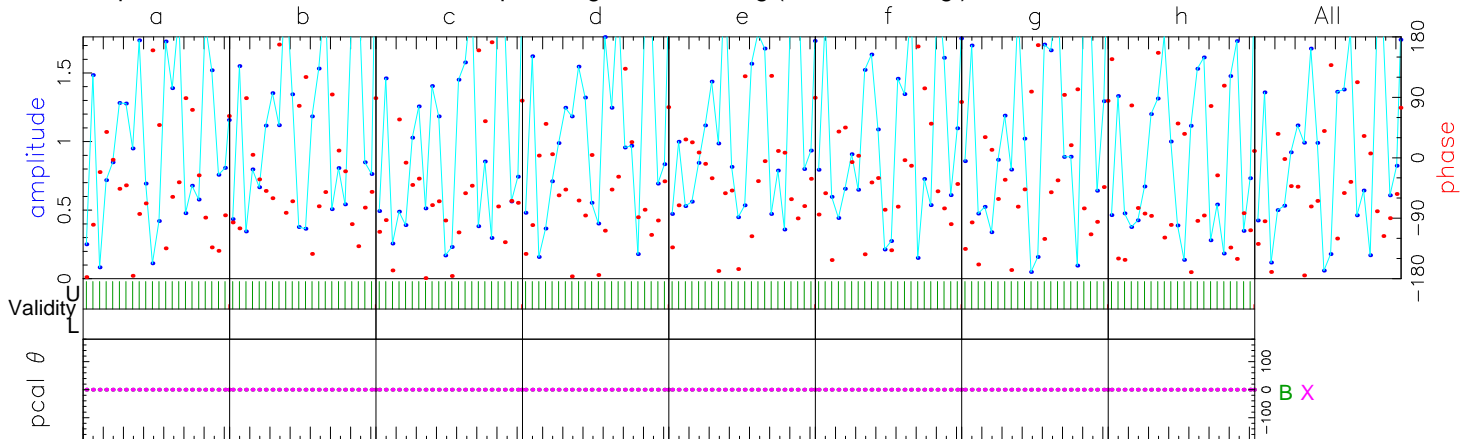


Fringe quality 5  
SNR 32.9  
Int time 419.798  
Amp 0.588  
Phase -71.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.013846  
MBD 0.001704  
Fringe rate (Hz)  
-0.000037  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 091500.00  
Stop 092159.84  
FRT 091830.00  
Corr/FF/build  
2021:019:231431  
2021:019:233123  
2020:247:085004  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

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
	-76.1	-77.8	-72.1	-72.3	-48.5	-43.2	-71.6	-122.3	Phase	-71.4
	0.5	0.7	0.6	0.6	0.7	0.6	0.7	0.5	Ampl.	0.6
	253.8	253.2	253.6	253.9	253.8	253.1	253.1	252.2	Sbd box	253.5
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.62857611921E+03	Apriori delay (usec)	-1.62856219790E+03	Resid mbdelay (usec)	1.70369E-03	+/-	3.3E-05
Sband delay (usec)	-1.62857604415E+03	Apriori clock (usec)	-3.8233810E+01	Resid sbdelay (usec)	-1.38463E-02	+/-	2.6E-04
Phase delay (usec)	-1.62856220020E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	-2.30288E-06	+/-	1.1E-07
Delay rate (us/s)	1.22581209320E-01	Apriori rate (us/s)	1.22581209755E-01	Resid rate (us/s)	-4.34346E-10	+/-	4.6E-10
Total phase (deg)	-333.1	Apriori accel (us/s/s)	3.35659394995E-06	Resid phase (deg)	-71.4	+/-	3.5

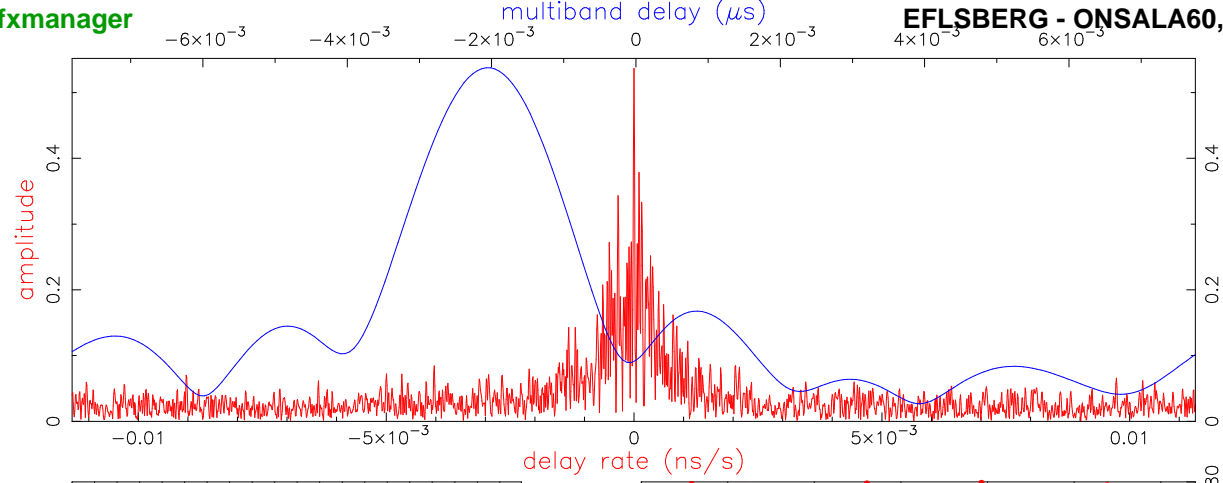
ph/seg (deg)	78.2	Theor.	8.3	Amplitude	0.588 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	109.9		14.6	Search (2048X32)	0.571	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	25.7		4.9	Inc. seg. avg.	0.892	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	9.4		8.6	Inc. frq. avg.	0.617	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

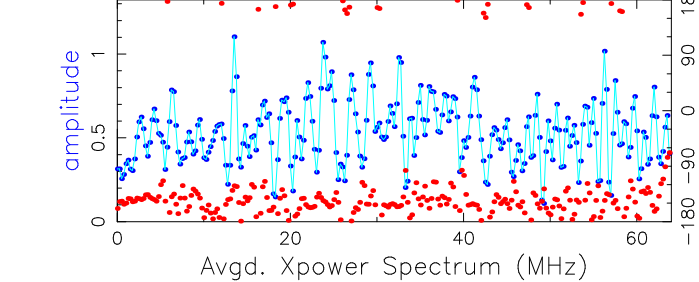
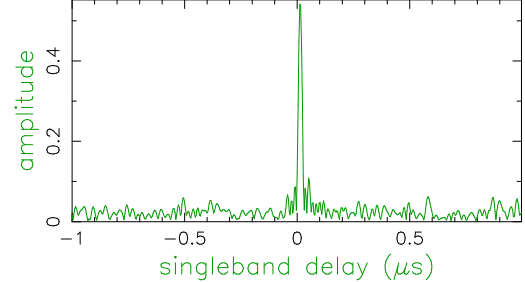
3C345.1FUSI, No0082, BX

EFLSBERG - ONSALA60, fgroup W, pol RR



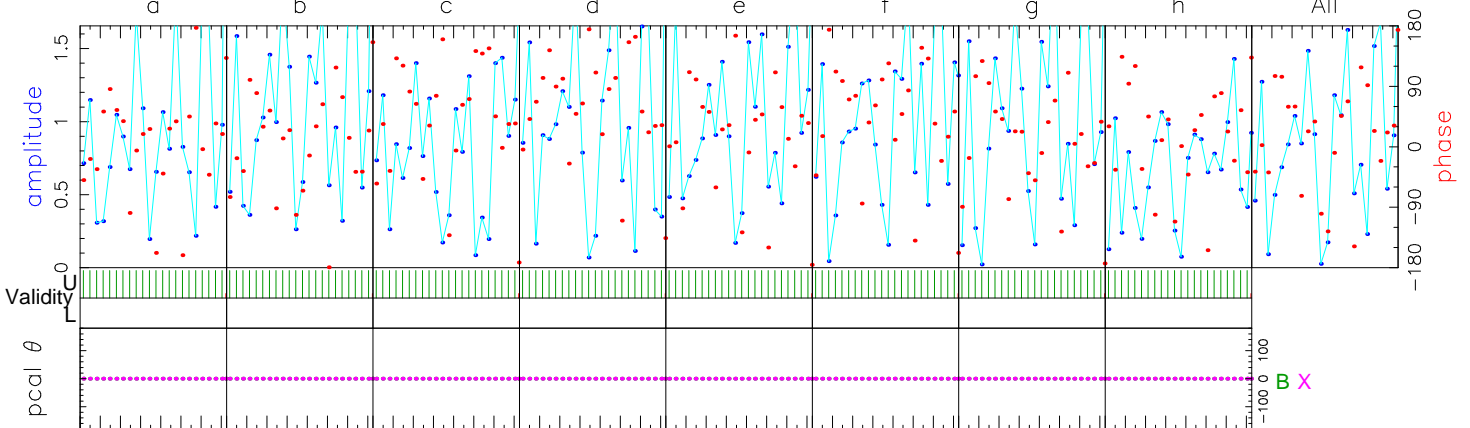
Fringe quality 6

SNR 30.9  
 Int time 419.798  
 Amp 0.552  
 Phase 30.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.013504  
 MBD -0.002121  
 Fringe rate (Hz)  
 -0.000119  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233127  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	6.6	14.1	44.5	64.6	25.2	47.4	20.5	20.2	Phase	30.3
	0.6	0.7	0.5	0.6	0.6	0.6	0.7	0.3	Ampl.	0.6
	260.5	260.5	260.8	260.1	260.2	260.8	260.5	258.0	Sbd box	260.5
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-1.62854869437E+03		Apriori delay (usec)		-1.62856219790E+03		Resid mbdelay (usec)		-2.12147E-03	+/- 3.5E-05
Sband delay (usec)	-1.62854869390E+03		Apriori clock (usec)		-3.8233810E+01		Resid sbdelay (usec)		1.35040E-02	+/- 2.8E-04
Phase delay (usec)	-1.62856219692E+03		Apriori clockrate (us/s)		-7.2800002E-07		Resid phdelay (usec)		9.78592E-07	+/- 1.2E-07
Delay rate (us/s)	1.22581208369E-01		Apriori rate (us/s)		1.22581209755E-01		Resid rate (us/s)		-1.38594E-09	+/- 4.9E-10
Total phase (deg)			Apriori accel (us/s/s)		3.35659394995E-06		Resid phase (deg)		30.3	+/- 3.7

ph/seg (deg) 75.8 8.9 Search (2048X32) 0.533 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 102.7 15.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 21.3 5.2 Inc. seg. avg. 0.829 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 18.2 9.1 Inc. frq. avg. 0.564 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 64.5 el 31.8 pa -48.3 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) -907.188 -247.925 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX.W.29.1FUSI

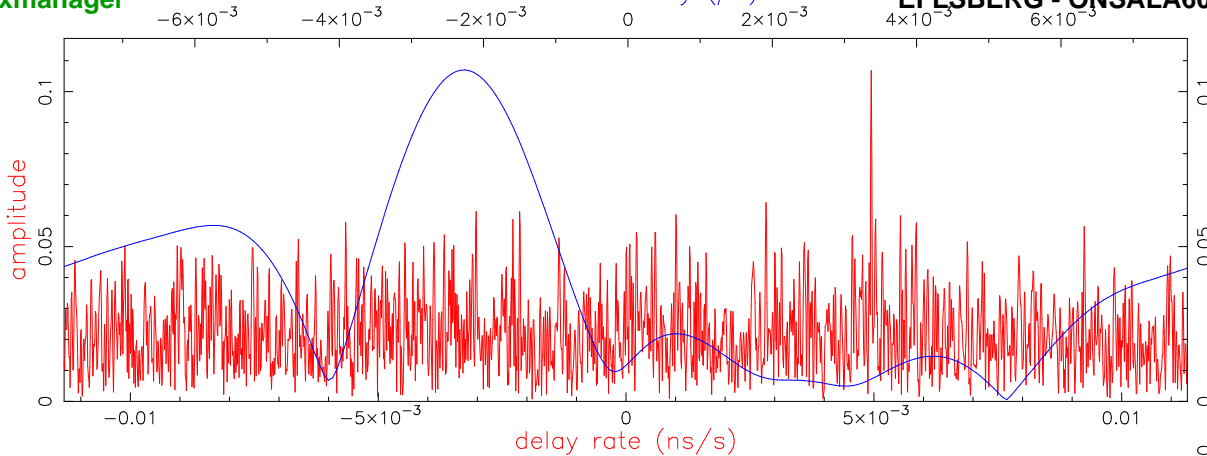
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, BX

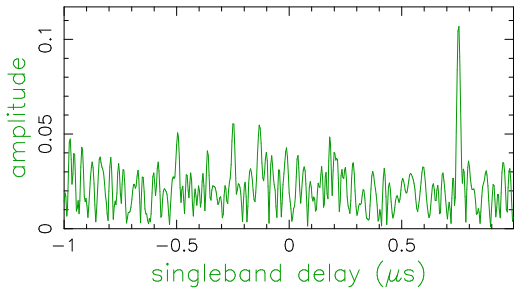
EFLSBERG - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

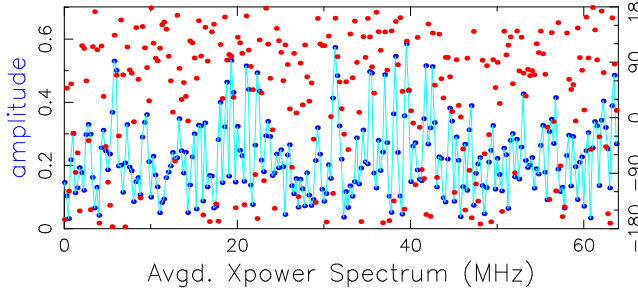


Fringe quality 0

SNR 6.1  
Int time 419.798  
Amp 0.117  
Phase 171.8  
PFD 3.0e-01  
Delays (us)  
SBD 0.752454  
MBD -0.002337  
Fringe rate (Hz)  
0.427385  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

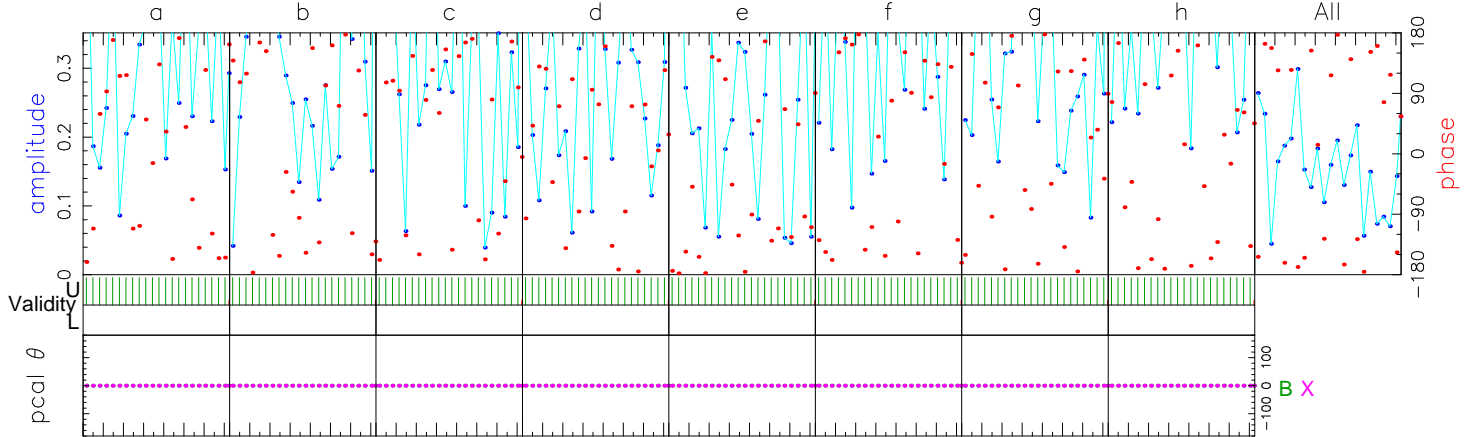


delay rate (ns/s)



Exp. c202b  
Yr:day 16383  
Start 2020:284  
Stop 2020:284  
FRT 091830.00  
Corr/FF/build  
2021:019:231431  
2021:019:233131  
2020:247:085004  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
B:X	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		
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.62781453462E+03	Apriori delay (usec)	-1.62856219790E+03	Resid mbdelay (usec)	-2.33672E-03	+/-	1.8E-04
Sband delay (usec)	-1.62780974415E+03	Apriori clock (usec)	-3.8233810E+01	Resid sbdelay (usec)	7.52454E-01	+/-	1.4E-03
Phase delay (usec)	-1.62856219236E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	5.53848E-06	+/-	6.1E-07
Delay rate (us/s)	1.22586171271E-01	Apriori rate (us/s)	1.22581209755E-01	Resid rate (us/s)	4.96152E-06	+/-	2.5E-09
Total phase (deg)	-89.9	Apriori accel (us/s/s)	3.35659394995E-06	Resid phase (deg)	171.8	+/-	18.9

ph/seg (deg)	53.0	Theor.	45.3	Amplitude	0.117 +/- 0.019	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	74.6	Search (2048X32)	0.106	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	40.3	Inc. seg. avg.	0.129	Inc. frq. avg.	0.112	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	54.7	Inc. frq. avg.	0.112			Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
						nlags: 256	t_cohere infinite

B: az 64.5 el 31.8 pa -48.3 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) -907.188 -247.925 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX.W.51.1IFUSI

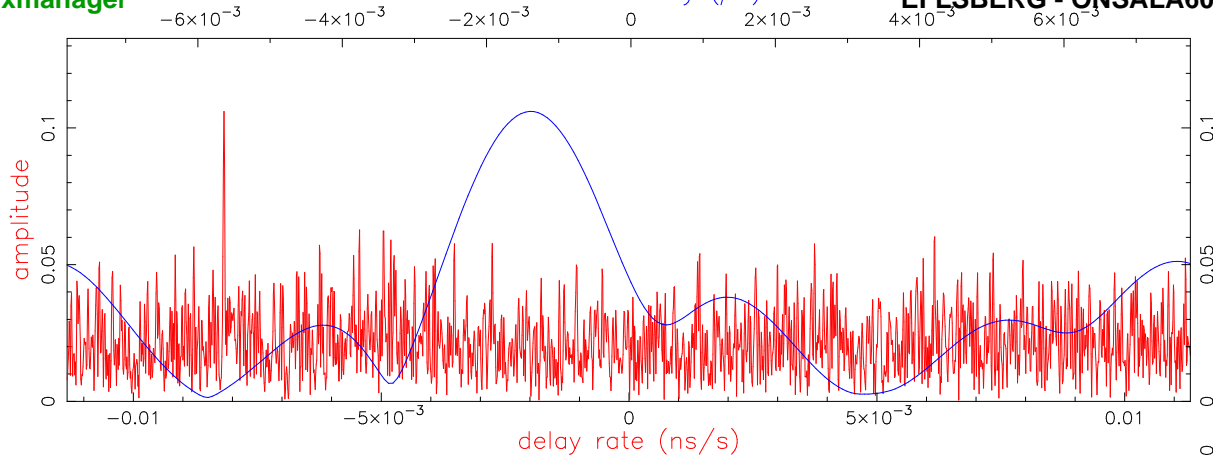
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, BX

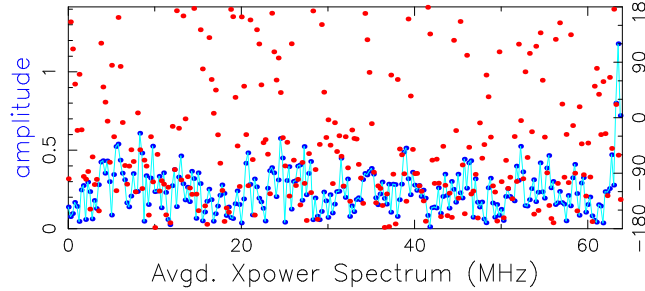
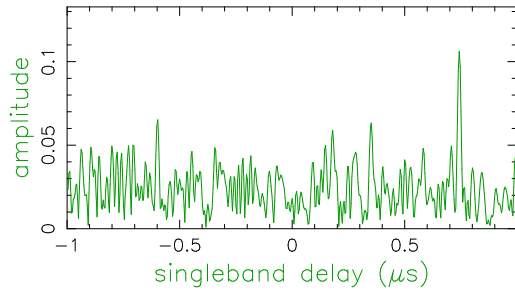
EFLSBERG - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)



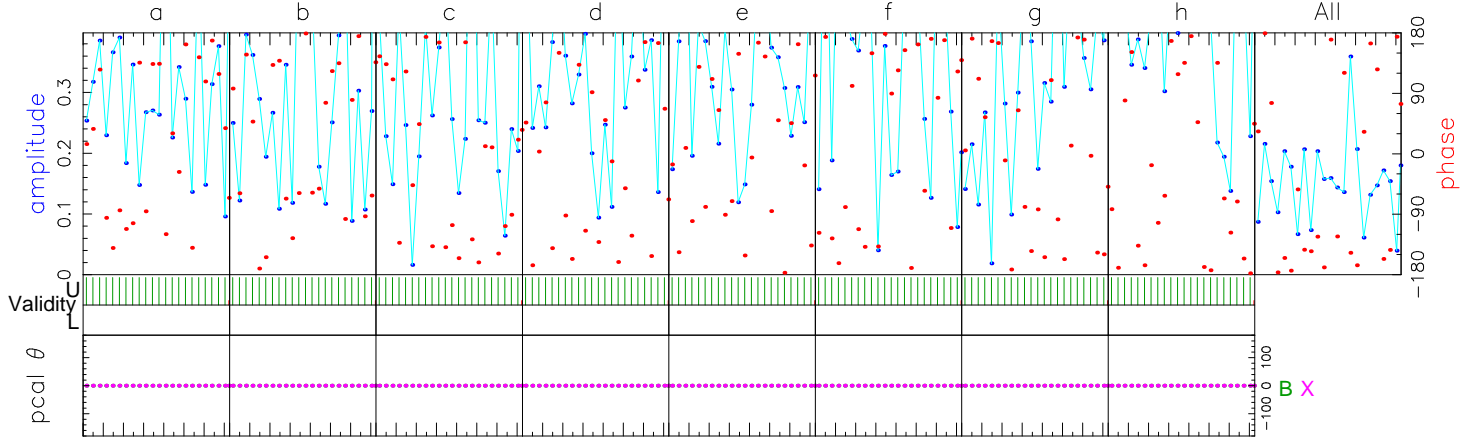
Fringe quality 0

SNR 5.9  
 Int time 419.798  
 Amp 0.133  
 Phase -167.9  
 PFD 5.1e-01  
 Delays (us)  
 SBD 0.742420  
 MBD -0.001387  
 Fringe rate (Hz)  
 -0.704861  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233134  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-164.4	-150.5	-160.1	161.4	-158.7	179.8	-143.9	-164.2	Phase	-167.9
	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.2	Ampl.	0.1
	202.4	28.2	78.0	174.9	94.3	446.9	327.1	261.9	Sbd box	447.1
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.62781358523E+03	Apriori delay (usec)	-1.62856219790E+03	Resid mbdelay (usec)	-1.38733E-03	+/-	1.8E-04
Sband delay (usec)	-1.62781977765E+03	Apriori clock (usec)	-3.8233810E+01	Resid sbdelay (usec)	7.42420E-01	+/-	1.4E-03
Phase delay (usec)	-1.62856220331E+03	Apriori clockrate (us/s)	-7.2800002E-07	Resid phdelay (usec)	-5.41338E-06	+/-	6.2E-07
Delay rate (us/s)	1.22573027022E-01	Apriori rate (us/s)	1.22581209755E-01	Resid rate (us/s)	-8.18273E-06	+/-	2.6E-09
Total phase (deg)	-69.6	Apriori accel (us/s/s)	3.35659394995E-06	Resid phase (deg)	-167.9	+/-	19.3

ph/seg (deg)	66.4	Theor.	46.2	Amplitude	0.133 +/- 0.022	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	77.5		80.7	Search (2048X32)	0.104	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	18.9		27.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	51.4		47.6	Inc. seg. avg.	0.144	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011	
				Inc. frq. avg.	0.124	Data rate(Mb/s):	2048	ion window (TEC)	0.00 0.00	

B: az 64.5 el 31.8 pa -48.3 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) -907.188 -247.925 simultaneous interpolator

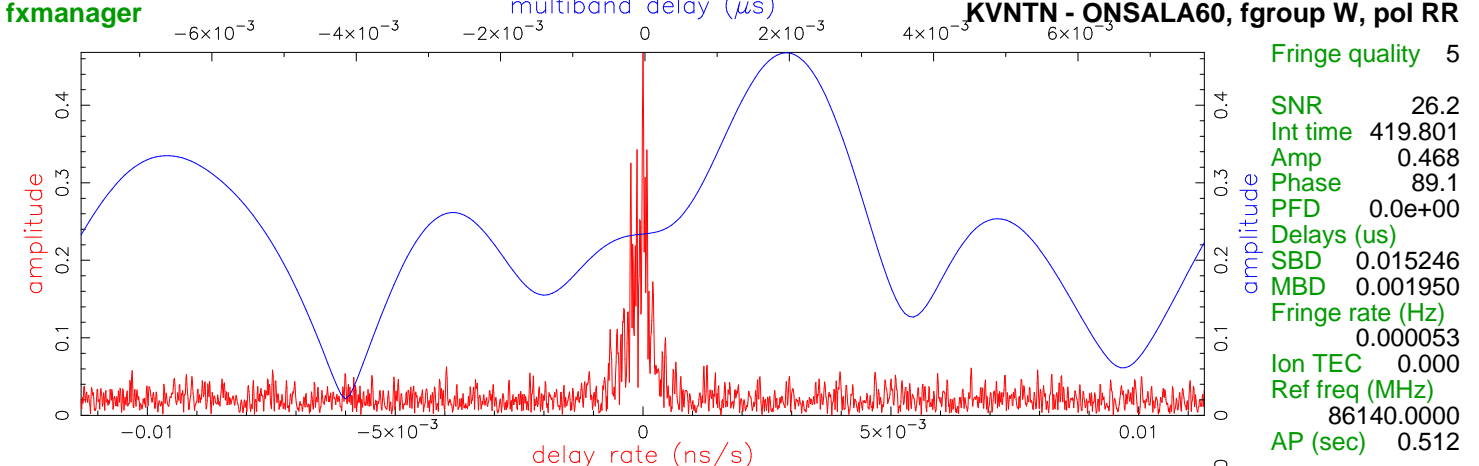
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX..11FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/BX.W.71.11FUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, tX

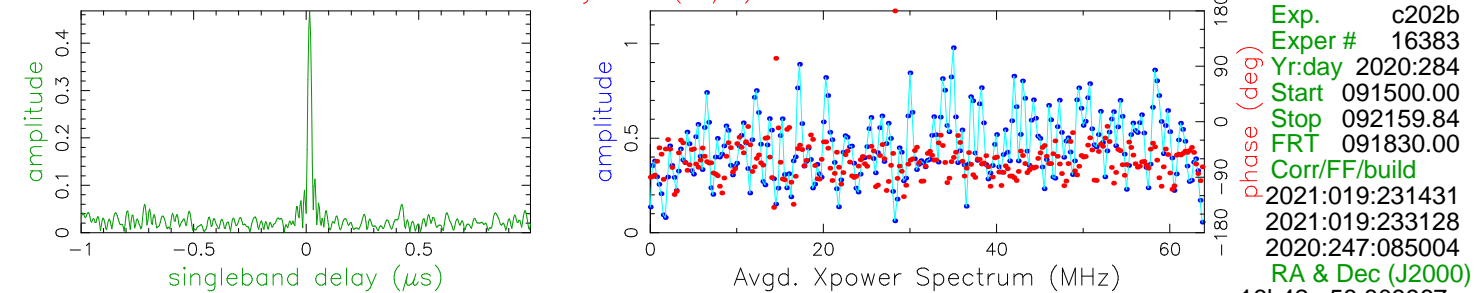
KVNTN - ONSALA60, fgroup W, pol RR



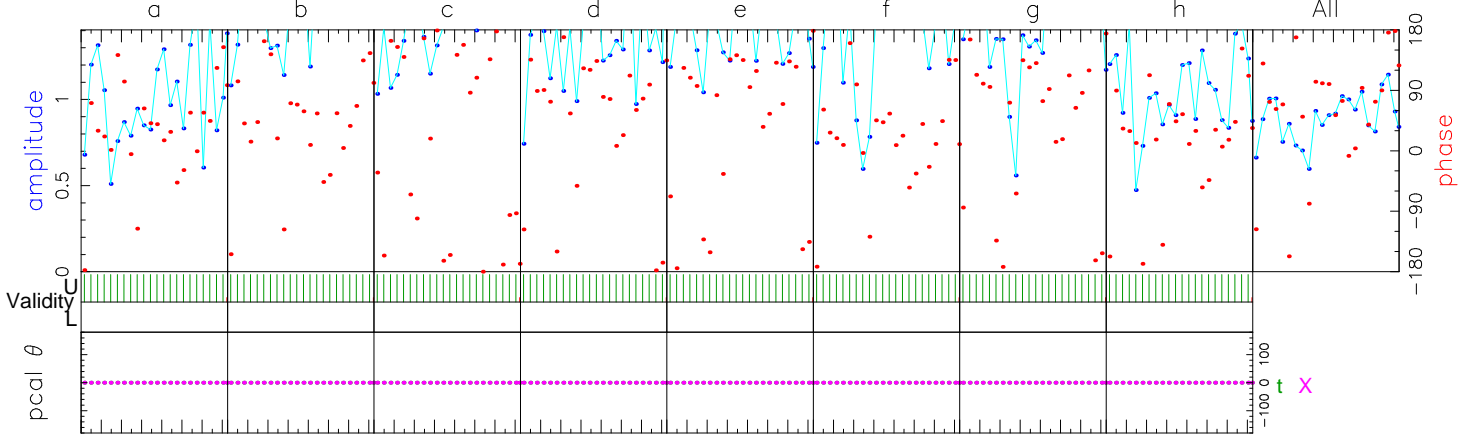
Fringe quality 5

SNR 26.2  
 Int time 419.801  
 Amp 0.468  
 Phase 89.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.015246  
 MBD 0.001950  
 Fringe rate (Hz) 0.000053  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233128  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"



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		
t	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	5.68129907132E+03	Apriori delay (usec)	5.68128149635E+03	Resid mbdelay (usec)	1.94997E-03	+/-	4.1E-05
Sband delay (usec)	5.68129674260E+03	Apriori clock (usec)	-4.6962357E+01	Resid sbdelay (usec)	1.52462E-02	+/-	3.3E-04
Phase delay (usec)	5.68128149922E+03	Apriori clockrate (us/s)	-4.2800003E-07	Resid phdelay (usec)	2.87299E-06	+/-	1.4E-07
Delay rate (us/s)	-1.20076070569E+00	Apriori rate (us/s)	-1.20076070631E+00	Resid rate (us/s)	6.12902E-10	+/-	5.8E-10
Total phase (deg)	123.4	Apriori accel (us/s/s)	-5.16677252928E-05	Resid phase (deg)	89.1	+/-	4.4

ph/seg (deg)	71.3	Theor.	10.5	Amplitude	0.468 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	95.3		18.3	Search (2048X32)	0.467	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	57.4		6.2	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	55.4		10.8	Inc. seg. avg.	0.878	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.702	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

t: az 293.3 el 62.5 pa 93.6 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8829.042 -5513.084 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX.W.37.1FUSI



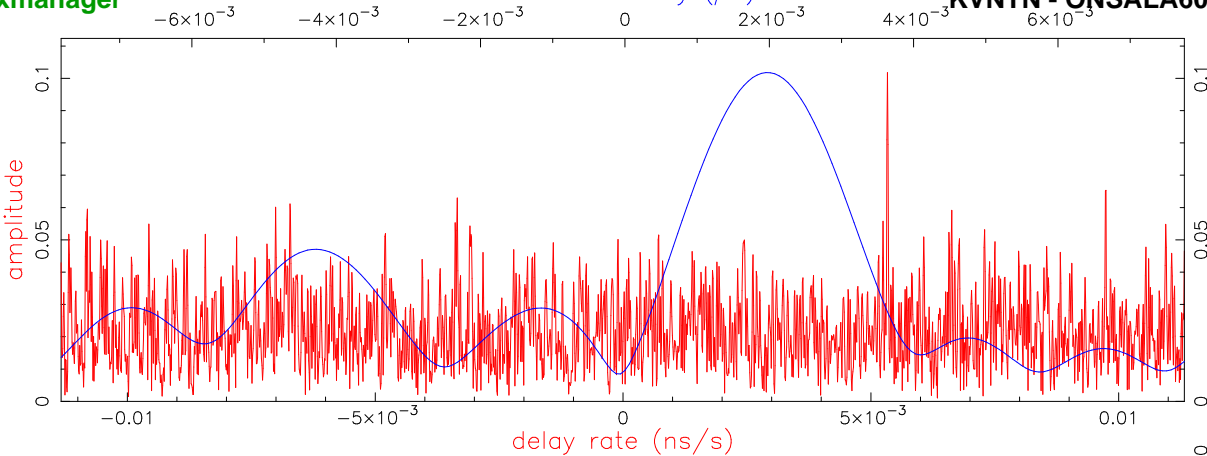
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, tX

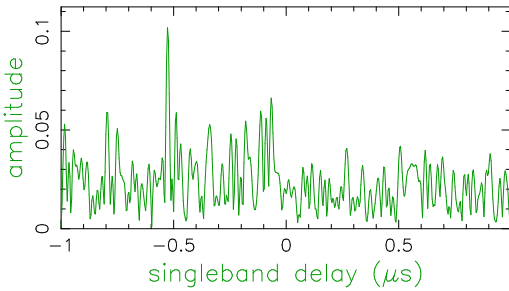
KVNTN - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

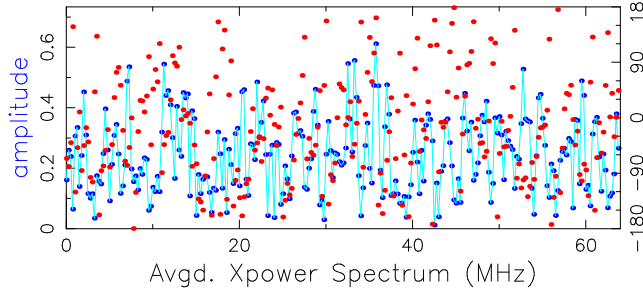


Fringe quality 0

SNR 5.7  
Int time 419.801  
Amp 0.112  
Phase 0.3  
PFD 9.1e-01  
Delays (us)  
SBD -0.526438  
MBD 0.002010  
Fringe rate (Hz)  
0.459912  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

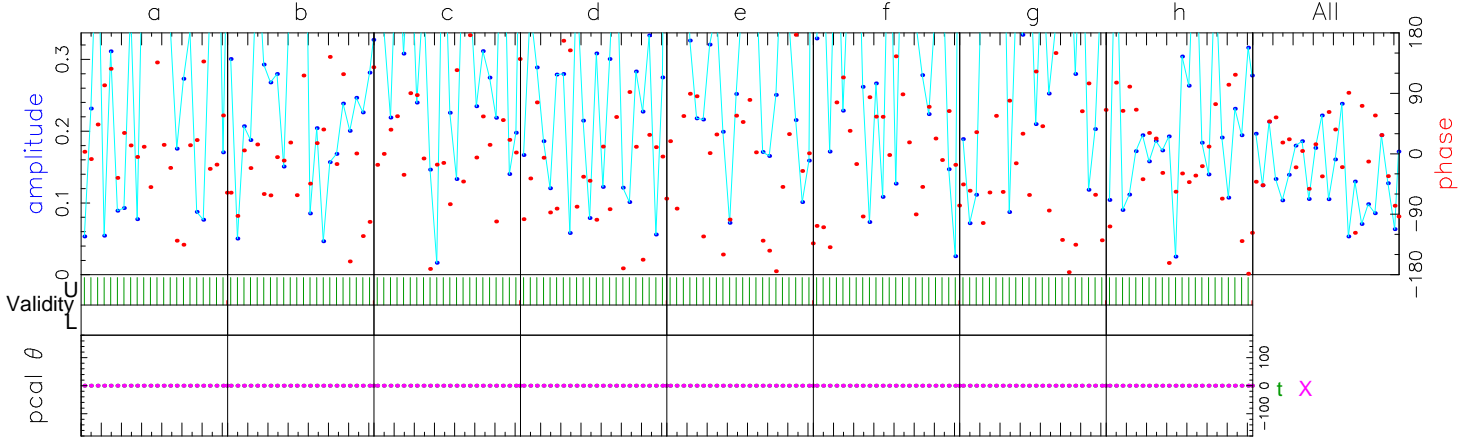


delay rate (ns/s)



Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 091500.00  
Stop 092159.84  
FRT 091830.00  
Corr/FF/build  
2021:019:231431  
2021:019:233132  
2020:247:085004  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"

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		
t	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

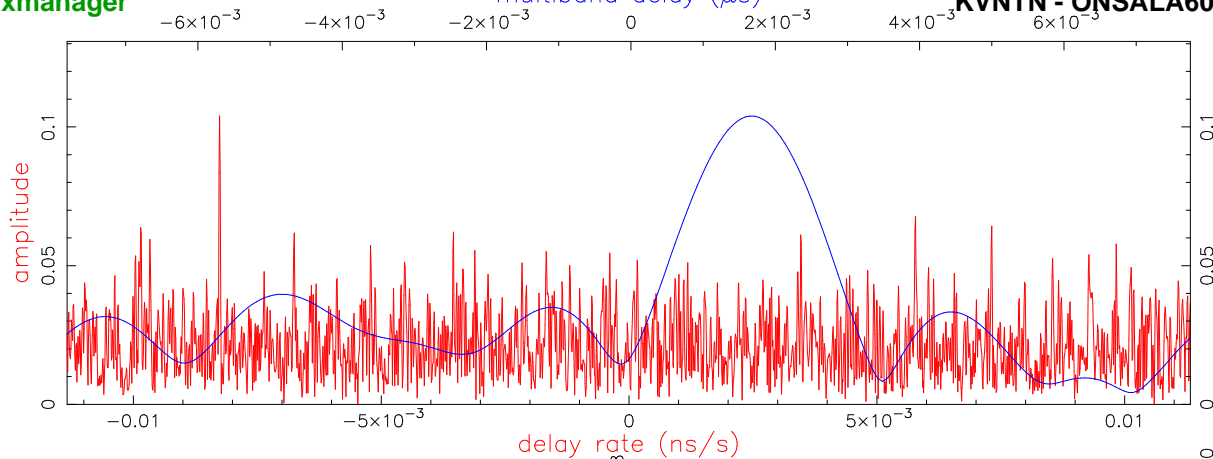
Group delay (usec)(sbd) 5.68075225620E+03 Apriori delay (usec) 5.68128149635E+03 Resid mbdelay (usec) 2.00986E-03 +/- 1.9E-04  
 Sband delay (usec) 5.68075505810E+03 Apriori clock (usec) -4.6962357E+01 Resid sbdelay (usec) -5.26438E-01 +/- 1.5E-03  
 Phase delay (usec) 5.68128149636E+03 Apriori clockrate (us/s) -4.2800003E-07 Resid phdelay (usec) 9.87683E-09 +/- 6.4E-07  
 Delay rate (us/s) -1.20075536719E+00 Apriori rate (us/s) -1.20076070631E+00 Resid rate (us/s) 5.33912E-06 +/- 2.7E-09  
 Total phase (deg) 34.6 Apriori accel (us/s/s) -5.16677252928E-05 Resid phase (deg) 0.3 +/- 20.0

RMS Theor. Amplitude 0.112 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 51.9 47.9 Search (2048X32) 0.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 63.8 83.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 29.4 28.2 Inc. seg. avg. 0.115 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 39.0 49.3 Inc. frq. avg. 0.108 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

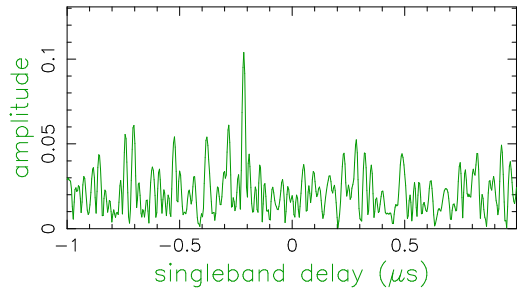
t: az 293.3 el 62.5 pa 93.6 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8829.042 -5513.084 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX.W.59.1FUSI

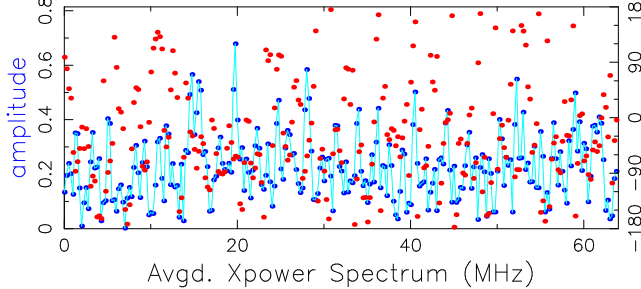
multiband delay ( $\mu\text{s}$ )



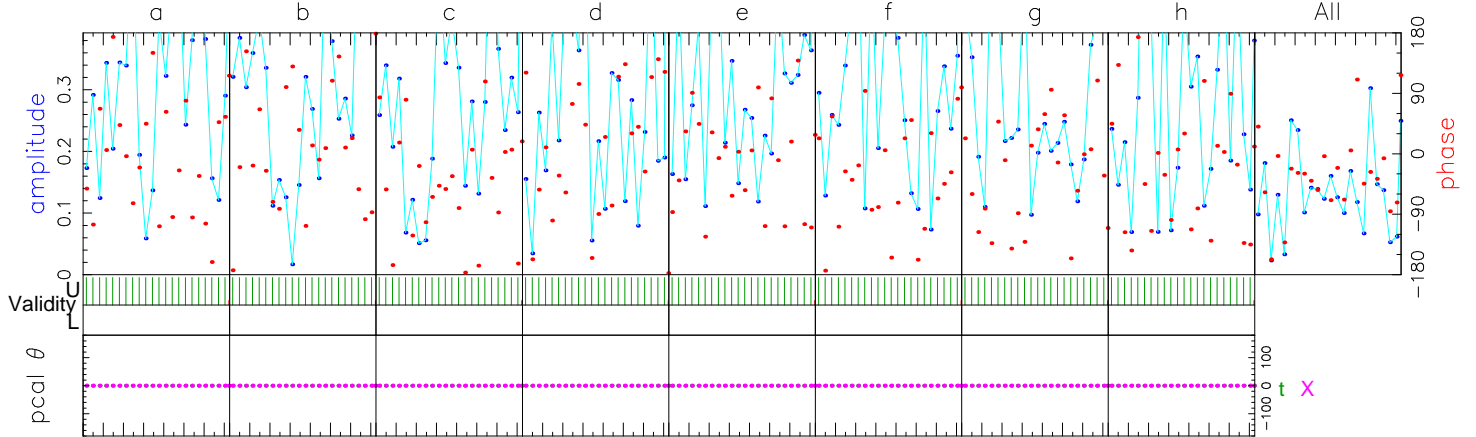
Fringe quality 0  
SNR 5.8  
Int time 419.801  
Amp 0.131  
Phase -29.2  
PFD 7.6e-01  
Delays (us)  
SBD -0.215143  
MBD 0.001680  
Fringe rate (Hz)  
-0.712589  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 091500.00  
Stop 092159.84  
FRT 091830.00  
Corr/FF/build  
2021:019:231431  
2021:019:233136  
2020:247:085004  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"



delay rate (ns/s)



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
	-41.3	-21.0	-40.5	51.2	-16.0	-40.2	-24.1	-40.2	Phase	-29.2
	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	Ampl.	0.1
	327.5	312.1	227.6	189.2	284.4	158.4	6.8	201.0	Sbd box	201.9
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	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
t:X	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	
X	1000	1000	1000	1000	1000	1000	1000	1000		
t	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)	5.68106442635E+03		Apriori delay (usec)		5.68128149635E+03		Resid mbdelay (usec)		1.68000E-03	+/- 1.9E-04
Sband delay (usec)	5.68106635335E+03		Apriori clock (usec)		-4.6962357E+01		Resid sbdelay (usec)		-2.15143E-01	+/- 1.5E-03
Phase delay (usec)	5.68128149541E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-9.41029E-07	+/- 6.3E-07
Delay rate (us/s)	-1.20076897876E+00		Apriori rate (us/s)		-1.20076070631E+00		Resid rate (us/s)		-8.27245E-06	+/- 2.6E-09
Total phase (deg)	5.2		Apriori accel (us/s/s)		-5.16677252928E-05		Resid phase (deg)		-29.2	+/- 19.7

ph/seg (deg) 55.3 47.2 Search (2048X32) 0.102 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 70.5 82.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 34.7 27.8 Inc. seg. avg. 0.124 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 29.4 48.5 Inc. frq. avg. 0.125 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 293.3 el 62.5 pa 93.6 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8829.042 -5513.084 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/tX.W.79.1FUSI

Mk4/DiFX fourfit 3.21 rev 2937

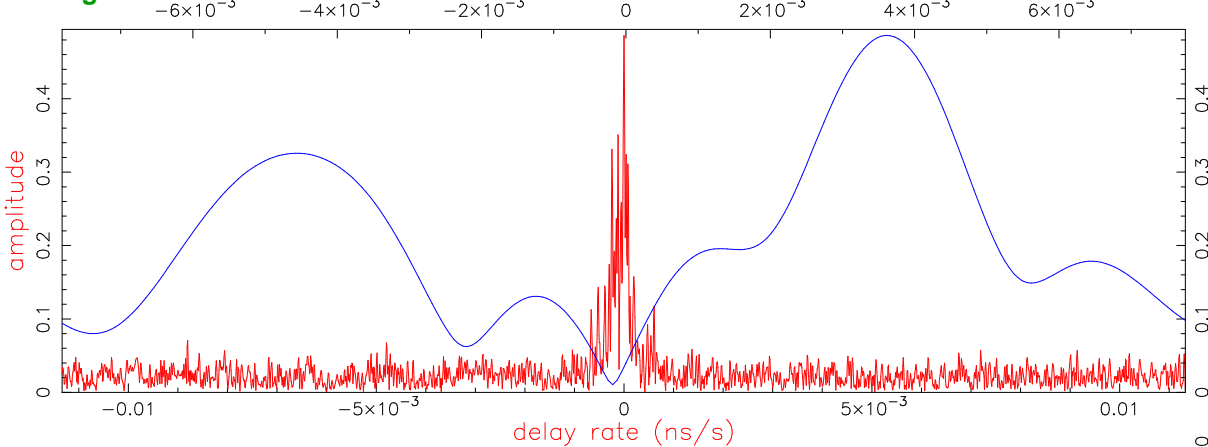
fxmanager

3C345.1FUSI, No0082, tX

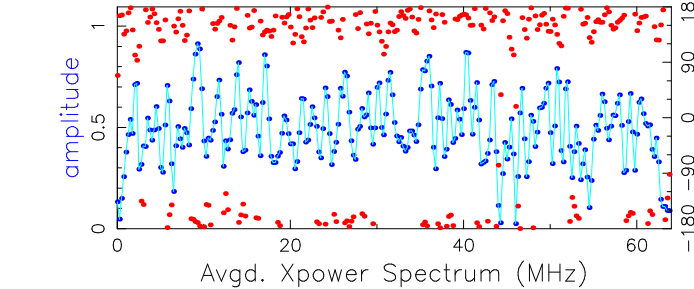
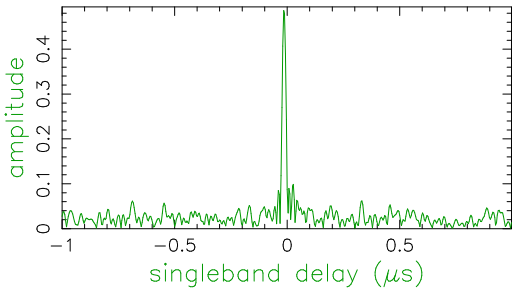
KVNTN - ONSALA60, fgroup W, pol LL

multiband delay ( $\mu$ s)

Fringe quality 5

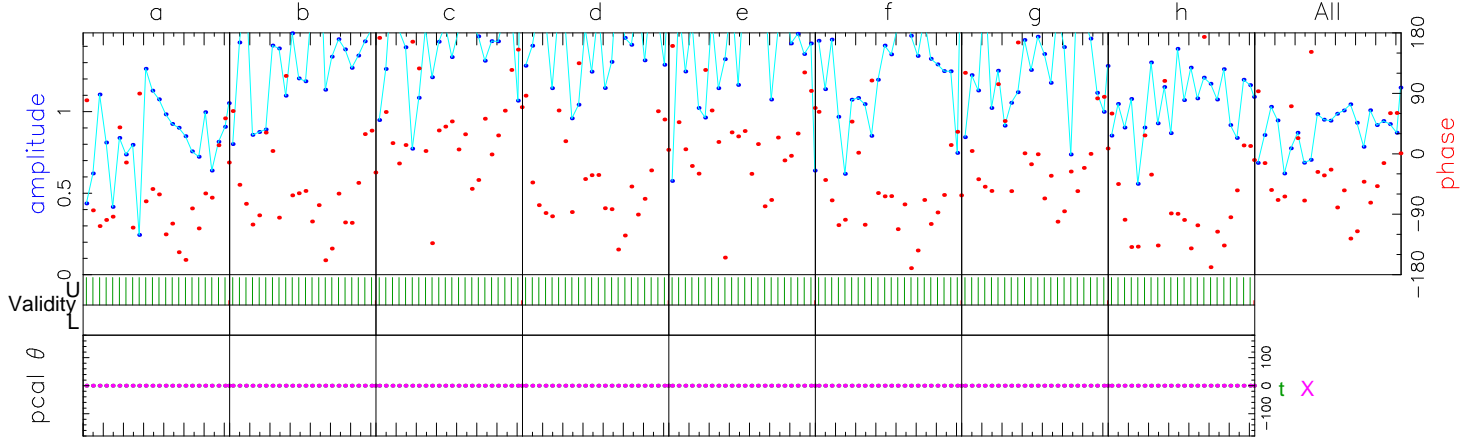


SNR 27.7  
 Int time 419.801  
 Amp 0.494  
 Phase -38.2  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.013934  
 MBD 0.003655  
 Fringe rate (Hz)  
 -0.000116  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233123  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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		
	-77.3	-64.9	32.0	-51.1	17.5	-70.2	-24.3	-98.8		-38.2		
	0.5	0.8	0.8	0.7	0.8	0.7	0.7	0.5		0.7		
	255.0	253.0	253.1	252.6	252.7	252.8	253.0	253.3		253.4		
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0				
t	1000	1000	1000	1000	1000	1000	1000	1000				
X	1000	1000	1000	1000	1000	1000	1000	1000				
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
t:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0				
t	1000	1000	1000	1000	1000	1000	1000	1000				
X	1000	1000	1000	1000	1000	1000	1000	1000				
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL				
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL				
									Chan ids			
									Tracks			
									Tracks			
Group delay (usec)(sbd)	5.68126952604E+03		Apriori delay (usec)		5.68128149635E+03		Resid mbdelay (usec)		3.65469E-03	+/- 3.9E-05		
Sband delay (usec)	5.68126756285E+03		Apriori clock (usec)		-4.6962357E+01		Resid sbdelay (usec)		-1.39335E-02	+/- 3.1E-04		
Phase delay (usec)	5.68128149512E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-1.23174E-06	+/- 1.3E-07		
Delay rate (us/s)	-1.20076070766E+00		Apriori rate (us/s)		-1.20076070631E+00		Resid rate (us/s)		-1.35051E-09	+/- 5.5E-10		
Total phase (deg)			Apriori accel (us/s/s)		-5.16677252928E-05		Resid phase (deg)		-38.2	+/- 4.1		
	RMS	Theor.	Amplitude	0.494 +/- 0.018		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	68.2	9.9	Search (2048X32)	0.478		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000		
amp/seg (%)	83.2	17.3	Interp.	0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	50.5	5.9	Inc. seg. avg.	0.874		Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011	0.011	
amp/frq (%)	42.3	10.2	Inc. frq. avg.	0.659		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00
t: az 293.3 el 62.5 pa 93.6	X: az 72.2 el 37.1 pa -42.1		u,v (fr/asec) 8829.042 -5513.084						simultaneous interpolator			
Control file: cf_1234_gmva	Input file: /Exps/c202b/v1/v1_3mm/1234/No0082/tX..1FUSI		Output file: /Exps/c202b/v1/v1_3mm/1234/No0082/tX.W.9.1FUSI									



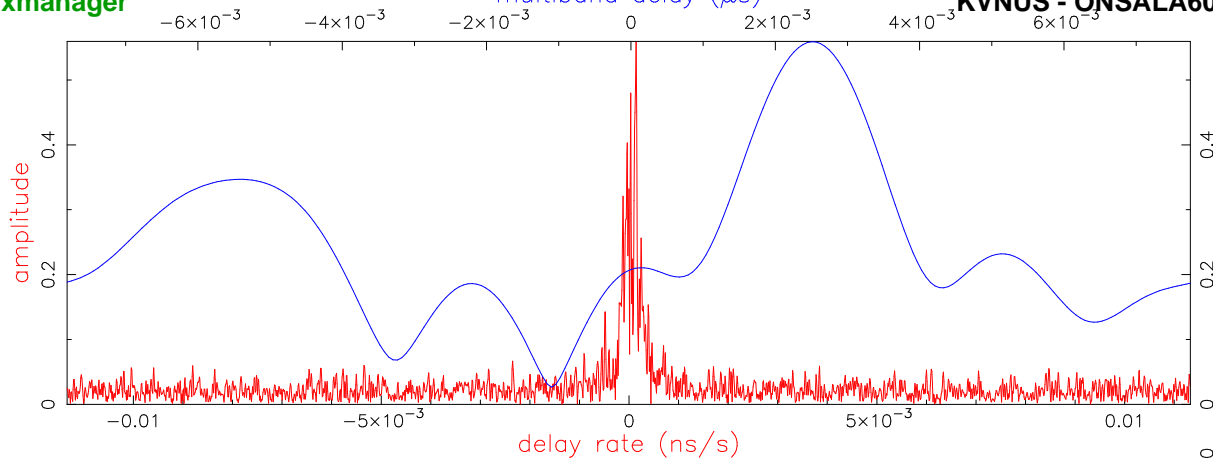
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, uX

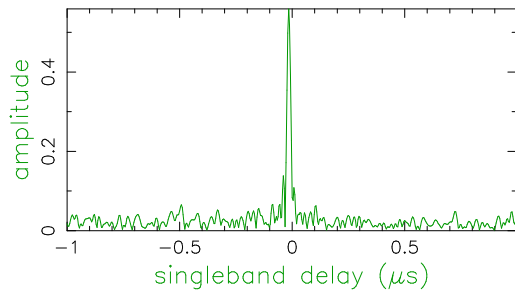
KVNUS - ONSALA60, fgroup W, pol LL

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

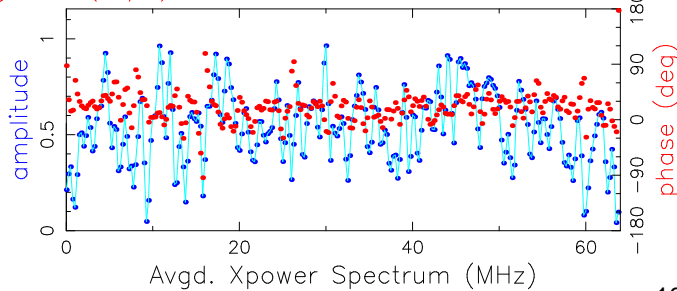


Fringe quality 4

SNR 31.3  
 Int time 419.801  
 Amp 0.559  
 Phase 175.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.015242  
 MBD 0.002526  
 Fringe rate (Hz)  
 0.012027  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

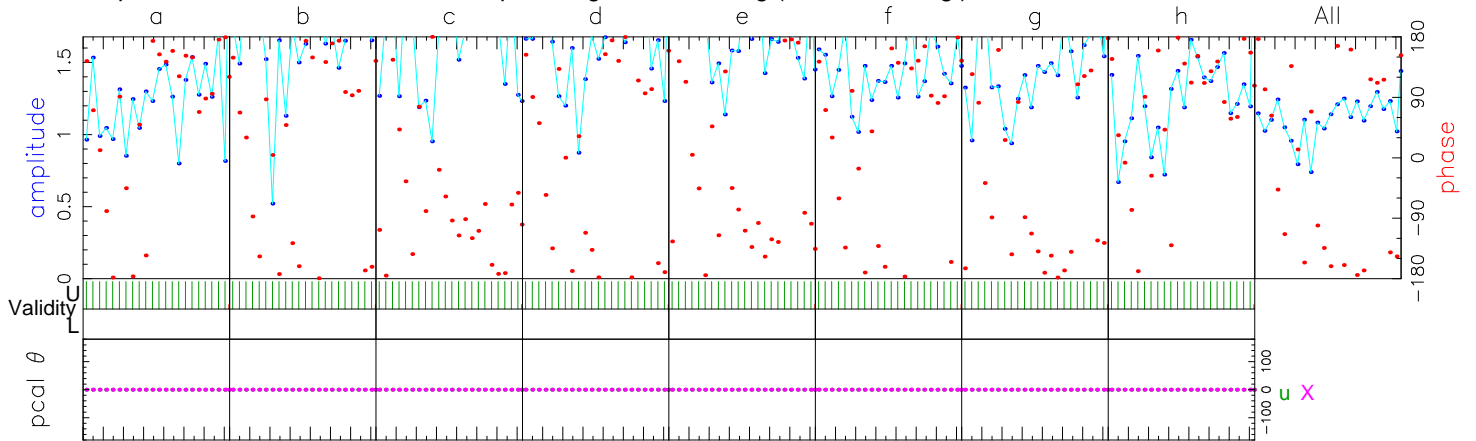


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233124  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	137.1	154.1	-106.9	160.1	-128.7	146.4	-165.6	130.7	Phase	175.3
	0.7	0.9	0.9	0.8	0.8	0.7	0.7	0.7	Ampl.	0.8
	254.8	252.8	252.8	252.6	252.6	252.5	252.8	252.7	Sbd box	253.1
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	
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	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	5.44254929145E+03	Apriori delay (usec)	5.44256239089E+03	Resid mbdelay (usec)	2.52556E-03	+/-	3.5E-05
Sband delay (usec)	5.44254714914E+03	Apriori clock (usec)	-4.5781906E+01	Resid sbdelay (usec)	-1.52417E-02	+/-	2.7E-04
Phase delay (usec)	5.44256239654E+03	Apriori clockrate (us/s)	-1.2800004E-07	Resid phdelay (usec)	5.65182E-06	+/-	1.2E-07
Delay rate (us/s)	-1.22397324279E+00	Apriori rate (us/s)	-1.22397338241E+00	Resid rate (us/s)	1.39617E-07	+/-	4.9E-10
Total phase (deg)	301.8	Apriori accel (us/s/s)	-4.80504419658E-05	Resid phase (deg)	175.3	+/-	3.7

ph/seg (deg)	69.8	RMS	Theor.	Amplitude	0.559 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	100.7	69.8	8.8	Search (2048X32)	0.539	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	49.2	100.7	15.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	38.9	49.2	5.2	Inc. seg. avg.	1.093	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
		38.9	9.0	Inc. frq. avg.	0.755	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

u: az 289.4 el 61.2 pa 86.4 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 9010.374 -5058.329 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX.W.20.1IFUSI

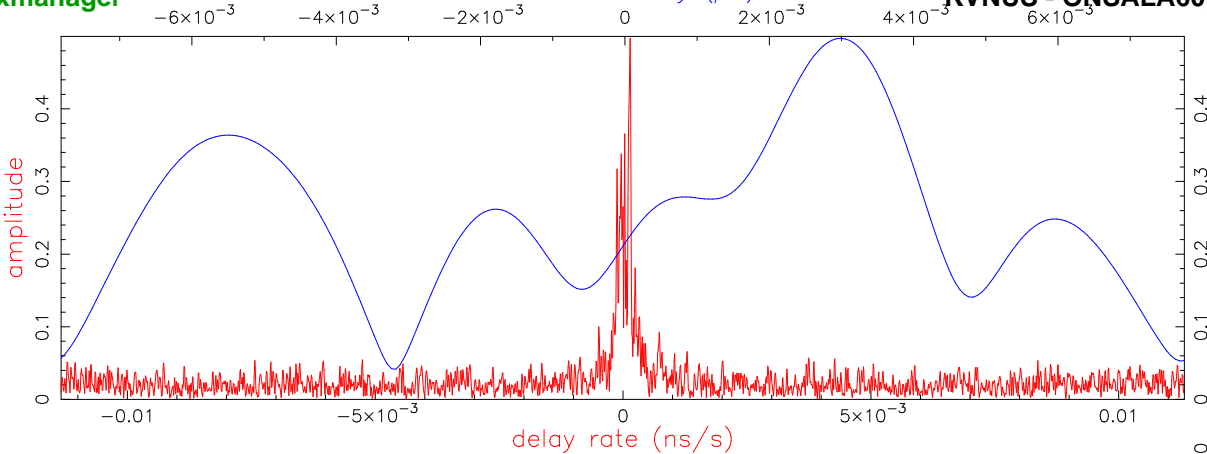
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, uX

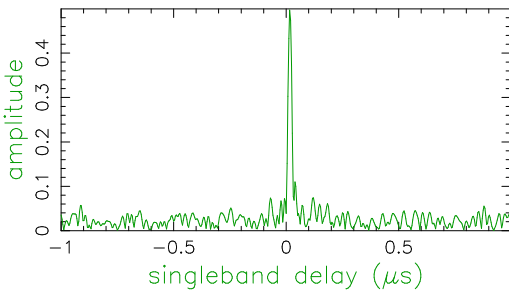
KVNUS - ONSALA60, fgroup W, pol RR

multiband delay ( $\mu$ s)

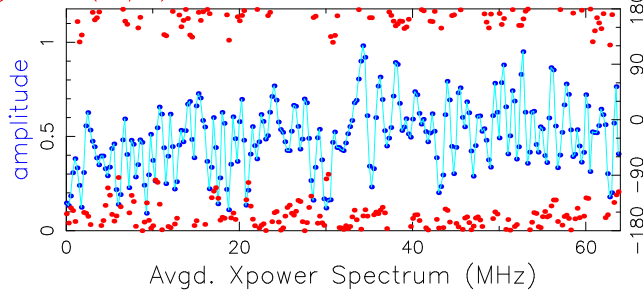


Fringe quality 5

SNR 28.0  
 Int time 419.801  
 Amp 0.500  
 Phase -13.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.016572  
 MBD 0.003014  
 Fringe rate (Hz)  
 0.012062  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

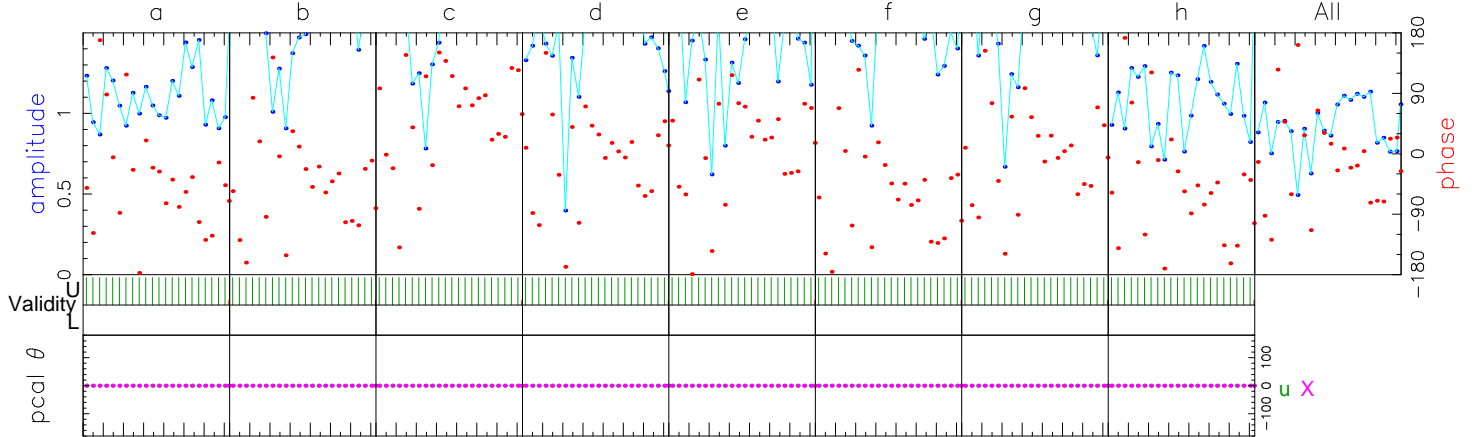


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233128  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-57.1	-48.7	80.9	-0.4	31.6	-62.5	3.9	-70.9		-13.8
	0.6	0.9	0.9	0.8	0.8	0.8	0.8	0.5	Ampl.	0.7
	262.7	261.7	261.2	260.8	260.2	260.4	261.1	261.5	Sbd box	261.2
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	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	5.44258103030E+03		Apriori delay (usec)		5.44256239089E+03		Resid mbdelay (usec)		3.01441E-03	+/- 3.9E-05
Sband delay (usec)	5.44257896339E+03		Apriori clock (usec)		-4.5781906E+01		Resid sbdelay (usec)		1.65725E-02	+/- 3.1E-04
Phase delay (usec)	5.44256239045E+03		Apriori clockrate (us/s)		-1.2800004E-07		Resid phdelay (usec)		-4.44432E-07	+/- 1.3E-07
Delay rate (us/s)	-1.22397324238E+00		Apriori rate (us/s)		-1.22397338241E+00		Resid rate (us/s)		1.440034E-07	+/- 5.4E-10
Total phase (deg)	112.7		Apriori accel (us/s/s)		-4.80504419658E-05		Resid phase (deg)		-13.8	+/- 4.1

ph/seg (deg) 70.3 9.8 Search (2048X32) 0.483 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 89.1 17.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 58.1 5.8 Inc. seg. avg. 0.901 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 57.2 10.1 Inc. frq. avg. 0.747 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 289.4 el 61.2 pa 86.4 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 9010.374 -5058.329 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX.W.40.1IFUSI

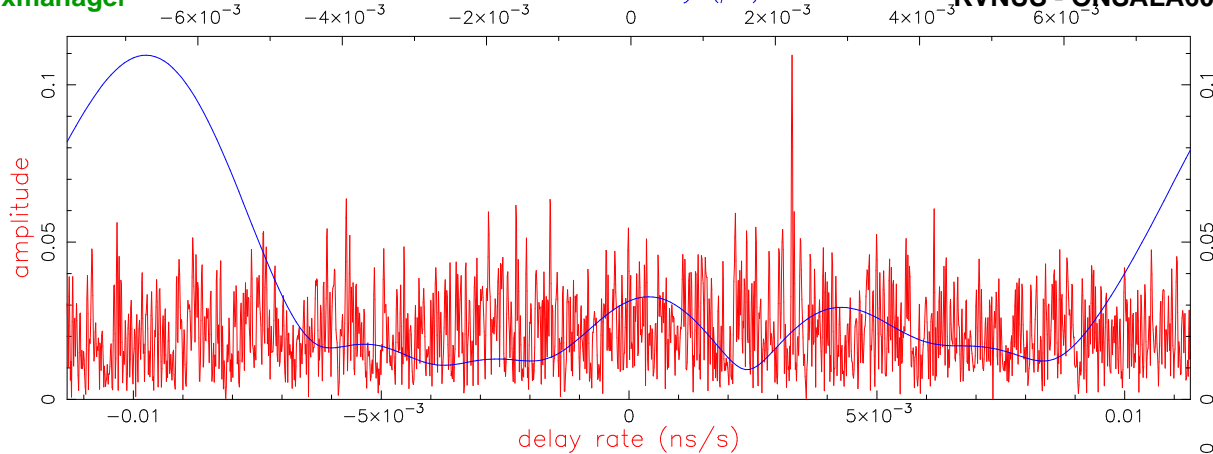
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, uX

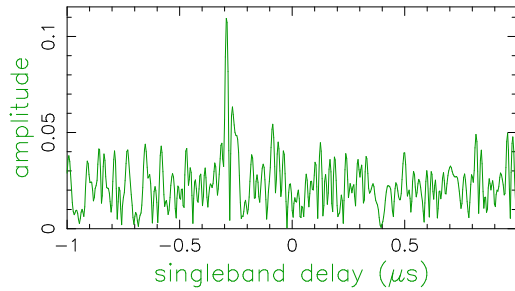
KVNUS - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

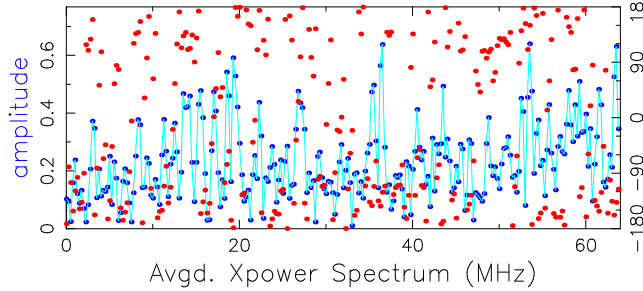


Fringe quality 0

SNR 6.2  
 Int time 419.801  
 Amp 0.115  
 Phase 149.1  
 PFD 1.1e-01  
 Delays (us)  
 SBD -0.291367  
 MBD -0.006728  
 Fringe rate (Hz)  
 0.283379  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

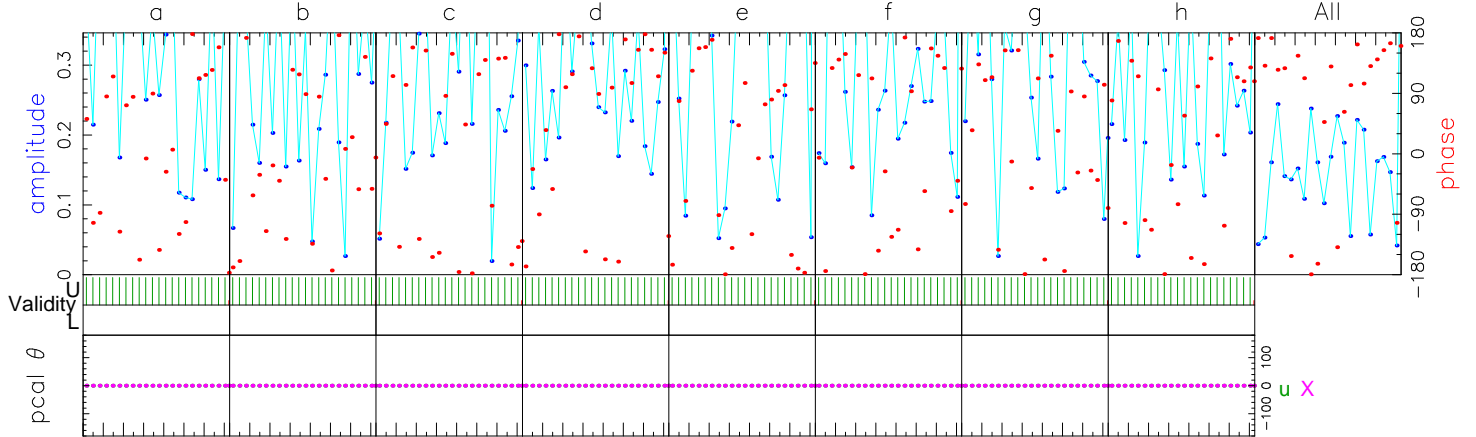


delay rate (ns/s)



Exp. c202b  
 Yr:day 16383  
 Start 2021:09:20:284  
 Stop 2021:09:21:59.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233132  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	92.3	-144.7	154.0	155.4	152.9	159.4	112.8	151.6	Phase	149.1
	0.1	0.0	0.2	0.2	0.2	0.2	0.1	0.1	Ampl.	0.1
	3.9	198.4	182.0	502.6	182.0	182.8	430.1	289.9	Sbd box	182.4
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	
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	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	5.44227441250E+03		Apriori delay (usec)		5.44256239089E+03		Resid mbdelay (usec)		-6.72839E-03	+/- 1.7E-04
Sband delay (usec)	5.44227102364E+03		Apriori clock (usec)		-4.5781906E+01		Resid sbdelay (usec)		-2.91367E-01	+/- 1.4E-03
Phase delay (usec)	5.44256239570E+03		Apriori clockrate (us/s)		-1.2800004E-07		Resid phdelay (usec)		4.80936E-06	+/- 5.9E-07
Delay rate (us/s)	-1.22397009266E+00		Apriori rate (us/s)		-1.22397338241E+00		Resid rate (us/s)		3.28975E-06	+/- 2.4E-09
Total phase (deg)	275.7		Apriori accel (us/s/s)		-4.80504419658E-05		Resid phase (deg)		149.1	+/- 18.3

ph/seg (deg) 47.9 44.0 Search (2048X32) 0.108 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 70.1 76.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 39.0 26.0 Inc. seg. avg. 0.118 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 48.5 45.3 Inc. frq. avg. 0.111 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 289.4 el 61.2 pa 86.4 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 9010.374 -5058.329 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX.W.58.1IFUSI

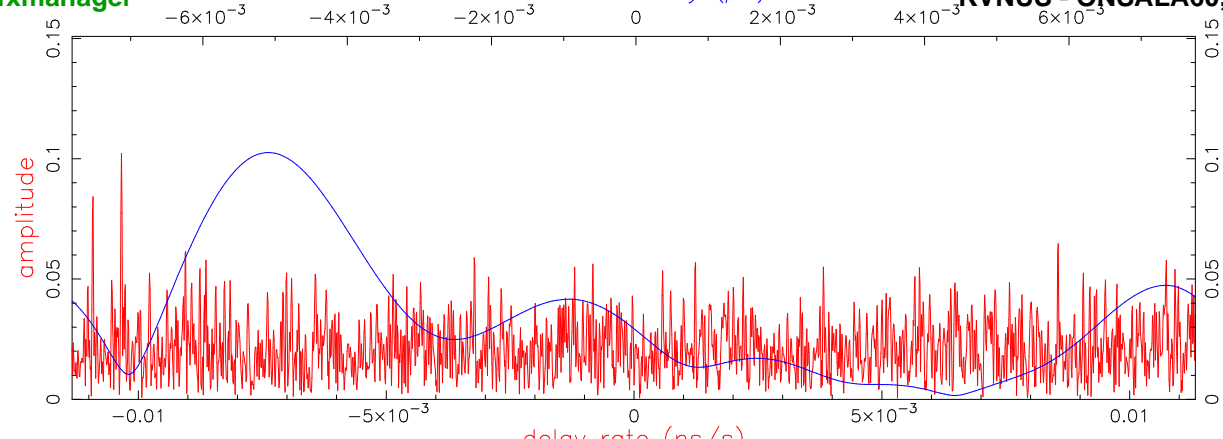
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, uX

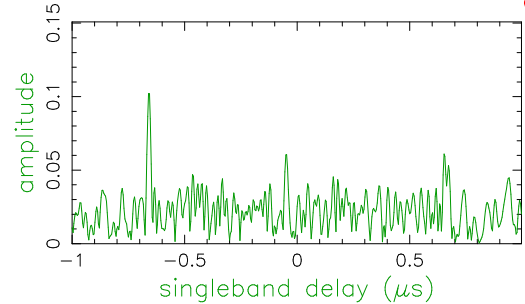
KVNUS - ONSALA60, fgroup W, pol RL

multiband delay ( $\mu$ s)

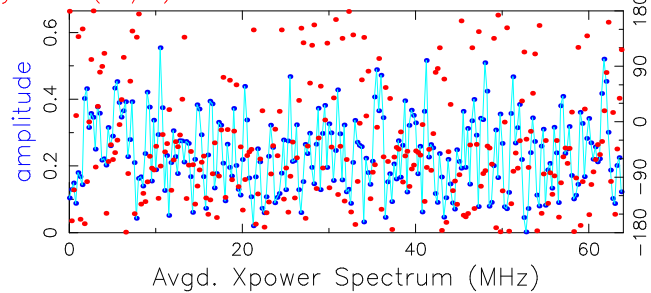


Fringe quality 0

SNR 5.8  
 Int time 419.801  
 Amp 0.151  
 Phase -45.0  
 PFD 7.3e-01  
 Delays (us)  
 SBD -0.658221  
 MBD -0.004981  
 Fringe rate (Hz)  
 -0.891602  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

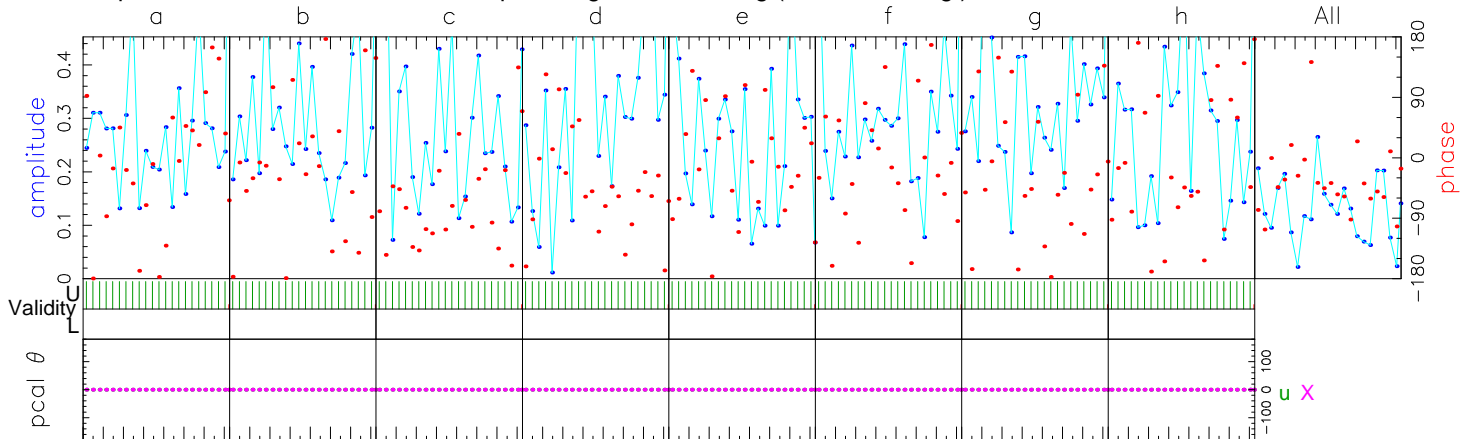


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233135  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	3.5	-28.6	-83.7	-54.3	-7.8	-25.1	-67.7	-59.5	Phase	-45.0
	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	Ampl.	0.2
	137.2	432.3	88.2	89.2	511.3	165.3	147.8	415.8	Sbd box	88.5
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	Manl 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)	5.44190115946E+03		Apriori delay (usec)		5.44256239089E+03		Resid mbdelay (usec)		-4.98143E-03	+/- 1.9E-04
Sband delay (usec)	5.44190416939E+03		Apriori clock (usec)		-4.5781906E+01		Resid sbdelay (usec)		-6.58221E-01	+/- 1.5E-03
Phase delay (usec)	5.44256238944E+03		Apriori clockrate (us/s)		-1.2800004E-07		Resid phdelay (usec)		-1.45106E-06	+/- 6.3E-07
Delay rate (us/s)	-1.22398373303E+00		Apriori rate (us/s)		-1.22397338241E+00		Resid rate (us/s)		-1.03506E-05	+/- 2.6E-09
Total phase (deg)	81.5		Apriori accel (us/s/s)		-4.80504419658E-05		Resid phase (deg)		-45.0	+/- 19.6

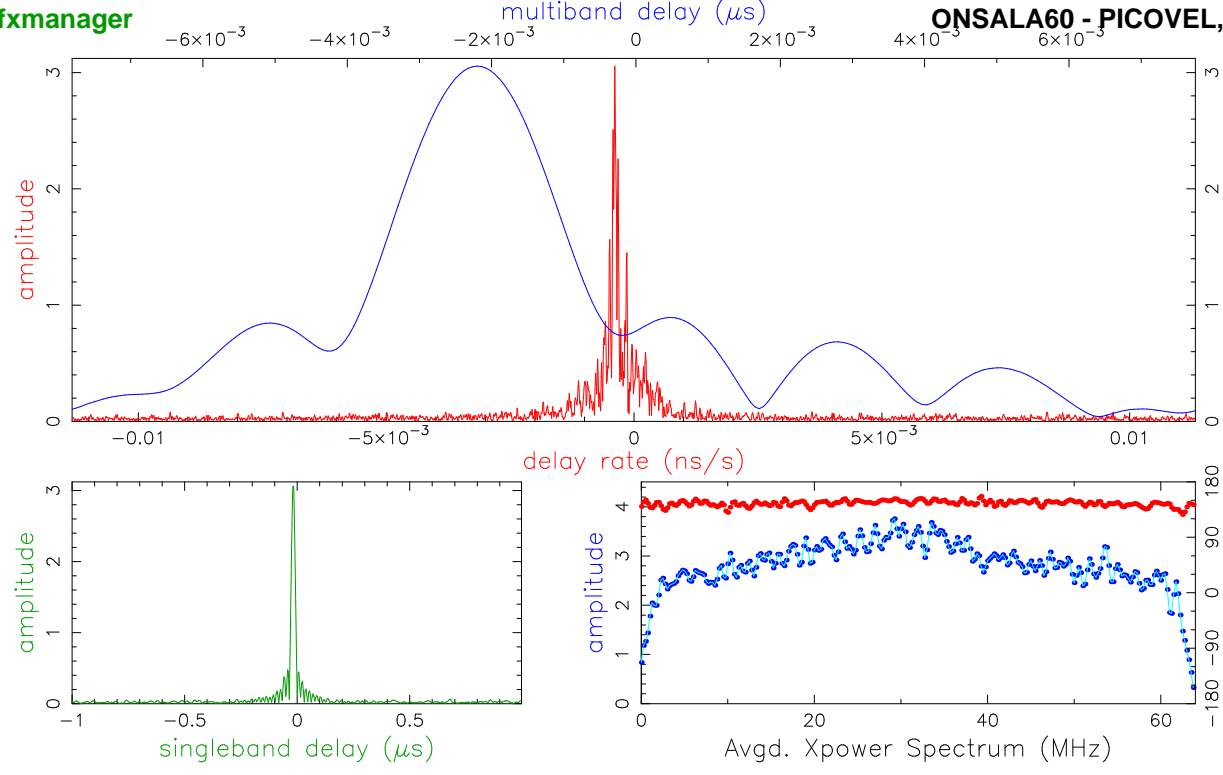
ph/seg (deg) 50.8 47.1 Search (2048X32) 0.101 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 63.3 82.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 33.4 27.8 Inc. seg. avg. 0.139 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 38.5 48.4 Inc. frq. avg. 0.151 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 u: az 289.4 el 61.2 pa 86.4 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 9010.374 -5058.329 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/uX.W.78.1IFUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XP

ONSALA60 - PICOVEL, fgroup W, pol RR

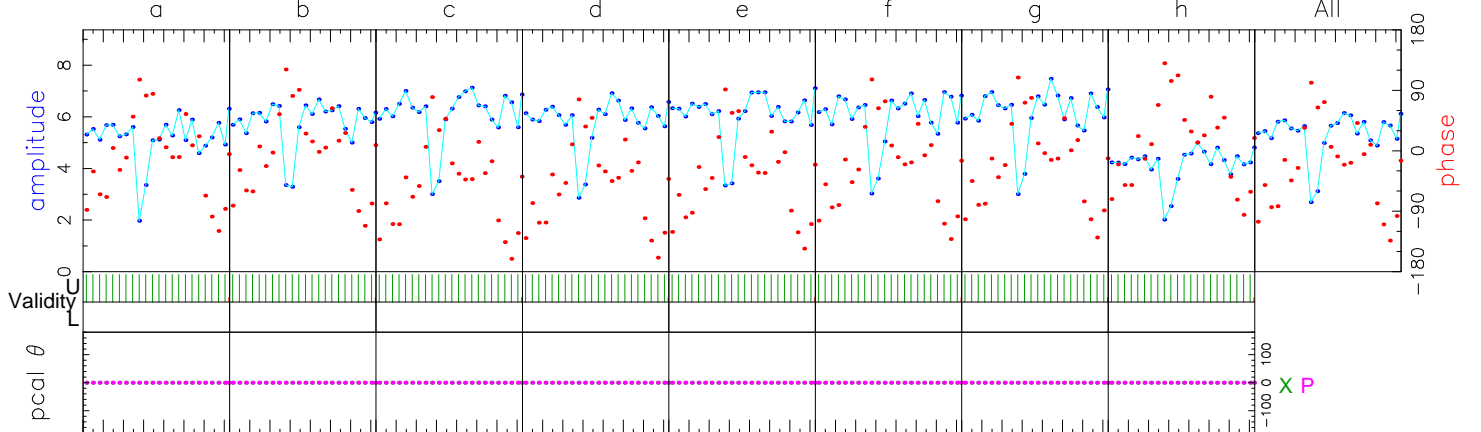


Fringe quality 3

SNR 174.8  
 Int time 419.371  
 Amp 3.123  
 Phase -30.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.017585  
 MBD -0.002249  
 Fringe rate (Hz)  
 -0.033732  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Yr:day 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233141  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-16.8	-8.3	-56.1	-55.2	-43.9	-31.8	-25.5	5.4	Phase	-30.8
	3.0	3.3	3.5	3.4	3.5	3.5	3.5	2.4	Ampl.	3.2
	252.2	252.1	252.1	252.5	252.9	252.5	252.6	252.9	Sbd box	252.5
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	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)	6.04207960032E+03		Apriori delay (usec)		6.04209747434E+03		Resid mbdelay (usec)		-2.24902E-03	+/- 6.2E-06
Sband delay (usec)	6.04207988909E+03		Apriori clock (usec)		4.8545433E+01		Resid sbdelay (usec)		-1.75852E-02	+/- 4.9E-05
Phase delay (usec)	6.04209747335E+03		Apriori clockrate (us/s)		9.2799997E-07		Resid phdelay (usec)		-9.94674E-07	+/- 2.1E-08
Delay rate (us/s)	-3.14942253580E-01		Apriori rate (us/s)		-3.14941861991E-01		Resid rate (us/s)		-3.91589E-07	+/- 8.7E-11
Total phase (deg)	127.6		Apriori accel (us/s/s)		-1.45661228584E-05		Resid phase (deg)		-30.8	+/- 0.7

ph/seg (deg) 62.4 1.6  
 amp/seg (%) 74.6 2.7  
 ph/frq (deg) 24.0 0.9  
 amp/frq (%) 12.6 1.6

RMS Theor. Amplitude 3.123 +/- 0.018  
 Search (2048X32) 2.911  
 Interp. 0.000  
 Inc. seg. avg. 5.300  
 Inc. frq. avg. 3.247

pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
 Bits/sample: 2x2 SampCntNorm: enabled  
 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

X: az 72.2 el 37.1 pa -42.1 P: az 53.7 el 18.5 pa -57.3 u,v (fr/asec) 2318.883 644.852 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP..11FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP.W.101.11FUSI

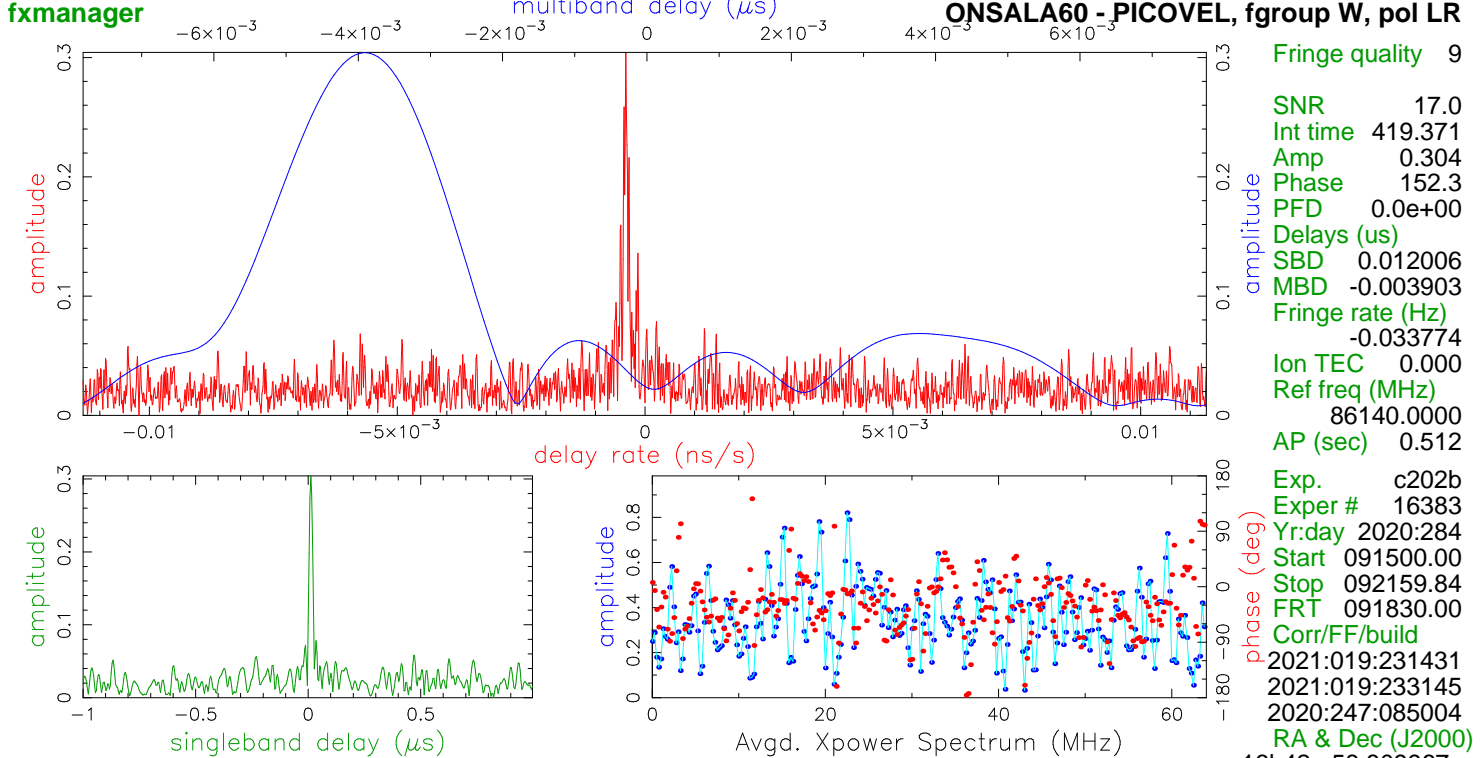


Mk4/DiFX fourfit 3.21 rev 2937

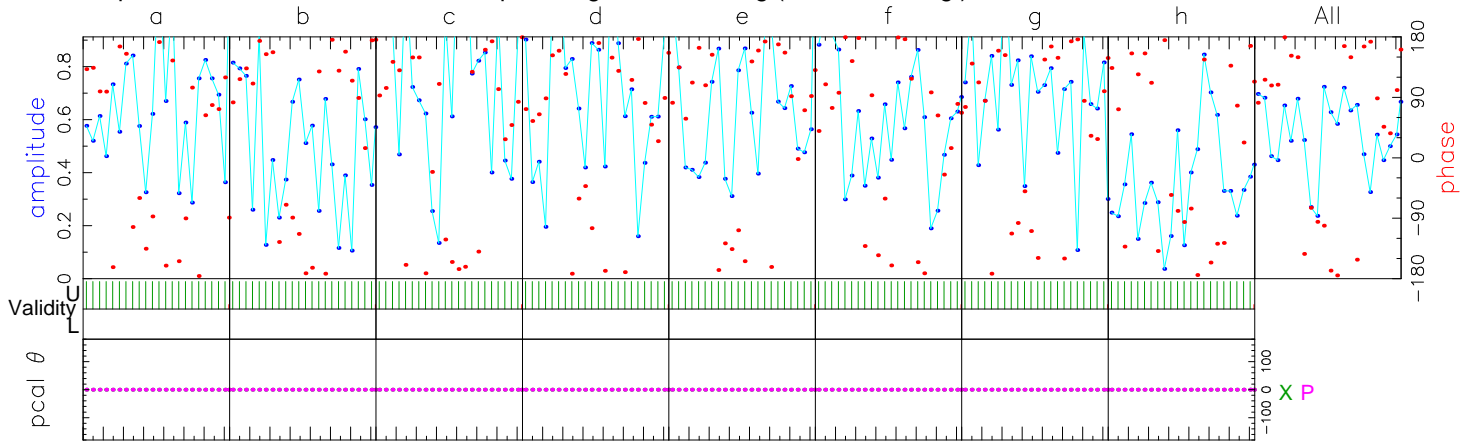
fxmanager

3C345.1FUSI, No0082, XP

ONSALA60 - PICOVEL, fgroup W, pol LR



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
	159.7	159.4	157.3	134.1	151.4	127.4	153.6	-175.5	Phase	152.3
	0.3	0.3	0.5	0.4	0.4	0.2	0.3	0.2	Ampl.	0.3
	259.3	260.9	259.7	259.5	260.2	259.5	260.0	261.3	Sbd box	260.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	6.04210919657E+03		Apriori delay (usec)		6.04209747434E+03		Resid mbdelay (usec)		-3.90277E-03	+/- 6.4E-05
Sband delay (usec)	6.04210948009E+03		Apriori clock (usec)		4.8545433E+01		Resid sbdelay (usec)		1.20058E-02	+/- 5.1E-04
Phase delay (usec)	6.04209747925E+03		Apriori clockrate (us/s)		9.2799997E-07		Resid phdelay (usec)		4.90998E-06	+/- 2.2E-07
Delay rate (us/s)	-3.14942254072E-01		Apriori rate (us/s)		-3.14941861991E-01		Resid rate (us/s)		-3.92081E-07	+/- 8.9E-10
Total phase (deg)	310.7		Apriori accel (us/s/s)		-1.45661228584E-05		Resid phase (deg)		152.3	+/- 6.7

	RMS	Theor.	Amplitude	0.304 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	65.4	16.1	Search (2048X32)	0.291	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	91.0	28.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	18.8	9.5	Inc. seg. avg.	0.524	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	29.1	16.6	Inc. frq. avg.	0.309	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 72.2 el 37.1 pa -42.1 P: az 53.7 el 18.5 pa -57.3 u,v (fr/asec) 2318.883 644.852 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP.W.119.1FUSI

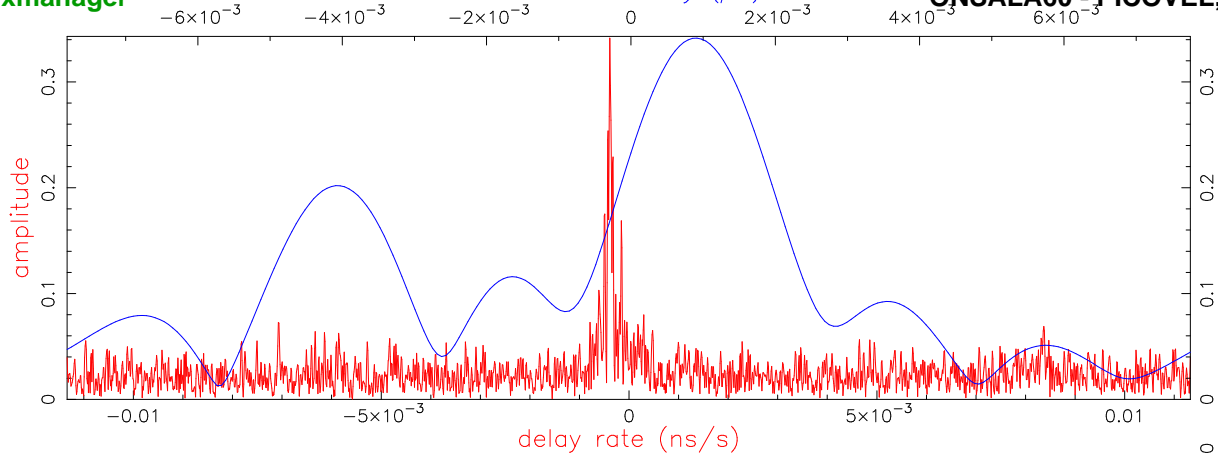
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XP

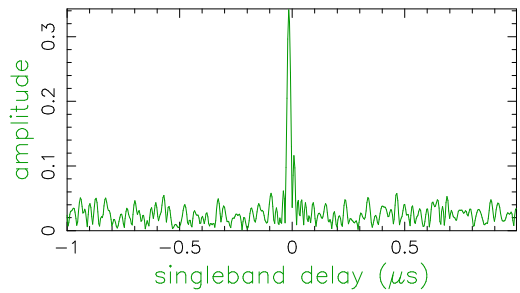
ONSALA60 - PICOVEL, fgroup W, pol RL

multiband delay ( $\mu$ s)

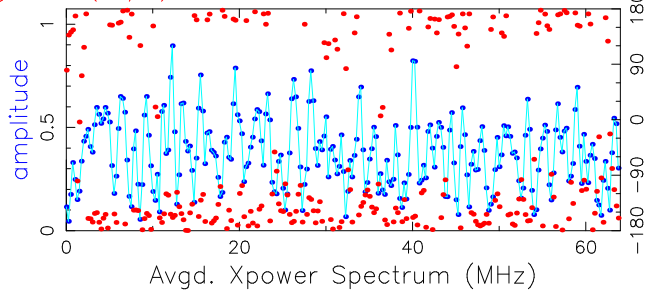


Fringe quality 8

SNR 19.2  
 Int time 419.371  
 Amp 0.343  
 Phase 12.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.014774  
 MBD 0.000917  
 Fringe rate (Hz)  
 -0.033536  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

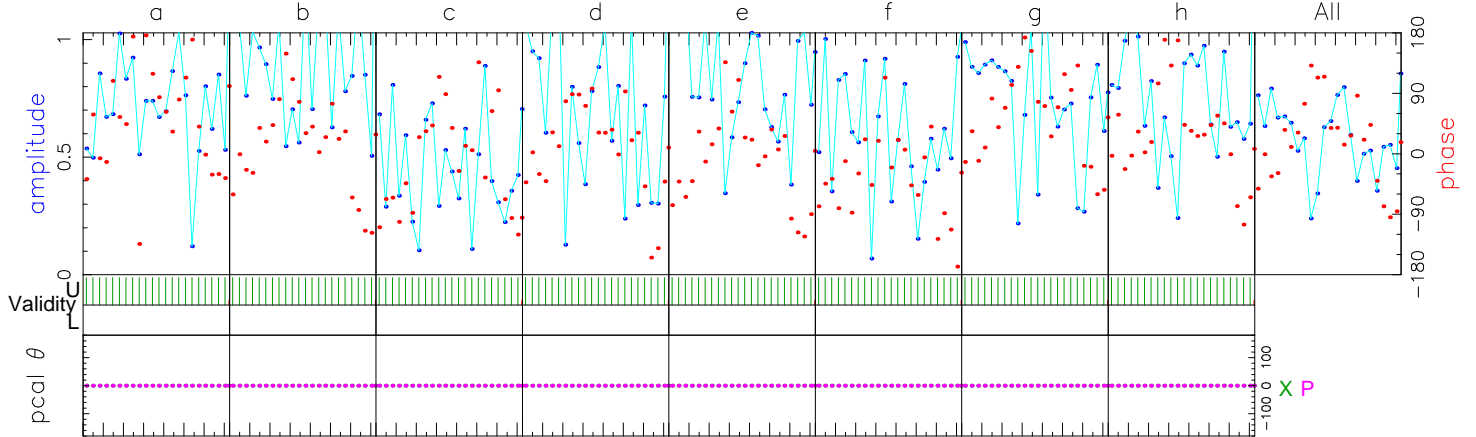


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233148  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	49.5	11.1	-19.4	14.8	-16.5	-33.7	51.4	20.5	Phase	12.3
	0.3	0.5	0.2	0.5	0.5	0.3	0.4	0.5	Ampl.	0.4
	252.5	252.4	203.5	252.9	252.9	253.3	253.3	253.3	Sbd box	253.2
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	6.04208276601E+03	Apriori delay (usec)	6.04209747434E+03	Resid mbdelay (usec)	9.16663E-04	+/-	5.7E-05
Sband delay (usec)	6.04208270034E+03	Apriori clock (usec)	4.8545433E+01	Resid sbdelay (usec)	-1.47740E-02	+/-	4.5E-04
Phase delay (usec)	6.04209747474E+03	Apriori clockrate (us/s)	9.2799997E-07	Resid phdelay (usec)	3.95075E-07	+/-	1.9E-07
Delay rate (us/s)	-3.14942251306E-01	Apriori rate (us/s)	-3.14941861991E-01	Resid rate (us/s)	-3.89316E-07	+/-	7.9E-10
Total phase (deg)		Apriori accel (us/s/s)	-1.45661228584E-05	Resid phase (deg)	12.3	+/-	6.0

ph/seg (deg)	62.9	Theor.	14.3	Amplitude	0.343 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	80.9		25.0	Search (2048X32)	0.337	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	34.0		8.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	34.2		14.7	Inc. seg. avg.	0.560	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.378	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

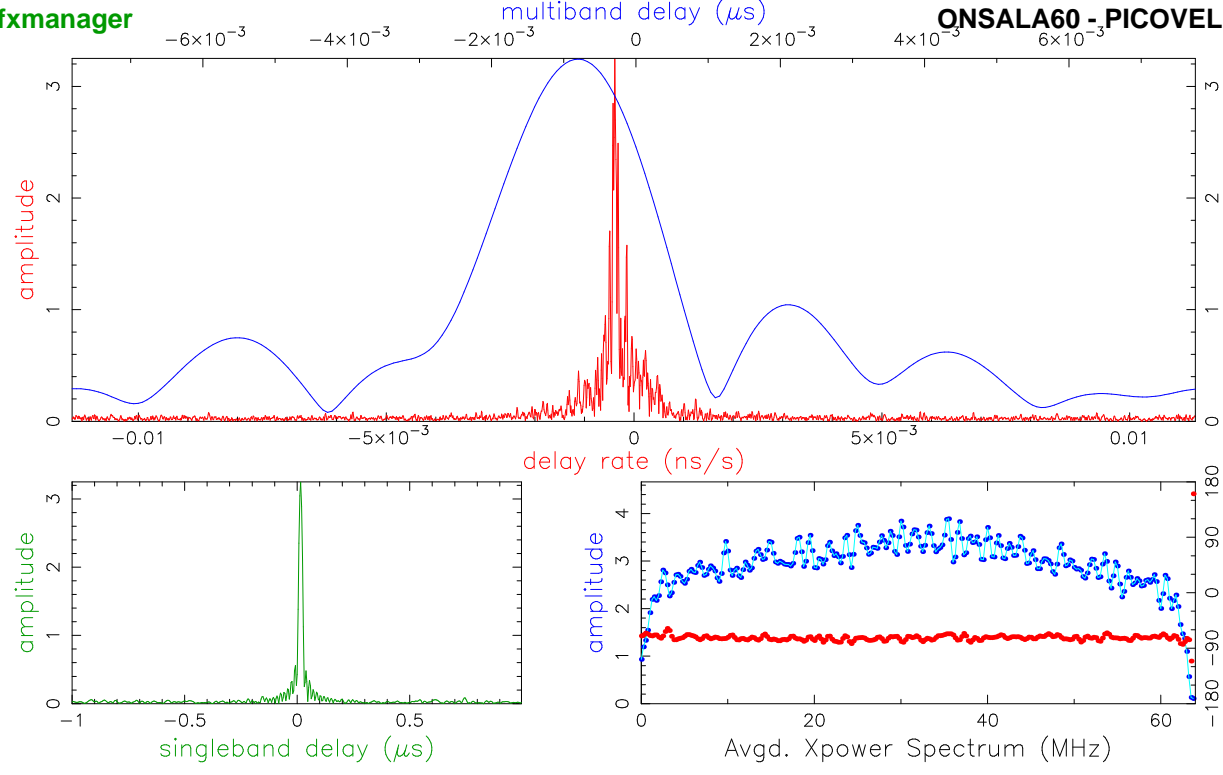
X: az 72.2 el 37.1 pa -42.1 P: az 53.7 el 18.5 pa -57.3 u,v (fr/asec) 2318.883 644.852 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP.W.135.1FUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XP

ONSALA60 - PICOVEL, fgroup W, pol LL

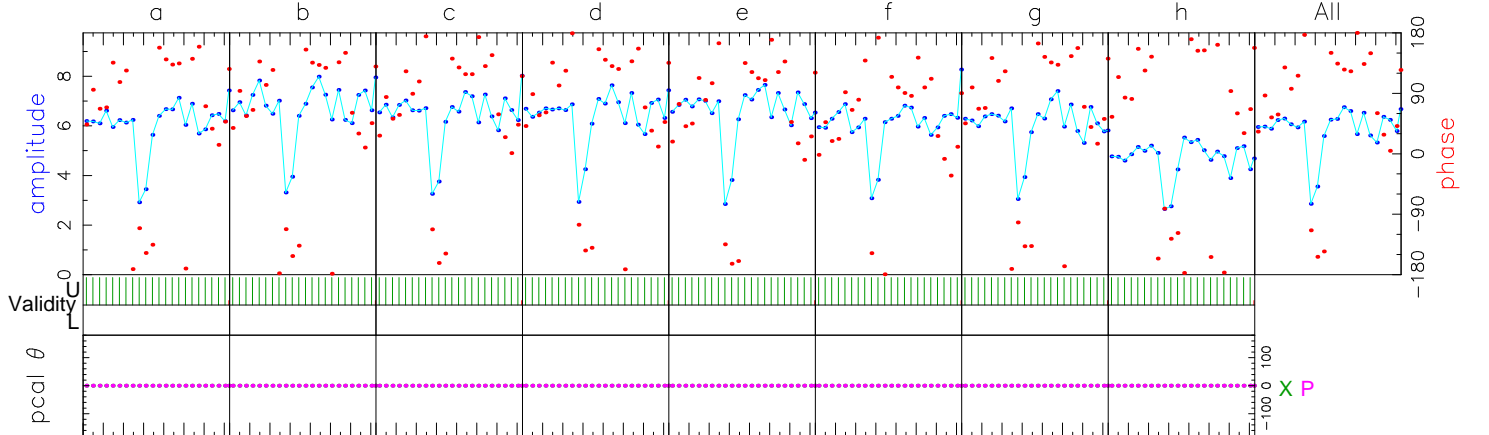


Fringe quality 4

SNR 182.0  
 Int time 419.371  
 Amp 3.251  
 Phase 109.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.015061  
 MBD -0.000817  
 Fringe rate (Hz)  
 -0.033792  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233138  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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		
X	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 6.04211228185E+03 Apriori delay (usec) 6.04209747434E+03 Resid mbdelay (usec) -8.17493E-04 +/- 6.0E-06  
 Sband delay (usec) 6.04211253484E+03 Apriori clock (usec) 4.8545433E+01 Resid sbdelay (usec) 1.50605E-02 +/- 4.7E-05  
 Phase delay (usec) 6.04209747789E+03 Apriori clockrate (us/s) 9.2799997E-07 Resid phdelay (usec) 3.54263E-06 +/- 2.0E-08  
 Delay rate (us/s) -3.14942254287E-01 Apriori rate (us/s) -3.14941861991E-01 Resid rate (us/s) -3.92296E-07 +/- 8.4E-11  
 Total phase (deg) 268.3 Apriori accel (us/s/s) -1.45661228584E-05 Resid phase (deg) 109.9 +/- 0.6

RMS Theor. Amplitude 3.251 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 64.0 1.5 Search (2048X32) 3.033 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 83.9 2.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 21.1 0.9 Inc. seg. avg. 5.823 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 11.7 1.6 Inc. frq. avg. 3.398 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

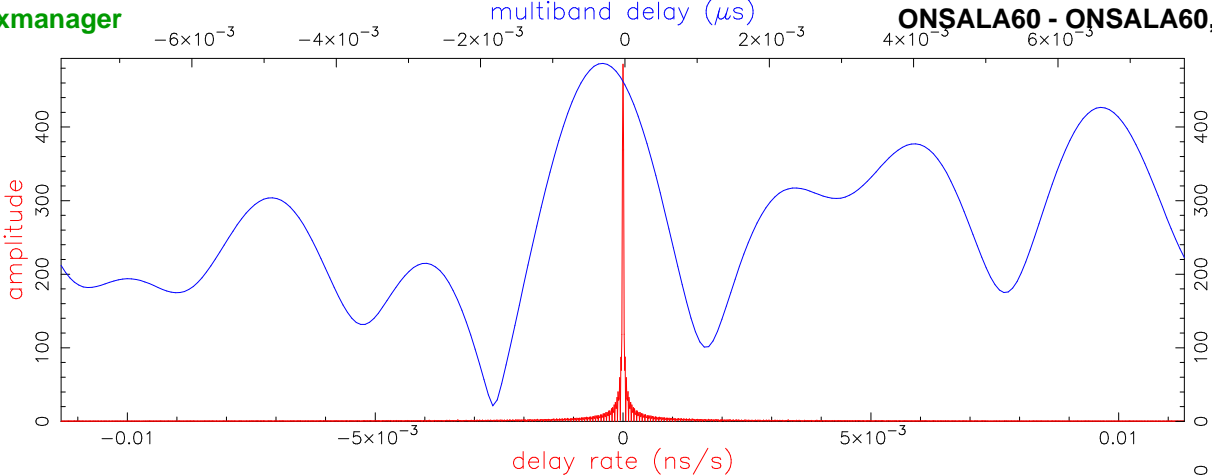
X: az 72.2 el 37.1 pa -42.1 P: az 53.7 el 18.5 pa -57.3 u,v (fr/asec) 2318.883 644.852 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP..11FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XP.W.85.11FUSI

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fxmanager

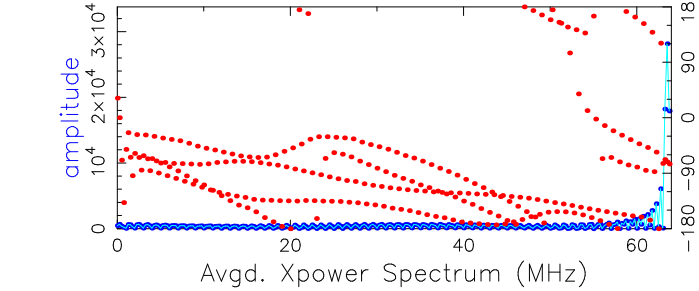
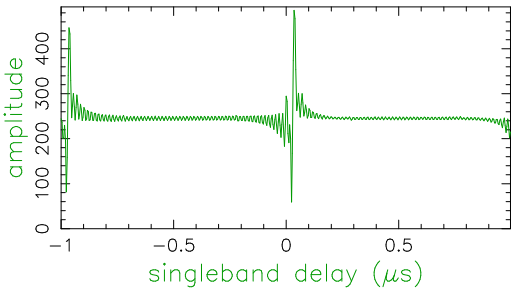
3C345.1IFUSI, No0082, XX

ONSALA60 - ONSALA60, fgroup W, pol LR



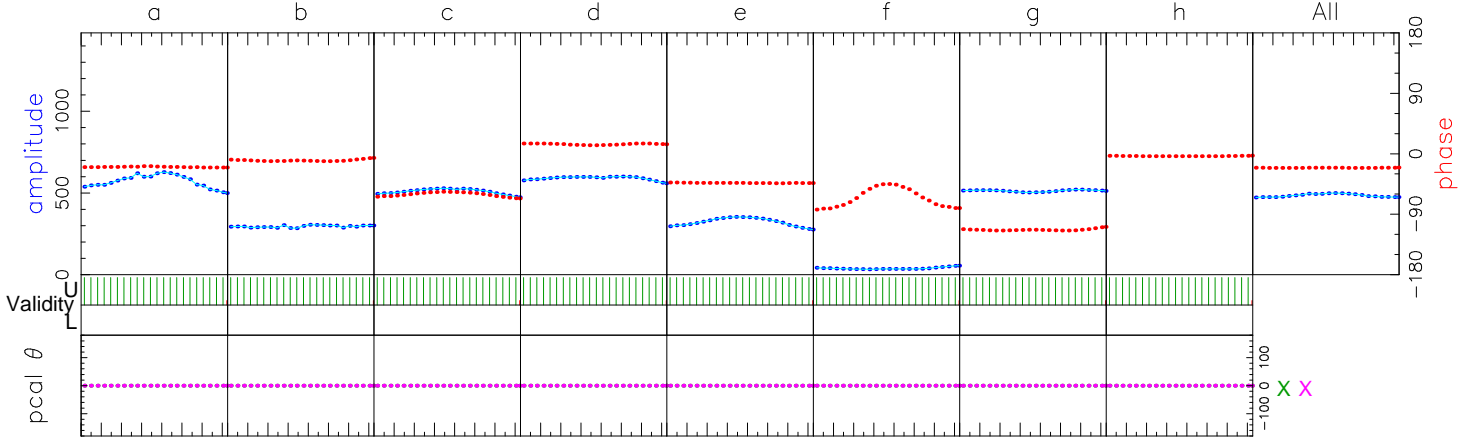
Fringe quality 5

SNR 27640.7  
 Int time 419.801  
 Amp 493.322  
 Phase -20.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.036496  
 MBD -0.000376  
 Fringe rate (Hz)  
 0.000003  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233144  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-19.6	-9.8	-60.4	14.3	-43.4	-66.9	-113.1	-3.4	Phase	-20.9
	573.6	295.7	509.5	590.8	323.7	38.1	513.3	1926.9	Ampl.	596.5
	265.7	264.2	265.8	265.2	264.1	7.7	264.5	262.3	Sbd box	266.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	3.08740625000E-02	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-3.75937E-04	+/-	3.9E-08
Sband delay (usec)	3.64962500000E-02	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	3.64963E-02	+/-	3.1E-07
Phase delay (usec)	-6.72556270548E-07	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-6.72556E-07	+/-	1.3E-10
Delay rate (us/s)	3.68449962184E-11	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	3.68450E-11	+/-	5.5E-13
Total phase (deg)		Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-20.9	+/-	0.0

ph/seg (deg)	0.1	0.0	Search (2048X32)	477.232	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	2.5	0.0	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	48.9	0.0	Inc. seg. avg.	485.412	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	109.8	0.0	Inc. frq. avg.	596.452	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 72.2 el 37.1 pa -42.1 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

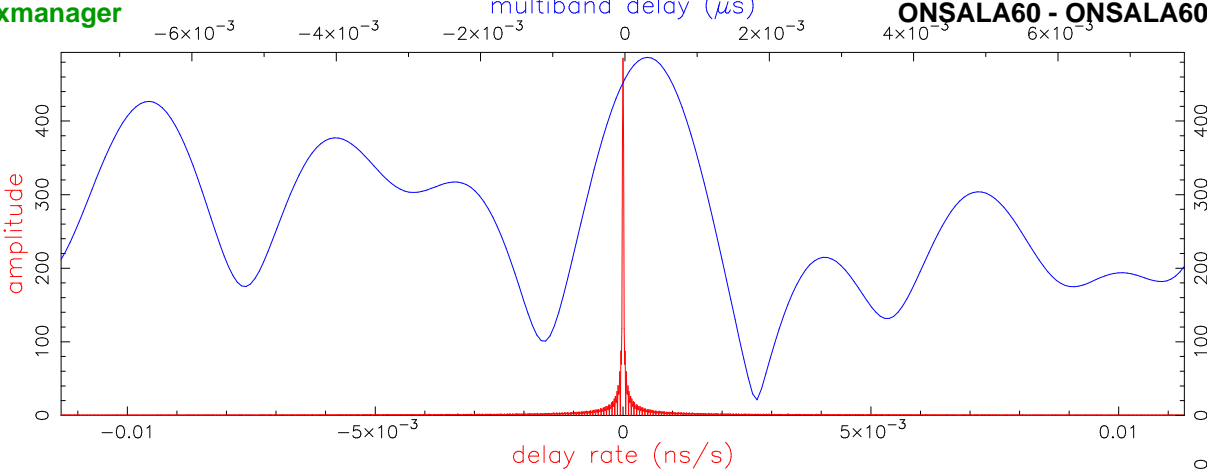
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX.W.114.1IFUSI

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fxmanager

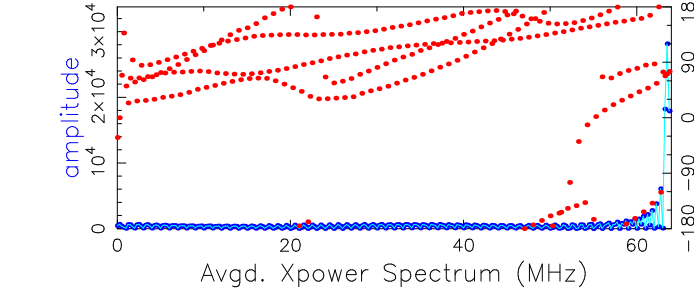
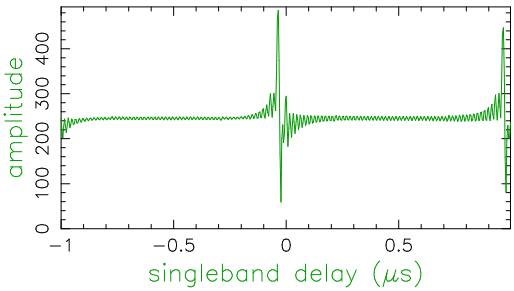
3C345.1IFUSI, No0082, XX

ONSALA60 - ONSALA60, fgroup W, pol RL



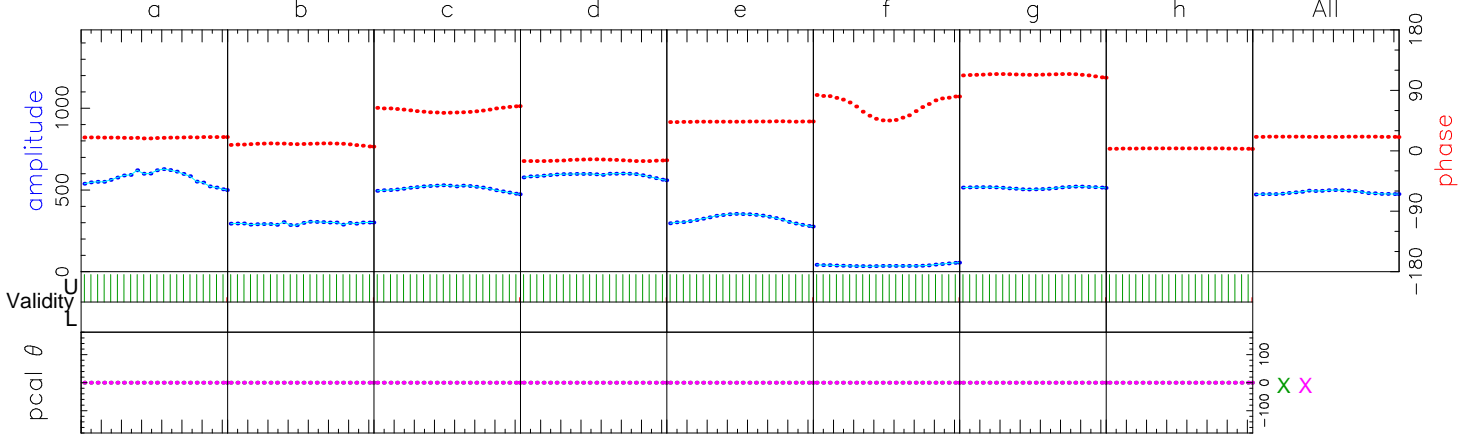
Fringe quality 5

SNR 27640.7  
 Int time 419.801  
 Amp 493.322  
 Phase 20.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.036496  
 MBD 0.000376  
 Fringe rate (Hz)  
 -0.000003  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233147  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	19.6	9.8	60.4	-14.3	43.4	66.9	113.1	3.4	Phase	20.9
	573.6	295.7	509.5	590.8	323.7	38.1	513.3	1926.9	Ampl.	596.5
	248.3	249.8	248.2	248.8	249.9	506.3	249.5	251.7	Sbd box	247.7
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -3.08740625000E-02 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) 3.75937E-04 +/- 3.9E-08  
 Sband delay (usec) -3.64962500000E-02 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) -3.64963E-02 +/- 3.1E-07  
 Phase delay (usec) 6.72556270484E-07 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 6.72556E-07 +/- 1.3E-10  
 Delay rate (us/s) -3.68449962184E-11 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) -3.68450E-11 +/- 5.5E-13  
 Total phase (deg) 20.9 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) 20.9 +/- 0.0

RMS Theor. Amplitude 493.322 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.1 0.0 Search (2048X32) 477.232 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 2.5 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 48.9 0.0 Inc. seg. avg. 485.412 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 109.8 0.0 Inc. frq. avg. 596.452 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 72.2 el 37.1 pa -42.1 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX.W.129.1IFUSI

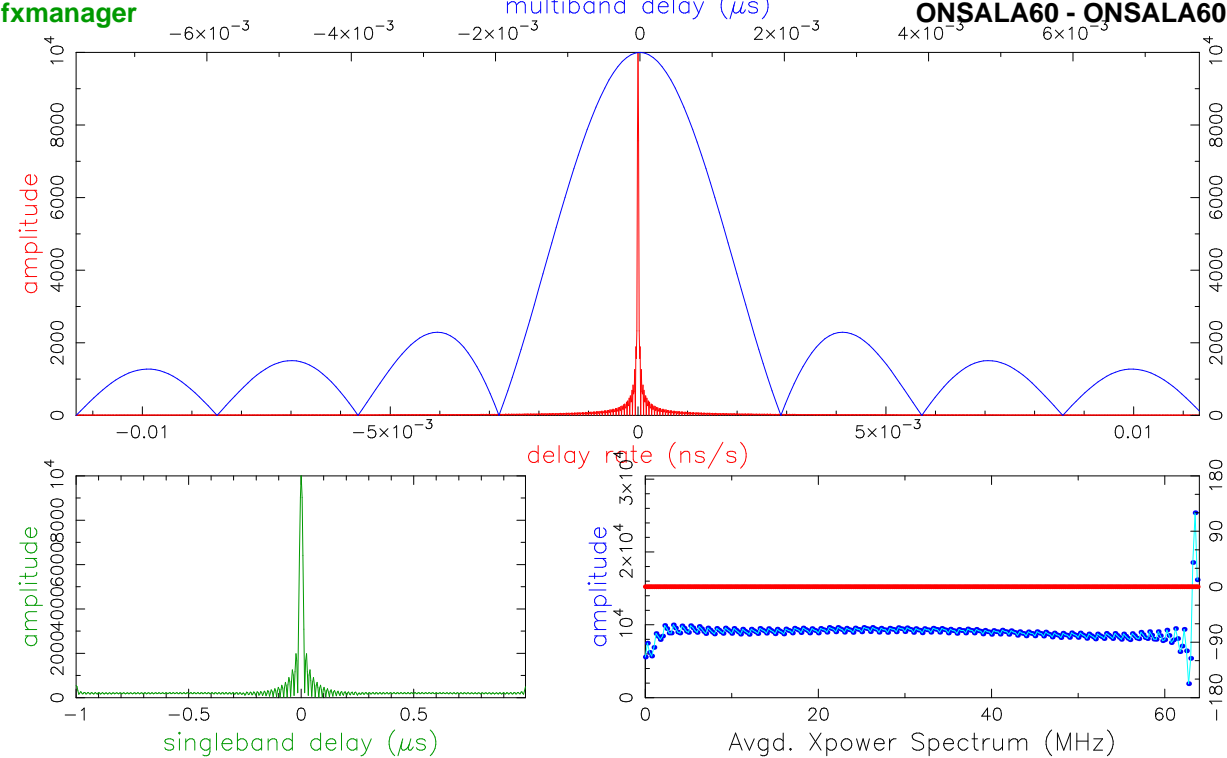


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XX

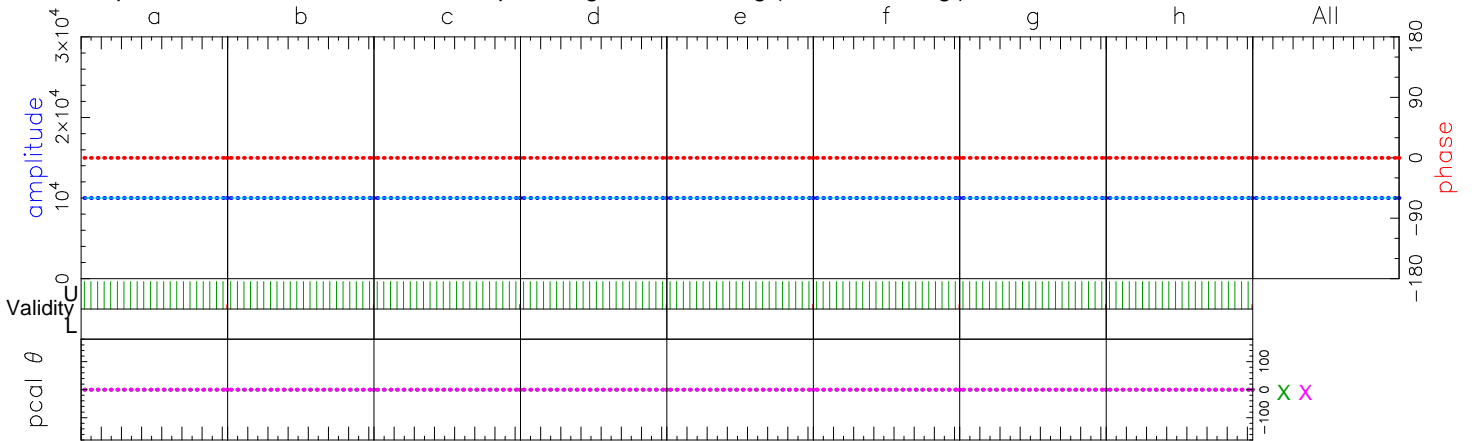
ONSALA60 - ONSALA60, fgroup W, pol LL



Fringe quality 9

SNR 560298.1  
 Int time 419.801  
 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. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233138  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	257.0	257.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	10000.0	10000.0
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	257.0	257.0

Group delay (usec)(sbd)	0.000000000000E+00	Apriori delay (usec)	0.000000000000E+00	Resid mbdelay (usec)	0.000000E+00	+/-	1.9E-09
Sband delay (usec)	0.000000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.000000E+00	+/-	1.5E-08
Phase delay (usec)	0.000000000000E+00	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	0.000000E+00	+/-	6.6E-12
Delay rate (us/s)	0.000000000000E+00	Apriori rate (us/s)	0.000000000000E+00	Resid rate (us/s)	0.000000E+00	+/-	2.7E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.000000000000E+00	Resid phase (deg)	0.0	+/-	0.0

ph/seg (deg)	0.0	RMS	0.0	Theor.	0.0	Amplitude	10000.000 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	0.0	Search (2048X32)	10000.000	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	0.0	Inc. seg. avg.	10000.000	Inc. frq. avg.	10000.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	0.0	Inc. frq. avg.	10000.000	Inc. frq. avg.	10000.000	Sample rate (MSamp/s):	128	nlags: 256	t_cohere infinite	dr window (ns/s)	-0.011	0.011
						Data rate (Mb/s):	2048	ion window (TEC)	0.00	0.00		

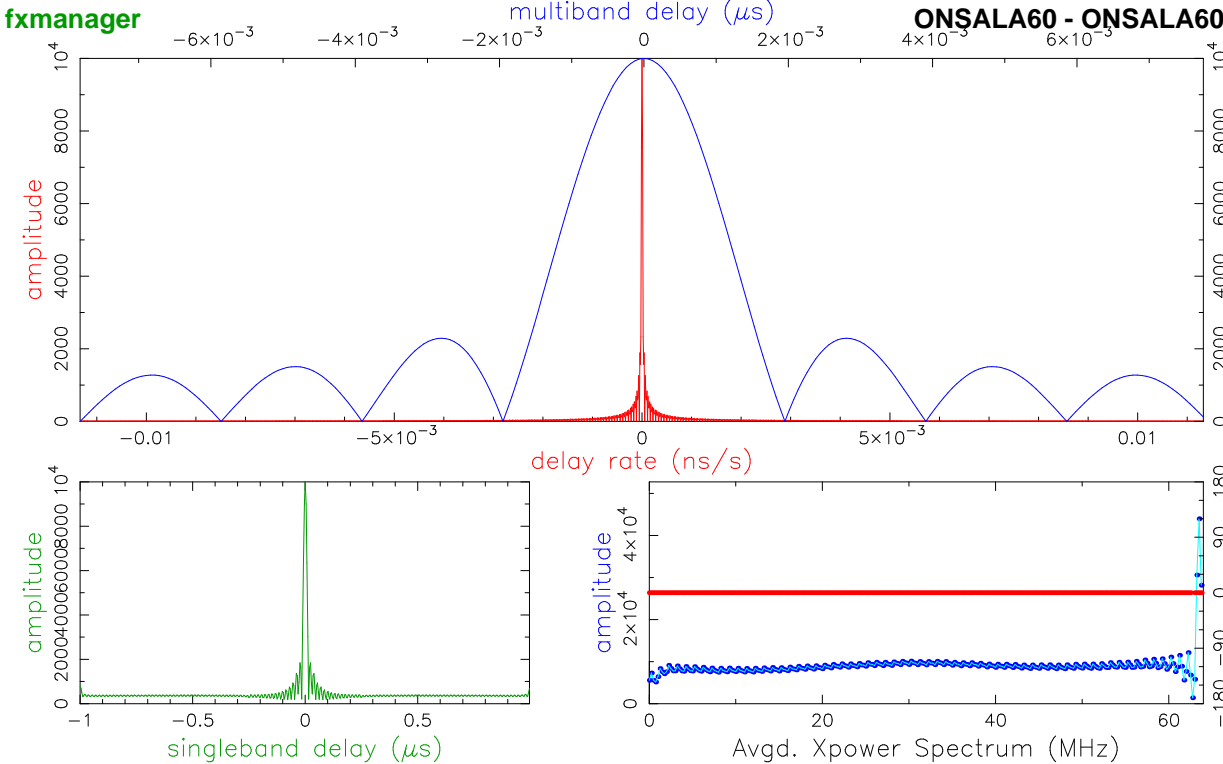
X: az 72.2 el 37.1 pa -42.1 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX.W.84.1FUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XX

ONŞALA60 - ONŞALA60, fgroup W, pol RR

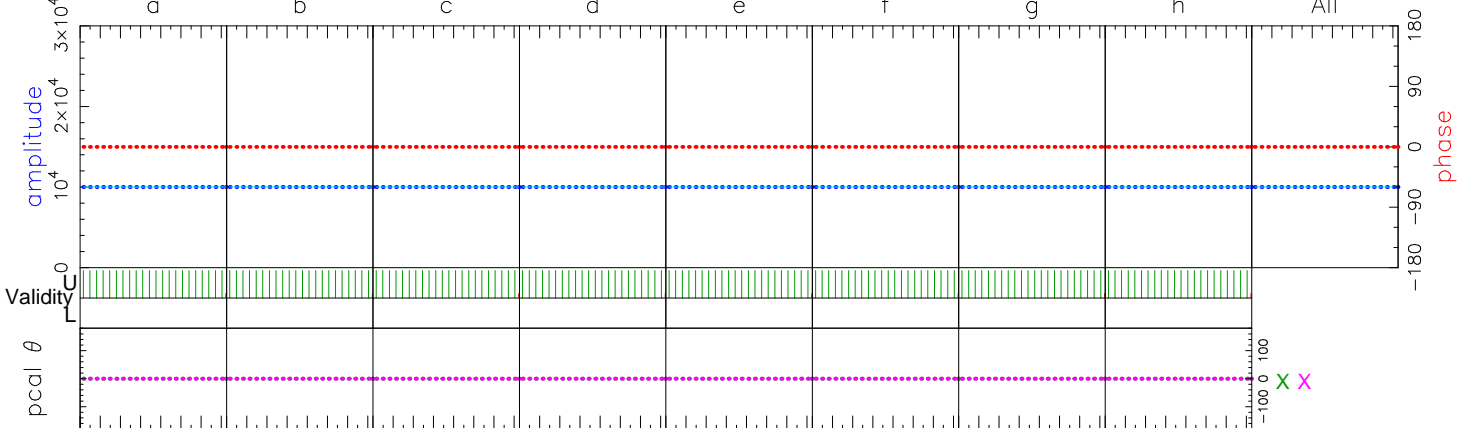


Fringe quality 9

SNR 560298.1  
 Int time 419.801  
 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. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233141  
 2020:247:085004  
 RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

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	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	257.0	257.0
X:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X	1000	1000	1000	1000	1000	1000	1000	1000	10000.0	10000.0
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	10000.0	10000.0
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	257.0	257.0

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 1.9E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 1.5E-08  
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 6.6E-12  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 2.7E-14  
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

RMS Theor. Amplitude 10000.000 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 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  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.000 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

X: az 72.2 el 37.1 pa -42.1 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XX.W.99.1FUSI

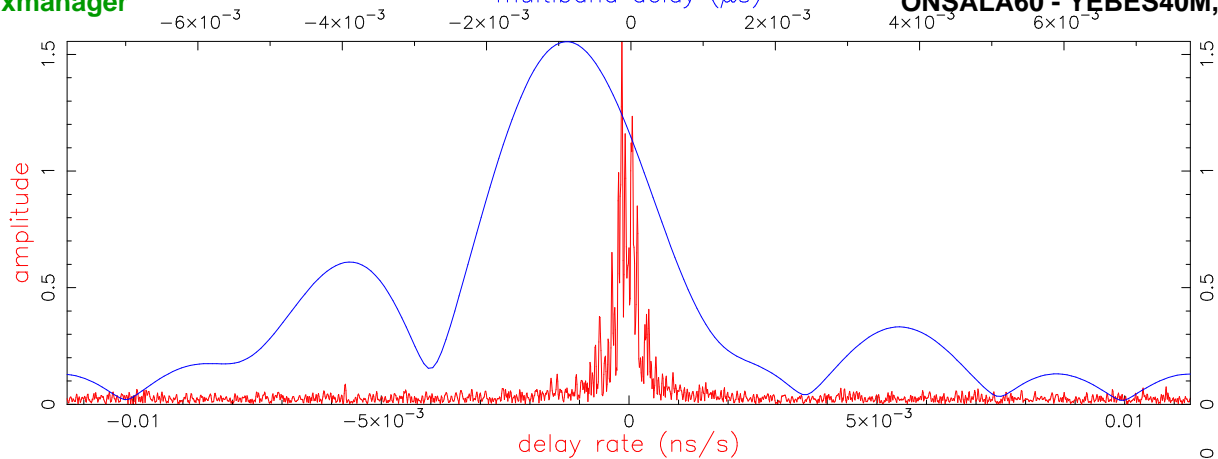
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XY

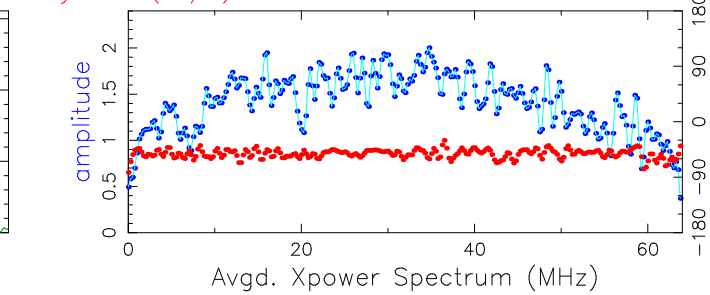
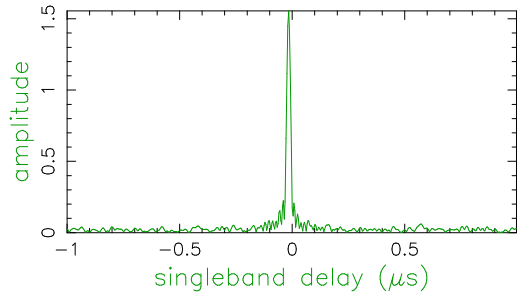
ONŞALA60 - YEBES40M, fgroup W, pol RR

multiband delay ( $\mu$ s)



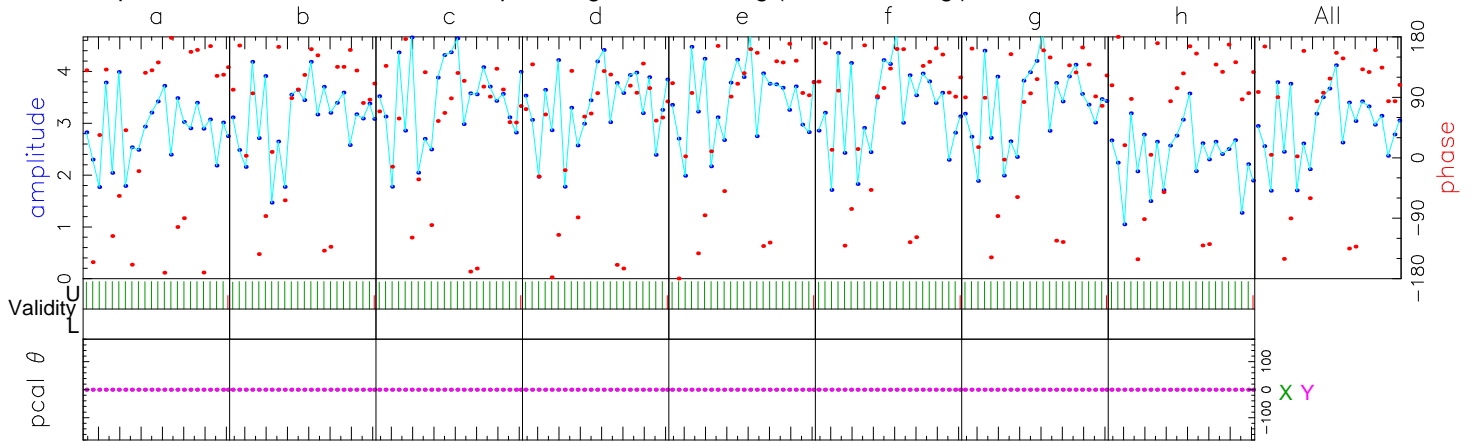
Fringe quality 4

SNR 85.3  
 Int time 401.881  
 Amp 1.556  
 Phase 134.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.015993  
 MBD -0.000900  
 Fringe rate (Hz)  
 -0.012488  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091516.89  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233142  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 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
	167.3	136.7	103.4	110.5	145.3	145.7	133.1	143.6	Phase	134.5
	1.4	1.7	1.8	1.8	1.8	1.7	1.7	1.3	Ampl.	1.6
	253.1	252.1	252.8	253.0	253.1	252.7	252.8	253.0	Sbd box	252.9
U/L	787/0	787/0	787/0	787/0	787/0	787/0	787/0	787/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.26916898606E+03		Apriori delay (usec)		5.26918551063E+03		Resid mbdelay (usec)		-8.99568E-04	+/- 1.3E-05
Sband delay (usec)	5.26916951763E+03		Apriori clock (usec)		3.4650753E+01		Resid sbdelay (usec)		-1.59930E-02	+/- 1.0E-04
Phase delay (usec)	5.26918551497E+03		Apriori clockrate (us/s)		4.0800002E-07		Resid phdelay (usec)		4.33771E-06	+/- 4.3E-08
Delay rate (us/s)	-2.70304644303E-01		Apriori rate (us/s)		-2.70304499335E-01		Resid rate (us/s)		-1.44968E-07	+/- 1.9E-10
Total phase (deg)	93.4		Apriori accel (us/s/s)		-1.39127433802E-05		Resid phase (deg)		134.5	+/- 1.3

	RMS	Theor.	Amplitude	1.556 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	72.6	3.2	Search (2048X32)	1.534	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000	
amp/seg (%)	99.3	5.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us) -0.008 0.008
ph/frq (deg)	22.2	1.9	Inc. seg. avg.	2.960	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011	
amp/frq (%)	12.8	3.3	Inc. frq. avg.	1.644	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC) 0.00 0.00

X: az 72.2 el 37.1 pa -42.1 Y: az 54.8 el 20.7 pa -54.4 u,v (fr/asec) 1986.942 373.472 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY.W.104.1FUSI

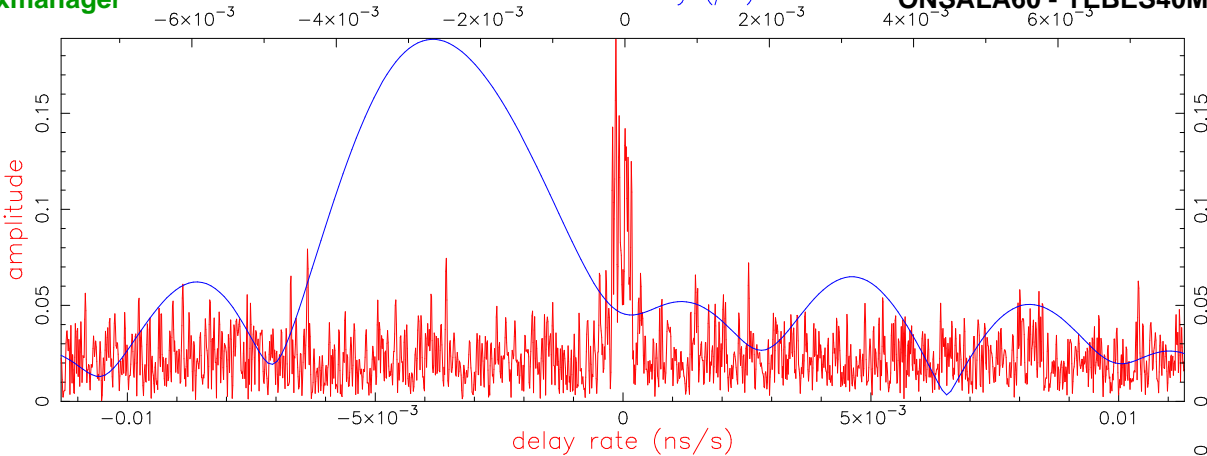
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XY

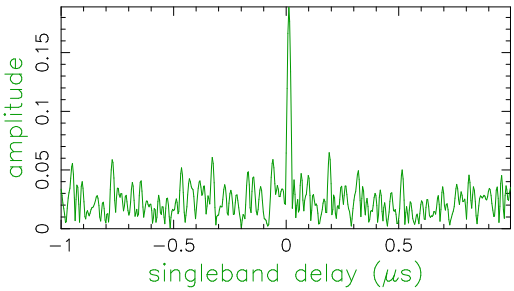
ONŞALA60 - YEBES40M, fgroup W, pol LR

multiband delay ( $\mu$ s)

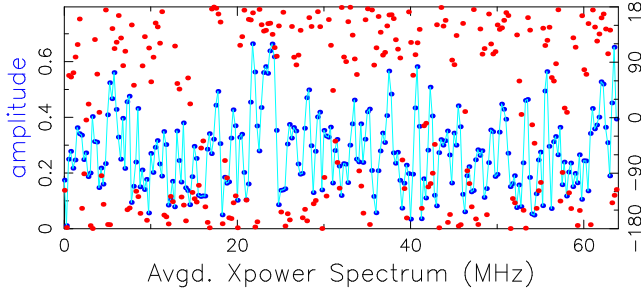


Fringe quality 9

SNR 10.4  
 Int time 401.881  
 Amp 0.189  
 Phase -23.6  
 PFD 1.6e-16  
 Delays (us)  
 SBD 0.012356  
 MBD -0.002647  
 Fringe rate (Hz)  
 -0.012501  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

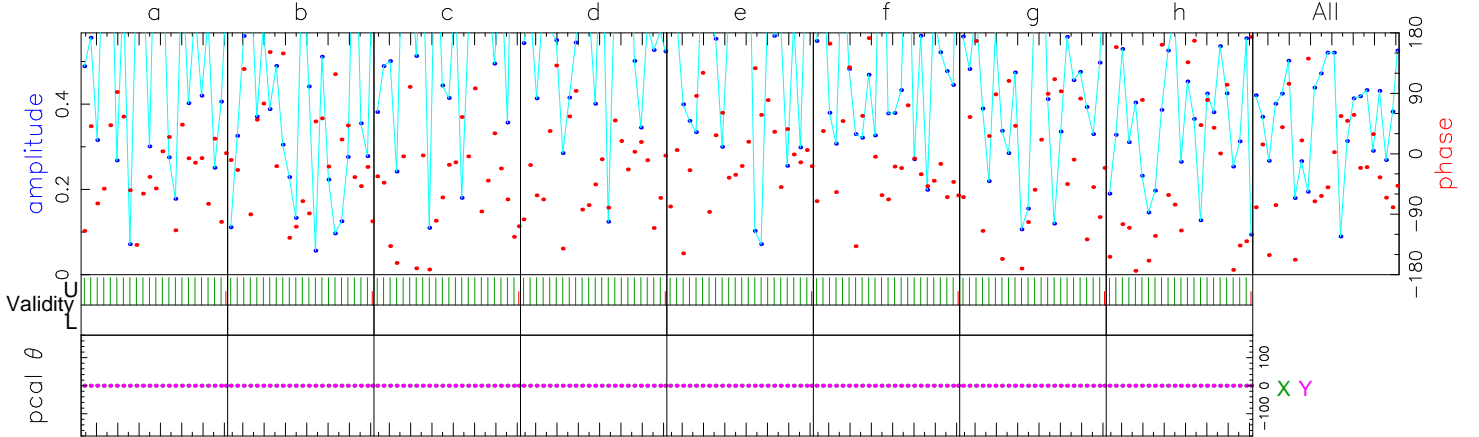


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091516.89  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233145  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 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
	-19.6	-29.8	-44.1	-23.9	-2.9	-22.9	2.9	-152.0	Phase	-23.6
	0.3	0.1	0.2	0.3	0.3	0.2	0.1	0.1	Ampl.	0.2
	259.8	477.7	260.4	259.8	259.5	259.7	339.8	406.1	Sbd box	260.2
U/L	787/0	787/0	787/0	787/0	787/0	787/0	787/0	787/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	5.26919848869E+03	Apriori delay (usec)		5.26918551063E+03	Resid mbdelay (usec)	-2.64694E-03	+/-	1.0E-04	
Sband delay (usec)	5.26919786663E+03	Apriori clock (usec)		3.4650753E+01	Resid sbdelay (usec)	1.23560E-02	+/-	8.3E-04	
Phase delay (usec)	5.26918550987E+03	Apriori clockrate (us/s)		4.0800002E-07	Resid phdelay (usec)	-7.61221E-07	+/-	3.6E-07	
Delay rate (us/s)	-2.70304644462E-01	Apriori rate (us/s)		-2.70304499335E-01	Resid rate (us/s)	-1.45127E-07	+/-	1.5E-09	
Total phase (deg)		295.3	Apriori accel (us/s/s)		-1.39127433802E-05	Resid phase (deg)	-23.6	+/-	11.1

ph/seg (deg)	RMS 73.8	Theor. 26.5	Amplitude Search (2048X32)	0.189 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	112.3	46.3	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	54.9	15.6	Inc. seg. avg.	0.332	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	48.1	27.3	Inc. frq. avg.	0.208	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 72.2 el 37.1 pa -42.1 Y: az 54.8 el 20.7 pa -54.4 u,v (fr/asec) 1986.942 373.472 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY.W.120.1FUSI

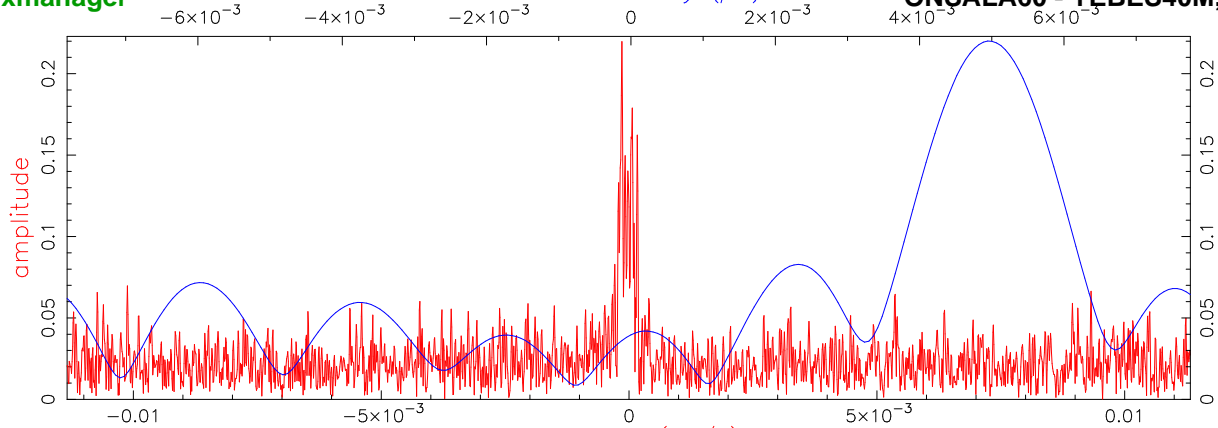
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XY

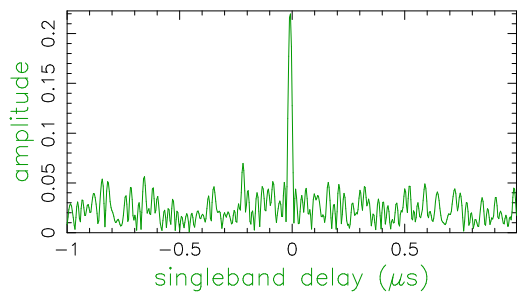
ONŞALA60 - YEBES40M, fgroup W, pol RL

multiband delay ( $\mu$ s)

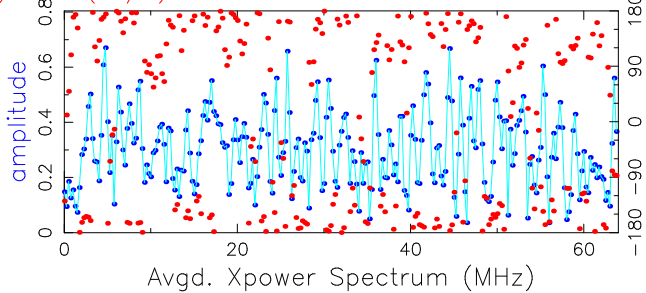


Fringe quality 9

SNR 12.2  
 Int time 401.881  
 Amp 0.223  
 Phase 8.1  
 PFD 1.3e-25  
 Delays (us)  
 SBD -0.009409  
 MBD 0.004907  
 Fringe rate (Hz)  
 -0.012424  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

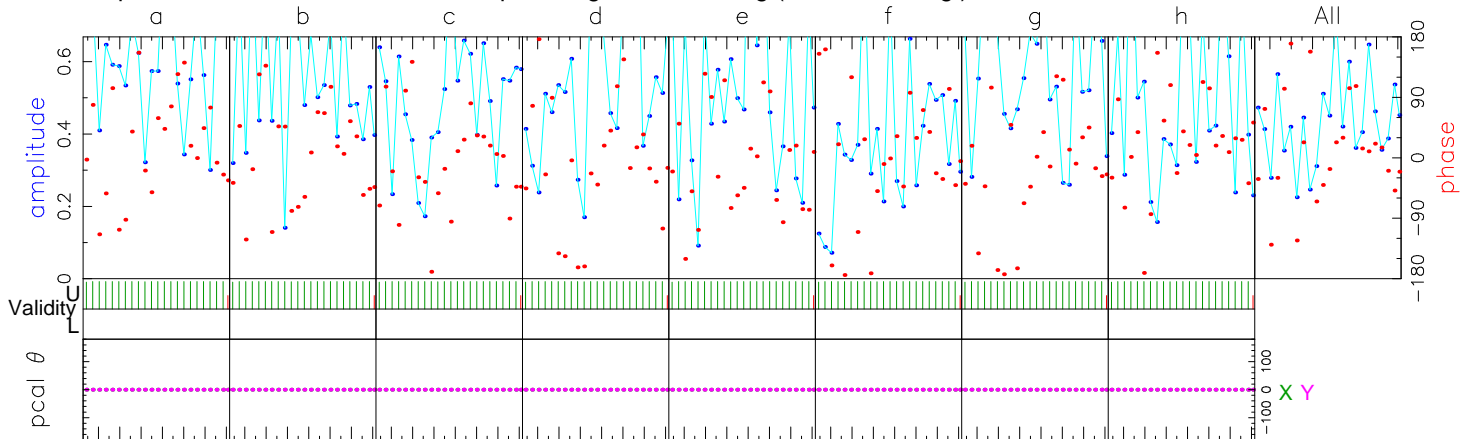


delay rate (ns/s)



Exp. c202b  
 Yr:day 16383  
 Yr:day 2020:284  
 Start 091516.89  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233148  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 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	787/0	787/0	787/0	787/0	787/0	787/0	787/0	787/0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
X	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	5.26917479244E+03	Apriori delay (usec)	5.26918551063E+03	Resid mbdelay (usec)	4.90681E-03	+/-	8.9E-05
Sband delay (usec)	5.26917610213E+03	Apriori clock (usec)	3.4650753E+01	Resid sbdelay (usec)	-9.40850E-03	+/-	7.1E-04
Phase delay (usec)	5.26918551089E+03	Apriori clockrate (us/s)	4.0800002E-07	Resid phdelay (usec)	2.60760E-07	+/-	3.0E-07
Delay rate (us/s)	-2.70304643571E-01	Apriori rate (us/s)	-2.70304499335E-01	Resid rate (us/s)	-1.44236E-07	+/-	1.3E-09
Total phase (deg)	327.0	Apriori accel (us/s/s)	-1.39127433802E-05	Resid phase (deg)	8.1	+/-	9.4

ph/seg (deg)	77.1	Theor.	22.5	Amplitude	0.223 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	111.2	Search (2048X32)	0.217	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	18.1	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	21.3	Inc. seg. avg.	0.406	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011	0.011		
		Inc. frq. avg.	0.223	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 72.2 el 37.1 pa -42.1 Y: az 54.8 el 20.7 pa -54.4 u,v (fr/asec) 1986.942 373.472 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY..1FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY.W.136.1FUSI



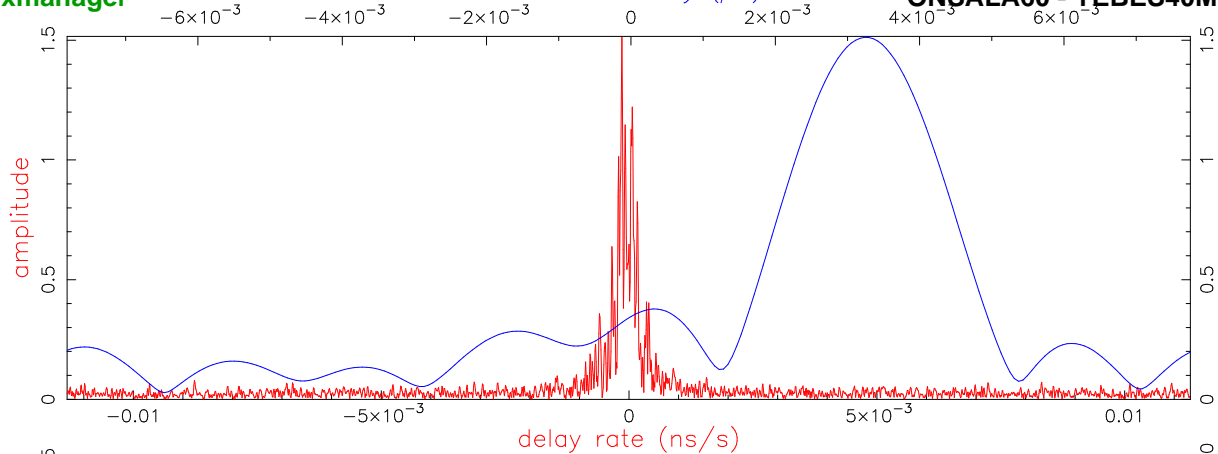
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1FUSI, No0082, XY

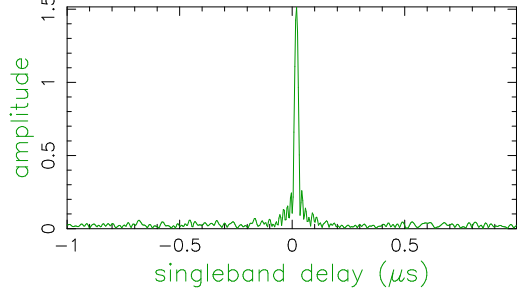
ONŞALA60 - YEBES40M, fgroup W, pol LL

multiband delay ( $\mu$ s)

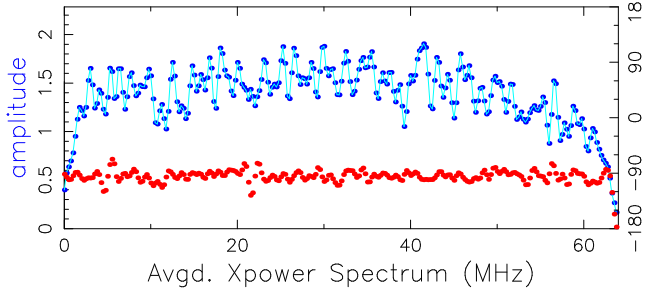


Fringe quality 4

SNR 83.1  
 Int time 401.881  
 Amp 1.516  
 Phase 85.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.018870  
 MBD 0.003241  
 Fringe rate (Hz)  
 -0.012524  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

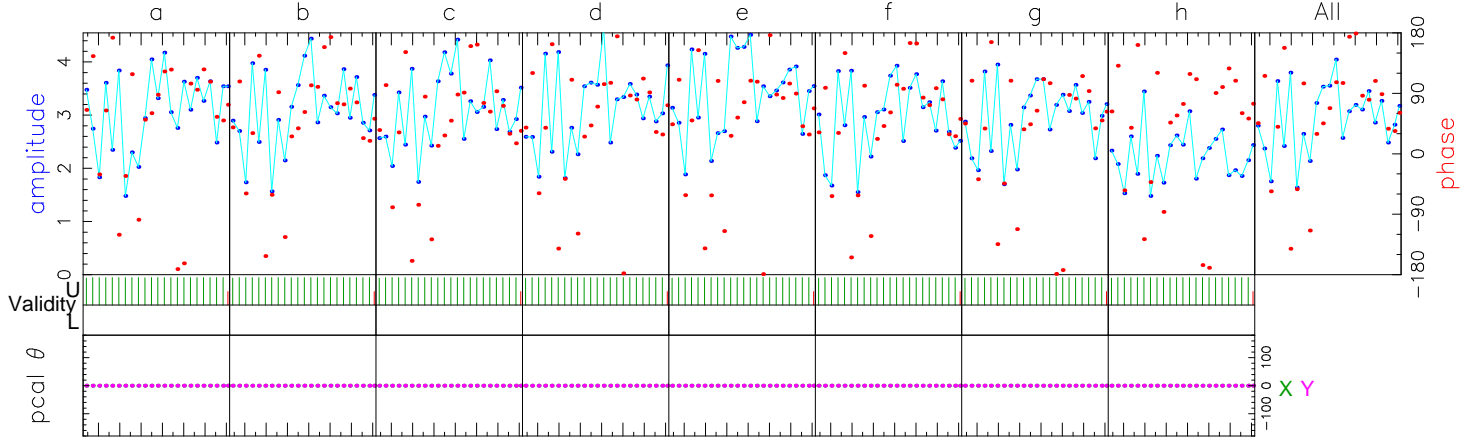


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091516.89  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233138  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 sec / seg.), time ticks 30 sec



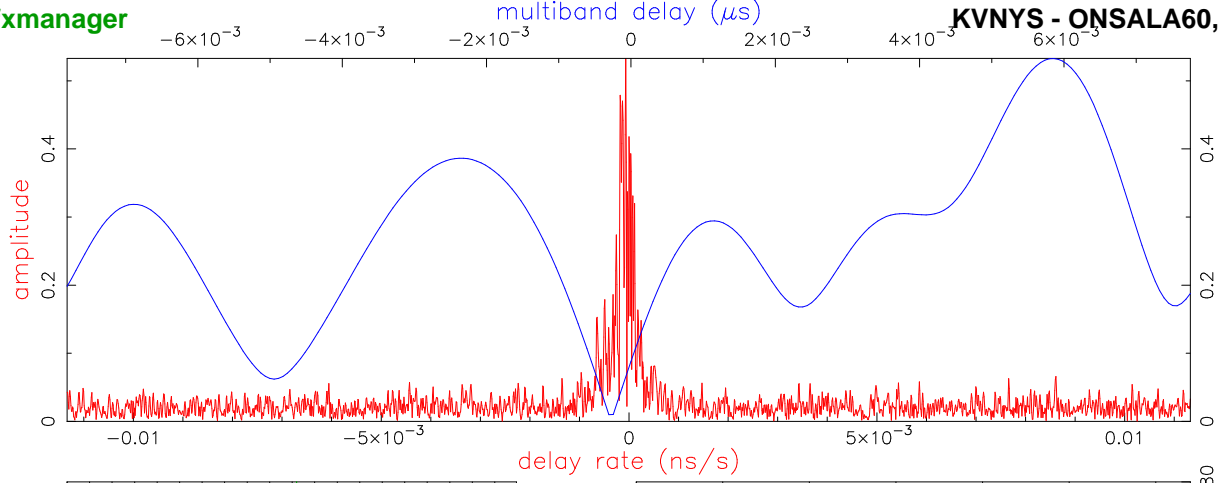
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	102.9	77.5	69.8	85.4	87.7	81.7	86.8	98.9	Phase	85.9
	1.6	1.7	1.6	1.5	1.8	1.5	1.5	1.1	Ampl.	1.5
	261.8	261.9	261.8	261.9	261.7	261.9	262.1	261.2	Sbd box	261.8
U/L	787/0	787/0	787/0	787/0	787/0	787/0	787/0	787/0	APs used	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
X:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	5.26920437653E+03	Apriori delay (usec)	5.26918551063E+03	Resid mbdelay (usec)	3.24090E-03	+/-	1.3E-05
Sband delay (usec)	5.26920438038E+03	Apriori clock (usec)	3.4650753E+01	Resid sbdelay (usec)	1.88698E-02	+/-	1.0E-04
Phase delay (usec)	5.26918551340E+03	Apriori clockrate (us/s)	4.0800002E-07	Resid phdelay (usec)	2.76960E-06	+/-	4.4E-08
Delay rate (us/s)	-2.70304644732E-01	Apriori rate (us/s)	-2.70304499335E-01	Resid rate (us/s)	-1.45397E-07	+/-	1.9E-10
Total phase (deg)	44.8	Apriori accel (us/s/s)	-1.39127433802E-05	Resid phase (deg)	85.9	+/-	1.4

ph/seg (deg)	73.4	RMS	73.4	Theor.	3.3	Amplitude	1.516 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	102.0		5.8	Search (2048X32)	1.487	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	11.6		1.9	Inc. seg. avg.	2.928	Inc. frq. avg.	1.534	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	12.9		3.4					Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

X: az 72.2 el 37.1 pa -42.1 Y: az 54.8 el 20.7 pa -54.4 u,v (fr/asec) 1986.942 373.472 simultaneous interpolator

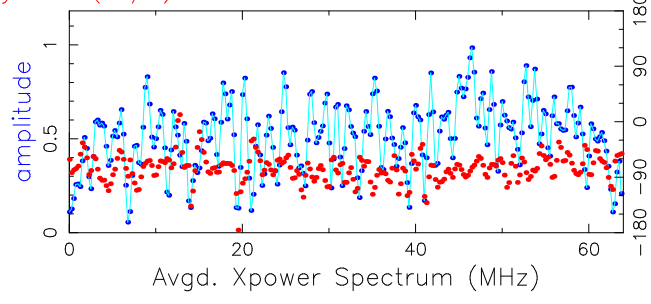
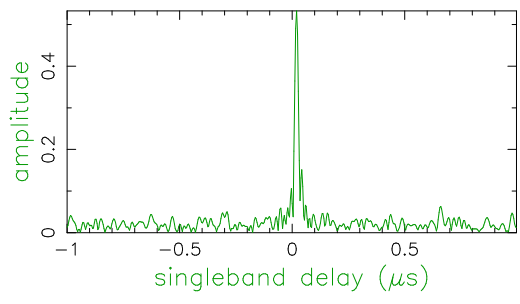
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY..11FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/XY.W.86.11FUSI



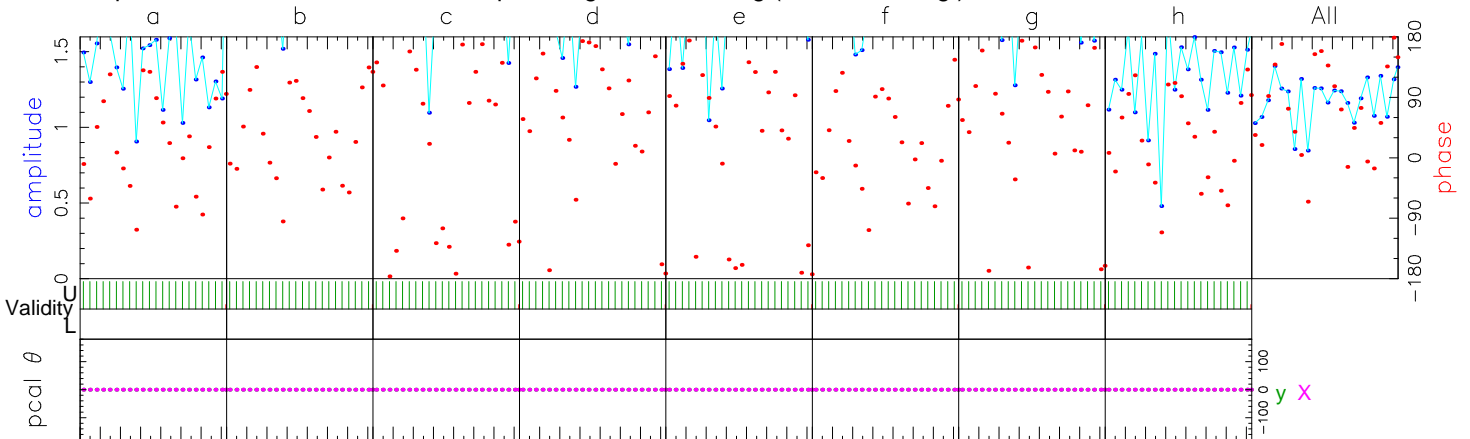
Fringe quality 3

SNR 29.9  
Int time 419.801  
Amp 0.533  
Phase 79.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.019244  
MBD 0.005839  
Fringe rate (Hz)  
-0.005535  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 091500.00  
Stop 092159.84  
FRT 091830.00  
Corr/FF/build  
2021:019:231431  
2021:019:233142  
2020:247:085004  
RA & Dec (J2000)  
16h42m58.809967s  
+39°48'36.993984"



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
	28.7	37.8	166.2	103.3	126.4	26.1	100.7	35.4	Phase	79.2
	0.5	1.0	0.9	0.8	0.8	0.8	0.8	0.7	Ampl.	0.8
	264.0	262.3	261.9	261.2	261.1	261.5	261.7	261.9	Sbd box	261.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	5.86264379634E+03		Apriori delay (usec)		5.86262233277E+03		Resid mbdelay (usec)		5.83857E-03	+/- 3.6E-05
Sband delay (usec)	5.86264157652E+03		Apriori clock (usec)		-4.7098358E+01		Resid sbdelay (usec)		1.92438E-02	+/- 2.9E-04
Phase delay (usec)	5.86262233533E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		2.55401E-06	+/- 1.2E-07
Delay rate (us/s)	-1.17806415486E+00		Apriori rate (us/s)		-1.17806409060E+00		Resid rate (us/s)		-6.42591E-08	+/- 5.1E-10
Total phase (deg)	347.4		Apriori accel (us/s/s)		-4.82484670350E-05		Resid phase (deg)		79.2	+/- 3.8

ph/seg (deg) 68.0 9.2 Search (2048X32) 0.526 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 124.1 16.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 57.5 5.4 Inc. seg. avg. 1.163 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 59.1 9.5 Inc. frq. avg. 0.812 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 285.4 el 63.6 pa 83.5 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8668.384 -4873.416 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX.W.102.1IFUSI

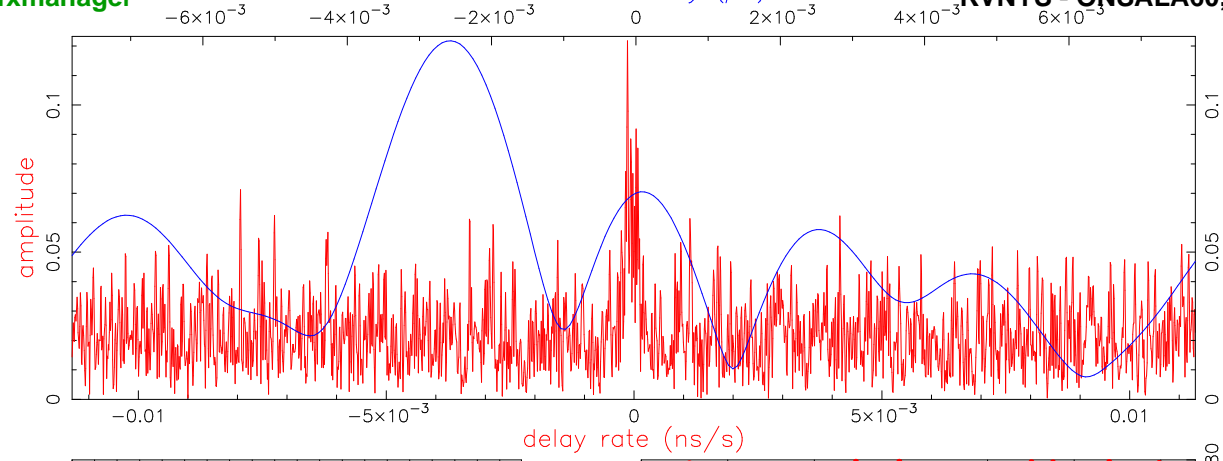
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, yX

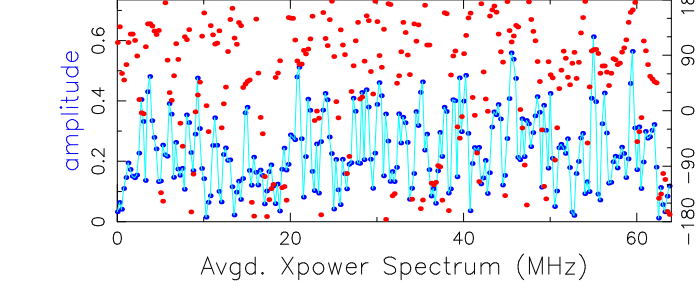
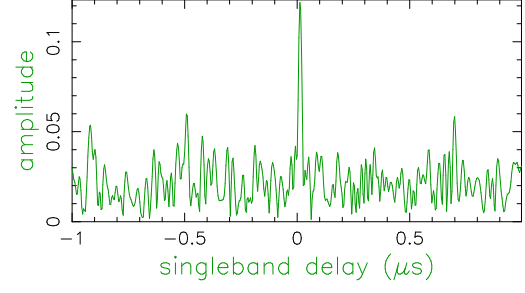
KVNYS - ONSALA60, fgroup W, pol LR

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



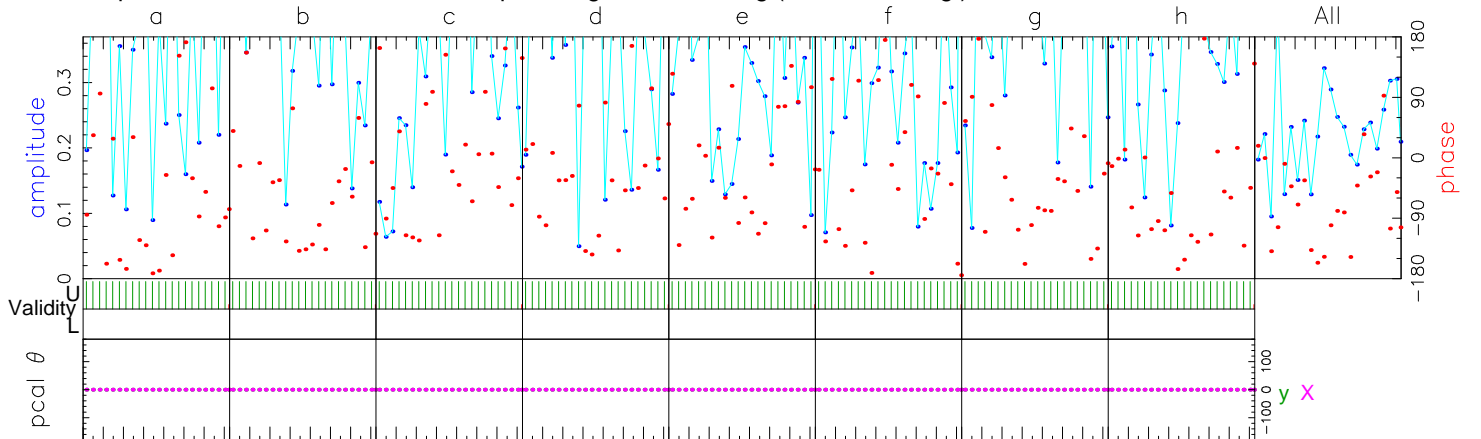
Fringe quality 0

SNR 6.9  
 Int time 419.801  
 Amp 0.123  
 Phase -70.7  
 PFD 1.5e-03  
 Delays (us)  
 SBD 0.013087  
 MBD -0.002548  
 Fringe rate (Hz)  
 -0.011350  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233145  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-121.1	-65.0	-11.0	-62.8	-47.1	-164.5	-64.5	-88.9	Phase	-70.7
	0.1	0.2	0.1	0.2	0.1	0.0	0.2	0.2	Ampl.	0.1
	261.8	260.5	147.5	500.5	256.8	21.6	259.3	260.3	Sbd box	260.4
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.86263540987E+03		Apriori delay (usec)		5.86262233277E+03		Resid mbdelay (usec)		-2.54790E-03	+/- 1.6E-04
Sband delay (usec)	5.86263542027E+03		Apriori clock (usec)		-4.7098358E+01		Resid sbdelay (usec)		1.30875E-02	+/- 1.2E-03
Phase delay (usec)	5.86262233049E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-2.28128E-06	+/- 5.3E-07
Delay rate (us/s)	-1.17806422236E+00		Apriori rate (us/s)		-1.17806409060E+00		Resid rate (us/s)		-1.31763E-07	+/- 2.2E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.82484670350E-05		Resid phase (deg)		-70.7	+/- 16.6

ph/seg (deg) 65.1 39.8 Amplitude 0.123 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 102.3 69.4 Search (2048X32) 0.120 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 51.5 23.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 58.6 40.9 Inc. seg. avg. 0.183 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 y: az 285.4 el 63.6 pa 83.5 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8668.384 -4873.416 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX.W.117.1IFUSI simultaneous interpolator

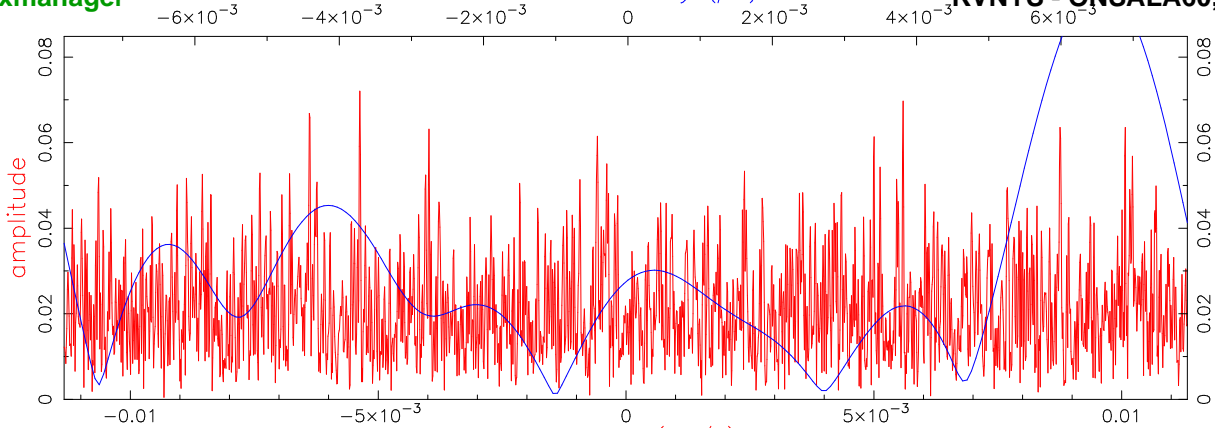
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

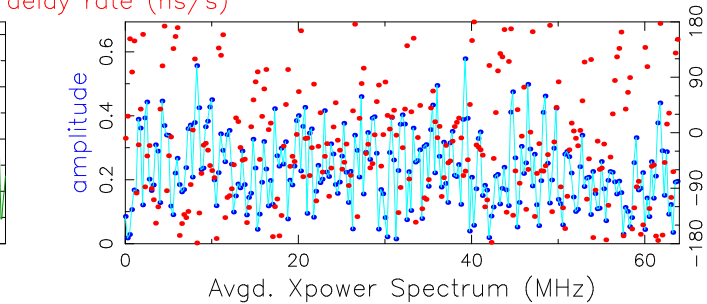
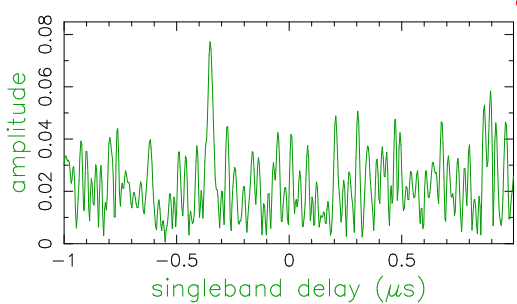
3C345.1FUSI, No0082, yX

KVNYS - ONSALA60, fgroup W, pol RL

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

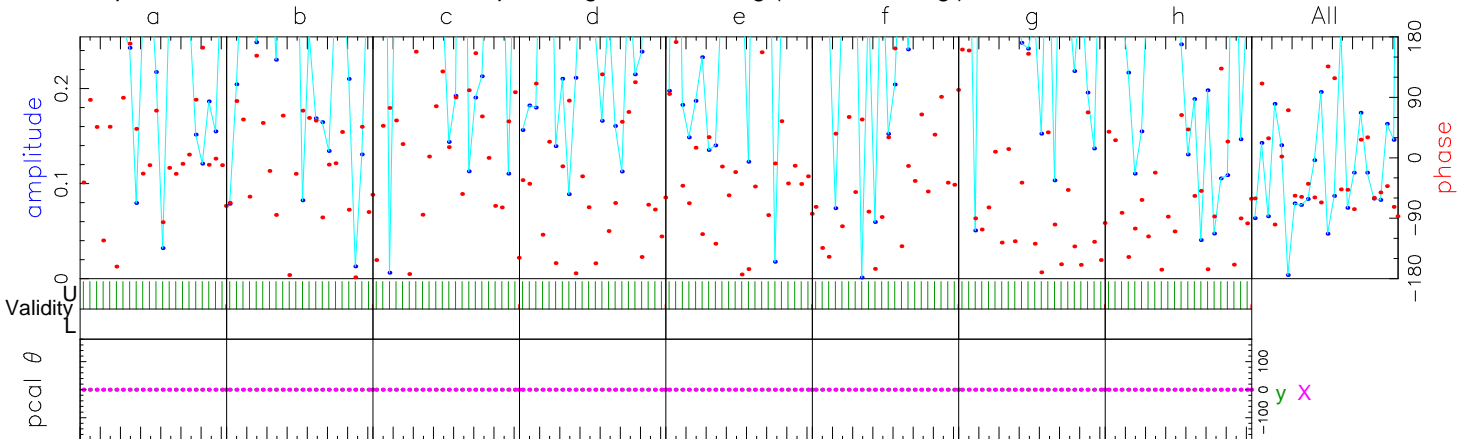


Fringe quality 0  
 SNR 4.3  
 Int time 419.801  
 Amp 0.085  
 Phase -44.6  
 PFD 1.0e+00  
 Delays (us)  
 SBD -0.351562  
 MBD -0.008301  
 Fringe rate (Hz)  
 -0.463369  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233148  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"



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
	7.4	3.5	28.7	-74.2	-56.8	-48.3	-121.7	-90.5	Phase	-44.6
	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	Ampl.	0.1
	164.0	463.0	120.3	72.6	229.9	381.8	167.8	280.4	Sbd box	167.0
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	5.86227028199E+03		Apriori delay (usec)		5.86262233277E+03		Resid mbdelay (usec)		-8.30078E-03	+/- 2.5E-04
Sband delay (usec)	5.86227077027E+03		Apriori clock (usec)		-4.7098358E+01		Resid sbdelay (usec)		-3.51562E-01	+/- 2.0E-03
Phase delay (usec)	5.86262233133E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		-1.43735E-06	+/- 8.5E-07
Delay rate (us/s)	-1.17806946985E+00		Apriori rate (us/s)		-1.17806409060E+00		Resid rate (us/s)		-5.37925E-06	+/- 3.5E-09
Total phase (deg)	223.6		Apriori accel (us/s/s)		-4.82484670350E-05		Resid phase (deg)		-44.6	+/- 26.5

ph/seg (deg) RMS Theor. Amplitude 0.085 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 73.9 63.5 Search (2048X32) 0.097 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 101.6 110.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 57.0 37.5 Inc. seg. avg. 0.080 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 44.9 65.4 Inc. frq. avg. 0.098 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

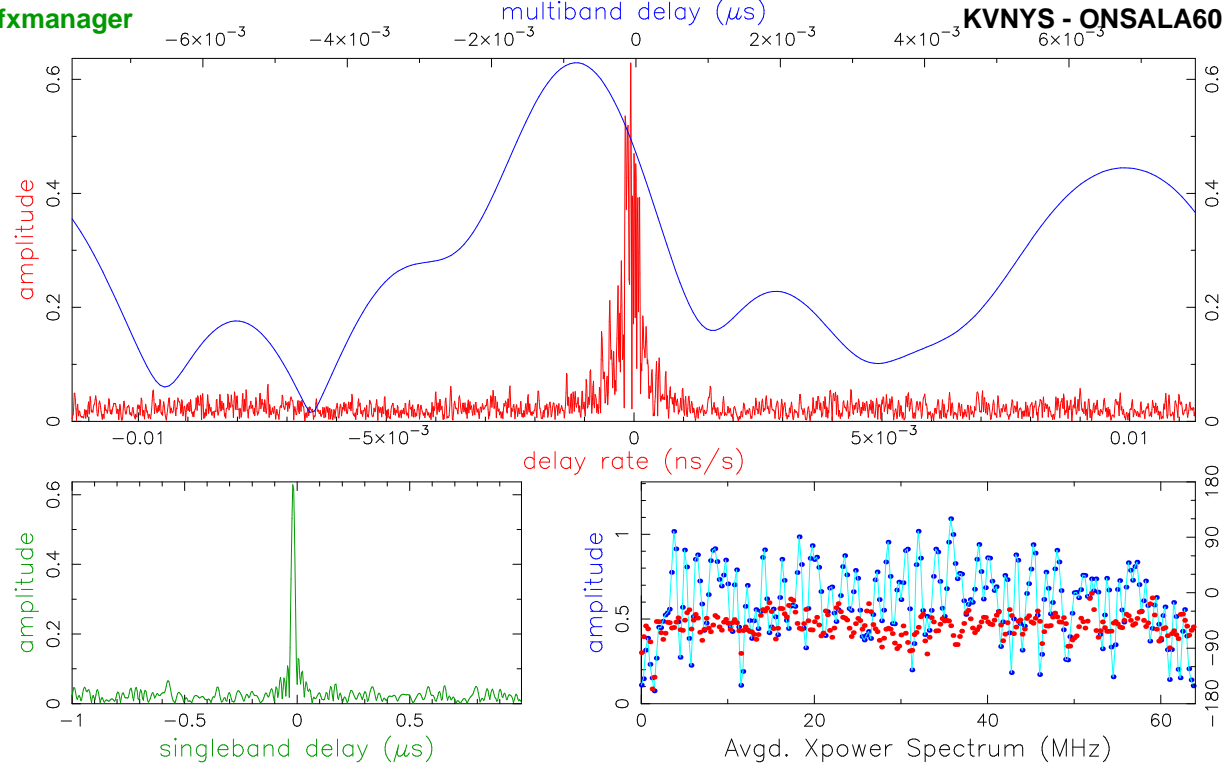
y: az 285.4 el 63.6 pa 83.5 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8668.384 -4873.416 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX..11FUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX.W.134.11FUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

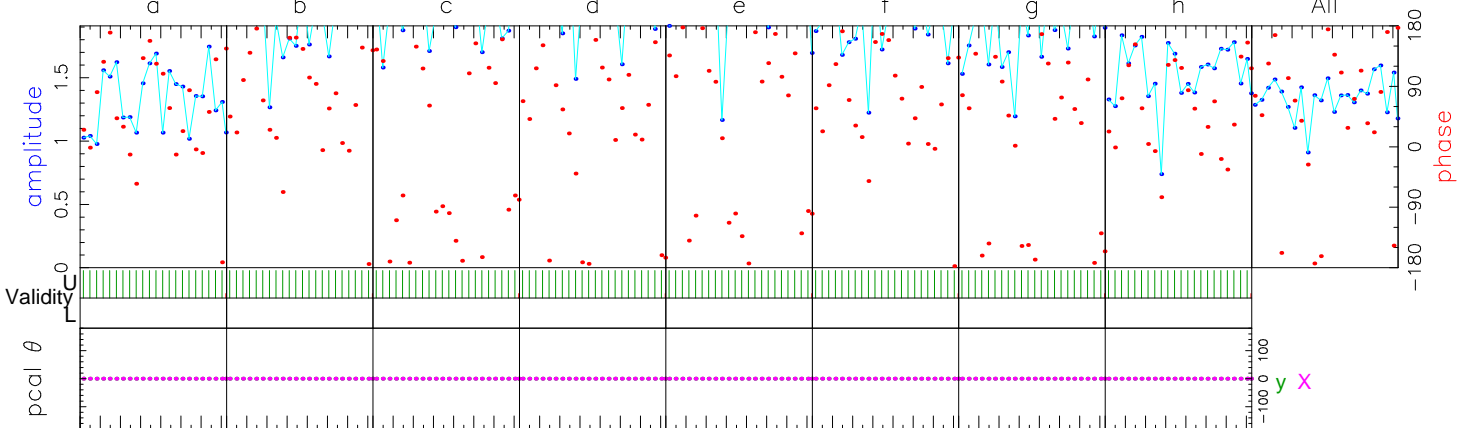
3C345.1IFUSI, No0082, yX

KVNYS - ONSALA60, fgroup W, pol LL



Fringe quality 3  
 SNR 35.7  
 Int time 419.801  
 Amp 0.637  
 Phase 109.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.018045  
 MBD -0.000778  
 Fringe rate (Hz)  
 -0.005569  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.84  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233139  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

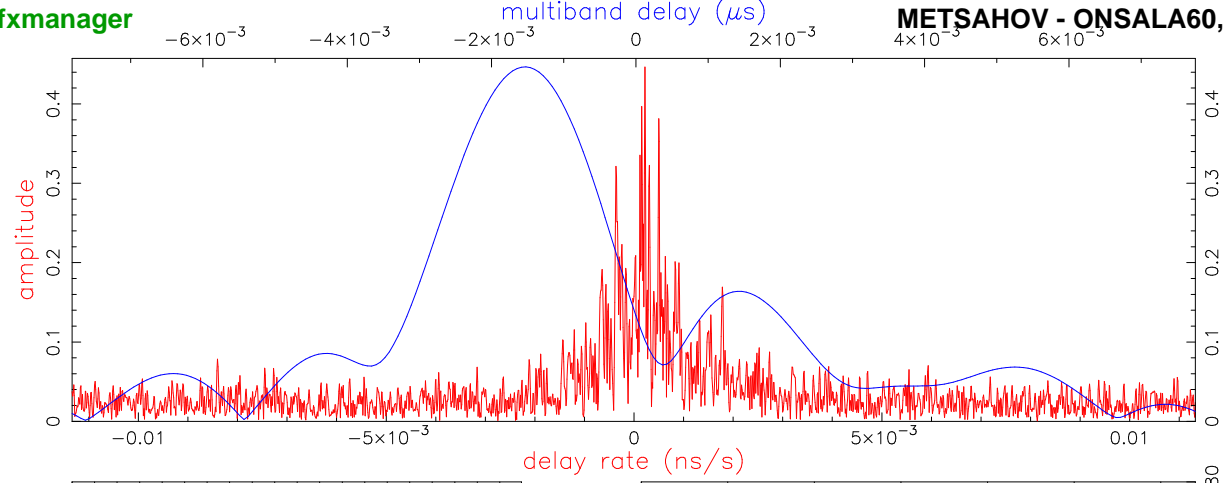
Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	66.9	83.9	-172.7	96.9	169.6	79.1	127.9	61.0	Phase	109.0
	0.6	0.9	0.9	0.9	1.0	1.0	0.8	0.8	Ampl.	0.9
	254.5	252.1	252.2	251.5	251.8	251.7	252.0	252.1	Sbd box	252.4
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.86260592987E+03		Apriori delay (usec)		5.86262233277E+03		Resid mbdelay (usec)		-7.77901E-04	+/- 3.0E-05
Sband delay (usec)	5.86260428777E+03		Apriori clock (usec)		-4.7098358E+01		Resid sbdelay (usec)		-1.80450E-02	+/- 2.4E-04
Phase delay (usec)	5.86262233629E+03		Apriori clockrate (us/s)		-4.2800003E-07		Resid phdelay (usec)		3.51560E-06	+/- 1.0E-07
Delay rate (us/s)	-1.17806415525E+00		Apriori rate (us/s)		-1.17806409060E+00		Resid rate (us/s)		-6.46495E-08	+/- 4.3E-10
Total phase (deg)	17.2		Apriori accel (us/s/s)		-4.82484670350E-05		Resid phase (deg)		109.0	+/- 3.2

ph/seg (deg) 66.6 7.7 Search (2048X32) 0.617 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 114.8 13.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 51.5 4.5 Inc. seg. avg. 1.340 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 41.9 7.9 Inc. frq. avg. 0.868 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 y: az 285.4 el 63.6 pa 83.5 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 8668.384 -4873.416 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/yX.W.87.1IFUSI





Fringe quality 7

SNR 25.4

Int time 413.125

Amp 0.457

Phase 51.5

PFD 0.0e+00

Delays (us)

SBD 0.013520

MBD -0.001580

Fringe rate (Hz)

0.019395

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c202b

Exper # 16383

Yr:day 2020:284

Start 091500.00

Stop 092159.33

FRT 091830.00

Corr/FF/build

2021:019:231431

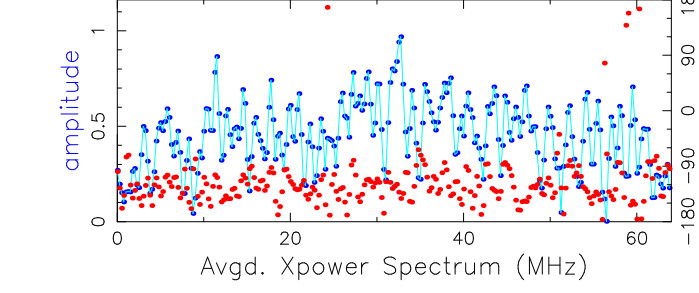
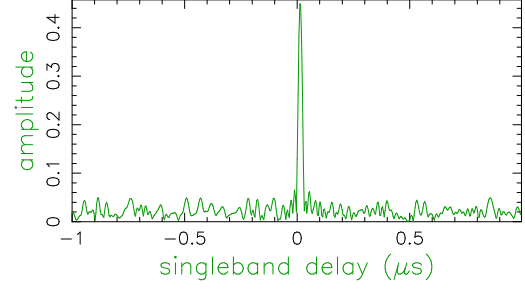
2021:019:233143

2020:247:085004

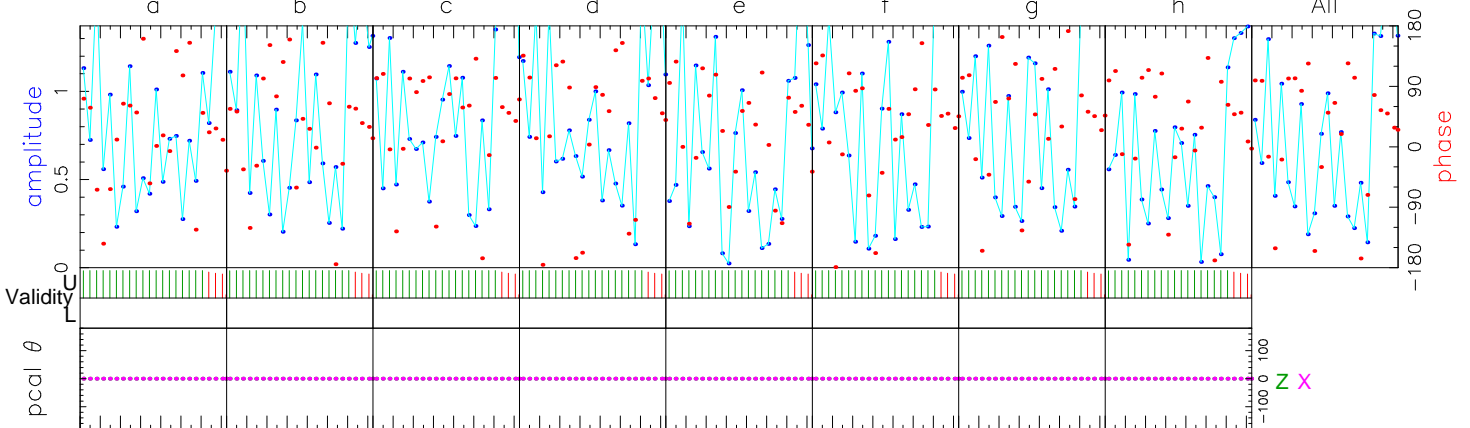
RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"



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
	24.1	35.8	63.7	85.9	47.4	55.7	45.6	43.2	Phase	51.5
	0.4	0.5	0.6	0.5	0.4	0.5	0.5	0.4	Ampl.	0.5
	259.8	260.5	260.6	260.5	260.0	261.1	260.6	260.0	Sbd box	260.5
U/L	818/0	818/0	818/0	818/0	818/0	818/0	818/0	818/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	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)	1.87568742243E+03		Apriori delay (usec)		1.87567337786E+03		Resid mbdelay (usec)		-1.58043E-03	+/- 4.3E-05
Sband delay (usec)	1.87568689786E+03		Apriori clock (usec)		-4.8194294E+01		Resid sbdelay (usec)		1.35200E-02	+/- 3.4E-04
Phase delay (usec)	1.87567337952E+03		Apriori clockrate (us/s)		-5.1200000E-07		Resid phdelay (usec)		1.66091E-06	+/- 1.5E-07
Delay rate (us/s)	-8.56928998103E-02		Apriori rate (us/s)		-8.56931249651E-02		Resid rate (us/s)		2.25155E-07	+/- 6.0E-10
Total phase (deg)	328.3		Apriori accel (us/s/s)		-8.38252670416E-06		Resid phase (deg)		51.5	+/- 4.5

ph/seg (deg) RMS Theor. Amplitude 0.457 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 76.0 10.8 Search (2048X32) 0.424 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 115.7 18.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008

amp/frq (%) 20.3 6.4 Inc. seg. avg. 0.721 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011

amp/frq (%) 15.3 11.1 Inc. frq. avg. 0.464 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 84.1 el 44.0 pa -40.0 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 620.696 -383.286 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX.W.112.1IFUSI

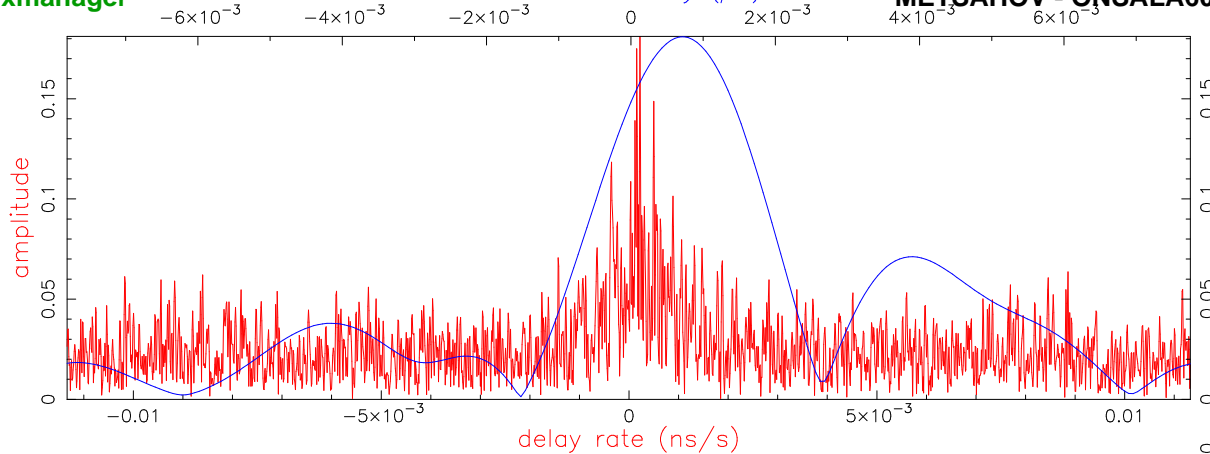
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C345.1IFUSI, No0082, ZX

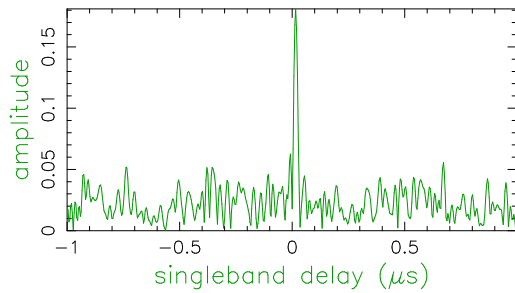
METSAHOV - ONSALA60, fgroup W, pol LR

multiband delay ( $\mu$ s)

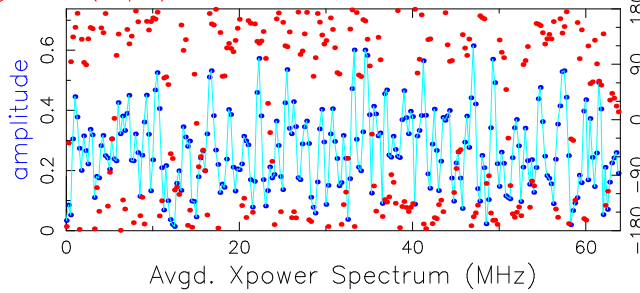


Fringe quality 9

SNR 10.1  
 Int time 413.125  
 Amp 0.181  
 Phase -25.9  
 PFD 3.4e-15  
 Delays (us)  
 SBD 0.015238  
 MBD 0.000708  
 Fringe rate (Hz)  
 0.019323  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

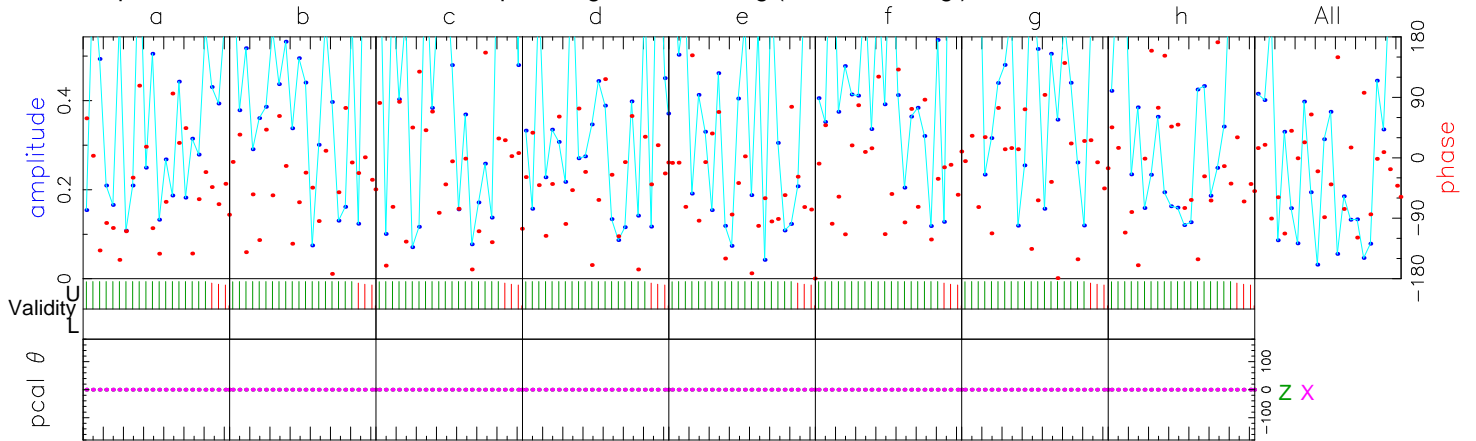


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.33  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233146  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	-53.9	-26.1	3.1	-13.3	-53.7	-27.5	-9.4	-36.6		Phase
	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1		Ampl.
	159.6	261.3	260.6	190.4	260.8	262.1	262.2	260.2		Sbd box
U/L	818/0	818/0	818/0	818/0	818/0	818/0	818/0	818/0		APs used
Z	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
X	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
Z	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks

Group delay (usec)(sbd)	1.87568971130E+03	Apriori delay (usec)	1.87567337786E+03	Resid mbdelay (usec)	7.08442E-04	+/-	1.1E-04
Sband delay (usec)	1.87568861561E+03	Apriori clock (usec)	-4.8194294E+01	Resid sbdelay (usec)	1.52377E-02	+/-	8.6E-04
Phase delay (usec)	1.87567337702E+03	Apriori clockrate (us/s)	-5.1200000E-07	Resid phdelay (usec)	-8.35977E-07	+/-	3.7E-07
Delay rate (us/s)	-8.56929006386E-02	Apriori rate (us/s)	-8.56931249651E-02	Resid rate (us/s)	2.24327E-07	+/-	1.5E-09
Total phase (deg)	250.9	Apriori accel (us/s/s)	-8.38252670416E-06	Resid phase (deg)	-25.9	+/-	11.4

ph/seg (deg)	67.8	Theor.	27.3	Search (2048X32)	0.172	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	120.5		47.6	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	22.2		16.1	Inc. seg. avg.	0.249	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	21.8		28.1	Inc. frq. avg.	0.184	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

Z: az 84.1 el 44.0 pa -40.0 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 620.696 -383.286 simultaneous interpolator

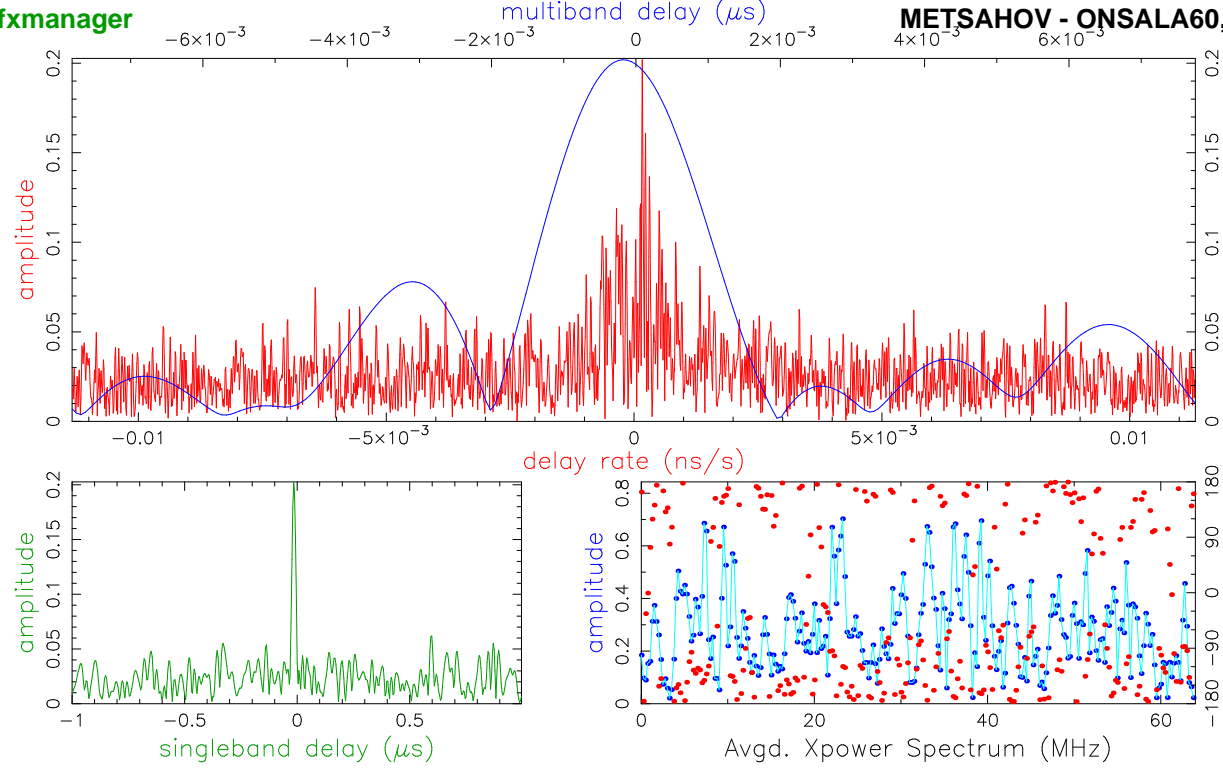
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX.W.128.1IFUSI

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

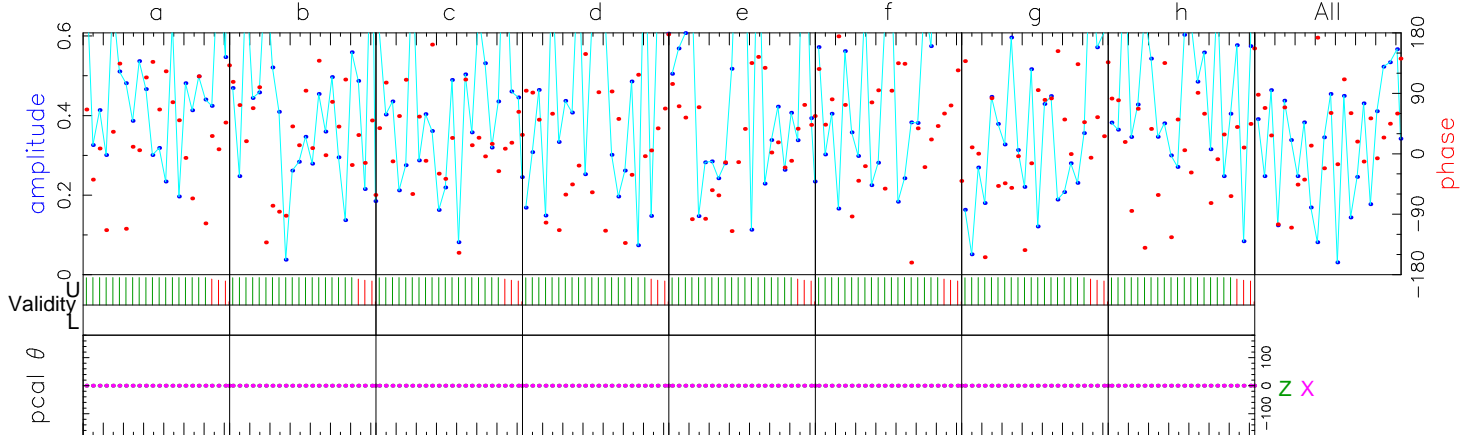
3C345.1IFUSI, No0082, ZX

METSAHOV - ONSALA60, fgroup W, pol RL



Fringe quality 9  
 SNR 11.3  
 Int time 413.125  
 Amp 0.203  
 Phase 31.7  
 PFD 9.3e-21  
 Delays (us)  
 SBD -0.014771  
 MBD -0.000148  
 Fringe rate (Hz) 0.013932  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.33  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233150  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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



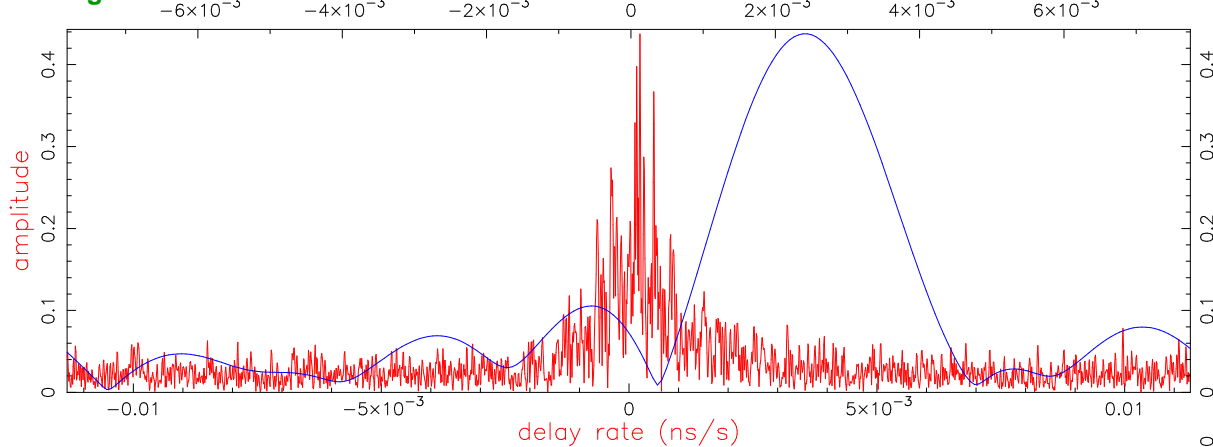
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	40.6	40.2	18.7	16.2	31.0	57.4	24.2	21.6	Phase	31.7
	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	Ampl.	0.2
	252.5	252.7	252.1	254.0	254.6	253.4	316.1	254.4	Sbd box	253.2
U/L	818/0	818/0	818/0	818/0	818/0	818/0	818/0	818/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 1.87565760504E+03 Apriori delay (usec) 1.87567337786E+03 Resid mbdelay (usec) -1.47824E-04 +/- 9.6E-05  
 Sband delay (usec) 1.87565860686E+03 Apriori clock (usec) -4.8194294E+01 Resid sbdelay (usec) -1.47710E-02 +/- 7.6E-04  
 Phase delay (usec) 1.87567337888E+03 Apriori clockrate (us/s) -5.1200000E-07 Resid phdelay (usec) 1.02119E-06 +/- 3.3E-07  
 Delay rate (us/s) -8.56929632234E-02 Apriori rate (us/s) -8.56931249651E-02 Resid rate (us/s) 1.61742E-07 +/- 1.4E-09  
 Total phase (deg) 308.5 Apriori accel (us/s/s) -8.38252670416E-06 Resid phase (deg) 31.7 +/- 10.2

RMS Theor. Amplitude 0.203 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 66.0 24.4 Search (2048X32) 0.186 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 95.9 42.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 15.2 14.4 Inc. seg. avg. 0.297 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 17.1 25.1 Inc. frq. avg. 0.202 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

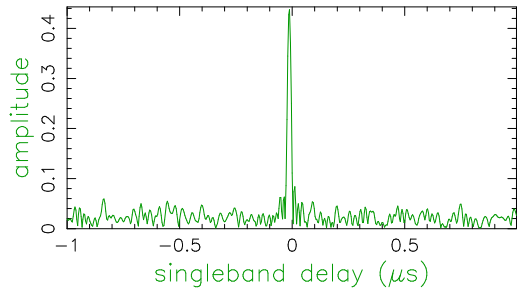
Z: az 84.1 el 44.0 pa -40.0 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 620.696 -383.286 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX.W.144.1IFUSI

multiband delay ( $\mu$ s)

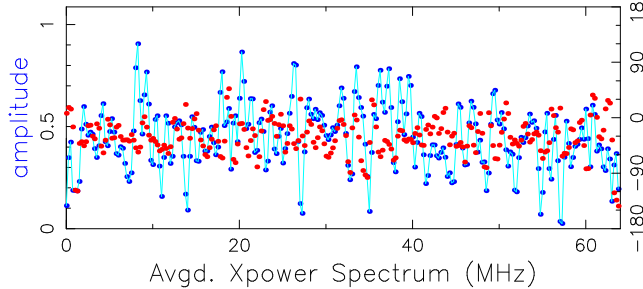


Fringe quality 7

SNR 24.6  
 Int time 413.125  
 Amp 0.443  
 Phase 151.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.013159  
 MBD 0.002376  
 Fringe rate (Hz) 0.019435  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

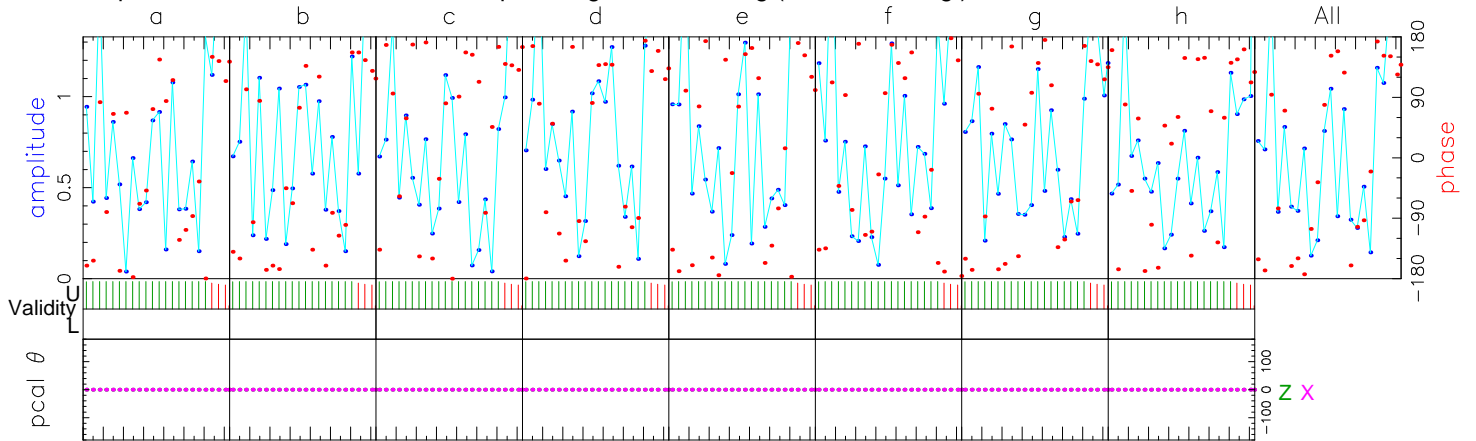


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 091500.00  
 Stop 092159.33  
 FRT 091830.00  
 Corr/FF/build  
 2021:019:231431  
 2021:019:233140  
 2020:247:085004  
 RA & Dec (J2000)  
 16h42m58.809967s  
 +39°48'36.993984"

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
	146.0	153.7	142.5	147.0	151.6	176.9	153.1	137.6	Phase	151.3
	0.4	0.4	0.4	0.5	0.6	0.4	0.5	0.3	Ampl.	0.4
	253.8	253.6	253.7	253.4	254.2	253.7	253.4	252.6	Sbd box	253.6
U/L	818/0	818/0	818/0	818/0	818/0	818/0	818/0	818/0	APs used	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	1.87566012865E+03	Apriori delay (usec)	1.87567337786E+03	Resid mbdelay (usec)	2.37579E-03	+/-	4.4E-05
Sband delay (usec)	1.87566021936E+03	Apriori clock (usec)	-4.8194294E+01	Resid sbdelay (usec)	-1.31585E-02	+/-	3.5E-04
Phase delay (usec)	1.87567338274E+03	Apriori clockrate (us/s)	-5.1200000E-07	Resid phdelay (usec)	4.88018E-06	+/-	1.5E-07
Delay rate (us/s)	-8.56928993398E-02	Apriori rate (us/s)	-8.56931249651E-02	Resid rate (us/s)	2.25625E-07	+/-	6.2E-10
Total phase (deg)	68.1	Apriori accel (us/s/s)	-8.38252670416E-06	Resid phase (deg)	151.3	+/-	4.7

ph/seg (deg)	81.1	Theor.	11.2	Amplitude	0.443 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	117.5	Search (2048X32)	0.412	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000	
ph/frq (deg)	12.7	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	15.0	Inc. seg. avg.	0.698	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011	
		Inc. frq. avg.	0.442	Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

Z: az 84.1 el 44.0 pa -40.0 X: az 72.2 el 37.1 pa -42.1 u,v (fr/asec) 620.696 -383.286 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX..1IFUSI Output file: /Exps/c202b/v1/v1\_3mm/1234/No0082/ZX.W.94.1IFUSI