

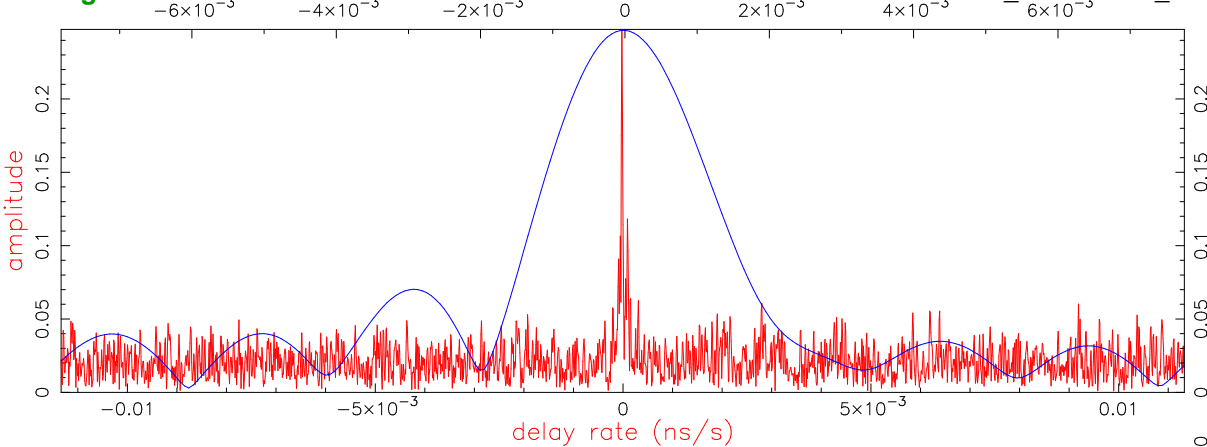
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, bm

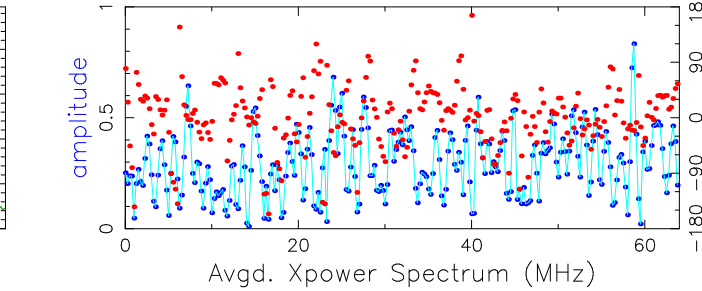
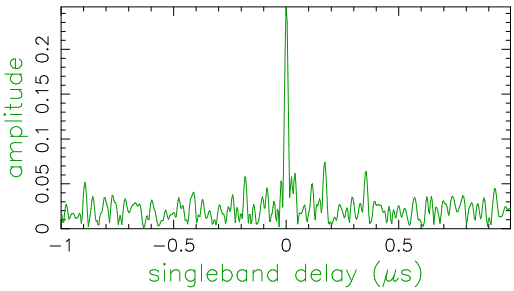
VLBA\_BR - VLBA\_MK, fgroup W, pol LL

multiband delay ( $\mu$ s)



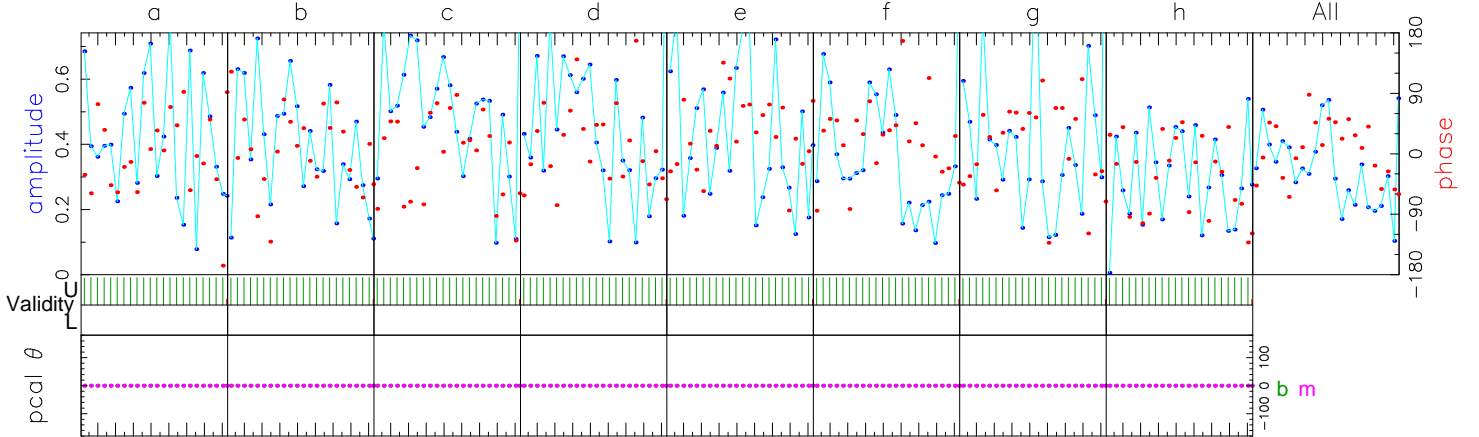
Fringe quality 9

SNR 14.8  
 Int time 476.980  
 Amp 0.247  
 Phase 10.7  
 PFD 1.3e-40  
 Delays (us)  
 SBD 0.000626  
 MBD -0.000012  
 Fringe rate (Hz)  
 -0.002039  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132444  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
b	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd) -7.01397165348E+01 Apriori delay (usec) -7.01397050329E+01 Resid mbdelay (usec) -1.15018E-05 +/- 7.3E-05  
 Sband delay (usec) -7.01390787829E+01 Apriori clock (usec) -1.5078144E+01 Resid sbdelay (usec) 6.26250E-04 +/- 5.8E-04  
 Phase delay (usec) -7.01397046872E+01 Apriori clockrate (us/s) -9.9999991E-08 Resid phdelay (usec) 3.45701E-07 +/- 2.5E-07  
 Delay rate (us/s) -4.93697572872E-01 Apriori rate (us/s) -4.93697549204E-01 Resid rate (us/s) -2.36687E-08 +/- 9.1E-10  
 Total phase (deg) -58.2 Apriori accel (us/s/s) 3.06487522015E-05 Resid phase (deg) 10.7 +/- 7.8

ph/seg (deg) 41.5 18.6 RMS Theor. Amplitude 0.247 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 54.5 32.5 Search (2048X32) 0.245 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 19.6 11.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 14.2 19.1 Inc. seg. avg. 0.306 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

b: az 263.6 el 68.2 pa 62.3 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 3825.568 4785.962 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm.W.10.11M249

Mk4/DiFX fourfit 3.21 rev 2937

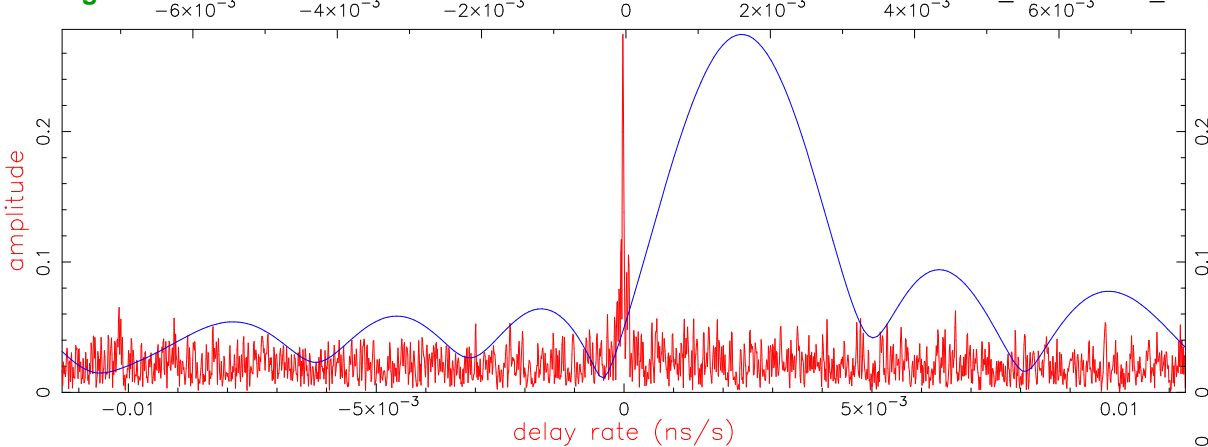
fxmanager

3C84.1IM249, No0105, bm

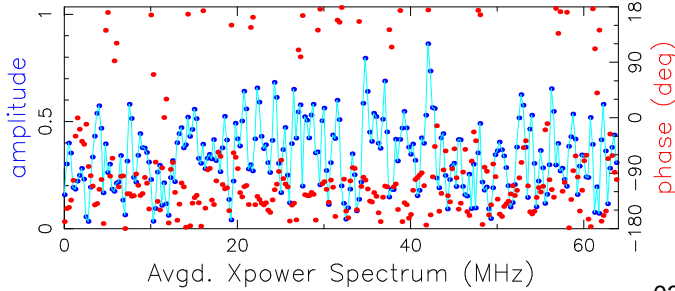
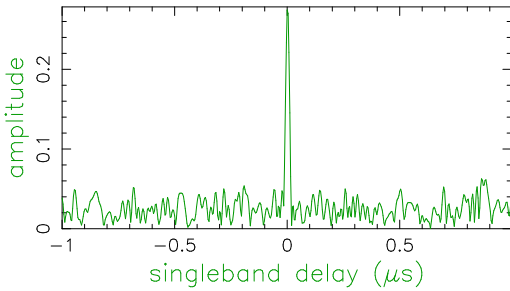
VLBA\_BR - VLBA\_MK, fgroup W, pol RR

multiband delay ( $\mu$ s)

Fringe quality 9

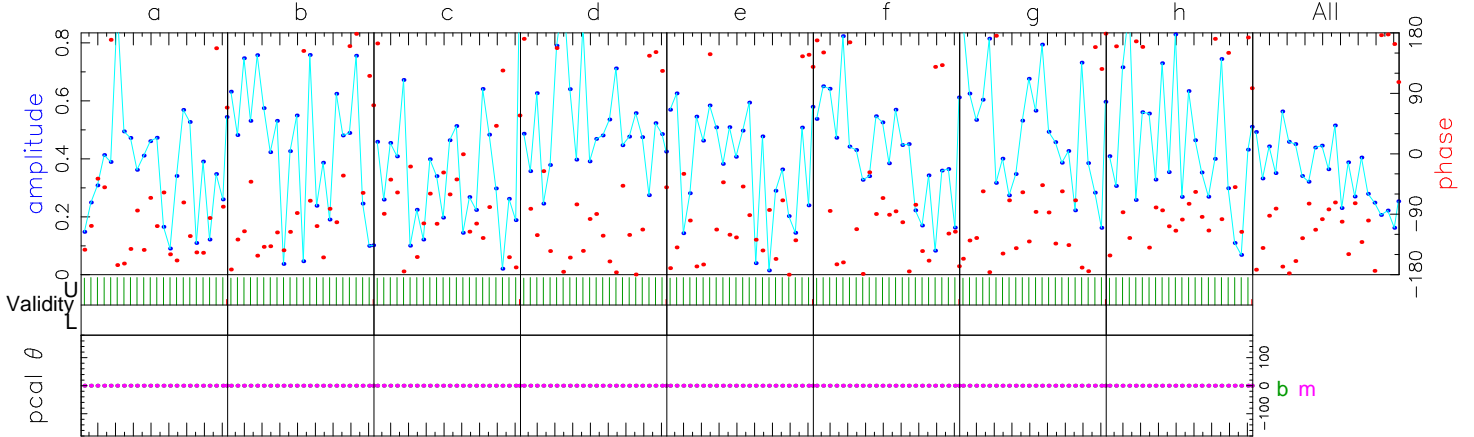


SNR 16.6  
 Int time 476.980  
 Amp 0.278  
 Phase -127.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001572  
 MBD 0.001623  
 Fringe rate (Hz)  
 -0.001970  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132448  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-124.1	-121.6	-92.1	-149.5	-138.0	-135.7	-124.5	-119.9	Phase	-127.8
	0.3	0.3	0.2	0.4	0.2	0.3	0.3	0.3	Ampl.	0.3
	256.7	257.1	258.0	257.5	258.0	256.2	258.1	256.8	Sbd box	257.4
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-7.01380824410E+01			Apriori delay (usec)	-7.01397050329E+01			Resid mbdelay (usec)	1.62259E-03	+/- 6.5E-05
Sband delay (usec)	-7.01381325329E+01			Apriori clock (usec)	-1.5078144E+01			Resid sbdelay (usec)	1.57250E-03	+/- 5.2E-04
Phase delay (usec)	-7.01397091526E+01			Apriori clockrate (us/s)	-9.9999991E-08			Resid phdelay (usec)	-4.11968E-06	+/- 2.2E-07
Delay rate (us/s)	-4.93697572068E-01			Apriori rate (us/s)	-4.93697549204E-01			Resid rate (us/s)	-2.28644E-08	+/- 8.1E-10
Total phase (deg)		-196.7		Apriori accel (us/s/s)	3.06487522015E-05			Resid phase (deg)	-127.8	+/- 6.9

	RMS	Theor.	Amplitude	0.278 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	42.9	16.5	Search (2048X32)	0.271	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
amp/seg (%)	48.3	28.9	Interp.	0.000	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011
ph/frq (deg)	18.4	9.7	Inc. seg. avg.	0.345	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00
amp/frq (%)	20.7	17.0	Inc. frq. avg.	0.279					

b: az 263.6 el 68.2 pa 62.3 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 3825.568 4785.962 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm.W.29.1IM249

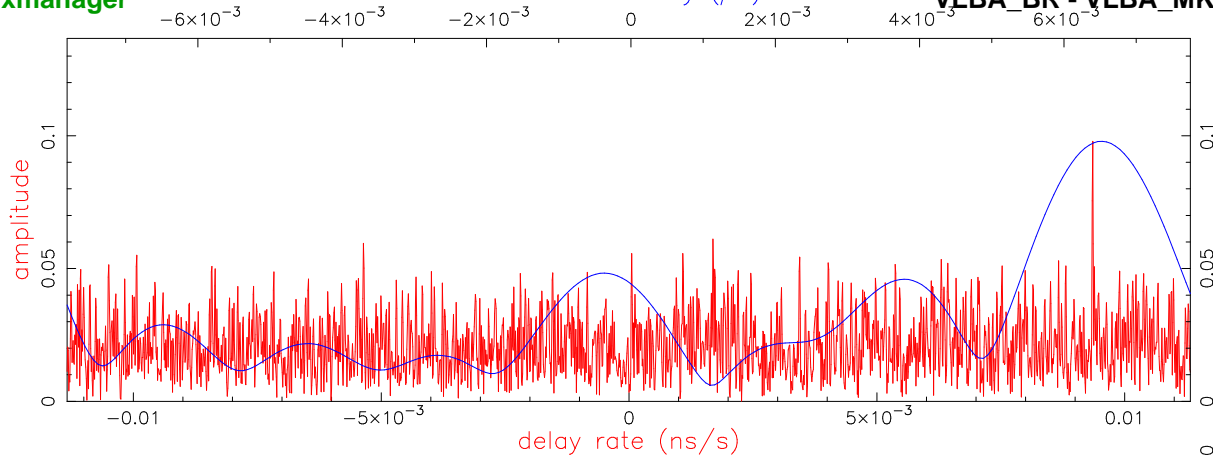
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, bm

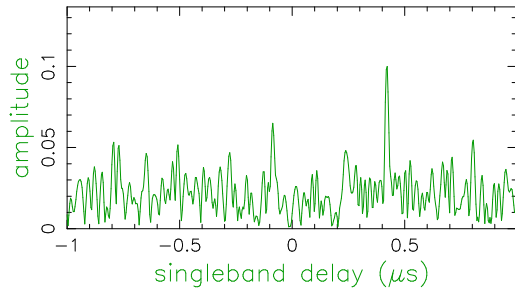
VLBA\_BR - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)

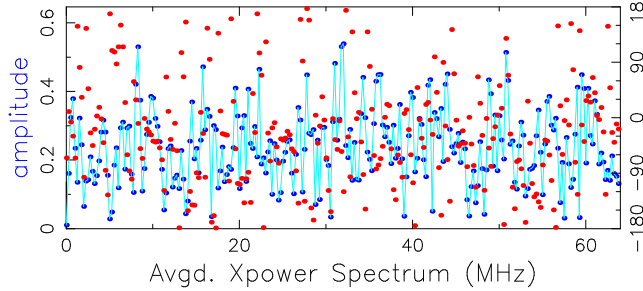


Fringe quality 0

SNR 6.1  
 Int time 476.980  
 Amp 0.137  
 Phase 43.5  
 PFD 3.1e-01  
 Delays (us)  
 SBD 0.420324  
 MBD 0.006543  
 Fringe rate (Hz)  
 0.807122  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

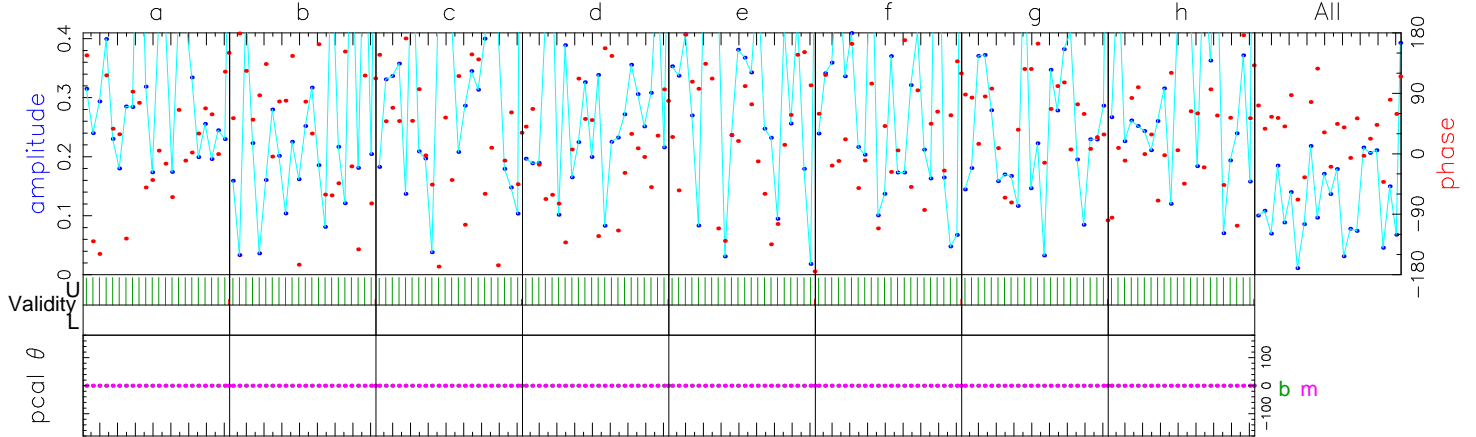


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132451  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	39.7	66.8	54.7	-7.5	84.2	41.1	65.5	23.5	Phase	43.5
	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	Ampl.	0.1
	375.4	2.8	234.7	59.1	104.4	425.6	454.9	357.6	Sbd box	364.6
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-6.97269118530E+01	Apriori delay (usec)	-7.01397050329E+01	Resid mbdelay (usec)	6.54318E-03	+/-	1.8E-04
Sband delay (usec)	-6.97193810329E+01	Apriori clock (usec)	-1.5078144E+01	Resid sbdelay (usec)	4.20324E-01	+/-	1.4E-03
Phase delay (usec)	-7.01397036318E+01	Apriori clockrate (us/s)	-9.9999991E-08	Resid phdelay (usec)	1.40114E-06	+/-	6.1E-07
Delay rate (us/s)	-4.93688179316E-01	Apriori rate (us/s)	-4.93697549204E-01	Resid rate (us/s)	9.36989E-06	+/-	2.2E-09
Total phase (deg)	-25.5	Apriori accel (us/s/s)	3.06487522015E-05	Resid phase (deg)	43.5	+/-	18.9

ph/seg (deg)	46.9	Theor.	45.4	Amplitude	0.137 +/- 0.023	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	69.4		79.2	Search (2048X32)	0.095	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	31.2		26.8	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	30.3		46.7	Inc. seg. avg.	0.127	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.131	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

b: az 263.6 el 68.2 pa 62.3      m: az 12.2 el 67.6 pa -163.7      u,v (fr/asec) 3825.568 4785.962      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm..11M249      Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm.W.47.11M249

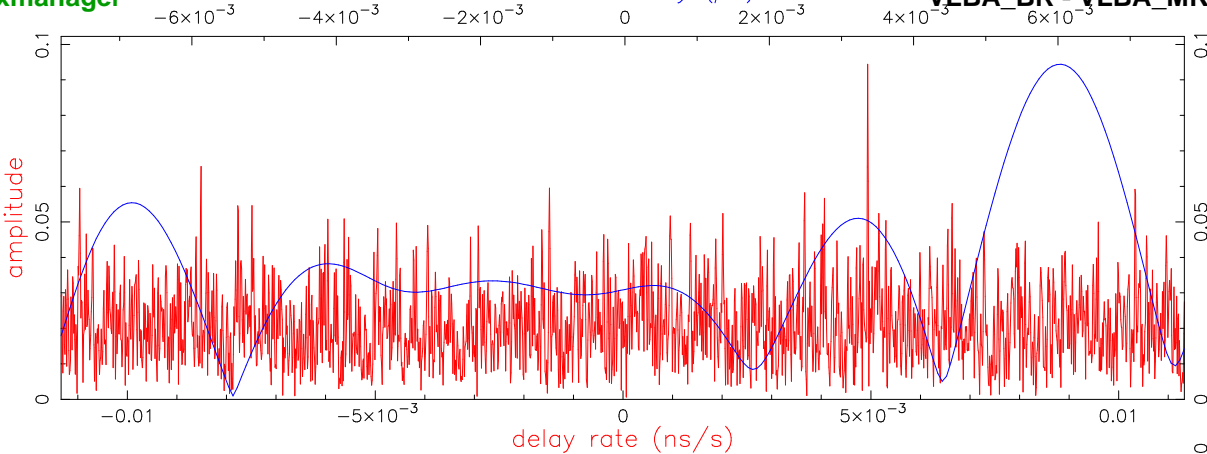
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, bm

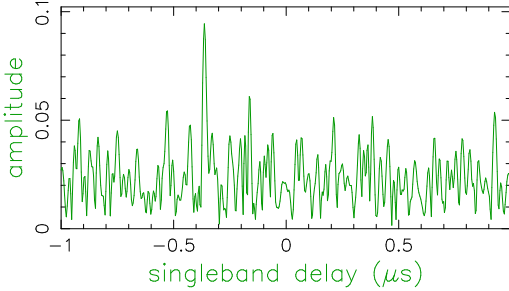
VLBA\_BR - VLBA\_MK, fgroup W, pol RL

multiband delay ( $\mu$ s)

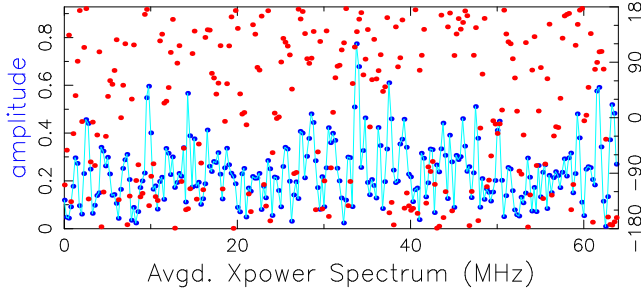


Fringe quality 0

SNR 5.6  
 Int time 476.980  
 Amp 0.102  
 Phase -142.1  
 PFD 9.8e-01  
 Delays (us)  
 SBD -0.363432  
 MBD 0.006028  
 Fringe rate (Hz)  
 0.426176  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

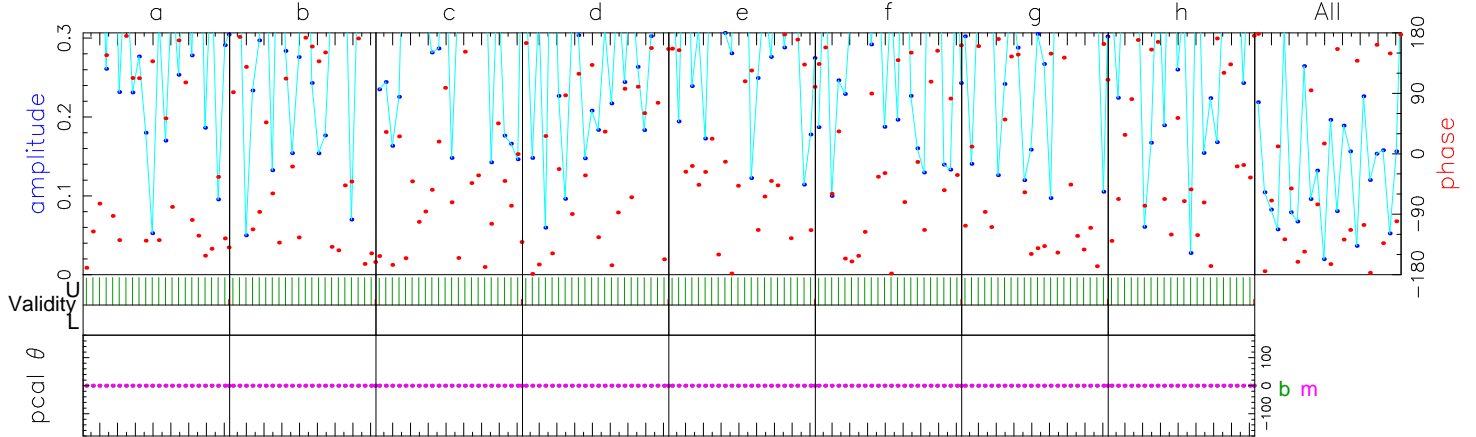


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132455  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-138.5	-160.3	-80.9	174.4	-80.9	-167.8	-147.1	-128.3	Phase	-142.1
	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	Ampl.	0.1
	146.0	163.3	480.8	141.4	86.7	32.5	164.8	368.0	Sbd box	164.0
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
b:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
b	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
b	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-7.05086768116E+01	Apriori delay (usec)	-7.01397050329E+01	Resid mbdelay (usec)	6.02822E-03	+/-	1.9E-04
Sband delay (usec)	-7.05031375329E+01	Apriori clock (usec)	-1.5078144E+01	Resid sbdelay (usec)	-3.63432E-01	+/-	1.5E-03
Phase delay (usec)	-7.01397096161E+01	Apriori clockrate (us/s)	-9.9999991E-08	Resid phdelay (usec)	-4.58316E-06	+/-	6.6E-07
Delay rate (us/s)	-4.93692601718E-01	Apriori rate (us/s)	-4.93697549204E-01	Resid rate (us/s)	4.94749E-06	+/-	2.4E-09
Total phase (deg)	-211.1	Apriori accel (us/s/s)	3.06487522015E-05	Resid phase (deg)	-142.1	+/-	20.3

ph/seg (deg)	70.0	Theor.	48.7	Amplitude	0.102 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	
amp/seg (%)	92.8	Search (2048X32)	0.092	Search (2048X32)	0.092	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000
ph/frq (deg)	42.0	Inc. seg. avg.	0.108	Inc. seg. avg.	0.108	Bits/sample: 2x2	mb window (us)	-0.008 0.008
amp/frq (%)	53.7	Inc. frq. avg.	0.105	Inc. frq. avg.	0.105	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011 0.011
						Data rate(Mb/s): 2048	ion window (TEC)	0.00 0.00
						nlags: 256	t_cohere infinite	

b: az 263.6 el 68.2 pa 62.3      m: az 12.2 el 67.6 pa -163.7      u,v (fr/asec) 3825.568 4785.962      simultaneous interpolator

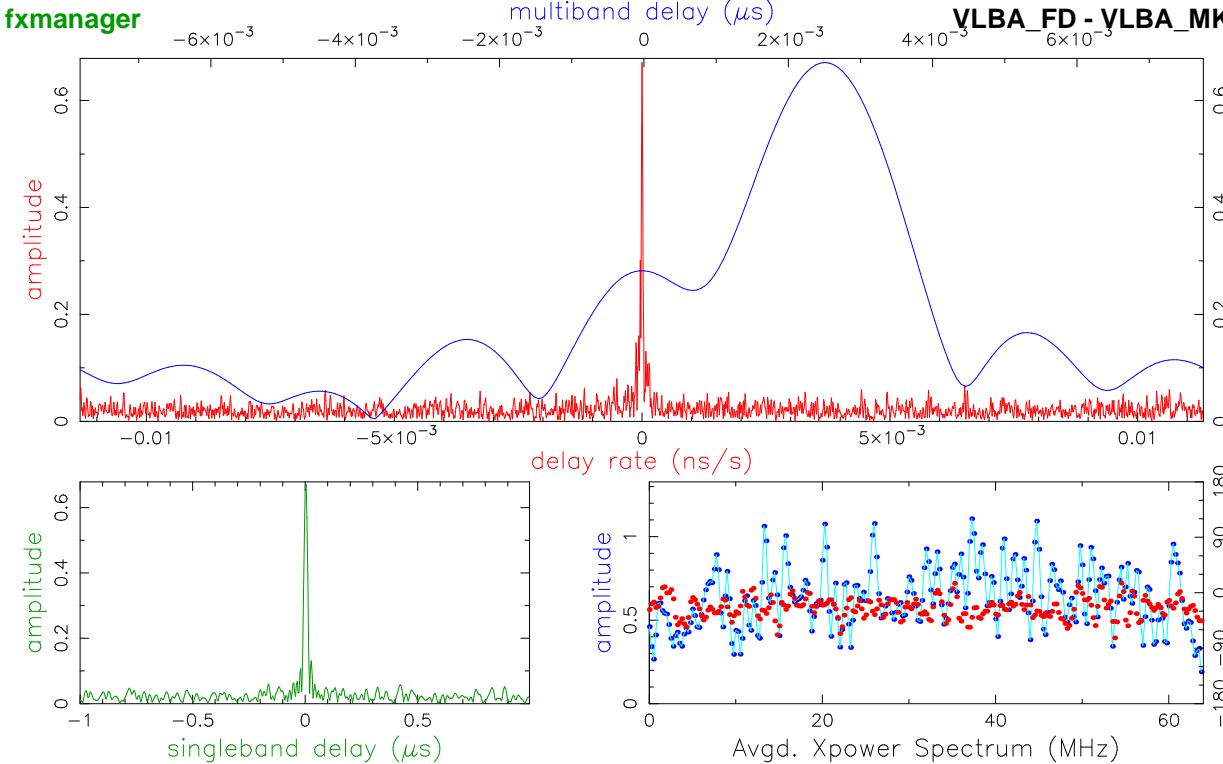
Control file: cf\_1234\_gmva      Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm..11M249      Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/bm.W.66.11M249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.11M249, No0105, fm

VLBA\_FD - VLBA\_MK, fgroup W, pol LL

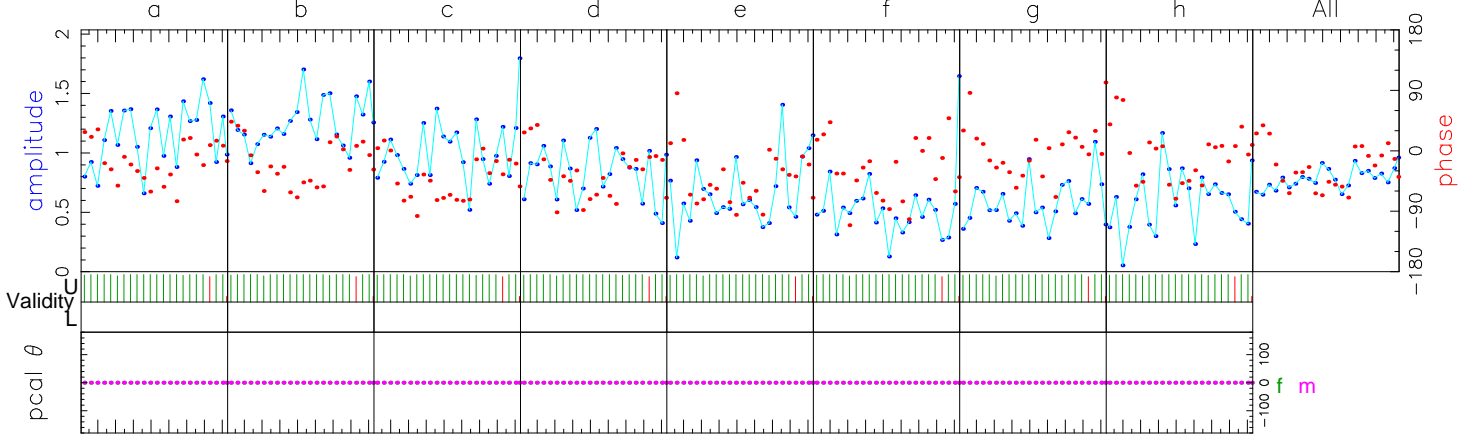


Fringe quality 6

SNR 40.4  
 Int time 473.553  
 Amp 0.679  
 Phase -23.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.002519  
 MBD 0.002480  
 Fringe rate (Hz)  
 0.000187  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132445  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



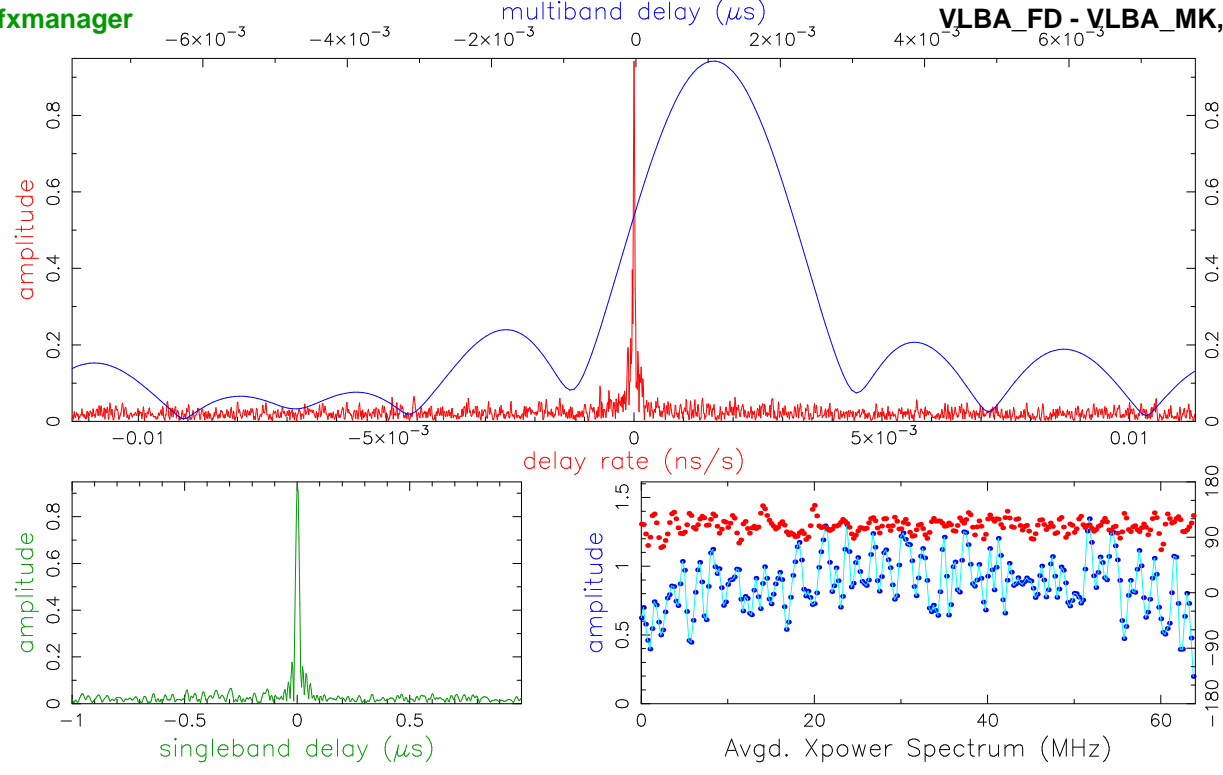
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-14.8	-17.9	-40.9	-33.0	-41.8	-23.1	-0.5	-14.4	Phase	-23.6
	1.0	1.0	0.9	0.7	0.6	0.4	0.5	0.5	Ampl.	0.7
	258.0	257.3	257.6	257.5	258.2	257.7	257.6	257.5	Sbd box	257.6
U/L	930/0	930/0	930/0	930/0	930/0	930/0	930/0	930/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-3.06373247805E+03	Apriori delay (usec)	-3.06373495771E+03	Resid mbdelay (usec)	2.47966E-03	+/-	2.7E-05
Sband delay (usec)	-3.06373243871E+03	Apriori clock (usec)	-5.4955678E+00	Resid sbdelay (usec)	2.51900E-03	+/-	2.1E-04
Phase delay (usec)	-3.06373495847E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-7.60700E-07	+/-	9.1E-08
Delay rate (us/s)	-8.21815927290E-01	Apriori rate (us/s)	-8.21815929464E-01	Resid rate (us/s)	2.17385E-09	+/-	3.3E-10
Total phase (deg)	-116.2	Apriori accel (us/s/s)	2.90196677068E-05	Resid phase (deg)	-23.6	+/-	2.8

ph/seg (deg)	31.6	Theor.	6.8	Search (2048X32)	0.661	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	18.9		11.9	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	15.5		4.0	Inc. seg. avg.	0.773	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	35.5		7.0	Inc. frq. avg.	0.686	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

f: az 299.7 el 52.3 pa 91.3      m: az 12.2 el 67.6 pa -163.7      u,v (fr/asec) 6337.893 3091.028      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm..11M249      Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm.W.16.11M249

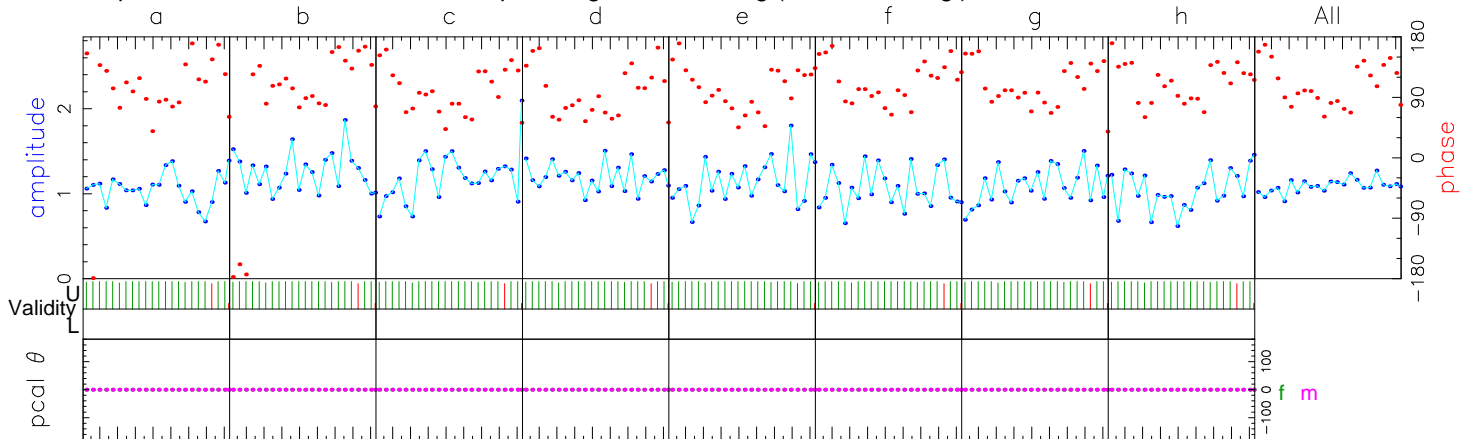


Fringe quality 7

SNR 56.5  
Int time 473.553  
Amp 0.949  
Phase 109.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.001135  
MBD 0.001109  
Fringe rate (Hz) 0.000138  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132449  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	930/0	930/0	930/0	930/0	930/0	930/0	930/0	930/0		
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
Group delay (usec)(sbd)	-3.06373384915E+03								1.10856E-03	+/- 1.9E-05
Sband delay (usec)	-3.06373382321E+03								1.13450E-03	+/- 1.5E-04
Phase delay (usec)	-3.06373495419E+03								3.51827E-06	+/- 6.5E-08
Delay rate (us/s)	-8.21815927865E-01								1.59851E-09	+/- 2.4E-10
Total phase (deg)			16.5						109.1	+/- 2.0
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

ph/seg (deg) 31.2 4.9 Search (2048X32) 0.932 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 17.4 8.5 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 11.0 2.9 Inc. seg. avg. 1.089 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 5.0 5.0 Inc. frq. avg. 0.954 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
f: az 299.7 el 52.3 pa 91.3 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 6337.893 3091.028 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm.W.37.11M249

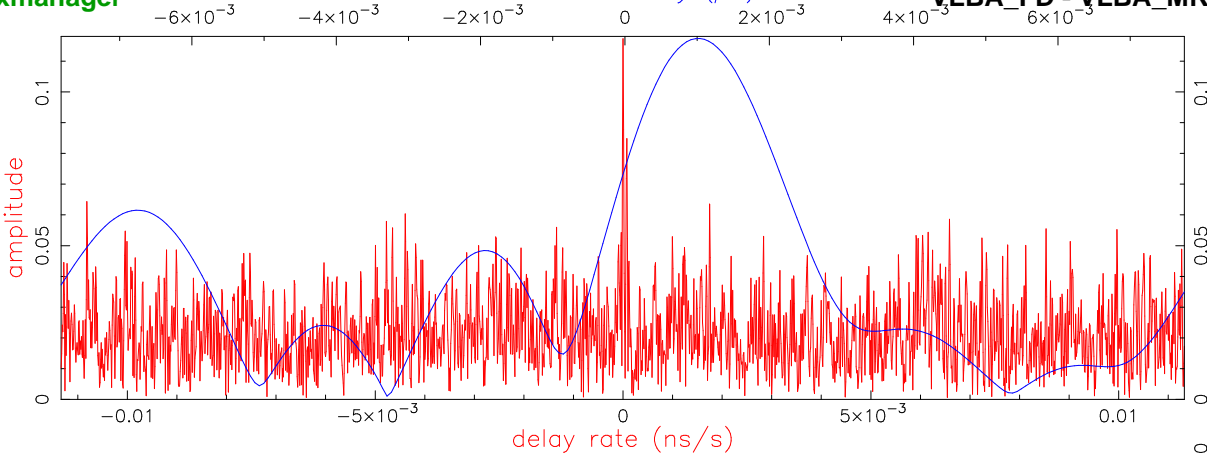
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.11M249, No0105, fm

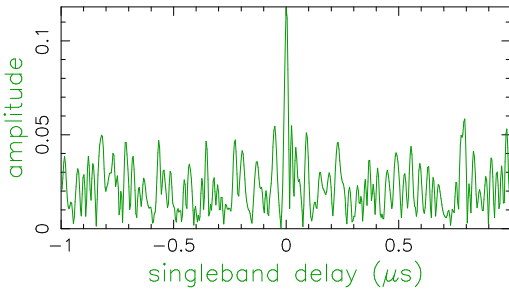
VLBA\_FD - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)

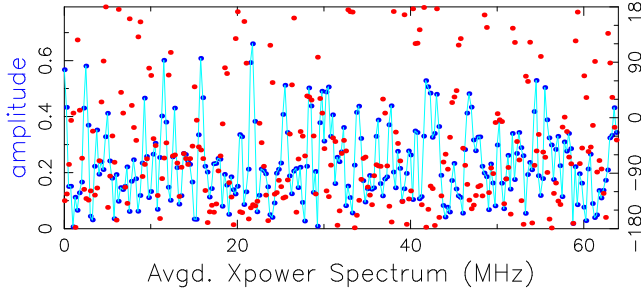


Fringe quality 0

SNR 7.0  
 Int time 473.553  
 Amp 0.118  
 Phase -105.8  
 PFD 6.4e-04  
 Delays (us)  
 SBD 0.001043  
 MBD 0.001064  
 Fringe rate (Hz) 0.000395  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

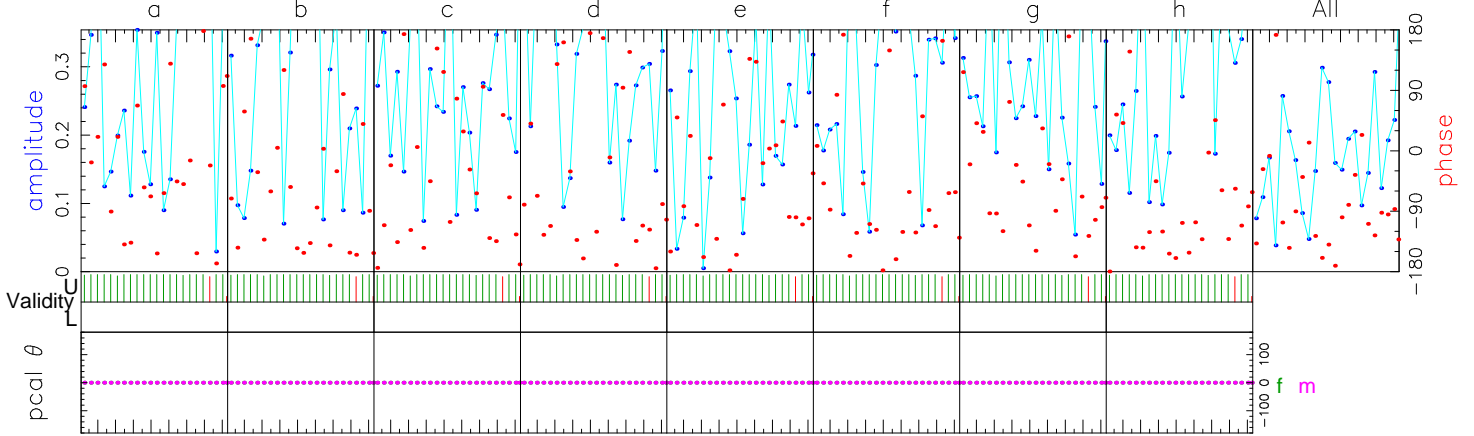


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132453  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-21.9	-99.6	-106.4	-129.6	-107.0	-119.9	-76.2	-106.3	Phase	-105.8
	0.0	0.2	0.1	0.2	0.1	0.2	0.1	0.2	Ampl.	0.1
	14.3	256.9	301.1	279.7	113.0	257.6	268.2	258.1	Sbd box	257.3
U/L	930/0	930/0	930/0	930/0	930/0	930/0	930/0	930/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-3.06373389402E+03	Apriori delay (usec)	-3.06373495771E+03	Resid mbdelay (usec)	1.06369E-03	+/-	1.5E-04
Sband delay (usec)	-3.06373391446E+03	Apriori clock (usec)	-5.4955678E+00	Resid sbdelay (usec)	1.04325E-03	+/-	1.2E-03
Phase delay (usec)	-3.06373496112E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-3.41149E-06	+/-	5.3E-07
Delay rate (us/s)	-8.21815924877E-01	Apriori rate (us/s)	-8.21815929464E-01	Resid rate (us/s)	4.58649E-09	+/-	1.9E-09
Total phase (deg)	-198.4	Apriori accel (us/s/s)	2.90196677068E-05	Resid phase (deg)	-105.8	+/-	16.3

ph/seg (deg)	58.6	Theor.	39.0	Amplitude	0.118 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	76.6	Search (2048X32)	0.110	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	38.1	Inc. seg. avg.	0.136	Inc. frq. avg.	0.118	Bits/sample: 2x2	mb window (us) -0.008 0.008
amp/frq (%)	48.1	Inc. frq. avg.	0.118			Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
						Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

f: az 299.7 el 52.3 pa 91.3 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 6337.893 3091.028 simultaneous interpolator

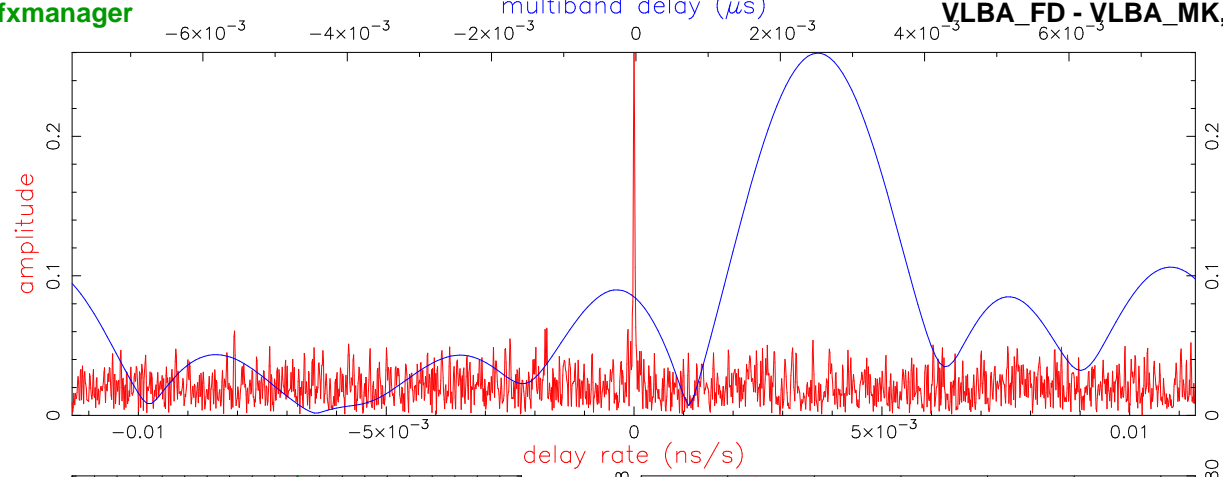
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm.W.56.11M249

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fxmanager

3C84.11M249, No0105, fm

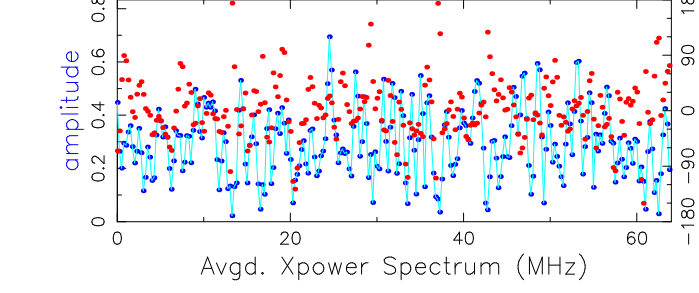
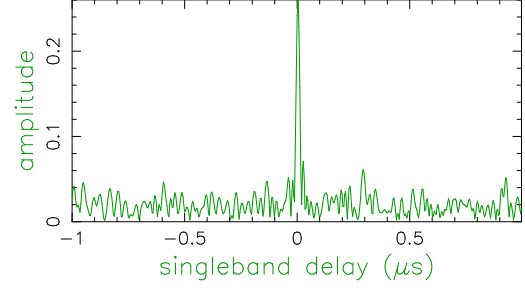
VLBA\_FD - VLBA\_MK, fgroup W, pol RL



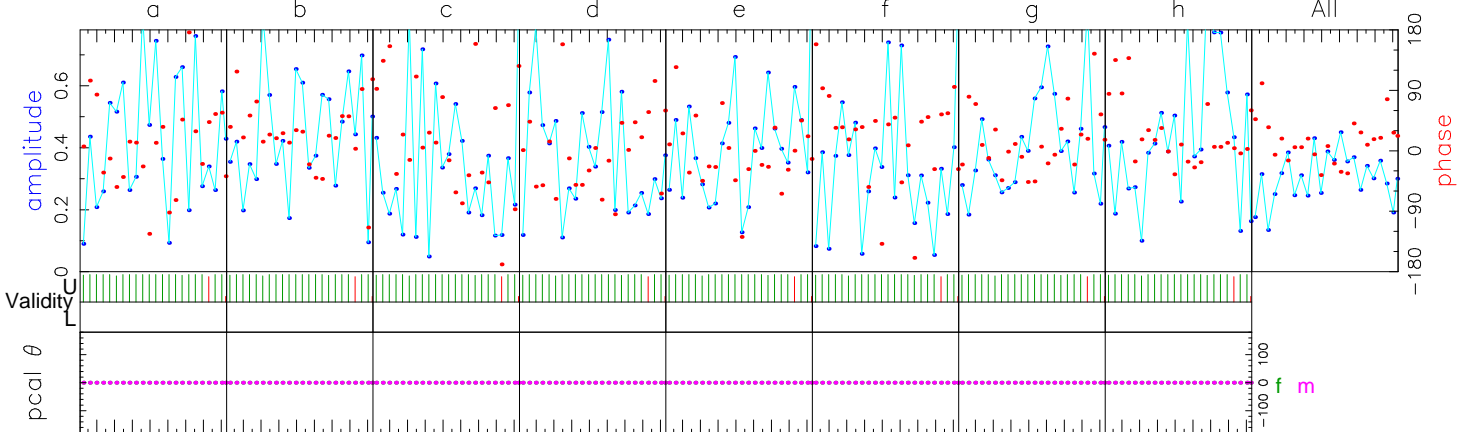
Fringe quality 9

SNR 15.5  
 Int time 473.553  
 Amp 0.260  
 Phase 9.3  
 PFD 2.8e-45  
 Delays (us)  
 SBD 0.003363  
 MBD 0.002501  
 Fringe rate (Hz) 0.000208  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132457  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	3.0	29.4	0.4	-18.0	-2.6	32.1	6.5	16.1	Phase	9.3
	0.3	0.3	0.1	0.2	0.3	0.2	0.3	0.3	Ampl.	0.3
	258.6	258.1	257.0	257.4	257.7	258.0	258.1	258.1	Sbd box	257.9
U/L	930/0	930/0	930/0	930/0	930/0	930/0	930/0	930/0	APs used	
f	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
f:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
f:m	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	
m	1000	1000	1000	1000	1000	1000	1000	1000		
f	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-3.06373245627E+03	Apriori delay (usec)	-3.06373495771E+03	Resid mbdelay (usec)	2.50144E-03	+/-	7.0E-05
Sband delay (usec)	-3.06373159446E+03	Apriori clock (usec)	-5.4955678E+00	Resid sbdelay (usec)	3.36325E-03	+/-	5.6E-04
Phase delay (usec)	-3.06373495741E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	3.00854E-07	+/-	2.4E-07
Delay rate (us/s)	-8.21815927049E-01	Apriori rate (us/s)	-8.21815929464E-01	Resid rate (us/s)	2.41476E-09	+/-	8.7E-10
Total phase (deg)	-83.2	Apriori accel (us/s/s)	2.90196677068E-05	Resid phase (deg)	9.3	+/-	7.4

ph/seg (deg)	33.2	Theor.	17.7	Amplitude	0.260 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	35.0		30.9	Search (2048X32)	0.255	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	18.2		10.5	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
amp/frq (%)	25.7		18.3	Inc. seg. avg.	0.292	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
				Inc. frq. avg.	0.265	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

f: az 299.7 el 52.3 pa 91.3 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 6337.893 3091.028 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/fm.W.75.11M249

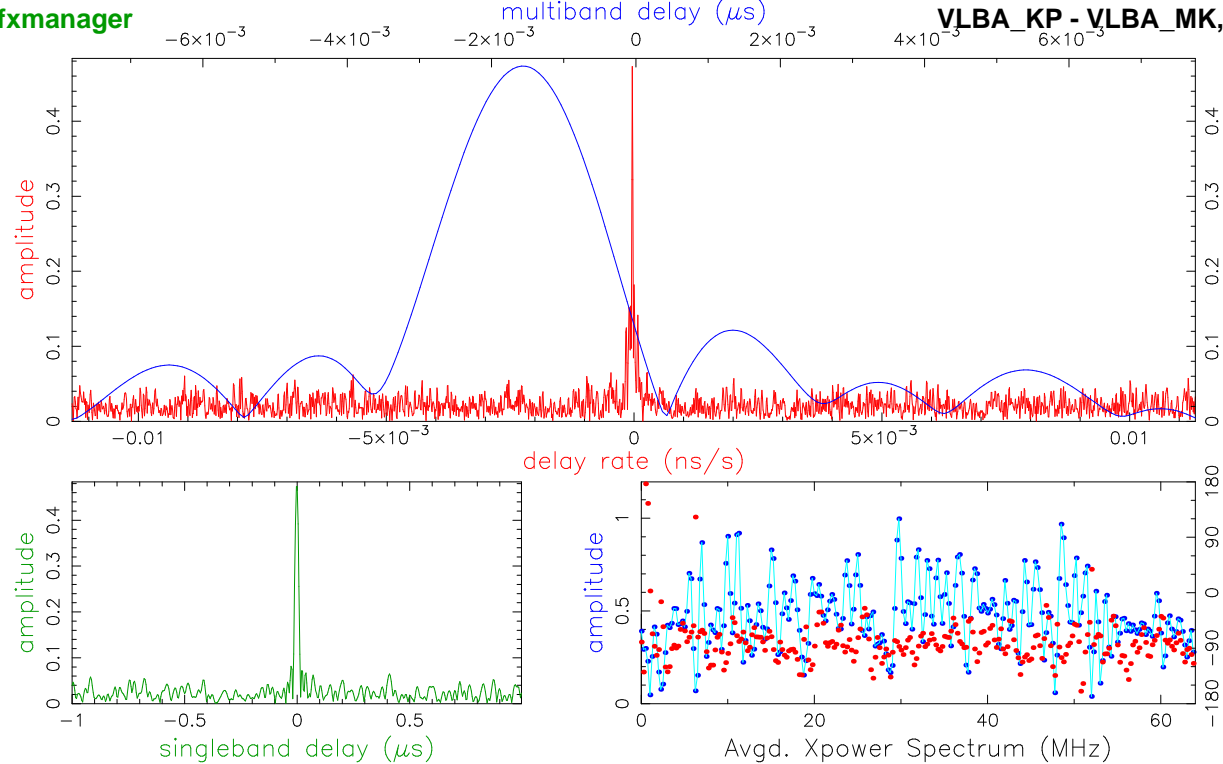


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1M249, No0105, km

VLBA\_KP - VLBA\_MK, fgroup W, pol RR

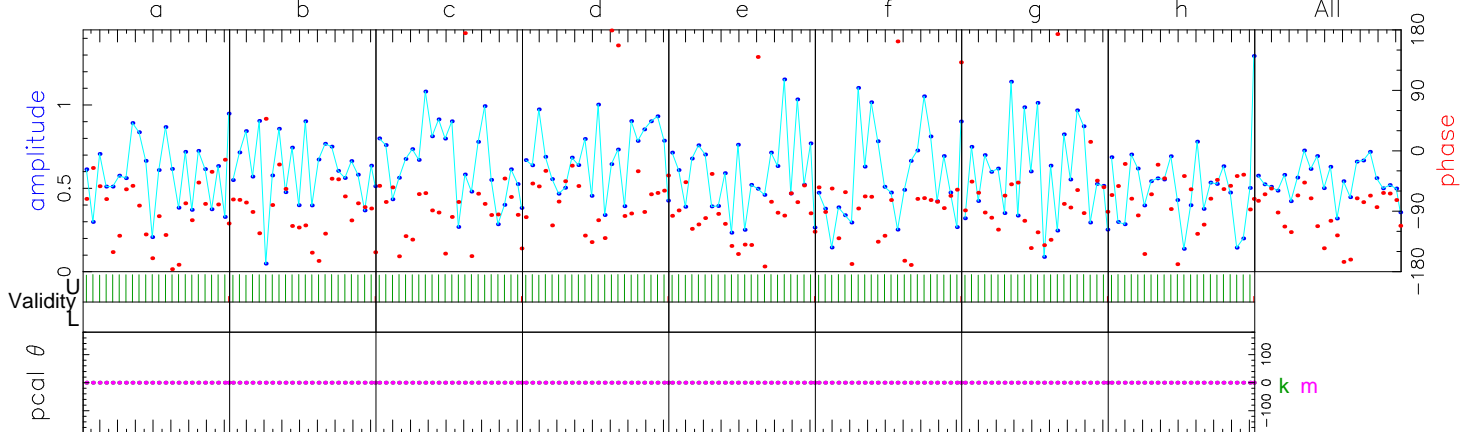


Fringe quality 8

SNR 28.8  
 Int time 473.230  
 Amp 0.484  
 Phase -87.5  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.001950  
 MBD -0.001618  
 Fringe rate (Hz)  
 -0.002419  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132505  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-87.4	-88.7	-93.3	-79.4	-100.4	-91.5	-84.5	-72.4	Phase	-87.5
	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.4	Ampl.	0.5
	256.3	256.2	256.7	257.0	256.1	256.7	256.3	257.1	Sbd box	256.5
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-1.70361787040E+03		Apriori delay (usec)		-1.70361625215E+03		Resid mbdelay (usec)		-1.61825E-03	+/- 3.8E-05
Sband delay (usec)	-1.70361820265E+03		Apriori clock (usec)		-1.3030000E+01		Resid sbdelay (usec)		-1.95050E-03	+/- 3.0E-04
Phase delay (usec)	-1.70361625497E+03		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-2.82279E-06	+/- 1.3E-07
Delay rate (us/s)	-7.14614203142E-01		Apriori rate (us/s)		-7.14614175065E-01		Resid rate (us/s)		-2.80773E-08	+/- 4.7E-10
Total phase (deg)			Apriori accel (us/s/s)		2.32230856160E-05		Resid phase (deg)		-87.5	+/- 4.0

ph/seg (deg) 33.8 9.5 Search (2048X32) 0.436 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 25.5 16.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 9.3 5.6 Inc. seg. avg. 0.548 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 9.0 9.8 Inc. frq. avg. 0.475 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 k: az 298.7 el 58.6 pa 94.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5507.160 2825.561 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km.W.100.11M249

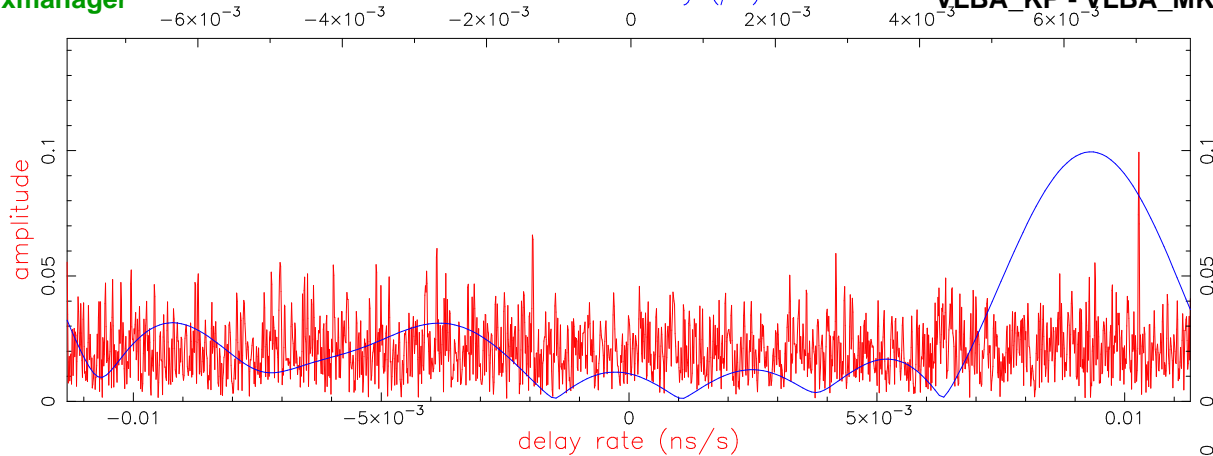
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1M249, No0105, km

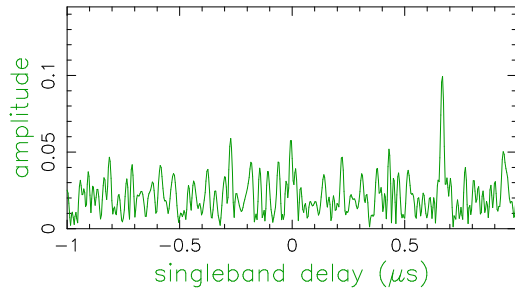
VLBA\_KP - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)

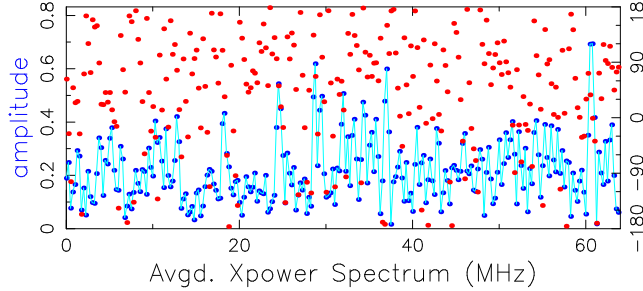


Fringe quality 0

SNR 6.0  
 Int time 473.230  
 Amp 0.145  
 Phase 124.0  
 PFD 4.5e-01  
 Delays (us)  
 SBD 0.666725  
 MBD 0.006305  
 Fringe rate (Hz)  
 0.886841  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

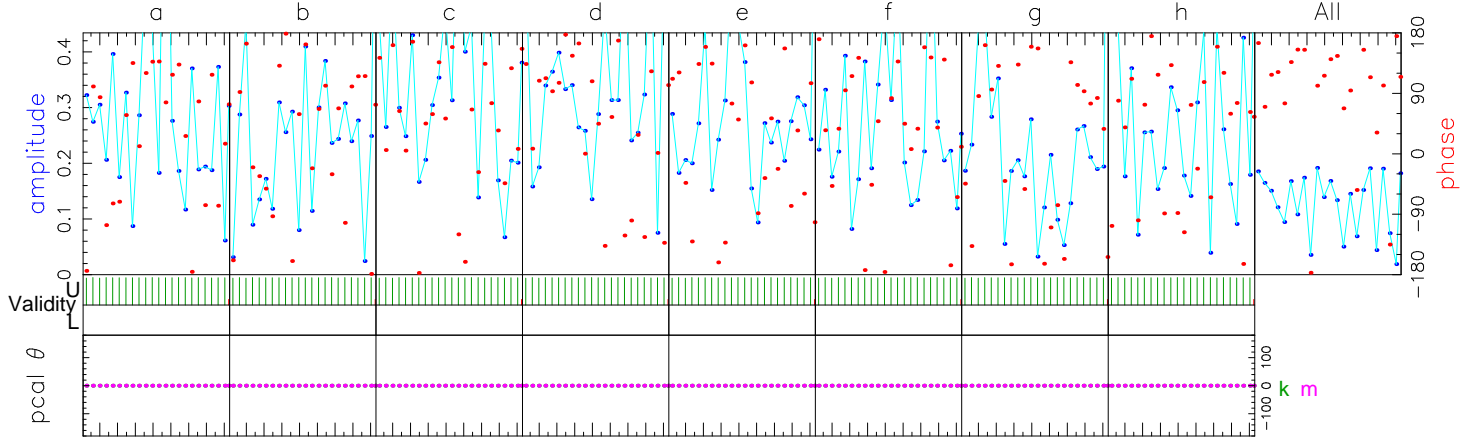


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132509  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.70295369764E+03	Apriori delay (usec)	-1.70361625215E+03	Resid mbdelay (usec)	6.30451E-03	+/-	1.8E-04
Sband delay (usec)	-1.70294952740E+03	Apriori clock (usec)	-1.3030000E+01	Resid sbdelay (usec)	6.66725E-01	+/-	1.4E-03
Phase delay (usec)	-1.70361624815E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	3.99855E-06	+/-	6.2E-07
Delay rate (us/s)	-7.14603879715E-01	Apriori rate (us/s)	-7.14614175065E-01	Resid rate (us/s)	1.02953E-05	+/-	2.2E-09
Total phase (deg)	-221.6	Apriori accel (us/s/s)	2.32230856160E-05	Resid phase (deg)	124.0	+/-	19.2

ph/seg (deg)	57.2	Theor.	46.0	Amplitude	0.145 +/- 0.024	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	60.0		80.3	Search (2048X32)	0.098	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	14.2		27.1	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	25.0		47.3	Inc. seg. avg.	0.138	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.132	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 298.7 el 58.6 pa 94.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5507.160 2825.561 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km.W.119.11M249

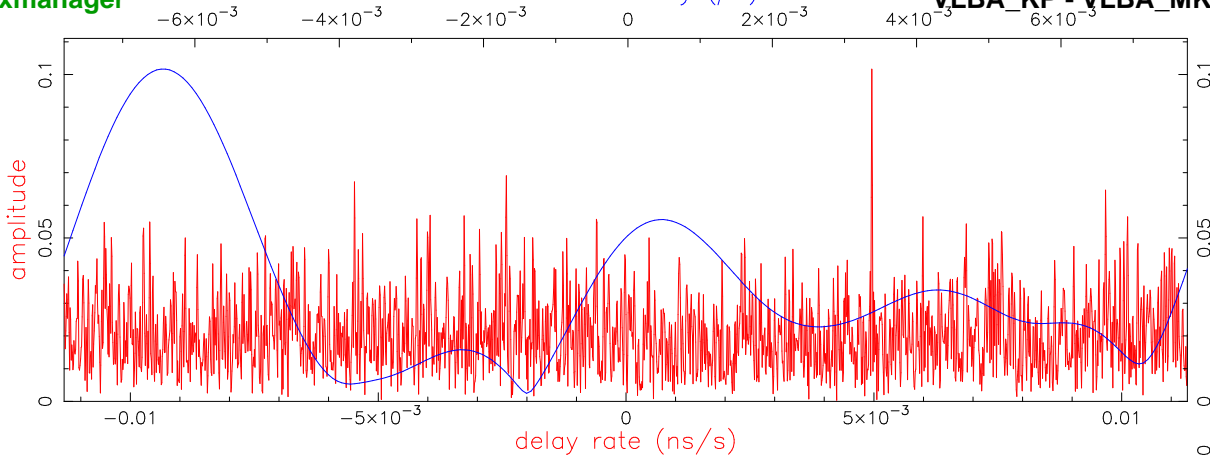
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, km

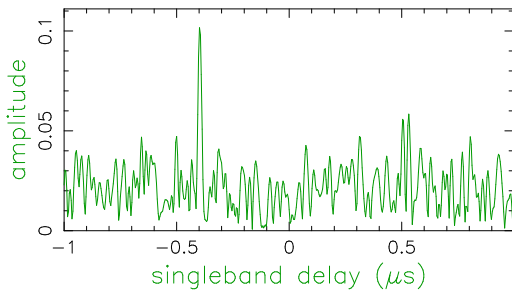
VLBA\_KP - VLBA\_MK, fgroup W, pol RL

multiband delay ( $\mu$ s)

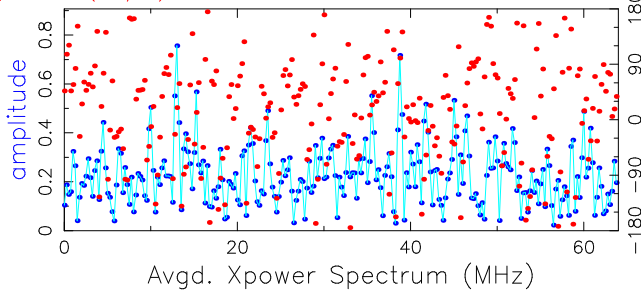


Fringe quality 0

SNR 6.1  
Int time 473.230  
Amp 0.111  
Phase -158.3  
PFD 2.5e-01  
Delays (us)  
SBD -0.397273  
MBD -0.006393  
Fringe rate (Hz)  
0.428126  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

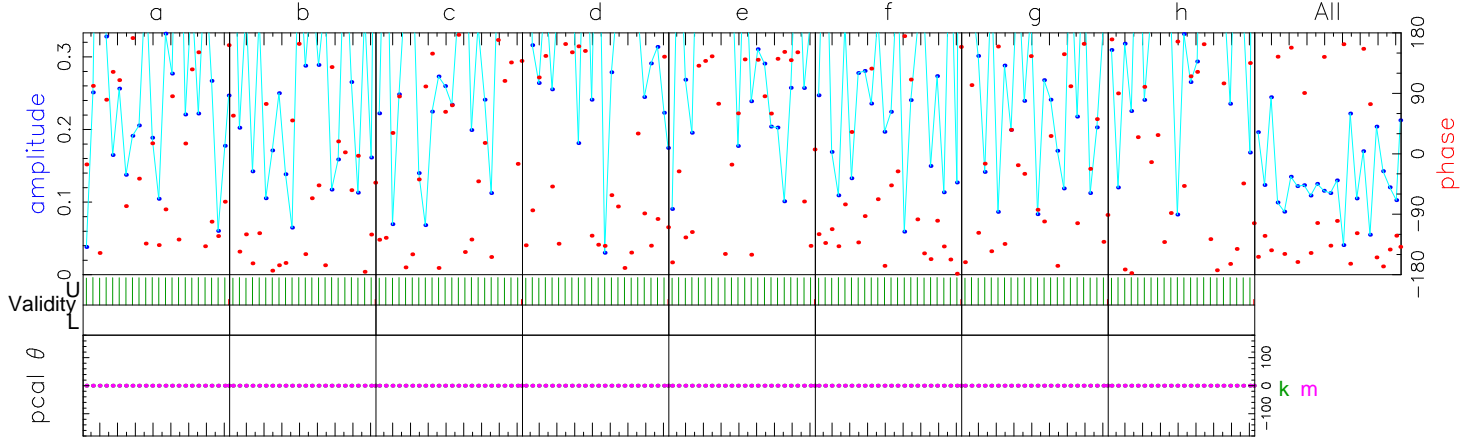


delay rate (ns/s)



Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132513  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-154.7	-128.5	-178.9	-148.9	143.2	-122.9	-158.2	-172.0	Phase	-158.3
	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	Ampl.	0.1
	28.3	55.1	14.3	155.8	275.4	313.8	494.9	409.9	Sbd box	155.3
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
k	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
k	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-1.70401326980E+03	Apriori delay (usec)	-1.70361625215E+03	Resid mbdelay (usec)	-6.39265E-03	+/-	1.8E-04
Sband delay (usec)	-1.70401352490E+03	Apriori clock (usec)	-1.3030000E+01	Resid sbdelay (usec)	-3.97273E-01	+/-	1.4E-03
Phase delay (usec)	-1.70361625725E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-5.10362E-06	+/-	6.1E-07
Delay rate (us/s)	-7.14609204950E-01	Apriori rate (us/s)	-7.14614175065E-01	Resid rate (us/s)	4.97012E-06	+/-	2.2E-09
Total phase (deg)	-143.9	Apriori accel (us/s/s)	2.32230856160E-05	Resid phase (deg)	-158.3	+/-	18.8

ph/seg (deg)	48.9	Theor.	45.1	Amplitude	0.111 +/- 0.018	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	55.7		78.7	Search (2048X32)	0.099	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	32.3		26.6	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	44.6		46.4	Inc. seg. avg.	0.109	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.113	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

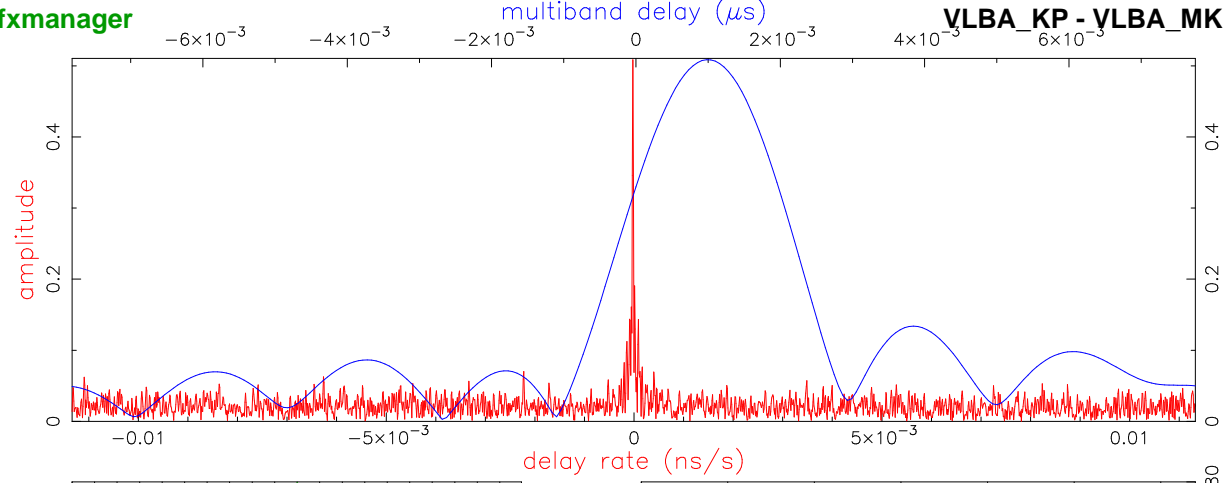
k: az 298.7 el 58.6 pa 94.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5507.160 2825.561 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km.W.139.1IM249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1M249, No0105, km

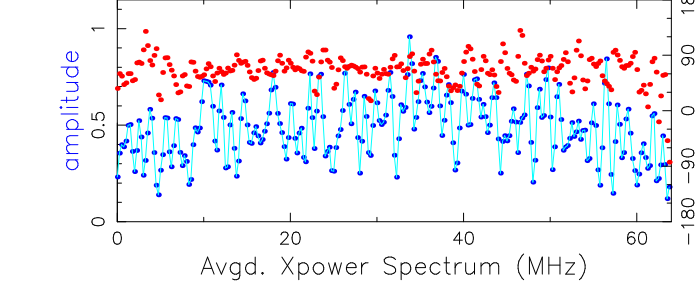
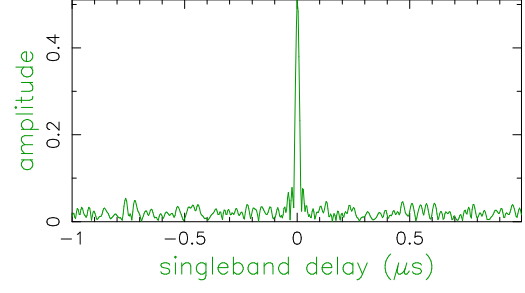
VLBA\_KP - VLBA\_MK, fgroup W, pol LL



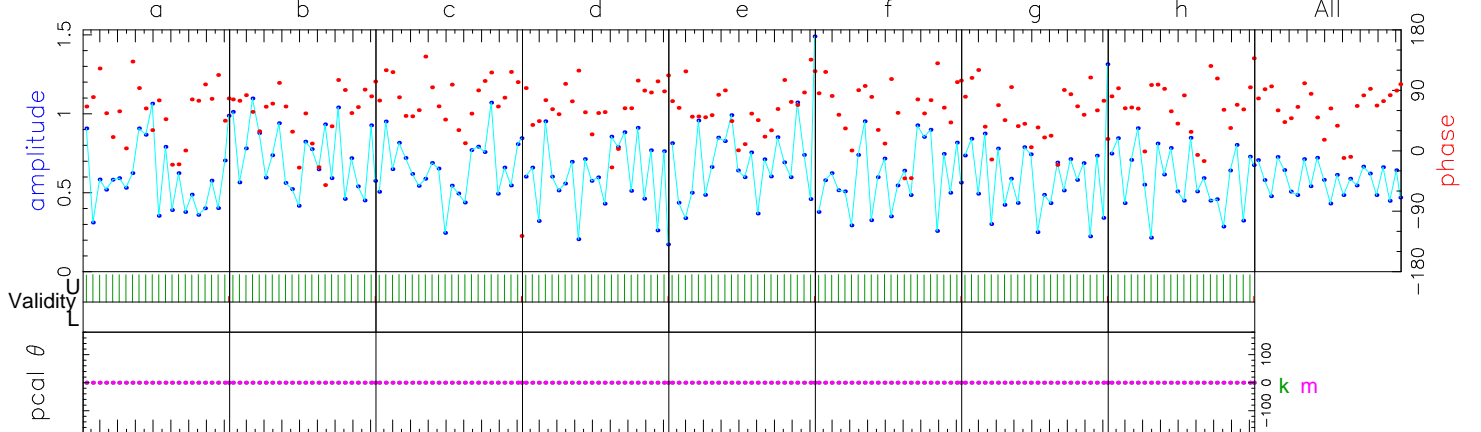
Fringe quality 8

SNR 30.4  
 Int time 473.230  
 Amp 0.511  
 Phase 64.6  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000796  
 MBD 0.001017  
 Fringe rate (Hz)  
 -0.002260  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132502  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



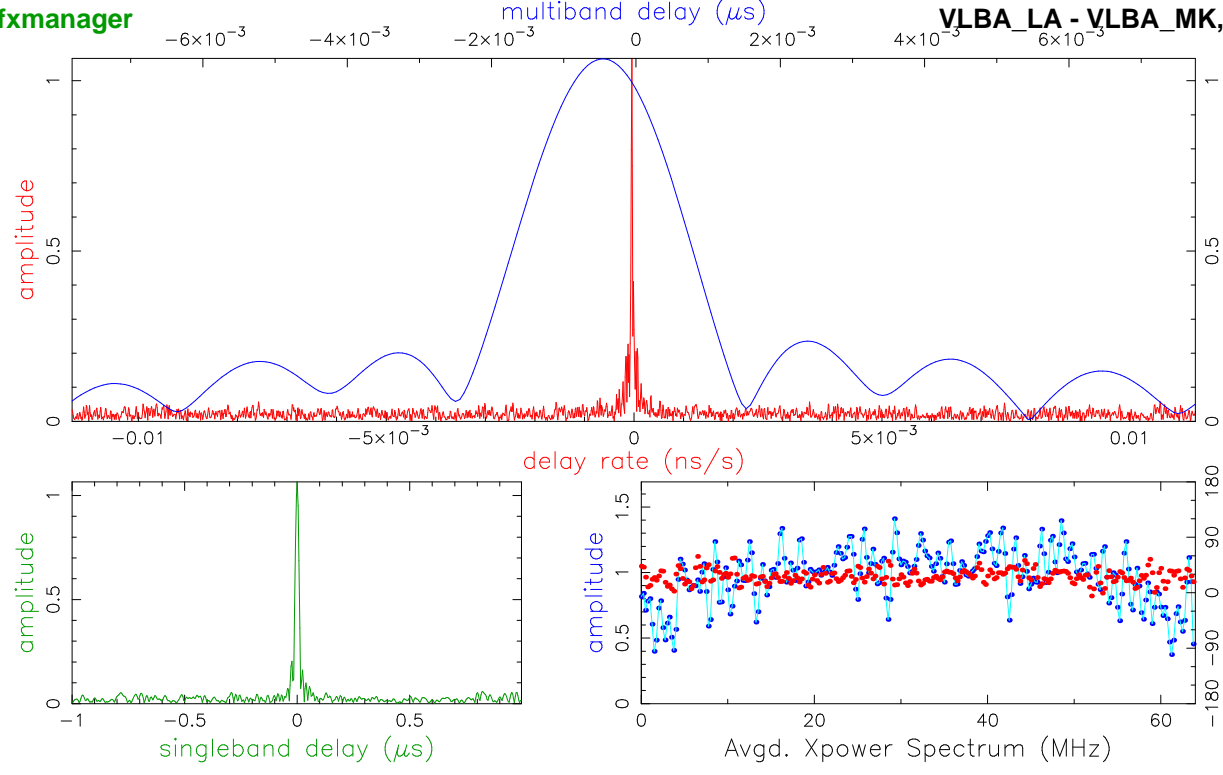
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
k	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.70361523512E+03	Apriori delay (usec)	-1.70361625215E+03	Resid mbdelay (usec)	1.01703E-03	+/-	3.6E-05
Sband delay (usec)	-1.70361545615E+03	Apriori clock (usec)	-1.3030000E+01	Resid sbdelay (usec)	7.96000E-04	+/-	2.8E-04
Phase delay (usec)	-1.70361625006E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	2.08330E-06	+/-	1.2E-07
Delay rate (us/s)	-7.14614201306E-01	Apriori rate (us/s)	-7.14614175065E-01	Resid rate (us/s)	-2.62414E-08	+/-	4.4E-10
Total phase (deg)	-281.0	Apriori accel (us/s/s)	2.32230856160E-05	Resid phase (deg)	64.6	+/-	3.8

ph/seg (deg)	30.8	Theor.	9.0	Amplitude	0.511 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	23.0		15.8	Search (2048X32)	0.483	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	10.1		5.3	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	9.4		9.3	Inc. seg. avg.	0.577	Sample rate(MISamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.513	Data rate(Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 298.7 el 58.6 pa 94.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5507.160 2825.561 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/km.W.81.11M249

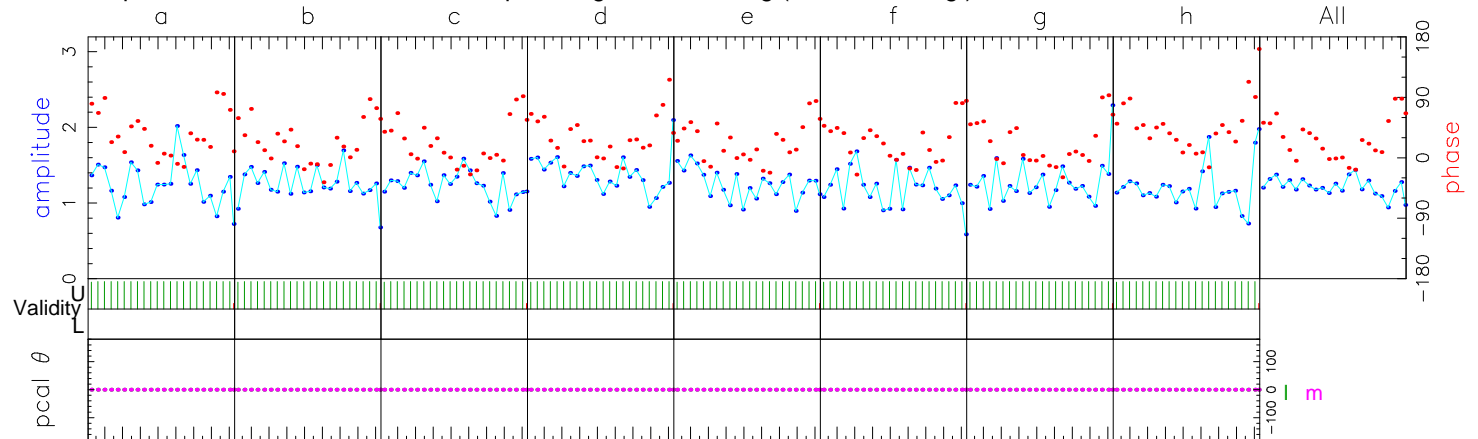


Fringe quality 7

SNR 63.6  
Int time 476.980  
Amp 1.066  
Phase 26.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.000467  
MBD -0.000470  
Fringe rate (Hz)  
-0.003426  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132507  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-2.18491295390E+03				-2.18491248408E+03					
Sband delay (usec)	-2.18491295133E+03				-1.3770288E+01					
Phase delay (usec)	-2.18491248324E+03				-1.9999998E-07					
Delay rate (us/s)	-7.54089825795E-01				-7.54089786027E-01					
Total phase (deg)			-110.3		2.99200285875E-05				26.1	+/- 1.8
	RMS	Theor.	Amplitude	1.066 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
ph/seg (deg)	29.8	4.3	Search (2048X32)	1.011	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
amp/seg (%)	18.1	7.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	9.1	2.5	Inc. seg. avg.	1.220	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011	0.011	
amp/frq (%)	4.5	4.4	Inc. frq. avg.	1.073	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

Mk4/DiFX fourfit 3.21 rev 2937

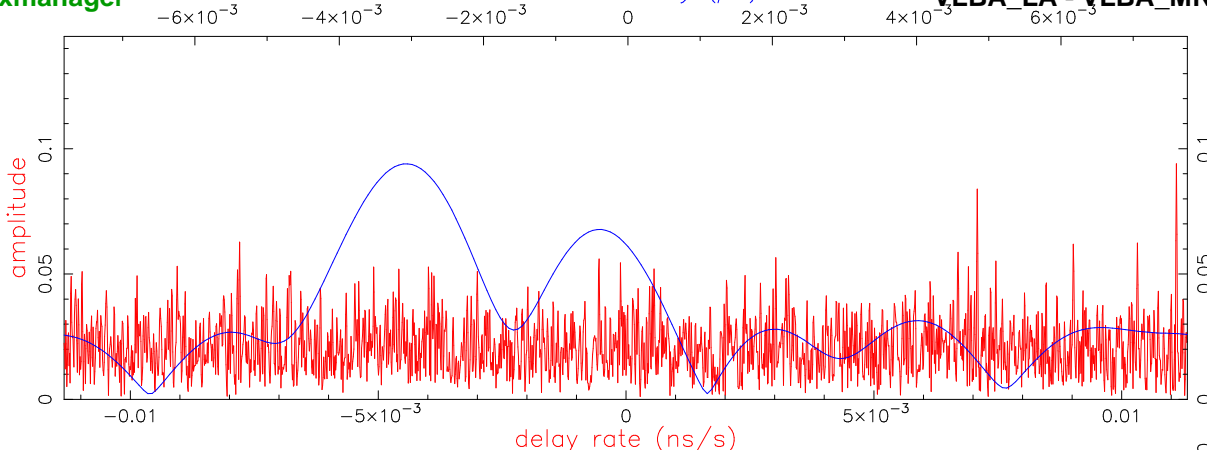
fxmanager

3C84.1M249, No0105, Im

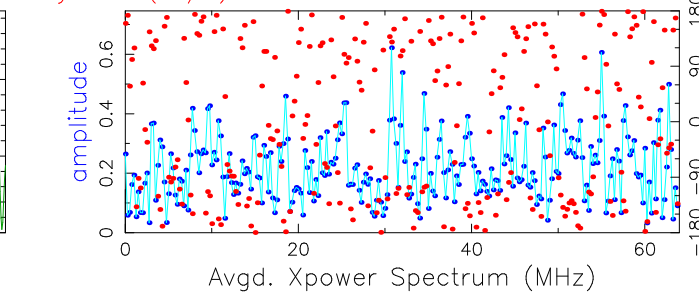
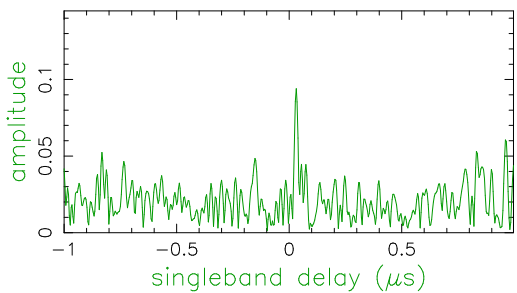
VLBA\_LA - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)

Fringe quality 0

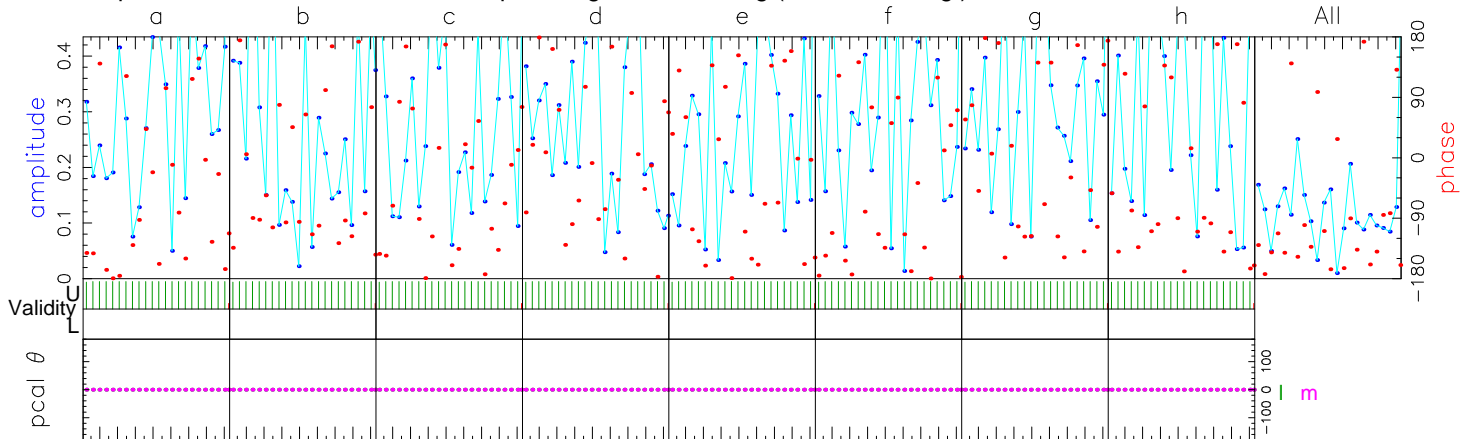


SNR 5.6  
 Int time 476.980  
 Amp 0.145  
 Phase -140.9  
 PFD 9.9e-01  
 Delays (us)  
 SBD 0.031239  
 MBD -0.003073  
 Fringe rate (Hz)  
 0.957498  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132511  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All				
	-165.6	-118.2	-122.8	-28.9	-161.2	-163.0	-148.8	-129.7	Phase	-140.9				
	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.3	Ampl.	0.1				
	503.2	43.7	368.2	309.6	359.1	14.2	23.8	264.8	Sbd box	265.0				
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used					
l	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs					
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase					
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC					
l	1000	1000	1000	1000	1000	1000	1000	1000	PC amp					
m	1000	1000	1000	1000	1000	1000	1000	1000						
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids					
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks					
									Chan ids					
									Tracks					
Group delay (usec)(sbd)	-2.18488430679E+03								Apriori delay (usec)	-2.18491248408E+03	Resid mbdelay (usec)	-3.07271E-03	+/-	1.9E-04
Sband delay (usec)	-2.18488124483E+03								Apriori clock (usec)	-1.3770288E+01	Resid sbdelay (usec)	3.12393E-02	+/-	1.5E-03
Phase delay (usec)	-2.18491248863E+03								Apriori clockrate (us/s)	-1.9999998E-07	Resid phdelay (usec)	-4.54434E-06	+/-	6.6E-07
Delay rate (us/s)	-7.54078670421E-01								Apriori rate (us/s)	-7.54089786027E-01	Resid rate (us/s)	1.11156E-05	+/-	2.4E-09
Total phase (deg)			-277.3						Apriori accel (us/s/s)	2.99200285875E-05	Resid phase (deg)	-140.9	+/-	20.4

	RMS	Theor.	Amplitude	0.145 +/- 0.026	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.1	48.9	Search (2048X32)	0.093	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	72.2	85.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	50.1	28.9	Inc. seg. avg.	0.137	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	49.9	50.4	Inc. frq. avg.	0.145	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite
						ion window (TEC) 0.00 0.00

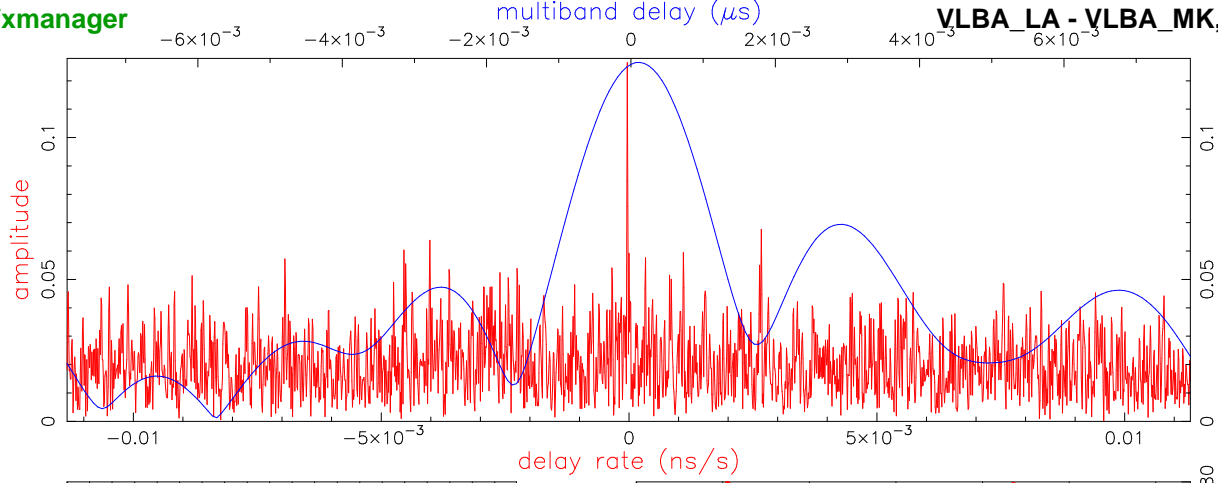
l: az 293.2 el 56.3 pa 86.0 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5819.913 3655.851 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im..1M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im.W.127.1M249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1M249, No0105, Im

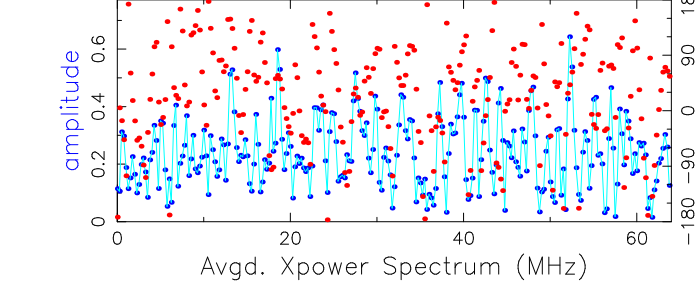
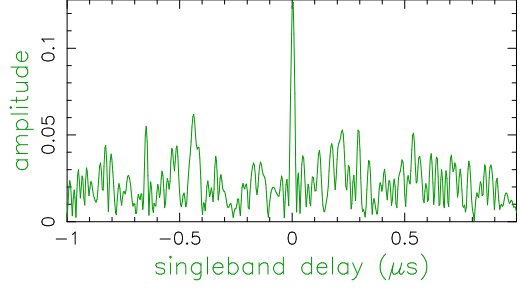
VLBA\_LA - VLBA\_MK, fgroup W, pol RL



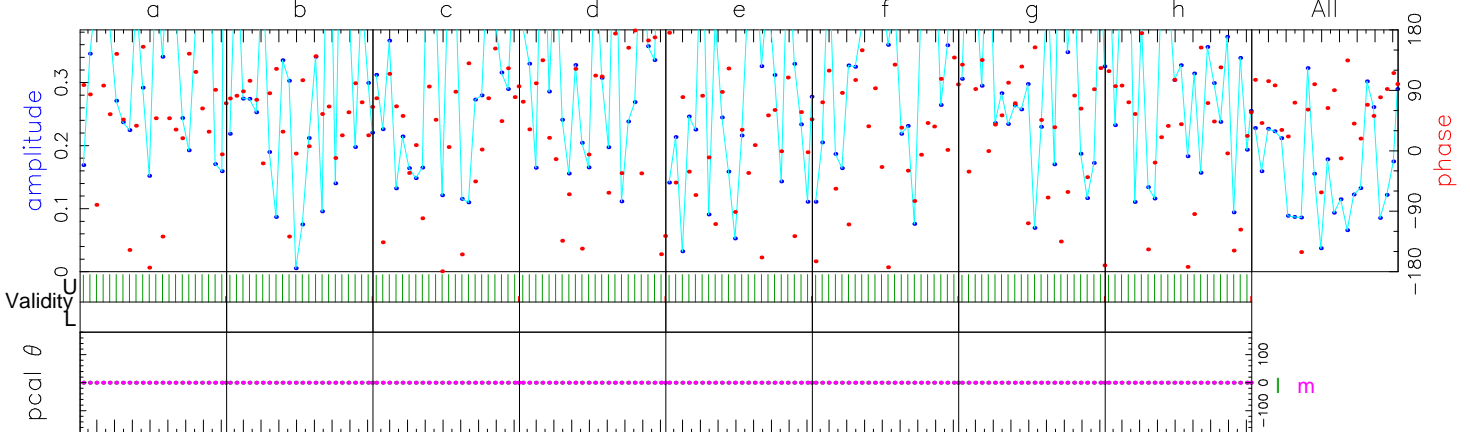
Fringe quality 9

SNR 7.6  
 Int time 476.980  
 Amp 0.128  
 Phase 71.1  
 PFD 7.2e-06  
 Delays (us)  
 SBD 0.002454  
 MBD 0.000065  
 Fringe rate (Hz)  
 -0.003317  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132515  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



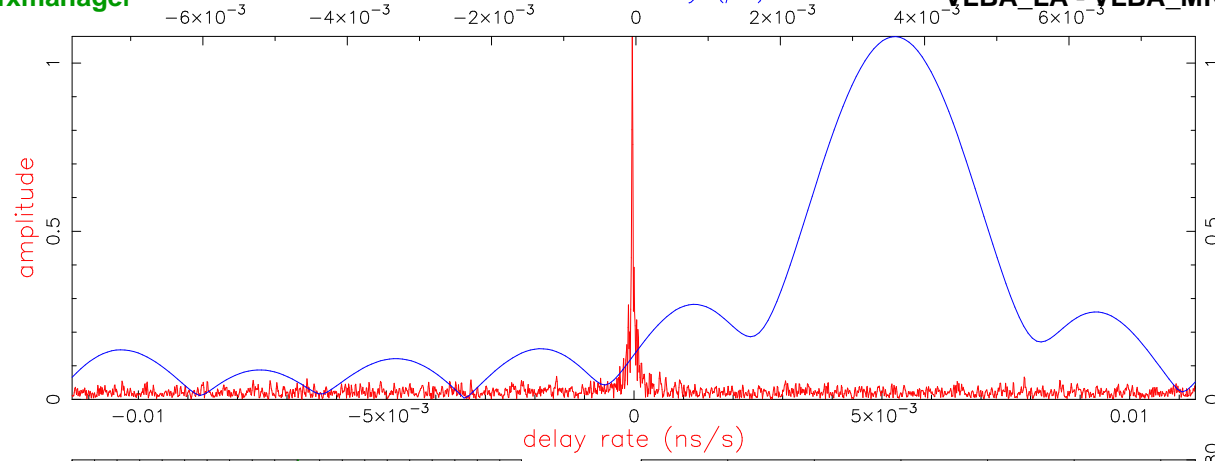
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd) -2.18491241887E+03 Apriori delay (usec) -2.18491248408E+03 Resid mbdelay (usec) 6.52151E-05 +/- 1.4E-04  
 Sband delay (usec) -2.18491003033E+03 Apriori clock (usec) -1.3770288E+01 Resid sbdelay (usec) 2.45375E-03 +/- 1.1E-03  
 Phase delay (usec) -2.18491248179E+03 Apriori clockrate (us/s) -1.9999998E-07 Resid phdelay (usec) 2.29363E-06 +/- 4.8E-07  
 Delay rate (us/s) -7.54089824533E-01 Apriori rate (us/s) -7.54089786027E-01 Resid rate (us/s) -3.85059E-08 +/- 1.8E-09  
 Total phase (deg) -65.3 Apriori accel (us/s/s) 2.99200285875E-05 Resid phase (deg) 71.1 +/- 15.0

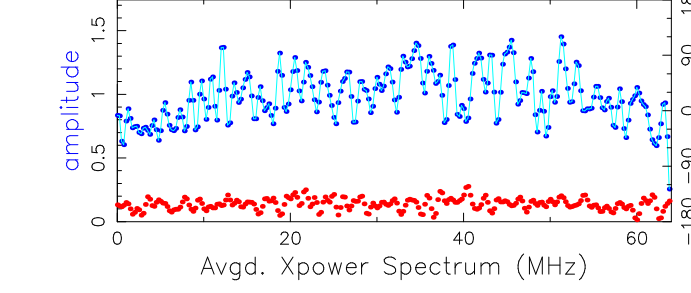
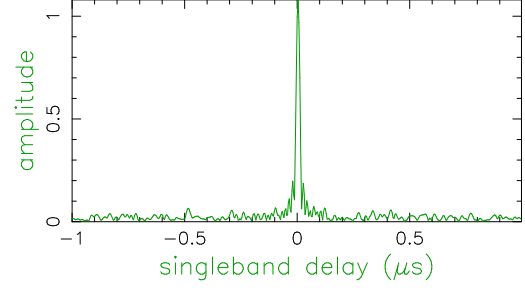
RMS Theor. Amplitude 0.128 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 53.5 36.0 Search (2048X32) 0.115 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 65.1 62.8 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 36.0 21.2 Inc. seg. avg. 0.133 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 36.8 37.0 Inc. frq. avg. 0.130 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

l: az 293.2 el 56.3 pa 86.0 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5819.913 3655.851 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im..1M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im.W.145.1M249

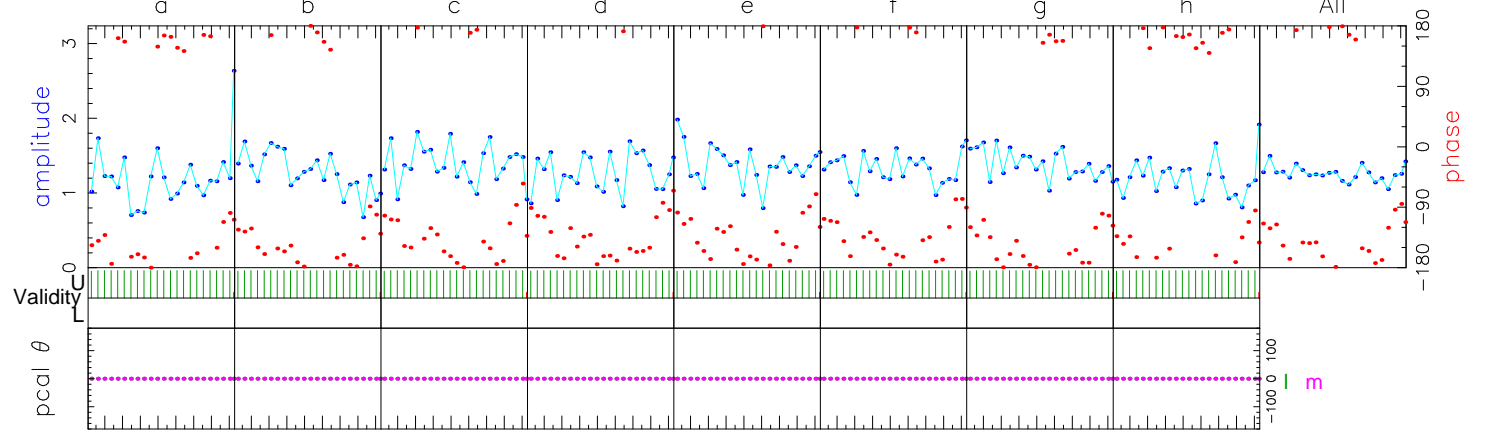
multiband delay ( $\mu$ s)



Fringe quality 6  
SNR 64.5  
Int time 476.980  
Amp 1.080  
Phase -151.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.003625  
MBD 0.003579  
Fringe rate (Hz)  
-0.003335  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132503  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
l	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
l	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	-2.18490890462E+03	-2.18490885958E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03		
Sband delay (usec)	-2.18490885958E+03	-2.18490885958E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03		
Phase delay (usec)	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03	-2.18491248895E+03		
Delay rate (us/s)	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01	-7.54089824738E-01		
Total phase (deg)			-287.3							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
simultaneous interpolator										

ph/seg (deg) 31.4 4.3 Search (2048X32) 0.985 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 18.6 7.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 15.8 2.5 Inc. seg. avg. 1.252 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 7.8 4.4 Inc. frq. avg. 1.108 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
l: az 293.2 el 56.3 pa 86.0 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 5819.913 3655.851 ion window (TEC) 0.00 0.00  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/Im.W.86.11M249

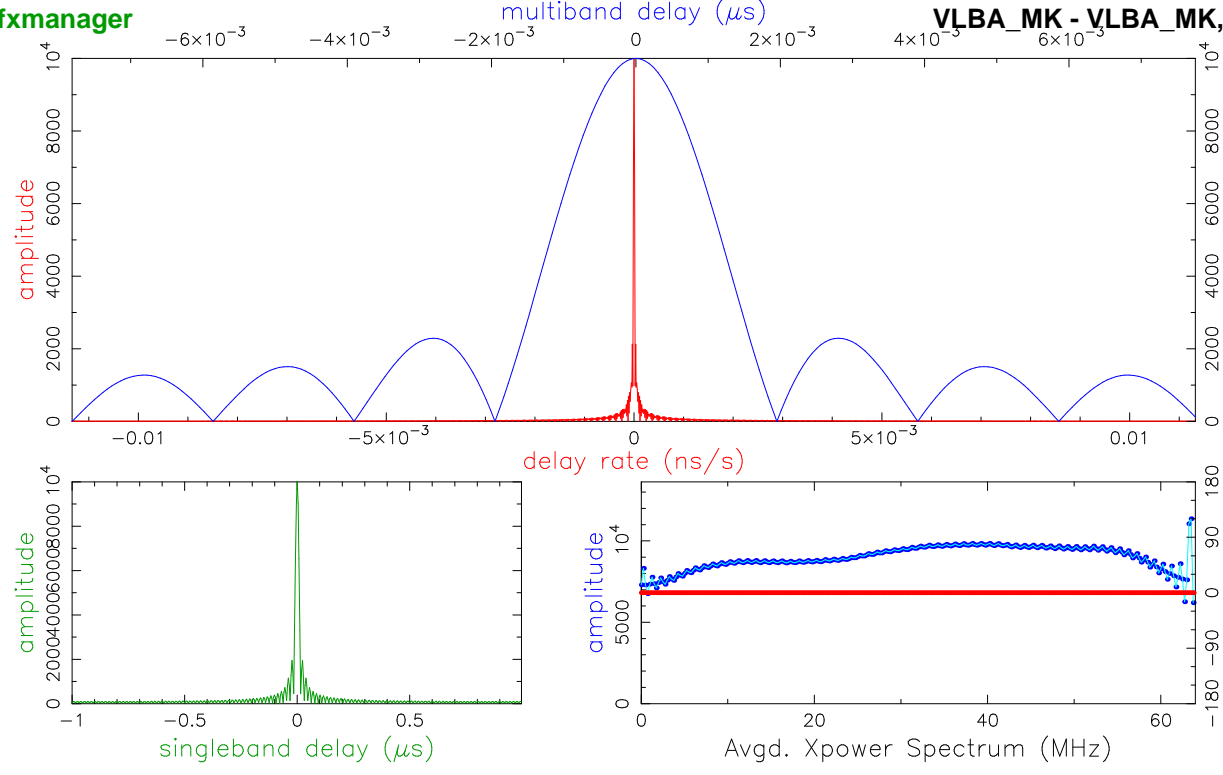


Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1M249, No0105, mm

VLBA\_MK - VLBA\_MK, fgroup W, pol RR

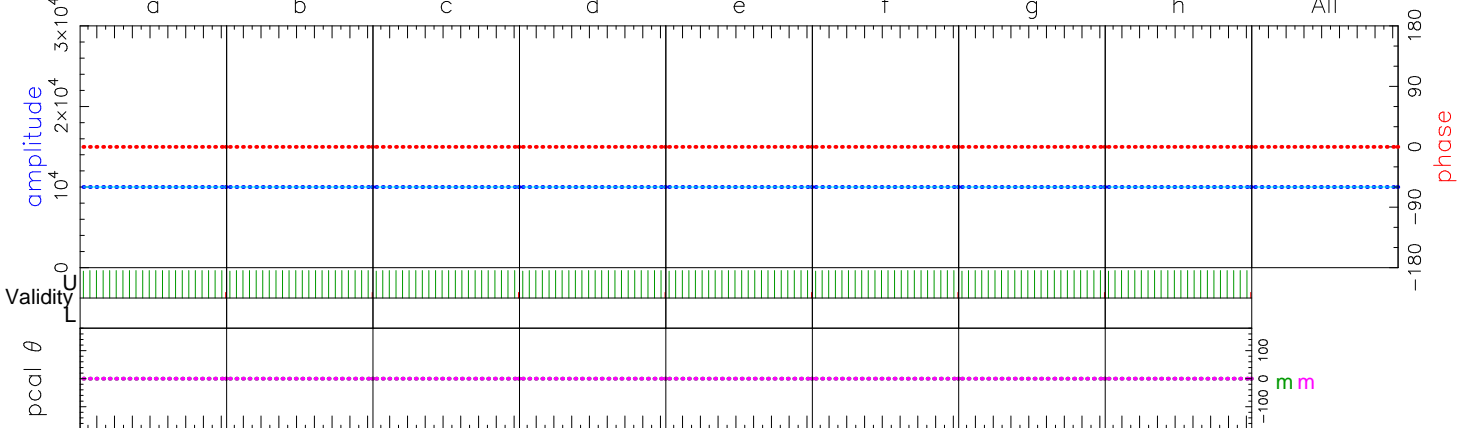


Fringe quality 9

SNR 597238.6  
 Int time 476.980  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz) 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132507  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 1.8E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 1.4E-08  
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 6.2E-12  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 2.2E-14  
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

ph/seg (deg) 0.0 0.0 RMS Theor. Amplitude 10000.000 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 0.0 0.0 Search (2048X32) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

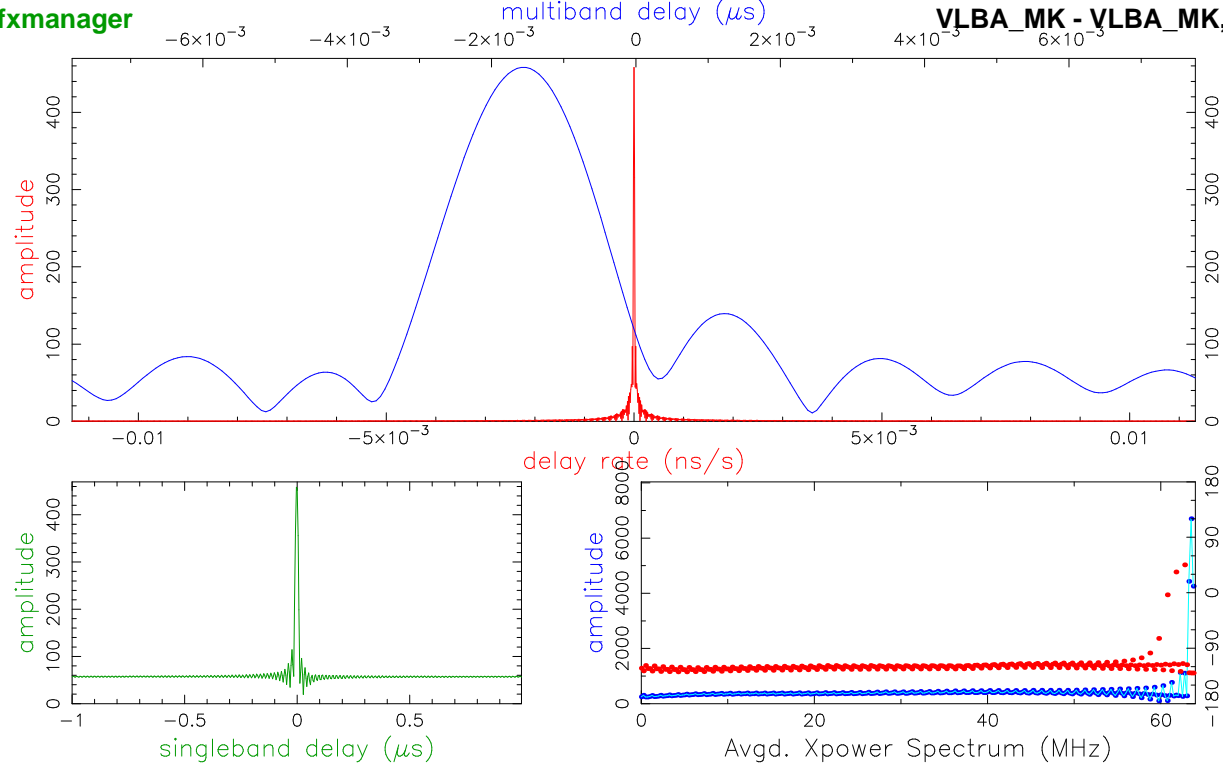
m: az 12.2 el 67.6 pa -163.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm..1IIM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm.W.105.1IIM249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

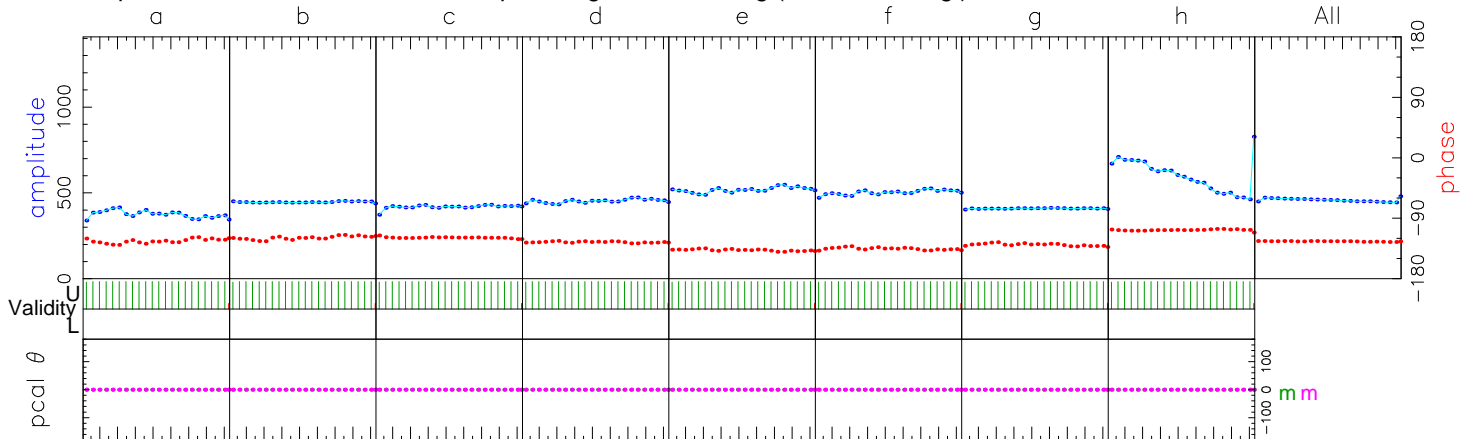
3C84.1M249, No0105, mm

VLBA\_MK - VLBA\_MK, fgroup W, pol LR



Fringe quality 9  
 SNR 28059.2  
 Int time 476.980  
 Amp 469.816  
 Phase -124.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.002068  
 MBD -0.001579  
 Fringe rate (Hz) 0.000006  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build 2021:023:075223  
 2021:023:132511  
 2020:247:085004  
 RA & Dec (J2000) 03h19m48.160095s +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-124.1	-119.1	-118.8	-125.4	-137.4	-135.2	-129.2	-107.4	Phase	-124.3
	375.8	446.6	419.2	453.3	518.5	503.2	409.5	593.1	Ampl.	464.9
	256.6	256.0	256.6	256.7	256.5	256.8	257.1	255.8	Sbd box	256.5
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-1.57856250000E-03					0.00000000000E+00			Resid mbdelay (usec)	-1.57856E-03 +/- 3.9E-08
Sband delay (usec)	-2.06800000000E-03					0.0000000E+00			Resid sbdelay (usec)	-2.06800E-03 +/- 3.1E-07
Phase delay (usec)	-4.00977732833E-06					0.0000000E+00			Resid phdelay (usec)	-4.00978E-06 +/- 1.3E-10
Delay rate (us/s)	7.15643195780E-11					0.00000000000E+00			Resid rate (us/s)	7.15643E-11 +/- 4.8E-13
Total phase (deg)			-124.3			0.00000000000E+00			Resid phase (deg)	-124.3 +/- 0.0

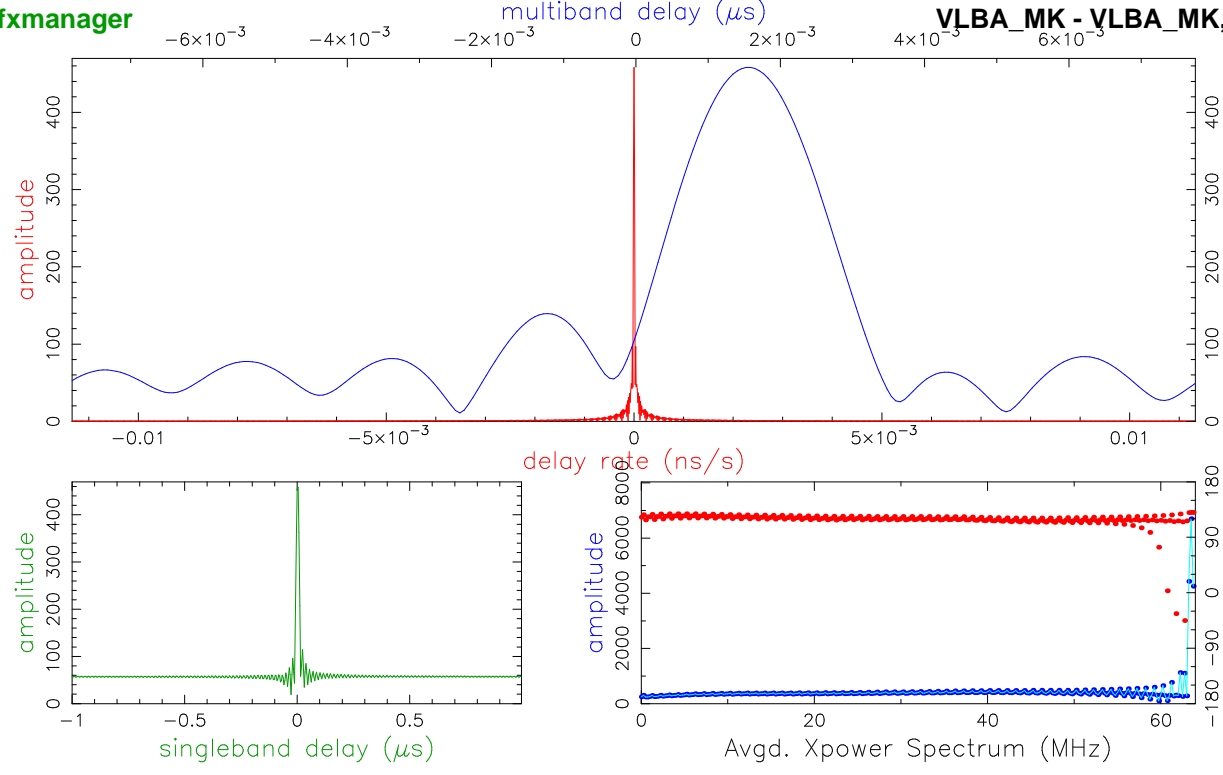
ph/seg (deg) 0.4 0.0 Search (2048X32) 456.607 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 3.1 0.0 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 10.5 0.0 Inc. seg. avg. 458.245 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 14.0 0.0 Inc. frq. avg. 464.905 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 12.2 el 67.6 pa -163.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm.W.123.1IM249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

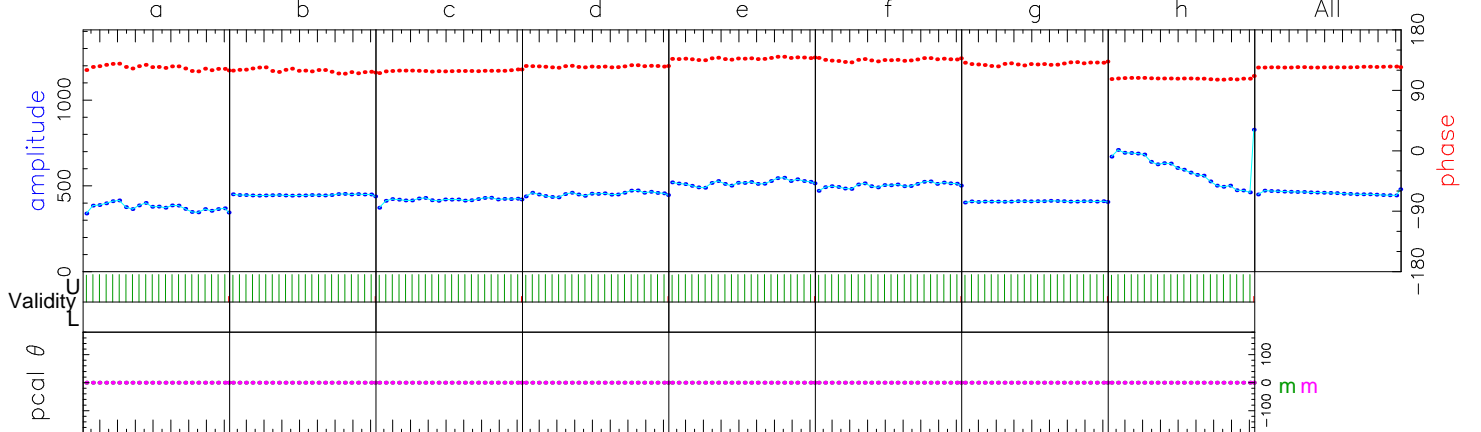
3C84.1M249, No0105, mm

VLBA\_MK - VLBA\_MK, fgroup W, pol RL



Fringe quality 9  
 SNR 28059.2  
 Int time 476.980  
 Amp 469.816  
 Phase 124.3  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.002068  
 MBD 0.001579  
 Fringe rate (Hz) -0.000006  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132514  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	124.1	119.1	118.8	125.4	137.4	135.2	129.2	107.4	Phase	124.3
	375.8	446.6	419.2	453.3	518.5	503.2	409.5	593.1	Ampl.	464.9
	257.4	258.0	257.4	257.3	257.5	257.2	256.9	258.2	Sbd box	257.5
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 1.57856250000E-03 Apriori delay (usec) 0.00000000000E+00 Resid mbdelay (usec) 1.57856E-03 +/- 3.9E-08  
 Sband delay (usec) 2.06800000000E-03 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 2.06800E-03 +/- 3.1E-07  
 Phase delay (usec) 4.00977732832E-06 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 4.00978E-06 +/- 1.3E-10  
 Delay rate (us/s) -7.15643195780E-11 Apriori rate (us/s) 0.00000000000E+00 Resid rate (us/s) -7.15643E-11 +/- 4.8E-13  
 Total phase (deg) 124.3 Apriori accel (us/s/s) 0.00000000000E+00 Resid phase (deg) 124.3 +/- 0.0

RMS Theor. Amplitude 469.816 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.4 0.0 Search (2048X32) 456.607 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 3.1 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 10.5 0.0 Inc. seg. avg. 458.245 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 14.0 0.0 Inc. frq. avg. 464.905 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

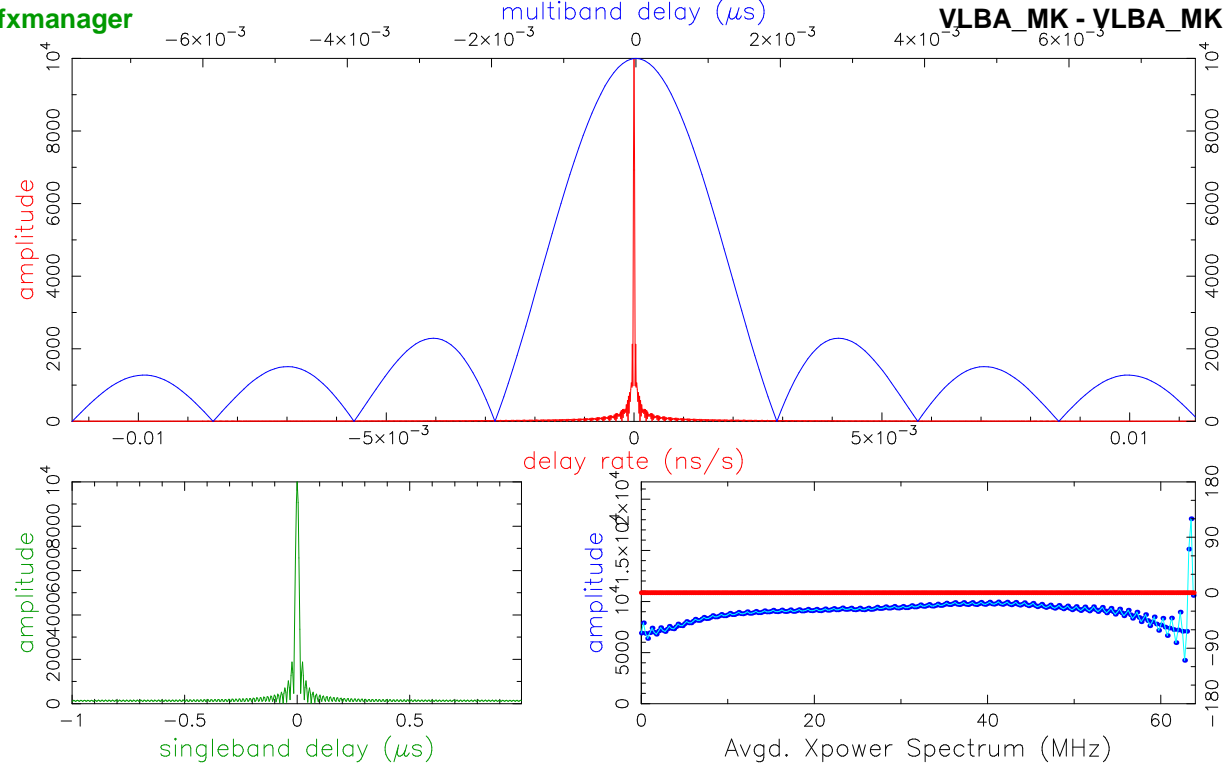
m: az 12.2 el 67.6 pa -163.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm.W.142.1IM249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

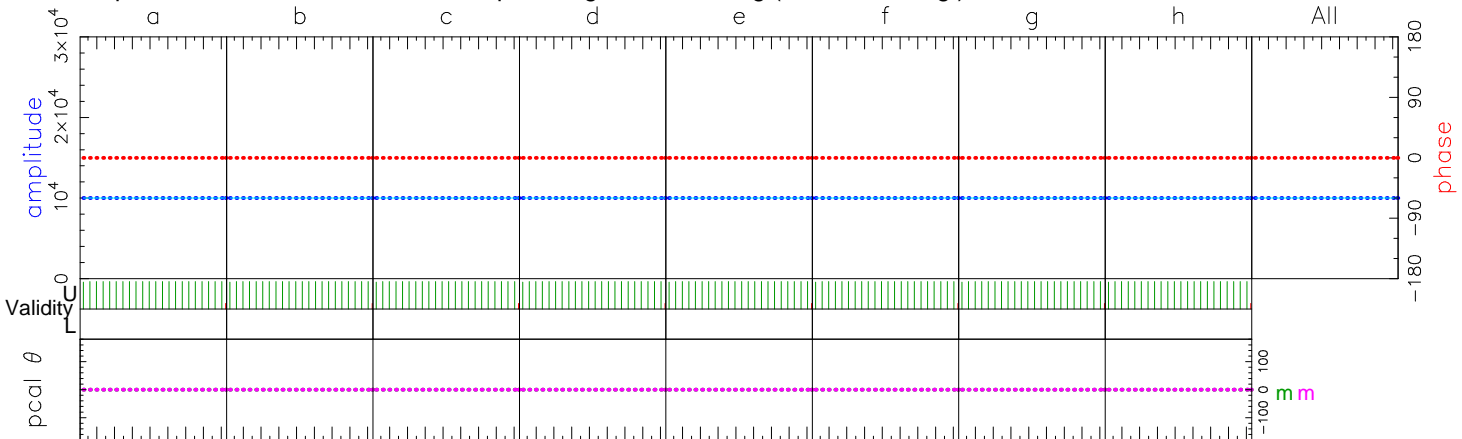
3C84.1M249, No0105, mm

VLBA\_MK - VLBA\_MK, fgroup W, pol LL



Fringe quality 9  
 SNR 597238.6  
 Int time 476.980  
 Amp 10000.000  
 Phase 0.0  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.000000  
 MBD 0.000000  
 Fringe rate (Hz) 0.000000  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132503  
 2020:247:085004  
 RA & Dec (J2000) 03h19m48.160095s +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd) 0.0000000000E+00 Apriori delay (usec) 0.0000000000E+00 Resid mbdelay (usec) 0.00000E+00 +/- 1.8E-09  
 Sband delay (usec) 0.0000000000E+00 Apriori clock (usec) 0.0000000E+00 Resid sbdelay (usec) 0.00000E+00 +/- 1.4E-08  
 Phase delay (usec) 0.0000000000E+00 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) 0.00000E+00 +/- 6.2E-12  
 Delay rate (us/s) 0.0000000000E+00 Apriori rate (us/s) 0.0000000000E+00 Resid rate (us/s) 0.00000E+00 +/- 2.2E-14  
 Total phase (deg) 0.0 Apriori accel (us/s/s) 0.0000000000E+00 Resid phase (deg) 0.0 +/- 0.0

RMS Theor. Amplitude 10000.000 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 0.0 0.0 Search (2048X32) 10000.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 0.0 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 0.0 0.0 Inc. seg. avg. 10000.000 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 0.0 0.0 Inc. frq. avg. 10000.000 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

m: az 12.2 el 67.6 pa -163.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) 0.000 0.000 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm..1IIM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mm.W.89.1IIM249

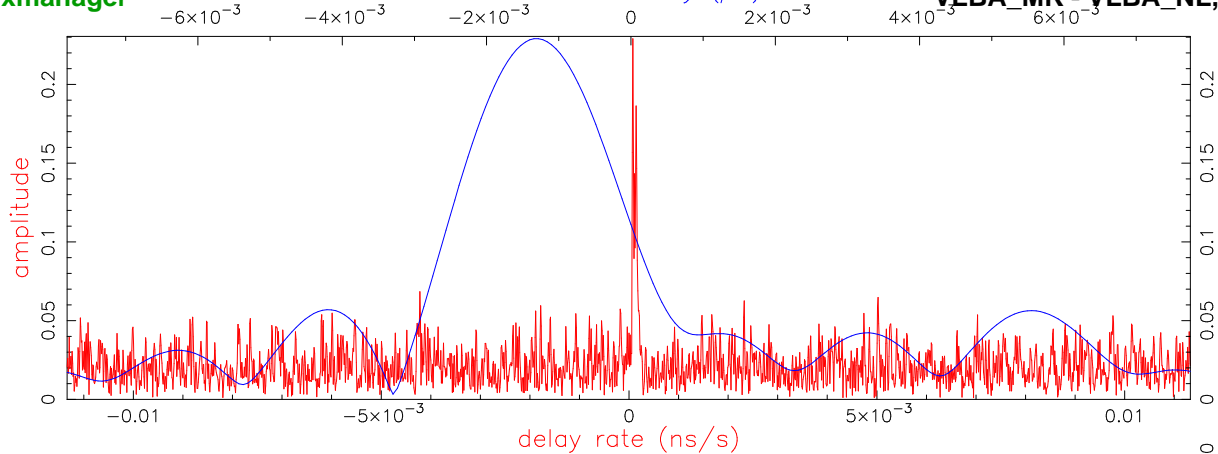
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mn

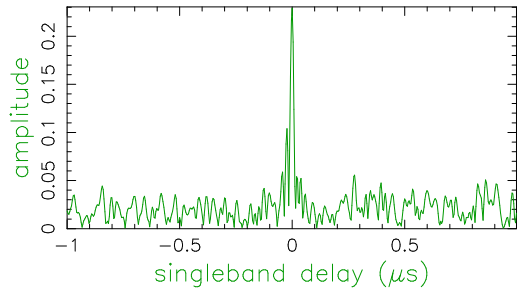
VLBA\_MK - VLBA\_NL, fgroup W, pol RR

multiband delay ( $\mu$ s)

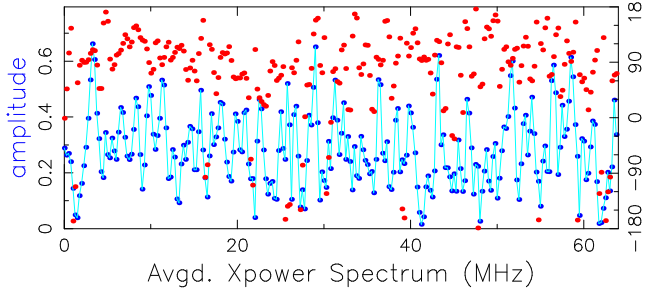


Fringe quality 9

SNR 13.8  
 Int time 476.980  
 Amp 0.231  
 Phase 103.8  
 PFD 2.3e-34  
 Delays (us)  
 SBD -0.000934  
 MBD -0.001341  
 Fringe rate (Hz)  
 0.006481  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

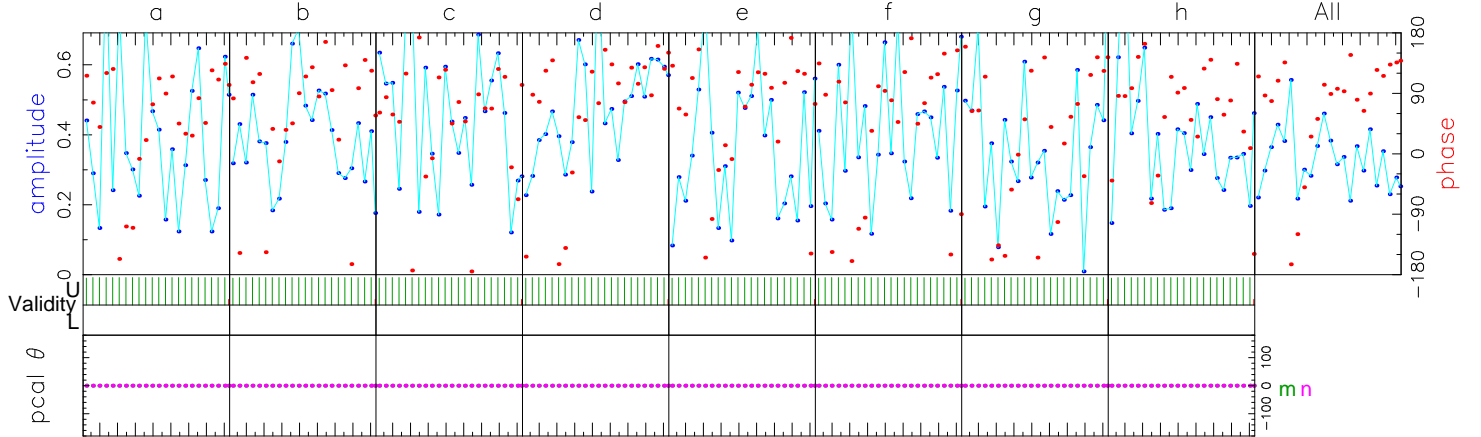


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132508  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	93.5	107.8	86.2	110.2	118.8	117.6	108.7	90.1	Phase	103.8
	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	Ampl.	0.2
	257.5	257.2	256.4	256.7	257.2	256.5	203.8	256.2	Sbd box	256.8
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.15884924083E+03		Apriori delay (usec)		4.15885058213E+03		Resid mbdelay (usec)		-1.34131E-03	+/- 7.9E-05
Sband delay (usec)	4.15884964838E+03		Apriori clock (usec)		1.3195424E+01		Resid sbdelay (usec)		-9.33750E-04	+/- 6.3E-04
Phase delay (usec)	4.15885058548E+03		Apriori clockrate (us/s)		-4.0000002E-07		Resid phdelay (usec)		3.34604E-06	+/- 2.7E-07
Delay rate (us/s)	8.39480318463E-01		Apriori rate (us/s)		8.39480243222E-01		Resid rate (us/s)		7.52410E-08	+/- 9.7E-10
Total phase (deg)	155.9		Apriori accel (us/s/s)		-4.65145212447E-05		Resid phase (deg)		103.8	+/- 8.3

	RMS	Theor.	Amplitude	0.231 +/- 0.017	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	55.7	20.0	Search (2048X32)	0.223	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	57.4	34.8	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	13.5	11.8	Inc. seg. avg.	0.313	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	21.4	20.5	Inc. frq. avg.	0.229	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

m: az 12.2 el 67.6 pa -163.7 n: az 289.9 el 47.8 pa 69.9 u,v (fr/asec) -6500.540 -5345.349 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn.W.113.11M249

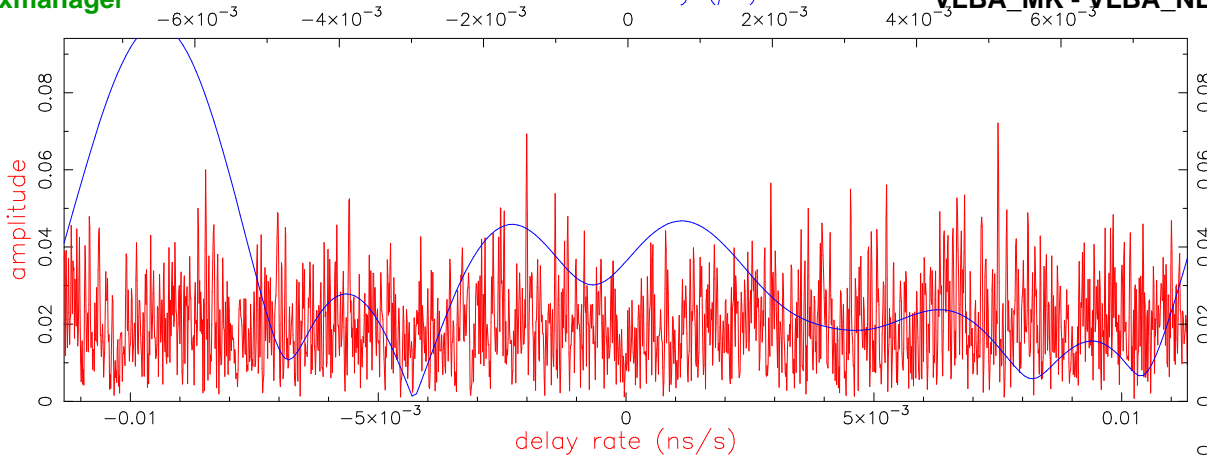
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mn

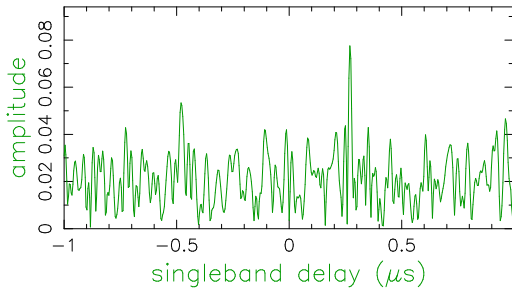
VLBA\_MK - VLBA\_NL, fgroup W, pol LR

multiband delay ( $\mu$ s)

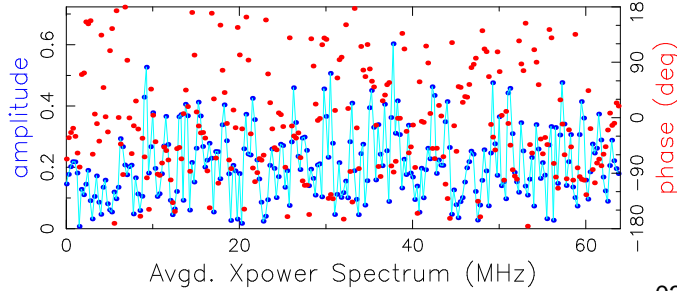


Fringe quality 0

SNR 4.7  
 Int time 476.980  
 Amp 0.094  
 Phase 104.1  
 PFD 1.0e+00  
 Delays (us)  
 SBD 0.270348  
 MBD 0.008301  
 Fringe rate (Hz)  
 0.647370  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

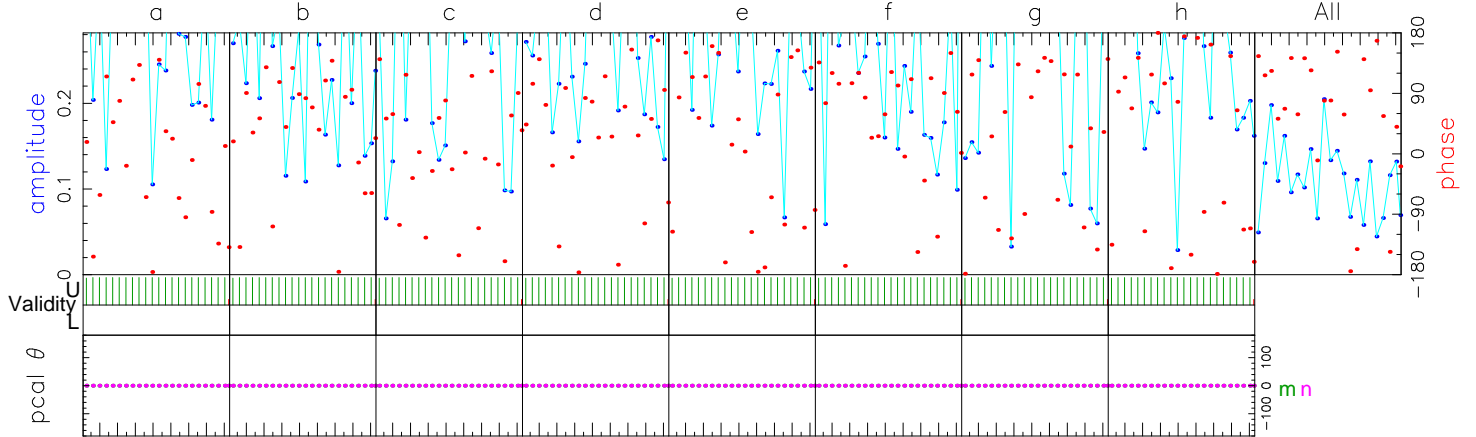


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132512  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	14.7	78.4	-17.7	84.1	139.0	104.3	139.0	170.5	Phase	104.1
	0.1	0.2	0.0	0.2	0.1	0.2	0.1	0.2	Ampl.	0.1
	366.3	325.8	377.4	320.6	385.8	327.3	190.5	326.6	Sbd box	326.2
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
n	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)		4.15912450791E+03		Apriori delay (usec)	4.15885058213E+03		Resid mbdelay (usec)	8.30078E-03	+/-	2.3E-04
Sband delay (usec)		4.15912093063E+03		Apriori clock (usec)	1.3195424E+01		Resid sbdelay (usec)	2.70348E-01	+/-	1.8E-03
Phase delay (usec)		4.15885058549E+03		Apriori clockrate (us/s)	-4.0000002E-07		Resid phdelay (usec)	3.35802E-06	+/-	7.9E-07
Delay rate (us/s)		8.39487758541E-01		Apriori rate (us/s)	8.39480243222E-01		Resid rate (us/s)	7.51532E-06	+/-	2.9E-09
Total phase (deg)			156.3	Apriori accel (us/s/s)	-4.65145212447E-05		Resid phase (deg)	104.1	+/-	24.6

	RMS	Theor.	Amplitude	0.094 +/- 0.020	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	58.9	59.0	Search (2048X32)	0.098	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	71.4	103.0	Interp.	0.000	Bits/sample: 2x2	mb window (us) -0.008 0.008
ph/frq (deg)	71.6	34.8	Inc. seg. avg.	0.090	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	65.6	60.7	Inc. frq. avg.	0.109	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

m: az 12.2 el 67.6 pa -163.7 n: az 289.9 el 47.8 pa 69.9 u,v (fr/asec) -6500.540 -5345.349 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn.W.132.1IM249

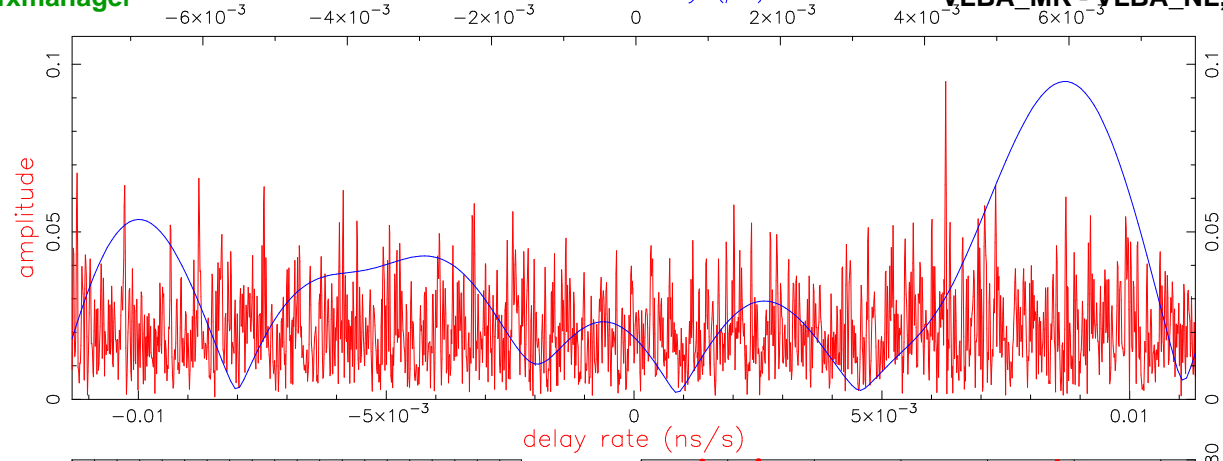
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

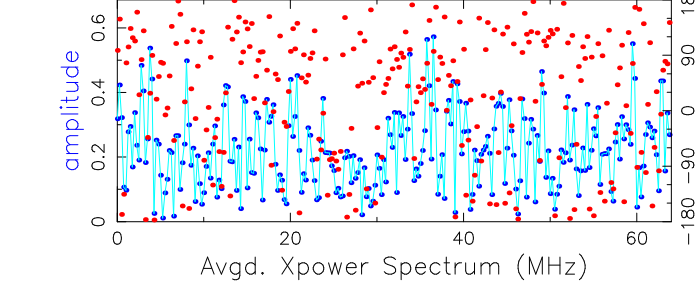
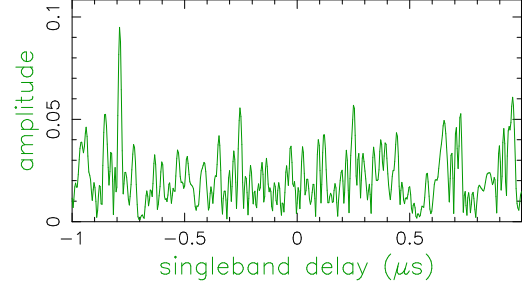
3C84.1IM249, No0105, mn

VLBA\_MK - VLBA\_NL, fgroup W, pol RL

multiband delay ( $\mu$ s)

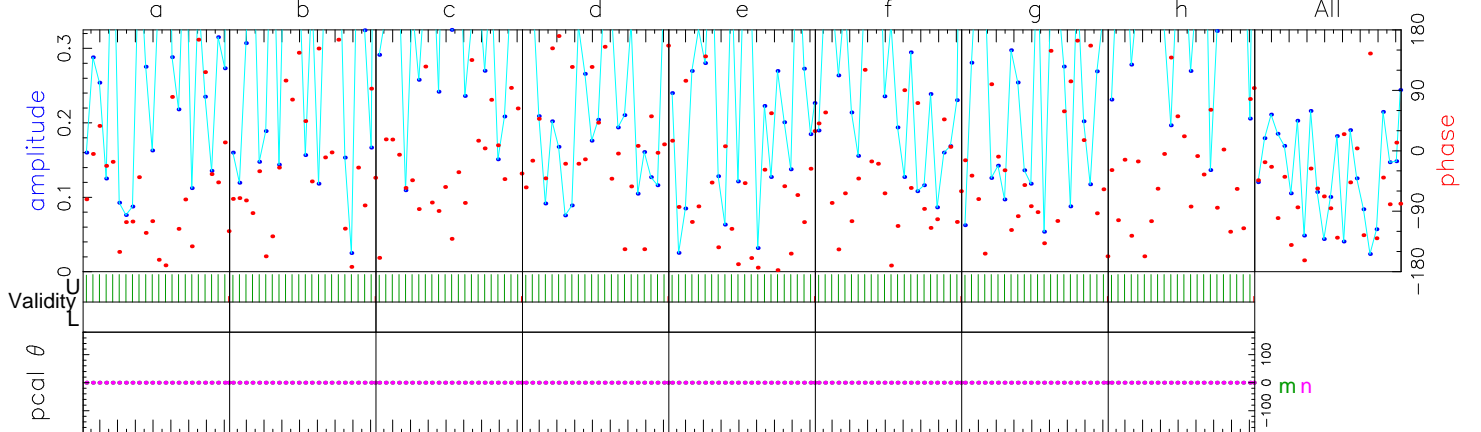


Fringe quality 0  
 SNR 5.7  
 Int time 476.980  
 Amp 0.108  
 Phase -57.3  
 PFD 9.6e-01  
 Delays (us)  
 SBD -0.788484  
 MBD 0.005974  
 Fringe rate (Hz)  
 0.542720  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132516  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-89.9	-68.0	-16.6	-12.9	-85.7	-51.8	-99.4	-48.8	Phase	-57.3
	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	Ampl.	0.1
	257.5	128.0	349.3	438.4	498.5	319.5	144.6	55.1	Sbd box	55.1
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.15805968153E+03		Apriori delay (usec)		4.15885058213E+03		Resid mbdelay (usec)		5.97440E-03	+/- 1.9E-04
Sband delay (usec)	4.15806209863E+03		Apriori clock (usec)		1.3195424E+01		Resid sbdelay (usec)		-7.88484E-01	+/- 1.5E-03
Phase delay (usec)	4.15885058028E+03		Apriori clockrate (us/s)		-4.0000002E-07		Resid phdelay (usec)		-1.84802E-06	+/- 6.5E-07
Delay rate (us/s)	8.39486543668E-01		Apriori rate (us/s)		8.39480243222E-01		Resid rate (us/s)		6.30045E-06	+/- 2.4E-09
Total phase (deg)			Apriori accel (us/s/s)		-4.65145212447E-05		Resid phase (deg)		-57.3	+/- 20.2

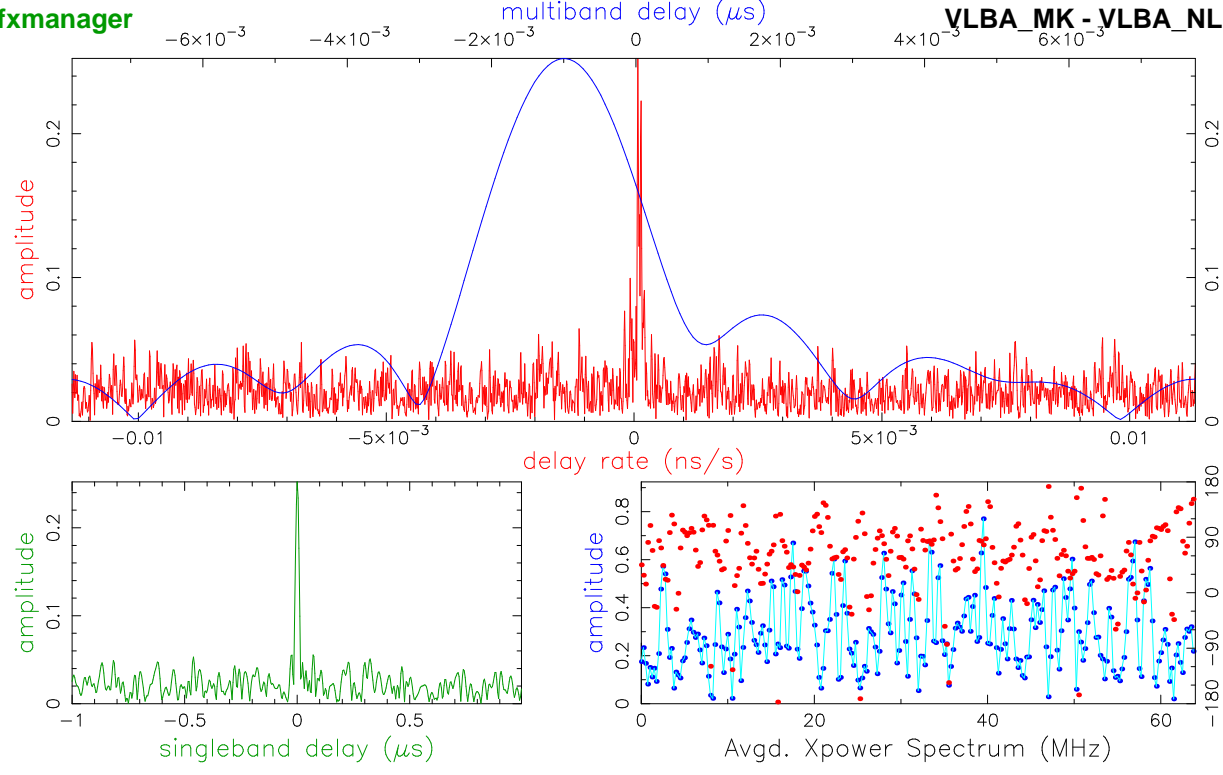
ph/seg (deg) 60.8 48.4 Search (2048X32) 0.093 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 76.6 84.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 35.3 28.5 Inc. seg. avg. 0.112 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 41.1 49.8 Inc. frq. avg. 0.110 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 12.2 el 67.6 pa -163.7 n: az 289.9 el 47.8 pa 69.9 u,v (fr/asec) -6500.540 -5345.349 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn.W.147.11M249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mn

VLBA\_MK - VLBA\_NL, fgroup W, pol LL

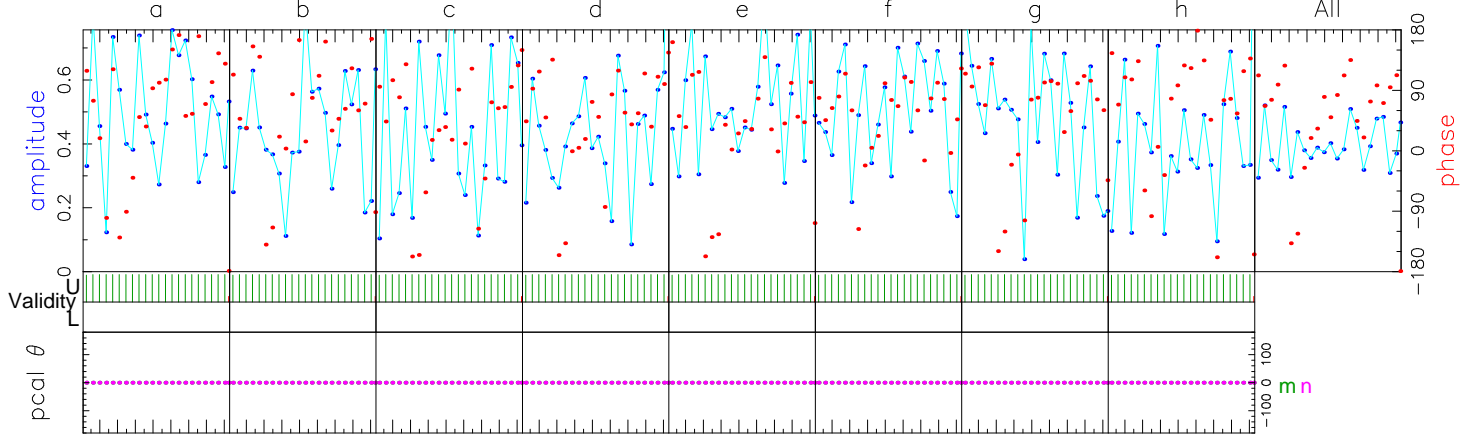


Fringe quality 9

SNR 15.1  
 Int time 476.980  
 Amp 0.252  
 Phase 81.7  
 PFD 1.7e-42  
 Delays (us)  
 SBD 0.000340  
 MBD -0.000985  
 Fringe rate (Hz) 0.006892  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132504  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:n	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
n	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
n	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
Group delay (usec)(sbd)	4.15884959673E+03		Apriori delay (usec)		4.15885058213E+03		Resid mbdelay (usec)		-9.85400E-04	+/- 7.2E-05
Sband delay (usec)	4.15885092188E+03		Apriori clock (usec)		1.3195424E+01		Resid sbdelay (usec)		3.39750E-04	+/- 5.7E-04
Phase delay (usec)	4.15885058477E+03		Apriori clockrate (us/s)		-4.0000002E-07		Resid phdelay (usec)		2.63483E-06	+/- 2.5E-07
Delay rate (us/s)	8.39480323237E-01		Apriori rate (us/s)		8.39480243222E-01		Resid rate (us/s)		8.00146E-08	+/- 8.9E-10
Total phase (deg)	133.9		Apriori accel (us/s/s)		-4.65145212447E-05		Resid phase (deg)		81.7	+/- 7.6

ph/seg (deg) 59.5 18.2 Search (2048X32) 0.246 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 63.2 31.8 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 14.1 10.8 Inc. seg. avg. 0.376 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 16.7 18.8 Inc. frq. avg. 0.254 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 12.2 el 67.6 pa -163.7 n: az 289.9 el 47.8 pa 69.9 u,v (fr/asec) -6500.540 -5345.349 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mn.W.93.11M249



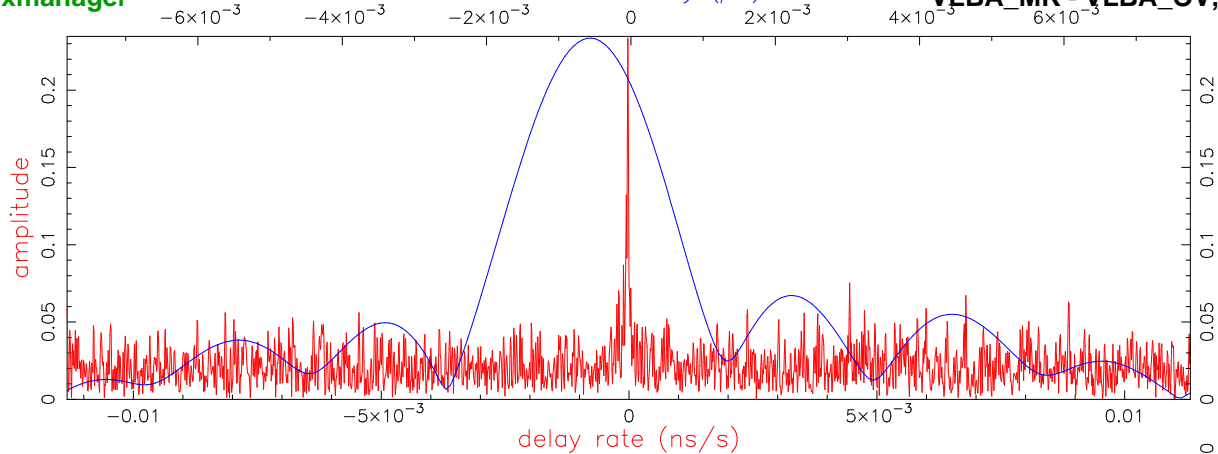
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mo

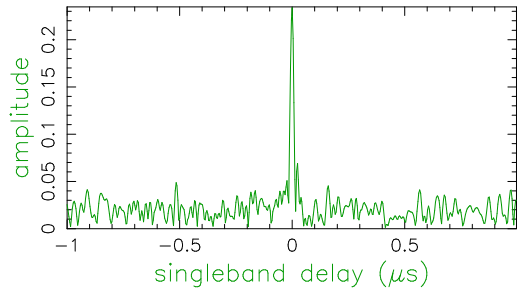
VLBA\_MK - VLBA\_OV, fgroup W, pol RR

multiband delay ( $\mu$ s)

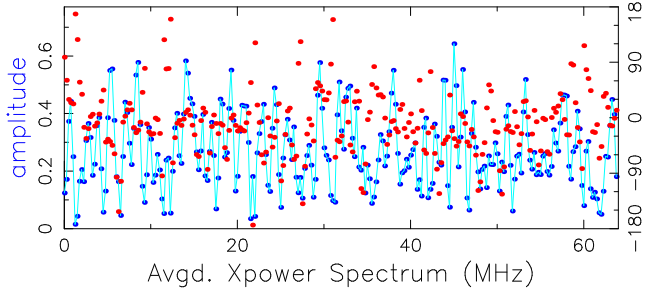


Fringe quality 9

SNR 14.0  
 Int time 474.660  
 Amp 0.235  
 Phase -14.1  
 PFD 1.1e-35  
 Delays (us)  
 SBD -0.000847  
 MBD -0.000585  
 Fringe rate (Hz)  
 -0.001826  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

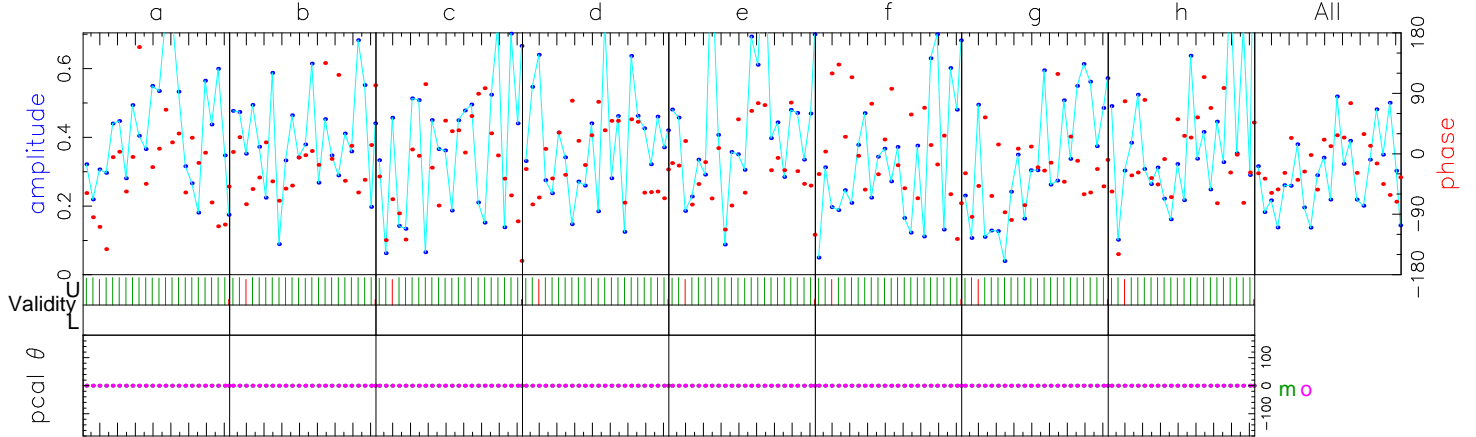


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132509  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-20.8	-20.8	-9.9	-4.2	-5.5	-11.6	-30.2	-6.8	Phase	-14.1
	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.2	Ampl.	0.2
	257.6	256.7	256.9	256.8	257.2	256.1	256.4	256.6	Sbd box	256.8
U/L	931/0	931/0	931/0	931/0	931/0	931/0	931/0	931/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
o	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	4.12853043078E+02		Apriori delay (usec)		4.12853627924E+02		Resid mbdelay (usec)		-5.84846E-04	+/- 7.8E-05
Sband delay (usec)	4.12852780424E+02		Apriori clock (usec)		-8.0307121E+00		Resid sbdelay (usec)		-8.47500E-04	+/- 6.2E-04
Phase delay (usec)	4.12853627469E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		-4.54854E-07	+/- 2.6E-07
Delay rate (us/s)	5.89030437473E-01		Apriori rate (us/s)		5.89030458670E-01		Resid rate (us/s)		-2.11972E-08	+/- 9.6E-10
Total phase (deg)	169.3		Apriori accel (us/s/s)		-2.21375339931E-05		Resid phase (deg)		-14.1	+/- 8.2

ph/seg (deg) 37.1 19.6 Search (2048X32) 0.232 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 53.0 34.3 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 10.0 11.6 Inc. seg. avg. 0.280 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 13.8 20.2 Inc. frq. avg. 0.232 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 12.2 el 67.6 pa -163.7 o: az 290.0 el 65.8 pa 89.4 u,v (fr/asec) -4542.901 -3260.535 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo.W.117.11M249

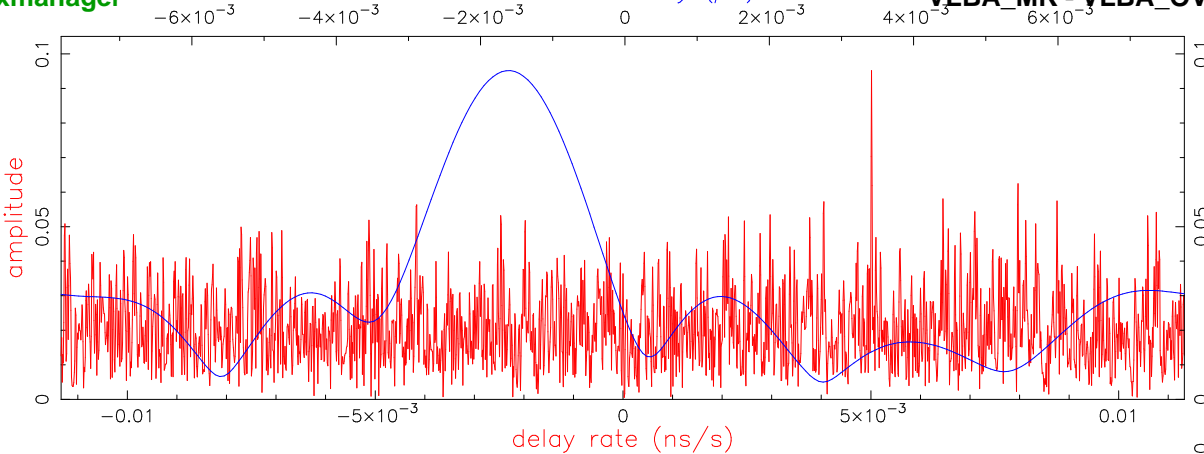
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mo

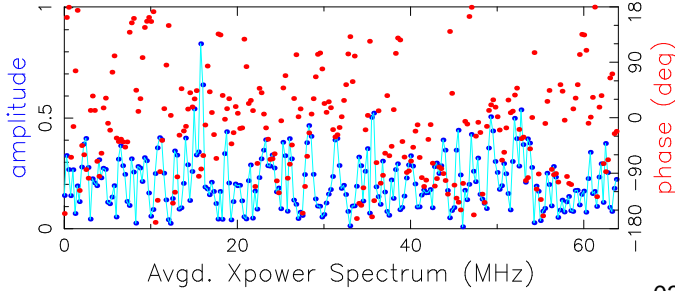
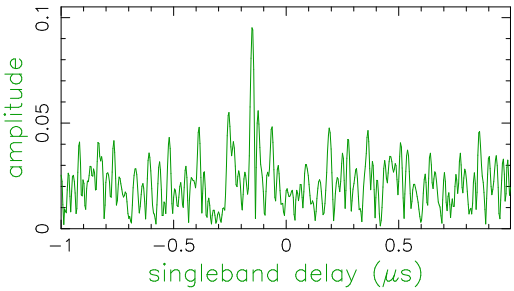
VLBA\_MK - VLBA\_OV, fgroup W, pol LR

multiband delay ( $\mu$ s)



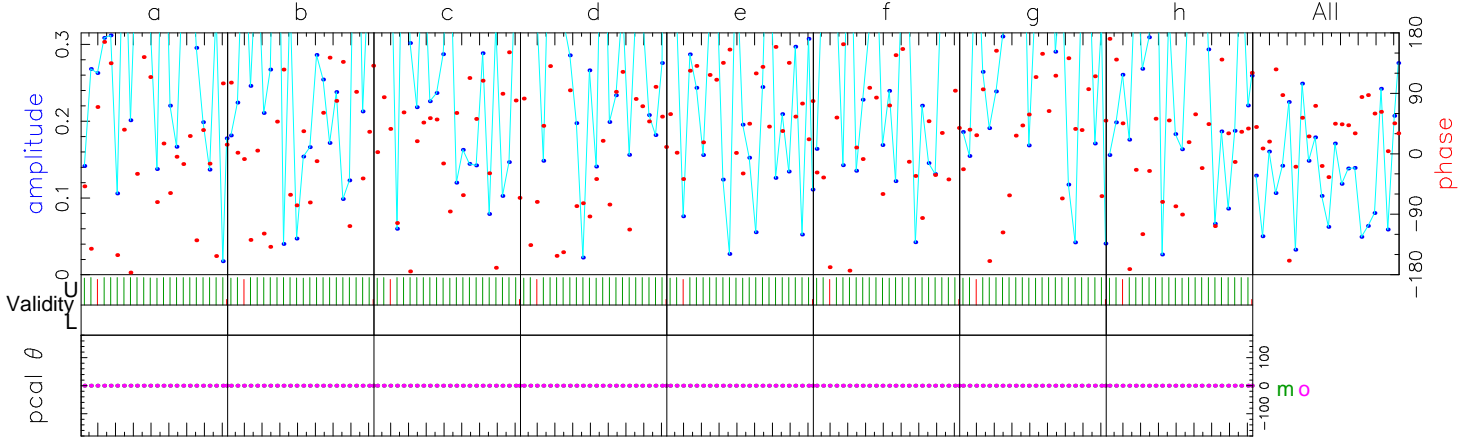
Fringe quality 0

SNR 5.8  
 Int time 474.660  
 Amp 0.105  
 Phase 48.9  
 PFD 8.6e-01  
 Delays (us)  
 SBD -0.150608  
 MBD -0.001587  
 Fringe rate (Hz)  
 0.432205  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132513  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
Group delay (usec)(sbd)	36.8	27.2	54.0	89.3	64.4	41.0	63.6	22.3	Phase	48.9
Sband delay (usec)	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	Ampl.	0.1
Phase delay (usec)	40.5	299.0	328.2	196.0	33.4	321.3	321.2	239.9	Sbd box	218.4
Delay rate (us/s)	U/L 931/0	931/0	931/0	931/0	931/0	931/0	931/0	931/0	APs used	
Total phase (deg)	m 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
	o 1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
	m:0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
	m:0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
	m 1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
	o 1000	1000	1000	1000	1000	1000	1000	1000		
	m W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
	o W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	4.12695790650E+02		Apriori delay (usec)		4.12853627924E+02		Resid mbdelay (usec)		-1.58727E-03	+/- 1.9E-04
Sband delay (usec)	4.12703020174E+02		Apriori clock (usec)		-8.0307121E+00		Resid sbdelay (usec)		-1.50608E-01	+/- 1.5E-03
Phase delay (usec)	4.12853629501E+02		Apriori clockrate (us/s)		1.9999998E-07		Resid phdelay (usec)		1.57745E-06	+/- 6.4E-07
Delay rate (us/s)	5.89035476142E-01		Apriori rate (us/s)		5.89030458670E-01		Resid rate (us/s)		5.01747E-06	+/- 2.3E-09
Total phase (deg)	232.3		Apriori accel (us/s/s)		-2.21375339931E-05		Resid phase (deg)		48.9	+/- 19.9

	RMS	Theor.	Amplitude	0.105 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	50.2	47.6	Search (2048X32)	0.092	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	75.5	83.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	24.1	28.1	Inc. seg. avg.	0.106	Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	38.2	49.0	Inc. frq. avg.	0.098	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

m: az 12.2 el 67.6 pa -163.7 o: az 290.0 el 65.8 pa 89.4 u,v (fr/asec) -4542.901 -3260.535 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo.W.136.11M249

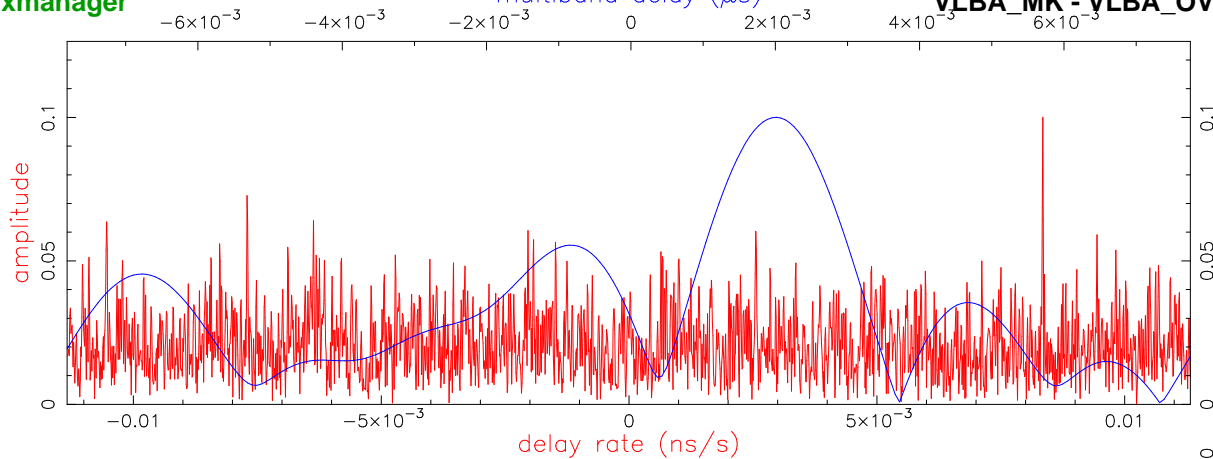
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mo

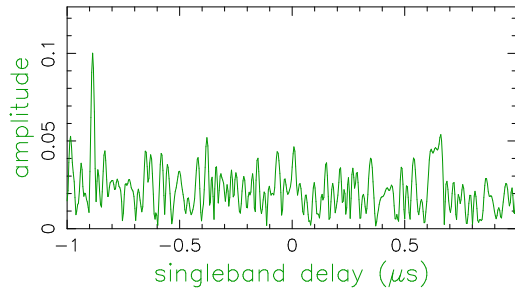
VLBA\_MK - VLBA\_OV, fgroup W, pol RL

multiband delay ( $\mu$ s)

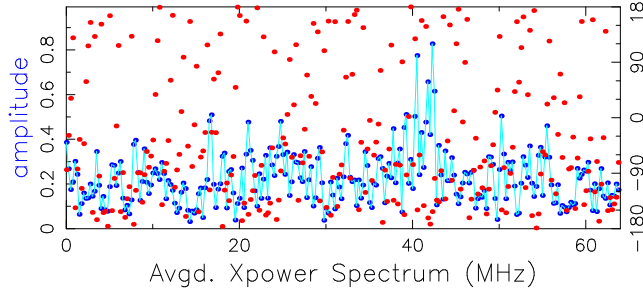


Fringe quality 0

SNR 6.0  
 Int time 474.660  
 Amp 0.126  
 Phase 80.0  
 PFD 4.7e-01  
 Delays (us)  
 SBD -0.886456  
 MBD 0.002015  
 Fringe rate (Hz)  
 0.719807  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

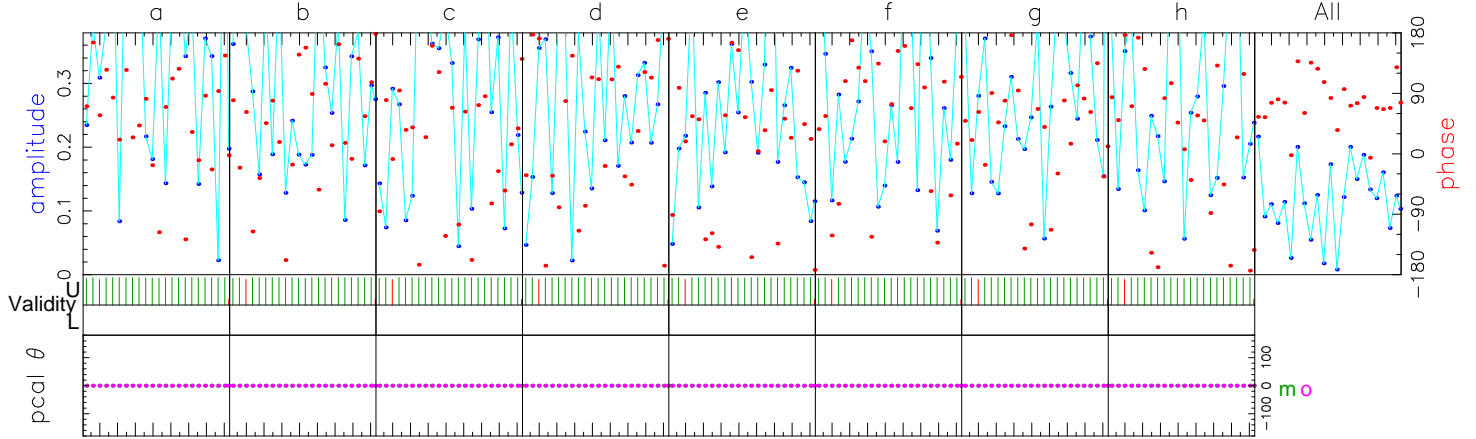


delay rate (ns/s)



Exp. c202b  
 Yr:day # 16383  
 Start 2020:284  
 Stop 2020:284  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132517  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	931/0	931/0	931/0	931/0	931/0	931/0	931/0	931/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
o	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	4.11965017958E+02	Apriori delay (usec)	4.12853627924E+02	Resid mbdelay (usec)	2.01503E-03	+/-	1.8E-04
Sband delay (usec)	4.11967171674E+02	Apriori clock (usec)	-8.0307121E+00	Resid sbdelay (usec)	-8.86456E-01	+/-	1.4E-03
Phase delay (usec)	4.12853630503E+02	Apriori clockrate (us/s)	1.9999998E-07	Resid phdelay (usec)	2.57897E-06	+/-	6.2E-07
Delay rate (us/s)	5.89038814914E-01	Apriori rate (us/s)	5.89030458670E-01	Resid rate (us/s)	8.35624E-06	+/-	2.3E-09
Total phase (deg)	263.3	Apriori accel (us/s/s)	-2.21375339931E-05	Resid phase (deg)	80.0	+/-	19.2

ph/seg (deg)	37.0	Theor.	46.0	Amplitude	0.126 +/- 0.021	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	60.2		80.4	Search (2048X32)	0.097	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	37.4		27.2	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008		
amp/frq (%)	33.0		47.4	Inc. seg. avg.	0.113	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011			
				Inc. frq. avg.	0.127	Data rate (Mb/s):	2048	nlags:	256	t_cohere infinite	ion window (TEC)	0.00 0.00

m: az 12.2 el 67.6 pa -163.7 o: az 290.0 el 65.8 pa 89.4 u,v (fr/asec) -4542.901 -3260.535 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo.W.153.11M249

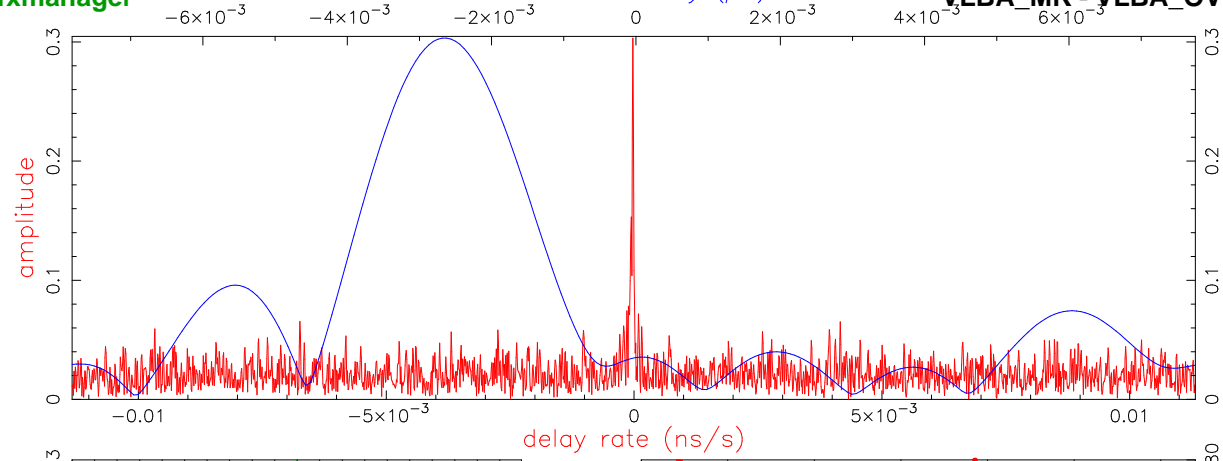
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mo

VLBA\_MK - VLBA\_OV, fgroup W, pol LL

multiband delay ( $\mu$ s)

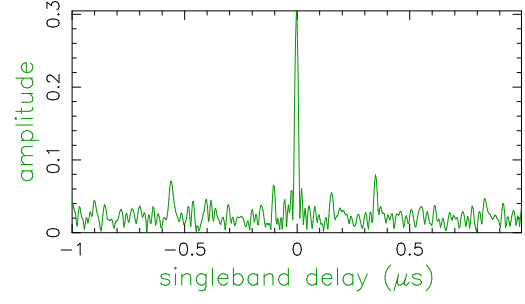


Fringe quality 9

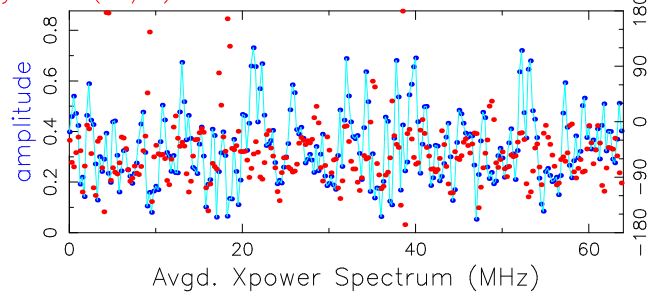
SNR 18.2  
 Int time 474.660  
 Amp 0.305  
 Phase -62.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.003078  
 MBD -0.002623  
 Fringe rate (Hz)  
 -0.001871  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132505  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

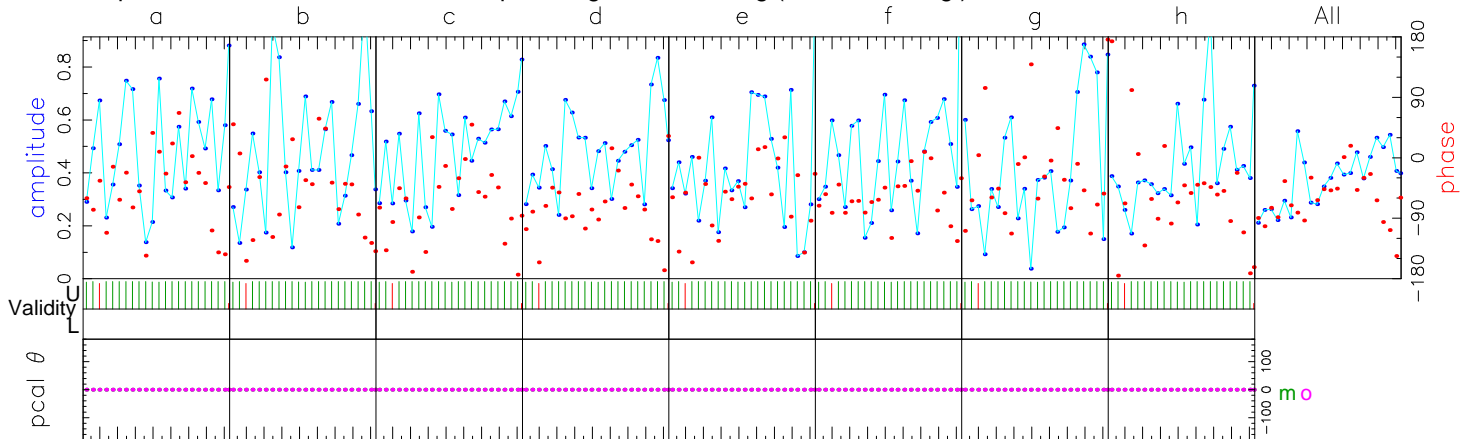
delay rate (ns/s)



singleband delay ( $\mu$ s)



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



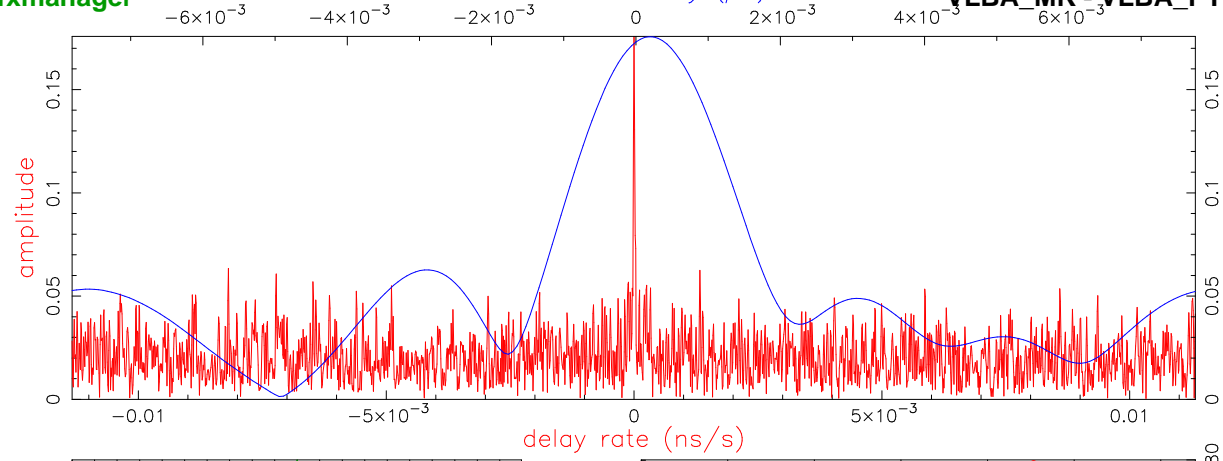
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-40.8	-70.0	-65.6	-83.5	-53.2	-55.6	-58.7	-66.6	Phase	-62.1
	0.3	0.3	0.3	0.4	0.3	0.4	0.3	0.3	Ampl.	0.3
	255.7	256.5	256.3	256.4	256.4	255.9	256.0	256.1	Sbd box	256.2
U/L	931/0	931/0	931/0	931/0	931/0	931/0	931/0	931/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:o	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
o	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) 4.12851005297E+02 Apriori delay (usec) 4.12853627924E+02 Resid mbdelay (usec) -2.62263E-03 +/- 6.0E-05  
 Sband delay (usec) 4.12850549924E+02 Apriori clock (usec) -8.0307121E+00 Resid sbdelay (usec) -3.07800E-03 +/- 4.7E-04  
 Phase delay (usec) 4.12853625921E+02 Apriori clockrate (us/s) 1.9999998E-07 Resid phdelay (usec) -2.00241E-06 +/- 2.0E-07  
 Delay rate (us/s) 5.89030436950E-01 Apriori rate (us/s) 5.89030458670E-01 Resid rate (us/s) -2.17201E-08 +/- 7.4E-10  
 Total phase (deg) 121.3 Apriori accel (us/s/s) -2.21375339931E-05 Resid phase (deg) -62.1 +/- 6.3

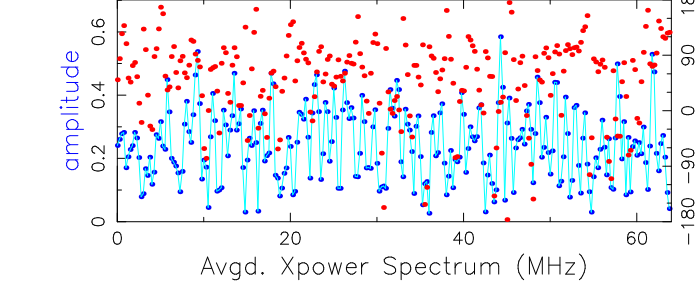
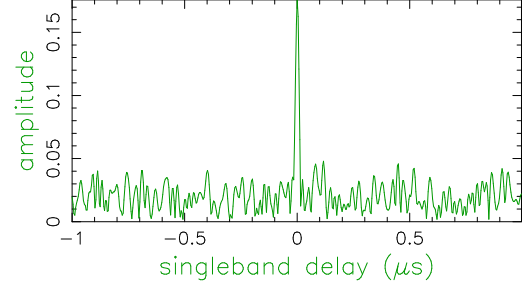
RMS Theor. Amplitude 0.305 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 37.1 15.1 Search (2048X32) 0.298 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 42.3 26.4 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 13.8 8.9 Inc. seg. avg. 0.365 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 14.5 15.6 Inc. frq. avg. 0.307 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

m: az 12.2 el 67.6 pa -163.7 o: az 290.0 el 65.8 pa 89.4 u,v (fr/asec) -4542.901 -3260.535 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mo.W.98.11M249

multiband delay ( $\mu$ s)

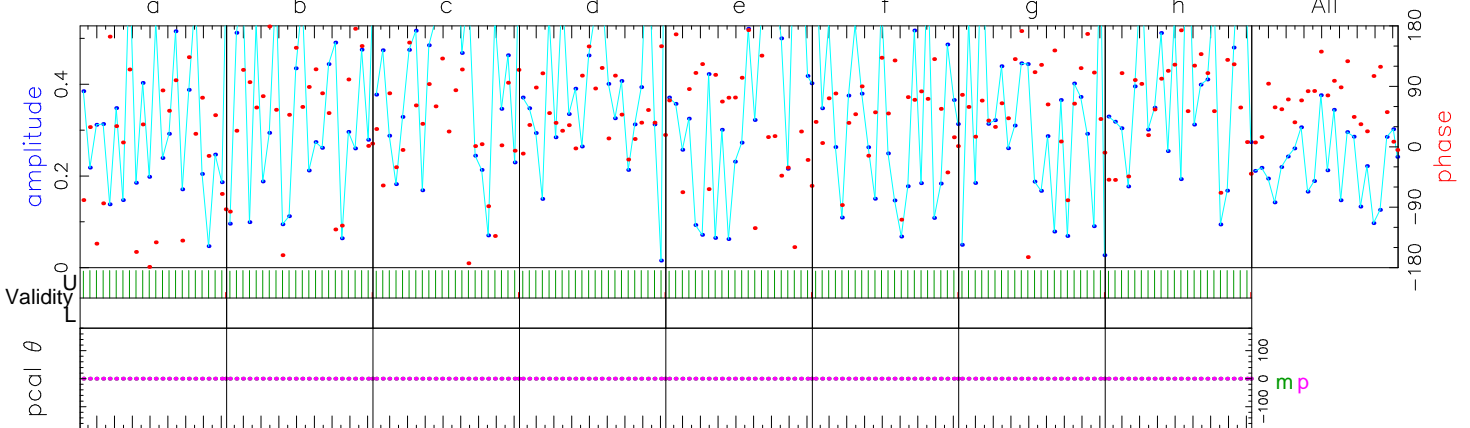


Fringe quality 9  
SNR 10.5  
Int time 476.980  
Amp 0.176  
Phase 66.8  
PFD 4.0e-17  
Delays (us)  
SBD 0.000381  
MBD 0.000197  
Fringe rate (Hz) 0.000262  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132516  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	79.9	88.6	67.7	51.1	35.0	54.7	75.6	79.3	Phase	66.8
	0.1	0.2	0.2	0.3	0.1	0.2	0.2	0.3	Ampl.	0.2
	410.0	256.6	257.8	257.4	92.1	256.8	257.3	256.8	Sbd box	257.1
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	2.01734331493E+03	Apriori delay (usec)		2.01734311799E+03	Resid mbdelay (usec)		1.96938E-04	+/-	1.0E-04
Sband delay (usec)	2.01734349899E+03	Apriori clock (usec)		1.3284568E+01	Resid sbdelay (usec)		3.81000E-04	+/-	8.2E-04
Phase delay (usec)	2.01734312015E+03	Apriori clockrate (us/s)		-2.9999999E-07	Resid phdelay (usec)		2.15460E-06	+/-	3.5E-07
Delay rate (us/s)	7.43074994322E-01	Apriori rate (us/s)		7.43074991277E-01	Resid rate (us/s)		3.04538E-09	+/-	1.3E-09
Total phase (deg)	133.0	Apriori accel (us/s/s)		-2.74574136288E-05	Resid phase (deg)		66.8	+/-	10.9

ph/seg (deg)	38.0	Theor.	26.2	Amplitude	0.176 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	50.3		45.7	Search (2048X32)	0.169	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	19.5		15.4	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	43.3		26.9	Inc. seg. avg.	0.205	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.175	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

m: az 12.2 el 67.6 pa -163.7 p: az 295.1 el 57.1 pa 88.4 u,v (fr/asec) -5731.722 -3345.747 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp.W.148.1IM249

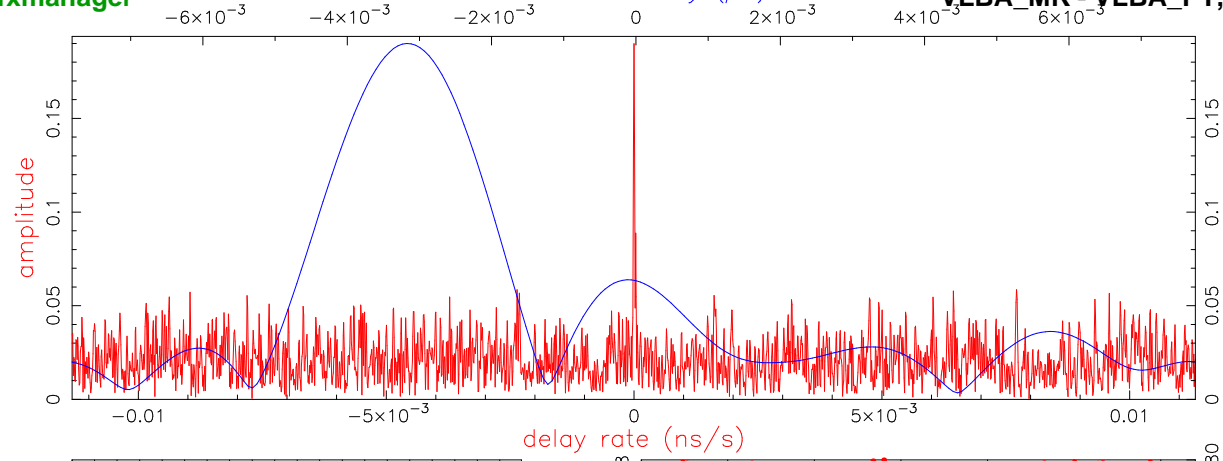
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mp

VLBA\_MK - VLBA\_PT, fgroup W, pol RR

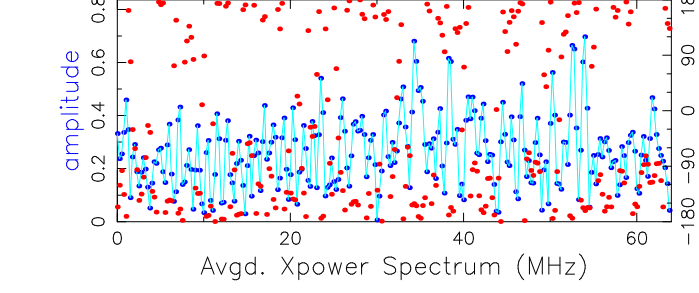
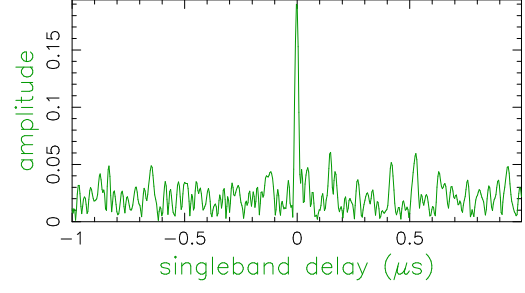
multiband delay ( $\mu$ s)



Fringe quality 9

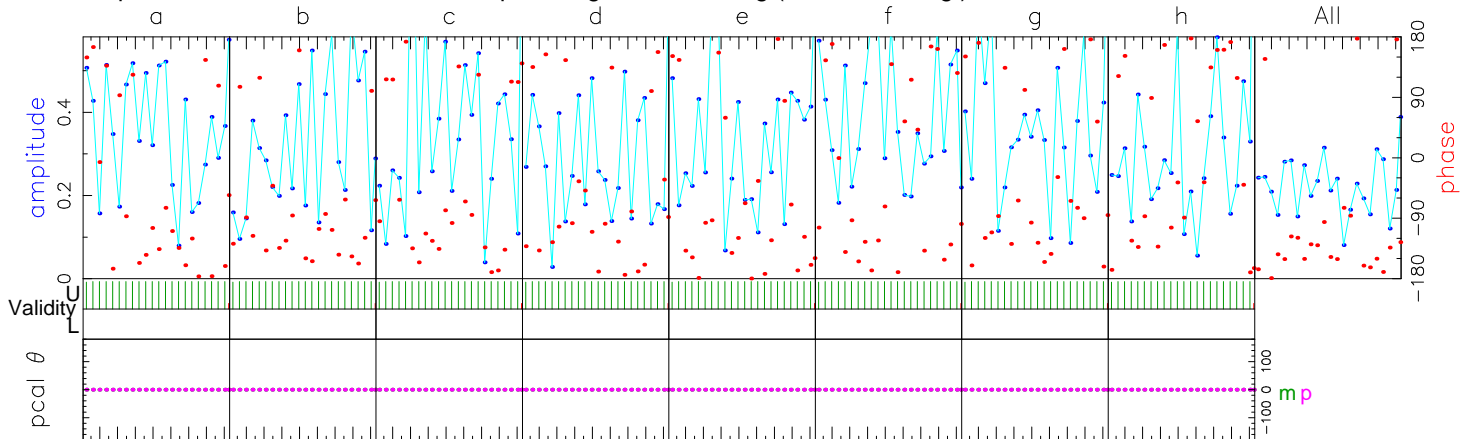
SNR 11.6  
 Int time 476.980  
 Amp 0.194  
 Phase -147.9  
 PFD 2.8e-22  
 Delays (us)  
 SBD -0.002101  
 MBD -0.003130  
 Fringe rate (Hz) 0.000279  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132520  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-164.7	-131.6	-138.4	-140.8	-149.8	-164.2	-133.5	-162.9	Phase	-147.9
	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	Ampl.	0.2
	256.7	257.0	256.4	391.5	256.0	256.2	257.1	208.6	Sbd box	256.5
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	2.01733998787E+03		Apriori delay (usec)		2.01734311799E+03		Resid mbdelay (usec)		-3.13013E-03	+/- 9.4E-05
Sband delay (usec)	2.01734101724E+03		Apriori clock (usec)		1.3284568E+01		Resid sbdelay (usec)		-2.10075E-03	+/- 7.4E-04
Phase delay (usec)	2.01734311322E+03		Apriori clockrate (us/s)		-2.9999999E-07		Resid phdelay (usec)		-4.76818E-06	+/- 3.2E-07
Delay rate (us/s)	7.43074994514E-01		Apriori rate (us/s)		7.43074991277E-01		Resid rate (us/s)		3.23740E-09	+/- 1.2E-09
Total phase (deg)			Apriori accel (us/s/s)		-2.74574136288E-05		Resid phase (deg)		-147.9	+/- 9.9

ph/seg (deg) 32.7 23.7 Search (2048X32) 0.181 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 35.0 41.4 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 15.2 14.0 Inc. seg. avg. 0.202 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 18.7 24.4 Inc. frq. avg. 0.189 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 m: az 12.2 el 67.6 pa -163.7 p: az 295.1 el 57.1 pa 88.4 u,v (fr/asec) -5731.722 -3345.747 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp.W.163.1IM249

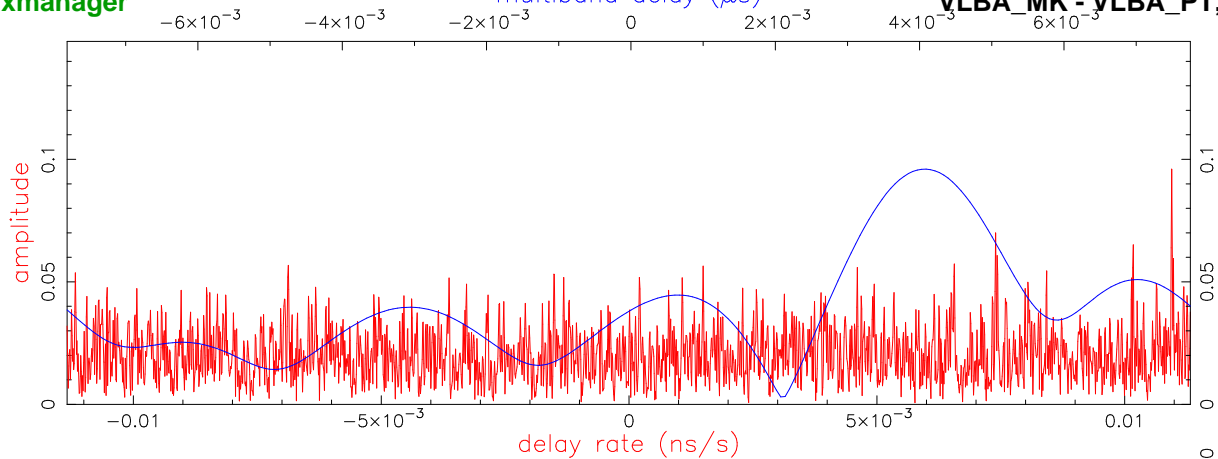
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, mp

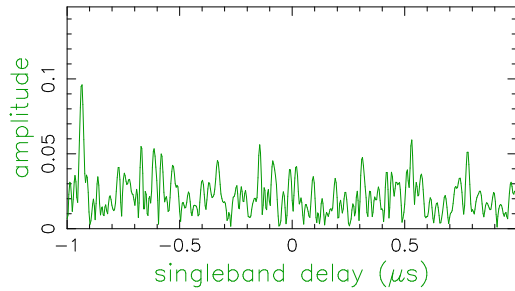
VLBA\_MK - VLBA\_PT, fgroup W, pol LR

multiband delay ( $\mu$ s)

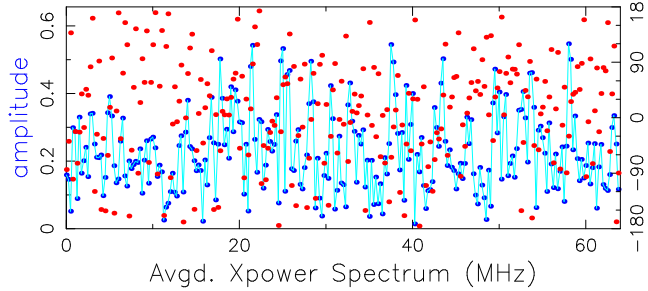


Fringe quality 0

SNR 5.8  
 Int time 476.980  
 Amp 0.148  
 Phase -3.4  
 PFD 7.8e-01  
 Delays (us)  
 SBD -0.935227  
 MBD 0.004063  
 Fringe rate (Hz)  
 0.944863  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

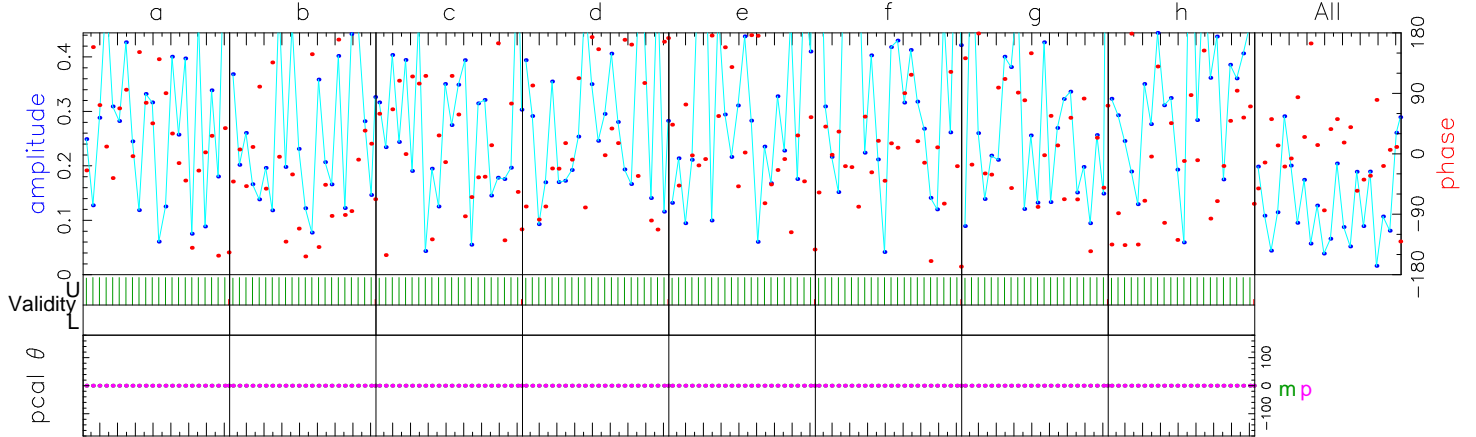


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132525  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	25.6	-49.0	22.4	-44.4	-13.8	-11.8	24.9	46.2	Phase	-3.4
	0.2	0.2	0.1	0.1	0.2	0.3	0.2	0.0	Ampl.	0.1
	20.2	354.9	85.3	373.1	16.1	18.0	189.1	345.3	Sbd box	17.6
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
p	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
p	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	2.01640968071E+03	Apriori delay (usec)	2.01734311799E+03	Resid mbdelay (usec)	4.06272E-03	+/-	1.9E-04
Sband delay (usec)	2.01640789099E+03	Apriori clock (usec)	1.3284568E+01	Resid sbdelay (usec)	-9.35227E-01	+/-	1.5E-03
Phase delay (usec)	2.01734311788E+03	Apriori clockrate (us/s)	-2.9999999E-07	Resid phdelay (usec)	-1.08308E-07	+/-	6.4E-07
Delay rate (us/s)	7.43085960194E-01	Apriori rate (us/s)	7.43074991277E-01	Resid rate (us/s)	1.09689E-05	+/-	2.3E-09
Total phase (deg)		Apriori accel (us/s/s)	-2.74574136288E-05	Resid phase (deg)	-3.4	+/-	19.7

ph/seg (deg)	56.8	RMS	47.3	Theor.	0.148 +/- 0.025	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	83.4	Search (2048X32)	0.093	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000	
ph/frq (deg)	38.1	Inc. seg. avg.	0.146	Inc. frq. avg.	0.147	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008
amp/frq (%)	64.2	Inc. frq. avg.	0.147			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011	
						Data rate (Mb/s):	2048	ion window (TEC)	0.00 0.00	

m: az 12.2 el 67.6 pa -163.7 p: az 295.1 el 57.1 pa 88.4 u,v (fr/asec) -5731.722 -3345.747 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp.W.182.1IM249

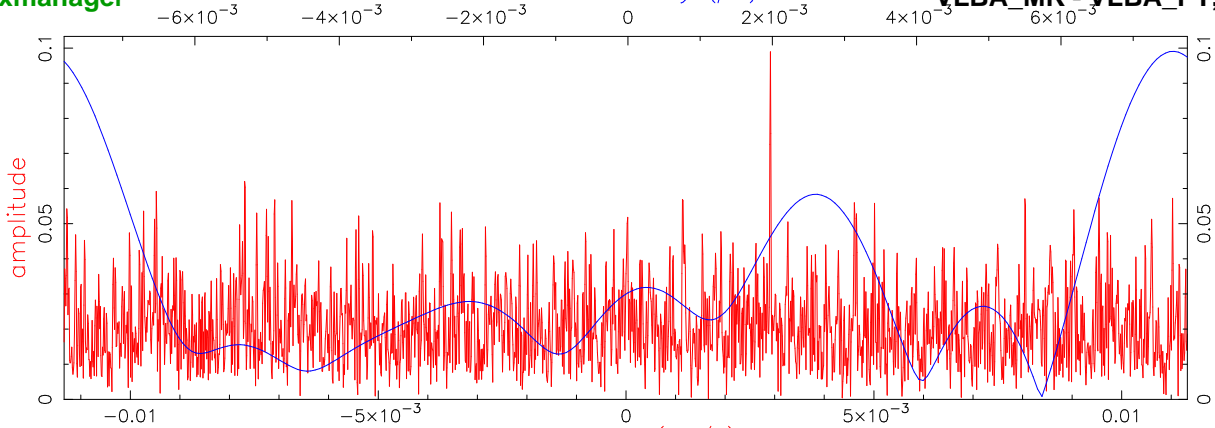
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

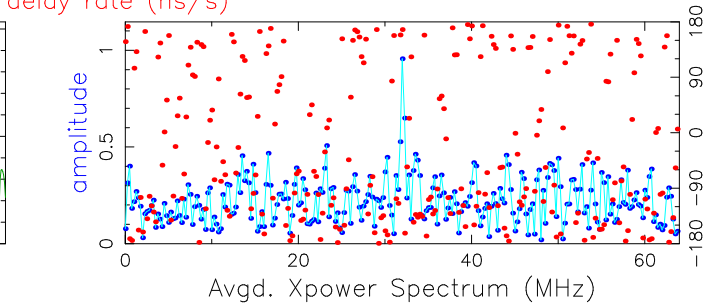
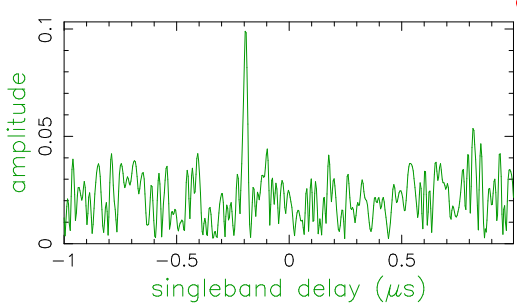
3C84.1IM249, No0105, mp

VLBA\_MK - VLBA\_PT, fgroup W, pol RL

multiband delay ( $\mu$ s)

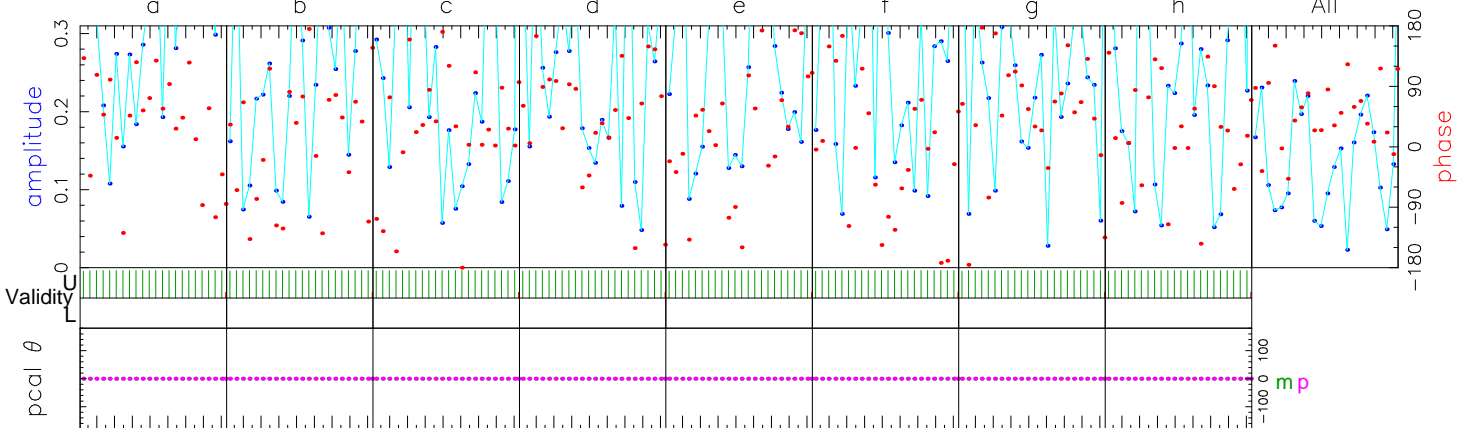


Fringe quality 0  
 SNR 6.0  
 Int time 476.980  
 Amp 0.103  
 Phase 46.9  
 PFD 3.9e-01  
 Delays (us)  
 SBD -0.193538  
 MBD 0.007606  
 Fringe rate (Hz) 0.250789  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132529  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m:p	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
m	1000	1000	1000	1000	1000	1000	1000	1000		
p	1000	1000	1000	1000	1000	1000	1000	1000		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
p	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	2.01714759883E+03	Apriori delay (usec)		2.01734311799E+03	Resid mbdelay (usec)		7.60583E-03	+/- 1.8E-04	
Sband delay (usec)	2.01714958049E+03	Apriori clock (usec)		1.3284568E+01	Resid sbdelay (usec)		-1.93538E-01	+/- 1.4E-03	
Phase delay (usec)	2.01734311951E+03	Apriori clockrate (us/s)		-2.9999999E-07	Resid phdelay (usec)		1.51221E-06	+/- 6.2E-07	
Delay rate (us/s)	7.43077902692E-01	Apriori rate (us/s)		7.43074991277E-01	Resid rate (us/s)		2.91142E-06	+/- 2.2E-09	
Total phase (deg)	113.1		Apriori accel (us/s/s)		-2.74574136288E-05	Resid phase (deg)		46.9	+/- 19.1

ph/seg (deg)	49.7	45.8	Amplitude	0.103 +/- 0.017	Pcal mode: MANUAL, MANUAL		PC period (AP's) 5, 5			
amp/seg (%)	77.0	79.9	Search (2048X32)	0.098	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000		
ph/frq (deg)	28.5	27.0	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	42.3	47.1	Inc. seg. avg.	0.107	Sample rate(MISamp/s): 128		dr window (ns/s)	-0.011 0.011		
			Inc. frq. avg.	0.100	Data rate(Mb/s): 2048		nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

m: az 12.2 el 67.6 pa -163.7 p: az 295.1 el 57.1 pa 88.4 u,v (fr/asec) -5731.722 -3345.747 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/mp.W.200.1IM249



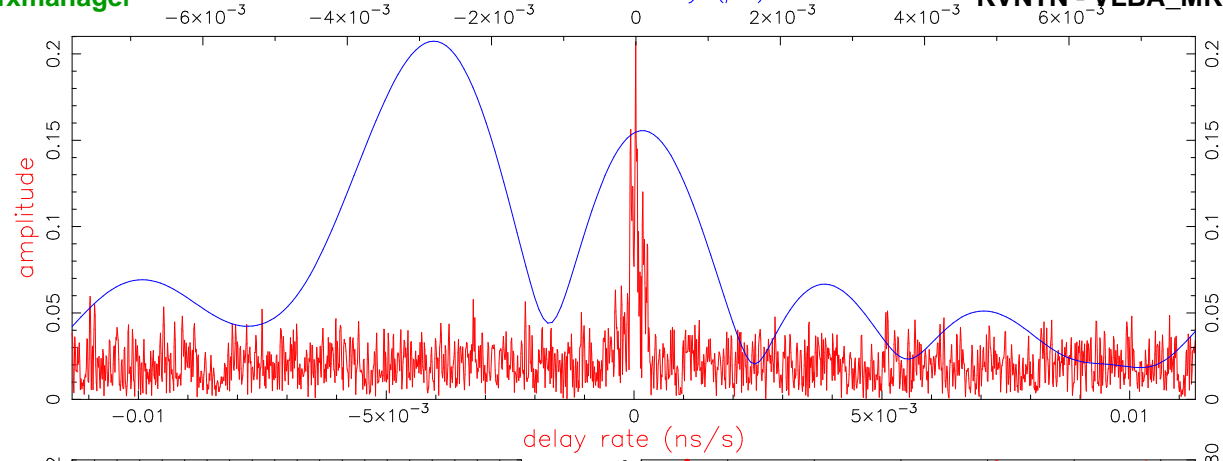
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.11M249, No0105, tm

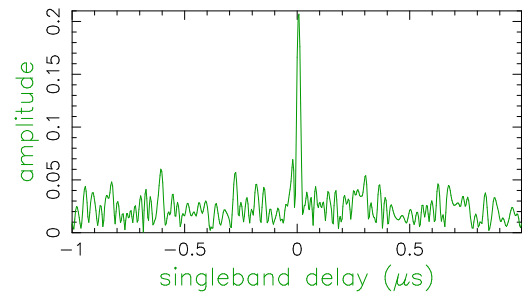
KVNTN - VLBA\_MK, fgroup W, pol LL

multiband delay ( $\mu$ s)

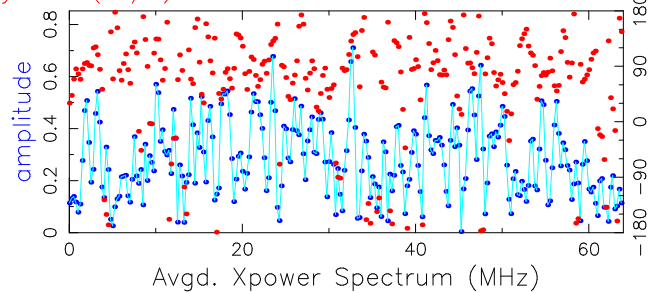


Fringe quality 9

SNR 12.5  
 Int time 476.980  
 Amp 0.210  
 Phase -158.1  
 PFD 2.2e-27  
 Delays (us)  
 SBD 0.006186  
 MBD -0.002869  
 Fringe rate (Hz)  
 0.002419  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

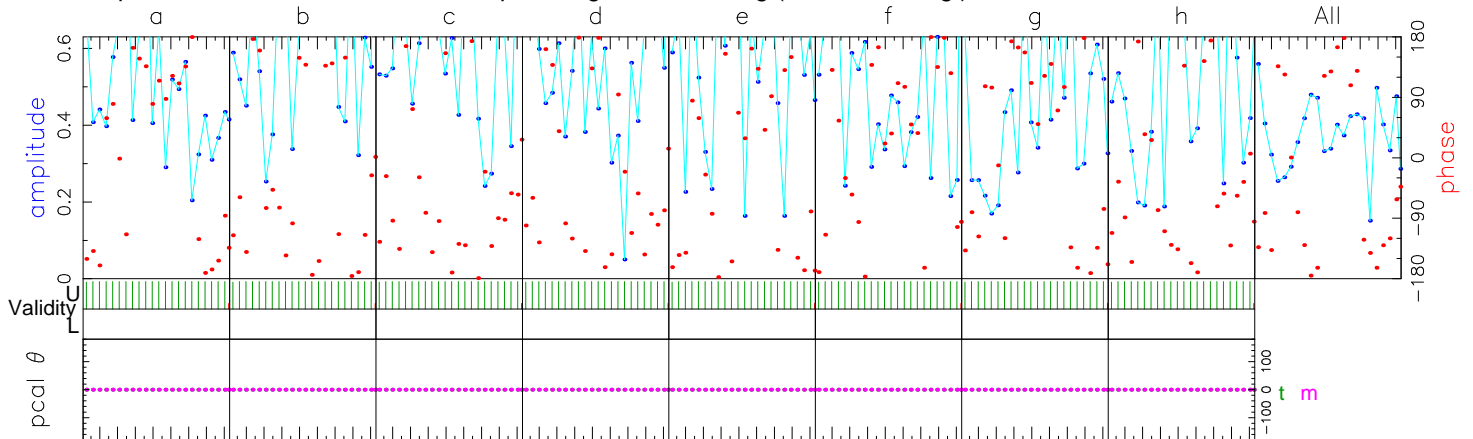


delay rate (ns/s)



Exp. c202b  
 Yr:day 16383  
 Start 2021:023:075223  
 Stop 2021:023:132519  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132519  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.04288202553E+04	Apriori delay (usec)	-1.04288330111E+04	Resid mbdelay (usec)	-2.86918E-03	+/-	8.6E-05
Sband delay (usec)	-1.04288268249E+04	Apriori clock (usec)	-1.1990999E+01	Resid sbdelay (usec)	6.18625E-03	+/-	6.9E-04
Phase delay (usec)	-1.04288330162E+04	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-5.09846E-06	+/-	2.9E-07
Delay rate (us/s)	8.65401633703E-01	Apriori rate (us/s)	8.65401605619E-01	Resid rate (us/s)	2.80837E-08	+/-	1.1E-09
Total phase (deg)	-6.5	Apriori accel (us/s/s)	7.10808131290E-05	Resid phase (deg)	-158.1	+/-	9.1

ph/seg (deg)	64.8	RMS	21.9	Theor.	21.9	Amplitude	0.210 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	
amp/seg (%)	92.0	Search (2048X32)	0.192	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	42.5	Inc. seg. avg.	0.355	Inc. frq. avg.	0.248	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
amp/frq (%)	35.9	Inc. frq. avg.	0.248			Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011	0.011		
						Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

t: az 55.4 el 25.2 pa -66.4 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6507.467 6405.061 simultaneous interpolator

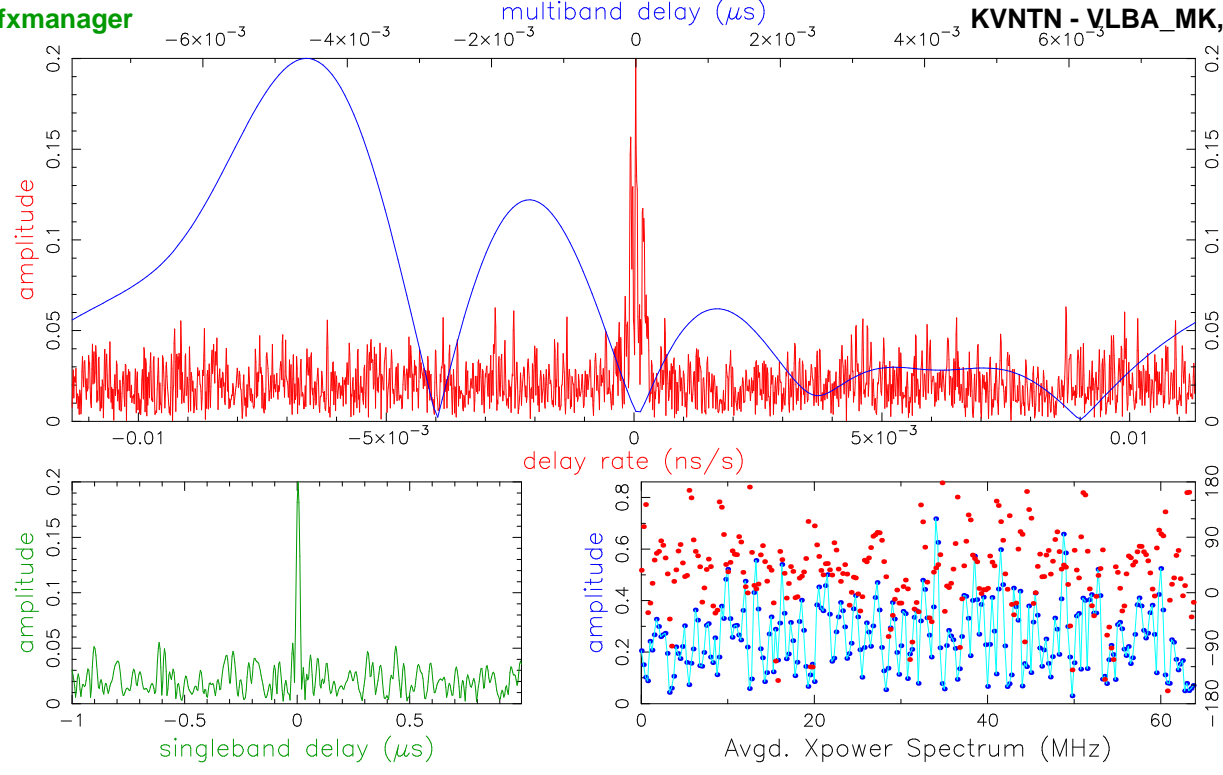
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm.W.159.11M249

Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.11M249, No0105, tm

KVNTN - VLBA\_MK, fgroup W, pol RR

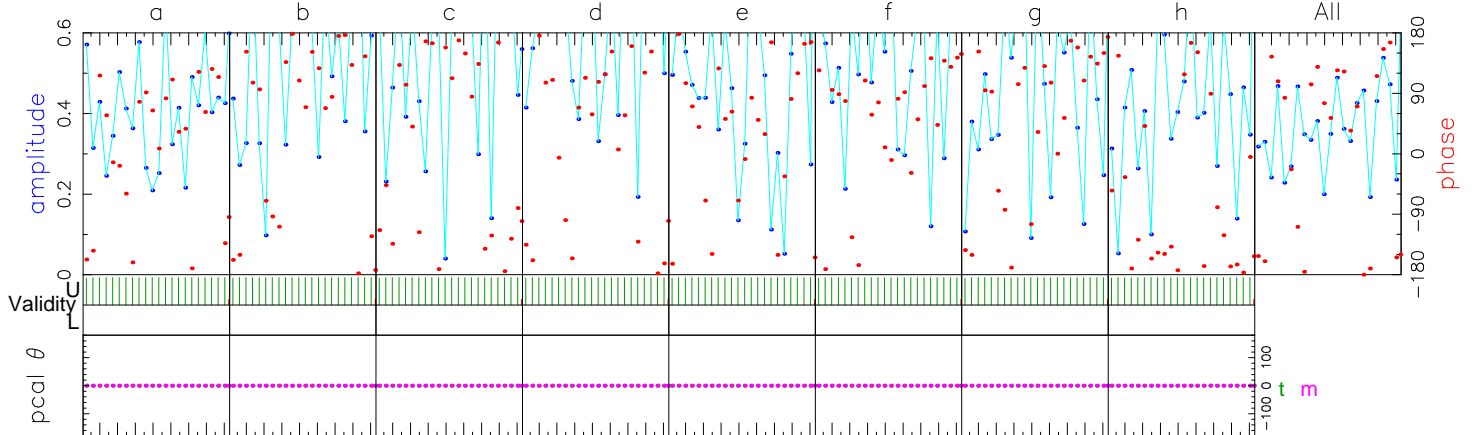


Fringe quality 9

SNR 11.9  
 Int time 476.980  
 Amp 0.200  
 Phase 139.2  
 PFD 3.3e-24  
 Delays (us)  
 SBD 0.003901  
 MBD -0.004564  
 Fringe rate (Hz) 0.002594  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132524  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
t	1000	1000	1000	1000	1000	1000	1000	1000	APs used	1000
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	1000
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	0:0
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	0:0
t	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	1000
m	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-1.04288219506E+04					-1.04288330111E+04			Resid mbdelay (usec)	-4.56450E-03 +/- 9.1E-05
Sband delay (usec)	-1.04288291099E+04					-1.1990999E+01			Resid sbdelay (usec)	3.90125E-03 +/- 7.2E-04
Phase delay (usec)	-1.04288330066E+04					0.0000000E+00			Resid phdelay (usec)	4.48831E-06 +/- 3.1E-07
Delay rate (us/s)	8.65401635730E-01					8.65401605619E-01			Resid rate (us/s)	3.01102E-08 +/- 1.1E-09
Total phase (deg)			-69.2			7.10808131290E-05			Resid phase (deg)	139.2 +/- 9.6
	RMS	Theor.	Amplitude	0.200 +/- 0.017					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	65.0	23.0	Search (2048X32)	0.193					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	94.8	40.1	Interp.	0.000					Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	40.5	13.6	Inc. seg. avg.	0.333					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	35.4	23.7	Inc. frq. avg.	0.233					Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00
t: az 55.4 el 25.2 pa -66.4		m: az 12.2 el 67.6 pa -163.7		u, v (fr/asec) -6507.467 6405.061						simultaneous interpolator
Control file: cf_1234_gmva		Input file: /Exps/c202b/v1/v1_3mm/1234/No0105/tm..11M249		Output file: /Exps/c202b/v1/v1_3mm/1234/No0105/tm.W.177.11M249						

Mk4/DiFX fourfit 3.21 rev 2937

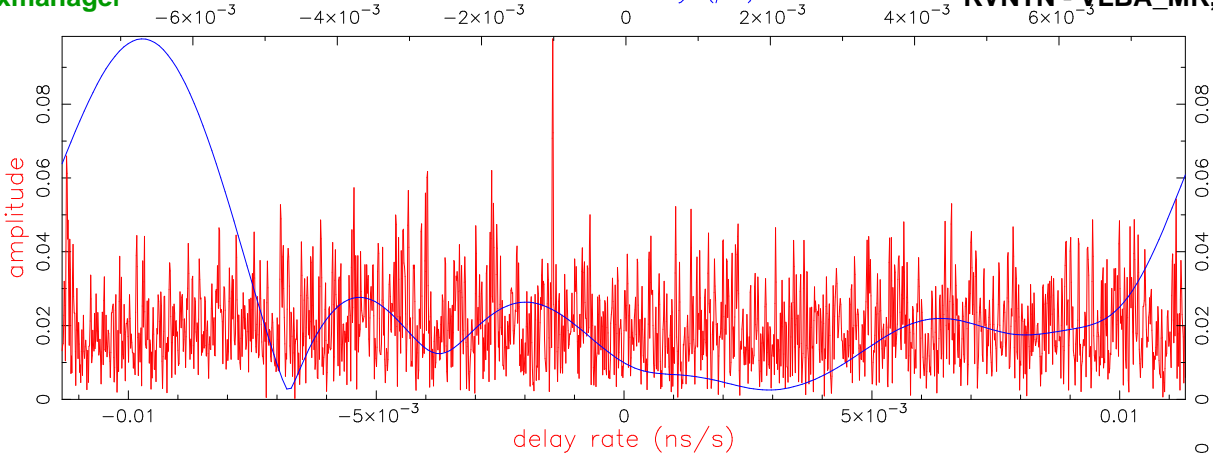
fxmanager

3C84.11M249, No0105, tm

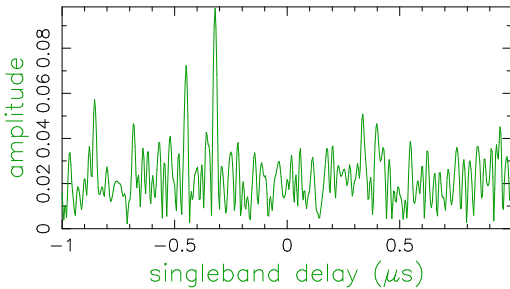
KVNTN - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)

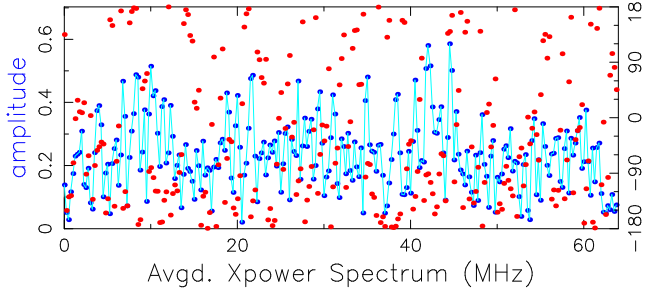
Fringe quality 0



SNR 5.8  
Int time 476.980  
Amp 0.098  
Phase -141.7  
PFD 7.4e-01  
Delays (us)  
SBD -0.320518  
MBD -0.006706  
Fringe rate (Hz)  
-0.124343  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

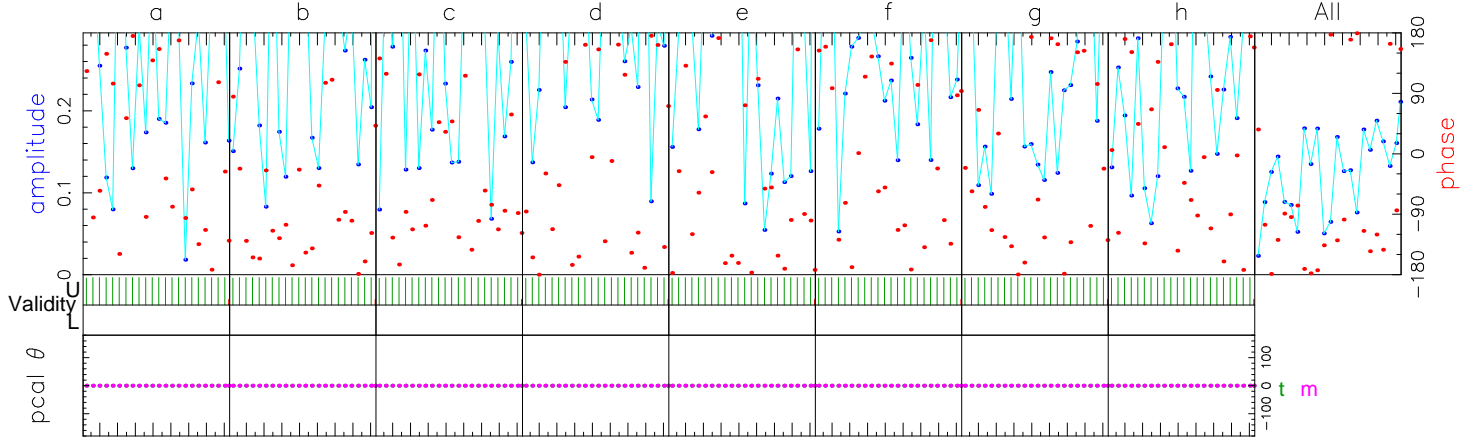


delay rate (ns/s)



Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132528  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-1.04291522176E+04	Apriori delay (usec)	-1.04288330111E+04	Resid mbdelay (usec)	-6.70646E-03	+/-	1.9E-04
Sband delay (usec)	-1.04291535286E+04	Apriori clock (usec)	-1.1990999E+01	Resid sbdelay (usec)	-3.20518E-01	+/-	1.5E-03
Phase delay (usec)	-1.04288330157E+04	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-4.56815E-06	+/-	6.3E-07
Delay rate (us/s)	8.65400162120E-01	Apriori rate (us/s)	8.65401605619E-01	Resid rate (us/s)	-1.44350E-06	+/-	2.3E-09
Total phase (deg)	-350.0	Apriori accel (us/s/s)	7.10808131290E-05	Resid phase (deg)	-141.7	+/-	19.6

ph/seg (deg)	52.9	Theor.	47.1	Amplitude	0.098 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	55.4		82.2	Search (2048X32)	0.092	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	20.7		27.8	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	34.4		48.5	Inc. seg. avg.	0.093	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.092	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

t: az 55.4 el 25.2 pa -66.4 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6507.467 6405.061 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm.W.192.11M249

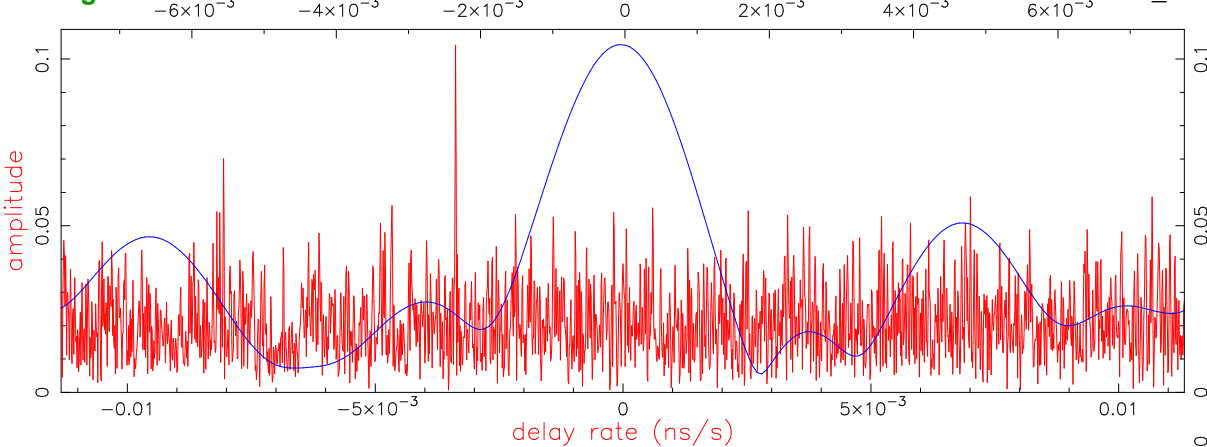
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.11M249, No0105, tm

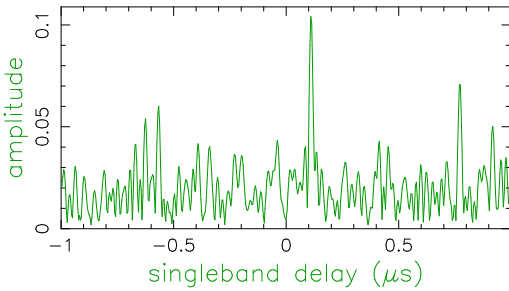
KVNTN - VLBA\_MK, fgroup W, pol RL

multiband delay ( $\mu$ s)

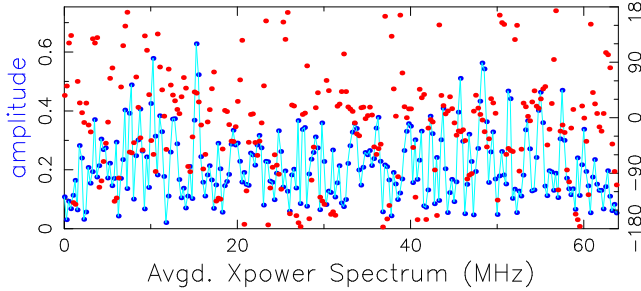


Fringe quality 0

SNR 6.3  
 Int time 476.980  
 Amp 0.109  
 Phase -172.3  
 PFD 9.4e-02  
 Delays (us)  
 SBD 0.110548  
 MBD 0.000008  
 Fringe rate (Hz)  
 -0.291760  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

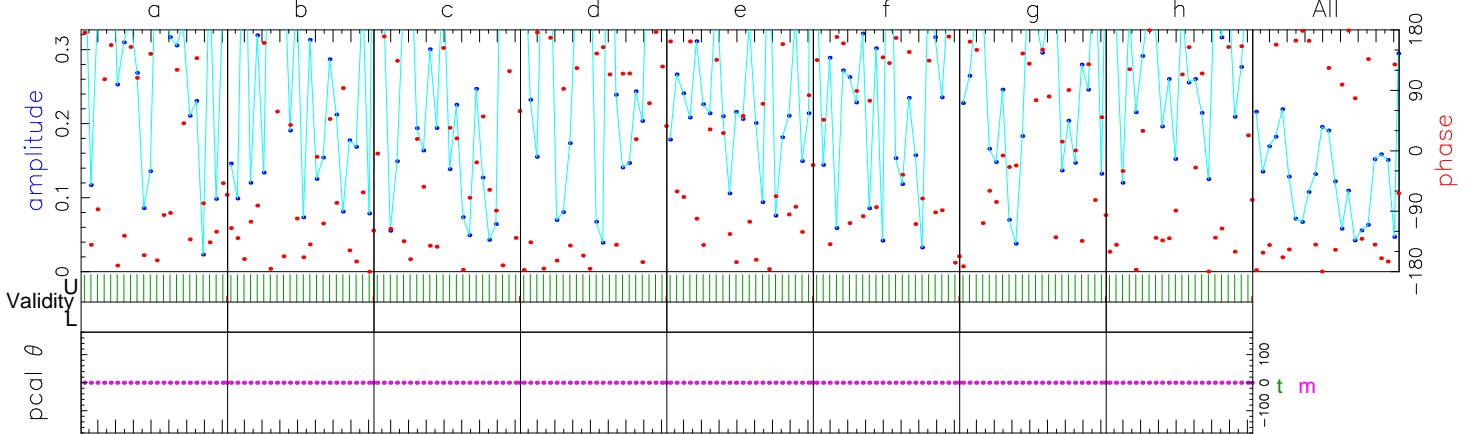


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132531  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
t	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
t	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		

Group delay (usec)(sbd)	-1.04287236282E+04	Apriori delay (usec)	-1.04288330111E+04	Resid mbdelay (usec)	7.90765E-06	+/-	1.7E-04
Sband delay (usec)	-1.04287224634E+04	Apriori clock (usec)	-1.1990999E+01	Resid sbdelay (usec)	1.10548E-01	+/-	1.4E-03
Phase delay (usec)	-1.04288330167E+04	Apriori clockrate (us/s)	0.000000E+00	Resid phdelay (usec)	-5.55489E-06	+/-	5.9E-07
Delay rate (us/s)	8.65398218577E-01	Apriori rate (us/s)	8.65401605619E-01	Resid rate (us/s)	-3.38704E-06	+/-	2.1E-09
Total phase (deg)	-20.6	Apriori accel (us/s/s)	7.10808131290E-05	Resid phase (deg)	-172.3	+/-	18.3

ph/seg (deg)	43.5	Theor.	43.8	Search (2048X32)	0.101	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	58.7		76.5	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	26.6		25.9	Inc. seg. avg.	0.102	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	44.4		45.1	Inc. frq. avg.	0.107	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

t: az 55.4 el 25.2 pa -66.4 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6507.467 6405.061 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/tm.W.211.11M249

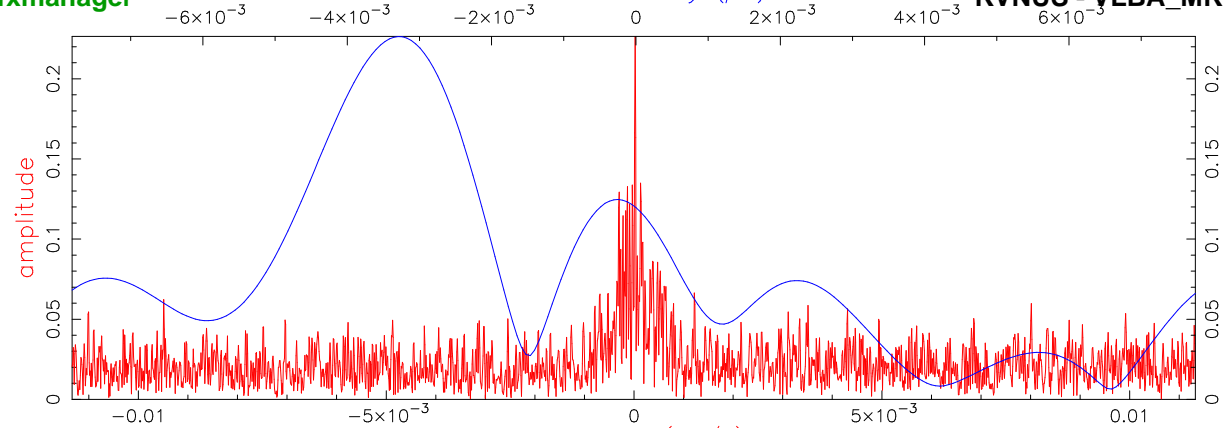
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, um

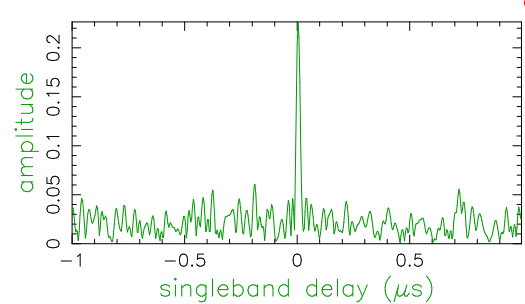
KVNUS - VLBA\_MK, fgroup W, pol LL

multiband delay ( $\mu$ s)

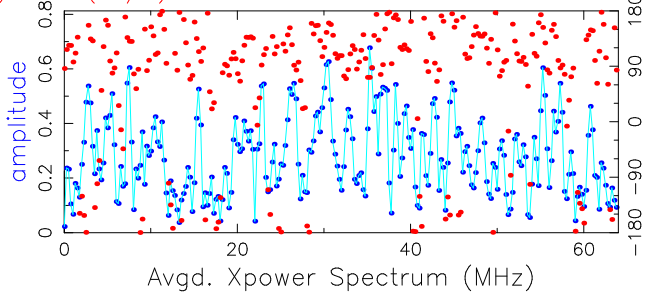


Fringe quality 9

SNR 13.5  
 Int time 476.943  
 Amp 0.226  
 Phase -144.9  
 PFD 6.4e-33  
 Delays (us)  
 SBD 0.004222  
 MBD -0.003264  
 Fringe rate (Hz)  
 0.002387  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

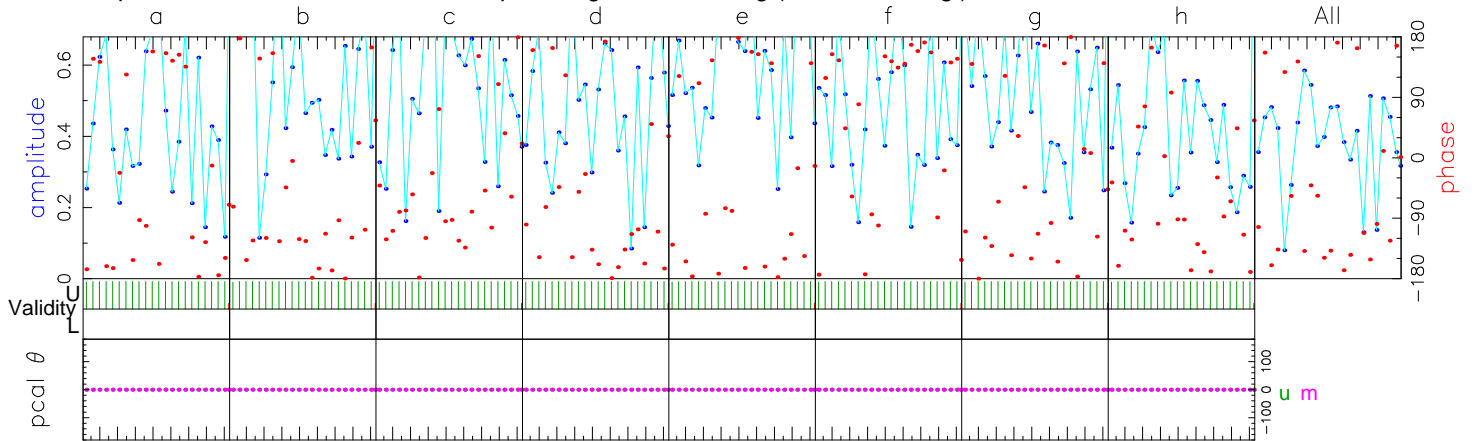


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132523  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-177.2	-132.8	-91.5	-140.7	-161.5	161.7	-137.0	-115.9	Phase	-144.9
	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	Ampl.	0.3
	259.7	258.4	258.1	257.1	258.8	257.2	258.3	260.3	Sbd box	258.1
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -9.38730452957E+03 Apriori delay (usec) -9.38730126533E+03 Resid mbdelay (usec) -3.26425E-03 +/- 8.0E-05  
 Sband delay (usec) -9.38729704333E+03 Apriori clock (usec) -1.0807568E+01 Resid sbdelay (usec) 4.22200E-03 +/- 6.4E-04  
 Phase delay (usec) -9.38730127000E+03 Apriori clockrate (us/s) 2.9999999E-07 Resid phdelay (usec) -4.67232E-06 +/- 2.7E-07  
 Delay rate (us/s) 8.33299218202E-01 Apriori rate (us/s) 8.33299190487E-01 Resid rate (us/s) 2.77145E-08 +/- 9.9E-10  
 Total phase (deg) -143.2 Apriori accel (us/s/s) 6.79780810411E-05 Resid phase (deg) -144.9 +/- 8.5

RMS Theor. Amplitude 0.226 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 61.6 20.3 Search (2048X32) 0.209 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 92.4 35.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 36.7 12.0 Inc. seg. avg. 0.367 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 33.3 20.9 Inc. frq. avg. 0.259 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 57.3 el 28.4 pa -66.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6267.417 6401.467 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um.W.172.11M249

Mk4/DiFX fourfit 3.21 rev 2937

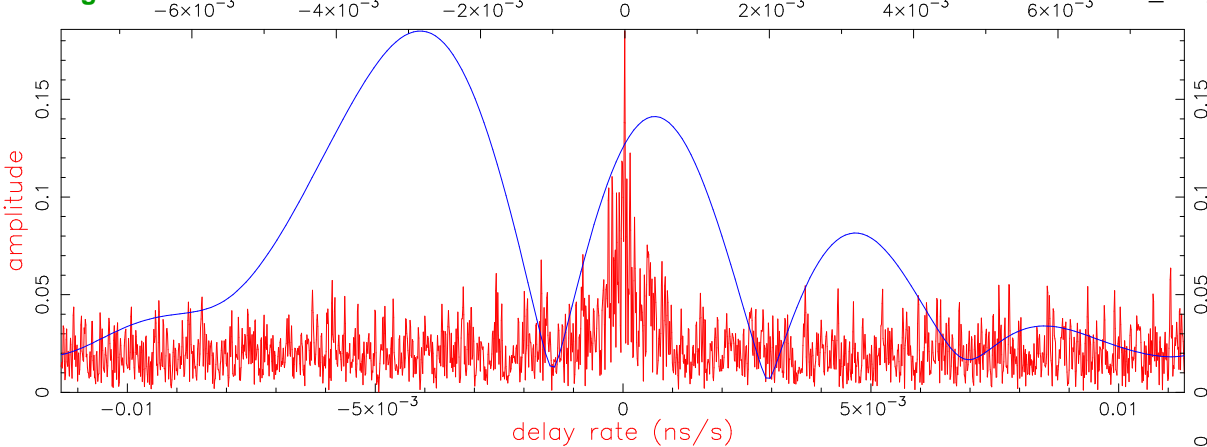
fxmanager

3C84.1IM249, No0105, um

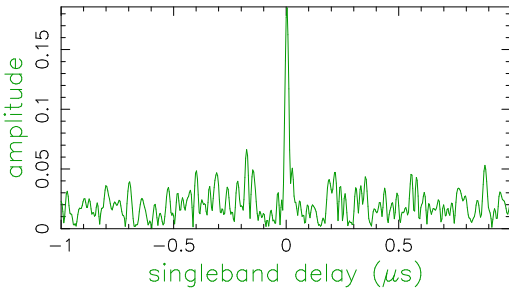
KVNUS - VLBA\_MK, fgroup W, pol RR

multiband delay ( $\mu$ s)

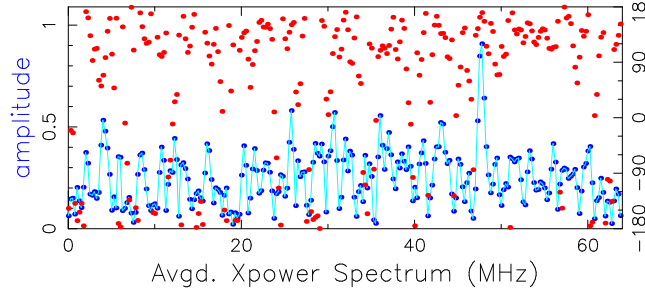
Fringe quality 9



SNR 11.1  
 Int time 476.943  
 Amp 0.186  
 Phase -159.9  
 PFD 6.0e-20  
 Delays (us)  
 SBD 0.002975  
 MBD -0.002875  
 Fringe rate (Hz)  
 0.002561  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

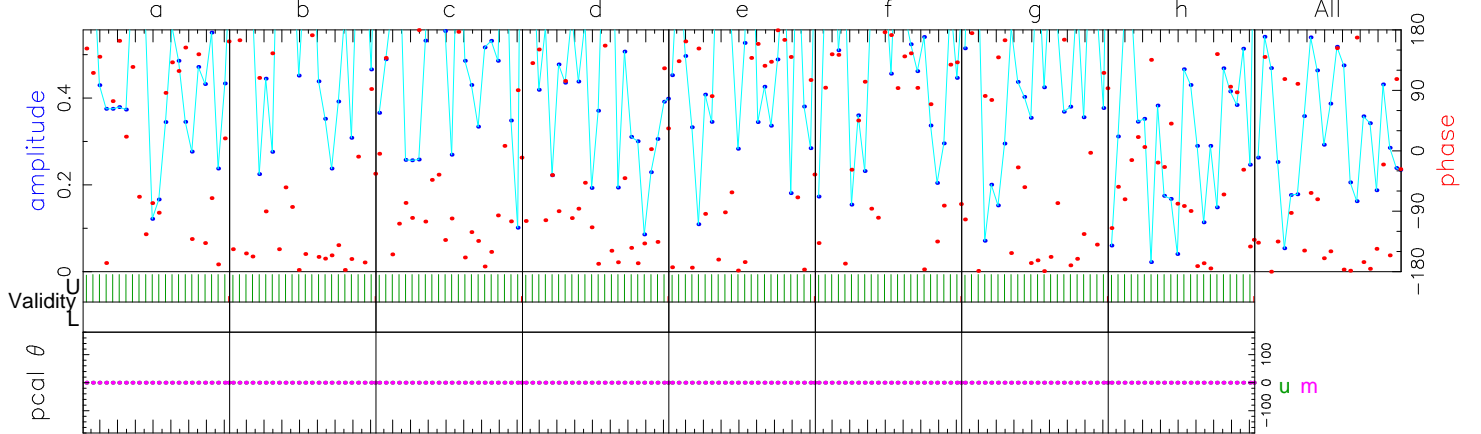


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132527  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-9.38730414048E+03									
Sband delay (usec)	-9.38729829008E+03									
Phase delay (usec)	-9.38730127048E+03									
Delay rate (us/s)	8.33299220214E-01									
Total phase (deg)			-158.2							
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
sb window (us)										
mb window (us)										
dr window (ns/s)										
ion window (TEC)										
pcal θ										
u m										
RMS	60.8	24.8								
Theor.										
Amplitude										
Search (2048X32)										
Interp.										
Inc. seg. avg.										
Inc. frq. avg.										
0.186 +/- 0.017										
0.180										
0.000										
0.298										
0.231										
PC period (AP's) 5, 5										
simultaneous interpolator										

u: az 57.3 el 28.4 pa -66.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6267.417 6401.467 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um.W.191.11M249

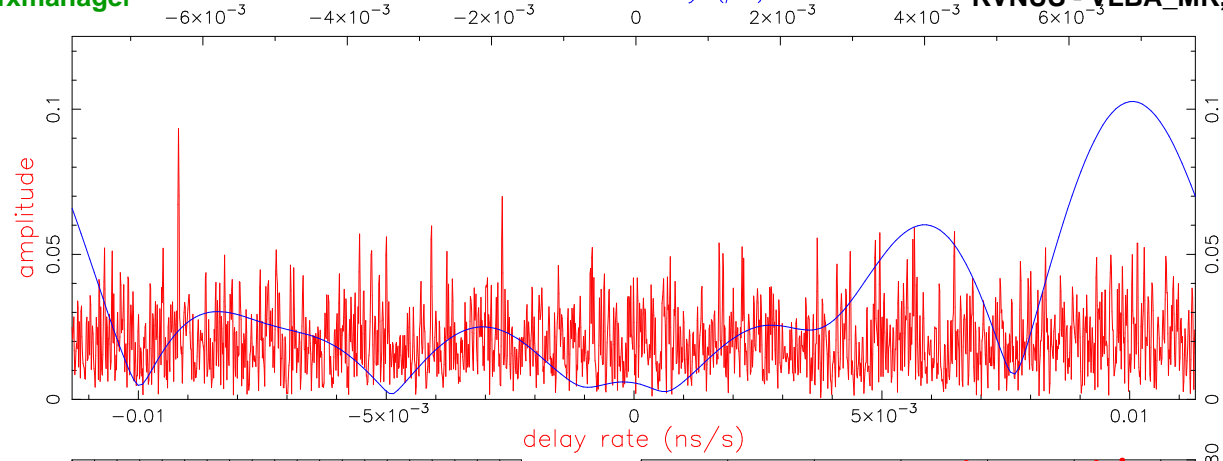
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, um

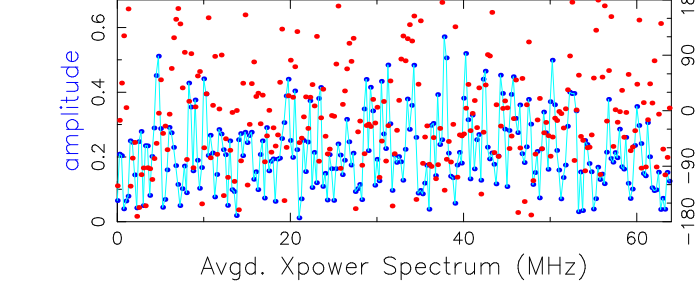
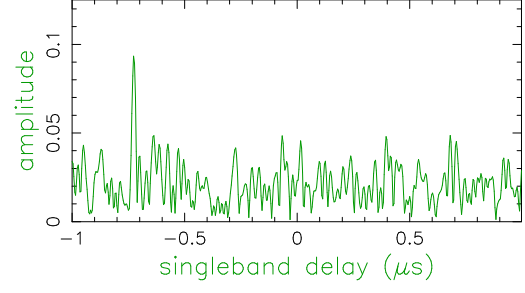
KVNUS - VLBA\_MK, fgroup W, pol LR

multiband delay ( $\mu$ s)



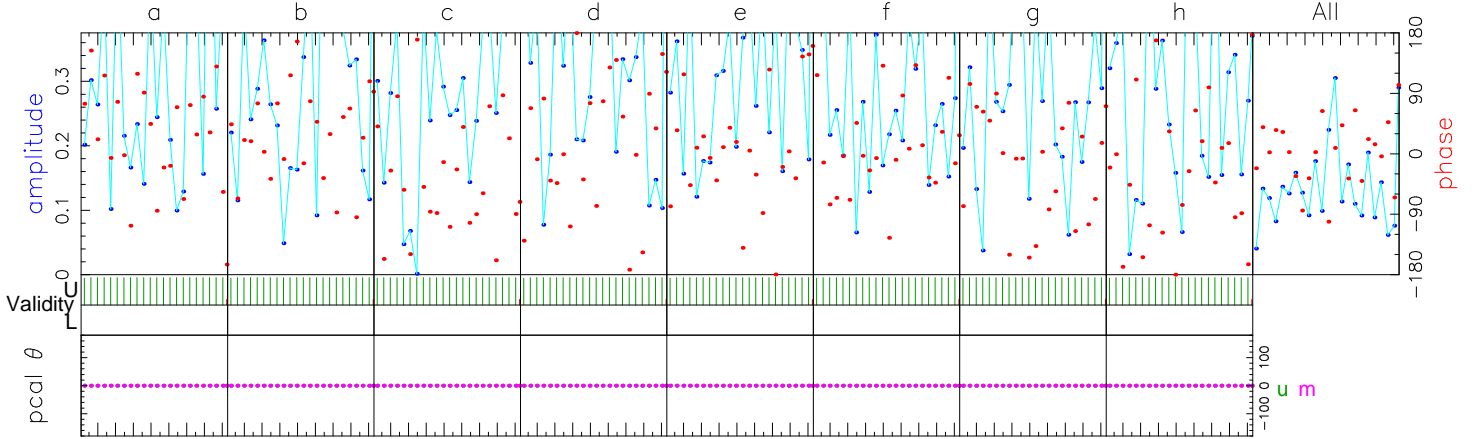
Fringe quality 0

SNR 5.6  
 Int time 476.943  
 Amp 0.125  
 Phase -0.4  
 PFD 9.9e-01  
 Delays (us)  
 SBD -0.725566  
 MBD -0.008301  
 Fringe rate (Hz)  
 -0.792578  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132531  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
u	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd) -9.38802831611E+03 Apriori delay (usec) -9.38730126533E+03 Resid mbdelay (usec) -8.30078E-03 +/- 1.9E-04  
 Sband delay (usec) -9.38802683133E+03 Apriori clock (usec) -1.0807568E+01 Resid sbdelay (usec) -7.25566E-01 +/- 1.5E-03  
 Phase delay (usec) -9.38730126534E+03 Apriori clockrate (us/s) 2.9999999E-07 Resid phdelay (usec) -1.43354E-08 +/- 6.6E-07  
 Delay rate (us/s) 8.33289989437E-01 Apriori rate (us/s) 8.33299190487E-01 Resid rate (us/s) -9.20105E-06 +/- 2.4E-09  
 Total phase (deg) -358.7 Apriori accel (us/s/s) 6.79780810411E-05 Resid phase (deg) -0.4 +/- 20.4

RMS Theor. Amplitude 0.125 +/- 0.022 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 45.8 49.0 Search (2048X32) 0.099 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 74.7 85.5 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 34.1 28.9 Inc. seg. avg. 0.129 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 47.4 50.5 Inc. frq. avg. 0.128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

u: az 57.3 el 28.4 pa -66.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6267.417 6401.467 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um.W.209.11M249

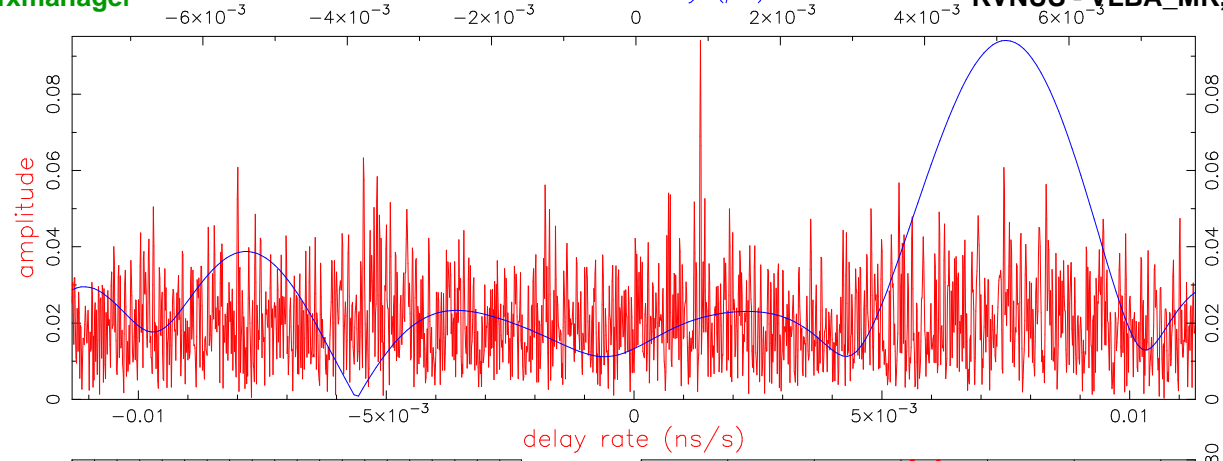
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

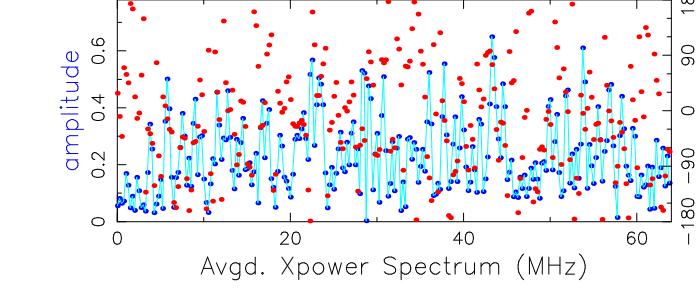
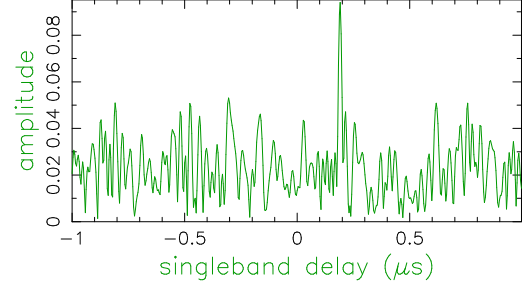
3C84.1IM249, No0105, um

KVNUS - VLBA\_MK, fgroup W, pol RL

multiband delay ( $\mu$ s)

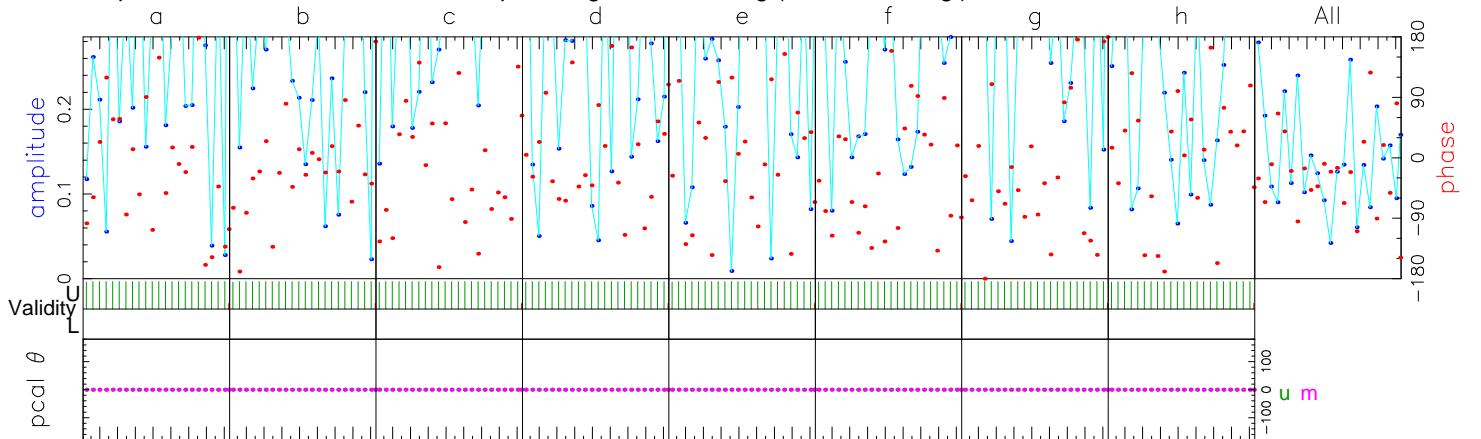


Fringe quality 0  
 SNR 5.7  
 Int time 476.943  
 Amp 0.095  
 Phase -29.5  
 PFD 9.8e-01  
 Delays (us)  
 SBD 0.190494  
 MBD 0.005104  
 Fringe rate (Hz) 0.115487  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512  
 Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132534  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Avgd. Xpower Spectrum (MHz)

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-36.7	-19.5	-45.5	-33.7	6.2	-28.2	-72.8	11.1	Phase	-29.5
	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	Ampl.	0.1
	197.8	240.1	324.6	489.2	482.2	146.6	33.1	398.1	Sbd box	305.8
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
u:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
u	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
u	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-9.38710866103E+03	Apriori delay (usec)	-9.38730126533E+03	Resid mbdelay (usec)	5.10430E-03	+/-	1.9E-04
Sband delay (usec)	-9.38711077158E+03	Apriori clock (usec)	-1.0807568E+01	Resid sbdelay (usec)	1.90494E-01	+/-	1.5E-03
Phase delay (usec)	-9.38730126628E+03	Apriori clockrate (us/s)	2.9999999E-07	Resid phdelay (usec)	-9.52152E-07	+/-	6.5E-07
Delay rate (us/s)	8.33300531172E-01	Apriori rate (us/s)	8.33299190487E-01	Resid rate (us/s)	1.34069E-06	+/-	2.4E-09
Total phase (deg)	-27.8	Apriori accel (us/s/s)	6.79780810411E-05	Resid phase (deg)	-29.5	+/-	20.3

ph/seg (deg)	59.3	Theor.	48.6	Amplitude	0.095 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	83.4		84.9	Search (2048X32)	0.093	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	29.5		28.7	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	30.1		50.1	Inc. seg. avg.	0.106	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.093	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

u: az 57.3 el 28.4 pa -66.7      m: az 12.2 el 67.6 pa -163.7      u,v (fr/asec) -6267.417 6401.467      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um..11M249      Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/um.W.225.11M249



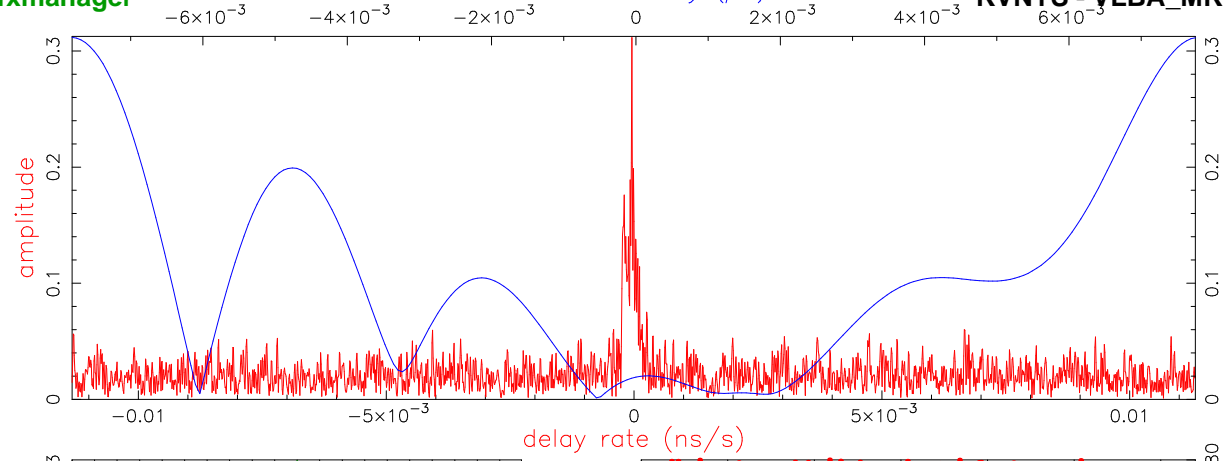
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, ym

KVNYS - VLBA\_MK, fgroup W, pol LL

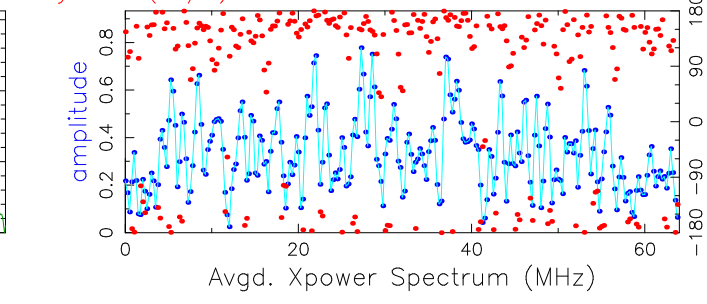
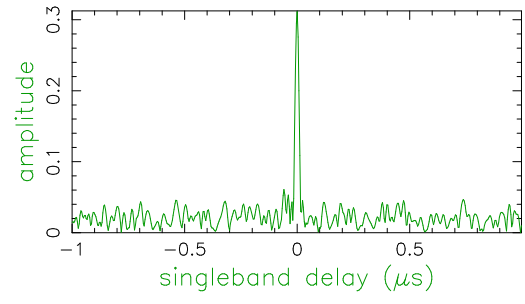
multiband delay ( $\mu$ s)



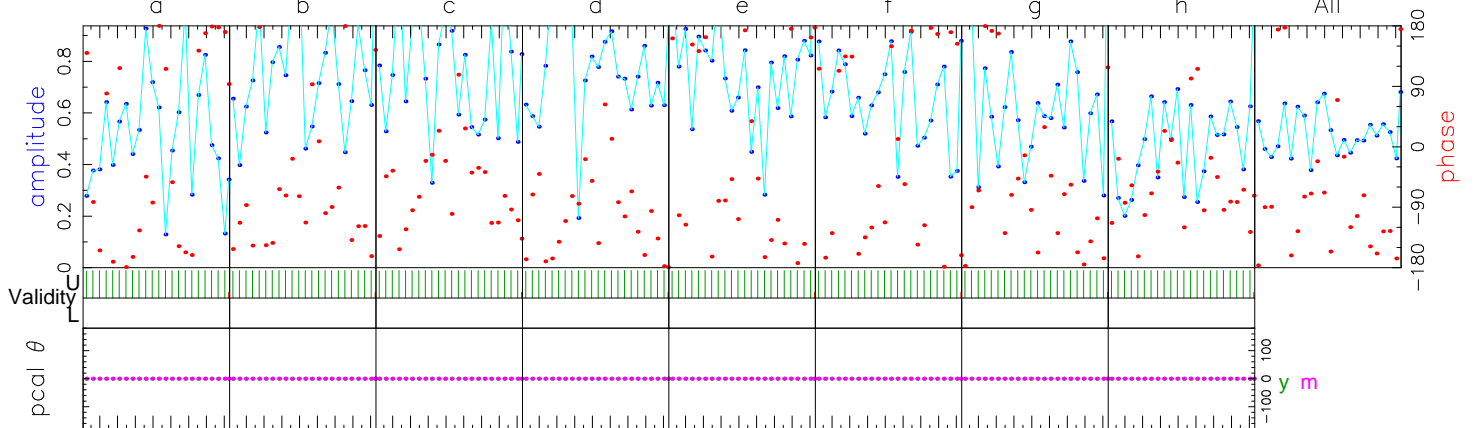
Fringe quality 8

SNR 18.7  
 Int time 476.917  
 Amp 0.313  
 Phase -119.9  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.000751  
 MBD -0.007871  
 Fringe rate (Hz)  
 -0.003545  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132538  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-165.4	-108.2	-71.6	-111.0	-148.2	-173.4	-117.4	-65.5	Phase	-119.9
	0.3	0.5	0.5	0.4	0.5	0.4	0.3	0.3	Ampl.	0.4
	259.4	257.4	257.0	256.3	256.5	256.8	256.9	259.5	Sbd box	256.8
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -9.54864229042E+03 Apriori delay (usec) -9.54863441948E+03 Resid mbdelay (usec) -7.87094E-03 +/- 5.8E-05  
 Sband delay (usec) -9.54863516998E+03 Apriori clock (usec) -1.2127000E+01 Resid sbdelay (usec) -7.50500E-04 +/- 4.6E-04  
 Phase delay (usec) -9.54863442334E+03 Apriori clockrate (us/s) 0.0000000E+00 Resid phdelay (usec) -3.86595E-06 +/- 2.0E-07  
 Delay rate (us/s) 8.14734446755E-01 Apriori rate (us/s) 8.14734487909E-01 Resid rate (us/s) -4.11537E-08 +/- 7.2E-10  
 Total phase (deg) -81.7 Apriori accel (us/s/s) 7.09479642316E-05 Resid phase (deg) -119.9 +/- 6.1

ph/seg (deg) 60.6 14.7 Theor. Amplitude 0.313 +/- 0.017 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 70.7 25.7 Search (2048X32) 0.301 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 43.3 8.7 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 32.4 15.2 Inc. seg. avg. 0.502 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 Inc. frq. avg. 0.379 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

y: az 57.3 el 27.9 pa -63.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6120.671 6794.584 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym.W.231.11M249

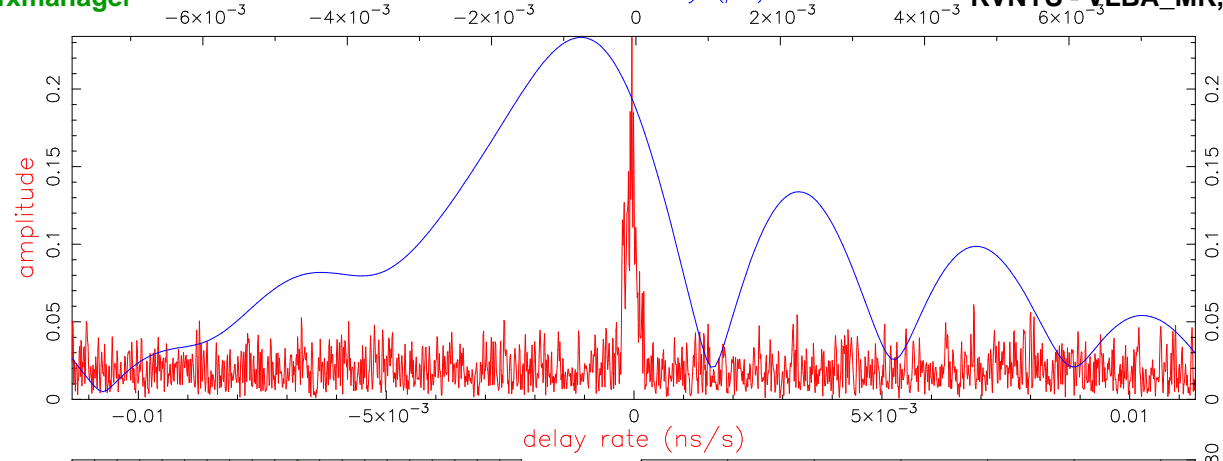
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, ym

KVNS - VLBA\_MK, fgroup W, pol RR

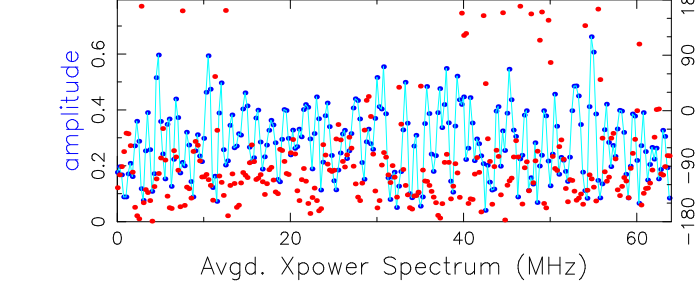
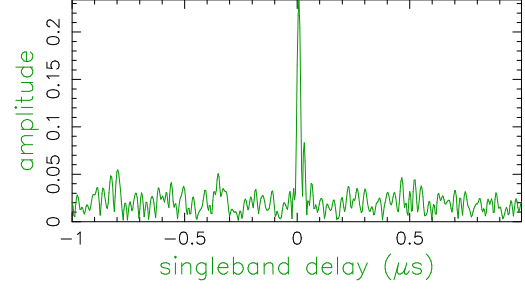
multiband delay ( $\mu$ s)



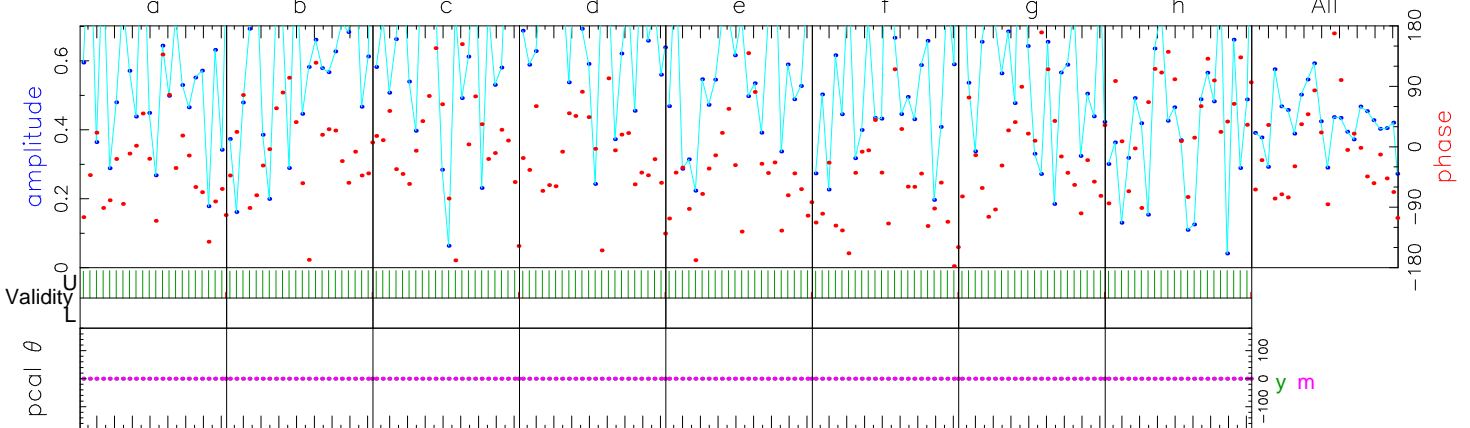
Fringe quality 9

SNR 14.0  
 Int time 476.917  
 Amp 0.234  
 Phase -19.1  
 PFD 1.4e-35  
 Delays (us)  
 SBD 0.007227  
 MBD -0.000786  
 Fringe rate (Hz) -0.003549  
 Ion TEC 0.000  
 Ref freq (MHz) 86140.0000  
 AP (sec) 0.512

Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132541  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
y	1000	1000	1000	1000	1000	1000	1000	1000		
m	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		

Group delay (usec)(sbd)	-9.54861958070E+03	Apriori delay (usec)	-9.54863441948E+03	Resid mbdelay (usec)	-7.86222E-04	+/-	7.8E-05
Sband delay (usec)	-9.54862719223E+03	Apriori clock (usec)	-1.2127000E+01	Resid sbdelay (usec)	7.22725E-03	+/-	6.2E-04
Phase delay (usec)	-9.54863442009E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-6.16801E-07	+/-	2.6E-07
Delay rate (us/s)	8.14734446713E-01	Apriori rate (us/s)	8.14734487909E-01	Resid rate (us/s)	-4.11962E-08	+/-	9.6E-10
Total phase (deg)	-340.9	Apriori accel (us/s/s)	7.09479642316E-05	Resid phase (deg)	-19.1	+/-	8.2

ph/seg (deg)	63.7	Theor.	19.7	Amplitude	0.234 +/- 0.017	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5		
amp/seg (%)	90.4		34.3	Search (2048X32)	0.222	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	51.6		11.6	Interp.	0.000	Bits/sample:	2x2	SampCntNorm: enabled	mb window (us)	-0.008 0.008	
amp/frq (%)	34.8		20.2	Inc. seg. avg.	0.408	Sample rate (MSamp/s):	128	dr window (ns/s)	-0.011 0.011		
				Inc. frq. avg.	0.292	Data rate (Mb/s):	2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00 0.00

y: az 57.3 el 27.9 pa -63.7      m: az 12.2 el 67.6 pa -163.7      u,v (fr/asec) -6120.671 6794.584      simultaneous interpolator

Control file: cf\_1234\_gmva      Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym..1IM249      Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym.W.240.1IM249

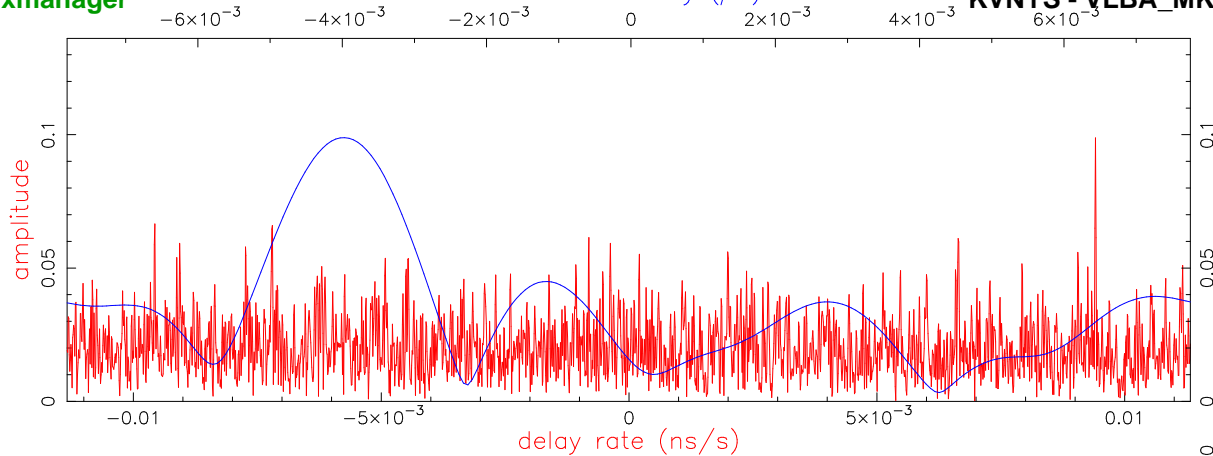
Mk4/DiFX fourfit 3.21 rev 2937

fxmanager

3C84.1IM249, No0105, ym

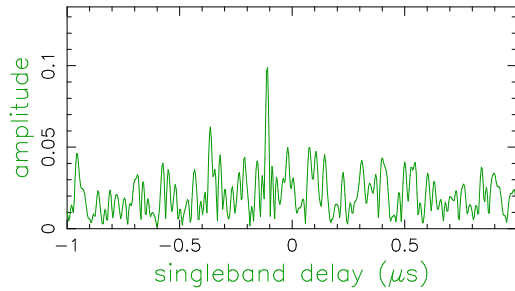
KVNYS - VLBA\_MK, fgroup W, pol LR

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

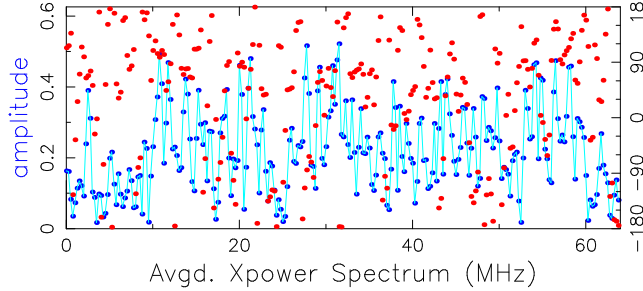


Fringe quality 0

SNR 6.0  
 Int time 476.917  
 Amp 0.136  
 Phase -57.6  
 PFD 3.8e-01  
 Delays (us)  
 SBD -0.110980  
 MBD -0.004034  
 Fringe rate (Hz)  
 0.811363  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

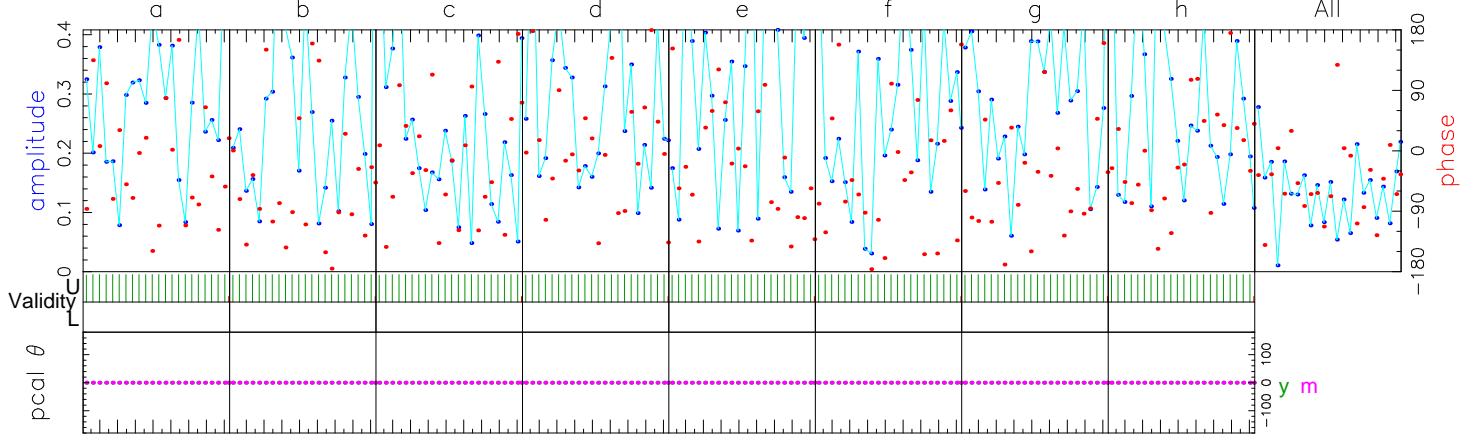


delay rate (ns/s)



Exp. c202b  
 Exper # 16383  
 Yr:day 2020:284  
 Start 120003.56  
 Stop 120801.26  
 FRT 120401.00  
 Corr/FF/build  
 2021:023:075223  
 2021:023:132545  
 2020:247:085004  
 RA & Dec (J2000)  
 03h19m48.160095s  
 +41°30'42.104042"

Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



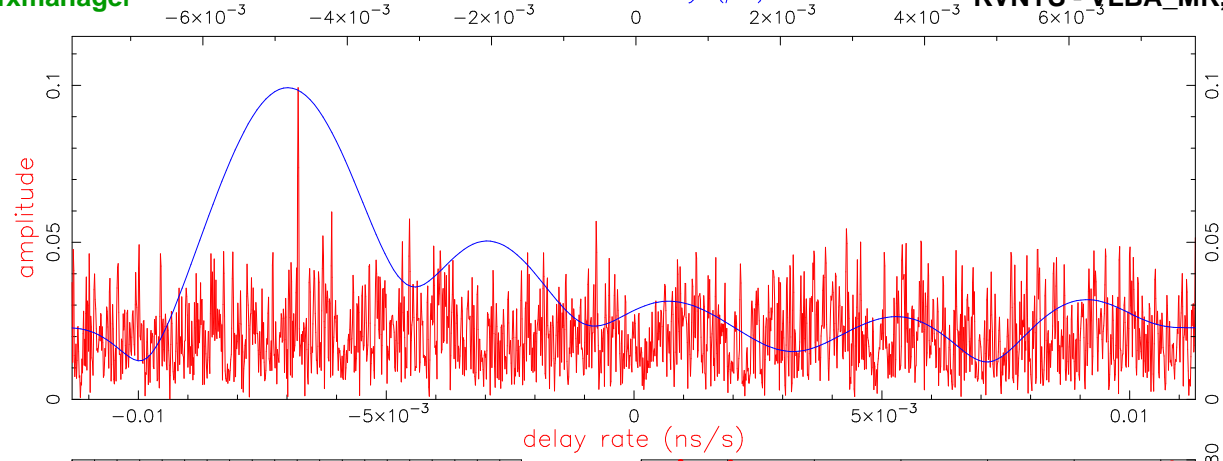
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-49.8	-96.2	-28.2	0.2	-59.5	-68.6	-80.2	-28.2	Phase	-57.6
	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.2	Ampl.	0.1
	18.8	118.9	466.9	73.3	332.6	128.5	493.8	8.1	Sbd box	228.6
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
m	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-9.54874782832E+03	Apriori delay (usec)	-9.54863441948E+03	Resid mbdelay (usec)	-4.03385E-03	+/-	1.8E-04
Sband delay (usec)	-9.54874539948E+03	Apriori clock (usec)	-1.2127000E+01	Resid sbdelay (usec)	-1.10980E-01	+/-	1.4E-03
Phase delay (usec)	-9.54863442134E+03	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	-1.85728E-06	+/-	6.1E-07
Delay rate (us/s)	8.14743907027E-01	Apriori rate (us/s)	8.14734487909E-01	Resid rate (us/s)	9.41912E-06	+/-	2.2E-09
Total phase (deg)	-19.4	Apriori accel (us/s/s)	7.09479642316E-05	Resid phase (deg)	-57.6	+/-	19.1

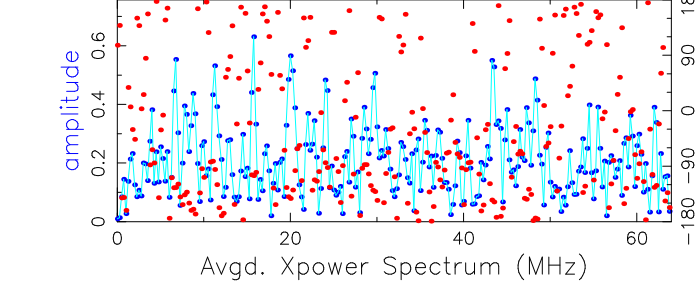
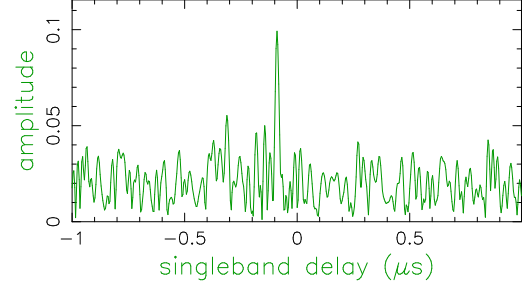
ph/seg (deg)	57.5	Theor.	45.7	Amplitude	0.136 +/- 0.023	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	66.3		79.8	Search (2048X32)	0.094	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.008	0.008
ph/frq (deg)	34.8		27.0	Inc. seg. avg.	0.138	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.011	0.011
amp/frq (%)	32.6		47.1	Inc. frq. avg.	0.136	Sample rate(MISamp/s): 128		ion window (TEC)	0.00	0.00
						Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite		

y: az 57.3 el 27.9 pa -63.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6120.671 6794.584 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym..1IM249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym.W.249.1IM249

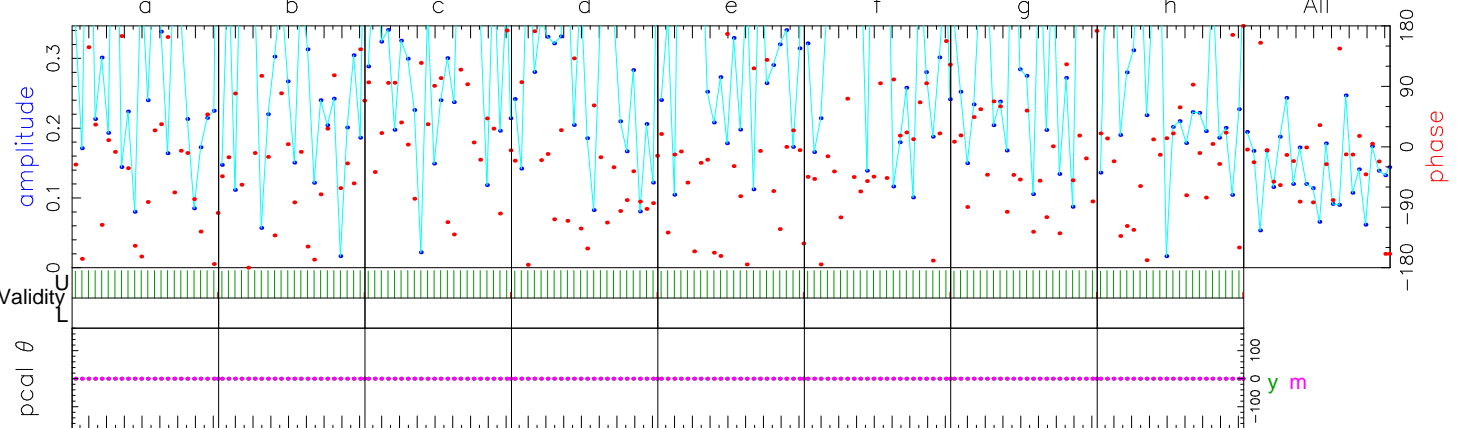
multiband delay ( $\mu$ s)



Fringe quality 0  
SNR 5.9  
Int time 476.917  
Amp 0.116  
Phase -25.6  
PFD 5.4e-01  
Delays (us)  
SBD -0.089585  
MBD -0.004823  
Fringe rate (Hz)  
-0.584918  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c202b  
Exper # 16383  
Yr:day 2020:284  
Start 120003.56  
Stop 120801.26  
FRT 120401.00  
Corr/FF/build  
2021:023:075223  
2021:023:132548  
2020:247:085004  
RA & Dec (J2000)  
03h19m48.160095s  
+41°30'42.104042"



Amp. and Phase vs. time for each freq., 23 segs, 42 APs / seg (21.50 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-32.9	-27.2	45.5	-77.4	-48.1	-24.3	-14.4	-23.9	Phase	-25.6
	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	Ampl.	0.1
	370.7	79.1	349.5	403.0	148.0	158.7	176.3	35.1	Sbd box	234.1
U/L	933/0	933/0	933/0	933/0	933/0	933/0	933/0	933/0	APs used	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	1000	1000	1000	1000	PC freqs	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
y:m	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000	1000	1000	1000	1000		
y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
m	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Chan ids	
									Tracks	
Group delay (usec)(sbd)	-9.54871736776E+03		Apriori delay (usec)		-9.54863441948E+03		Resid mbdelay (usec)		-4.82328E-03	+/- 1.8E-04
Sband delay (usec)	-9.54872400473E+03		Apriori clock (usec)		-1.2127000E+01		Resid sbdelay (usec)		-8.95853E-02	+/- 1.5E-03
Phase delay (usec)	-9.54863442030E+03		Apriori clockrate (us/s)		0.0000000E+00		Resid phdelay (usec)		-8.24451E-07	+/- 6.2E-07
Delay rate (us/s)	8.14727697588E-01		Apriori rate (us/s)		8.14734487909E-01		Resid rate (us/s)		-6.79032E-06	+/- 2.3E-09
Total phase (deg)			Apriori accel (us/s/s)		7.09479642316E-05		Resid phase (deg)		-25.6	+/- 19.3

ph/seg (deg) 68.0 46.4 Amplitude 0.116 +/- 0.019 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 66.6 80.9 Search (2048X32) 0.093 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 37.5 27.3 Inc. seg. avg. 0.123 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
amp/frq (%) 33.4 47.7 Inc. frq. avg. 0.121 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
y: az 57.3 el 27.9 pa -63.7 m: az 12.2 el 67.6 pa -163.7 u,v (fr/asec) -6120.671 6794.584 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym..11M249 Output file: /Exps/c202b/v1/v1\_3mm/1234/No0105/ym.W.257.11M249