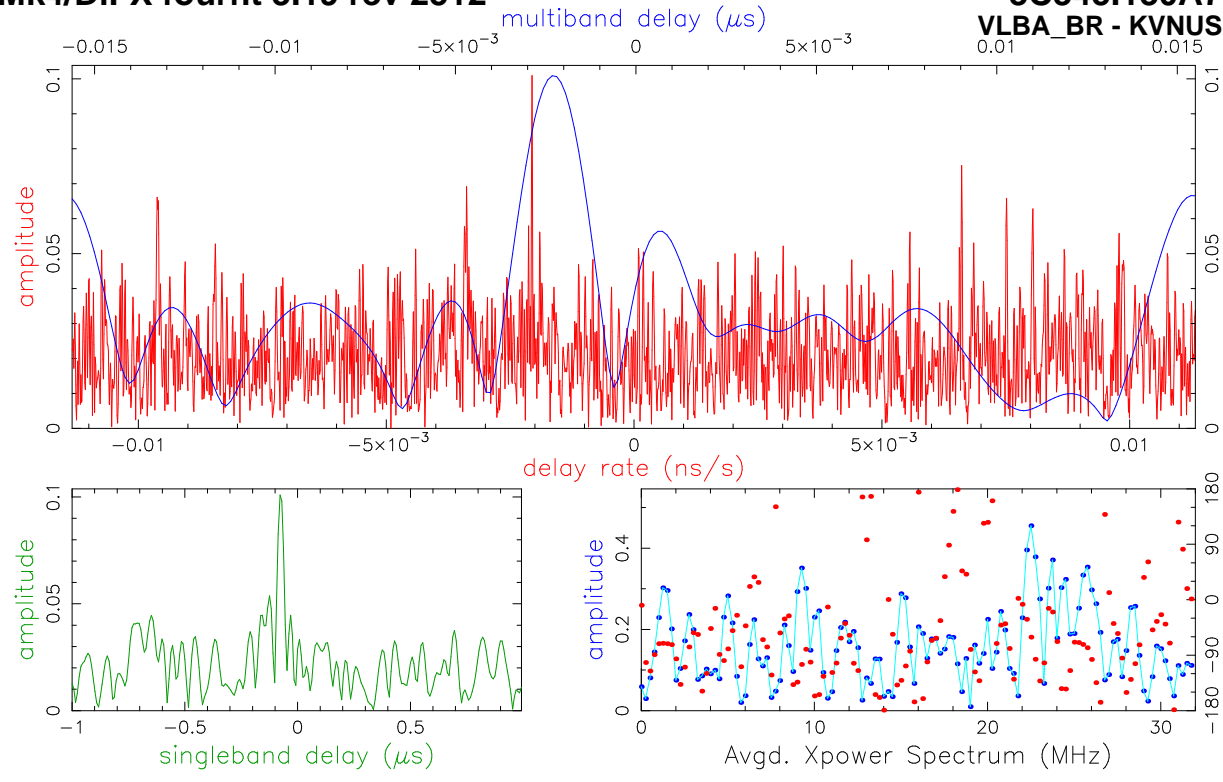


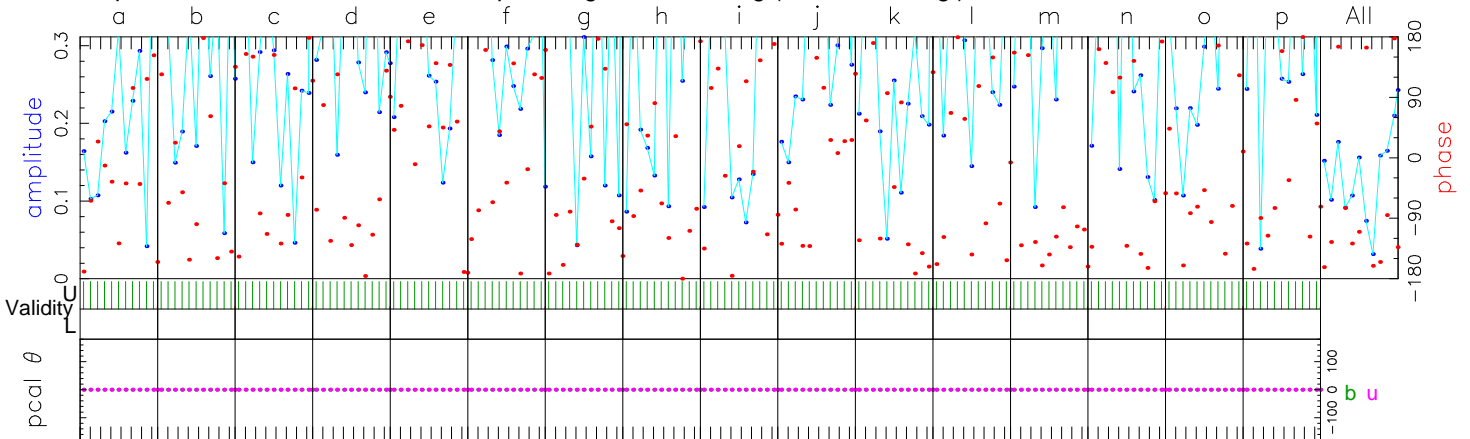
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, bu
VLBA_BR - KVNUS, fgroup W, pol LL



Fringe quality 0
SNR 5.7
Int time 419.802
Amp 0.104
Phase -145.7
PFD 9.1e-01
Delays (us)
SBD -0.075256
MBD -0.002295
Fringe rate (Hz)
-0.178061
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061655
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-109.6	-160.6	-148.8	-122.4	114.0	-143.4	-129.7	-65.2	168.3	34.2	-164.5	-176.7	-131.5	171.4	-96.0	-135.0	Phase	-145.7
	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.3	0.2	0.1	0.1	Ampl.	0.1
	206.5	48.1	89.0	101.5	229.7	158.5	40.1	31.6	204.1	65.4	121.1	223.8	119.2	228.4	13.7	222.5	Sbd box	119.4
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

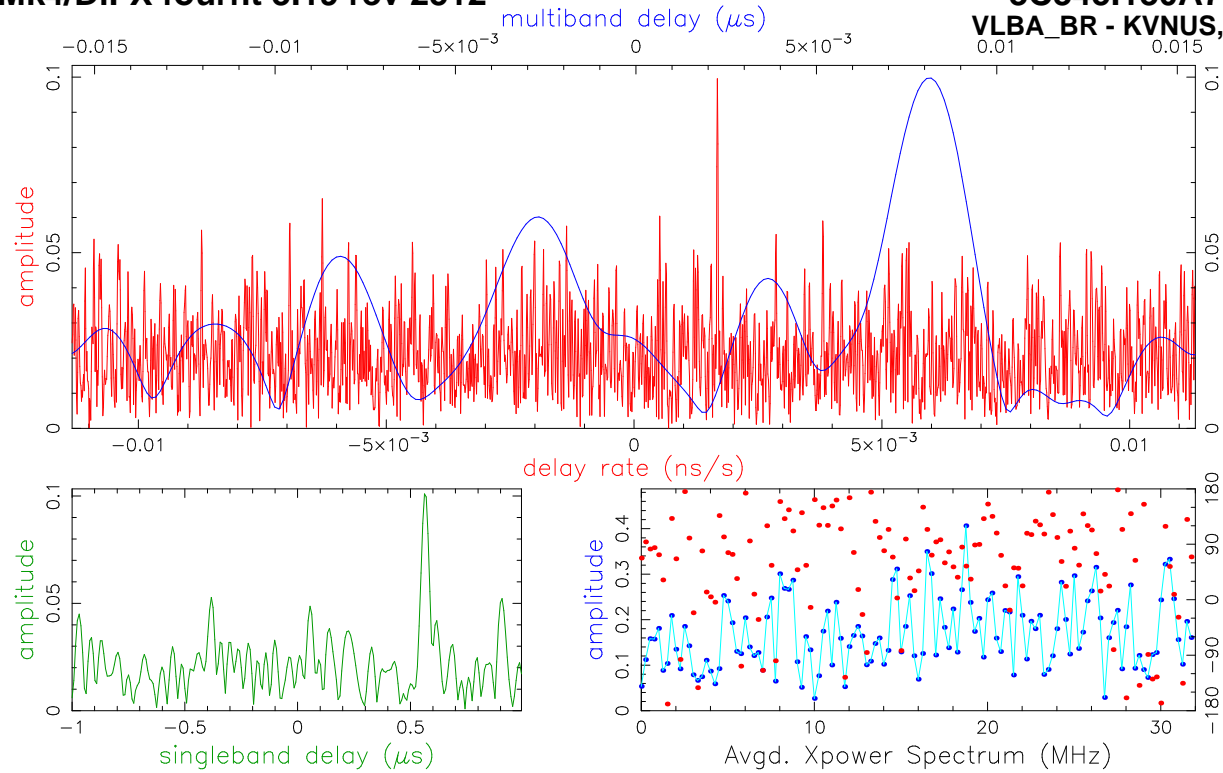
Group delay (usec)(sbd) -1.67512568345E+03 Apriori delay (usec) -1.67506088875E+03 Resid mbdelay (usec) -2.29471E-03 +/- 1.9E-04
 Sband delay (usec) -1.67513614525E+03 Apriori clock (usec) -9.0468569E+00 Resid sbdelay (usec) -7.52565E-02 +/- 3.0E-03
 Phase delay (usec) -1.67506089344E+03 Apriori clockrate (us/s) -6.4239505E-07 Resid phdelay (usec) -4.69823E-06 +/- 6.4E-07
 Delay rate (us/s) -1.43365098083E+00 Apriori rate (us/s) -1.43364891371E+00 Resid rate (us/s) -2.06712E-06 +/- 2.7E-09
 Total phase (deg) -130.1 Apriori accel (us/s/s) 2.06555117848E-05 Resid phase (deg) -145.7 +/- 20.0

RMS Theor. Amplitude 0.104 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 39.9 34.6 Search (2048X64) 0.096 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 56.4 60.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 65.1 39.9 Inc. seg. avg. 0.112 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 69.6 69.7 Inc. frq. avg. 0.111 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

b: az 283.1 el 45.8 pa 57.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 10720.494 2333.376 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/bu..130A7B Output file: /Exps/c192a/v2/1234/No0041/bu.W.2.130A7B

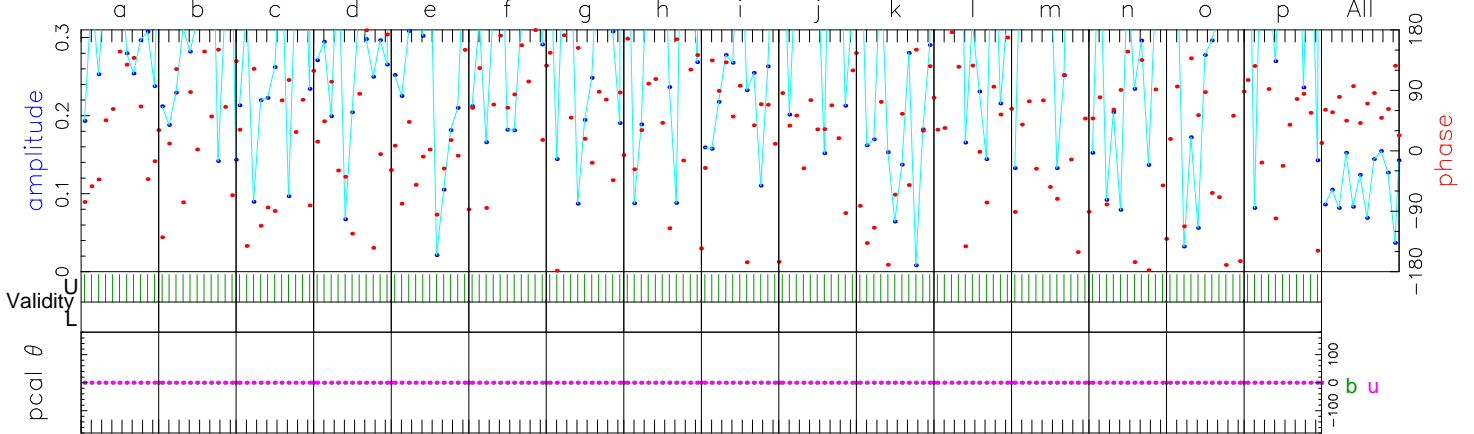
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, bu
VLBA_BR - KVNUS, fgroup W, pol RR



Fringe quality 0
SNR 5.7
Int time 419.803
Amp 0.103
Phase 63.7
PFD 9.1e-01
Delays (us)
SBD 0.565755
MBD 0.008050
Fringe rate (Hz)
0.145551
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061659
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

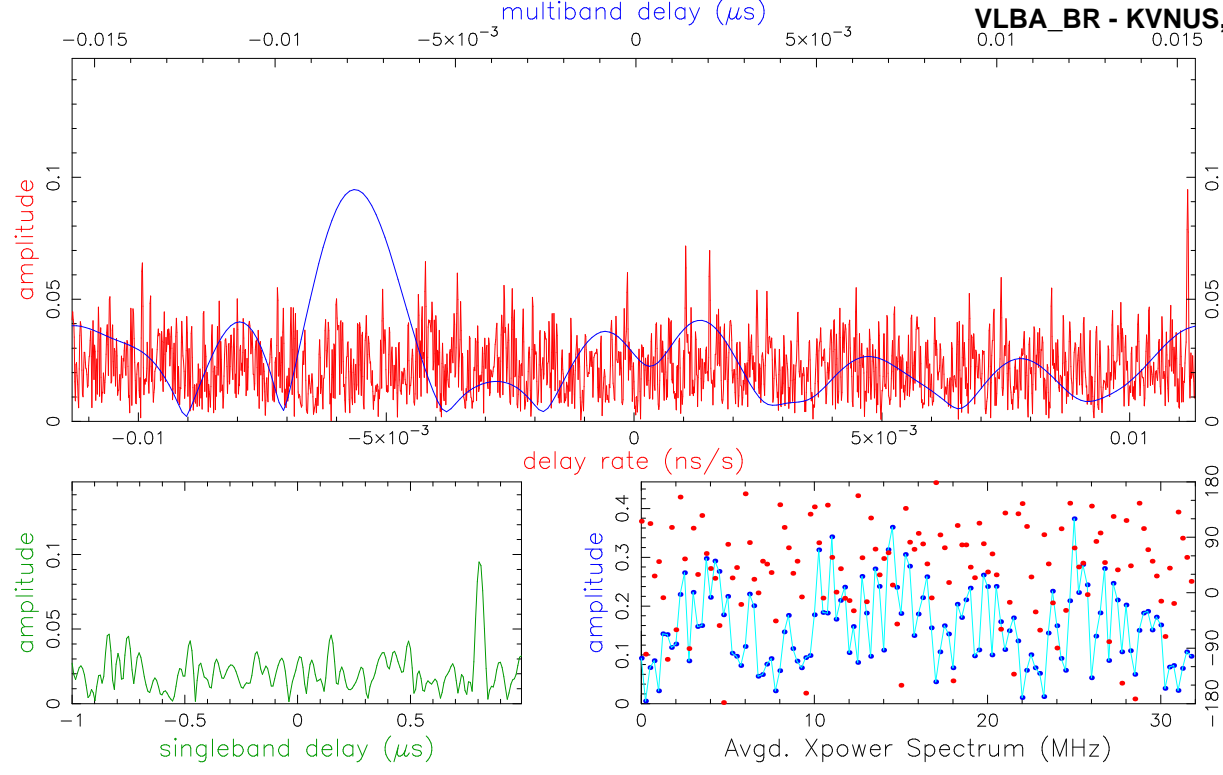


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All		
38.5	52.0	40.4	29.1	-8.7	122.7	80.7	91.9	73.6	47.1	-33.6	104.2	9.5	114.4	94.1	52.7	52.7	Phase	63.7		
0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.3	0.0	0.2	0.2	0.2	0.1	0.0	0.2	Ampl.	0.1		
144.0	145.3	80.1	95.0	149.9	201.9	245.3	207.0	141.0	202.2	127.4	203.3	204.2	26.5	63.8	200.6	200.6	Sbd box	201.4		
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids			
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks			
																	Chan ids			
																	Tracks			
Group delay (usec)(sbd)	-1.67449033924E+03				Apriori delay (usec)				-1.67506088875E+03				Resid mbdelay (usec)				8.04950E-03		+/- 1.9E-04	
Sband delay (usec)	-1.67449513325E+03				Apriori clock (usec)				-9.0468569E+00				Resid sbdelay (usec)				5.65755E-01		+/- 3.0E-03	
Phase delay (usec)	-1.67506088669E+03				Apriori clockrate (us/s)				-6.4239505E-07				Resid phdelay (usec)				2.05369E-06		+/- 6.4E-07	
Delay rate (us/s)	-1.43364722401E+00				Apriori rate (us/s)				-1.43364891371E+00				Resid rate (us/s)				1.68970E-06		+/- 2.7E-09	
Total phase (deg)	-280.7				Apriori accel (us/s/s)				2.06555117848E-05				Resid phase (deg)				63.7		+/- 20.0	

ph/seg (deg) 25.2 34.6 Search (2048X64) 0.097 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 35.5 60.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 46.6 39.9 Inc. seg. avg. 0.091 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 72.8 69.7 Inc. frq. avg. 0.103 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
b: az 283.1 el 45.8 pa 57.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 10720.494 2333.376 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/bu..130A7B Output file: /Exps/c192a/v2/1234/No0041/bu.W.24.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, bu
VLBA_BR - KVNUS, fgroup W, pol LR

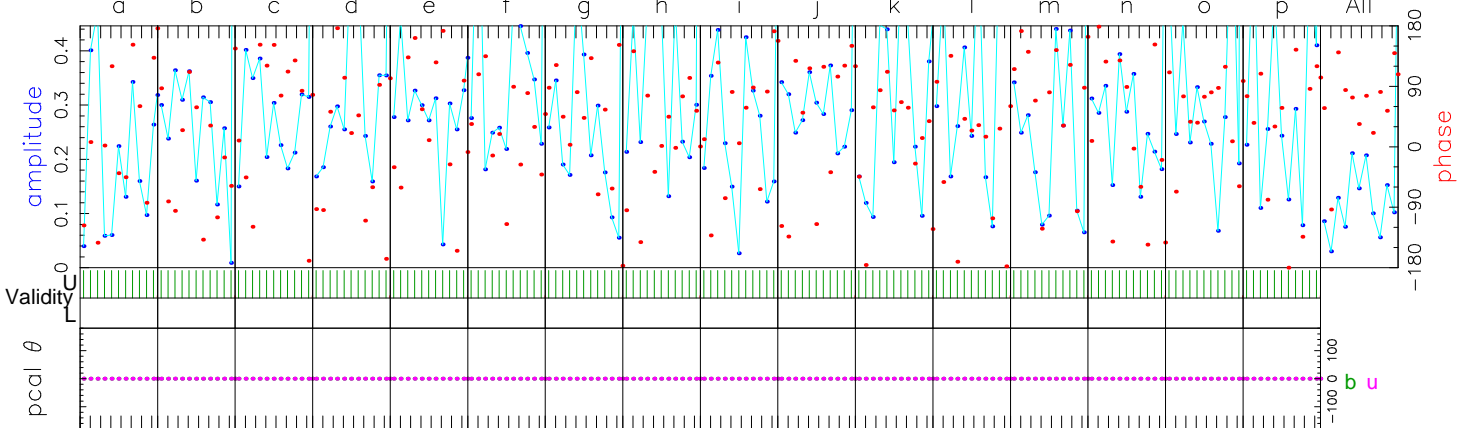


Fringe quality 0

SNR 5.4
Int time 419.802
Amp 0.149
Phase 74.3
PFD 1.0e+00
Delays (us)
SBD 0.807385
MBD -0.007818
Fringe rate (Hz) 0.963319
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

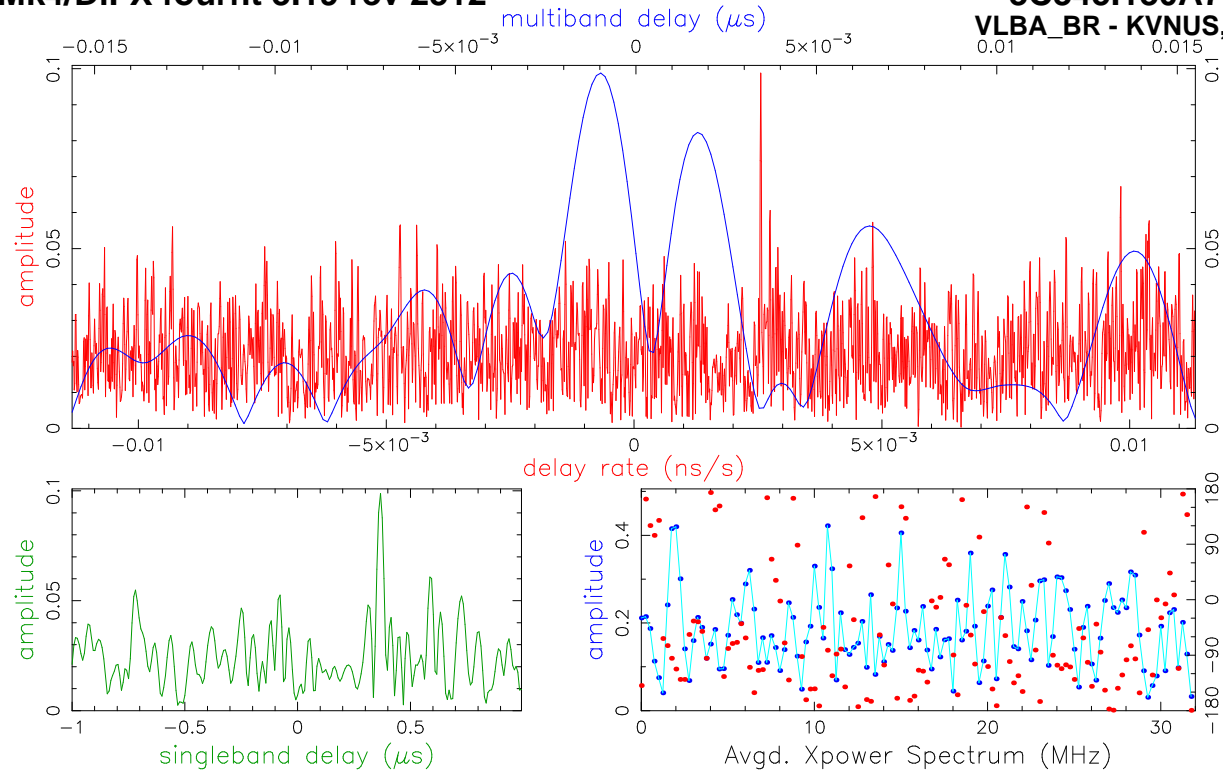
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061704
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-155.7	27.4	135.7	64.9	62.2	51.8	71.6	33.5	93.2	150.5	61.4	42.3	125.0	124.8	58.3	74.5		Phase	74.3
	0.0	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.1	0.3	0.3		Ampl.	0.1
	99.9	1.6	215.6	171.9	252.2	53.3	115.8	118.3	185.4	3.0	152.4	130.5	233.3	67.3	232.7	146.9		Sbd box	232.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks	
																		Chan ids	
																		Tracks	
Group delay (usec)(sbd)	-1.67425620637E+03			Apriori delay (usec)			-1.67506088875E+03			Resid mbdelay (usec)			-7.81763E-03			+/-		2.0E-04	
Sband delay (usec)	-1.67425350375E+03			Apriori clock (usec)			-9.0468569E+00			Resid sbdelay (usec)			8.07385E-01			+/-		3.2E-03	
Phase delay (usec)	-1.67506088635E+03			Apriori clockrate (us/s)			-6.4239505E-07			Resid phdelay (usec)			2.39679E-06			+/-		6.9E-07	
Delay rate (us/s)	-1.43363773053E+00			Apriori rate (us/s)			-1.43364891371E+00			Resid rate (us/s)			1.11832E-05			+/-		2.8E-09	
Total phase (deg)	-270.0			Apriori accel (us/s/s)			2.06555117848E-05			Resid phase (deg)			74.3			+/-		21.3	

ph/seg (deg) 61.7 36.9 Search (2048X64) 0.094 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 78.8 64.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 52.1 42.6 Inc. seg. avg. 0.156 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 68.1 74.4 Inc. frq. avg. 0.140 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
b: az 283.1 el 45.8 pa 57.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 10720.494 2333.376 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/bu..130A7B Output file: /Exps/c192a/v2/1234/No0041/bu.W.42.130A7B

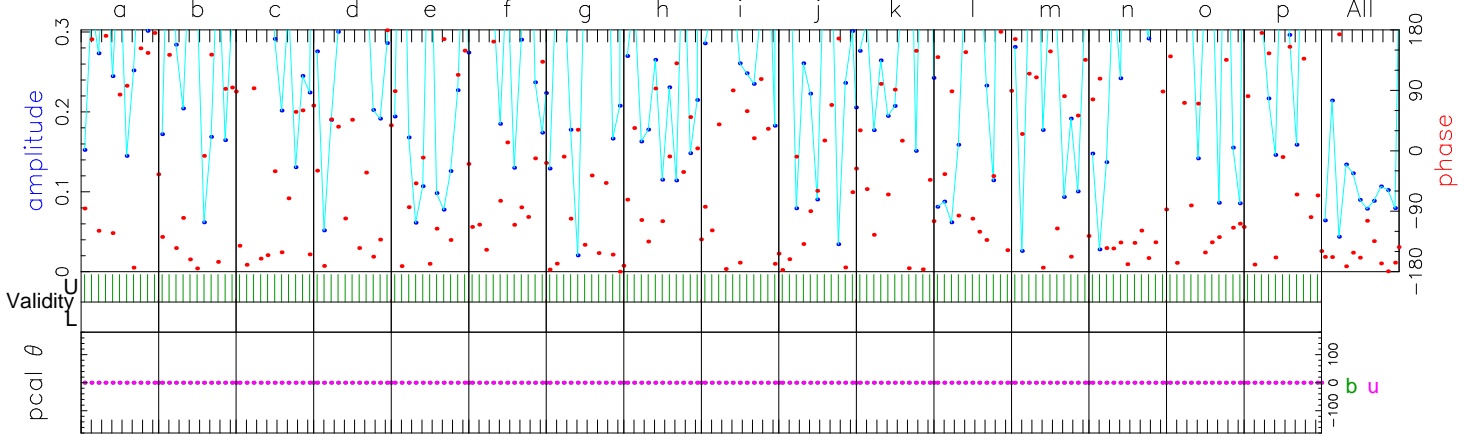


Fringe quality 0

SNR 5.5
Int time 419.803
Amp 0.101
Phase -158.1
PFD 1.0e+00
Delays (us)
SBD 0.366742
MBD -0.000992
Fringe rate (Hz)
0.220591
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061709
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



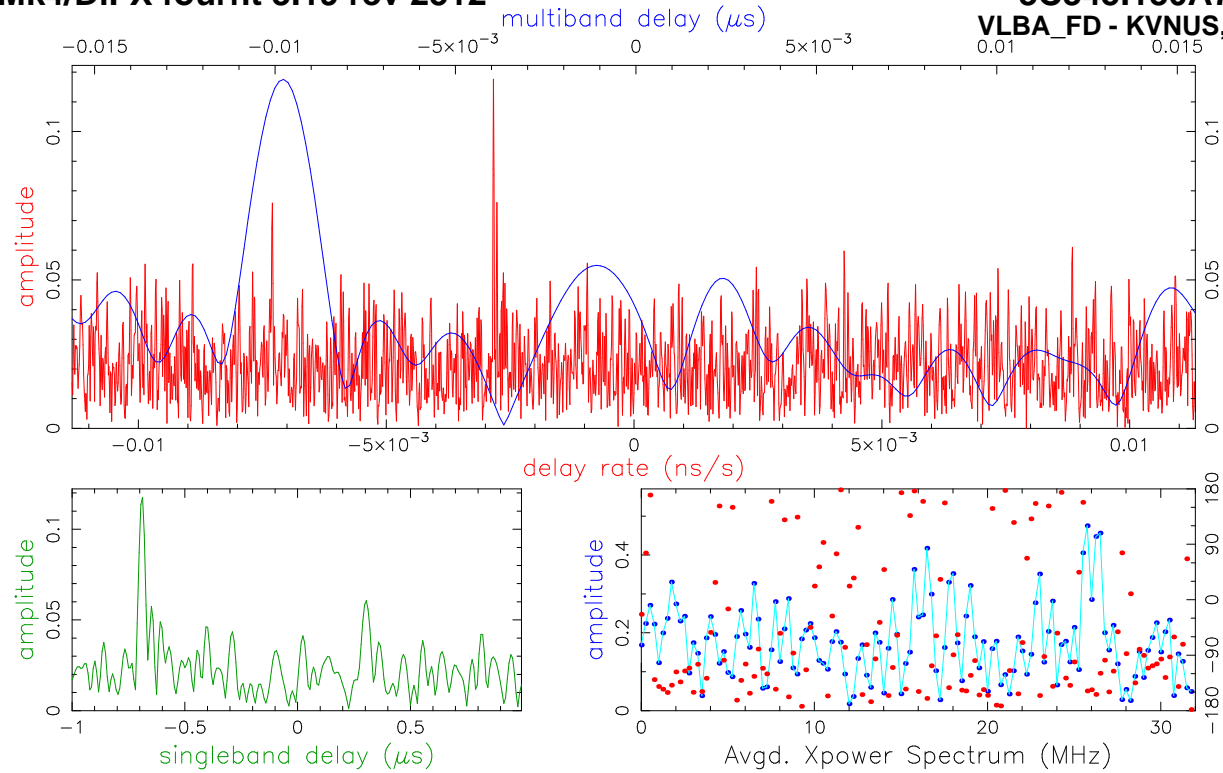
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
168.1	173.0	-154.1	-62.5	179.0	-110.0	-112.4	-21.4	101.3	-132.0	-106.7	-147.1	145.0	-152.8	-177.5	-158.3	-158.1	Phase	-158.1
0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.1	Ampl.	0.1
209.0	177.2	177.9	189.9	35.0	56.8	64.9	151.7	58.4	108.8	201.3	204.5	173.6	175.3	8.2	239.3	239.3	Sbd box	175.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	-1.67468688112E+03			Apriori delay (usec)			-1.67506088875E+03			Resid mbdelay (usec)			-9.92371E-04			+/- 1.9E-04		
Sband delay (usec)	-1.67469414675E+03			Apriori clock (usec)			-9.0468569E+00			Resid sbdelay (usec)			3.66742E-01			+/- 3.1E-03		
Phase delay (usec)	-1.67506089384E+03			Apriori clockrate (us/s)			-6.4239505E-07			Resid phdelay (usec)			-5.09856E-06			+/- 6.7E-07		
Delay rate (us/s)	-1.43364635286E+00			Apriori rate (us/s)			-1.43364891371E+00			Resid rate (us/s)			2.56085E-06			+/- 2.8E-09		
Total phase (deg)	-142.5			Apriori accel (us/s/s)			2.06555117848E-05			Resid phase (deg)			-158.1			+/- 20.7		
ph/seg (deg)	RMS	Theor.	Amplitude		0.101 +/- 0.018		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000 1.000			
amp/seg (%)	21.6	35.8	Search (2048X64)		0.096		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		SampCntNorm: enabled		mb window (us)		-0.016 0.016					
ph/frq (deg)	48.7	62.6	Interp.		0.000		Bits/sample: 2x2		Sample rate(MISamp/s): 64		dr window (ns/s)		-0.011 0.011					
amp/frq (%)	60.9	41.4	Inc. seg. avg.		0.089		Data rate(Mb/s): 2048		nlags: 128		ion window (TEC)		0.00 0.00					
	72.4	72.2	Inc. frq. avg.		0.110		u,v (fr/asec) 10720.494 2333.376											

b: az 283.1 el 45.8 pa 57.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 10720.494 2333.376 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/bu..130A7B Output file: /Exps/c192a/v2/1234/No0041/bu.W.59.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, fu
VLBA_FD - KVNUS, fgroup W, pol LR

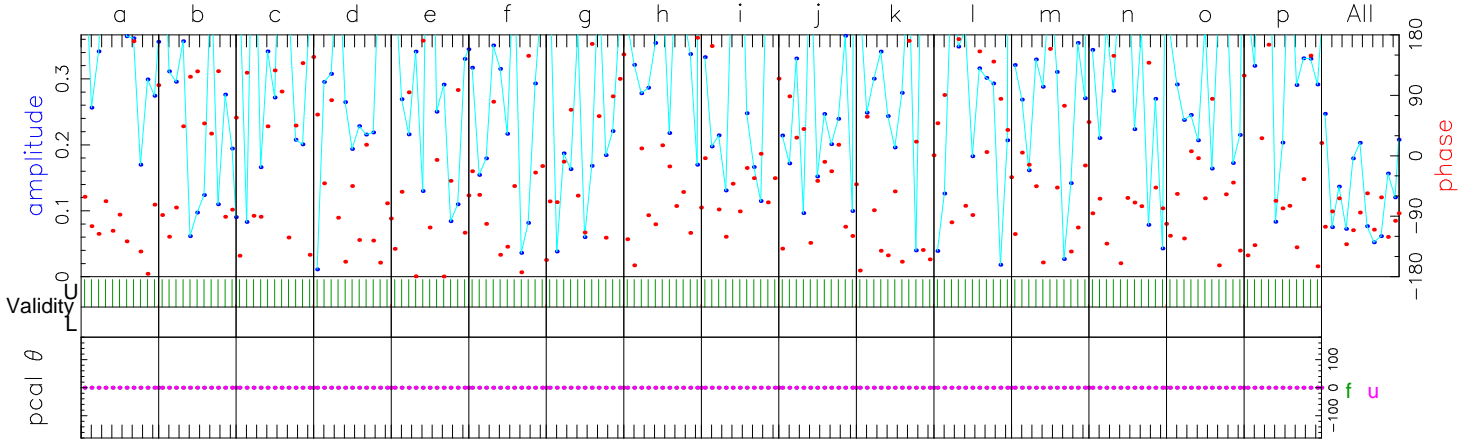


Fringe quality 0

SNR 6.7
Int time 419.830
Amp 0.122
Phase -95.5
PFD 7.0e-03
Delays (us)
SBD -0.690198
MBD -0.009779
Fringe rate (Hz)
-0.244198
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061728
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

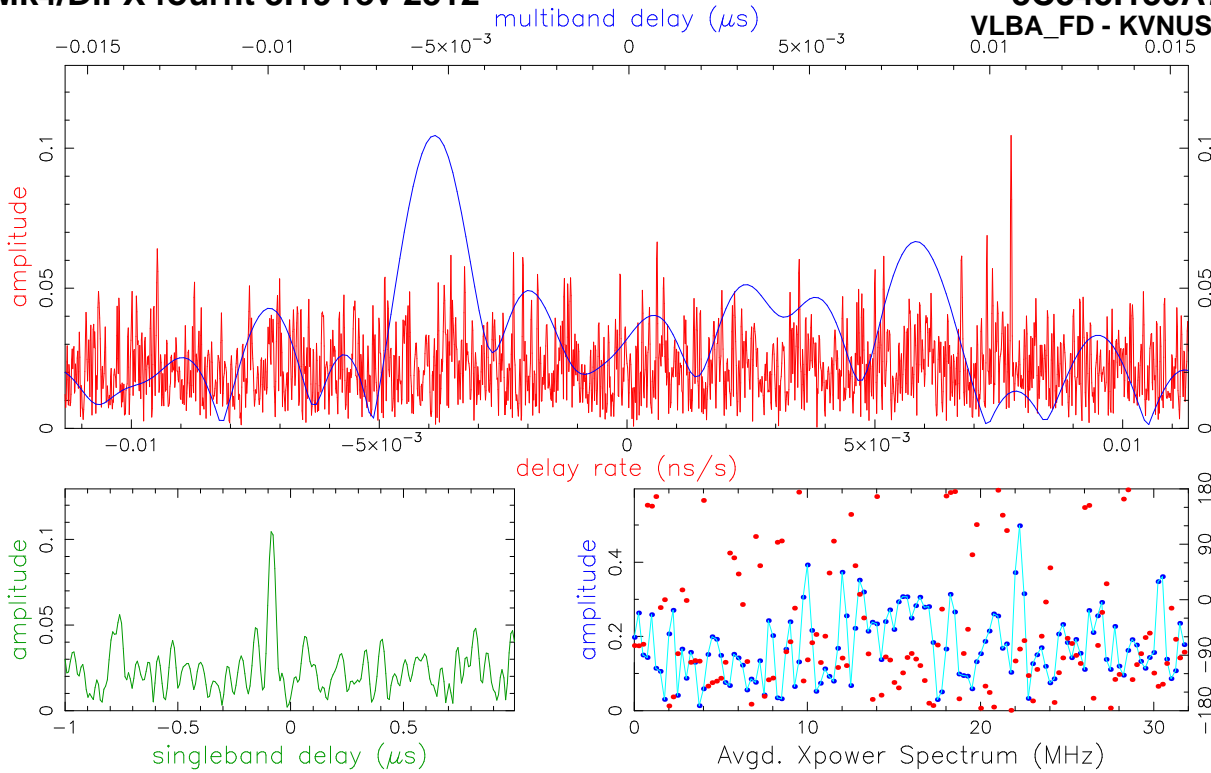


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-105.5	-55.6	-171.7	-97.6	-126.0	-53.7	32.3	-79.0	-53.7	-53.1	-149.1	-116.5	-83.1	-97.3	-80.4	-130.5	Phase	-95.5				
	0.3	0.1	0.1	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.2	0.0	0.1	0.2	0.2	0.1	Ampl.	0.1				
	40.2	167.7	195.4	172.3	76.7	33.7	249.8	30.8	40.5	186.3	41.4	45.7	20.7	169.0	13.9	114.5	Sbd box	40.7				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC					
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-7.06743600542E+03														Apriori delay (usec)	-7.06673872596E+03	Resid mbdelay (usec)	-9.77946E-03	+/-	1.6E-04
Sband delay (usec)			-7.06742892446E+03														Apriori clock (usec)	-7.9741988E+00	Resid sbdelay (usec)	-6.90198E-01	+/-	2.6E-03
Phase delay (usec)			-7.06673872904E+03														Apriori clockrate (us/s)	-4.9094946E-07	Resid phdelay (usec)	-3.07982E-06	+/-	5.5E-07
Delay rate (us/s)			-1.73095726495E+00														Apriori rate (us/s)	-1.73095443006E+00	Resid rate (us/s)	-2.83490E-06	+/-	2.3E-09
Total phase (deg)																	Apriori accel (us/s/s)	3.23661877374E-05	Resid phase (deg)	-95.5	+/-	17.2

ph/seg (deg) 24.2 29.7 Search (2048X64) 0.116 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 52.3 51.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 50.2 34.3 Inc. seg. avg. 0.114 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 62.1 59.9 Inc. frq. avg. 0.125 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 301.9 el 27.8 pa 71.6 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12952.070 1471.820 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/fu...130A7B Output file: /Exps/c192a/v2/1234/No0041/fu.W.118.130A7B simultaneous interpolator

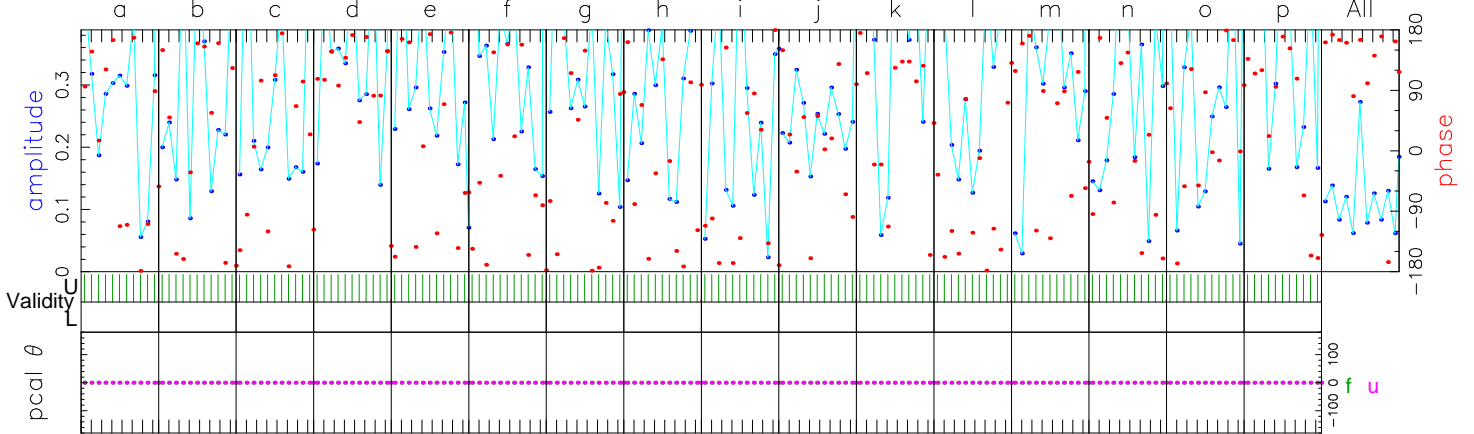
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, fu
VLBA_FD - KVNUS, fgroup W, pol RL



Fringe quality 0
SNR 5.9
Int time 419.830
Amp 0.130
Phase 158.9
PFD 5.2e-01
Delays (us)
SBD -0.082824
MBD -0.005353
Fringe rate (Hz)
0.668368
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061733
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

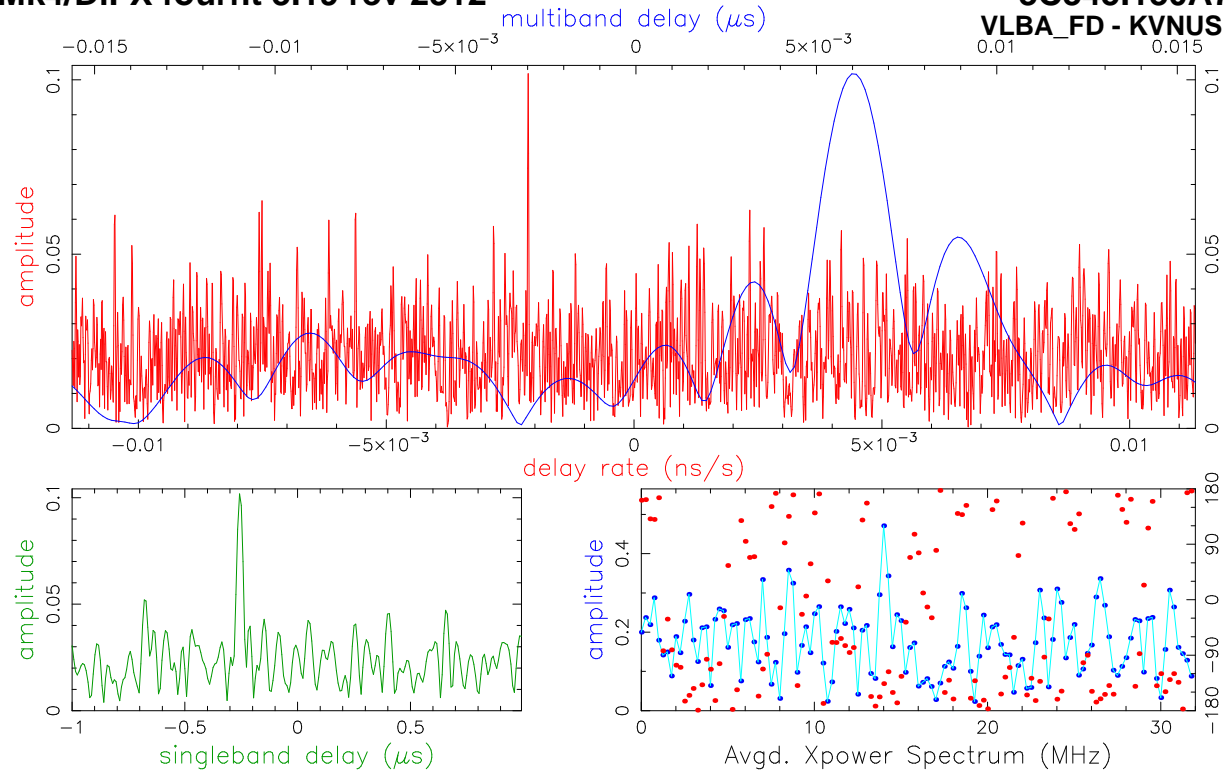


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

Group delay (usec)(sbd) -7.06680657865E+03 Apriori delay (usec) -7.06673872596E+03 Resid mbdelay (usec) -5.35269E-03 +/- 1.8E-04
 Sband delay (usec) -7.06682154946E+03 Apriori clock (usec) -7.9741988E+00 Resid sbdelay (usec) -8.28235E-02 +/- 2.9E-03
 Phase delay (usec) -7.06673872084E+03 Apriori clockrate (us/s) -4.9094946E-07 Resid phdelay (usec) 5.12335E-06 +/- 6.2E-07
 Delay rate (us/s) -1.73094667097E+00 Apriori rate (us/s) -1.73095443006E+00 Resid rate (us/s) 7.75909E-06 +/- 2.6E-09
 Total phase (deg) -148.6 Apriori accel (us/s/s) 3.23661877374E-05 Resid phase (deg) 158.9 +/- 19.3

RMS Theor. Amplitude 0.130 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 32.3 33.4 Search (2048X64) 0.101 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 53.9 58.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 51.2 38.6 Inc. seg. avg. 0.121 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 75.9 67.3 Inc. frq. avg. 0.132 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 301.9 el 27.8 pa 71.6 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12952.070 1471.820 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/fu...130A7B Output file: /Exps/c192a/v2/1234/No0041/fu.W.139.130A7B

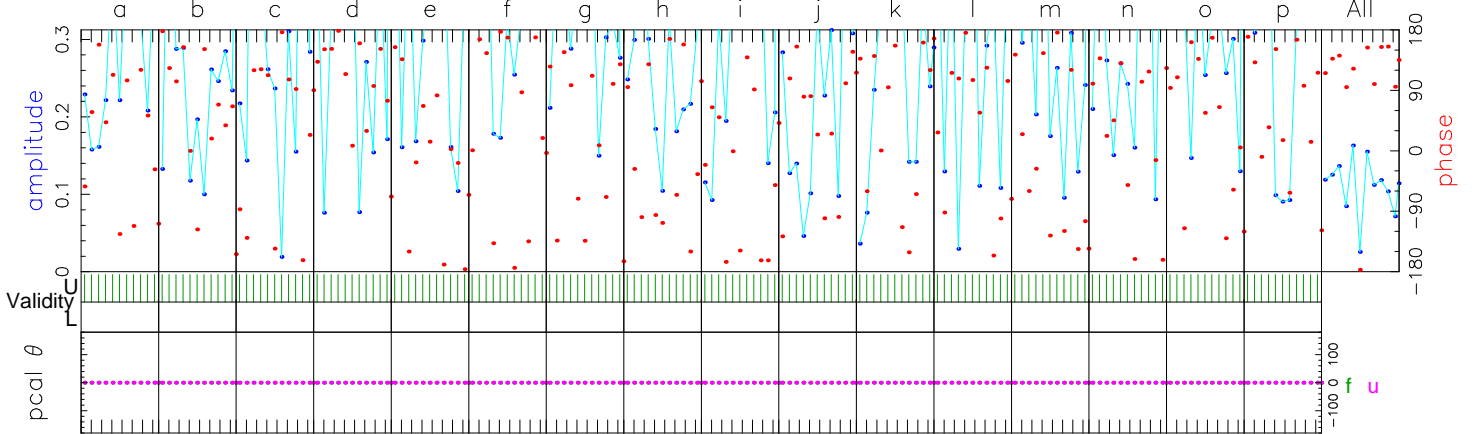


Fringe quality 0

SNR 5.8
Int time 419.830
Amp 0.104
Phase 131.0
PFD 8.9e-01
Delays (us)
SBD -0.255718
MBD 0.006068
Fringe rate (Hz)
-0.183894
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061717
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		

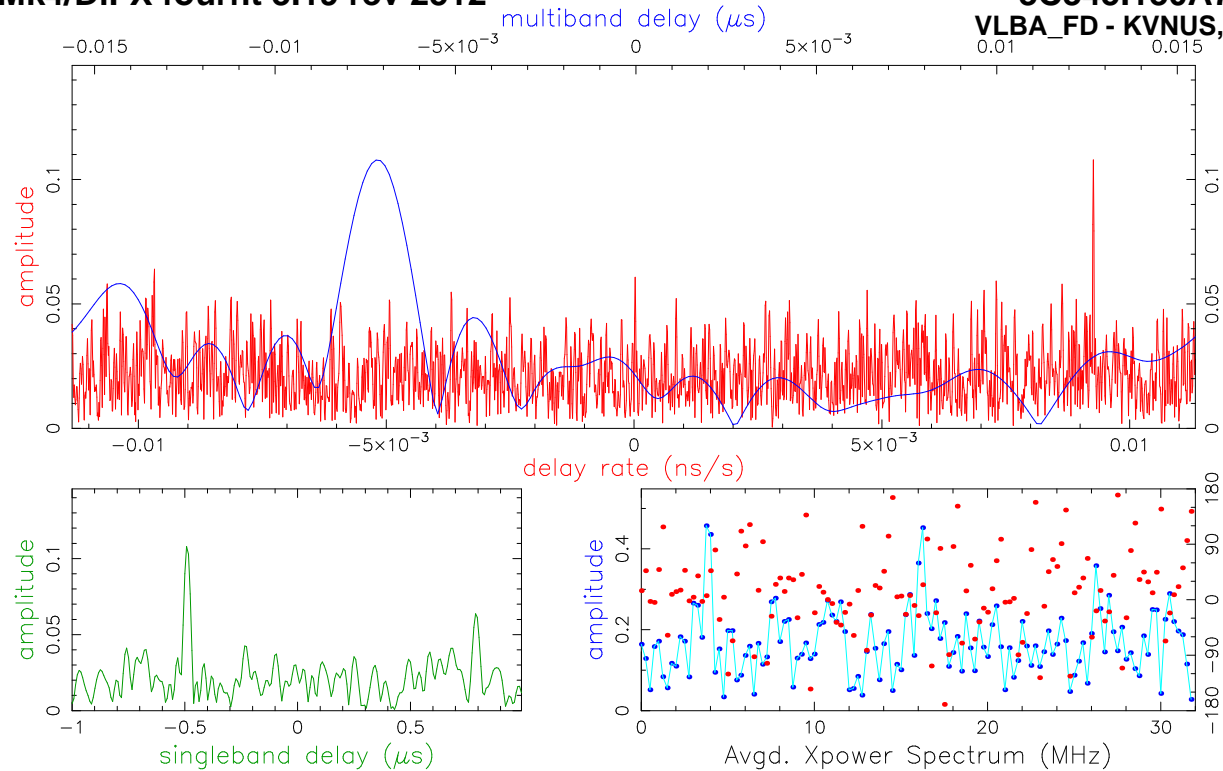
Group delay (usec)(sbd) -7.06698265822E+03 Apriori delay (usec) -7.06673872596E+03 Resid mbdelay (usec) 6.06774E-03 +/- 1.9E-04
 Sband delay (usec) -7.06699444396E+03 Apriori clock (usec) -7.9741988E+00 Resid sbdelay (usec) -2.55718E-01 +/- 3.0E-03
 Phase delay (usec) -7.06673872173E+03 Apriori clockrate (us/s) -4.9094946E-07 Resid phdelay (usec) 4.22450E-06 +/- 6.4E-07
 Delay rate (us/s) -1.73095656488E+00 Apriori rate (us/s) -1.73095443006E+00 Resid rate (us/s) -2.13482E-06 +/- 2.7E-09
 Total phase (deg) -176.5 Apriori accel (us/s/s) 3.23661877374E-05 Resid phase (deg) 131.0 +/- 19.9

ph/seg (deg) RMS Theor. Amplitude 0.104 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 27.5 34.5 Search (2048X64) 0.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 36.9 60.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 38.2 39.8 Inc. seg. avg. 0.095 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 44.4 69.6 Inc. frq. avg. 0.095 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 301.9 el 27.8 pa 71.6 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12952.070 1471.820 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/fu...130A7B Output file: /Exps/c192a/v2/1234/No0041/fu.W.82.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, fu
VLBA_FD - KVNUS, fgroup W, pol RR

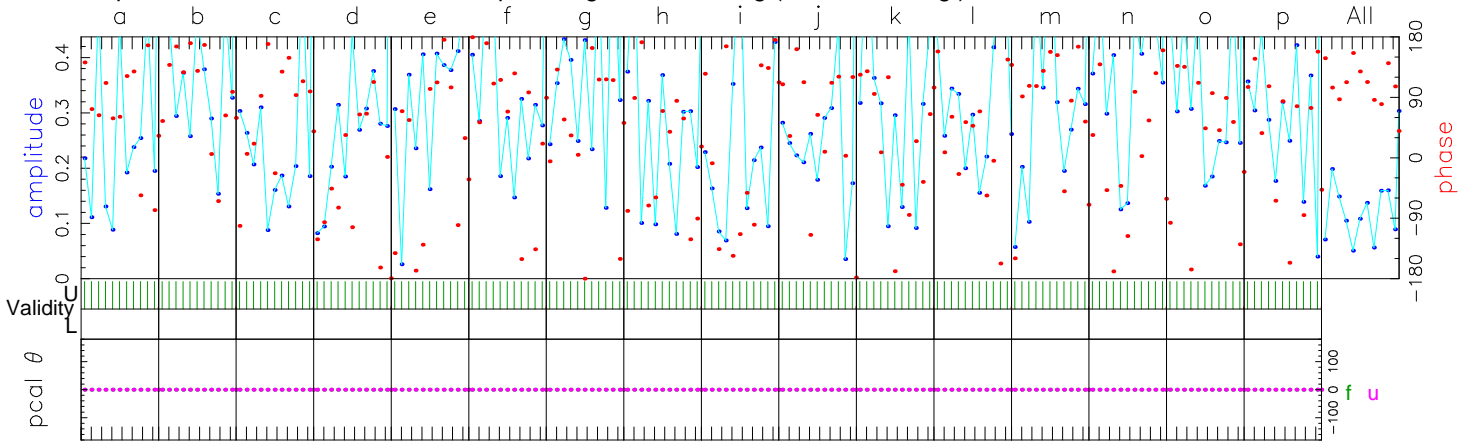


Fringe quality 0

SNR 6.1
Int time 419.830
Amp 0.146
Phase 109.9
PFD 2.4e-01
Delays (us)
SBD -0.489943
MBD -0.007134
Fringe rate (Hz) 0.799334
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061722
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

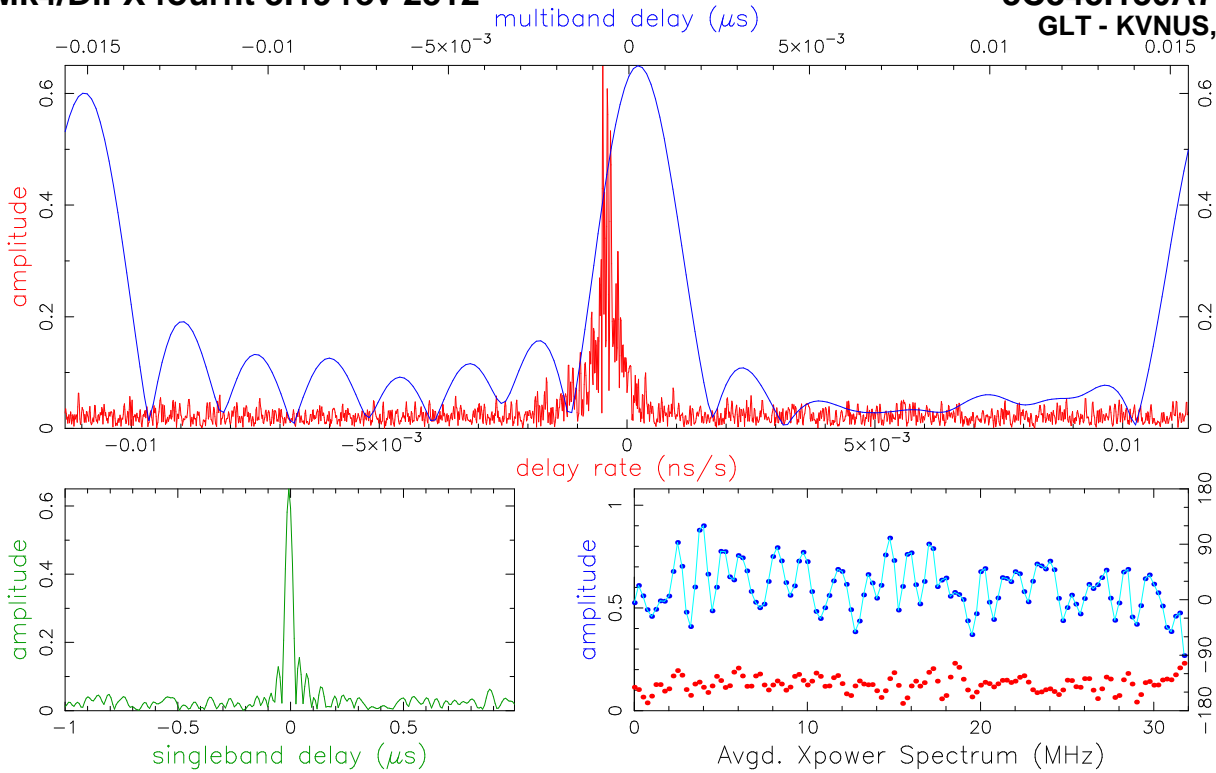


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
f	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)		-7.06721460990E+03																
Sband delay (usec)		-7.06722866896E+03																
Phase delay (usec)		-7.06673872241E+03																
Delay rate (us/s)		-1.73094515059E+00																
Total phase (deg)					-197.6													
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
Pcal mode: MANUAL, MANUAL																		
Pcal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
pcal mode: MANUAL, MANUAL																		
PC period (AP's) 5, 5																		
simultaneous interpolator																		

ph/seg (deg) 25.7 32.5 Search (2048X64) 0.105 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 45.0 56.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 54.9 37.6 Inc. seg. avg. 0.136 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 53.8 65.6 Inc. frq. avg. 0.141 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
f: az 301.9 el 27.8 pa 71.6 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12952.070 1471.820 ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/fu...130A7B Output file: /Exps/c192a/v2/1234/No0041/fu.W.97.130A7B

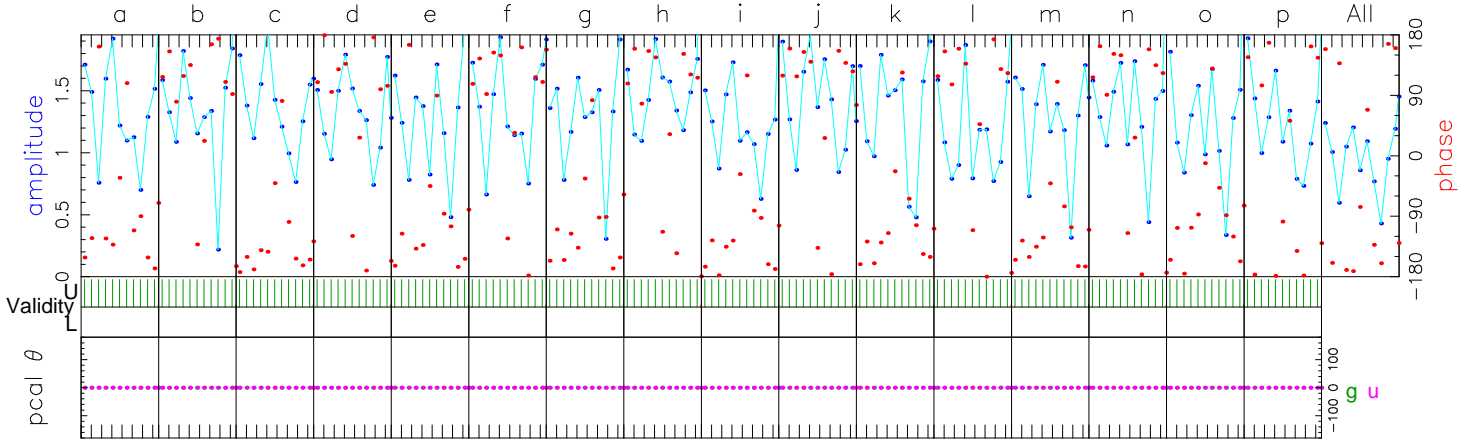
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, gu
GLT - KVNUS, fgroup W, pol RR



Fringe quality 4
SNR 36.4
Int time 419.610
Amp 0.650
Phase 179.0
PFD 0.0e+00
Delays (us)
SBD -0.007428
MBD 0.000260
Fringe rate (Hz)
-0.041954
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061724
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

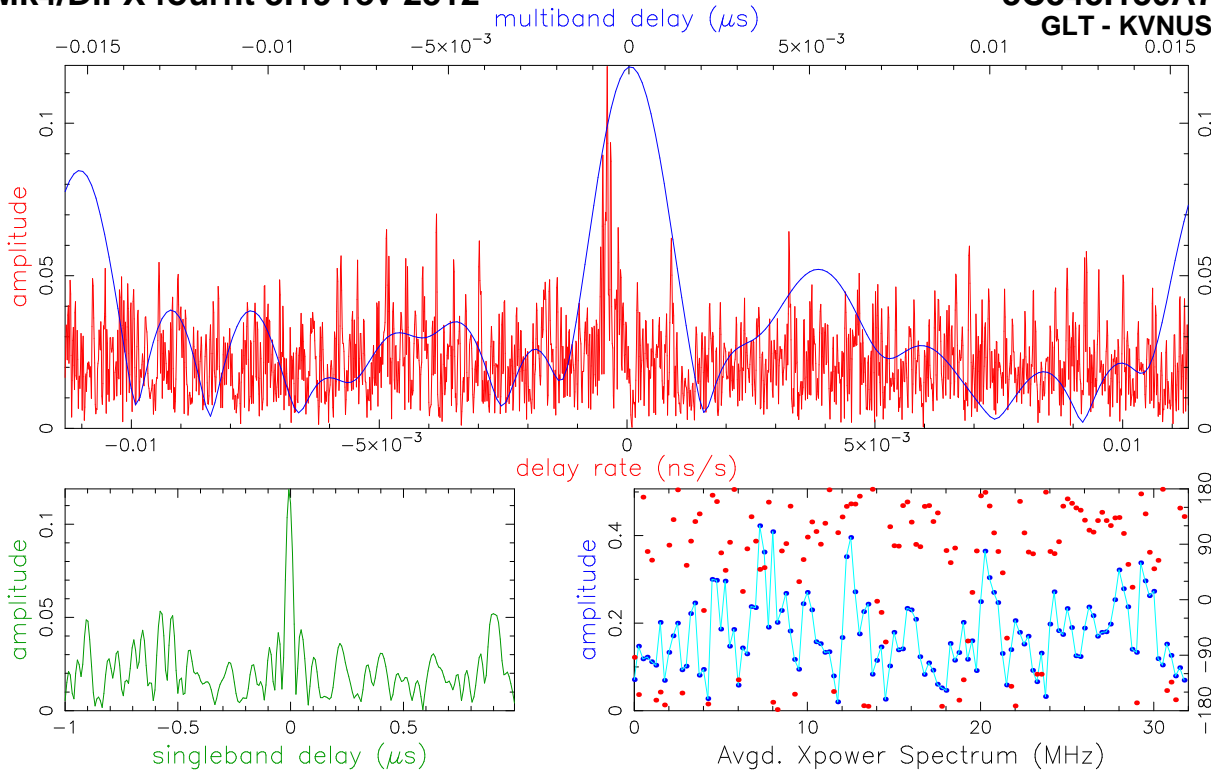


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-136.5	122.0	-148.8	133.2	-144.2	134.4	-129.7	138.4	-140.1	141.4	-137.4	138.3	-137.7	138.0	-124.4	164.1	Phase	179.0	
	0.9	0.9	1.0	0.8	0.8	1.0	0.8	0.9	0.8	1.0	0.9	0.9	0.9	0.9	0.7	0.9	Ampl.	0.9	
	128.0	127.9	128.2	127.7	128.2	128.0	127.8	128.3	128.1	128.1	128.1	128.2	127.9	128.1	128.4	128.2	Sbd box	128.0	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used		
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC		
g	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000			
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks		
																	Chan ids		
																	Tracks		
Group delay (usec)(sbd)			-5.10308525686E+03					Apriori delay (usec)									Resid mbdelay (usec)	2.60389E-04	+/- 3.0E-05
Sband delay (usec)			-5.10309294574E+03					Apriori clock (usec)									Resid sbdelay (usec)	-7.42850E-03	+/- 4.7E-04
Phase delay (usec)			-5.10308551147E+03					Apriori clockrate (us/s)									Resid phdelay (usec)	5.77073E-06	+/- 1.0E-07
Delay rate (us/s)			-9.78977409788E-01					Apriori rate (us/s)									Resid rate (us/s)	-4.87039E-07	+/- 4.2E-10
Total phase (deg)				15.0				Apriori accel (us/s/s)									Resid phase (deg)	179.0	+/- 3.1

ph/seg (deg) 51.6 5.5 Search (2048X64) 0.638 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 60.0 9.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 46.0 6.3 Inc. seg. avg. 0.944 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 37.7 11.0 Inc. frq. avg. 0.879 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
g: az 301.9 el 33.5 pa 14.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 7395.791 6202.824 ion window (TEC) 0.00 0.00 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/gu..130A7B Output file: /Exps/c192a/v2/1234/No0041/gu.W.112.130A7B

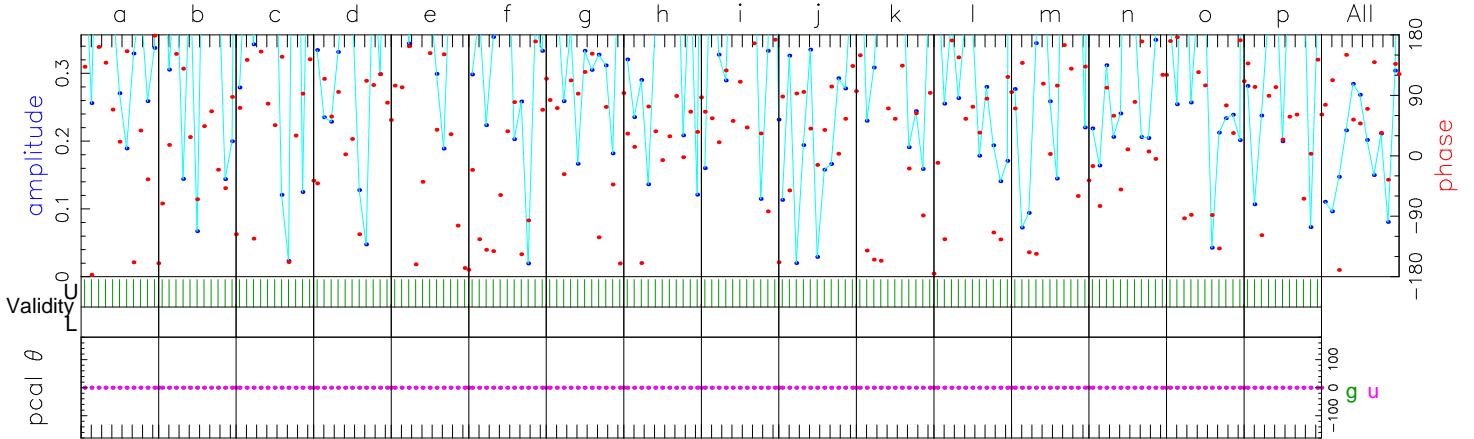
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, gu
GLT - KVNUS, fgroup W, pol LR



Fringe quality 0
SNR 6.7
Int time 419.605
Amp 0.119
Phase 91.9
PFD 7.8e-03
Delays (us)
SBD -0.006462
MBD 0.000039
Fringe rate (Hz)
-0.034609
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061729
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

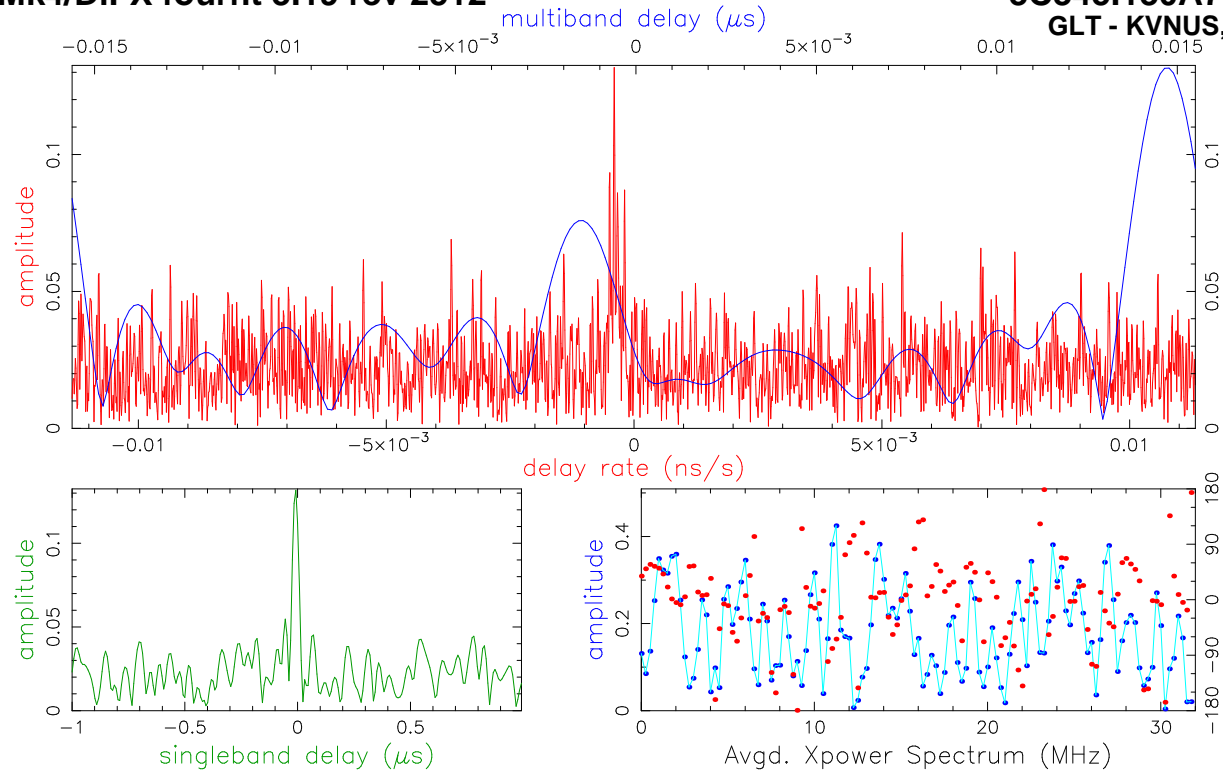


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	138.4	26.8	96.1	66.7	140.9	-120.8	115.7	40.4	88.3	61.2	121.9	91.8	139.7	42.7	163.5	81.4	Phase	91.9				
	0.2	0.2	0.2	0.2	0.2	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	Ampl.	0.1				
	13.9	24.8	129.0	182.3	97.3	66.8	150.2	122.6	128.9	244.0	154.4	111.6	234.9	76.2	182.2	135.8	Sbd box	128.2				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC					
g	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids					
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-5.10308547815E+03														Apriori delay (usec)	-5.10308551724E+03	Resid mbdelay (usec)	3.90912E-05	+/-	1.6E-04
Sband delay (usec)			-5.10309197924E+03														Apriori clock (usec)	-7.1271830E+00	Resid sbdelay (usec)	-6.46200E-03	+/-	2.6E-03
Phase delay (usec)			-5.10308551428E+03														Apriori clockrate (us/s)	-3.2499998E-07	Resid phdelay (usec)	2.96425E-06	+/-	5.5E-07
Delay rate (us/s)			-9.78977324522E-01														Apriori rate (us/s)	-9.78976922749E-01	Resid rate (us/s)	-4.01773E-07	+/-	2.3E-09
Total phase (deg)																	Apriori accel (us/s/s)	5.53976456848E-05	Resid phase (deg)	91.9	+/-	17.2

ph/seg (deg) 61.2 29.8 Theor. Amplitude 0.119 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 90.1 52.0 Search (2048X64) 0.115 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 57.4 34.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 54.9 60.1 Inc. seg. avg. 0.168 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
g: az 301.9 el 33.5 pa 14.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 7395.791 6202.824 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/gu..130A7B Output file: /Exps/c192a/v2/1234/No0041/gu.W.127.130A7B simultaneous interpolator

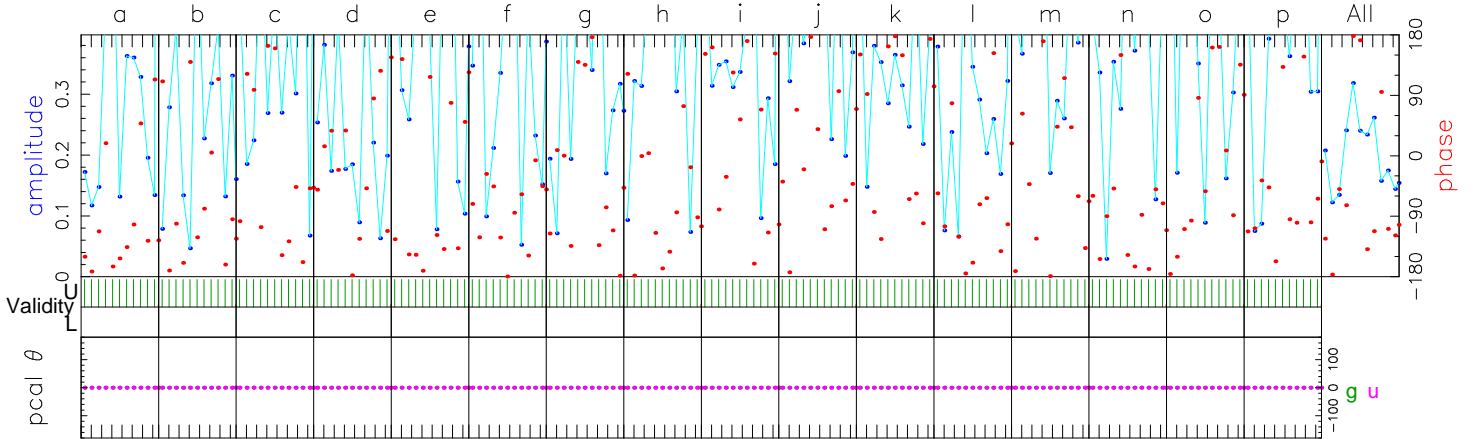
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, gu
GLT - KVNUS, fgroup W, pol RL



Fringe quality 9
SNR 7.4
Int time 419.610
Amp 0.133
Phase -136.1
PFD 3.7e-05
Delays (us)
SBD -0.009576
MBD 0.014722
Fringe rate (Hz)
-0.033984
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061735
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

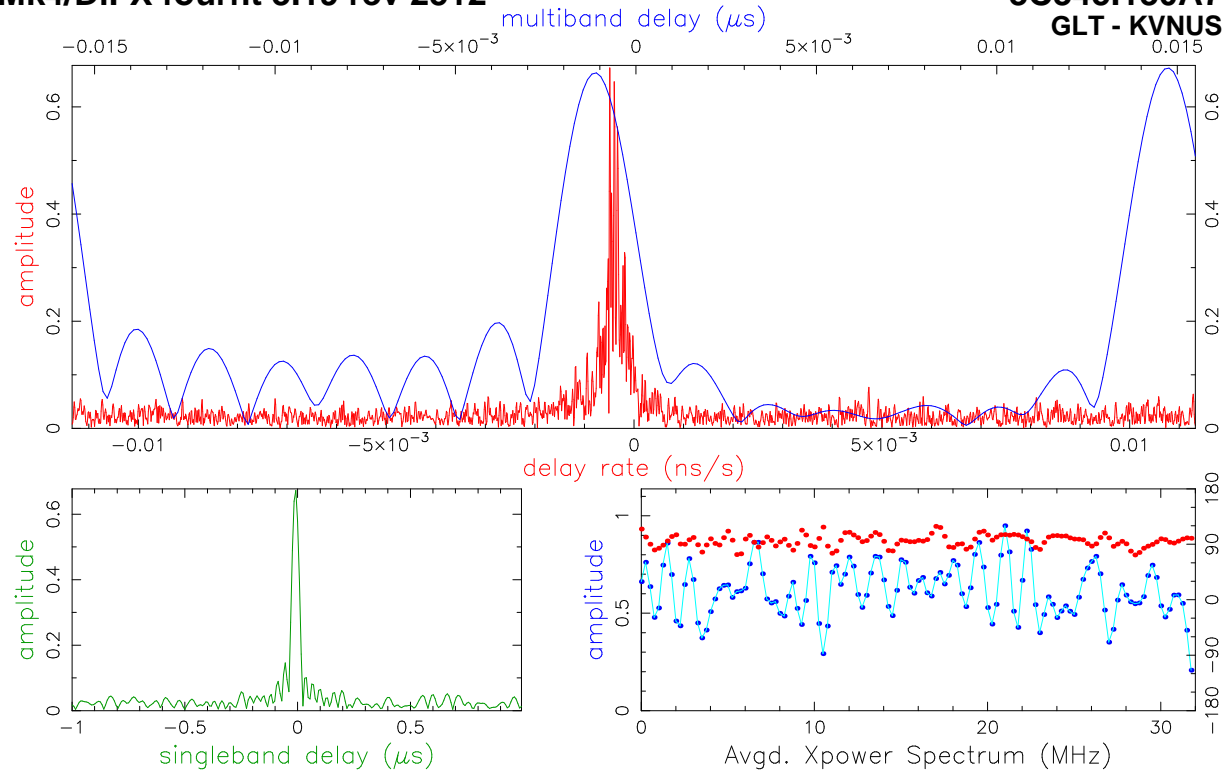


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-140.4	-126.5	-143.1	-18.3	-177.1	-105.1	-159.4	-113.8	178.6	-19.6	-156.1	-130.4	-135.3	-118.0	-164.4	-124.2	Phase	-136.1				
	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.2	0.2	Ampl.	0.1				
	255.6	59.5	127.2	5.6	128.8	126.6	174.2	27.3	229.4	101.6	108.3	239.3	241.7	127.0	234.1	5.1	Sbd box	127.8				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC					
g	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-5.10310204531E+03														Apriori delay (usec)	-5.10308551724E+03	Resid mbdelay (usec)	1.47219E-02	+/-	1.5E-04
Sband delay (usec)			-5.10309509324E+03														Apriori clock (usec)	-7.1271830E+00	Resid sbdelay (usec)	-9.57600E-03	+/-	2.3E-03
Phase delay (usec)			-5.10308552163E+03														Apriori clockrate (us/s)	-3.2499998E-07	Resid phdelay (usec)	-4.38979E-06	+/-	5.0E-07
Delay rate (us/s)			-9.78977317275E-01														Apriori rate (us/s)	-9.78976922749E-01	Resid rate (us/s)	-3.94526E-07	+/-	2.1E-09
Total phase (deg)																	Apriori accel (us/s/s)	5.53976456848E-05	Resid phase (deg)	-136.1	+/-	15.4

ph/seg (deg) 57.3 26.8 Search (2048X64) 0.133 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 69.2 46.7 Interp. 0.125 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 50.0 30.9 Inc. seg. avg. 0.183 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 46.0 53.9 Inc. frq. avg. 0.142 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
g: az 301.9 el 33.5 pa 14.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 7395.791 6202.824 ion window (TEC) 0.00 0.00 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/gu..130A7B Output file: /Exps/c192a/v2/1234/No0041/gu.W.147.130A7B

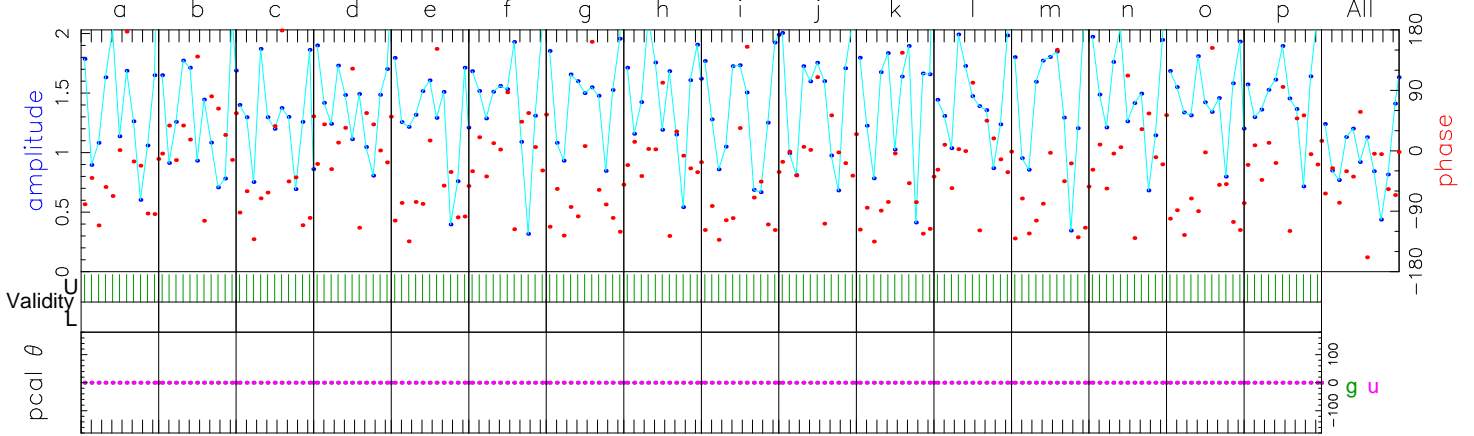
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, gu
GLT - KVNUS, fgroup W, pol LL



Fringe quality 3
SNR 37.9
Int time 419.605
Amp 0.677
Phase -45.0
PFD 0.0e+00
Delays (us)
SBD -0.009744
MBD 0.014731
Fringe rate (Hz)
-0.041934
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061719
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

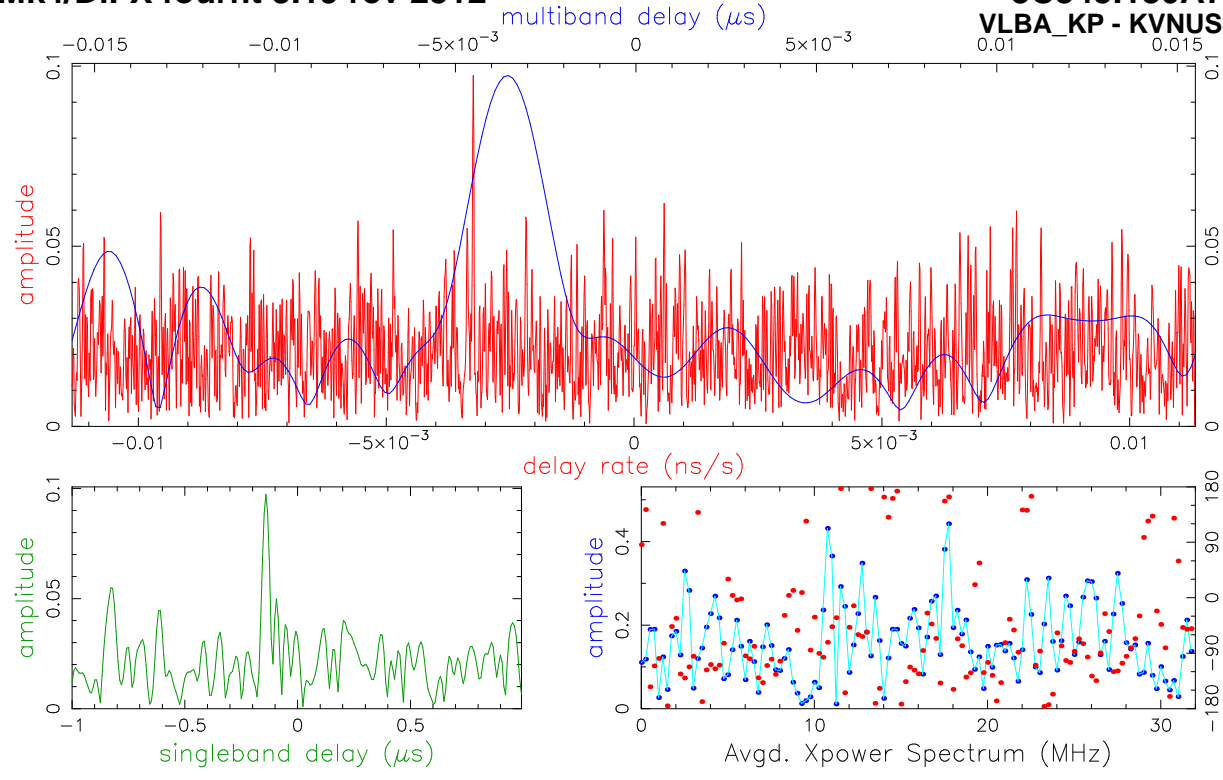


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-69.4	15.8	-80.3	8.4	-84.0	-3.7	-94.4	-12.5	-104.1	-9.1	-96.5	-6.0	-98.7	-4.5	-91.3	-0.7		Phase	-45.0				
	0.9	0.8	0.9	0.9	0.9	0.9	1.0	1.0	0.8	1.0	1.0	1.0	0.9	1.0	1.1	1.0		Ampl.	0.9				
	127.6	128.2	128.0	127.8	127.8	127.9	127.9	128.2	127.7	128.0	127.6	127.6	127.7	127.8	127.7	127.8		Sbd box	127.8				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used					
g	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
g:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
g	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-5.10310203595E+03															Apriori delay (usec)	-5.10308551724E+03	Resid mbdelay (usec)	1.47313E-02	+/-	2.8E-05
Sband delay (usec)			-5.10309526124E+03															Apriori clock (usec)	-7.1271830E+00	Resid sbdelay (usec)	-9.74400E-03	+/-	4.5E-04
Phase delay (usec)			-5.10308551869E+03															Apriori clockrate (us/s)	-3.2499998E-07	Resid phdelay (usec)	-1.45037E-06	+/-	9.7E-08
Delay rate (us/s)			-9.78977409557E-01															Apriori rate (us/s)	-9.78976922749E-01	Resid rate (us/s)	-4.86808E-07	+/-	4.0E-10
Total phase (deg)					-208.9													Apriori accel (us/s/s)	5.53976456848E-05	Resid phase (deg)	-45.0	+/-	3.0

ph/seg (deg) 51.5 5.2 Search (2048X64) 0.655 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 59.9 9.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 48.3 6.0 Inc. seg. avg. 0.979 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 41.3 10.6 Inc. frq. avg. 0.942 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
g: az 301.9 el 33.5 pa 14.8 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 7395.791 6202.824 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/gu..130A7B Output file: /Exps/c192a/v2/1234/No0041/gu.W.94.130A7B

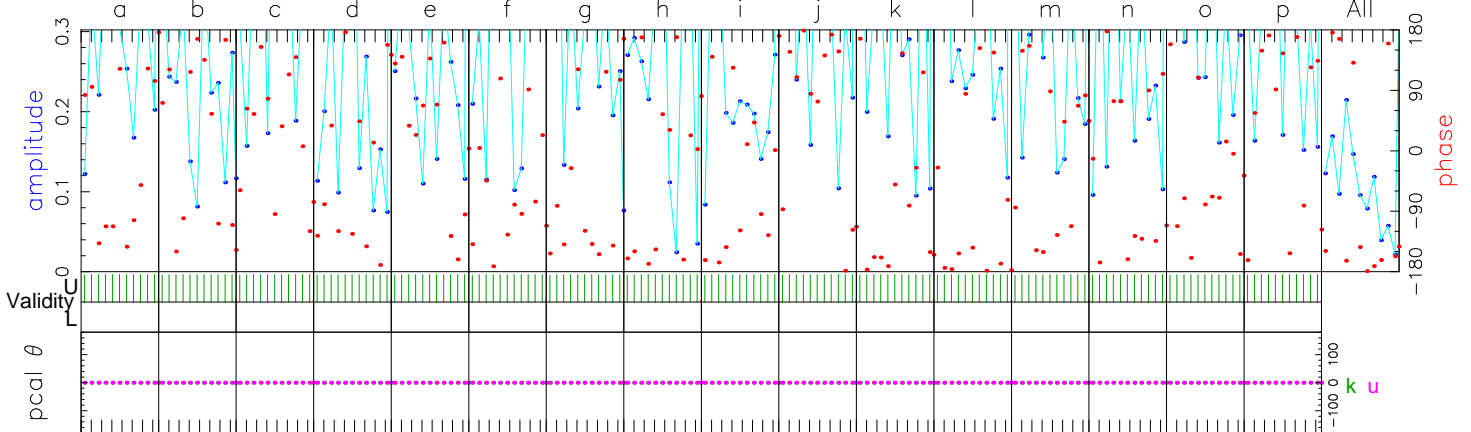
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ku
VLBA_KP - KVNUS, fgroup W, pol LL



Fringe quality 0
SNR 5.5
Int time 418.958
Amp 0.101
Phase -176.3
PFD 1.0e+00
Delays (us)
SBD -0.140345
MBD -0.003563
Fringe rate (Hz)
-0.279482
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061731
2020:014:135814
RA & Dec (J2000)
16h42m58.80967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-161.0	162.1	61.5	-141.5	129.0	-120.5	-136.4	168.6	-172.9	154.9	-168.0	-175.1	-172.7	173.0	-107.1	157.5	Phase	-176.3
	0.1	0.1	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.2	Ampl.	0.1
	123.5	203.7	4.2	193.2	54.2	71.7	204.5	121.2	42.4	110.3	110.6	111.2	208.5	120.3	75.6	61.4	Sbd box	111.0
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
ku	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

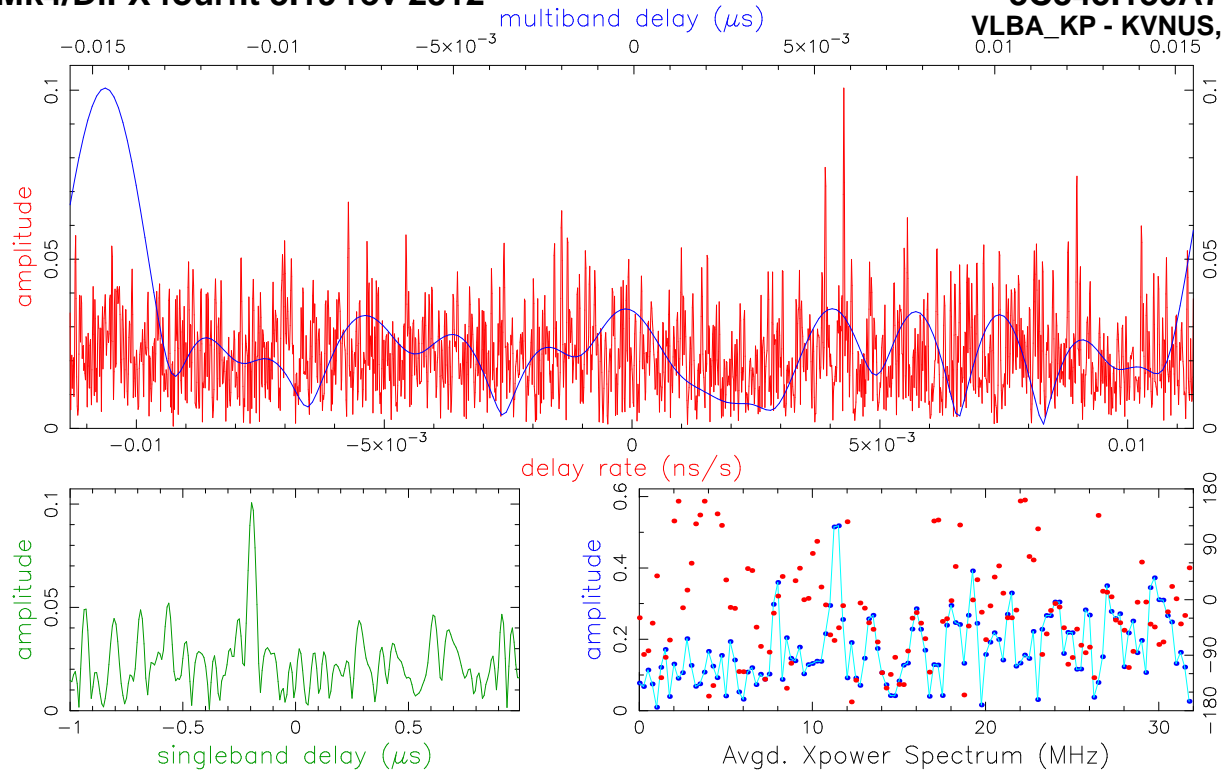
Group delay (usec)(sbd) -5.04665813500E+03 Apriori delay (usec) -5.04652957200E+03 Resid mbdelay (usec) -3.56301E-03 +/- 2.0E-04
 Sband delay (usec) -5.04666991700E+03 Apriori clock (usec) -8.8344450E+00 Resid sbdelay (usec) -1.40345E-01 +/- 3.2E-03
 Phase delay (usec) -5.04652957768E+03 Apriori clockrate (us/s) -5.9457897E-07 Resid phdelay (usec) -5.68549E-06 +/- 6.8E-07
 Delay rate (us/s) -1.68143532025E+00 Apriori rate (us/s) -1.68143207574E+00 Resid rate (us/s) -3.24451E-06 +/- 2.8E-09
 Total phase (deg) -295.8 Apriori accel (us/s/s) 2.30420530726E-05 Resid phase (deg) -176.3 +/- 21.0

RMS Theor. Amplitude 0.101 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 24.0 36.4 Search (2048X64) 0.097 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 60.1 63.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 47.3 42.0 Inc. seg. avg. 0.092 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 61.5 73.4 Inc. frq. avg. 0.096 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 299.2 el 34.1 pa 74.3 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12567.416 1000.877 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ku..130A7B Output file: /Exps/c192a/v2/1234/No0041/ku.W.136.130A7B

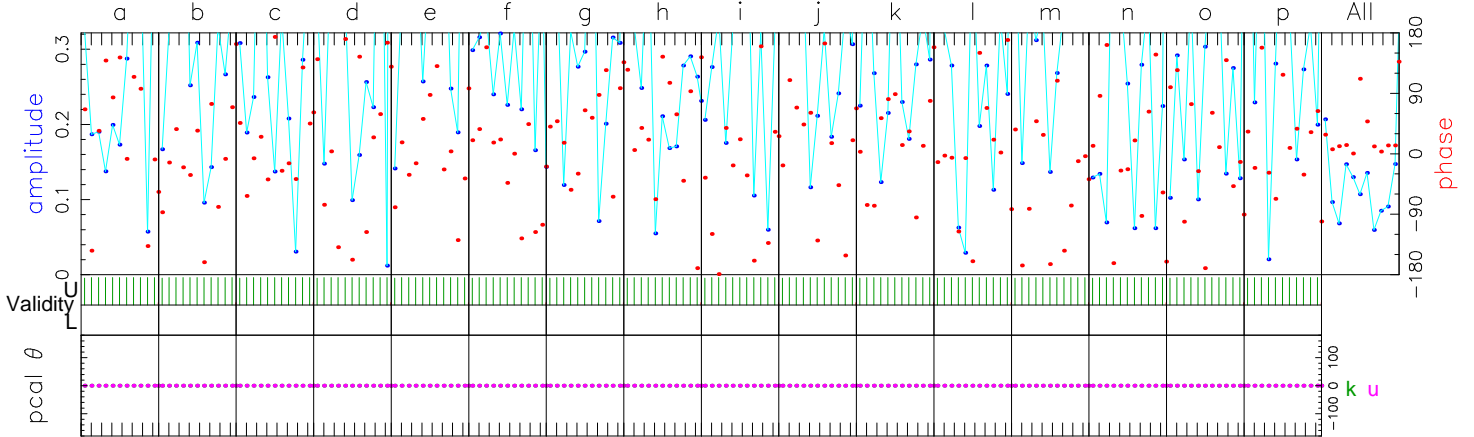
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ku
VLBA_KP - KVNUS, fgroup W, pol RR



Fringe quality 0
SNR 5.7
Int time 418.958
Amp 0.107
Phase 23.4
PFD 9.8e-01
Delays (us)
SBD -0.193276
MBD -0.014645
Fringe rate (Hz) 0.368872
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061736
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

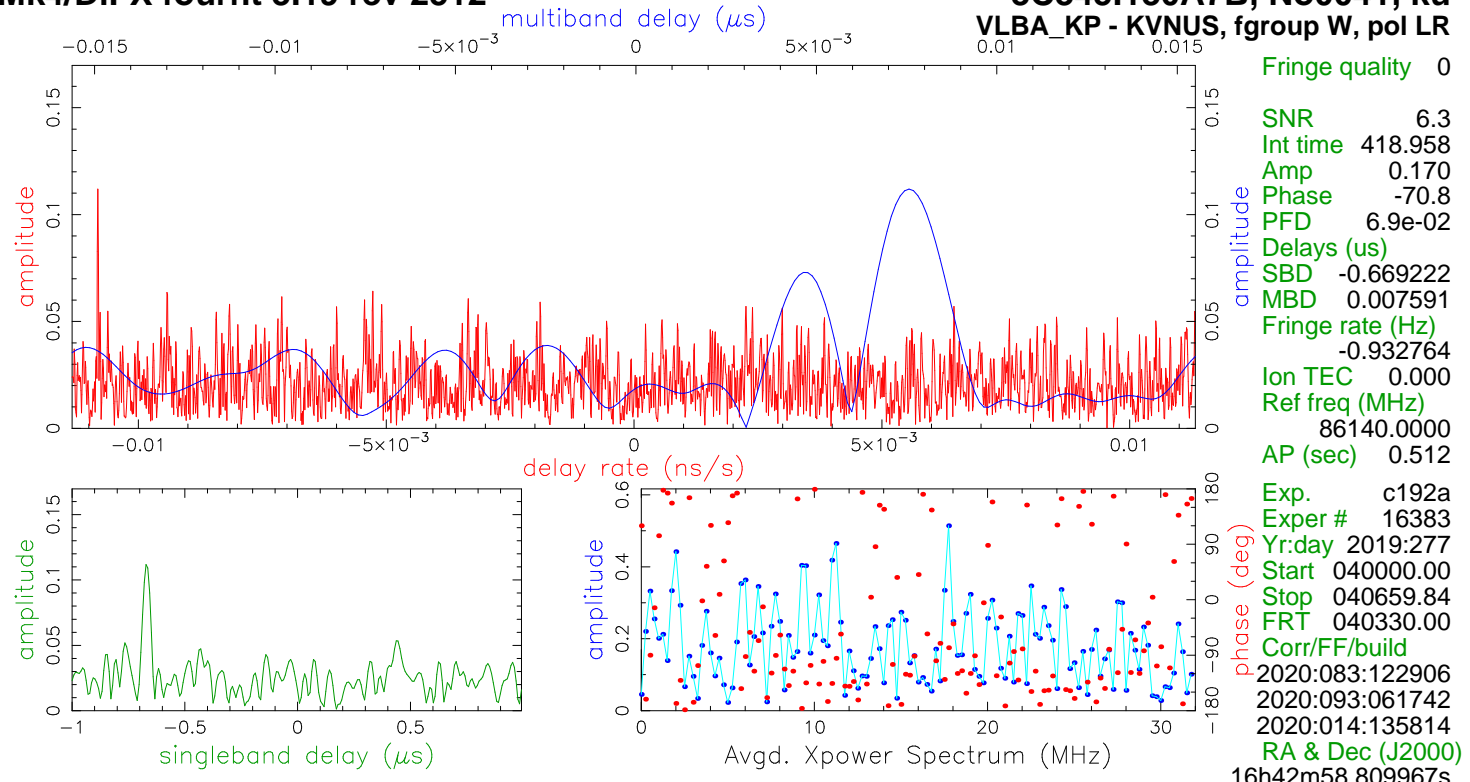


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
72.1	-0.0	16.3	129.2	-3.3	3.6	38.9	64.1	-16.5	52.3	21.5	3.5	-14.7	-49.8	55.1	40.1	40.1	Phase	23.4				
0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	Ampl.	0.1				
229.3	214.4	49.8	194.2	51.6	164.4	130.4	238.8	56.4	118.8	215.7	48.0	42.3	87.9	170.2	224.2	224.2	Sbd box	104.3				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC					
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks					
Group delay (usec)(sbd)			-5.0467317124E+03														Apriori delay (usec)	-5.04652957200E+03	Resid mbdelay (usec)	-1.46452E-02	+/-	1.9E-04
Sband delay (usec)			-5.04672284850E+03														Apriori clock (usec)	-8.8344450E+00	Resid sbdelay (usec)	-1.93276E-01	+/-	3.0E-03
Phase delay (usec)			-5.04652957124E+03														Apriori clockrate (us/s)	-5.9457897E-07	Resid phdelay (usec)	7.55072E-07	+/-	6.5E-07
Delay rate (us/s)			-1.68142779351E+00														Apriori rate (us/s)	-1.68143207574E+00	Resid rate (us/s)	4.28223E-06	+/-	2.7E-09
Total phase (deg)					-96.0												Apriori accel (us/s/s)	2.30420530726E-05	Resid phase (deg)	23.4	+/-	20.2

ph/seg (deg) 32.0 35.1 Amplitude 0.107 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 47.0 61.2 Search (2048X64) 0.098 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.8 40.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 50.7 70.7 Inc. seg. avg. 0.105 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 k: az 299.2 el 34.1 pa 74.3 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12567.416 1000.877 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ku..130A7B Output file: /Exps/c192a/v2/1234/No0041/ku.W.155.130A7B simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ku
VLBA_KP - KVNUS, fgroup W, pol LR



Fringe quality 0

SNR 6.3

Int time 418.958

Amp 0.170

Phase -70.8

PFD 6.9e-02

Delays (us)

SBD -0.669222

MBD 0.007591

Fringe rate (Hz)

-0.932764

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:277

Start 040000.00

Stop 040659.84

FRT 040330.00

Corr/FF/build

2020:083:122906

2020:093:061742

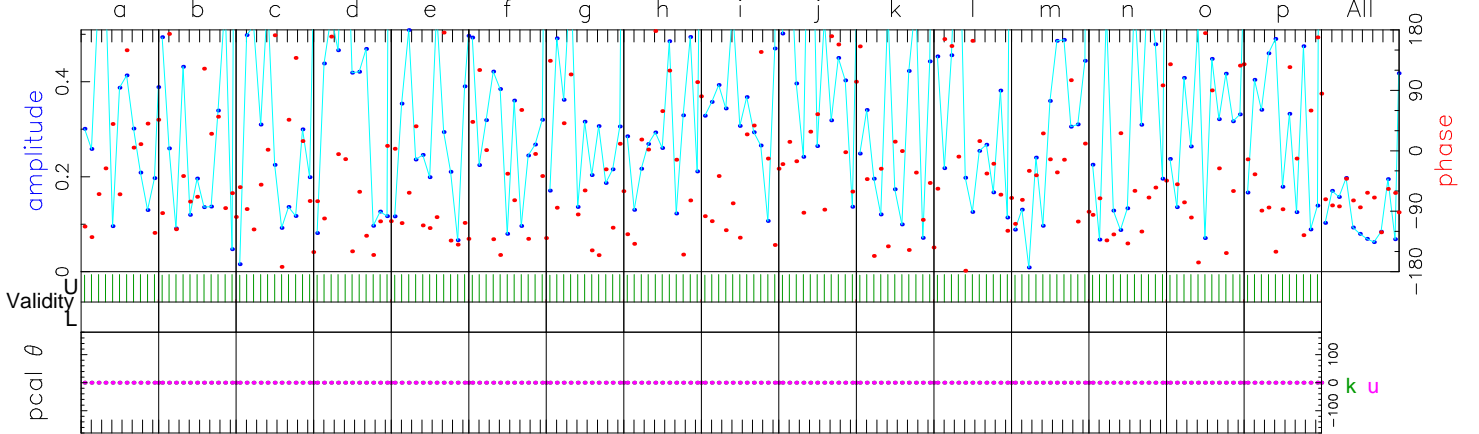
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
	-55.6	-72.5	-63.6	-82.9	-101.9	-58.2	-81.3	168.3	-86.2	-1.1	-85.2	-45.2	-24.1	-85.3	-142.8	-102.2		Phase	-70.8
	0.2	0.2	0.2	0.3	0.3	0.1	0.1	0.0	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.2		Ampl.	0.2
	53.9	186.6	230.7	153.0	43.9	126.2	239.0	185.5	131.1	14.1	207.3	201.1	116.6	146.2	35.0	28.1		Sbd box	43.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC	
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks	
Group delay (usec)(sbd)	-5.04720948050E+03			Apriori delay (usec)			-5.04652957200E+03			Resid mbdelay (usec)			7.59150E-03			+/- 1.7E-04			
Sband delay (usec)	-5.04719879350E+03			Apriori clock (usec)			-8.8344450E+00			Resid sbdelay (usec)			-6.69222E-01			+/- 2.7E-03			
Phase delay (usec)	-5.04652957428E+03			Apriori clockrate (us/s)			-5.9457897E-07			Resid phdelay (usec)			-2.28420E-06			+/- 5.8E-07			
Delay rate (us/s)	-1.68144290421E+00			Apriori rate (us/s)			-1.68143207574E+00			Resid rate (us/s)			-1.08285E-05			+/- 2.4E-09			
Total phase (deg)	-190.3			Apriori accel (us/s/s)			2.30420530726E-05			Resid phase (deg)			-70.8			+/- 18.1			

ph/seg (deg) RMS Theor. Amplitude 0.170 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 50.2 31.4 Search (2048X64) 0.110 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 46.9 36.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 53.7 63.3 Inc. seg. avg. 0.155 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

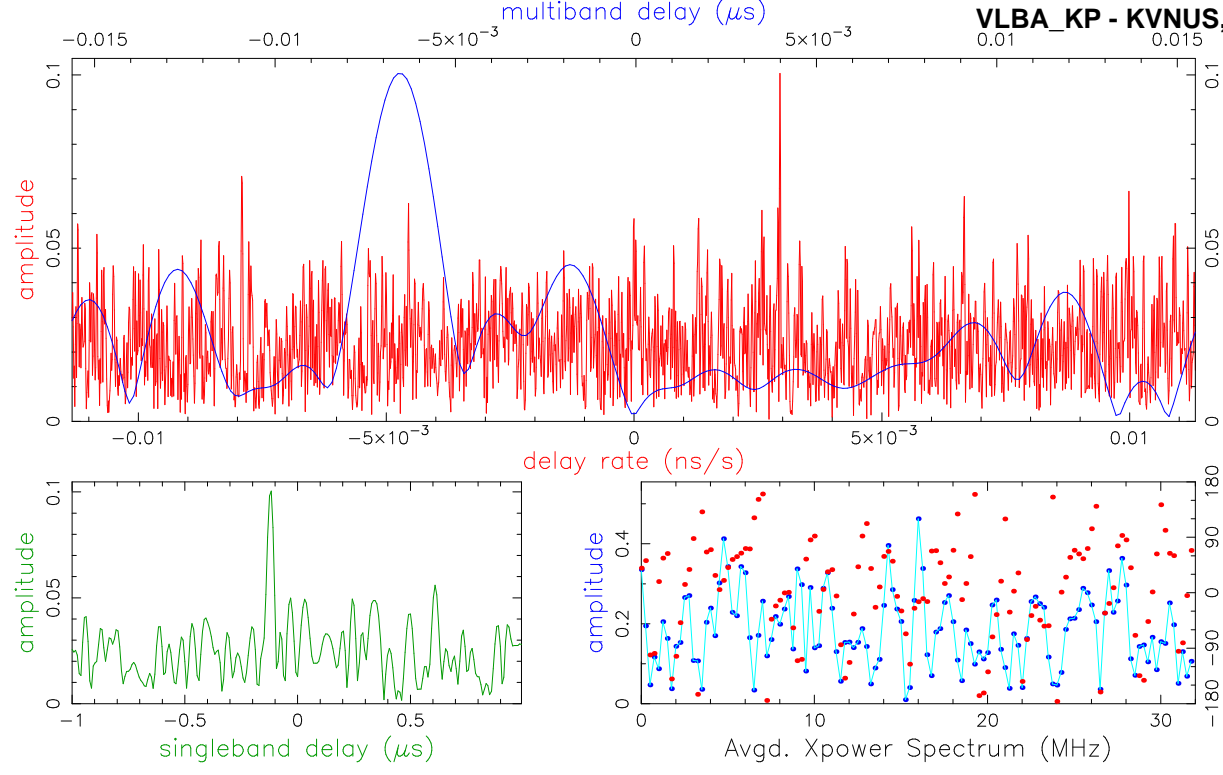
inc. frq. avg. 0.170 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 299.2 el 34.1 pa 74.3 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 12567.416 1000.877 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ku..130A7B Output file: /Exps/c192a/v2/1234/No0041/ku.W.165.130A7B

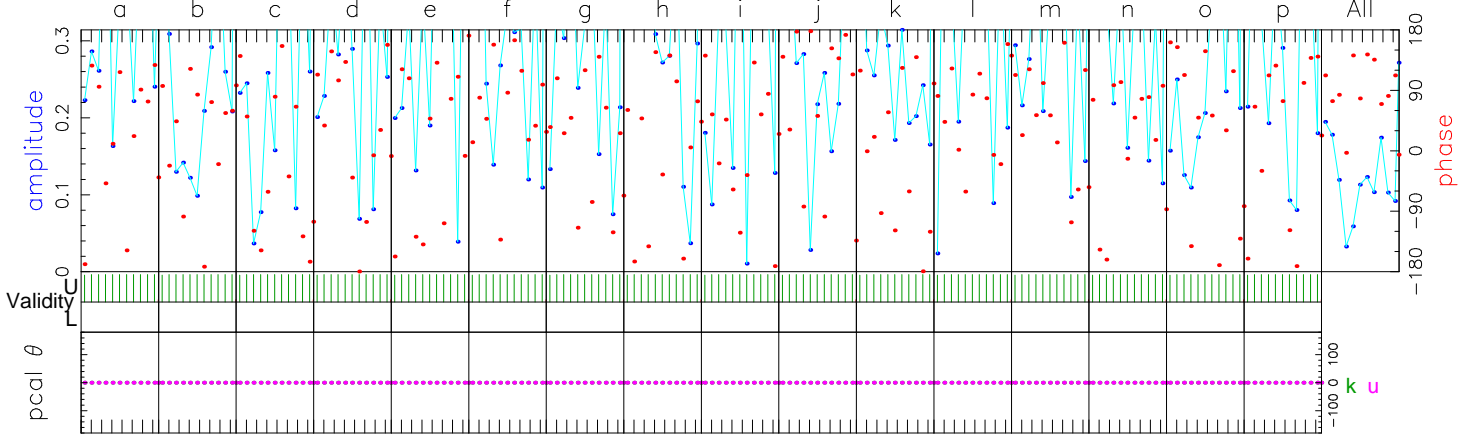
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ku
VLBA_KP - KVNUS, fgroup W, pol RL



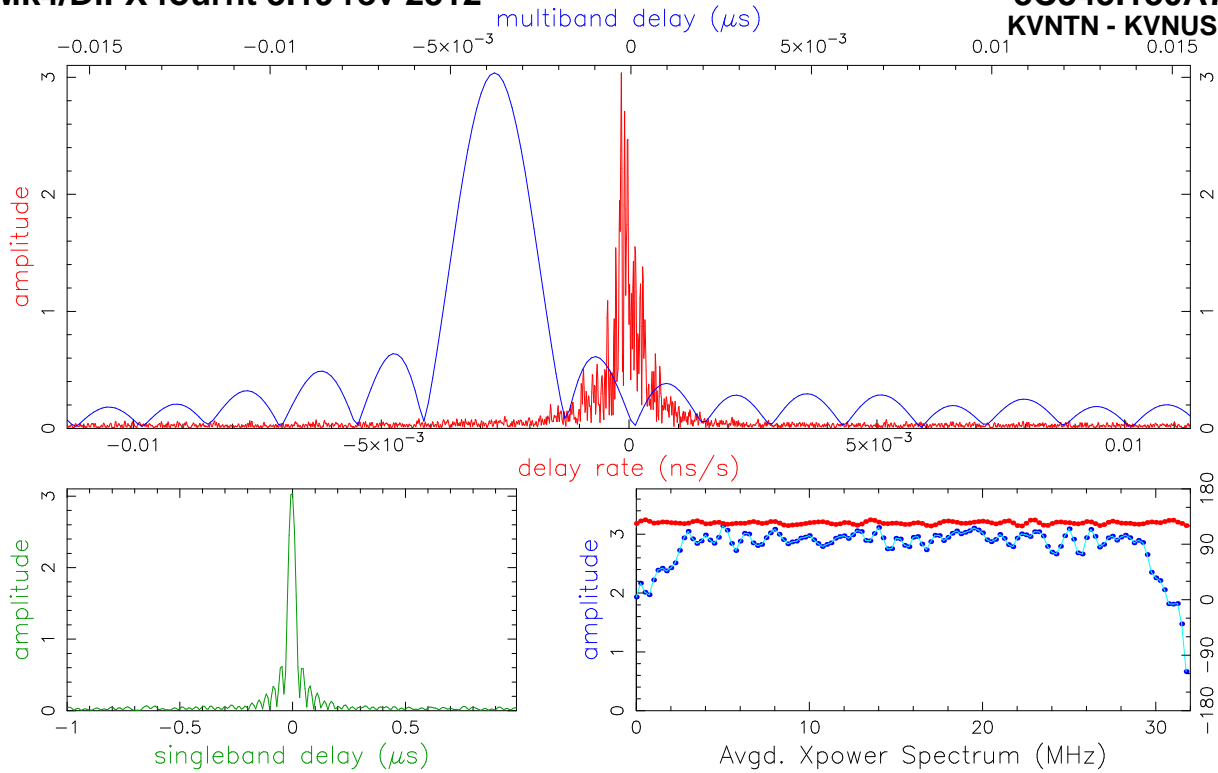
Fringe quality 0
SNR 5.7
Int time 418.958
Amp 0.105
Phase 95.5
PFD 9.5e-01
Delays (us)
SBD -0.120143
MBD -0.006586
Fringe rate (Hz) 0.254447
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build 2020:083:122906
2020:093:061747
2020:014:135814
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
94.0	55.0	-161.3	122.5	118.6	78.8	52.2	121.6	82.1	141.8	117.5	60.1	71.9	85.0	132.9	104.2	104.2	Phase	95.5				
0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.2	0.1	0.2	0.2	Ampl.	0.1				
97.4	32.4	223.1	236.7	116.7	179.3	246.6	85.5	207.7	194.6	54.9	201.5	155.0	248.2	69.9	204.4	204.4	Sbd box	113.6				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
k:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC					
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)		-5.04666115777E+03															Apriori delay (usec)	-5.04652957200E+03	Resid mbdelay (usec)	-6.58577E-03	+/-	1.9E-04
Sband delay (usec)		-5.04664971500E+03															Apriori clock (usec)	-8.8344450E+00	Resid sbdelay (usec)	-1.20143E-01	+/-	3.0E-03
Phase delay (usec)		-5.04652956892E+03															Apriori clockrate (us/s)	-5.9457897E-07	Resid phdelay (usec)	3.08117E-06	+/-	6.5E-07
Delay rate (us/s)		-1.68142912187E+00															Apriori rate (us/s)	-1.68143207574E+00	Resid rate (us/s)	2.95387E-06	+/-	2.7E-09
Total phase (deg)					-23.9												Apriori accel (us/s/s)	2.30420530726E-05	Resid phase (deg)	95.5	+/-	20.1

ph/seg (deg) 41.3 34.8
amp/seg (%) 50.6 60.7
ph/frq (deg) 40.2 40.2
amp/frq (%) 44.3 70.1
k: az 299.2 el 34.1 pa 74.3
u: az 68.6 el 51.4 pa -80.7
u,v (fr/asec) 12567.416 1000.877
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ku..130A7B Output file: /Exps/c192a/v2/1234/No0041/ku.W.185.130A7B
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): 64
Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite
sb window (us) -1.000 1.000
mb window (us) -0.016 0.016
dr window (ns/s) -0.011 0.011
ion window (TEC) 0.00 0.00
simultaneous interpolator

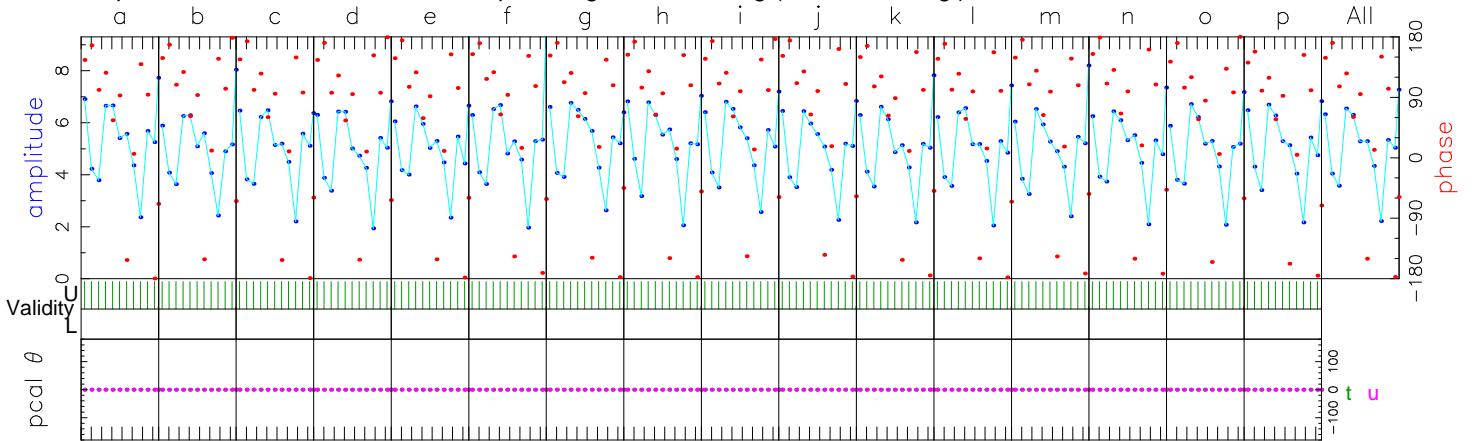


Fringe quality 5

SNR 173.8
Int time 419.840
Amp 3.102
Phase 125.9
PFD 0.0e+00
Delays (us)
SBD -0.003648
MBD -0.003783
Fringe rate (Hz)
-0.013306
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061803
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	128.5	128.5
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

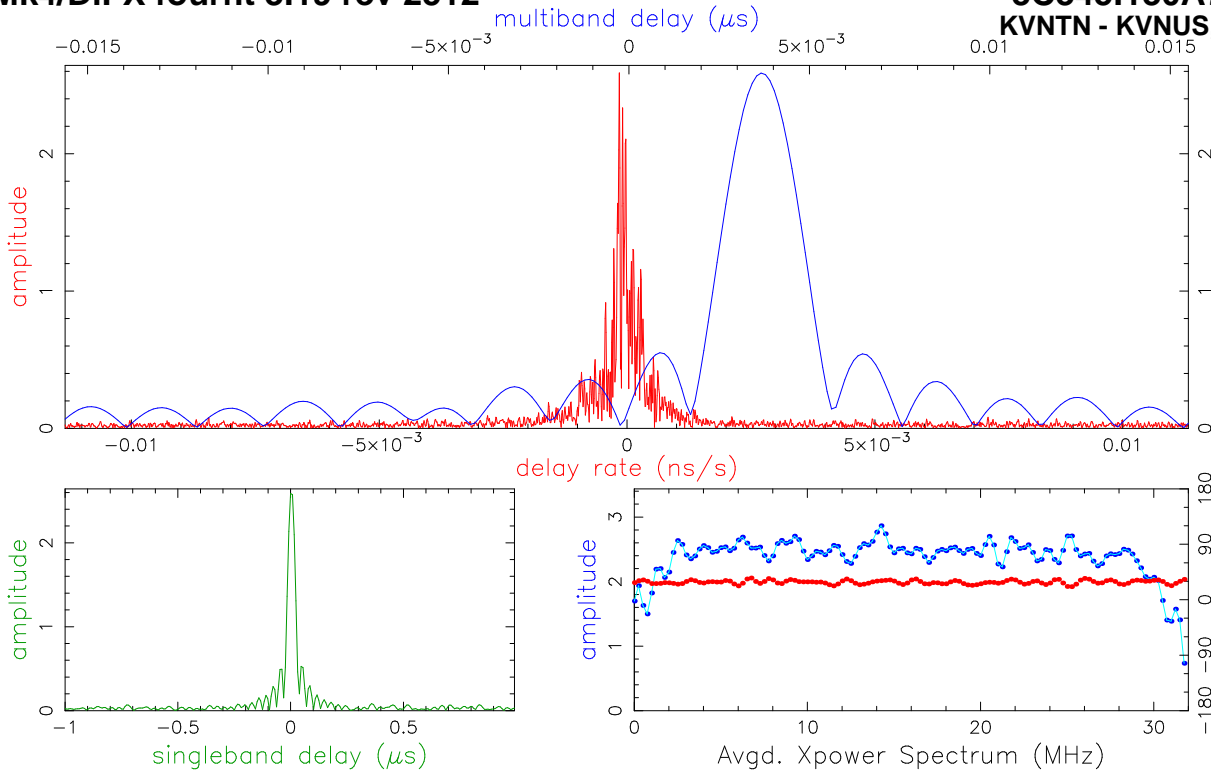
Group delay (usec)(sbd) -6.86523526853E+02 Apriori delay (usec) -6.86519743969E+02 Resid mbdelay (usec) -3.78288E-03 +/- 6.2E-06
 Sband delay (usec) -6.86523391969E+02 Apriori clock (usec) 1.9282120E+01 Resid sbdelay (usec) -3.64800E-03 +/- 9.9E-05
 Phase delay (usec) -6.86519739910E+02 Apriori clockrate (us/s) -1.9999998E-07 Resid phdelay (usec) 4.05878E-06 +/- 2.1E-08
 Delay rate (us/s) 5.12313216752E-02 Apriori rate (us/s) 5.12314761415E-02 Resid rate (us/s) -1.54466E-07 +/- 8.8E-11
 Total phase (deg) -142.5 Apriori accel (us/s/s) 1.41132908190E-06 Resid phase (deg) 125.9 +/- 0.7

RMS Theor. Amplitude 3.102 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 56.2 1.1 Search (2048X64) 2.993 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 72.2 2.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 3.6 1.3 Inc. seg. avg. 4.952 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 3.8 2.3 Inc. frq. avg. 3.043 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

t: az 65.6 el 48.4 pa -81.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) -379.845 -123.979 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/tu...130A7B Output file: /Exps/c192a/v2/1234/No0041/tu.W.243.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, tu
KVNTN - KVNUS, fgroup W, pol RR

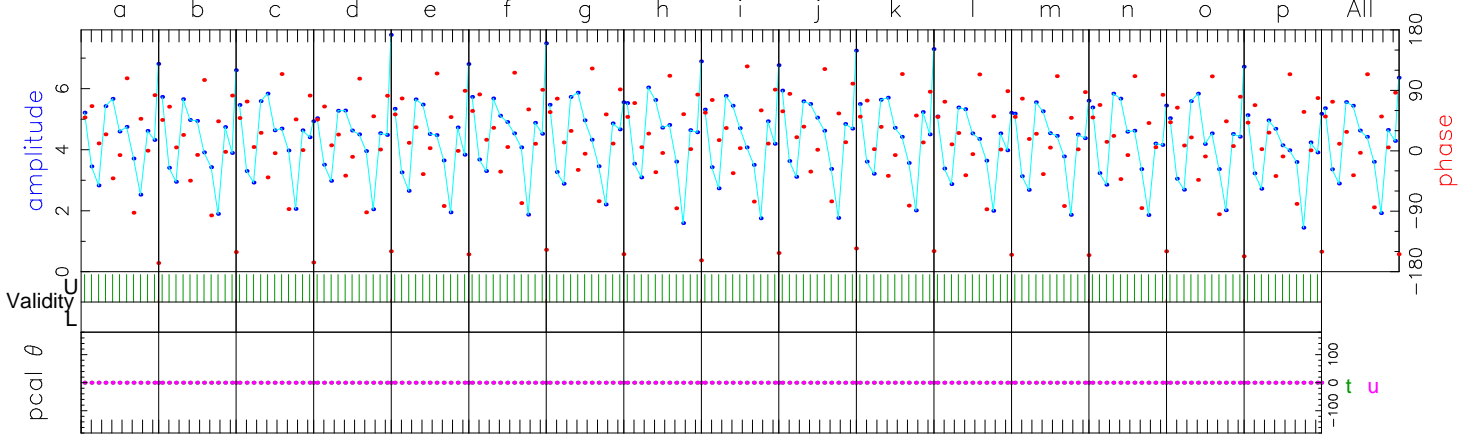


Fringe quality 5

SNR 148.1
Int time 419.840
Amp 2.643
Phase 28.0
PFD 0.0e+00
Delays (us)
SBD 0.003680
MBD 0.003683
Fringe rate (Hz)
-0.013321
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061808
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

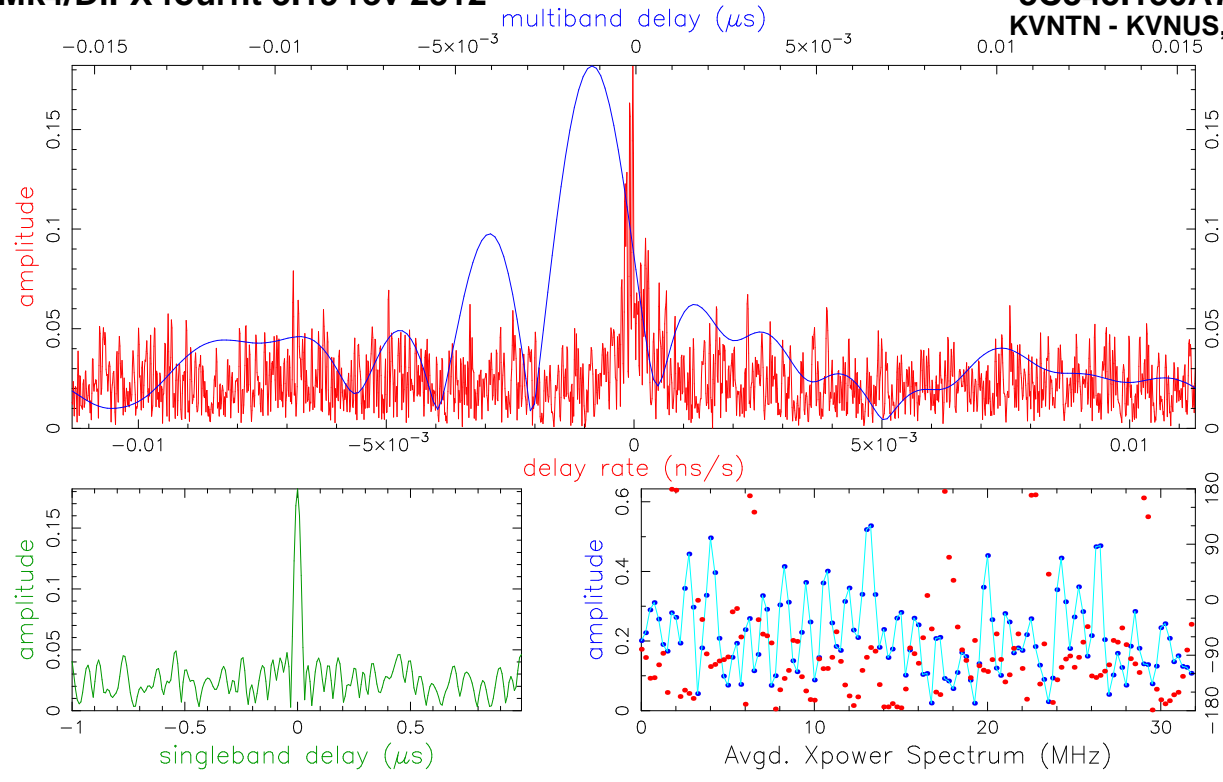


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Phase	28.0				
t	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	Ampl.	2.6				
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	129.5				
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used					
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs					
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC					
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		PC amp					
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
																		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-6.86516060572E+02															Apriori delay (usec)	-6.86519743969E+02	Resid mbdelay (usec)	3.68340E-03	+/-	7.3E-06
Sband delay (usec)			-6.86516063469E+02															Apriori clock (usec)	1.9282120E+01	Resid sbdelay (usec)	3.68050E-03	+/-	1.2E-04
Phase delay (usec)			-6.86519743066E+02															Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	9.02503E-07	+/-	2.5E-08
Delay rate (us/s)			5.12313214938E-02															Apriori rate (us/s)	5.12314761415E-02	Resid rate (us/s)	-1.54648E-07	+/-	1.0E-10
Total phase (deg)					-240.4													Apriori accel (us/s/s)	1.41132908190E-06	Resid phase (deg)	28.0	+/-	0.8

ph/seg (deg) 56.2 1.3 Theor. Amplitude 2.643 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 72.5 2.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 4.7 1.5 Inc. seg. avg. 4.208 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 3.8 2.7 Inc. frq. avg. 2.595 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 t: az 65.6 el 48.4 pa -81.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) -379.845 -123.979 ion window (TEC) 0.00 0.00 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/tu...130A7B Output file: /Exps/c192a/v2/1234/No0041/tu.W.260.130A7B

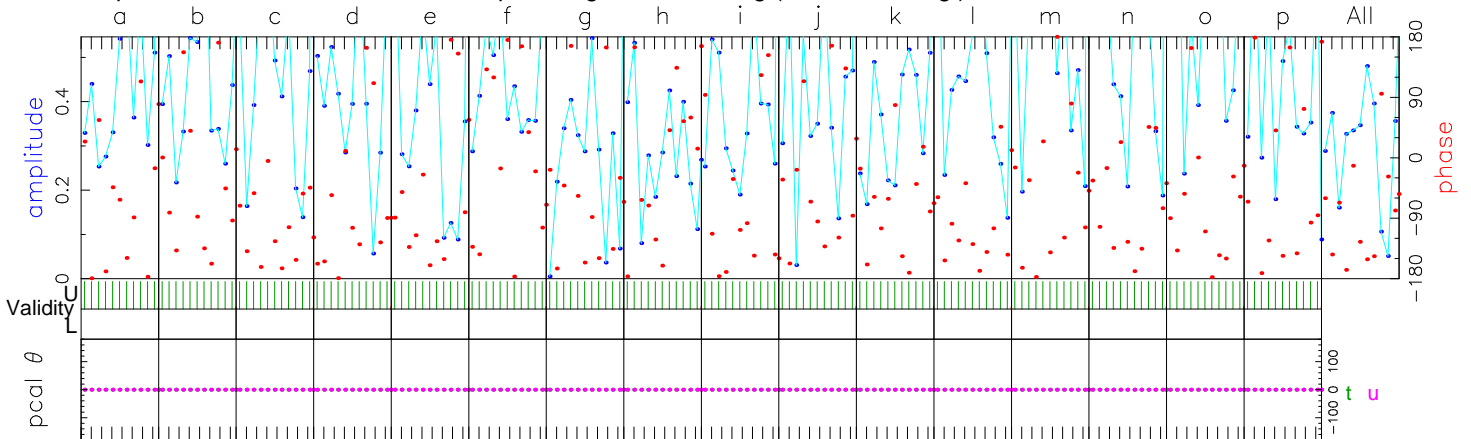
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, tu
KVNTN - KVNUS, fgroup W, pol LR



Fringe quality 9
SNR 10.2
Int time 419.840
Amp 0.182
Phase -116.4
PFD 7.9e-16
Delays (us)
SBD -0.000951
MBD -0.001202
Fringe rate (Hz)
-0.002288
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061813
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

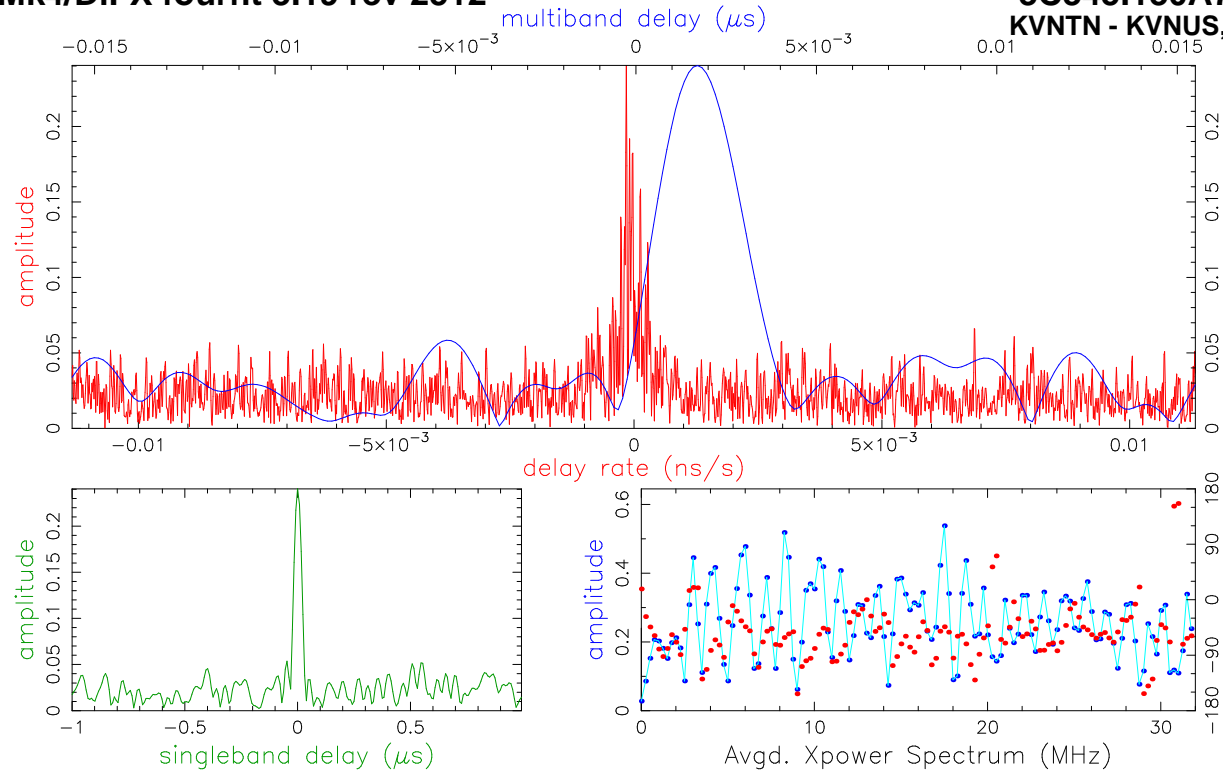


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-122.1	-107.9	-94.2	-124.4	-100.6	-164.8	-118.3	137.2	-156.1	-141.3	-82.7	-112.2	-87.9	-68.5	-119.1	-139.9	Phase	-116.4
	0.1	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.1	0.2	0.4	0.3	Ampl.	0.2
	76.7	17.7	129.4	128.8	122.6	35.8	192.9	26.4	106.3	128.9	192.9	129.3	57.9	44.5	128.1	129.8	Sbd box	128.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
t	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	-6.86520946425E+02		Apriori delay (usec)		-6.86519743969E+02		Resid mbdelay (usec)		-1.20246E-03		+/-		1.1E-04					
Sband delay (usec)	-6.86520694469E+02		Apriori clock (usec)		1.9282120E+01		Resid sbdelay (usec)		-9.50500E-04		+/-		1.7E-03					
Phase delay (usec)	-6.86519747723E+02		Apriori clockrate (us/s)		-1.9999998E-07		Resid phdelay (usec)		-3.75459E-06		+/-		3.6E-07					
Delay rate (us/s)	5.12314495769E-02		Apriori rate (us/s)		5.12314761415E-02		Resid rate (us/s)		-2.65645E-08		+/-		1.5E-09					
Total phase (deg)			-24.8		Apriori accel (us/s/s)		1.41132908190E-06		Resid phase (deg)				-116.4		+/-		11.2	

RMS Theor. Amplitude 0.182 +/- 0.018
ph/seg (deg) 69.6 19.4 Search (2048X64) 0.170 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 93.6 33.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 39.3 22.4 Inc. seg. avg. 0.279 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 47.4 39.2 Inc. frq. avg. 0.190 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
t: az 65.6 el 48.4 pa -81.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) -379.845 -123.979 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/tu...130A7B Output file: /Exps/c192a/v2/1234/No0041/tu.W.278.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, tu
KVNTN - KVNUS, fgroup W, pol RL

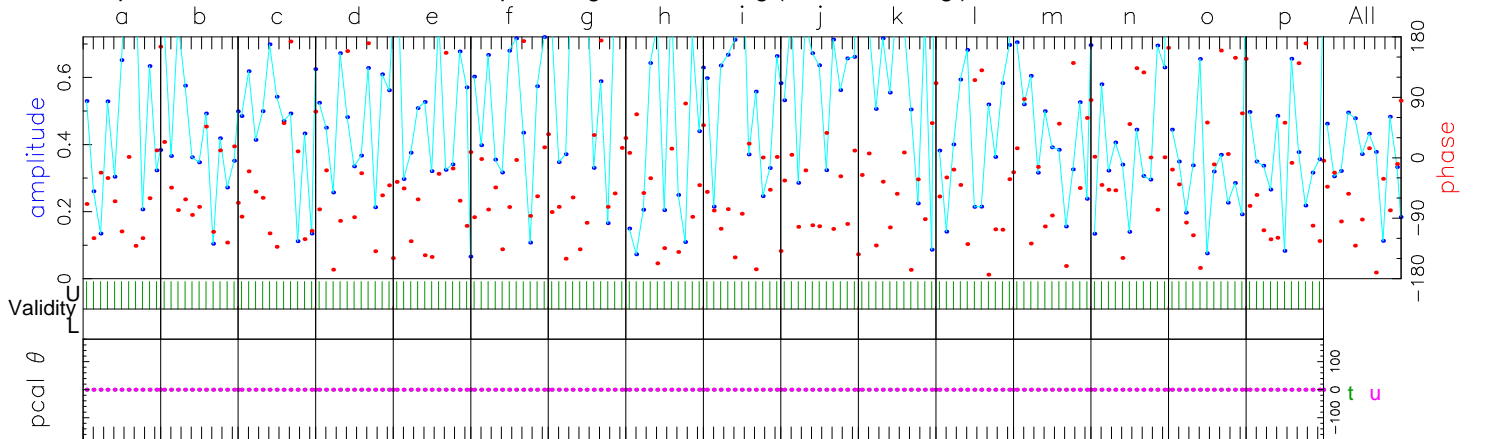


Fringe quality 9

SNR 13.5
Int time 419.840
Amp 0.240
Phase -64.7
PFD 1.3e-32
Delays (us)
SBD 0.000583
MBD 0.001704
Fringe rate (Hz) -0.013421
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061817
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-64.5	-35.4	-86.6	-88.2	-69.6	-51.0	-77.5	-57.9	-77.3	-52.2	-48.8	-80.8	-23.6	-37.9	-100.1	-93.2		Phase	-64.7				
	0.3	0.3	0.2	0.2	0.3	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.1	0.2	0.0	0.2		Ampl.	0.2				
	129.3	129.7	127.9	129.1	128.6	129.4	128.5	98.6	129.8	129.1	128.7	130.3	194.6	182.0	209.0	11.1		Sbd box	129.1				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used					
t	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000		PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
tu	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC					
t	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-6.86518040103E+02															Apriori delay (usec)	-6.86519743969E+02	Resid mbdelay (usec)	1.70387E-03	+/-	8.0E-05
Sband delay (usec)			-6.86519161469E+02															Apriori clock (usec)	1.9282120E+01	Resid sbdelay (usec)	5.82500E-04	+/-	1.3E-03
Phase delay (usec)			-6.86519746055E+02															Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	-2.08636E-06	+/-	2.7E-07
Delay rate (us/s)			5.12313203325E-02															Apriori rate (us/s)	5.12314761415E-02	Resid rate (us/s)	-1.55809E-07	+/-	1.1E-09
Total phase (deg)																		Apriori accel (us/s/s)	1.41132908190E-06	Resid phase (deg)	-64.7	+/-	8.5

RMS Theor. Amplitude 0.240 +/- 0.018
 ph/seg (deg) 53.8 14.7 Search (2048X64) 0.235
 amp/seg (%) 72.7 25.7 Interp. 0.000
 ph/frq (deg) 23.3 17.0 Inc. seg. avg. 0.366
 amp/frq (%) 41.5 29.7 Inc. frq. avg. 0.242

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): 64
 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite

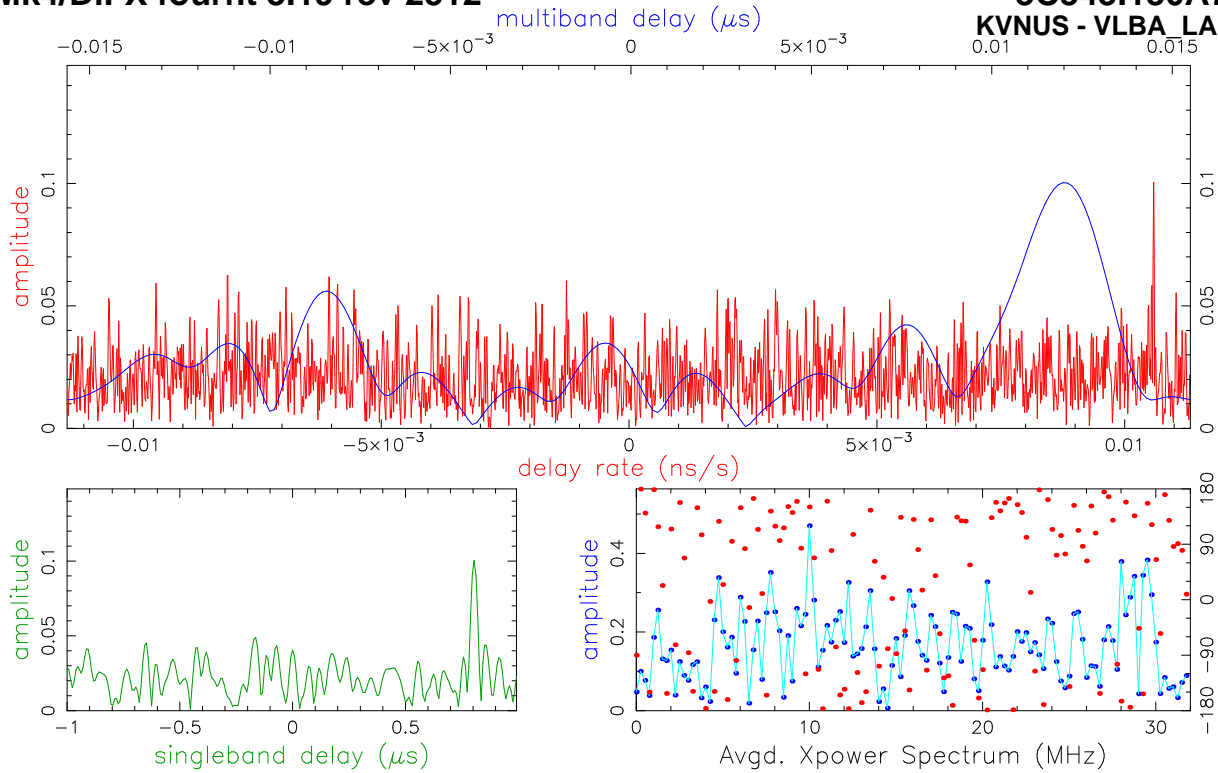
sb window (us) -1.000 1.000
 mb window (us) -0.016 0.016
 dr window (ns/s) -0.011 0.011
 ion window (TEC) 0.00 0.00

t: az 65.6 el 48.4 pa -81.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) -379.845 -123.979 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/tu...130A7B Output file: /Exps/c192a/v2/1234/No0041/tu.W.294.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ul
KVNU - VLBA LA, fgroup W, pol LL

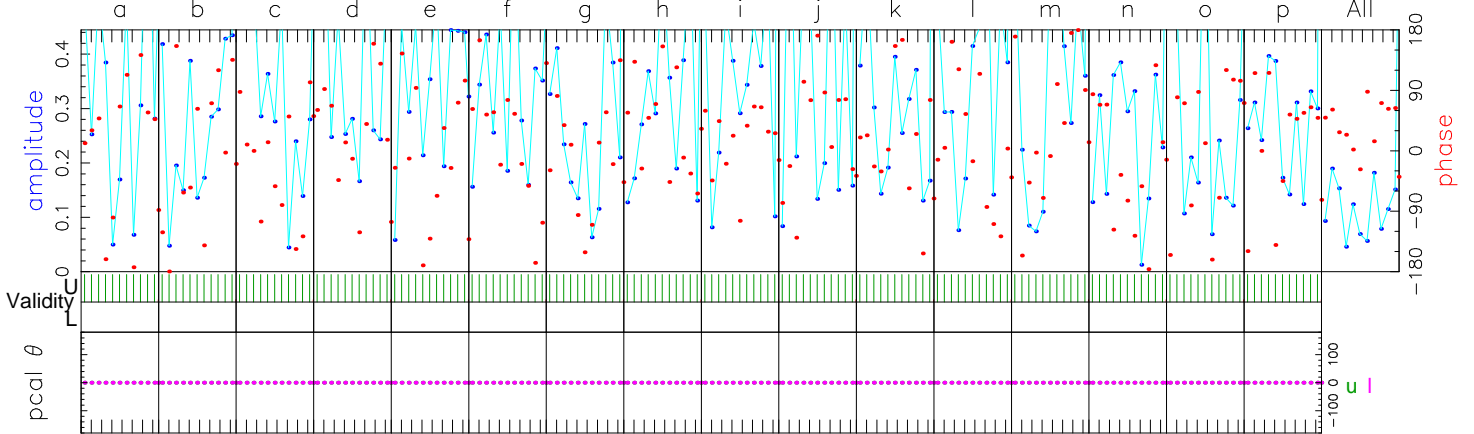


Fringe quality 0

SNR 5.6
Int time 419.829
Amp 0.148
Phase 37.6
PFD 9.9e-01
Delays (us)
SBD 0.804669
MBD 0.012015
Fringe rate (Hz)
0.912830
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061804
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

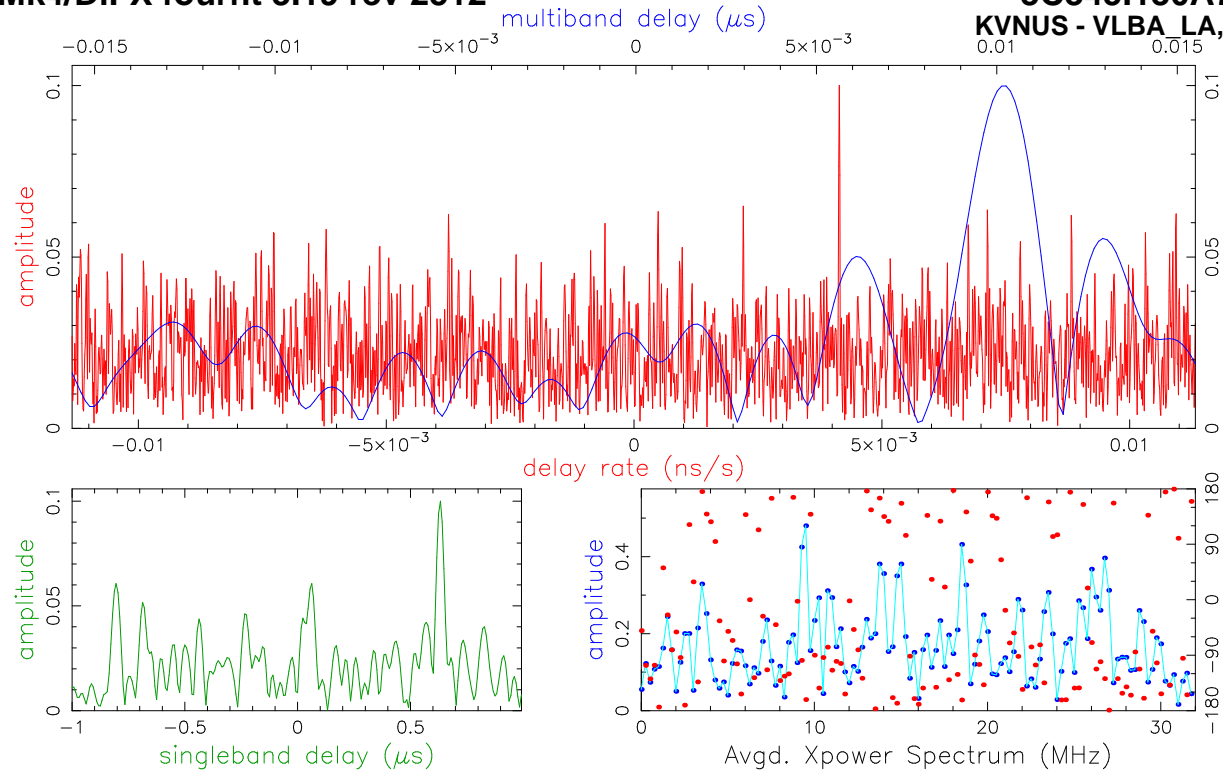


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
UL	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	1000
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	1000
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	1000
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	1000
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	1000
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	W00UL
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	W01UL
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	Tracks	W02UL
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	Tracks	W03UL
Group delay (usec)(sbd)		5.68792010820E+03		Apriori delay (usec)		5.68712684352E+03		Resid mbdelay (usec)		1.20147E-02		+/-	1.9E-04						
Sband delay (usec)		5.68793151252E+03		Apriori clock (usec)		9.1781445E+00		Resid sbdelay (usec)		8.04669E-01		+/-	3.1E-03						
Phase delay (usec)		5.68712684473E+03		Apriori clockrate (us/s)		7.5147196E-07		Resid phdelay (usec)		1.21199E-06		+/-	6.6E-07						
Delay rate (us/s)		1.66535476340E+00		Apriori rate (us/s)		1.66534416634E+00		Resid rate (us/s)		1.05971E-05		+/-	2.7E-09						
Total phase (deg)			145.9	Apriori accel (us/s/s)		-3.04391354251E-05		Resid phase (deg)		37.6		+/-	20.4						

ph/seg (deg) 33.6 35.3 Search (2048X64) 0.098 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 68.8 61.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 52.8 40.7 Inc. seg. avg. 0.147 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 71.0 71.1 Inc. frq. avg. 0.144 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 l: az 298.6 el 32.1 pa 68.3 u,v (fr/asec) -12461.097 -1862.584 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ul..130A7B Output file: /Exps/c192a/v2/1234/No0041/ul.W.244.130A7B

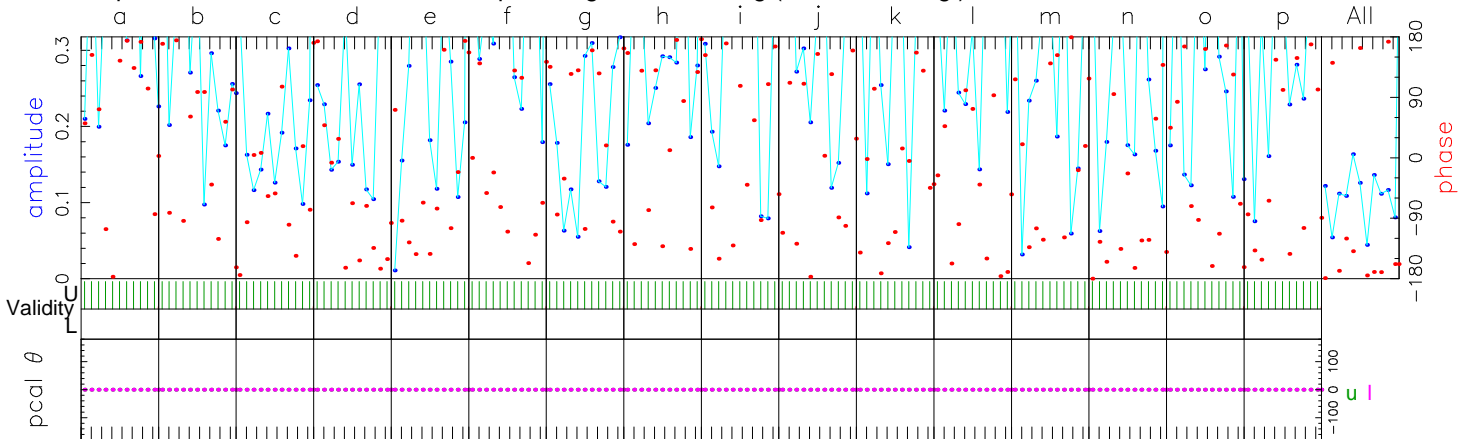
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ul
KVNU5 - VLBA LA, fgroup W, pol RR



Fringe quality 0
SNR 5.6
Int time 419.829
Amp 0.106
Phase -167.9
PFD 9.9e-01
Delays (us)
SBD 0.631819
MBD 0.010180
Fringe rate (Hz) 0.356803
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061807
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	151.6	166.6	-97.3	-148.9	-131.4	-99.1	-153.8	155.5	149.2	173.3	178.6	179.5	-162.4	-152.0	-147.5	173.6	Phase	-167.9
u	0.3	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	Ampl.	0.1
l	209.5	102.1	141.0	158.2	177.1	91.2	217.5	110.3	151.1	213.9	218.3	96.6	214.3	108.7	66.8	132.9	Sbd box	209.9
u:l	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u:l	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
u:l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u:l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u:l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

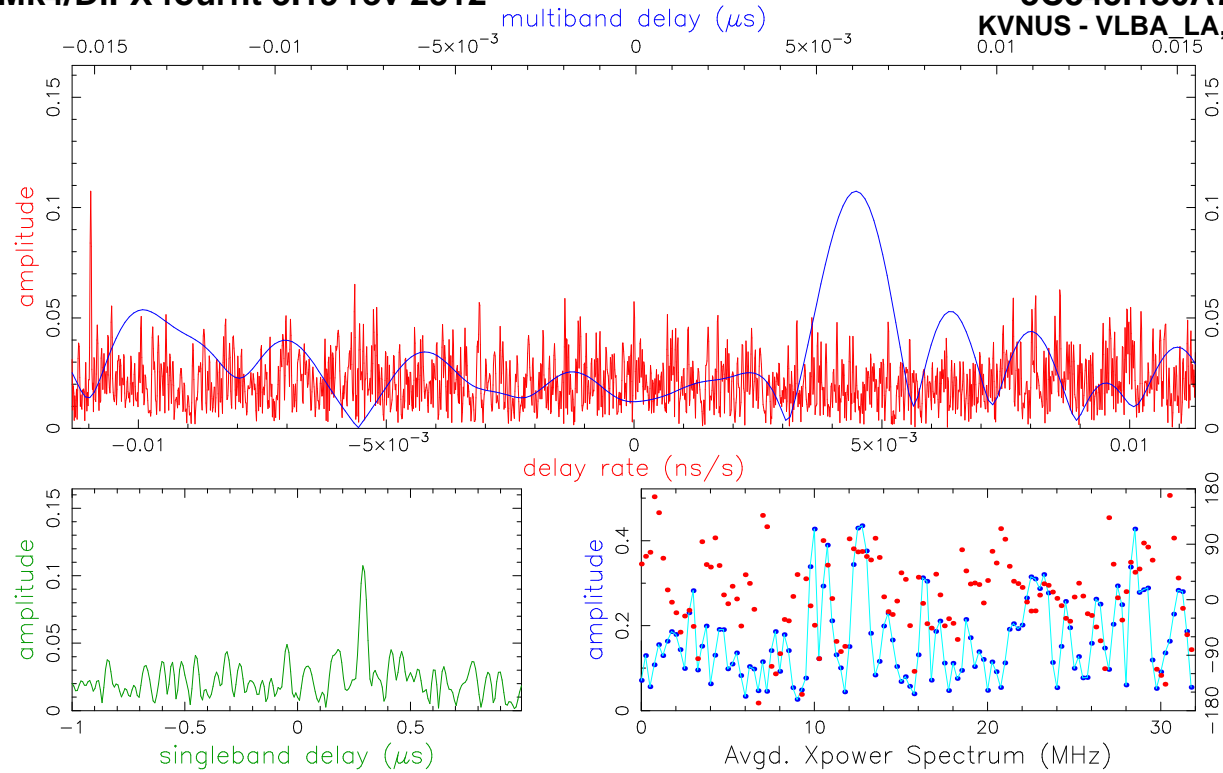
Group delay (usec)(sbd) 5.68776202331E+03 Apriori delay (usec) 5.68712684352E+03 Resid mbdelay (usec) 1.01798E-02 +/- 1.9E-04
 Sband delay (usec) 5.68775866302E+03 Apriori clock (usec) 9.1781445E+00 Resid sbdelay (usec) 6.31819E-01 +/- 3.1E-03
 Phase delay (usec) 5.68712683811E+03 Apriori clockrate (us/s) 7.5147196E-07 Resid phdelay (usec) -5.41513E-06 +/- 6.6E-07
 Delay rate (us/s) 1.66534830847E+00 Apriori rate (us/s) 1.66534416634E+00 Resid rate (us/s) 4.14213E-06 +/- 2.7E-09
 Total phase (deg) -59.6 Apriori accel (us/s/s) -3.04391354251E-05 Resid phase (deg) -167.9 +/- 20.4

ph/seg (deg) RMS Theor. Amplitude 0.106 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 25.5 35.4 Search (2048X64) 0.098 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.7 61.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 36.7 40.8 Inc. seg. avg. 0.097 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 51.0 71.2 Inc. frq. avg. 0.102 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 l: az 298.6 el 32.1 pa 68.3 u,v (fr/asec) -12461.097 -1862.584 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ul..130A7B Output file: /Exps/c192a/v2/1234/No0041/ul.W.257.130A7B

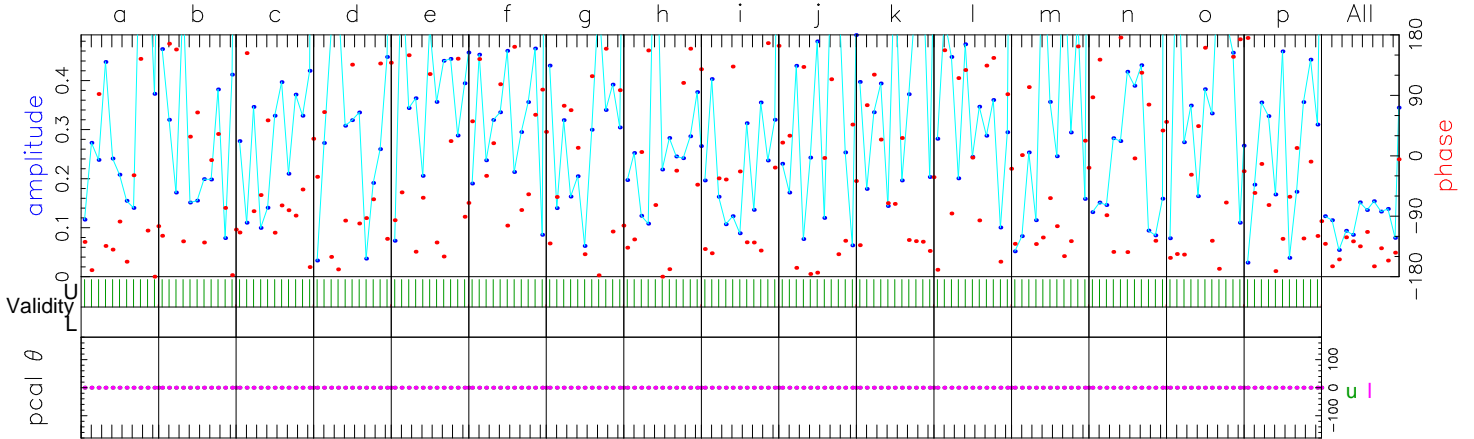
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ul
KVNU5 - VLBA LA, fgroup W, pol LR



Fringe quality 0
SNR 6.0
Int time 419.829
Amp 0.164
Phase -139.9
PFD 3.2e-01
Delays (us)
SBD 0.291030
MBD 0.006085
Fringe rate (Hz)
-0.945533
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061811
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

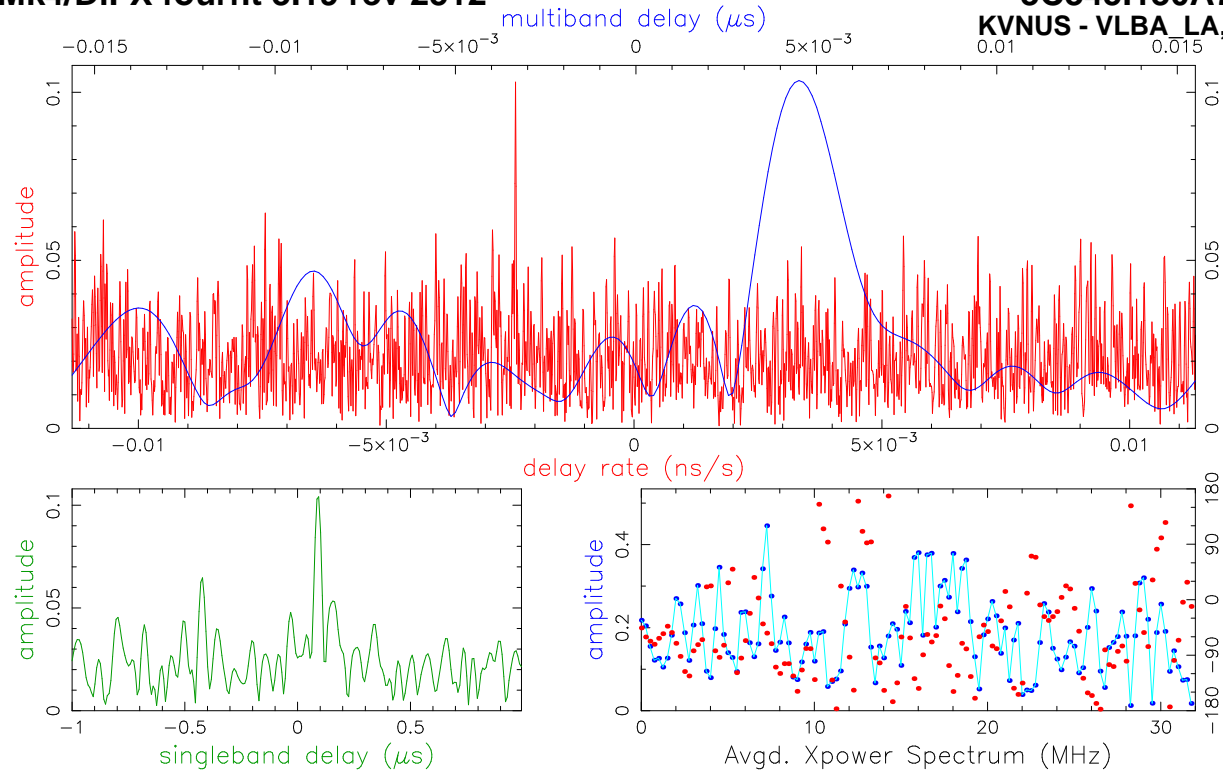


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Phase	-139.9
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	Ampl.	0.2
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	166.3
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	ManI PC	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		PC amp	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids	
																		Tracks	
																		Tracks	
Group delay (usec)(sbd)		5.68741417880E+03							5.68712684352E+03								6.08528E-03	+/-	1.8E-04
Sband delay (usec)		5.68741787402E+03							9.1781445E+00								2.91030E-01	+/-	2.8E-03
Phase delay (usec)		5.68712683901E+03							7.5147196E-07								-4.51258E-06	+/-	6.1E-07
Delay rate (us/s)		1.66533318964E+00							1.66534416634E+00								-1.09767E-05	+/-	2.5E-09
Total phase (deg)									-3.04391354251E-05								-139.9	+/-	18.9

ph/seg (deg) 20.1 32.8 Amplitude 0.164 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 34.7 57.3 Search (2048X64) 0.100 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 61.8 37.9 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 51.3 66.1 Inc. seg. avg. 0.153 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 l: az 298.6 el 32.1 pa 68.3 u,v (fr/asec) -12461.097 -1862.584 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ul..130A7B Output file: /Exps/c192a/v2/1234/No0041/ul.W.272.130A7B simultaneous interpolator

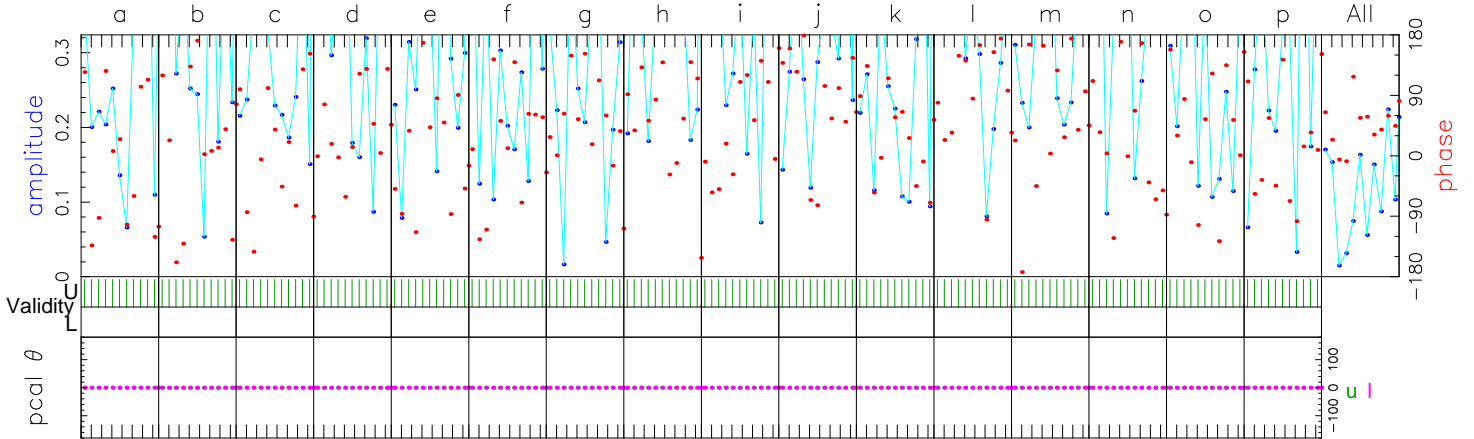
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, ul
KVNU5 - VLBA LA, fgroup W, pol RL



Fringe quality 0
SNR 5.9
Int time 419.829
Amp 0.108
Phase 50.2
PFD 5.2e-01
Delays (us)
SBD 0.090324
MBD 0.004634
Fringe rate (Hz)
-0.206633
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061815
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

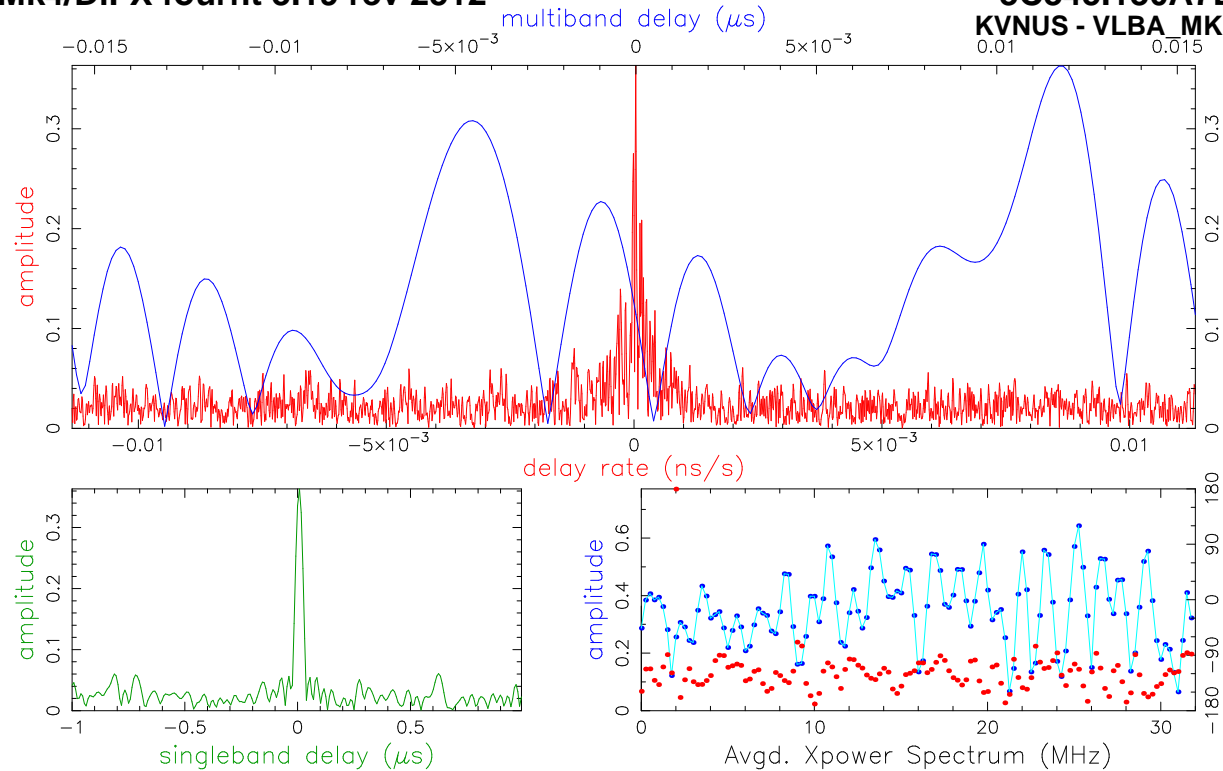


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000		PC freqs
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
u:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids
l	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks
Group delay (usec)(sbd)	5.68722522747E+03			Apriori delay (usec)			5.68712684352E+03			Resid mbdelay (usec)			4.63394E-03			+/-	1.8E-04	
Sband delay (usec)	5.68721716702E+03			Apriori clock (usec)			9.1781445E+00			Resid sbdelay (usec)			9.03235E-02			+/-	2.9E-03	
Phase delay (usec)	5.68712684514E+03			Apriori clockrate (us/s)			7.5147196E-07			Resid phdelay (usec)			1.61813E-06			+/-	6.2E-07	
Delay rate (us/s)	1.66534176753E+00			Apriori rate (us/s)			1.66534416634E+00			Resid rate (us/s)			-2.39881E-06			+/-	2.6E-09	
Total phase (deg)	158.5			Apriori accel (us/s/s)			-3.04391354251E-05			Resid phase (deg)			50.2			+/-	19.3	
ph/seg (deg)	RMS	Theor.	Amplitude	0.108 +/- 0.018			Pcal mode: MANUAL, MANUAL			PC period (AP's) 5, 5								
amp/seg (%)	33.9	33.4	Search (2048X64)	0.098			Pcal rate: 0.000E+00, 0.000E+00 (us/s)			sb window (us)			-1.000 1.000					
ph/frq (deg)	59.6	58.3	Interp.	0.000			Bits/sample: 2x2			SampCntNorm: enabled			mb window (us)		-0.016 0.016			
amp/frq (%)	38.5	38.6	Inc. seg. avg.	0.098			Sample rate(MISamp/s): 64			dr window (ns/s)			-0.011 0.011					
	48.6	67.3	Inc. frq. avg.	0.106			Data rate(Mb/s): 2048			nlags: 128 t_cohere infinite			ion window (TEC)		0.00 0.00			

u: az 68.6 el 51.4 pa -80.7 l: az 298.6 el 32.1 pa 68.3 u,v (fr/asec) -12461.097 -1862.584 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/ul..130A7B Output file: /Exps/c192a/v2/1234/No0041/ul.W.287.130A7B

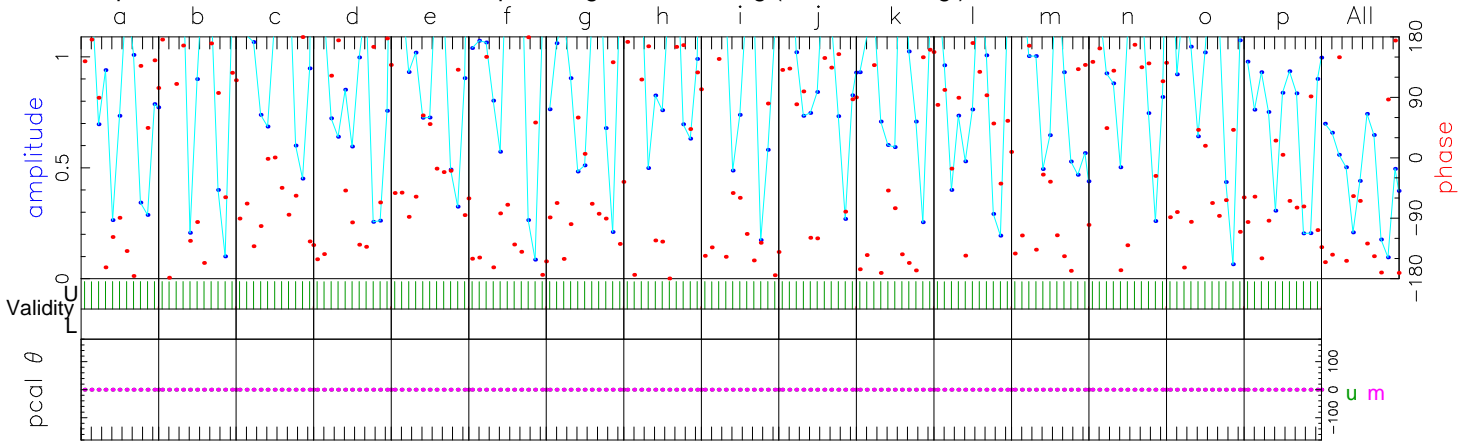
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, um
KVNU5 - VLBA_MK, fgroup W, pol LL



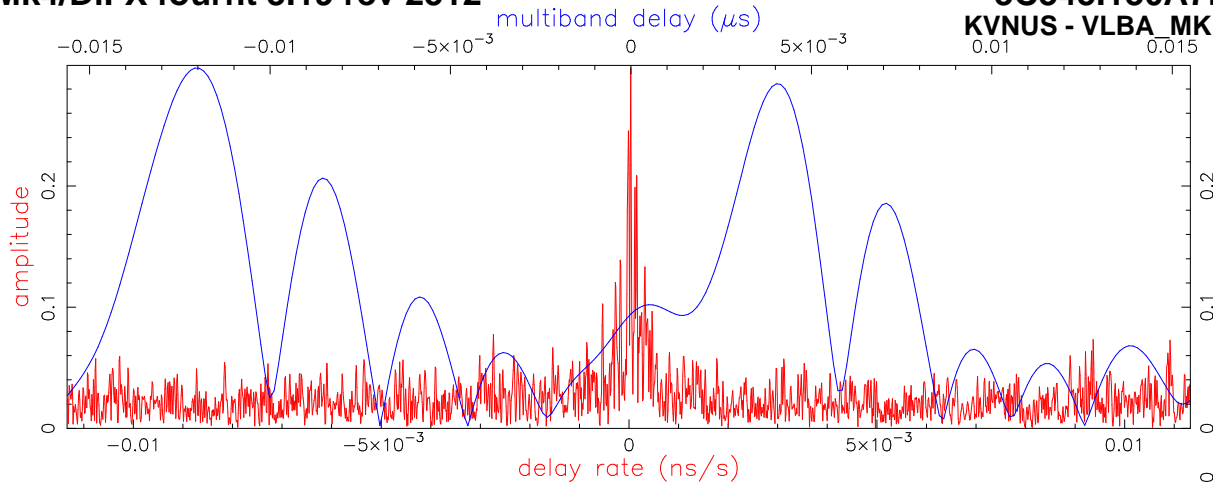
Fringe quality 5
SNR 20.3
Int time 419.111
Amp 0.363
Phase -149.8
PFD 0.0e+00
Delays (us)
SBD 0.007118
MBD 0.011770
Fringe rate (Hz) 0.003060
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061804
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



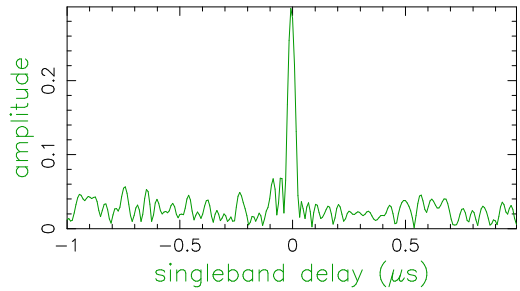
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All						
	177.6	168.4	-77.4	-144.3	-36.7	-142.0	-91.6	166.5	-145.1	136.1	-163.1	94.2	-139.3	148.0	-83.0	-79.7		Phase -149.8						
	0.5	0.8	0.7	0.5	0.7	0.7	0.6	0.8	0.7	0.7	0.7	0.5	0.6	0.6	0.7	0.5		Ampl. 0.6						
	131.6	129.8	130.1	130.1	128.9	129.3	129.4	129.5	129.3	129.7	129.2	129.5	129.8	129.9	130.3	130.9		Sbd box 129.9						
UL	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used						
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs						
m	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase						
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC						
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp						
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids						
m	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks						
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids						
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks						
Group delay (usec)(sbd)			-1.54622595212E+03															Apriori delay (usec)	-1.54623772199E+03	Resid mbdelay (usec)	1.17699E-02	+/-	5.3E-05	
Sband delay (usec)			-1.54623060449E+03																Apriori clock (usec)	5.8621283E+00	Resid sbdelay (usec)	7.11750E-03	+/-	8.5E-04
Phase delay (usec)			-1.54623772682E+03																Apriori clockrate (us/s)	4.0869229E-07	Resid phdelay (usec)	-4.82931E-06	+/-	1.8E-07
Delay rate (us/s)			1.23532888840E+00																Apriori rate (us/s)	1.23532885287E+00	Resid rate (us/s)	3.55221E-08	+/-	7.5E-10
Total phase (deg)																			Apriori accel (us/s/s)	2.57203577631E-05	Resid phase (deg)	-149.8	+/-	5.6

ph/seg (deg) 58.0 9.8 Theor. Amplitude 0.363 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 65.9 17.0 Search (2048X64) 0.358 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 64.8 11.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 82.8 19.7 Inc. seg. avg. 0.468 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 Inc. frq. avg. 0.638 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 u: az 68.6 el 51.4 pa -80.7 m: az 317.4 el 59.9 pa 123.3 u,v (fr/asec) -9156.820 3441.218 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/um..130A7B Output file: /Exps/c192a/v2/1234/No0041/um.W.245.130A7B

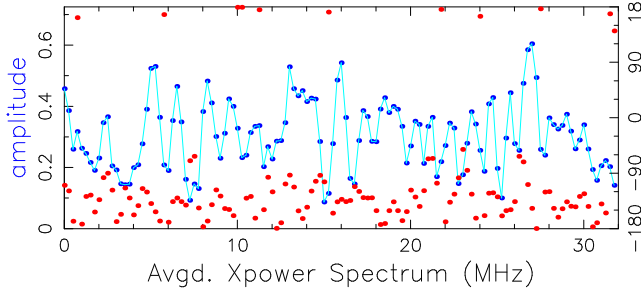


Fringe quality 9

SNR 16.8
Int time 419.112
Amp 0.300
Phase -102.0
PFD 0.0e+00
Delays (us)
SBD -0.005763
MBD -0.012043
Fringe rate (Hz)
0.002959
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

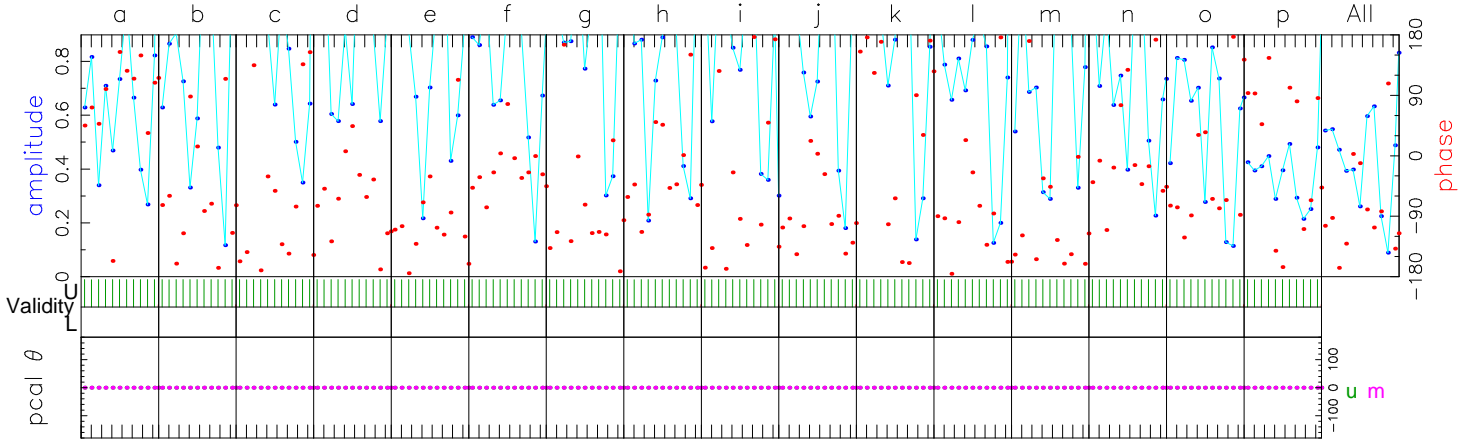


delay rate (ns/s)



Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061809
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Phase	-102.0				
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	Ampl.	0.5				
m	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	128.3				
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used					
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC					
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		PC amp					
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids					
																		Tracks					
																		Tracks					
Group delay (usec)(sbd)			-1.54624976515E+03															Apriori delay (usec)	-1.54623772199E+03	Resid mbdelay (usec)	-1.20432E-02	+/-	6.4E-05
Sband delay (usec)			-1.54624348499E+03															Apriori clock (usec)	5.8621283E+00	Resid sbdelay (usec)	-5.76300E-03	+/-	1.0E-03
Phase delay (usec)			-1.54623772528E+03															Apriori clockrate (us/s)	4.0869229E-07	Resid phdelay (usec)	-3.28912E-06	+/-	2.2E-07
Delay rate (us/s)			1.23532888722E+00															Apriori rate (us/s)	1.23532885287E+00	Resid rate (us/s)	3.43466E-08	+/-	9.1E-10
Total phase (deg)																		Apriori accel (us/s/s)	2.57203577631E-05	Resid phase (deg)	-102.0	+/-	6.8

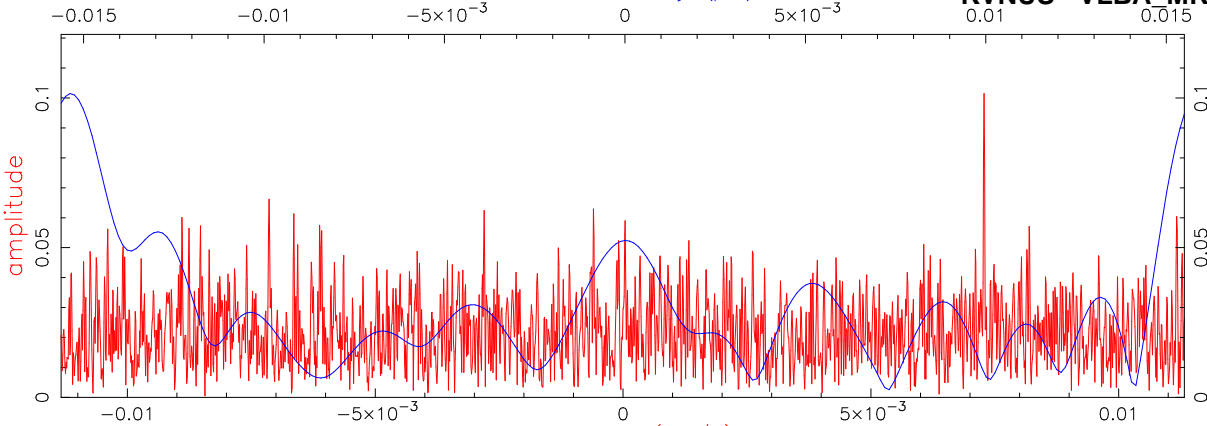
	RMS	Theor.	Amplitude	0.300 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	66.7	11.8	Search (2048X64)	0.294	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	69.4	20.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	73.2	13.7	Inc. seg. avg.	0.417	Sample rate(MISamp/s): 64	dr window (ns/s) -0.011 0.011
amp/frq (%)	82.7	23.9	Inc. frq. avg.	0.504	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 m: az 317.4 el 59.9 pa 123.3 u,v (fr/asec) -9156.820 3441.218 simultaneous interpolator

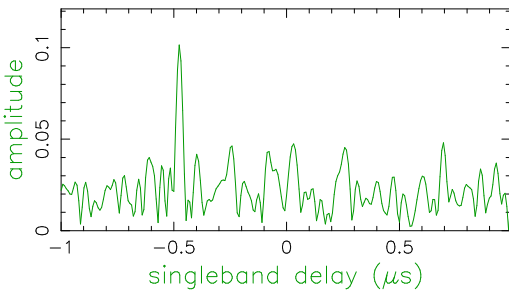
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/um..130A7B Output file: /Exps/c192a/v2/1234/No0041/um.W.263.130A7B

multiband delay (μ s)

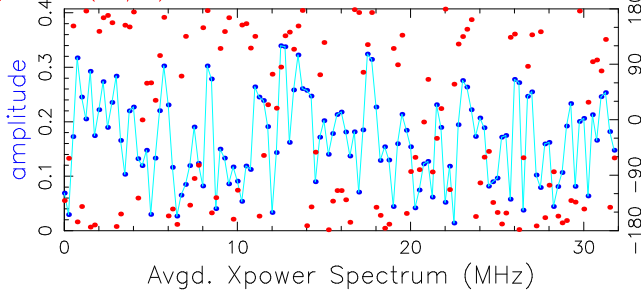
Fringe quality 0



SNR 5.7
Int time 419.112
Amp 0.121
Phase -138.4
PFD 9.6e-01
Delays (us)
SBD -0.475693
MBD 0.015889
Fringe rate (Hz)
0.628403
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

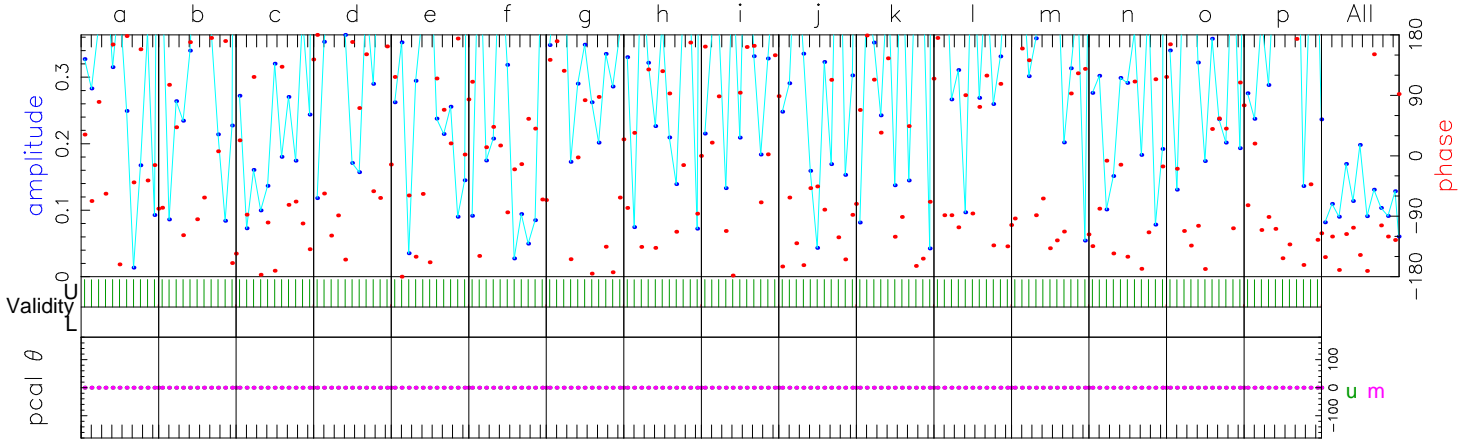


delay rate (ns/s)



Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061814
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-88.1	-113.9	-125.1	-123.8	171.2	-40.0	157.2	-164.2	139.6	-117.4	179.5	-134.1	-138.4	-123.6	-127.6	-119.3		Phase -138.4					
	0.0	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.3		Ampl. 0.1					
	193.0	128.0	199.0	118.5	142.9	229.9	247.5	164.9	126.3	51.9	156.9	14.3	98.2	41.4	33.6	66.6		Sbd box 68.1					
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used					
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000		PC freqs					
m	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase					
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000							
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Tracks					
																		Chan ids					
																		Tracks					
Group delay (usec)(sbd)			-1.54672183312E+03															Apriori delay (usec)	-1.54623772199E+03	Resid mbdelay (usec)	1.58889E-02	+/-	1.9E-04
Sband delay (usec)			-1.54671341449E+03															Apriori clock (usec)	5.8621283E+00	Resid sbdelay (usec)	-4.75693E-01	+/-	3.0E-03
Phase delay (usec)			-1.54623772646E+03															Apriori clockrate (us/s)	4.0869229E-07	Resid phdelay (usec)	-4.46265E-06	+/-	6.5E-07
Delay rate (us/s)			1.23533614801E+00															Apriori rate (us/s)	1.23532885287E+00	Resid rate (us/s)	7.29514E-06	+/-	2.7E-09
Total phase (deg)					-272.5													Apriori accel (us/s/s)	2.57203577631E-05	Resid phase (deg)	-138.4	+/-	20.1

ph/seg (deg) 33.2 34.9
amp/seg (%) 38.1 60.9
ph/frq (deg) 46.5 40.3
amp/frq (%) 62.8 70.3

RMS Theor. Amplitude 0.121 +/- 0.021
Search (2048X64) 0.099
Interp. 0.000
Inc. seg. avg. 0.119
Inc. frq. avg. 0.125

Group delay (usec)(sbd) -1.54672183312E+03
Sband delay (usec) -1.54671341449E+03
Phase delay (usec) -1.54623772646E+03
Delay rate (us/s) 1.23533614801E+00
Total phase (deg) -272.5

Apriori delay (usec) -1.54623772199E+03
Apriori clock (usec) 5.8621283E+00
Apriori clockrate (us/s) 4.0869229E-07
Apriori rate (us/s) 1.23532885287E+00
Apriori accel (us/s/s) 2.57203577631E-05

Resid mbdelay (usec) 1.58889E-02 +/- 1.9E-04
Resid sbdelay (usec) -4.75693E-01 +/- 3.0E-03
Resid phdelay (usec) -4.46265E-06 +/- 6.5E-07
Resid rate (us/s) 7.29514E-06 +/- 2.7E-09
Resid phase (deg) -138.4 +/- 20.1

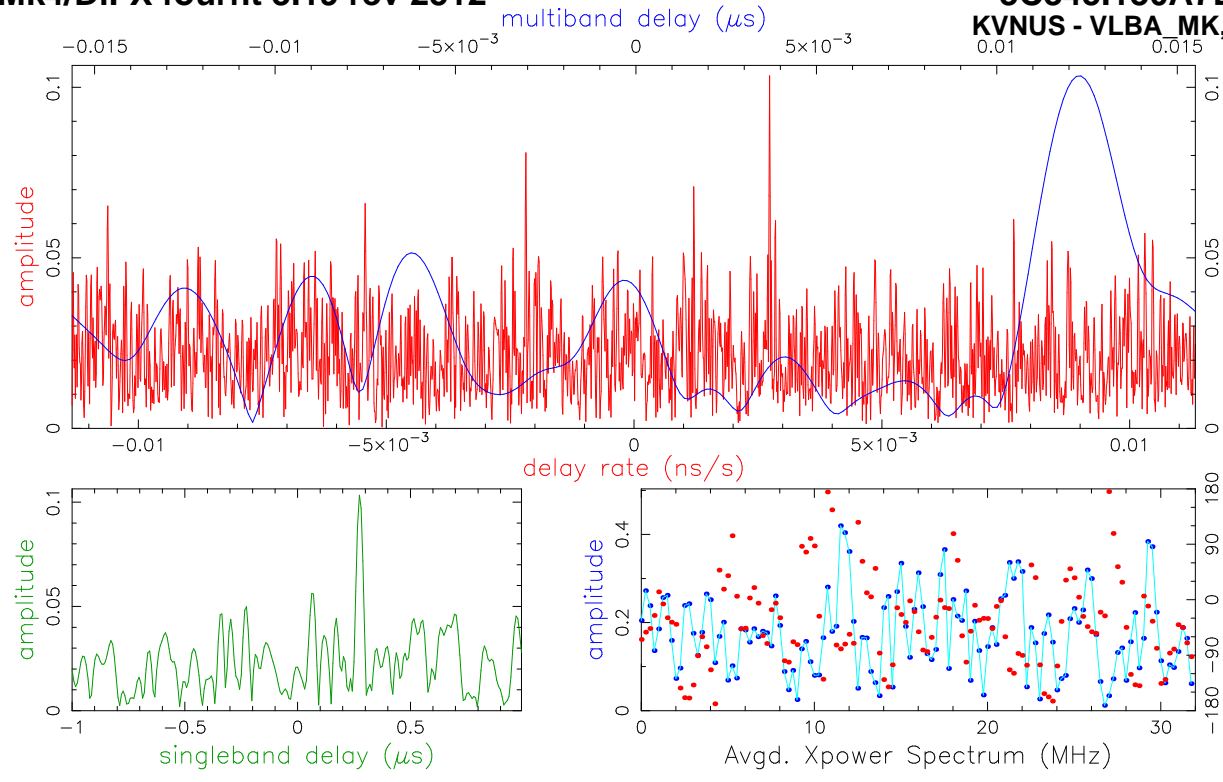
PCal mode: MANUAL, MANUAL PC period (AP's) 5, 5
PCal rate: 0.000E+00, 0.000E+00 (us/s)
Bits/sample: 2x2 SampCntNorm: enabled
Sample rate(MISamp/s): 64
Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite

sb window (us) -1.000 1.000
mb window (us) -0.016 0.016
dr window (ns/s) -0.011 0.011
ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 m: az 317.4 el 59.9 pa 123.3 u,v (fr/asec) -9156.820 3441.218 simultaneous interpolator

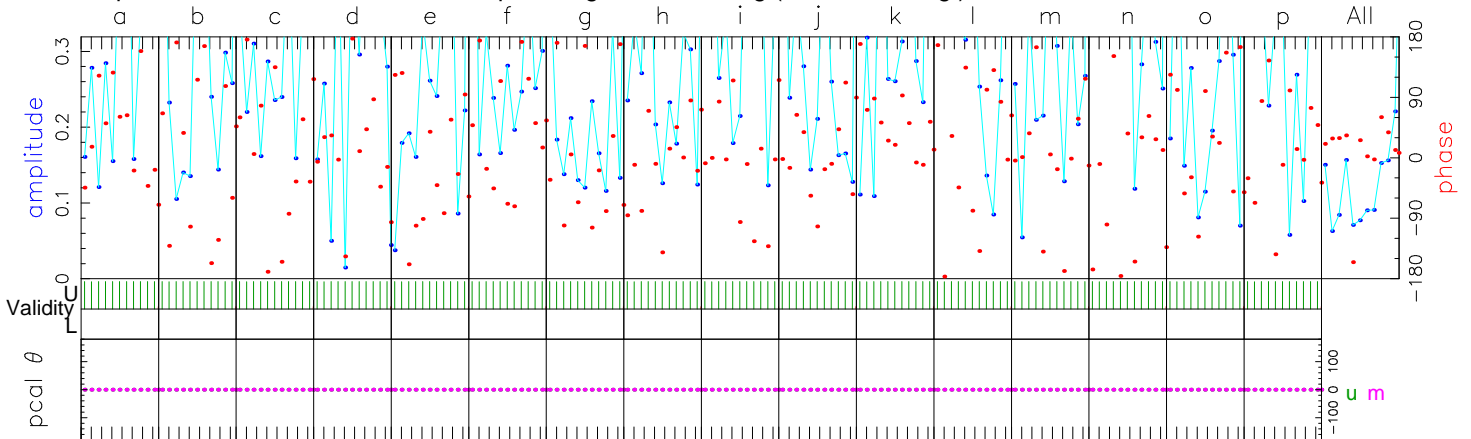
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, um
KVNU - VLBA_MK, fgroup W, pol RL



Fringe quality 0
SNR 5.8
Int time 419.111
Amp 0.106
Phase 25.4
PFD 7.8e-01
Delays (us)
SBD 0.275108
MBD 0.012299
Fringe rate (Hz) 0.235651
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061818
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

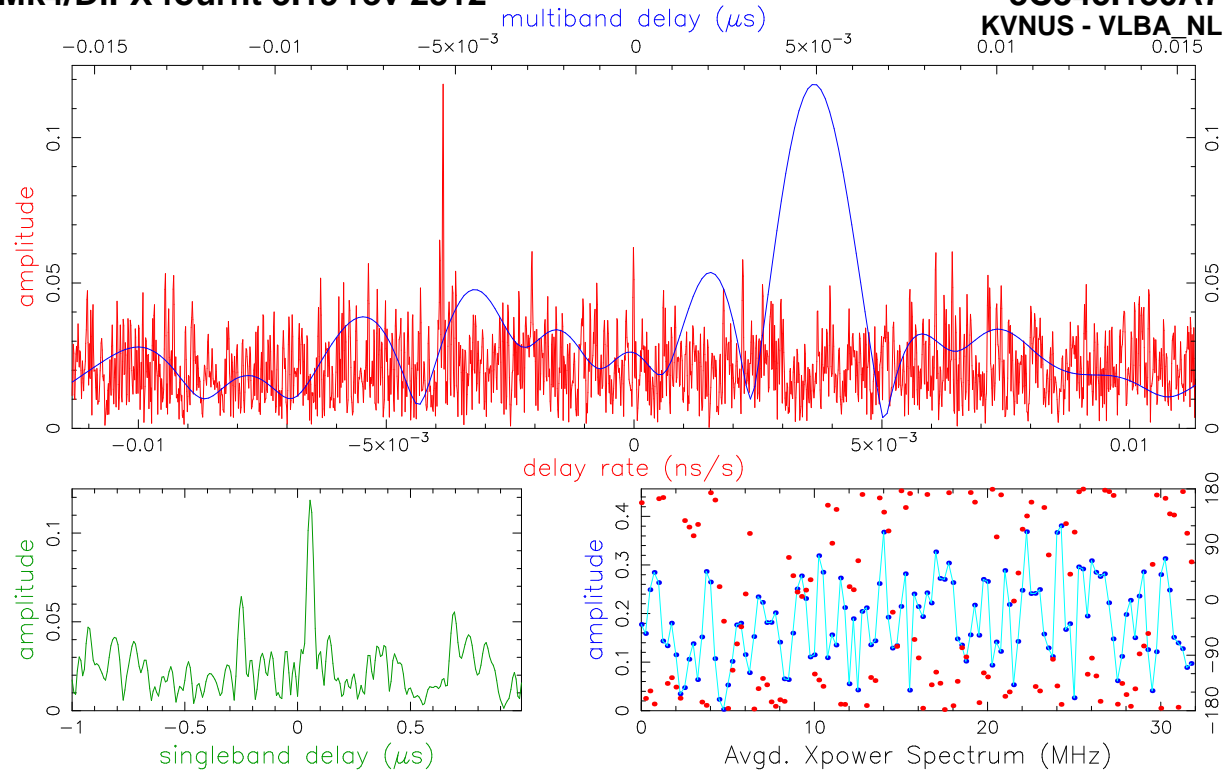


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Phase	25.4
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	Ampl.	0.1
m	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	164.2
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Mani PC	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids	
																		Tracks	
																		Tracks	
Group delay (usec)(sbd)	-1.54597542330E+03			Apriori delay (usec)			-1.54623772199E+03			Resid mbdelay (usec)			1.22987E-02			+/- 1.9E-04			
Sband delay (usec)	-1.54596261399E+03			Apriori clock (usec)			5.8621283E+00			Resid sbdelay (usec)			2.75108E-01			+/- 3.0E-03			
Phase delay (usec)	-1.54623772118E+03			Apriori clockrate (us/s)			4.0869229E-07			Resid phdelay (usec)			8.18681E-07			+/- 6.4E-07			
Delay rate (us/s)	1.23533158855E+00			Apriori rate (us/s)			1.23532885287E+00			Resid rate (us/s)			2.73568E-06			+/- 2.6E-09			
Total phase (deg)	-108.7			Apriori accel (us/s/s)			2.57203577631E-05			Resid phase (deg)			25.4			+/- 19.7			

ph/seg (deg) 56.4 34.1 Search (2048X64) 0.101 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 54.7 59.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 49.9 39.4 Inc. seg. avg. 0.106 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 74.6 68.8 Inc. frq. avg. 0.102 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
u: az 68.6 el 51.4 pa -80.7 m: az 317.4 el 59.9 pa 123.3 u,v (fr/asec) -9156.820 3441.218 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/um..130A7B Output file: /Exps/c192a/v2/1234/No0041/um.W.298.130A7B

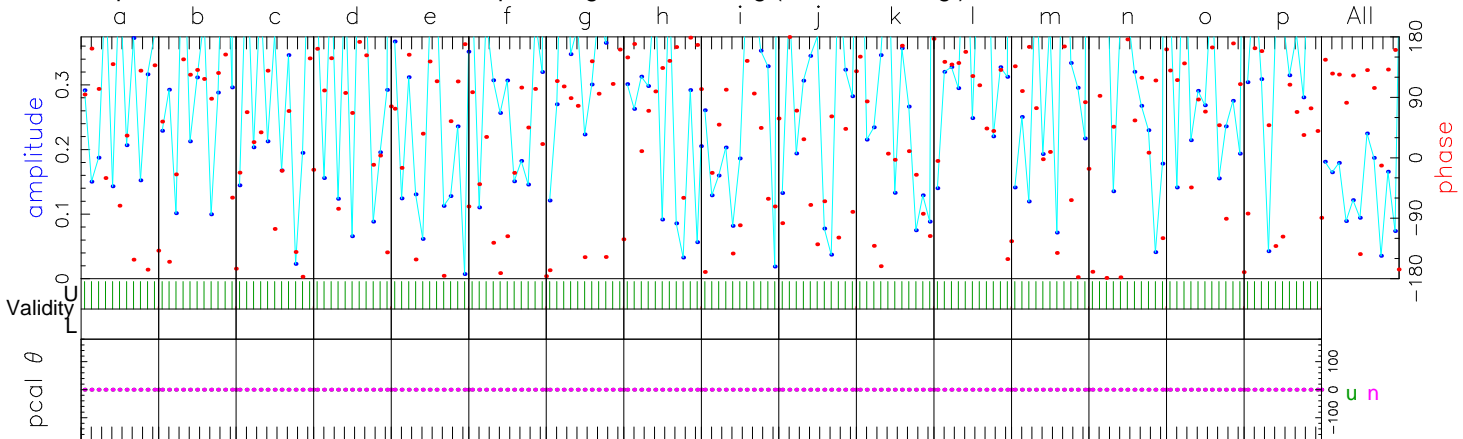
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, un
KVNU - VLBA_NL, fgroup W, pol LL



Fringe quality 0
SNR 6.7
Int time 419.831
Amp 0.125
Phase 129.9
PFD 7.5e-03
Delays (us)
SBD 0.056408
MBD 0.004921
Fringe rate (Hz)
-0.332174
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061804
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

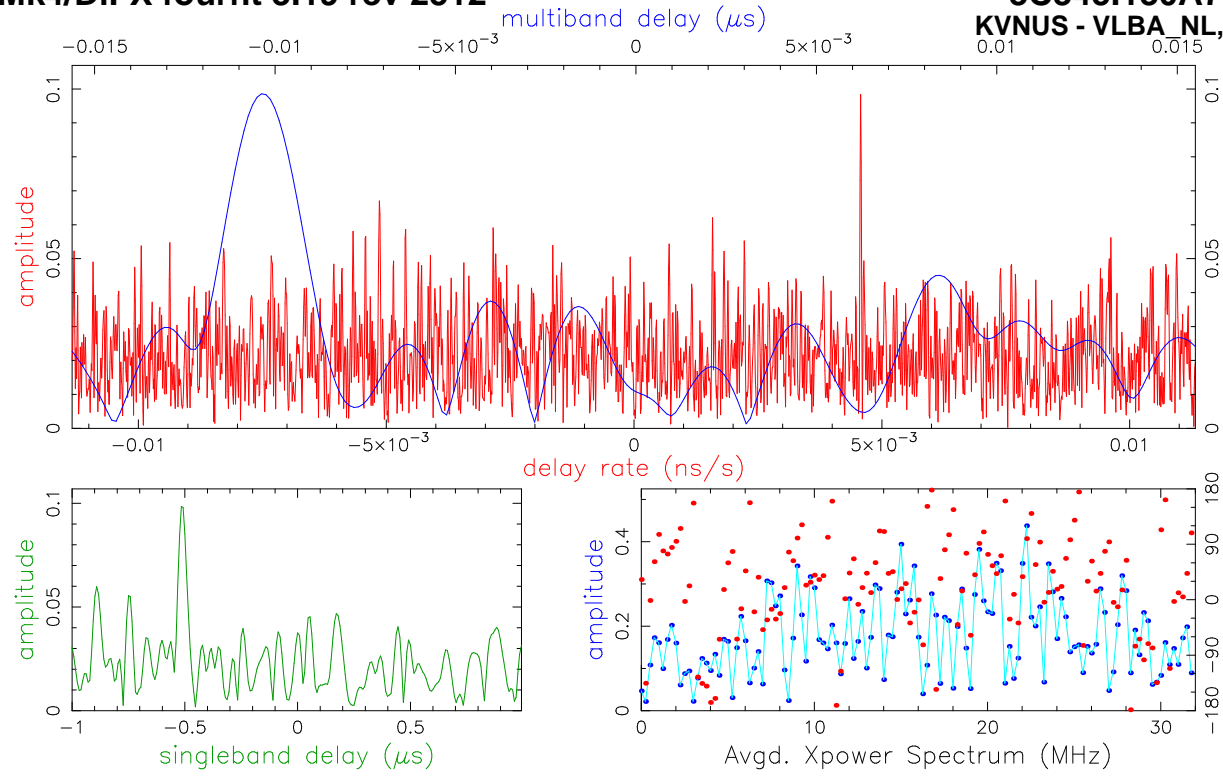


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	129.9
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0.1
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0.1
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	136.2
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	136.2
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	136.2
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	136.2
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		
Group delay (usec)(sbd)	7.90850510136E+03			Apriori delay (usec)			7.90843768062E+03			Resid mbdelay (usec)			4.92075E-03			+/- 1.6E-04		
Sband delay (usec)	7.90849408862E+03			Apriori clock (usec)			-1.8054058E+01			Resid sbdelay (usec)			5.64080E-02			+/- 2.6E-03		
Phase delay (usec)	7.90843768481E+03			Apriori clockrate (us/s)			2.6577647E-07			Resid phdelay (usec)			4.18899E-06			+/- 5.5E-07		
Delay rate (us/s)	1.61468043900E+00			Apriori rate (us/s)			1.61468429521E+00			Resid rate (us/s)			-3.85621E-06			+/- 2.3E-09		
Total phase (deg)	60.9			Apriori accel (us/s/s)			-4.82712856259E-05			Resid phase (deg)			129.9			+/- 17.2		

ph/seg (deg) 53.8 29.8 Amplitude 0.125 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 53.6 52.0 Search (2048X64) 0.115 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.4 34.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 57.6 60.0 Inc. seg. avg. 0.129 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 n: az 301.9 el 25.2 pa 55.5 u,v (fr/asec) -12115.463 -3587.335 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/un..130A7B Output file: /Exps/c192a/v2/1234/No0041/un.W.246.130A7B simultaneous interpolator

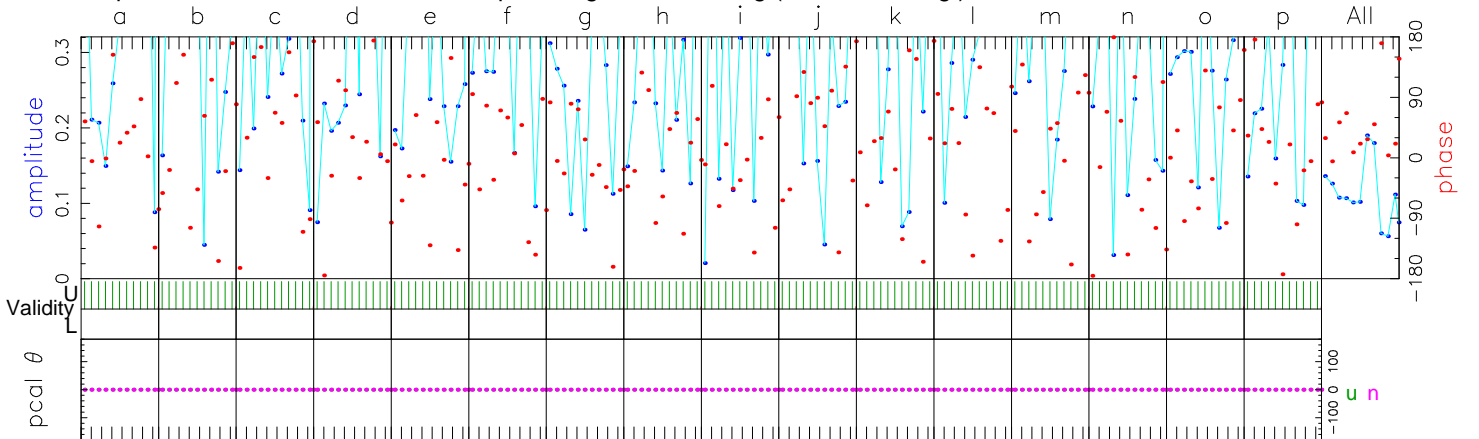
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, un
KVNU5 - VLBA_NL, fgroup W, pol RR



Fringe quality 0
SNR 5.6
Int time 419.831
Amp 0.107
Phase 31.6
PFD 9.9e-01
Delays (us)
SBD -0.512043
MBD -0.010263
Fringe rate (Hz) 0.394629
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build 2020:083:122906
2020:093:061809
2020:014:135814
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

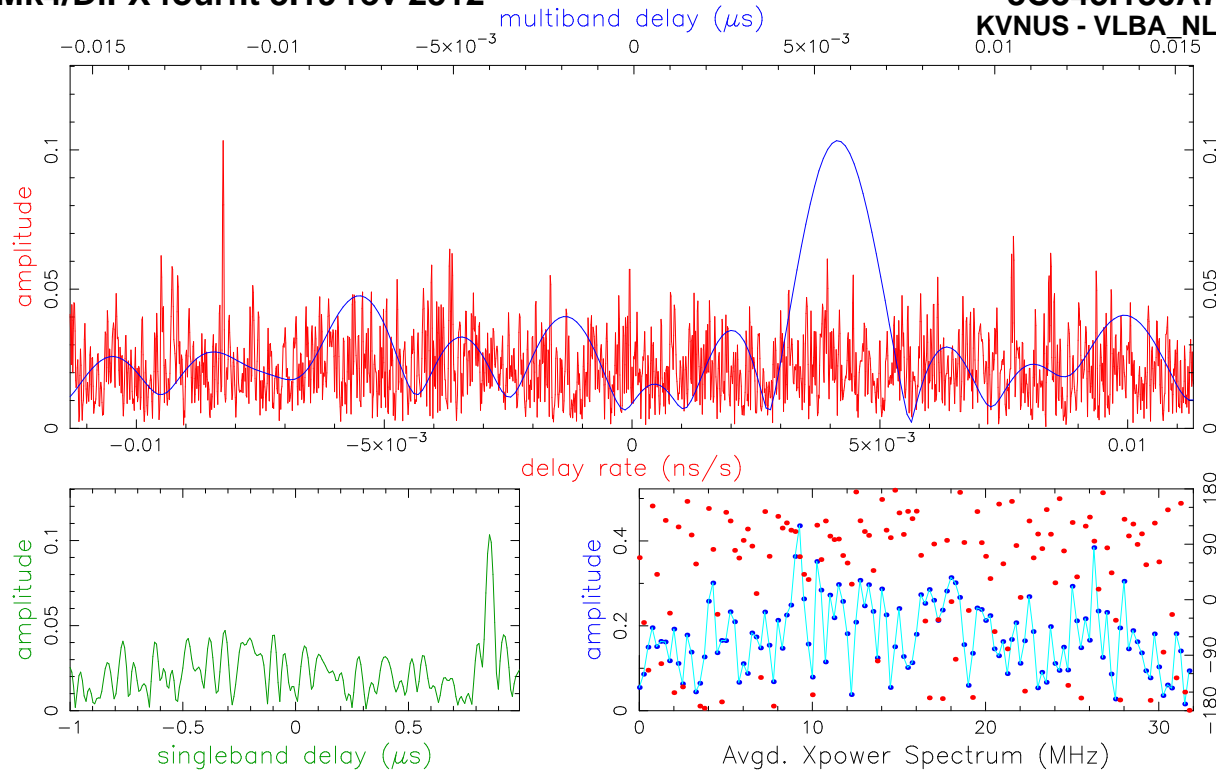


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
33.3	148.5	109.6	23.1	-8.7	44.6	-6.3	53.0	21.5	42.1	15.4	74.1	123.5	22.3	14.8	26.9	Phase	31.6	
0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.2	Ampl.	0.1	
180.3	240.5	15.8	5.0	142.7	64.5	33.4	112.5	153.1	133.8	65.9	245.2	206.8	250.9	241.7	150.0	Sbd box	63.5	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	7.90792741776E+03			Apriori delay (usec)			7.90843768062E+03			Resid mbdelay (usec)			-1.02629E-02			+/- 1.9E-04		
Sband delay (usec)	7.90792563812E+03			Apriori clock (usec)			-1.8054058E+01			Resid sbdelay (usec)			-5.12043E-01			+/- 3.1E-03		
Phase delay (usec)	7.90843768164E+03			Apriori clockrate (us/s)			2.6577647E-07			Resid phdelay (usec)			1.01955E-06			+/- 6.6E-07		
Delay rate (us/s)	1.61468887646E+00			Apriori rate (us/s)			1.61468429521E+00			Resid rate (us/s)			4.58125E-06			+/- 2.7E-09		
Total phase (deg)	322.6			Apriori accel (us/s/s)			-4.82712856259E-05			Resid phase (deg)			31.6			+/- 20.5		

ph/seg (deg) 47.7 35.5 Search (2048X64) 0.097 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 42.9 61.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 49.7 40.9 Inc. seg. avg. 0.104 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 54.6 71.4 Inc. frq. avg. 0.101 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
u: az 68.6 el 51.4 pa -80.7 n: az 301.9 el 25.2 pa 55.5 u,v (fr/asec) -12115.463 -3587.335 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/un..130A7B Output file: /Exps/c192a/v2/1234/No0041/un.W.262.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, un
KVNU5 - VLBA_NL, fgroup W, pol LR

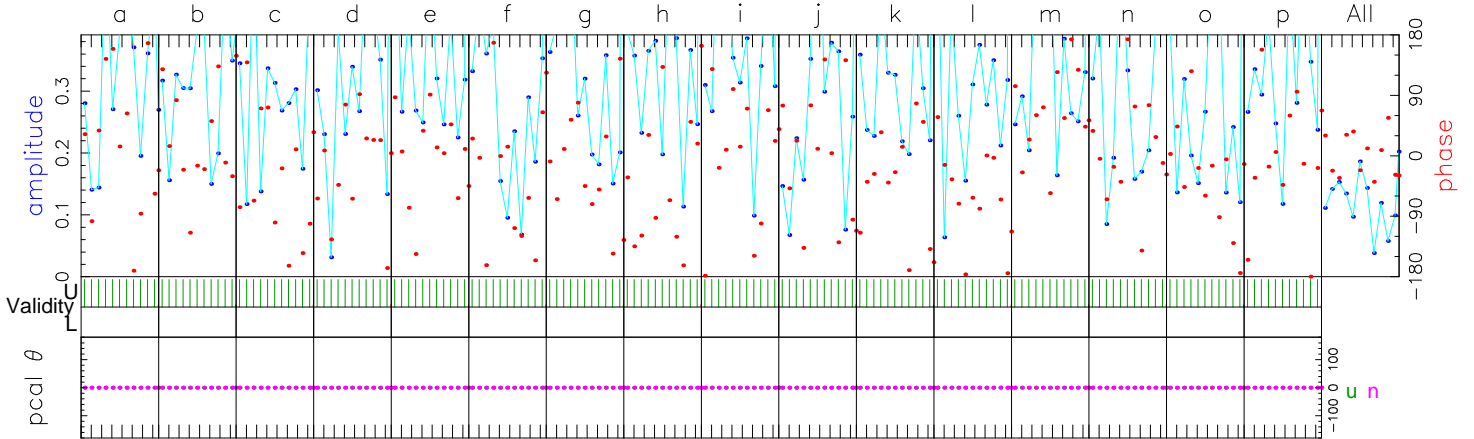


Fringe quality 0

SNR 5.8
Int time 419.831
Amp 0.130
Phase -0.4
PFD 7.9e-01
Delays (us)
SBD 0.861101
MBD 0.005657
Fringe rate (Hz)
-0.711371
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061813
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
111.7	0.0	-69.6	4.9	27.8	-29.8	-3.3	-70.9	39.0	14.2	-5.5	-40.8	54.4	0.9	-39.7	10.4	10.4	Phase	-0.4
0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	Ampl.	0.1
17.1	41.5	100.5	158.2	245.9	245.8	120.5	122.3	172.6	65.1	221.8	139.4	189.7	132.8	137.5	100.9	100.9	Sbd box	239.2
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)		7.90928708728E+03				Apriori delay (usec)		7.90843768062E+03				Resid mbdelay (usec)		5.65667E-03			+/-	1.9E-04
Sband delay (usec)		7.90929878162E+03				Apriori clock (usec)		-1.8054058E+01				Resid sbdelay (usec)		8.61101E-01			+/-	3.0E-03
Phase delay (usec)		7.90843768060E+03				Apriori clockrate (us/s)		2.6577647E-07				Resid phdelay (usec)		-1.29879E-08			+/-	6.4E-07
Delay rate (us/s)		1.61467603690E+00				Apriori rate (us/s)		1.61468429521E+00				Resid rate (us/s)		-8.25831E-06			+/-	2.6E-09
Total phase (deg)				290.6		Apriori accel (us/s/s)		-4.82712856259E-05				Resid phase (deg)		-0.4			+/-	19.7

ph/seg (deg) RMS Theor. Amplitude 0.130 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 31.5 34.2 Search (2048X64) 0.102 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 41.8 59.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 47.9 39.4 Inc. seg. avg. 0.125 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 51.4 68.8 Inc. frq. avg. 0.132 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 n: az 301.9 el 25.2 pa 55.5 u,v (fr/asec) -12115.463 -3587.335 simultaneous interpolator

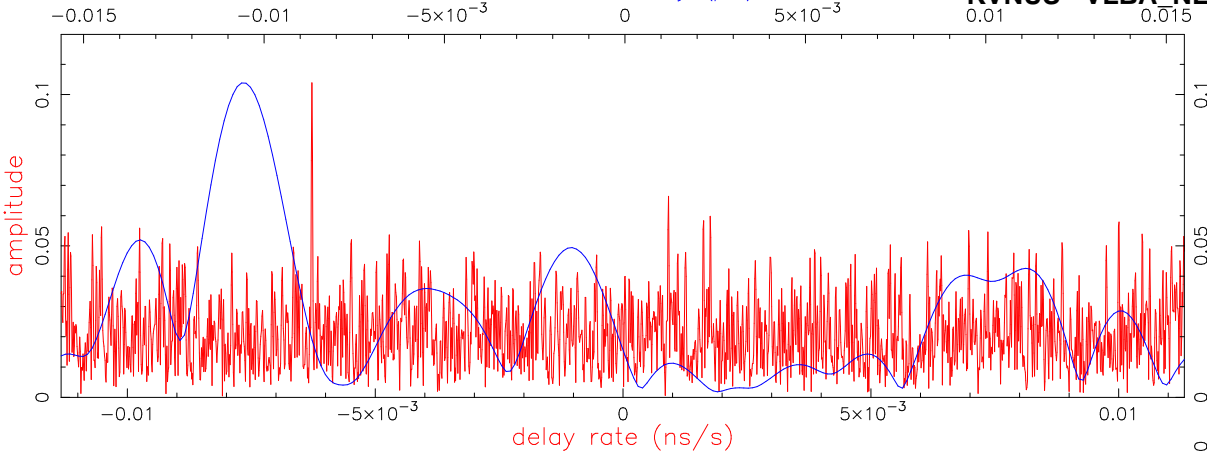
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/un..130A7B Output file: /Exps/c192a/v2/1234/No0041/un.W.277.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

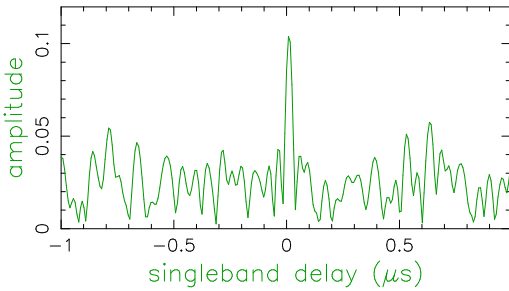
3C345.130A7B, No0041, un
KVNU5 - VLBA_NL, fgroup W, pol RL

multiband delay (μ s)

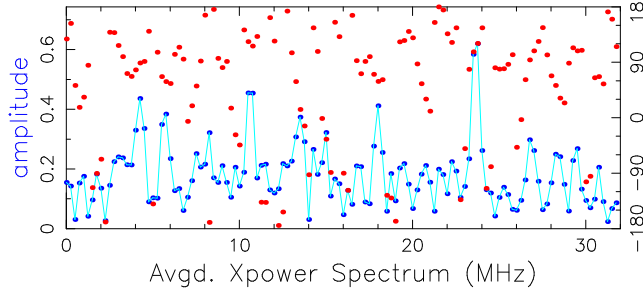
Fringe quality 0



SNR 5.9
Int time 419.831
Amp 0.120
Phase -139.7
PFD 6.0e-01
Delays (us)
SBD 0.010616
MBD -0.010518
Fringe rate (Hz)
-0.541178
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

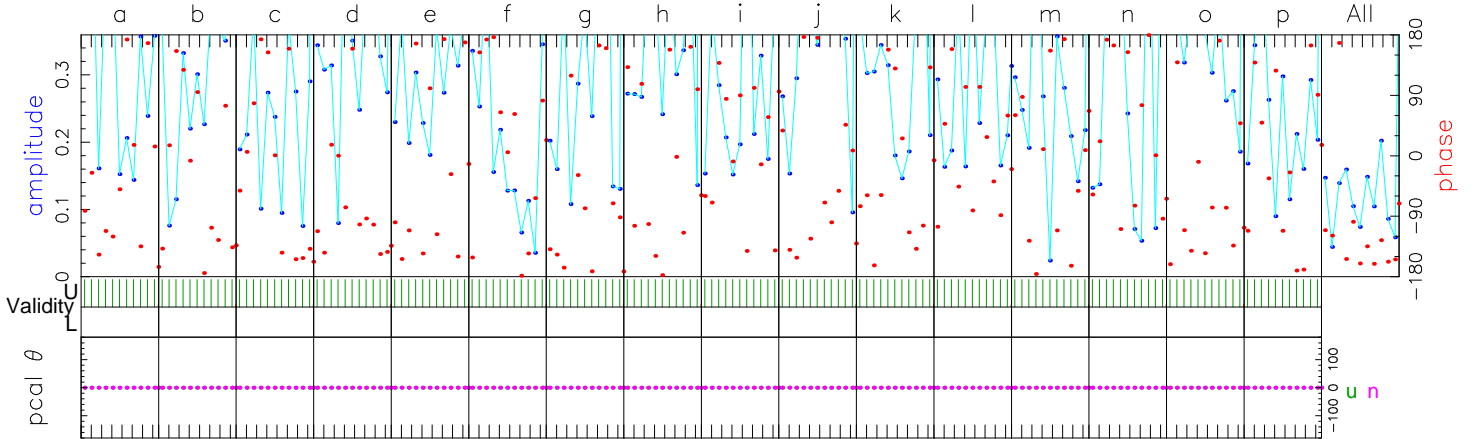


delay rate (ns/s)



Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061817
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-94.5	-158.9	173.5	-110.8	-147.5	144.8	-162.1	-161.9	-140.0	-120.0	-112.7	-30.7	-177.2	-147.0	-134.8	145.1		Phase -139.7
	0.2	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.1		Ampl. 0.1
	1.5	126.2	21.0	130.2	168.4	50.4	46.7	112.0	166.4	93.9	231.3	67.3	51.7	217.6	196.8	77.0		Sbd box 130.4
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000		PC freqs
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
u:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		Chan ids
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks

Group delay (usec)(sbd) 7.90845841260E+03 Apriori delay (usec) 7.90843768062E+03 Resid mbdelay (usec) -1.05180E-02 +/- 1.8E-04
 Sband delay (usec) 7.90844829712E+03 Apriori clock (usec) -1.8054058E+01 Resid sbdelay (usec) 1.06165E-02 +/- 2.9E-03
 Phase delay (usec) 7.90843767611E+03 Apriori clockrate (us/s) 2.6577647E-07 Resid phdelay (usec) -4.50454E-06 +/- 6.3E-07
 Delay rate (us/s) 1.61467801267E+00 Apriori rate (us/s) 1.61468429521E+00 Resid rate (us/s) -6.28254E-06 +/- 2.6E-09
 Total phase (deg) 151.3 Apriori accel (us/s/s) -4.82712856259E-05 Resid phase (deg) -139.7 +/- 19.4

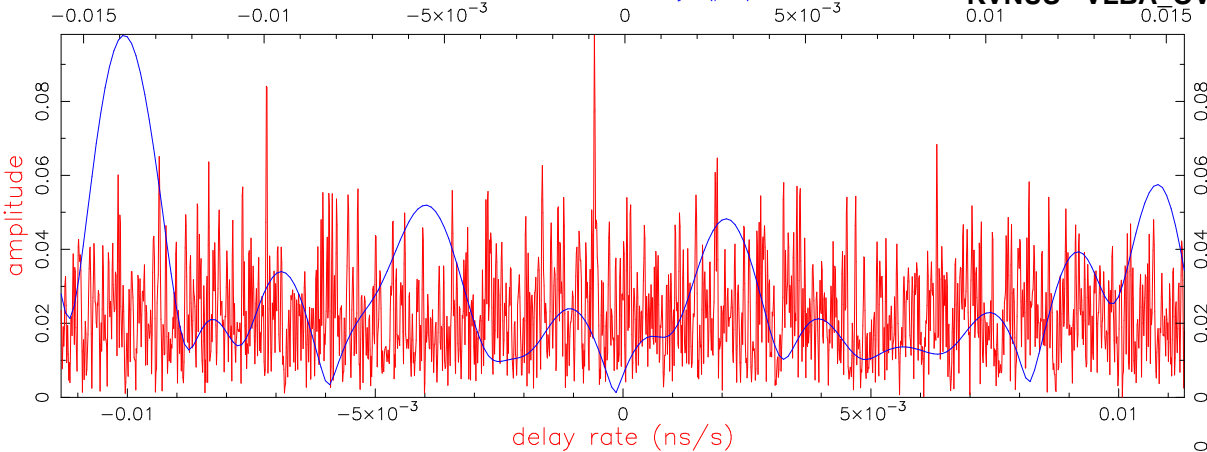
RMS Theor. Amplitude 0.120 +/- 0.020 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 26.8 33.6 Search (2048X64) 0.097 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 52.7 58.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 ph/frq (deg) 48.1 38.8 Inc. seg. avg. 0.114 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 amp/frq (%) 55.3 67.8 Inc. frq. avg. 0.120 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 n: az 301.9 el 25.2 pa 55.5 u,v (fr/asec) -12115.463 -3587.335 simultaneous interpolator

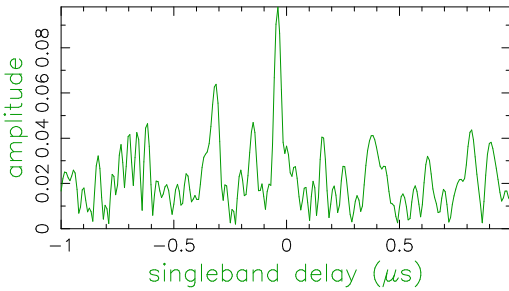
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/un..130A7B Output file: /Exps/c192a/v2/1234/No0041/un.W.293.130A7B

multiband delay (μ s)

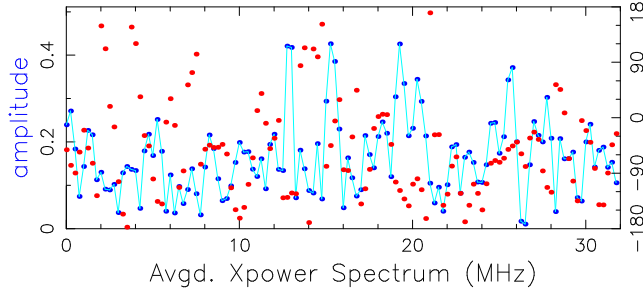
Fringe quality 0



SNR 5.5
Int time 419.826
Amp 0.098
Phase 131.7
PFD 1.0e+00
Delays (us)
SBD -0.039987
MBD -0.013886
Fringe rate (Hz)
-0.049401
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

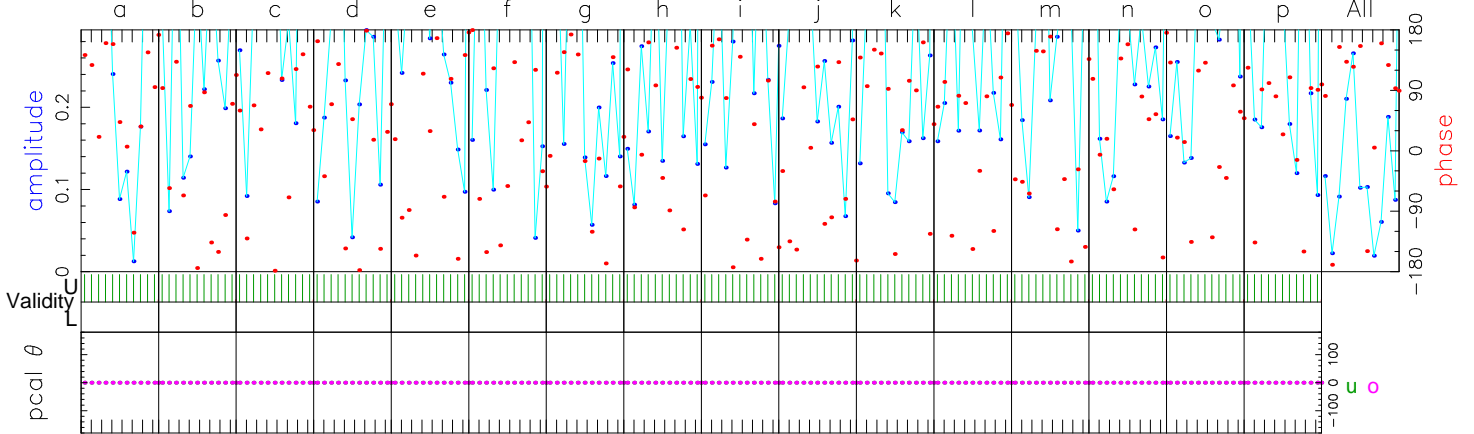


delay rate (ns/s)



Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061806
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
125.6	147.8	100.2	102.5	178.5	-53.8	129.8	133.2	173.2	-169.0	128.9	131.0	-156.1	107.0	88.1	112.6	Phase	131.7	
0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.1	0.1	0.1	0.1	0.1	Ampl.	0.1	
109.8	111.2	55.2	54.3	199.8	35.1	235.9	166.2	39.3	89.2	5.7	217.1	243.8	198.1	214.1	186.4	Sbd box	123.9	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd)	2.88010993153E+03	Apriori delay (usec)	2.88015506749E+03	Resid mbdelay (usec)	-1.38860E-02	+/-	2.0E-04
Sband delay (usec)	2.88011508049E+03	Apriori clock (usec)	-8.2039442E+00	Resid sbdelay (usec)	-3.99870E-02	+/-	3.1E-03
Phase delay (usec)	2.88015507174E+03	Apriori clockrate (us/s)	3.9901898E-07	Resid phdelay (usec)	4.24587E-06	+/-	6.7E-07
Delay rate (us/s)	1.58049833533E+00	Apriori rate (us/s)	1.58049890882E+00	Resid rate (us/s)	-5.73491E-07	+/-	2.8E-09
Total phase (deg)	316.7	Apriori accel (us/s/s)	-1.70751588383E-05	Resid phase (deg)	131.7	+/-	20.9

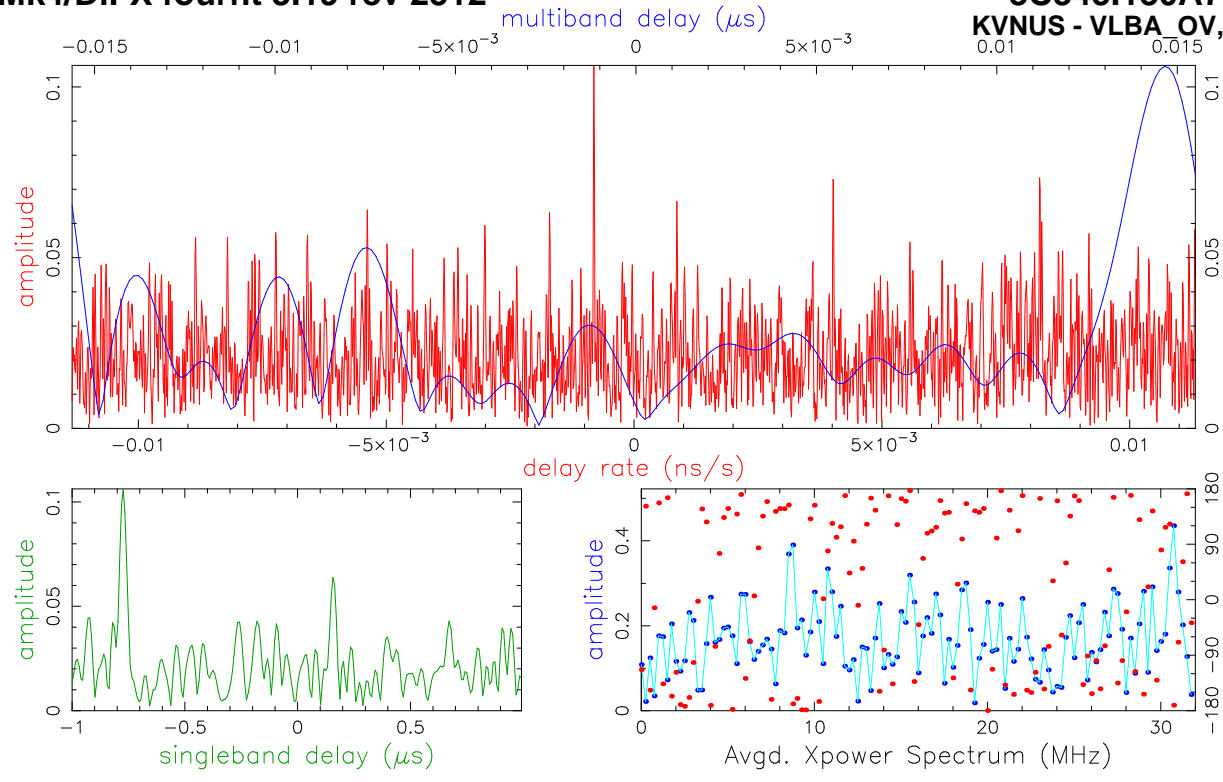
ph/seg (deg)	RMS 53.7	Theor. 36.1	Amplitude Search (2048X64)	0.098 +/- 0.018	0.095	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	83.9	63.1	Interp.	0.000	0.095	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	58.6	41.7	Inc. seg. avg.	0.098	0.098	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.016	0.016	
amp/frq (%)	58.8	72.9	Inc. frq. avg.	0.099	0.099	Sample rate(MISamp/s): 64		dr window (ns/s)	-0.011	0.011	
						Data rate(Mb/s): 2048	nlags: 128	t_cohere infinite	ion window (TEC)	0.00	0.00

u: az 68.6 el 51.4 pa -80.7 o: az 293.7 el 41.4 pa 71.3 u,v (fr/asec) -11806.337 -1135.131 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uo..130A7B Output file: /Exps/c192a/v2/1234/No0041/uo.W.254.130A7B

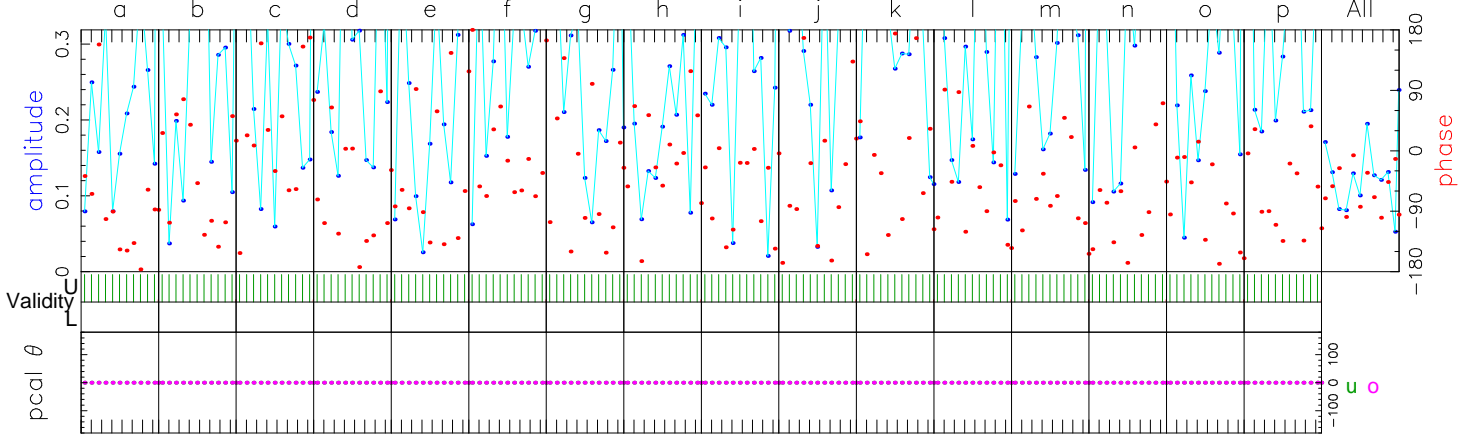
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uo
KVNU - VLBA_OV, fgroup W, pol RR



Fringe quality 0
SNR 5.9
Int time 419.826
Amp 0.106
Phase -55.3
PFD 5.1e-01
Delays (us)
SBD -0.774119
MBD 0.014670
Fringe rate (Hz)
-0.070005
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061811
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

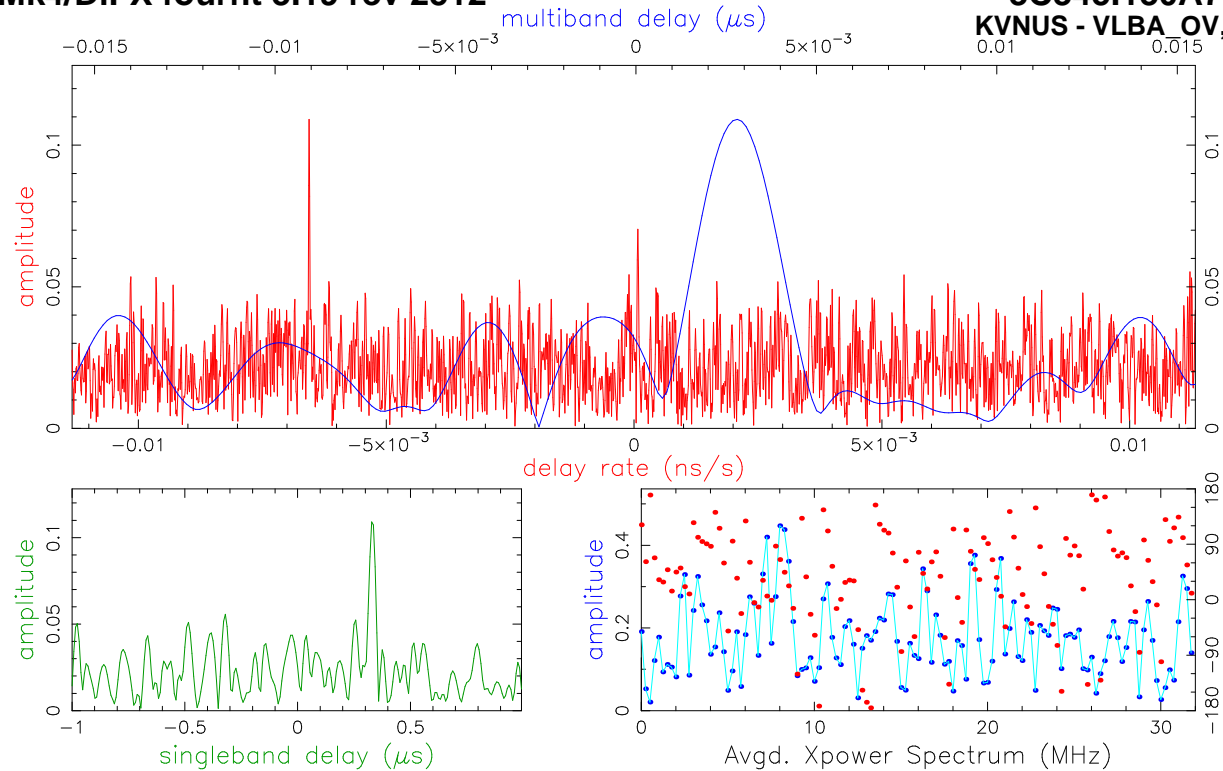


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-117.0	-62.2	11.2	-36.9	-86.6	-28.5	-57.7	-1.2	-42.2	-85.8	-102.7	-56.9	-43.8	-66.8	-81.9	-45.7	Phase	-55.3
	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	Ampl.	0.1
	116.2	34.0	74.5	98.7	230.6	47.0	181.3	19.3	62.1	128.9	161.9	222.9	225.7	173.4	62.9	226.0	Sbd box	29.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.87938848714E+03			Apriori delay (usec)			2.88015506749E+03			Resid mbdelay (usec)			1.46696E-02			+/- 1.8E-04		
Sband delay (usec)	2.87938094849E+03			Apriori clock (usec)			-8.2039442E+00			Resid sbdelay (usec)			-7.74119E-01			+/- 2.9E-03		
Phase delay (usec)	2.88015506571E+03			Apriori clockrate (us/s)			3.9901898E-07			Resid phdelay (usec)			-1.78354E-06			+/- 6.2E-07		
Delay rate (us/s)	1.58049809614E+00			Apriori rate (us/s)			1.58049890882E+00			Resid rate (us/s)			-8.12684E-07			+/- 2.6E-09		
Total phase (deg)	129.7			Apriori accel (us/s/s)			-1.70751588383E-05			Resid phase (deg)			-55.3			+/- 19.3		

ph/seg (deg) 31.3 33.4 Search (2048X64) 0.106 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 40.2 58.3 Interp. 0.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 35.5 38.6 Inc. seg. avg. 0.104 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 53.9 67.3 Inc. frq. avg. 0.102 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
u: az 68.6 el 51.4 pa -80.7 o: az 293.7 el 41.4 pa 71.3 u,v (fr/asec) -11806.337 -1135.131 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uo..130A7B Output file: /Exps/c192a/v2/1234/No0041/uo.W.270.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uo
KVNUS - VLBA_OV, fgroup W, pol LR

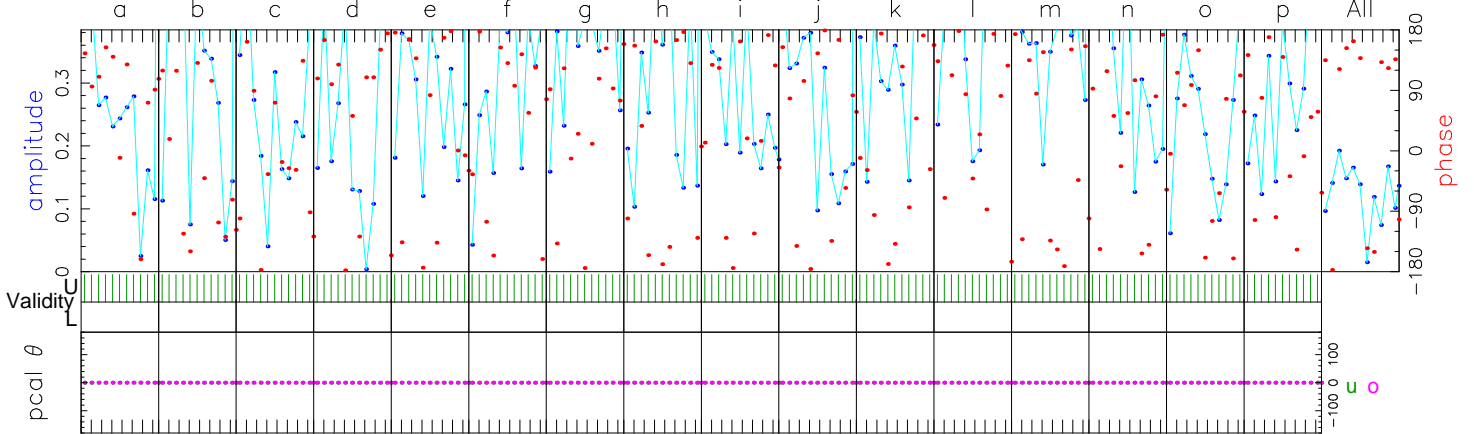


Fringe quality 0

SNR 6.2
Int time 419.826
Amp 0.128
Phase 149.0
PFD 1.2e-01
Delays (us)
SBD 0.331439
MBD 0.002835
Fringe rate (Hz)
-0.565543
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061815
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

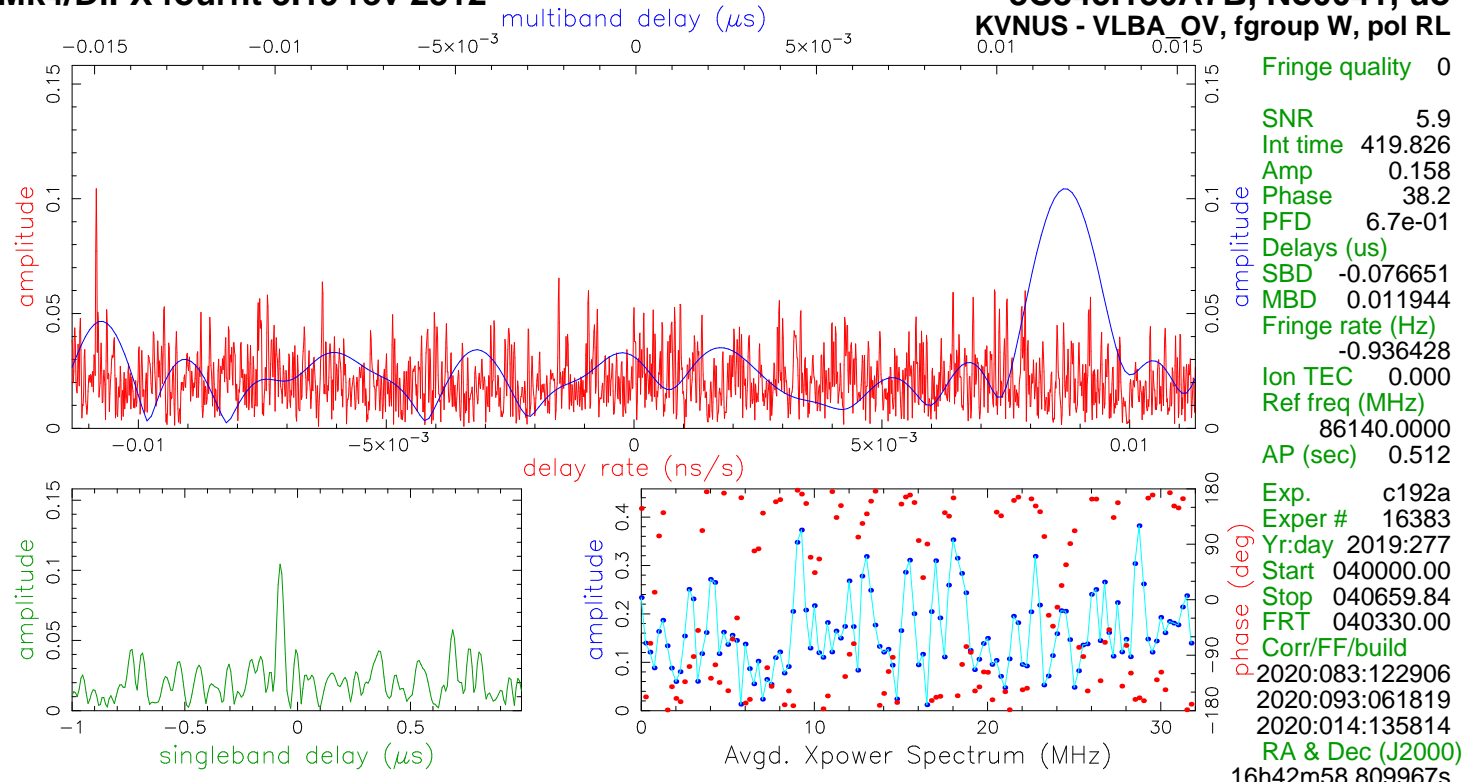


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
122.0	166.4	-148.0	156.3	174.5	142.9	89.5	178.8	131.9	152.1	-160.8	142.3	-177.3	120.9	121.8	76.7	Phase	149.0	
0.2	0.0	0.0	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	Ampl.	0.1
54.5	195.4	23.2	172.5	200.4	162.8	230.5	172.8	152.8	98.1	201.1	143.9	170.1	104.8	189.0	91.8	Sbd box	171.4	
UL	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.88050165260E+03			Apriori delay (usec)			2.88015506749E+03			Resid mbdelay (usec)			2.83511E-03			+/-	1.7E-04	
Sband delay (usec)	2.88048650599E+03			Apriori clock (usec)			-8.2039442E+00			Resid sbdelay (usec)			3.31439E-01			+/-	2.8E-03	
Phase delay (usec)	2.88015507230E+03			Apriori clockrate (us/s)			3.9901898E-07			Resid phdelay (usec)			4.80444E-06			+/-	5.9E-07	
Delay rate (us/s)	1.58049234343E+00			Apriori rate (us/s)			1.58049890882E+00			Resid rate (us/s)			-6.56539E-06			+/-	2.4E-09	
Total phase (deg)	334.0			Apriori accel (us/s/s)			-1.70751588383E-05			Resid phase (deg)			149.0			+/-	18.4	

ph/seg (deg) 33.6 31.8 Amplitude 0.128 +/- 0.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 44.2 55.6 Search (2048X64) 0.106 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 38.7 36.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 51.2 64.2 Inc. seg. avg. 0.124 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 o: az 293.7 el 41.4 pa 71.3 u,v (fr/asec) -11806.337 -1135.131 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uo..130A7B Output file: /Exps/c192a/v2/1234/No0041/uo.W.286.130A7B simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uo
KVNU5 - VLBA OV, fgroup W, pol RL



Fringe quality 0

SNR 5.9

Int time 419.826

Amp 0.158

Phase 38.2

PFD 6.7e-01

Delays (us)

SBD -0.076651

MBD 0.011944

Fringe rate (Hz)

-0.936428

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:277

Start 040000.00

Stop 040659.84

FRT 040330.00

Corr/FF/build

2020:083:122906

2020:093:061819

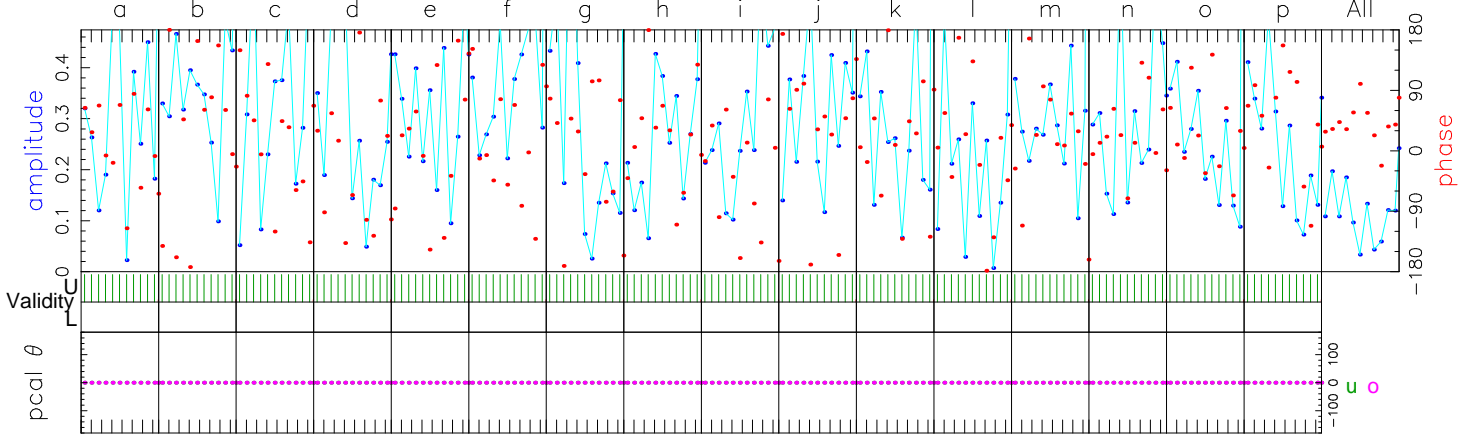
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	34.2	127.4	33.1	8.9	56.9	6.2	46.1	32.0	-26.9	85.9	10.8	52.8	27.7	25.5	31.5	63.8	Phase	38.2
	0.3	0.2	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.4	0.2	0.2	Ampl.	0.1
	161.4	163.0	236.9	182.6	148.9	95.1	49.3	181.1	16.7	117.7	62.2	177.0	3.6	39.8	253.6	70.0	Sbd box	119.2
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	

Group delay (usec)(sbd) 2.88007326189E+03 Apriori delay (usec) 2.88015506749E+03 Resid mbdelay (usec) 1.19444E-02 +/- 1.8E-04

Sband delay (usec) 2.88007841599E+03 Apriori clock (usec) -8.2039442E+00 Resid sbdelay (usec) -7.66515E-02 +/- 2.9E-03

Phase delay (usec) 2.88015506873E+03 Apriori clockrate (us/s) 3.9901898E-07 Resid phdelay (usec) 1.23048E-06 +/- 6.3E-07

Delay rate (us/s) 1.58048803783E+00 Apriori rate (us/s) 1.58049890882E+00 Resid rate (us/s) -1.08710E-05 +/- 2.6E-09

Total phase (deg) 223.2 Apriori accel (us/s/s) -1.70751588383E-05 Resid phase (deg) 38.2 +/- 19.5

RMS Theor. Amplitude 0.158 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

ph/seg (deg) 27.9 33.8 Search (2048X64) 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

amp/seg (%) 48.6 59.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

ph/frq (deg) 36.6 39.1 Inc. seg. avg. 0.142 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

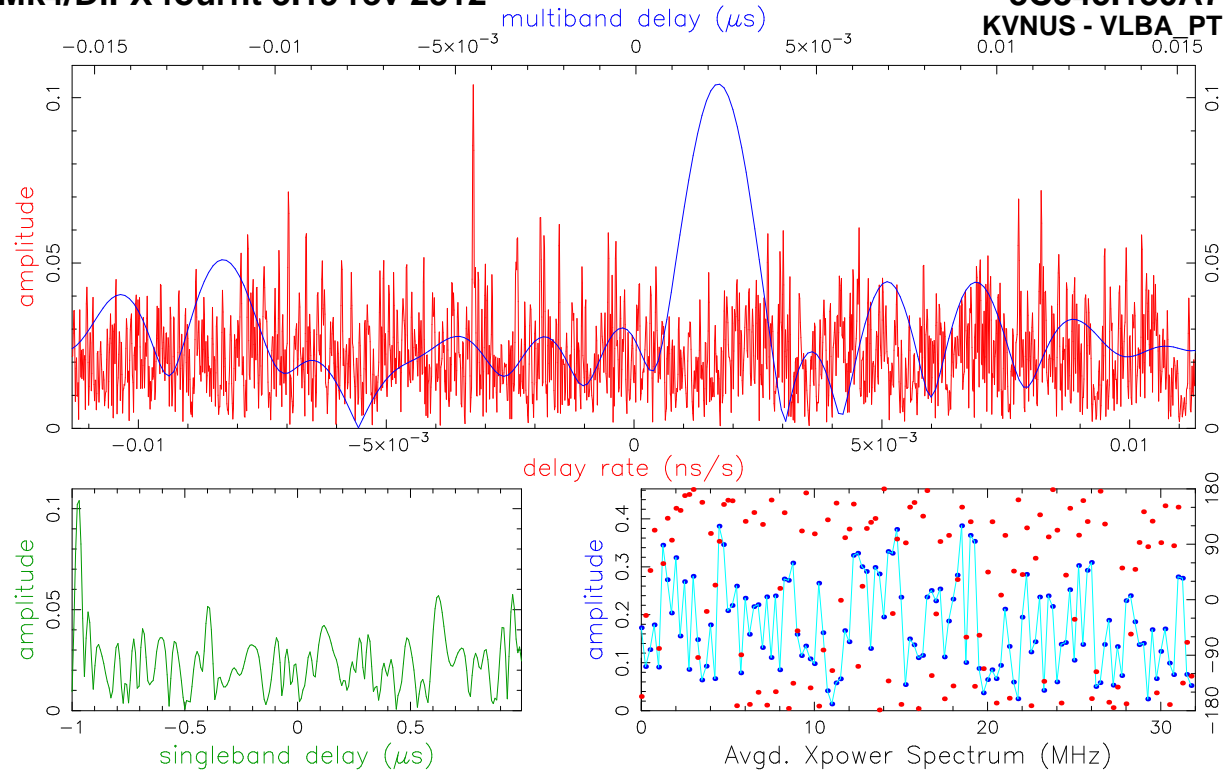
amp/frq (%) 55.3 68.2 Inc. frq. avg. 0.148 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 o: az 293.7 el 41.4 pa 71.3 u,v (fr/asec) -11806.337 -1135.131 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uo..130A7B Output file: /Exps/c192a/v2/1234/No0041/uo.W.301.130A7B

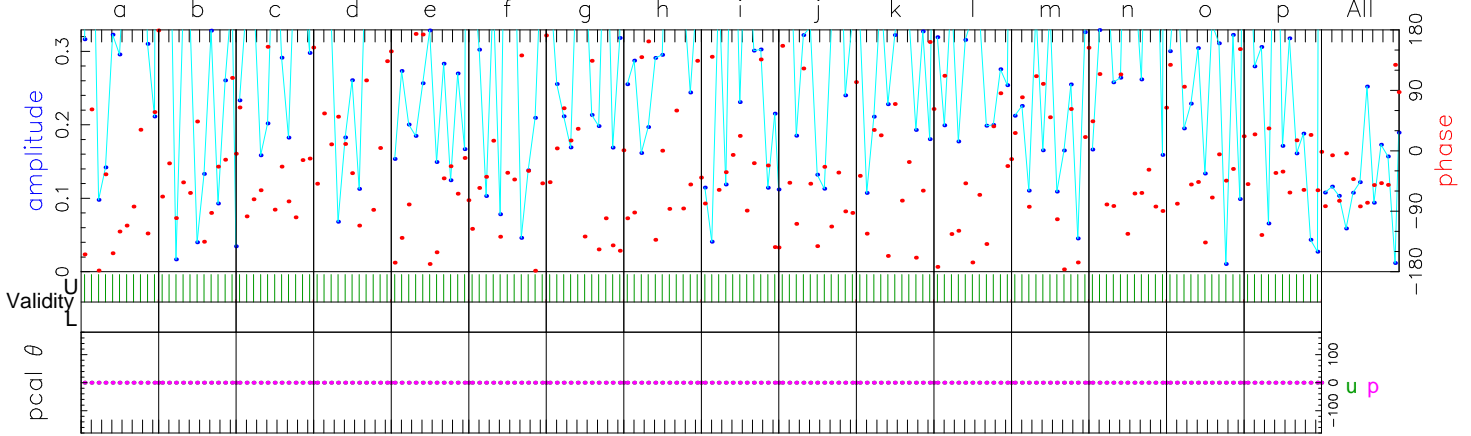
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, up
KVNU5 - VLBA_PT, fgroup W, pol LL



Fringe quality 0
SNR 5.9
Int time 419.829
Amp 0.110
Phase -56.6
PFD 5.1e-01
Delays (us)
SBD -0.972040
MBD 0.002210
Fringe rate (Hz)
-0.279573
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061806
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

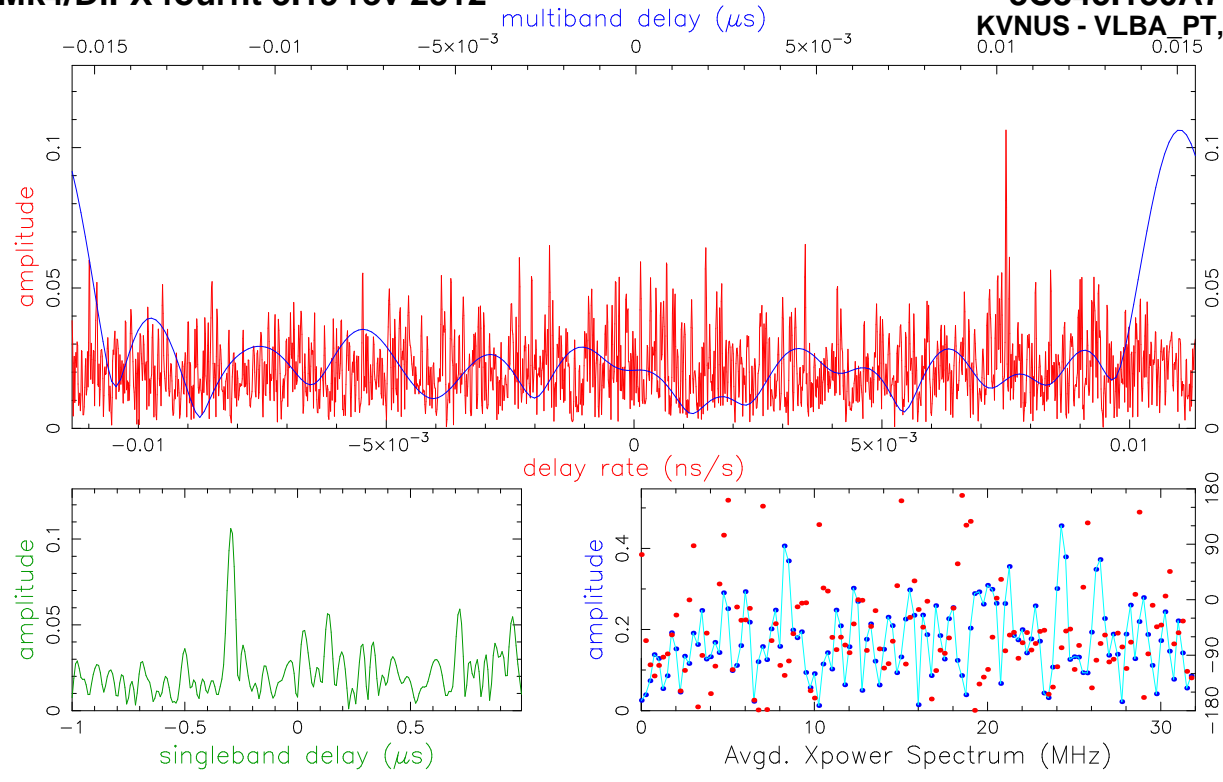


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All					
	-97.8	-45.2	-66.4	22.3	-115.7	-50.6	-76.8	-92.7	-41.6	-78.0	-31.7	-112.4	70.0	-74.2	-47.8	-37.1		Phase	-56.6				
	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2		Ampl.	0.1				
	40.0	99.7	122.0	138.1	145.2	217.2	236.6	254.6	139.7	155.9	51.7	150.0	161.8	141.0	114.8	200.1		Sbd box	4.6				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs					
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC phase					
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC					
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Chan ids					
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		Tracks					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids					
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks					
Group delay (usec)(sbd)		5.47368461003E+03																Apriori delay (usec)	5.47465115006E+03	Resid mbdelay (usec)	2.20996E-03	+/-	1.8E-04
Sband delay (usec)		5.47367911006E+03																Apriori clock (usec)	-3.4870081E+00	Resid sbdelay (usec)	-9.72040E-01	+/-	2.9E-03
Phase delay (usec)		5.47465114824E+03																Apriori clockrate (us/s)	1.9611339E-07	Resid phdelay (usec)	-1.82448E-06	+/-	6.2E-07
Delay rate (us/s)		1.67429835137E+00																Apriori rate (us/s)	1.67430159693E+00	Resid rate (us/s)	-3.24556E-06	+/-	2.6E-09
Total phase (deg)					-32.6													Apriori accel (us/s/s)	-2.78591527605E-05	Resid phase (deg)	-56.6	+/-	19.3

RMS Theor. Amplitude 0.110 +/- 0.018
ph/seg (deg) 60.2 33.4 Search (2048X64) 0.103
amp/seg (%) 57.0 58.3 Interp. 0.000
ph/frq (deg) 49.7 38.5 Inc. seg. avg. 0.105
amp/frq (%) 50.6 67.3 Inc. frq. avg. 0.112
Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
u: az 68.6 el 51.4 pa -80.7 p: az 298.8 el 32.7 pa 70.0 u,v (fr/asec) -12523.089 -1549.942 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/up..130A7B Output file: /Exps/c192a/v2/1234/No0041/up.W.249.130A7B

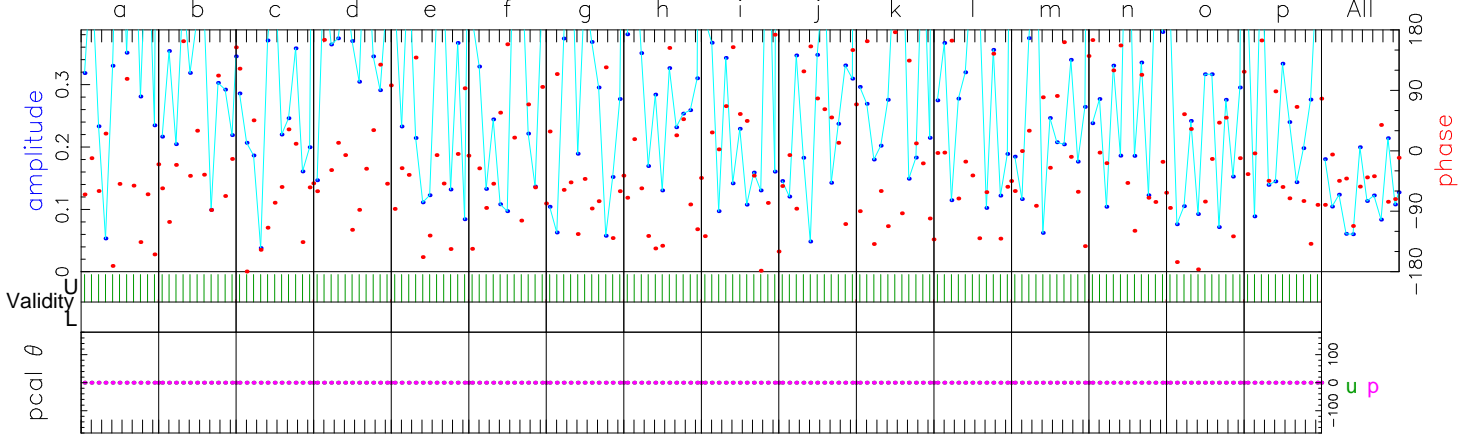
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, up
KVNU5 - VLBA_PT, fgroup W, pol RR



Fringe quality 0
SNR 6.0
Int time 419.829
Amp 0.129
Phase -52.9
PFD 4.0e-01
Delays (us)
SBD -0.294293
MBD 0.015110
Fringe rate (Hz) 0.647748
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061811
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

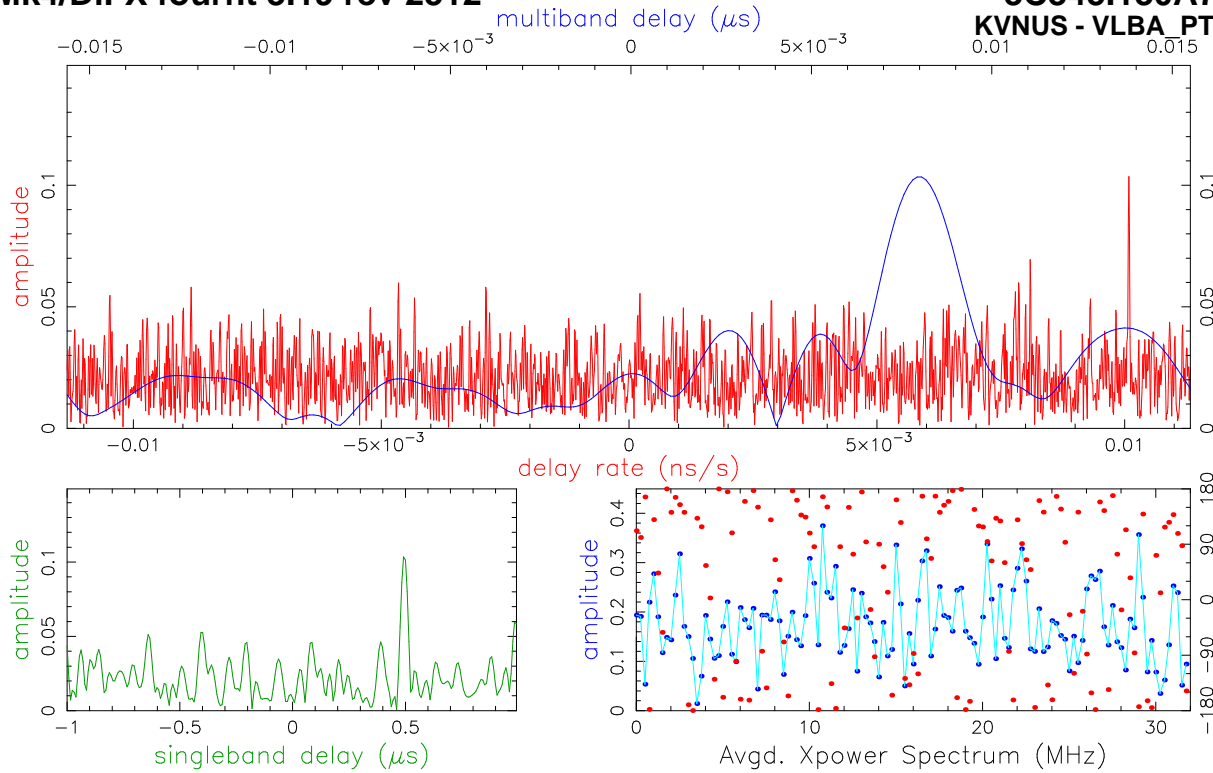


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-61.9	-41.4	-60.8	-29.3	-43.3	-31.5	-63.1	-64.3	-48.8	55.5	-105.1	-52.7	-38.1	-50.0	-25.8	-74.7	Phase	-52.9
	0.3	0.1	0.1	0.2	0.2	0.1	0.3	0.1	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	Ampl.	0.1
	161.2	169.0	210.1	233.6	248.8	63.5	90.2	247.1	240.8	172.9	173.4	59.9	17.5	108.9	13.8	24.8	Sbd box	91.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)			5.47435375982E+03				Apriori delay (usec)		5.47465115006E+03			Resid mbdelay (usec)		1.51098E-02			+/-	1.8E-04
Sband delay (usec)			5.47435685706E+03				Apriori clock (usec)		-3.4870081E+00			Resid sbdelay (usec)		-2.94293E-01			+/-	2.9E-03
Phase delay (usec)			5.47465114836E+03				Apriori clockrate (us/s)		1.9611339E-07			Resid phdelay (usec)		-1.70638E-06			+/-	6.2E-07
Delay rate (us/s)			1.67430911665E+00				Apriori rate (us/s)		1.67430159693E+00			Resid rate (us/s)		7.51971E-06			+/-	2.5E-09
Total phase (deg)						-29.0	Apriori accel (us/s/s)		-2.78591527605E-05			Resid phase (deg)		-52.9			+/-	19.1

ph/seg (deg) 38.5 33.1 Amplitude 0.129 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 49.3 57.7 Search (2048X64) 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 35.4 38.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 49.0 66.6 Inc. seg. avg. 0.129 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 p: az 298.8 el 32.7 pa 70.0 u,v (fr/asec) -12523.089 -1549.942 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/up..130A7B Output file: /Exps/c192a/v2/1234/No0041/up.W.271.130A7B simultaneous interpolator

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, up
KVNU5 - VLBA_PT, fgroup W, pol LR

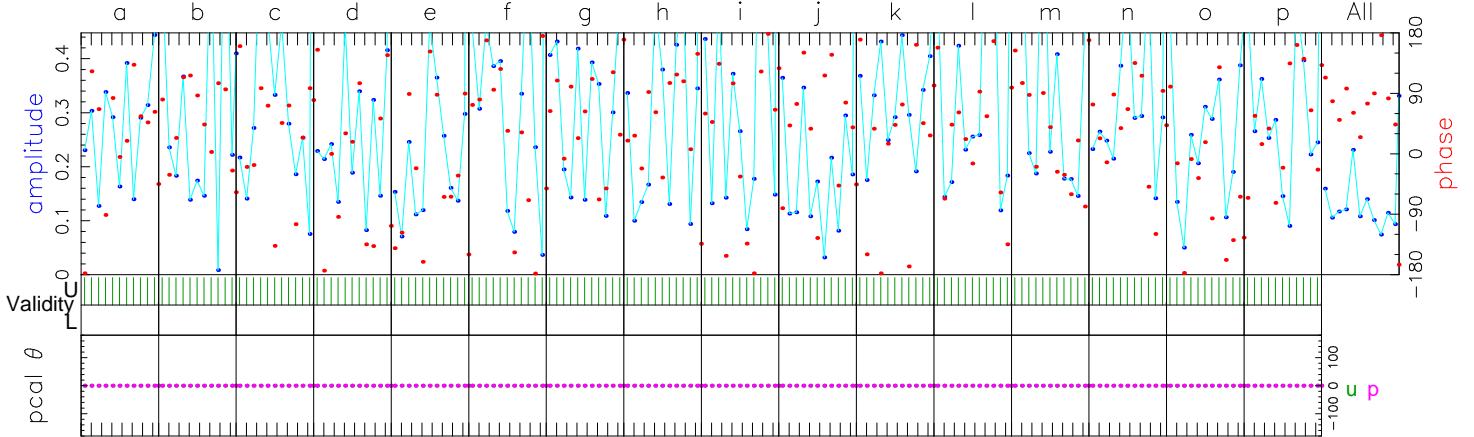


Fringe quality 0

SNR 5.9
Int time 419.829
Amp 0.149
Phase 77.5
PFD 6.3e-01
Delays (us)
SBD 0.495256
MBD 0.008021
Fringe rate (Hz) 0.870183
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build 2020:083:122906
2020:093:061815
2020:014:135814
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



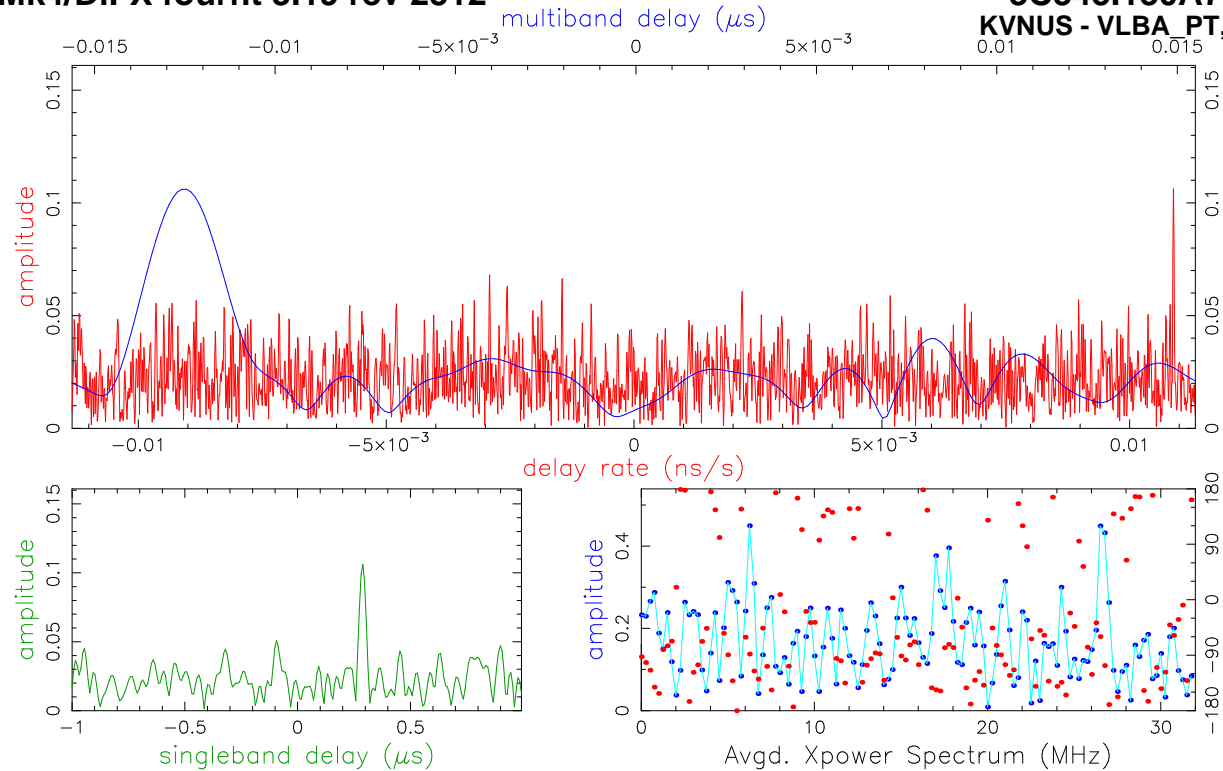
	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All	
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	Phase	77.5
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	Ampl.	0.1
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Sbd box	192.4
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	APs used	
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Mani PC	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		PC amp	
																		Chan ids	
																		Tracks	
																		Chan ids	
																		Tracks	
Group delay (usec)(sbd)		5.47515917106E+03							5.47465115006E+03								8.02099E-03	+/-	1.8E-04
Sband delay (usec)		5.47514640556E+03							-3.4870081E+00								4.95256E-01	+/-	2.9E-03
Phase delay (usec)		5.47465115256E+03							1.9611339E-07								2.49796E-06	+/-	6.3E-07
Delay rate (us/s)		1.67431169890E+00							1.67430159693E+00								1.01020E-05	+/-	2.6E-09
Total phase (deg)					101.4				-2.78591527605E-05								77.5	+/-	19.5

ph/seg (deg) 39.9 33.7 Search (2048X64) 0.100 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 45.8 58.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 40.9 38.9 Inc. seg. avg. 0.152 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 54.6 67.9 Inc. frq. avg. 0.135 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 p: az 298.8 el 32.7 pa 70.0 u,v (fr/asec) -12523.089 -1549.942 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/up..130A7B Output file: /Exps/c192a/v2/1234/No0041/up.W.285.130A7B

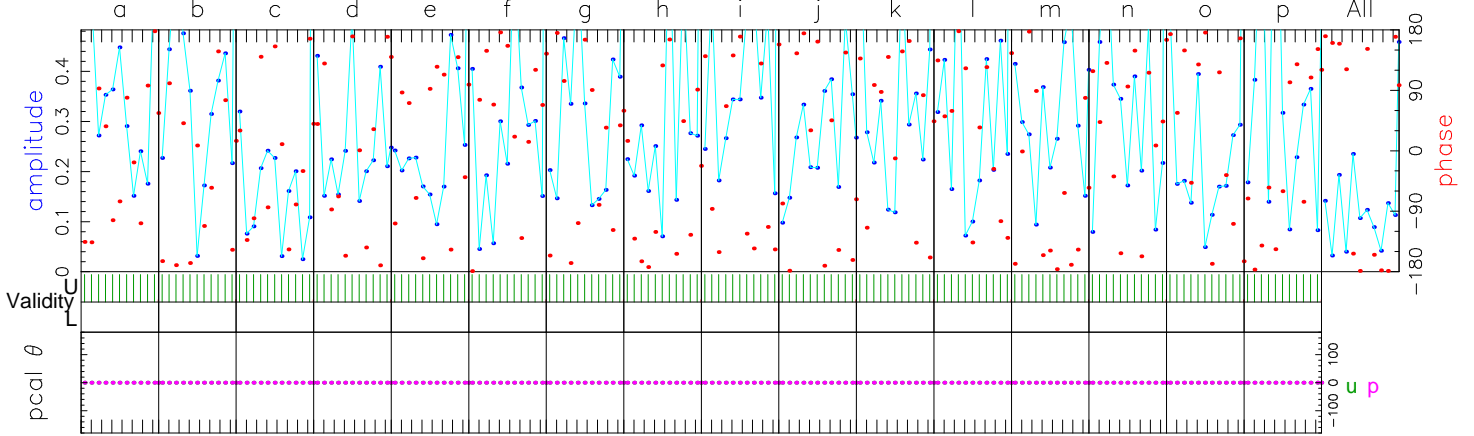
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, up
KVNU - VLBA_PT, fgroup W, pol RL



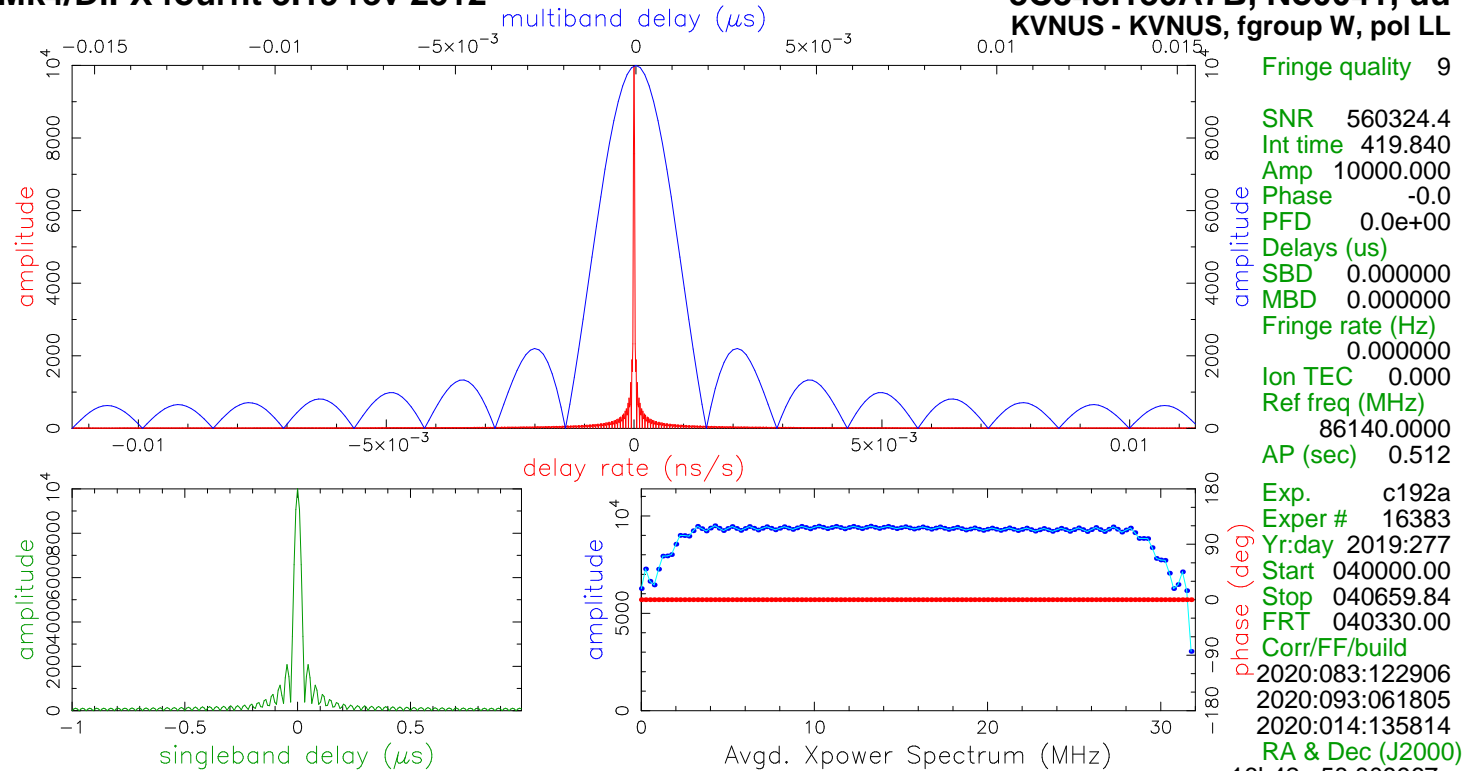
Fringe quality 0
SNR 6.0
Int time 419.829
Amp 0.161
Phase 175.1
PFD 4.7e-01
Delays (us)
SBD 0.287892
MBD -0.012515
Fringe rate (Hz) 0.938564
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061818
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-141.6	149.7	-135.3	-180.0	163.1	126.7	-168.8	168.6	-156.3	162.4	150.3	152.3	-154.2	118.3	166.1	-145.3	Phase	175.1
	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.3	Ampl.	0.2
	141.9	81.0	196.2	83.9	77.5	60.0	244.6	244.7	165.1	248.5	68.7	25.1	231.2	54.2	22.3	242.1	Sbd box	165.9
UL	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Tracks	
Group delay (usec)(sbd)	5.47495113506E+03		Apriori delay (usec)		5.47465115006E+03		Resid mbdelay (usec)		-1.25150E-02		+/-		1.8E-04					
Sband delay (usec)	5.47493904256E+03		Apriori clock (usec)		-3.4870081E+00		Resid sbdelay (usec)		2.87892E-01		+/-		2.9E-03					
Phase delay (usec)	5.47465115571E+03		Apriori clockrate (us/s)		1.9611339E-07		Resid phdelay (usec)		5.64566E-06		+/-		6.2E-07					
Delay rate (us/s)	1.67431249273E+00		Apriori rate (us/s)		1.67430159693E+00		Resid rate (us/s)		1.08958E-05		+/-		2.6E-09					
Total phase (deg)	199.0		Apriori accel (us/s/s)		-2.78591527605E-05		Resid phase (deg)		175.1		+/-		19.2					

ph/seg (deg) RMS Theor. Amplitude 0.161 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 63.7 58.1 Interp. 0.103 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 33.5 38.4 Inc. seg. avg. 0.151 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 52.2 67.1 Inc. frq. avg. 0.153 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 p: az 298.8 el 32.7 pa 70.0 u,v (fr/asec) -12523.089 -1549.942 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/up..130A7B Output file: /Exps/c192a/v2/1234/No0041/up.W.299.130A7B



Fringe quality 9

SNR 560324.4

Int time 419.840

Amp 10000.000

Phase -0.0

PFD 0.0e+00

Delays (us)

SBD 0.000000

MBD 0.000000

Fringe rate (Hz)

0.000000

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:277

Start 040000.00

Stop 040659.84

FRT 040330.00

Corr/FF/build

2020:083:122906

2020:093:061805

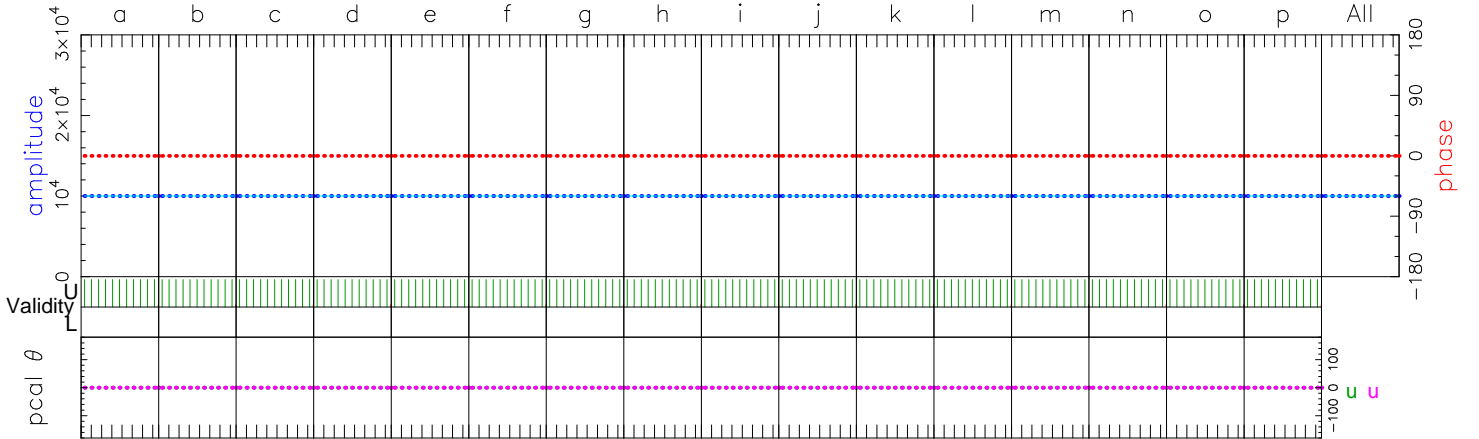
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
-0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	0.0	-0.0	0.0	0.0	0.0	-0.0	0.0	-0.0	Phase	-0.0
10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	Sbd box	129.0
u/L 820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
u W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
u W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
Group delay (usec)(sbd)	0.0000000000E+00	Apriori delay (usec)		0.0000000000E+00	Resid mbdelay (usec)		0.000000E+00	+/- 1.9E-09									
Sband delay (usec)	0.0000000000E+00	Apriori clock (usec)		0.000000E+00	Resid sbdelay (usec)		0.000000E+00	+/- 3.1E-08									
Phase delay (usec)	-1.15420793768E-19	Apriori clockrate (us/s)		0.000000E+00	Resid phdelay (usec)		-1.15421E-19	+/- 6.6E-12									
Delay rate (us/s)	0.0000000000E+00	Apriori rate (us/s)		0.0000000000E+00	Resid rate (us/s)		0.000000E+00	+/- 2.7E-14									
Total phase (deg)	-0.0	Apriori accel (us/s/s)		0.0000000000E+00	Resid phase (deg)		-0.0	+/- 0.0									

ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 10000.000 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

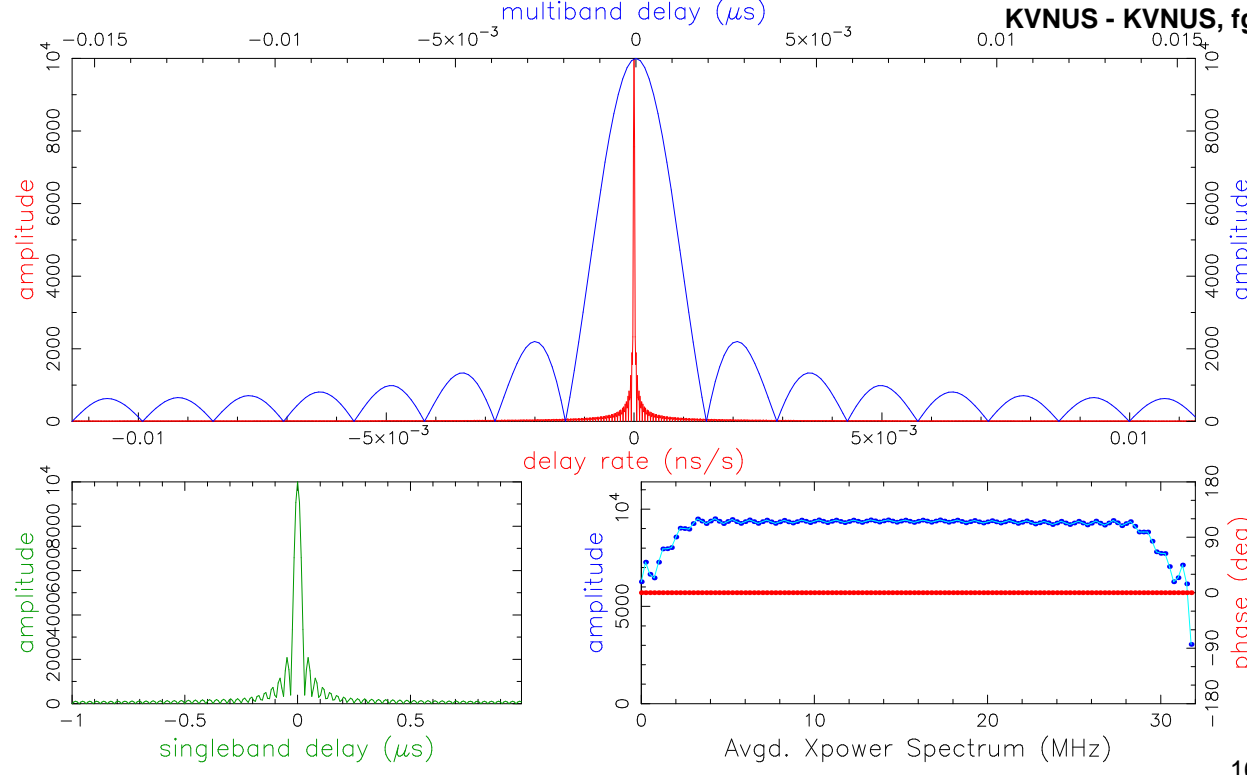
amp/seg (%) 0.0 0.0 Search (2048X64) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011

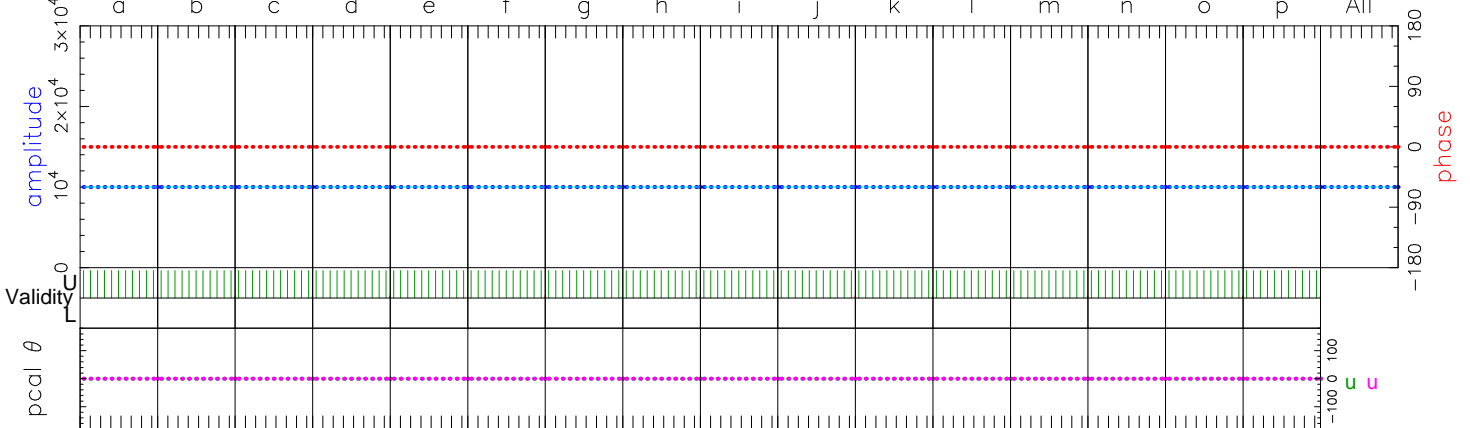
u: az 68.6 el 51.4 pa -80.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 0.000 0.000 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uu..130A7B Output file: /Exps/c192a/v2/1234/No0041/uu.W.248.130A7B



Fringe quality 9
SNR 560324.4
Int time 419.840
Amp 10000.000
Phase -0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061810
2020:014:135814
RA & Dec (J2000) 16h42m58.809967s +39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

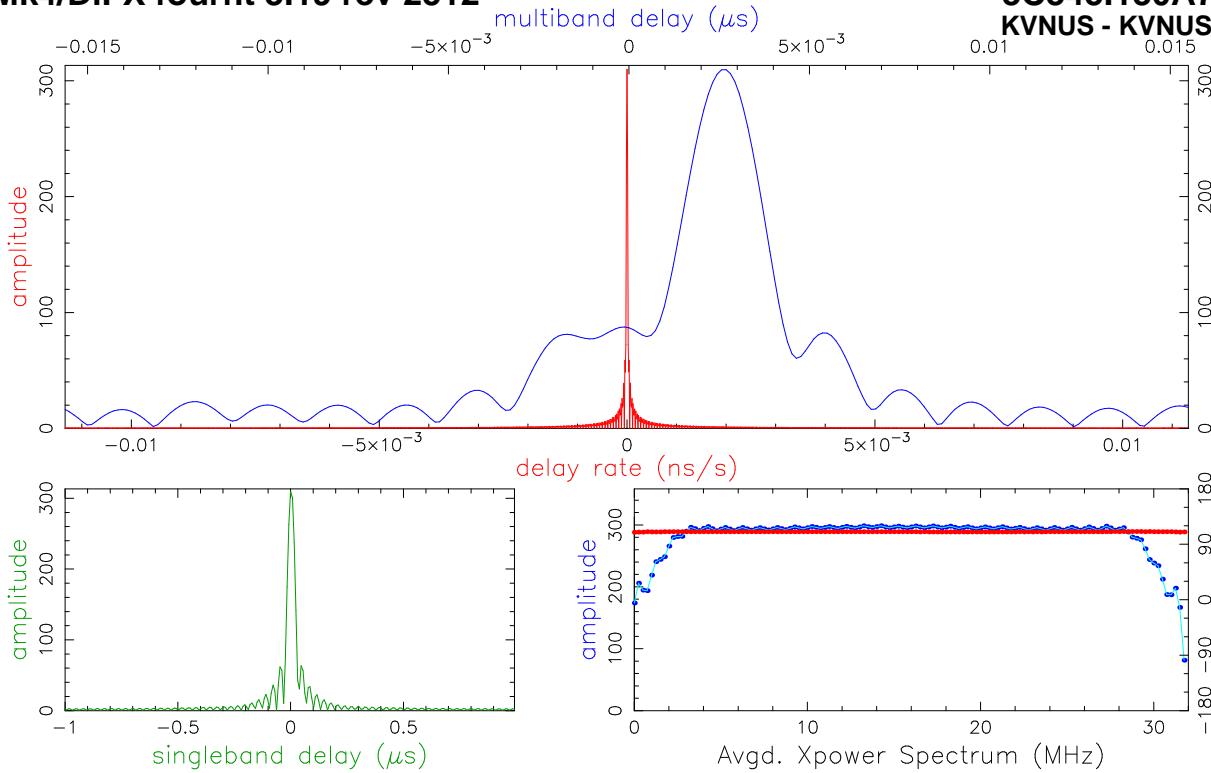


86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
-0.0	-0.0	-0.0	0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.0	0.0	0.0	-0.0	0.0	-0.0	Phase	-0.0
10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	129.0	Sbd box	129.0
U/L 820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u 31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC phase	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC	
u:u 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC amp	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Chan ids	
u 1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	Tracks	
u W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
u W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	

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 +/- 3.1E-08
 Phase delay (usec) -3.10804460525E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -3.10804E-20 +/- 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 (2048X64) 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) -0.016 0.016
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 64 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: 128 t_cohere infinite ion window (TEC) 0.00 0.00

u: az 68.6 el 51.4 pa -80.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uu..130A7B Output file: /Exps/c192a/v2/1234/No0041/uu.W.267.130A7B

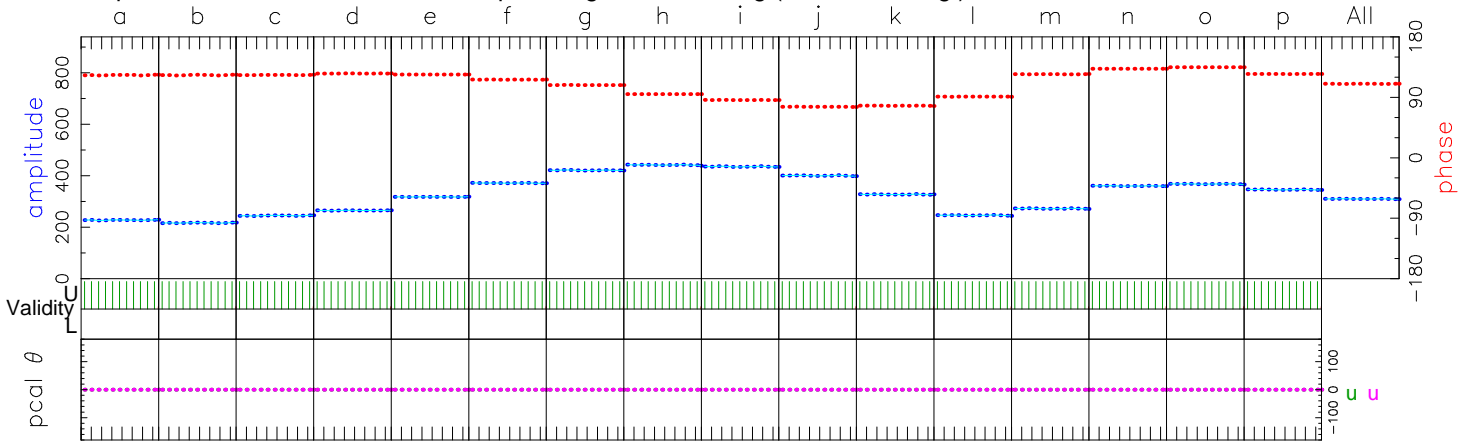


Fringe quality 7

SNR 17555.5
Int time 419.840
Amp 313.309
Phase 110.0
PFD 0.0e+00
Delays (us)
SBD 0.002623
MBD 0.002634
Fringe rate (Hz) 0.000000
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061815
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

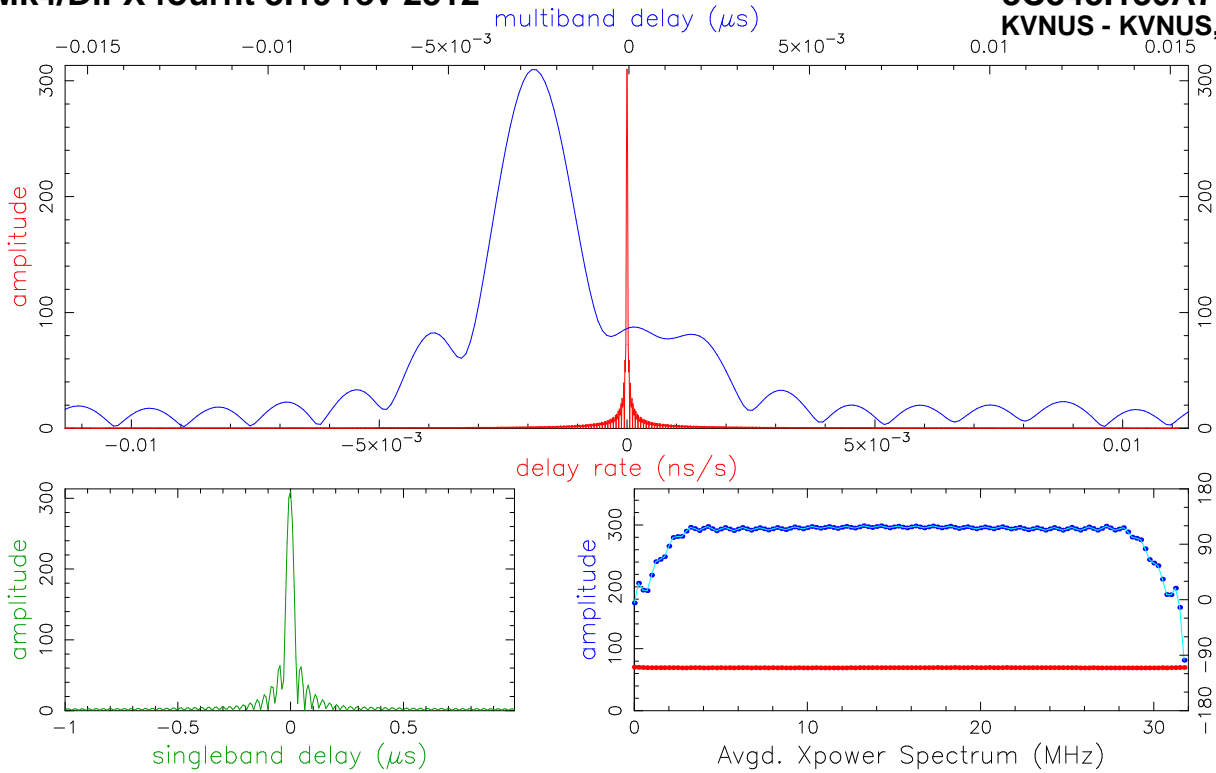


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
123.0	123.1	123.2	125.4	123.9	116.3	108.3	94.7	85.9	75.8	77.4	90.9	124.3	132.5	134.7	124.7	124.7	Phase	110.0
227.9	217.1	245.2	265.5	318.2	371.9	421.4	442.1	435.6	400.5	327.5	246.6	272.8	360.6	368.2	346.2	346.2	Ampl.	329.2
129.3	129.3	129.3	129.4	129.3	129.3	129.2	129.2	129.2	129.3	129.4	129.6	129.5	129.4	129.3	129.2	129.2	Sbd box	129.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.63450000000E-03		Apriori delay (usec)		0.00000000000E+00		Resid mbdelay (usec)		2.63450E-03		+/- 6.1E-08							
Sband delay (usec)	2.62250000000E-03		Apriori clock (usec)		0.0000000E+00		Resid sbdelay (usec)		2.62250E-03		+/- 9.8E-07							
Phase delay (usec)	3.54776446235E-06		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		3.54776E-06		+/- 2.1E-10							
Delay rate (us/s)	4.25134571751E-12		Apriori rate (us/s)		0.00000000000E+00		Resid rate (us/s)		4.25135E-12		+/- 8.7E-13							
Total phase (deg)	110.0		Apriori accel (us/s/s)		0.00000000000E+00		Resid phase (deg)		110.0		+/- 0.0							

ph/seg (deg) 0.0 0.0 Theor. Amplitude 313.309 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 1.1 0.0 Search (2048X64) 305.700 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 20.6 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 24.0 0.0 Inc. seg. avg. 309.980 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 0.000 0.000 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uu..130A7B Output file: /Exps/c192a/v2/1234/No0041/uu.W.284.130A7B simultaneous interpolator

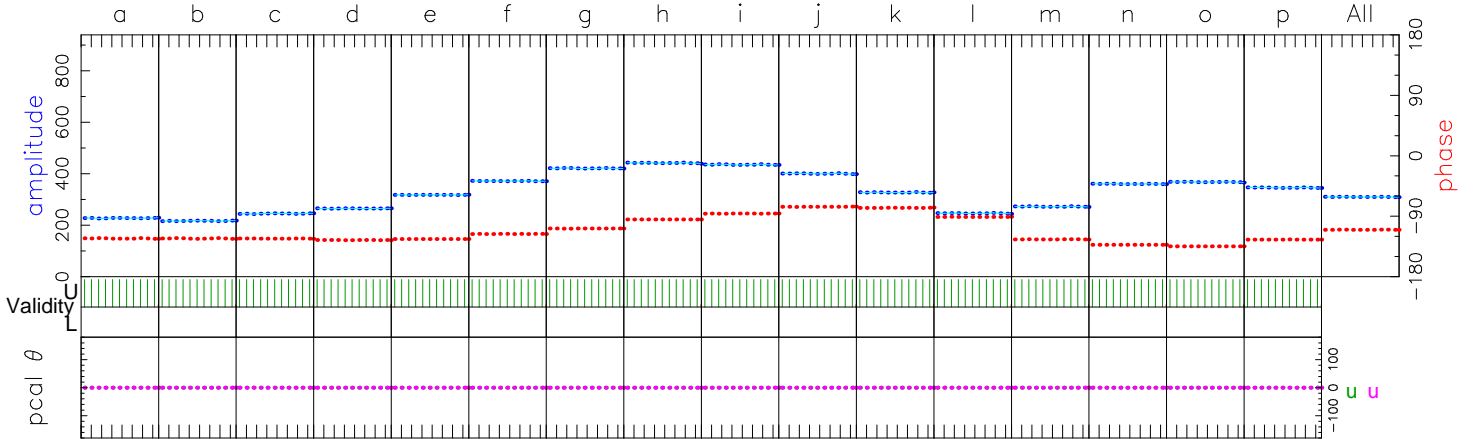
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uu
KVNUS - KVNUS, fgroup W, pol RL



Fringe quality 7
SNR 17555.5
Int time 419.840
Amp 313.309
Phase -110.0
PFD 0.0e+00
Delays (us)
SBD -0.002623
MBD -0.002634
Fringe rate (Hz)
-0.000000
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061818
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

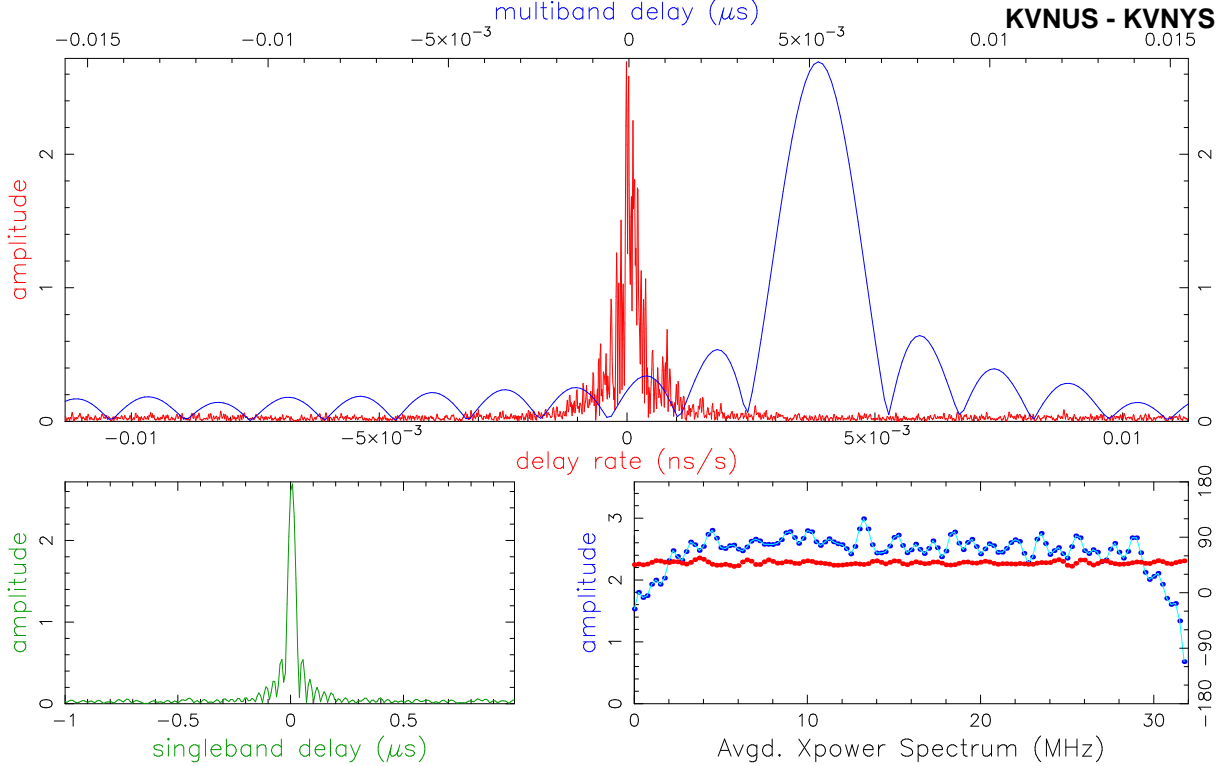


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All				
	-123.0	-123.1	-123.2	-125.4	-123.9	-116.3	-108.3	-94.7	-85.9	-75.8	-77.4	-90.9	-124.3	-132.5	-134.7	-124.7	Phase	-110.0				
	227.9	217.1	245.2	265.5	318.2	371.9	421.4	442.1	435.6	400.5	327.5	246.6	272.8	360.6	368.2	346.2	Ampl.	329.2				
	128.7	128.7	128.7	128.6	128.7	128.7	128.8	128.8	128.8	128.7	128.6	128.4	128.5	128.6	128.7	128.8	Sbd box	128.7				
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used					
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
u:u	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	ManI PC					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000						
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids					
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks					
																	Chan ids					
																	Tracks					
Group delay (usec)(sbd)			-2.63450000000E-03														Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-2.63450E-03	+/-	6.1E-08
Sband delay (usec)			-2.62250000000E-03														Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-2.62250E-03	+/-	9.8E-07
Phase delay (usec)			-3.54776446239E-06														Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-3.54776E-06	+/-	2.1E-10
Delay rate (us/s)			-4.25134571751E-12														Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-4.25135E-12	+/-	8.7E-13
Total phase (deg)																	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-110.0	+/-	0.0

ph/seg (deg) 0.0 0.0 Theor. Amplitude 313.309 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 1.1 0.0 Search (2048X64) 305.700 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 20.6 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 24.0 0.0 Inc. seg. avg. 309.980 Sample rate(MISamp/s): 64 dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 u: az 68.6 el 51.4 pa -80.7 u,v (fr/asec) 0.000 0.000 nlags: 128 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uu..130A7B Output file: /Exps/c192a/v2/1234/No0041/uu.W.300.130A7B simultaneous interpolator

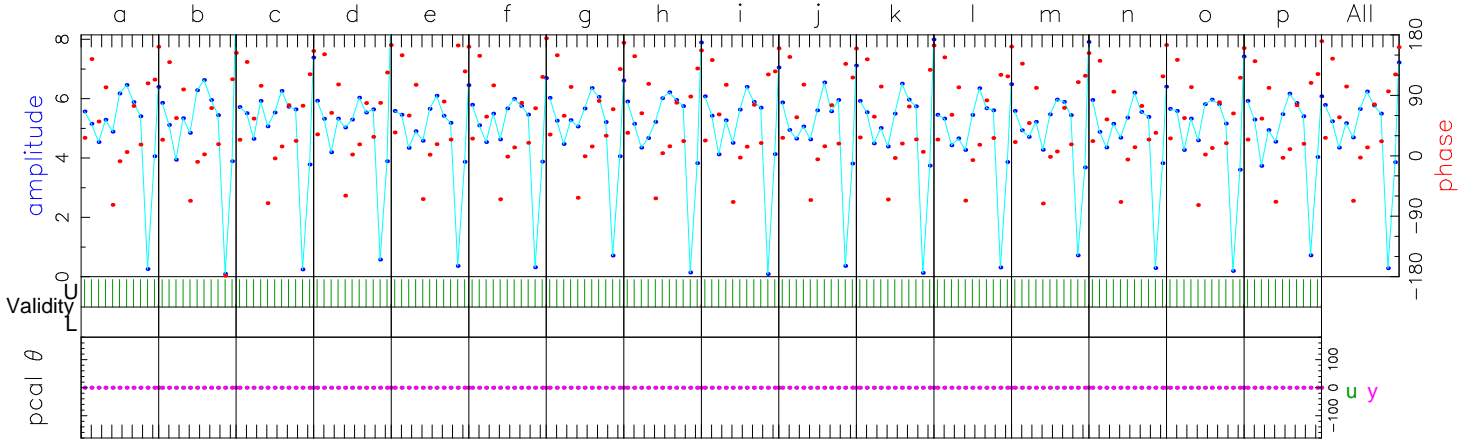
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uy
KVNU - KVNY, fgroup W, pol LL



Fringe quality 5
SNR 152.3
Int time 419.840
Amp 2.718
Phase 49.0
PFD 0.0e+00
Delays (us)
SBD 0.005296
MBD 0.005250
Fringe rate (Hz)
-0.000872
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061806
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

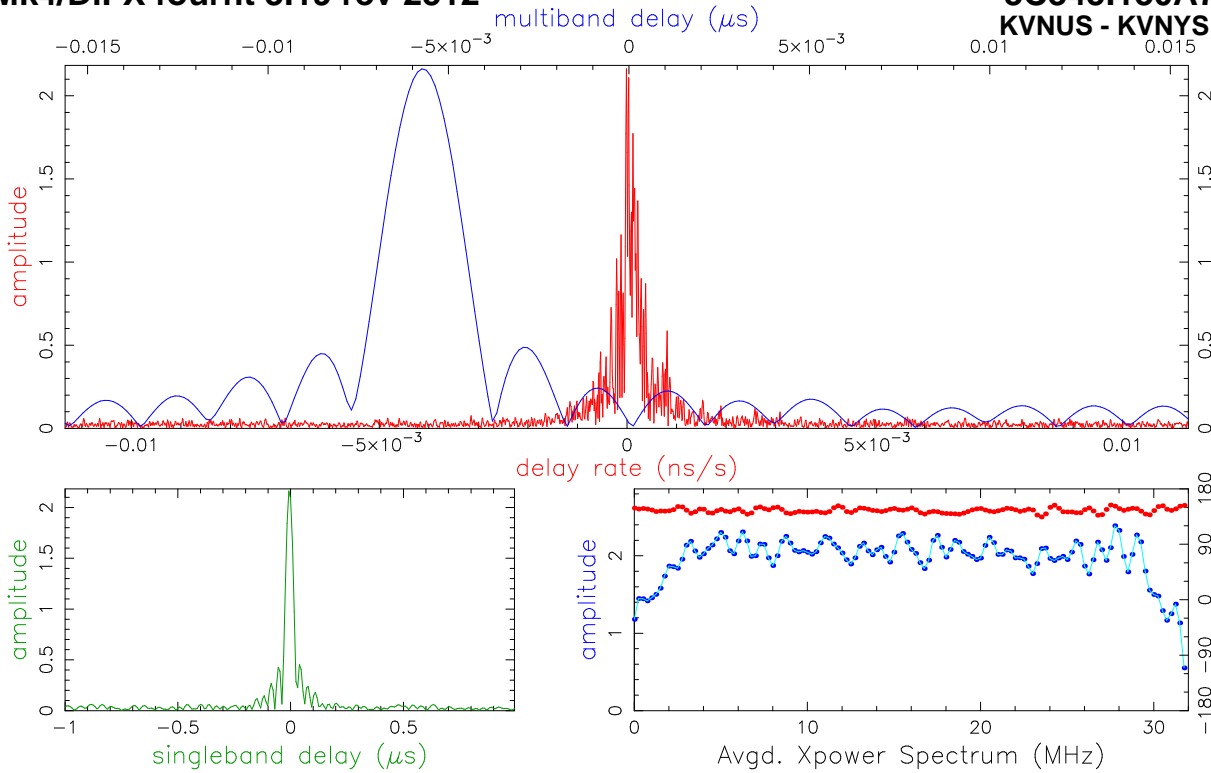


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All			
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		APs used			
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs			
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs			
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase			
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		ManI PC			
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp			
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		PC amp			
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Chan ids			
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL		Tracks			
																		Chan ids			
																		Tracks			
Group delay (usec)(sbd)		2.19948272392E+02								2.19943022526E+02								Resid mbdelay (usec)	5.24987E-03	+/-	7.1E-06
Sband delay (usec)		2.19948318026E+02								-2.0764675E+01								Resid sbdelay (usec)	5.29550E-03	+/-	1.1E-04
Phase delay (usec)		2.19943024107E+02								2.9999999E-07								Resid phdelay (usec)	1.58083E-06	+/-	2.4E-08
Delay rate (us/s)		-6.21482848978E-03								-6.21481837228E-03								Resid rate (us/s)	-1.01175E-08	+/-	1.0E-10
Total phase (deg)					34.8					-3.32270786403E-06								Resid phase (deg)	49.0	+/-	0.8

ph/seg (deg) 60.1 1.3 Search (2048X64) 2.670 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 95.9 2.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 3.5 1.5 Inc. seg. avg. 4.795 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
amp/frq (%) 2.1 2.6 Inc. frq. avg. 2.695 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
u: az 68.6 el 51.4 pa -80.7 y: az 70.3 el 50.4 pa -76.7 u,v (fr/asec) 40.165 -410.500 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uy..130A7B Output file: /Exps/c192a/v2/1234/No0041/uy.W.251.130A7B

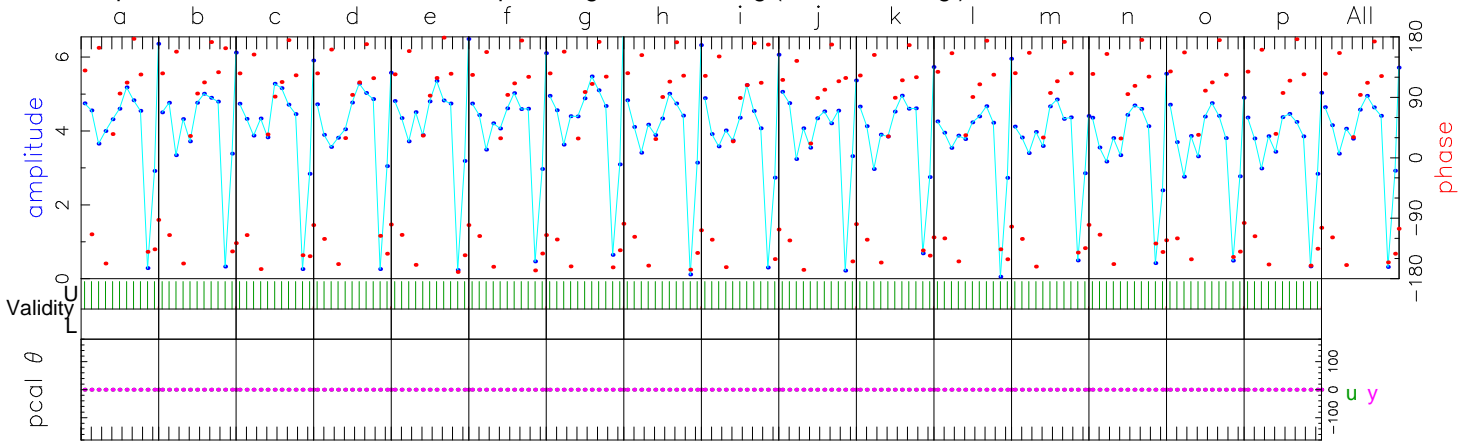
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uy
KVNUS - KVNYS, fgroup W, pol RR



Fringe quality 5
SNR 122.3
Int time 419.840
Amp 2.183
Phase 146.6
PFD 0.0e+00
Delays (us)
SBD -0.005333
MBD -0.005707
Fringe rate (Hz)
-0.000871
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061811
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

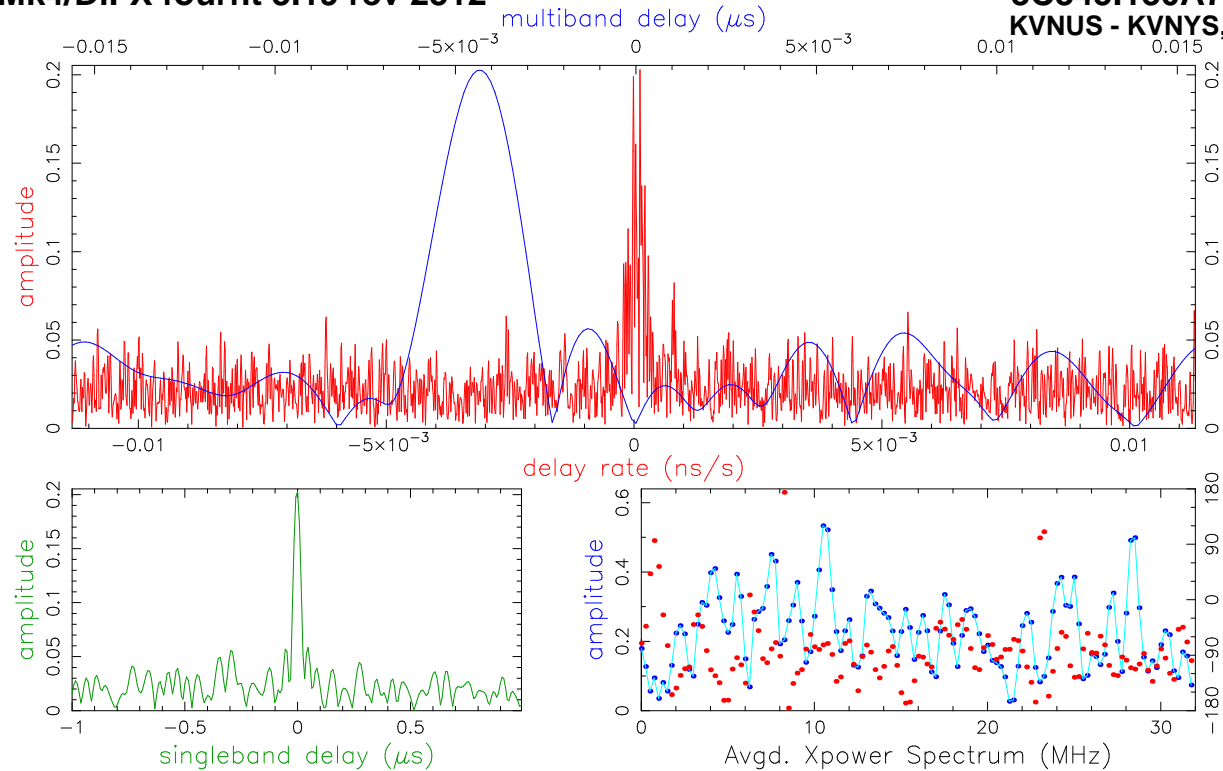


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000		
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR		
Group delay (usec)(sbd)		2.19937315548E+02																
Sband delay (usec)		2.19937690026E+02																
Phase delay (usec)		2.19943027255E+02																
Delay rate (us/s)		-6.21482848057E-03																
Total phase (deg)			132.4															
Apriori delay (usec)																		
Apriori clock (usec)																		
Apriori clockrate (us/s)																		
Apriori rate (us/s)																		
Apriori accel (us/s/s)																		
Resid mbdelay (usec)																		
Resid sbdelay (usec)																		
Resid phdelay (usec)																		
Resid rate (us/s)																		
Resid phase (deg)																		
Pcal mode: MANUAL, MANUAL																		
Pcal rate: 0.000E+00, 0.000E+00 (us/s)																		
Bits/sample: 2x2																		
Sample rate(MISamp/s): 64																		
Data rate(Mb/s): 2048																		
nlags: 128																		
t_cohere infinite																		
sb window (us)																		
mb window (us)																		
dr window (ns/s)																		
ion window (TEC)																		
simultaneous interpolator																		

u: az 68.6 el 51.4 pa -80.7 y: az 70.3 el 50.4 pa -76.7 u,v (fr/asec) 40.165 -410.500 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uy..130A7B Output file: /Exps/c192a/v2/1234/No0041/uy.W.269.130A7B

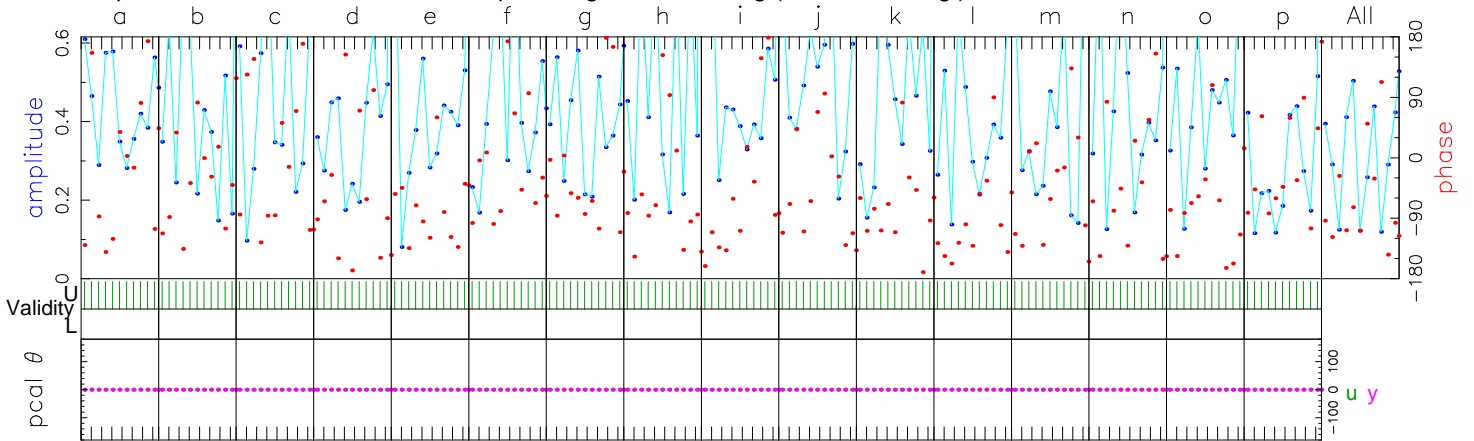
Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uy
KVNUS - KVNYS, fgroup W, pol LR



Fringe quality 9
SNR 11.5
Int time 419.840
Amp 0.205
Phase -87.0
PFD 5.9e-22
Delays (us)
SBD -0.002862
MBD -0.004330
Fringe rate (Hz) 0.010383
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192a
Exper # 16383
Yr:day 2019:277
Start 040000.00
Stop 040659.84
FRT 040330.00
Corr/FF/build
2020:083:122906
2020:093:061815
2020:014:135814
RA & Dec (J2000)
16h42m58.809967s
+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec

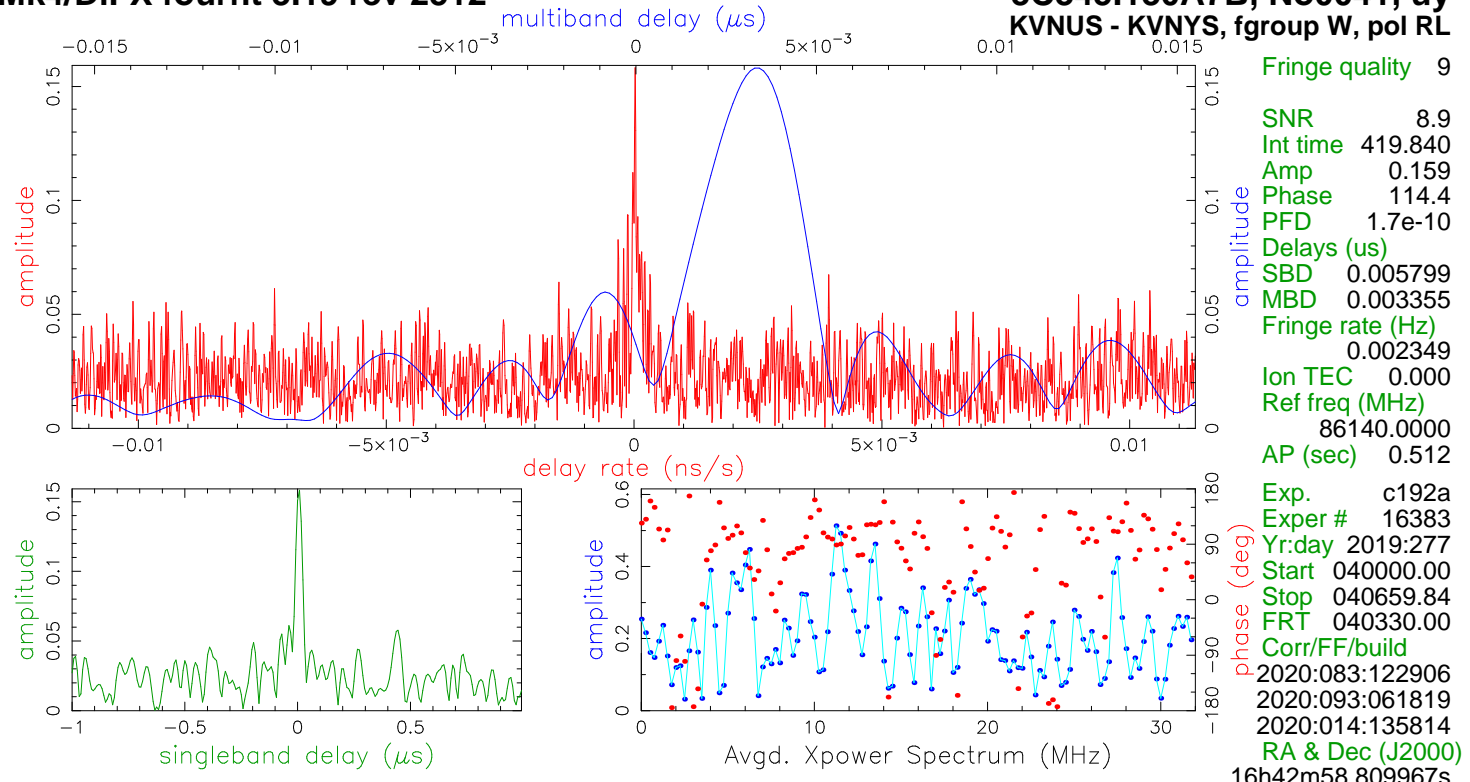


	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	-128.7	-66.4	-90.1	-112.0	-79.6	-40.6	-80.8	-76.0	-119.1	-63.6	-84.3	-119.6	-70.5	-102.2	-103.2	-7.5	Phase	-87.0
	0.2	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.1	Ampl.	0.2
	48.0	212.9	84.4	7.2	129.6	74.3	129.7	129.4	129.3	70.9	128.0	129.7	45.1	127.6	128.8	113.2	Sbd box	128.6
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	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	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Chan ids	
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.19938692101E+02		Apriori delay (usec)		2.19943022526E+02		Resid mbdelay (usec)		-4.33043E-03		+/-		9.4E-05					
Sband delay (usec)	2.19940160526E+02		Apriori clock (usec)		-2.0764675E+01		Resid sbdelay (usec)		-2.86200E-03		+/-		1.5E-03					
Phase delay (usec)	2.19943019721E+02		Apriori clockrate (us/s)		2.9999999E-07		Resid phdelay (usec)		-2.80531E-06		+/-		3.2E-07					
Delay rate (us/s)	-6.21469783388E-03		Apriori rate (us/s)		-6.21481837228E-03		Resid rate (us/s)		1.20538E-07		+/-		1.3E-09					
Total phase (deg)	258.8		Apriori accel (us/s/s)		-3.32270786403E-06		Resid phase (deg)		-87.0		+/-		10.0					

ph/seg (deg) 71.6 17.2 Search (2048X64) 0.201 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 82.3 30.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 32.6 19.9 Inc. seg. avg. 0.296 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016
 amp/frq (%) 31.0 34.8 Inc. frq. avg. 0.212 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011
 u: az 68.6 el 51.4 pa -80.7 y: az 70.3 el 50.4 pa -76.7 u,v (fr/asec) 40.165 -410.500 ion window (TEC) 0.00 0.00 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uy..130A7B Output file: /Exps/c192a/v2/1234/No0041/uy.W.288.130A7B

Mk4/DiFX fourfit 3.19 rev 2512

3C345.130A7B, No0041, uy
KVNUS - KVNYS, fgroup W, pol RL



Fringe quality 9

SNR 8.9

Int time 419.840

Amp 0.159

Phase 114.4

PFD 1.7e-10

Delays (us)

SBD 0.005799

MBD 0.003355

Fringe rate (Hz)

0.002349

Ion TEC 0.000

Ref freq (MHz)

86140.0000

AP (sec) 0.512

Exp. c192a

Exper # 16383

Yr:day 2019:277

Start 040000.00

Stop 040659.84

FRT 040330.00

Corr/FF/build

2020:083:122906

2020:093:061819

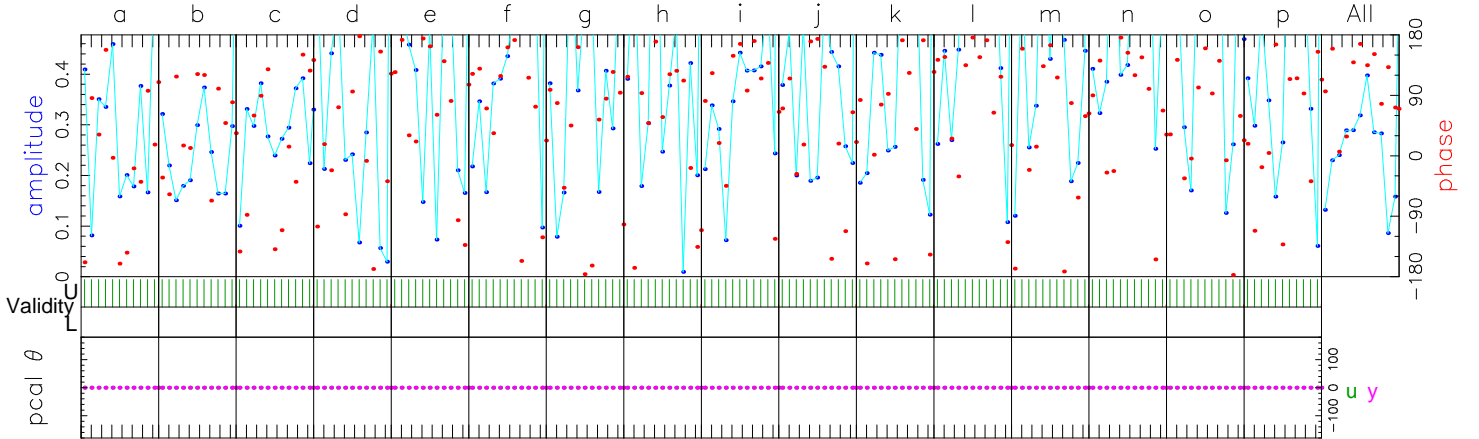
2020:014:135814

RA & Dec (J2000)

16h42m58.809967s

+39°48'36.993984"

Amp. and Phase vs. time for each freq., 12 segs, 74 APs / seg (37.89 sec / seg.), time ticks 60 sec



	86012.00	86044.00	86076.00	86108.00	86140.00	86172.00	86204.00	86236.00	86268.00	86300.00	86332.00	86364.00	86396.00	86428.00	86460.00	86492.00	Freq (MHz)	All
	11.4	53.2	135.6	-38.1	122.7	128.3	115.0	142.0	129.2	93.9	112.3	131.4	126.6	107.0	103.3	75.5	Phase	114.4
	0.1	0.1	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.3	0.1	Ampl.	0.2
	233.4	158.4	234.0	243.0	75.8	131.3	128.8	129.6	129.1	234.9	236.8	129.1	122.8	129.6	129.4	215.7	Sbd box	129.7
UL	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
u	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	31000	PC freqs	
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
y	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	W08UR	W09UR	W10UR	W11UR	W12UR	W13UR	W14UR	W15UR	Chan ids	
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	W08UL	W09UL	W10UL	W11UL	W12UL	W13UL	W14UL	W15UL	Tracks	
																	Chan ids	
																	Tracks	
Group delay (usec)(sbd)	2.19946377827E+02		Apriori delay (usec)		2.19943022526E+02		Resid mbdelay (usec)		3.35530E-03		+/- 1.2E-04							
Sband delay (usec)	2.19948821026E+02		Apriori clock (usec)		-2.0764675E+01		Resid sbdelay (usec)		5.79850E-03		+/- 1.9E-03							
Phase delay (usec)	2.19943026216E+02		Apriori clockrate (us/s)		2.9999999E-07		Resid phdelay (usec)		3.68938E-06		+/- 4.1E-07							
Delay rate (us/s)	-6.21479110699E-03		Apriori rate (us/s)		-6.21481837228E-03		Resid rate (us/s)		2.72653E-08		+/- 1.7E-09							
Total phase (deg)	100.2		Apriori accel (us/s/s)		-3.32270786403E-06		Resid phase (deg)		114.4		+/- 12.8							

ph/seg (deg) 52.2 22.2 Search (2048X64) 0.152 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5

amp/seg (%) 80.0 38.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000

ph/frq (deg) 54.7 25.7 Inc. seg. avg. 0.231 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.016 0.016

amp/frq (%) 55.5 44.8 Inc. frq. avg. 0.160 Sample rate(MISamp/s): 64 Data rate(Mb/s): 2048 nlags: 128 t_cohere infinite dr window (ns/s) -0.011 0.011

u: az 68.6 el 51.4 pa -80.7 y: az 70.3 el 50.4 pa -76.7 u,v (fr/asec) 40.165 -410.500 ion window (TEC) 0.00 0.00 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192a/v2/1234/No0041/uy..130A7B Output file: /Exps/c192a/v2/1234/No0041/uy.W.302.130A7B