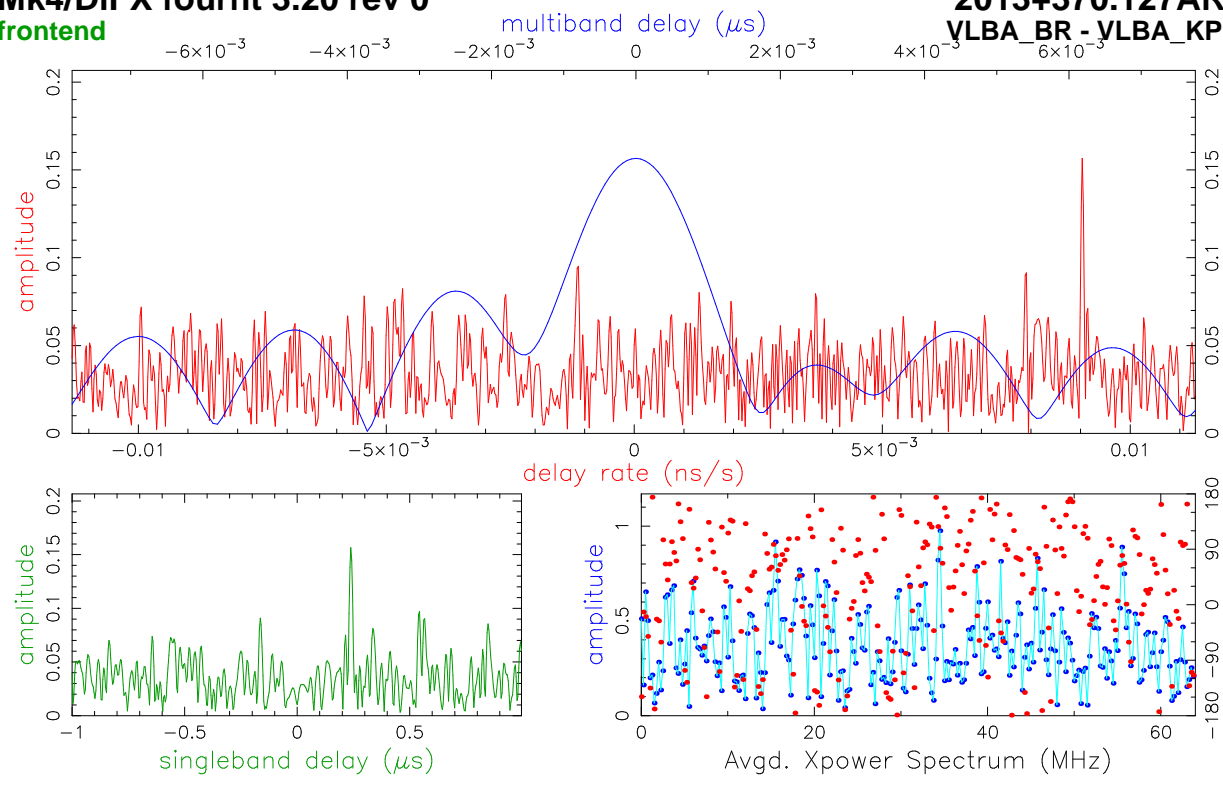


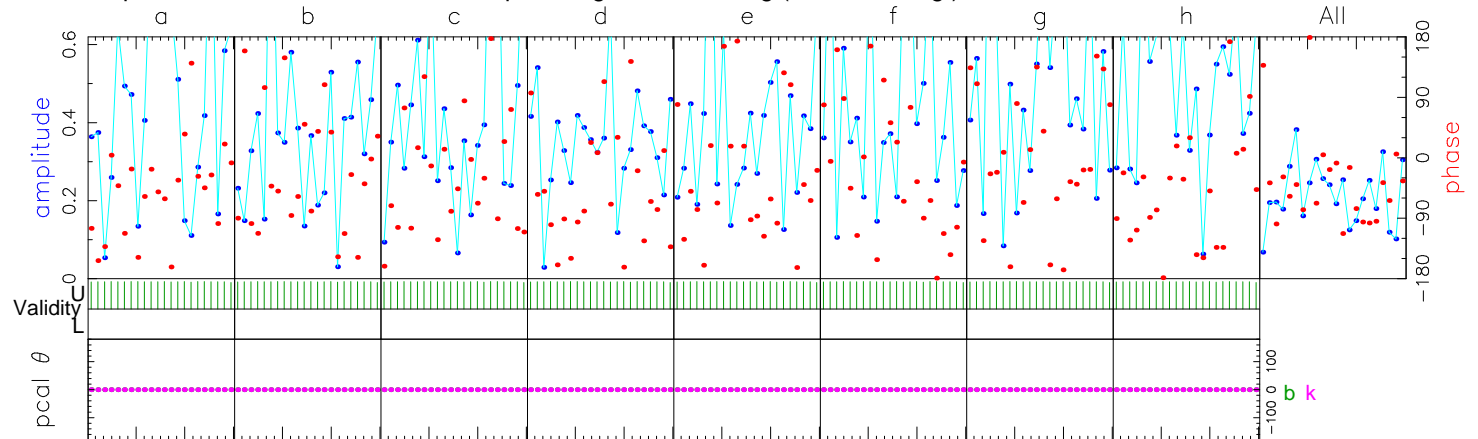
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, bk
 VLBA_BR - VLBA_KP, fgroup W, pol LL



Fringe quality 0
 SNR 5.7
 Int time 178.721
 Amp 0.207
 Phase -56.1
 PFD 7.1e-01
 Delays (us)
 SBD 0.238701
 MBD 0.000019
 Fringe rate (Hz) 0.778666
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131710
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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

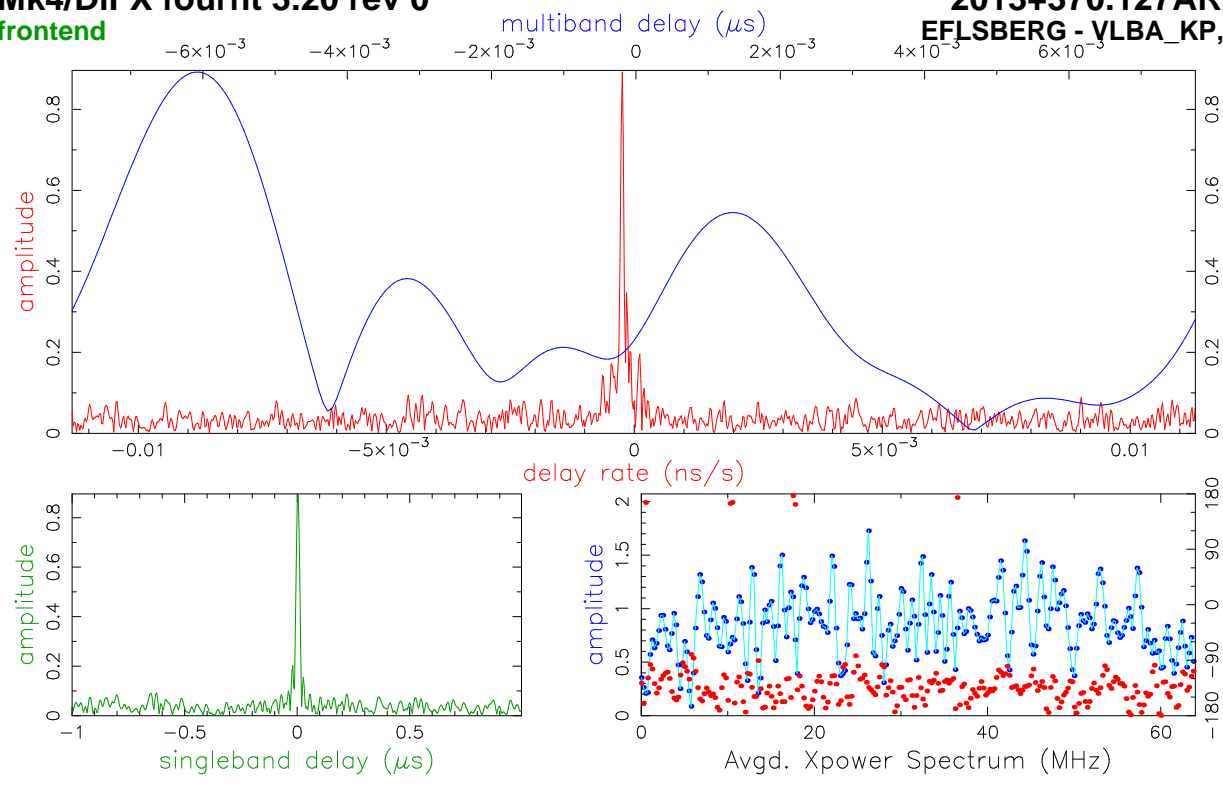


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-44.8	-51.2	-73.8	-83.0	-63.8	-44.4	-14.9	-62.3	Phase	-56.1
	0.4	0.2	0.2	0.2	0.2	0.1	0.3	0.3	Ampl.	0.2
	318.3	125.7	497.8	467.2	213.3	322.1	113.8	349.0	Sbd box	318.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-6.74959614407E+02		Apriori delay (usec)		-6.75194008227E+02		Resid mbdelay (usec)		1.88196E-05	+/- 1.9E-04
Sband delay (usec)	-6.74955306977E+02		Apriori clock (usec)		-2.2197992E-01		Resid sbdelay (usec)		2.38701E-01	+/- 1.5E-03
Phase delay (usec)	-6.75194010036E+02		Apriori clockrate (us/s)		-4.7816091E-08		Resid phdelay (usec)		-1.80919E-06	+/- 6.4E-07
Delay rate (us/s)	-6.39924257272E-02		Apriori rate (us/s)		-6.40014652630E-02		Resid rate (us/s)		9.03954E-06	+/- 6.2E-09
Total phase (deg)			Apriori accel (us/s/s)		1.82917948754E-05		Resid phase (deg)		-56.1	+/- 20.0

ph/seg (deg) 56.1 46.9 Amplitude 0.207 +/- 0.036 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 61.6 81.9 Search (1024X32) 0.151 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 22.8 28.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 46.6 49.4 Inc. seg. avg. 0.212 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 b: az 88.3 el 52.8 pa -56.9 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 477.387 2608.265 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/bk.W.12.127ARX simultaneous interpolator

Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, Bk
 EFLSBERG - VLBA_KP, fgroup W, pol RR

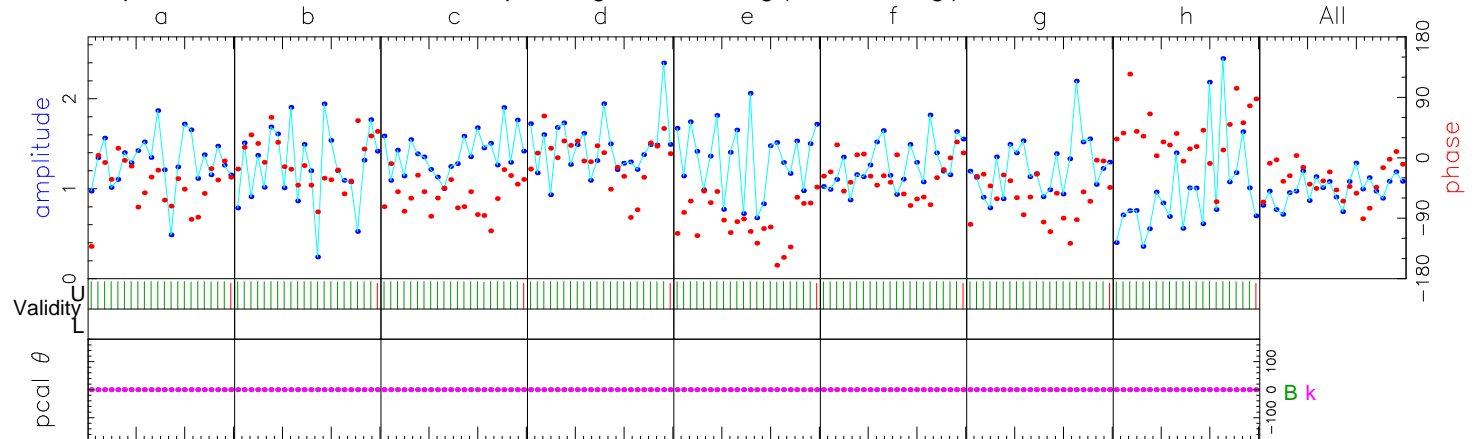


Fringe quality 5

SNR 32.8
 Int time 179.012
 Amp 0.896
 Phase -32.2
 PFD 0.0e+00
 Delays (us)
 SBD 0.003054
 MBD -0.006099
 Fringe rate (Hz)
 -0.021702
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131711
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-36.4	-1.7	-55.9	2.5	-91.7	-26.8	-59.5	31.9	Phase	-32.2
	1.1	1.1	1.3	1.2	1.1	1.1	1.1	0.8	Ampl.	1.1
	257.8	257.9	258.2	258.1	258.7	257.8	258.8	257.9	Sbd box	257.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-5.41720175706E+03		Apriori delay (usec)		-5.41721128260E+03		Resid mbdelay (usec)		-6.09945E-03	+/- 3.3E-05
Sband delay (usec)	-5.41720822835E+03		Apriori clock (usec)		1.7199942E+01		Resid sbdelay (usec)		3.05425E-03	+/- 2.6E-04
Phase delay (usec)	-5.41721128364E+03		Apriori clockrate (us/s)		-5.4210100E-09		Resid phdelay (usec)		-1.03810E-06	+/- 1.1E-07
Delay rate (us/s)	-1.45546477998E+00		Apriori rate (us/s)		-1.45546452804E+00		Resid rate (us/s)		-2.51939E-07	+/- 1.1E-09
Total phase (deg)			Apriori accel (us/s/s)		4.54638514456E-05		Resid phase (deg)		-32.2	+/- 3.5

ph/seg (deg) 26.3 8.2 Search (1024X32) 0.853 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 19.9 14.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 43.1 4.9 Inc. seg. avg. 0.984 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 26.5 8.6 Inc. frq. avg. 1.088 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 B: az 287.8 el 35.4 pa 49.5 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 10509.625 4363.968 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/Bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/Bk.W.25.127ARX

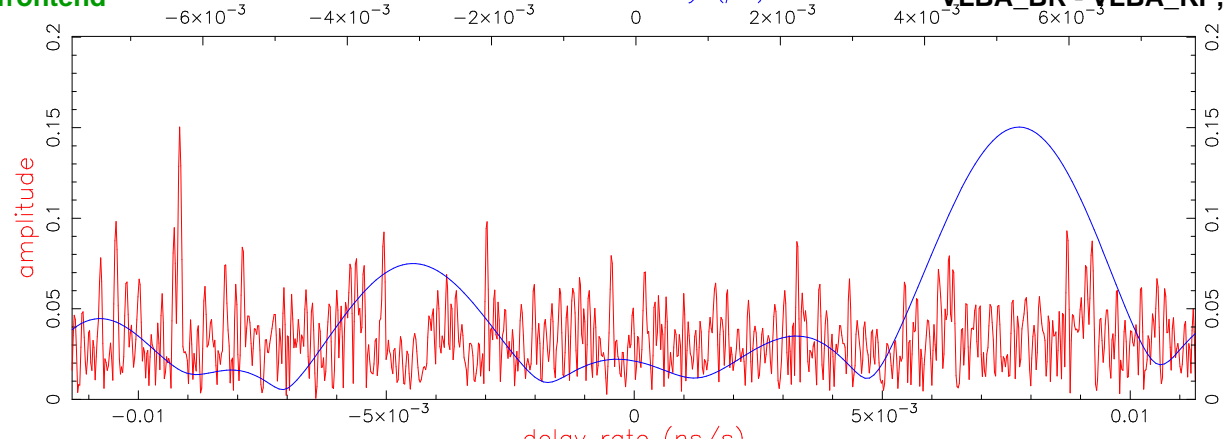
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, bk

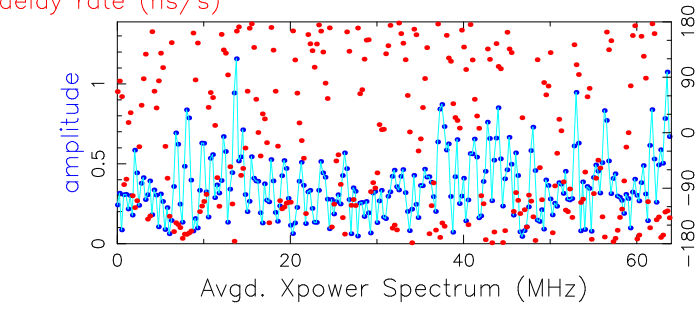
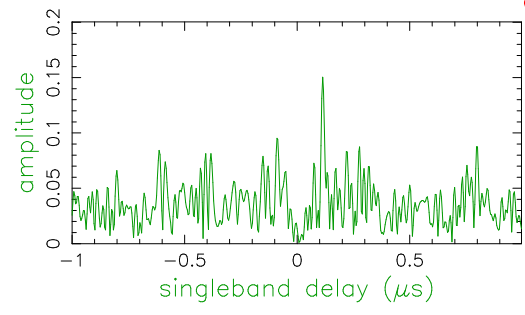
VLBA_BR - VLBA_KP, fgroup W, pol RR

multiband delay (μ s)



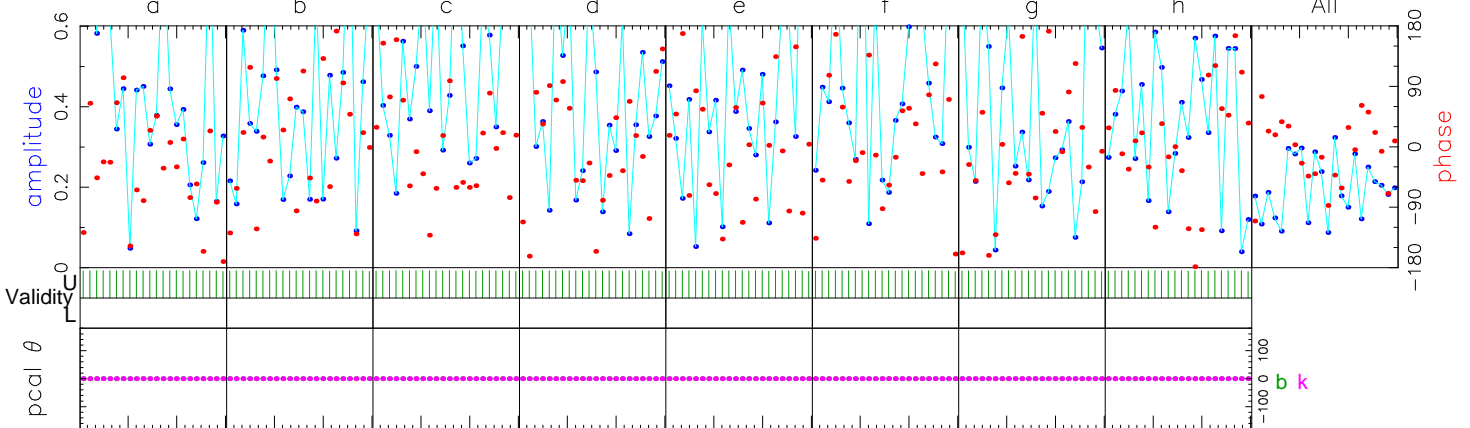
Fringe quality 0

SNR 5.5
 Int time 178.721
 Amp 0.200
 Phase -6.4
 PFD 9.9e-01
 Delays (us)
 SBD 0.113729
 MBD 0.005316
 Fringe rate (Hz)
 -0.791116
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131712
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

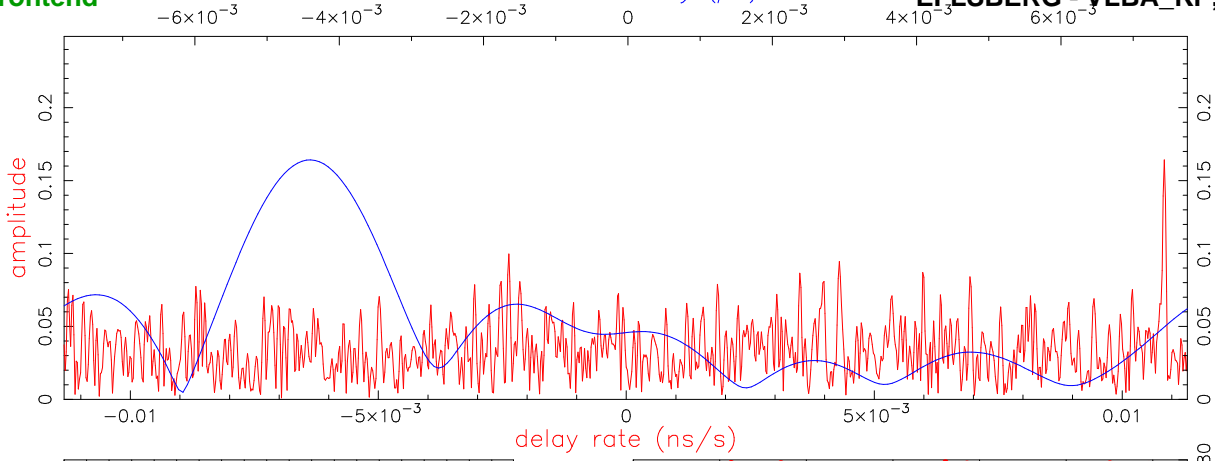
Group delay (usec)(sbd)	-6.75079317113E+02	Apriori delay (usec)	-6.75194008227E+02	Resid mbdelay (usec)	5.31611E-03	+/-	2.0E-04
Sband delay (usec)	-6.75080279227E+02	Apriori clock (usec)	-2.2197992E-01	Resid sbdelay (usec)	1.13729E-01	+/-	1.6E-03
Phase delay (usec)	-6.75194008434E+02	Apriori clockrate (us/s)	-4.7816091E-08	Resid phdelay (usec)	-2.07375E-07	+/-	6.7E-07
Delay rate (us/s)	-6.40106493403E-02	Apriori rate (us/s)	-6.40014652630E-02	Resid rate (us/s)	-9.18408E-06	+/-	6.5E-09
Total phase (deg)	-319.2	Apriori accel (us/s/s)	1.82917948754E-05	Resid phase (deg)	-6.4	+/-	20.8

ph/seg (deg)	47.8	Theor.	48.8	Amplitude	0.200 +/- 0.036	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	58.4		85.2	Search (1024X32)	0.145	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	25.8		29.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	39.0		51.4	Inc. seg. avg.	0.195	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.188	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

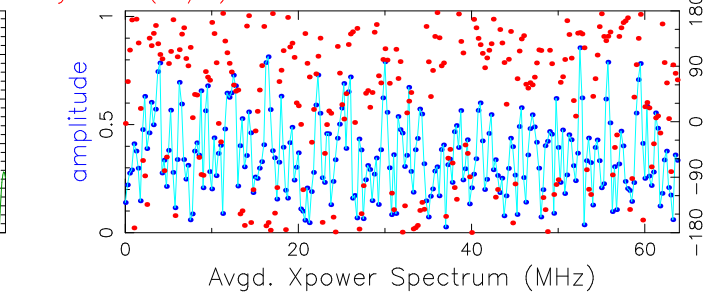
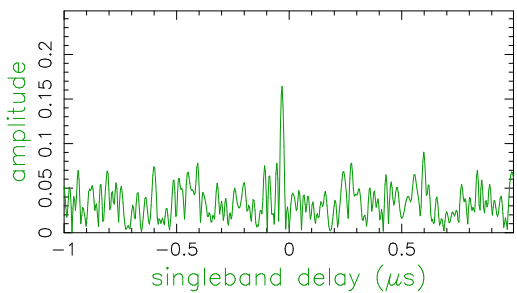
b: az 88.3 el 52.8 pa -56.9 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 477.387 2608.265 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/bk.W.33.127ARX

multiband delay (μ s)

Fringe quality 0

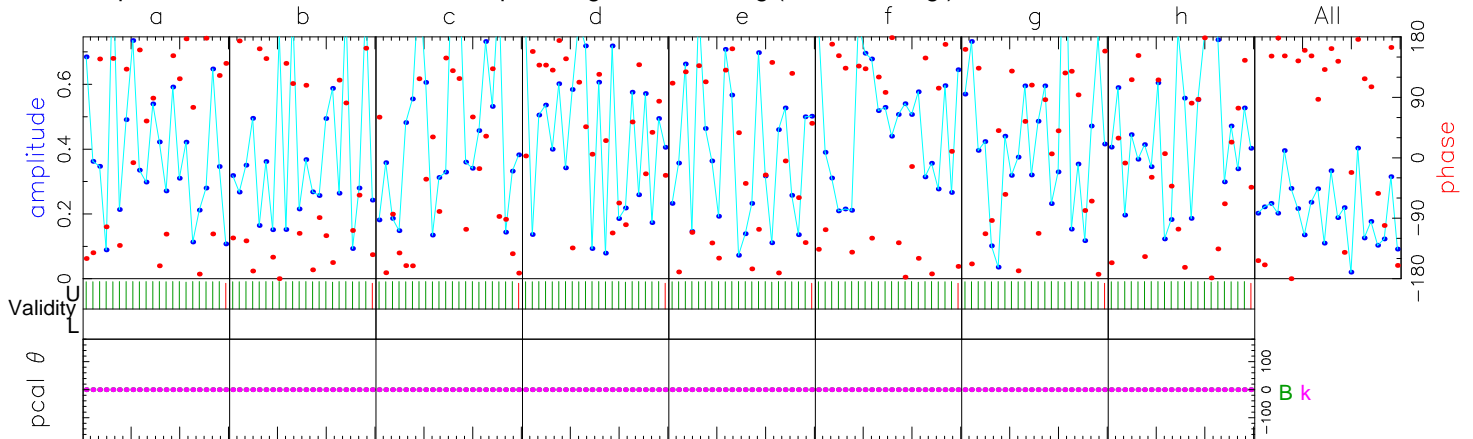


SNR 6.0
 Int time 179.012
 Amp 0.249
 Phase 163.7
 PFD 1.8e-01
 Delays (us)
 SBD -0.032152
 MBD -0.004415
 Fringe rate (Hz)
 0.935115
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131714
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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

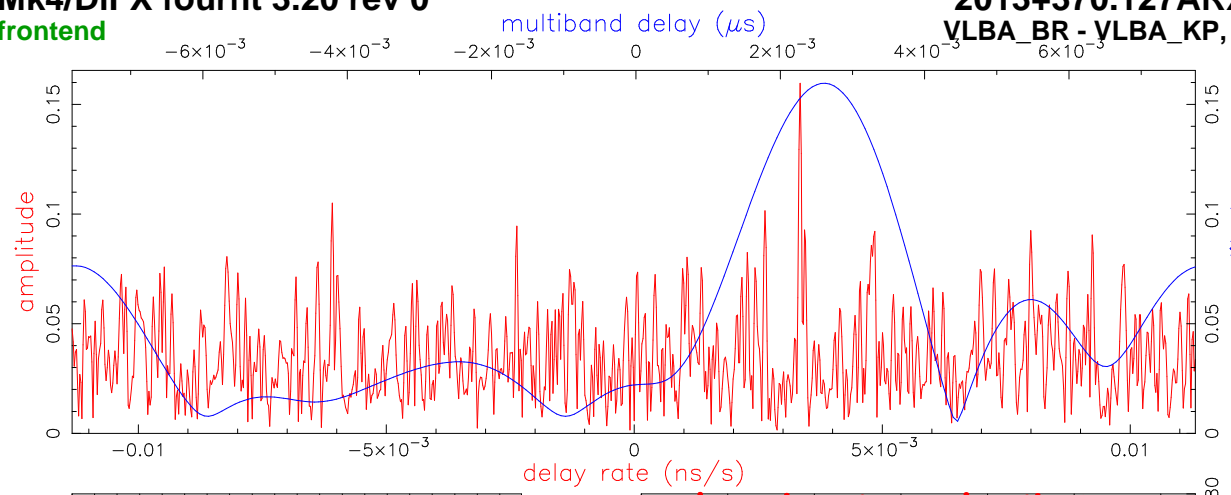


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	166.1	175.0	159.2	105.2	163.0	177.6	151.1	174.5	Phase	163.7
	0.3	0.3	0.2	0.2	0.2	0.4	0.2	0.2	Ampl.	0.2
	202.8	20.8	371.8	254.7	49.0	48.9	319.7	129.0	Sbd box	248.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-5.41724694721E+03		Apriori delay (usec)		-5.41721128260E+03		Resid mbdelay (usec)		-4.41461E-03	+/- 1.8E-04
Sband delay (usec)	-5.41724343460E+03		Apriori clock (usec)		1.7199942E+01		Resid sbdelay (usec)		-3.21520E-02	+/- 1.4E-03
Phase delay (usec)	-5.41721127733E+03		Apriori clockrate (us/s)		-5.4210100E-09		Resid phdelay (usec)		5.27751E-06	+/- 6.1E-07
Delay rate (us/s)	-1.45545367228E+00		Apriori rate (us/s)		-1.45546452804E+00		Resid rate (us/s)		1.08558E-05	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		4.54638514456E-05		Resid phase (deg)		163.7	+/- 19.0

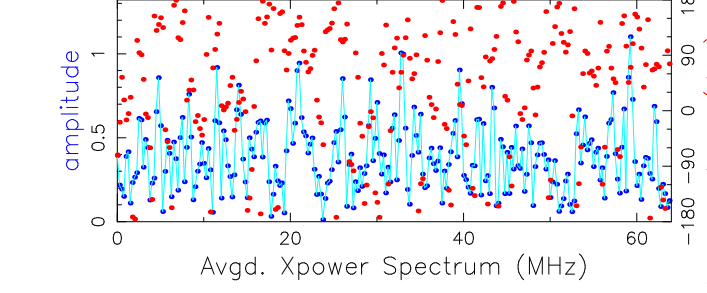
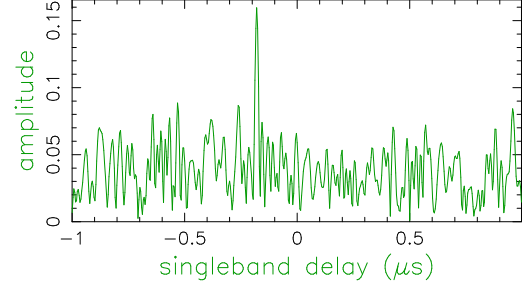
	RMS	Theor.	Amplitude	0.249 +/- 0.041	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	61.2	44.5	Search (1024X32)	0.161	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	64.0	77.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	25.9	26.8	Inc. seg. avg.	0.243	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	33.1	46.8	Inc. frq. avg.	0.236	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite
						ion window (TEC) 0.00 0.00

Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, bk
 VLBA_BR - VLBA_KP, fgroup W, pol LR

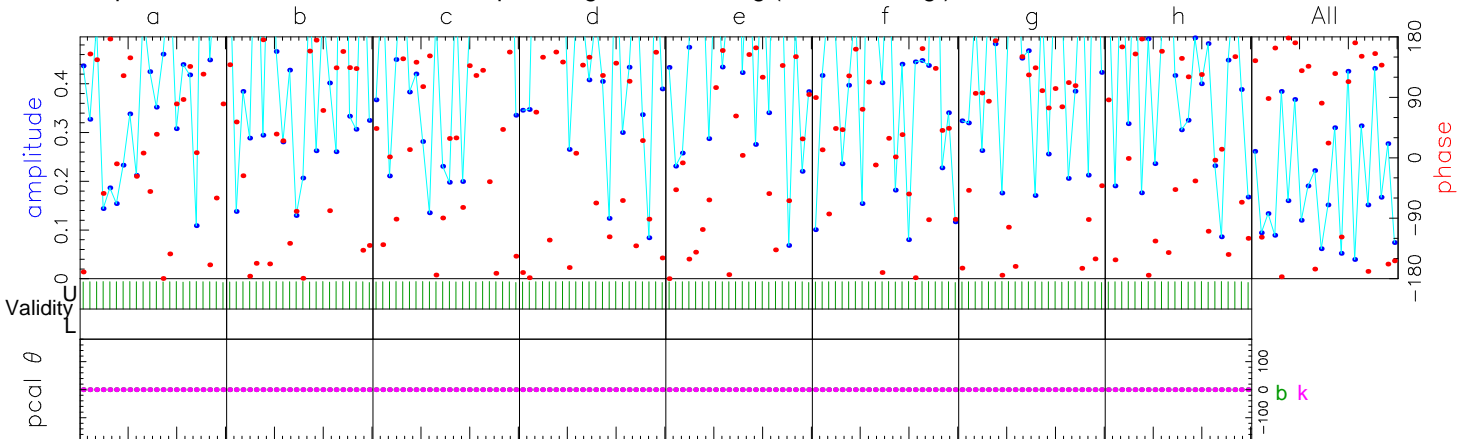


Fringe quality 0
 SNR 5.8
 Int time 178.721
 Amp 0.166
 Phase 155.7
 PFD 4.9e-01
 Delays (us)
 SBD -0.179627
 MBD 0.002607
 Fringe rate (Hz) 0.287709
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131715
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-6.75378901605E+02		Apriori delay (usec)		-6.75194008227E+02		Resid mbdelay (usec)		2.60662E-03	+/- 1.9E-04
Sband delay (usec)	-6.75373635227E+02		Apriori clock (usec)		-2.2197992E-01		Resid sbdelay (usec)		-1.79627E-01	+/- 1.5E-03
Phase delay (usec)	-6.75194003206E+02		Apriori clockrate (us/s)		-4.7816091E-08		Resid phdelay (usec)		5.02145E-06	+/- 6.3E-07
Delay rate (us/s)	-6.39981252429E-02		Apriori rate (us/s)		-6.40014652630E-02		Resid rate (us/s)		3.34002E-06	+/- 6.1E-09
Total phase (deg)			Apriori accel (us/s/s)		1.82917948754E-05		Resid phase (deg)		155.7	+/- 19.6

ph/seg (deg) 50.7 46.0 Search (1024X32) 0.157 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 81.1 80.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 33.1 27.8 Inc. seg. avg. 0.160 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 28.6 48.5 Inc. frq. avg. 0.163 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 b: az 88.3 el 52.8 pa -56.9 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 477.387 2608.265 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/bk.W.58.127ARX

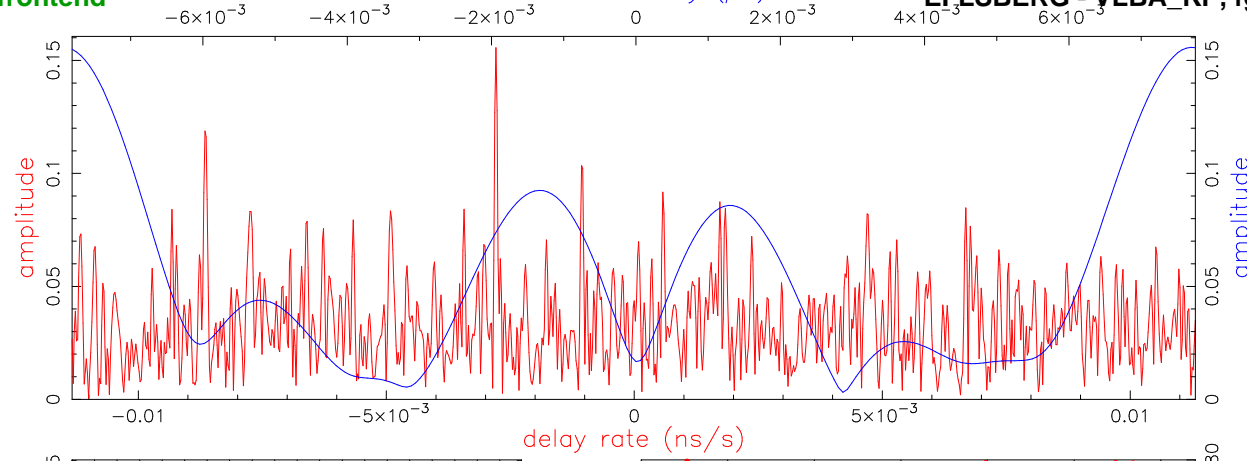
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, Bk

EFLSBERG - VLBA_KP, fgroup W, pol RL

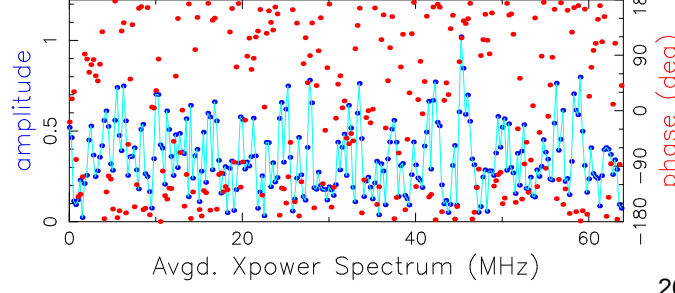
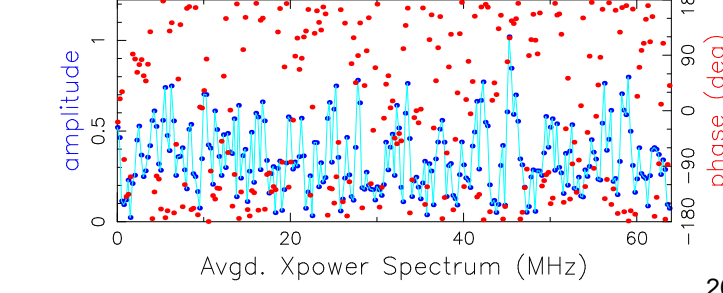
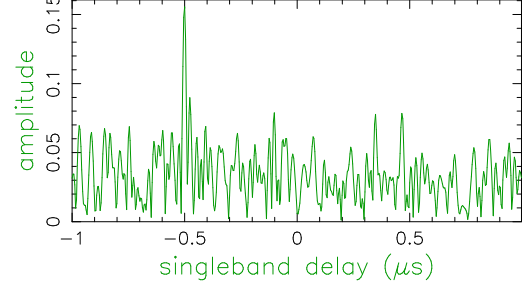
multiband delay (μs)



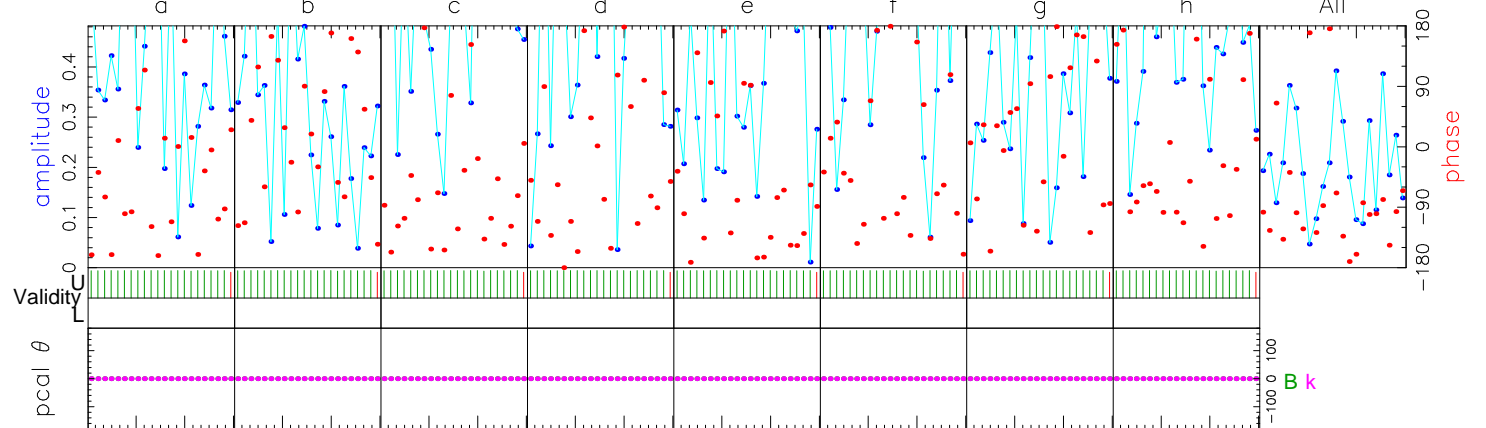
Fringe quality 0

SNR 5.7
Int time 179.012
Amp 0.161
Phase -104.6
PFD 7.1e-01
Delays (us)
SBD -0.500991
MBD -0.007972
Fringe rate (Hz) -0.240480
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512

Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131716
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-108.1	2.5	-98.0	-118.1	-131.9	-106.4	-103.2	-85.2	Phase	-104.6
	0.2	0.0	0.3	0.1	0.2	0.3	0.0	0.2	Ampl.	0.2
	182.3	211.0	369.5	292.9	144.3	129.1	451.1	424.0	Sbd box	128.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
B:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
B	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-5.41771925457E+03		Apriori delay (usec)		-5.41721128260E+03		Resid mbdelay (usec)		-7.97197E-03	+/- 1.9E-04
Sband delay (usec)	-5.41771227385E+03		Apriori clock (usec)		1.7199942E+01		Resid sbdelay (usec)		-5.00991E-01	+/- 1.5E-03
Phase delay (usec)	-5.41721128597E+03		Apriori clockrate (us/s)		-5.4210100E-09		Resid phdelay (usec)		-3.37169E-06	+/- 6.4E-07
Delay rate (us/s)	-1.45546731978E+00		Apriori rate (us/s)		-1.45546452804E+00		Resid rate (us/s)		-2.79174E-06	+/- 6.2E-09
Total phase (deg)			Apriori accel (us/s/s)		4.54638514456E-05		Resid phase (deg)		-104.6	+/- 20.0

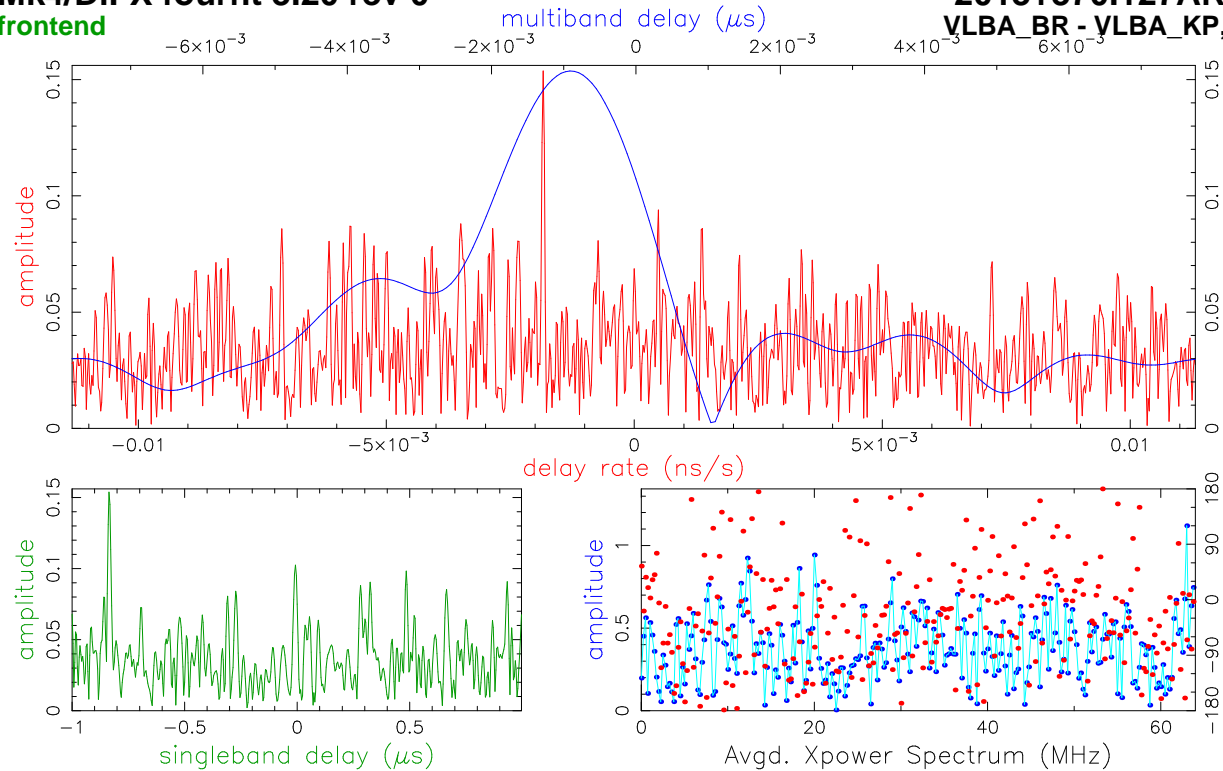
ph/seg (deg) 53.9 46.9 Search (1024X32) 0.153 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 70.3 81.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 46.3 28.3 Inc. seg. avg. 0.160 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 59.7 49.3 Inc. frq. avg. 0.152 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
B: az 287.8 el 35.4 pa 49.5 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 10509.625 4363.968 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/Bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/Bk.W.65.127ARX

Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, bk

VLBA_BR - VLBA_KP, fgroup W, pol RL

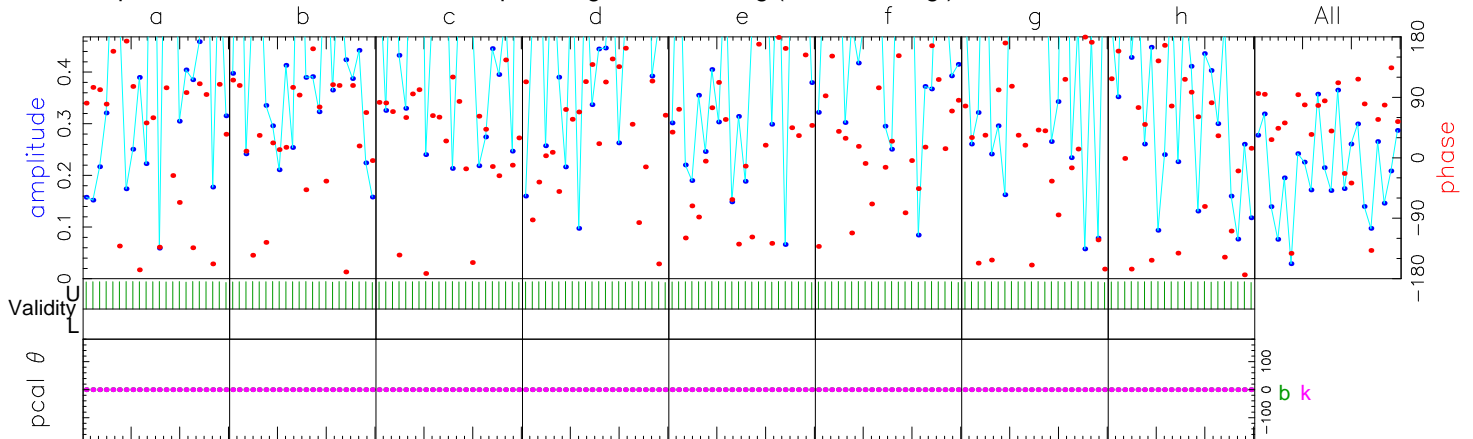


Fringe quality 0

SNR 5.6
 Int time 178.721
 Amp 0.156
 Phase 75.2
 PFD 8.6e-01
 Delays (us)
 SBD -0.835105
 MBD -0.000902
 Fringe rate (Hz)
 -0.157828
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131718
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All				
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0						
b	1000	1000	1000	1000	1000	1000	1000	1000	APs used					
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
b:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC					
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
k	1000	1000	1000	1000	1000	1000	1000	1000						
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids					
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks					
Group delay (usec)(sbd)	-6.76023035067E+02								Apriori delay (usec)	-6.75194008227E+02	Resid mbdelay (usec)	-9.01840E-04	+/-	1.9E-04
Sband delay (usec)	-6.76029113227E+02								Apriori clock (usec)	-2.2197992E-01	Resid sbdelay (usec)	-8.35105E-01	+/-	1.5E-03
Phase delay (usec)	-6.75194005803E+02								Apriori clockrate (us/s)	-4.7816091E-08	Resid phdelay (usec)	2.42355E-06	+/-	6.5E-07
Delay rate (us/s)	-6.40032974910E-02								Apriori rate (us/s)	-6.40014652630E-02	Resid rate (us/s)	-1.83223E-06	+/-	6.3E-09
Total phase (deg)			-237.6						Apriori accel (us/s/s)	1.82917948754E-05	Resid phase (deg)	75.2	+/-	20.3

ph/seg (deg) 60.3 47.6 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 67.2 83.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 23.8 28.7 Inc. seg. avg. 0.159 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 42.5 50.1 Inc. frq. avg. 0.146 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 b: az 88.3 el 52.8 pa -56.9 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 477.387 2608.265 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/bk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/bk.W.75.127ARX

Mk4/DiFX fourfit 3.20 rev 0

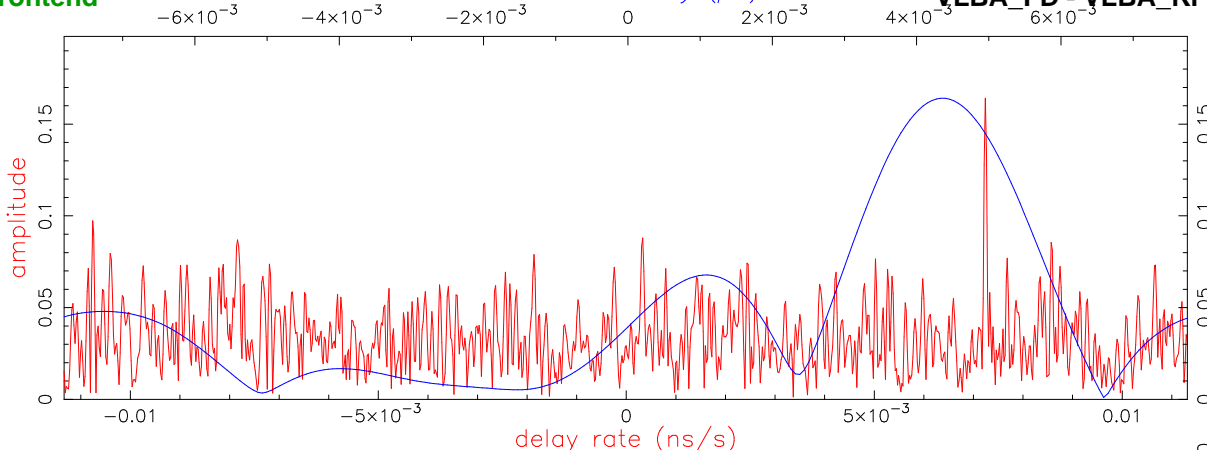
frontend

2013+370.127ARX, No0065, fk

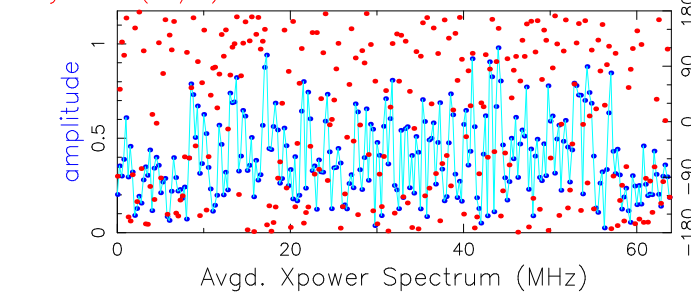
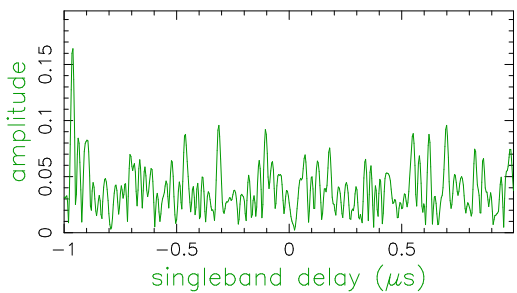
VLBA_FD - VLBA_KP, fgroup W, pol RR

multiband delay (μ s)

Fringe quality 0

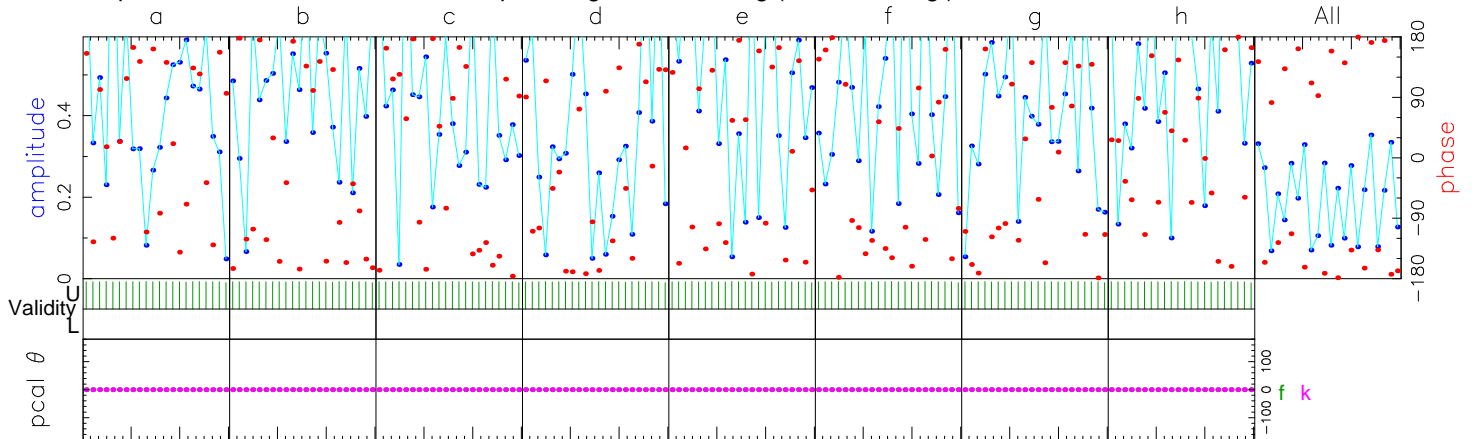


SNR 6.1
 Int time 178.462
 Amp 0.198
 Phase -175.5
 PFD 1.5e-01
 Delays (us)
 SBD -0.962361
 MBD 0.004332
 Fringe rate (Hz) 0.623934
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131724
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.07536007553E+03				1.07632449317E+03				Resid mbdelay (usec)	4.33236E-03 +/- 1.8E-04
Sband delay (usec)	1.07536213217E+03				8.7364858E-01				Resid sbdelay (usec)	-9.62361E-01 +/- 1.4E-03
Phase delay (usec)	1.07632448751E+03				1.0362949E-07				Resid phdelay (usec)	-5.66032E-06 +/- 6.1E-07
Delay rate (us/s)	-1.03851891819E-01				-1.03859135078E-01				Resid rate (us/s)	7.24326E-06 +/- 5.8E-09
Total phase (deg)			127.5		-7.06460941952E-06				Resid phase (deg)	-175.5 +/- 18.9

ph/seg (deg) 43.8 44.2 Search (1024X32) 0.161 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 61.6 77.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 20.6 26.7 Inc. seg. avg. 0.183 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 38.8 46.6 Inc. frq. avg. 0.184 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 67.5 el 61.5 pa -93.1 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 741.564 -565.373 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/fk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/fk.W.113.127ARX

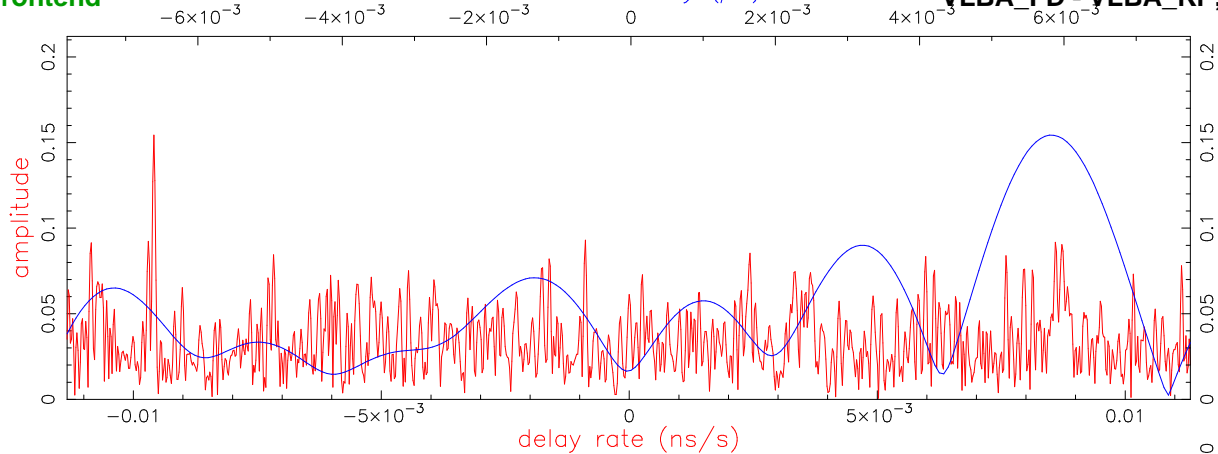
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, fk

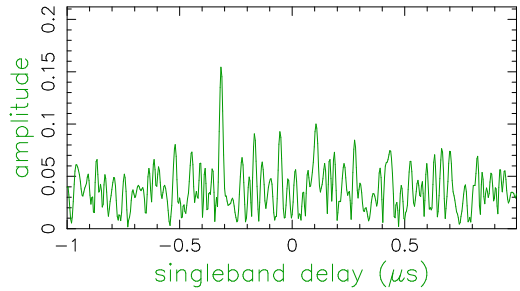
VLBA_FD - VLBA_KP, fgroup W, pol LR

multiband delay (μ s)

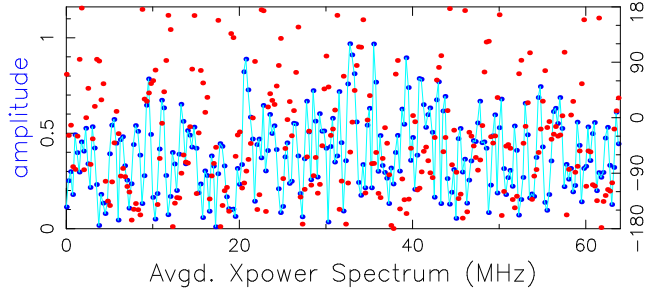


Fringe quality 0

SNR 5.7
 Int time 178.463
 Amp 0.212
 Phase -167.8
 PFD 8.5e-01
 Delays (us)
 SBD -0.315731
 MBD 0.005846
 Fringe rate (Hz)
 -0.827099
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

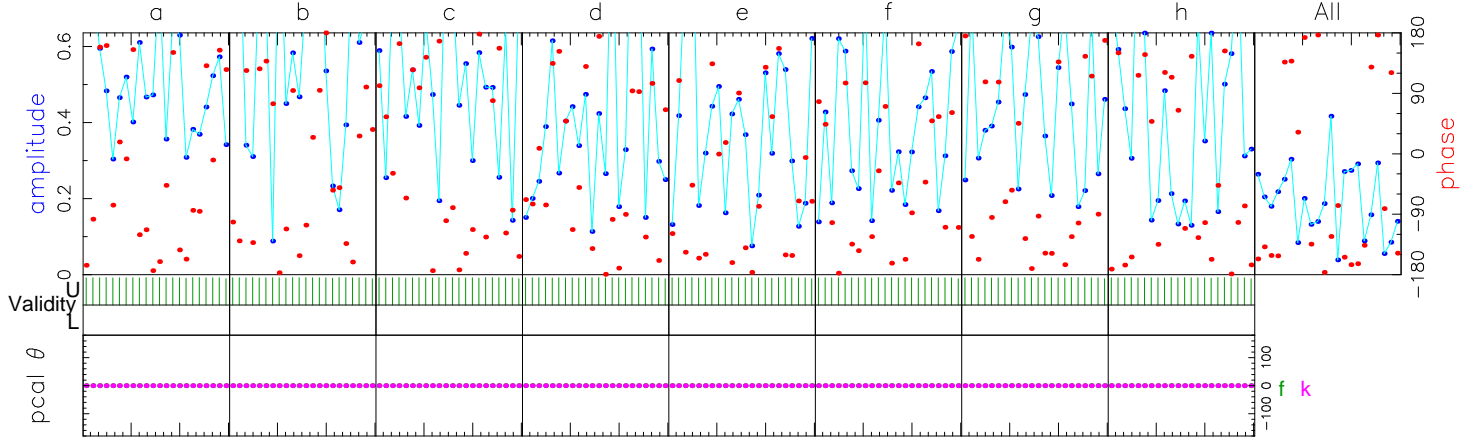


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131727
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-152.1	172.9	-159.3	150.5	-149.4	110.7	-149.7	-174.6	Phase	-167.8
	0.3	0.2	0.3	0.1	0.1	0.1	0.3	0.4	Ampl.	0.2
	139.8	499.0	506.2	214.4	339.3	413.0	156.4	175.7	Sbd box	176.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	1.07600221391E+03		Apriori delay (usec)		1.07632449317E+03		Resid mbdelay (usec)		5.84573E-03	+/- 1.9E-04
Sband delay (usec)	1.07600876192E+03		Apriori clock (usec)		8.7364858E-01		Resid sbdelay (usec)		-3.15731E-01	+/- 1.5E-03
Phase delay (usec)	1.07632448776E+03		Apriori clockrate (us/s)		1.0362949E-07		Resid phdelay (usec)		-5.40974E-06	+/- 6.5E-07
Delay rate (us/s)	-1.03868736874E-01		Apriori rate (us/s)		-1.03859135078E-01		Resid rate (us/s)		-9.60180E-06	+/- 6.3E-09
Total phase (deg)			Apriori accel (us/s/s)		-7.06460941952E-06		Resid phase (deg)		-167.8	+/- 20.3

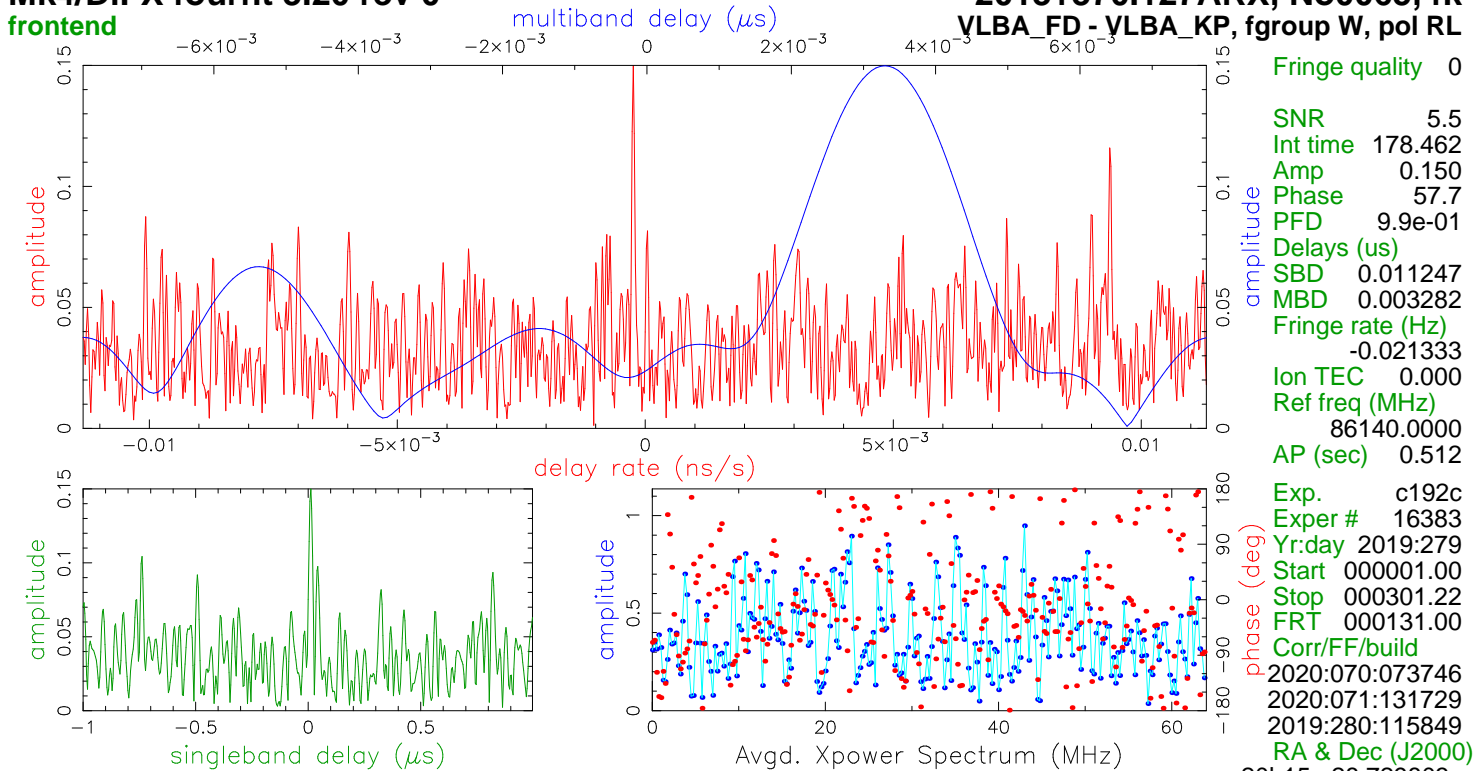
ph/seg (deg) 53.8 47.5 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 65.6 83.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 40.4 28.7 Inc. seg. avg. 0.198 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 47.9 50.0 Inc. frq. avg. 0.203 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 f: az 67.5 el 61.5 pa -93.1 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 741.564 -565.373 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/fk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/fk.W.134.127ARX

Mk4/DiFX fourfit 3.20 rev 0

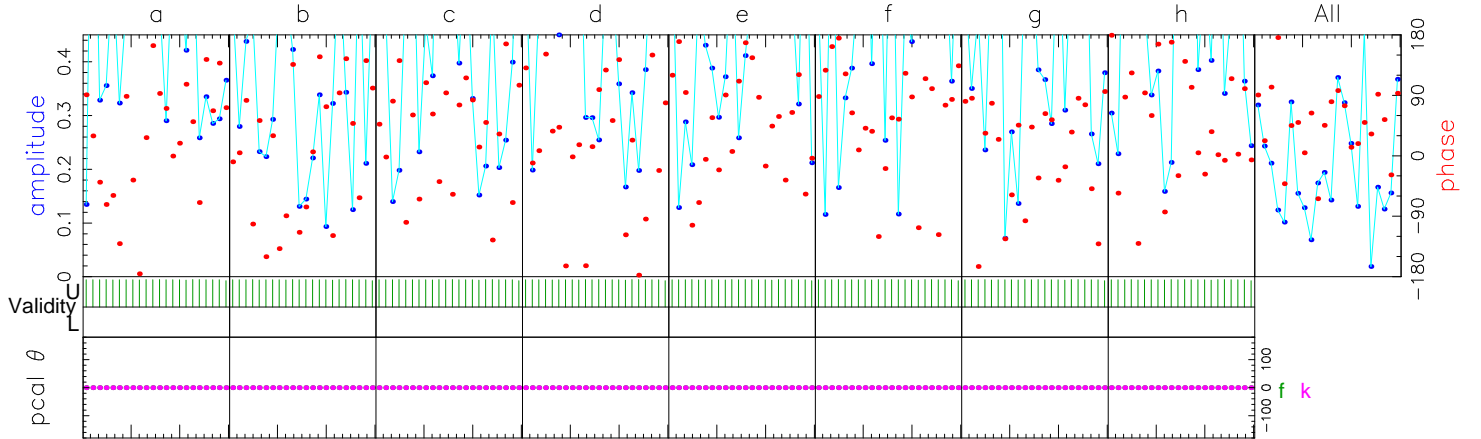
frontend

2013+370.127ARX, No0065, fk

VLBA_FD - VLBA_KP, fgroup W, pol RL



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
51.3	122.9	55.4	58.9	41.7	93.5	38.8	59.7	59.7	Phase	57.7
0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.2	0.2	Ampl.	0.1
413.7	82.8	235.8	99.7	102.2	65.4	238.7	33.2	33.2	Sbd box	259.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	1.07634340056E+03		Apriori delay (usec)	1.07632449317E+03	Resid mbdelay (usec)	3.28239E-03	+/-	2.0E-04		
Sband delay (usec)	1.07633574017E+03		Apriori clock (usec)	8.7364858E-01	Resid sbdelay (usec)	1.12470E-02	+/-	1.6E-03		
Phase delay (usec)	1.07632449503E+03		Apriori clockrate (us/s)	1.0362949E-07	Resid phdelay (usec)	1.86008E-06	+/-	6.7E-07		
Delay rate (us/s)	-1.03859382731E-01		Apriori rate (us/s)	-1.03859135078E-01	Resid rate (us/s)	-2.47654E-07	+/-	6.5E-09		
Total phase (deg)		0.7	Apriori accel (us/s/s)	-7.06460941952E-06	Resid phase (deg)	57.7	+/-	20.9		

	RMS	Theor.	Amplitude	0.150 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	53.4	49.0	Search (1024X32)	0.147	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/seg (%)	81.7	85.6	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
ph/frq (deg)	32.2	29.6	Inc. seg. avg.	0.151	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00
amp/frq (%)	41.3	51.6	Inc. frq. avg.	0.140					

f: az 67.5 el 61.5 pa -93.1 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 741.564 -565.373 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/fk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/fk.W.150.127ARX

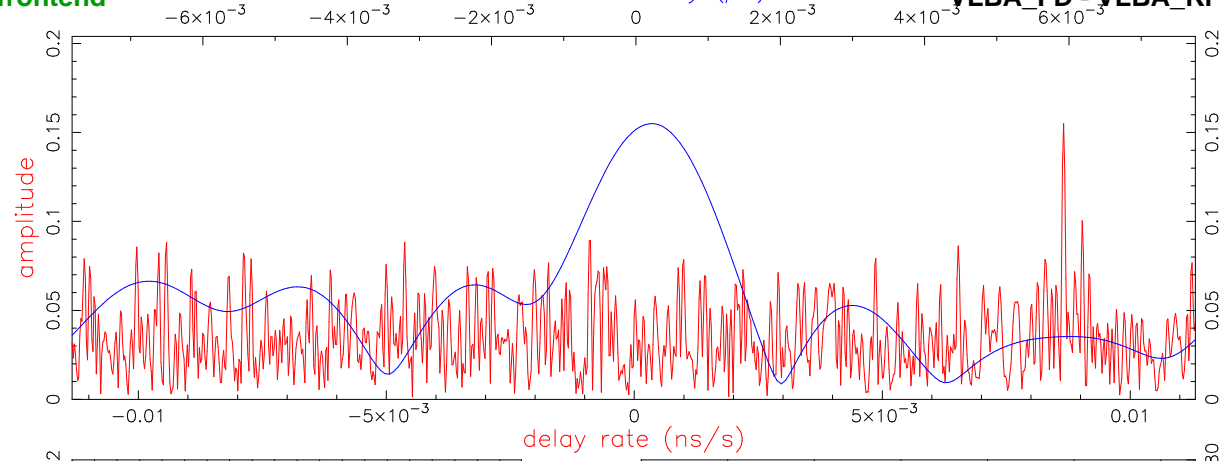
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, fk

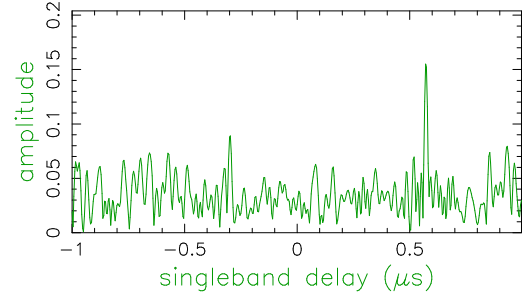
VLBA_FD - VLBA_KP, fgroup W, pol LL

multiband delay (μ s)

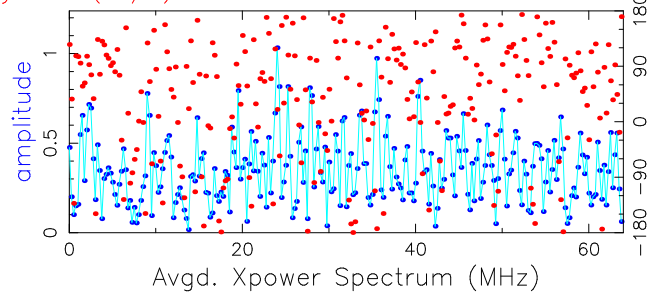


Fringe quality 0

SNR 5.8
 Int time 178.462
 Amp 0.204
 Phase -160.4
 PFD 5.9e-01
 Delays (us)
 SBD 0.571969
 MBD 0.000245
 Fringe rate (Hz) 0.746073
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

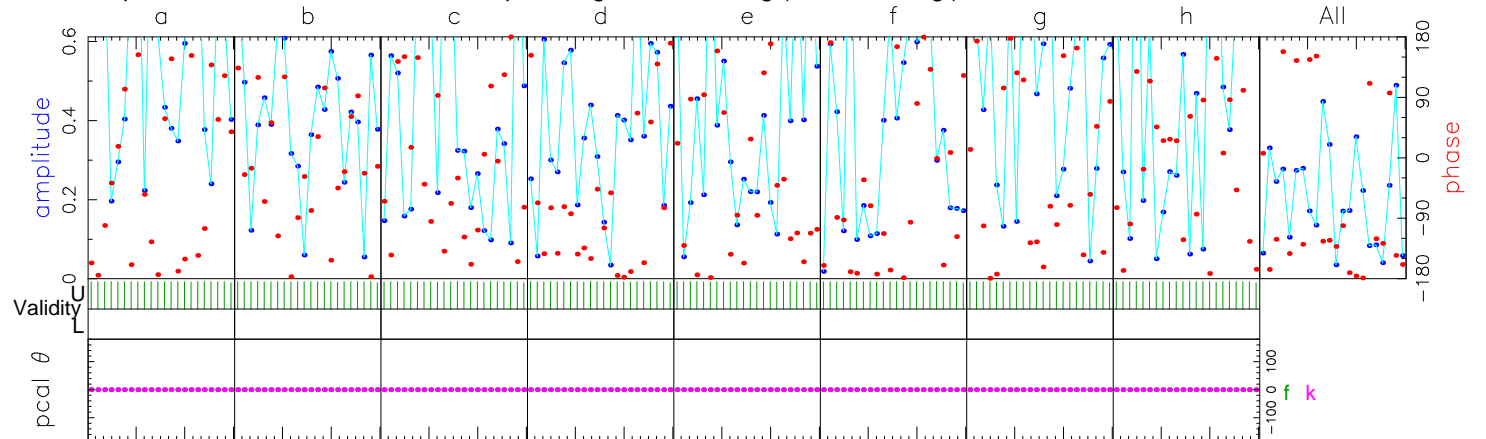


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131721
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



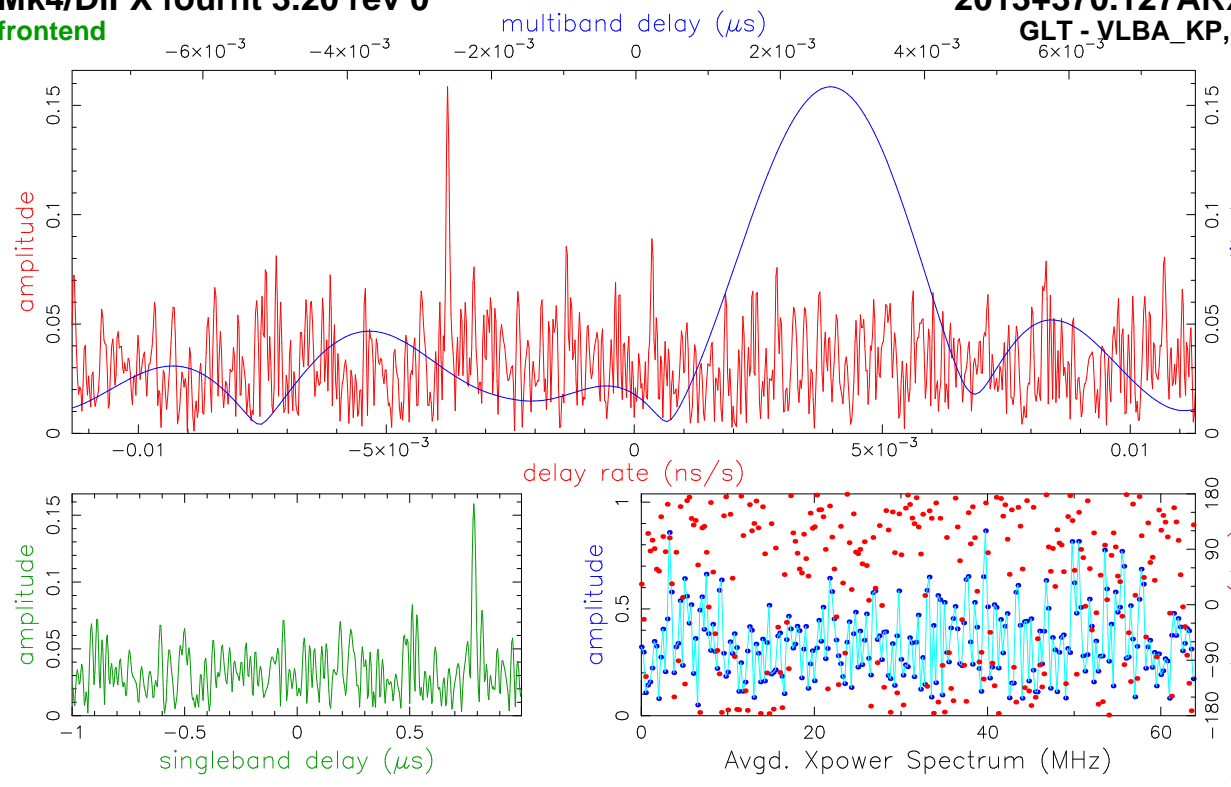
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-176.0	100.8	-123.3	-150.3	-137.4	-167.5	-161.7	169.8	Phase	-160.4
	0.4	0.0	0.2	0.2	0.2	0.3	0.2	0.2	Ampl.	0.2
	403.1	188.3	180.7	378.6	113.9	475.4	29.9	236.8	Sbd box	403.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	1.07690286302E+03	Apriori delay (usec)	1.07632449317E+03	Resid mbdelay (usec)	2.44851E-04	+/-	1.9E-04
Sband delay (usec)	1.07689646217E+03	Apriori clock (usec)	8.7364858E-01	Resid sbdelay (usec)	5.71969E-01	+/-	1.5E-03
Phase delay (usec)	1.07632448800E+03	Apriori clockrate (us/s)	1.0362949E-07	Resid phdelay (usec)	-5.17224E-06	+/-	6.4E-07
Delay rate (us/s)	-1.03850473909E-01	Apriori rate (us/s)	-1.03859135078E-01	Resid rate (us/s)	8.66117E-06	+/-	6.1E-09
Total phase (deg)	142.7	Apriori accel (us/s/s)	-7.06460941952E-06	Resid phase (deg)	-160.4	+/-	19.8

ph/seg (deg)	RMS 56.5	Theor. 46.4	Amplitude Search (1024X32)	0.153	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	87.2	81.0	Interp.	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	46.5	28.0	Inc. seg. avg.	0.204	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	48.7	48.9	Inc. frq. avg.	0.193	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

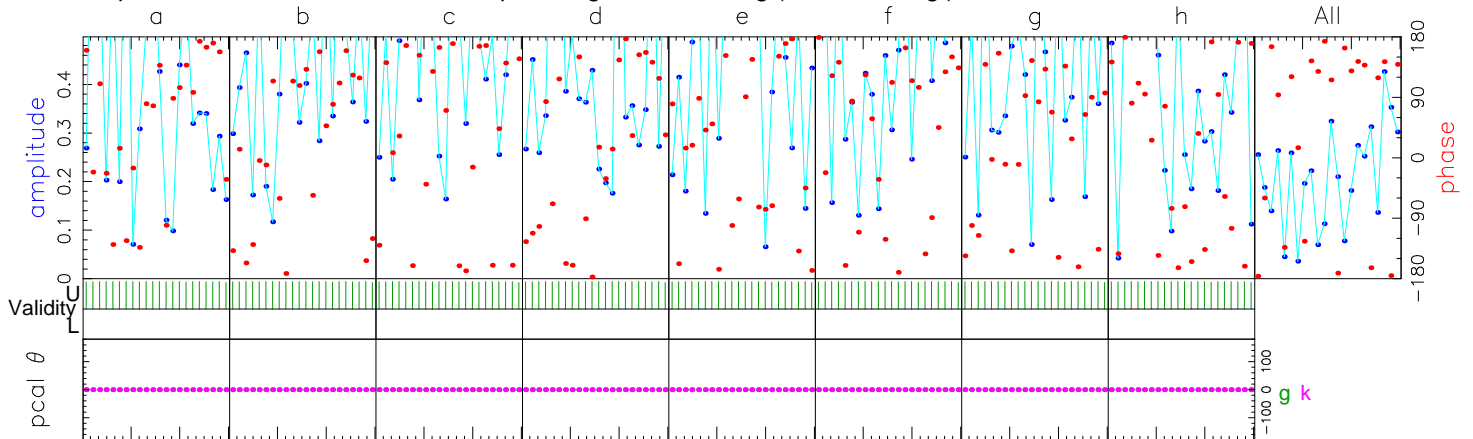
f: az 67.5 el 61.5 pa -93.1 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 741.564 -565.373 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/fk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/fk.W.89.127ARX



Fringe quality 0
 SNR 5.8
 Int time 179.188
 Amp 0.166
 Phase 153.4
 PFD 5.6e-01
 Delays (us)
 SBD 0.784871
 MBD 0.002693
 Fringe rate (Hz) -0.324611
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131730
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

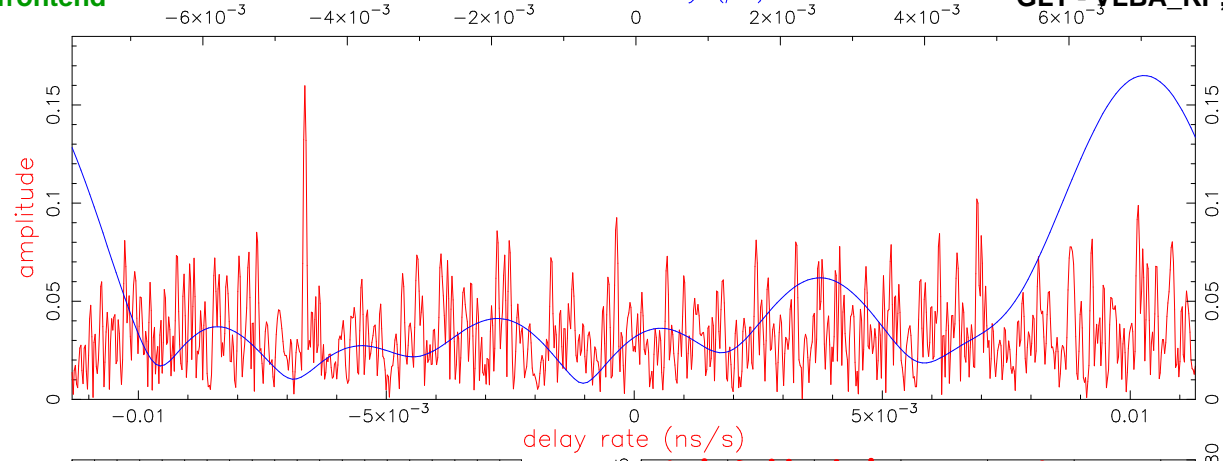
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



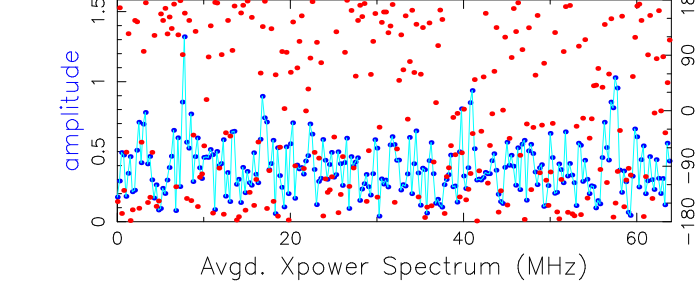
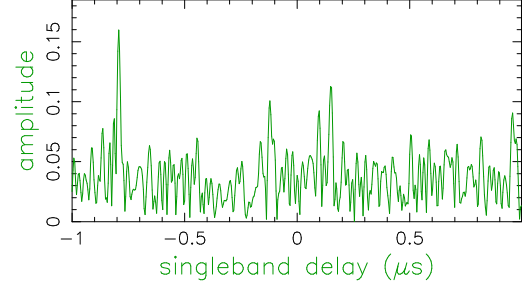
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g	0	0	0	0	0	0	0	0	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.21403835608E+03								2.69303E-03	+/- 1.9E-04
Sband delay (usec)	-1.21403742811E+03								7.84871E-01	+/- 1.5E-03
Phase delay (usec)	-1.21482229416E+03								4.94582E-06	+/- 6.4E-07
Delay rate (us/s)	-6.97259549496E-01								-3.76841E-06	+/- 6.1E-09
Total phase (deg)			-150.9						153.4	+/- 19.7
	RMS	Theor.	Amplitude	0.166 +/- 0.029						
ph/seg (deg)	55.5	46.3	Search (1024X32)	0.155						
amp/seg (%)	72.2	80.8	Interp.	0.000						
ph/frq (deg)	13.2	27.9	Inc. seg. avg.	0.166						
amp/frq (%)	37.2	48.7	Inc. frq. avg.	0.151						
g: az 182.0 el 50.7 pa 0.6			k: az 69.4 el 55.9 pa -86.3							
Control file: cf_1234_gmva			Input file: /Exps/c192c/v1_CygA2/1234/No0065/gk..127ARX							
			Output file: /Exps/c192c/v1_CygA2/1234/No0065/gk.W.154.127ARX							

g k
 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) -0.008 0.008
 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 simultaneous interpolator

multiband delay (μ s)

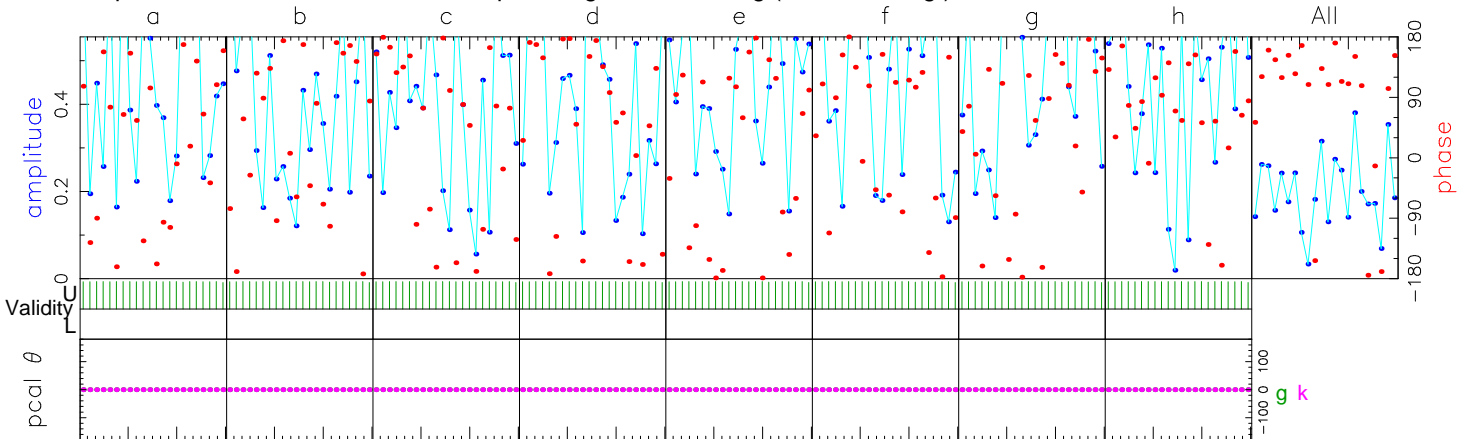


Fringe quality 0
 SNR 5.8
 Int time 179.188
 Amp 0.185
 Phase 135.1
 PFD 4.7e-01
 Delays (us)
 SBD -0.793019
 MBD -0.008301
 Fringe rate (Hz)
 -0.573878
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131734
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

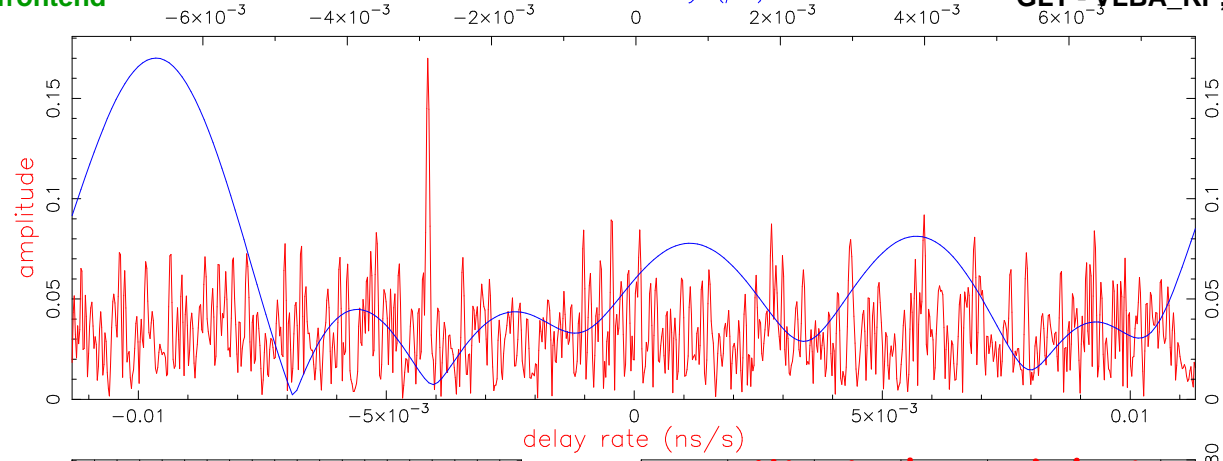
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



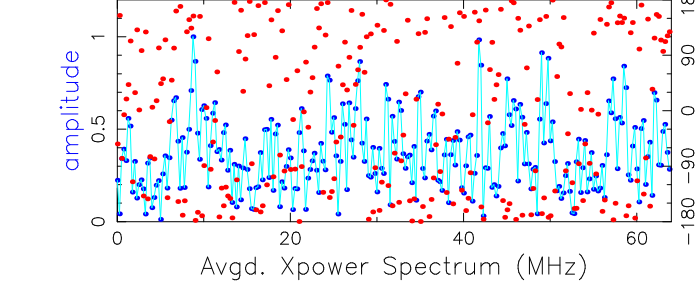
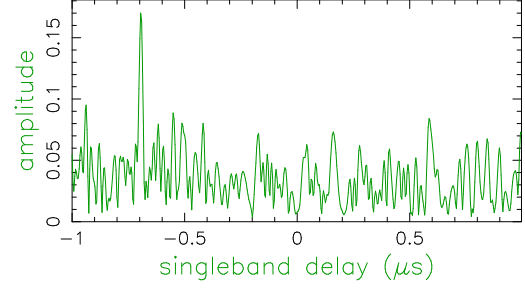
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
g	0	0	0	0	0	0	0	0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
g	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.21561184989E+03									
Sband delay (usec)	-1.21561531861E+03									
Phase delay (usec)	-1.21482229475E+03									
Delay rate (us/s)	-6.97262443238E-01									
Total phase (deg)			-169.1							
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)									135.1	+/- 19.6
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00
PC period (AP's) 5, 5										
SampCntNorm: enabled										
simultaneous interpolator										

ph/seg (deg) 46.7 46.0 Search (1024X32) 0.161 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 59.2 80.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 26.9 27.7 Inc. seg. avg. 0.177 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 34.1 48.4 Inc. frq. avg. 0.181 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 182.0 el 50.7 pa 0.6 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 5050.692 5297.985 ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/gk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/gk.W.177.127ARX

multiband delay (μ s)

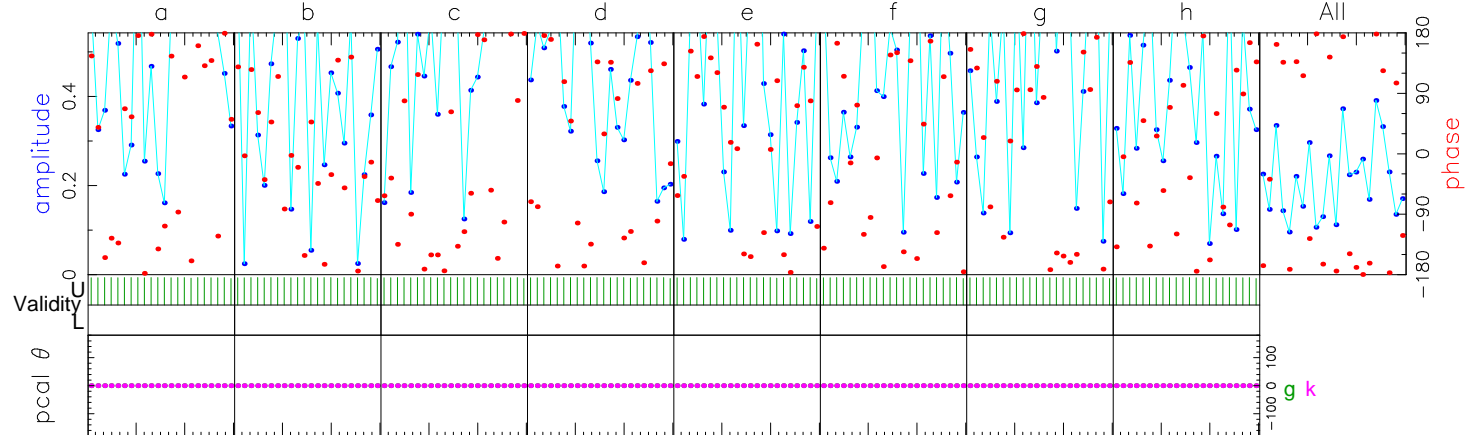


Fringe quality 0
 SNR 6.3
 Int time 179.162
 Amp 0.181
 Phase 175.4
 PFD 5.0e-02
 Delays (us)
 SBD -0.694249
 MBD -0.006613
 Fringe rate (Hz)
 -0.358163
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131737
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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

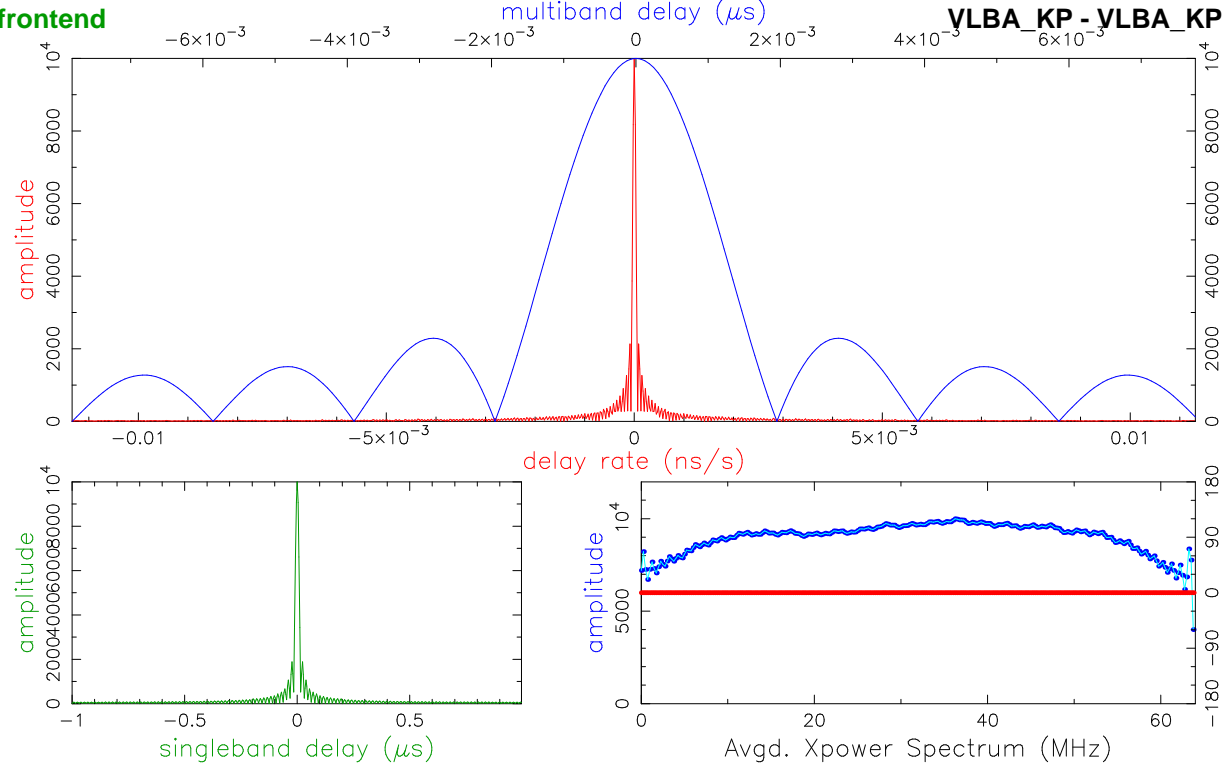


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	168.2	-13.1	-167.3	-170.5	158.0	-168.4	160.6	172.9	Phase	175.4
	0.3	0.0	0.2	0.2	0.2	0.2	0.3	0.1	Ampl.	0.2
	79.1	44.1	109.0	370.7	16.0	493.2	387.9	92.4	Sbd box	79.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
g	0	0	0	0	0	0	0	0	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
g:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
g	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.21551641194E+03		Apriori delay (usec)		-1.21482229911E+03		Resid mbdelay (usec)		-6.61283E-03	+/- 1.7E-04
Sband delay (usec)	-1.21551654786E+03		Apriori clock (usec)		1.7039311E+00		Resid sbdelay (usec)		-6.94249E-01	+/- 1.4E-03
Phase delay (usec)	-1.21482229345E+03		Apriori clockrate (us/s)		2.6957898E-07		Resid phdelay (usec)		5.65659E-06	+/- 5.9E-07
Delay rate (us/s)	-6.97259939007E-01		Apriori rate (us/s)		-6.97255781085E-01		Resid rate (us/s)		-4.15792E-06	+/- 5.7E-09
Total phase (deg)			Apriori accel (us/s/s)		3.67832990012E-05		Resid phase (deg)		175.4	+/- 18.3

ph/seg (deg) 46.3 42.9 Search (1024X32) 0.167 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 56.8 74.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 71.6 25.9 Inc. seg. avg. 0.178 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 52.7 45.2 Inc. frq. avg. 0.174 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 g: az 182.0 el 50.7 pa 0.6 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 5050.692 5297.985 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/gk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/gk.W.196.127ARX

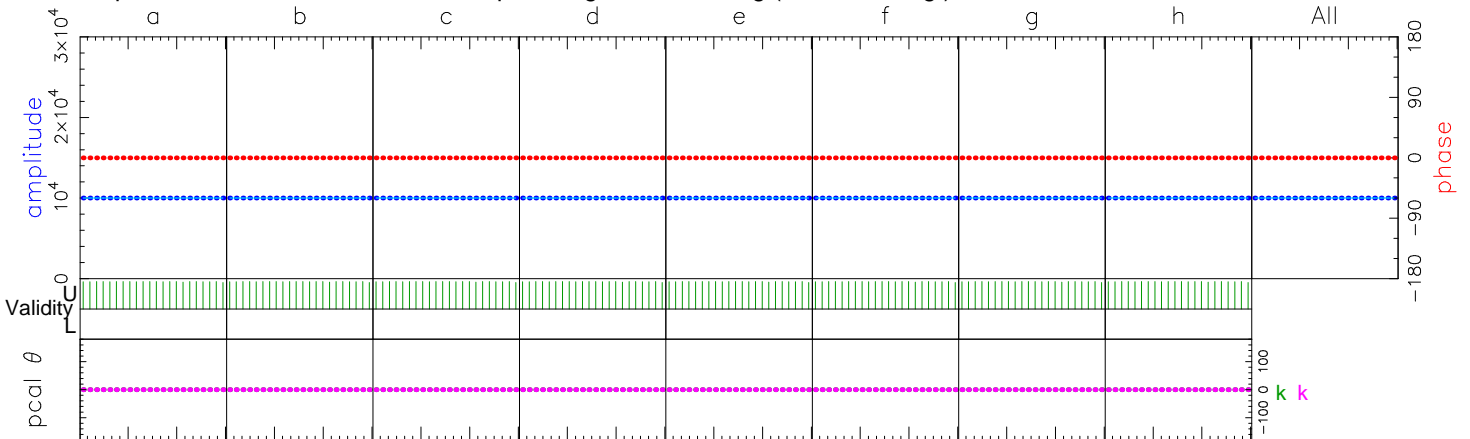
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kk
VLBA_KP - VLBA_KP, fgroup W, pol LL



Fringe quality 9
SNR 366084.6
Int time 179.212
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. c192c
Yr:day 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131733
2019:280:115849
RA & Dec (J2000) 20h15m28.729803s +37°10'59.514664"

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



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

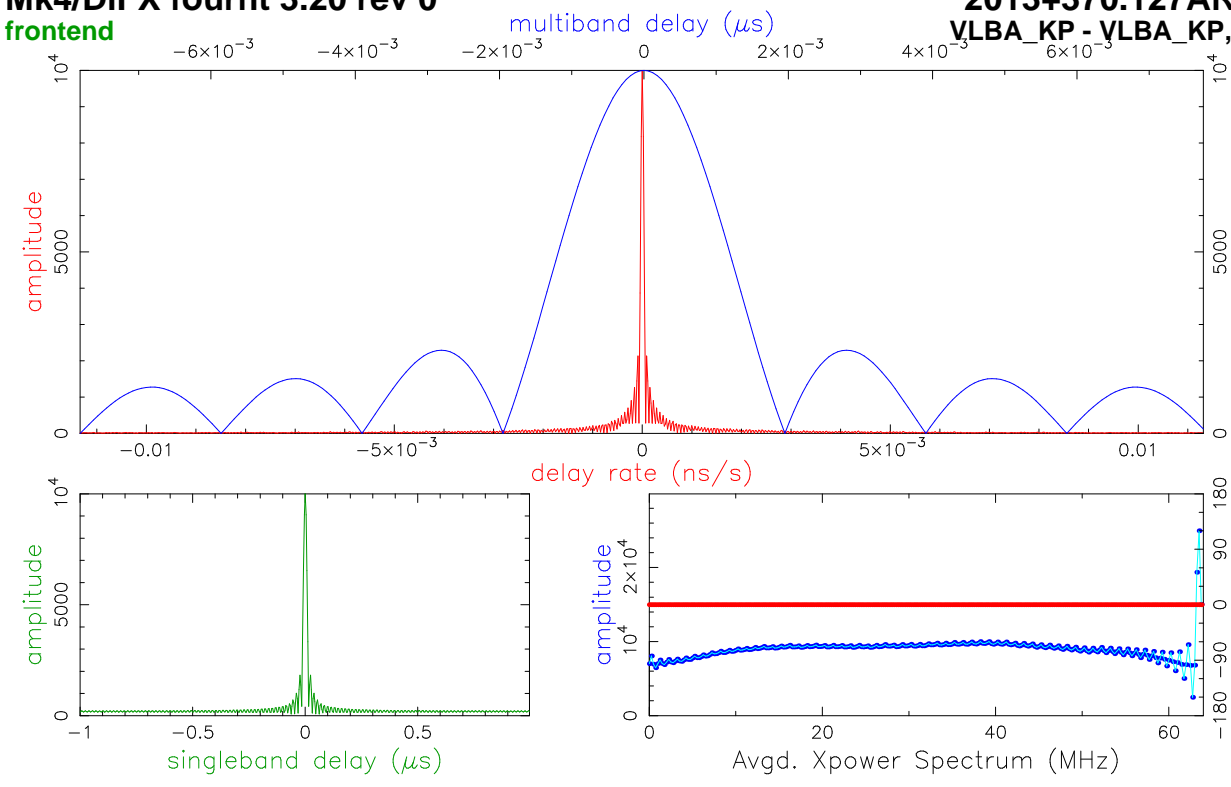
Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 3.0E-09
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 2.4E-08
 Phase delay (usec) -8.13493698652E-20 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -8.13494E-20 +/- 1.0E-11
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 9.7E-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 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.0 0.0 Search (1024X32) 10000.001 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.001 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 69.4 el 55.9 pa -86.3 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kk.127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kk.W.169.127ARX

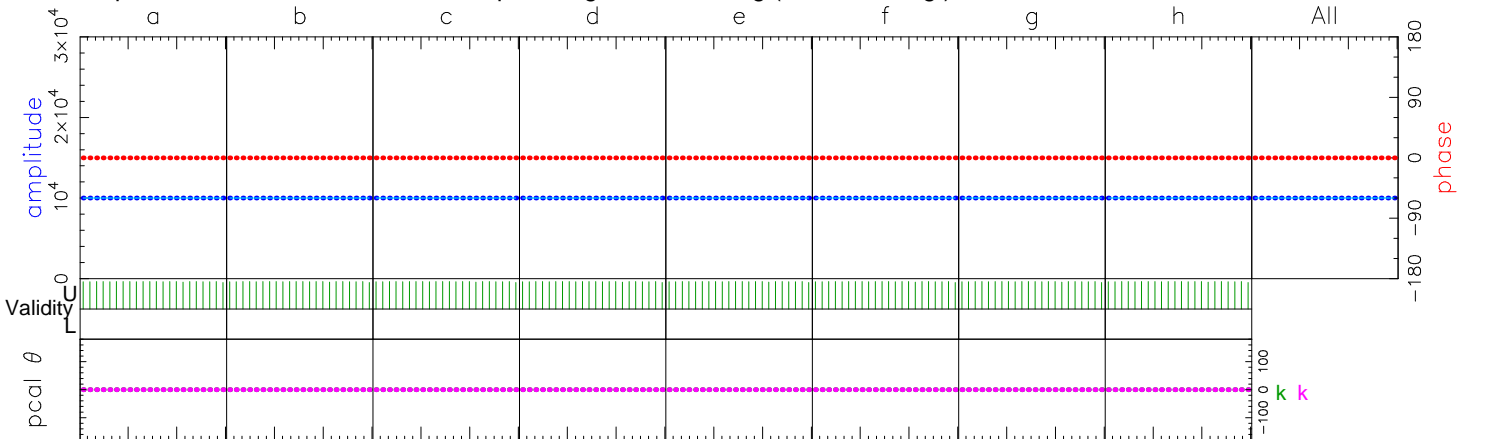
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kk
VLBA_KP - VLBA_KP, fgroup W, pol RR



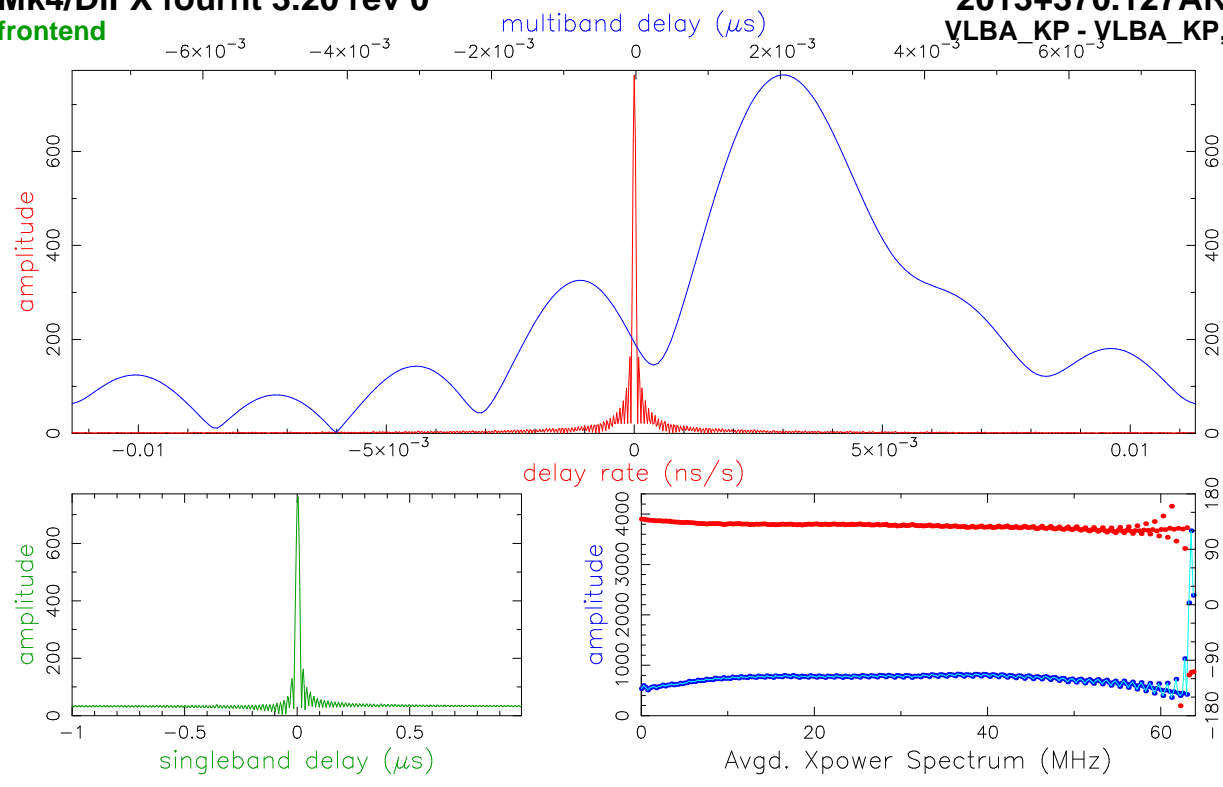
Fringe quality 9
SNR 366084.8
Int time 179.212
Amp 10000.001
Phase -0.0
PFD 0.0e+00
Delays (us)
SBD 0.000000
MBD 0.000000
Fringe rate (Hz)
0.000000
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131736
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



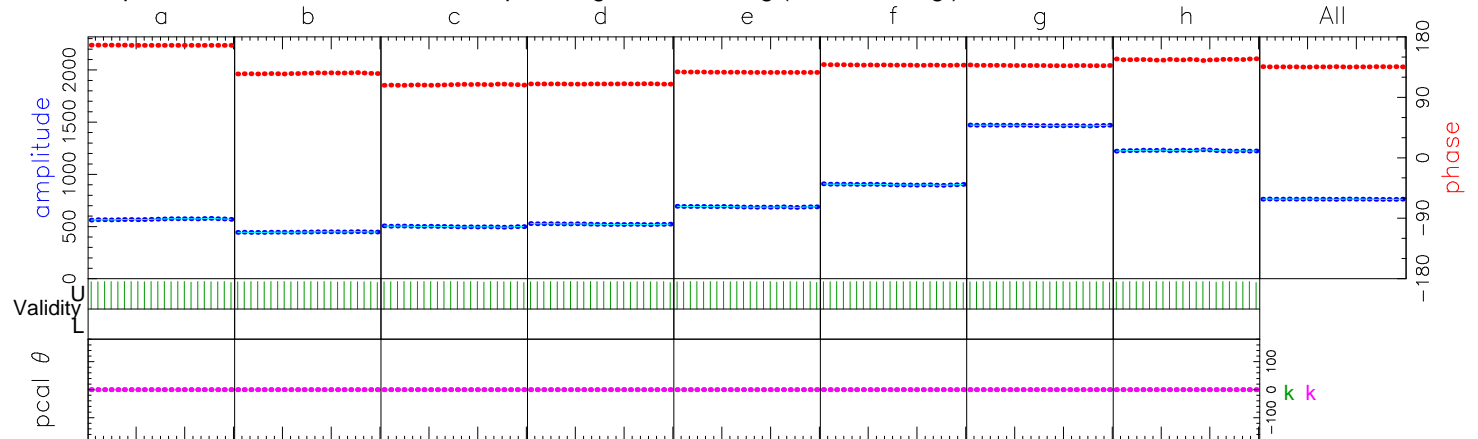
86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
-0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	Phase	-0.0
10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	10000.0	Ampl.	10000.0
257.0	257.0	257.0	257.0	257.0	257.0	257.0	257.0	Sbd box	257.0
U/L 352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:k 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:k 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k 1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k 1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks
									Tracks
Group delay (usec)(sbd)	0.0000000000E+00		Apriori delay (usec)	0.0000000000E+00		Resid mbdelay (usec)	0.00000E+00	+/-	3.0E-09
Sband delay (usec)	0.0000000000E+00		Apriori clock (usec)	0.0000000E+00		Resid sbdelay (usec)	0.00000E+00	+/-	2.4E-08
Phase delay (usec)	-1.20020578444E-19		Apriori clockrate (us/s)	0.0000000E+00		Resid phdelay (usec)	-1.20021E-19	+/-	1.0E-11
Delay rate (us/s)	0.0000000000E+00		Apriori rate (us/s)	0.0000000000E+00		Resid rate (us/s)	0.00000E+00	+/-	9.7E-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 Theor. Amplitude 10000.001 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 0.0 0.0 Search (1024X32) 10000.001 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.001 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
k: az 69.4 el 55.9 pa -86.3 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kk.W.190.127ARX



Fringe quality 6
 SNR 28283.5
 Int time 179.212
 Amp 772.595
 Phase 135.3
 PFD 0.0e+00
 Delays (us)
 SBD 0.002374
 MBD 0.001999
 Fringe rate (Hz)
 0.000009
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131738
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

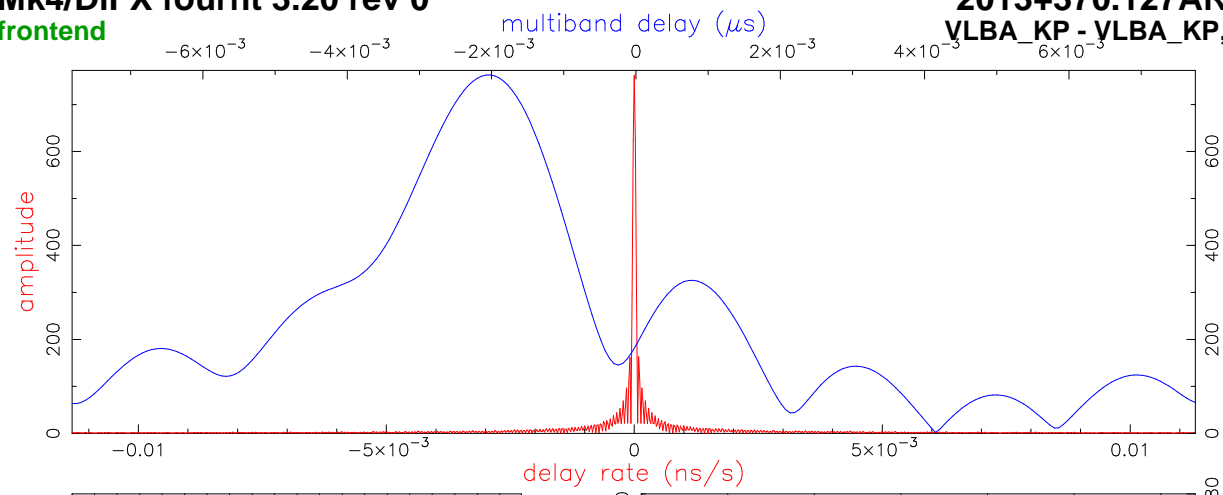
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



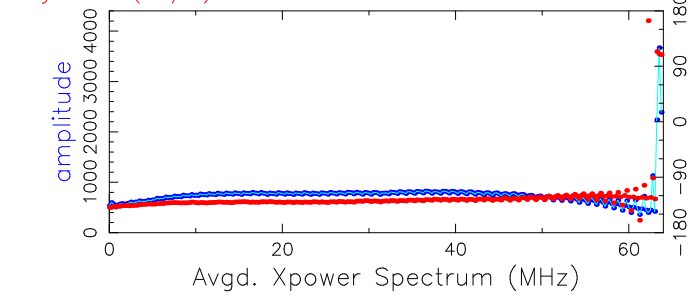
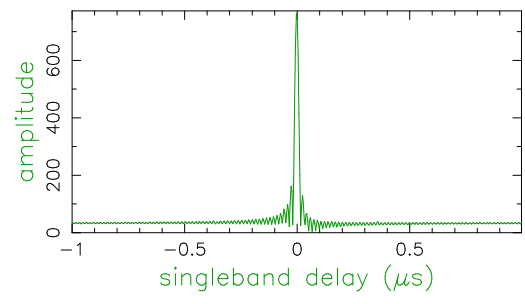
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	1.99903125000E-03								1.99903E-03	+/- 3.8E-08
Sband delay (usec)	2.37425000000E-03								2.37425E-03	+/- 3.0E-07
Phase delay (usec)	4.36445825517E-06								4.36446E-06	+/- 1.3E-10
Delay rate (us/s)	1.03449412459E-10								1.03449E-10	+/- 1.3E-12
Total phase (deg)			135.3						135.3	+/- 0.0
ph/seg (deg)	0.2	0.0								
amp/seg (%)	1.3	0.0								
ph/frq (deg)	21.1	0.0								
amp/frq (%)	45.7	0.0								
k: az 69.4 el 55.9 pa -86.3	k: az 69.4 el 55.9 pa -86.3		u, v (fr/asec) 0.000 0.000		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5		simultaneous interpolator	
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0065/kk..127ARX		Output file: /Exps/c192c/v1_CygA2/1234/No0065/kk.W.211.127ARX		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us) -1.000 1.000		mb window (us) -0.008 0.008	
					Bits/sample: 2x2		SampCntNorm: enabled		dr window (ns/s) -0.011 0.011	
					Sample rate(MISamp/s): 128		Resid rate (us/s)		ion window (TEC) 0.00 0.00	
					Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite			

Mk4/DiFX fourfit 3.20 rev 0
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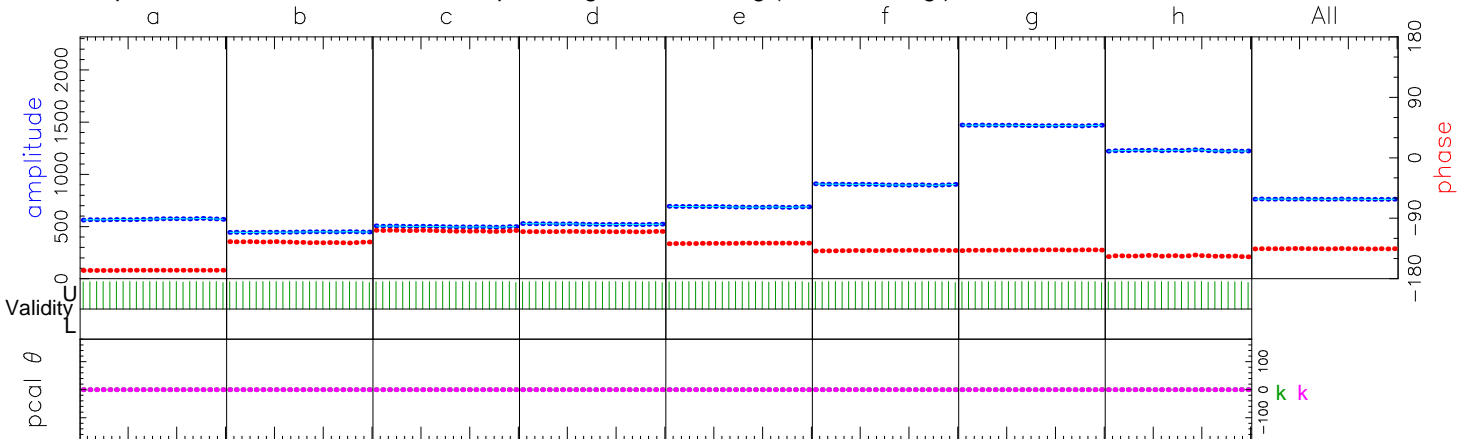
2013+370.127ARX, No0065, kk
 VLBA_KP - VLBA_KP, fgroup W, pol RL



Fringe quality 6
 SNR 28283.5
 Int time 179.212
 Amp 772.594
 Phase -135.3
 PFD 0.0e+00
 Delays (us)
 SBD -0.002374
 MBD -0.001999
 Fringe rate (Hz)
 -0.000009
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131740
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-167.4	-125.6	-108.6	-109.8	-127.2	-138.0	-137.3	-146.1	Phase	-135.3
	570.4	447.3	499.7	523.1	688.7	902.1	1468.6	1228.0	Ampl.	791.0
	256.8	257.0	256.4	256.6	256.2	256.6	256.4	255.5	Sbd box	256.4
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:k	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	

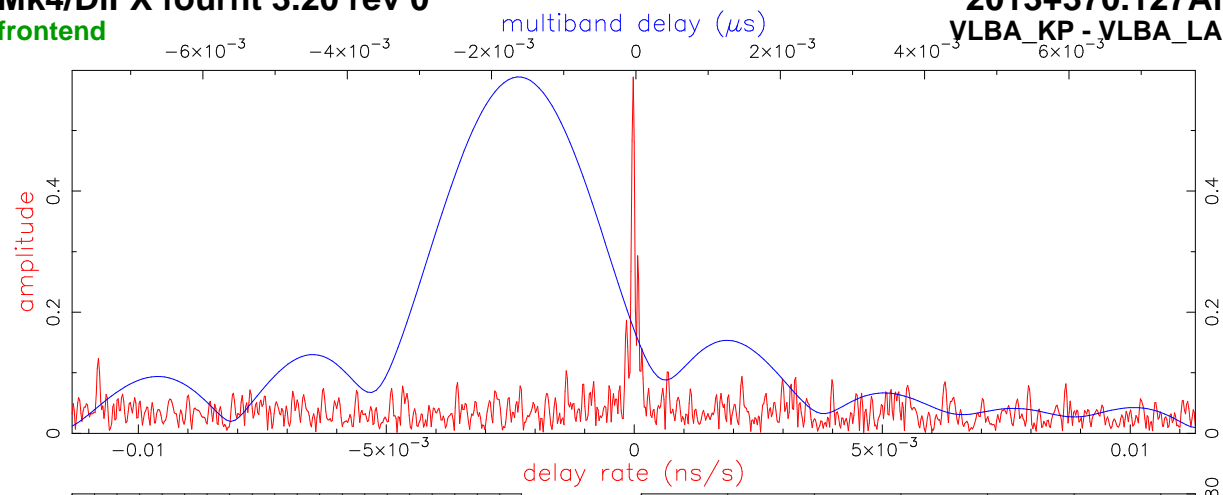
Group delay (usec)(sbd) -1.99903125000E-03 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) -1.99903E-03 +/- 3.8E-08
 Sband delay (usec) -2.37425000000E-03 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) -2.37425E-03 +/- 3.0E-07
 Phase delay (usec) -4.36445825518E-06 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -4.36446E-06 +/- 1.3E-10
 Delay rate (us/s) -1.03449412459E-10 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) -1.03449E-10 +/- 1.3E-12
 Total phase (deg) -135.3 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) -135.3 +/- 0.0

RMS Theor. Amplitude 772.594 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 0.2 0.0 Search (1024X32) 760.656 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 1.3 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 21.1 0.0 Inc. seg. avg. 762.510 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 45.7 0.0 Inc. frq. avg. 790.988 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

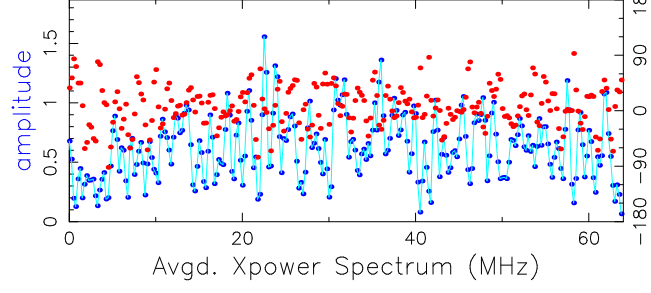
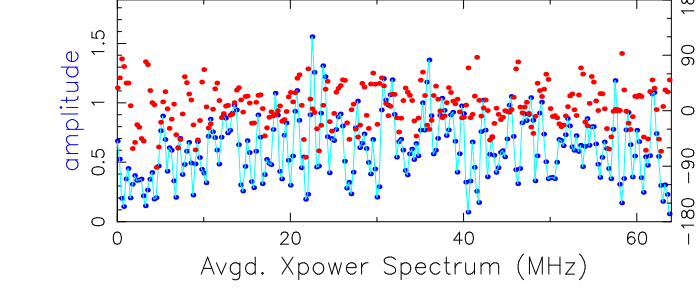
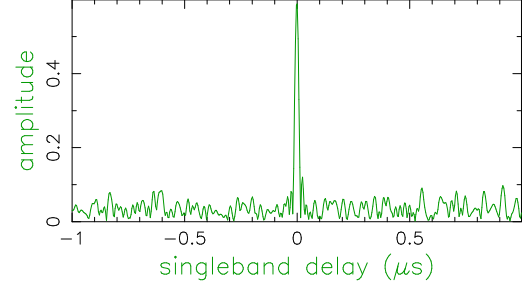
k: az 69.4 el 55.9 pa -86.3 k: az 69.4 el 55.9 pa -86.3 u,v (fr/asec) 0.000 0.000 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kk..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kk.W.226.127ARX

Mk4/DiFX fourfit 3.20 rev 0
frontend

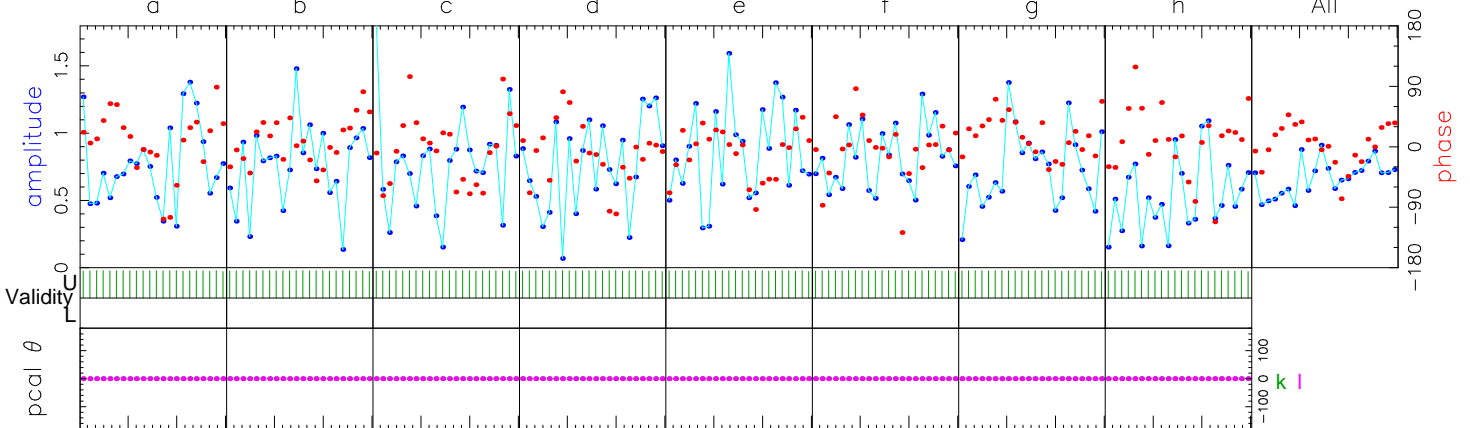
2013+370.127ARX, No0065, kl
VLBA_KP - VLBA_LA, fgroup W, pol LL



Fringe quality 9
SNR 21.9
Int time 178.856
Amp 0.599
Phase 4.2
PFD 0.0e+00
Delays (us)
SBD -0.001814
MBD -0.001661
Fringe rate (Hz)
-0.001697
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131734
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



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



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

Group delay (usec)(sbd)	-1.03375923972E+03	Apriori delay (usec)	-1.03375757861E+03	Resid mbdelay (usec)	-1.66111E-03	+/-	5.0E-05
Sband delay (usec)	-1.03375939311E+03	Apriori clock (usec)	3.6853263E-01	Resid sbdelay (usec)	-1.81450E-03	+/-	3.9E-04
Phase delay (usec)	-1.03375757847E+03	Apriori clockrate (us/s)	1.5689301E-07	Resid phdelay (usec)	1.36526E-07	+/-	1.7E-07
Delay rate (us/s)	1.03728865215E-01	Apriori rate (us/s)	1.03728884917E-01	Resid rate (us/s)	-1.97022E-08	+/-	1.6E-09
Total phase (deg)	-291.3	Apriori accel (us/s/s)	1.72210551325E-06	Resid phase (deg)	4.2	+/-	5.2

ph/seg (deg)	RMS 30.1	Theor. 12.3	Amplitude Search (1024X32)	0.599 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	24.1	21.4	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	12.9	7.4	Inc. seg. avg.	0.655	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	15.2	12.9	Inc. frq. avg.	0.595	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 69.4 el 55.9 pa -86.3 l: az 76.3 el 61.3 pa -82.0 u,v (fr/asec) -745.732 -282.809 simultaneous interpolator

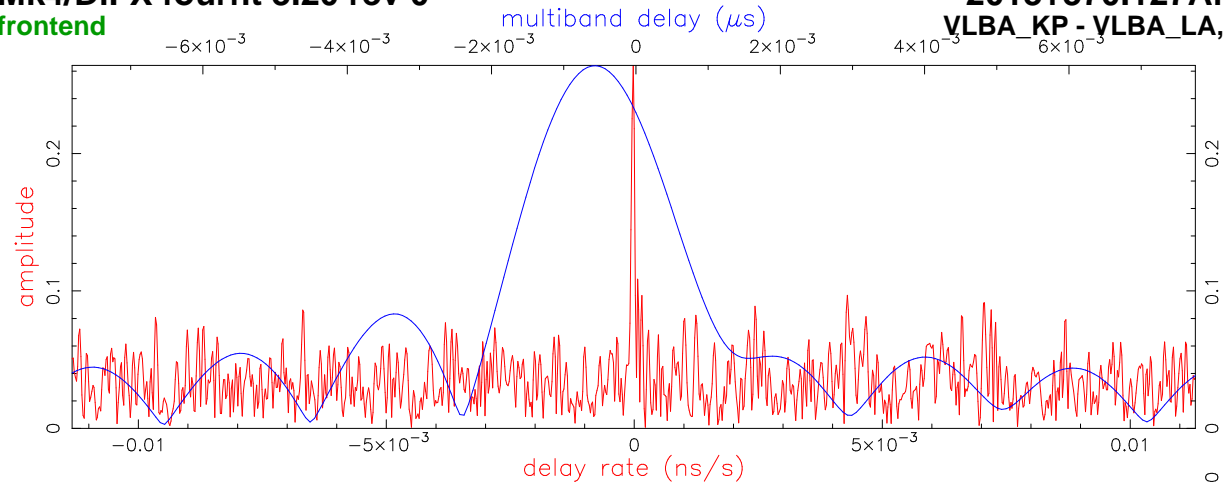
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kl..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kl.W.170.127ARX

Mk4/DiFX fourfit 3.20 rev 0

frontend

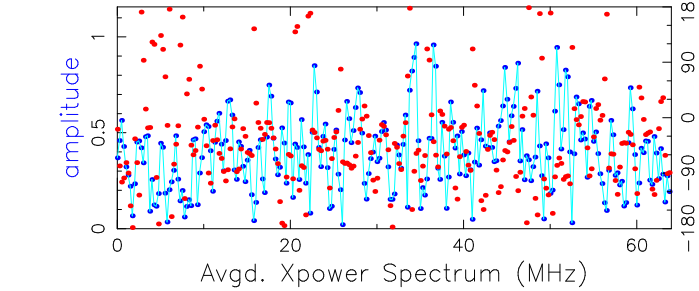
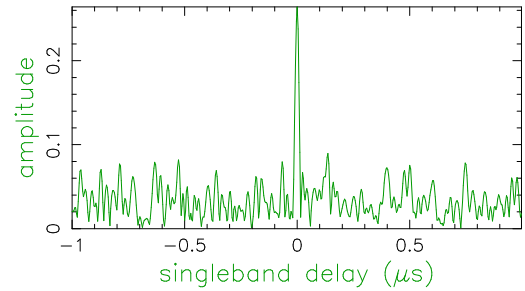
2013+370.127ARX, No0065, kl

VLBA_KP - VLBA_LA, fgroup W, pol RR



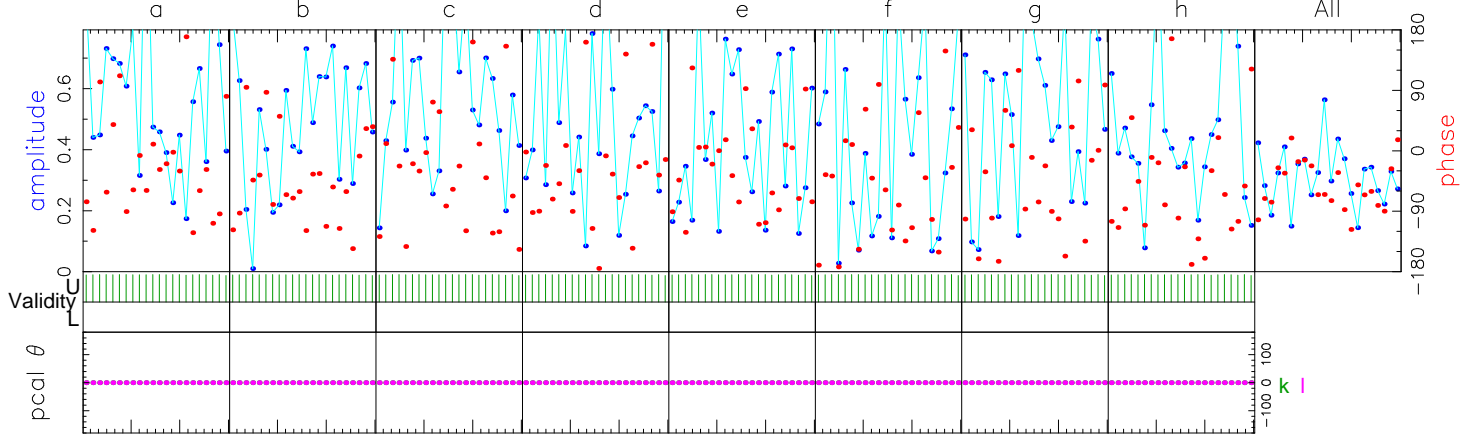
Fringe quality 9

SNR 9.7
 Int time 178.856
 Amp 0.264
 Phase -53.4
 PFD 9.0e-14
 Delays (us)
 SBD -0.000388
 MBD -0.000574
 Fringe rate (Hz)
 -0.001764
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131736
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



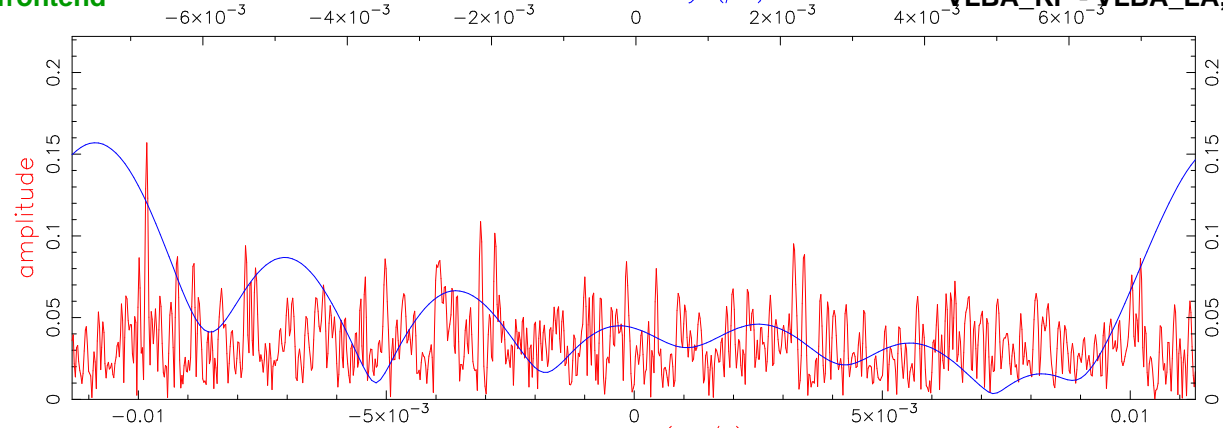
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-1.03375815272E+03									
Sband delay (usec)	-1.03375796636E+03									
Phase delay (usec)	-1.03375758033E+03									
Delay rate (us/s)	1.03728864434E-01									
Total phase (deg)			-349.0							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
Amplitude										
0.264 +/- 0.027										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
simultaneous interpolator										

k: az 69.4 el 55.9 pa -86.3 l: az 76.3 el 61.3 pa -82.0 u,v (fr/asec) -745.732 -282.809
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kl..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kl.W.186.127ARX

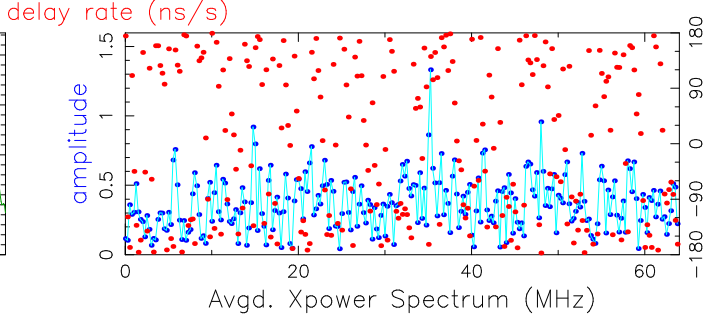
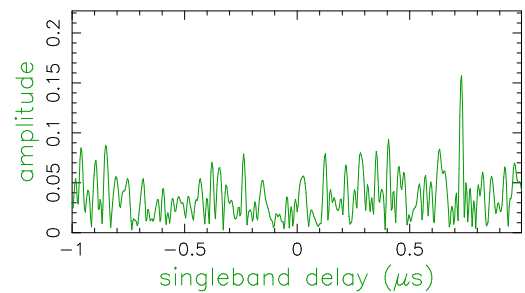
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kl
VLBA_KP - VLBA_LA, fgroup W, pol LR

multiband delay (μ s)

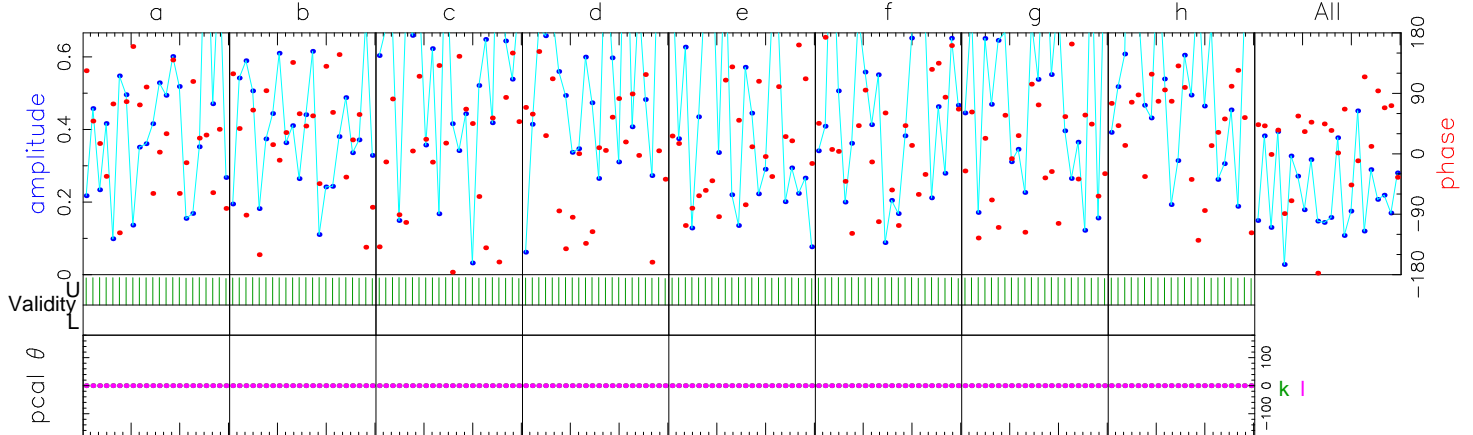


Fringe quality 0
SNR 5.8
Int time 178.855
Amp 0.222
Phase 25.1
PFD 5.1e-01
Delays (us)
SBD 0.729038
MBD -0.007522
Fringe rate (Hz)
-0.848452
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131738
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.03303072586E+03	Apriori delay (usec)	-1.03375757861E+03	Resid mbdelay (usec)	-7.52225E-03	+/-	1.9E-04
Sband delay (usec)	-1.03302854111E+03	Apriori clock (usec)	3.6853263E-01	Resid sbdelay (usec)	7.29038E-01	+/-	1.5E-03
Phase delay (usec)	-1.03375757780E+03	Apriori clockrate (us/s)	1.5689301E-07	Resid phdelay (usec)	8.08848E-07	+/-	6.3E-07
Delay rate (us/s)	1.03719035225E-01	Apriori rate (us/s)	1.03728884917E-01	Resid rate (us/s)	-9.84969E-06	+/-	6.1E-09
Total phase (deg)	-270.5	Apriori accel (us/s/s)	1.72210551325E-06	Resid phase (deg)	25.1	+/-	19.7

ph/seg (deg)	60.1	RMS	46.1	Theor.	46.1	Amplitude	0.222 +/- 0.038	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	80.7	Search (1024X32)	0.152	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	30.4	Inc. seg. avg.	0.240	Inc. frq. avg.	0.217	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	32.8	Inc. frq. avg.	0.217	Sample rate (MSamp/s):	128	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 69.4 el 55.9 pa -86.3 l: az 76.3 el 61.3 pa -82.0 u,v (fr/asec) -745.732 -282.809 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kl..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kl.W.210.127ARX

Mk4/DiFX fourfit 3.20 rev 0

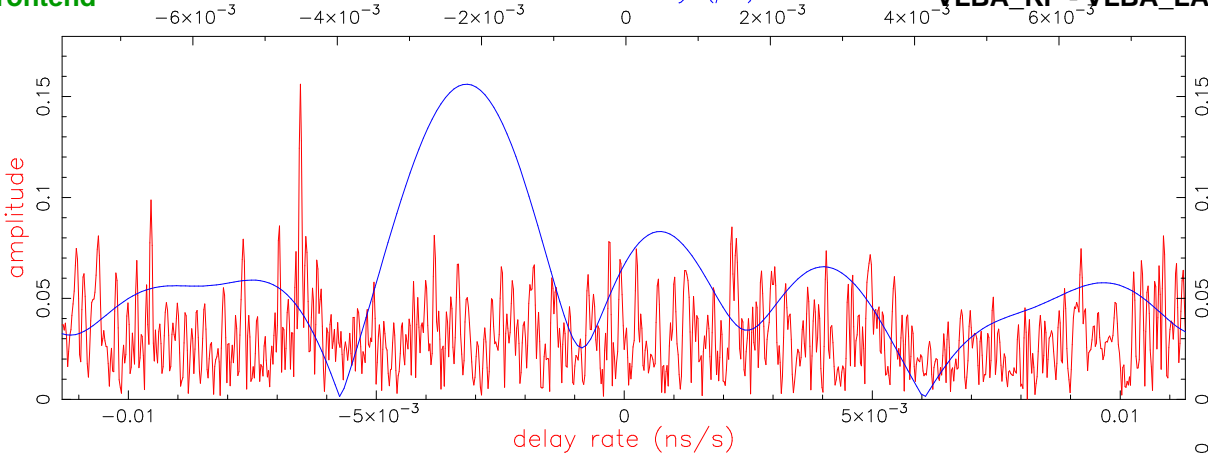
frontend

2013+370.127ARX, No0065, kl

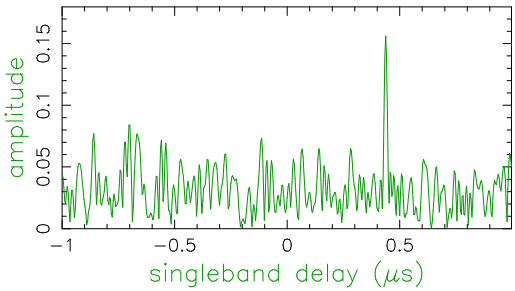
VLBA_KP - VLBA_LA, fgroup W, pol RL

multiband delay (μs)

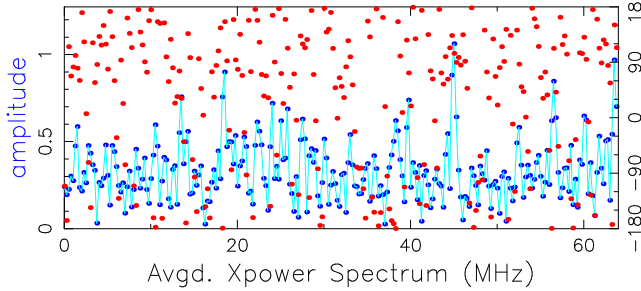
Fringe quality 0



SNR 5.7
 Int time 178.856
 Amp 0.180
 Phase 153.3
 PFD 7.5e-01
 Delays (us)
 SBD 0.437694
 MBD -0.002207
 Fringe rate (Hz)
 -0.563489
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

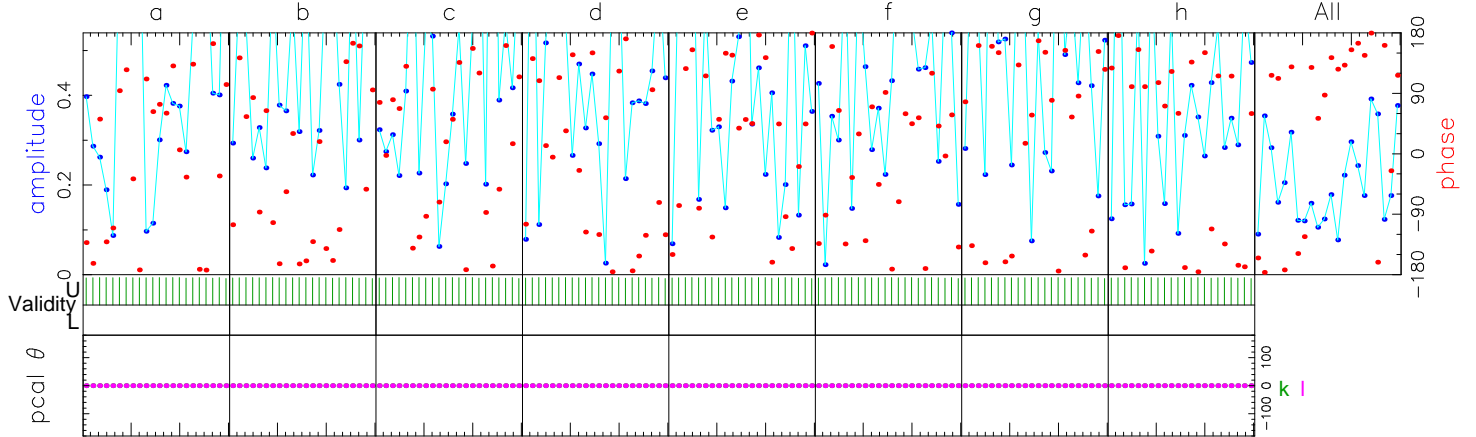


delay rate (ns/s)



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131741
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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

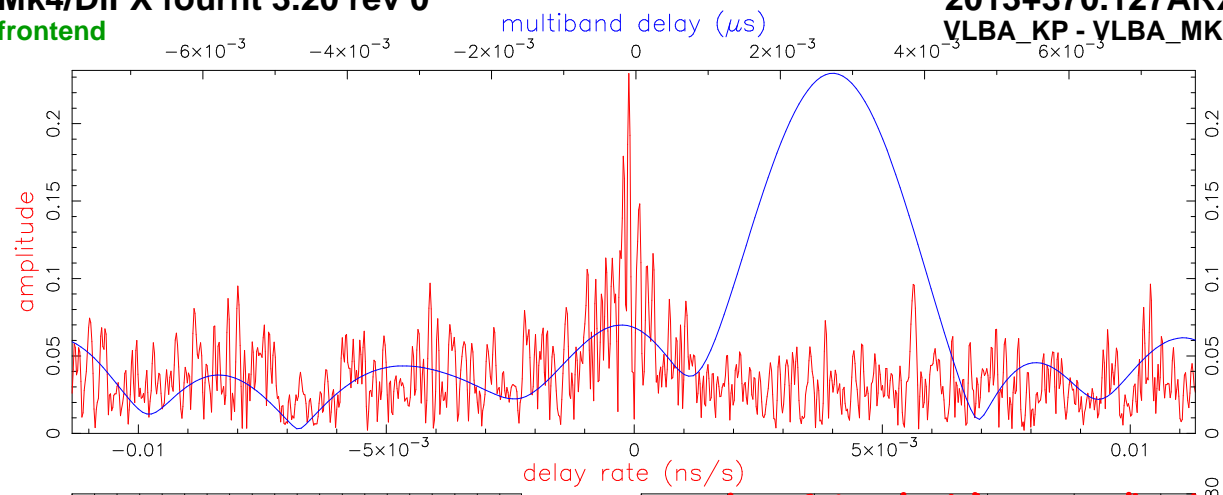


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

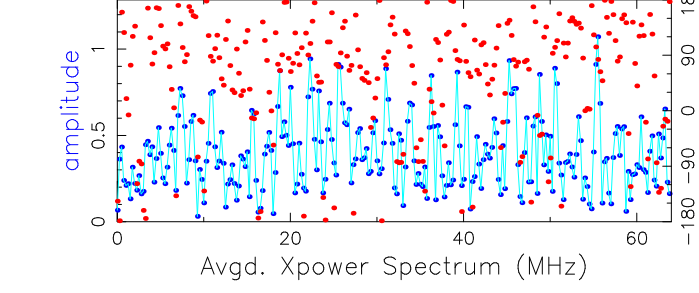
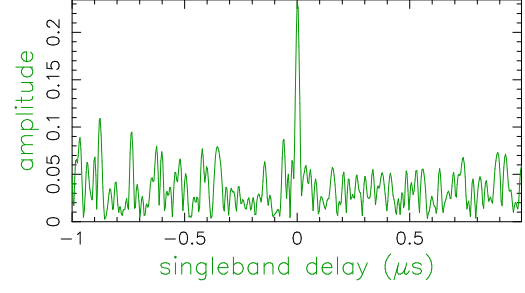
Group delay (usec)(sbd)	-1.03332228544E+03	Apriori delay (usec)	-1.03375757861E+03	Resid mbdelay (usec)	-2.20683E-03	+/-	1.9E-04
Sband delay (usec)	-1.03331988436E+03	Apriori clock (usec)	3.6853263E-01	Resid sbdelay (usec)	4.37694E-01	+/-	1.5E-03
Phase delay (usec)	-1.03375757366E+03	Apriori clockrate (us/s)	1.5689301E-07	Resid phdelay (usec)	4.94464E-06	+/-	6.5E-07
Delay rate (us/s)	1.03722343370E-01	Apriori rate (us/s)	1.03728884917E-01	Resid rate (us/s)	-6.54155E-06	+/-	6.2E-09
Total phase (deg)	-142.2	Apriori accel (us/s/s)	1.72210551325E-06	Resid phase (deg)	153.3	+/-	20.1

ph/seg (deg)	57.0	Theor.	47.1	Amplitude	0.180 +/- 0.031	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	72.1		82.1	Search (1024X32)	0.149	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	46.6		28.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	47.9		49.5	Inc. seg. avg.	0.183	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.180	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

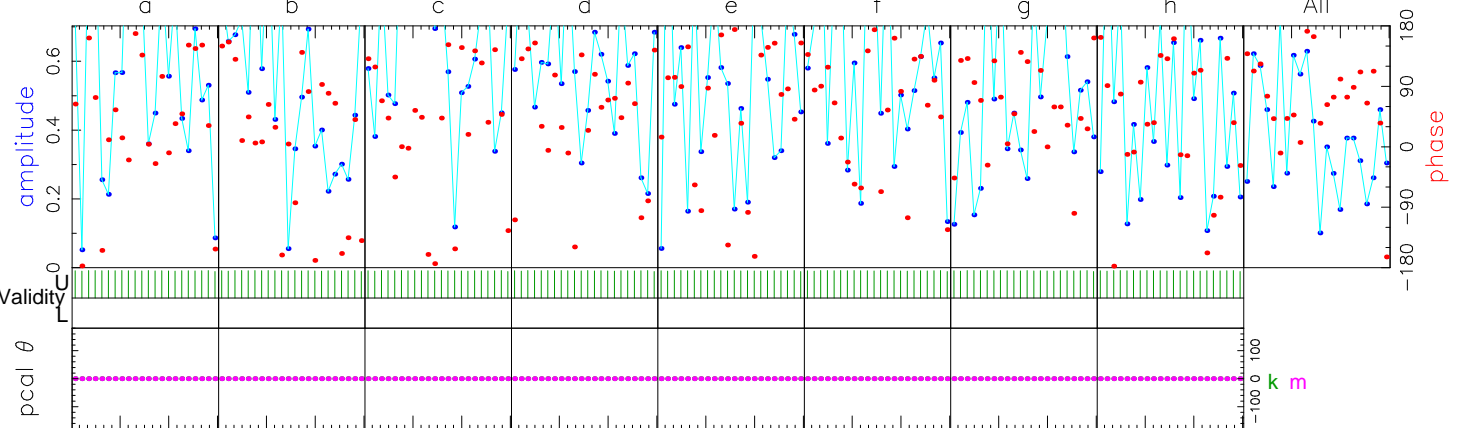
k: az 69.4 el 55.9 pa -86.3 l: az 76.3 el 61.3 pa -82.0 u,v (fr/asec) -745.732 -282.809 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kl..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kl.W.228.127ARX



Fringe quality 9
SNR 8.6
Int time 178.385
Amp 0.234
Phase 81.2
PFD 2.0e-09
Delays (us)
SBD 0.001272
MBD 0.002773
Fringe rate (Hz) -0.009297
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131734
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



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



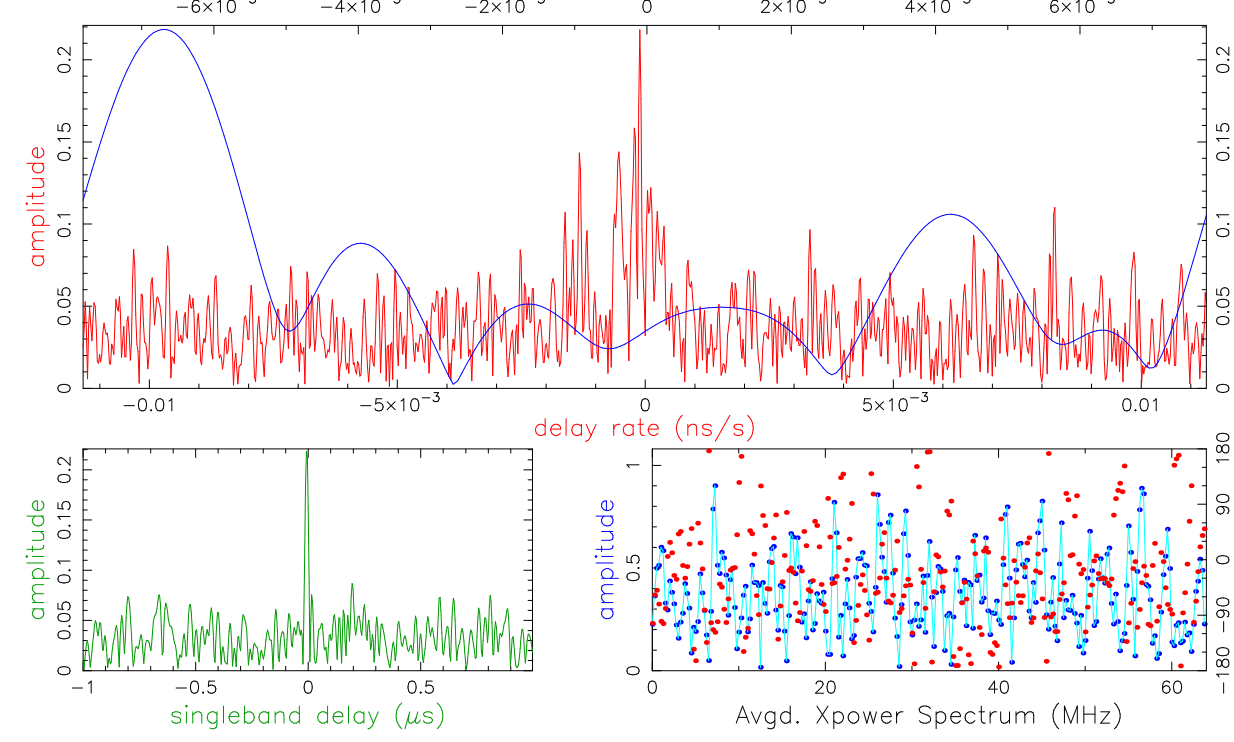
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0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

Group delay (usec)(sbd)	1.18530932537E+04	Apriori delay (usec)	1.18530904807E+04	Resid mbdelay (usec)	2.77300E-03	+/-	1.3E-04
Sband delay (usec)	1.18530917524E+04	Apriori clock (usec)	-2.9977391E+00	Resid sbdelay (usec)	1.27175E-03	+/-	1.0E-03
Phase delay (usec)	1.18530904833E+04	Apriori clockrate (us/s)	-1.8588669E-07	Resid phdelay (usec)	2.61759E-06	+/-	4.3E-07
Delay rate (us/s)	-4.71053843546E-01	Apriori rate (us/s)	-4.71053735616E-01	Resid rate (us/s)	-1.07930E-07	+/-	4.1E-09
Total phase (deg)		Apriori accel (us/s/s)	-5.00631488698E-05	Resid phase (deg)	81.2	+/-	13.4

ph/seg (deg)	52.0	Theor.	31.4	Amplitude	0.234 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	98.0		54.8	Search (1024X32)	0.228	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	17.3		18.9	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	21.2		33.0	Inc. seg. avg.	0.339	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.229	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

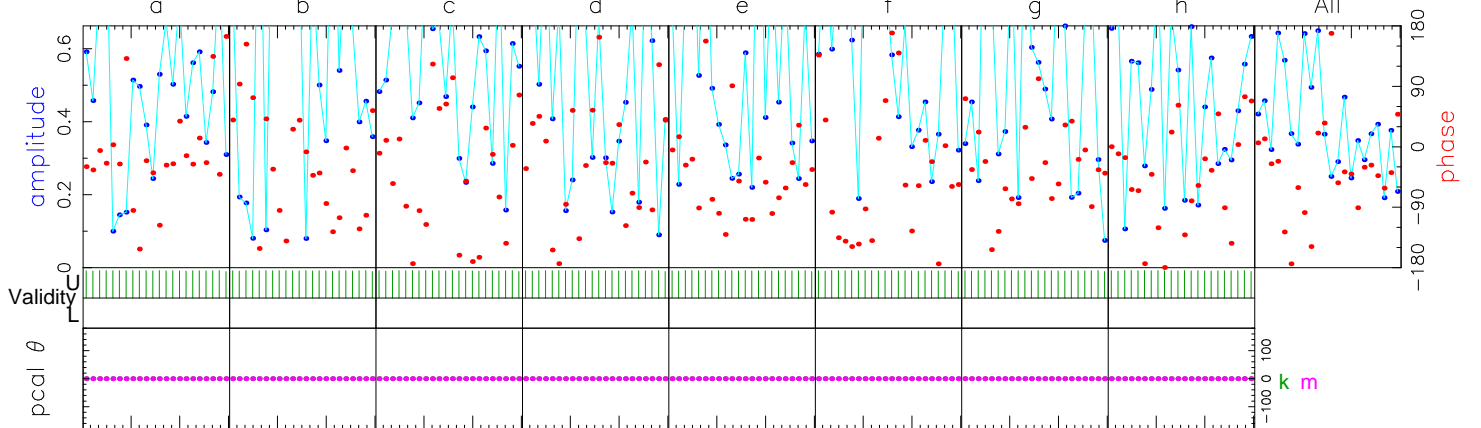
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, km
 VLBA_KP - VLBA_MK, fgroup W, pol RR



Fringe quality 9
 SNR 8.1
 Int time 178.386
 Amp 0.221
 Phase -43.5
 PFD 1.2e-07
 Delays (us)
 SBD -0.006463
 MBD -0.006647
 Fringe rate (Hz)
 -0.008974
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131736
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-26.8	-55.5	-21.4	-35.0	-53.8	-95.0	-34.7	-26.9		-43.5
	0.3	0.2	0.1	0.2	0.4	0.2	0.3	0.2		0.2
	255.0	291.6	16.9	449.5	254.2	203.7	255.4	280.9		255.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
m	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
k	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
m	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Chan ids
										Tracks
Group delay (usec)(sbd)	1.18530838333E+04		Apriori delay (usec)		1.18530904807E+04		Resid mbdelay (usec)		-6.64734E-03	+/- 1.3E-04
Sband delay (usec)	1.18530840177E+04		Apriori clock (usec)		-2.9977391E+00		Resid sbdelay (usec)		-6.46300E-03	+/- 1.1E-03
Phase delay (usec)	1.18530904793E+04		Apriori clockrate (us/s)		-1.8588669E-07		Resid phdelay (usec)		-1.40141E-06	+/- 4.6E-07
Delay rate (us/s)	-4.71053839790E-01		Apriori rate (us/s)		-4.71053735616E-01		Resid rate (us/s)		-1.04174E-07	+/- 4.4E-09
Total phase (deg)			Apriori accel (us/s/s)		-5.00631488698E-05		Resid phase (deg)		-43.5	+/- 14.2

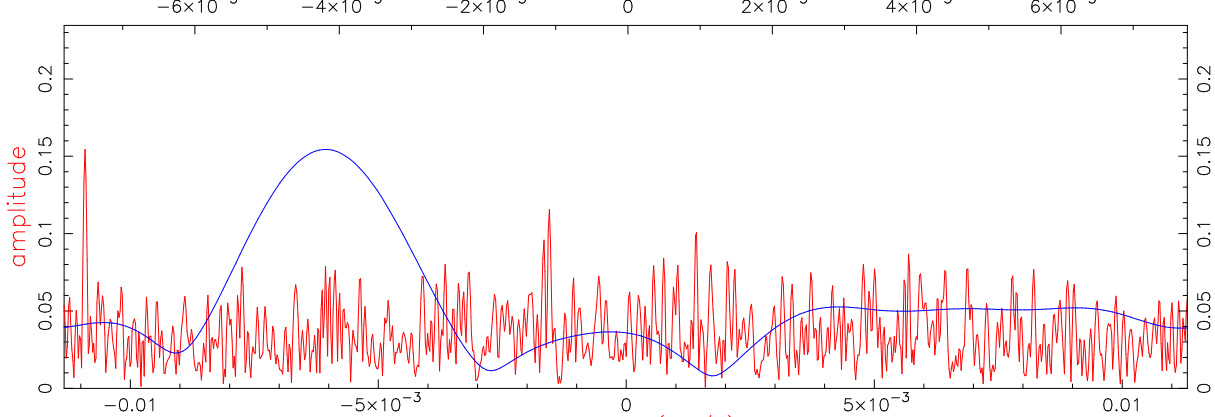
ph/seg (deg) 63.4 33.3 Amplitude 0.221 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 99.6 58.1 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 26.1 20.1 Inc. seg. avg. 0.339 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 35.4 35.1 Inc. frq. avg. 0.219 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 m: az 55.4 el 15.6 pa -76.7 u,v (fr/asec) 3353.388 -1669.441 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/km..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/km.W.193.127ARX

Mk4/DiFX fourfit 3.20 rev 0
 frontend

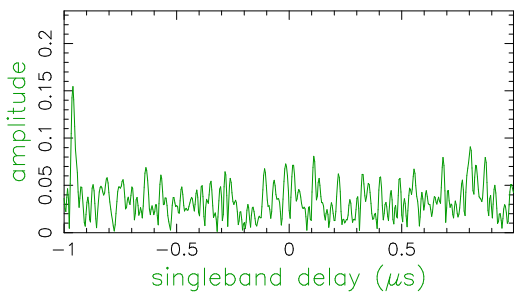
2013+370.127ARX, No0065, km
 VLBA_KP - VLBA_MK, fgroup W, pol LR

multiband delay (μ s)

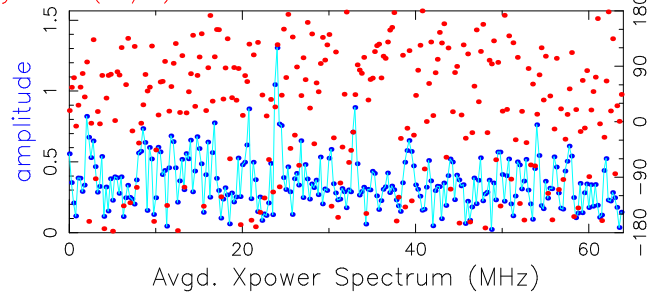
Fringe quality 0



SNR 5.6
 Int time 178.386
 Amp 0.235
 Phase -151.8
 PFD 8.7e-01
 Delays (us)
 SBD -0.961221
 MBD -0.004189
 Fringe rate (Hz)
 -0.942643
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

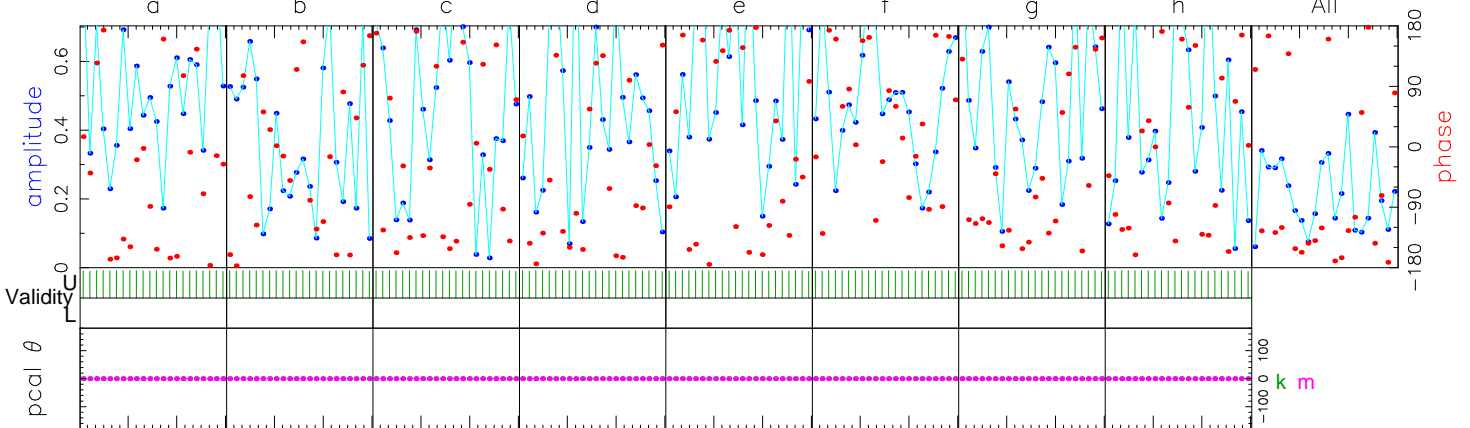


delay rate (ns/s)



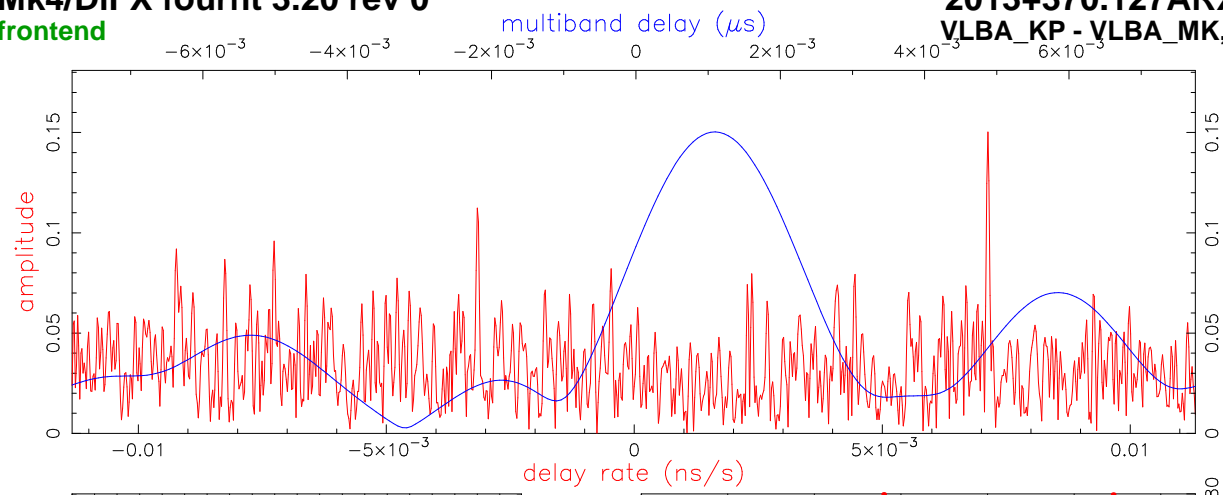
Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131739
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-127.7	-142.9	-160.2	-136.9	-166.7	138.4	-139.4	-144.2	Phase	-151.8
	0.1	0.1	0.4	0.2	0.4	0.1	0.3	0.3	Ampl.	0.2
	251.4	222.4	28.0	449.9	12.0	450.4	361.9	509.0	Sbd box	10.9
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)		1.18521331663E+04		Apriori delay (usec)	1.18530904807E+04		Resid mbdelay (usec)	-4.18934E-03	+/-	1.9E-04
Sband delay (usec)		1.18521292594E+04		Apriori clock (usec)	-2.9977391E+00		Resid sbdelay (usec)	-9.61221E-01	+/-	1.5E-03
Phase delay (usec)		1.18530904758E+04		Apriori clockrate (us/s)	-1.8588669E-07		Resid phdelay (usec)	-4.89461E-06	+/-	6.5E-07
Delay rate (us/s)		-4.71064678763E-01		Apriori rate (us/s)	-4.71053735616E-01		Resid rate (us/s)	-1.09431E-05	+/-	6.3E-09
Total phase (deg)			-150.3	Apriori accel (us/s/s)	-5.00631488698E-05		Resid phase (deg)	-151.8	+/-	20.3

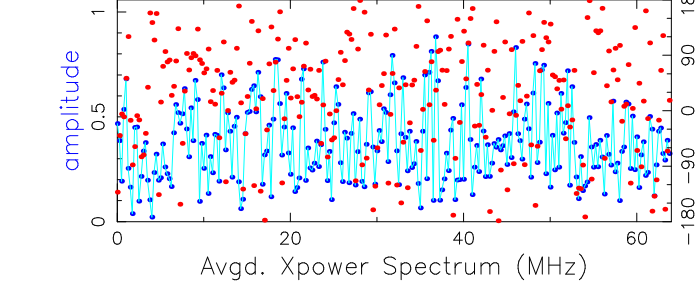
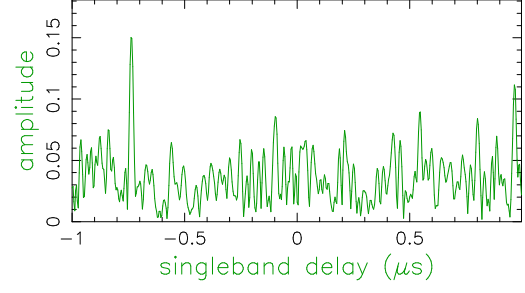
ph/seg (deg) 57.6 47.6 Search (1024X32) 0.151 Pcd mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 79.8 83.1 Interp. 0.000 Pcd rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 32.3 28.7 Inc. seg. avg. 0.246 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 55.7 50.1 Inc. frq. avg. 0.219 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 m: az 55.4 el 15.6 pa -76.7 u, v (fr/asec) 3353.388 -1669.441 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/km..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/km.W.213.127ARX



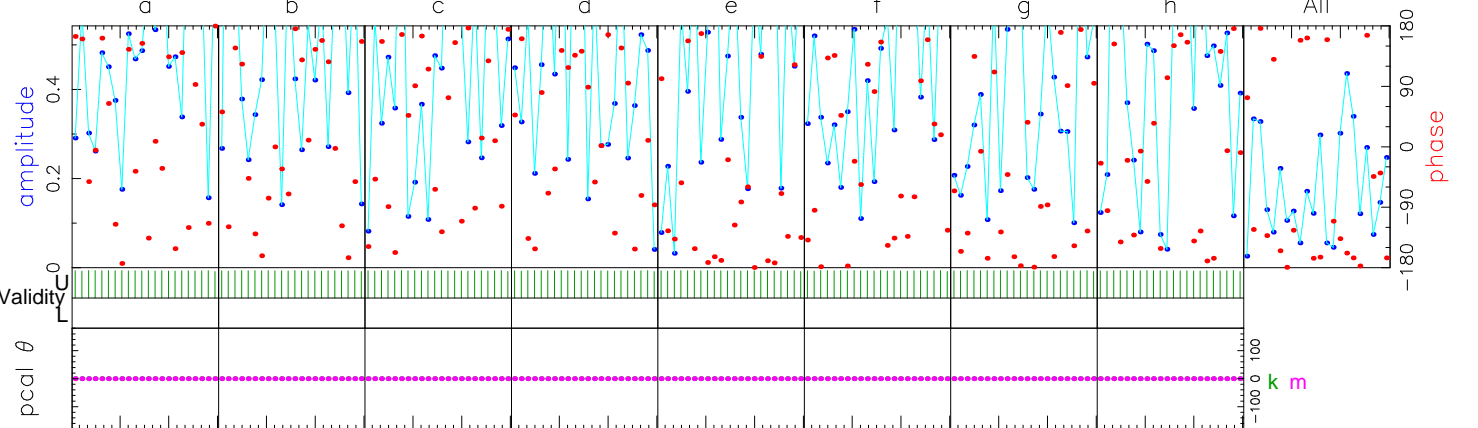
Fringe quality 0

SNR 5.6
 Int time 178.385
 Amp 0.181
 Phase -160.1
 PFD 9.5e-01
 Delays (us)
 SBD -0.736483
 MBD 0.001121
 Fringe rate (Hz) 0.616031
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131741
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	1.18523572268E+04	Apriori delay (usec)	1.18530904807E+04	Resid mbdelay (usec)	1.12113E-03	+/-	1.9E-04
Sband delay (usec)	1.18523539979E+04	Apriori clock (usec)	-2.9977391E+00	Resid sbdelay (usec)	-7.36483E-01	+/-	1.5E-03
Phase delay (usec)	1.18530904755E+04	Apriori clockrate (us/s)	-1.8588669E-07	Resid phdelay (usec)	-5.16216E-06	+/-	6.6E-07
Delay rate (us/s)	-4.71046584102E-01	Apriori rate (us/s)	-4.71053735616E-01	Resid rate (us/s)	7.15151E-06	+/-	6.4E-09
Total phase (deg)	-158.6	Apriori accel (us/s/s)	-5.00631488698E-05	Resid phase (deg)	-160.1	+/-	20.5

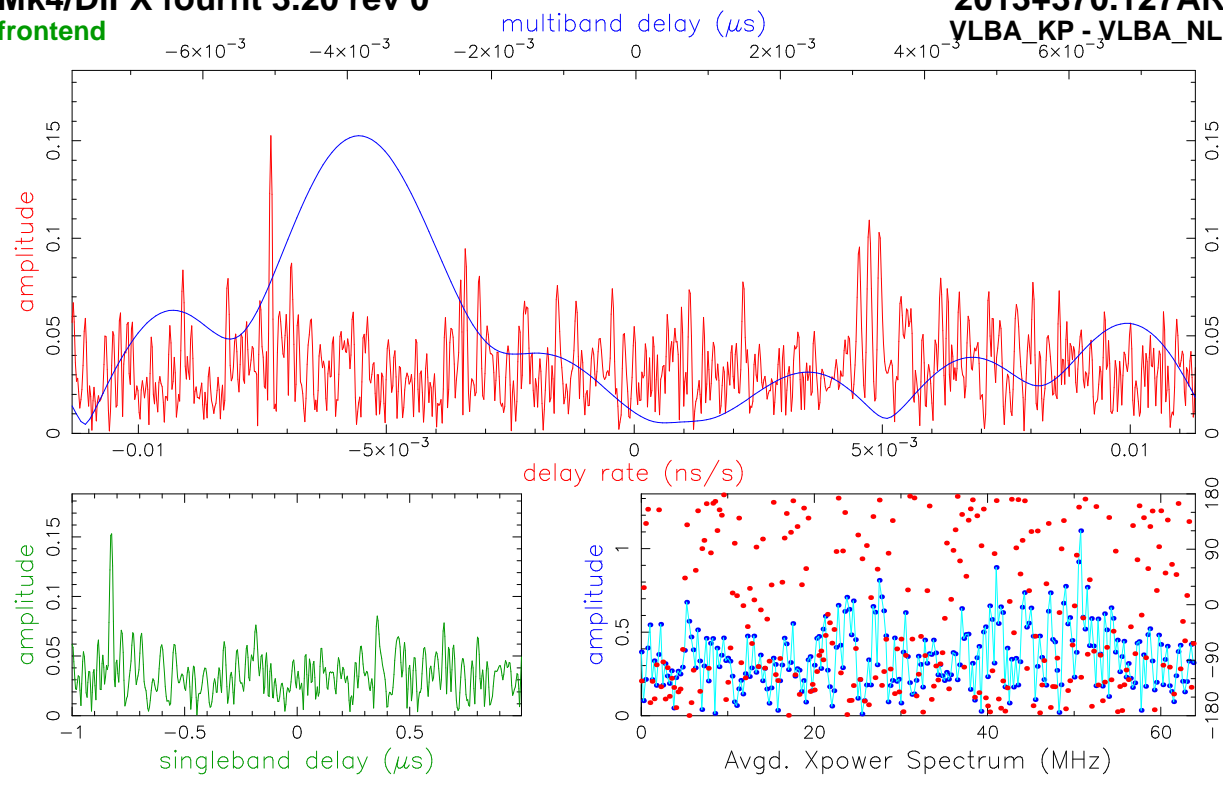
ph/seg (deg)	53.5	Theor.	48.2	Amplitude	0.181 +/- 0.032	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	77.9		84.1	Search (1024X32)	0.150	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	27.1		29.0	Inc. seg. avg.	0.160	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	44.2		50.7	Inc. frq. avg.	0.169	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 69.4 el 55.9 pa -86.3 m: az 55.4 el 15.6 pa -76.7 u,v (fr/asec) 3353.388 -1669.441 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/km..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/km.W.230.127ARX

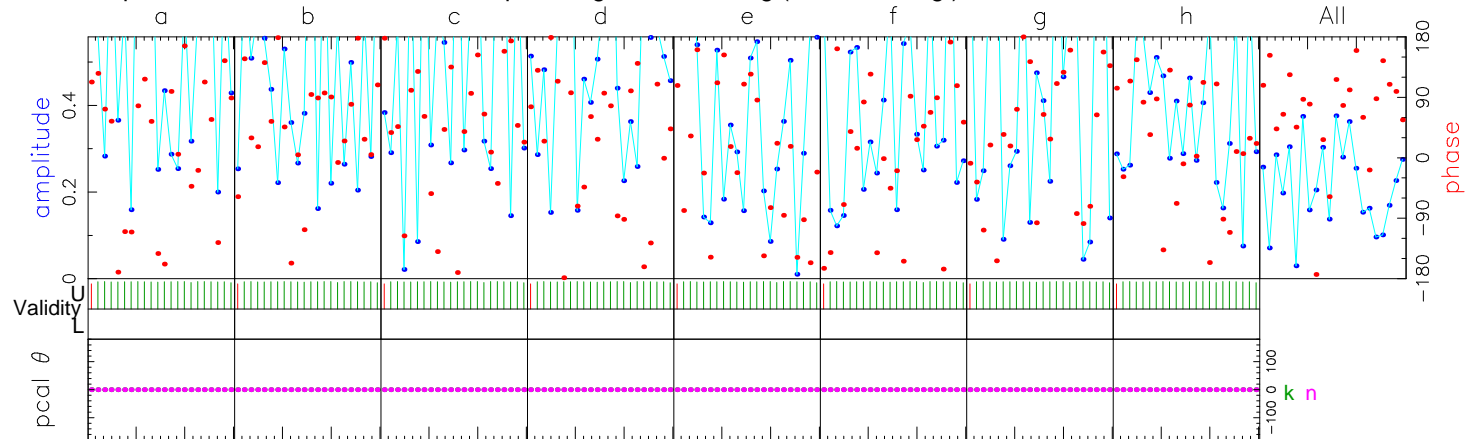
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, kn
 VLBA_KP - VLBA_NL, fgroup W, pol LL



Fringe quality 0
 SNR 5.7
 Int time 177.528
 Amp 0.186
 Phase 90.2
 PFD 8.3e-01
 Delays (us)
 SBD -0.825967
 MBD -0.003831
 Fringe rate (Hz)
 -0.632931
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131734
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0
k	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
n	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-2.73131798241E+03									
Sband delay (usec)	-2.73131199358E+03									
Phase delay (usec)	-2.73048602392E+03									
Delay rate (us/s)	3.58357774574E-01									
Total phase (deg)			-36.1							
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)									90.2	+/- 20.2
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

ph/seg (deg) 55.8 47.4 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 73.9 82.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 21.2 28.6 Inc. seg. avg. 0.194 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 45.5 49.9 Inc. frq. avg. 0.169 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 n: az 98.4 el 73.0 pa -67.6 u,v (fr/asec) -2576.333 -647.790 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kn..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kn.W.173.127ARX

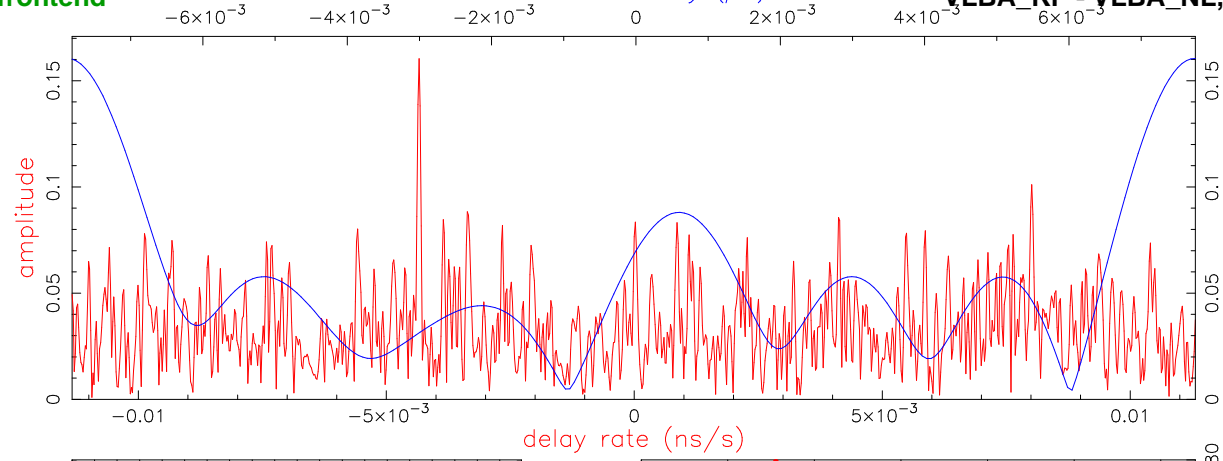
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, kn

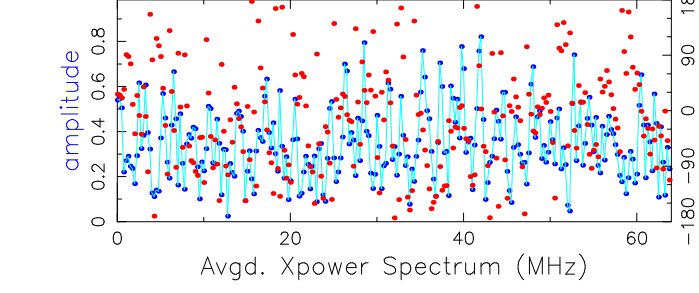
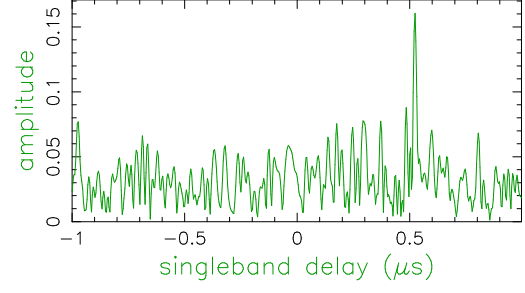
VLBA_KP - VLBA_NL, fgroup W, pol RR

multiband delay (μ s)



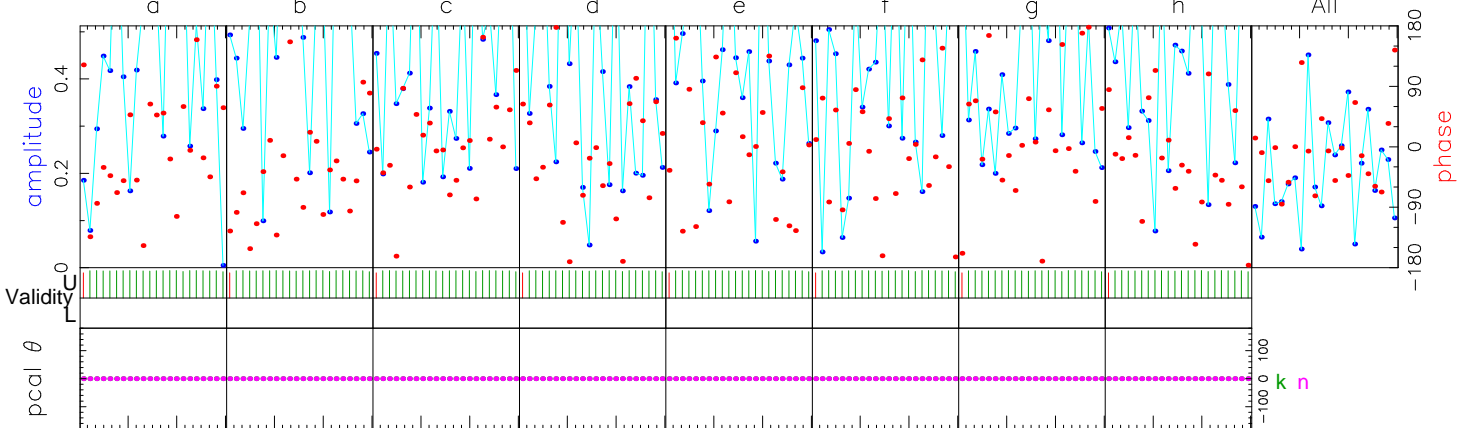
Fringe quality 0

SNR 5.9
Int time 177.528
Amp 0.171
Phase -25.1
PFD 4.5e-01
Delays (us)
SBD 0.522931
MBD -0.007911
Fringe rate (Hz)
-0.374519
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



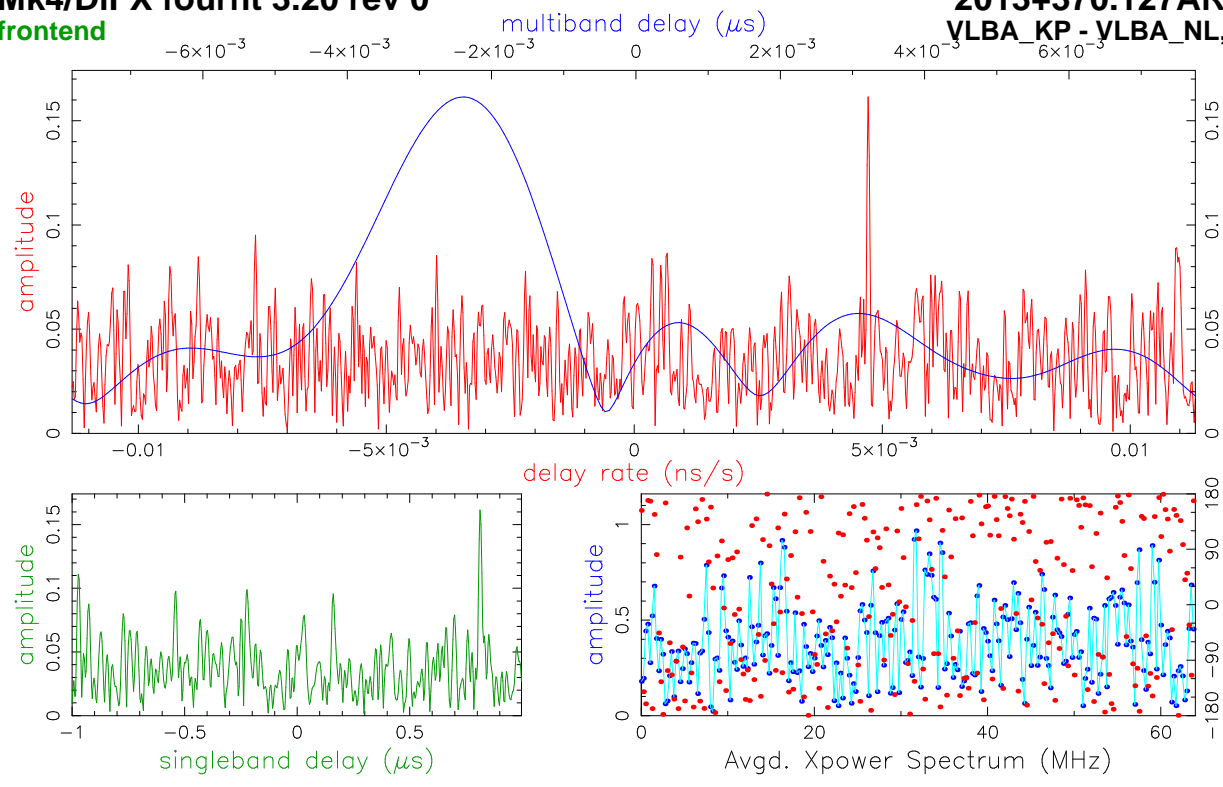
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131736
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



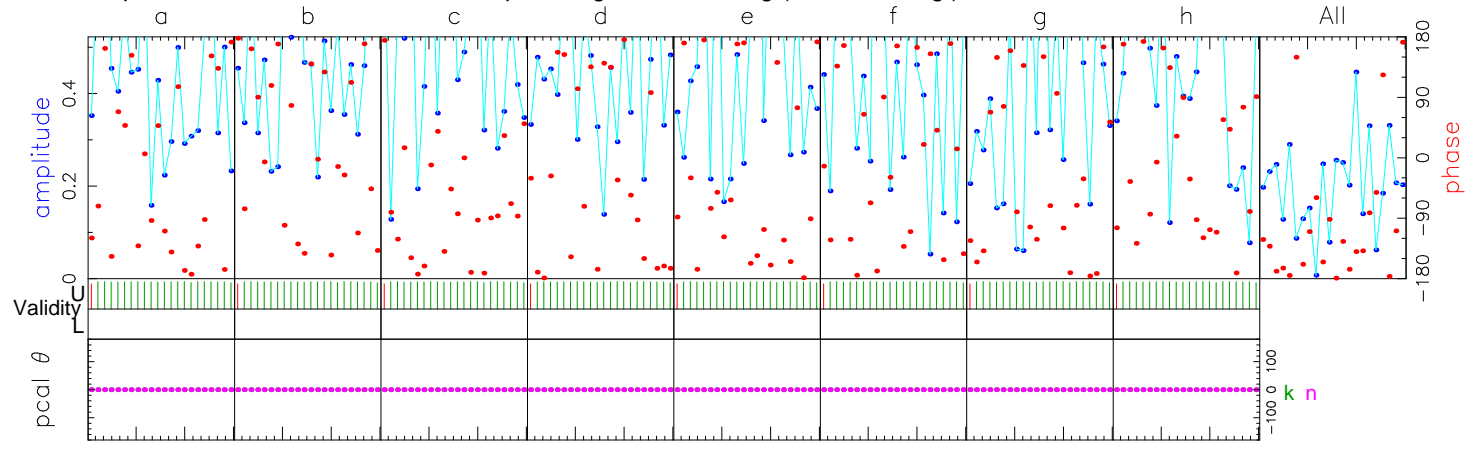
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-2.72996268797E+03									
Sband delay (usec)	-2.72996309608E+03									
Phase delay (usec)	-2.73048602764E+03									
Delay rate (us/s)	3.58360774483E-01									
Total phase (deg)			-151.5							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
Chan ids										
Tracks										
Chan ids										
Tracks										
RMS	61.2	45.9								
Theor.										
Amplitude										
Search (1024X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
ph/seg (deg)	61.2	45.9								
amp/seg (%)	70.5	80.1								
ph/frq (deg)	28.4	27.7								
amp/frq (%)	41.9	48.3								
k: az 69.4 el 55.9 pa -86.3										
n: az 98.4 el 73.0 pa -67.6										
u,v (fr/asec)										
simultaneous interpolator										

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kn..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kn.W.191.127ARX



Fringe quality 0
 SNR 5.9
 Int time 177.528
 Amp 0.174
 Phase -148.8
 PFD 3.7e-01
 Delays (us)
 SBD 0.813174
 MBD -0.002383
 Fringe rate (Hz) 0.407626
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131738
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

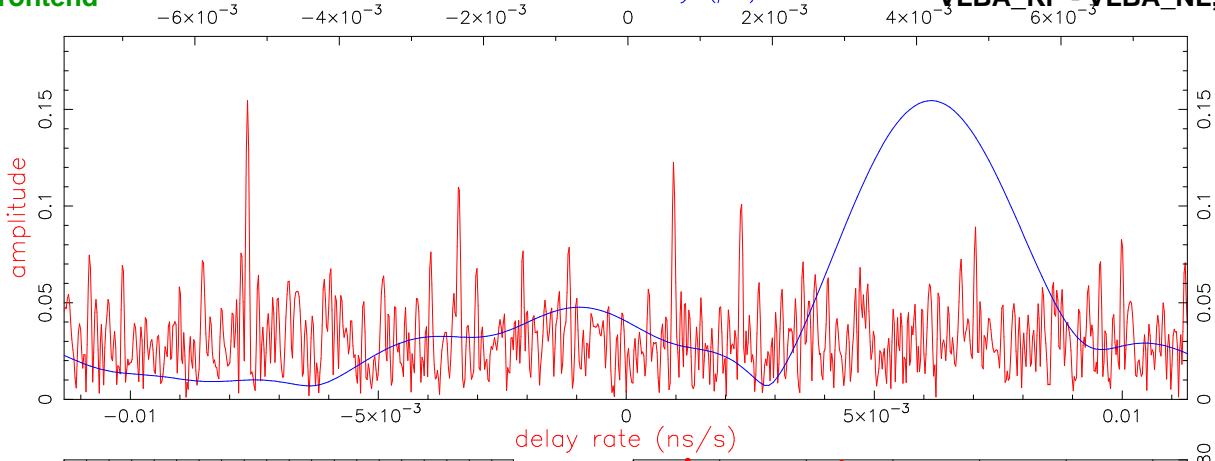
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



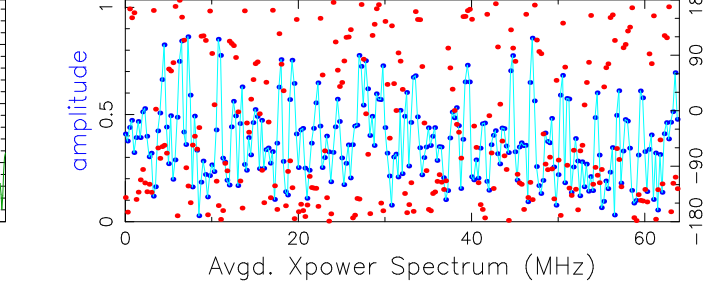
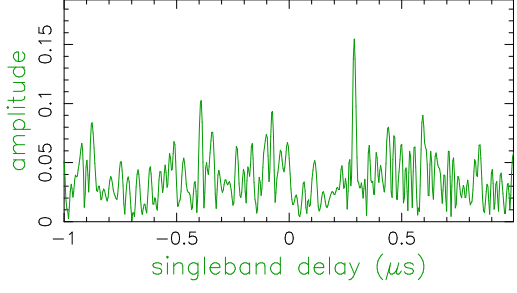
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-173.5	-149.7	-93.9	-166.0	-147.6	179.5	-161.0	-116.2	Phase	-148.8	
	0.2	0.1	0.2	0.2	0.3	0.2	0.2	0.1	Ampl.	0.2	
	197.2	165.8	288.5	509.2	465.2	383.9	318.9	383.1	Sbd box	465.2	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC		
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp		
n	1000	1000	1000	1000	1000	1000	1000	1000			
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids		
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks		
									Chan ids		
									Tracks		
Group delay (usec)(sbd)	-2.72967590945E+03		Apriori delay (usec)		-2.73048602683E+03		Resid mbdelay (usec)		-2.38262E-03	+/- 1.8E-04	
Sband delay (usec)	-2.72967285308E+03		Apriori clock (usec)		-2.6938545E+01		Resid sbdelay (usec)		8.13174E-01	+/- 1.5E-03	
Phase delay (usec)	-2.73048603163E+03		Apriori clockrate (us/s)		-3.2880250E-07		Resid phdelay (usec)		-4.79757E-06	+/- 6.3E-07	
Delay rate (us/s)	3.58369854420E-01		Apriori rate (us/s)		3.58365122281E-01		Resid rate (us/s)		4.73214E-06	+/- 6.0E-09	
Total phase (deg)			Apriori accel (us/s/s)		5.04099167861E-06		Resid phase (deg)		-148.8	+/- 19.4	
	RMS	Theor.	Amplitude	0.174 +/- 0.030	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5				
ph/seg (deg)	46.2	45.5	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)		-1.000	1.000	
amp/seg (%)	65.6	79.5	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled		mb window (us)	-0.008	0.008
ph/frq (deg)	32.0	27.5	Inc. seg. avg.	0.164	Sample rate(MISamp/s): 128		dr window (ns/s)		-0.011	0.011	
amp/frq (%)	34.2	47.9	Inc. frq. avg.	0.176	Data rate(Mb/s): 2048		nlags: 256 t_cohere infinite		ion window (TEC)	0.00	0.00
k: az 69.4 el 55.9 pa -86.3		n: az 98.4 el 73.0 pa -67.6		u,v (fr/asec) -2576.333 -647.790						simultaneous interpolator	
Control file: cf_1234_gmva		Input file: /Exps/c192c/v1_CygA2/1234/No0065/kn..127ARX		Output file: /Exps/c192c/v1_CygA2/1234/No0065/kn.W.209.127ARX							

multiband delay (μ s)

Fringe quality 0

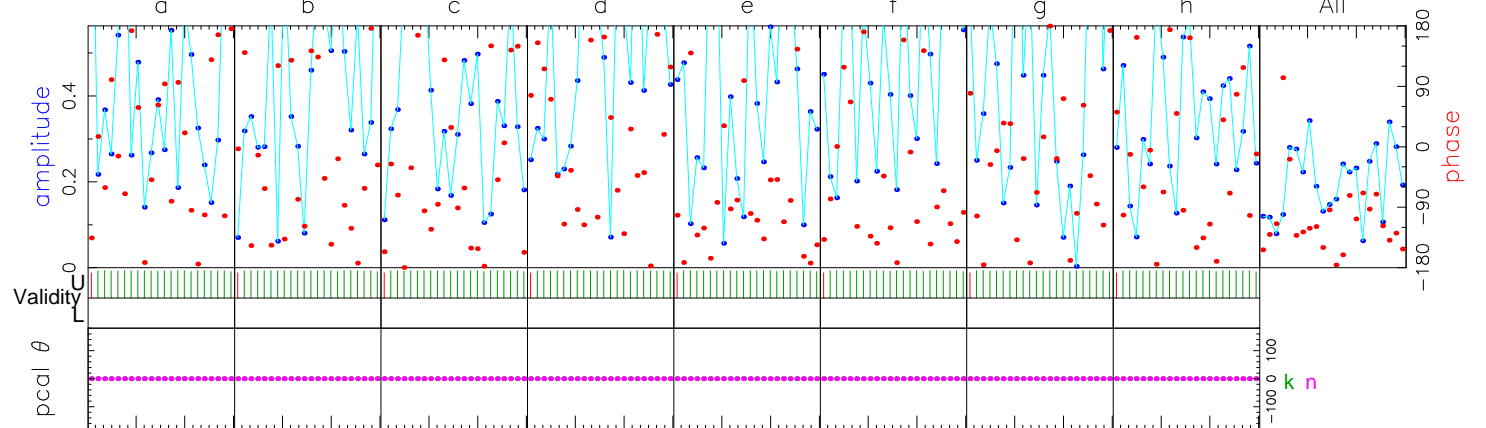


SNR 5.6
Int time 177.528
Amp 0.188
Phase -118.4
PFD 8.9e-01
Delays (us)
SBD 0.288978
MBD 0.004199
Fringe rate (Hz)
-0.658757
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Yr:day 16383
Start 2020:070:073746
Stop 2020:071:131741
FRT 2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

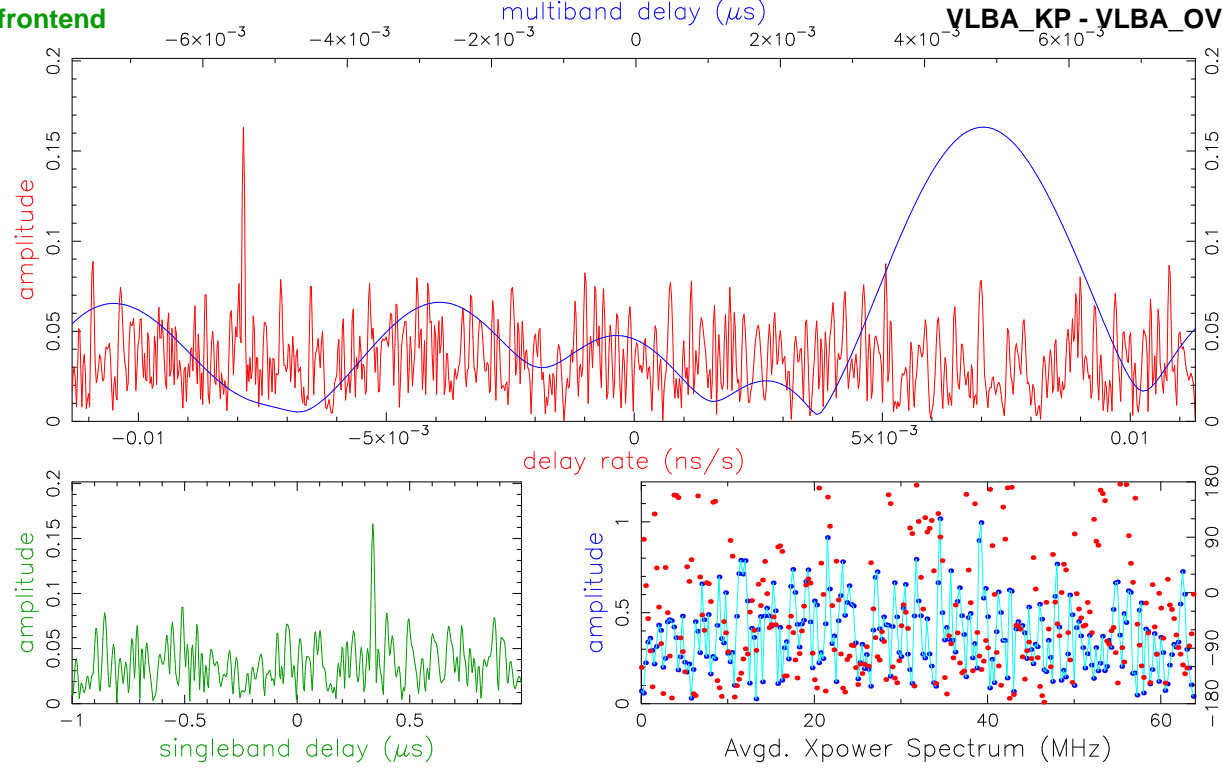
Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-2.73020057774E+03									
Sband delay (usec)	-2.73019704833E+03									
Phase delay (usec)	-2.73048603065E+03									
Delay rate (us/s)	3.58357474763E-01									
Total phase (deg)			-244.7							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
PC period (AP's) 5, 5										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
Amplitude	0.188 +/- 0.033									
Search (1024X32)	0.150									
Interp.	0.000									
Inc. seg. avg.	0.181									
Inc. frq. avg.	0.170									
PCal mode: MANUAL, MANUAL										
PC period (AP's) 5, 5										
sb window (us)	-1.000	1.000								
mb window (us)	-0.008	0.008								
dr window (ns/s)	-0.011	0.011								
ion window (TEC)	0.00	0.00								
u,v (fr/asec)	-2576.333	-647.790								
simultaneous interpolator										

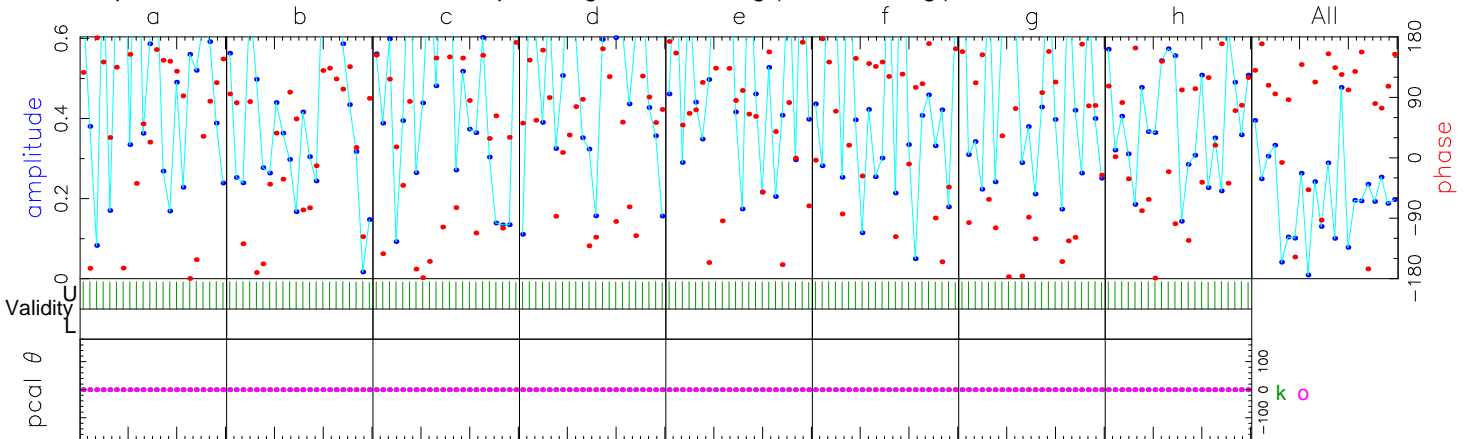
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, ko
 VLBA_KP - VLBA_OV, fgroup W, pol LL



Fringe quality 0
 SNR 6.0
 Int time 178.135
 Amp 0.201
 Phase 128.4
 PFD 2.6e-01
 Delays (us)
 SBD 0.336556
 MBD 0.004851
 Fringe rate (Hz)
 -0.680009
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131734
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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

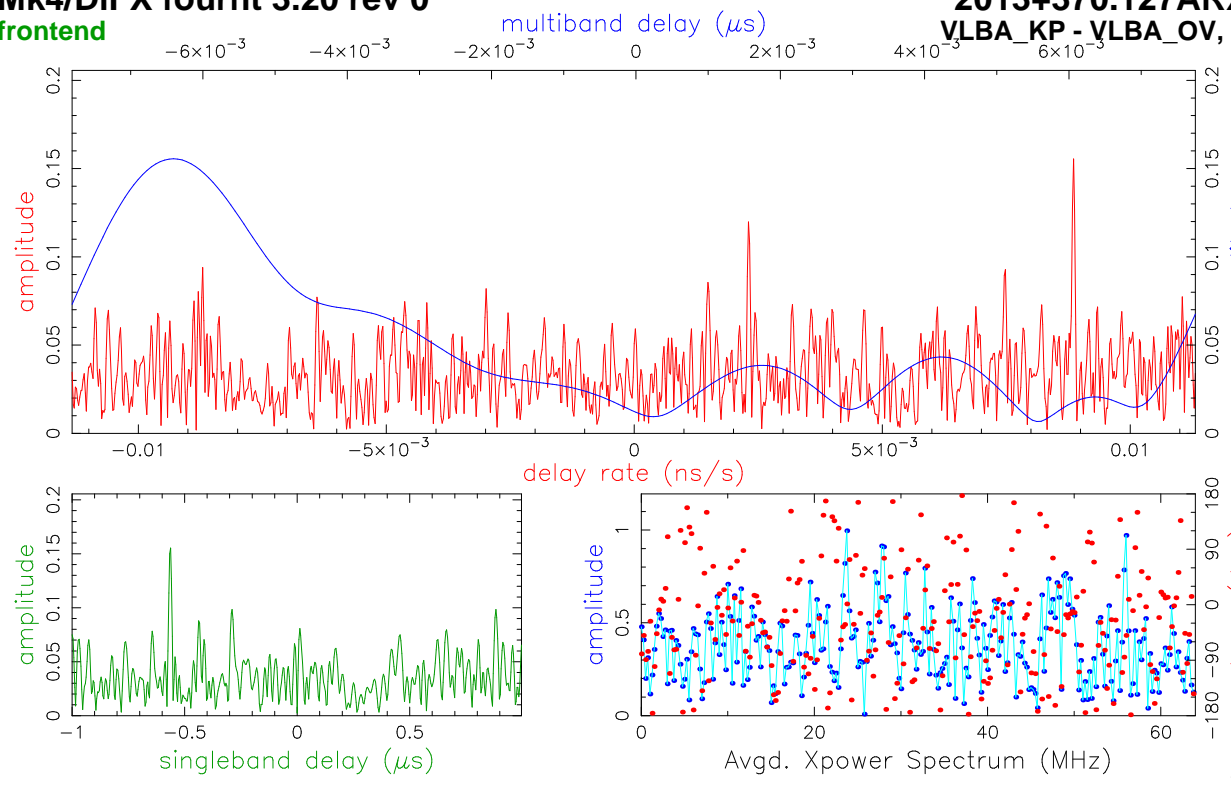


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	137.0	105.0	165.2	97.2	120.0	127.9	163.5	40.2	Phase	128.4
	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.1	Ampl.	0.2
	344.8	399.5	4.9	238.2	278.6	316.6	353.8	214.7	Sbd box	343.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	7.74696474211E+02		Apriori delay (usec)		7.74363498467E+02		Resid mbdelay (usec)		4.85074E-03	+/- 1.8E-04
Sband delay (usec)	7.74700053967E+02		Apriori clock (usec)		-1.7069342E+01		Resid sbdelay (usec)		3.36556E-01	+/- 1.4E-03
Phase delay (usec)	7.74363502607E+02		Apriori clockrate (us/s)		-1.9555999E-07		Resid phdelay (usec)		4.13959E-06	+/- 6.2E-07
Delay rate (us/s)	-3.97932495642E-02		Apriori rate (us/s)		-3.97853553381E-02		Resid rate (us/s)		-7.89423E-06	+/- 5.9E-09
Total phase (deg)			Apriori accel (us/s/s)		-9.37549139601E-06		Resid phase (deg)		128.4	+/- 19.2

ph/seg (deg) 65.5 45.0 Amplitude 0.201 +/- 0.034 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 73.5 78.6 Search (1024X32) 0.153 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.8 27.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 38.0 47.4 Inc. seg. avg. 0.196 Sample rate(MSamp/s): 128 dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 o: az 74.9 el 52.2 pa -74.9 u,v (fr/asec) 278.043 -1095.314 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/ko..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/ko.W.174.127ARX simultaneous interpolator

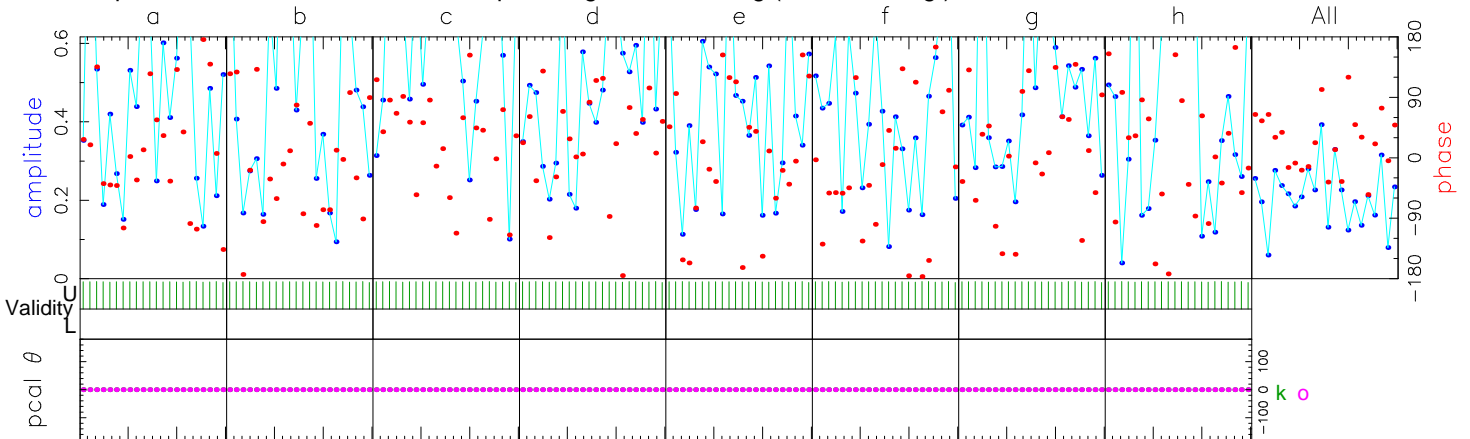
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, ko
VLBA_KP - VLBA_OV, fgroup W, pol RR



Fringe quality 0
SNR 5.7
Int time 178.136
Amp 0.206
Phase 26.5
PFD 6.7e-01
Delays (us)
SBD -0.563844
MBD -0.006460
Fringe rate (Hz) 0.764914
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131737
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

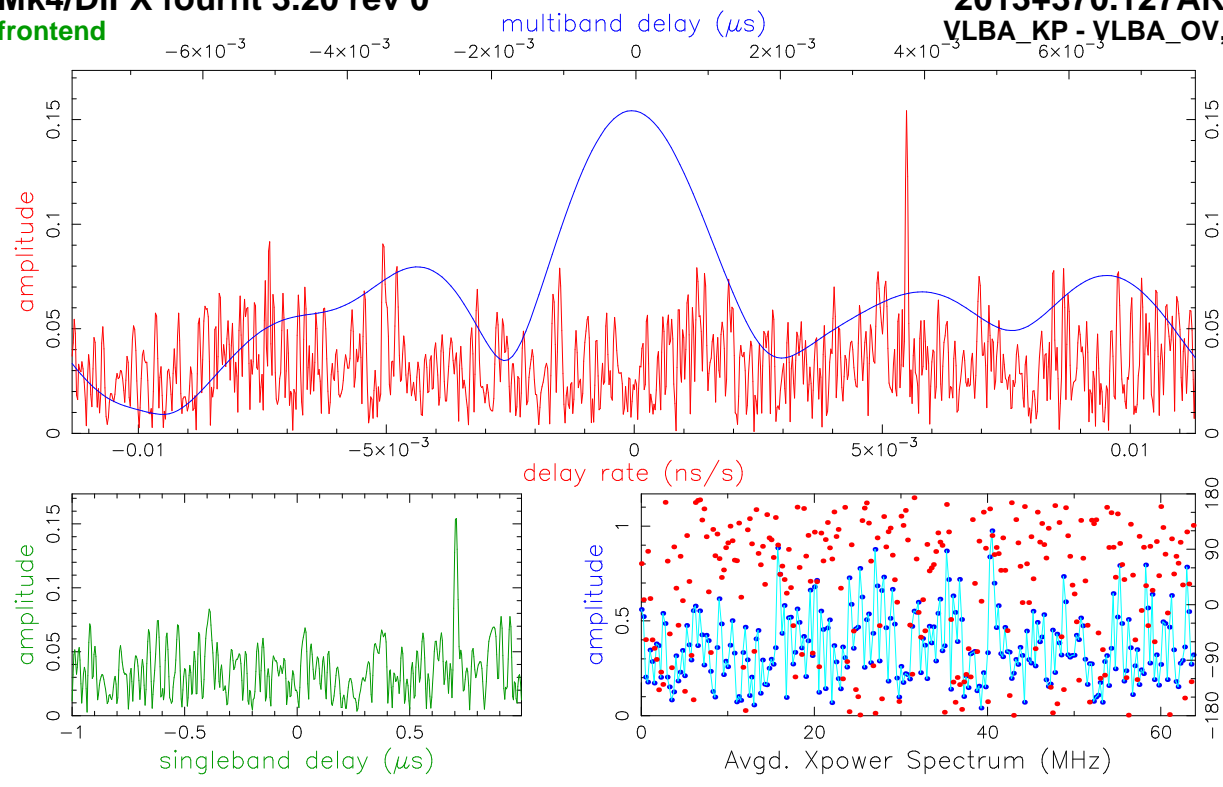


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	7.73794538158E+02		Apriori delay (usec)		7.74363498467E+02		Resid mbdelay (usec)		-6.46031E-03	+/- 1.9E-04
Sband delay (usec)	7.73799654467E+02		Apriori clock (usec)		-1.7069342E+01		Resid sbdelay (usec)		-5.63844E-01	+/- 1.5E-03
Phase delay (usec)	7.74363499323E+02		Apriori clockrate (us/s)		-1.9555999E-07		Resid phdelay (usec)		8.55938E-07	+/- 6.4E-07
Delay rate (us/s)	-3.97764754503E-02		Apriori rate (us/s)		-3.97853553381E-02		Resid rate (us/s)		8.87989E-06	+/- 6.2E-09
Total phase (deg)	299.4		Apriori accel (us/s/s)		-9.37549139601E-06		Resid phase (deg)		26.5	+/- 19.9

ph/seg (deg) 44.5 46.7 Search (1024X32) 0.154 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 60.7 81.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 32.4 28.2 Inc. seg. avg. 0.208 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 53.9 49.2 Inc. frq. avg. 0.194 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 69.4 el 55.9 pa -86.3 o: az 74.9 el 52.2 pa -74.9 u,v (fr/asec) 278.043 -1095.314 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/ko..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/ko.W.195.127ARX

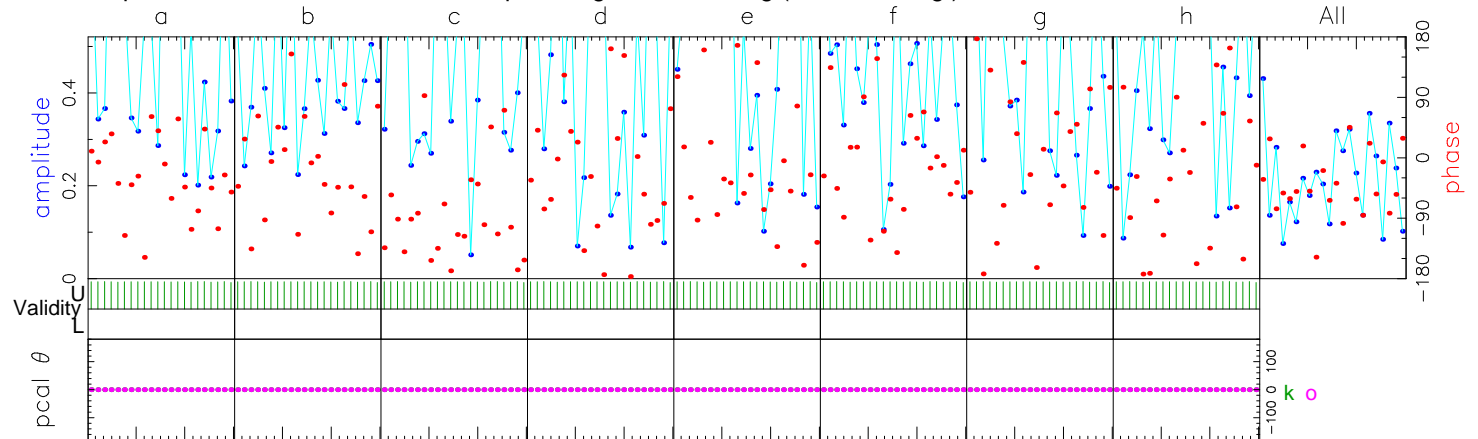
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, ko
VLBA_KP - VLBA_OV, fgroup W, pol LR



Fringe quality 0
SNR 5.7
Int time 178.135
Amp 0.174
Phase -41.5
PFD 7.0e-01
Delays (us)
SBD 0.705190
MBD -0.000086
Fringe rate (Hz)
0.474434
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131739
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-20.9	-21.4	-110.5	-34.7	-37.3	-18.9	-22.5	-44.9	Phase	-41.5
	0.3	0.2	0.3	0.2	0.2	0.2	0.1	0.1	Ampl.	0.2
	437.7	19.6	437.9	431.8	4.3	97.6	42.4	204.2	Sbd box	437.5
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	7.75066537580E+02		Apriori delay (usec)		7.74363498467E+02		Resid mbdelay (usec)		-8.58872E-05	+/- 1.9E-04
Sband delay (usec)	7.75068688967E+02		Apriori clock (usec)		-1.7069342E+01		Resid sbdelay (usec)		7.05190E-01	+/- 1.5E-03
Phase delay (usec)	7.74363497130E+02		Apriori clockrate (us/s)		-1.9555999E-07		Resid phdelay (usec)		-1.33789E-06	+/- 6.4E-07
Delay rate (us/s)	-3.97798476291E-02		Apriori rate (us/s)		-3.97853553381E-02		Resid rate (us/s)		5.50771E-06	+/- 6.2E-09
Total phase (deg)	231.4		Apriori accel (us/s/s)		-9.37549139601E-06		Resid phase (deg)		-41.5	+/- 20.0

ph/seg (deg) 46.6 46.8 Search (1024X32) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 72.1 81.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 33.0 28.2 Inc. seg. avg. 0.182 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 55.2 49.3 Inc. frq. avg. 0.182 Sample rate(MSamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 69.4 el 55.9 pa -86.3 o: az 74.9 el 52.2 pa -74.9 u,v (fr/asec) 278.043 -1095.314 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/ko..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/ko.W.215.127ARX

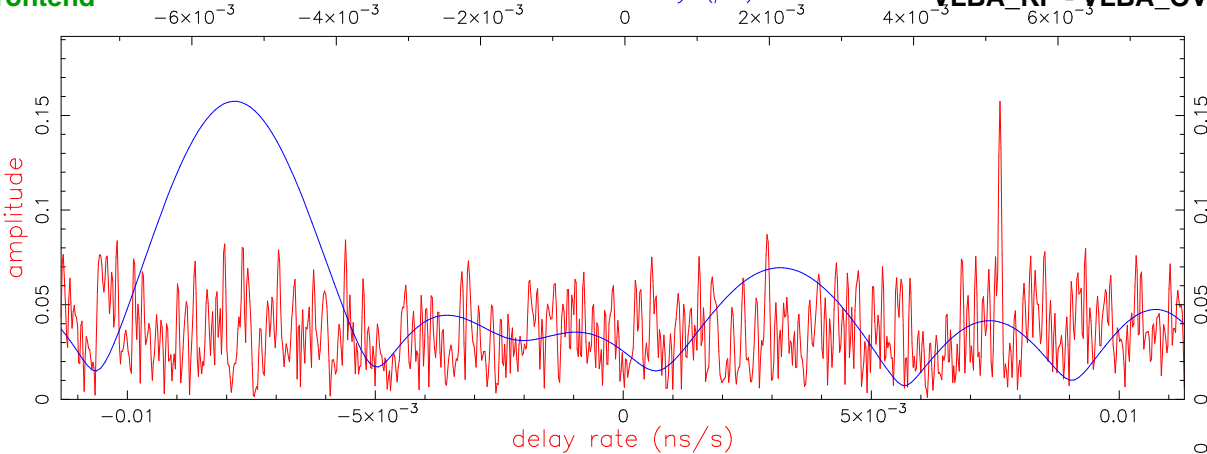
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, ko

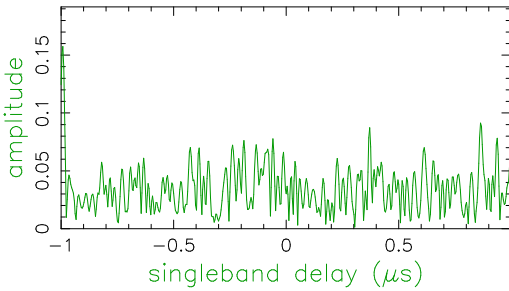
VLBA_KP - VLBA_OV, fgroup W, pol RL

multiband delay (μ s)

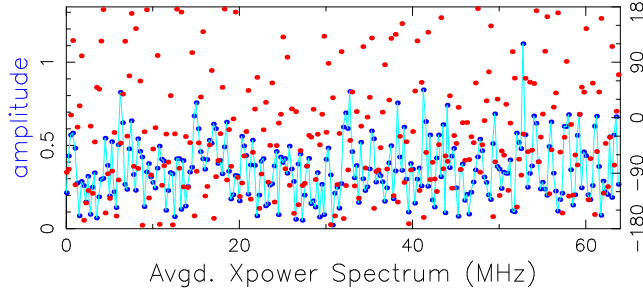


Fringe quality 0

SNR 5.8
Int time 178.135
Amp 0.192
Phase 69.6
PFD 6.2e-01
Delays (us)
SBD -0.993187
MBD -0.005449
Fringe rate (Hz)
0.654445
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

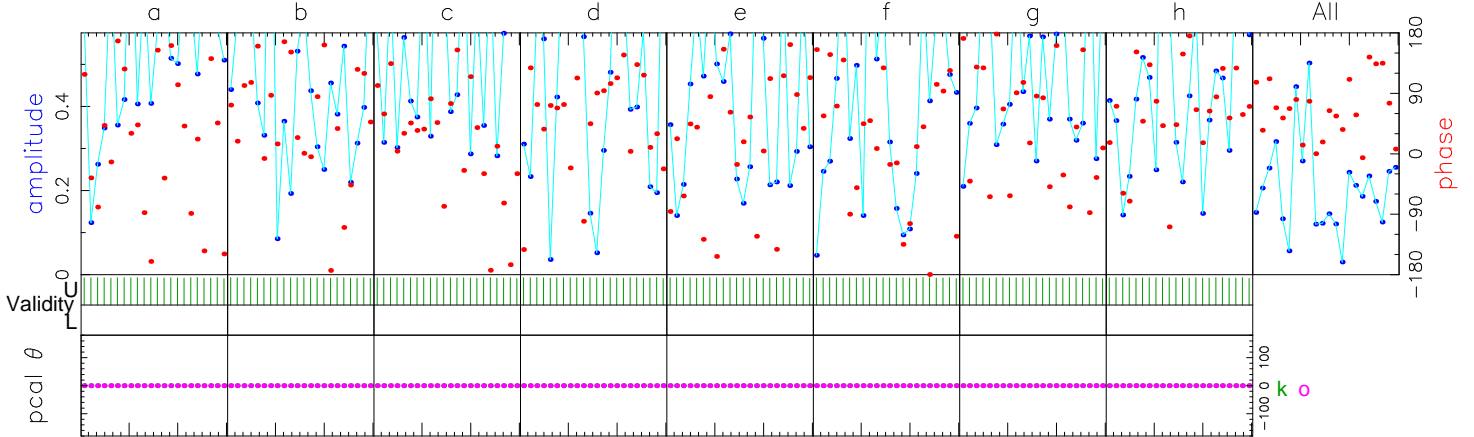


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131741
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
Group delay (usec)(sbd)	7.73373674372E+02		Apriori delay (usec)		7.74363498467E+02		Resid mbdelay (usec)		-5.44910E-03	+/- 1.9E-04
Sband delay (usec)	7.73370311717E+02		Apriori clock (usec)		-1.7069342E+01		Resid sbdelay (usec)		-9.93187E-01	+/- 1.5E-03
Phase delay (usec)	7.74363500713E+02		Apriori clockrate (us/s)		-1.9555999E-07		Resid phdelay (usec)		2.24520E-06	+/- 6.4E-07
Delay rate (us/s)	-3.97777578786E-02		Apriori rate (us/s)		-3.97853553381E-02		Resid rate (us/s)		7.59746E-06	+/- 6.1E-09
Total phase (deg)			342.5		Apriori accel (us/s/s)		-9.37549139601E-06		69.6	+/- 19.8

	RMS	Theor.	Amplitude	0.192 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	43.8	46.5	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	76.2	81.2	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	21.8	28.1	Inc. seg. avg.	0.189	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	45.0	49.0	Inc. frq. avg.	0.177	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 69.4 el 55.9 pa -86.3 o: az 74.9 el 52.2 pa -74.9 u,v (fr/asec) 278.043 -1095.314 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/ko..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/ko.W.232.127ARX

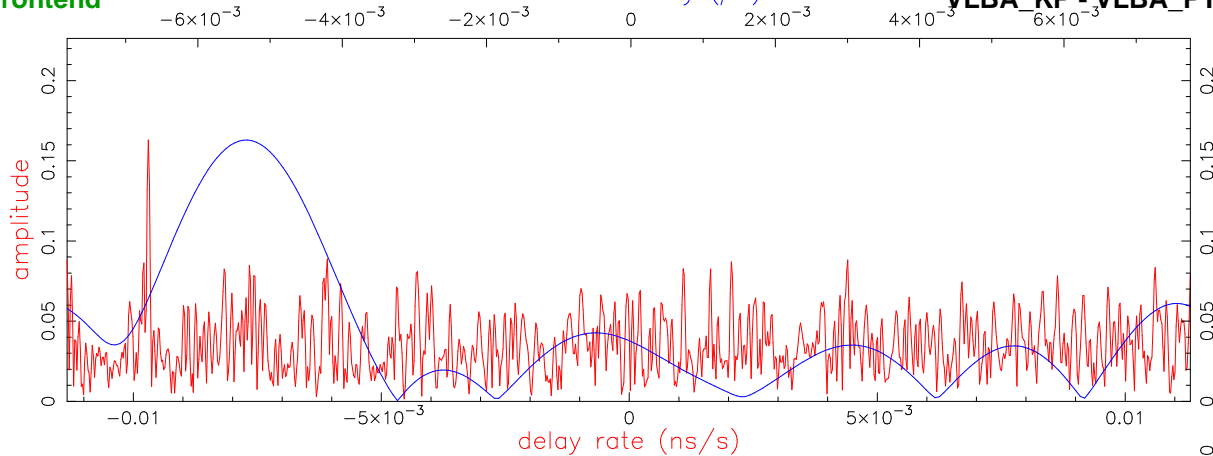
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, kp

VLBA_KP - VLBA_PT, fgroup W, pol LL

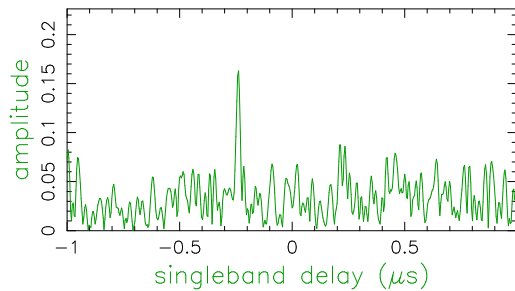
multiband delay (μ s)



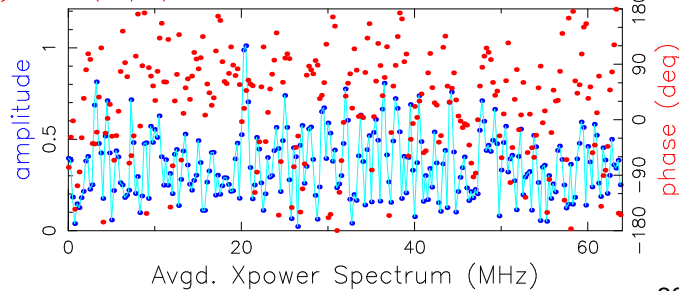
Fringe quality 0

SNR 6.0
Int time 179.070
Amp 0.226
Phase -125.6
PFD 2.2e-01
Delays (us)
SBD -0.239416
MBD -0.005346
Fringe rate (Hz)
-0.836071
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

delay rate (ns/s)

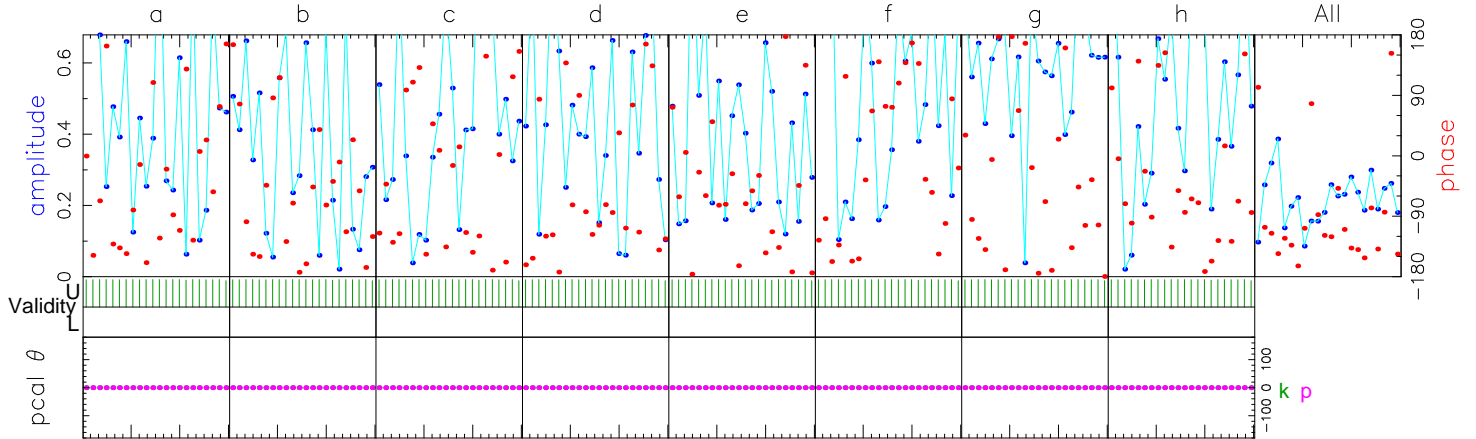


singleband delay (μ s)



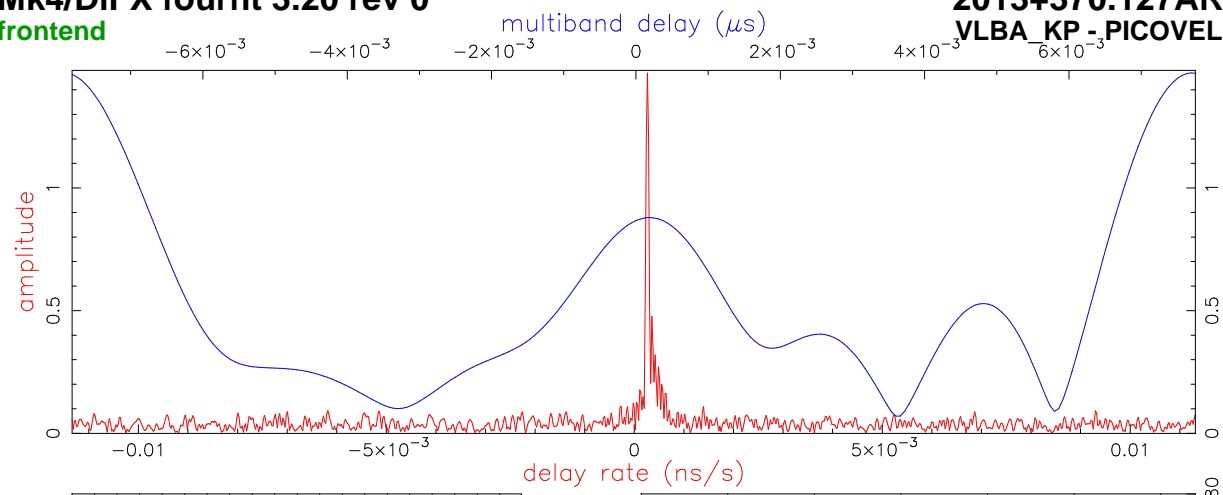
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131734
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

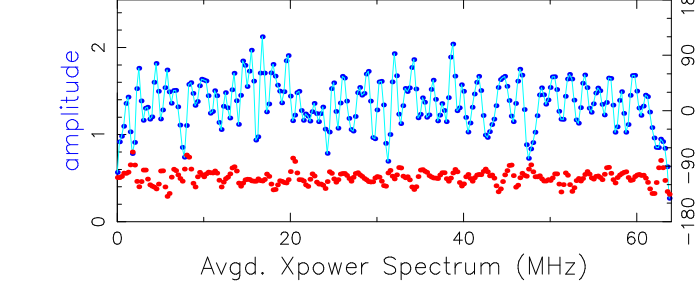
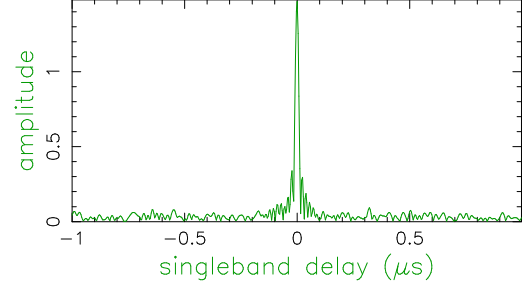


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-109.9	-127.2	-141.1	-144.2	-111.0	-138.3	-106.5	-127.3	Phase	-125.6
	0.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	Ampl.	0.2
	145.7	42.1	54.0	231.2	282.6	174.2	245.0	421.2	Sbd box	195.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-7.0795858900E+02					-7.07718864497E+02			Resid mbdelay (usec)	-5.34640E-03 +/- 1.8E-04
Sband delay (usec)	-7.07958280497E+02					-1.2384522E+01			Resid sbdelay (usec)	-2.39416E-01 +/- 1.4E-03
Phase delay (usec)	-7.07718868546E+02					-3.9846558E-07			Resid phdelay (usec)	-4.04949E-06 +/- 6.2E-07
Delay rate (us/s)	6.62501384719E-02					6.62598444288E-02			Resid rate (us/s)	-9.70596E-06 +/- 5.9E-09
Total phase (deg)			-121.2			1.35610179175E-06			Resid phase (deg)	-125.6 +/- 19.1
	RMS	Theor.	Amplitude	0.226 +/- 0.038					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	54.4	44.8	Search (1024X32)	0.157					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	53.9	78.1	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	16.2	27.0	Inc. seg. avg.	0.231					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	24.6	47.1	Inc. frq. avg.	0.209					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite

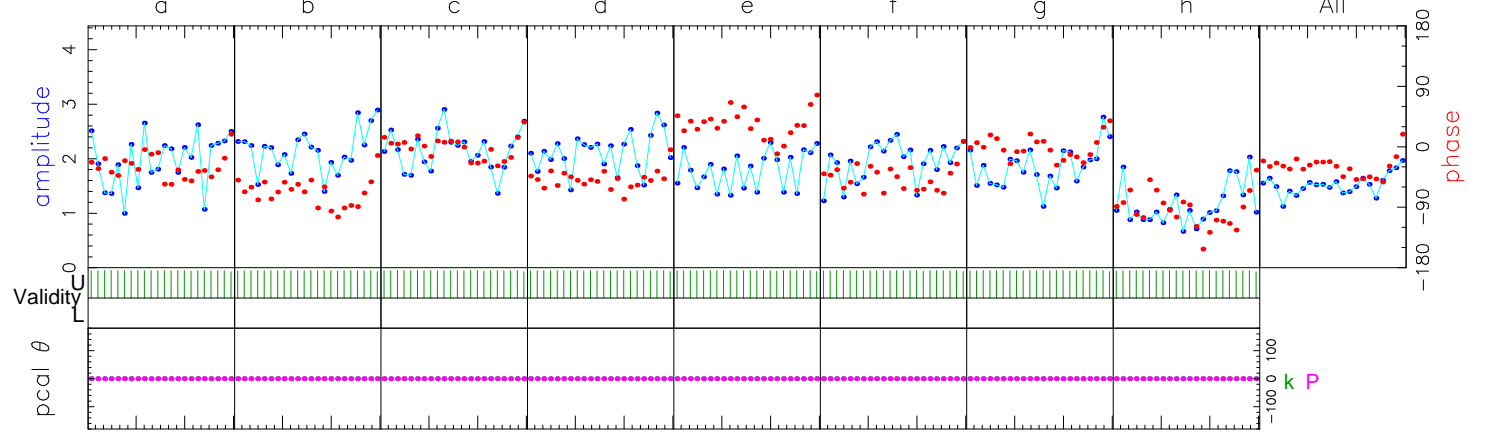
k: az 69.4 el 55.9 pa -86.3 p: az 73.4 el 59.4 pa -84.1 u,v (fr/asec) -476.152 -158.001 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kp..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kp.W.175.127ARX



Fringe quality 5
 SNR 54.1
 Int time 179.022
 Amp 1.479
 Phase -29.2
 PFD 0.0e+00
 Delays (us)
 SBD -0.001067
 MBD -0.007957
 Fringe rate (Hz) 0.023124
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131735
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

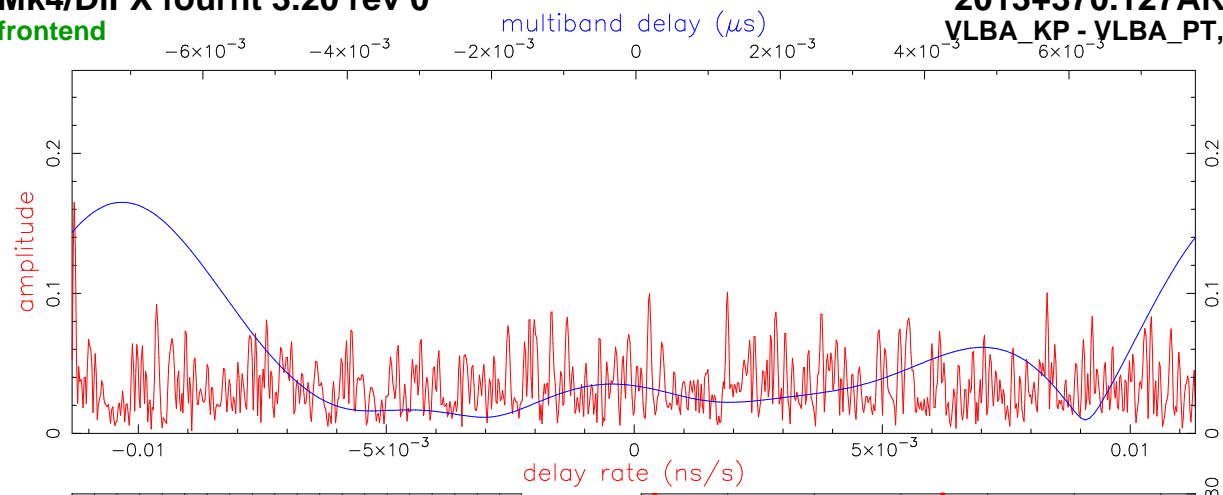


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

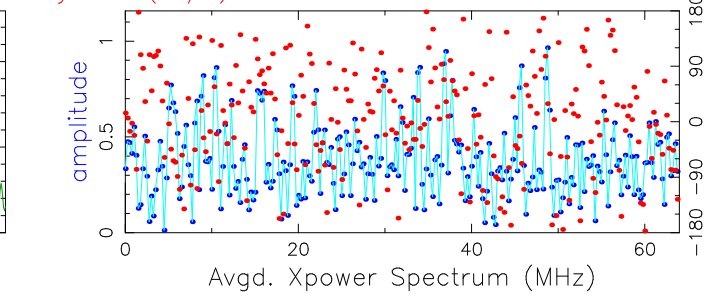
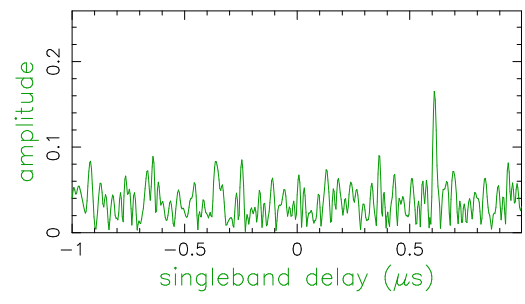


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-29.5	-66.7	0.3	-48.9	33.8	-44.8	0.0	-93.8		Phase
	1.9	2.0	2.1	2.1	1.7	1.9	1.8	1.0		Ampl.
	256.3	256.2	256.6	256.3	255.9	256.3	256.1	254.2		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
k	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
P	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
k	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
P	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks
										Tracks
Group delay (usec)(sbd)	4.70285687040E+03		Apriori delay (usec)		4.70286482768E+03		Resid mbdelay (usec)		-7.95728E-03	+/- 2.0E-05
Sband delay (usec)	4.70286376093E+03		Apriori clock (usec)		-2.4945936E-01		Resid sbdelay (usec)		-1.06675E-03	+/- 1.6E-04
Phase delay (usec)	4.70286482673E+03		Apriori clockrate (us/s)		1.5842101E-07		Resid phdelay (usec)		-9.42590E-07	+/- 6.8E-08
Delay rate (us/s)	1.59776272761E+00		Apriori rate (us/s)		1.59776245916E+00		Resid rate (us/s)		2.68451E-07	+/- 6.6E-10
Total phase (deg)	62.9		Apriori accel (us/s/s)		-3.00295659893E-05		Resid phase (deg)		-29.2	+/- 2.1

ph/seg (deg) 15.0 5.0 Search (1024X32) 1.451 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 12.6 8.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 44.6 3.0 Inc. seg. avg. 1.519 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 30.0 5.2 Inc. frq. avg. 1.793 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 P: az 291.9 el 37.9 pa 68.5 u,v (fr/asec) -11519.307 -2243.607 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kP..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kP.W.180.127ARX

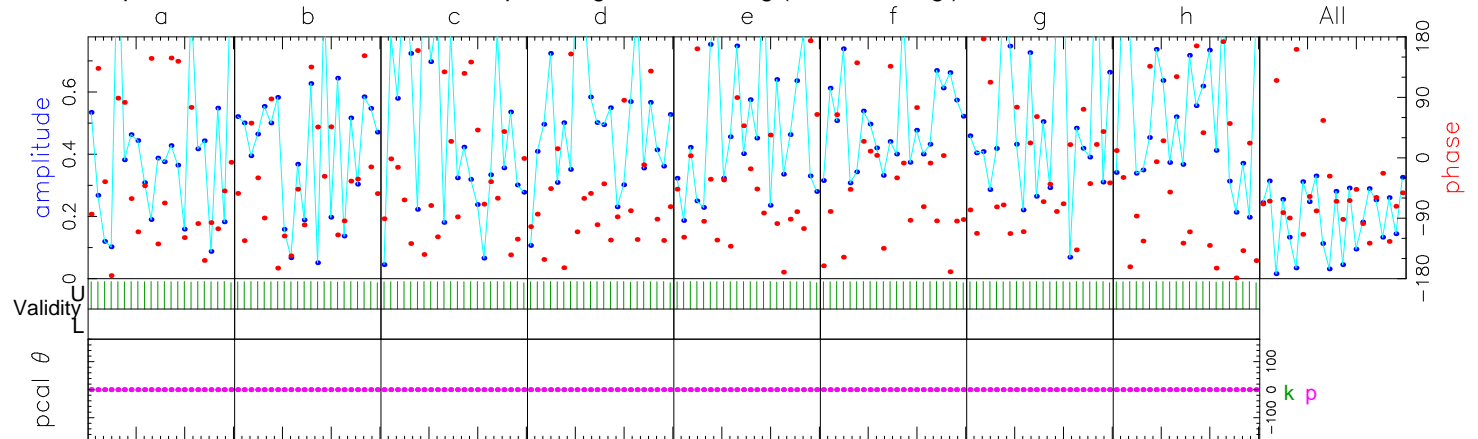


Fringe quality 0
SNR 6.1
Int time 179.070
Amp 0.259
Phase -76.6
PFD 1.6e-01
Delays (us)
SBD 0.610079
MBD -0.007094
Fringe rate (Hz)
-0.973390
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131736
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



Avgd. Xpower Spectrum (MHz)

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



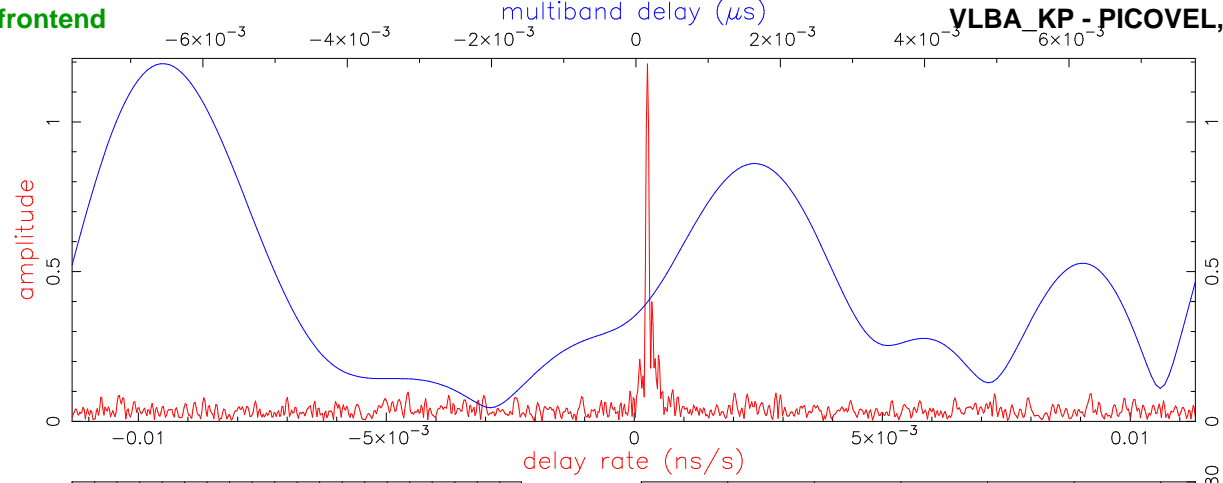
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-92.0	-61.8	-75.0	-93.2	-75.9	-55.2	-51.7	-134.3	Phase	-76.6
	0.1	0.2	0.3	0.5	0.3	0.2	0.4	0.2	Ampl.	0.3
	187.6	508.0	21.1	412.4	280.3	87.3	469.7	152.8	Sbd box	413.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.07116583974E+02					-7.07718864497E+02			Resid mbdelay (usec)	-7.09448E-03 +/- 1.8E-04
Sband delay (usec)	-7.07108785247E+02					-1.2384522E+01			Resid sbdelay (usec)	6.10079E-01 +/- 1.4E-03
Phase delay (usec)	-7.07718866966E+02					-3.9846558E-07			Resid phdelay (usec)	-2.46890E-06 +/- 6.1E-07
Delay rate (us/s)	6.62485443349E-02					6.62598444288E-02			Resid rate (us/s)	-1.13001E-05 +/- 5.9E-09
Total phase (deg)			-72.2			1.35610179175E-06			Resid phase (deg)	-76.6 +/- 18.9
	RMS	Theor.	Amplitude	0.259 +/- 0.043					Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.8	44.4	Search (1024X32)	0.159					Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	65.8	77.4	Interp.	0.000					Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	29.3	26.7	Inc. seg. avg.	0.237					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	48.1	46.7	Inc. frq. avg.	0.252					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
									nlags: 256	t_cohere infinite
k: az 69.4 el 55.9 pa -86.3										simultaneous interpolator
p: az 73.4 el 59.4 pa -84.1										
u,v (fr/asec) -476.152 -158.001										
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0065/kp..127ARX								Output file: /Exps/c192c/v1_CygA2/1234/No0065/kp.W.194.127ARX	

Mk4/DiFX fourfit 3.20 rev 0

frontend

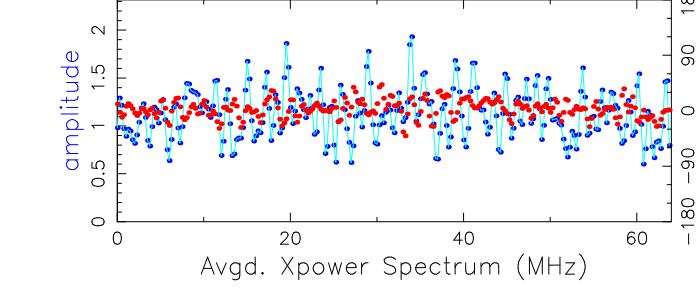
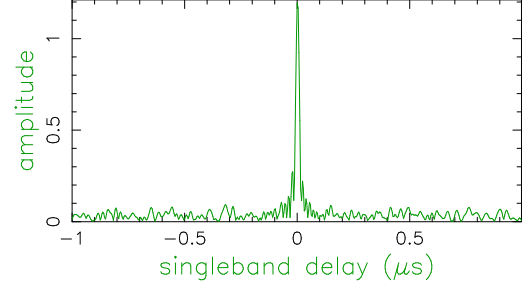
2013+370.127ARX, No0065, kP

VLBA_KP - PICOVEL, fgroup W, pol RR



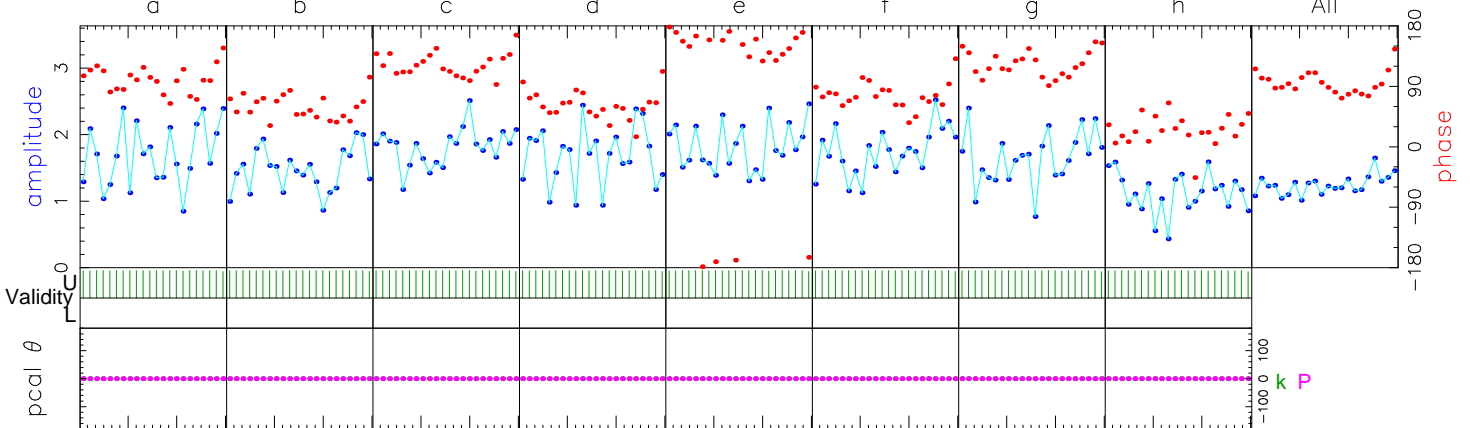
Fringe quality 6

SNR 44.3
 Int time 179.022
 Amp 1.212
 Phase 95.0
 PFD 0.0e+00
 Delays (us)
 SBD 0.001517
 MBD -0.006512
 Fringe rate (Hz)
 0.023238
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131737
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

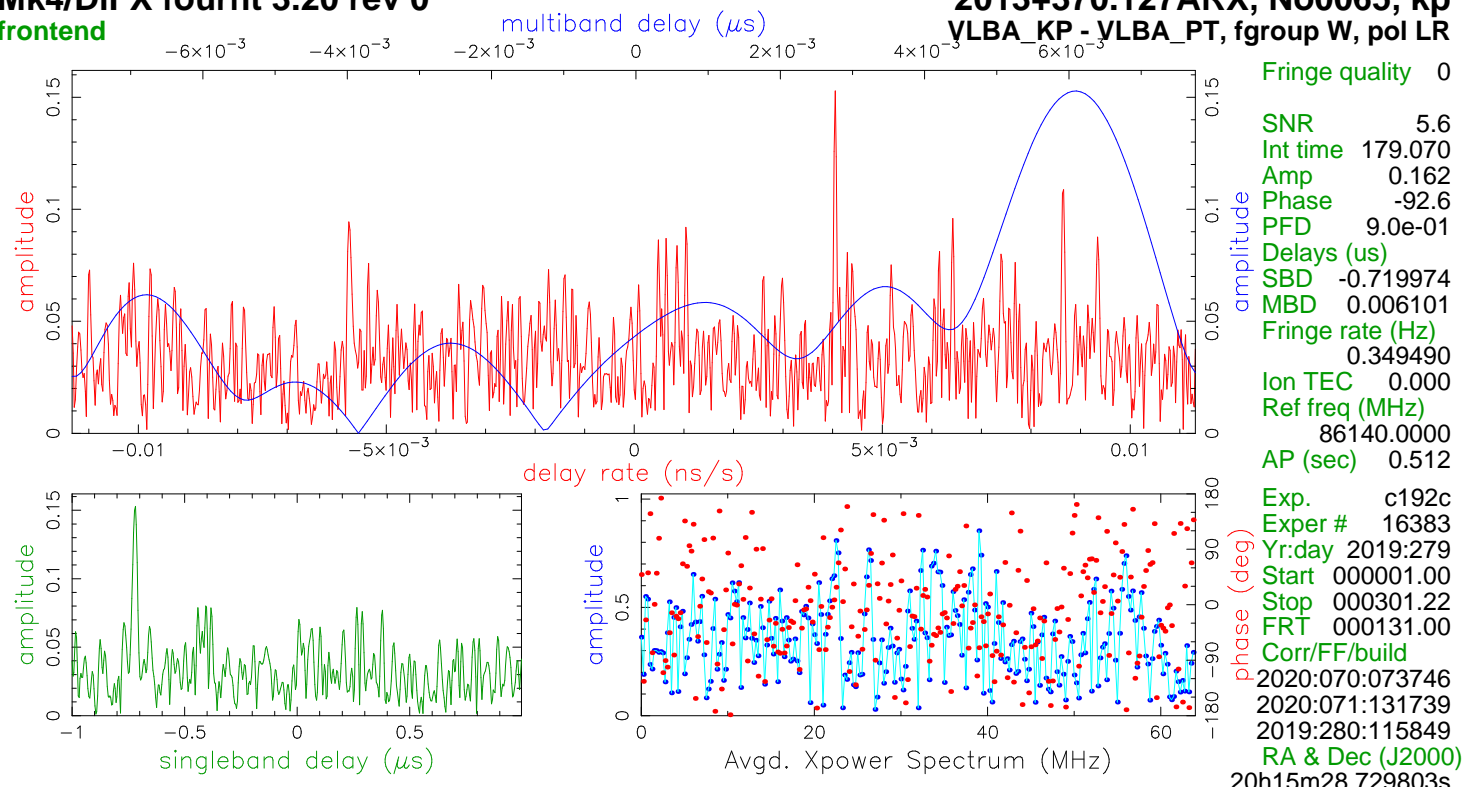
Group delay (usec)(sbd) 4.70287394065E+03 Apriori delay (usec) 4.70286482768E+03 Resid mbdelay (usec) -6.51203E-03 +/- 2.4E-05
 Sband delay (usec) 4.70286634468E+03 Apriori clock (usec) -2.4945936E-01 Resid sbdelay (usec) 1.51700E-03 +/- 1.9E-04
 Phase delay (usec) 4.70286483074E+03 Apriori clockrate (us/s) 1.5842101E-07 Resid phdelay (usec) 3.06457E-06 +/- 8.3E-08
 Delay rate (us/s) 1.59776272892E+00 Apriori rate (us/s) 1.59776245916E+00 Resid rate (us/s) 2.69765E-07 +/- 8.0E-10
 Total phase (deg) 187.2 Apriori accel (us/s/s) -3.00295659893E-05 Resid phase (deg) 95.0 +/- 2.6

RMS Theor. Amplitude 1.212 +/- 0.027 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 ph/seg (deg) 16.4 6.1 Search (1024X32) 1.161 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 amp/seg (%) 12.1 10.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 ph/frq (deg) 48.2 3.7 Inc. seg. avg. 1.240 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
 amp/frq (%) 32.0 6.4 Inc. frq. avg. 1.538 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00

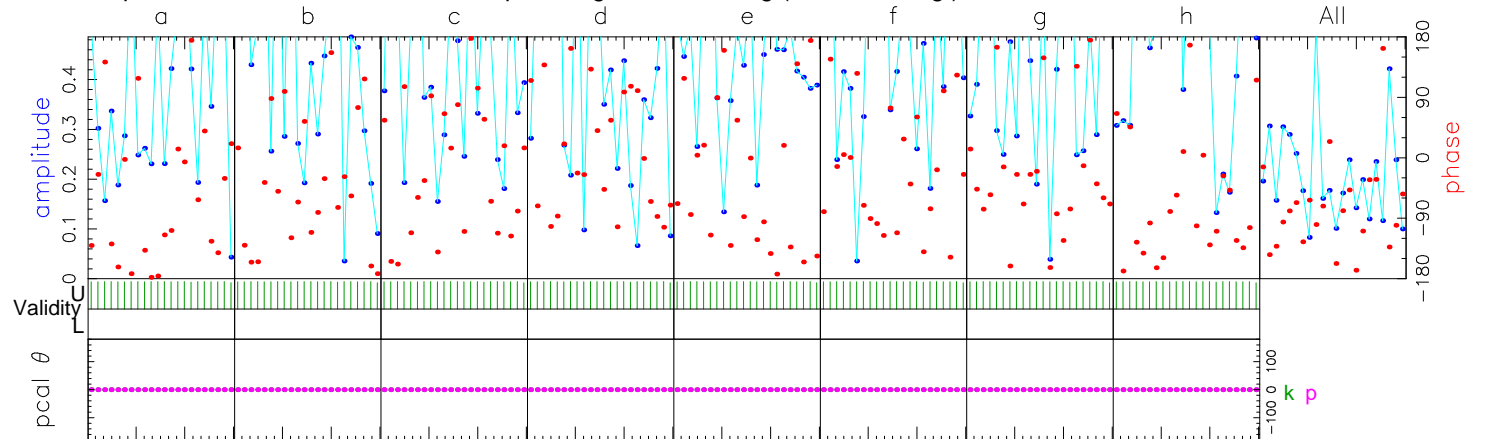
k: az 69.4 el 55.9 pa -86.3 P: az 291.9 el 37.9 pa 68.5 u,v (fr/asec) -11519.307 -2243.607 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kP..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kP.W.198.127ARX

Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kp
VLBA_KP - VLBA_PT, fgroup W, pol LR



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

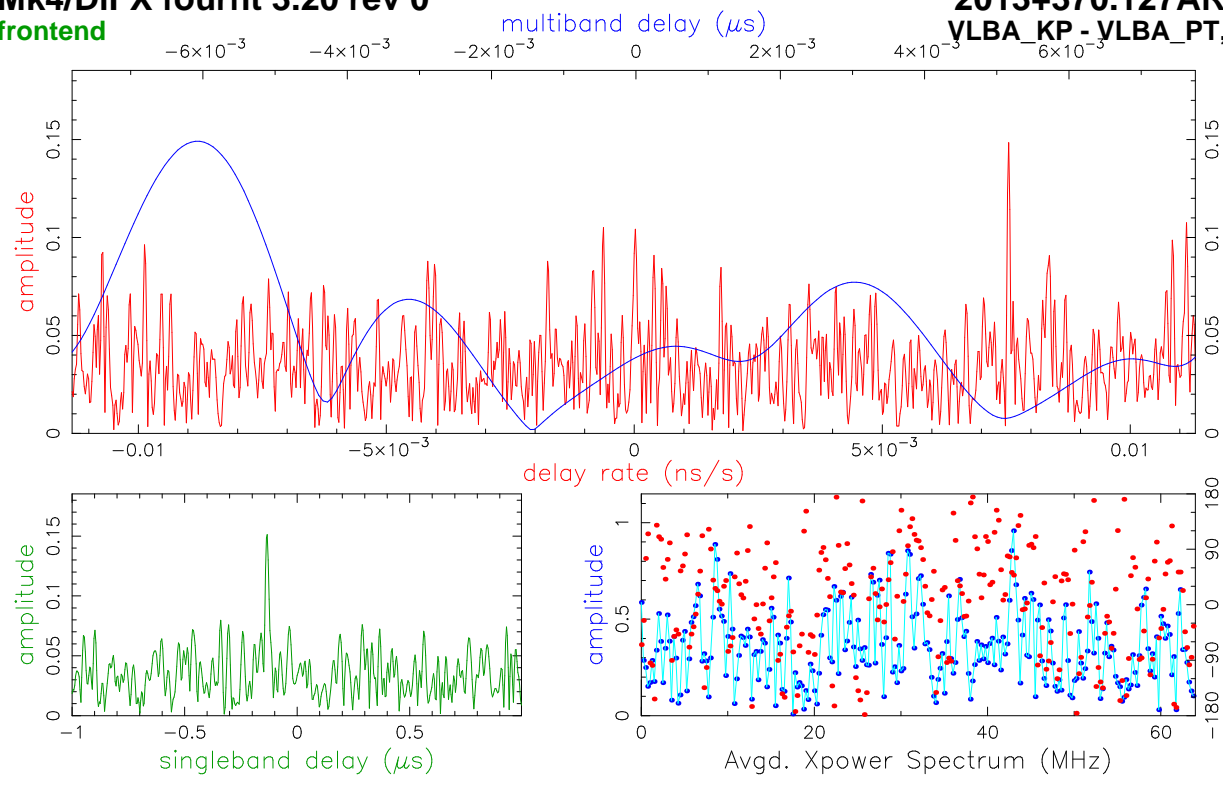


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-115.7	-82.1	-100.9	-60.8	-118.6	-86.0	-74.3	-110.5		Phase
	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.3		Ampl.
	98.1	427.5	48.1	75.3	508.7	339.8	71.3	73.0		Sbd box
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		APs used
k	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
p	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC
k	1000	1000	1000	1000	1000	1000	1000	1000		PC amp
p	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Tracks
										Chan ids
										Tracks
Group delay (usec)(sbd)	-7.08431513661E+02		Apriori delay (usec)	-7.07718864497E+02	Resid mbdelay (usec)	6.10084E-03	+/-	1.9E-04		
Sband delay (usec)	-7.08438837997E+02		Apriori clock (usec)	-1.2384522E+01	Resid sbdelay (usec)	-7.19974E-01	+/-	1.5E-03		
Phase delay (usec)	-7.07718867484E+02		Apriori clockrate (us/s)	-3.9846558E-07	Resid phdelay (usec)	-2.98756E-06	+/-	6.6E-07		
Delay rate (us/s)	6.62639016637E-02		Apriori rate (us/s)	6.62598444288E-02	Resid rate (us/s)	4.05723E-06	+/-	6.3E-09		
Total phase (deg)		-88.2	Apriori accel (us/s/s)	1.35610179175E-06	Resid phase (deg)	-92.6	+/-	20.4		

ph/seg (deg) 52.7 47.8 Search (1024X32) 0.150 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 78.3 83.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 22.7 28.8 Inc. seg. avg. 0.168 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 47.0 50.3 Inc. frq. avg. 0.151 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 69.4 el 55.9 pa -86.3 p: az 73.4 el 59.4 pa -84.1 u,v (fr/asec) -476.152 -158.001 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kp..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kp.W.214.127ARX

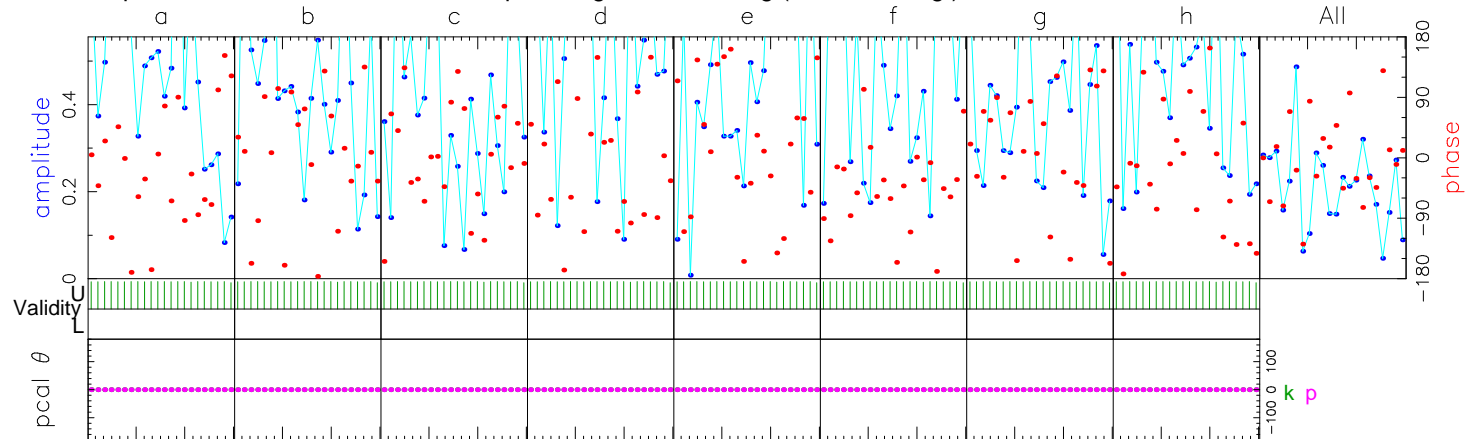
Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kp
VLBA_KP - VLBA_PT, fgroup W, pol RL



Fringe quality 0
SNR 5.6
Int time 179.070
Amp 0.185
Phase -11.2
PFD 9.2e-01
Delays (us)
SBD -0.134374
MBD -0.005968
Fringe rate (Hz) 0.650669
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131741
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

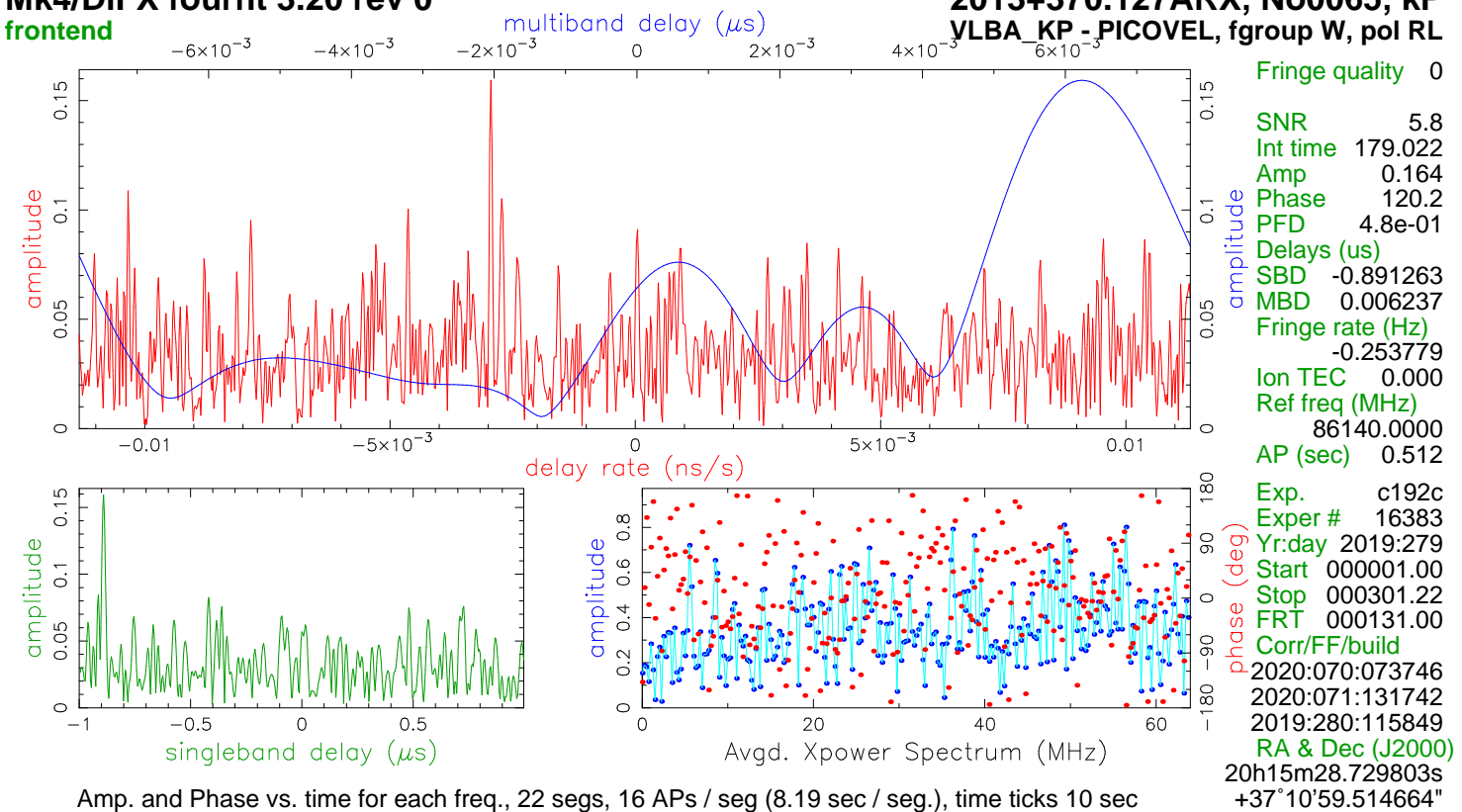


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All	
	-16.4	26.1	7.5	-42.7	-12.1	-50.0	38.6	-9.4		-11.2	
	0.2	0.2	0.3	0.2	0.1	0.3	0.2	0.2		0.2	
	322.9	396.3	247.7	35.8	45.2	221.1	41.7	223.8		222.6	
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0			
k	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
k:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		PC phase	
kp	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000		PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000			
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks	
										Chan ids	
										Tracks	
Group delay (usec)(sbd)	-7.07849832629E+02				-7.07718864497E+02				Resid mbdelay (usec)	-5.96813E-03	+/- 1.9E-04
Sband delay (usec)	-7.07853238747E+02				-1.2384522E+01				Resid sbdelay (usec)	-1.34374E-01	+/- 1.5E-03
Phase delay (usec)	-7.07718864859E+02				-3.9846558E-07				Resid phdelay (usec)	-3.62439E-07	+/- 6.6E-07
Delay rate (us/s)	6.62673980484E-02				6.62598444288E-02				Resid rate (us/s)	7.55362E-06	+/- 6.3E-09
Total phase (deg)			-6.8		1.35610179175E-06				Resid phase (deg)	-11.2	+/- 20.4

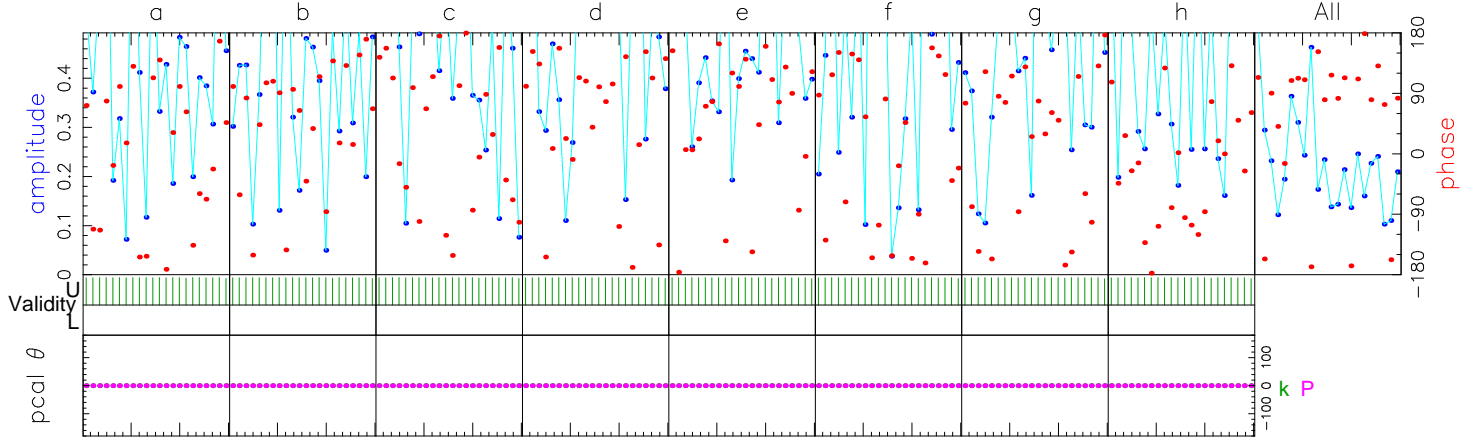
ph/seg (deg) 61.2 47.9 Amplitude 0.185 +/- 0.033 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 74.8 83.6 Interp. 0.149 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 33.6 28.9 Inc. seg. avg. 0.191 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 37.7 50.4 Inc. frq. avg. 0.184 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
k: az 69.4 el 55.9 pa -86.3 p: az 73.4 el 59.4 pa -84.1 u,v (fr/asec) -476.152 -158.001 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kp..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kp.W.231.127ARX

Mk4/DiFX fourfit 3.20 rev 0
frontend

2013+370.127ARX, No0065, kP
VLBA_KP - PICOVEL, fgroup W, pol RL

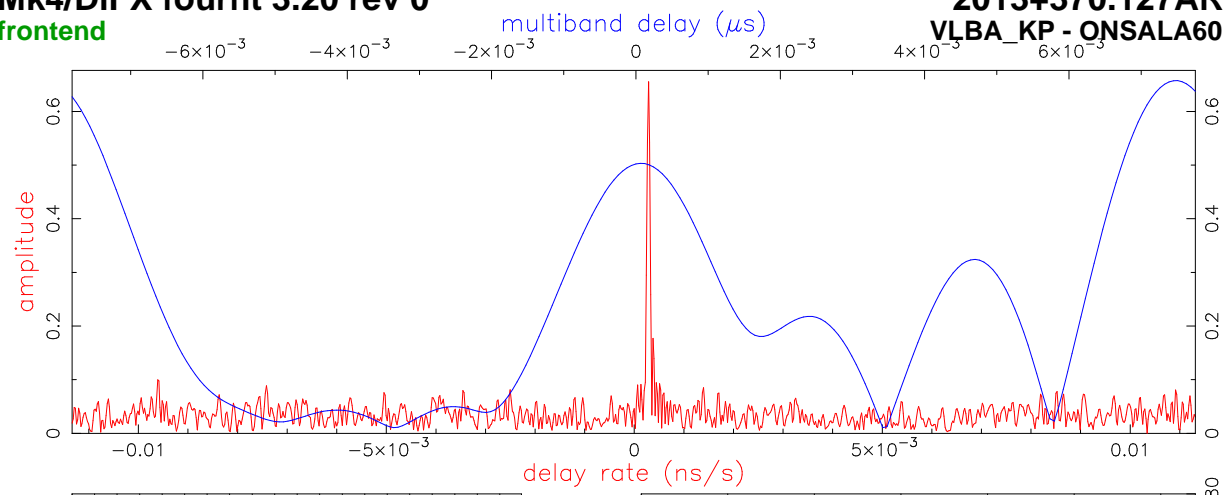


Amp. and Phase vs. time for each freq., 22 segs, 16 APs / seg (8.19 sec / seg.), time ticks 10 sec

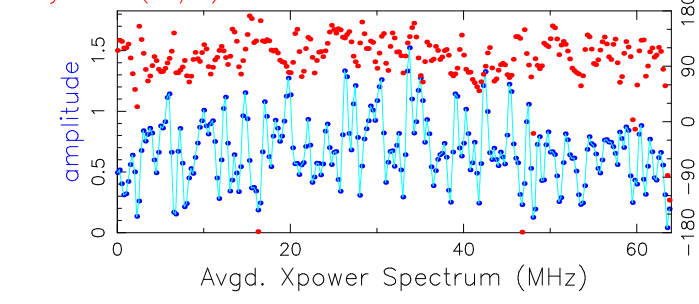
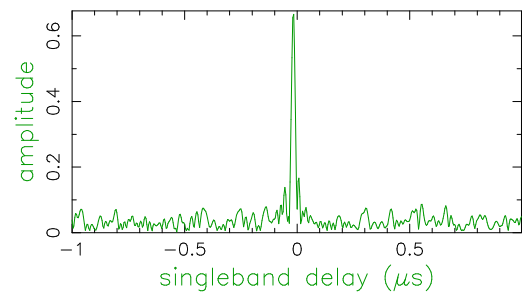


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
123.6	100.3	138.4	111.5	125.5	164.2	102.2	13.9	13.9	Phase	120.2
0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.1	Ampl.	0.2
24.4	163.9	458.5	315.2	212.9	27.9	340.0	390.8	390.8	Sbd box	28.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
P	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	4.70198043923E+03		Apriori delay (usec)	4.70286482768E+03	Resid mbdelay (usec)	6.23655E-03	+/-	1.9E-04		
Sband delay (usec)	4.70197356468E+03		Apriori clock (usec)	-2.4945936E-01	Resid sbdelay (usec)	-8.91263E-01	+/-	1.5E-03		
Phase delay (usec)	4.70286483155E+03		Apriori clockrate (us/s)	1.5842101E-07	Resid phdelay (usec)	3.87590E-06	+/-	6.3E-07		
Delay rate (us/s)	1.59775951304E+00		Apriori rate (us/s)	1.59776245916E+00	Resid rate (us/s)	-2.94612E-06	+/-	6.1E-09		
Total phase (deg)		212.3	Apriori accel (us/s/s)	-3.00295659893E-05	Resid phase (deg)	120.2	+/-	19.6		

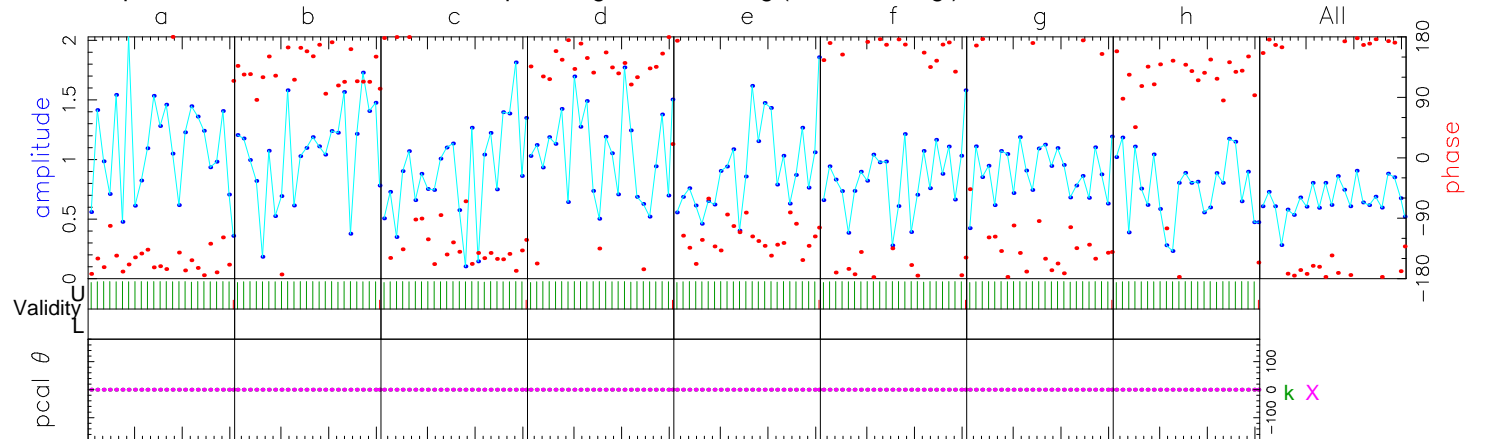
ph/seg (deg) 53.4 46.0 Amplitude 0.164 +/- 0.028 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
amp/seg (%) 79.5 80.3 Search (1024X32) 0.157 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
ph/frq (deg) 49.0 27.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
amp/frq (%) 41.7 48.4 Inc. seg. avg. 0.180 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011
k: az 69.4 el 55.9 pa -86.3 P: az 291.9 el 37.9 pa 68.5 u,v (fr/asec) -11519.307 -2243.607 nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kP..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kP.W.233.127ARX simultaneous interpolator



Fringe quality 8
 SNR 24.7
 Int time 178.049
 Amp 0.677
 Phase -178.0
 PFD 0.0e+00
 Delays (us)
 SBD -0.017232
 MBD 0.007568
 Fringe rate (Hz)
 0.024226
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.51
 Stop 000300.71
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131735
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



Amp. and Phase vs. time for each freq., 24 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec

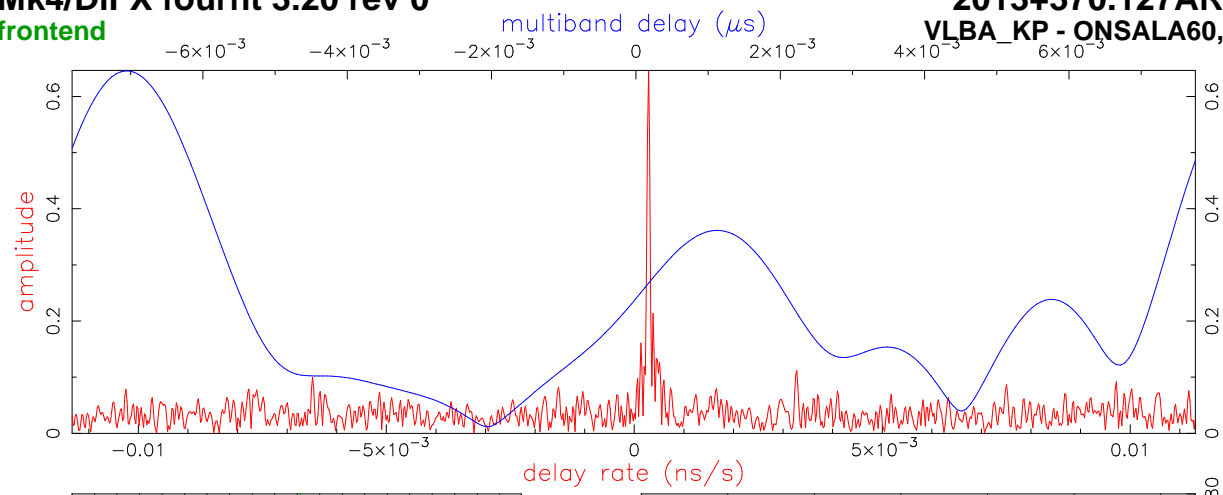


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-154.8	134.7	-142.3	145.3	-121.2	172.6	-151.0	124.7	Phase	-178.0
	1.0	1.0	0.8	0.9	0.8	0.8	0.8	0.6	Ampl.	0.8
	252.0	252.3	252.7	252.1	252.3	252.4	252.2	250.6	Sbd box	252.6
U/L	350/0	350/0	350/0	350/0	350/0	350/0	350/0	350/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.64024086697E+03		Apriori delay (usec)		5.64026454907E+03		Resid mbdelay (usec)		7.56790E-03	+/- 4.4E-05
Sband delay (usec)	5.64024731732E+03		Apriori clock (usec)		-3.2814255E+01		Resid sbdelay (usec)		-1.72317E-02	+/- 3.5E-04
Phase delay (usec)	5.64026454333E+03		Apriori clockrate (us/s)		-7.2257901E-07		Resid phdelay (usec)		-5.73982E-06	+/- 1.5E-07
Delay rate (us/s)	1.34864903254E+00		Apriori rate (us/s)		1.34864875131E+00		Resid rate (us/s)		2.81235E-07	+/- 1.4E-09
Total phase (deg)			Apriori accel (us/s/s)		-5.15577167517E-05		Resid phase (deg)		-178.0	+/- 4.6

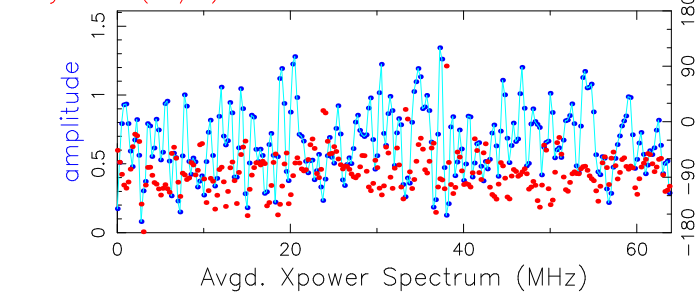
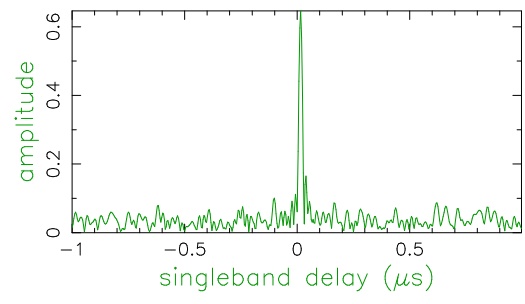
ph/seg (deg) 13.9 11.4 Search (1024X32) 0.642 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 20.2 19.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 46.1 6.6 Inc. seg. avg. 0.660 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 30.1 11.5 Inc. frq. avg. 0.836 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 X: az 286.6 el 34.6 pa 40.4 u,v (fr/asec) -9746.748 -5230.805 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kX..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kX.W.179.127ARX

Mk4/DiFX fourfit 3.20 rev 0
frontend

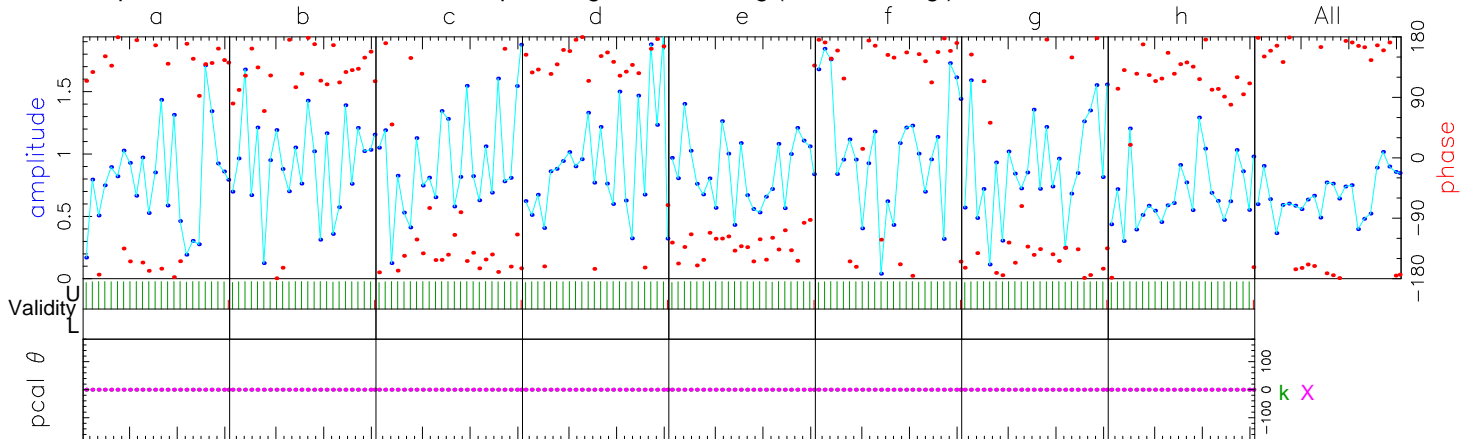
2013+370.127ARX, No0065, kX
VLBA_KP - ONSALA60, fgroup W, pol RR



Fringe quality 8
SNR 23.6
Int time 178.050
Amp 0.646
Phase 173.8
PFD 0.0e+00
Delays (us)
SBD 0.015212
MBD -0.007069
Fringe rate (Hz) 0.024145
Ion TEC 0.000
Ref freq (MHz) 86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.51
Stop 000300.71
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131737
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"



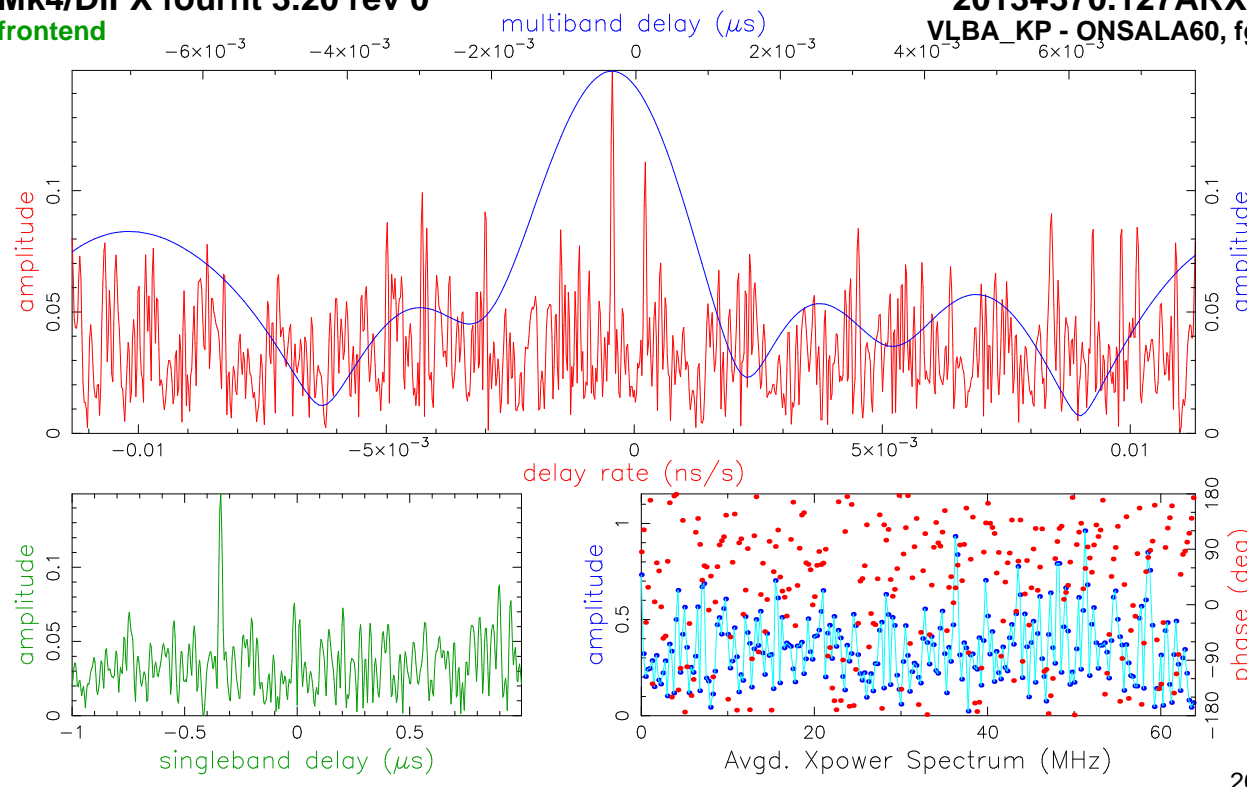
Amp. and Phase vs. time for each freq., 24 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All		
	167.8	138.2	-149.3	152.4	-129.5	165.3	-163.6	120.6	Phase	173.8		
	0.7	0.8	0.8	0.9	0.8	0.9	0.7	0.6	Ampl.	0.8		
	259.8	260.3	260.7	260.6	260.3	260.8	260.2	260.0	Sbd box	260.9		
U/L	350/0	350/0	350/0	350/0	350/0	350/0	350/0	350/0	APs used			
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs			
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase			
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC			
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp			
X	1000	1000	1000	1000	1000	1000	1000	1000				
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids			
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks			
									Tracks			
Group delay (usec)(sbd)	5.64027310485E+03		Apriori delay (usec)		5.64026454907E+03		Resid mbdelay (usec)		-7.06922E-03	+/- 4.6E-05		
Sband delay (usec)	5.64027976082E+03		Apriori clock (usec)		-3.2814255E+01		Resid sbdelay (usec)		1.52117E-02	+/- 3.7E-04		
Phase delay (usec)	5.64026455467E+03		Apriori clockrate (us/s)		-7.2257901E-07		Resid phdelay (usec)		5.60475E-06	+/- 1.6E-07		
Delay rate (us/s)	1.34864903161E+00		Apriori rate (us/s)		1.34864875131E+00		Resid rate (us/s)		2.80304E-07	+/- 1.5E-09		
Total phase (deg)	266.3		Apriori accel (us/s/s)		-5.15577167517E-05		Resid phase (deg)		173.8	+/- 4.9		
RMS	16.0	11.9	Amplitude		0.646 +/- 0.027		Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
ph/seg (deg)	16.0	11.9	Search (1024X32)		0.614		Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
amp/seg (%)	26.0	20.8	Interp.		0.000		Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
ph/frq (deg)	40.3	6.9	Inc. seg. avg.		0.657		Sample rate(MISamp/s): 128			dr window (ns/s)	-0.011 0.011	
amp/frq (%)	25.7	12.0	Inc. frq. avg.		0.769		Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00
k: az 69.4 el 55.9 pa -86.3		X: az 286.6 el 34.6 pa 40.4		u,v (fr/asec)		-9746.748 -5230.805		simultaneous interpolator				
Control file: cf_1234_gmva		Input file: /Exps/c192c/v1_CygA2/1234/No0065/kX..127ARX		Output file: /Exps/c192c/v1_CygA2/1234/No0065/kX.W.197.127ARX								

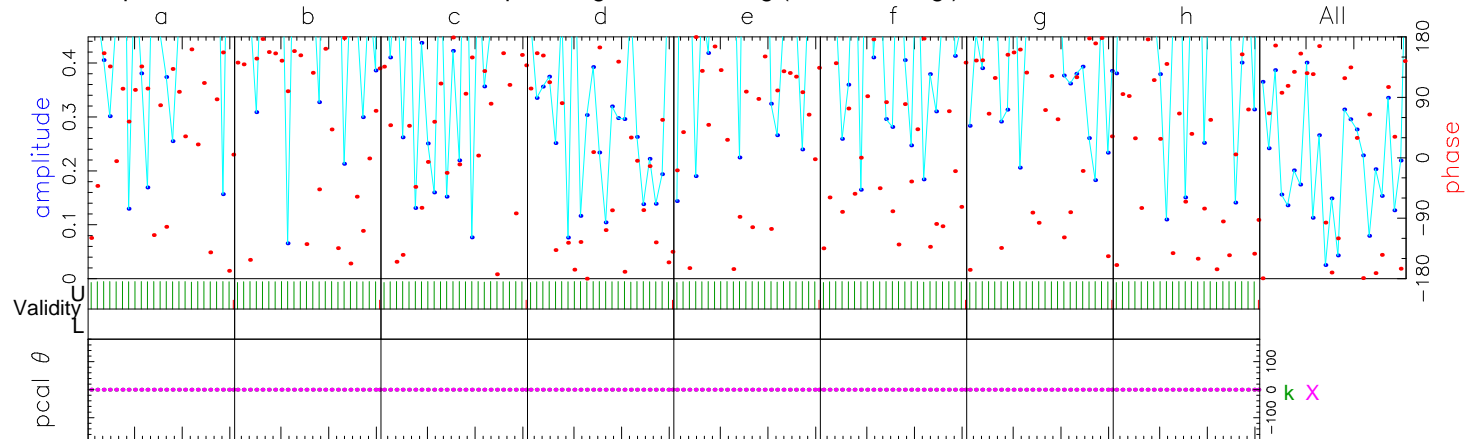
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, kX
 VLBA_KP - ONSALA60, fgroup W, pol LR



Fringe quality 0
 SNR 5.5
 Int time 178.049
 Amp 0.149
 Phase 140.1
 PFD 1.0e+00
 Delays (us)
 SBD -0.340331
 MBD -0.000343
 Fringe rate (Hz)
 -0.037867
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.51
 Stop 000300.71
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131739
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 24 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	117.9	164.2	120.7	163.8	115.1	-76.6	149.3	143.2	Phase	140.1
	0.2	0.3	0.2	0.1	0.3	0.1	0.2	0.1	Ampl.	0.2
	438.5	169.8	287.5	359.7	497.7	60.7	333.9	481.1	Sbd box	169.9
U/L	350/0	350/0	350/0	350/0	350/0	350/0	350/0	350/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.63992045568E+03		Apriori delay (usec)		5.64026454907E+03		Resid mbdelay (usec)		-3.43391E-04	+/- 2.0E-04
Sband delay (usec)	5.63992421832E+03		Apriori clock (usec)		-3.2814255E+01		Resid sbdelay (usec)		-3.40331E-01	+/- 1.6E-03
Phase delay (usec)	5.64026455359E+03		Apriori clockrate (us/s)		-7.2257901E-07		Resid phdelay (usec)		4.51942E-06	+/- 6.8E-07
Delay rate (us/s)	1.34864831170E+00		Apriori rate (us/s)		1.34864875131E+00		Resid rate (us/s)		-4.39603E-07	+/- 6.6E-09
Total phase (deg)	232.6		Apriori accel (us/s/s)		-5.15577167517E-05		Resid phase (deg)		140.1	+/- 21.0

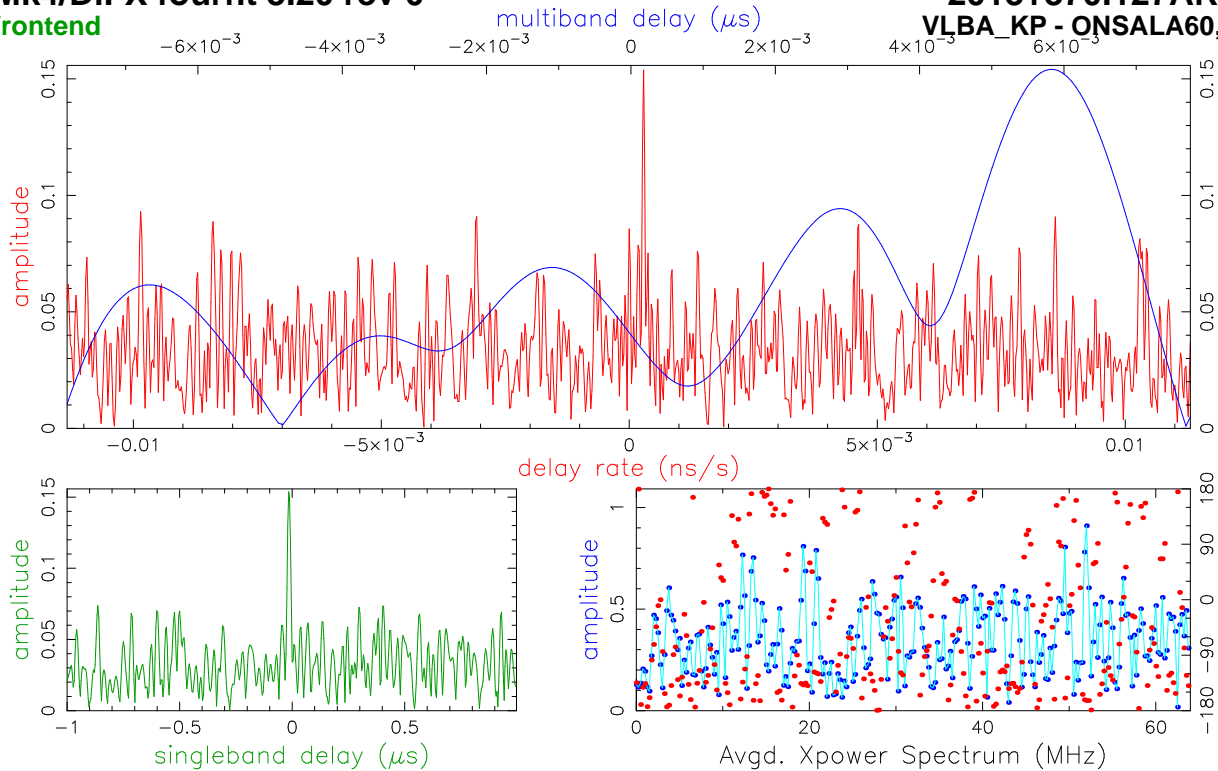
ph/seg (deg) 60.1 51.5 Search (1024X32) 0.146 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 86.4 89.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 62.2 29.7 Inc. seg. avg. 0.155 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 61.3 51.9 Inc. frq. avg. 0.152 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 X: az 286.6 el 34.6 pa 40.4 u,v (fr/asec) -9746.748 -5230.805 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kX..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kX.W.217.127ARX

Mk4/DiFX fourfit 3.20 rev 0

frontend

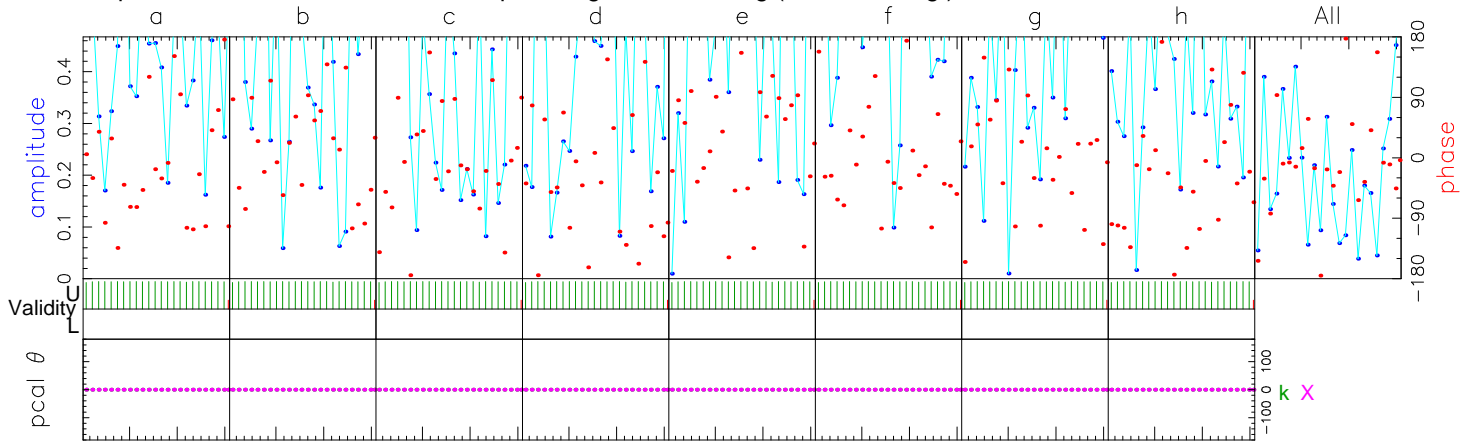
2013+370.127ARX, No0065, kX

VLBA_KP - ONSALA60, fgroup W, pol RL



Fringe quality 0
 SNR 5.7
 Int time 178.050
 Amp 0.156
 Phase -12.4
 PFD 8.0e-01
 Delays (us)
 SBD -0.014200
 MBD 0.005897
 Fringe rate (Hz)
 0.024051
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.51
 Stop 000300.71
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131742
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

Amp. and Phase vs. time for each freq., 24 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec

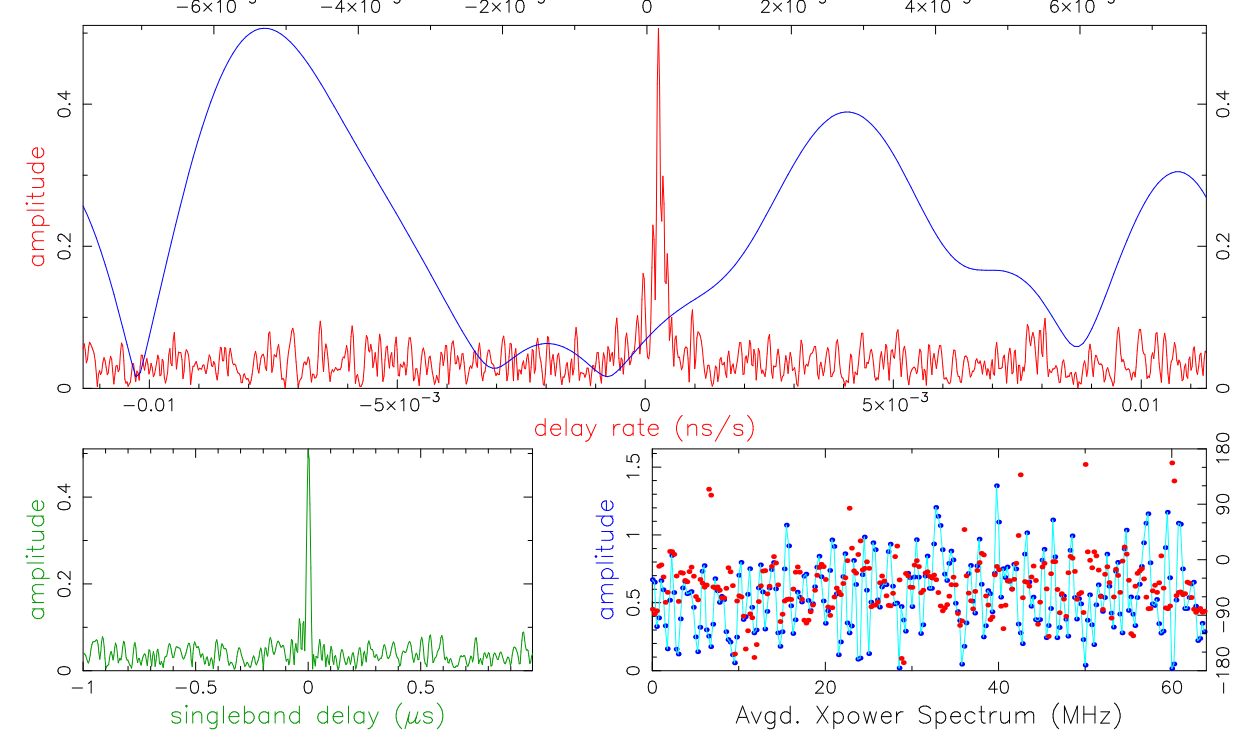


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-28.1	0.6	-12.5	-125.4	37.0	-26.5	1.9	-67.3	Phase	-12.4
	0.2	0.2	0.2	0.0	0.2	0.3	0.3	0.1	Ampl.	0.2
	160.7	383.1	450.8	493.2	72.8	253.6	252.6	176.8	Sbd box	253.4
U/L	350/0	350/0	350/0	350/0	350/0	350/0	350/0	350/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
X	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	5.64025482091E+03		Apriori delay (usec)		5.64026454907E+03		Resid mbdelay (usec)		5.89684E-03	+/- 1.9E-04
Sband delay (usec)	5.64025034932E+03		Apriori clock (usec)		-3.2814255E+01		Resid sbdelay (usec)		-1.41997E-02	+/- 1.5E-03
Phase delay (usec)	5.64026454867E+03		Apriori clockrate (us/s)		-7.2257901E-07		Resid phdelay (usec)		-4.00252E-07	+/- 6.5E-07
Delay rate (us/s)	1.34864903052E+00		Apriori rate (us/s)		1.34864875131E+00		Resid rate (us/s)		2.79210E-07	+/- 6.3E-09
Total phase (deg)	80.0		Apriori accel (us/s/s)		-5.15577167517E-05		Resid phase (deg)		-12.4	+/- 20.2

ph/seg (deg) 76.9 49.4 Search (1024X32) 0.148 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5
 amp/seg (%) 88.3 86.2 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000
 ph/frq (deg) 56.3 28.5 Inc. seg. avg. 0.151 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008
 amp/frq (%) 47.8 49.8 Inc. frq. avg. 0.161 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite dr window (ns/s) -0.011 0.011
 k: az 69.4 el 55.9 pa -86.3 X: az 286.6 el 34.6 pa 40.4 u,v (fr/asec) -9746.748 -5230.805 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kX..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kX.W.235.127ARX

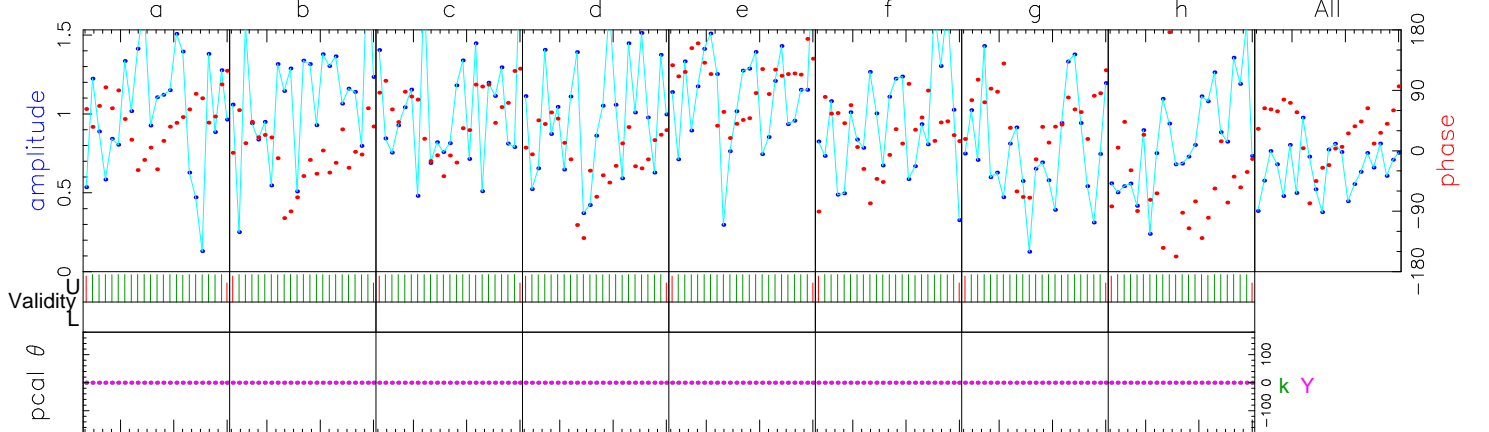
Mk4/DiFX fourfit 3.20 rev 0 frontend

2013+370.127ARX, No0065, kY
VLBA_KP - YEBES40M, fgroup W, pol LL

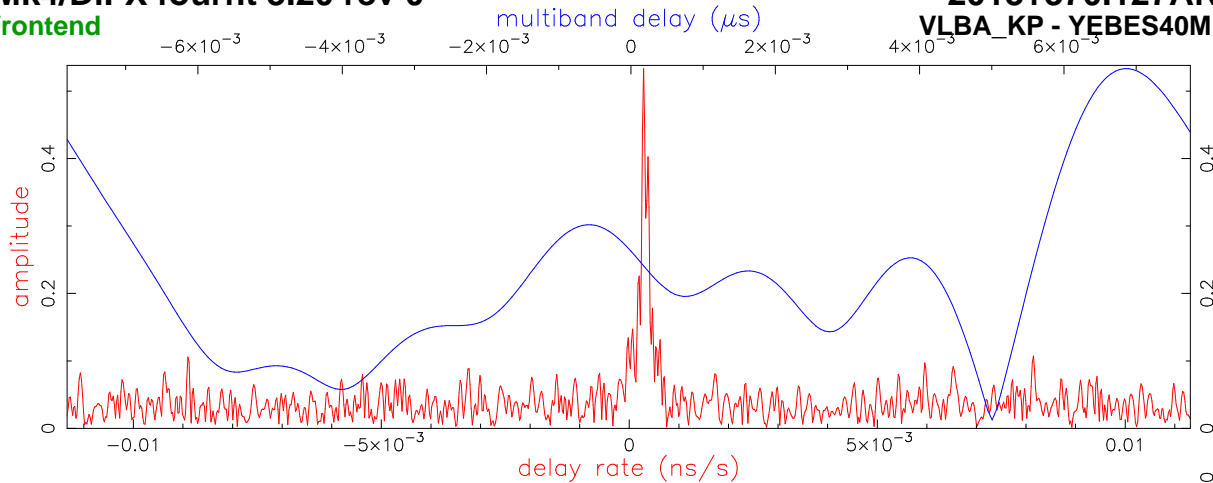


Fringe quality 7
SNR 17.8
Int time 161.653
Amp 0.511
Phase 31.1
PFD 0.0e+00
Delays (us)
SBD 0.001152
MBD -0.005244
Fringe rate (Hz)
0.023722
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512
Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000017.90
Stop 000300.71
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131735
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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

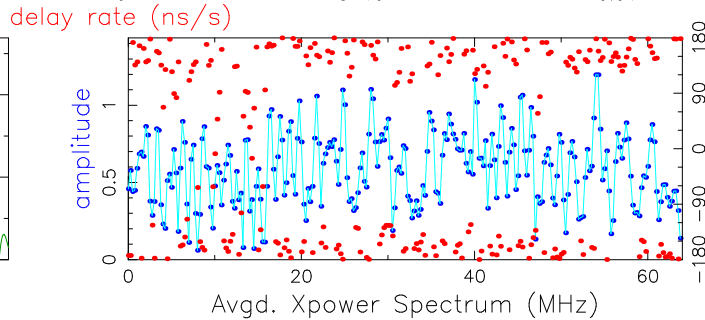
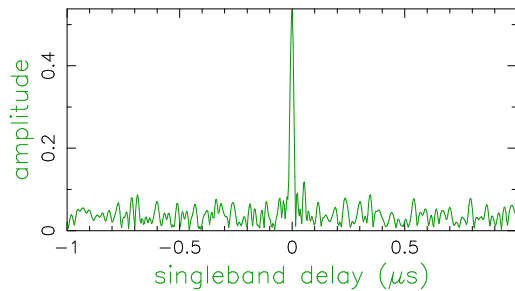


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
39.3	-4.8	58.0	-4.6	105.6	22.8	57.0	-66.7		Phase	31.1
0.8	0.8	0.7	0.7	0.9	0.7	0.5	0.5		Ampl.	0.7
256.5	257.0	256.5	257.2	257.4	256.9	256.7	255.1		Sbd box	257.3
U/L 318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		APs used	
k 1000	1000	1000	1000	1000	1000	1000	1000		PC freqs	
Y 1000	1000	1000	1000	1000	1000	1000	1000		PC phase	
k:Y 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		Mani PC	
k:Y 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		Chan ids	
Y 1000	1000	1000	1000	1000	1000	1000	1000		Tracks	
k W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Chan ids	
Y W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks	
Group delay (usec)(sbd)	4.40282856136E+03		Apriori delay (usec)	4.40283380563E+03	Resid mbdelay (usec)	-5.24427E-03	+/-	6.1E-05		
Sband delay (usec)	4.40283495713E+03		Apriori clock (usec)	-1.0082699E+01	Resid sbdelay (usec)	1.15150E-03	+/-	4.9E-04		
Phase delay (usec)	4.40283380664E+03		Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	1.00277E-06	+/-	2.1E-07		
Delay rate (us/s)	1.55644180333E+00		Apriori rate (us/s)	1.55644152794E+00	Resid rate (us/s)	2.75384E-07	+/-	2.2E-09		
Total phase (deg)		37.3	Apriori accel (us/s/s)	-3.16865212267E-05	Resid phase (deg)	31.1	+/-	6.5		
ph/seg (deg)	RMS 41.2	Theor. 15.5	Amplitude Search (1024X32)	0.511 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	40.8	27.0	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	56.6	9.1	Inc. seg. avg.	0.632	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	46.7	15.9	Inc. frq. avg.	0.706	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00	
k: az 69.4 el 55.9 pa -86.3	Y: az 289.5 el 38.9 pa 64.1	u,v (fr/asec) -11223.927 -2674.860							simultaneous interpolator	
Control file: cf_1234_gmva	Input file: /Exps/c192c/v1_CygA2/1234/No0065/kY..127ARX	Output file: /Exps/c192c/v1_CygA2/1234/No0065/kY.W.178.127ARX								



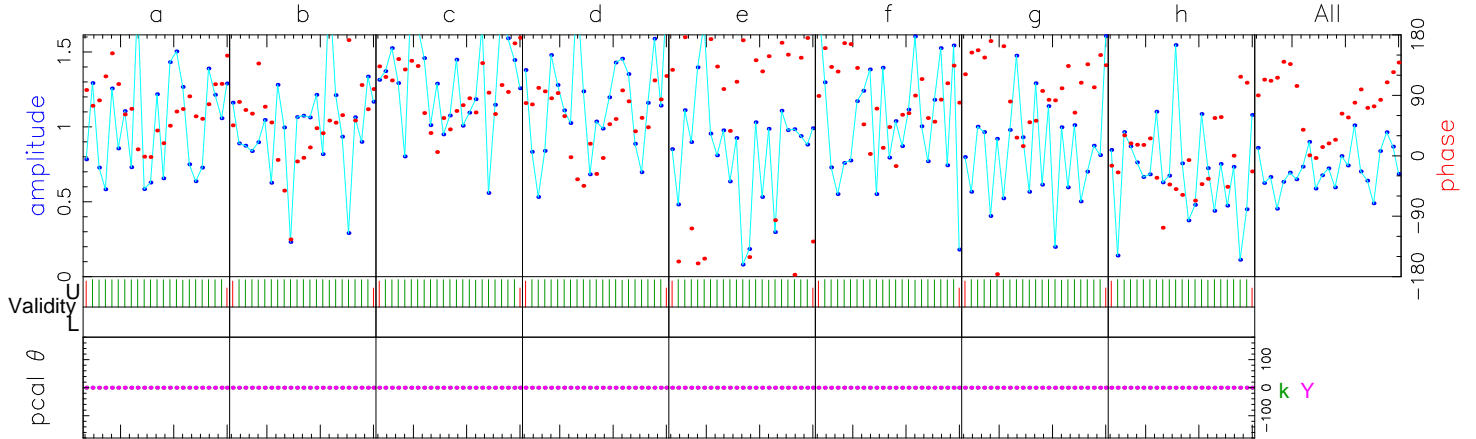
Fringe quality 7

SNR 18.7
Int time 161.653
Amp 0.538
Phase 79.3
PFD 0.0e+00
Delays (us)
SBD -0.001192
MBD 0.006842
Fringe rate (Hz)
0.024052
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000017.90
Stop 000300.71
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131737
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	4.40282502216E+03	Apriori delay (usec)	4.40283380563E+03	Resid mbdelay (usec)	6.84153E-03	+/-	5.8E-05
Sband delay (usec)	4.40283261363E+03	Apriori clock (usec)	-1.0082699E+01	Resid sbdelay (usec)	-1.19200E-03	+/-	4.6E-04
Phase delay (usec)	4.40283380819E+03	Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	2.55617E-06	+/-	2.0E-07
Delay rate (us/s)	1.55644180716E+00	Apriori rate (us/s)	1.55644152794E+00	Resid rate (us/s)	2.79220E-07	+/-	2.1E-09
Total phase (deg)		Apriori accel (us/s/s)	-3.16865212267E-05	Resid phase (deg)	79.3	+/-	6.1

ph/seg (deg)	43.9	Theor.	14.7	Amplitude	0.538 +/- 0.029	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	42.4	Search (1024X32)	0.520	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	56.5	Inc. seg. avg.	0.697	Inc. frq. avg.	0.707	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008		
amp/frq (%)	41.4	Inc. frq. avg.	0.707			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011			
						Data rate (Mb/s):	2048	nlags:	256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 69.4 el 55.9 pa -86.3 Y: az 289.5 el 38.9 pa 64.1 u,v (fr/asec) -11223.927 -2674.860 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kY..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kY.W.199.127ARX

Mk4/DiFX fourfit 3.20 rev 0

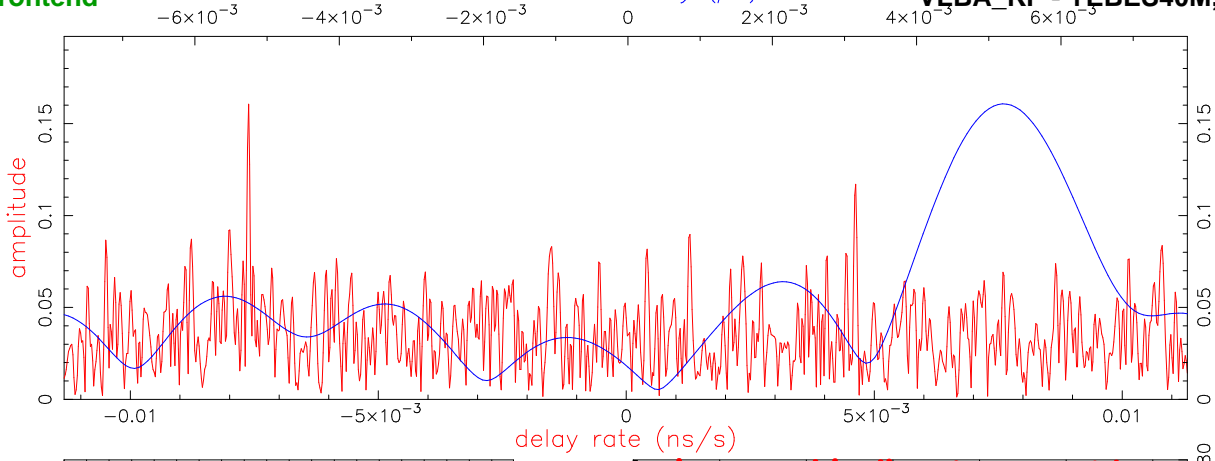
frontend

2013+370.127ARX, No0065, kY

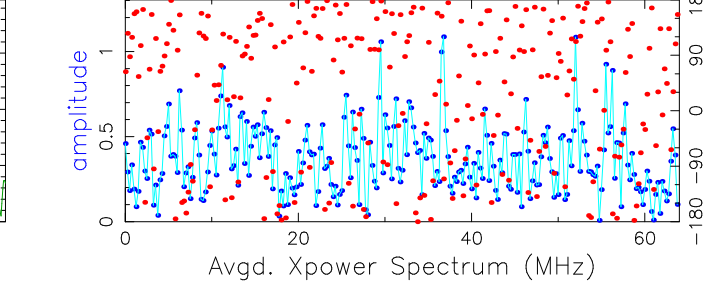
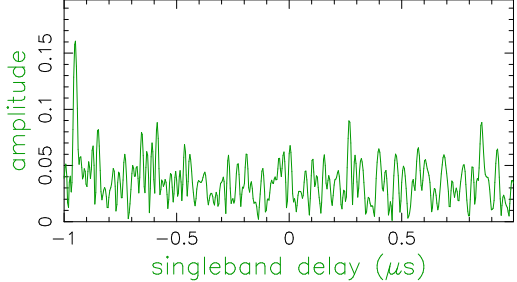
VLBA_KP - YEBES40M, fgroup W, pol LR

multiband delay (μ s)

Fringe quality 0

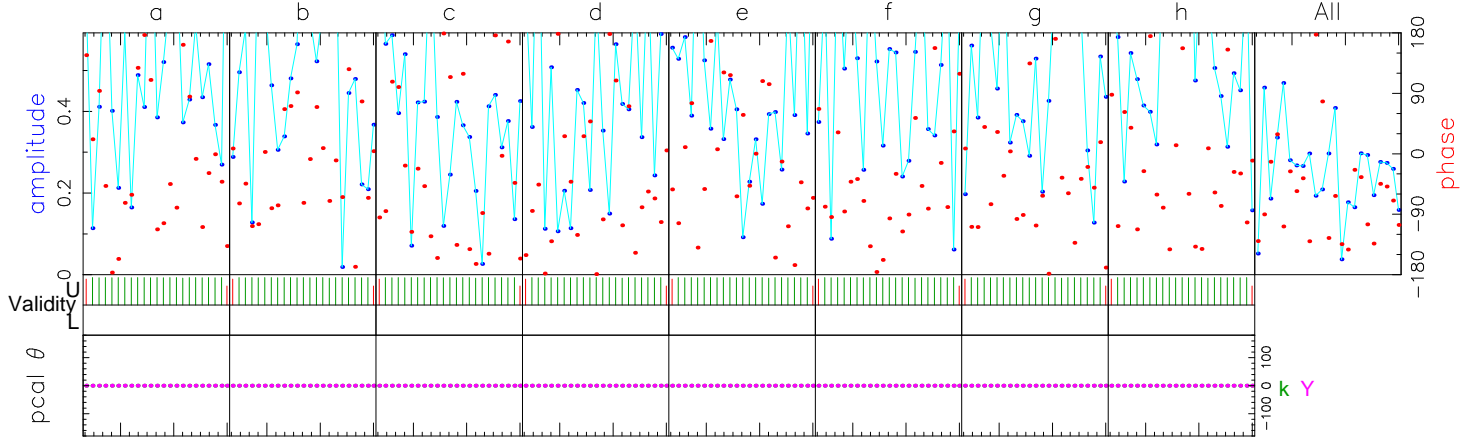


SNR 5.7
 Int time 161.653
 Amp 0.197
 Phase -73.4
 PFD 8.5e-01
 Delays (us)
 SBD -0.950750
 MBD 0.005150
 Fringe rate (Hz) -0.657707
 Ion TEC 0.000
 Ref freq (MHz) 86140.0000
 AP (sec) 0.512



Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000017.90
 Stop 000300.71
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131739
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-96.2	-27.6	-130.1	-98.2	-68.9	-65.0	-64.4	-72.8	Phase	-73.4
	0.1	0.3	0.2	0.2	0.2	0.3	0.3	0.3	Ampl.	0.2
	207.0	333.9	124.1	96.7	320.1	145.7	392.3	69.8	Sbd box	13.6
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

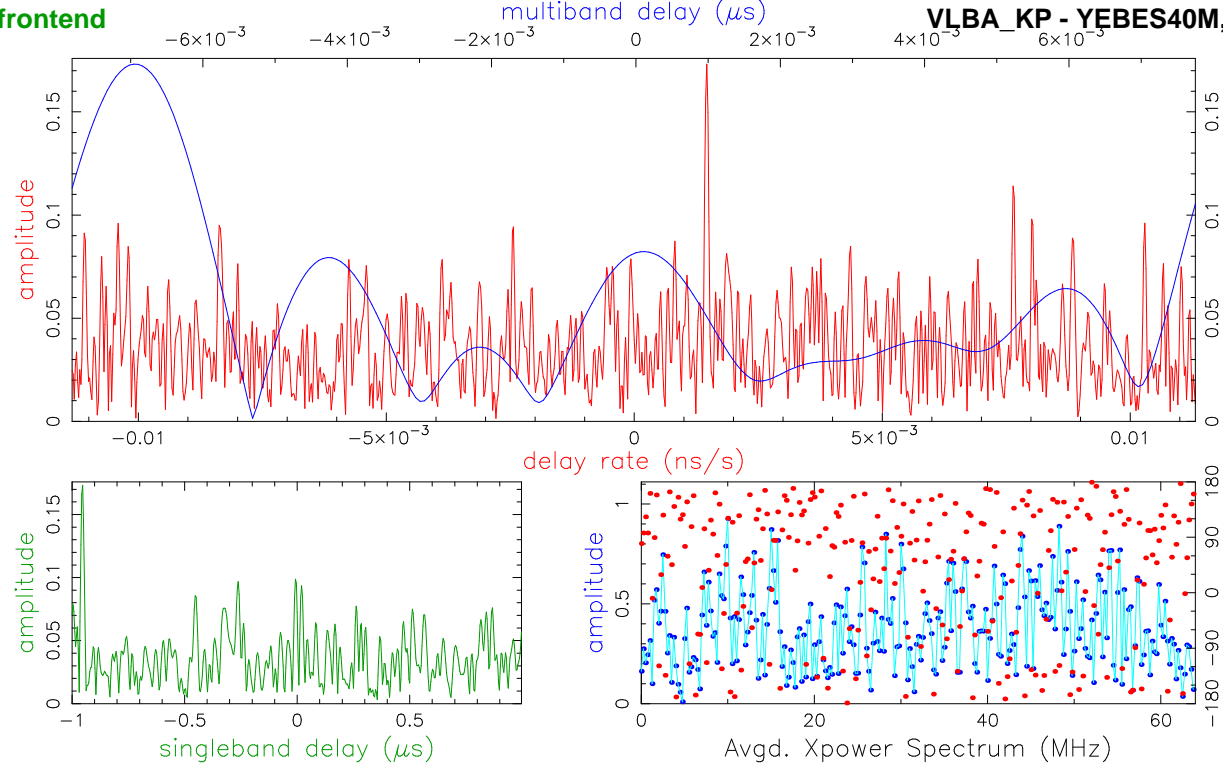
Group delay (usec)(sbd)	4.40188583092E+03	Apriori delay (usec)	4.40283380563E+03	Resid mbdelay (usec)	5.15029E-03	+/-	1.9E-04
Sband delay (usec)	4.40188305613E+03	Apriori clock (usec)	-1.0082699E+01	Resid sbdelay (usec)	-9.50750E-01	+/-	1.5E-03
Phase delay (usec)	4.40283380327E+03	Apriori clockrate (us/s)	-4.1457899E-07	Resid phdelay (usec)	-2.36599E-06	+/-	6.5E-07
Delay rate (us/s)	1.55643389262E+00	Apriori rate (us/s)	1.55644152794E+00	Resid rate (us/s)	-7.63532E-06	+/-	7.0E-09
Total phase (deg)	-67.2	Apriori accel (us/s/s)	-3.16865212267E-05	Resid phase (deg)	-73.4	+/-	20.3

ph/seg (deg)	60.5	Theor.	48.6	Amplitude	0.197 +/- 0.035	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000		
amp/seg (%)	86.3		84.8	Search (1024X32)	0.160	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	SampCntNorm:	enabled	mb window (us)	-0.008	0.008		
ph/frq (deg)	33.2		28.7	Inc. seg. avg.	0.229	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011	0.011				
amp/frq (%)	28.3		50.0	Inc. frq. avg.	0.194	Data rate (Mb/s):	2048	nlags:	256	t_cohere	infinite	ion window (TEC)	0.00	0.00

k: az 69.4 el 55.9 pa -86.3 Y: az 289.5 el 38.9 pa 64.1 u,v (fr/asec) -11223.927 -2674.860 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kY..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kY.W.218.127ARX

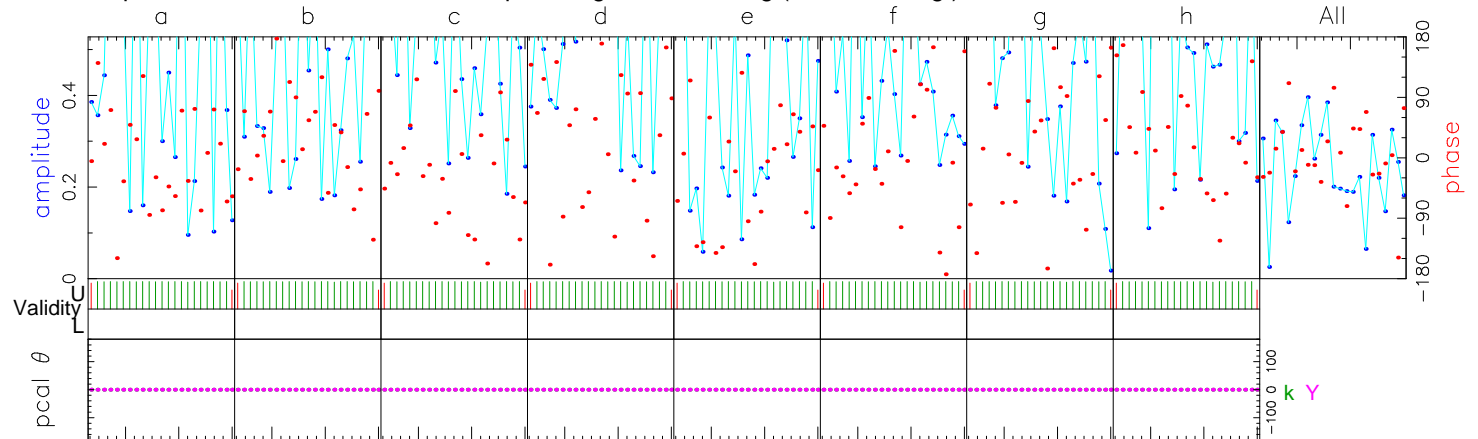
Mk4/DiFX fourfit 3.20 rev 0
 frontend

2013+370.127ARX, No0065, kY
 VLBA_KP - YEBES40M, fgroup W, pol RL



Fringe quality 0
 SNR 6.1
 Int time 161.653
 Amp 0.176
 Phase 3.5
 PFD 1.5e-01
 Delays (us)
 SBD -0.954314
 MBD -0.006973
 Fringe rate (Hz)
 0.125834
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512
 Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000017.90
 Stop 000300.71
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131742
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	318/0	318/0	318/0	318/0	318/0	318/0	318/0	318/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)		4.40187370809E+03			4.40283380563E+03				-6.97254E-03	+/- 1.8E-04
Sband delay (usec)		4.40187949113E+03			-1.0082699E+01				-9.54314E-01	+/- 1.4E-03
Phase delay (usec)		4.40283380574E+03			-4.1457899E-07				1.1464E-07	+/- 6.1E-07
Delay rate (us/s)		1.55644298874E+00			1.55644152794E+00				1.46080E-06	+/- 6.5E-09
Total phase (deg)			9.7		-3.16865212267E-05				3.5	+/- 18.9
	RMS	Theor.	Amplitude	0.176 +/- 0.029	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	55.2	45.2	Search (1024X32)	0.168	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	66.6	78.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	36.8	26.7	Inc. seg. avg.	0.186	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	32.6	46.6	Inc. frq. avg.	0.171	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

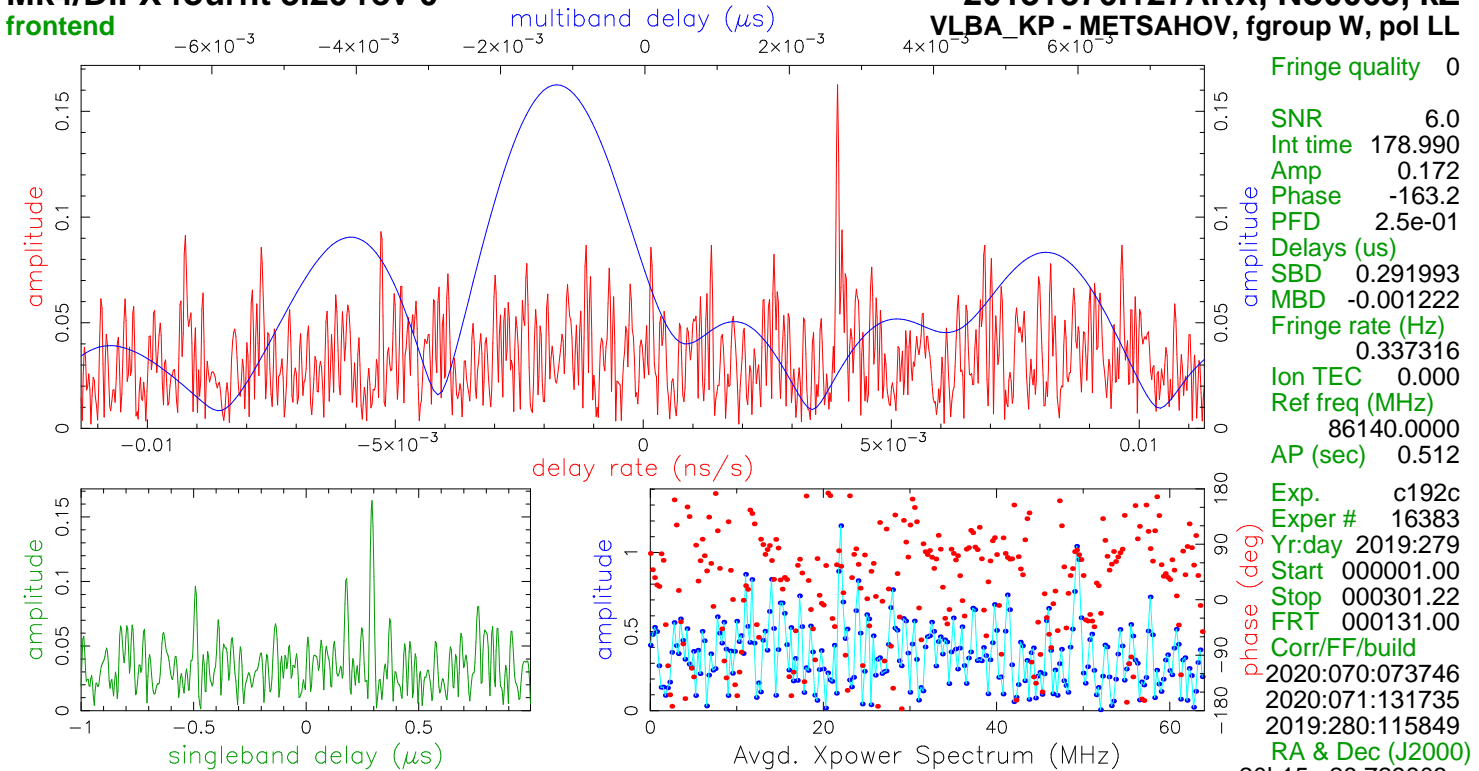
k: az 69.4 el 55.9 pa -86.3 Y: az 289.5 el 38.9 pa 64.1 u,v (fr/asec) -11223.927 -2674.860 simultaneous interpolator
 Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kY..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kY.W.236.127ARX

Mk4/DiFX fourfit 3.20 rev 0

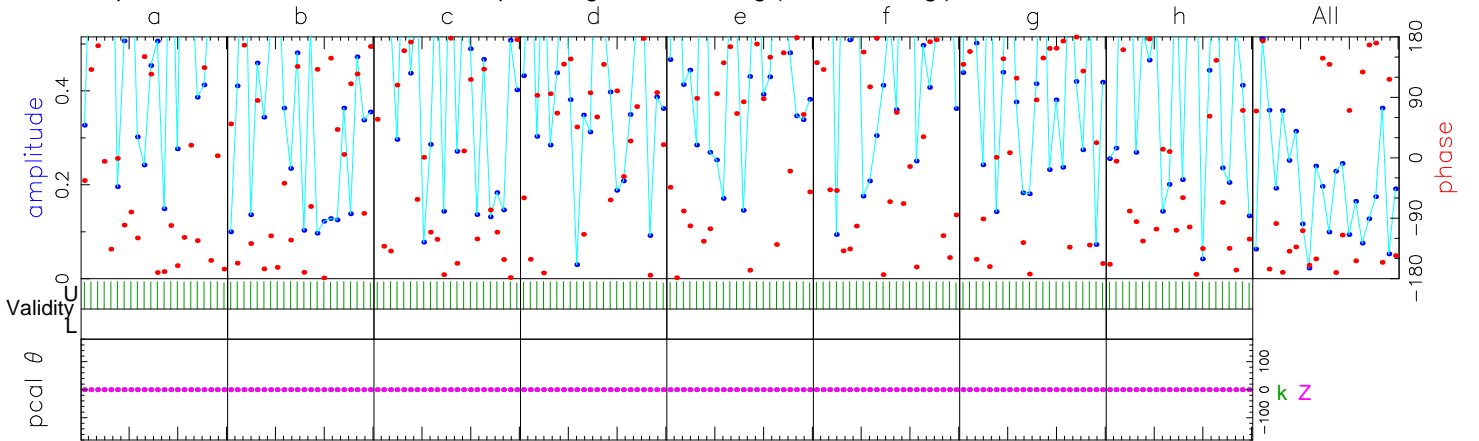
frontend

2013+370.127ARX, No0065, kZ

VLBA_KP - METSAHOV, fgroup W, pol LL



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-135.9	-172.5	-170.9	121.2	-170.8	-117.3	173.3	-140.2	Phase	-163.2
	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2	Ampl.	0.2
	55.0	491.8	433.4	405.3	490.7	507.8	331.8	69.4	Sbd box	331.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	7.26677350933E+03	Apriori delay (usec)	7.26647785629E+03	Resid mbdelay (usec)	-1.22196E-03	+/-	1.8E-04
Sband delay (usec)	7.26676984904E+03	Apriori clock (usec)	-5.8371955E-01	Resid sbdelay (usec)	2.91993E-01	+/-	1.4E-03
Phase delay (usec)	7.26647785103E+03	Apriori clockrate (us/s)	-2.1087179E-07	Resid phdelay (usec)	-5.26414E-06	+/-	6.2E-07
Delay rate (us/s)	1.29970096941E+00	Apriori rate (us/s)	1.29969705350E+00	Resid rate (us/s)	3.91591E-06	+/-	5.9E-09
Total phase (deg)		Apriori accel (us/s/s)	-6.17816101600E-05	Resid phase (deg)	-163.2	+/-	19.2

ph/seg (deg)	RMS 53.5	Theor. 44.9	Amplitude Search (1024X32)	0.172 +/- 0.029	0.160	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	77.1	78.4	Interp.	0.000	0.160	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	40.5	27.1	Inc. seg. avg.	0.162	0.162	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	28.9	47.3	Inc. frq. avg.	0.183	0.183	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 69.4 el 55.9 pa -86.3 Z: az 294.2 el 29.5 pa 34.7 u,v (fr/asec) -9402.714 -6024.024 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kZ..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kZ.W.181.127ARX

Mk4/DiFX fourfit 3.20 rev 0

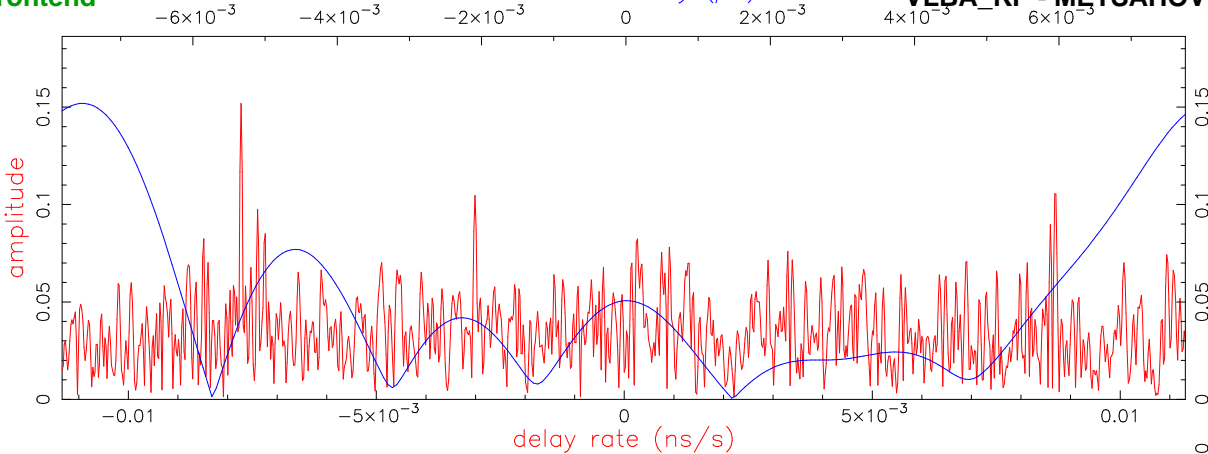
frontend

2013+370.127ARX, No0065, kZ

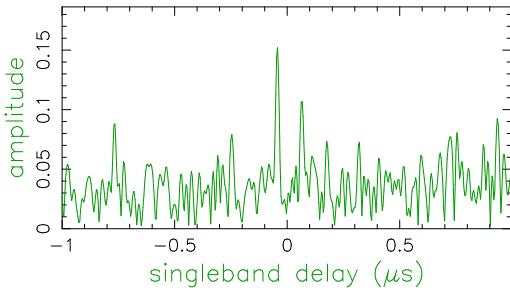
VLBA_KP - METSAHOV, fgroup W, pol RR

multiband delay (μ s)

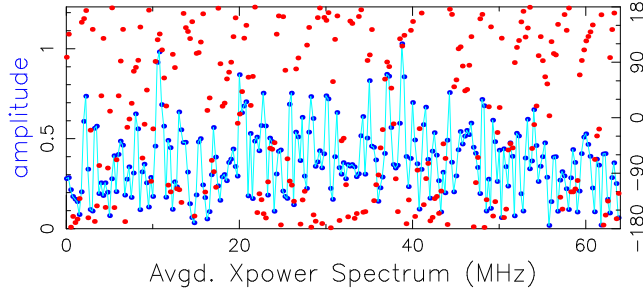
Fringe quality 0



SNR 5.6
Int time 178.990
Amp 0.186
Phase 103.3
PFD 9.5e-01
Delays (us)
SBD -0.043786
MBD -0.007534
Fringe rate (Hz)
-0.667550
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

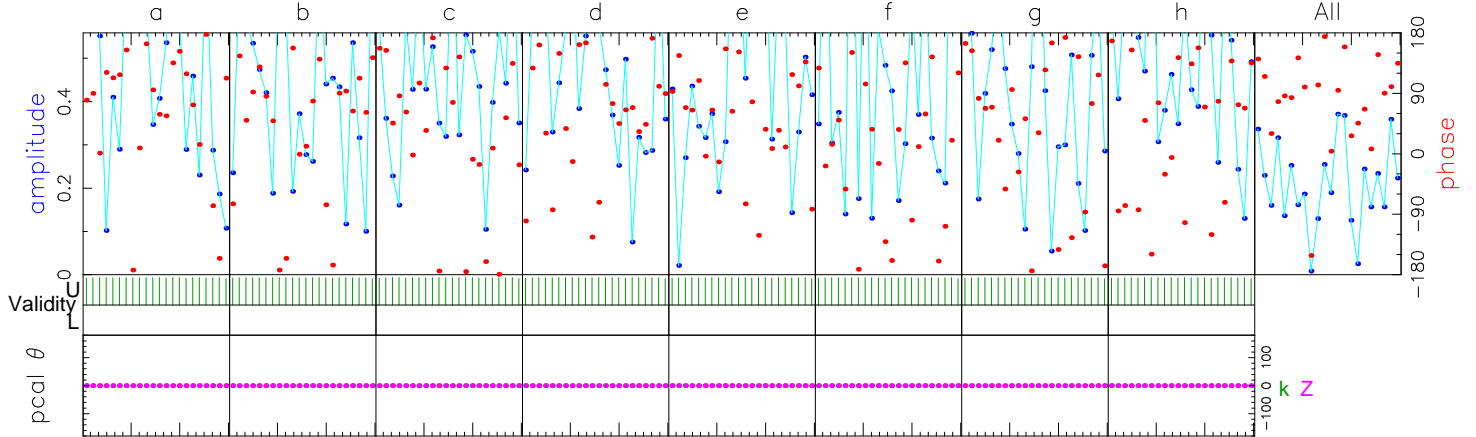


delay rate (ns/s)



Exp. c192c
Exper # 16383
Yr:day 2019:279
Start 000001.00
Stop 000301.22
FRT 000131.00
Corr/FF/build
2020:070:073746
2020:071:131738
2019:280:115849
RA & Dec (J2000)
20h15m28.729803s
+37°10'59.514664"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	7.26643907198E+03	Apriori delay (usec)	7.26647785629E+03	Resid mbdelay (usec)	-7.53431E-03	+/-	1.9E-04
Sband delay (usec)	7.26643407004E+03	Apriori clock (usec)	-5.8371955E-01	Resid sbdelay (usec)	-4.37863E-02	+/-	1.5E-03
Phase delay (usec)	7.26647785962E+03	Apriori clockrate (us/s)	-2.1087179E-07	Resid phdelay (usec)	3.33004E-06	+/-	6.6E-07
Delay rate (us/s)	1.29968930391E+00	Apriori rate (us/s)	1.29969705350E+00	Resid rate (us/s)	-7.74959E-06	+/-	6.4E-09
Total phase (deg)	298.1	Apriori accel (us/s/s)	-6.17816101600E-05	Resid phase (deg)	103.3	+/-	20.5

ph/seg (deg)	53.1	Theor.	48.2	Amplitude	0.186 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	74.6		84.1	Search (1024X32)	0.151	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	40.8		29.0	Inc. seg. avg.	0.190	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	38.4		50.7	Inc. frq. avg.	0.186	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

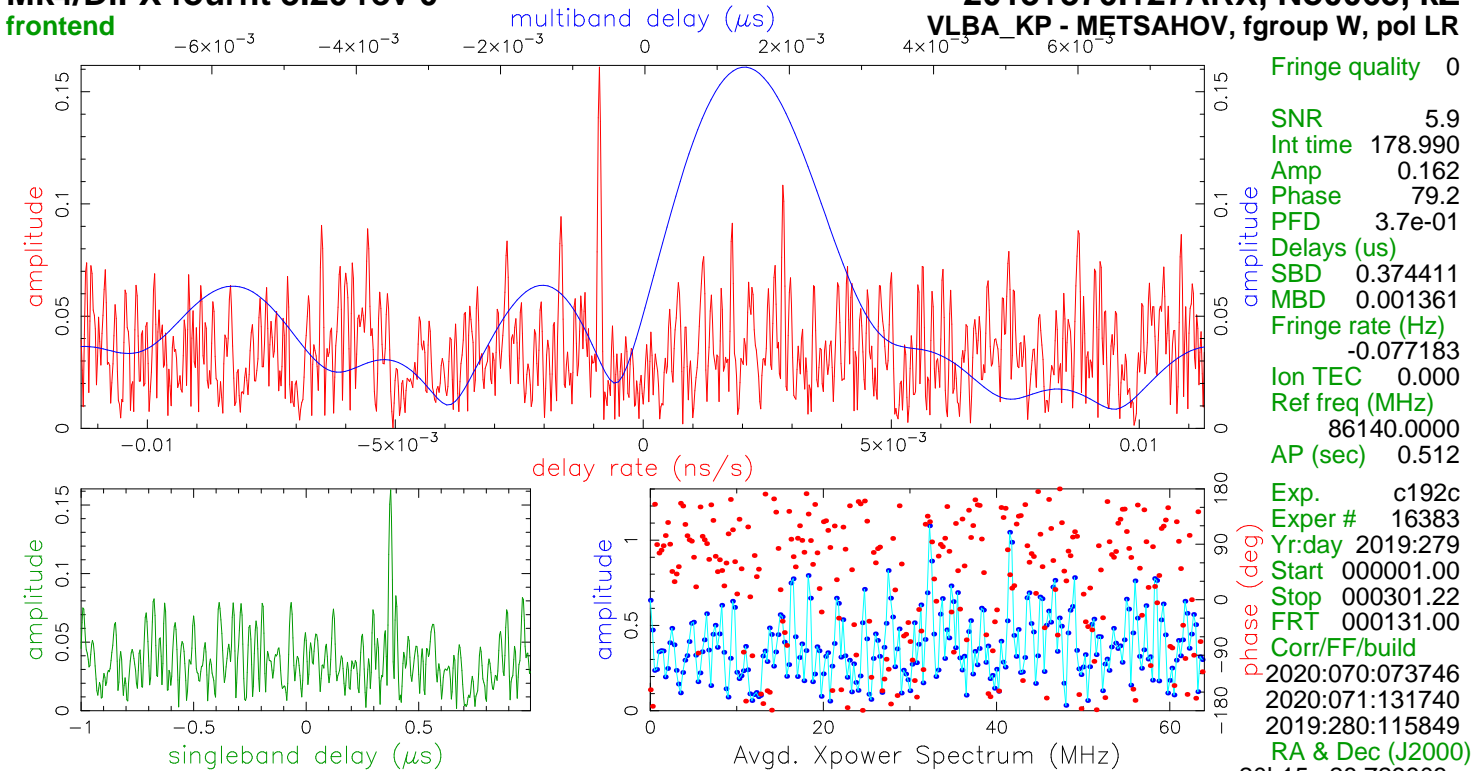
k: az 69.4 el 55.9 pa -86.3 Z: az 294.2 el 29.5 pa 34.7 u,v (fr/asec) -9402.714 -6024.024 simultaneous interpolator
Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kZ..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kZ.W.204.127ARX

Mk4/DiFX fourfit 3.20 rev 0

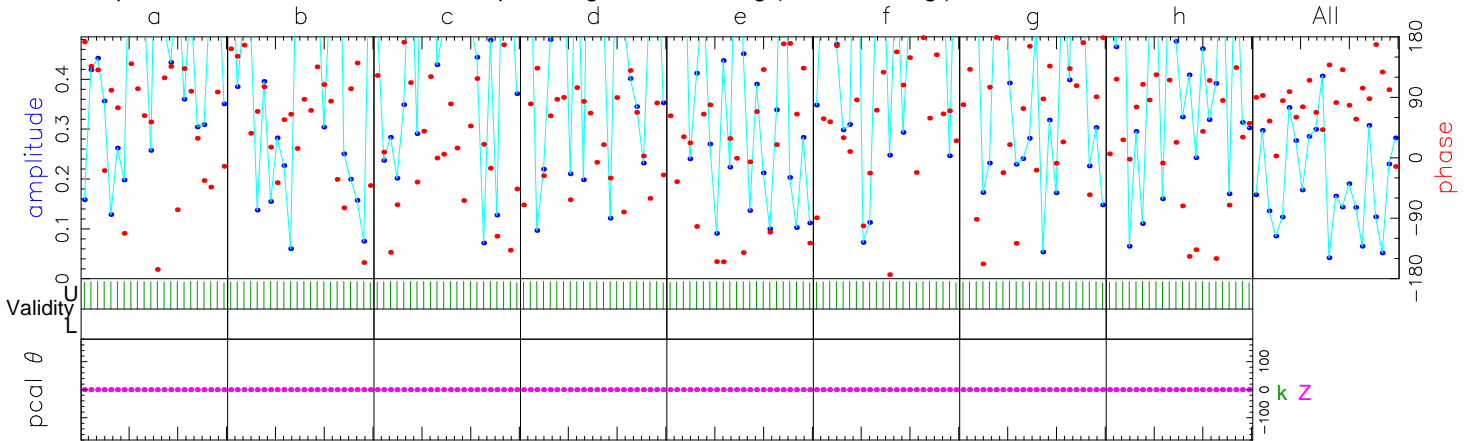
frontend

2013+370.127ARX, No0065, kZ

VLBA_KP - METSAHOV, fgroup W, pol LR



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
110.4	69.6	63.9	56.9	46.6	89.3	106.5	106.5	80.4	Phase	79.2
0.2	0.1	0.1	0.3	0.1	0.3	0.1	0.1	0.2	Ampl.	0.2
157.3	412.0	409.6	351.7	80.1	106.5	436.3	331.3	331.3	Sbd box	352.8
U/L 352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
Z 1000	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:Z 0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:Z 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	PC amp	
Z 1000	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	7.26685421741E+03	Apriori delay (usec)	7.26647785629E+03	Resid mbdelay (usec)	1.36112E-03	+/-	1.8E-04
Sband delay (usec)	7.26685226754E+03	Apriori clock (usec)	-5.8371955E-01	Resid sbdelay (usec)	3.74411E-01	+/-	1.5E-03
Phase delay (usec)	7.26647785885E+03	Apriori clockrate (us/s)	-2.1087179E-07	Resid phdelay (usec)	2.55409E-06	+/-	6.3E-07
Delay rate (us/s)	1.29969615748E+00	Apriori rate (us/s)	1.29969705350E+00	Resid rate (us/s)	-8.96024E-07	+/-	6.0E-09
Total phase (deg)	274.0	Apriori accel (us/s/s)	-6.17816101600E-05	Resid phase (deg)	79.2	+/-	19.4

ph/seg (deg)	40.9	RMS	45.5	Theor.	45.5	Amplitude	0.162 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	65.7	Search (1024X32)	0.154	Search (1024X32)	0.154	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	24.9	Inc. seg. avg.	0.150	Inc. seg. avg.	0.150	Inc. seg. avg.	0.150	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	35.3	Inc. frq. avg.	0.154	Inc. frq. avg.	0.154	Inc. frq. avg.	0.154	Sample rate(MISamp/s): 128	mb window (us) -0.008 0.008
								Data rate(Mb/s): 2048	dr window (ns/s) -0.011 0.011
								nlags: 256	t_cohere infinite
									ion window (TEC) 0.00 0.00

k: az 69.4 el 55.9 pa -86.3 Z: az 294.2 el 29.5 pa 34.7 u,v (fr/asec) -9402.714 -6024.024 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kZ..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kZ.W.227.127ARX

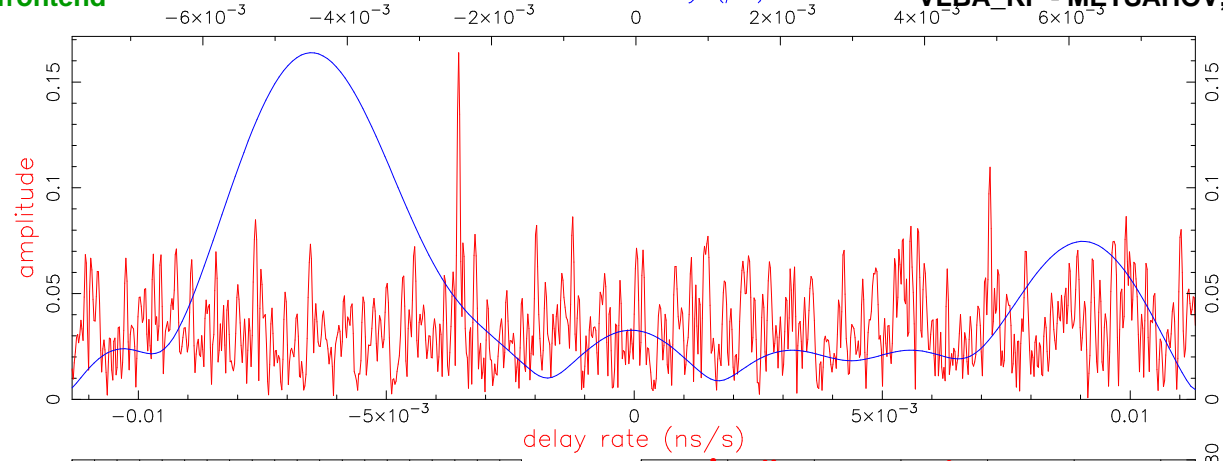
Mk4/DiFX fourfit 3.20 rev 0

frontend

2013+370.127ARX, No0065, kZ

VLBA_KP - METSAHOV, fgroup W, pol RL

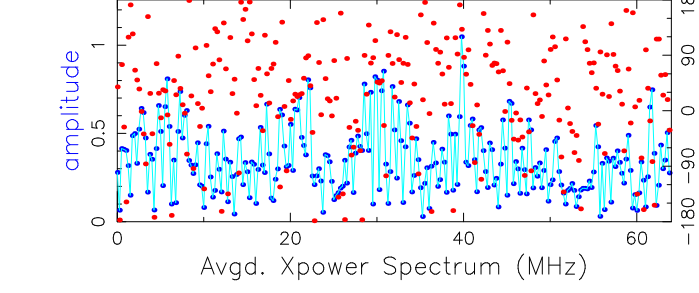
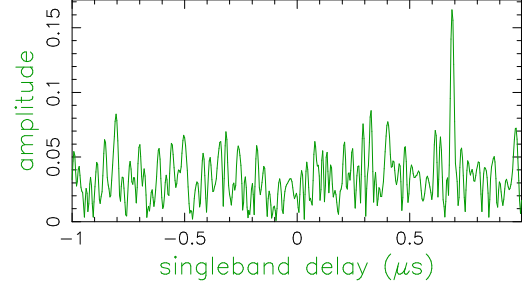
multiband delay (μ s)



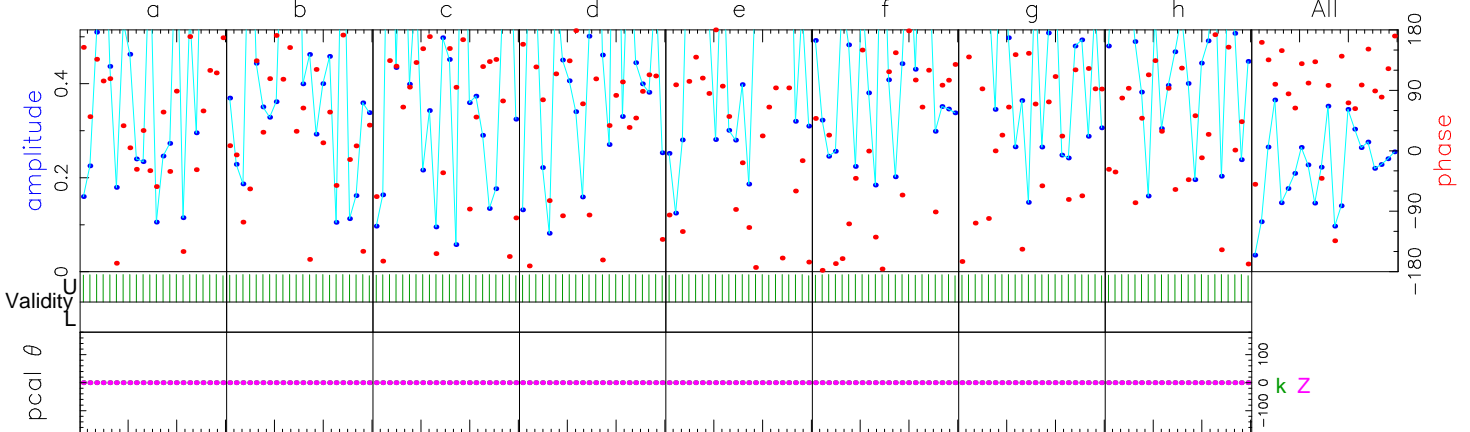
Fringe quality 0

SNR 6.0
 Int time 178.990
 Amp 0.172
 Phase 107.2
 PFD 1.9e-01
 Delays (us)
 SBD 0.688429
 MBD -0.004467
 Fringe rate (Hz)
 -0.305777
 Ion TEC 0.000
 Ref freq (MHz)
 86140.0000
 AP (sec) 0.512

Exp. c192c
 Exper # 16383
 Yr:day 2019:279
 Start 000001.00
 Stop 000301.22
 FRT 000131.00
 Corr/FF/build
 2020:070:073746
 2020:071:131743
 2019:280:115849
 RA & Dec (J2000)
 20h15m28.729803s
 +37°10'59.514664"



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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:Z	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		Chan ids
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		Tracks

Group delay (usec)(sbd)	7.26716088907E+03	Apriori delay (usec)		7.26647785629E+03	Resid mbdelay (usec)		-4.46723E-03	+/-	1.8E-04	
Sband delay (usec)	7.26716628554E+03	Apriori clock (usec)		-5.8371955E-01	Resid sbdelay (usec)		6.88429E-01	+/-	1.4E-03	
Phase delay (usec)	7.26647785975E+03	Apriori clockrate (us/s)		-2.1087179E-07	Resid phdelay (usec)		3.45695E-06	+/-	6.1E-07	
Delay rate (us/s)	1.29969350373E+00	Apriori rate (us/s)		1.29969705350E+00	Resid rate (us/s)		-3.54977E-06	+/-	5.9E-09	
Total phase (deg)	302.0		Apriori accel (us/s/s)		-6.17816101600E-05	Resid phase (deg)		107.2	+/-	19.0

ph/seg (deg)	60.8	Theor.	44.6	Amplitude	0.172 +/- 0.028	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	61.6		77.8	Search (1024X32)	0.157	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	31.0		26.9	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	29.9		46.9	Inc. seg. avg.	0.178	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.169	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 69.4 el 55.9 pa -86.3 Z: az 294.2 el 29.5 pa 34.7 u,v (fr/asec) -9402.714 -6024.024 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c192c/v1_CygA2/1234/No0065/kZ..127ARX Output file: /Exps/c192c/v1_CygA2/1234/No0065/kZ.W.238.127ARX