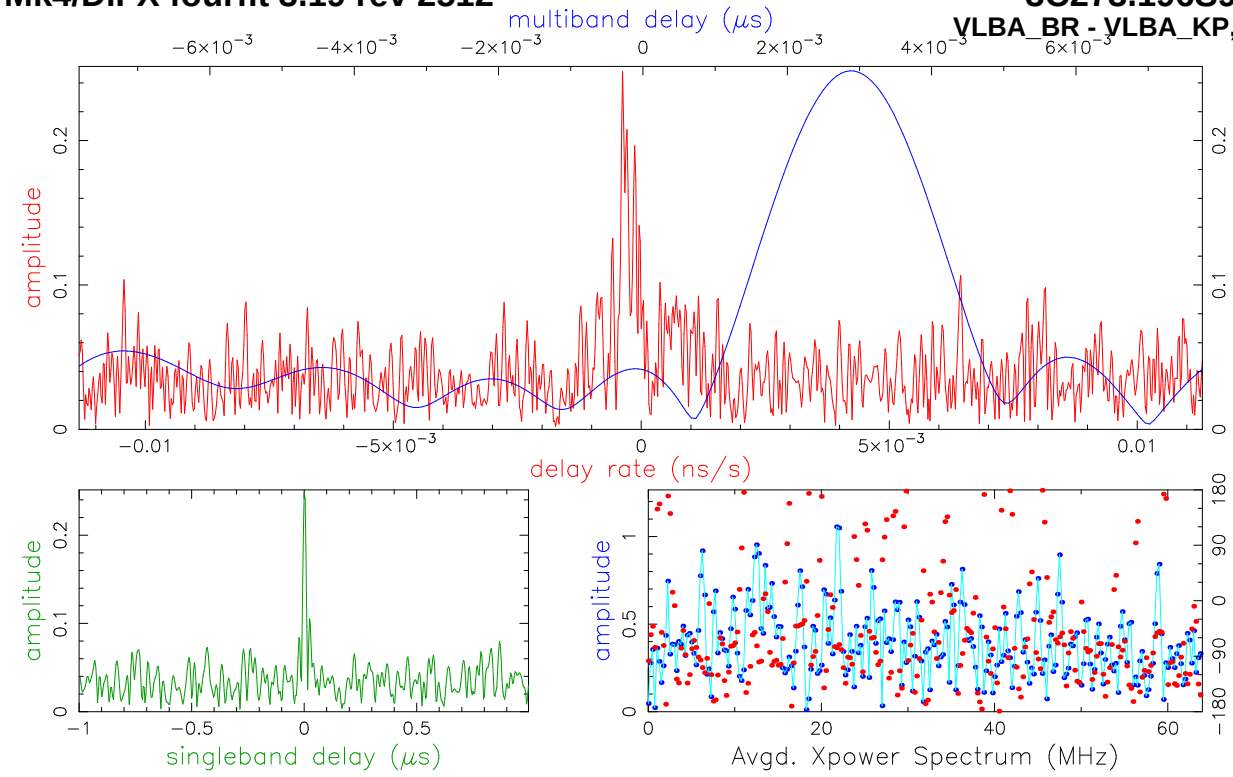
Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, bk

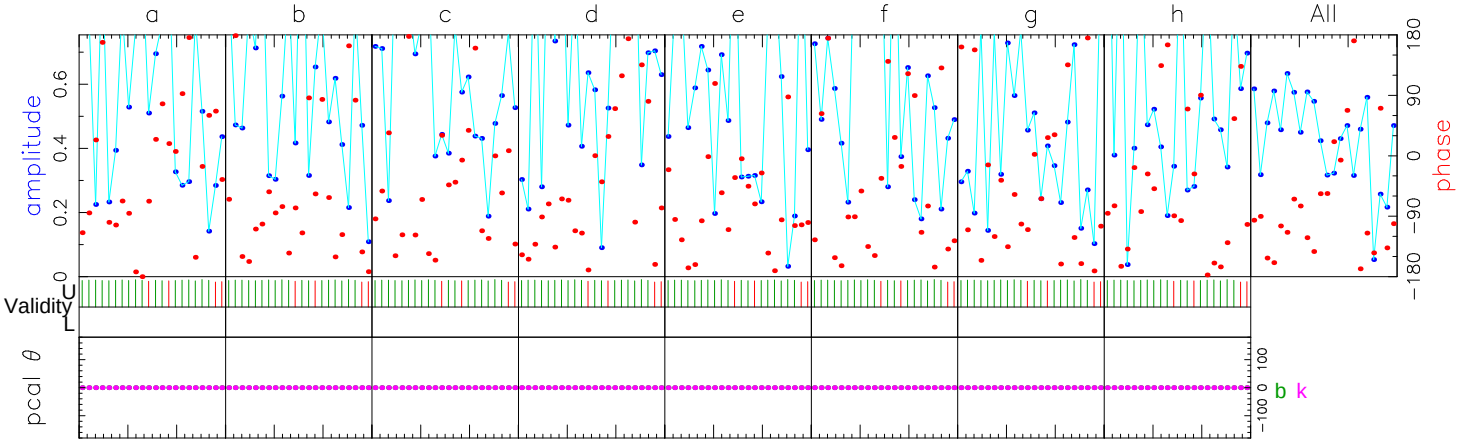
VLBA_BR - VLBA_KP, fgroup W, pol LL



Fringe quality 9

SNR	9.1
Int time	173.745
Amp	0.251
Phase	-108.0
PFD	2.5e-11
Delays (us)	
SBD	0.001410
MBD	0.002961
Fringe rate (Hz)	
	-0.031810
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153844
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-97.5	-116.9	-90.5	-116.0	-95.0	-117.7	-115.4	-115.7	Phase	-108.0
	0.1	0.3	0.3	0.2	0.4	0.2	0.2	0.2	Ampl.	0.2
	218.9	257.7	257.4	332.3	250.8	61.8	254.2	285.1	Sbd box	257.4
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	Manl 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 Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-3.46654585485E+03	Apriori delay (usec)	-3.46654881548E+03	Resid mbdelay (usec)	2.96062E-03	+/-	1.2E-04
Sband delay (usec)	-3.46654740548E+03	Apriori clock (usec)	-1.0755417E+00	Resid sbdelay (usec)	1.41000E-03	+/-	9.5E-04
Phase delay (usec)	-3.46654881896E+03	Apriori clockrate (us/s)	-4.7400004E-08	Resid phdelay (usec)	-3.48157E-06	+/-	4.1E-07
Delay rate (us/s)	-1.89623479646E-01	Apriori rate (us/s)	-1.89623110368E-01	Resid rate (us/s)	-3.69278E-07	+/-	3.9E-09
Total phase (deg)	-95.4	Apriori accel (us/s/s)	1.92485817418E-05	Resid phase (deg)	-108.0	+/-	12.7

	RMS	Theor.							
			Amplitude	0.251 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	72.9	29.7	Search (1024X32)	0.243	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	91.3	51.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	12.5	17.9	Inc. seg. avg.	0.381	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	26.4	31.2	Inc. frq. avg.	0.241	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

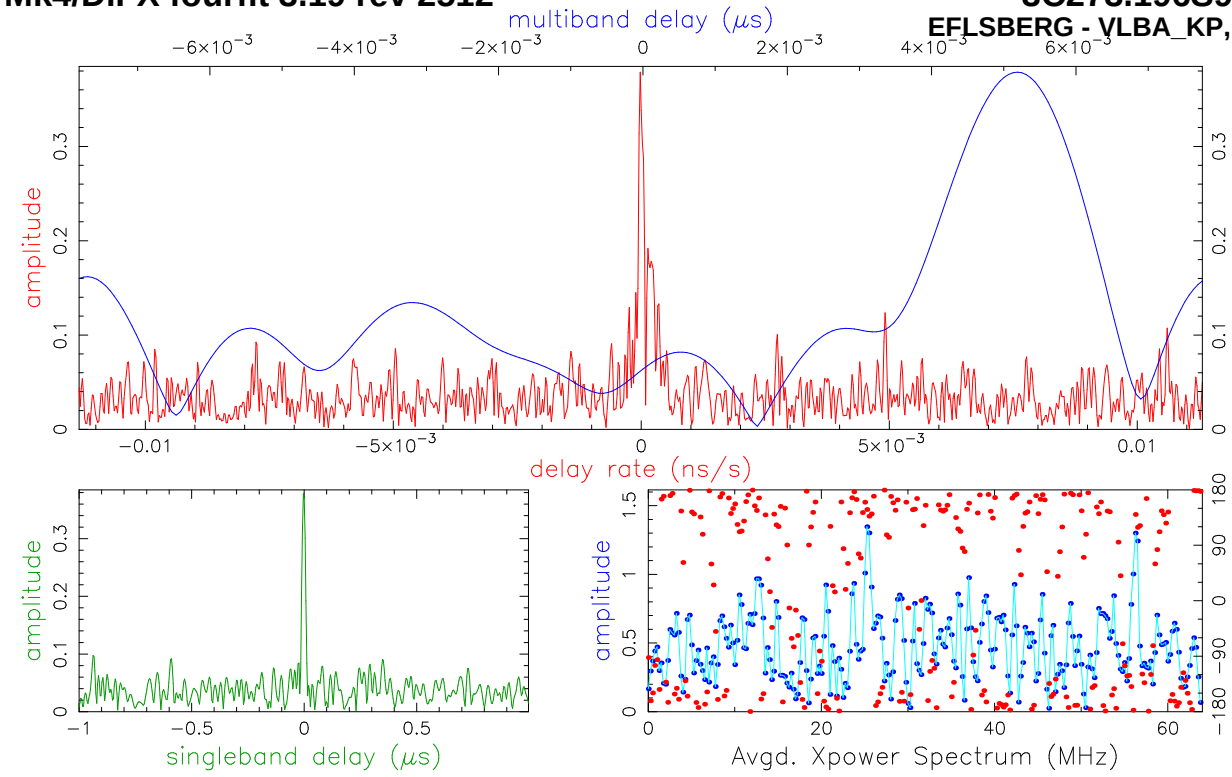
b: az 103.3 el 14.2 pa -40.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 1096.983 1957.510 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/bk.W.13.196S98

Mk4/DiFX fourfit 3.19 rev 2512

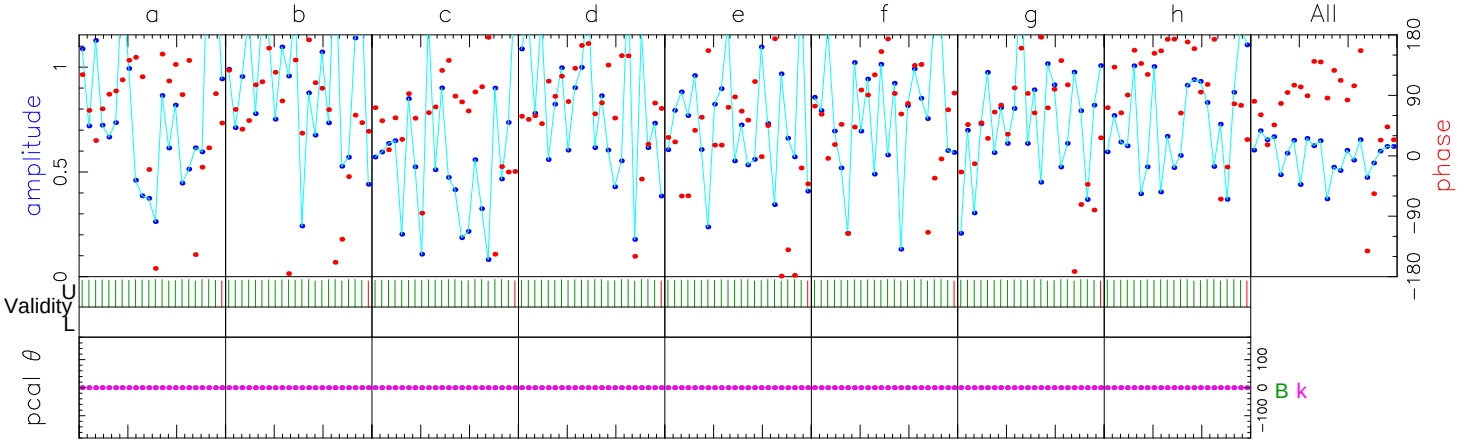
3C273.196S98, No0051, Bk

EFLSBERG - VLBA_KP, fgroup W, pol RR



Fringe quality	9
SNR	14.0
Int time	176.723
Amp	0.385
Phase	85.1
PFD	5.3e-36
Delays (us)	
SBD	-0.002299
MBD	0.005213
Fringe rate (Hz)	
	-0.001732
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153844
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	93.0	105.5	60.5	93.1	28.8	71.1	75.2	115.5	Phase	85.1
	0.5	0.5	0.3	0.5	0.3	0.4	0.3	0.4	Ampl.	0.4
	256.1	256.8	256.7	256.2	257.6	256.8	257.9	256.6	Sbd box	256.4
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	Manl 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 Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-6.74078409862E+02	Apriori delay (usec)	-6.74083623156E+02	Resid mbdelay (usec)	5.21329E-03	+/-	7.8E-05
Sband delay (usec)	-6.74085922406E+02	Apriori clock (usec)	1.3359319E+01	Resid sbdelay (usec)	-2.29925E-03	+/-	6.2E-04
Phase delay (usec)	-6.74083620411E+02	Apriori clockrate (us/s)	-2.0540000E-07	Resid phdelay (usec)	2.74495E-06	+/-	2.6E-07
Delay rate (us/s)	-1.98699772323E+00	Apriori rate (us/s)	-1.98699770312E+00	Resid rate (us/s)	-2.01060E-08	+/-	2.5E-09
Total phase (deg)	-22.4	Apriori accel (us/s/s)	4.58210976166E-06	Resid phase (deg)	85.1	+/-	8.2

	RMS	Theor.						
			Amplitude	0.385 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	55.9	19.2	Search (1024X32)	0.373	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	55.5	33.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	30.4	11.6	Inc. seg. avg.	0.551	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	23.8	20.2	Inc. frq. avg.	0.407	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

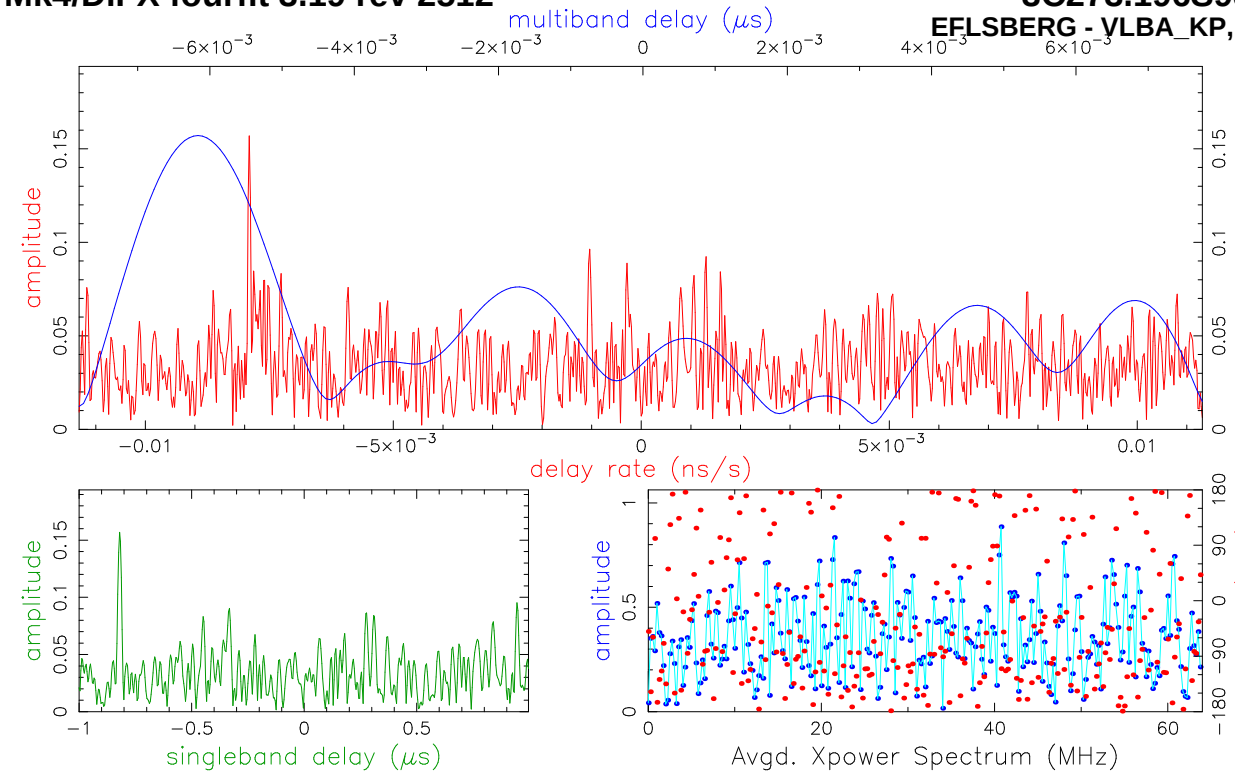
B: az 243.5 el 22.5 pa 34.8 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 11389.235 2155.301 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/Bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/Bk.W.16.196S98

Mk4/DiFX fourfit 3.19 rev 2512

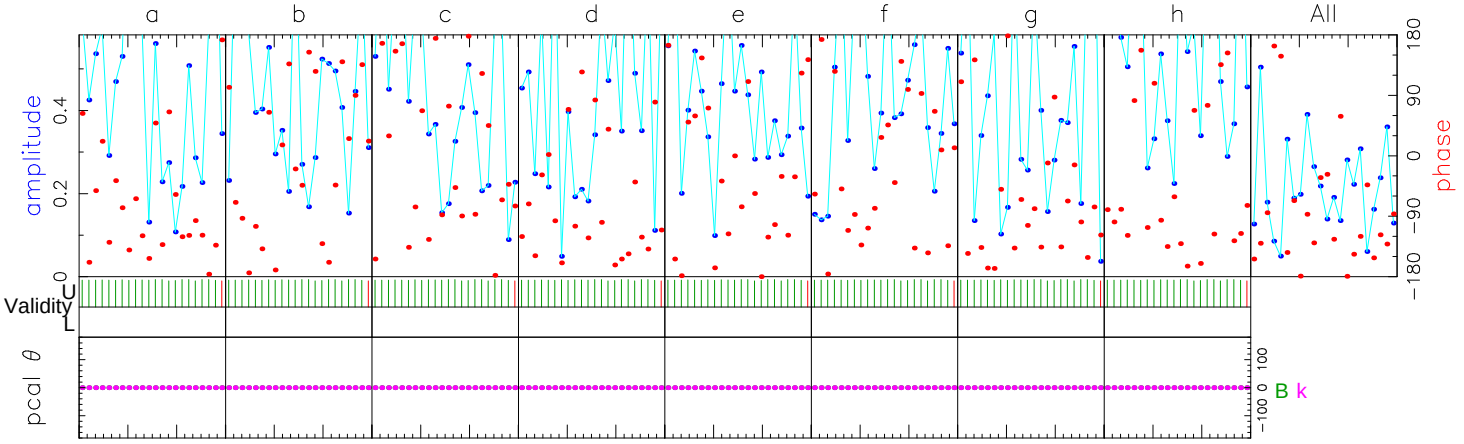
3C273.196S98, No0051, Bk

EFLSBERG - VLBA_KP, fgroup W, pol LR



Fringe quality	0
SNR	5.7
Int time	176.723
Amp	0.194
Phase	-122.9
PFD	7.2e-01
Delays (us)	
SBD	-0.819515
MBD	-0.006126
Fringe rate (Hz)	
	-0.681333
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153846
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-106.8	-131.8	-154.8	-111.9	-129.4	-95.7	-123.1	-128.4	Phase	-122.9
	0.3	0.1	0.2	0.3	0.1	0.1	0.3	0.3	Ampl.	0.2
	370.2	499.8	194.8	16.3	141.0	172.2	499.2	48.6	Sbd box	47.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
B	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl 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 Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-6.74902249506E+02	Apriori delay (usec)	-6.74083623156E+02	Resid mbdelay (usec)	-6.12635E-03	+/-	1.9E-04
Sband delay (usec)	-6.74903138406E+02	Apriori clock (usec)	1.3359319E+01	Resid sbdelay (usec)	-8.19515E-01	+/-	1.5E-03
Phase delay (usec)	-6.74083627119E+02	Apriori clockrate (us/s)	-2.0540000E-07	Resid phdelay (usec)	-3.96324E-06	+/-	6.5E-07
Delay rate (us/s)	-1.98700561273E+00	Apriori rate (us/s)	-1.98699770312E+00	Resid rate (us/s)	-7.90960E-06	+/-	6.2E-09
Total phase (deg)	-230.4	Apriori accel (us/s/s)	4.58210976166E-06	Resid phase (deg)	-122.9	+/-	20.0

	RMS	Theor.					
			Amplitude	0.194 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	61.9	46.9	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	79.3	81.9	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	19.5	28.3	Inc. seg. avg.	0.200	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	51.9	49.4	Inc. frq. avg.	0.179	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

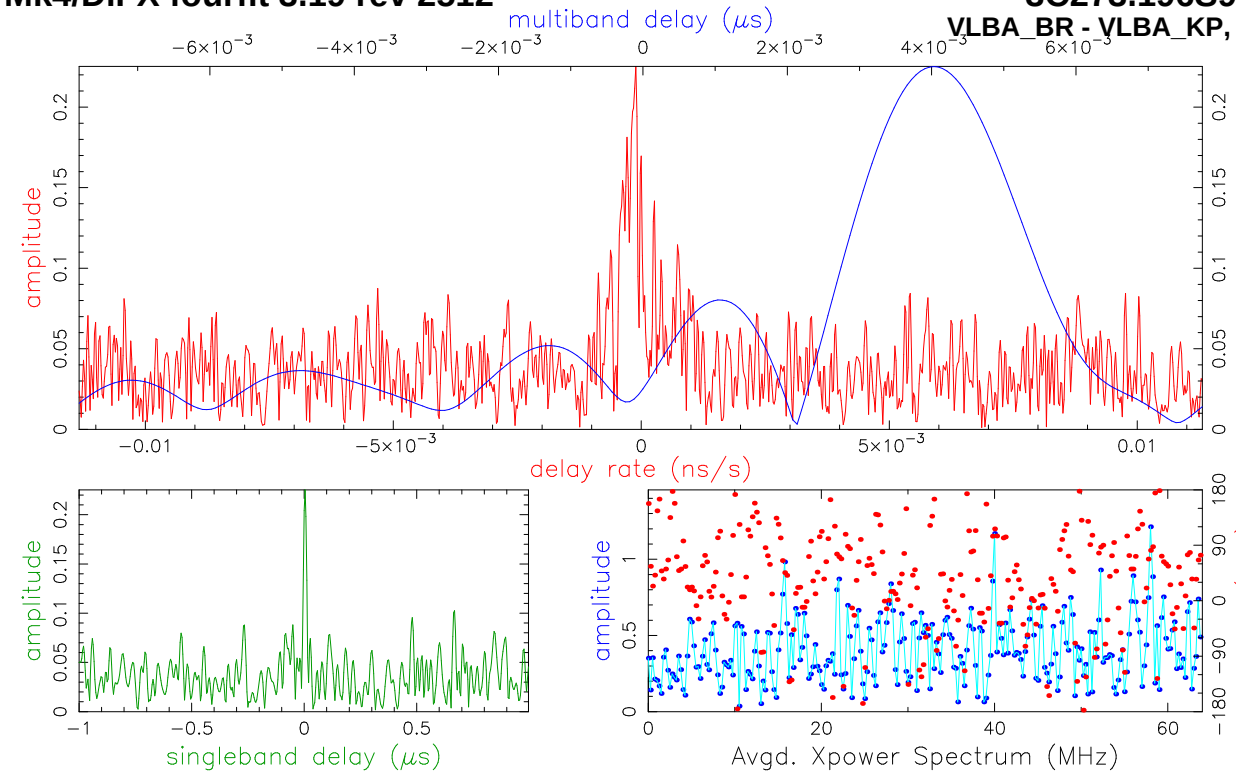
B: az 243.5 el 22.5 pa 34.8 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 11389.235 2155.301 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/Bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/Bk.W.28.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, bk

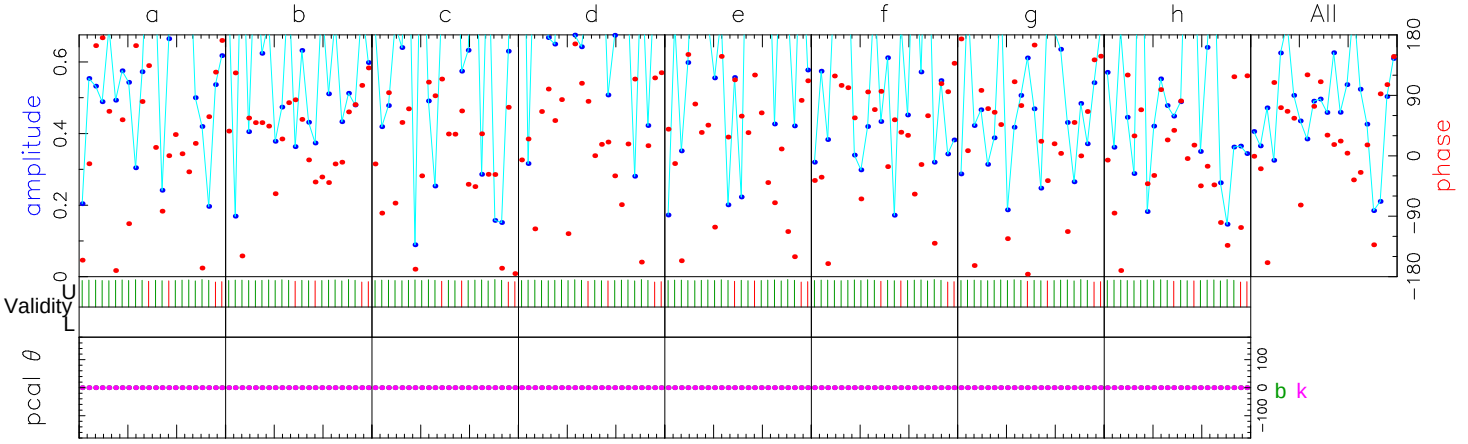
VLBA_BR - VLBA_KP, fgroup W, pol RR



Fringe quality 9

SNR	8.1
Int time	173.746
Amp	0.225
Phase	43.8
PFD	8.1e-08
Delays (us)	
SBD	0.003656
MBD	0.004021
Fringe rate (Hz)	
	-0.010506
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153847
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	53.1	40.4	19.8	48.5	55.2	60.3	64.8	16.6	Phase	43.8
	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	Ampl.	0.2
	191.1	257.1	428.0	438.3	381.2	119.5	420.7	103.3	Sbd box	257.9
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	Manl 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 Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-3.46654479449E+03	Apriori delay (usec)	-3.46654881548E+03	Resid mbdelay (usec)	4.02098E-03	+/-	1.3E-04
Sband delay (usec)	-3.46654515973E+03	Apriori clock (usec)	-1.0755417E+00	Resid sbdelay (usec)	3.65575E-03	+/-	1.1E-03
Phase delay (usec)	-3.46654881406E+03	Apriori clockrate (us/s)	-4.7400004E-08	Resid phdelay (usec)	1.41311E-06	+/-	4.6E-07
Delay rate (us/s)	-1.89623232331E-01	Apriori rate (us/s)	-1.89623110368E-01	Resid rate (us/s)	-1.21963E-07	+/-	4.4E-09
Total phase (deg)	-303.6	Apriori accel (us/s/s)	1.92485817418E-05	Resid phase (deg)	43.8	+/-	14.1

	RMS	Theor.						
			Amplitude	0.225 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	75.4	33.1	Search (1024X32)	0.220	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	127.3	57.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	19.5	20.0	Inc. seg. avg.	0.409	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	22.7	34.8	Inc. frq. avg.	0.221	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

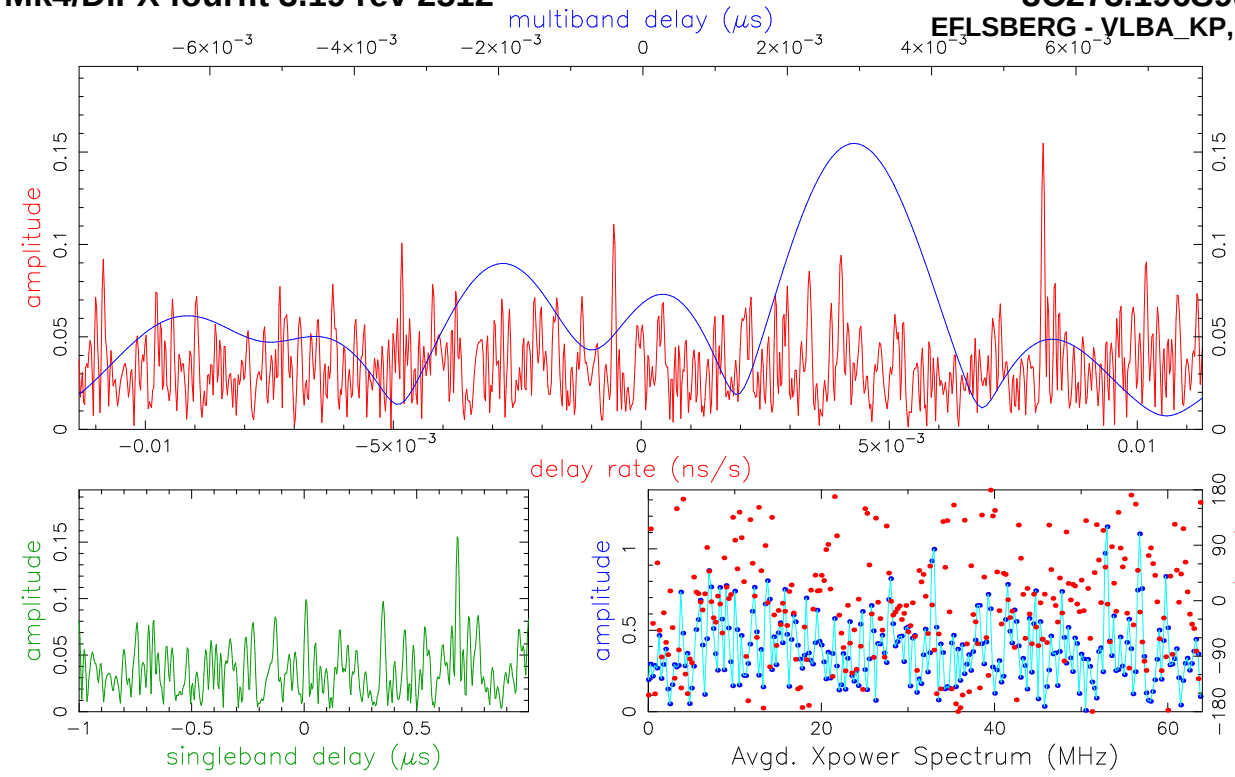
b: az 103.3 el 14.2 pa -40.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 1096.983 1957.510 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/bk.W.32.196S98

Mk4/DiFX fourfit 3.19 rev 2512

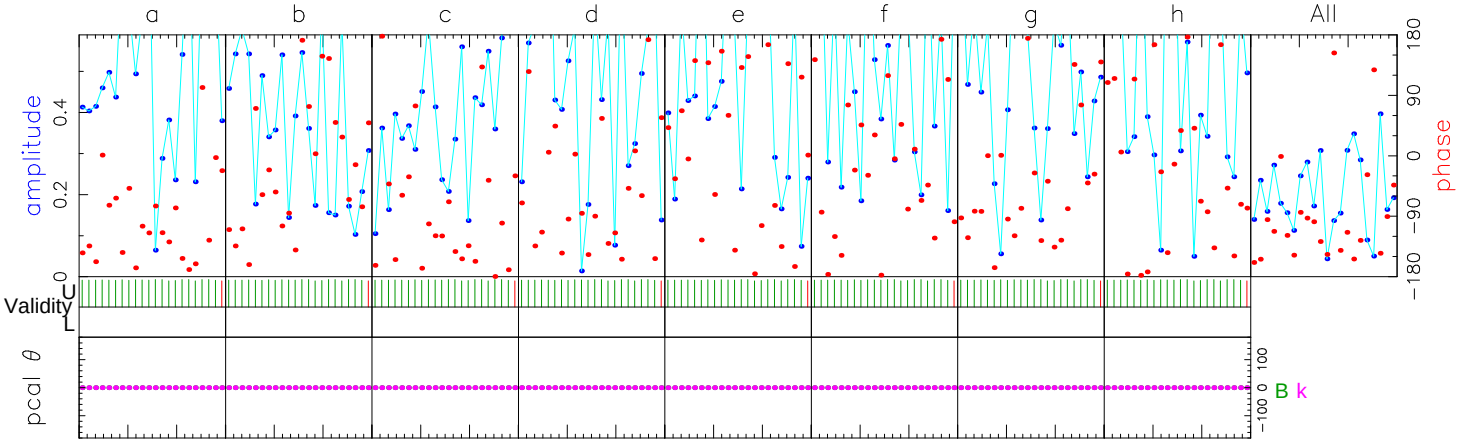
3C273.196S98, No0051, Bk

EFLSBERG - VLBA_KP, fgroup W, pol RL



Fringe quality	0
SNR	5.7
Int time	176.723
Amp	0.196
Phase	-119.8
PFD	7.3e-01
Delays (us)	
SBD	0.681379
MBD	0.002947
Fringe rate (Hz)	
	0.699543
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153848
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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



	a	b	c	d	e	f	g	h	Freq (MHz)	All
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00		
	-118.1	-110.0	-124.9	-103.3	177.2	-67.7	-96.2	-152.7	Phase	-119.8
	0.4	0.1	0.3	0.2	0.2	0.1	0.3	0.2	Ampl.	0.2
	430.8	315.5	455.8	502.8	345.0	492.5	348.2	425.2	Sbd box	431.4
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	Manl 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 Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-6.73408800716E+02	Apriori delay (usec)	-6.74083623156E+02	Resid mbdelay (usec)	2.94744E-03	+/-	1.9E-04
Sband delay (usec)	-6.73402244406E+02	Apriori clock (usec)	1.3359319E+01	Resid sbdelay (usec)	6.81379E-01	+/-	1.5E-03
Phase delay (usec)	-6.74083627019E+02	Apriori clockrate (us/s)	-2.0540000E-07	Resid phdelay (usec)	-3.86287E-06	+/-	6.5E-07
Delay rate (us/s)	-1.98698958212E+00	Apriori rate (us/s)	-1.98699770312E+00	Resid rate (us/s)	8.12100E-06	+/-	6.2E-09
Total phase (deg)	-227.3	Apriori accel (us/s/s)	4.58210976166E-06	Resid phase (deg)	-119.8	+/-	20.0

	RMS	Theor.						
			Amplitude	0.196 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	51.8	47.0	Search (1024X32)	0.149	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	65.3	82.0	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	38.1	28.3	Inc. seg. avg.	0.188	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	43.6	49.4	Inc. frq. avg.	0.197	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

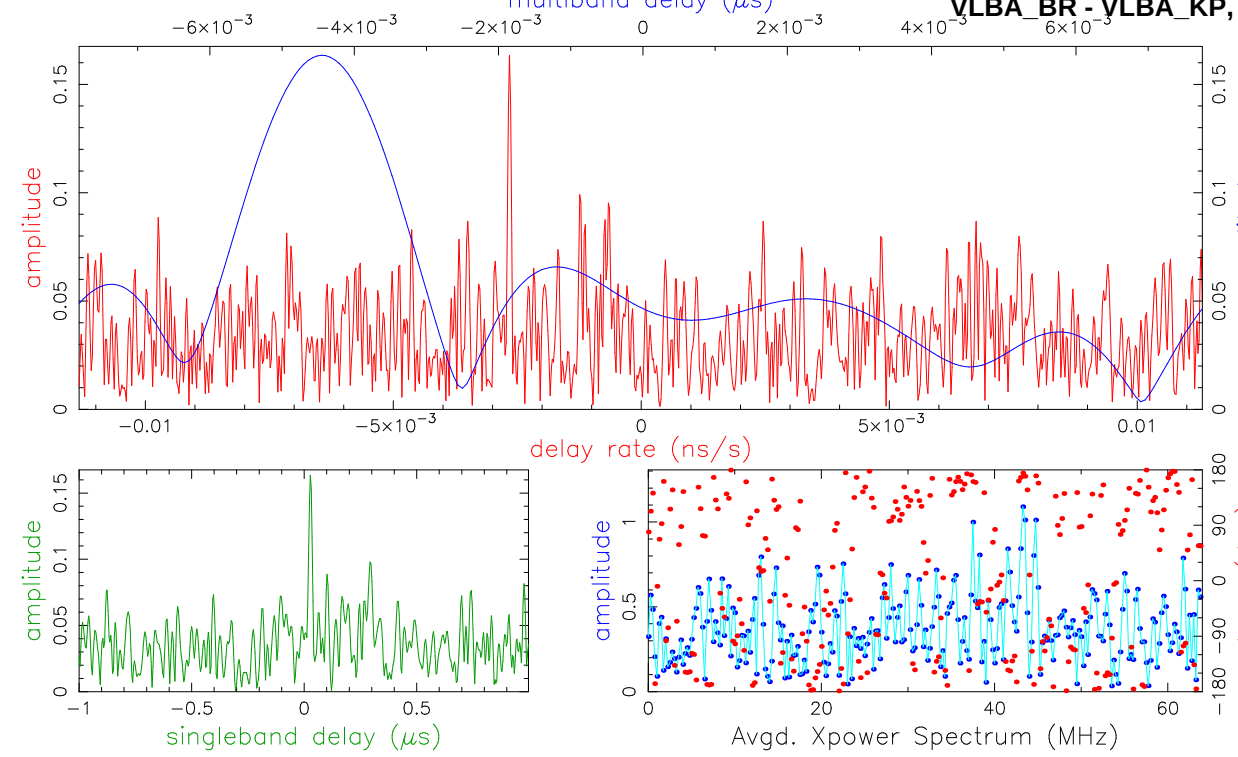
B: az 243.5 el 22.5 pa 34.8 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 11389.235 2155.301 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/Bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/Bk.W.40.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, bk

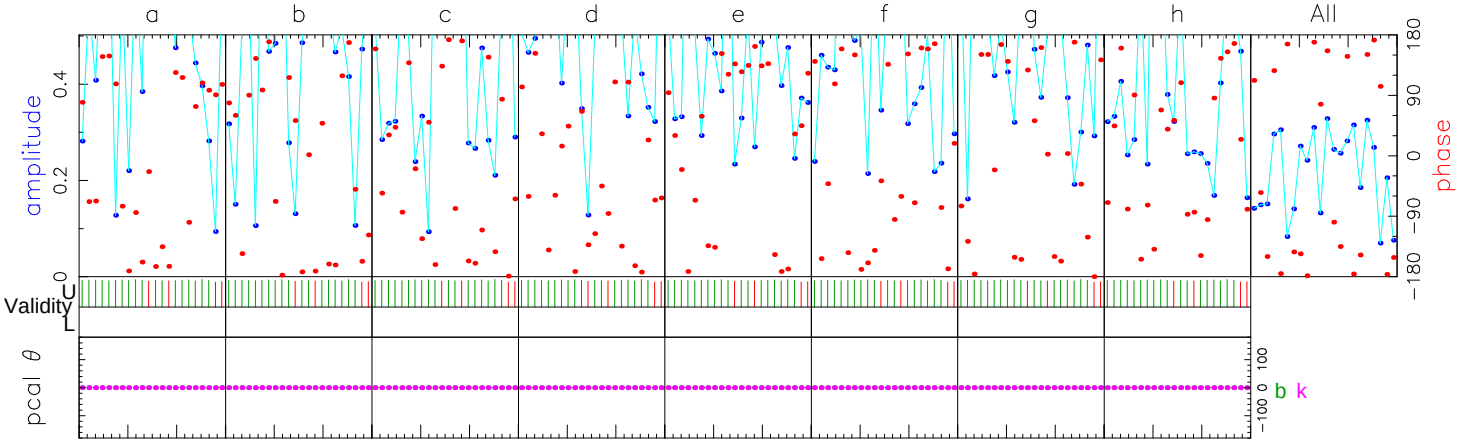
VLBA_BR - VLBA_KP, fgroup W, pol LR



Fringe quality 0

SNR	5.9
Int time	173.745
Amp	0.168
Phase	179.3
PFD	3.7e-01
Delays (us)	
SBD	0.027950
MBD	-0.004419
Fringe rate (Hz)	
	-0.229503
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153849
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-174.9	163.4	-170.9	-100.1	150.6	-163.3	177.6	162.7	Phase	179.3
	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	Ampl.	0.2
	167.8	179.2	293.9	31.0	430.9	236.2	160.3	457.4	Sbd box	264.2
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl 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 Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-3.46652198431E+03	Apriori delay (usec)	-3.46654881548E+03	Resid mbdelay (usec)	-4.41883E-03	+/-	1.8E-04
Sband delay (usec)	-3.46652086598E+03	Apriori clock (usec)	-1.0755417E+00	Resid sbdelay (usec)	2.79495E-02	+/-	1.5E-03
Phase delay (usec)	-3.46654880969E+03	Apriori clockrate (us/s)	-4.7400004E-08	Resid phdelay (usec)	5.78303E-06	+/-	6.3E-07
Delay rate (us/s)	-1.89625774674E-01	Apriori rate (us/s)	-1.89623110368E-01	Resid rate (us/s)	-2.66431E-06	+/-	6.0E-09
Total phase (deg)	-168.1	Apriori accel (us/s/s)	1.92485817418E-05	Resid phase (deg)	179.3	+/-	19.4

	RMS	Theor.							
			Amplitude	0.168 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	50.6	45.5	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	61.7	79.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	37.2	27.5	Inc. seg. avg.	0.170	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	37.7	47.9	Inc. frq. avg.	0.164	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

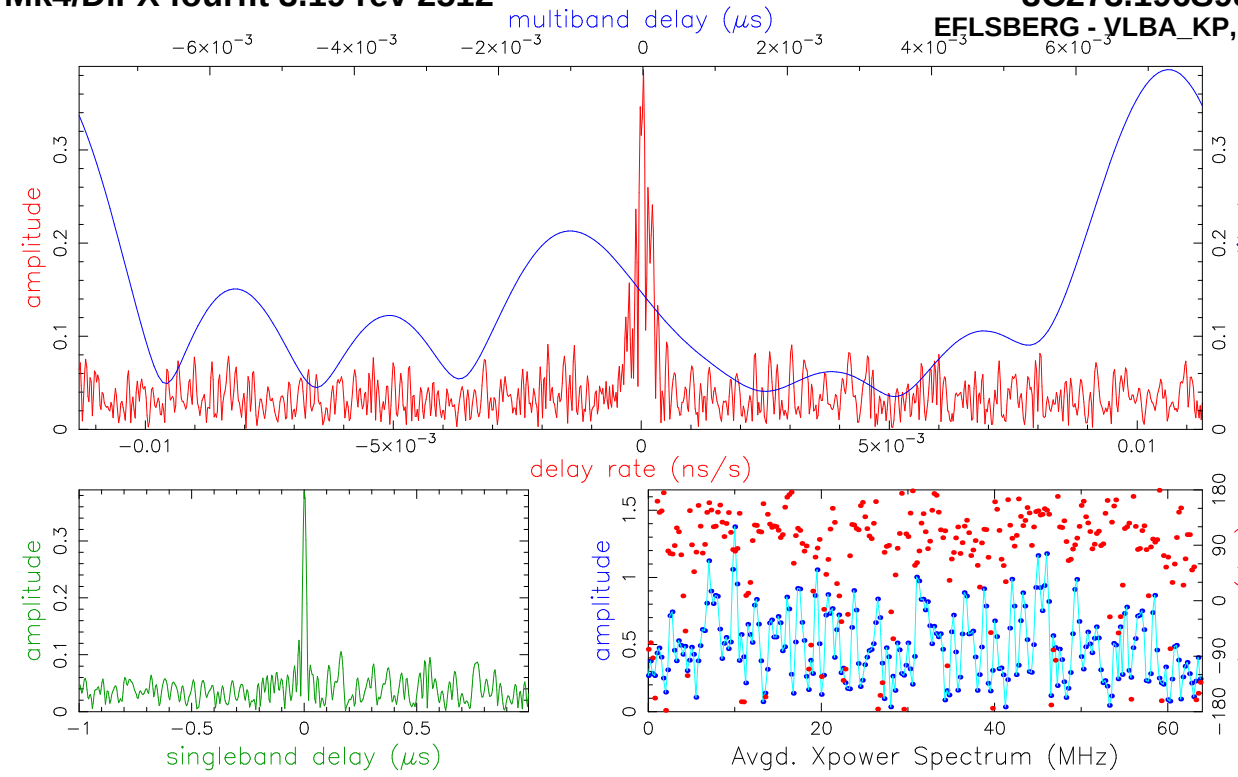
b: az 103.3 el 14.2 pa -40.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 1096.983 1957.510 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/bk.W.49.196S98

Mk4/DiFX fourfit 3.19 rev 2512

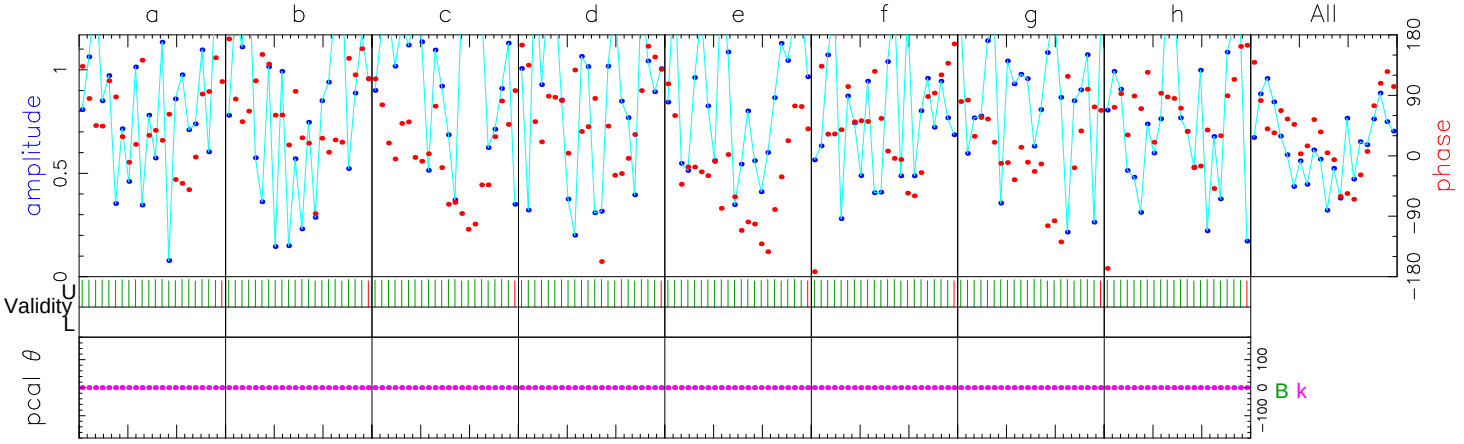
3C273.196S98, No0051, Bk

EFLSBERG - VLBA_KP, fgroup W, pol LL



Fringe quality	8
SNR	14.2
Int time	176.723
Amp	0.390
Phase	45.2
PFD	4.3e-37
Delays (us)	
SBD	0.001282
MBD	0.007321
Fringe rate (Hz)	
	0.003406
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153843
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	57.2	74.4	4.9	70.1	-12.2	50.3	17.3	80.3	Phase	45.2
	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	Ampl.	0.4
	257.2	257.9	257.4	257.7	258.6	258.0	257.2	257.8	Sbd box	257.3
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	Manl 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 Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-6.74076302401E+02	Apriori delay (usec)	-6.74083623156E+02	Resid mbdelay (usec)	7.32076E-03	+/-	7.7E-05
Sband delay (usec)	-6.74082341156E+02	Apriori clock (usec)	1.3359319E+01	Resid sbdelay (usec)	1.28200E-03	+/-	6.1E-04
Phase delay (usec)	-6.74083621698E+02	Apriori clockrate (us/s)	-2.0540000E-07	Resid phdelay (usec)	1.45829E-06	+/-	2.6E-07
Delay rate (us/s)	-1.98699766359E+00	Apriori rate (us/s)	-1.98699770312E+00	Resid rate (us/s)	3.95347E-08	+/-	2.5E-09
Total phase (deg)	-62.3	Apriori accel (us/s/s)	4.58210976166E-06	Resid phase (deg)	45.2	+/-	8.1

	RMS	Theor.						
			Amplitude	0.390 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	57.5	19.0	Search (1024X32)	0.382	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	77.6	33.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	37.8	11.4	Inc. seg. avg.	0.608	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	19.9	20.0	Inc. frq. avg.	0.447	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

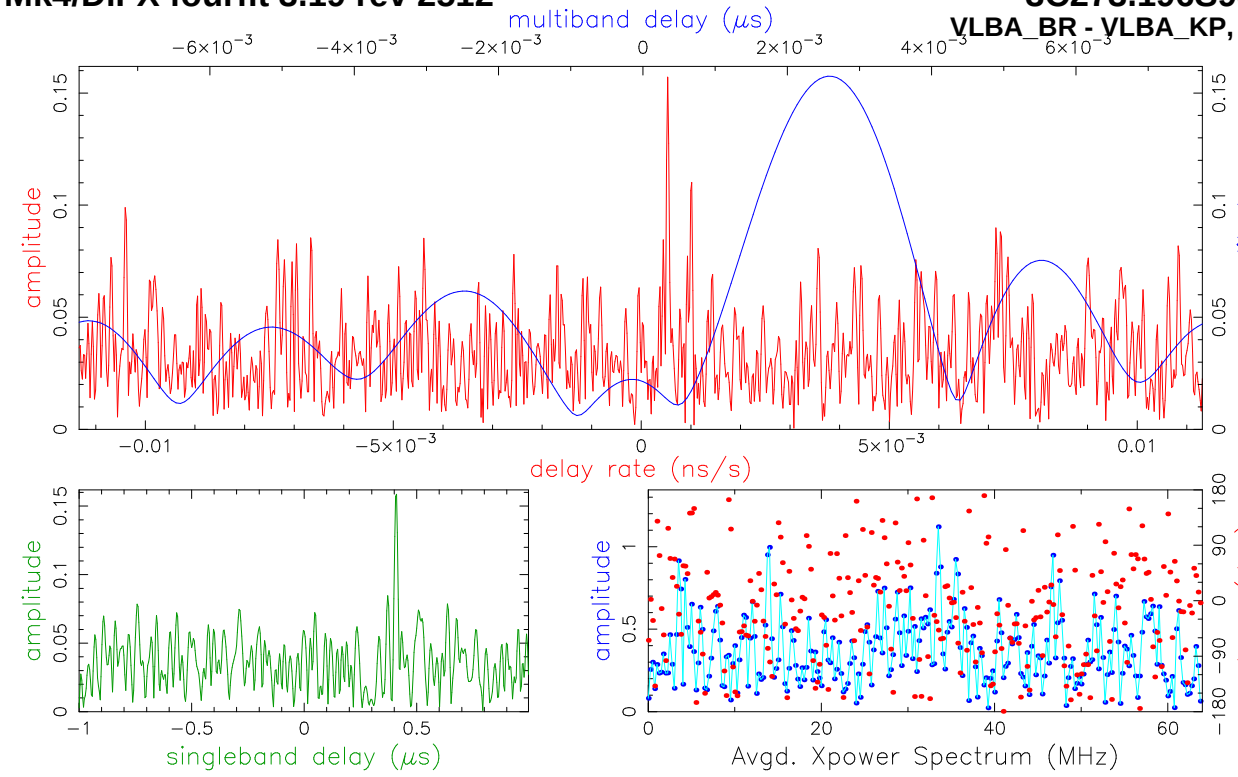
B: az 243.5 el 22.5 pa 34.8 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 11389.235 2155.301 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/Bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/Bk.W.6.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, bk

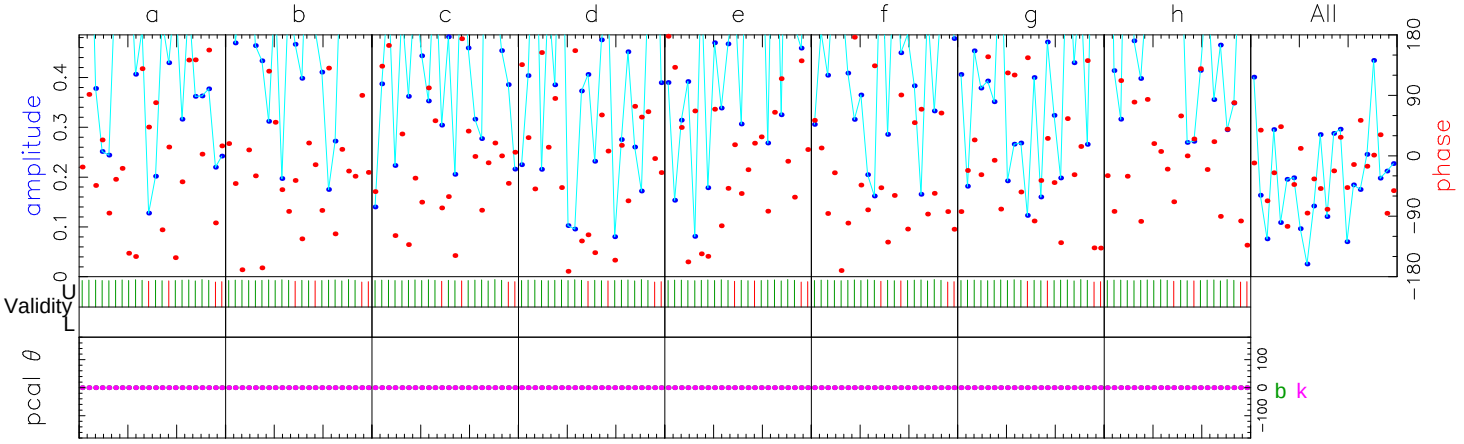
VLBA_BR - VLBA_KP, fgroup W, pol RL



Fringe quality 0

SNR	5.8
Int time	173.746
Amp	0.162
Phase	-18.4
PFD	5.0e-01
Delays (us)	
SBD	0.408408
MBD	0.002667
Fringe rate (Hz)	
	0.045396
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153851
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-30.8	-14.1	-11.9	-4.9	7.1	-64.0	-45.2	-11.1	Phase	-18.4
	0.0	0.3	0.1	0.2	0.2	0.2	0.1	0.3	Ampl.	0.2
	388.1	361.5	117.8	497.0	77.4	443.2	475.8	87.1	Sbd box	361.6
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	Manl 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 Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-3.46613989875E+03	Apriori delay (usec)	-3.46654881548E+03	Resid mbdelay (usec)	2.66672E-03	+/-	1.9E-04
Sband delay (usec)	-3.46614040748E+03	Apriori clock (usec)	-1.0755417E+00	Resid sbdelay (usec)	4.08408E-01	+/-	1.5E-03
Phase delay (usec)	-3.46654881607E+03	Apriori clockrate (us/s)	-4.7400004E-08	Resid phdelay (usec)	-5.91769E-07	+/-	6.3E-07
Delay rate (us/s)	-1.89622583367E-01	Apriori rate (us/s)	-1.89623110368E-01	Resid rate (us/s)	5.27001E-07	+/-	6.1E-09
Total phase (deg)	-5.8	Apriori accel (us/s/s)	1.92485817418E-05	Resid phase (deg)	-18.4	+/-	19.7

	RMS	Theor.		
			Amplitude	0.162 +/- 0.028
ph/seg (deg)	44.9	46.1	Search (1024X32)	0.155
amp/seg (%)	67.5	80.5	Interp.	0.000
ph/frq (deg)	25.5	27.8	Inc. seg. avg.	0.152
amp/frq (%)	41.9	48.5	Inc. frq. avg.	0.151

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

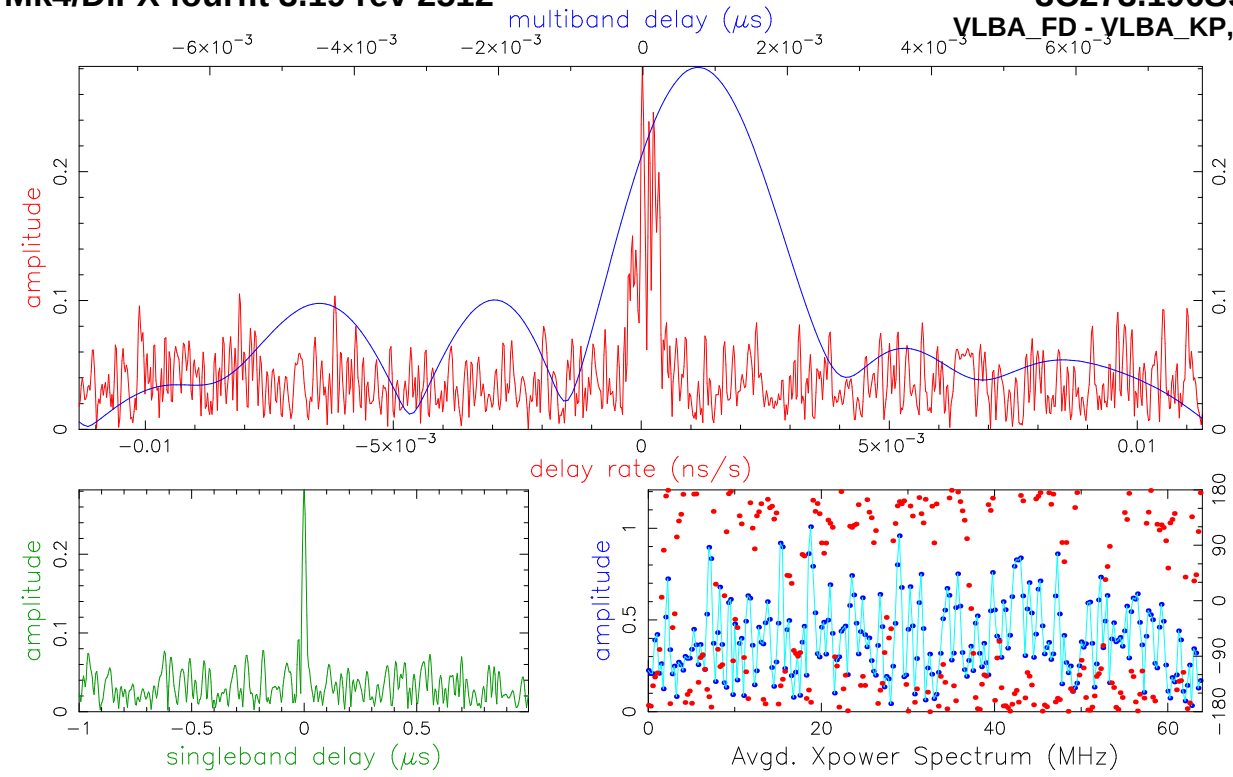
b: az 103.3 el 14.2 pa -40.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 1096.983 1957.510 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/bk..196S98 Output file: /Exps/c201e/v1/1234/No0051/bk.W.62.196S98

Mk4/DiFX fourfit 3.19 rev 2512

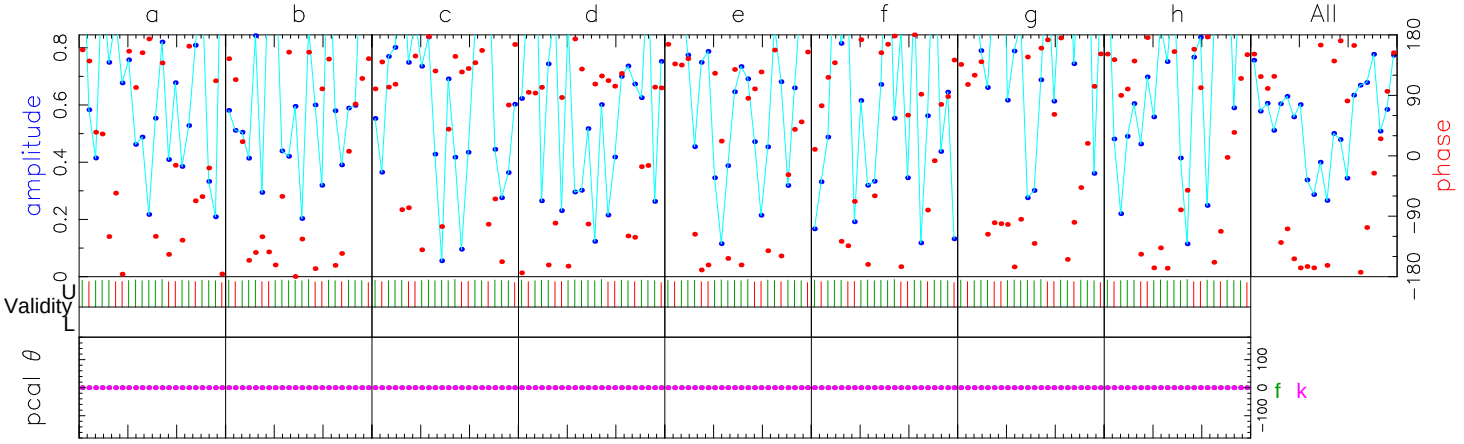
3C273.196S98, No0051, fk

VLBA_FD - VLBA_KP, fgroup W, pol RL



Fringe quality	9
SNR	10.1
Int time	171.671
Amp	0.282
Phase	167.4
PFD	1.2e-15
Delays (us)	
SBD	-0.000697
MBD	0.000754
Fringe rate (Hz)	
	0.001753
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153903
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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	167.1	162.2	145.4	151.6	169.3	-162.5	161.5	Phase	167.4
	0.2	0.4	0.3	0.2	0.4	0.3	0.3	0.4	Ampl.	0.3
	249.4	257.4	313.5	400.7	257.2	256.7	255.5	256.8	Sbd box	256.8
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
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		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.19521356263E+03	Apriori delay (usec)	2.19521280814E+03	Resid mbdelay (usec)	7.54487E-04	+/-	1.1E-04
Sband delay (usec)	2.19521211089E+03	Apriori clock (usec)	4.2615976E+00	Resid sbdelay (usec)	-6.97250E-04	+/-	8.5E-04
Phase delay (usec)	2.19521281354E+03	Apriori clockrate (us/s)	1.0360000E-07	Resid phdelay (usec)	5.39953E-06	+/-	3.7E-07
Delay rate (us/s)	-7.70908787281E-02	Apriori rate (us/s)	-7.70908990807E-02	Resid rate (us/s)	2.03526E-08	+/-	3.5E-09
Total phase (deg)	273.0	Apriori accel (us/s/s)	-1.17253401184E-05	Resid phase (deg)	167.4	+/-	11.4

	RMS	Theor.					
			Amplitude	0.282 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	65.7	26.6	Search (1024X32)	0.276	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	108.0	46.5	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	19.6	16.1	Inc. seg. avg.	0.495	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	29.0	28.0	Inc. frq. avg.	0.281	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

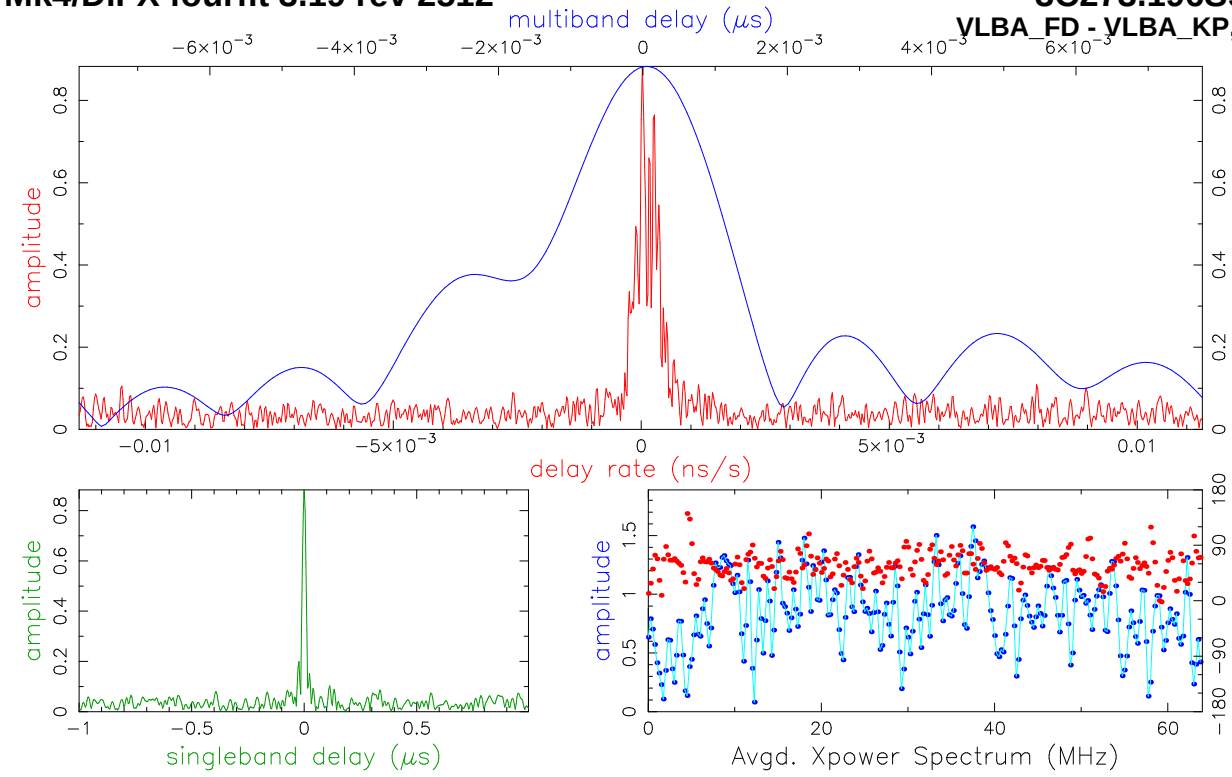
f: az 107.8 el 30.7 pa -55.1 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 435.709 -205.999 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/fk..196S98 Output file: /Exps/c201e/v1/1234/No0051/fk.W.138.196S98

Mk4/DiFX fourfit 3.19 rev 2512

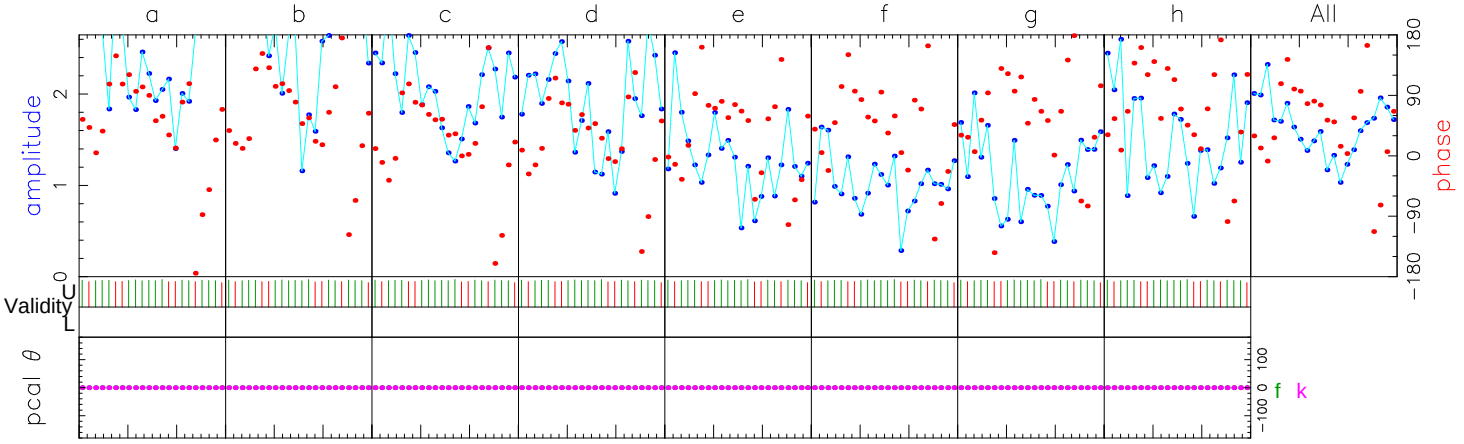
3C273.196S98, No0051, fk

VLBA_FD - VLBA_KP, fgroup W, pol LL



Fringe quality	5
SNR	31.6
Int time	171.672
Amp	0.883
Phase	54.6
PFD	0.0e+00
Delays (us)	
SBD	-0.000147
MBD	0.000052
Fringe rate (Hz)	
	0.001216
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153854
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	65.7	66.7	35.8	38.6	34.9	50.2	62.7	76.8	Phase	54.6
	1.4	1.3	1.1	1.1	0.6	0.5	0.6	0.7	Ampl.	0.9
	257.0	256.8	256.8	256.7	257.4	257.5	257.2	256.8	Sbd box	257.0
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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.19521286056E+03	Apriori delay (usec)	2.19521280814E+03	Resid mbdelay (usec)	5.24246E-05	+/-	3.4E-05
Sband delay (usec)	2.19521266114E+03	Apriori clock (usec)	4.2615976E+00	Resid sbdelay (usec)	-1.47000E-04	+/-	2.7E-04
Phase delay (usec)	2.19521280990E+03	Apriori clockrate (us/s)	1.0360000E-07	Resid phdelay (usec)	1.75953E-06	+/-	1.2E-07
Delay rate (us/s)	-7.70908849691E-02	Apriori rate (us/s)	-7.70908990807E-02	Resid rate (us/s)	1.41116E-08	+/-	1.1E-09
Total phase (deg)	160.1	Apriori accel (us/s/s)	-1.17253401184E-05	Resid phase (deg)	54.6	+/-	3.6

	RMS	Theor.					
			Amplitude	0.883 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	63.3	8.5	Search (1024X32)	0.865	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	91.6	14.8	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	17.5	5.1	Inc. seg. avg.	1.616	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	36.8	8.9	Inc. frq. avg.	0.911	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

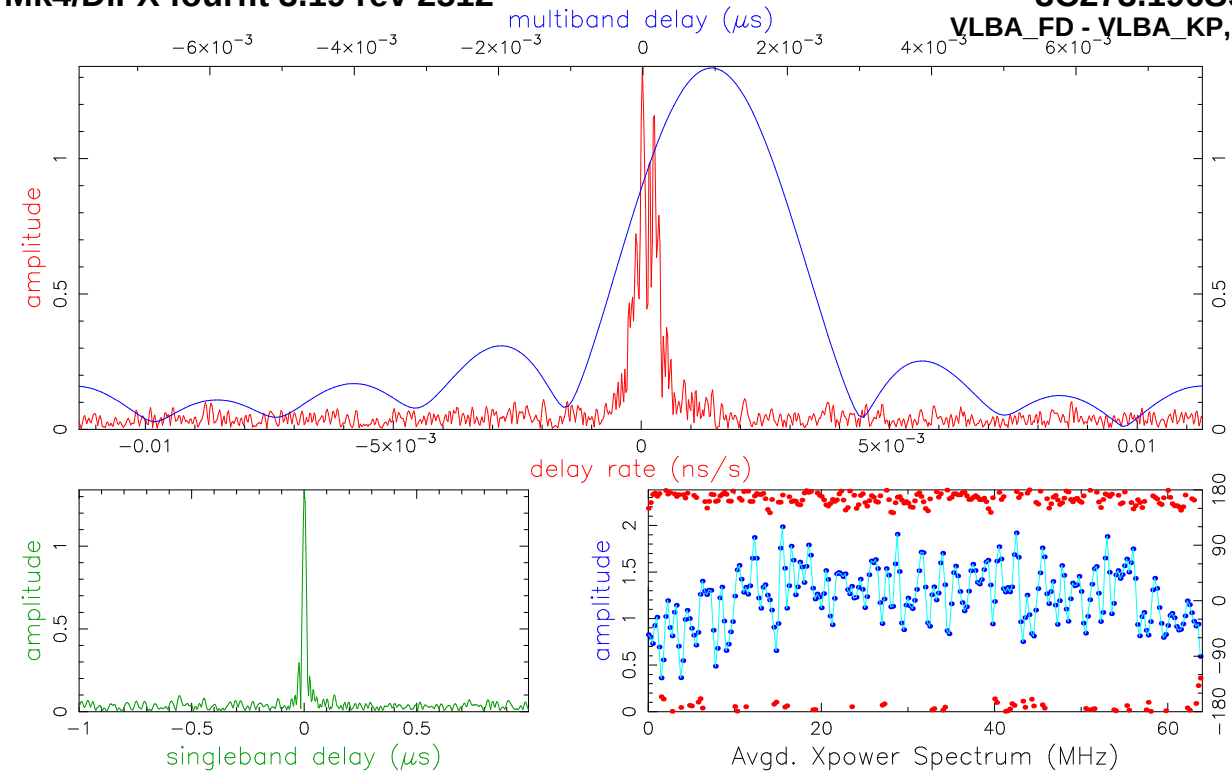
f: az 107.8 el 30.7 pa -55.1 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 435.709 -205.999 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/fk..196S98 Output file: /Exps/c201e/v1/1234/No0051/fk.W.76.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, fk

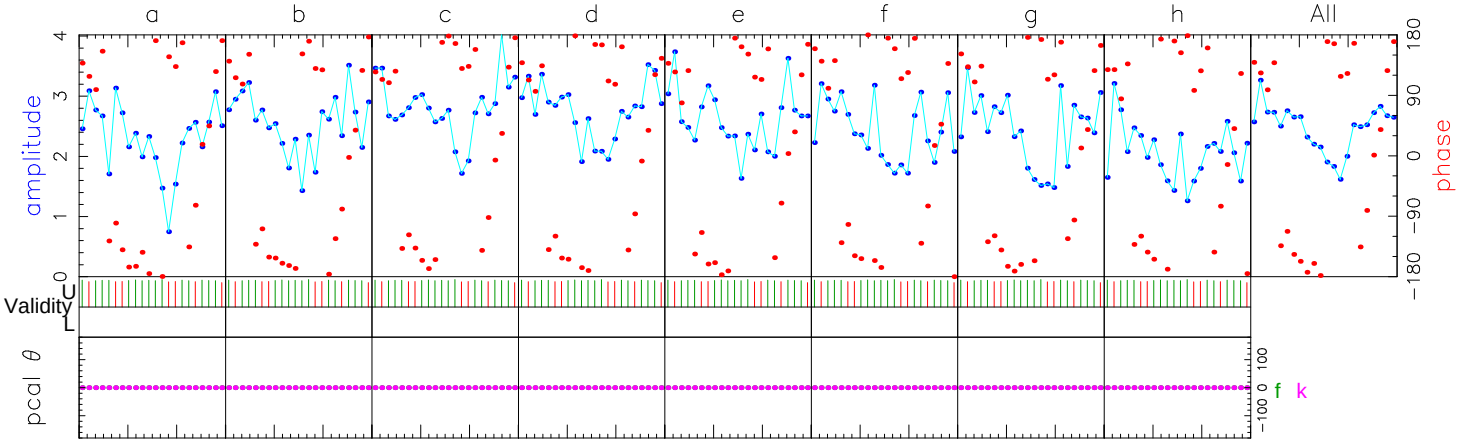
VLBA_FD - VLBA_KP, fgroup W, pol RR



Fringe quality 5

SNR	48.0
Int time	171.670
Amp	1.340
Phase	168.7
PFD	0.0e+00
Delays (us)	
SBD	0.000857
MBD	0.000969
Fringe rate (Hz)	
	0.001018
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153855
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	173.6	173.6	169.2	161.8	157.6	175.7	172.5	166.1	Phase	168.7
	1.2	1.3	1.5	1.5	1.4	1.4	1.4	1.0	Ampl.	1.3
	257.6	257.1	257.2	257.1	257.6	256.9	257.3	257.2	Sbd box	257.2
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		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.19521377697E+03	Apriori delay (usec)	2.19521280814E+03	Resid mbdelay (usec)	9.68831E-04	+/-	2.3E-05
Sband delay (usec)	2.19521366464E+03	Apriori clock (usec)	4.2615976E+00	Resid sbdelay (usec)	8.56500E-04	+/-	1.8E-04
Phase delay (usec)	2.19521281358E+03	Apriori clockrate (us/s)	1.0360000E-07	Resid phdelay (usec)	5.44166E-06	+/-	7.7E-08
Delay rate (us/s)	-7.70908872591E-02	Apriori rate (us/s)	-7.70908990807E-02	Resid rate (us/s)	1.18216E-08	+/-	7.4E-10
Total phase (deg)	274.3	Apriori accel (us/s/s)	-1.17253401184E-05	Resid phase (deg)	168.7	+/-	2.4

	RMS	Theor.					
			Amplitude	1.340 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	63.9	5.6	Search (1024X32)	1.297	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	88.7	9.8	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	6.9	3.4	Inc. seg. avg.	2.458	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	10.3	5.9	Inc. frq. avg.	1.340	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

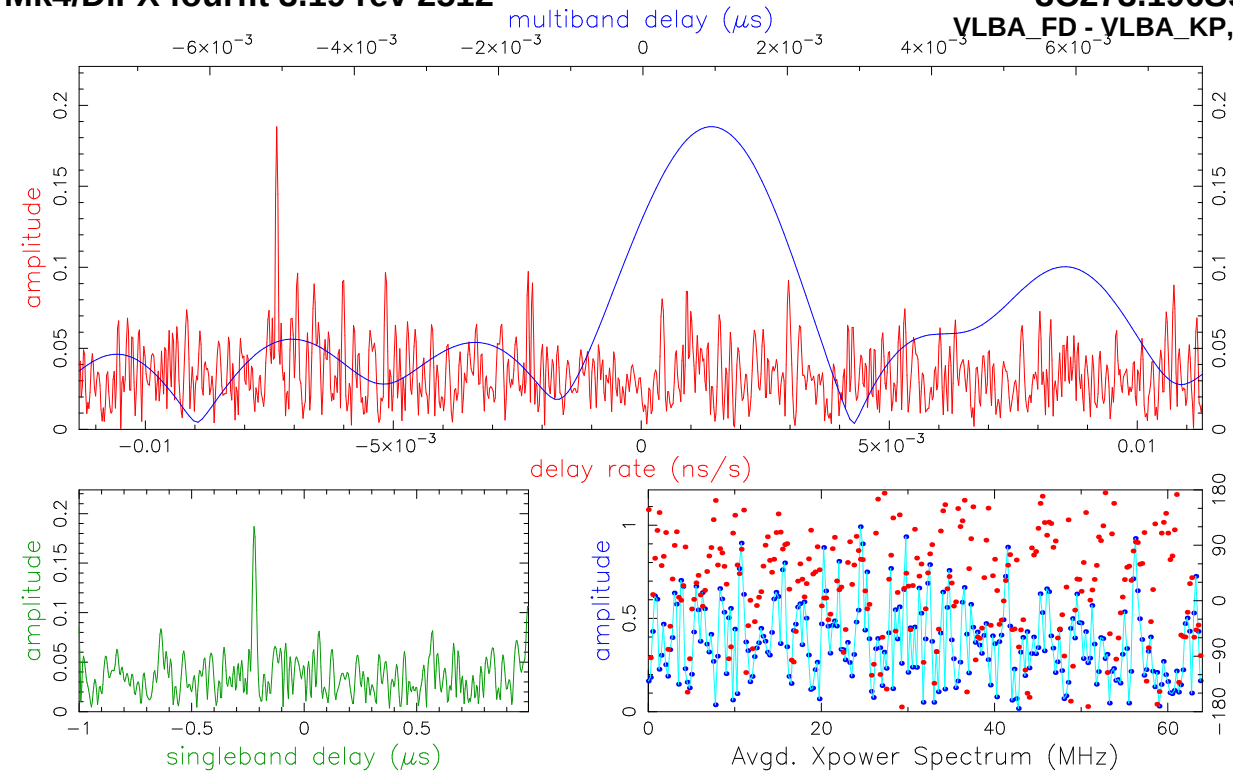
f: az 107.8 el 30.7 pa -55.1 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 435.709 -205.999 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/fk..196S98 Output file: /Exps/c201e/v1/1234/No0051/fk.W.87.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, fk

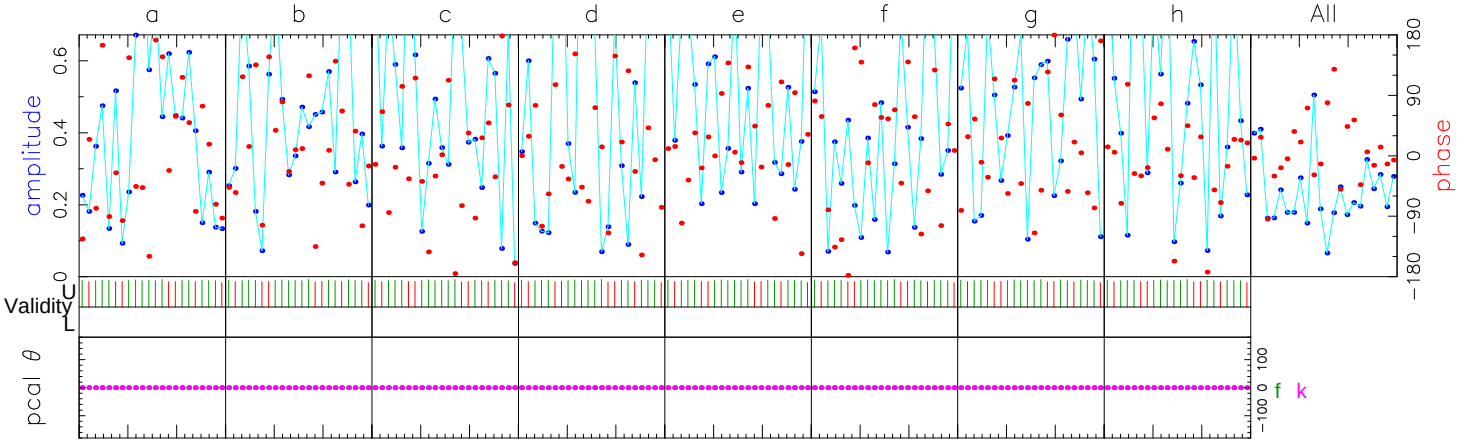
VLBA_FD - VLBA_KP, fgroup W, pol LR



Fringe quality 0

SNR	6.7
Int time	171.672
Amp	0.224
Phase	0.5
PFD	2.9e-03
Delays (us)	
SBD	-0.222136
MBD	0.000966
Fringe rate (Hz)	
	-0.634625
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153857
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-57.8	30.1	-12.5	-4.8	14.0	34.3	-24.0	0.7	Phase	0.5
	0.1	0.2	0.2	0.3	0.3	0.1	0.2	0.5	Ampl.	0.2
	224.4	201.9	323.7	335.7	201.0	410.7	198.0	200.3	Sbd box	200.1
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		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.19499502461E+03	Apriori delay (usec)	2.19521280814E+03	Resid mbdelay (usec)	9.66467E-04	+/-	1.6E-04
Sband delay (usec)	2.19499067214E+03	Apriori clock (usec)	4.2615976E+00	Resid sbdelay (usec)	-2.22136E-01	+/-	1.3E-03
Phase delay (usec)	2.19521280815E+03	Apriori clockrate (us/s)	1.0360000E-07	Resid phdelay (usec)	1.47498E-08	+/-	5.5E-07
Delay rate (us/s)	-7.70982664474E-02	Apriori rate (us/s)	-7.70908990807E-02	Resid rate (us/s)	-7.36737E-06	+/-	5.3E-09
Total phase (deg)	106.0	Apriori accel (us/s/s)	-1.17253401184E-05	Resid phase (deg)	0.5	+/-	17.1

	RMS	Theor.							
			Amplitude	0.224 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	48.6	40.1	Search (1024X32)	0.182	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	58.9	70.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	32.6	24.2	Inc. seg. avg.	0.229	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	55.9	42.2	Inc. frq. avg.	0.219	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

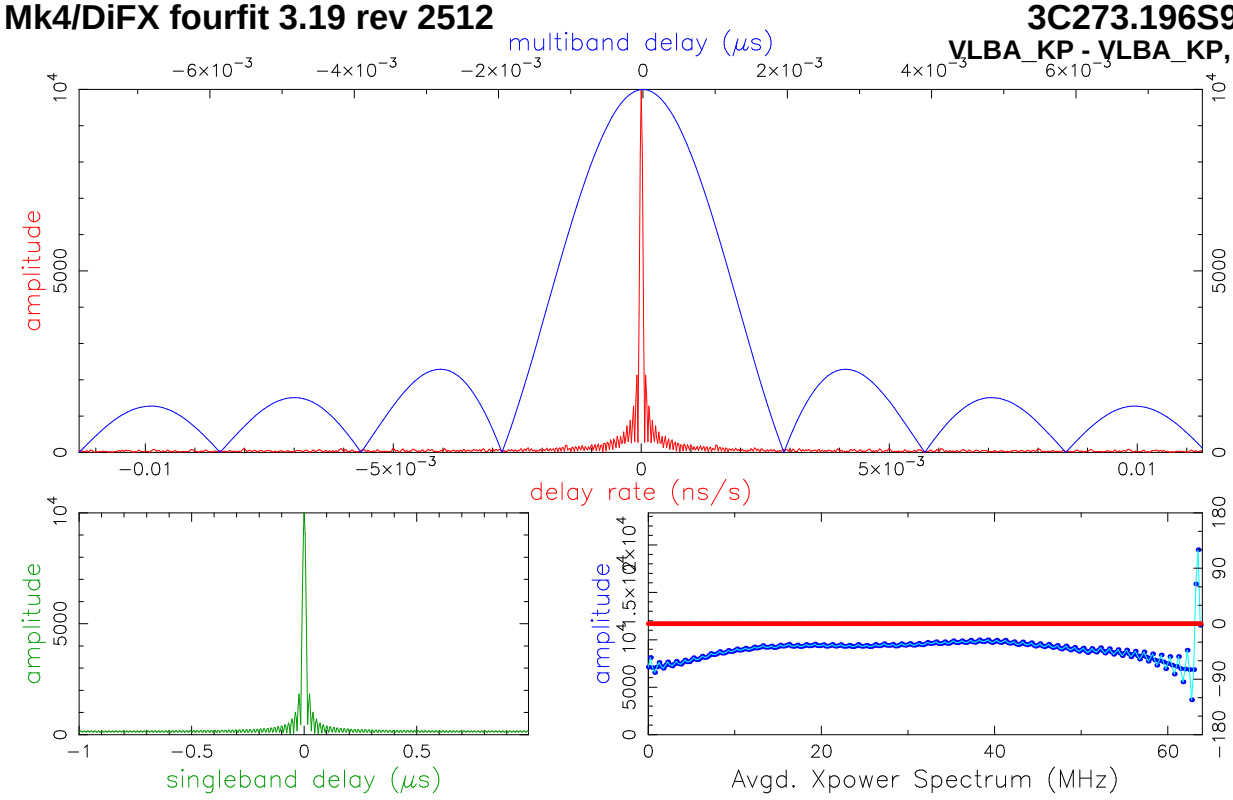
f: az 107.8 el 30.7 pa -55.1 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 435.709 -205.999 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/fk..196S98 Output file: /Exps/c201e/v1/1234/No0051/fk.W.98.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kk

VLBA_KP - VLBA_KP, fgroup W, pol RR

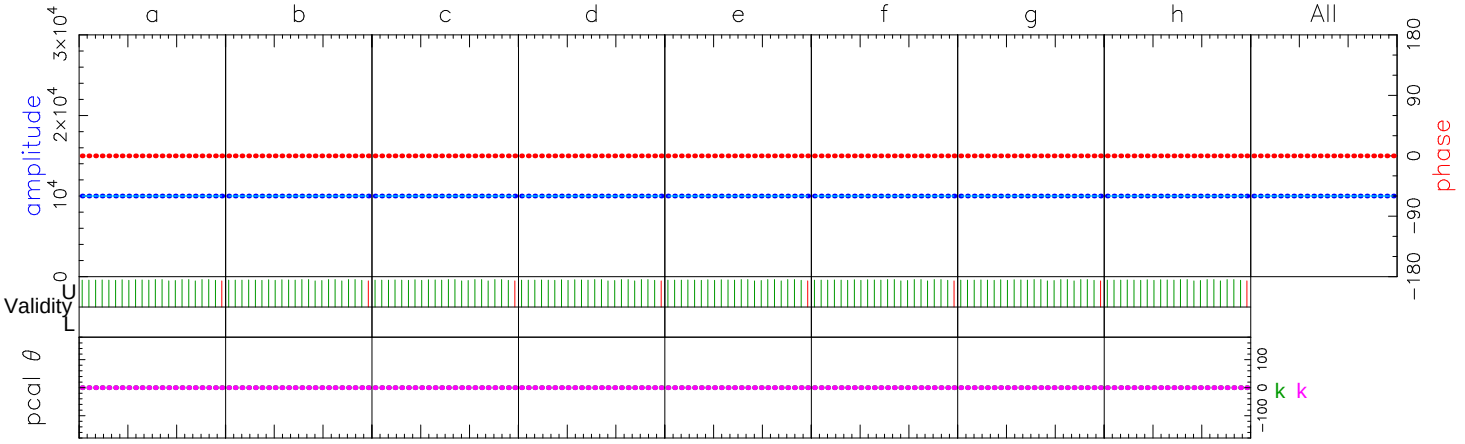


Fringe quality 9

SNR 363541.2
Int time 176.731
Amp 10000.004
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. c201e
Exper # 16383
Yr:day 2020:119
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:206:025257
2020:206:153858
2020:014:135814
RA & Dec (J2000)
12h29m06.699731s
+02°03'08.598201"

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	Manl 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 Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	3.0E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	2.4E-08
Phase delay (usec)	1.08480956964E-19	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	1.08481E-19	+/-	1.0E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	9.8E-14
Total phase (deg)	0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	0.0	+/-	0.0

	RMS	Theor.						
			Amplitude	10000.004 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.0	0.0	Search (1024X32)	10000.004	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(MSamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.004	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

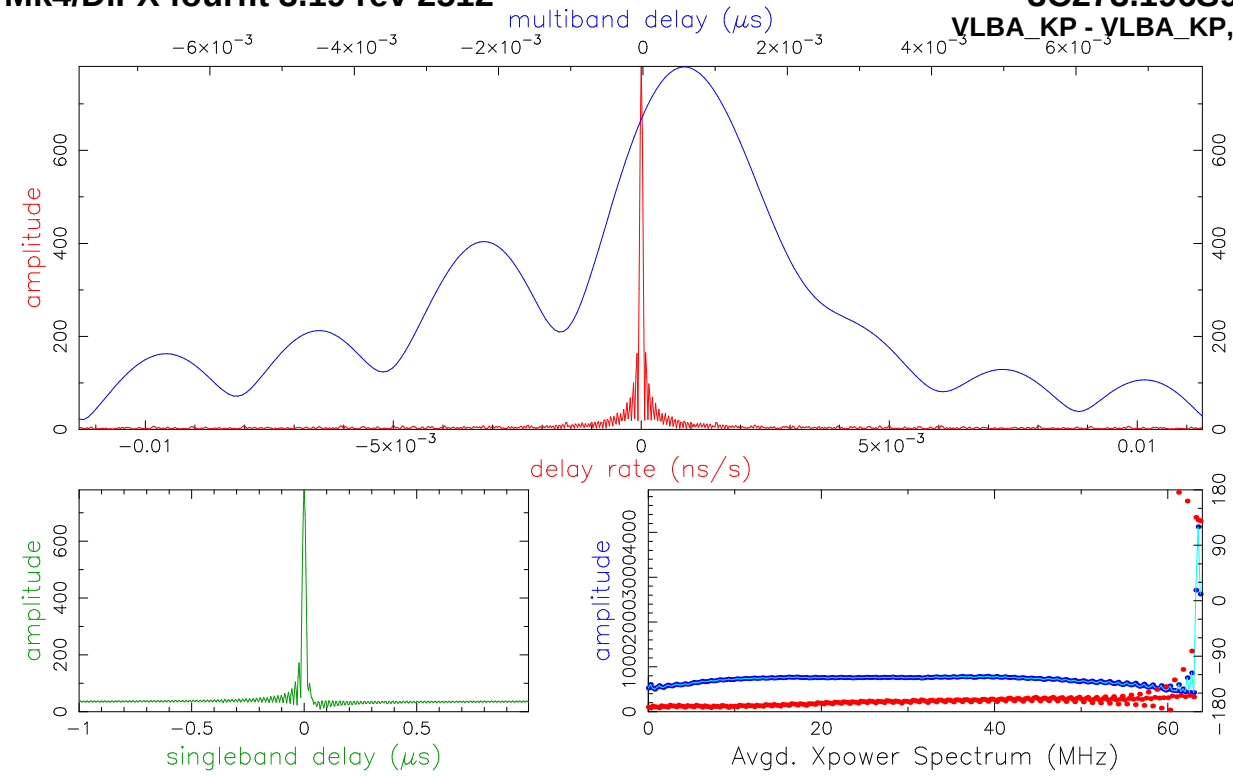
k: az 103.6 el 24.0 pa -55.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kk..196S98 Output file: /Exps/c201e/v1/1234/No0051/kk.W.106.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kk

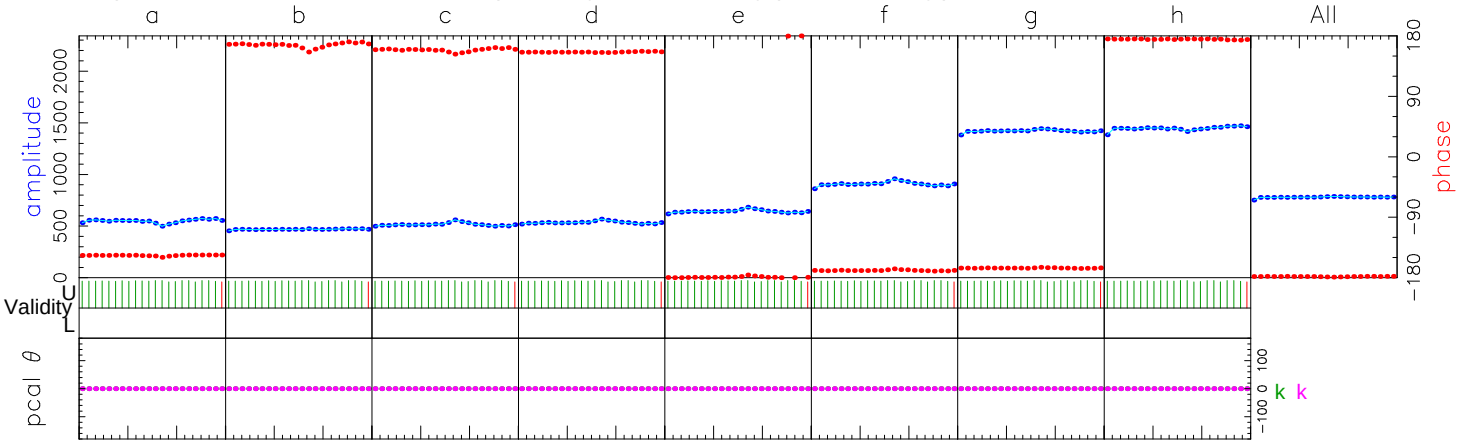
VLBA_KP - VLBA_KP, fgroup W, pol LR



Fringe quality 6

SNR	28382.5
Int time	176.731
Amp	780.723
Phase	-178.2
PFD	0.0e+00
Delays (us)	
SBD	-0.000457
MBD	0.000565
Fringe rate (Hz)	
	-0.000016
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153901
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-146.8	166.4	158.9	155.8	-179.2	-169.0	-165.6	174.8	Phase	-178.2
	549.4	468.1	515.7	535.1	643.3	908.6	1421.2	1445.4	Ampl.	810.9
	256.8	256.6	257.2	257.1	257.6	257.1	257.3	256.2	Sbd box	256.9
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	
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	5.64968750000E-04	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	5.64969E-04	+/-	3.8E-08
Sband delay (usec)	-4.57000000000E-04	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	-4.57000E-04	+/-	3.0E-07
Phase delay (usec)	-5.74773453226E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-5.74773E-06	+/-	1.3E-10
Delay rate (us/s)	-1.91310557288E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	-1.91311E-10	+/-	1.3E-12
Total phase (deg)	-178.2	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-178.2	+/-	0.0

	RMS	Theor.							
			Amplitude	780.723 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	0.3	0.0	Search (1024X32)	777.419	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	0.9	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	21.3	0.0	Inc. seg. avg.	779.724	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	49.0	0.0	Inc. frq. avg.	810.857	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

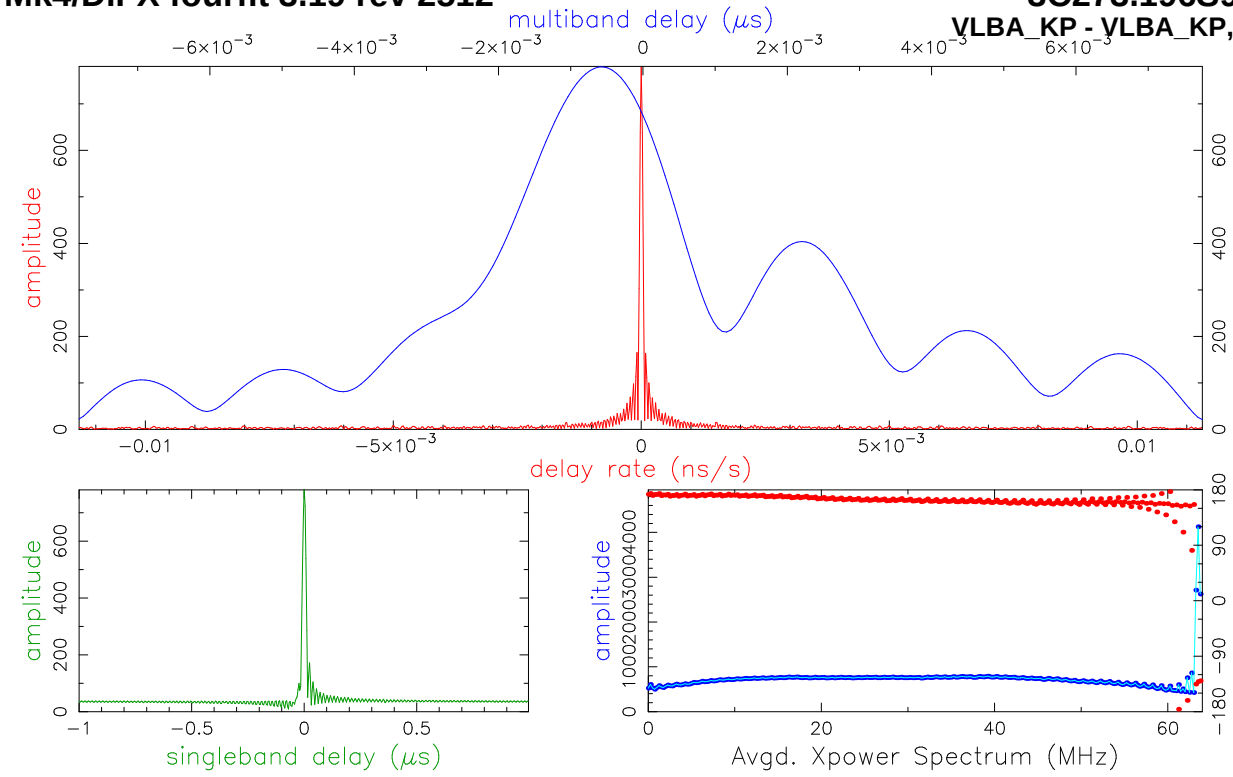
k: az 103.6 el 24.0 pa -55.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kk..196S98 Output file: /Exps/c201e/v1/1234/No0051/kk.W.120.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kk

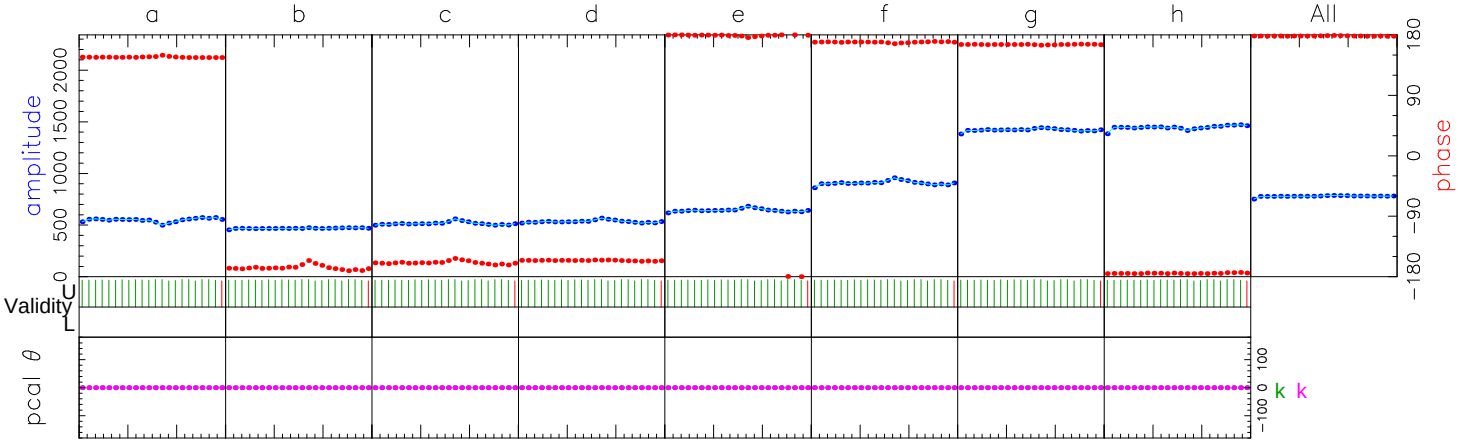
VLBA_KP - VLBA_KP, fgroup W, pol RL



Fringe quality 6

SNR	28382.5
Int time	176.731
Amp	780.723
Phase	178.2
PFD	0.0e+00
Delays (us)	
SBD	0.000457
MBD	-0.000565
Fringe rate (Hz)	
	0.000016
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153903
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	146.8	-166.4	-158.9	-155.8	179.2	169.0	165.6	-174.8	Phase	178.2
	549.4	468.1	515.7	535.1	643.3	908.6	1421.2	1445.4	Ampl.	810.9
	257.2	257.4	256.8	256.9	256.4	256.9	256.7	257.8	Sbd box	257.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl 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 Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-5.64968750000E-04	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	-5.64969E-04	+/-	3.8E-08
Sband delay (usec)	4.57000000000E-04	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	4.57000E-04	+/-	3.0E-07
Phase delay (usec)	5.74773453226E-06	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	5.74773E-06	+/-	1.3E-10
Delay rate (us/s)	1.91310557288E-10	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	1.91311E-10	+/-	1.3E-12
Total phase (deg)	178.2	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	178.2	+/-	0.0

	RMS	Theor.						
			Amplitude	780.723 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.3	0.0	Search (1024X32)	777.420	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	0.9	0.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	21.3	0.0	Inc. seg. avg.	779.725	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	49.0	0.0	Inc. frq. avg.	810.858	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

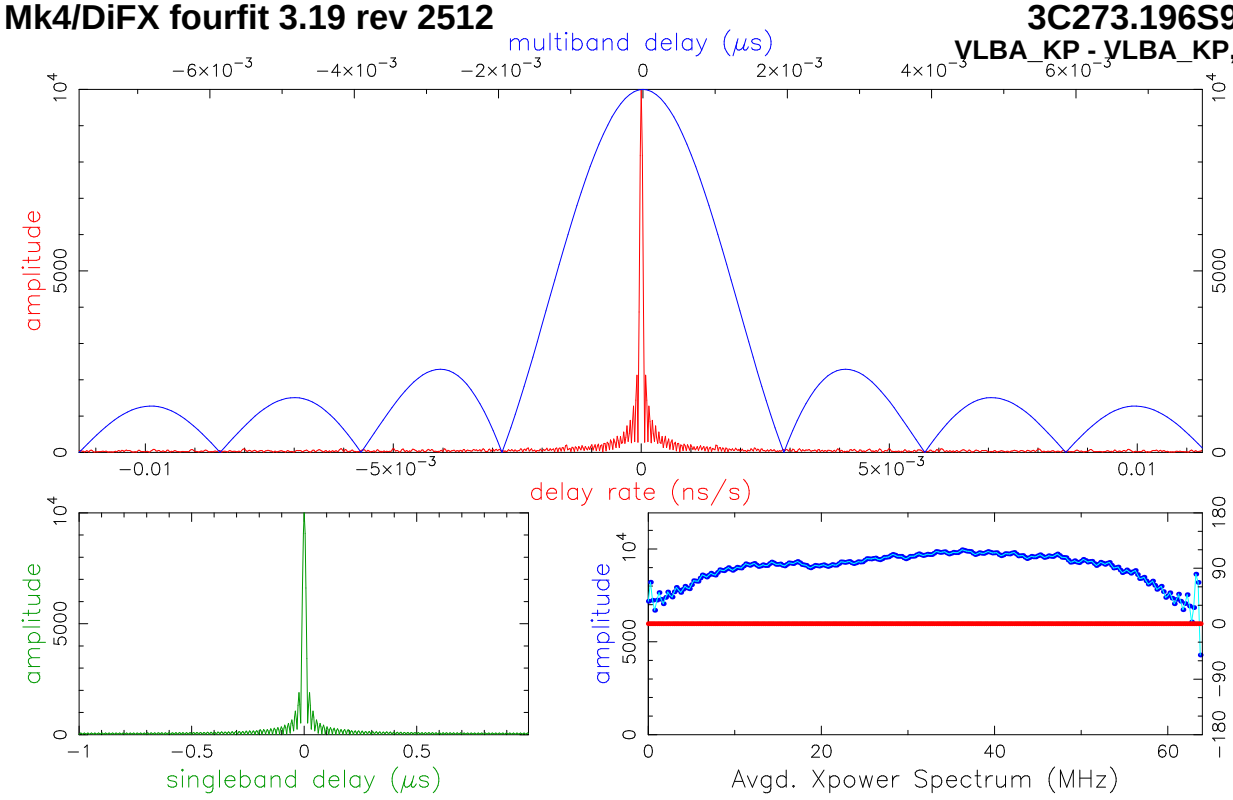
k: az 103.6 el 24.0 pa -55.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kk..196S98 Output file: /Exps/c201e/v1/1234/No0051/kk.W.134.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kk

VLBA_KP - VLBA_KP, fgroup W, pol LL

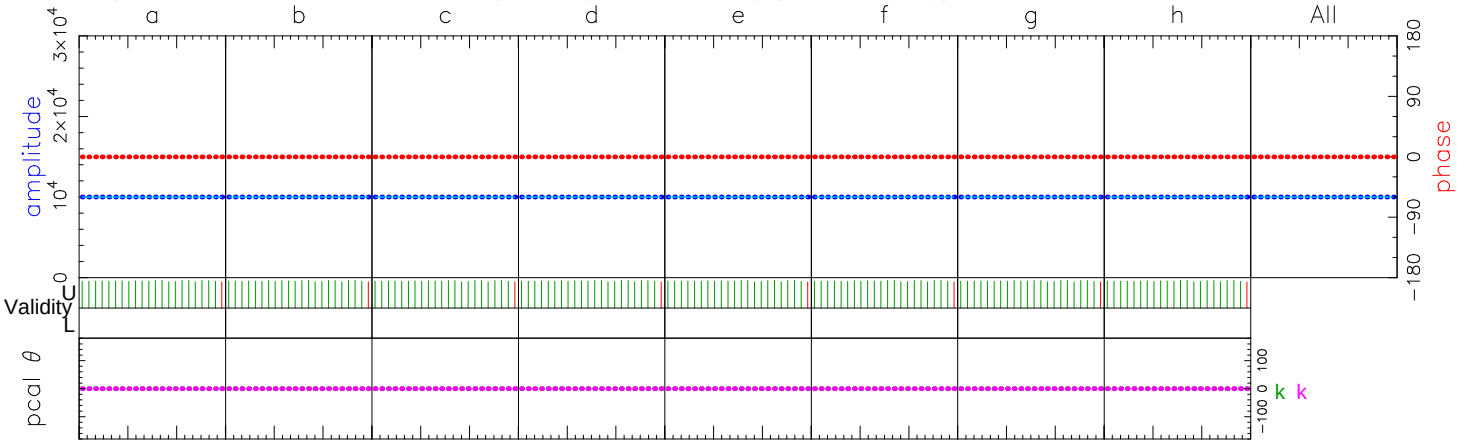


Fringe quality 9

SNR 363541.3
Int time 176.731
Amp 10000.004
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. c201e
Exper # 16383
Yr:day 2020:119
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:206:025257
2020:206:153856
2020:014:135814
RA & Dec (J2000)
12h29m06.699731s
+02°03'08.598201"

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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	0.00000000000E+00	Apriori delay (usec)	0.00000000000E+00	Resid mbdelay (usec)	0.00000E+00	+/-	3.0E-09
Sband delay (usec)	0.00000000000E+00	Apriori clock (usec)	0.0000000E+00	Resid sbdelay (usec)	0.00000E+00	+/-	2.4E-08
Phase delay (usec)	-2.30115576823E-20	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-2.30116E-20	+/-	1.0E-11
Delay rate (us/s)	0.00000000000E+00	Apriori rate (us/s)	0.00000000000E+00	Resid rate (us/s)	0.00000E+00	+/-	9.8E-14
Total phase (deg)	-0.0	Apriori accel (us/s/s)	0.00000000000E+00	Resid phase (deg)	-0.0	+/-	0.0

	RMS	Theor.						
			Amplitude	10000.004 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	0.0	0.0	Search (1024X32)	10000.003	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(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	0.0	0.0	Inc. frq. avg.	10000.003	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

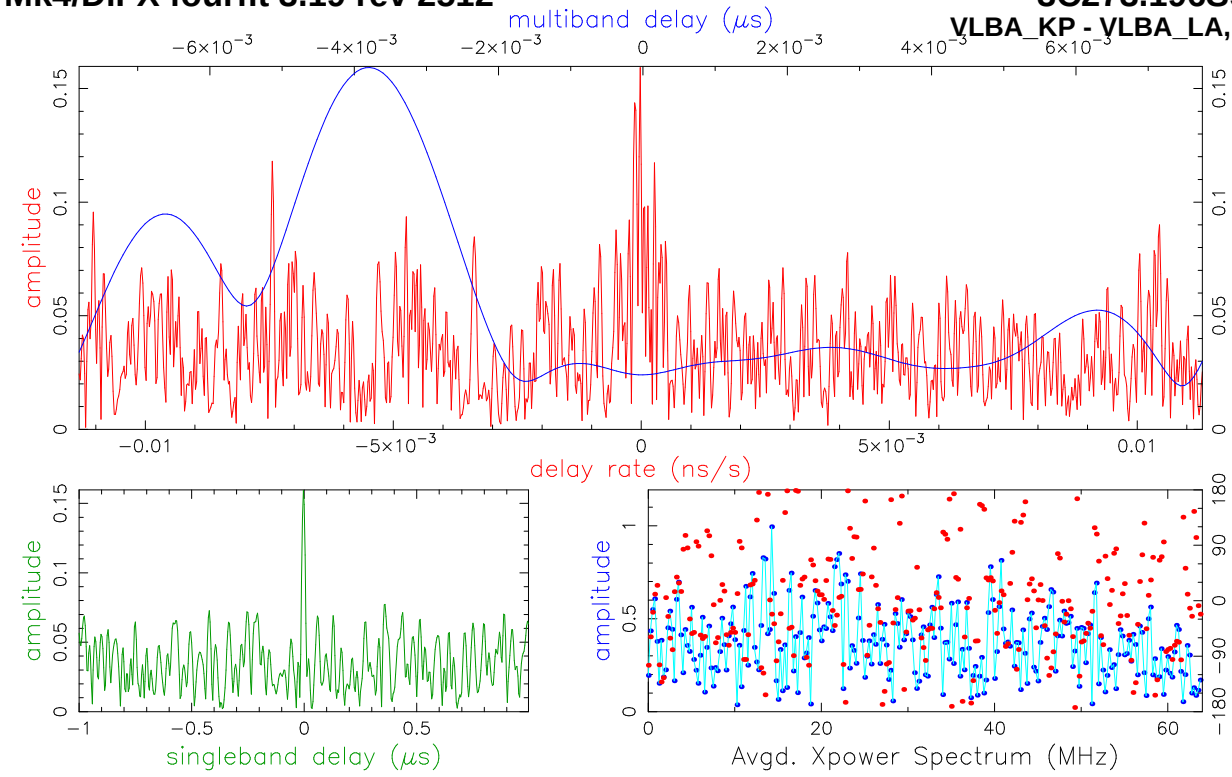
k: az 103.6 el 24.0 pa -55.6 k: az 103.6 el 24.0 pa -55.6 u,v (fr/asec) 0.000 0.000 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kk..196S98 Output file: /Exps/c201e/v1/1234/No0051/kk.W.91.196S98

Mk4/DiFX fourfit 3.19 rev 2512

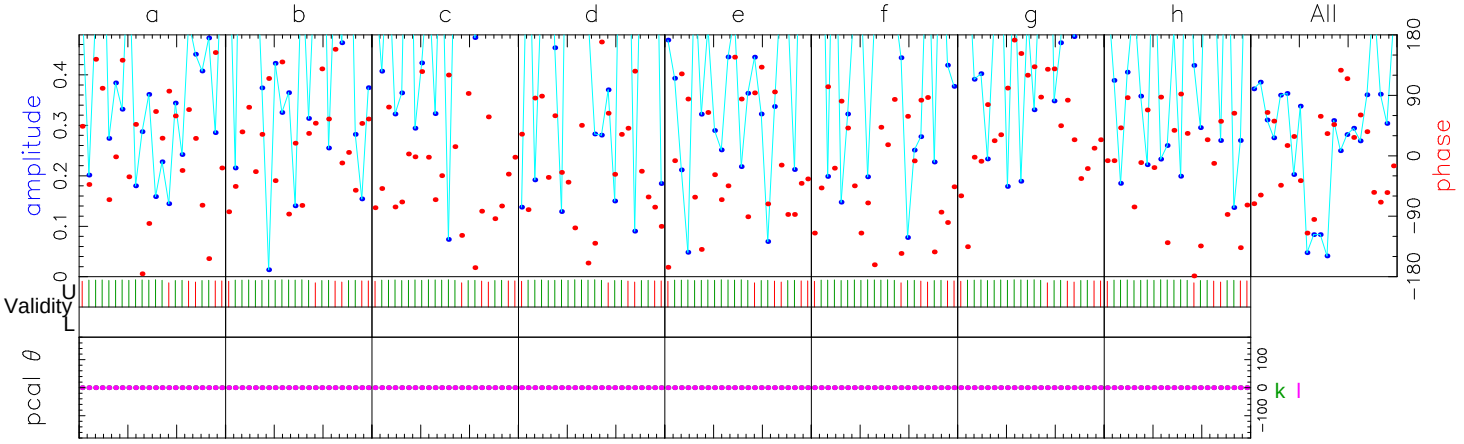
3C273.196S98, No0051, kl

VLBA_KP - VLBA_LA, fgroup W, pol RR



Fringe quality	0
SNR	5.8
Int time	173.438
Amp	0.160
Phase	-6.6
PFD	6.6e-01
Delays (us)	
SBD	-0.003222
MBD	-0.003780
Fringe rate (Hz)	
	-0.002583
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153858
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	36.2	16.4	-26.6	-22.2	-41.7	-47.1	39.8	-7.9	Phase	-6.6
	0.1	0.2	0.3	0.2	0.1	0.1	0.2	0.2	Ampl.	0.2
	32.9	450.0	169.5	185.4	389.6	145.6	200.1	250.3	Sbd box	256.2
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	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	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	
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-1.06598240336E+03	Apriori delay (usec)	-1.06597862372E+03	Resid mbdelay (usec)	-3.77964E-03	+/-	1.9E-04
Sband delay (usec)	-1.06598184572E+03	Apriori clock (usec)	3.3946819E+00	Resid sbdelay (usec)	-3.22200E-03	+/-	1.5E-03
Phase delay (usec)	-1.06597862393E+03	Apriori clockrate (us/s)	1.5640000E-07	Resid phdelay (usec)	-2.12847E-07	+/-	6.4E-07
Delay rate (us/s)	1.10467783229E-01	Apriori rate (us/s)	1.10467813212E-01	Resid rate (us/s)	-2.99833E-08	+/-	6.2E-09
Total phase (deg)	-239.6	Apriori accel (us/s/s)	5.47484668822E-06	Resid phase (deg)	-6.6	+/-	19.9

	RMS	Theor.						
			Amplitude	0.160 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	65.9	46.7	Search (1024X32)	0.153	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	114.5	81.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	36.6	28.2	Inc. seg. avg.	0.216	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	37.2	49.2	Inc. frq. avg.	0.163	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

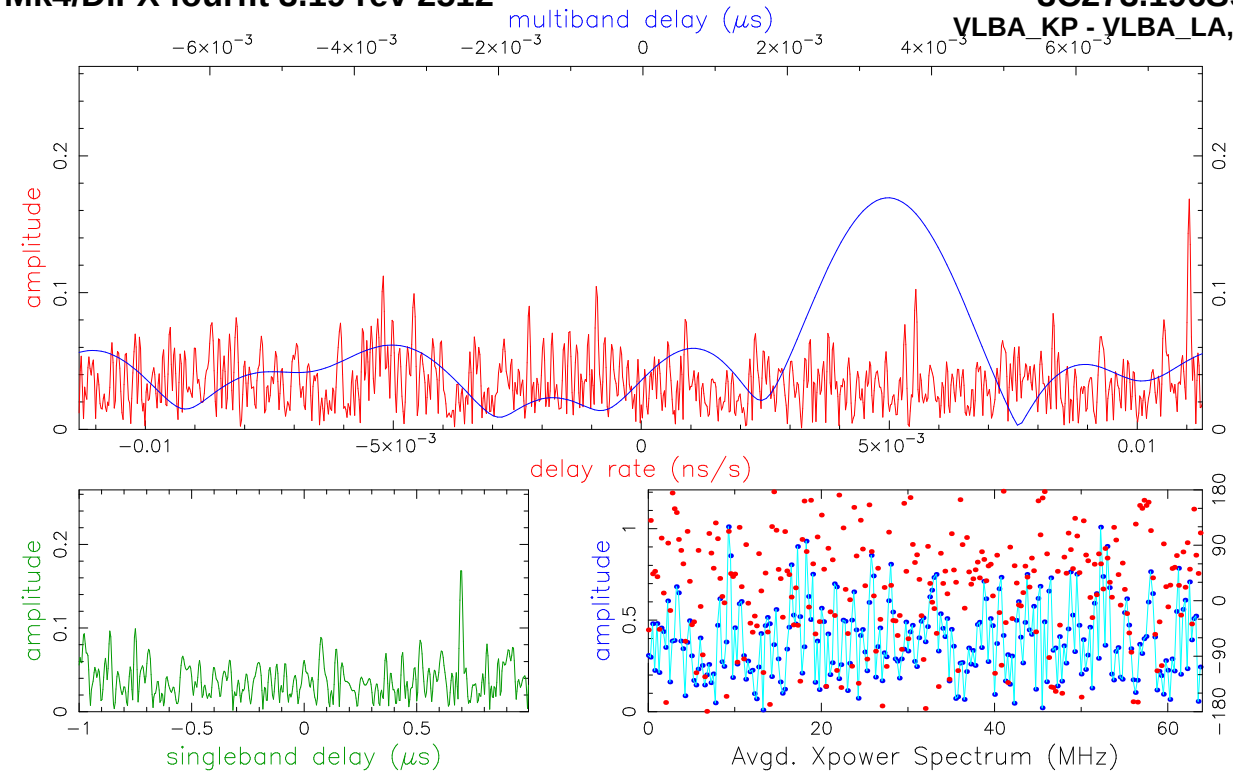
k: az 103.6 el 24.0 pa -55.6 l: az 108.9 el 27.2 pa -50.1 u,v (fr/asec) -630.341 -474.915 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kl..196S98 Output file: /Exps/c201e/v1/1234/No0051/kl.W.103.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kl

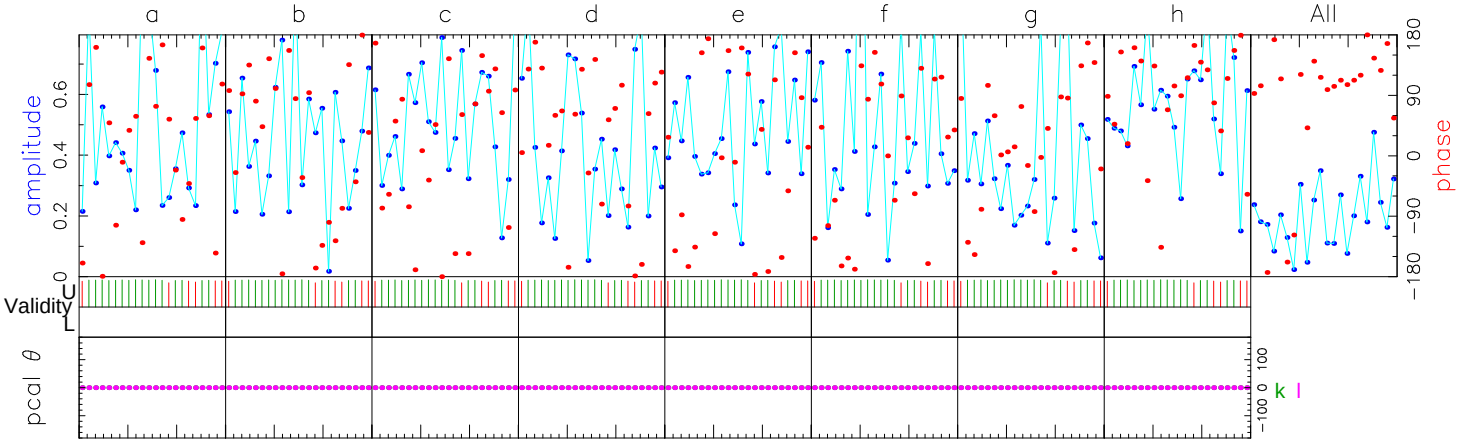
VLBA_KP - VLBA_LA, fgroup W, pol LR



Fringe quality 0

SNR	6.2
Int time	173.438
Amp	0.265
Phase	124.5
PFD	6.1e-02
Delays (us)	
SBD	0.697266
MBD	0.003506
Fringe rate (Hz)	
	0.953275
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153901
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	138.0	121.3	117.6	123.5	168.3	128.2	81.5	119.5	Phase	124.5
	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.5	Ampl.	0.2
	426.1	7.5	413.7	486.8	277.9	249.2	387.4	435.6	Sbd box	435.5
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	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	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	
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-1.06528761752E+03	Apriori delay (usec)	-1.06597862372E+03	Resid mbdelay (usec)	3.50620E-03	+/-	1.7E-04
Sband delay (usec)	-1.06528135797E+03	Apriori clock (usec)	3.3946819E+00	Resid sbdelay (usec)	6.97266E-01	+/-	1.4E-03
Phase delay (usec)	-1.06597861971E+03	Apriori clockrate (us/s)	1.5640000E-07	Resid phdelay (usec)	4.01533E-06	+/-	5.9E-07
Delay rate (us/s)	1.10478879790E-01	Apriori rate (us/s)	1.10467813212E-01	Resid rate (us/s)	1.10666E-05	+/-	5.7E-09
Total phase (deg)	-108.5	Apriori accel (us/s/s)	5.47484668822E-06	Resid phase (deg)	124.5	+/-	18.4

	RMS	Theor.							
			Amplitude	0.265 +/- 0.043	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	46.2	43.1	Search (1024X32)	0.166	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	65.1	75.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	26.0	26.0	Inc. seg. avg.	0.242	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	30.0	45.4	Inc. frq. avg.	0.249	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

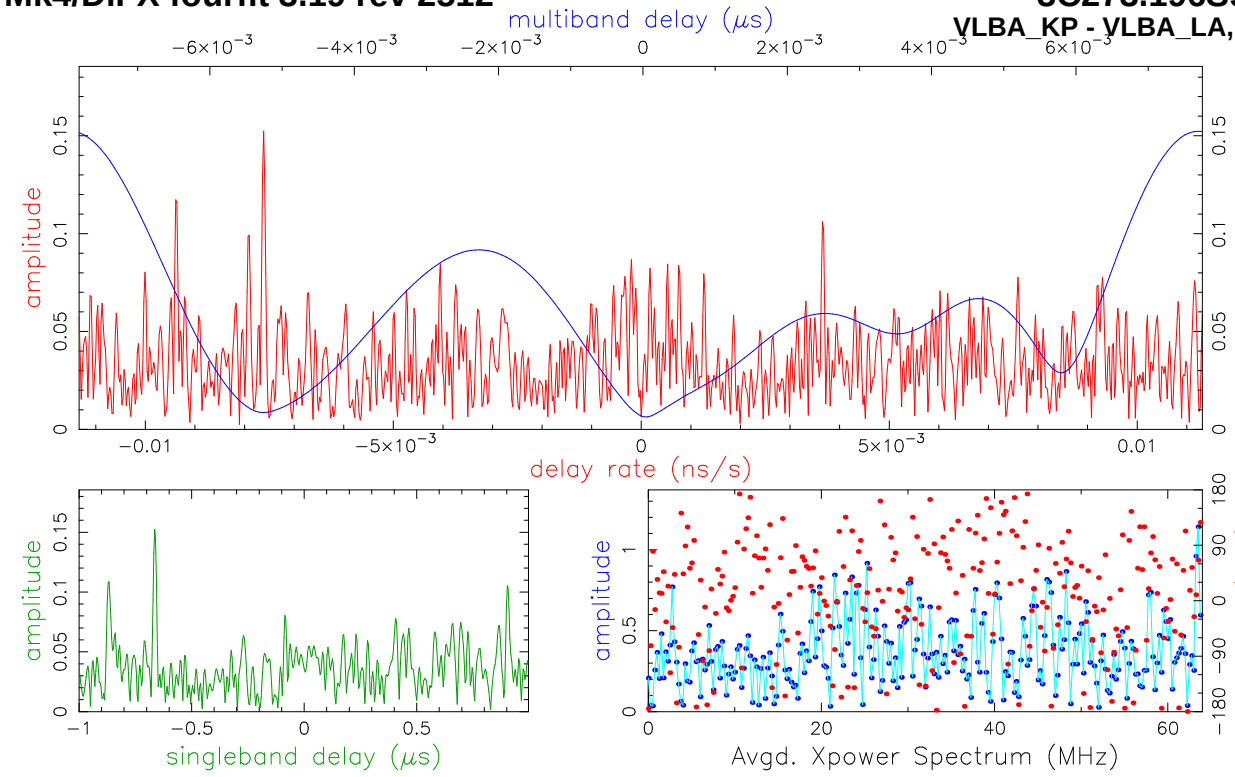
k: az 103.6 el 24.0 pa -55.6 l: az 108.9 el 27.2 pa -50.1 u,v (fr/asec) -630.341 -474.915 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kl..196S98 Output file: /Exps/c201e/v1/1234/No0051/kl.W.121.196S98

Mk4/DiFX fourfit 3.19 rev 2512

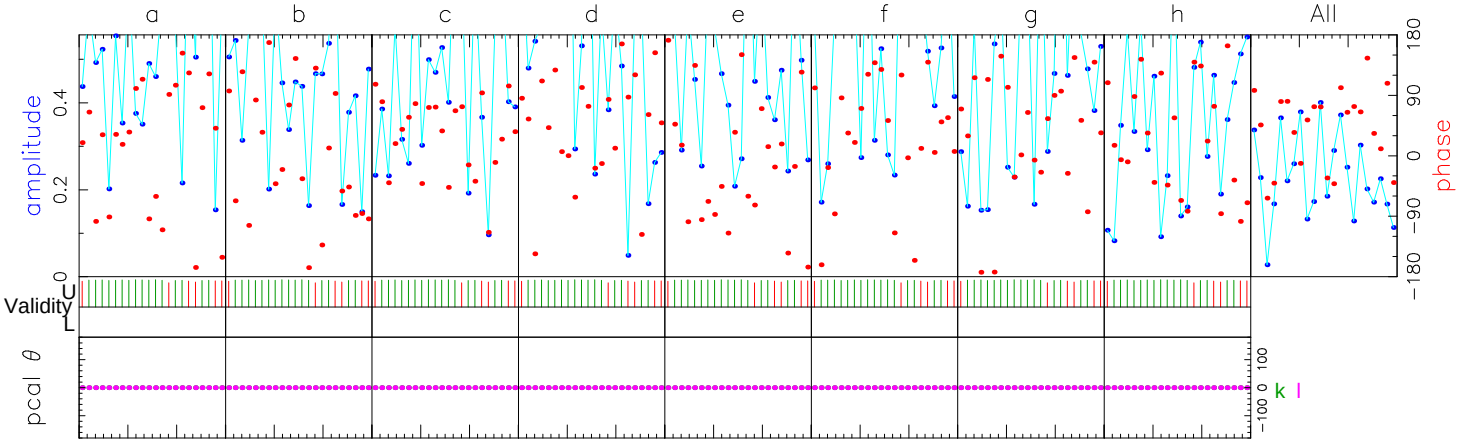
3C273.196S98, No0051, kl

VLBA_KP - VLBA_LA, fgroup W, pol RL



Fringe quality	0
SNR	5.5
Int time	173.438
Amp	0.185
Phase	52.7
PFD	9.9e-01
Delays (us)	
SBD	-0.663341
MBD	-0.007919
Fringe rate (Hz)	
	-0.656906
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153902
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	84.5	2.5	41.7	59.3	-44.6	70.9	75.9	24.3	Phase	52.7
	0.2	0.1	0.4	0.3	0.2	0.3	0.2	0.1	Ampl.	0.2
	35.2	129.9	87.0	282.9	349.2	99.6	426.9	473.6	Sbd box	87.2
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	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	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	
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-1.06664279322E+03	Apriori delay (usec)	-1.06597862372E+03	Resid mbdelay (usec)	-7.91950E-03	+/-	2.0E-04
Sband delay (usec)	-1.06664196422E+03	Apriori clock (usec)	3.3946819E+00	Resid sbdelay (usec)	-6.63341E-01	+/-	1.6E-03
Phase delay (usec)	-1.06597862202E+03	Apriori clockrate (us/s)	1.5640000E-07	Resid phdelay (usec)	1.70021E-06	+/-	6.7E-07
Delay rate (us/s)	1.10460187181E-01	Apriori rate (us/s)	1.10467813212E-01	Resid rate (us/s)	-7.62603E-06	+/-	6.5E-09
Total phase (deg)	-180.3	Apriori accel (us/s/s)	5.47484668822E-06	Resid phase (deg)	52.7	+/-	20.8

	RMS	Theor.							
			Amplitude	0.185 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	57.4	48.8	Search (1024X32)	0.147	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	81.1	85.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	49.7	29.4	Inc. seg. avg.	0.206	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	57.0	51.4	Inc. frq. avg.	0.196	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

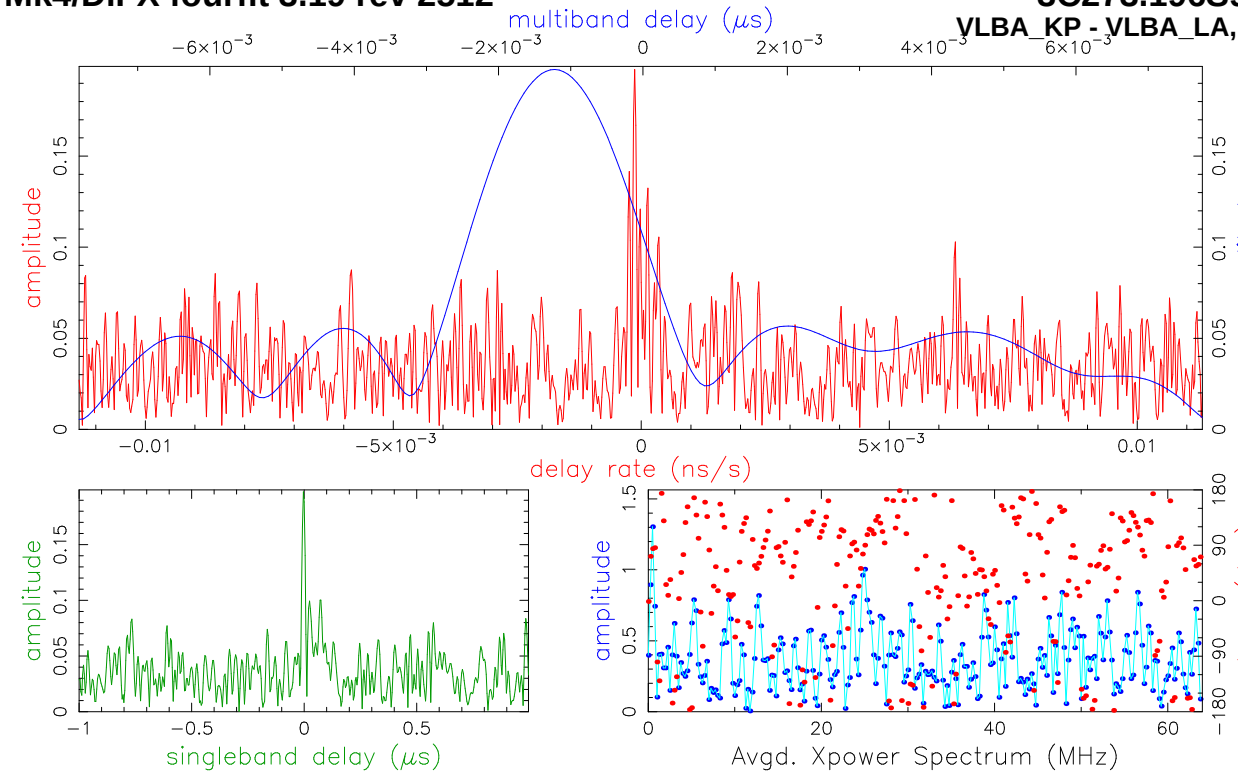
k: az 103.6 el 24.0 pa -55.6 l: az 108.9 el 27.2 pa -50.1 u,v (fr/asec) -630.341 -474.915 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kl..196S98 Output file: /Exps/c201e/v1/1234/No0051/kl.W.132.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kl

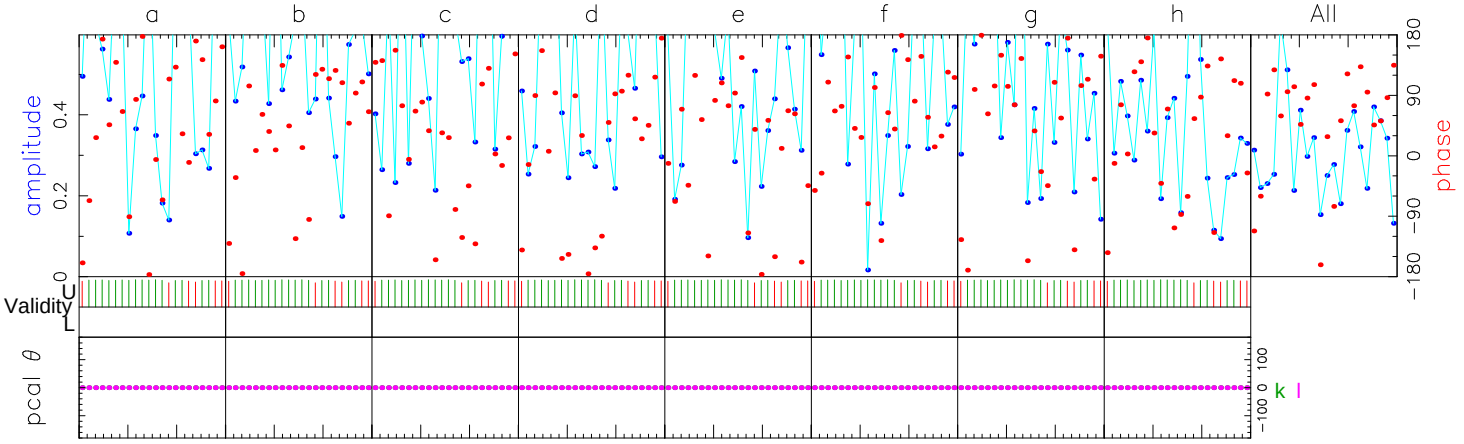
VLBA_KP - VLBA_LA, fgroup W, pol LL



Fringe quality 0

SNR	7.2
Int time	173.438
Amp	0.199
Phase	81.1
PFD	1.1e-04
Delays (us)	
SBD	-0.002803
MBD	-0.001228
Fringe rate (Hz)	
	-0.012248
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153855
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	105.2	76.3	62.7	93.2	59.9	63.8	115.4	66.8	Phase	81.1
	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.1	Ampl.	0.2
	241.7	18.5	176.4	277.4	180.2	256.3	256.8	183.5	Sbd box	256.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:l	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	
l	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-1.06597985136E+03	Apriori delay (usec)	-1.06597862372E+03	Resid mbdelay (usec)	-1.22764E-03	+/-	1.5E-04
Sband delay (usec)	-1.06598142647E+03	Apriori clock (usec)	3.3946819E+00	Resid sbdelay (usec)	-2.80275E-03	+/-	1.2E-03
Phase delay (usec)	-1.06597862111E+03	Apriori clockrate (us/s)	1.5640000E-07	Resid phdelay (usec)	2.61398E-06	+/-	5.1E-07
Delay rate (us/s)	1.10467671029E-01	Apriori rate (us/s)	1.10467813212E-01	Resid rate (us/s)	-1.42183E-07	+/-	4.9E-09
Total phase (deg)	-152.0	Apriori accel (us/s/s)	5.47484668822E-06	Resid phase (deg)	81.1	+/-	16.0

	RMS	Theor.		
			Amplitude	0.199 +/- 0.028
ph/seg (deg)	68.9	37.4	Search (1024X32)	0.189
amp/seg (%)	81.9	65.4	Interp.	0.000
ph/frq (deg)	23.2	22.6	Inc. seg. avg.	0.258
amp/frq (%)	30.1	39.4	Inc. frq. avg.	0.196

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

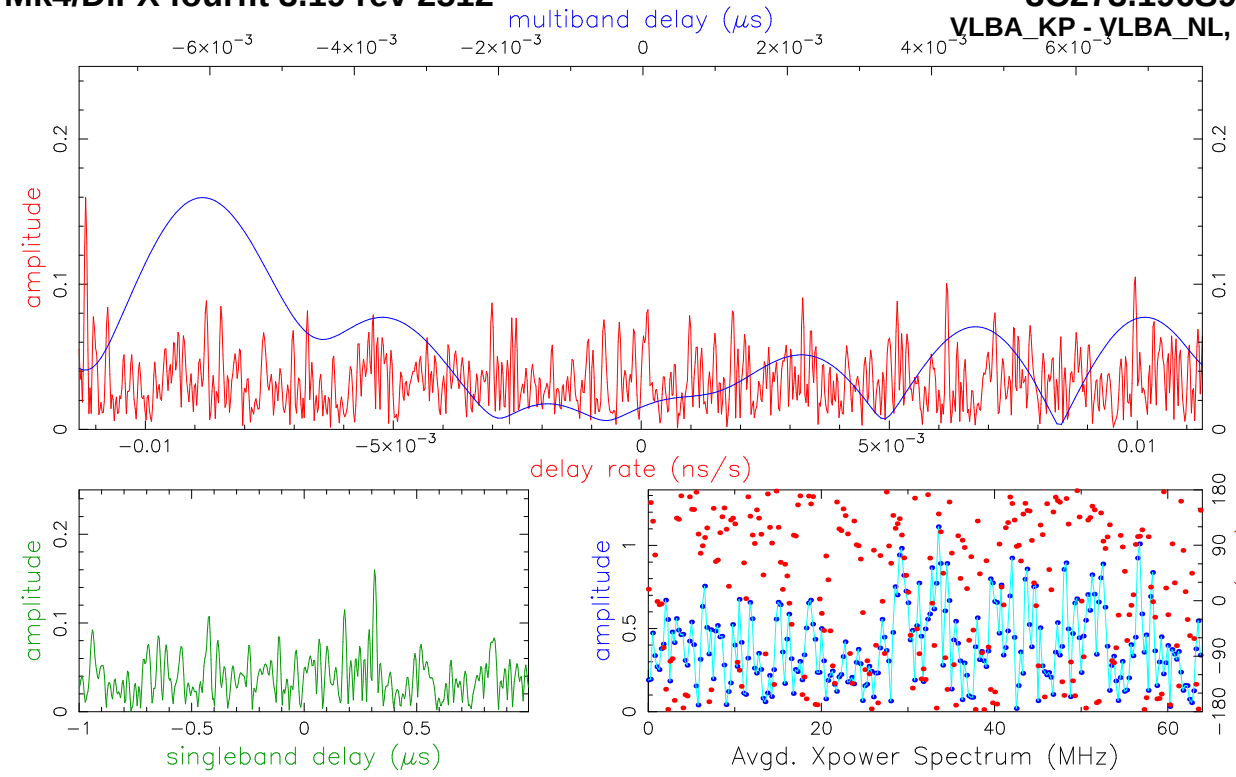
k: az 103.6 el 24.0 pa -55.6 l: az 108.9 el 27.2 pa -50.1 u,v (fr/asec) -630.341 -474.915 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kl..196S98 Output file: /Exps/c201e/v1/1234/No0051/kl.W.86.196S98

Mk4/DiFX fourfit 3.19 rev 2512

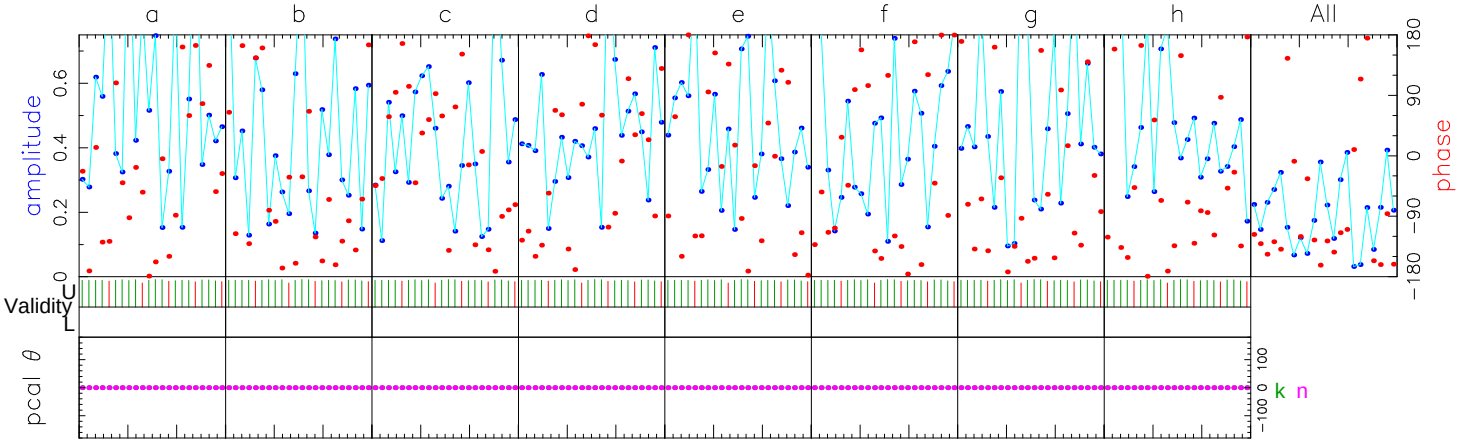
3C273.196S98, No0051, kn

VLBA_KP - VLBA_NL, fgroup W, pol RR



Fringe quality	0
SNR	5.8
Int time	173.241
Amp	0.250
Phase	-133.4
PFD	6.0e-01
Delays (us)	
SBD	0.313498
MBD	-0.006091
Fringe rate (Hz)	
	-0.967146
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153859
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-112.2	-151.8	7.4	-138.3	-156.3	-138.3	-115.1	-137.7	Phase	-133.4
	0.3	0.3	0.0	0.1	0.2	0.4	0.4	0.5	Ampl.	0.2
	16.2	47.6	246.5	195.5	275.2	330.6	337.3	355.0	Sbd box	337.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-3.48802764087E+03	Apriori delay (usec)	-3.48833405023E+03	Resid mbdelay (usec)	-6.09064E-03	+/-	1.9E-04
Sband delay (usec)	-3.48802055173E+03	Apriori clock (usec)	-3.2675880E+01	Resid sbdelay (usec)	3.13498E-01	+/-	1.5E-03
Phase delay (usec)	-3.48833405453E+03	Apriori clockrate (us/s)	-3.2859999E-07	Resid phdelay (usec)	-4.30033E-06	+/-	6.4E-07
Delay rate (us/s)	3.87337364023E-01	Apriori rate (us/s)	3.87348591634E-01	Resid rate (us/s)	-1.12276E-05	+/-	6.1E-09
Total phase (deg)	-164.7	Apriori accel (us/s/s)	1.78527535390E-05	Resid phase (deg)	-133.4	+/-	19.8

	RMS	Theor.							
			Amplitude	0.250 +/- 0.043	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	58.7	46.5	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	70.0	81.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	59.9	28.0	Inc. seg. avg.	0.231	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	52.8	48.9	Inc. frq. avg.	0.237	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

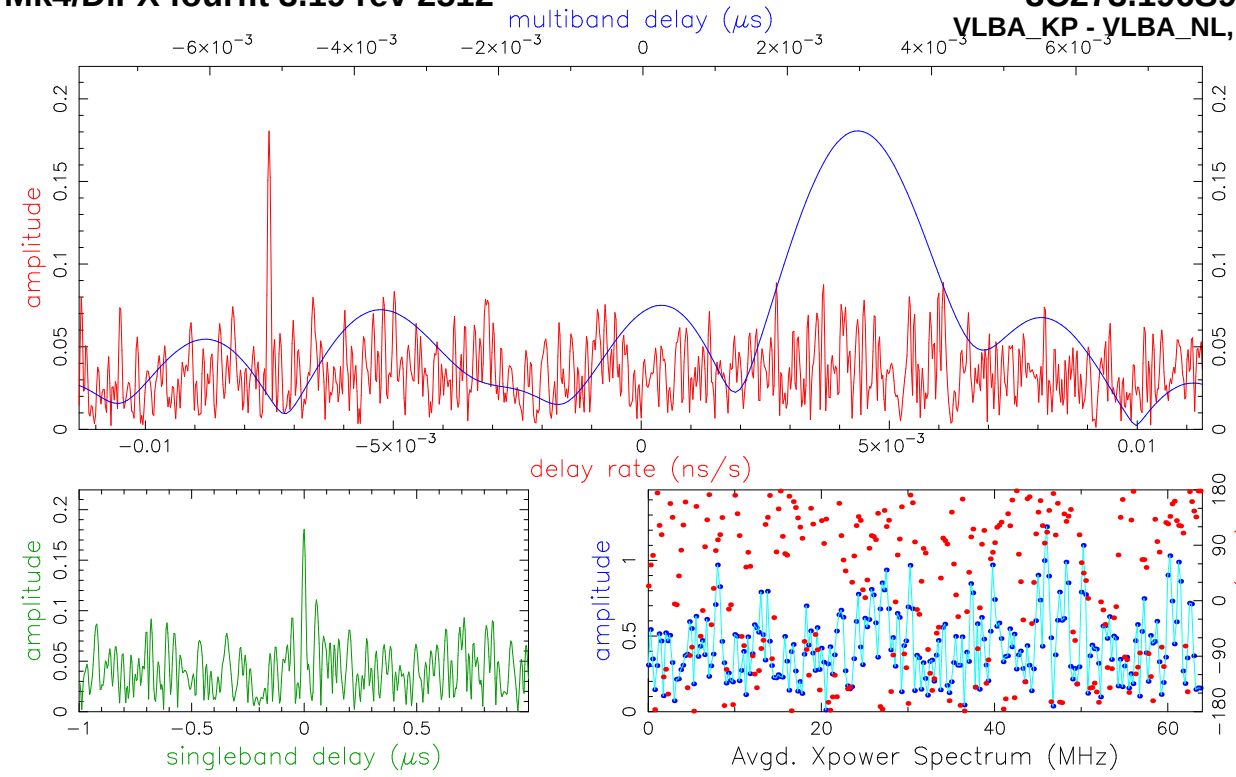
k: az 103.6 el 24.0 pa -55.6 n: az 124.5 el 34.8 pa -38.0 u,v (fr/asec) -2210.826 -1162.011 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kn..196S98 Output file: /Exps/c201e/v1/1234/No0051/kn.W.112.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kn

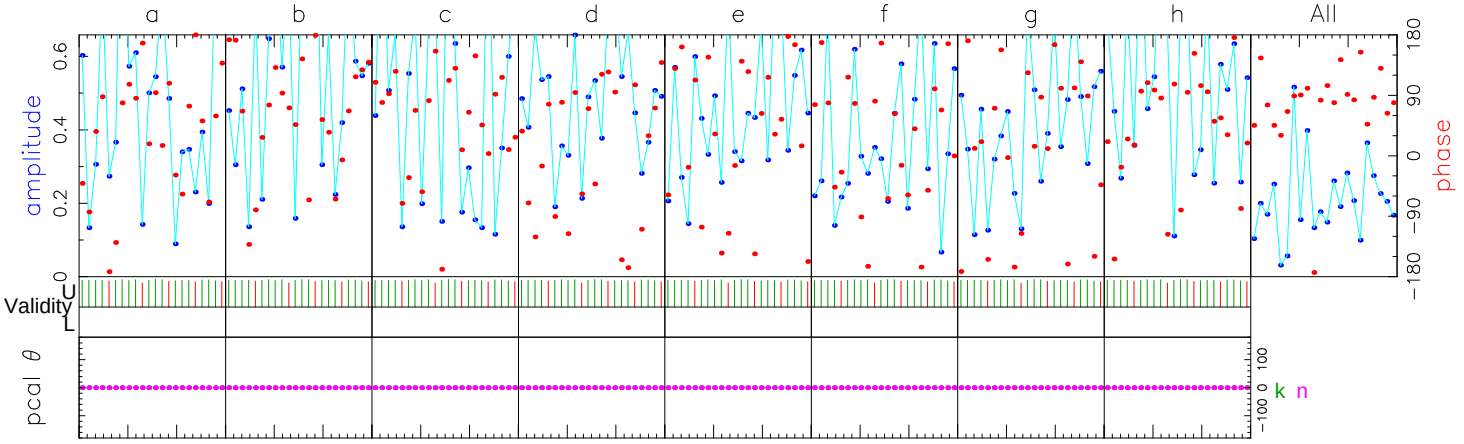
VLBA_KP - VLBA_NL, fgroup W, pol LR



Fringe quality 0

SNR	6.6
Int time	173.241
Amp	0.220
Phase	89.6
PFD	8.0e-03
Delays (us)	
SBD	-0.001171
MBD	0.002940
Fringe rate (Hz)	
	-0.647233
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153902
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	73.8	106.0	77.5	101.1	114.1	75.1	124.4	74.2	Phase	89.6
	0.3	0.3	0.4	0.1	0.1	0.1	0.2	0.3	Ampl.	0.2
	470.0	273.7	256.7	108.0	501.8	393.4	21.4	119.9	Sbd box	256.7
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
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	Manl 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 Tracks	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-3.48833111028E+03	Apriori delay (usec)	-3.48833405023E+03	Resid mbdelay (usec)	2.93995E-03	+/-	1.7E-04
Sband delay (usec)	-3.48833522148E+03	Apriori clock (usec)	-3.2675880E+01	Resid sbdelay (usec)	-1.17125E-03	+/-	1.3E-03
Phase delay (usec)	-3.48833404734E+03	Apriori clockrate (us/s)	-3.2859999E-07	Resid phdelay (usec)	2.88896E-06	+/-	5.6E-07
Delay rate (us/s)	3.87341077898E-01	Apriori rate (us/s)	3.87348591634E-01	Resid rate (us/s)	-7.51374E-06	+/-	5.4E-09
Total phase (deg)	58.2	Apriori accel (us/s/s)	1.78527535390E-05	Resid phase (deg)	89.6	+/-	17.5

	RMS	Theor.					
			Amplitude	0.220 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	37.8	41.0	Search (1024X32)	0.173	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	62.5	71.6	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	22.6	24.7	Inc. seg. avg.	0.203	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	39.0	43.2	Inc. frq. avg.	0.210	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

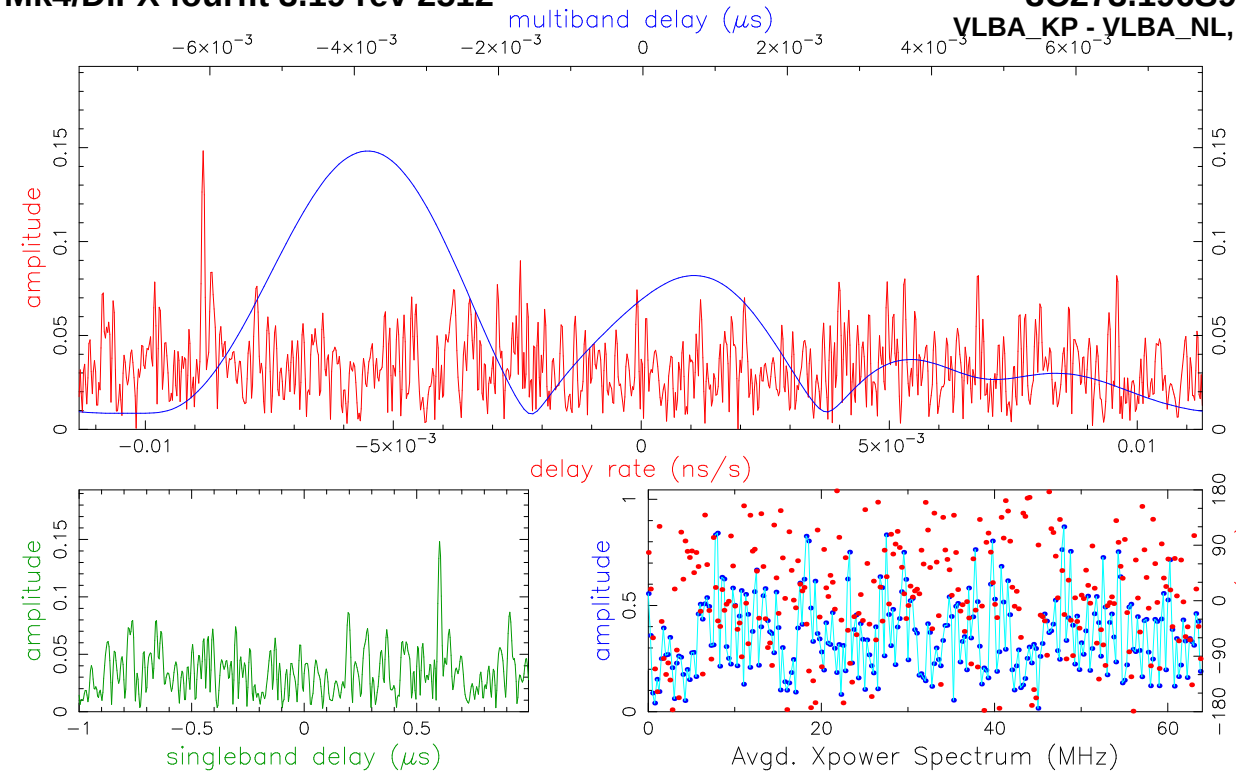
k: az 103.6 el 24.0 pa -55.6 n: az 124.5 el 34.8 pa -38.0 u,v (fr/asec) -2210.826 -1162.011 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kn..196S98 Output file: /Exps/c201e/v1/1234/No0051/kn.W.127.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kn

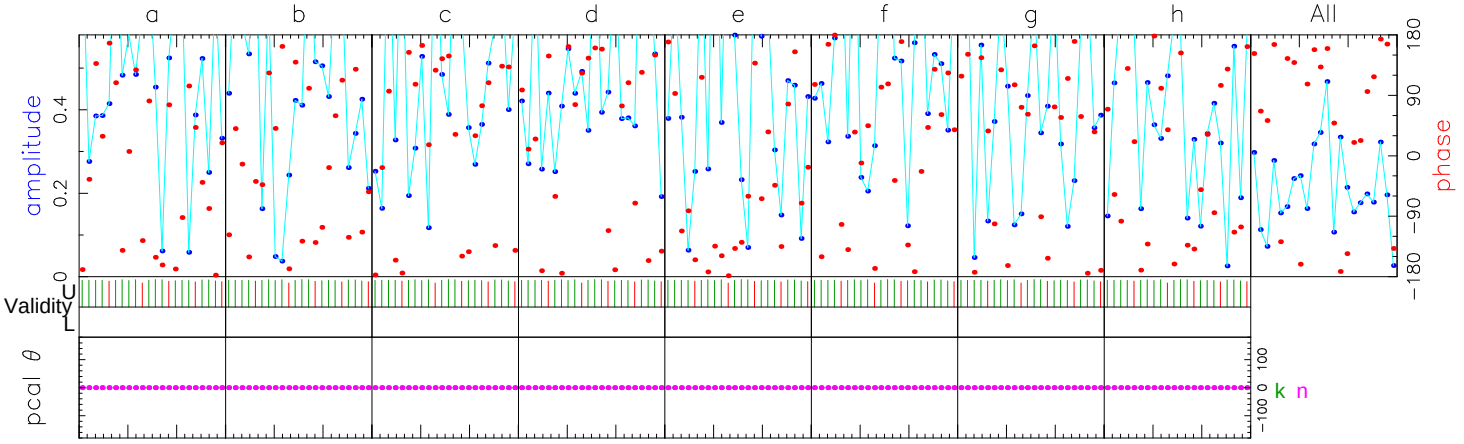
VLBA_KP - VLBA_NL, fgroup W, pol RL



Fringe quality 0

SNR	5.3
Int time	173.242
Amp	0.193
Phase	150.9
PFD	1.0e+00
Delays (us)	
SBD	0.601699
MBD	-0.003812
Fringe rate (Hz)	
	-0.763065
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153906
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	162.3	147.5	145.1	149.9	-177.6	106.2	135.8	-162.4	Phase	150.9
	0.1	0.0	0.3	0.3	0.2	0.2	0.3	0.1	Ampl.	0.2
	490.2	142.2	152.6	368.9	467.4	205.5	305.7	217.0	Sbd box	411.0
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	
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-3.48772848759E+03	Apriori delay (usec)	-3.48833405023E+03	Resid mbdelay (usec)	-3.81236E-03	+/-	2.0E-04
Sband delay (usec)	-3.48773235148E+03	Apriori clock (usec)	-3.2675880E+01	Resid sbdelay (usec)	6.01699E-01	+/-	1.6E-03
Phase delay (usec)	-3.48833404537E+03	Apriori clockrate (us/s)	-3.2859999E-07	Resid phdelay (usec)	4.86577E-06	+/-	6.9E-07
Delay rate (us/s)	3.87339733206E-01	Apriori rate (us/s)	3.87348591634E-01	Resid rate (us/s)	-8.85843E-06	+/-	6.7E-09
Total phase (deg)	119.5	Apriori accel (us/s/s)	1.78527535390E-05	Resid phase (deg)	150.9	+/-	21.5

	RMS	Theor.						
			Amplitude	0.193 +/- 0.036	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	63.4	50.4	Search (1024X32)	0.147	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	82.3	87.9	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	30.5	30.4	Inc. seg. avg.	0.204	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	55.3	53.0	Inc. frq. avg.	0.185	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

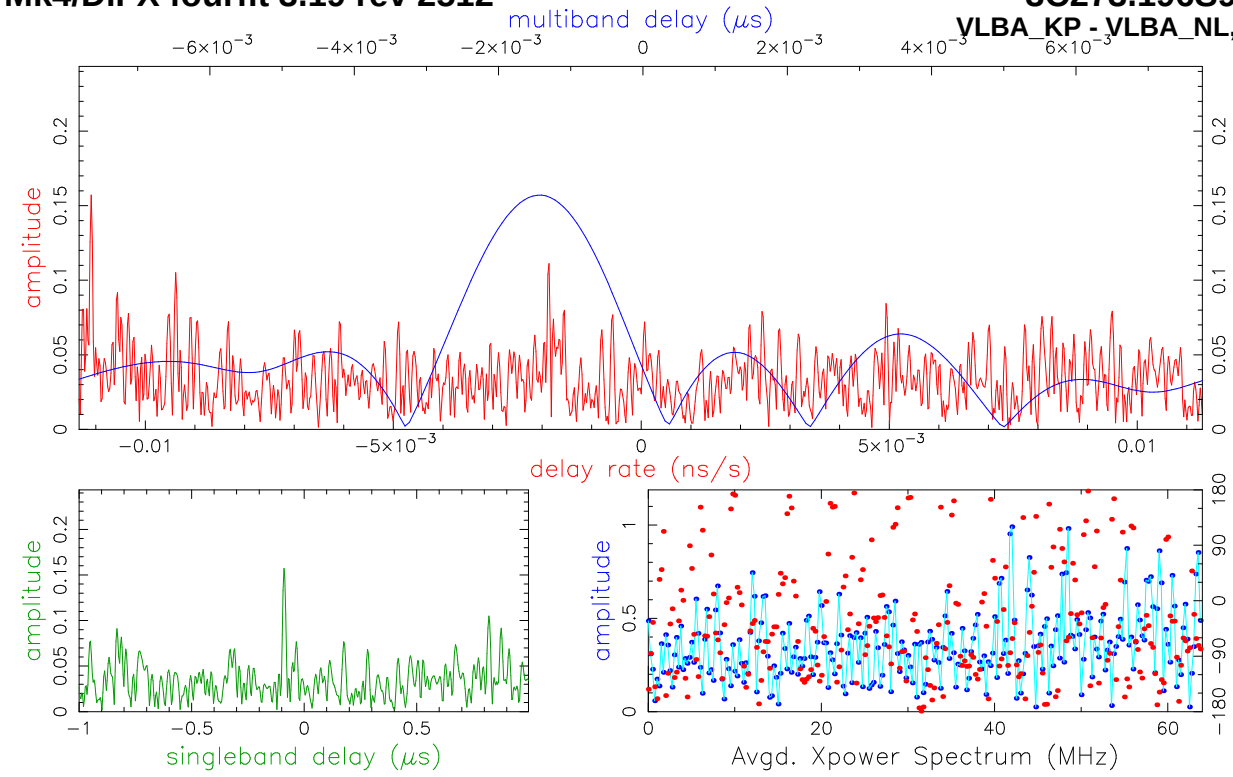
k: az 103.6 el 24.0 pa -55.6 n: az 124.5 el 34.8 pa -38.0 u,v (fr/asec) -2210.826 -1162.011 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kn..196S98 Output file: /Exps/c201e/v1/1234/No0051/kn.W.152.196S98

Mk4/DiFX fourfit 3.19 rev 2512

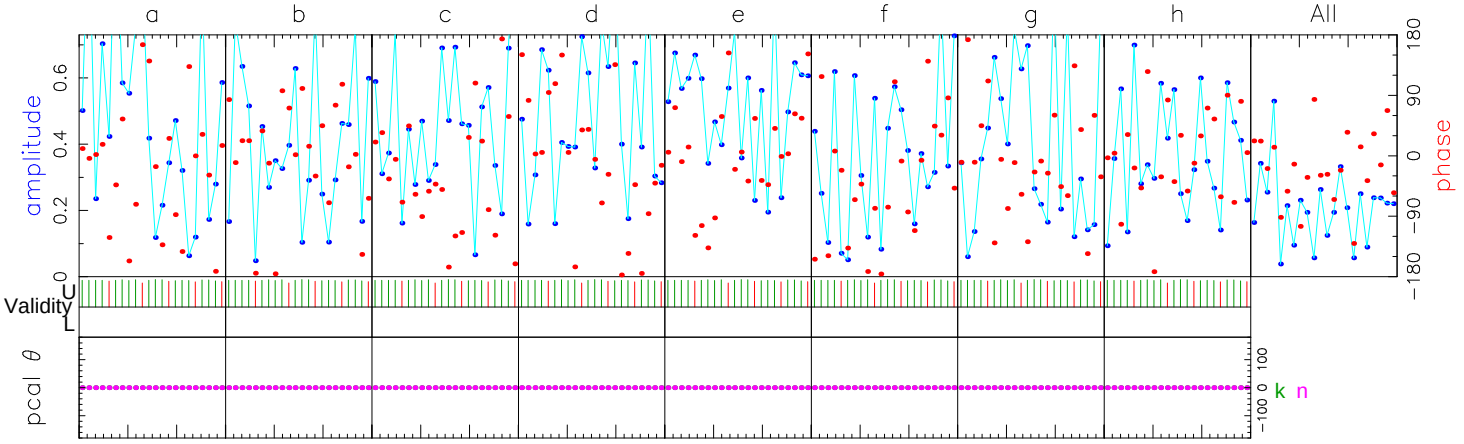
3C273.196S98, No0051, kn

VLBA_KP - VLBA_NL, fgroup W, pol LL



Fringe quality	0
SNR	5.7
Int time	173.242
Amp	0.243
Phase	-9.8
PFD	8.0e-01
Delays (us)	
SBD	-0.088983
MBD	-0.001421
Fringe rate (Hz)	
	-0.957565
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153857
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-17.1	13.0	-49.6	1.4	6.4	-25.9	-26.9	4.5	Phase	-9.8
	0.2	0.4	0.2	0.1	0.3	0.2	0.3	0.3	Ampl.	0.2
	169.7	488.9	466.0	337.7	180.8	269.7	474.7	467.5	Sbd box	234.2
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	Manl 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 Tracks	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-3.48842922106E+03	Apriori delay (usec)	-3.48833405023E+03	Resid mbdelay (usec)	-1.42083E-03	+/-	1.9E-04
Sband delay (usec)	-3.48842303348E+03	Apriori clock (usec)	-3.2675880E+01	Resid sbdelay (usec)	-8.89833E-02	+/-	1.5E-03
Phase delay (usec)	-3.48833405055E+03	Apriori clockrate (us/s)	-3.2859999E-07	Resid phdelay (usec)	-3.17237E-07	+/-	6.5E-07
Delay rate (us/s)	3.87337475251E-01	Apriori rate (us/s)	3.87348591634E-01	Resid rate (us/s)	-1.11164E-05	+/-	6.2E-09
Total phase (deg)	-41.2	Apriori accel (us/s/s)	1.78527535390E-05	Resid phase (deg)	-9.8	+/-	20.2

	RMS	Theor.						
			Amplitude	0.243 +/- 0.043	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	52.3	47.3	Search (1024X32)	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	75.2	82.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	23.4	28.5	Inc. seg. avg.	0.239	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	31.9	49.7	Inc. frq. avg.	0.230	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

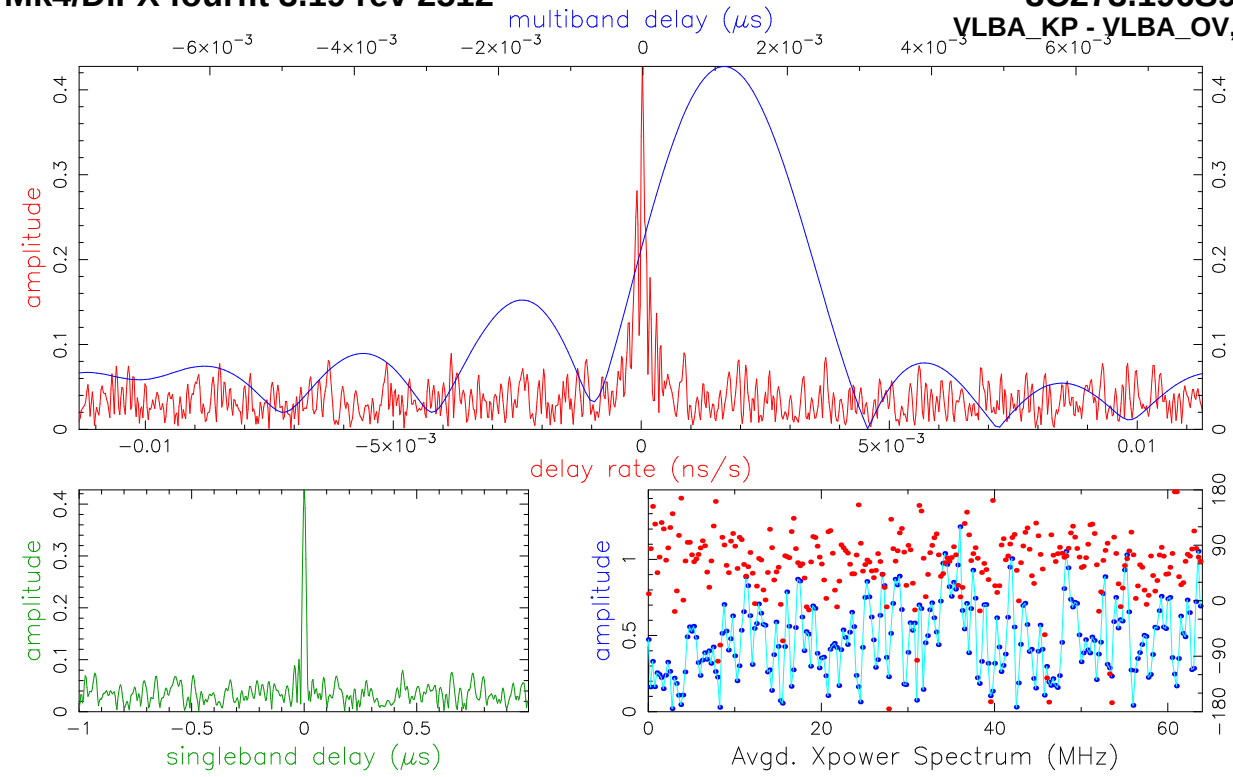
k: az 103.6 el 24.0 pa -55.6 n: az 124.5 el 34.8 pa -38.0 u,v (fr/asec) -2210.826 -1162.011 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kn..196S98 Output file: /Exps/c201e/v1/1234/No0051/kn.W.96.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, ko

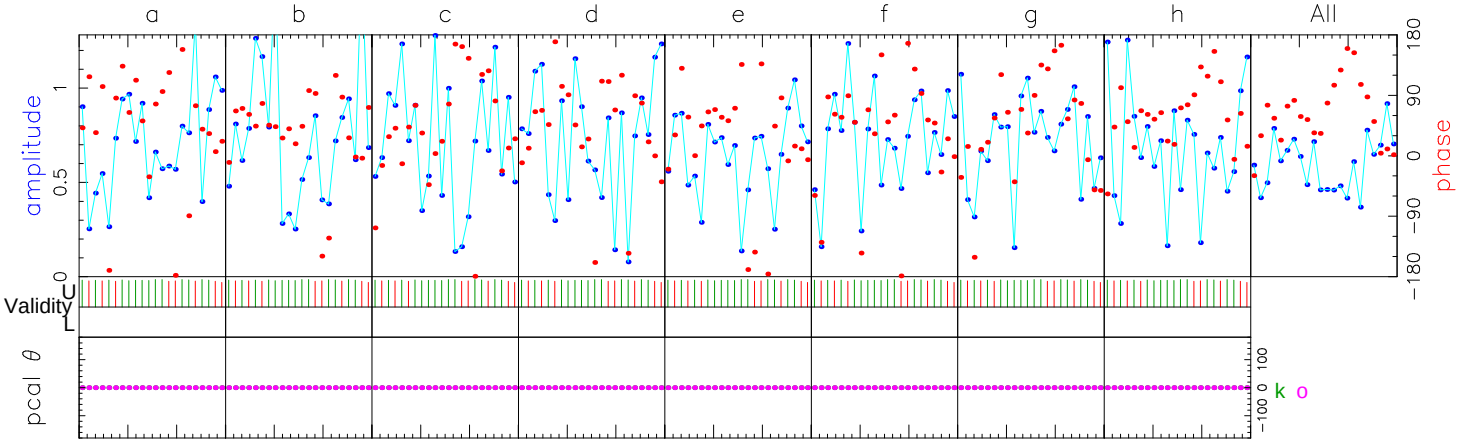
VLBA_KP - VLBA_OV, fgroup W, pol LL



Fringe quality 9

SNR	15.4
Int time	173.757
Amp	0.428
Phase	56.3
PFD	4.2e-45
Delays (us)	
SBD	0.000132
MBD	0.001128
Fringe rate (Hz)	
	0.002371
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153900
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	72.4	51.5	41.7	53.8	51.2	65.2	61.6	53.4	Phase	56.3
	0.4	0.6	0.4	0.5	0.3	0.5	0.4	0.5	Ampl.	0.4
	256.0	257.5	257.6	256.9	257.1	256.5	257.5	256.8	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	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.23626813368E+03	Apriori delay (usec)	2.23626700573E+03	Resid mbdelay (usec)	1.12796E-03	+/-	7.0E-05
Sband delay (usec)	2.23626713798E+03	Apriori clock (usec)	-2.0455881E+01	Resid sbdelay (usec)	1.32250E-04	+/-	5.6E-04
Phase delay (usec)	2.23626700754E+03	Apriori clockrate (us/s)	-1.9560001E-07	Resid phdelay (usec)	1.81546E-06	+/-	2.4E-07
Delay rate (us/s)	1.23233696546E-02	Apriori rate (us/s)	1.23233421342E-02	Resid rate (us/s)	2.75204E-08	+/-	2.3E-09
Total phase (deg)	10.8	Apriori accel (us/s/s)	-1.22882788709E-05	Resid phase (deg)	56.3	+/-	7.4

	RMS	Theor.		
			Amplitude	0.428 +/- 0.028
ph/seg (deg)	48.1	17.4	Search (1024X32)	0.418
amp/seg (%)	51.5	30.4	Interp.	0.000
ph/frq (deg)	10.4	10.5	Inc. seg. avg.	0.570
amp/frq (%)	16.5	18.4	Inc. frq. avg.	0.425

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

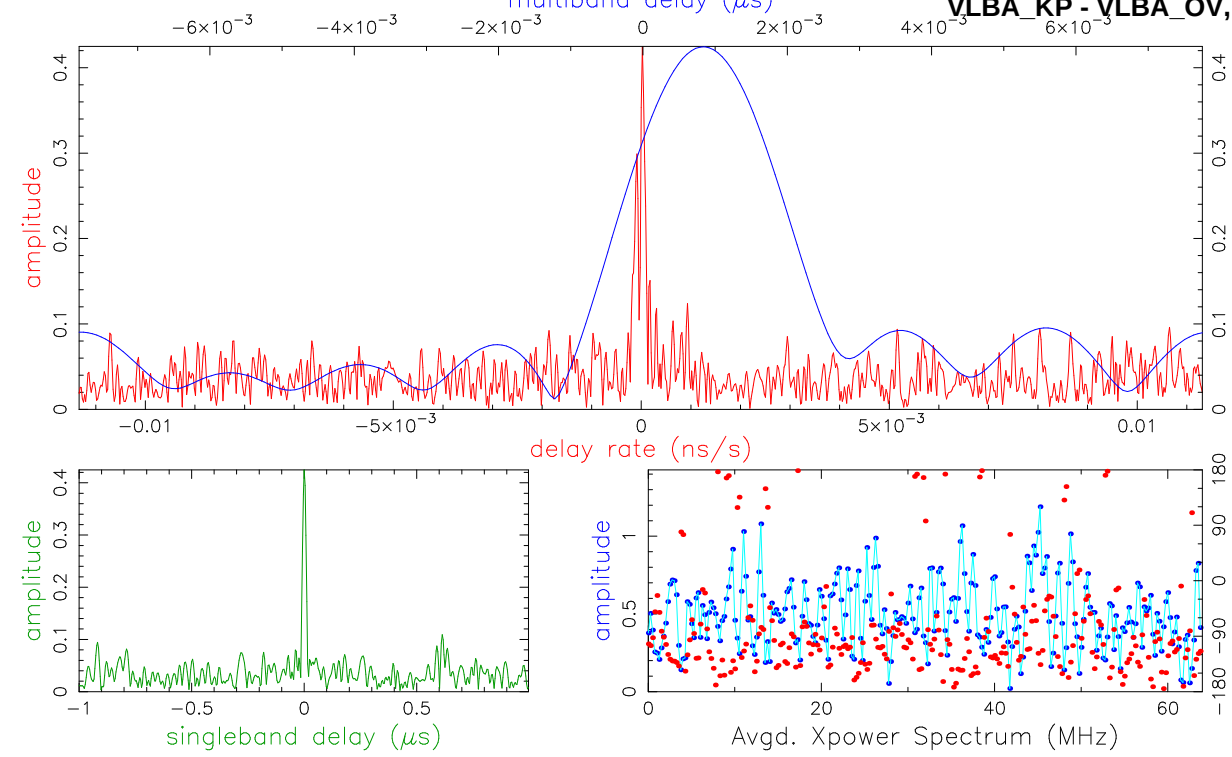
k: az 103.6 el 24.0 pa -55.6 o: az 101.3 el 17.5 pa -51.4 u,v (fr/asec) -77.094 -702.810 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/ko..196S98 Output file: /Exps/c201e/v1/1234/No0051/ko.W.114.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, ko

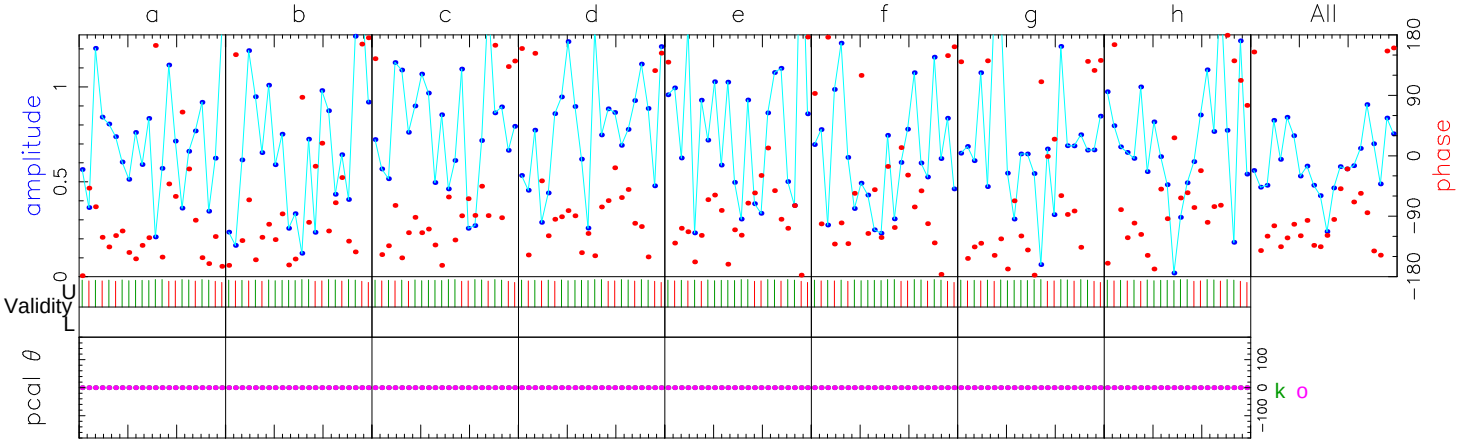
VLBA_KP - VLBA_OV, fgroup W, pol RR



Fringe quality 9

SNR	15.3
Int time	173.756
Amp	0.425
Phase	-117.2
PFD	2.0e-44
Delays (us)	
SBD	0.000438
MBD	0.000841
Fringe rate (Hz)	
	0.002464
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153901
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-118.4	-121.5	-119.5	-109.5	-109.8	-107.1	-140.8	-110.7	Phase	-117.2
	0.5	0.4	0.5	0.5	0.5	0.3	0.4	0.4	Ampl.	0.4
	256.8	256.3	257.1	257.8	257.0	210.8	256.5	257.4	Sbd box	257.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl 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 Tracks	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.23626784647E+03	Apriori delay (usec)	2.23626700573E+03	Resid mbdelay (usec)	8.40737E-04	+/-	7.1E-05
Sband delay (usec)	2.23626744398E+03	Apriori clock (usec)	-2.0455881E+01	Resid sbdelay (usec)	4.38250E-04	+/-	5.6E-04
Phase delay (usec)	2.23626700195E+03	Apriori clockrate (us/s)	-1.9560001E-07	Resid phdelay (usec)	-3.77884E-06	+/-	2.4E-07
Delay rate (us/s)	1.23233707330E-02	Apriori rate (us/s)	1.23233421342E-02	Resid rate (us/s)	2.85988E-08	+/-	2.3E-09
Total phase (deg)	197.3	Apriori accel (us/s/s)	-1.22882788709E-05	Resid phase (deg)	-117.2	+/-	7.5

	RMS	Theor.		
			Amplitude	0.425 +/- 0.028
ph/seg (deg)	46.3	17.5	Search (1024X32)	0.414
amp/seg (%)	56.7	30.6	Interp.	0.000
ph/frq (deg)	11.8	10.6	Inc. seg. avg.	0.578
amp/frq (%)	16.9	18.5	Inc. frq. avg.	0.423

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

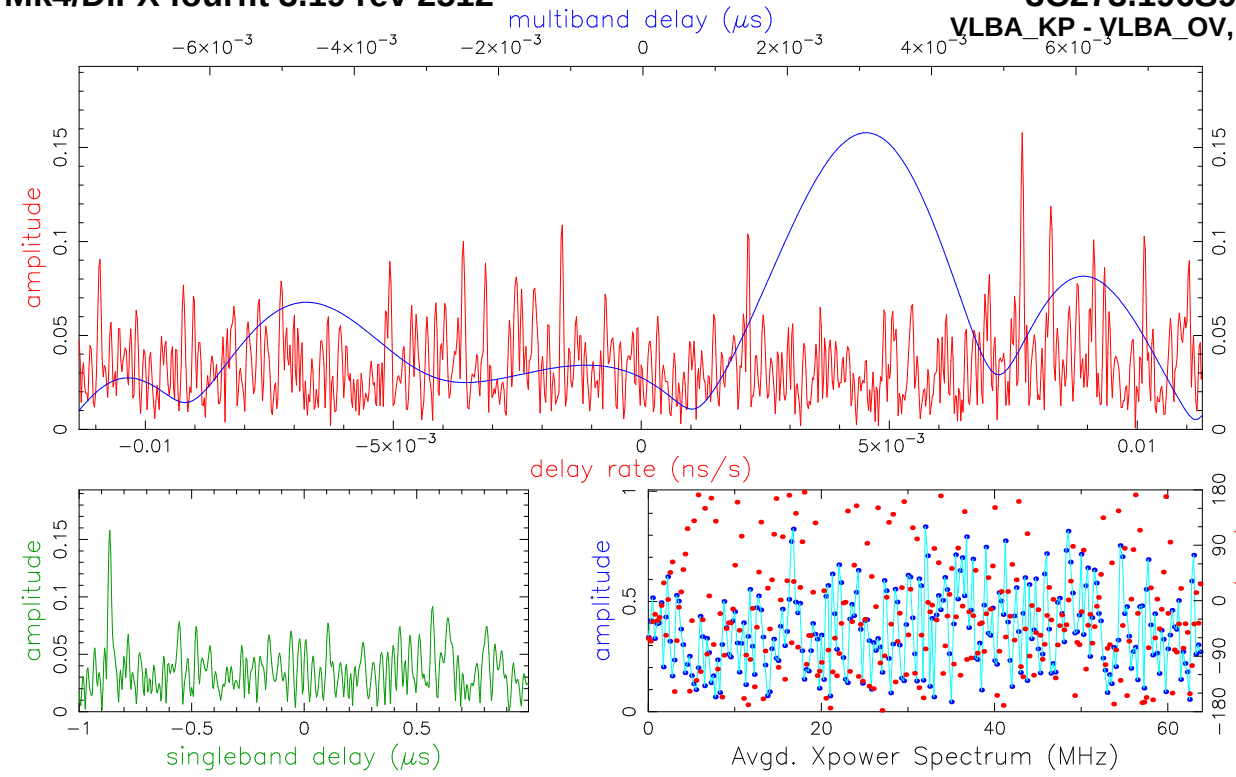
k: az 103.6 el 24.0 pa -55.6 o: az 101.3 el 17.5 pa -51.4 u,v (fr/asec) -77.094 -702.810 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/ko..196S98 Output file: /Exps/c201e/v1/1234/No0051/ko.W.125.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, ko

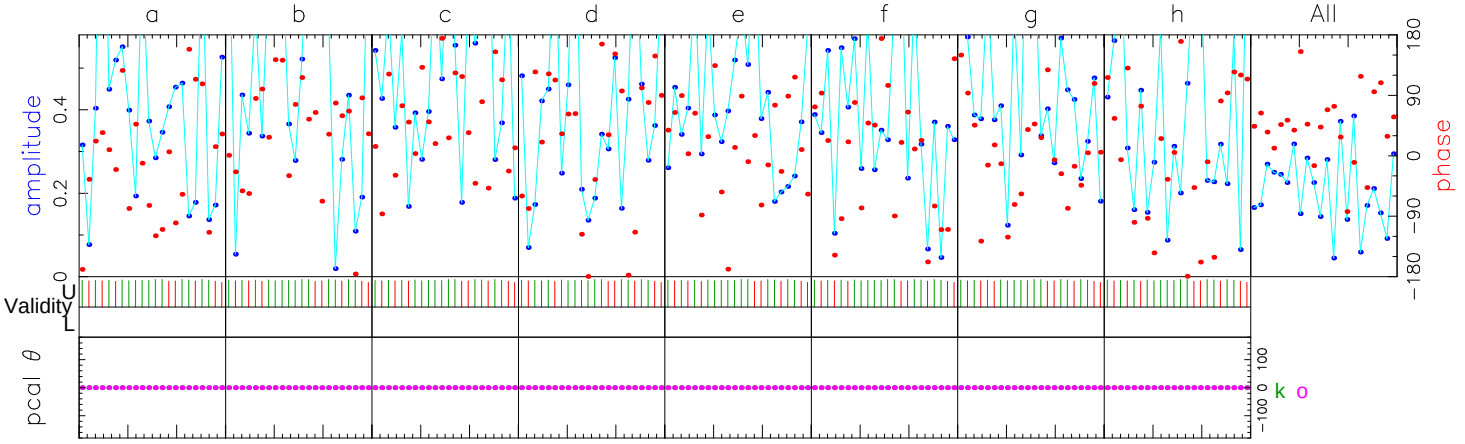
VLBA_KP - VLBA_OV, fgroup W, pol LR



Fringe quality 0

SNR	5.7
Int time	173.757
Amp	0.193
Phase	39.2
PFD	7.4e-01
Delays (us)	
SBD	-0.864084
MBD	0.003063
Fringe rate (Hz)	
	0.663759
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153907
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	4.2	51.2	34.6	103.9	28.3	25.2	12.1	90.6	Phase	39.2
	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.1	Ampl.	0.2
	379.9	36.3	365.0	52.0	276.8	216.8	243.5	429.1	Sbd box	35.8
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	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.23541069423E+03	Apriori delay (usec)	2.23626700573E+03	Resid mbdelay (usec)	3.06350E-03	+/-	1.9E-04
Sband delay (usec)	2.23540292173E+03	Apriori clock (usec)	-2.0455881E+01	Resid sbdelay (usec)	-8.64084E-01	+/-	1.5E-03
Phase delay (usec)	2.23626700699E+03	Apriori clockrate (us/s)	-1.9560001E-07	Resid phdelay (usec)	1.26459E-06	+/-	6.5E-07
Delay rate (us/s)	1.23310477168E-02	Apriori rate (us/s)	1.23233421342E-02	Resid rate (us/s)	7.70558E-06	+/-	6.2E-09
Total phase (deg)	353.7	Apriori accel (us/s/s)	-1.22882788709E-05	Resid phase (deg)	39.2	+/-	20.1

	RMS	Theor.		
			Amplitude	0.193 +/- 0.034
ph/seg (deg)	52.0	47.0	Search (1024X32)	0.157
amp/seg (%)	66.1	82.1	Interp.	0.000
ph/frq (deg)	39.3	28.4	Inc. seg. avg.	0.193
amp/frq (%)	36.1	49.5	Inc. frq. avg.	0.198

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

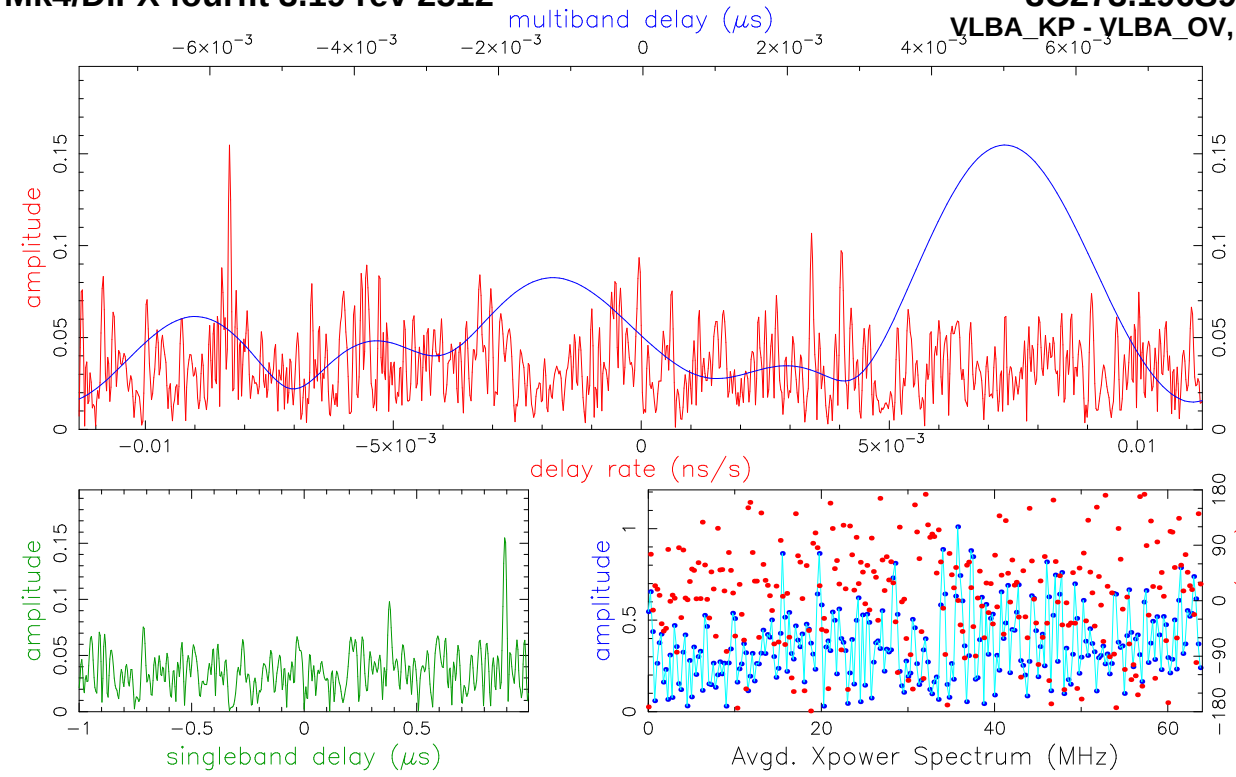
k: az 103.6 el 24.0 pa -55.6 o: az 101.3 el 17.5 pa -51.4 u,v (fr/asec) -77.094 -702.810 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/ko..196S98 Output file: /Exps/c201e/v1/1234/No0051/ko.W.157.196S98

Mk4/DiFX fourfit 3.19 rev 2512

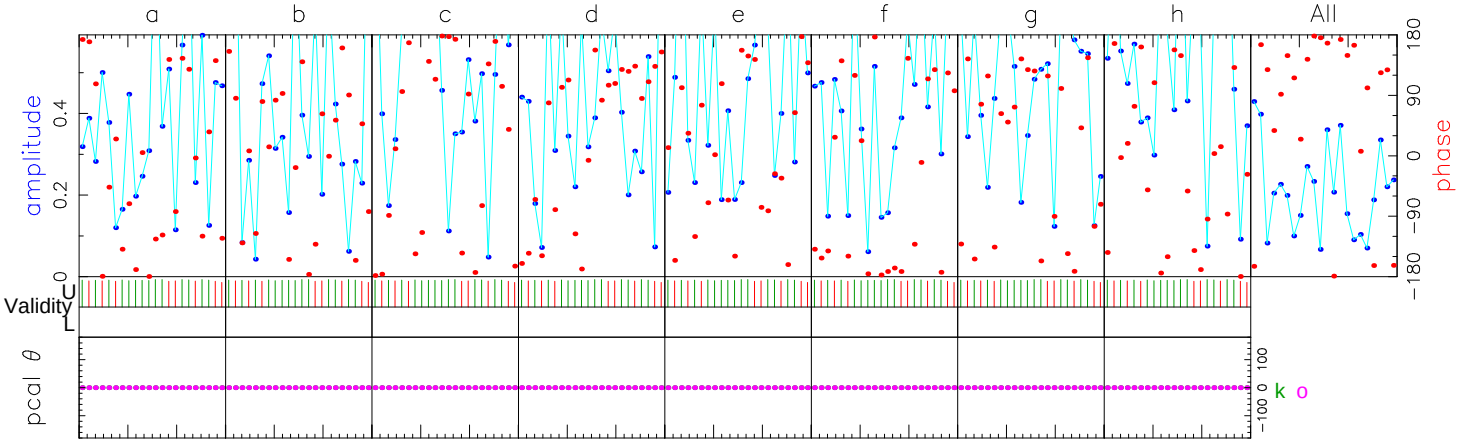
3C273.196S98, No0051, ko

VLBA_KP - VLBA_OV, fgroup W, pol RL



Fringe quality	0
SNR	5.6
Int time	173.757
Amp	0.198
Phase	154.6
PFD	8.7e-01
Delays (us)	
SBD	0.892024
MBD	0.005049
Fringe rate (Hz)	
	-0.717190
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153911
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-167.0	65.7	165.1	129.0	166.3	148.9	141.1	-165.8	Phase	154.6
	0.2	0.1	0.4	0.3	0.1	0.3	0.2	0.2	Ampl.	0.2
	505.4	424.2	485.9	31.7	416.9	239.3	322.8	258.2	Sbd box	485.4
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	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.23716267947E+03	Apriori delay (usec)	2.23626700573E+03	Resid mbdelay (usec)	5.04874E-03	+/-	1.9E-04
Sband delay (usec)	2.23715902948E+03	Apriori clock (usec)	-2.0455881E+01	Resid sbdelay (usec)	8.92024E-01	+/-	1.5E-03
Phase delay (usec)	2.23626701071E+03	Apriori clockrate (us/s)	-1.9560001E-07	Resid phdelay (usec)	4.98589E-06	+/-	6.5E-07
Delay rate (us/s)	1.23150162648E-02	Apriori rate (us/s)	1.23233421342E-02	Resid rate (us/s)	-8.32587E-06	+/-	6.3E-09
Total phase (deg)	109.1	Apriori accel (us/s/s)	-1.22882788709E-05	Resid phase (deg)	154.6	+/-	20.3

	RMS	Theor.		
			Amplitude	0.198 +/- 0.035
ph/seg (deg)	56.9	47.6	Search (1024X32)	0.153
amp/seg (%)	77.8	83.1	Interp.	0.000
ph/frq (deg)	44.8	28.7	Inc. seg. avg.	0.200
amp/frq (%)	52.6	50.1	Inc. frq. avg.	0.200

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

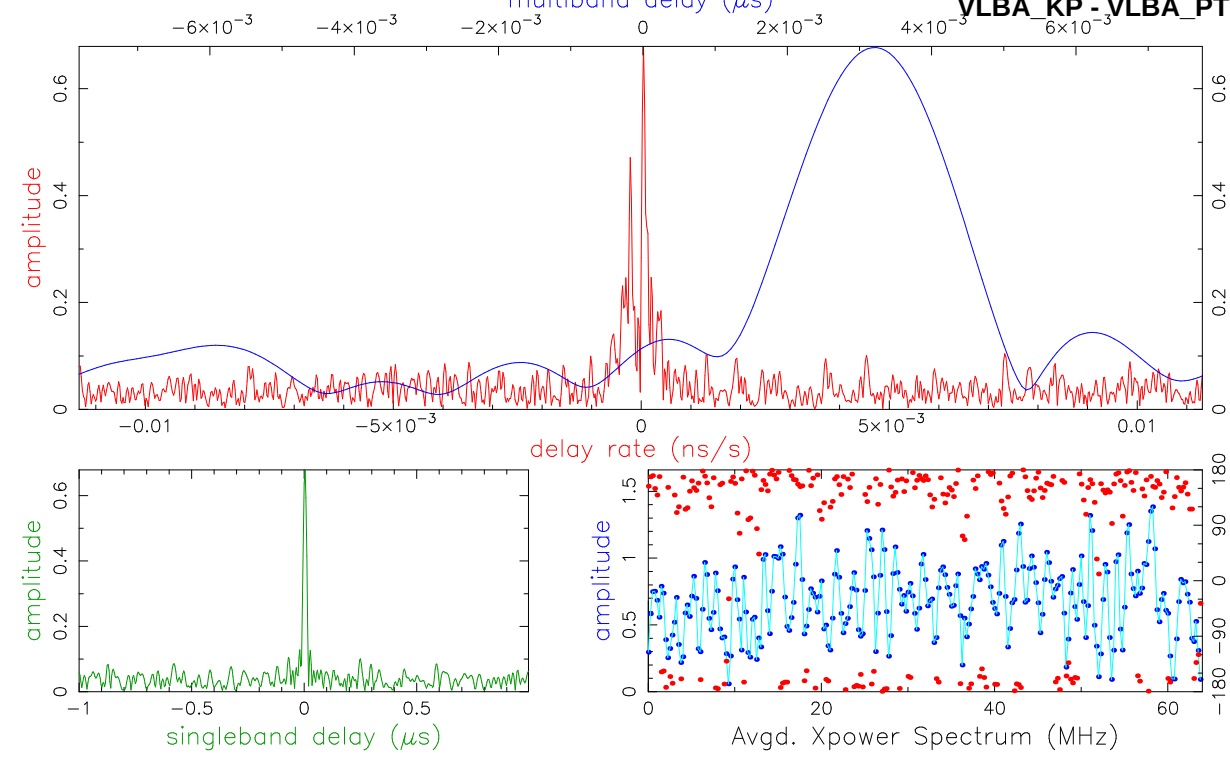
k: az 103.6 el 24.0 pa -55.6 o: az 101.3 el 17.5 pa -51.4 u,v (fr/asec) -77.094 -702.810 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/ko..196S98 Output file: /Exps/c201e/v1/1234/No0051/ko.W.188.196S98

Mk4/DiFX fourfit 3.19 rev 2512

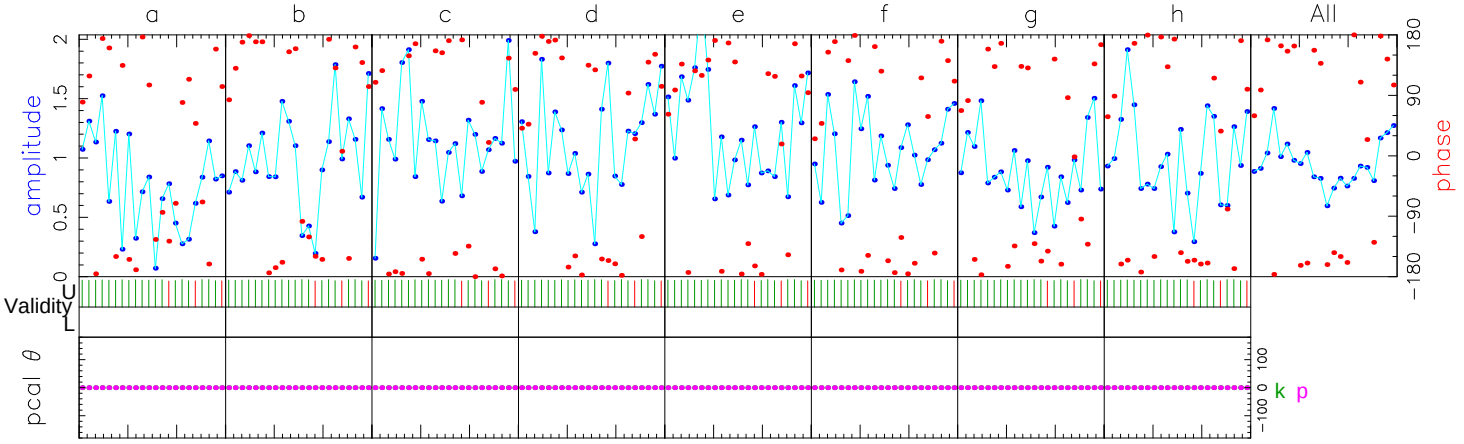
3C273.196S98, No0051, kp

VLBA_KP - VLBA_PT, fgroup W, pol LL



Fringe quality	7
SNR	24.6
Int time	175.938
Amp	0.679
Phase	163.7
PFD	0.0e+00
Delays (us)	
SBD	0.003189
MBD	0.003189
Fringe rate (Hz)	
	0.003622
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153858
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	170.6	164.8	169.0	160.0	141.5	166.9	171.7	174.2	Phase	163.7
	0.4	0.7	0.9	0.7	0.9	0.7	0.5	0.7	Ampl.	0.7
	257.9	257.6	257.8	257.9	257.8	258.2	257.3	258.2	Sbd box	257.8
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	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 Tracks	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-7.56292035168E+02	Apriori delay (usec)	-7.56295224298E+02	Resid mbdelay (usec)	3.18913E-03	+/-	4.4E-05
Sband delay (usec)	-7.56292035548E+02	Apriori clock (usec)	-1.7647739E+01	Resid sbdelay (usec)	3.18875E-03	+/-	3.5E-04
Phase delay (usec)	-7.56295219020E+02	Apriori clockrate (us/s)	-1.9859999E-07	Resid phdelay (usec)	5.27846E-06	+/-	1.5E-07
Delay rate (us/s)	6.89579421897E-02	Apriori rate (us/s)	6.89579001368E-02	Resid rate (us/s)	4.20529E-08	+/-	1.4E-09
Total phase (deg)	-59.9	Apriori accel (us/s/s)	3.79656325697E-06	Resid phase (deg)	163.7	+/-	4.7

	RMS	Theor.						
			Amplitude	0.679 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	50.9	10.9	Search (1024X32)	0.664	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	49.7	19.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	11.3	6.6	Inc. seg. avg.	0.943	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	22.8	11.5	Inc. frq. avg.	0.684	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

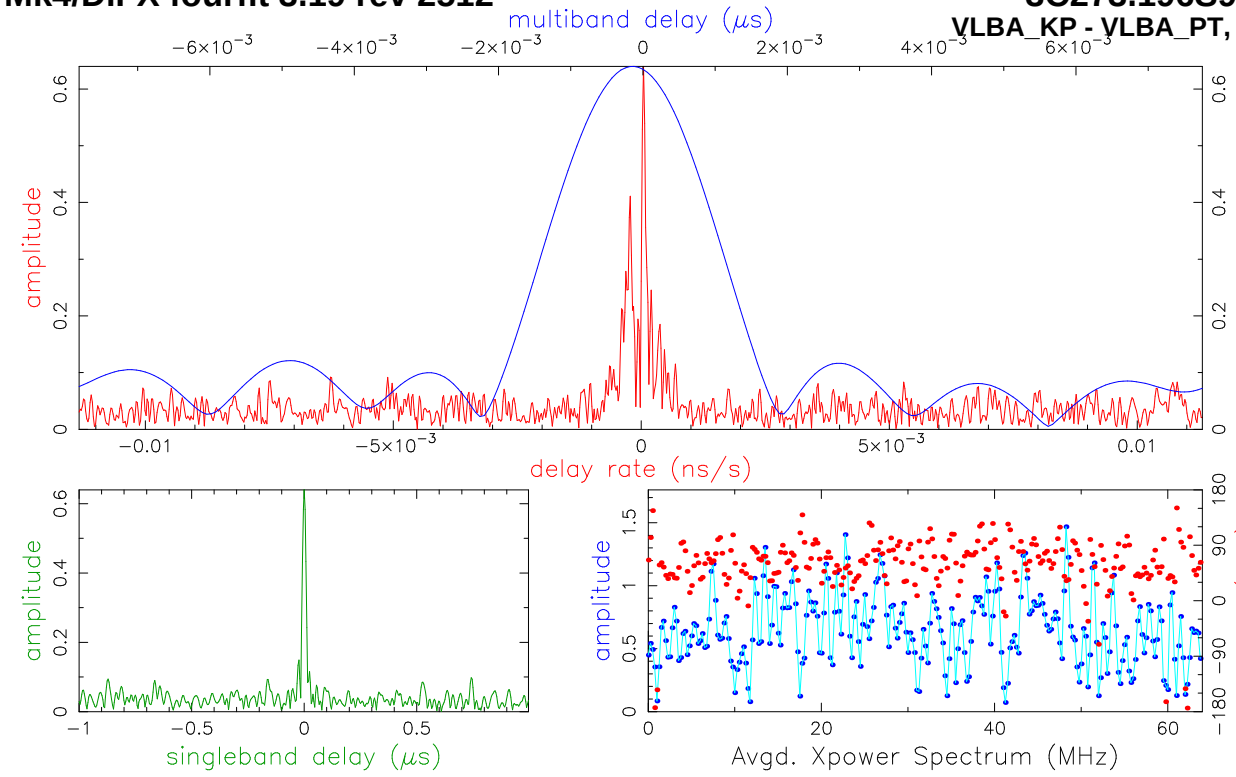
k: az 103.6 el 24.0 pa -55.6 p: az 106.9 el 26.2 pa -52.2 u,v (fr/asec) -393.287 -293.333 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kp..196S98 Output file: /Exps/c201e/v1/1234/No0051/kp.W.105.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kp

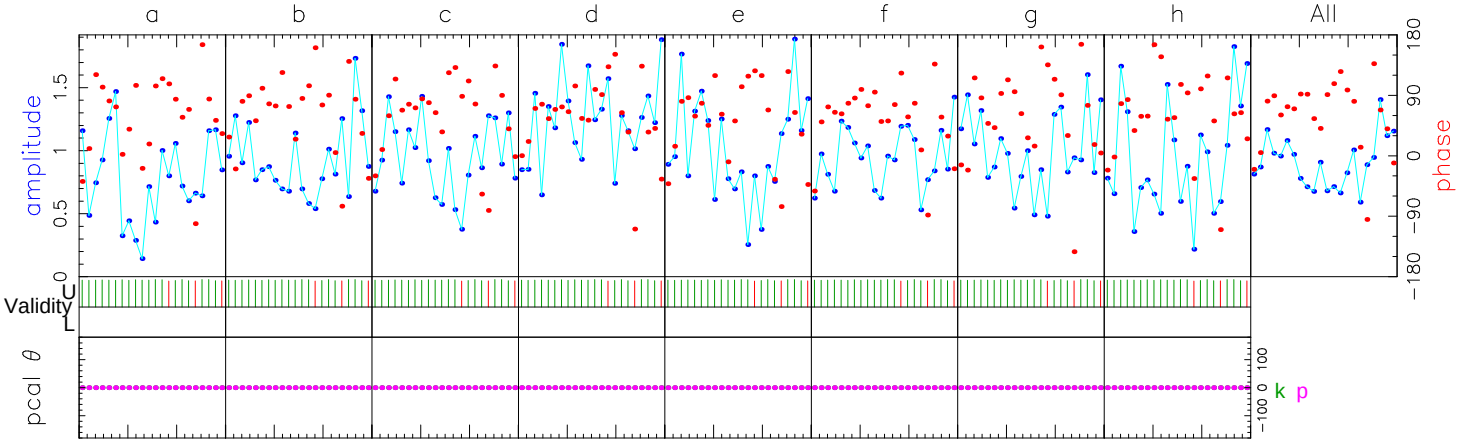
VLBA_KP - VLBA_PT, fgroup W, pol RR



Fringe quality 9

SNR	23.2
Int time	175.937
Amp	0.640
Phase	66.2
PFD	0.0e+00
Delays (us)	
SBD	-0.000022
MBD	-0.000144
Fringe rate (Hz)	
	0.004101
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153900
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	71.7	62.5	71.1	65.4	56.6	64.4	69.0	70.1	Phase	66.2
	0.5	0.6	0.6	0.9	0.6	0.7	0.6	0.7	Ampl.	0.6
	257.4	256.8	257.1	257.1	257.0	256.8	257.1	256.8	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	
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	Manl 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 Tracks	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-7.56295368262E+02	Apriori delay (usec)	-7.56295224298E+02	Resid mbdelay (usec)	-1.43963E-04	+/-	4.7E-05
Sband delay (usec)	-7.56295246298E+02	Apriori clock (usec)	-1.7647739E+01	Resid sbdelay (usec)	-2.20000E-05	+/-	3.7E-04
Phase delay (usec)	-7.56295222164E+02	Apriori clockrate (us/s)	-1.9859999E-07	Resid phdelay (usec)	2.13421E-06	+/-	1.6E-07
Delay rate (us/s)	6.89579477505E-02	Apriori rate (us/s)	6.89579001368E-02	Resid rate (us/s)	4.76137E-08	+/-	1.5E-09
Total phase (deg)	-157.4	Apriori accel (us/s/s)	3.79656325697E-06	Resid phase (deg)	66.2	+/-	4.9

	RMS	Theor.							
ph/seg (deg)	52.5	11.6	Amplitude	0.640 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	51.7	20.2	Search (1024X32)	0.632	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
ph/frq (deg)	5.6	7.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/frq (%)	15.9	12.2	Inc. seg. avg.	0.888	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
			Inc. frq. avg.	0.637	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

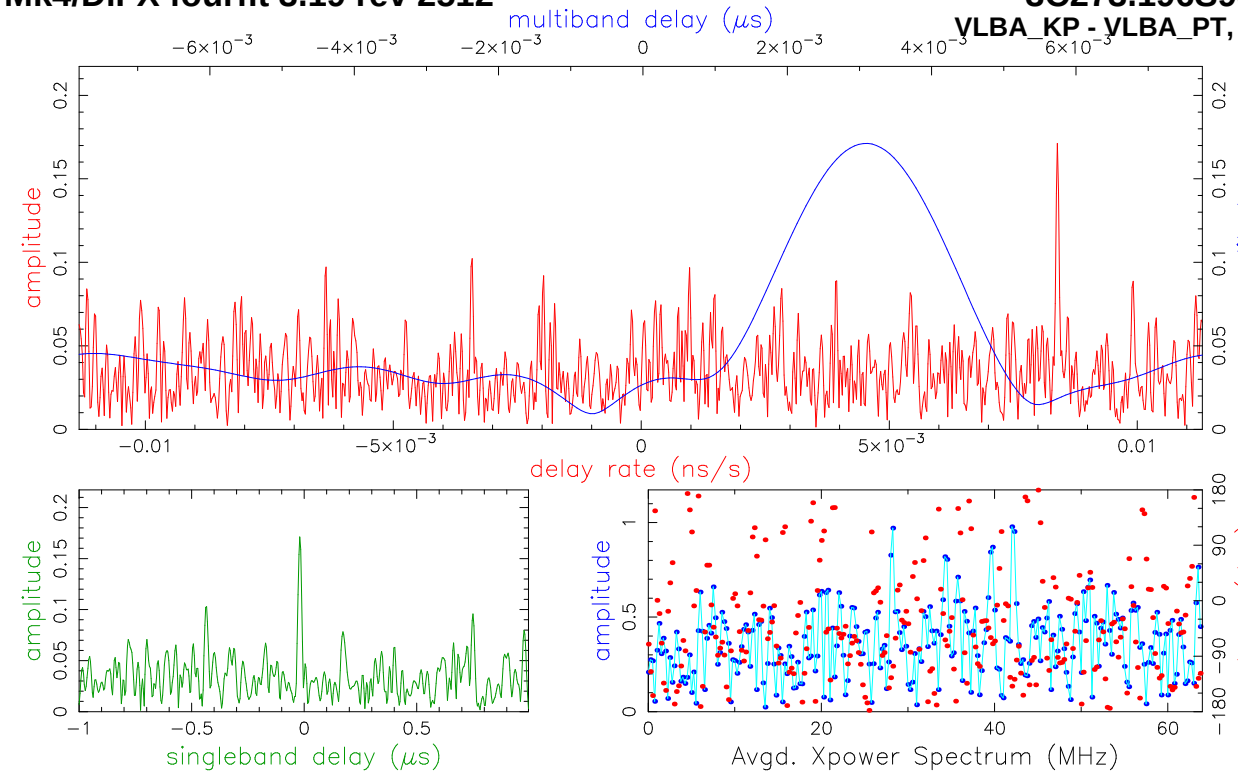
k: az 103.6 el 24.0 pa -55.6 p: az 106.9 el 26.2 pa -52.2 u,v (fr/asec) -393.287 -293.333 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kp..196S98 Output file: /Exps/c201e/v1/1234/No0051/kp.W.116.196S98

Mk4/DiFX fourfit 3.19 rev 2512

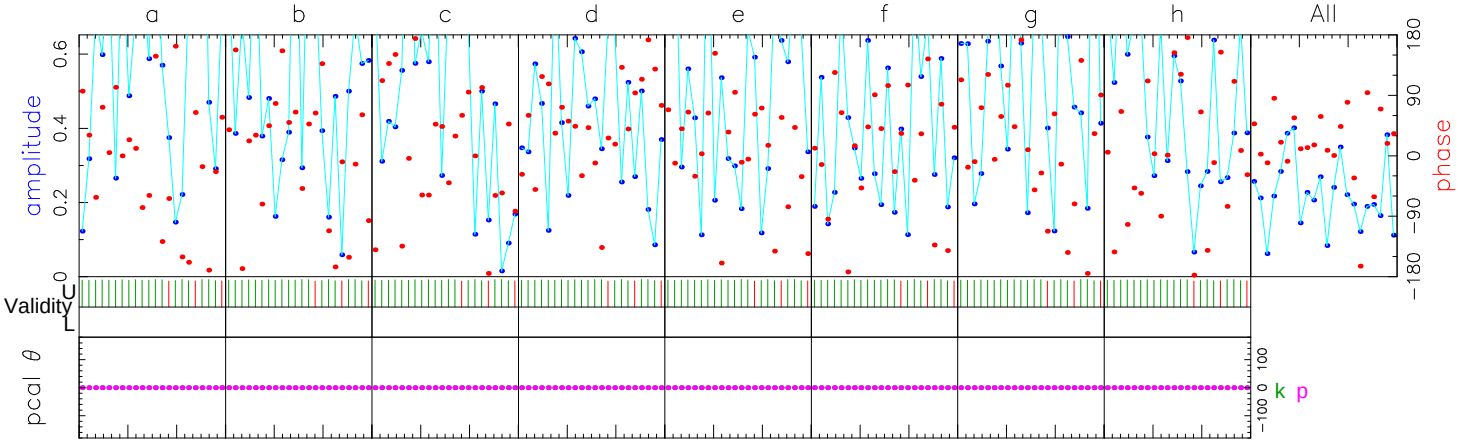
3C273.196S98, No0051, kp

VLBA_KP - VLBA_PT, fgroup W, pol LR



Fringe quality	0
SNR	6.2
Int time	175.938
Amp	0.217
Phase	28.9
PFD	6.6e-02
Delays (us)	
SBD	-0.019171
MBD	0.003098
Fringe rate (Hz)	
	0.724677
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153908
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-5.9	52.0	22.9	40.3	29.8	48.0	26.1	-18.4	Phase	28.9
	0.2	0.3	0.1	0.3	0.3	0.2	0.3	0.1	Ampl.	0.2
	211.5	114.6	448.7	253.1	352.6	484.4	170.2	145.7	Sbd box	252.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	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 Tracks	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-7.56307750931E+02	Apriori delay (usec)	-7.56295224298E+02	Resid mbdelay (usec)	3.09837E-03	+/-	1.7E-04
Sband delay (usec)	-7.56314395298E+02	Apriori clock (usec)	-1.7647739E+01	Resid sbdelay (usec)	-1.91710E-02	+/-	1.4E-03
Phase delay (usec)	-7.56295223367E+02	Apriori clockrate (us/s)	-1.9859999E-07	Resid phdelay (usec)	9.30929E-07	+/-	5.9E-07
Delay rate (us/s)	6.89663129151E-02	Apriori rate (us/s)	6.89579001368E-02	Resid rate (us/s)	8.41278E-06	+/-	5.7E-09
Total phase (deg)	-194.7	Apriori accel (us/s/s)	3.79656325697E-06	Resid phase (deg)	28.9	+/-	18.4

	RMS	Theor.							
			Amplitude	0.217 +/- 0.035	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	51.9	43.2	Search (1024X32)	0.169	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	61.8	75.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	27.5	26.1	Inc. seg. avg.	0.221	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	32.2	45.5	Inc. frq. avg.	0.210	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

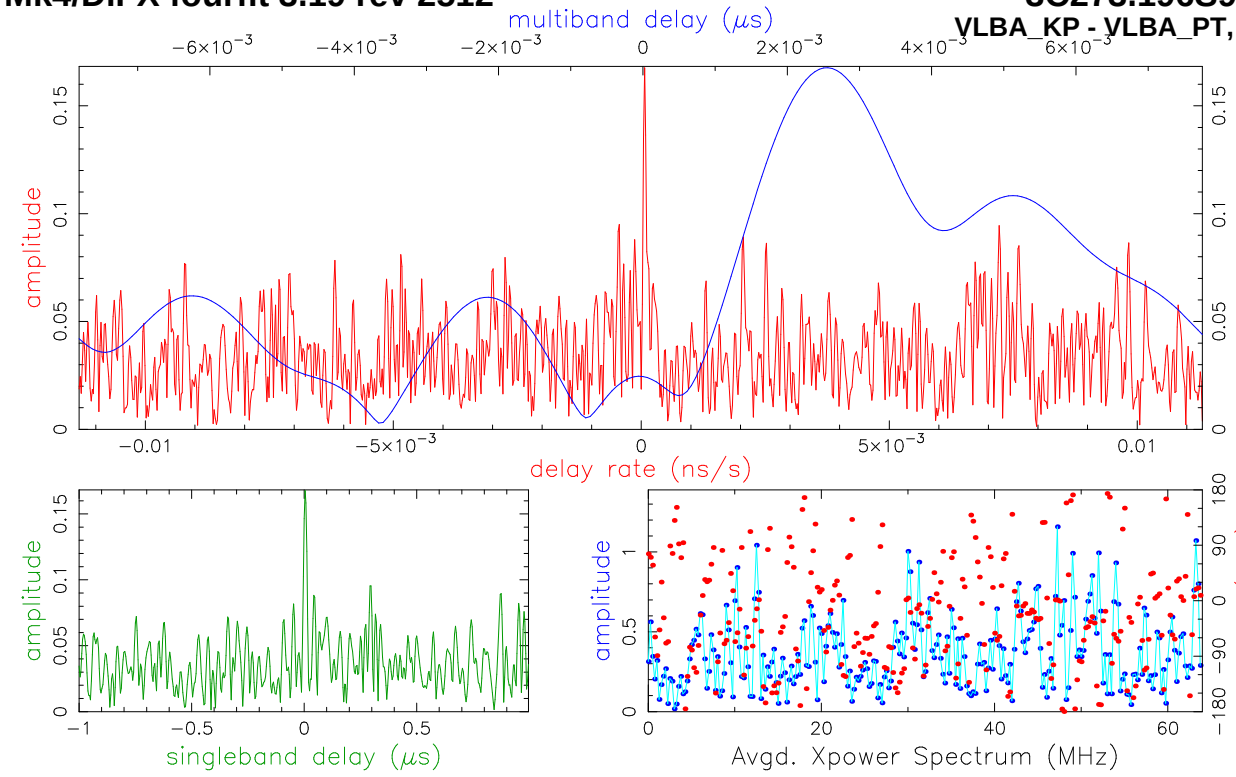
k: az 103.6 el 24.0 pa -55.6 p: az 106.9 el 26.2 pa -52.2 u,v (fr/asec) -393.287 -293.333 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kp..196S98 Output file: /Exps/c201e/v1/1234/No0051/kp.W.169.196S98

Mk4/DiFX fourfit 3.19 rev 2512

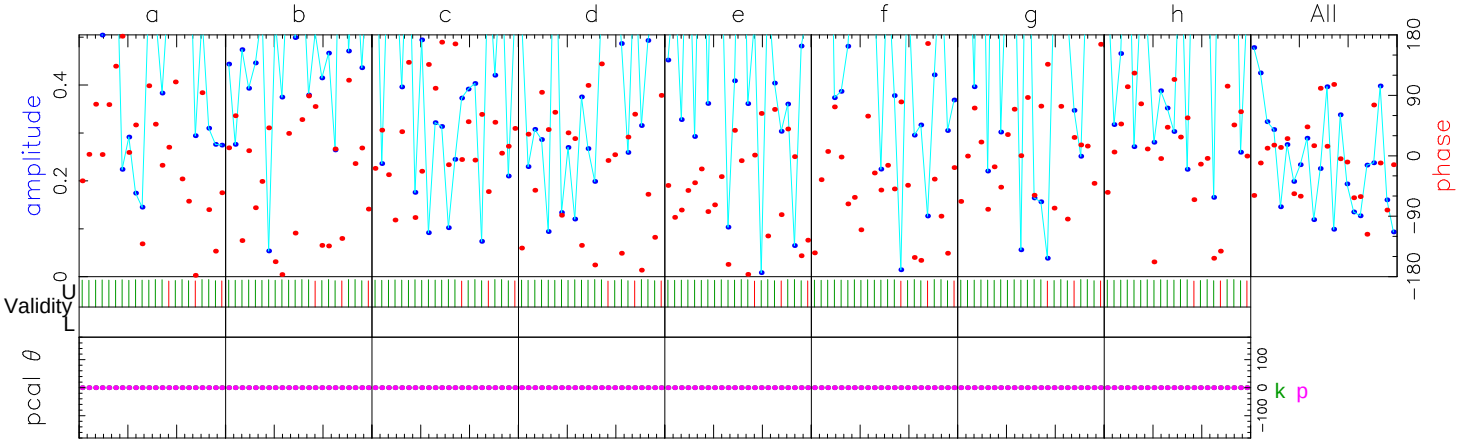
3C273.196S98, No0051, kp

VLBA_KP - VLBA_PT, fgroup W, pol RL



Fringe quality	0
SNR	6.1
Int time	175.938
Amp	0.168
Phase	-6.6
PFD	1.3e-01
Delays (us)	
SBD	0.004697
MBD	0.002570
Fringe rate (Hz)	
	0.005433
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153911
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	35.7	-44.7	3.5	49.2	-52.3	-40.1	7.2	29.3	Phase	-6.6
	0.2	0.1	0.2	0.1	0.3	0.3	0.3	0.2	Ampl.	0.2
	485.6	276.1	451.6	269.2	272.0	257.3	258.6	280.4	Sbd box	258.2
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	
k:p	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	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-7.56292653962E+02	Apriori delay (usec)	-7.56295224298E+02	Resid mbdelay (usec)	2.57034E-03	+/-	1.8E-04
Sband delay (usec)	-7.56290527798E+02	Apriori clock (usec)	-1.7647739E+01	Resid sbdelay (usec)	4.69650E-03	+/-	1.4E-03
Phase delay (usec)	-7.56295224510E+02	Apriori clockrate (us/s)	-1.9859999E-07	Resid phdelay (usec)	-2.11296E-07	+/-	6.1E-07
Delay rate (us/s)	6.89579632140E-02	Apriori rate (us/s)	6.89579001368E-02	Resid rate (us/s)	6.30772E-08	+/-	5.8E-09
Total phase (deg)	-230.1	Apriori accel (us/s/s)	3.79656325697E-06	Resid phase (deg)	-6.6	+/-	18.8

	RMS	Theor.						
			Amplitude	0.168 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	55.8	44.0	Search (1024X32)	0.166	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	80.3	76.8	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	43.1	26.5	Inc. seg. avg.	0.191	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	53.5	46.3	Inc. frq. avg.	0.184	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

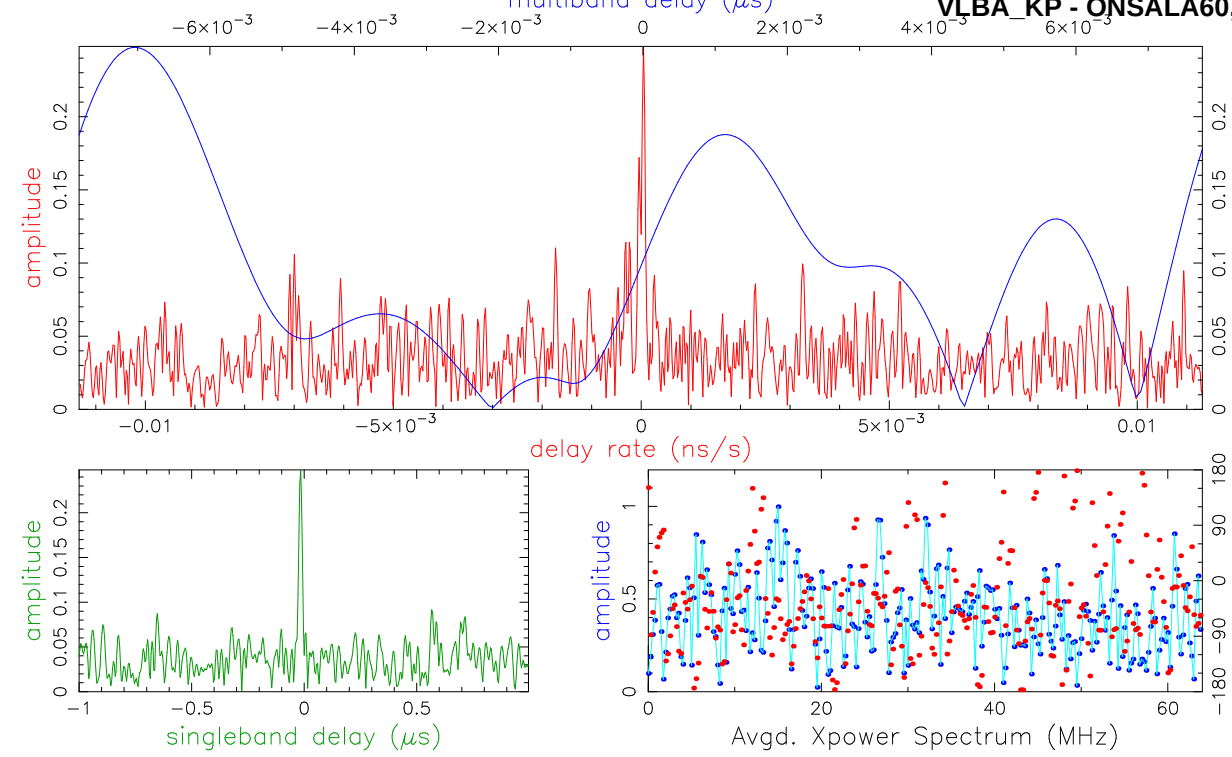
k: az 103.6 el 24.0 pa -55.6 p: az 106.9 el 26.2 pa -52.2 u,v (fr/asec) -393.287 -293.333 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kp..196S98 Output file: /Exps/c201e/v1/1234/No0051/kp.W.183.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kX

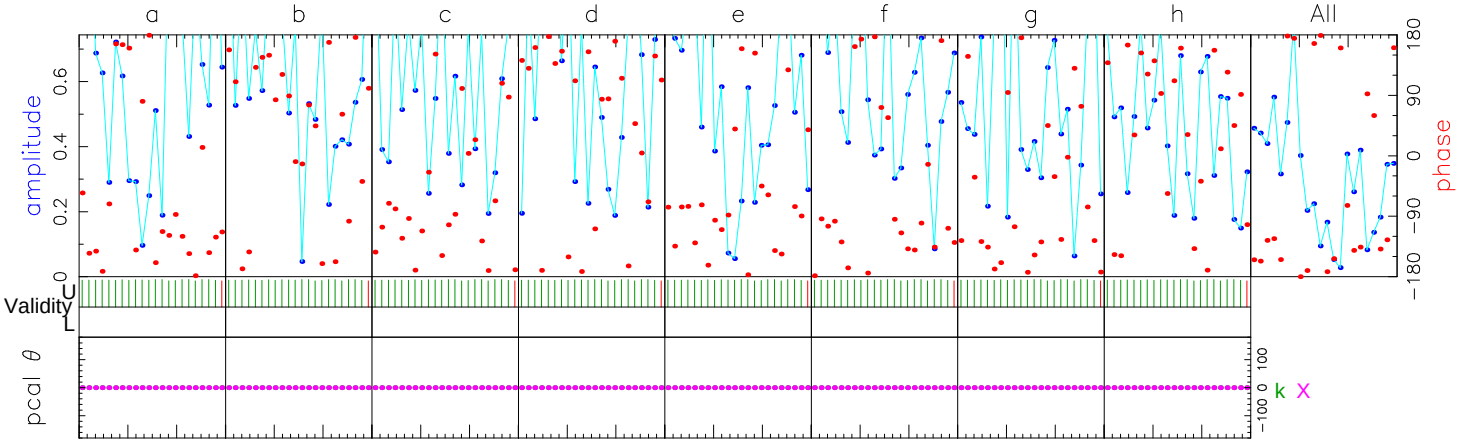
VLBA_KP - ONSALA60, fgroup W, pol LL



Fringe quality 9

SNR	9.0
Int time	176.688
Amp	0.248
Phase	-157.0
PFD	3.8e-11
Delays (us)	
SBD	-0.016301
MBD	-0.007055
Fringe rate (Hz)	
	0.003386
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153859
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-133.9	135.0	-126.4	150.9	-118.4	-143.6	-128.9	142.6	Phase	-157.0
	0.5	0.3	0.3	0.4	0.4	0.4	0.3	0.2	Ampl.	0.3
	252.9	252.0	253.1	252.7	252.9	252.4	252.3	107.7	Sbd box	252.8
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	
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	Manl 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 Tracks	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.60570194420E+03	Apriori delay (usec)	2.60572462423E+03	Resid mbdelay (usec)	-7.05503E-03	+/-	1.2E-04
Sband delay (usec)	2.60570832273E+03	Apriori clock (usec)	-4.1179302E+01	Resid sbdelay (usec)	-1.63015E-02	+/-	9.6E-04
Phase delay (usec)	2.60572461916E+03	Apriori clockrate (us/s)	-5.2260003E-07	Resid phdelay (usec)	-5.06395E-06	+/-	4.1E-07
Delay rate (us/s)	1.90035967702E+00	Apriori rate (us/s)	1.90035963771E+00	Resid rate (us/s)	3.93094E-08	+/-	3.9E-09
Total phase (deg)	-109.9	Apriori accel (us/s/s)	-1.52710788775E-05	Resid phase (deg)	-157.0	+/-	12.7

	RMS	Theor.		
			Amplitude	0.248 +/- 0.028
ph/seg (deg)	48.4	29.8	Search (1024X32)	0.242
amp/seg (%)	75.7	52.0	Interp.	0.000
ph/frq (deg)	49.8	18.0	Inc. seg. avg.	0.268
amp/frq (%)	44.2	31.4	Inc. frq. avg.	0.312

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

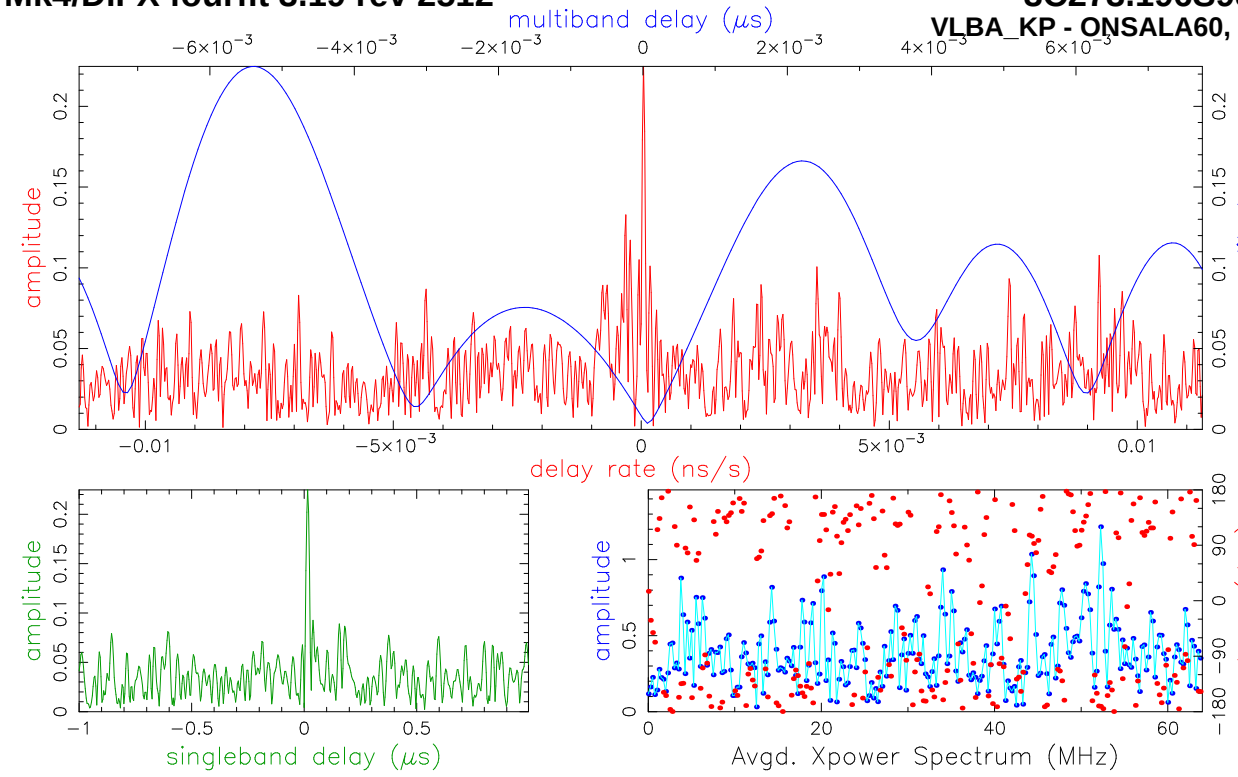
k: az 103.6 el 24.0 pa -55.6 X: az 245.8 el 16.9 pa 29.5 u,v (fr/asec) -10898.391 -2809.716 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kX..196S98 Output file: /Exps/c201e/v1/1234/No0051/kX.W.107.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kX

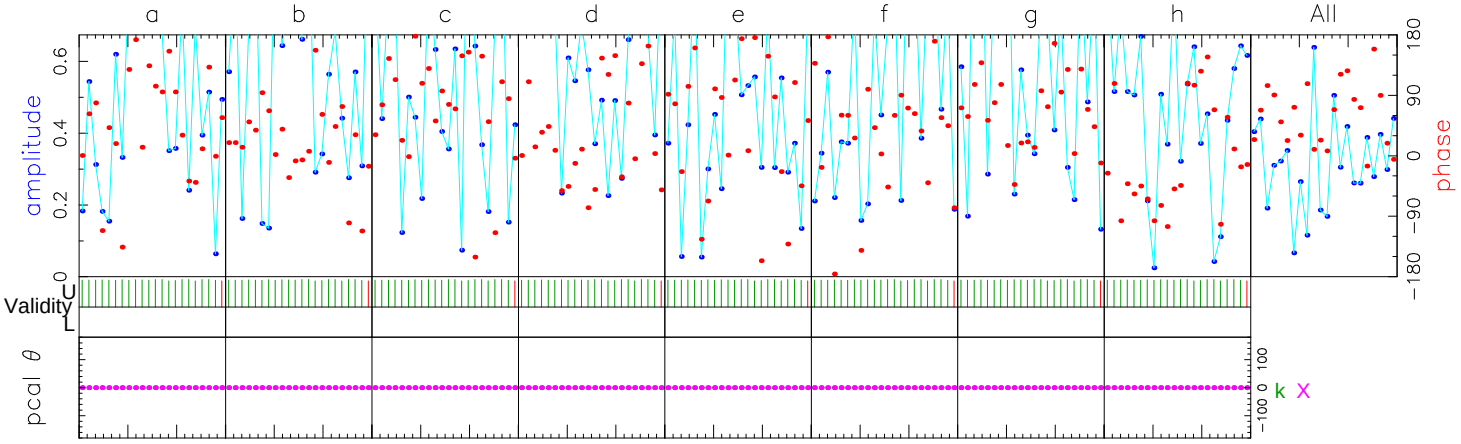
VLBA_KP - ONSALA60, fgroup W, pol RR



Fringe quality 9

SNR	8.2
Int time	176.688
Amp	0.225
Phase	54.1
PFD	5.4e-08
Delays (us)	
SBD	0.015661
MBD	-0.005396
Fringe rate (Hz)	
	0.003860
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153902
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	76.1	14.7	110.3	22.7	100.1	49.4	79.8	-29.1	Phase	54.1
	0.2	0.5	0.3	0.3	0.2	0.3	0.4	0.2	Ampl.	0.3
	102.2	260.7	261.6	374.1	50.1	260.0	259.9	427.9	Sbd box	261.0
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	
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	Manl 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 Tracks	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.60573485302E+03	Apriori delay (usec)	2.60572462423E+03	Resid mbdelay (usec)	-5.39621E-03	+/-	1.3E-04
Sband delay (usec)	2.60574028523E+03	Apriori clock (usec)	-4.1179302E+01	Resid sbdelay (usec)	1.56610E-02	+/-	1.1E-03
Phase delay (usec)	2.60572462597E+03	Apriori clockrate (us/s)	-5.2260003E-07	Resid phdelay (usec)	1.74592E-06	+/-	4.5E-07
Delay rate (us/s)	1.90035968252E+00	Apriori rate (us/s)	1.90035963771E+00	Resid rate (us/s)	4.48134E-08	+/-	4.3E-09
Total phase (deg)	101.3	Apriori accel (us/s/s)	-1.52710788775E-05	Resid phase (deg)	54.1	+/-	14.0

	RMS	Theor.						
			Amplitude	0.225 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	46.5	32.9	Search (1024X32)	0.224	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000
amp/seg (%)	71.2	57.4	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	51.5	19.8	Inc. seg. avg.	0.273	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	53.3	34.6	Inc. frq. avg.	0.278	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

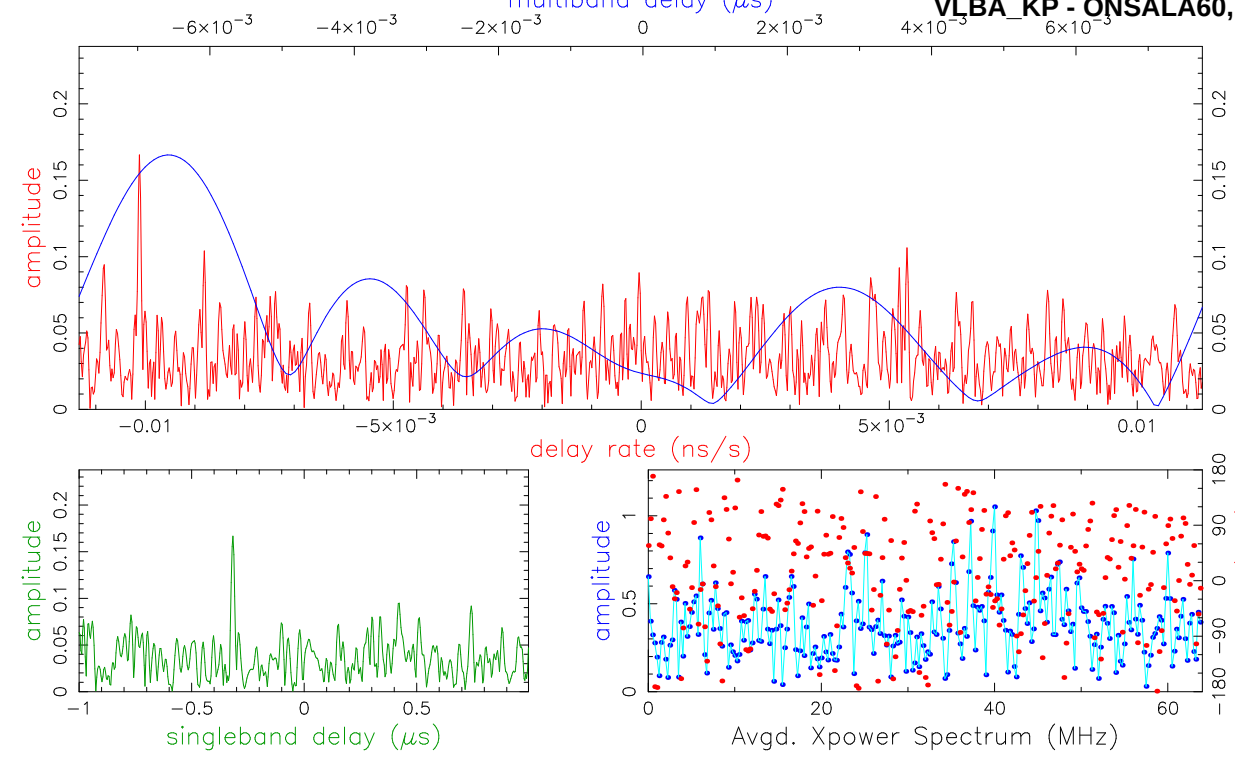
k: az 103.6 el 24.0 pa -55.6 X: az 245.8 el 16.9 pa 29.5 u,v (fr/asec) -10898.391 -2809.716 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kX..196S98 Output file: /Exps/c201e/v1/1234/No0051/kX.W.128.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kX

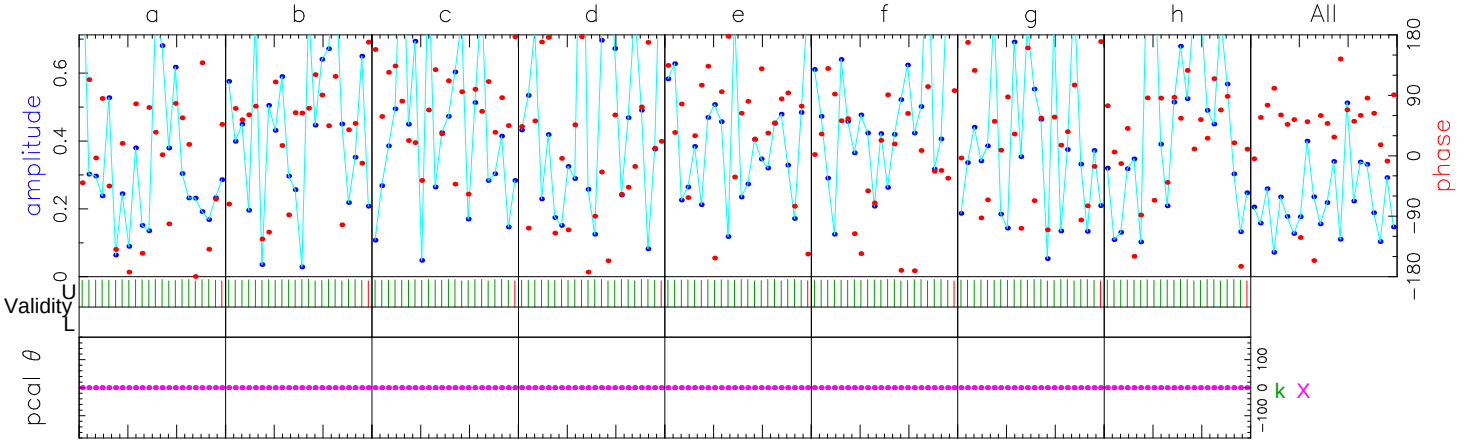
VLBA_KP - ONSALA60, fgroup W, pol LR



Fringe quality 0

SNR	6.1
Int time	176.688
Amp	0.238
Phase	56.1
PFD	1.6e-01
Delays (us)	
SBD	-0.316947
MBD	-0.006592
Fringe rate (Hz)	
	-0.873348
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153904
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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



	a	b	c	d	e	f	g	h	Freq (MHz)	All
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00		
	17.7	63.4	74.2	8.1	78.4	39.6	50.6	56.7	Phase	56.1
	0.2	0.3	0.4	0.1	0.2	0.3	0.1	0.4	Ampl.	0.2
	66.7	229.6	176.0	48.0	368.9	348.9	502.1	10.9	Sbd box	175.9
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	
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	Manl 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 Tracks	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	2.60540553271E+03	Apriori delay (usec)	2.60572462423E+03	Resid mbdelay (usec)	-6.59152E-03	+/-	1.8E-04
Sband delay (usec)	2.60540767723E+03	Apriori clock (usec)	-4.1179302E+01	Resid sbdelay (usec)	-3.16947E-01	+/-	1.4E-03
Phase delay (usec)	2.60572462604E+03	Apriori clockrate (us/s)	-5.2260003E-07	Resid phdelay (usec)	1.81000E-06	+/-	6.1E-07
Delay rate (us/s)	1.90034949901E+00	Apriori rate (us/s)	1.90035963771E+00	Resid rate (us/s)	-1.01387E-05	+/-	5.9E-09
Total phase (deg)	103.3	Apriori accel (us/s/s)	-1.52710788775E-05	Resid phase (deg)	56.1	+/-	18.9

	RMS	Theor.							
			Amplitude	0.238 +/- 0.039	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	58.7	44.3	Search (1024X32)	0.162	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	72.2	77.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	28.7	26.7	Inc. seg. avg.	0.250	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	47.7	46.6	Inc. frq. avg.	0.227	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

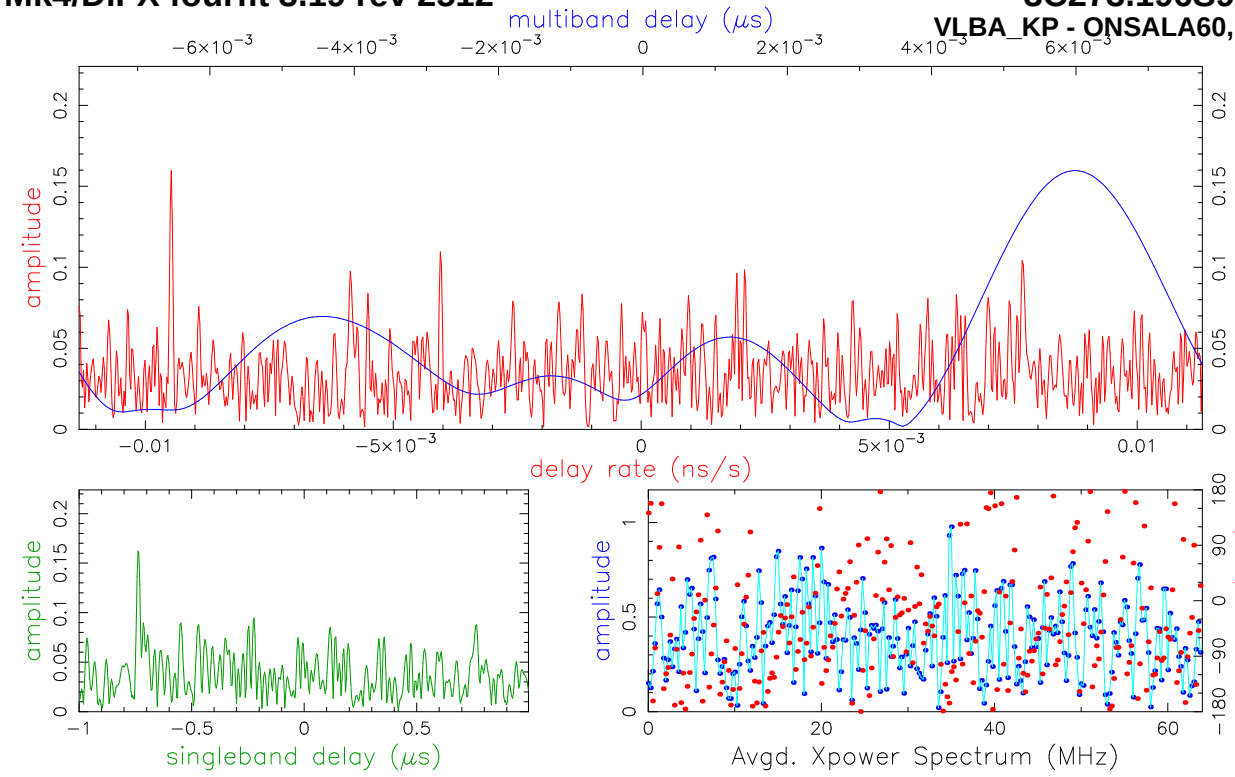
k: az 103.6 el 24.0 pa -55.6 X: az 245.8 el 16.9 pa 29.5 u,v (fr/asec) -10898.391 -2809.716 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kX..196S98 Output file: /Exps/c201e/v1/1234/No0051/kX.W.139.196S98

Mk4/DiFX fourfit 3.19 rev 2512

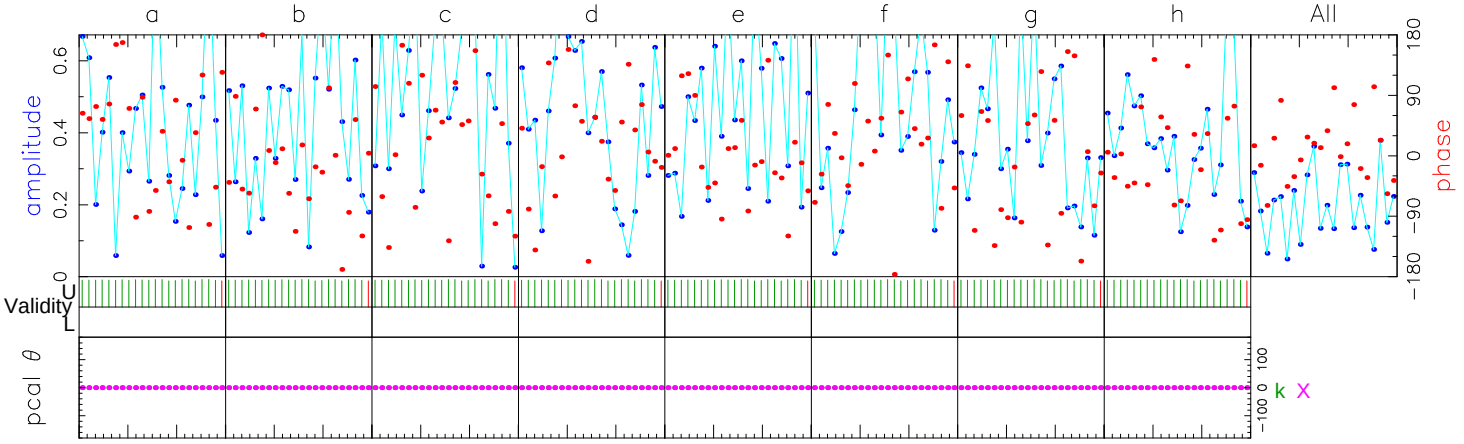
3C273.196S98, No0051, kX

VLBA_KP - ONSALA60, fgroup W, pol RL



Fringe quality	0
SNR	6.0
Int time	176.688
Amp	0.224
Phase	11.5
PFD	2.4e-01
Delays (us)	
SBD	-0.736624
MBD	0.005965
Fringe rate (Hz)	
	-0.817486
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153905
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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



	a	b	c	d	e	f	g	h	Freq (MHz)	All
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00		
	17.3	-7.9	42.0	21.5	-5.8	38.6	-20.7	9.5	Phase	11.5
	0.1	0.3	0.2	0.2	0.4	0.2	0.0	0.2	Ampl.	0.2
	285.8	173.4	383.6	197.1	217.2	74.8	216.1	30.4	Sbd box	68.4
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	
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	Manl 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 Tracks	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	2.60498058968E+03	Apriori delay (usec)	2.60572462423E+03	Resid mbdelay (usec)	5.96545E-03	+/-	1.8E-04
Sband delay (usec)	2.60498800048E+03	Apriori clock (usec)	-4.1179302E+01	Resid sbdelay (usec)	-7.36624E-01	+/-	1.4E-03
Phase delay (usec)	2.60572462460E+03	Apriori clockrate (us/s)	-5.2260003E-07	Resid phdelay (usec)	3.69991E-07	+/-	6.2E-07
Delay rate (us/s)	1.90035014751E+00	Apriori rate (us/s)	1.90035963771E+00	Resid rate (us/s)	-9.49020E-06	+/-	5.9E-09
Total phase (deg)	58.6	Apriori accel (us/s/s)	-1.52710788775E-05	Resid phase (deg)	11.5	+/-	19.1

	RMS	Theor.					
			Amplitude	0.224 +/- 0.037	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	47.9	44.9	Search (1024X32)	0.157	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	60.4	78.3	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	24.2	27.0	Inc. seg. avg.	0.209	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	46.0	47.2	Inc. frq. avg.	0.207	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

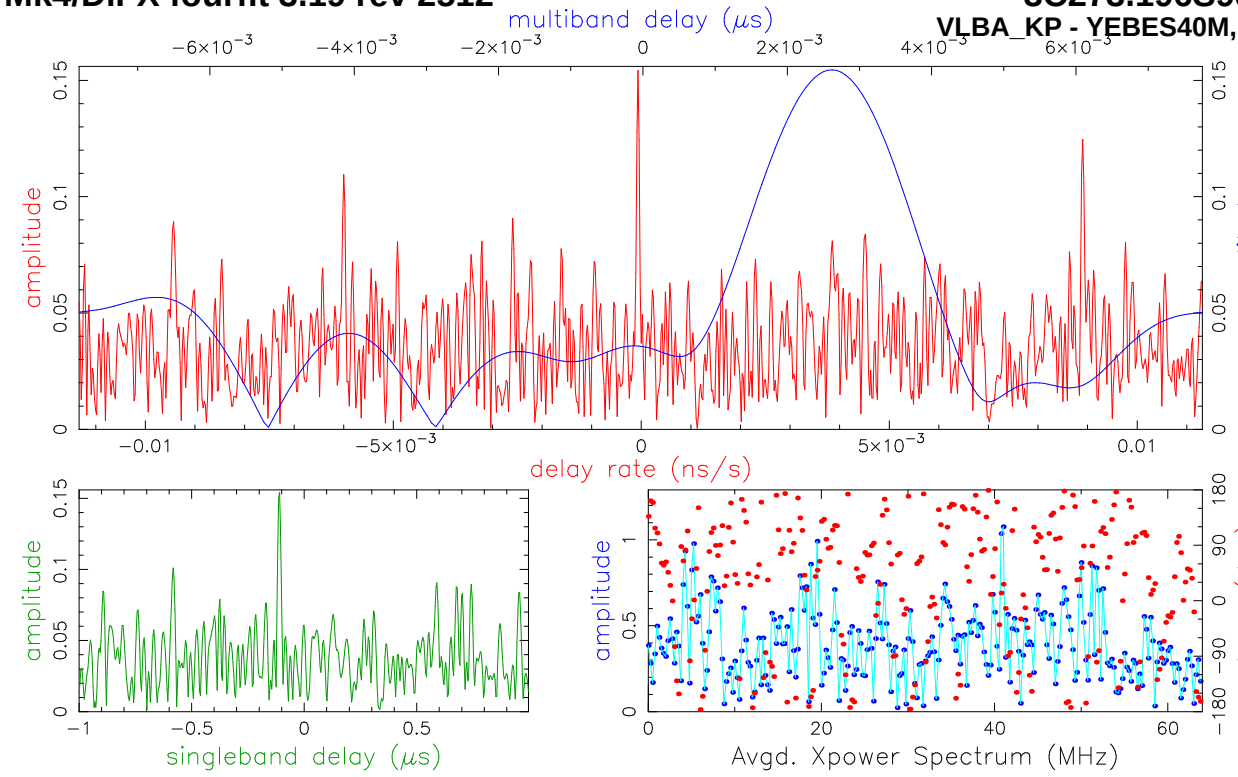
k: az 103.6 el 24.0 pa -55.6 X: az 245.8 el 16.9 pa 29.5 u,v (fr/asec) -10898.391 -2809.716 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kX..196S98 Output file: /Exps/c201e/v1/1234/No0051/kX.W.149.196S98

Mk4/DiFX fourfit 3.19 rev 2512

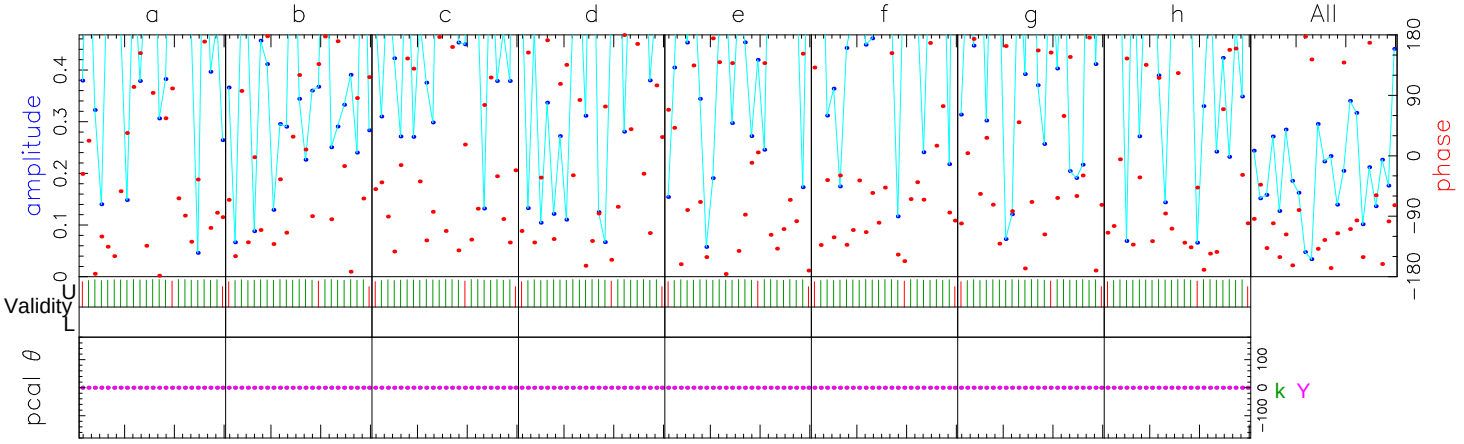
3C273.196S98, No0051, kY

VLBA_KP - YEBES40M, fgroup W, pol LL



Fringe quality	0
SNR	5.6
Int time	171.093
Amp	0.156
Phase	-121.7
PFD	9.5e-01
Delays (us)	
SBD	-0.110760
MBD	0.002547
Fringe rate (Hz)	
	-0.005450
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012005.12
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153903
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 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
	-142.8	-133.6	-108.5	-137.6	-135.3	-97.1	-106.4	-133.5	Phase	-121.7
	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	Ampl.	0.1
	213.2	479.9	275.0	199.9	309.8	238.8	144.2	161.2	Sbd box	228.6
U/L	342/0	342/0	342/0	342/0	342/0	342/0	342/0	342/0	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	Manl 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 Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-2.90014008606E+03	Apriori delay (usec)	-2.90003325772E+03	Resid mbdelay (usec)	2.54666E-03	+/-	1.9E-04
Sband delay (usec)	-2.90014401747E+03	Apriori clock (usec)	-1.2330309E+01	Resid sbdelay (usec)	-1.10760E-01	+/-	1.5E-03
Phase delay (usec)	-2.90003326164E+03	Apriori clockrate (us/s)	-2.1460000E-07	Resid phdelay (usec)	-3.92406E-06	+/-	6.6E-07
Delay rate (us/s)	2.01858855294E+00	Apriori rate (us/s)	2.01858861621E+00	Resid rate (us/s)	-6.32699E-08	+/-	6.6E-09
Total phase (deg)	-56.9	Apriori accel (us/s/s)	1.48953077027E-05	Resid phase (deg)	-121.7	+/-	20.5

	RMS	Theor.							
			Amplitude	0.156 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	47.3	49.2	Search (1024X32)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	64.8	86.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	19.1	29.0	Inc. seg. avg.	0.148	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	42.8	50.7	Inc. frq. avg.	0.143	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

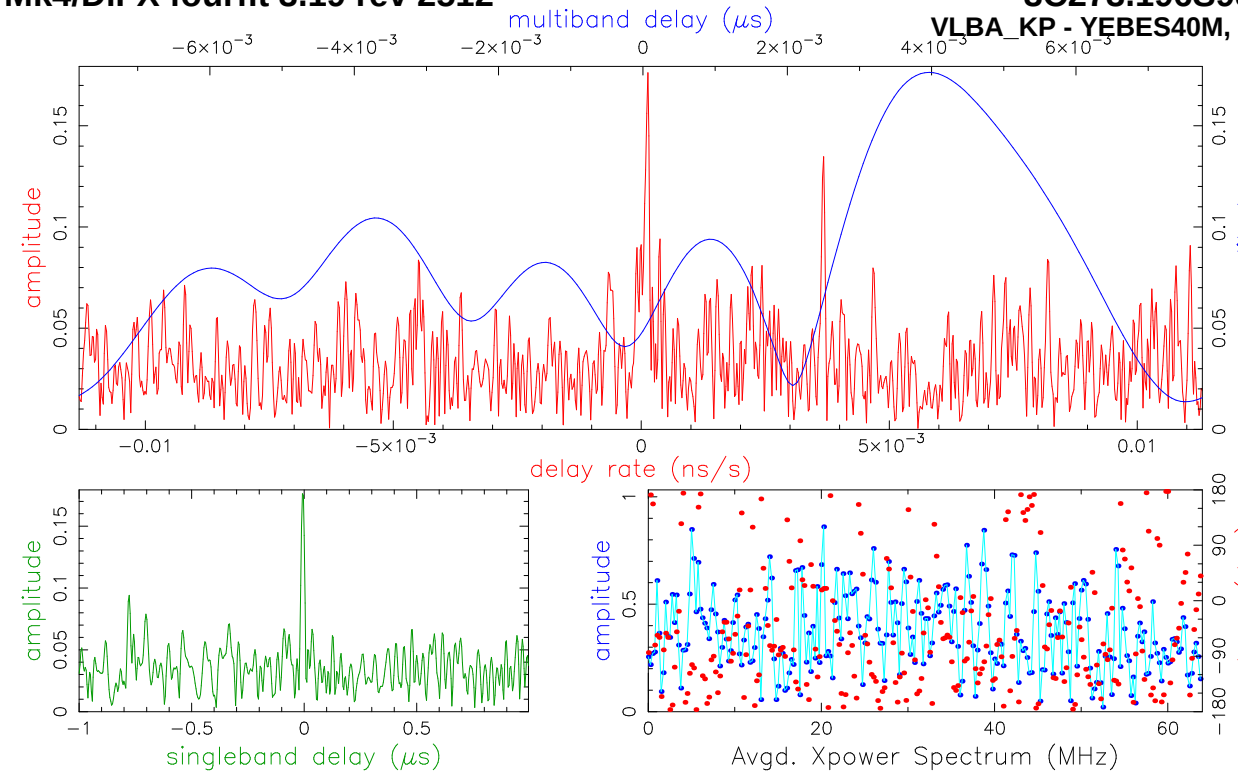
k: az 103.6 el 24.0 pa -55.6 Y: az 239.3 el 33.4 pa 40.9 u,v (fr/asec) -11560.022 -1021.017 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kY..196S98 Output file: /Exps/c201e/v1/1234/No0051/kY.W.135.196S98

Mk4/DiFX fourfit 3.19 rev 2512

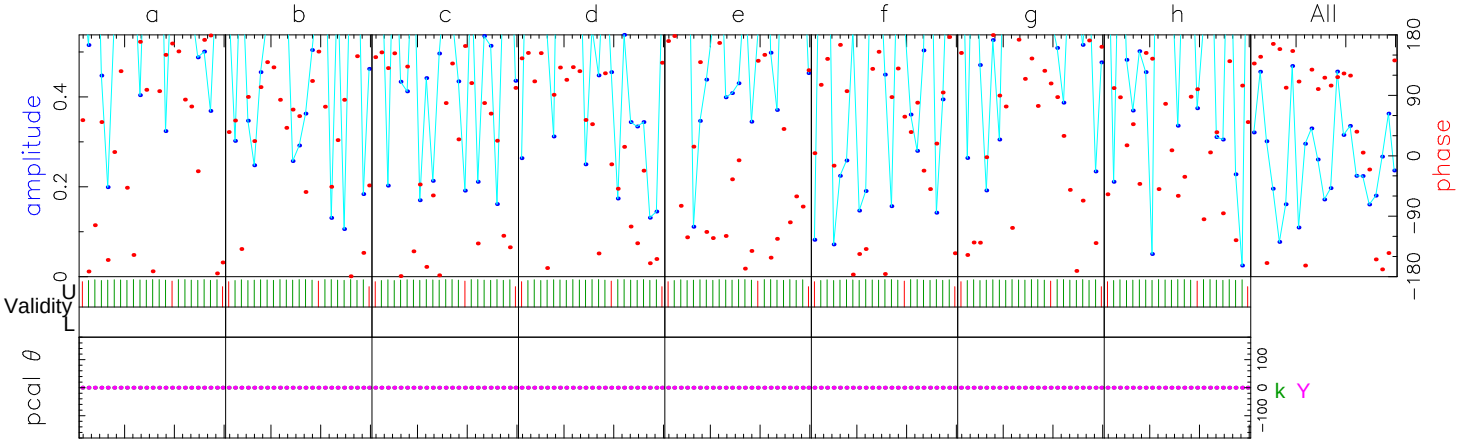
3C273.196S98, No0051, kY

VLBA_KP - YEBES40M, fgroup W, pol RR



Fringe quality	0
SNR	6.4
Int time	171.093
Amp	0.179
Phase	141.9
PFD	1.9e-02
Delays (us)	
SBD	-0.006043
MBD	0.004032
Fringe rate (Hz)	
	0.012073
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012005.12
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153905
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 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
	147.3	99.2	152.0	131.7	-139.8	134.7	154.0	16.9	Phase	141.9
	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	Ampl.	0.2
	170.3	274.6	254.6	254.5	254.9	44.7	86.7	108.2	Sbd box	255.5
U/L	342/0	342/0	342/0	342/0	342/0	342/0	342/0	342/0	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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-2.90004485023E+03	Apriori delay (usec)	-2.90003325772E+03	Resid mbdelay (usec)	4.03249E-03	+/-	1.7E-04
Sband delay (usec)	-2.90003930097E+03	Apriori clock (usec)	-1.2330309E+01	Resid sbdelay (usec)	-6.04325E-03	+/-	1.3E-03
Phase delay (usec)	-2.90003325315E+03	Apriori clockrate (us/s)	-2.1460000E-07	Resid phdelay (usec)	4.57508E-06	+/-	5.8E-07
Delay rate (us/s)	2.01858875637E+00	Apriori rate (us/s)	2.01858861621E+00	Resid rate (us/s)	1.40157E-07	+/-	5.7E-09
Total phase (deg)	-153.4	Apriori accel (us/s/s)	1.48953077027E-05	Resid phase (deg)	141.9	+/-	17.9

	RMS	Theor.						
			Amplitude	0.179 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
ph/seg (deg)	60.8	42.8	Search (1024X32)	0.174	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
amp/seg (%)	75.8	74.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	63.3	25.3	Inc. seg. avg.	0.208	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011 0.011
amp/frq (%)	45.9	44.1	Inc. frq. avg.	0.231	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

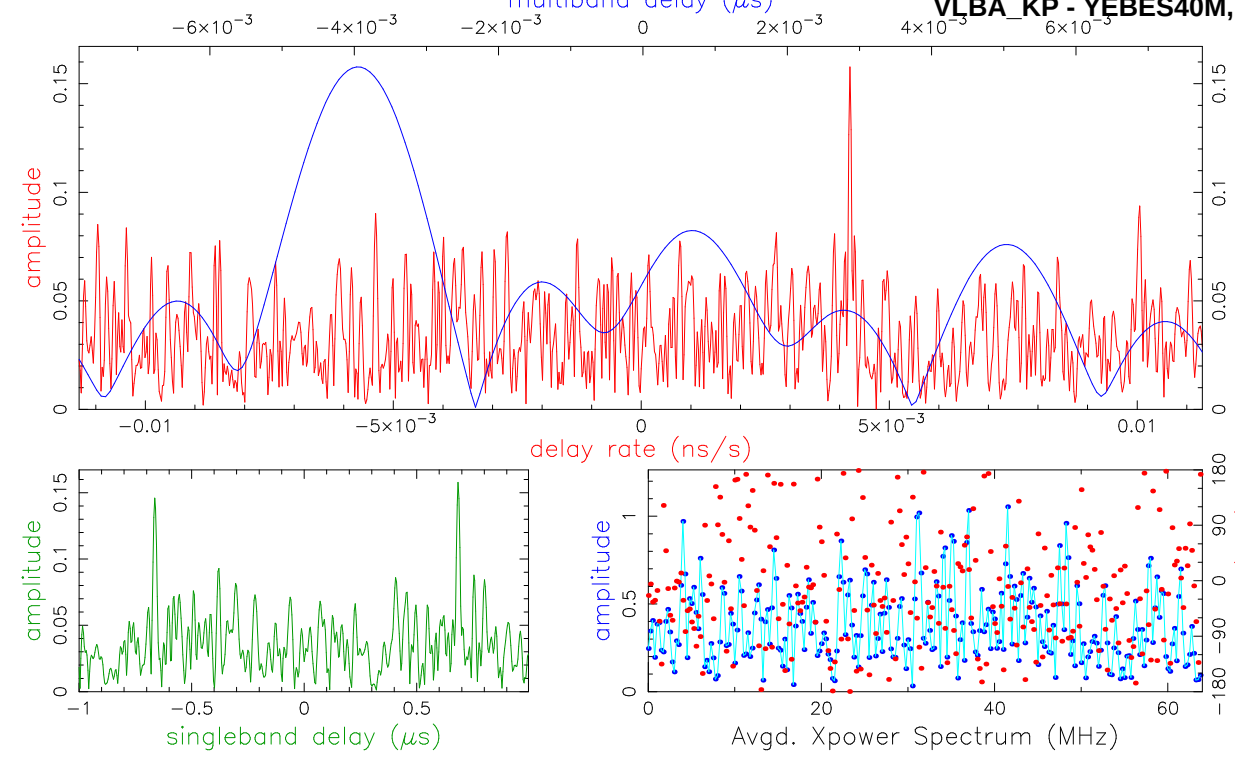
k: az 103.6 el 24.0 pa -55.6 Y: az 239.3 el 33.4 pa 40.9 u,v (fr/asec) -11560.022 -1021.017 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kY..196S98 Output file: /Exps/c201e/v1/1234/No0051/kY.W.145.196S98

Mk4/DiFX fourfit 3.19 rev 2512

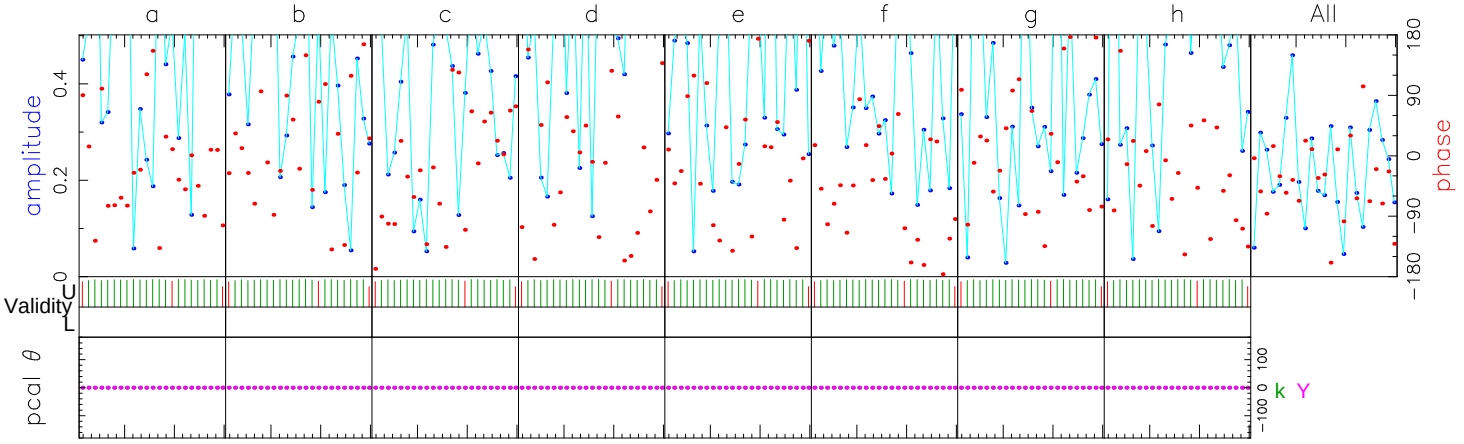
3C273.196S98, No0051, kY

VLBA_KP - YEBES40M, fgroup W, pol LR



Fringe quality	0
SNR	5.6
Int time	171.093
Amp	0.167
Phase	-39.0
PFD	8.6e-01
Delays (us)	
SBD	0.683909
MBD	-0.003940
Fringe rate (Hz)	
	0.362896
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012005.12
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153906
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 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
	-55.3	7.4	-15.3	-71.6	-15.4	-45.4	-27.1	-48.9	Phase	-39.0
	0.3	0.1	0.1	0.2	0.2	0.2	0.1	0.3	Ampl.	0.2
	432.1	85.1	267.2	286.2	298.4	151.2	410.3	431.8	Sbd box	432.1
U/L	342/0	342/0	342/0	342/0	342/0	342/0	342/0	342/0	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	Manl 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 Tracks	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	-2.89934969727E+03	Apriori delay (usec)	-2.90003325772E+03	Resid mbdelay (usec)	-3.93954E-03	+/-	1.9E-04
Sband delay (usec)	-2.89934934872E+03	Apriori clock (usec)	-1.2330309E+01	Resid sbdelay (usec)	6.83909E-01	+/-	1.5E-03
Phase delay (usec)	-2.90003325898E+03	Apriori clockrate (us/s)	-2.1460000E-07	Resid phdelay (usec)	-1.25747E-06	+/-	6.5E-07
Delay rate (us/s)	2.01859282907E+00	Apriori rate (us/s)	2.01858861621E+00	Resid rate (us/s)	4.21286E-06	+/-	6.5E-09
Total phase (deg)	-334.2	Apriori accel (us/s/s)	1.48953077027E-05	Resid phase (deg)	-39.0	+/-	20.3

	RMS	Theor.							
			Amplitude	0.167 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	55.0	48.7	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	76.9	84.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	28.5	28.7	Inc. seg. avg.	0.176	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	42.7	50.1	Inc. frq. avg.	0.161	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

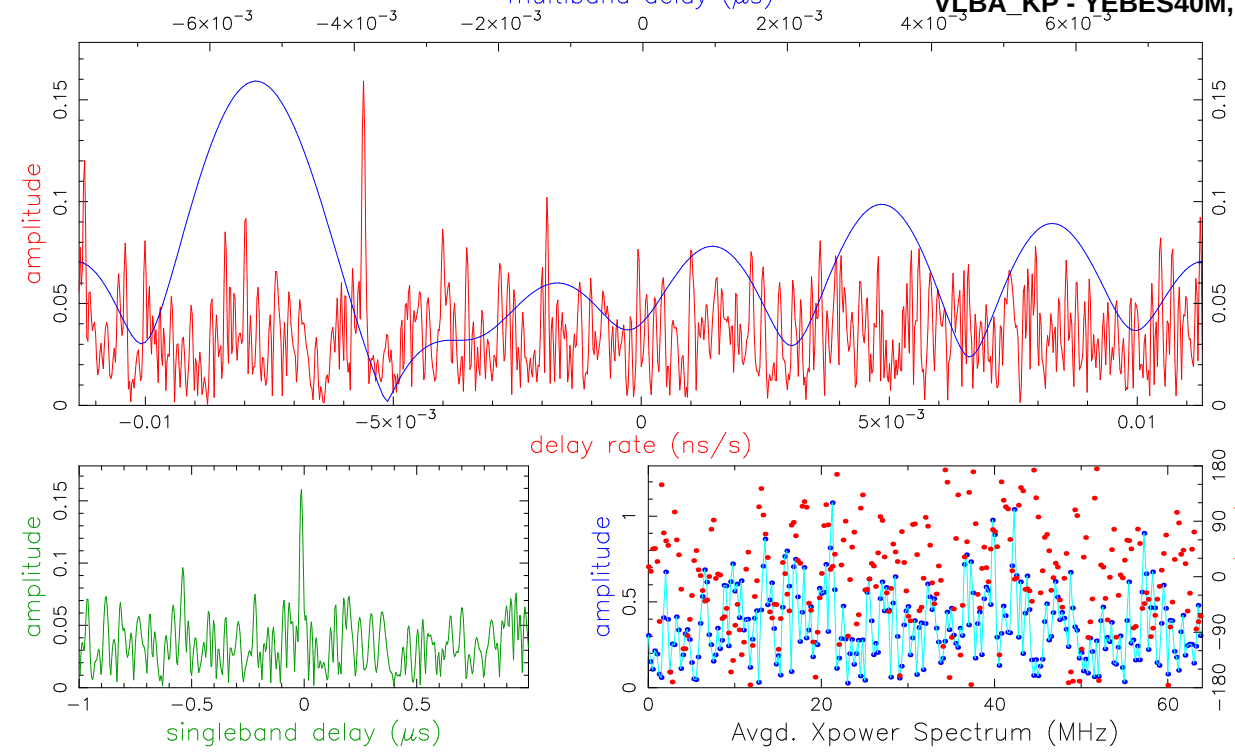
k: az 103.6 el 24.0 pa -55.6 Y: az 239.3 el 33.4 pa 40.9 u,v (fr/asec) -11560.022 -1021.017 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kY..196S98 Output file: /Exps/c201e/v1/1234/No0051/kY.W.155.196S98

Mk4/DiFX fourfit 3.19 rev 2512

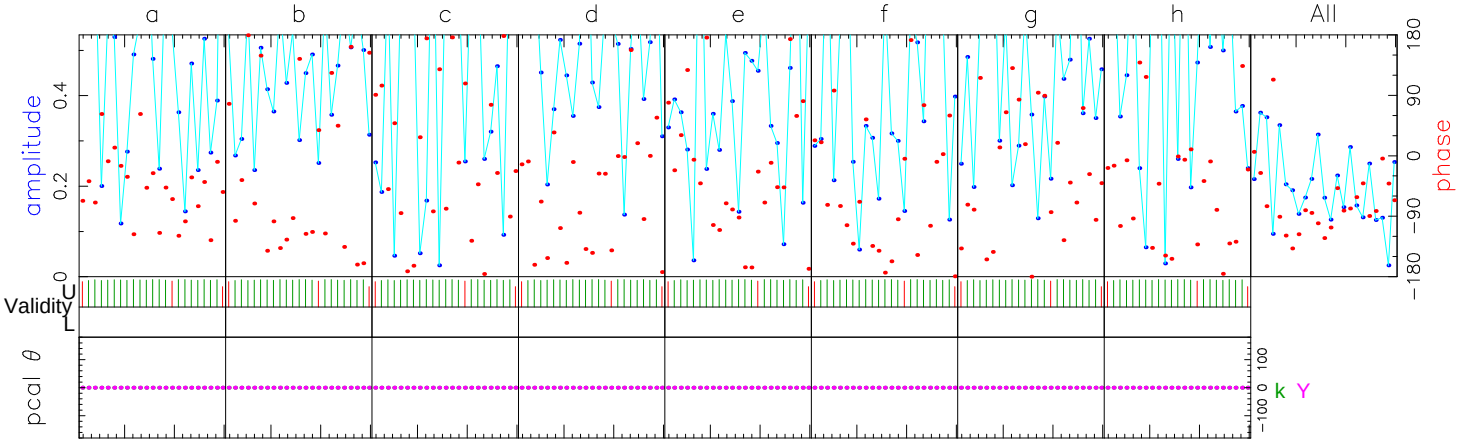
3C273.196S98, No0051, kY

VLBA_KP - YEBES40M, fgroup W, pol RL



Fringe quality	0
SNR	5.7
Int time	171.093
Amp	0.178
Phase	-77.6
PFD	6.7e-01
Delays (us)	
SBD	-0.012992
MBD	-0.005383
Fringe rate (Hz)	
	-0.483305
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012005.12
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153908
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

Amp. and Phase vs. time for each freq., 23 segs, 15 APs / seg (7.68 sec / seg.), time ticks 10 sec



	a	b	c	d	e	f	g	h	Freq (MHz)	All
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00		
	-46.3	-147.8	-86.8	-62.9	-63.9	-100.7	-60.5	-67.9	Phase	-77.6
	0.4	0.3	0.2	0.2	0.1	0.2	0.1	0.3	Ampl.	0.2
	254.4	285.0	23.8	429.1	469.4	214.7	250.9	239.1	Sbd box	253.7
U/L	342/0	342/0	342/0	342/0	342/0	342/0	342/0	342/0	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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	-2.90003864104E+03	Apriori delay (usec)	-2.90003325772E+03	Resid mbdelay (usec)	-5.38332E-03	+/-	1.9E-04
Sband delay (usec)	-2.90004624972E+03	Apriori clock (usec)	-1.2330309E+01	Resid sbdelay (usec)	-1.29920E-02	+/-	1.5E-03
Phase delay (usec)	-2.90003326022E+03	Apriori clockrate (us/s)	-2.1460000E-07	Resid phdelay (usec)	-2.50235E-06	+/-	6.4E-07
Delay rate (us/s)	2.01858300552E+00	Apriori rate (us/s)	2.01858861621E+00	Resid rate (us/s)	-5.61069E-06	+/-	6.4E-09
Total phase (deg)	-12.8	Apriori accel (us/s/s)	1.48953077027E-05	Resid phase (deg)	-77.6	+/-	19.9

	RMS	Theor.					
			Amplitude	0.178 +/- 0.031	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	50.2	47.8	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	58.7	83.4	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	34.9	28.2	Inc. seg. avg.	0.165	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	55.2	49.2	Inc. frq. avg.	0.186	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

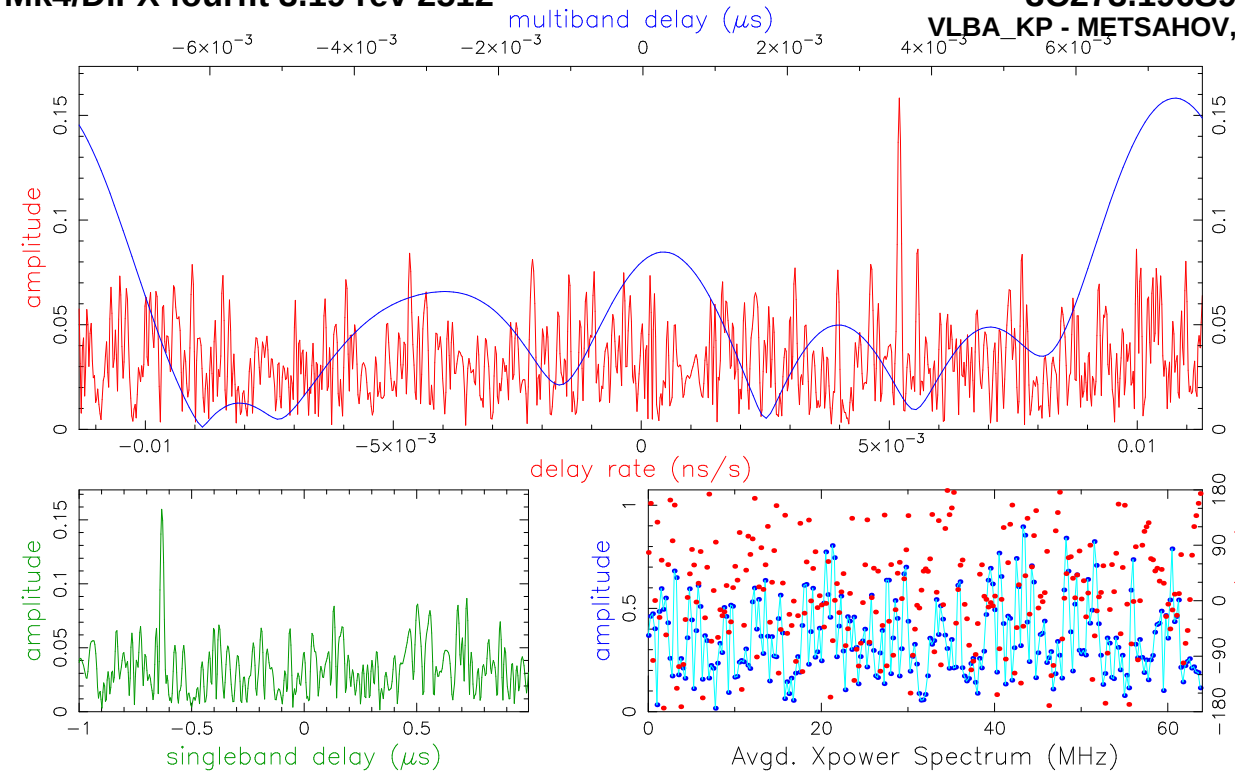
k: az 103.6 el 24.0 pa -55.6 Y: az 239.3 el 33.4 pa 40.9 u,v (fr/asec) -11560.022 -1021.017 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kY..196S98 Output file: /Exps/c201e/v1/1234/No0051/kY.W.168.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kZ

VLBA_KP - METSAHOV, fgroup W, pol LL

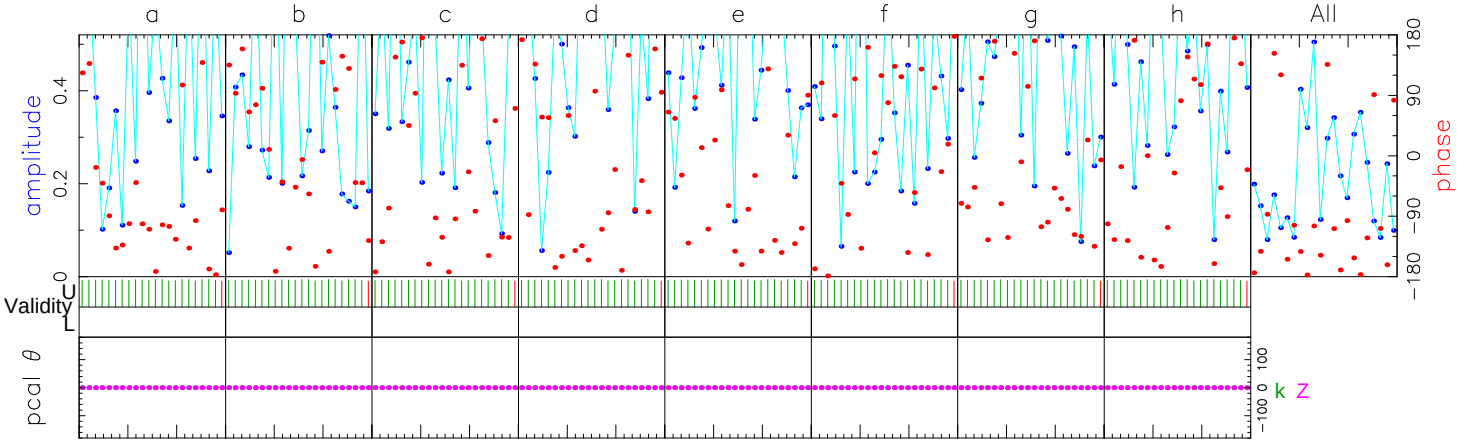


Fringe quality 0

SNR 5.8
Int time 176.442
Amp 0.173
Phase -152.6
PFD 6.4e-01
Delays (us)
SBD -0.632113
MBD 0.007365
Fringe rate (Hz)
0.449169
Ion TEC 0.000
Ref freq (MHz)
86140.0000
AP (sec) 0.512

Exp. c201e
Exper # 16383
Yr:day 2020:119
Start 012000.00
Stop 012300.22
FRT 012130.00
Corr/FF/build
2020:206:025257
2020:206:153901
2020:014:135814
RA & Dec (J2000)
12h29m06.699731s
+02°03'08.598201"

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
	-138.1	-165.7	-166.3	-164.4	-113.5	159.7	-100.4	-164.3	Phase	-152.6
	0.3	0.1	0.2	0.3	0.1	0.2	0.2	0.2	Ampl.	0.2
	95.1	475.9	15.9	94.3	153.9	463.3	93.4	187.0	Sbd box	95.2
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	
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	Manl 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 Tracks	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	5.18282107515E+03	Apriori delay (usec)	5.18345433470E+03	Resid mbdelay (usec)	7.36545E-03	+/-	1.9E-04
Sband delay (usec)	5.18282222220E+03	Apriori clock (usec)	-2.2302842E-01	Resid sbdelay (usec)	-6.32113E-01	+/-	1.5E-03
Phase delay (usec)	5.18345432978E+03	Apriori clockrate (us/s)	-1.0600001E-08	Resid phdelay (usec)	-4.91958E-06	+/-	6.4E-07
Delay rate (us/s)	1.90730278038E+00	Apriori rate (us/s)	1.90729756598E+00	Resid rate (us/s)	5.21440E-06	+/-	6.2E-09
Total phase (deg)	-11.6	Apriori accel (us/s/s)	-2.88555186175E-05	Resid phase (deg)	-152.6	+/-	19.9

	RMS	Theor.							
			Amplitude	0.173 +/- 0.030	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	53.9	46.6	Search (1024X32)	0.152	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000	1.000
amp/seg (%)	81.5	81.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	35.1	28.1	Inc. seg. avg.	0.178	Sample rate(MSamp/s): 128		dr window (ns/s)	-0.011	0.011
amp/frq (%)	38.5	49.1	Inc. frq. avg.	0.176	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

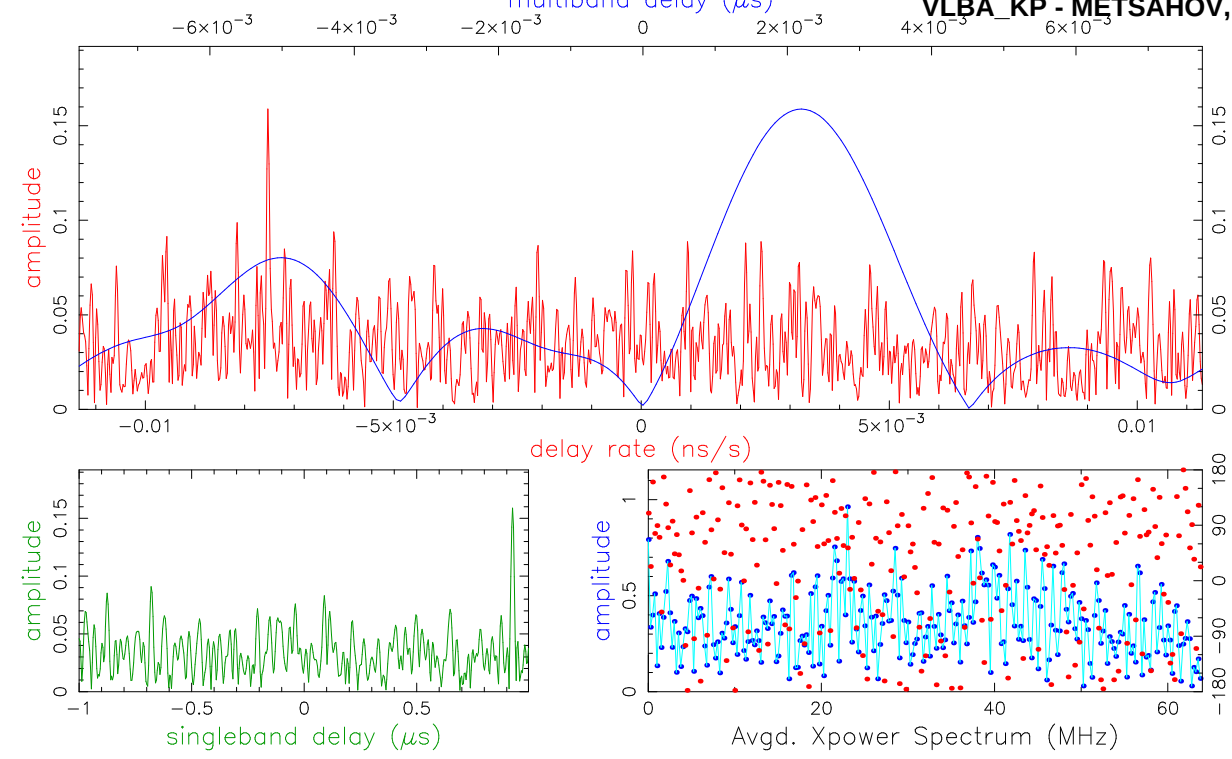
k: az 103.6 el 24.0 pa -55.6 Z: az 256.4 el 9.9 pa 28.9 u,v (fr/asec) -10945.133 -3072.582 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kZ..196S98 Output file: /Exps/c201e/v1/1234/No0051/kZ.W.124.196S98

Mk4/DiFX fourfit 3.19 rev 2512

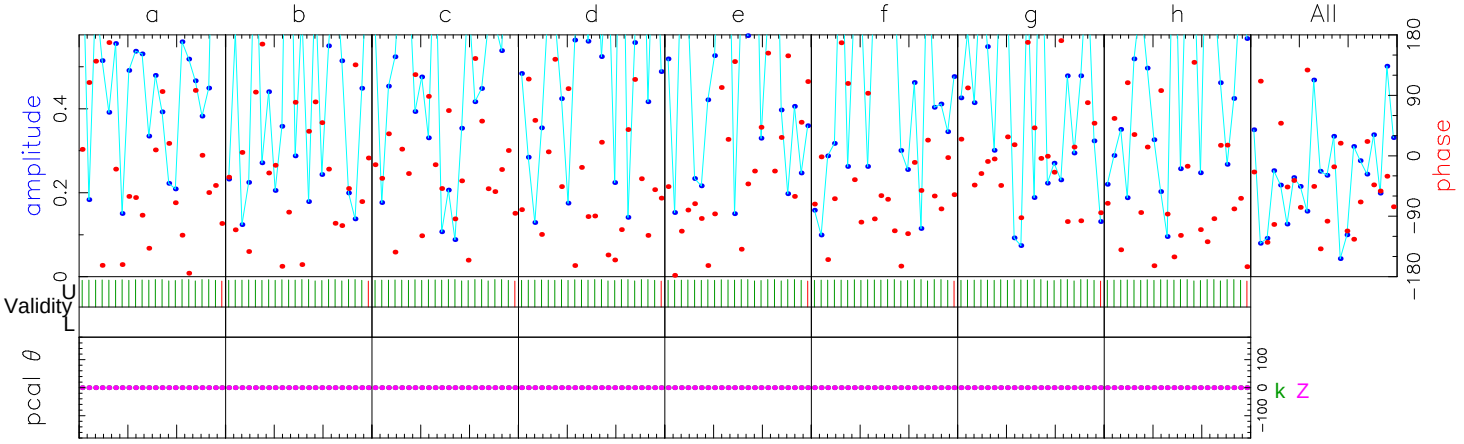
3C273.196S98, No0051, kZ

VLBA_KP - METSAHOV, fgroup W, pol RR



Fringe quality	0
SNR	5.8
Int time	176.442
Amp	0.192
Phase	-54.8
PFD	6.3e-01
Delays (us)	
SBD	0.925813
MBD	0.002192
Fringe rate (Hz)	
	-0.650260
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153903
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-65.6	-64.2	-28.5	-76.8	-41.2	-72.4	-2.1	-94.9	Phase	-54.8
	0.2	0.1	0.3	0.3	0.2	0.3	0.2	0.2	Ampl.	0.2
	177.0	391.4	426.5	492.7	28.5	246.2	40.8	344.7	Sbd box	494.0
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	
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	5.18437840190E+03	Apriori delay (usec)	5.18345433470E+03	Resid mbdelay (usec)	2.19219E-03	+/-	1.9E-04
Sband delay (usec)	5.18438014770E+03	Apriori clock (usec)	-2.2302842E-01	Resid sbdelay (usec)	9.25813E-01	+/-	1.5E-03
Phase delay (usec)	5.18345433294E+03	Apriori clockrate (us/s)	-1.0600001E-08	Resid phdelay (usec)	-1.76709E-06	+/-	6.4E-07
Delay rate (us/s)	1.90729001710E+00	Apriori rate (us/s)	1.90729756598E+00	Resid rate (us/s)	-7.54888E-06	+/-	6.2E-09
Total phase (deg)	86.1	Apriori accel (us/s/s)	-2.88555186175E-05	Resid phase (deg)	-54.8	+/-	19.9

	RMS	Theor.					
			Amplitude	0.192 +/- 0.033	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	70.9	46.6	Search (1024X32)	0.158	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	90.3	81.3	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	32.3	28.1	Inc. seg. avg.	0.222	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	30.9	49.0	Inc. frq. avg.	0.195	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

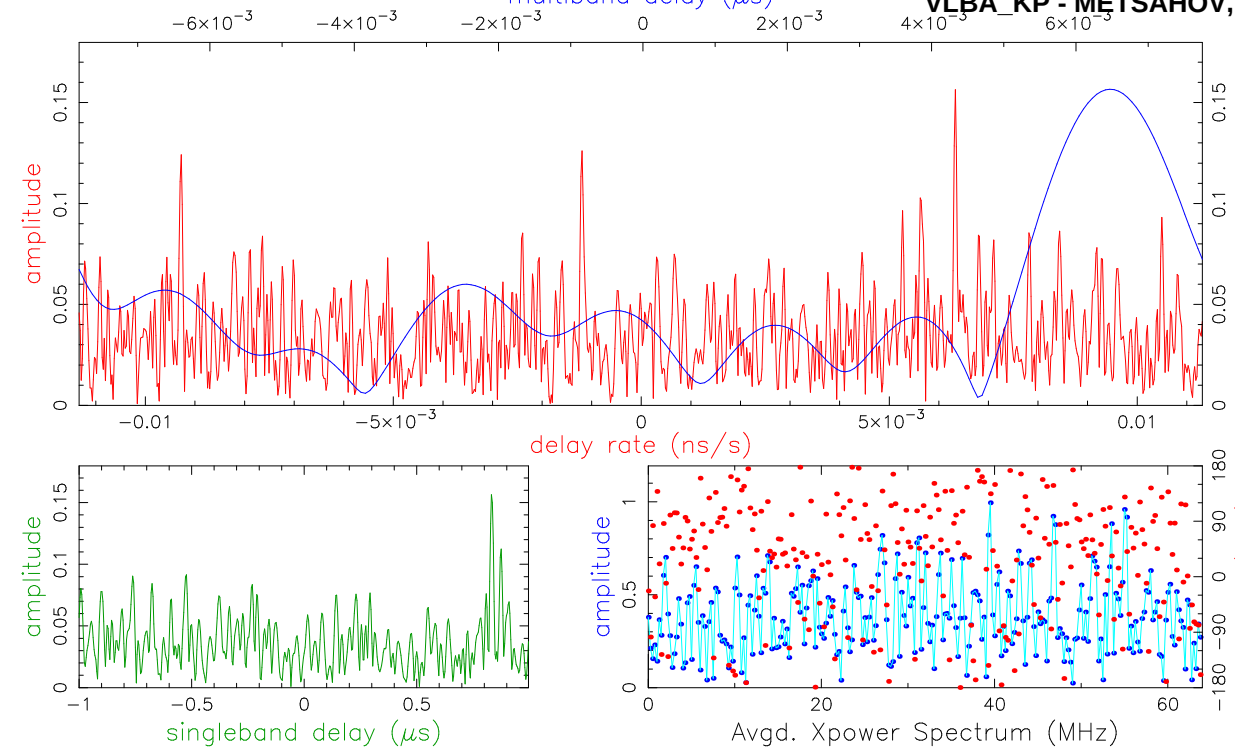
k: az 103.6 el 24.0 pa -55.6 Z: az 256.4 el 9.9 pa 28.9 u,v (fr/asec) -10945.133 -3072.582 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kZ..196S98 Output file: /Exps/c201e/v1/1234/No0051/kZ.W.137.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kZ

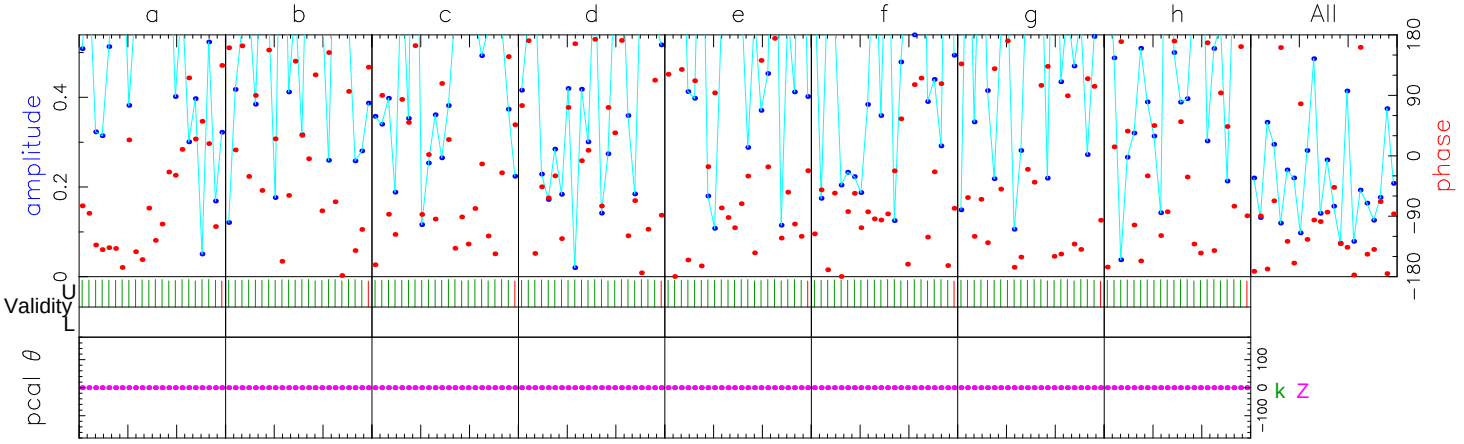
VLBA_KP - METSAHOV, fgroup W, pol LR



Fringe quality 0

SNR	5.7
Int time	176.442
Amp	0.180
Phase	-127.6
PFD	7.2e-01
Delays (us)	
SBD	0.833138
MBD	0.006536
Fringe rate (Hz)	
	0.545674
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153905
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	-104.8	-160.3	-124.6	-164.9	-141.0	-122.6	-125.2	-122.8	Phase	-127.6
	0.3	0.1	0.1	0.1	0.3	0.2	0.2	0.2	Ampl.	0.2
	478.4	477.8	298.6	115.2	470.7	451.2	226.1	313.3	Sbd box	470.3
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl 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 Tracks	
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	

Group delay (usec)(sbd)	5.18428899544E+03	Apriori delay (usec)	5.18345433470E+03	Resid mbdelay (usec)	6.53573E-03	+/-	1.9E-04
Sband delay (usec)	5.18428747220E+03	Apriori clock (usec)	-2.2302842E-01	Resid sbdelay (usec)	8.33138E-01	+/-	1.5E-03
Phase delay (usec)	5.18345433059E+03	Apriori clockrate (us/s)	-1.0600001E-08	Resid phdelay (usec)	-4.11393E-06	+/-	6.5E-07
Delay rate (us/s)	1.90730390072E+00	Apriori rate (us/s)	1.90729756598E+00	Resid rate (us/s)	6.33474E-06	+/-	6.2E-09
Total phase (deg)	13.3	Apriori accel (us/s/s)	-2.88555186175E-05	Resid phase (deg)	-127.6	+/-	20.0

	RMS	Theor.		
			Amplitude	0.180 +/- 0.031
ph/seg (deg)	54.4	46.9	Search (1024X32)	0.155
amp/seg (%)	78.7	81.9	Interp.	0.000
ph/frq (deg)	23.2	28.3	Inc. seg. avg.	0.187
amp/frq (%)	40.9	49.4	Inc. frq. avg.	0.166

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

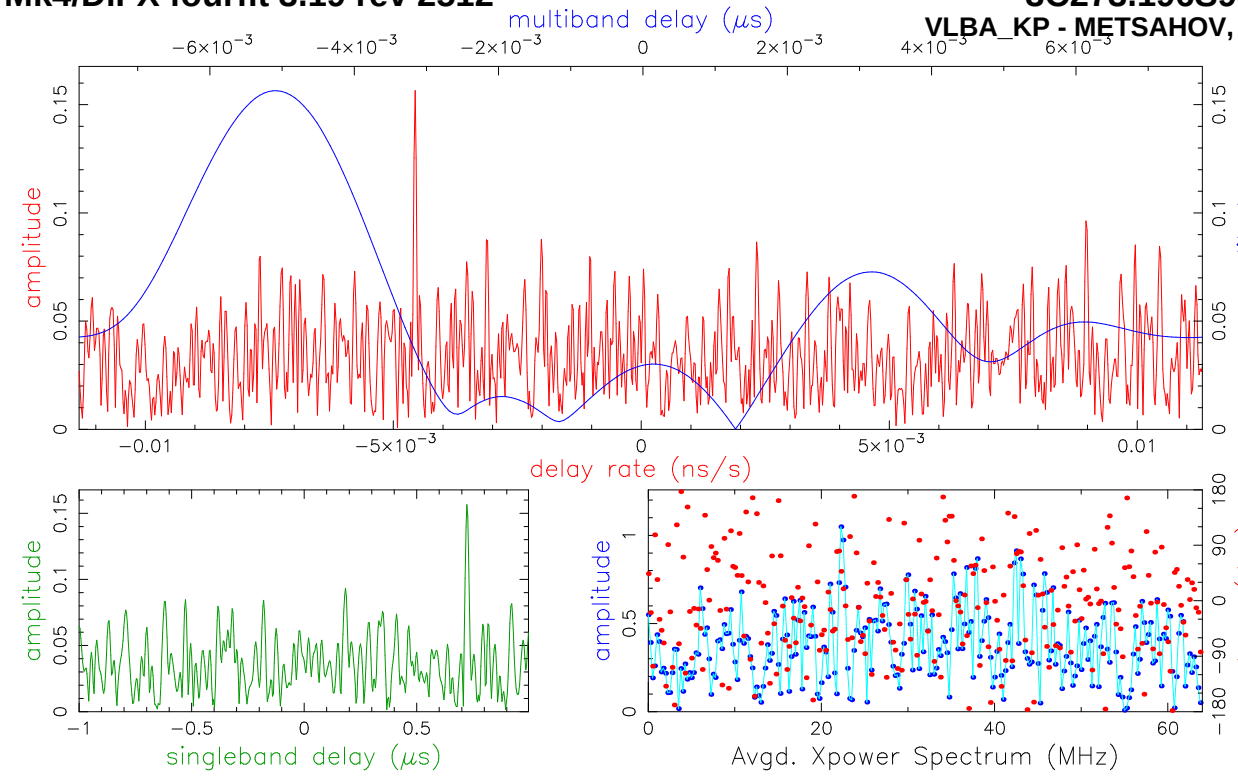
k: az 103.6 el 24.0 pa -55.6 Z: az 256.4 el 9.9 pa 28.9 u,v (fr/asec) -10945.133 -3072.582 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kZ..196S98 Output file: /Exps/c201e/v1/1234/No0051/kZ.W.147.196S98

Mk4/DiFX fourfit 3.19 rev 2512

3C273.196S98, No0051, kZ

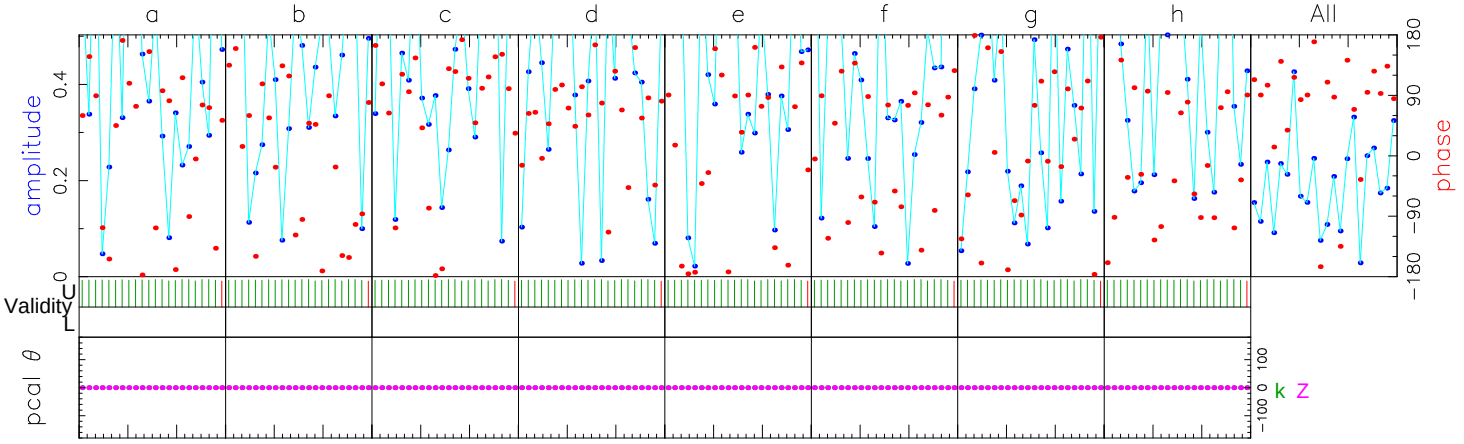
VLBA_KP - METSAHOV, fgroup W, pol RL



Fringe quality 0

SNR	5.7
Int time	176.442
Amp	0.168
Phase	106.3
PFD	7.8e-01
Delays (us)	
SBD	0.723216
MBD	-0.005098
Fringe rate (Hz)	
	-0.392930
Ion TEC	0.000
Ref freq (MHz)	
	86140.0000
AP (sec)	0.512
Exp.	c201e
Exper #	16383
Yr:day	2020:119
Start	012000.00
Stop	012300.22
FRT	012130.00
Corr/FF/build	
	2020:206:025257
	2020:206:153907
	2020:014:135814
RA & Dec (J2000)	
	12h29m06.699731s
	+02°03'08.598201"

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
	106.0	140.4	117.3	78.6	104.9	81.8	134.2	93.1	Phase	106.3
	0.2	0.1	0.4	0.3	0.2	0.1	0.2	0.0	Ampl.	0.2
	13.9	107.9	442.3	492.7	367.6	121.8	303.5	501.5	Sbd box	442.1
U/L	352/0	352/0	352/0	352/0	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
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	Manl PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Z	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids Tracks	
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids Tracks	

Group delay (usec)(sbd)	5.18418361141E+03	Apriori delay (usec)	5.18345433470E+03	Resid mbdelay (usec)	-5.09829E-03	+/-	1.9E-04
Sband delay (usec)	5.18417755120E+03	Apriori clock (usec)	-2.2302842E-01	Resid sbdelay (usec)	7.23216E-01	+/-	1.5E-03
Phase delay (usec)	5.18345433813E+03	Apriori clockrate (us/s)	-1.0600001E-08	Resid phdelay (usec)	3.42636E-06	+/-	6.5E-07
Delay rate (us/s)	1.90729300445E+00	Apriori rate (us/s)	1.90729756598E+00	Resid rate (us/s)	-4.56153E-06	+/-	6.2E-09
Total phase (deg)	247.2	Apriori accel (us/s/s)	-2.88555186175E-05	Resid phase (deg)	106.3	+/-	20.1

	RMS	Theor.					
			Amplitude	0.168 +/- 0.029	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
ph/seg (deg)	55.1	47.2	Search (1024X32)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
amp/seg (%)	64.4	82.4	Interp.	0.000	Bits/sample: 2x2 SampCntNorm: enabled	mb window (us)	-0.008 0.008
ph/frq (deg)	24.5	28.5	Inc. seg. avg.	0.157	Sample rate(MSamp/s): 128	dr window (ns/s)	-0.011 0.011
amp/frq (%)	62.6	49.7	Inc. frq. avg.	0.158	Data rate(Mb/s): 2048 nlags: 256 t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 103.6 el 24.0 pa -55.6 Z: az 256.4 el 9.9 pa 28.9 u,v (fr/asec) -10945.133 -3072.582 simultaneous interpolator

Control file: cf_1234_gmva Input file: /Exps/c201e/v1/1234/No0051/kZ..196S98 Output file: /Exps/c201e/v1/1234/No0051/kZ.W.158.196S98