24.1	-100.6	-104.3	-100.8	Phase	-89.4
	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	Ampl.	0.1
	207.4	326.1	108.7	18.2	423.4	175.2	393.5	474.3	Sbd box	174.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -8.31088120508E+02 Apriori delay (usec) -8.30769430906E+02 Resid mbdelay (usec) -6.18960E-03 +/- 1.8E-04  
 Sband delay (usec) -8.31092378406E+02 Apriori clock (usec) 1.5440937E+01 Resid sbdelay (usec) -3.22948E-01 +/- 1.5E-03  
 Phase delay (usec) -8.30769433789E+02 Apriori clockrate (us/s) 1.7269999E-06 Resid phdelay (usec) -2.88220E-06 +/- 6.3E-07  
 Delay rate (us/s) -1.69351910556E+00 Apriori rate (us/s) -1.69351733402E+00 Resid rate (us/s) -1.77154E-06 +/- 2.6E-09  
 Total phase (deg) -9.6 Apriori accel (us/s/s) 2.85401115987E-06 Resid phase (deg) -89.4 +/- 19.5

RMS Theor. Amplitude 0.106 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 46.3 46.8 Search (2048X32) 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 66.7 81.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 32.9 27.6 Inc. seg. avg. 0.101 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 39.8 48.2 Inc. frq. avg. 0.105 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 299.2 el 39.0 pa 73.7 P: az 62.2 el 40.3 pa -73.2 u,v (fr/asec) 13131.261 -130.382 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uP..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uP.W.113.1W6KVZ



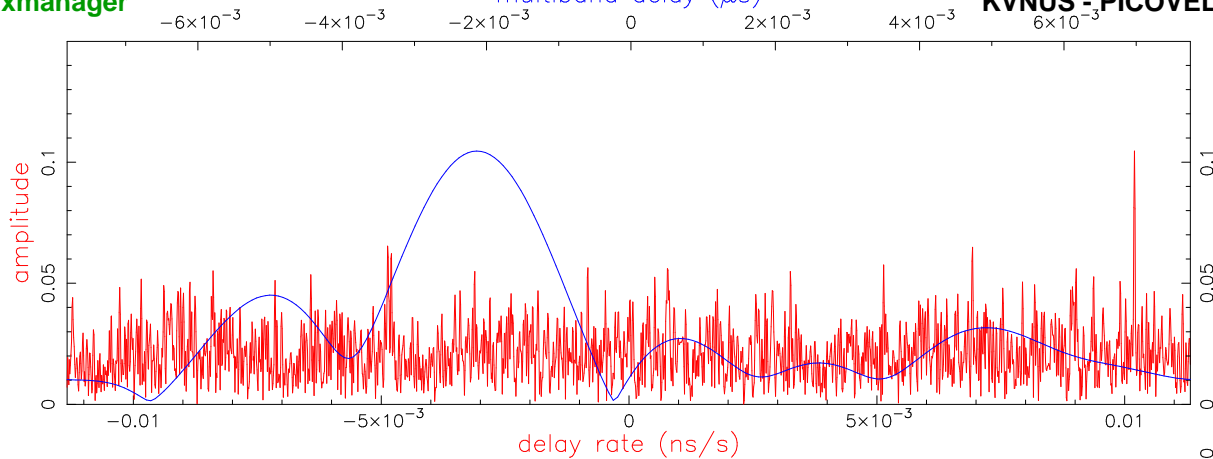
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uP

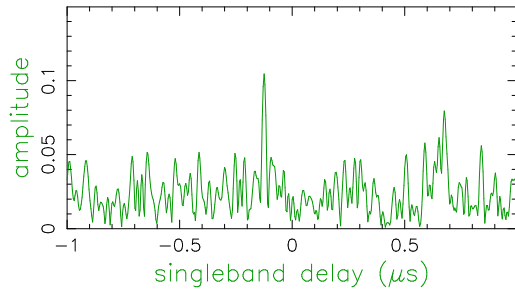
KVNUS - PICOVEL, fgroup W, pol LL

multiband delay ( $\mu$ s)

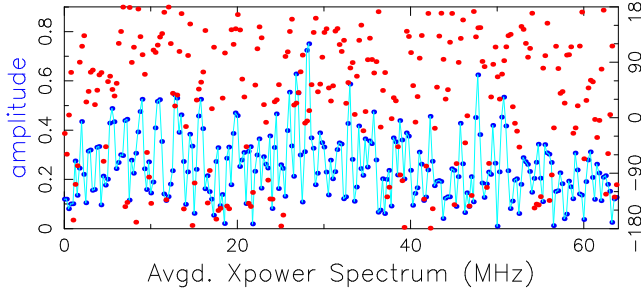


Fringe quality 0

SNR 5.9  
 Int time 419.826  
 Amp 0.150  
 Phase 127.6  
 PFD 6.9e-01  
 Delays (us)  
 SBD -0.124831  
 MBD -0.002135  
 Fringe rate (Hz)  
 0.879909  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

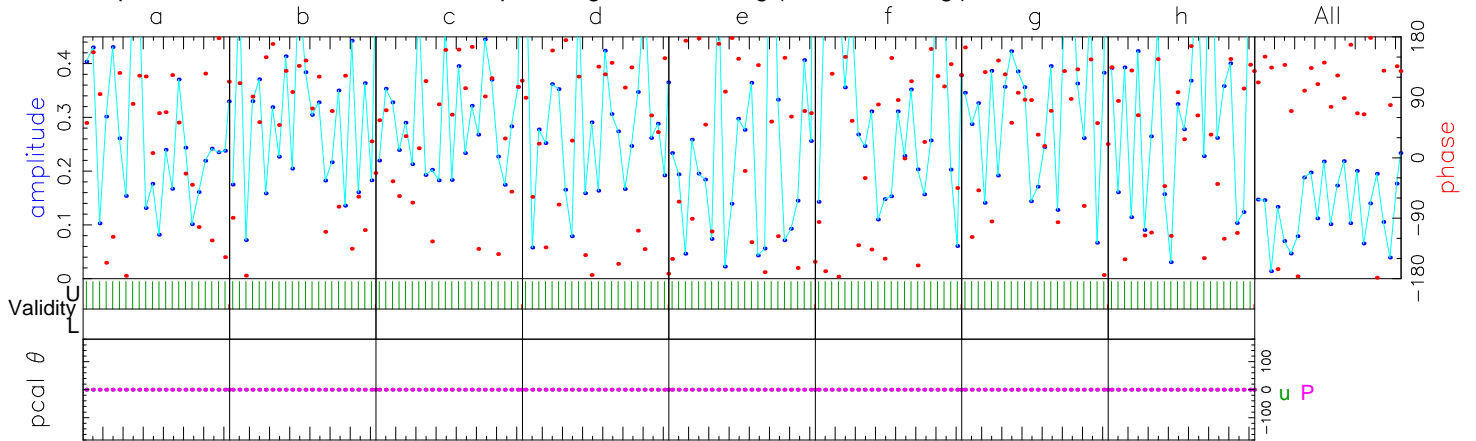


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051054  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-8.30896565839E+02	Apriori delay (usec)	-8.30769430906E+02	Resid mbdelay (usec)	-2.13493E-03	+/-	1.9E-04
Sband delay (usec)	-8.30894261906E+02	Apriori clock (usec)	1.5440937E+01	Resid sbdelay (usec)	-1.24831E-01	+/-	1.5E-03
Phase delay (usec)	-8.30769426792E+02	Apriori clockrate (us/s)	1.7269999E-06	Resid phdelay (usec)	4.11392E-06	+/-	6.3E-07
Delay rate (us/s)	-1.69350711914E+00	Apriori rate (us/s)	-1.69351733402E+00	Resid rate (us/s)	1.02149E-05	+/-	2.6E-09
Total phase (deg)	-152.6	Apriori accel (us/s/s)	2.85401115987E-06	Resid phase (deg)	127.6	+/-	19.5

ph/seg (deg)	39.6	Theor.	46.9	Amplitude	0.150 +/- 0.026	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	63.0	Search (2048X32)	0.101	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
ph/frq (deg)	21.3	Interp.	0.000	Bits/sample: 2x2		mb window (us)	-0.008 0.008
amp/frq (%)	29.9	Inc. seg. avg.	0.141	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011
		Inc. frq. avg.	0.140	Data rate(Mb/s): 2048		ion window (TEC)	0.00 0.00

u: az 299.2 el 39.0 pa 73.7 P: az 62.2 el 40.3 pa -73.2 u,v (fr/asec) 13131.261 -130.382 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uP..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uP.W.68.1W6KVZ

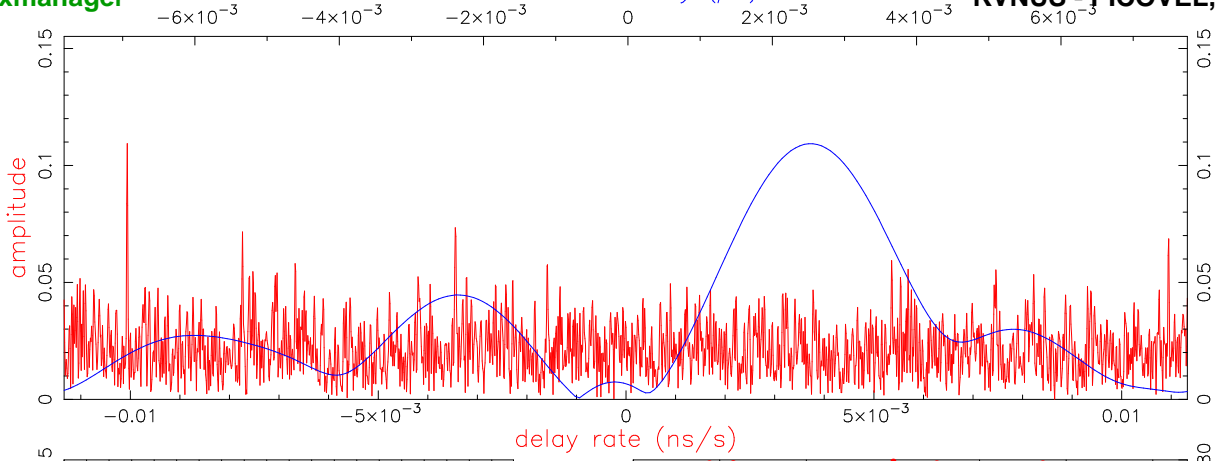
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uP

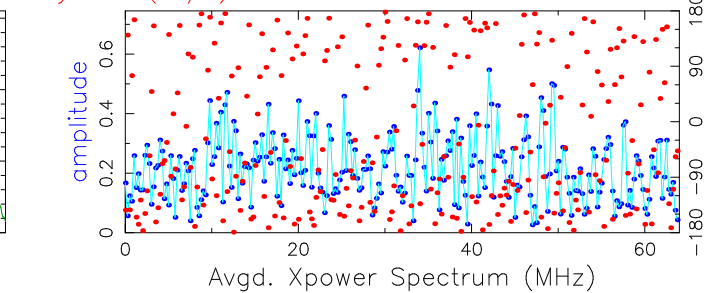
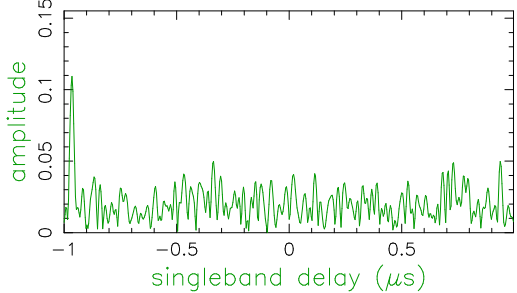
KVNUS - PICOVEL, fgroup W, pol RR

multiband delay ( $\mu$ s)



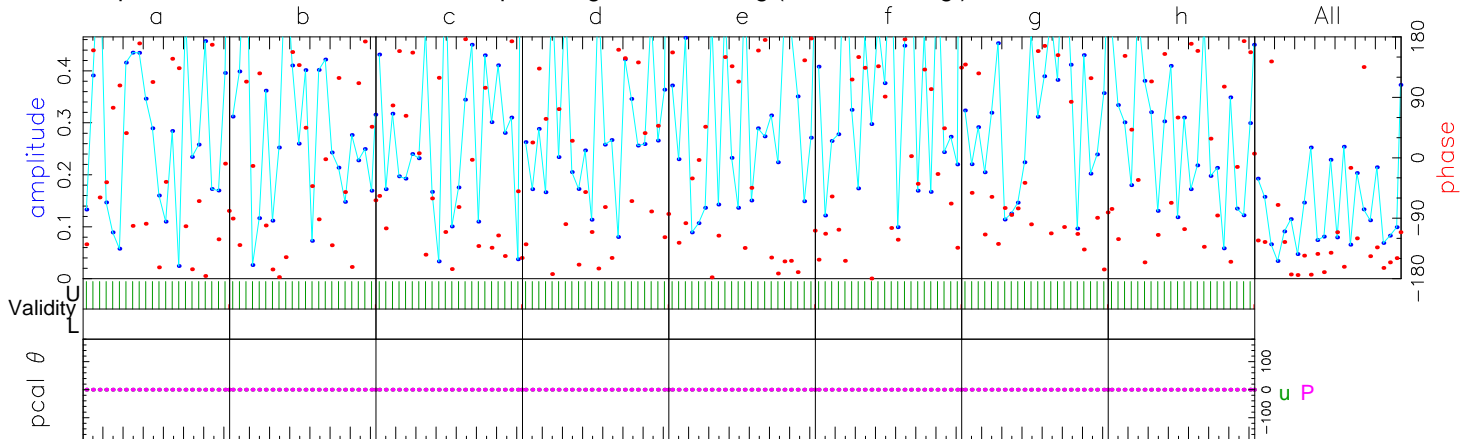
Fringe quality 0

SNR 6.1  
 Int time 419.826  
 Amp 0.155  
 Phase -147.1  
 PFD 2.0e-01  
 Delays (us)  
 SBD -0.965356  
 MBD 0.002530  
 Fringe rate (Hz)  
 -0.867859  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051057  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-123.6	-170.9	-135.3	-132.6	-165.9	-172.8	-133.5	-132.9	Phase	-147.1
	0.1	0.1	0.1	0.1	0.3	0.1	0.2	0.1	Ampl.	0.1
	403.9	316.8	156.3	444.1	10.1	480.9	222.1	161.8	Sbd box	9.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-8.31735651161E+02		Apriori delay (usec)		-8.30769430906E+02		Resid mbdelay (usec)		2.52975E-03	+/- 1.8E-04
Sband delay (usec)	-8.31734786906E+02		Apriori clock (usec)		1.5440937E+01		Resid sbdelay (usec)		-9.65356E-01	+/- 1.4E-03
Phase delay (usec)	-8.30769435650E+02		Apriori clockrate (us/s)		1.7269999E-06		Resid phdelay (usec)		-4.74379E-06	+/- 6.0E-07
Delay rate (us/s)	-1.69352740900E+00		Apriori rate (us/s)		-1.69351733402E+00		Resid rate (us/s)		-1.00750E-05	+/- 2.5E-09
Total phase (deg)			Apriori accel (us/s/s)		2.85401115987E-06		Resid phase (deg)		-147.1	+/- 18.7

	RMS	Theor.	Amplitude	0.155 +/- 0.025	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	43.3	44.8	Search (2048X32)	0.106	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	66.4	78.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	21.9	26.4	Inc. seg. avg.	0.140	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	37.5	46.1	Inc. frq. avg.	0.148	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

u: az 299.2 el 39.0 pa 73.7 P: az 62.2 el 40.3 pa -73.2 u,v (fr/asec) 13131.261 -130.382 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uP..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uP.W.81.1W6KVZ

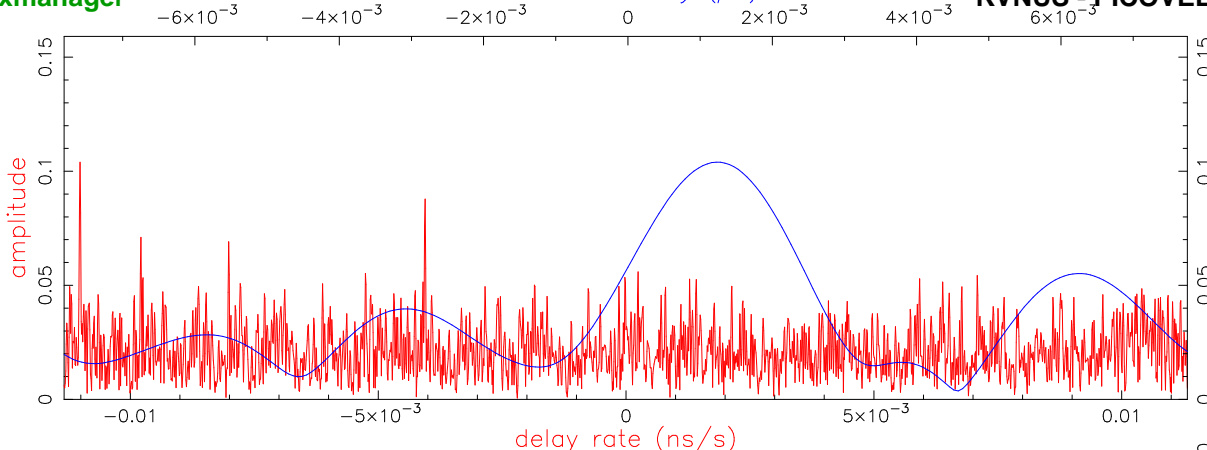
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

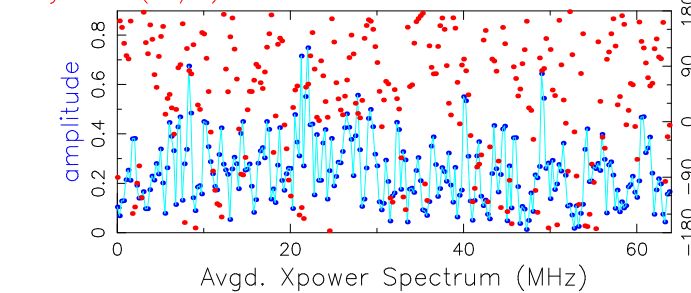
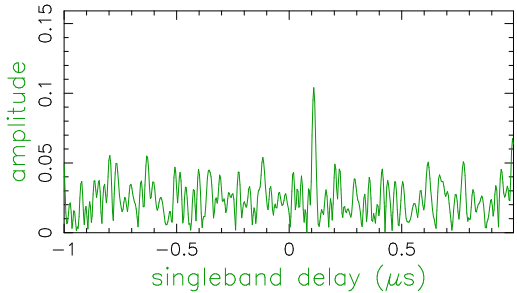
BLLAC.1W6KVZ, No0164, uP

KVNUS - PICOVEL, fgroup W, pol LR

multiband delay ( $\mu$ s)

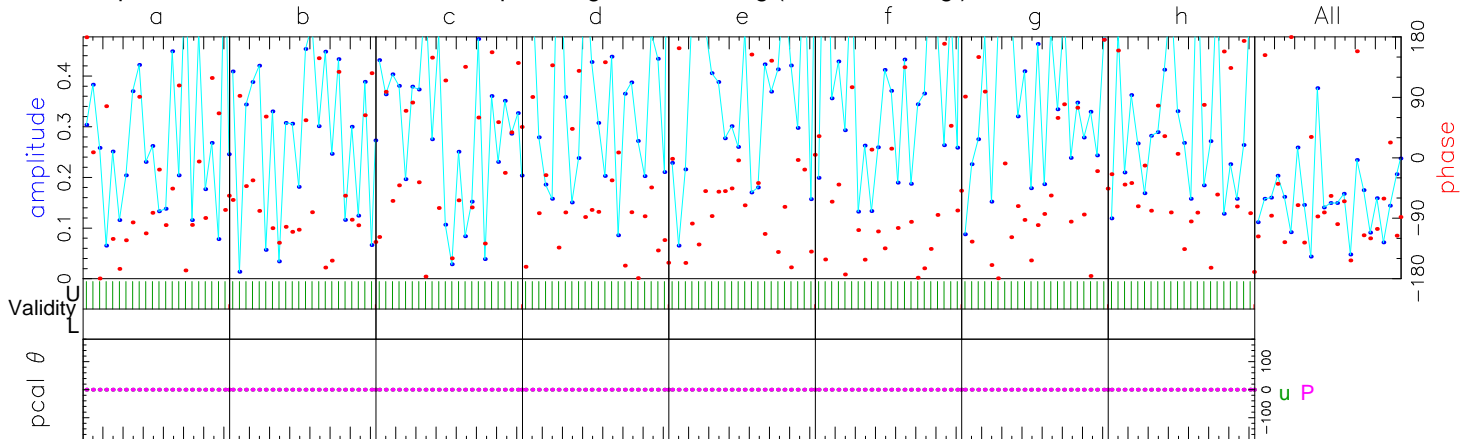


Fringe quality 0  
 SNR 5.8  
 Int time 419.826  
 Amp 0.159  
 Phase -98.6  
 PFD 7.6e-01  
 Delays (us)  
 SBD 0.109227  
 MBD 0.001234  
 Fringe rate (Hz)  
 -0.950206  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051101  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

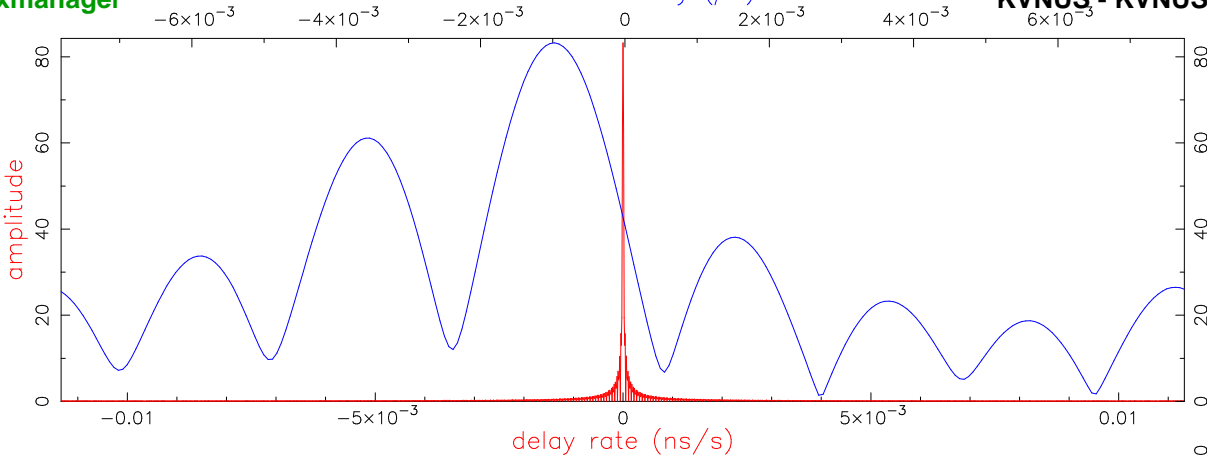
Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



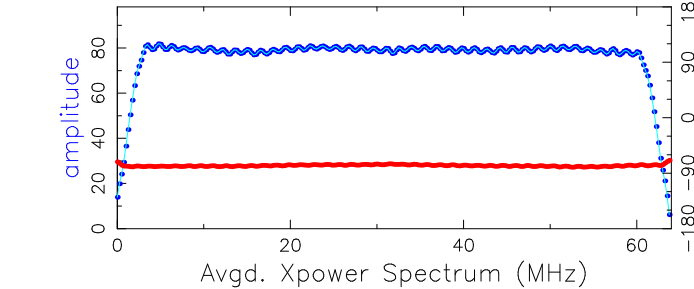
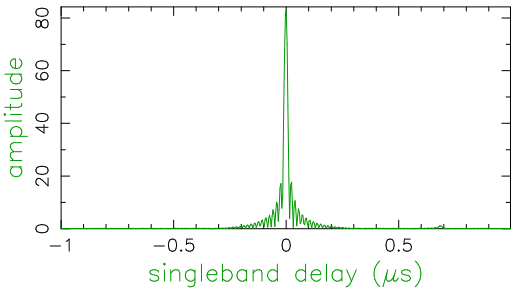
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-8.30658821926E+02									
Sband delay (usec)	-8.30660203656E+02									
Phase delay (usec)	-8.30769434086E+02									
Delay rate (us/s)	-1.69352836497E+00									
Total phase (deg)			-18.8							
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)										
pcd θ										
u,v (fr/asec)										
simultaneous interpolator										

u: az 299.2 el 39.0 pa 73.7 P: az 62.2 el 40.3 pa -73.2 u,v (fr/asec) 13131.261 -130.382  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uP..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uP.W.97.1W6KVZ

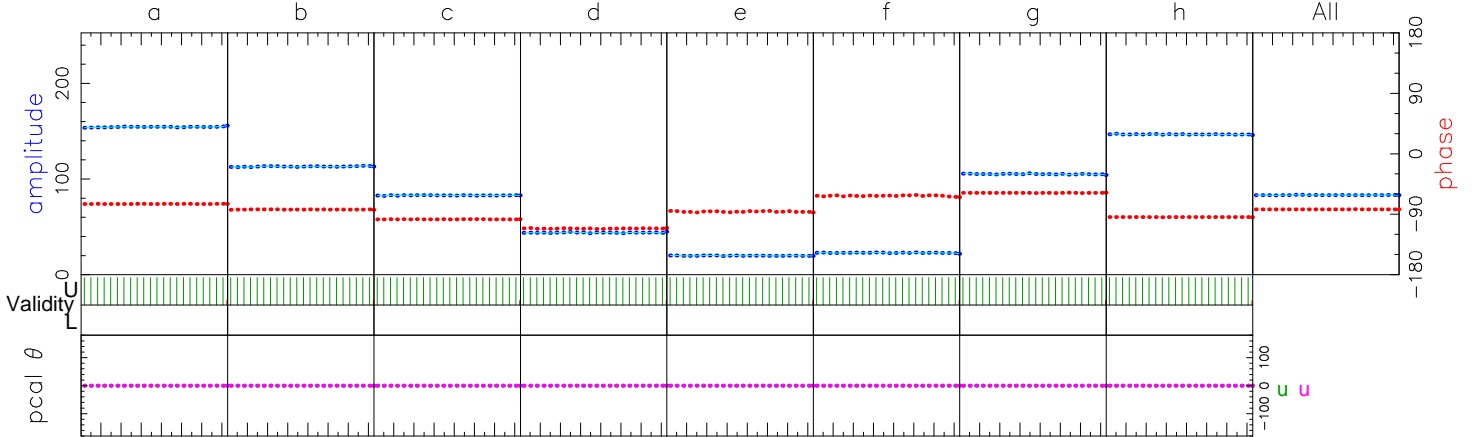
multiband delay ( $\mu$ s)



Fringe quality 6  
SNR 4722.3  
Int time 419.840  
Amp 84.277  
Phase -82.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.001421  
MBD -0.000976  
Fringe rate (Hz) 0.000001  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c211a  
Exper # 16383  
Yr:day 2021:114  
Start 034501.00  
Stop 035200.84  
FRT 034831.00  
Corr/FF/build  
2021:287:030638  
2021:287:051103  
2021:252:122852  
RA & Dec (J2000)  
22h02m43.291370s  
+42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	-9.76156250000E-04								Resid mbdelay (usec)	-9.76156E-04 +/- 2.3E-07
Sband delay (usec)	-1.42125000000E-03								Resid sbdelay (usec)	-1.42125E-03 +/- 1.8E-06
Phase delay (usec)	-2.66597128854E-06								Resid phdelay (usec)	-2.66597E-06 +/- 7.8E-10
Delay rate (us/s)	8.50269143501E-12								Resid rate (us/s)	8.50269E-12 +/- 3.2E-12
Total phase (deg)			-82.7						Resid phase (deg)	-82.7 +/- 0.0
RMS	0.1	0.1							PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	0.1	0.1							PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	1.3	0.1							Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	19.3	0.0							Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	58.8	0.1							Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

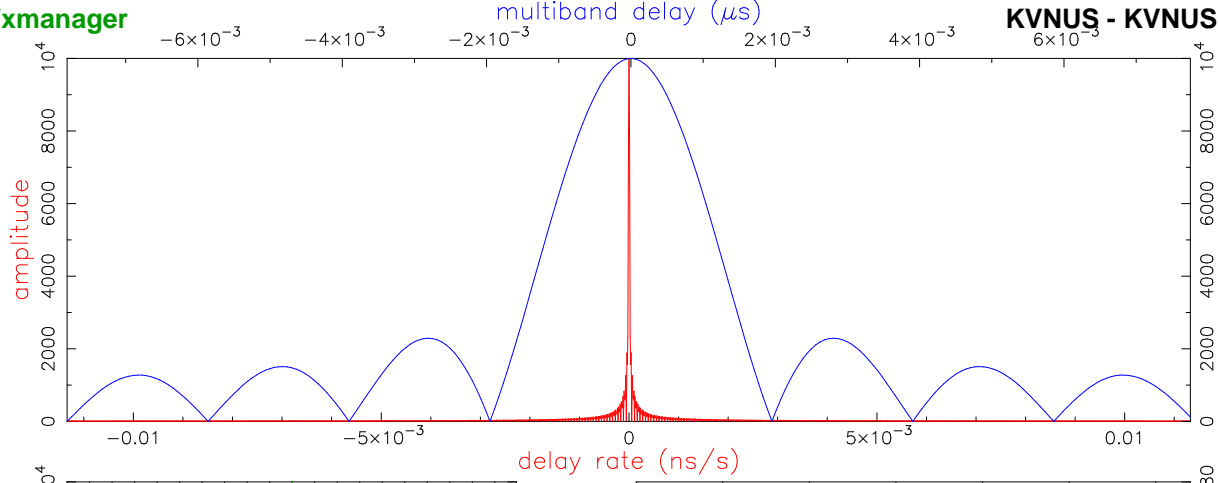
u: az 299.2 el 39.0 pa 73.7      u: az 299.2 el 39.0 pa 73.7      u,v (fr/asec) 0.000 0.000      simultaneous interpolator  
Control file: cf\_1234\_gmva    Input file: /Exps/c211a/v2/1234/No0164/uu..1W6KVZ    Output file: /Exps/c211a/v2/1234/No0164/uu.W.112.1W6KVZ

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uu

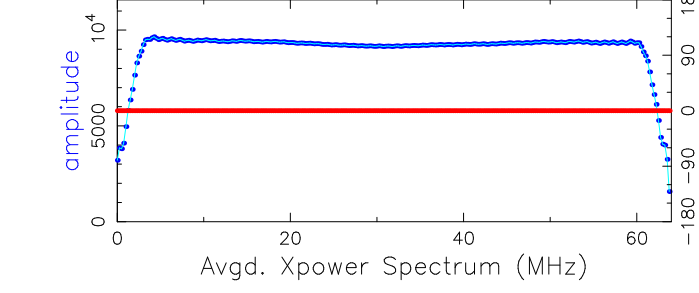
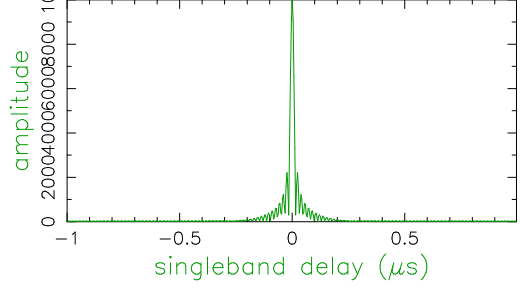
KVNU3 - KVNU3, fgroup W, pol LL



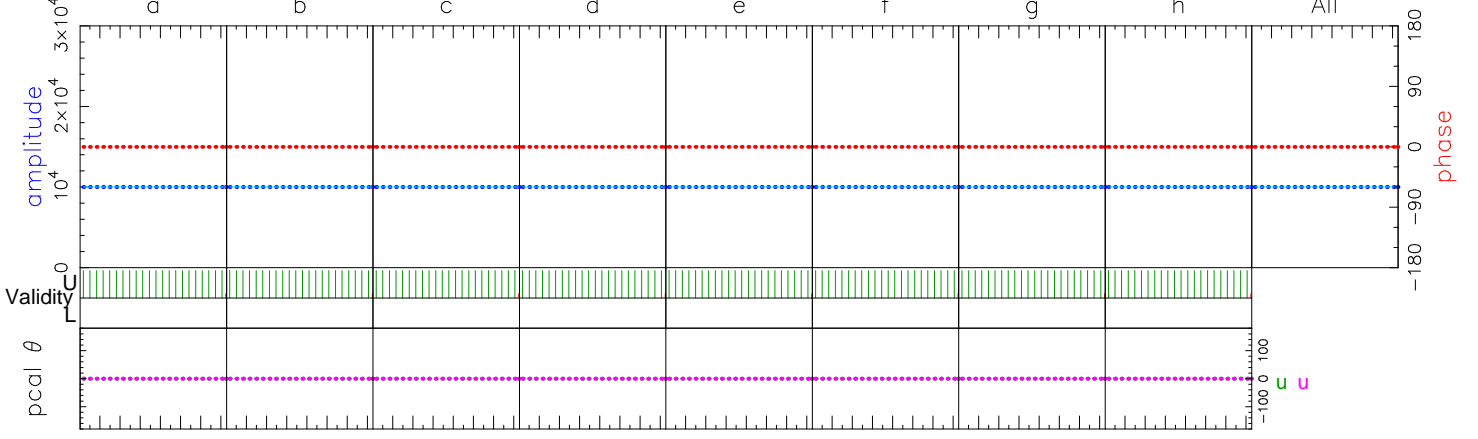
Fringe quality 9

SNR 560324.4  
 Int time 419.840  
 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. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051054  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Ampl.	10000.0
u	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	257.0
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	PC amp	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
									Tracks	
									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	Resid mbdelay (usec)	0.00000E+00 +/- 1.9E-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	Resid sbdelay (usec)	0.00000E+00 +/- 1.5E-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	Resid phdelay (usec)	0.00000E+00 +/- 6.6E-12
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	Resid rate (us/s)	0.00000E+00 +/- 2.7E-14
Total phase (deg)			0.0						Resid phase (deg)	0.0 +/- 0.0

ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 10000.000 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (2048X32) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) 0.000 0.000 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/c211a/v2/1234/No0164/uu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uu.W.67.1W6KVZ simultaneous interpolator

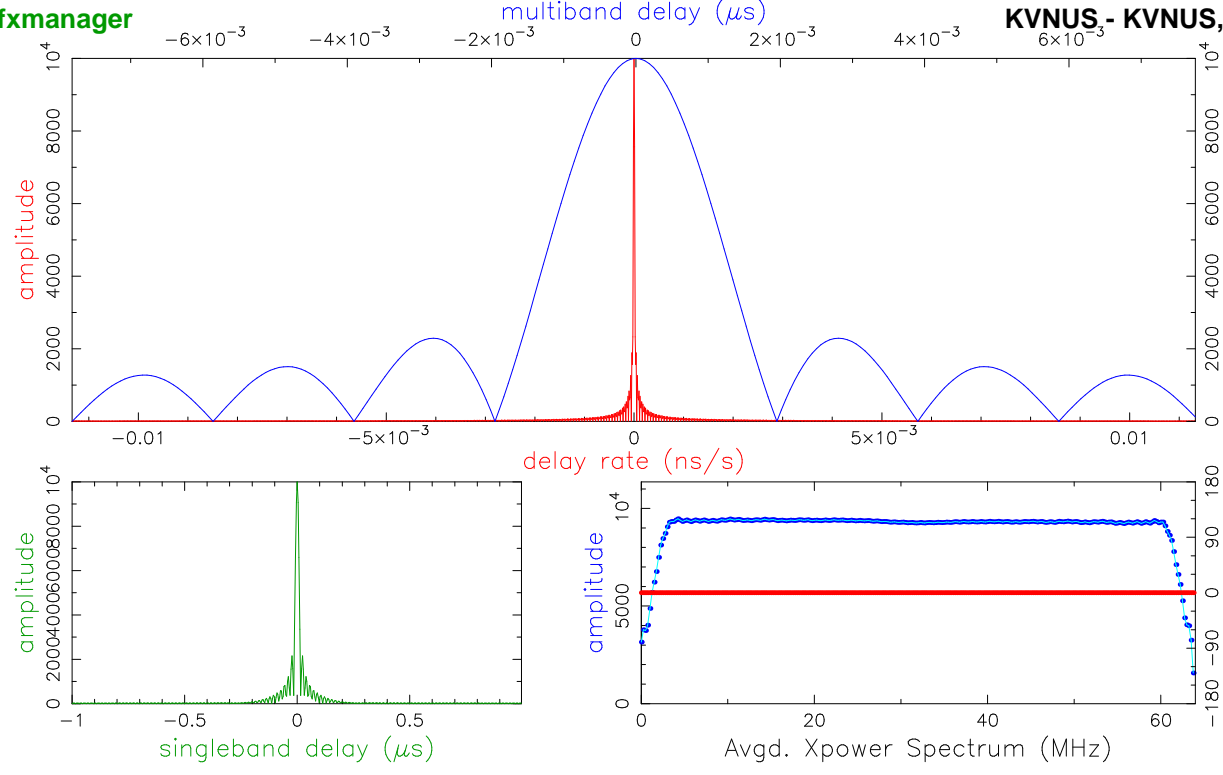


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

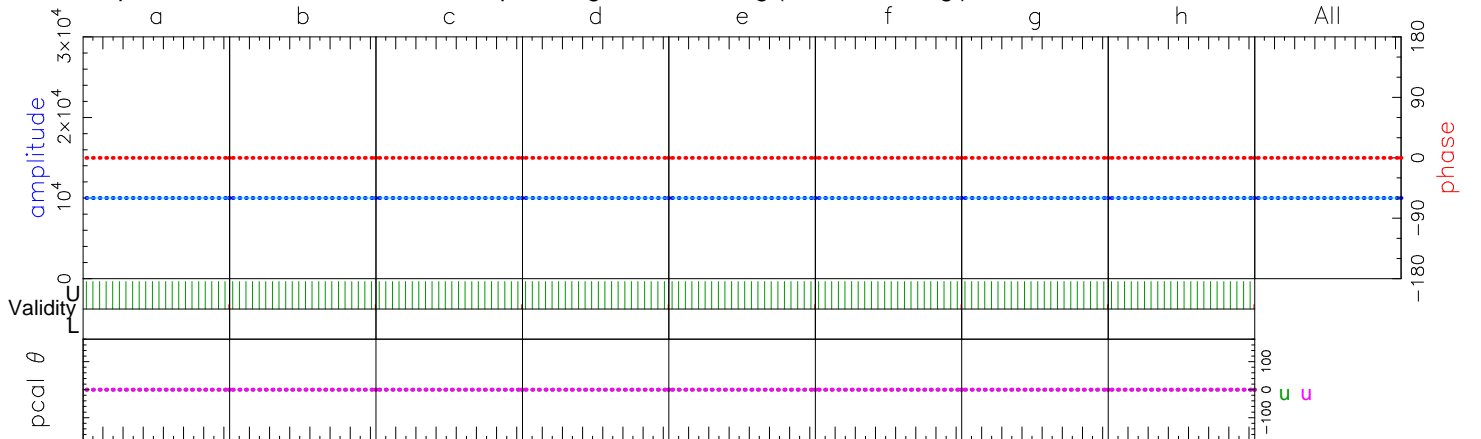
BLLAC.1W6KVZ, No0164, uu

KVNUS- KVNUS, fgroup W, pol RR



Fringe quality 9  
 SNR 560324.4  
 Int time 419.840  
 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. c211a  
 Yr:day 16383  
 Start 2021:114  
 Stop 2021:114  
 FRT 034501.00  
 FRT 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051057  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000	Ampl.	10000.0
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Sbd box	257.0
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Mani PC	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	PC amp	
									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		+/- 1.9E-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		+/- 1.5E-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		+/- 6.6E-12
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		+/- 2.7E-14
Total phase (deg)			0.0							+/- 0.0

ph/seg (deg) 0.0 0.0 Theor. Amplitude 10000.000 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (2048X32) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 u: az 299.2 el 39.0 pa 73.7 u, v (fr/asec) 0.000 0.000 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/c211a/v2/1234/No0164/uu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uu.W.80.1W6KVZ simultaneous interpolator

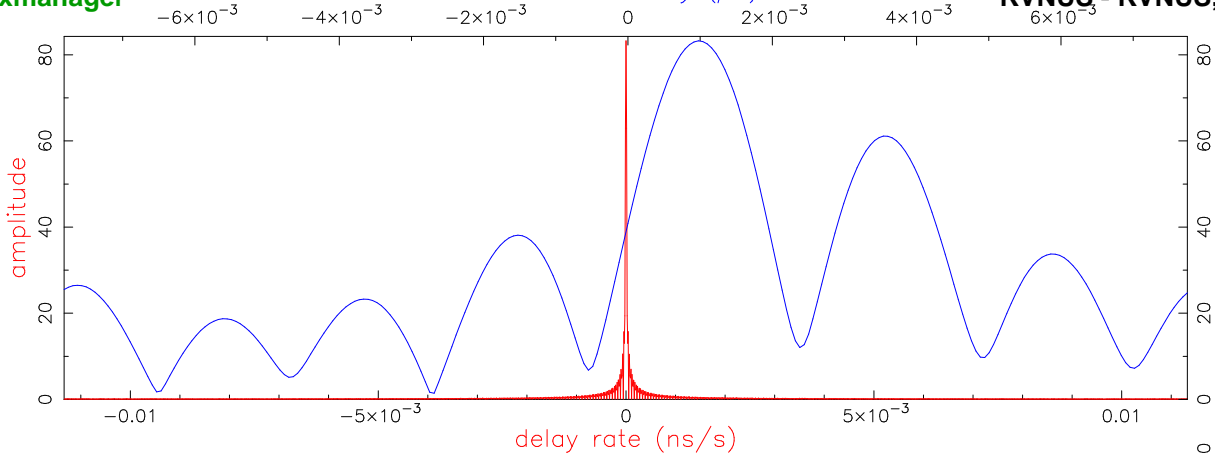
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uu

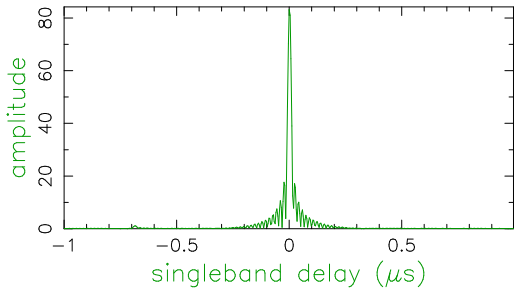
KVNUS - KVNUS, fgroup W, pol LR

multiband delay ( $\mu$ s)

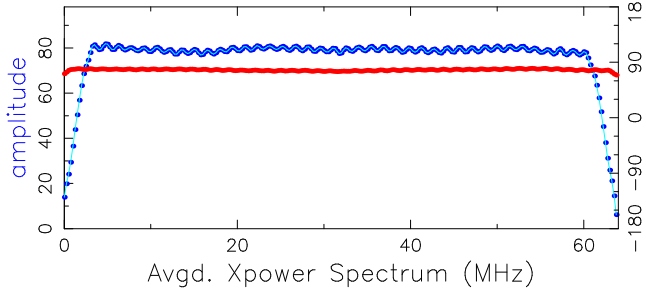


Fringe quality 6

SNR 4722.3  
 Int time 419.840  
 Amp 84.277  
 Phase 82.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001421  
 MBD 0.000976  
 Fringe rate (Hz)  
 -0.000001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

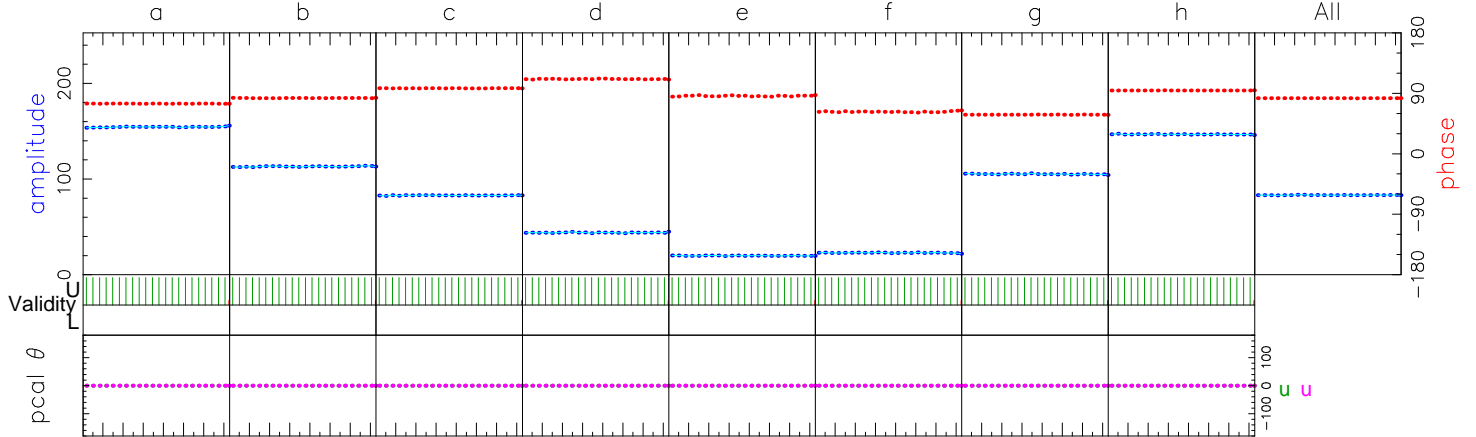


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051100  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
74.6	82.9	97.5	111.2	86.0	62.5	58.2	94.2	146.7	Phase	82.7
154.4	113.1	82.9	44.0	19.9	22.9	105.2	105.2	146.7	Ampl.	86.2
257.4	257.4	257.5	257.1	256.3	257.6	257.5	257.7	257.7	Sbd box	257.4
U/L 820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000		
u W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids	
u W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks	
									Tracks	
Group delay (usec)(sbd)	9.76156250000E-04		Apriori delay (usec)	0.00000000000E+00		Resid mbdelay (usec)	9.76156E-04	+/-	2.3E-07	
Sband delay (usec)	1.42125000000E-03		Apriori clock (usec)	0.0000000E+00		Resid sbdelay (usec)	1.42125E-03	+/-	1.8E-06	
Phase delay (usec)	2.66597128848E-06		Apriori clockrate (us/s)	0.0000000E+00		Resid phdelay (usec)	2.66597E-06	+/-	7.8E-10	
Delay rate (us/s)	-8.50269143501E-12		Apriori rate (us/s)	0.00000000000E+00		Resid rate (us/s)	-8.50269E-12	+/-	3.2E-12	
Total phase (deg)		82.7	Apriori accel (us/s/s)	0.00000000000E+00		Resid phase (deg)	82.7	+/-	0.0	

ph/seg (deg) 0.1 0.1 Theor. Amplitude 84.277 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 1.3 0.1 Search (2048X32) 83.231 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 19.3 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 58.8 0.1 Inc. seg. avg. 83.231 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 u: az 299.2 el 39.0 pa 73.7 u,v (fr/asec) 0.000 0.000 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uu..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uu.W.96.1W6KVZ simultaneous interpolator



Mk4/DiFX fourfit 3.21 rev 2937

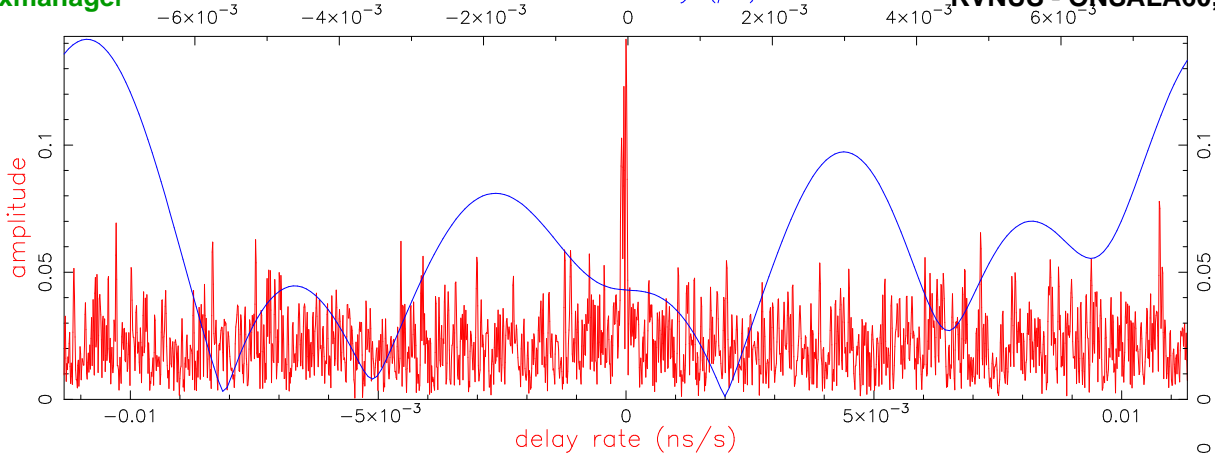
fxmanager

BLLAC.1W6KVZ, No0164, uX

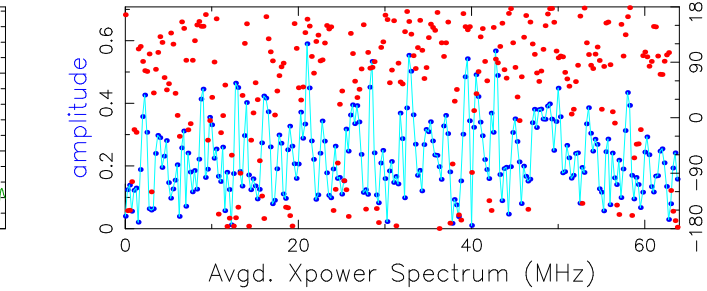
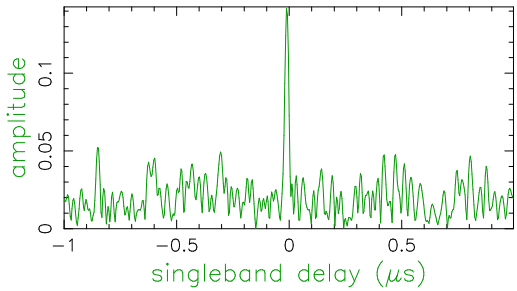
KVNUS - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu\text{s}$ )

Fringe quality 9

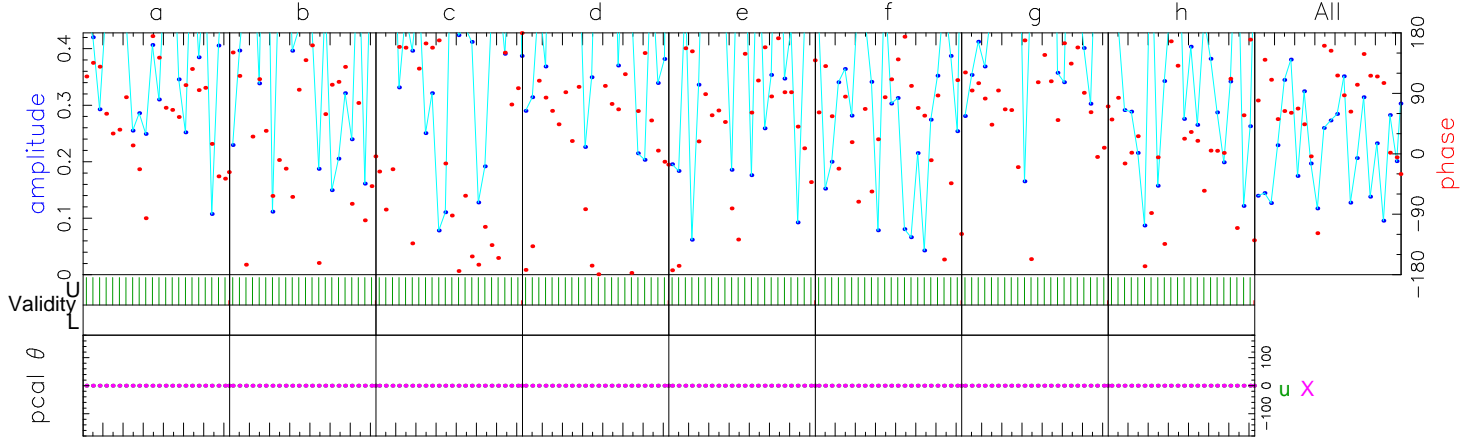


SNR 8.0  
 Int time 419.792  
 Amp 0.143  
 Phase 84.8  
 PFD 4.4e-07  
 Delays (us)  
 SBD -0.010456  
 MBD -0.007516  
 Fringe rate (Hz)  
 -0.000375  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051107  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	70.1	53.9	-151.8	90.9	105.3	60.2	90.9	16.1	Phase	84.8
	0.2	0.1	0.1	0.3	0.2	0.1	0.3	0.1	Ampl.	0.2
	255.0	29.0	305.5	253.0	252.2	431.5	253.8	225.9	Sbd box	254.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.47918525159E+03		Apriori delay (usec)		-4.47917773566E+03		Resid mbdelay (usec)		-7.51594E-03	+/- 1.4E-04
Sband delay (usec)	-4.47918819141E+03		Apriori clock (usec)		-4.1894440E+01		Resid sbdelay (usec)		-1.04557E-02	+/- 1.1E-03
Phase delay (usec)	-4.47917773292E+03		Apriori clockrate (us/s)		5.9899996E-07		Resid phdelay (usec)		2.73384E-06	+/- 4.6E-07
Delay rate (us/s)	-1.33522118118E+00		Apriori rate (us/s)		-1.33522117683E+00		Resid rate (us/s)		-4.35196E-09	+/- 1.9E-09
Total phase (deg)			Apriori accel (us/s/s)		3.72116663560E-06		Resid phase (deg)		84.8	+/- 14.3

ph/seg (deg) 58.7 34.4 Search (2048X32) 0.138 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 82.6 60.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 60.9 20.3 Inc. seg. avg. 0.191 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 63.7 35.4 Inc. frq. avg. 0.165 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 X: az 93.2 el 55.1 pa -46.6 u,v (fr/asec) 10354.074 -1596.444 ion window (TEC) 0.00 0.00  
 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uX..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uX.W.127.1W6KVZ

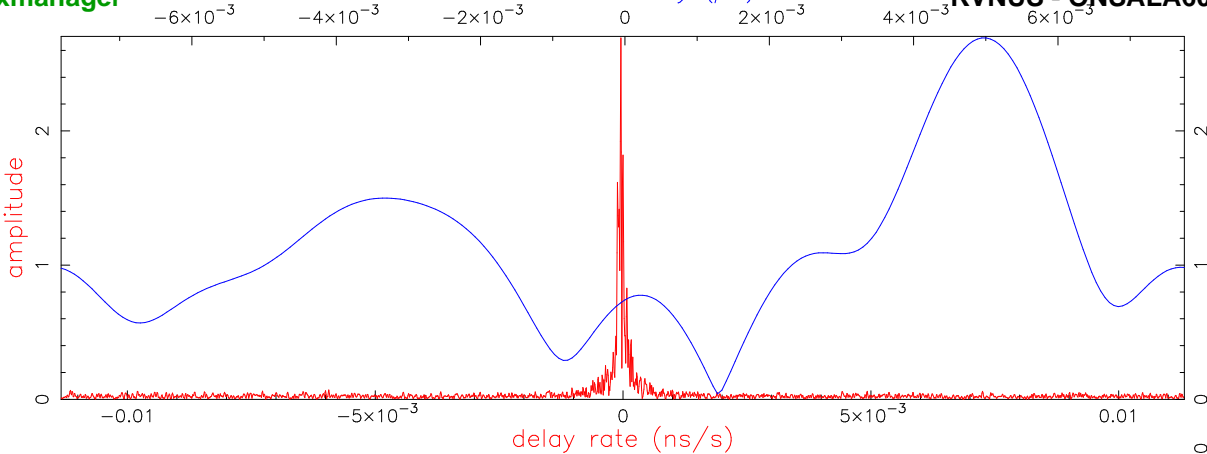
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uX

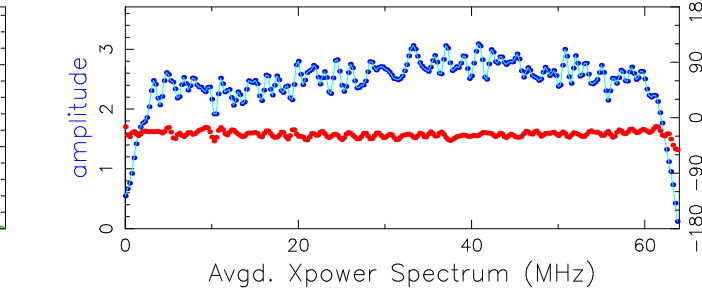
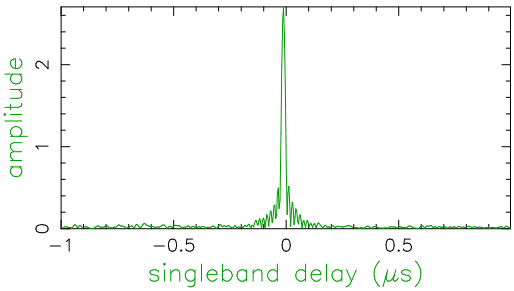
KVNUS - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)



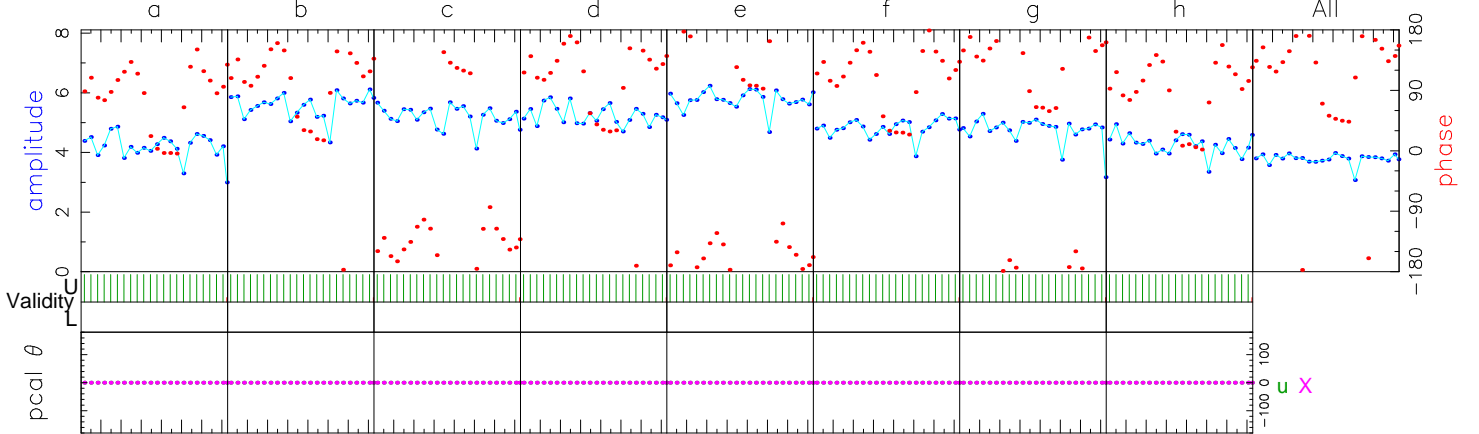
Fringe quality 2

SNR 151.5  
 Int time 419.792  
 Amp 2.704  
 Phase 131.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.012555  
 MBD 0.004951  
 Fringe rate (Hz)  
 -0.004234  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051056  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-4.47918840979E+03	Apriori delay (usec)	-4.47917773566E+03	Resid mbdelay (usec)	4.95087E-03	+/-	7.2E-06
Sband delay (usec)	-4.47919029116E+03	Apriori clock (usec)	-4.1894440E+01	Resid sbdelay (usec)	-1.25555E-02	+/-	5.7E-05
Phase delay (usec)	-4.47917773142E+03	Apriori clockrate (us/s)	5.9899996E-07	Resid phdelay (usec)	4.23769E-06	+/-	2.4E-08
Delay rate (us/s)	-1.33522122599E+00	Apriori rate (us/s)	-1.33522117683E+00	Resid rate (us/s)	-4.91569E-08	+/-	1.0E-10
Total phase (deg)		Apriori accel (us/s/s)	3.72116663560E-06	Resid phase (deg)	131.4	+/-	0.8

ph/seg (deg)	46.4	1.8	Search (2048X32)	2.506	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	40.5	3.2	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	47.8	1.1	Inc. seg. avg.	3.782	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	33.8	1.9	Inc. frq. avg.	3.543	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

u: az 299.2 el 39.0 pa 73.7 X: az 93.2 el 55.1 pa -46.6 u,v (fr/asec) 10354.074 -1596.444 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uX..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uX.W.79.1W6KVZ



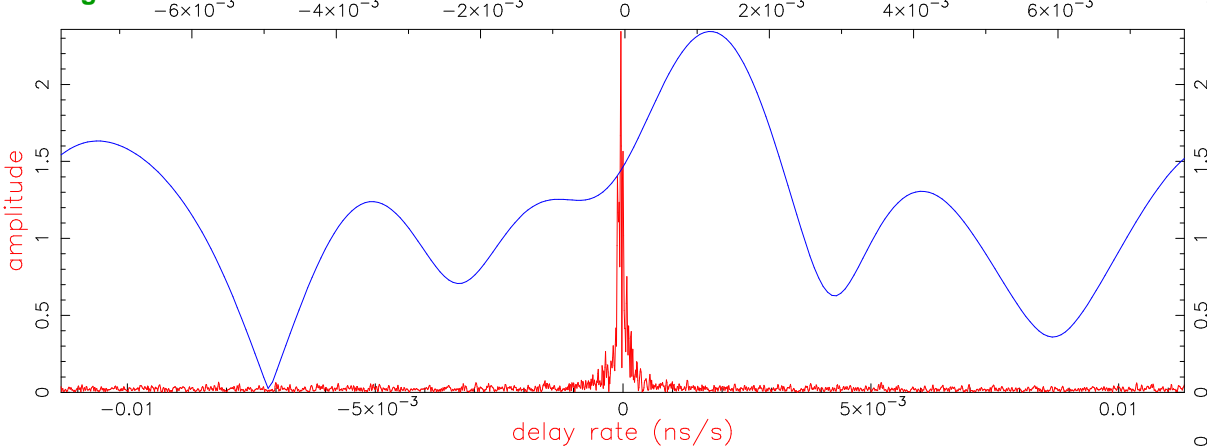
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uX

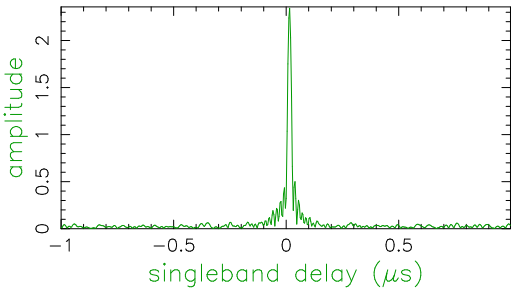
KVNUS - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

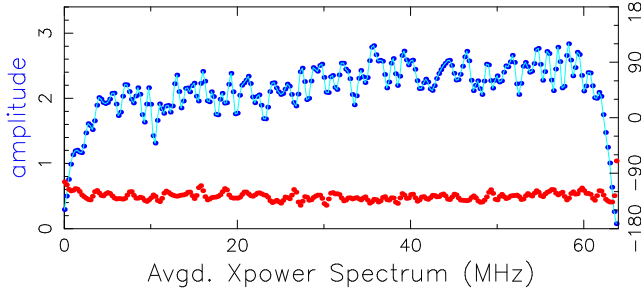


Fringe quality 2

SNR 132.1  
Int time 419.792  
Amp 2.358  
Phase 27.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.014623  
MBD 0.001149  
Fringe rate (Hz)  
-0.004212  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

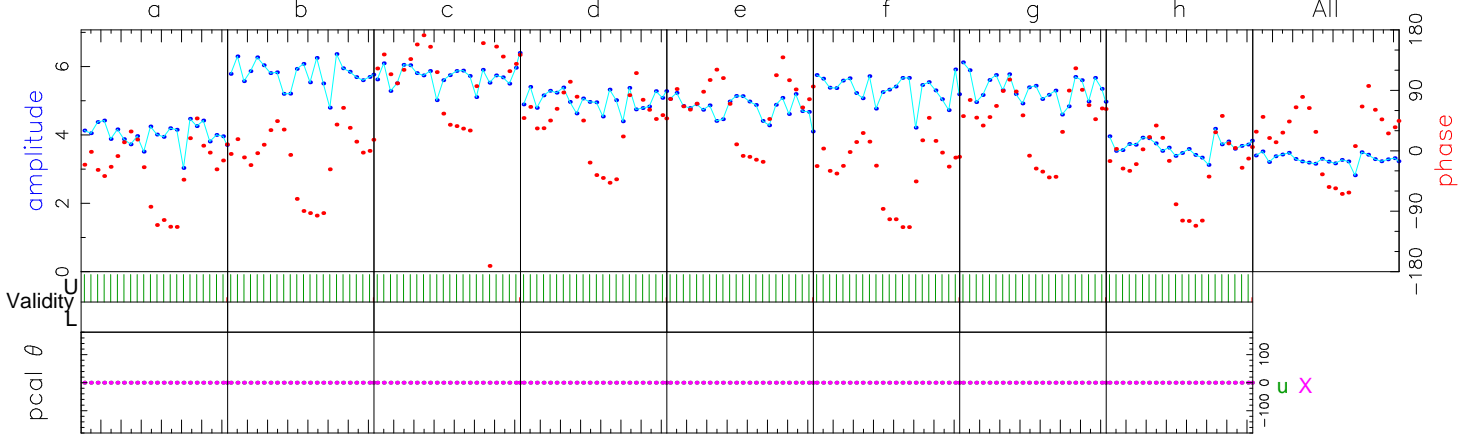


delay rate (ns/s)



Exp. c211a  
Exper # 16383  
Yr:day 2021:114  
Start 034501.00  
Stop 035200.84  
FRT 034831.00  
Corr/FF/build  
2021:287:030638  
2021:287:051100  
2021:252:122852  
RA & Dec (J2000)  
22h02m43.291370s  
+42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-23.9	-5.9	118.9	44.2	69.7	-22.8	51.8	-16.8	Phase	27.0
	2.8	4.0	4.0	3.5	3.5	3.8	3.8	2.6	Ampl.	3.5
	262.3	261.1	260.8	260.1	259.9	260.5	260.4	260.5	Sbd box	260.7
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-4.47916096129E+03		Apriori delay (usec)		-4.47917773566E+03		Resid mbdelay (usec)		1.14937E-03	+/- 8.2E-06
Sband delay (usec)	-4.47916311241E+03		Apriori clock (usec)		-4.1894440E+01		Resid sbdelay (usec)		1.46232E-02	+/- 6.5E-05
Phase delay (usec)	-4.47917773479E+03		Apriori clockrate (us/s)		5.9899996E-07		Resid phdelay (usec)		8.69318E-07	+/- 2.8E-08
Delay rate (us/s)	-1.33522122572E+00		Apriori rate (us/s)		-1.33522117683E+00		Resid rate (us/s)		-4.88947E-08	+/- 1.2E-10
Total phase (deg)			Apriori accel (us/s/s)		3.72116663560E-06		Resid phase (deg)		27.0	+/- 0.9

	RMS	Theor.	Amplitude	2.358 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000 1.000
ph/seg (deg)	46.8	2.1	Search (2048X32)	2.165	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008 0.008
amp/seg (%)	39.9	3.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011 0.011
ph/frq (deg)	56.6	1.2	Inc. seg. avg.	3.285	Sample rate(MISamp/s): 128		ion window (TEC)	0.00 0.00
amp/frq (%)	53.4	2.1	Inc. frq. avg.	3.511	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite		

u: az 299.2 el 39.0 pa 73.7 X: az 93.2 el 55.1 pa -46.6 u,v (fr/asec) 10354.074 -1596.444 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uX..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uX.W.95.1W6KVZ

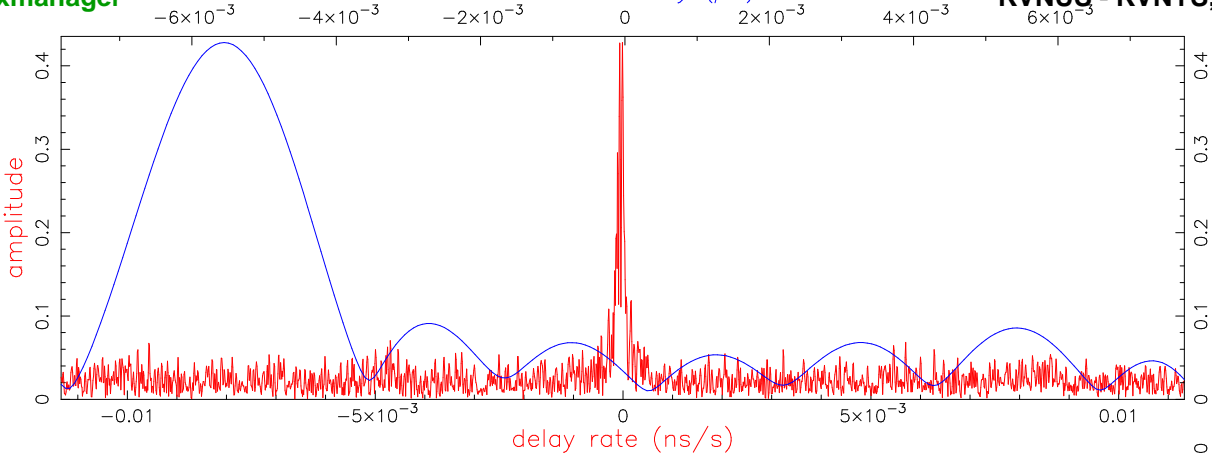
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uy

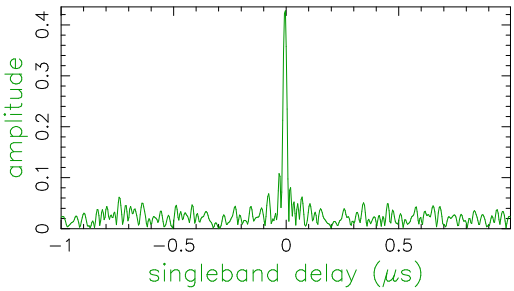
KVNU<sub>S</sub> - KVNY<sub>S</sub>, fgroup W, pol LR

multiband delay ( $\mu$ s)

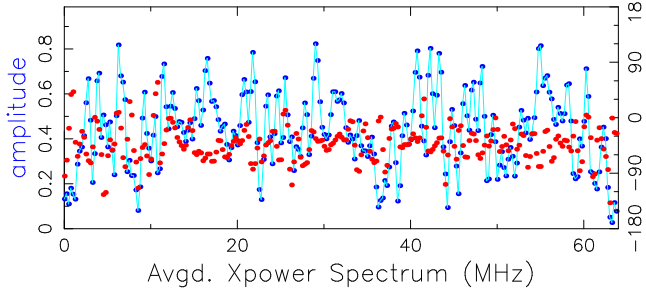


Fringe quality 7

SNR 24.4  
 Int time 419.502  
 Amp 0.435  
 Phase -42.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.005595  
 MBD -0.005564  
 Fringe rate (Hz)  
 -0.001156  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

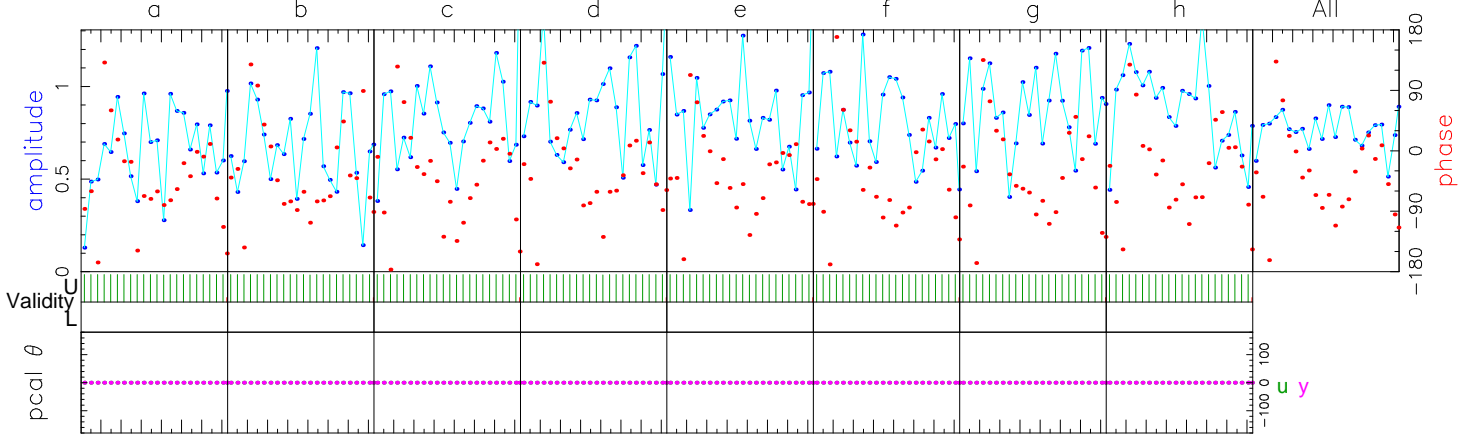


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051104  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-41.8	-48.1	-38.9	-37.4	-42.2	-56.3	-43.1	-34.3	Phase	-42.5	
	0.4	0.3	0.4	0.5	0.5	0.4	0.4	0.5	Ampl.	0.4	
	255.3	255.6	255.6	255.0	255.9	255.8	255.5	255.7	Sbd box	255.6	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
y	1000	1000	1000	1000	1000	1000	1000	1000			
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks		
									Tracks		
Group delay (usec)(sbd)	-7.28734209429E+02				-7.28728645263E+02				Resid mbdelay (usec)	-5.56417E-03	+/- 4.5E-05
Sband delay (usec)	-7.28734240263E+02					1.3788311E+01			Resid sbdelay (usec)	-5.59500E-03	+/- 3.5E-04
Phase delay (usec)	-7.28728646635E+02					1.1270000E-06			Resid phdelay (usec)	-1.37128E-06	+/- 1.5E-07
Delay rate (us/s)	-3.67043564775E-02					-3.67043430582E-02			Resid rate (us/s)	-1.34194E-08	+/- 6.3E-10
Total phase (deg)			-223.6			1.79656786866E-06			Resid phase (deg)	-42.5	+/- 4.7

	RMS	Theor.	Amplitude	0.435 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	63.6	11.3	Search (2048X32)	0.420	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
amp/seg (%)	78.5	19.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	7.4	6.6	Inc. seg. avg.	0.750	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
amp/frq (%)	13.5	11.6	Inc. frq. avg.	0.428	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite			

u: az 299.2 el 39.0 pa 73.7 y: az 297.0 el 41.6 pa 72.5 u,v (fr/asec) 288.158 -60.707 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uy..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uy.W.114.1W6KVZ

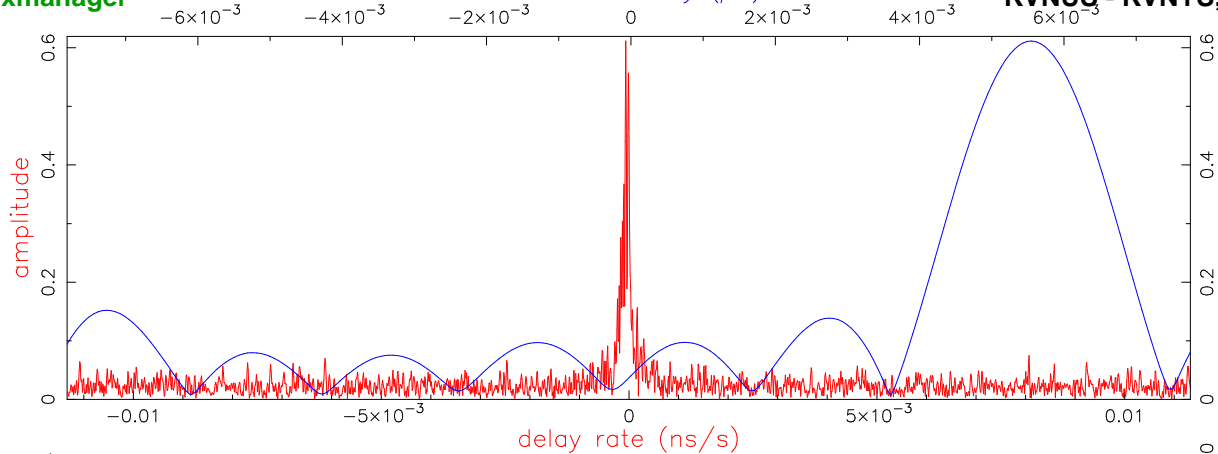
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uy

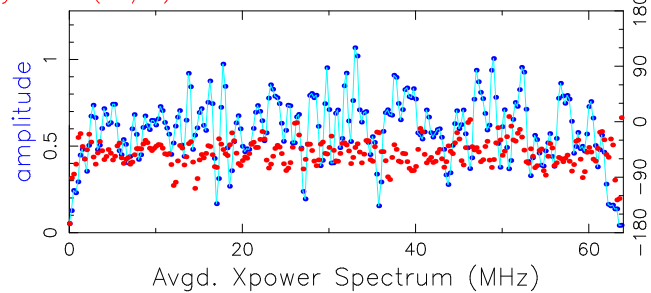
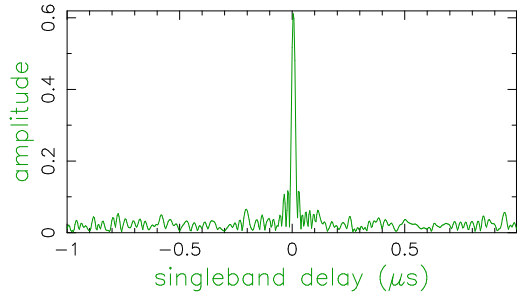
KVNU5 - KVNYS, fgroup W, pol RL

multiband delay ( $\mu$ s)



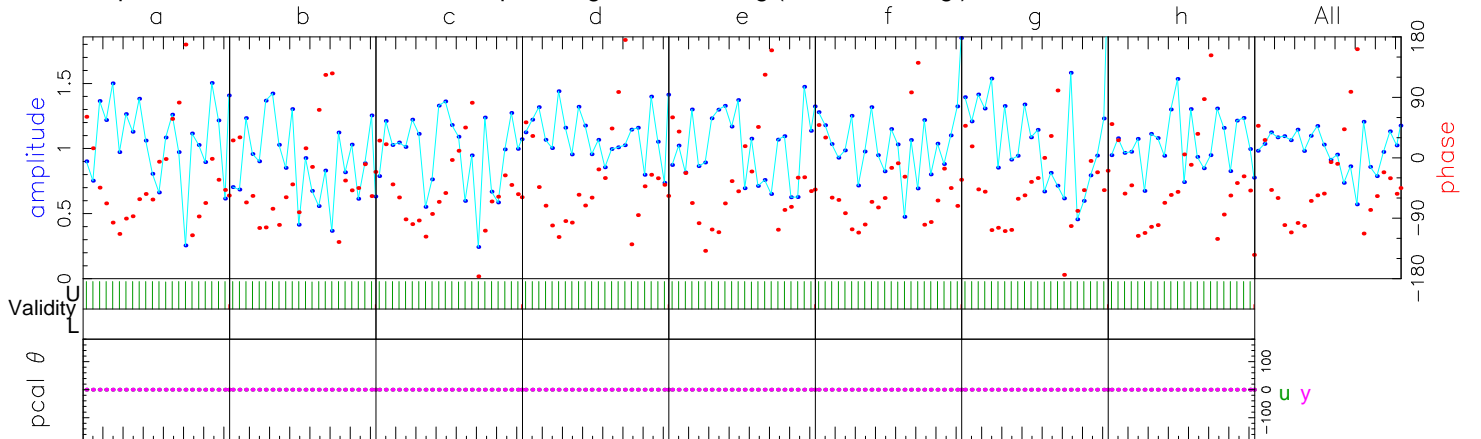
Fringe quality 7

SNR 34.7  
 Int time 419.502  
 Amp 0.619  
 Phase -52.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.005379  
 MBD 0.005551  
 Fringe rate (Hz)  
 -0.006001  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051107  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-50.4	-54.3	-48.7	-55.2	-55.5	-55.7	-50.2	-51.7	Phase	-52.6	
	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	Ampl.	0.6	
	258.4	258.6	258.5	258.6	258.5	258.1	258.2	258.1	Sbd box	258.4	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC		
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
y	1000	1000	1000	1000	1000	1000	1000	1000			
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks		
									Chan ids		
									Tracks		
Group delay (usec)(sbd)	-7.28723094227E+02			Apriori delay (usec)	-7.28728645263E+02				Resid mbdelay (usec)	5.55104E-03	+/- 3.1E-05
Sband delay (usec)	-7.28723266763E+02			Apriori clock (usec)	1.3788311E+01				Resid sbdelay (usec)	5.37850E-03	+/- 2.5E-04
Phase delay (usec)	-7.28728646960E+02			Apriori clockrate (us/s)	1.1270000E-06				Resid phdelay (usec)	-1.69682E-06	+/- 1.1E-07
Delay rate (us/s)	-3.67044127186E-02			Apriori rate (us/s)	-3.67043430582E-02				Resid rate (us/s)	-6.96604E-08	+/- 4.4E-10
Total phase (deg)		-233.7		Apriori accel (us/s/s)	1.79656786866E-06				Resid phase (deg)	-52.6	+/- 3.3

ph/seg (deg) 63.5 7.9 Search (2048X32) 0.589 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 65.2 13.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 3.0 4.7 Inc. seg. avg. 0.985 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 5.1 8.2 Inc. frq. avg. 0.610 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 299.2 el 39.0 pa 73.7 y: az 297.0 el 41.6 pa 72.5 u,v (fr/asec) 288.158 -60.707 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uy..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uy.W.129.1W6KVZ

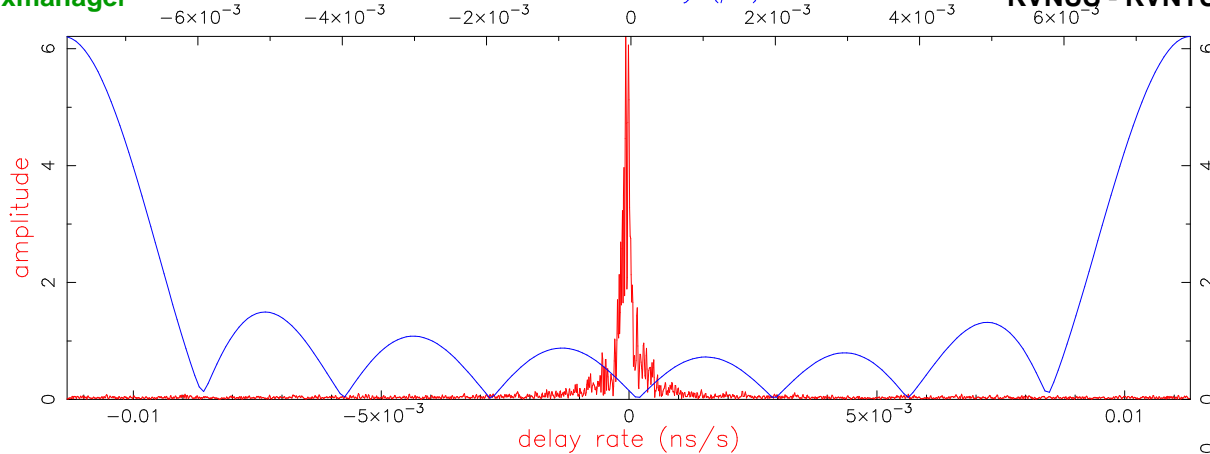
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uy

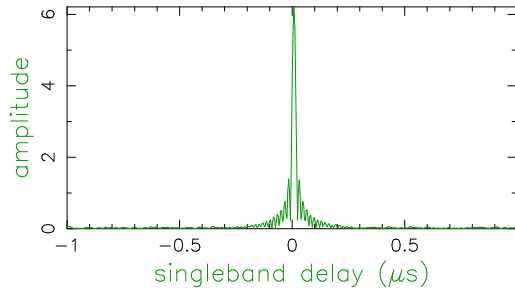
KVNU\$ - KVNY\$, fgroup W, pol LL

multiband delay ( $\mu$ s)

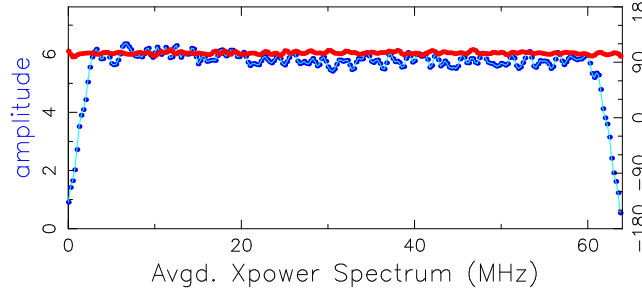


Fringe quality 5

SNR 347.9  
 Int time 419.502  
 Amp 6.212  
 Phase -74.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.007796  
 MBD -0.007871  
 Fringe rate (Hz)  
 -0.006043  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

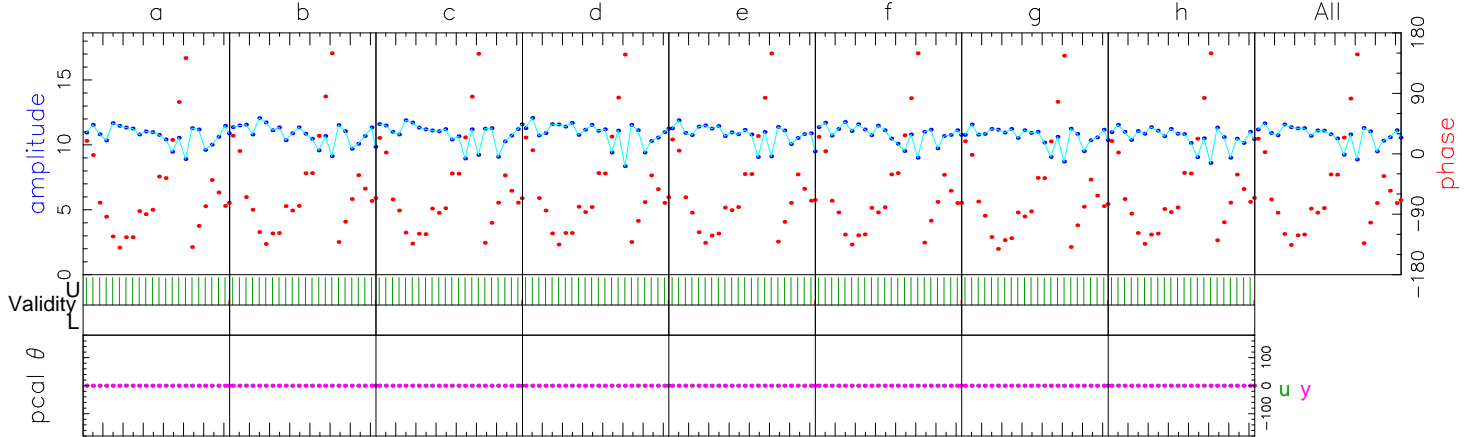


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051058  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-78.8	-71.8	-74.2	-72.1	-72.3	-74.0	-79.8	-73.1	Phase	-74.5
	6.2	6.2	6.2	6.3	6.3	6.2	6.2	6.2	Ampl.	6.2
	259.0	259.1	258.9	259.1	259.0	259.0	259.0	259.0	Sbd box	259.0
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -7.28720890795E+02 Apriori delay (usec) -7.28728645263E+02 Resid mbdelay (usec) -7.87053E-03 +/- 3.1E-06  
 Sband delay (usec) -7.28720849763E+02 Apriori clock (usec) 1.3788311E+01 Resid sbdelay (usec) 7.79550E-03 +/- 2.5E-05  
 Phase delay (usec) -7.28728647666E+02 Apriori clockrate (us/s) 1.1270000E-06 Resid phdelay (usec) -2.40274E-06 +/- 1.1E-08  
 Delay rate (us/s) -3.67044132160E-02 Apriori rate (us/s) -3.67043430582E-02 Resid rate (us/s) -7.01578E-08 +/- 4.4E-11  
 Total phase (deg) -255.6 Apriori accel (us/s/s) 1.79656786866E-06 Resid phase (deg) -74.5 +/- 0.3

RMS Theor. Amplitude 6.212 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 63.4 0.8 Search (2048X32) 6.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 74.3 1.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 3.3 0.5 Inc. seg. avg. 10.775 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.6 0.8 Inc. frq. avg. 6.221 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 299.2 el 39.0 pa 73.7 y: az 297.0 el 41.6 pa 72.5 u,v (fr/asec) 288.158 -60.707 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uy..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uy.W.82.1W6KVZ

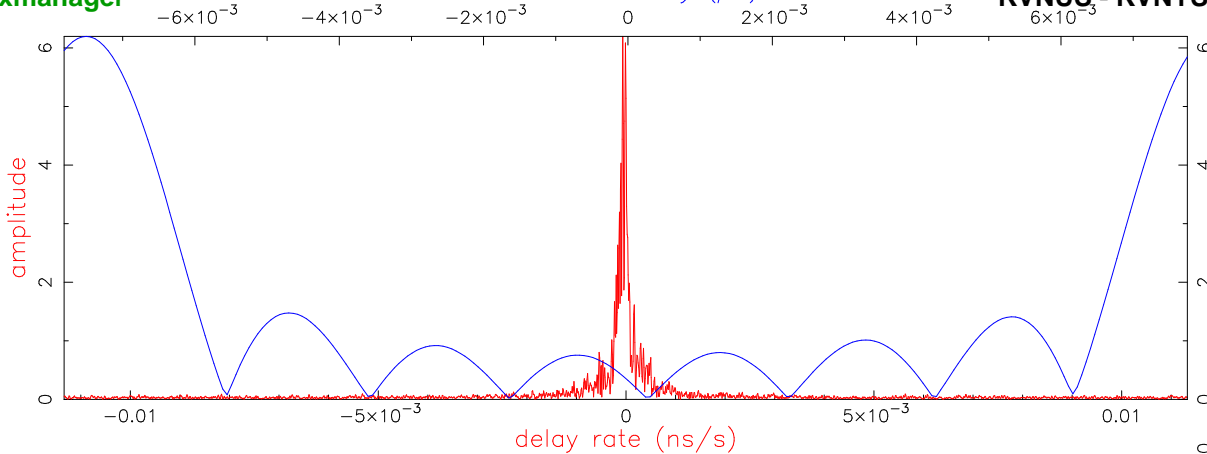
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uy

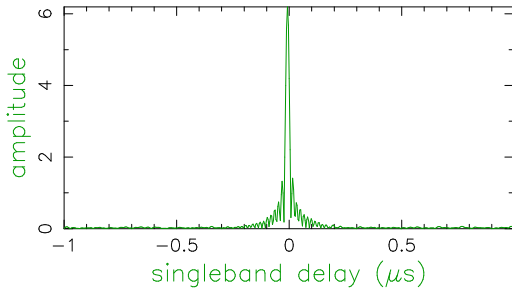
KVNU<sub>S</sub> - KVNY<sub>S</sub>, fgroup W, pol RR

multiband delay ( $\mu$ s)

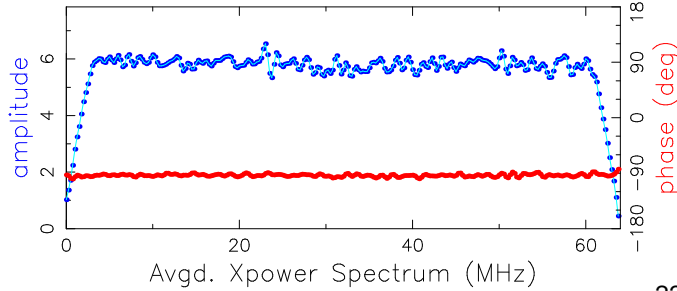


Fringe quality 5

SNR 347.1  
 Int time 419.502  
 Amp 6.197  
 Phase -94.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.007593  
 MBD -0.007507  
 Fringe rate (Hz)  
 -0.006036  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

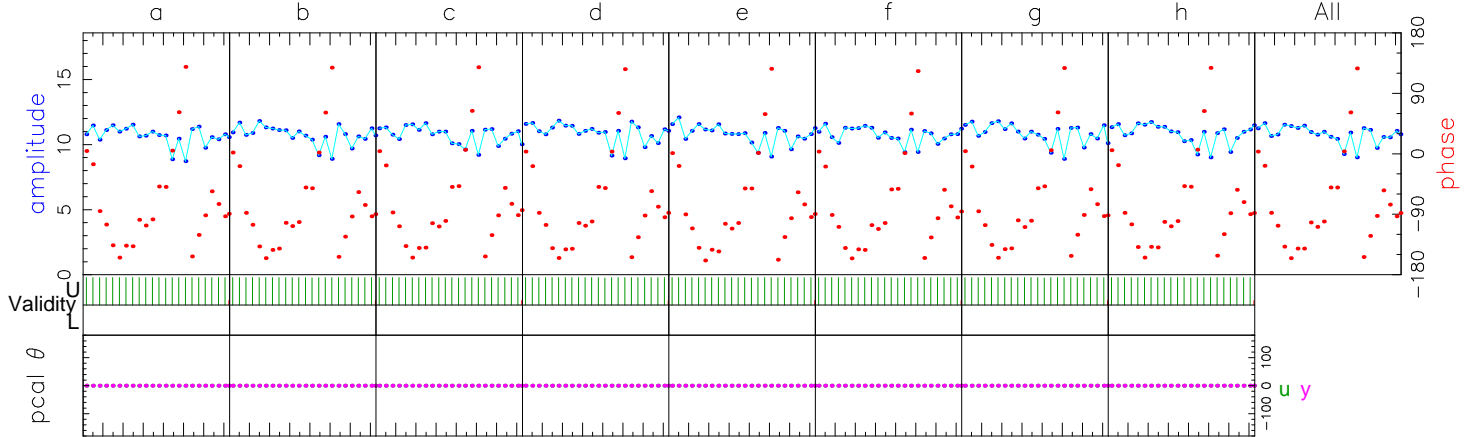


delay rate (ns/s)



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034501.00  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051101  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-92.8	-95.0	-93.9	-94.9	-96.4	-96.4	-93.2	-93.0	Phase	-94.4
	6.3	6.3	6.1	6.3	6.1	6.1	6.3	6.2	Ampl.	6.2
	255.1	255.1	255.0	255.1	255.0	255.1	255.0	255.0	Sbd box	255.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.28736152352E+02		Apriori delay (usec)	-7.28728645263E+02	Resid mbdelay (usec)	-7.50709E-03	+/-	3.1E-06		
Sband delay (usec)	-7.28736238013E+02		Apriori clock (usec)	1.3788311E+01	Resid sbdelay (usec)	-7.59275E-03	+/-	2.5E-05		
Phase delay (usec)	-7.28728648309E+02		Apriori clockrate (us/s)	1.1270000E-06	Resid phdelay (usec)	-3.04563E-06	+/-	1.1E-08		
Delay rate (us/s)	-3.67044131267E-02		Apriori rate (us/s)	-3.67043430582E-02	Resid rate (us/s)	-7.00686E-08	+/-	4.4E-11		
Total phase (deg)		-275.5	Apriori accel (us/s/s)	1.79656786866E-06	Resid phase (deg)	-94.4	+/-	0.3		

RMS Theor. Amplitude 6.197 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 63.4 0.8 Search (2048X32) 5.923 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 74.9 1.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 1.5 0.5 Inc. seg. avg. 10.787 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 1.1 0.8 Inc. frq. avg. 6.197 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 299.2 el 39.0 pa 73.7 y: az 297.0 el 41.6 pa 72.5 u,v (fr/asec) 288.158 -60.707 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uy..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uy.W.98.1W6KVZ



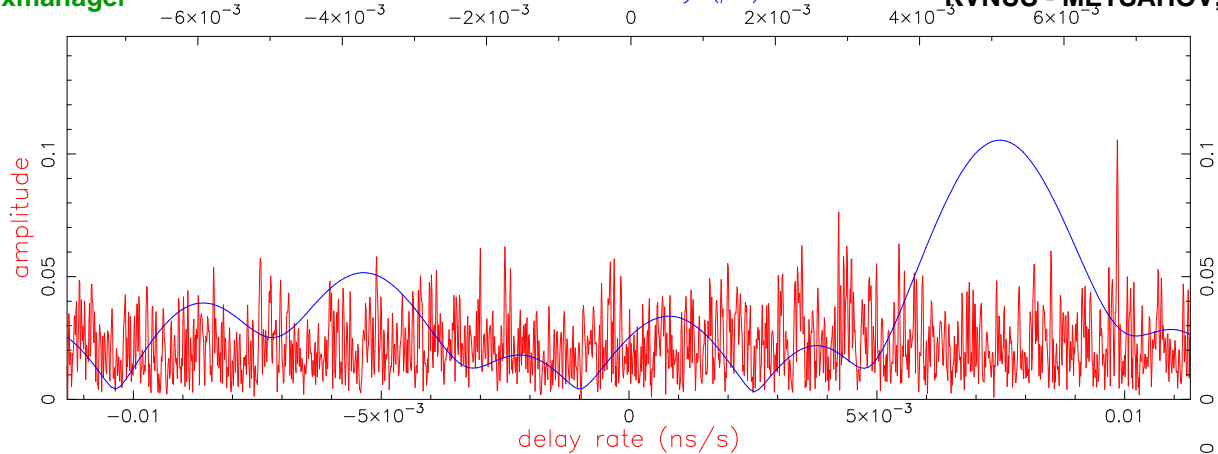
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uZ

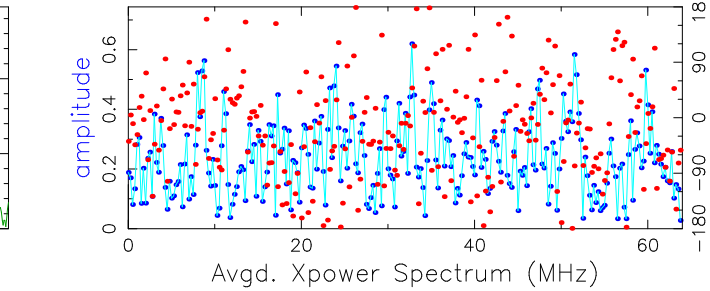
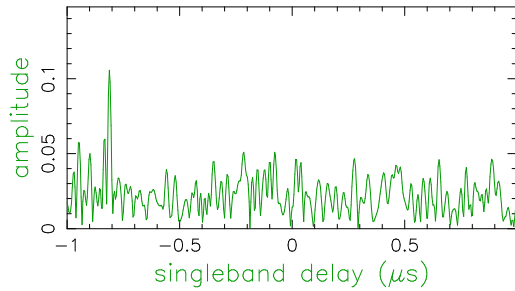
KVNUS - METSAHOV, fgroup W, pol LR

multiband delay ( $\mu\text{s}$ )



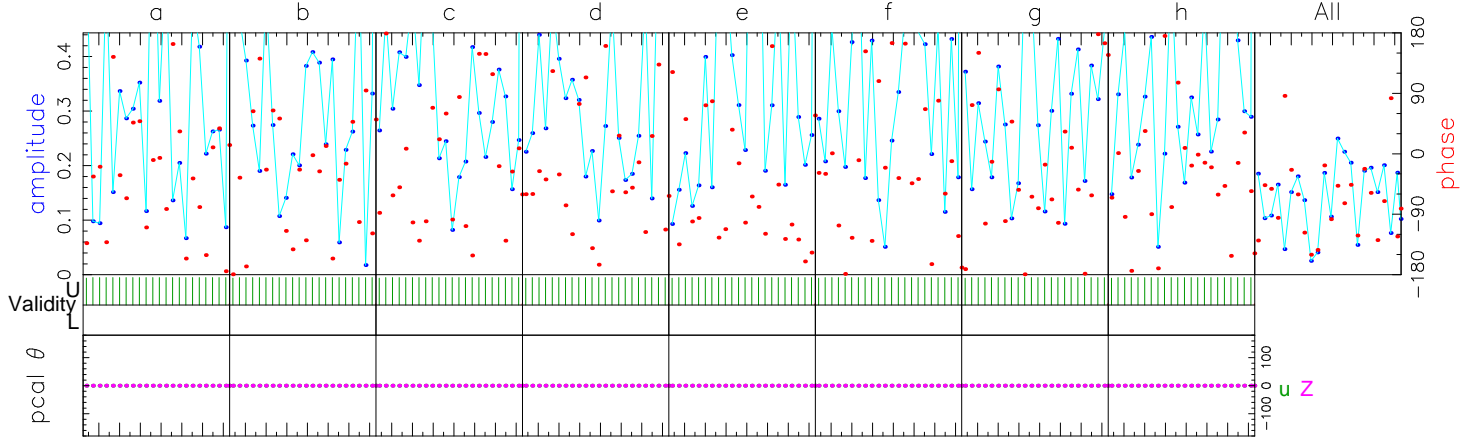
Fringe quality 0

SNR 5.8  
 Int time 405.840  
 Amp 0.148  
 Phase -70.1  
 PFD 7.4e-01  
 Delays (us)  
 SBD -0.811864  
 MBD 0.005125  
 Fringe rate (Hz)  
 0.849924  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034514.31  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051105  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-47.4	-67.2	-90.8	-76.0	-91.8	-46.5	-109.4	-47.4	Phase	-70.1
	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	Ampl.	0.1
	205.5	37.3	8.4	2.0	291.5	232.0	195.5	327.8	Sbd box	49.2
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-5.52167822084E+03	Apriori delay (usec)	-5.52087084619E+03	Resid mbdelay (usec)	5.12535E-03	+/-	1.9E-04
Sband delay (usec)	-5.52168271019E+03	Apriori clock (usec)	1.5211227E+01	Resid sbdelay (usec)	-8.11864E-01	+/-	1.5E-03
Phase delay (usec)	-5.52087084845E+03	Apriori clockrate (us/s)	1.1110000E-06	Resid phdelay (usec)	-2.25915E-06	+/-	6.3E-07
Delay rate (us/s)	-1.20816943194E+00	Apriori rate (us/s)	-1.20817929872E+00	Resid rate (us/s)	9.86678E-06	+/-	2.7E-09
Total phase (deg)	-318.7	Apriori accel (us/s/s)	7.61773946908E-06	Resid phase (deg)	-70.1	+/-	19.6

ph/seg (deg)	62.0	Theor.	47.1	Amplitude	0.148 +/- 0.025	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	69.8		82.2	Search (2048X32)	0.101	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	26.1		27.8	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
amp/frq (%)	38.1		48.5	Inc. seg. avg.	0.151	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
				Inc. frq. avg.	0.143	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

u: az 299.2 el 39.0 pa 73.7      Z: az 110.4 el 60.9 pa -39.0      u,v (fr/asec) 9377.785 -1470.355      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c211a/v2/1234/No0164/uZ..1W6KVZ      Output file: /Exps/c211a/v2/1234/No0164/uZ.W.117.1W6KVZ

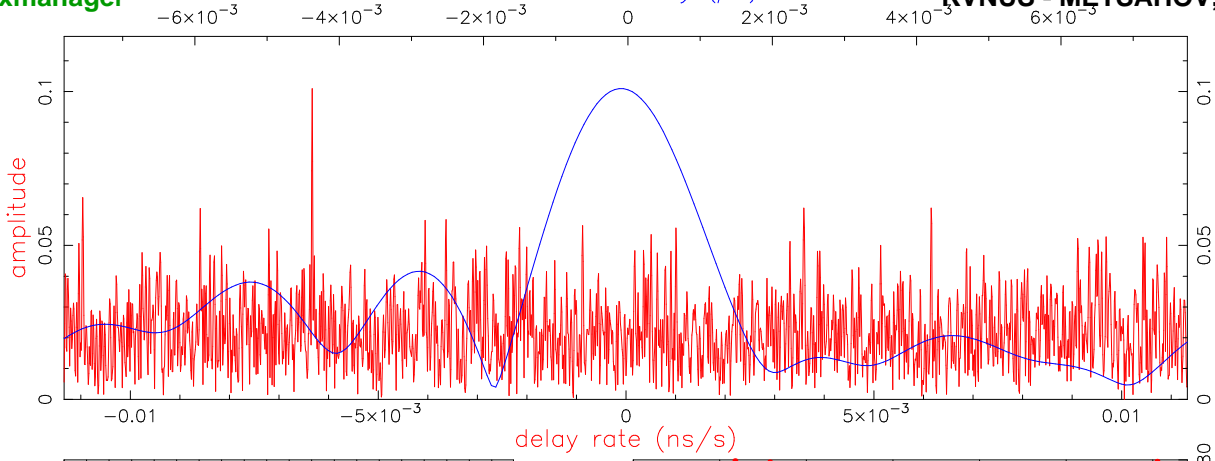
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

BLLAC.1W6KVZ, No0164, uZ

KVNUS - METSAHOV, fgroup W, pol RL

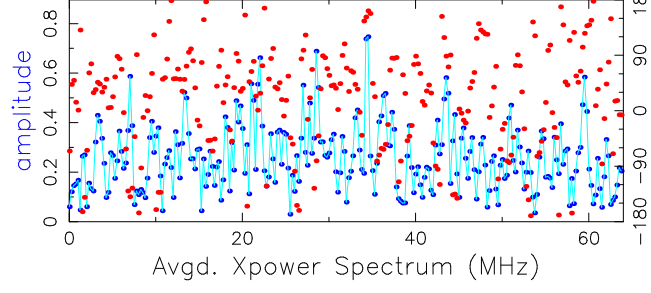
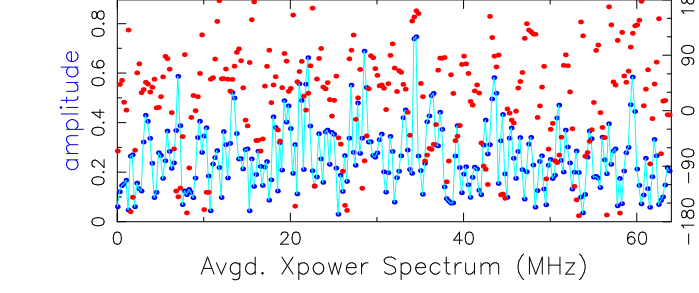
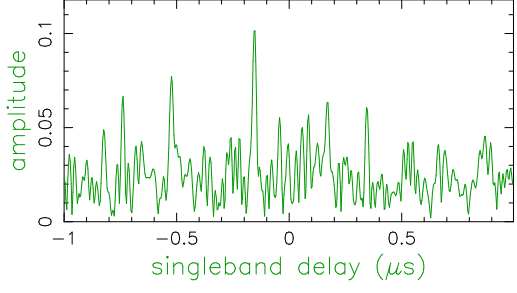
multiband delay ( $\mu$ s)



Fringe quality 0

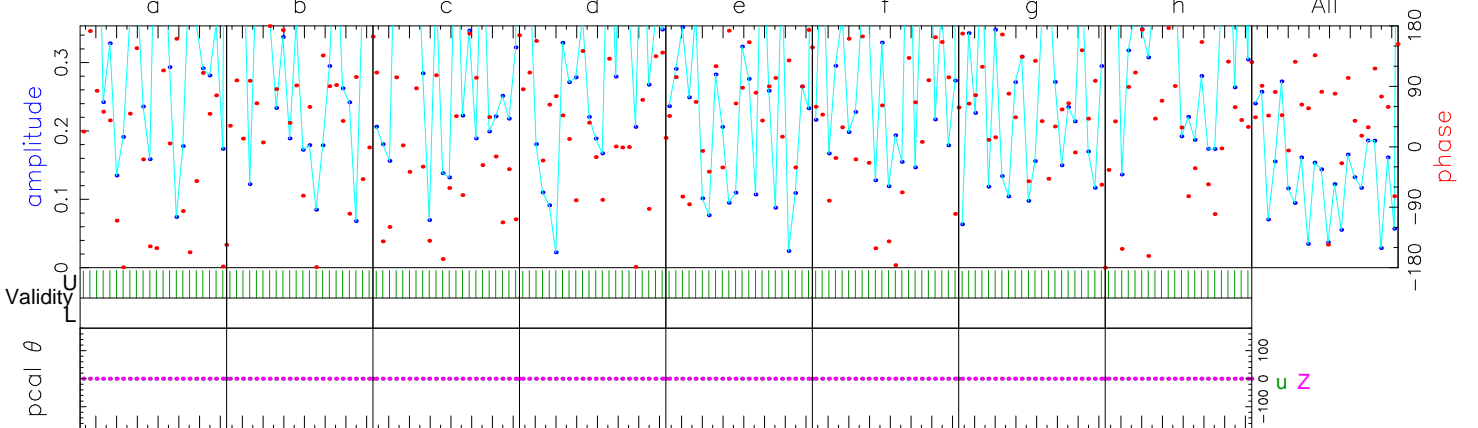
SNR 5.7  
 Int time 405.840  
 Amp 0.118  
 Phase 67.4  
 PFD 9.6e-01  
 Delays (us)  
 SBD -0.154166  
 MBD -0.000063  
 Fringe rate (Hz)  
 -0.546580  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034514.31  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051108  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



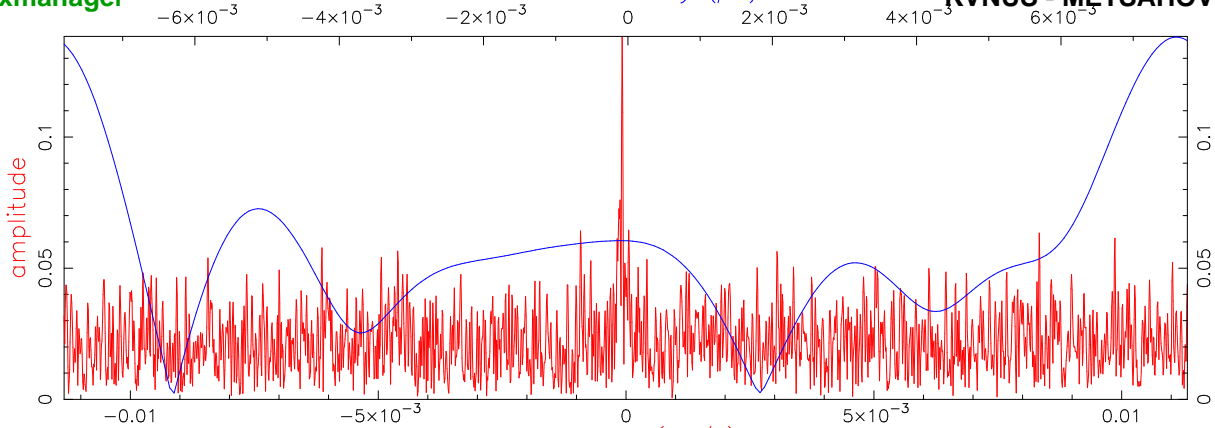
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-5.52102715928E+03									
Sband delay (usec)	-5.52102501194E+03									
Phase delay (usec)	-5.52087084401E+03									
Delay rate (us/s)	-1.20818564397E+00									
Total phase (deg)		-181.2								
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)									67.4	+/- 20.1
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)	-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) 58.4 48.3  
 amp/seg (%) 83.0 84.3  
 ph/frq (deg) 27.4 28.5  
 amp/frq (%) 25.0 49.7

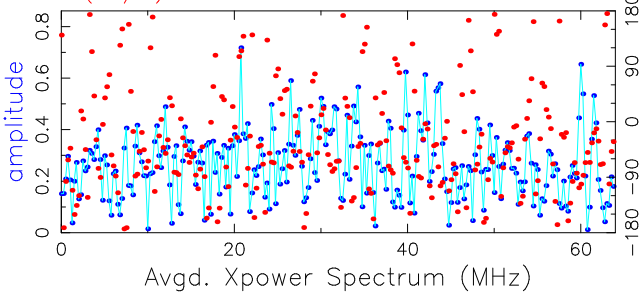
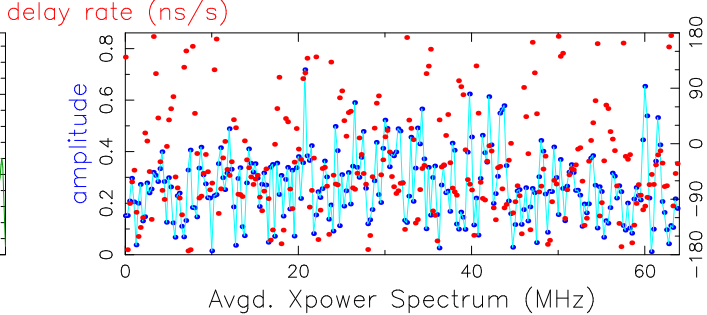
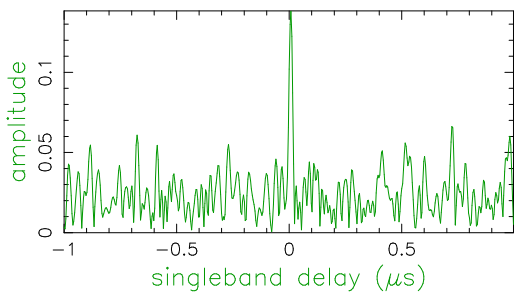
u: az 299.2 el 39.0 pa 73.7  
 Z: az 110.4 el 60.9 pa -39.0  
 u,v (fr/asec) 9377.785 -1470.355

Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uZ..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uZ.W.131.1W6KVZ

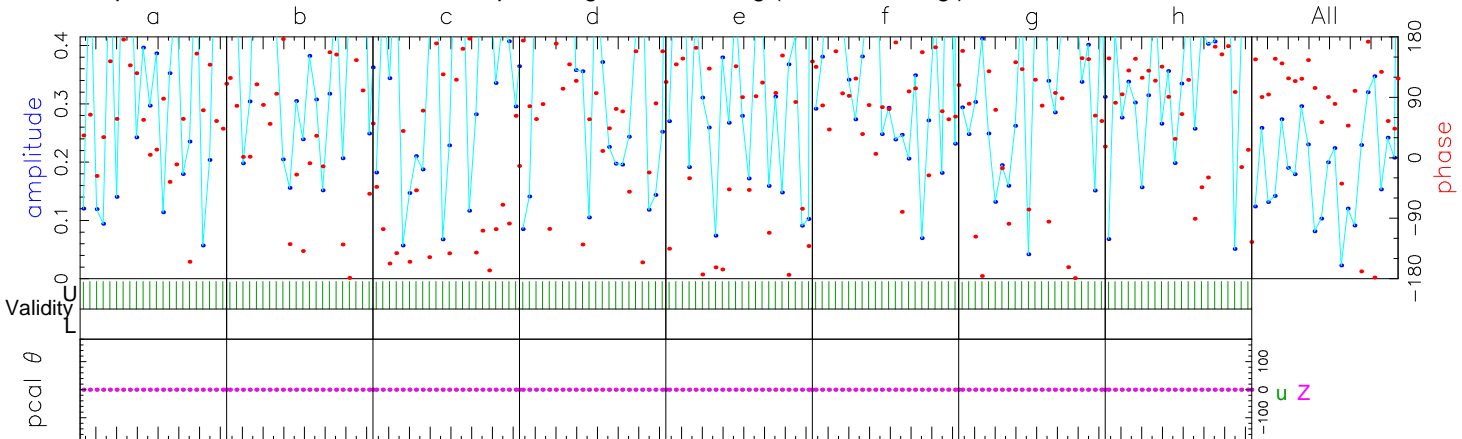
multiband delay ( $\mu$ s)



Fringe quality 9  
 SNR 7.6  
 Int time 405.840  
 Amp 0.138  
 Phase 119.1  
 PFD 8.2e-06  
 Delays (us)  
 SBD 0.007237  
 MBD -0.008039  
 Fringe rate (Hz)  
 -0.007145  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034514.31  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051058  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"



Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-5.52086325997E+03	Apriori delay (usec)	-5.52087084619E+03	Resid mbdelay (usec)	-8.03878E-03	+/-	1.4E-04
Sband delay (usec)	-5.52086360919E+03	Apriori clock (usec)	1.5211227E+01	Resid sbdelay (usec)	7.23700E-03	+/-	1.1E-03
Phase delay (usec)	-5.52087084235E+03	Apriori clockrate (us/s)	1.1110000E-06	Resid phdelay (usec)	3.84088E-06	+/-	4.8E-07
Delay rate (us/s)	-1.20817938167E+00	Apriori rate (us/s)	-1.20817929872E+00	Resid rate (us/s)	-8.29494E-08	+/-	2.1E-09
Total phase (deg)	-129.5	Apriori accel (us/s/s)	7.61773946908E-06	Resid phase (deg)	119.1	+/-	15.0

ph/seg (deg)	53.6	Theor.	36.1	Amplitude	0.138 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	72.5		62.9	Search (2048X32)	0.128	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	46.3		21.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	33.5		37.1	Inc. seg. avg.	0.159	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
				Inc. frq. avg.	0.166	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

u: az 299.2 el 39.0 pa 73.7 Z: az 110.4 el 60.9 pa -39.0 u,v (fr/asec) 9377.785 -1470.355 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c211a/v2/1234/No0164/uZ..1W6KVZ Output file: /Exps/c211a/v2/1234/No0164/uZ.W.83.1W6KVZ

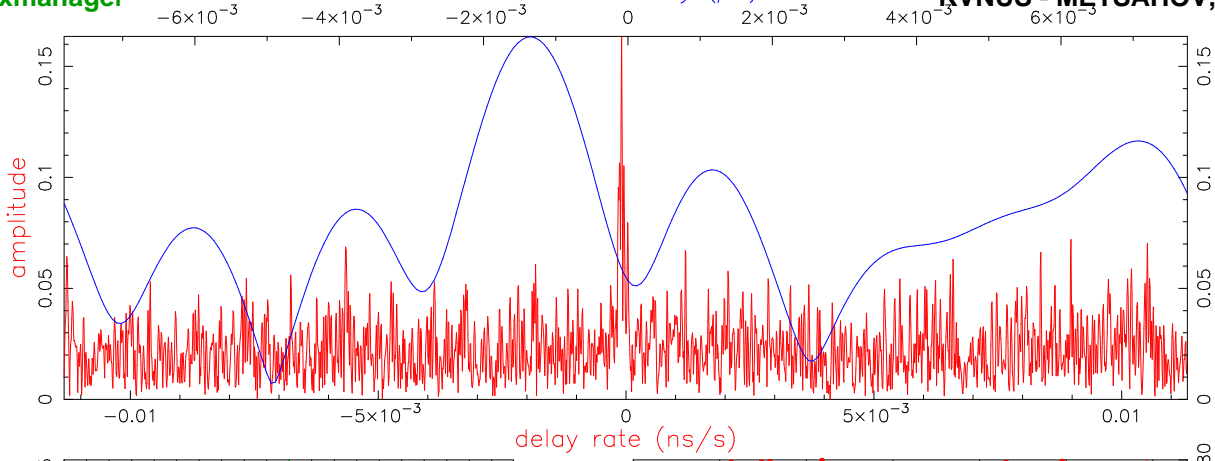
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

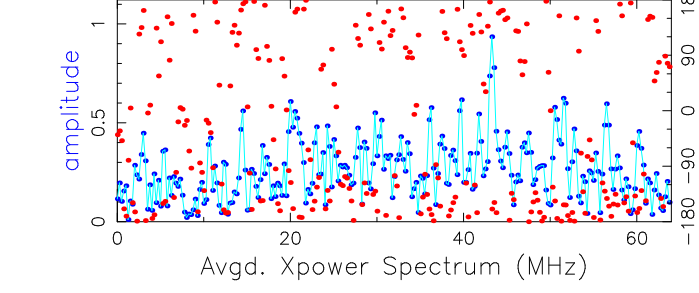
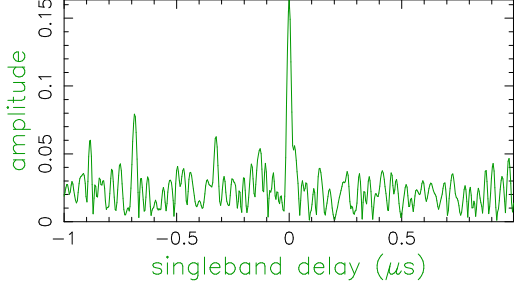
BLLAC.1W6KVZ, No0164, uZ

KVNUS - METSAHOV, fgroup W, pol RR

multiband delay ( $\mu$ s)

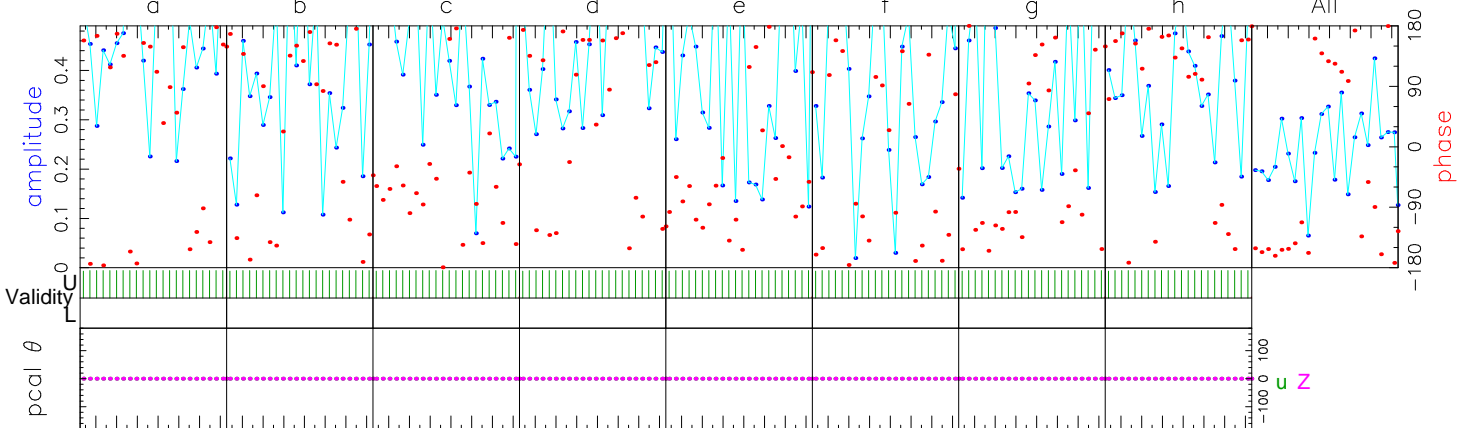


Fringe quality 9  
 SNR 9.0  
 Int time 405.840  
 Amp 0.164  
 Phase -167.9  
 PFD 8.0e-11  
 Delays (us)  
 SBD -0.000498  
 MBD -0.001363  
 Fringe rate (Hz)  
 -0.007479  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c211a  
 Exper # 16383  
 Yr:day 2021:114  
 Start 034514.31  
 Stop 035200.84  
 FRT 034831.00  
 Corr/FF/build  
 2021:287:030638  
 2021:287:051101  
 2021:252:122852  
 RA & Dec (J2000)  
 22h02m43.291370s  
 +42°16'39.979885"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-5.52087220880E+03									
Sband delay (usec)	-5.52087134419E+03									
Phase delay (usec)	-5.52087085160E+03									
Delay rate (us/s)	-1.20817938554E+00									
Total phase (deg)			-56.6							
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										
u,v (fr/asec)										
simultaneous interpolator										

u: az 299.2 el 39.0 pa 73.7      Z: az 110.4 el 60.9 pa -39.0      u,v (fr/asec) 9377.785 -1470.355  
 Control file: cf\_1234\_gmva    Input file: /Exps/c211a/v2/1234/No0164/uZ..1W6KVZ    Output file: /Exps/c211a/v2/1234/No0164/uZ.W.99.1W6KVZ