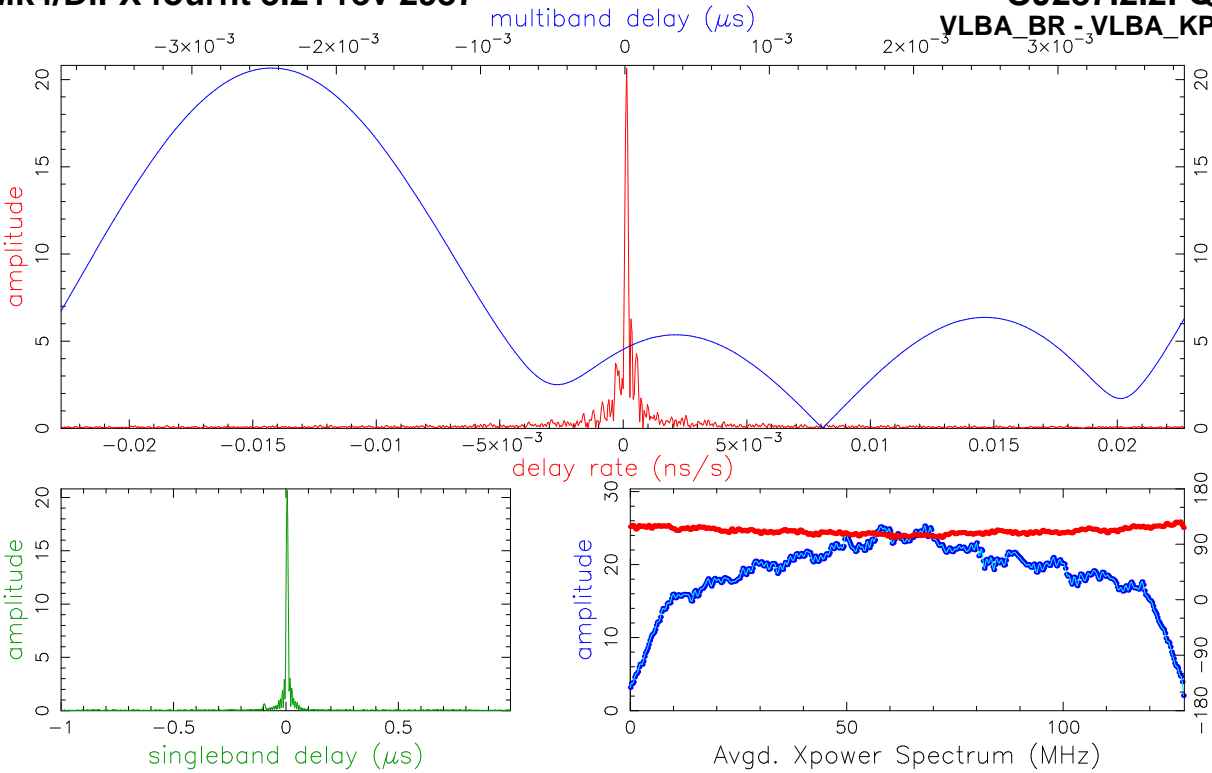


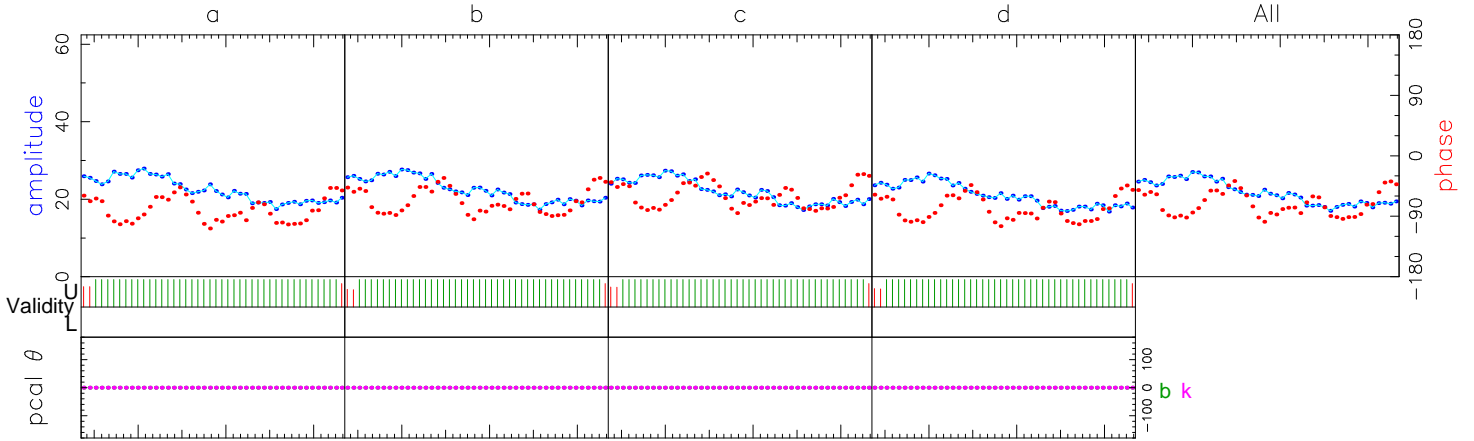
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol LL



Fringe quality 7  
SNR 757.3  
Int time 177.085  
Amp 20.811  
Phase -71.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.005259  
MBD -0.002482  
Fringe rate (Hz)  
0.005699  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134629  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-80.7	-67.1	-59.3	-78.6	Phase	-71.4
21.3	21.3	20.9	20.0	Ampl.	20.9
516.0	515.9	515.4	515.3	Sbd box	515.7
U/L 351/0	351/0	351/0	351/0	APs used	
b 1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	PC freqs	
b:k 0:0	0:0	0:0	0:0	PC phase	
b:k 0:0	0:0	0:0	0:0	Manl PC	
b 1000	1000	1000	1000	PC amp	
k 1000	1000	1000	1000		
b Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

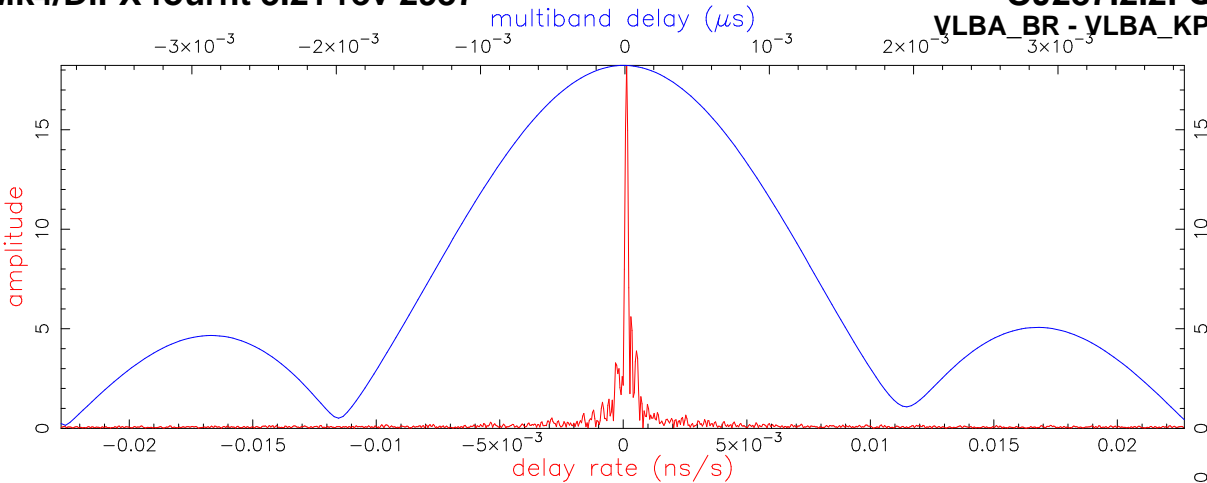
Group delay (usec)(sbd)	-2.57002927404E+03	Apriori delay (usec)	-2.57003460467E+03	Resid mbdelay (usec)	-2.48188E-03	+/- 1.5E-06
Sband delay (usec)	-2.57002934542E+03	Apriori clock (usec)	-4.2154770E+00	Resid sbdelay (usec)	5.25925E-03	+/- 5.7E-06
Phase delay (usec)	-2.57003460929E+03	Apriori clockrate (us/s)	-3.5177999E-07	Resid phdelay (usec)	-4.62111E-06	+/- 9.8E-09
Delay rate (us/s)	-5.16236091433E-02	Apriori rate (us/s)	-5.16237419409E-02	Resid rate (us/s)	1.32798E-07	+/- 9.4E-11
Total phase (deg)	-55.4	Apriori accel (us/s/s)	2.19613525847E-05	Resid phase (deg)	-71.4	+/- 0.2

ph/seg (deg)	17.8	0.5	Search (1024X16)	20.614	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	14.9	0.9	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	12.3	0.2	Inc. seg. avg.	21.681	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	2.6	0.3	Inc. frq. avg.	20.892	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
					nlags: 512	t_cohere infinite

b: az 112.0 el 44.4 pa -41.2 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 162.100 1206.018 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/bk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/bk.Q.26.212FQY

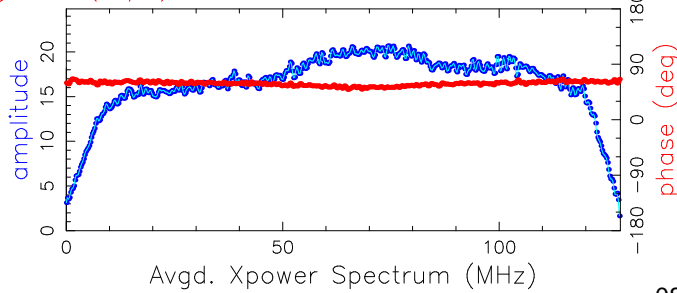
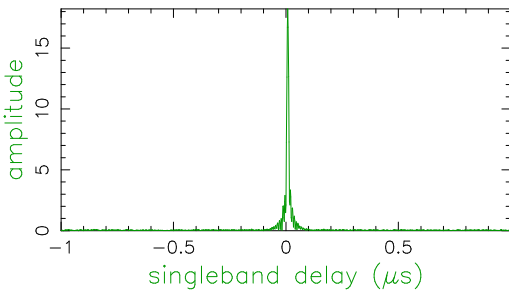
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol RR



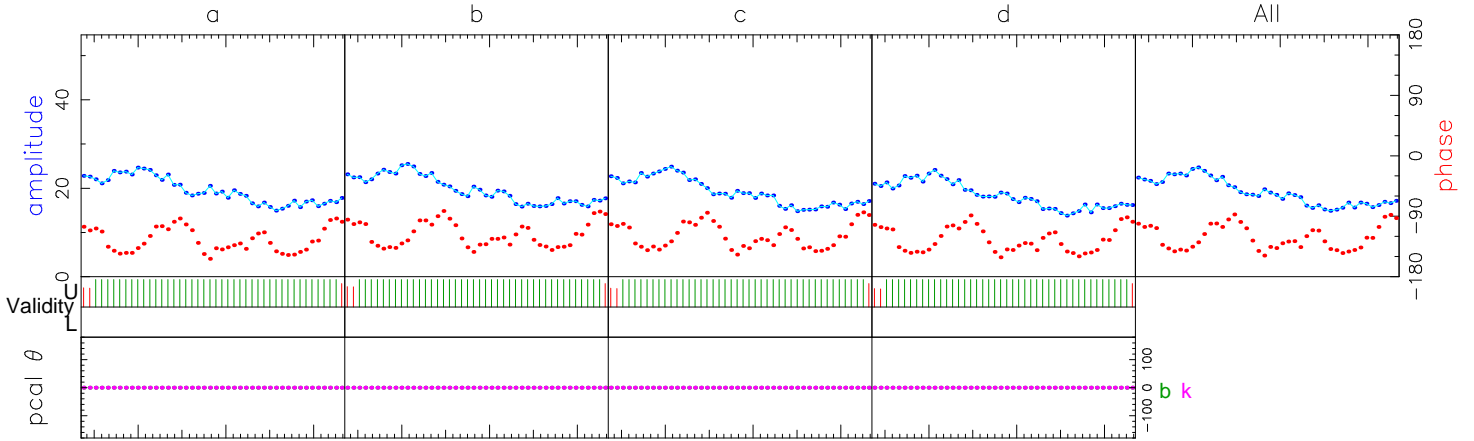
Fringe quality 8

SNR 663.4  
Int time 177.085  
Amp 18.231  
Phase -121.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.007819  
MBD -0.000008  
Fringe rate (Hz)  
0.005703  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134631  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
b	1000	1000	1000	1000	APs used	
k	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
b	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

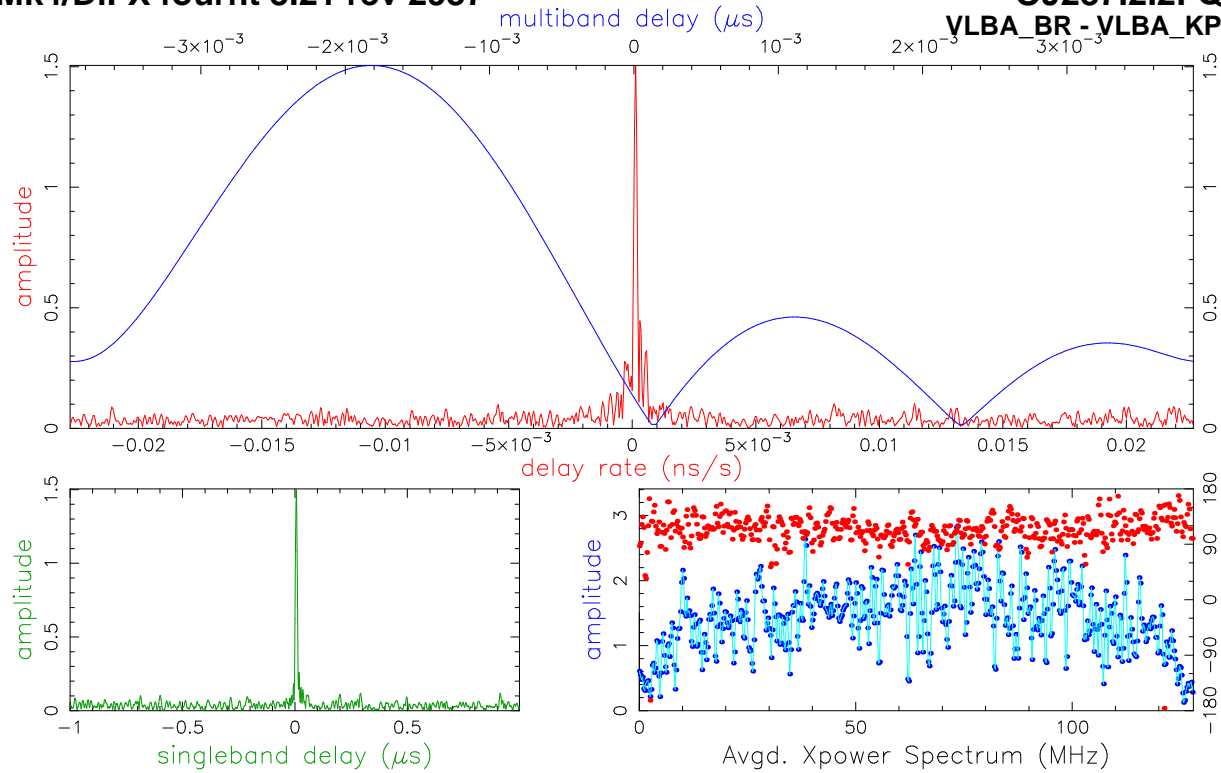
Group delay (usec)(sbd)	-2.57002680036E+03	Apriori delay (usec)	-2.57003460467E+03	Resid mbdelay (usec)	-8.18945E-06	+/- 1.7E-06
Sband delay (usec)	-2.57002678604E+03	Apriori clock (usec)	-4.2154770E+00	Resid sbdelay (usec)	7.81863E-03	+/- 6.5E-06
Phase delay (usec)	-2.57003461253E+03	Apriori clockrate (us/s)	-3.5177999E-07	Resid phdelay (usec)	-7.86120E-06	+/- 1.1E-08
Delay rate (us/s)	-5.16236090438E-02	Apriori rate (us/s)	-5.16237419409E-02	Resid rate (us/s)	1.32897E-07	+/- 1.1E-10
Total phase (deg)	-105.4	Apriori accel (us/s/s)	2.19613525847E-05	Resid phase (deg)	-121.4	+/- 0.2

ph/seg (deg)	17.9	0.6	Search (1024X16)	18.190	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	16.9	1.0	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	5.1	0.2	Inc. seg. avg.	19.153	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	2.6	0.3	Inc. frq. avg.	18.267	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
					Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00
					nlags: 512	t_cohere infinite

b: az 112.0 el 44.4 pa -41.2 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 162.100 1206.018 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/bk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/bk.Q.30.212FQY

Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol LR

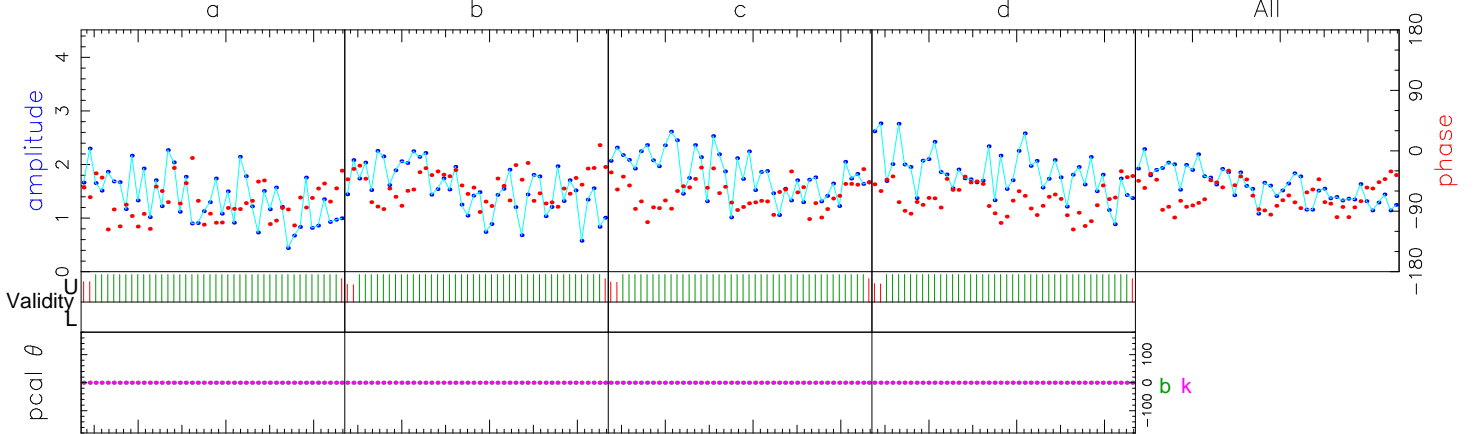


Fringe quality 8

SNR 54.8  
Int time 177.085  
Amp 1.505  
Phase -66.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.005962  
MBD -0.001812  
Fringe rate (Hz) 0.005879  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134634  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.8749285"  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
b	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
b:k	0:0	0:0	0:0	0:0	PC phase	
b:k	0:0	0:0	0:0	0:0	Manl PC	
b	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
b	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

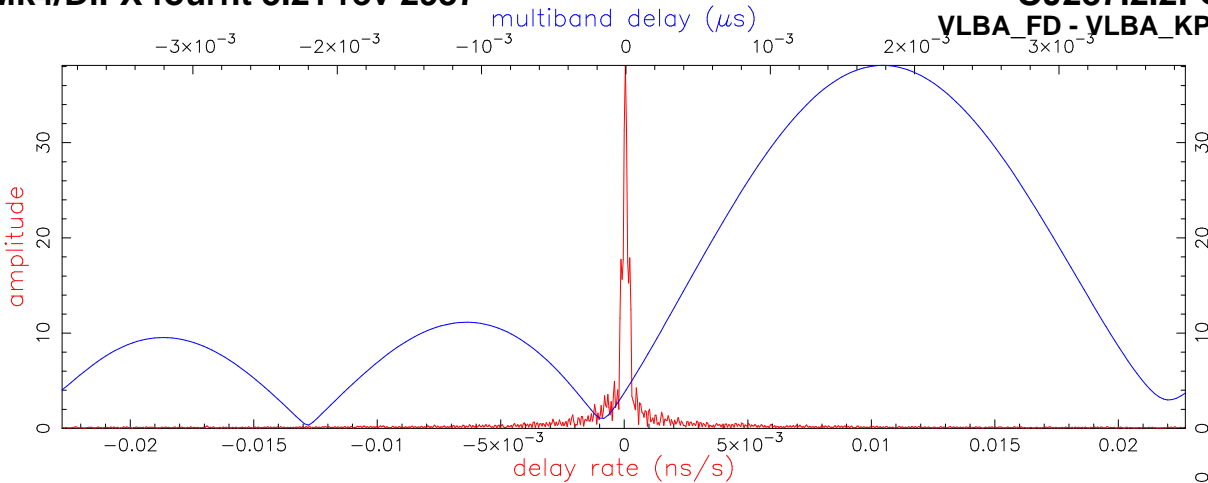
Group delay (usec)(sbd)	-2.57002860414E+03	Apriori delay (usec)	-2.57003460467E+03	Resid mbdelay (usec)	-1.81197E-03	+/-	2.0E-05
Sband delay (usec)	-2.57002864229E+03	Apriori clock (usec)	-4.2154770E+00	Resid sbdelay (usec)	5.96238E-03	+/-	7.9E-05
Phase delay (usec)	-2.57003460896E+03	Apriori clockrate (us/s)	-3.5177999E-07	Resid phdelay (usec)	-4.29316E-06	+/-	1.4E-07
Delay rate (us/s)	-5.16236049361E-02	Apriori rate (us/s)	-5.16237419409E-02	Resid rate (us/s)	1.37005E-07	+/-	1.3E-09
Total phase (deg)	-50.3	Apriori accel (us/s/s)	2.19613525847E-05	Resid phase (deg)	-66.3	+/-	2.1

ph/seg (deg)	20.4	Theor.	6.9	Amplitude	1.505 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	20.6		12.1	Search (1024X16)	1.491	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	13.0		2.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	13.6		3.7	Inc. seg. avg.	1.593	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	1.522	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

b: az 112.0 el 44.4 pa -41.2 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 162.100 1206.018 simultaneous interpolator

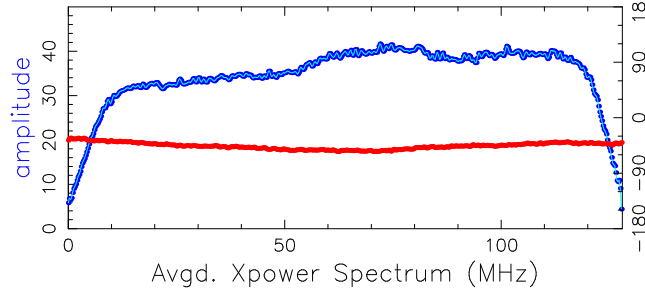
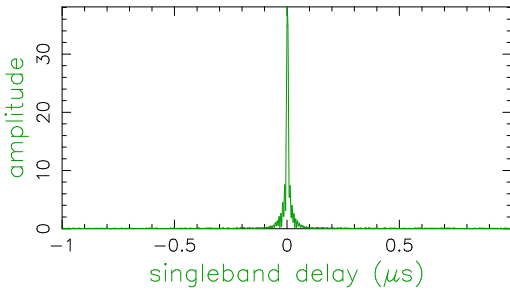
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/bk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/bk.Q.31.212FQY





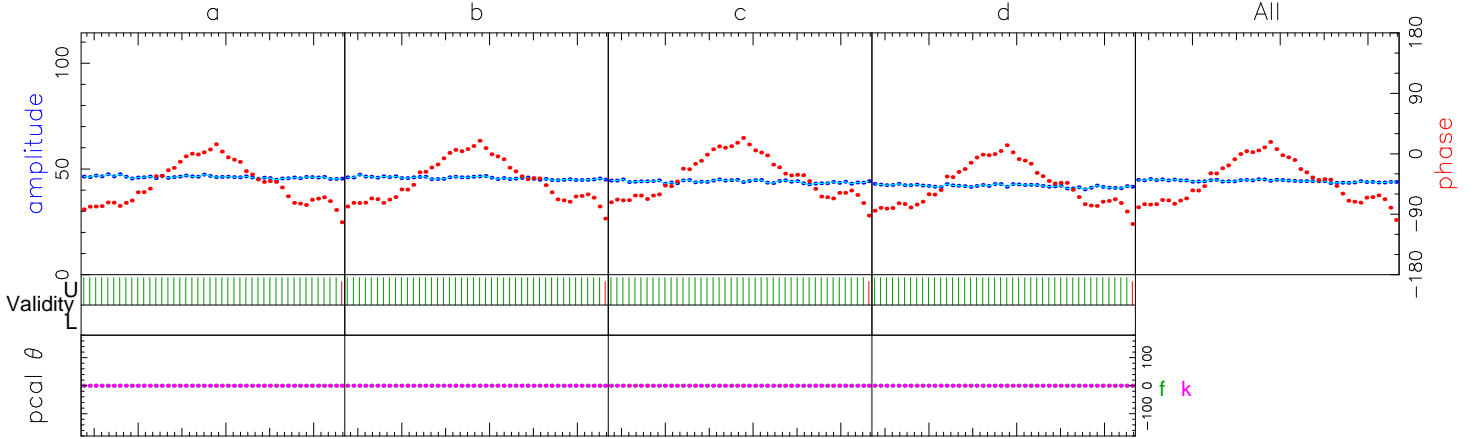
Fringe quality 7

SNR 1397.0  
Int time 179.592  
Amp 38.119  
Phase -42.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.001959  
MBD 0.001779  
Fringe rate (Hz)  
0.002454  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134625  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-45.5	-40.5	-35.4	-47.6	Phase	-42.2
	39.7	39.4	37.8	36.0	Ampl.	38.2
	514.3	514.0	514.0	513.5	Sbd box	514.0
U/L	351/0	351/0	351/0	351/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

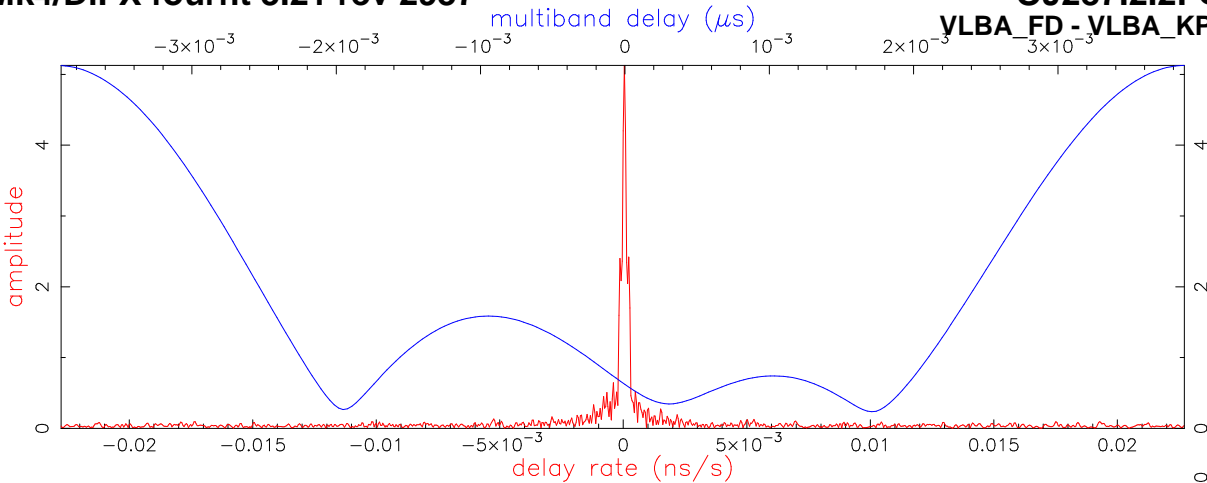
	1.30208039366E+03	Apriori delay (usec)	1.30207861471E+03	Resid mbdelay (usec)	1.77896E-03	+/- 8.0E-07
Group delay (usec)(sbd)	1.30208057346E+03	Apriori clock (usec)	1.6611099E+01	Resid sbdelay (usec)	1.95875E-03	+/- 3.1E-06
Sband delay (usec)	1.30207861197E+03	Apriori clockrate (us/s)	2.2914000E-07	Resid phdelay (usec)	-2.73236E-06	+/- 5.3E-09
Phase delay (usec)	-1.31337527926E-01	Apriori rate (us/s)	-1.31337585118E-01	Resid rate (us/s)	5.71920E-08	+/- 5.1E-11
Delay rate (us/s)		Apriori accel (us/s/s)	-7.59688524325E-06	Resid phase (deg)	-42.2	+/- 0.1
Total phase (deg)	142.9					

	RMS	Theor.	Amplitude	38.119 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	30.9	0.3	Search (1024X16)	37.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	16.3	0.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	6.7	0.1	Inc. seg. avg.	44.319	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	3.8	0.1	Inc. frq. avg.	38.246	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

f: az 105.1 el 61.7 pa -62.1 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 396.613 -190.530 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/fk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/fk.Q.10.212FQY

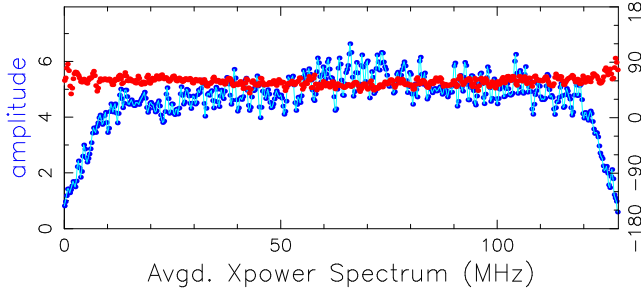
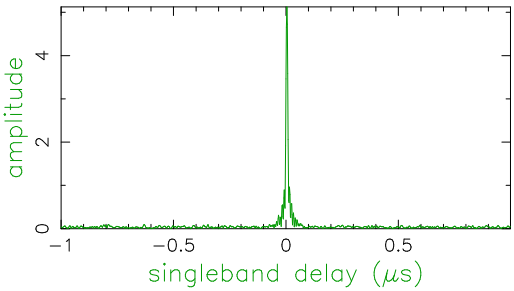
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, fk  
VLBA\_FD - VLBA\_KP, fgroup Q, pol LR



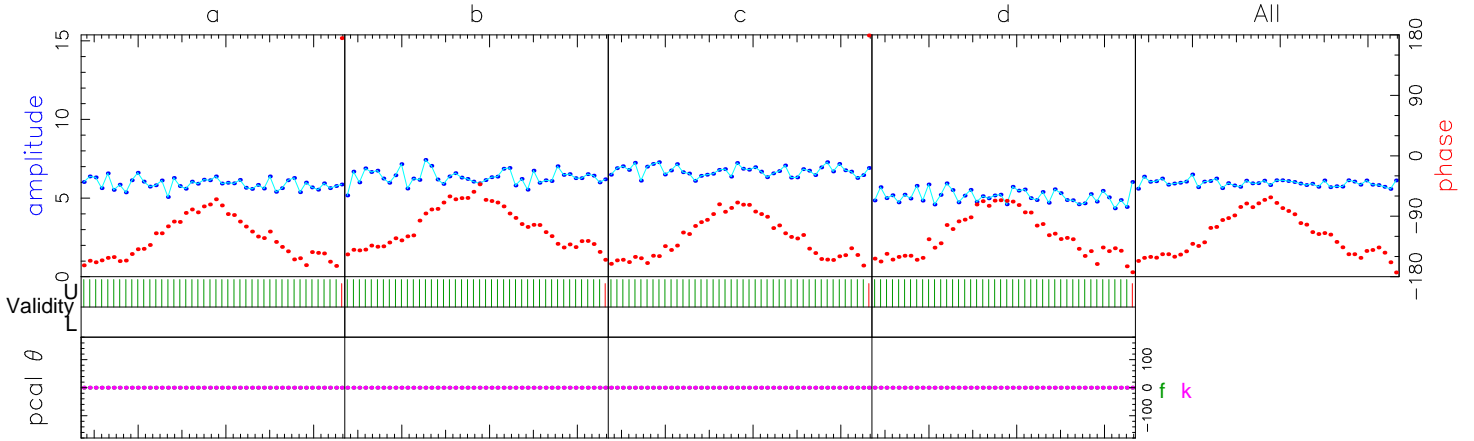
Fringe quality 7

SNR 187.9  
Int time 179.592  
Amp 5.127  
Phase -119.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.003992  
MBD -0.003929  
Fringe rate (Hz)  
0.002479  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134626  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-125.9	-106.4	-125.2	-119.9	Phase	-119.3
5.1	5.5	5.8	4.4	Ampl.	5.2
515.3	515.1	514.5	515.3	Sbd box	515.0
U/L 351/0	351/0	351/0	351/0	APs used	
f 1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	PC freqs	
f:k 0:0	0:0	0:0	0:0	PC phase	
f:k 0:0	0:0	0:0	0:0	ManI PC	
f 1000	1000	1000	1000	PC amp	
k 1000	1000	1000	1000		
f Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.30208249832E+03	Apriori delay (usec)	1.30207861471E+03	Resid mbdelay (usec)	-3.92889E-03	+/- 5.9E-06
Sband delay (usec)	1.30208260658E+03	Apriori clock (usec)	1.6611099E+01	Resid sbdelay (usec)	3.99187E-03	+/- 2.3E-05
Phase delay (usec)	1.30207860698E+03	Apriori clockrate (us/s)	2.2914000E-07	Resid phdelay (usec)	-7.72290E-06	+/- 3.9E-08
Delay rate (us/s)	-1.31337527357E-01	Apriori rate (us/s)	-1.31337585118E-01	Resid rate (us/s)	5.77609E-08	+/- 3.8E-10
Total phase (deg)	65.8	Apriori accel (us/s/s)	-7.59688524325E-06	Resid phase (deg)	-119.3	+/- 0.6

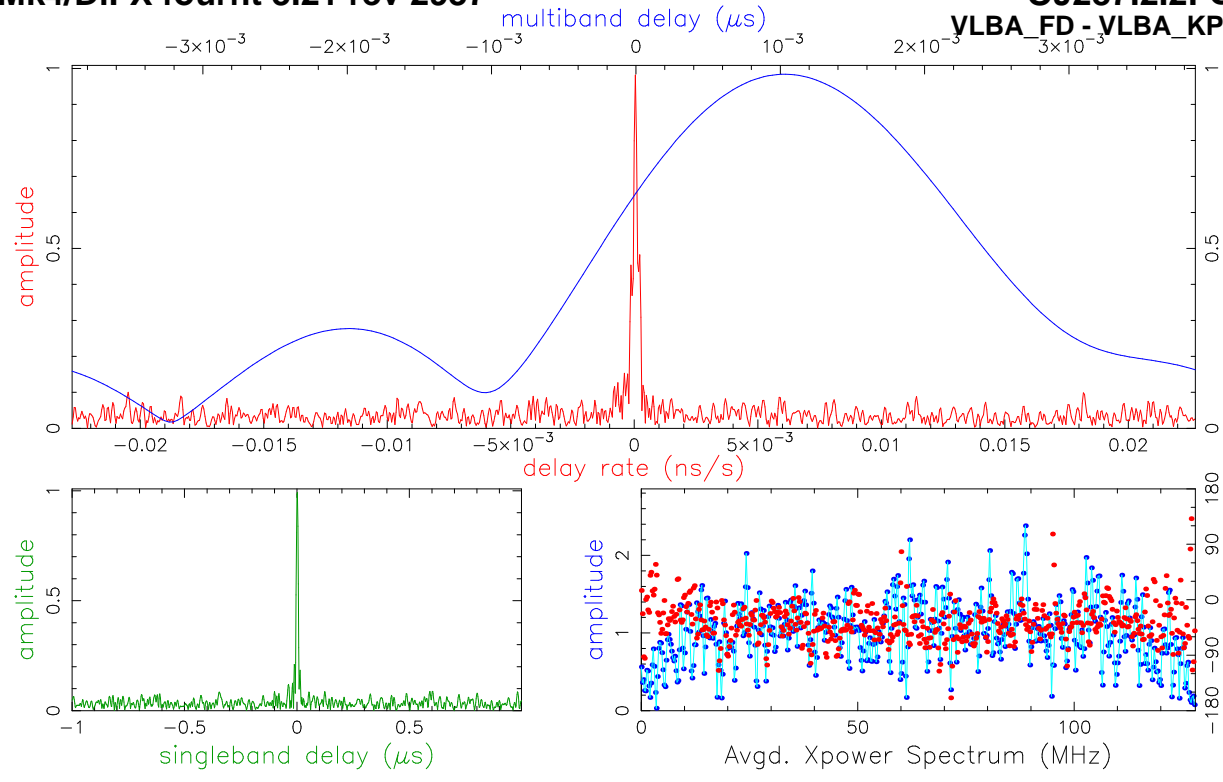
ph/seg (deg)	RMS 30.9	Theor. 2.0	Amplitude 5.127 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	16.6	3.5	Search (1024X16) 5.030	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	11.1	0.6	Interp. 0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	10.5	1.1	Inc. seg. avg. 5.952	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
			Inc. frq. avg. 5.177	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

f: az 105.1 el 61.7 pa -62.1 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 396.613 -190.530 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/fk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/fk.Q.17.212FQY



Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, fk  
VLBA\_FD - VLBA\_KP, fgroup Q, pol RL

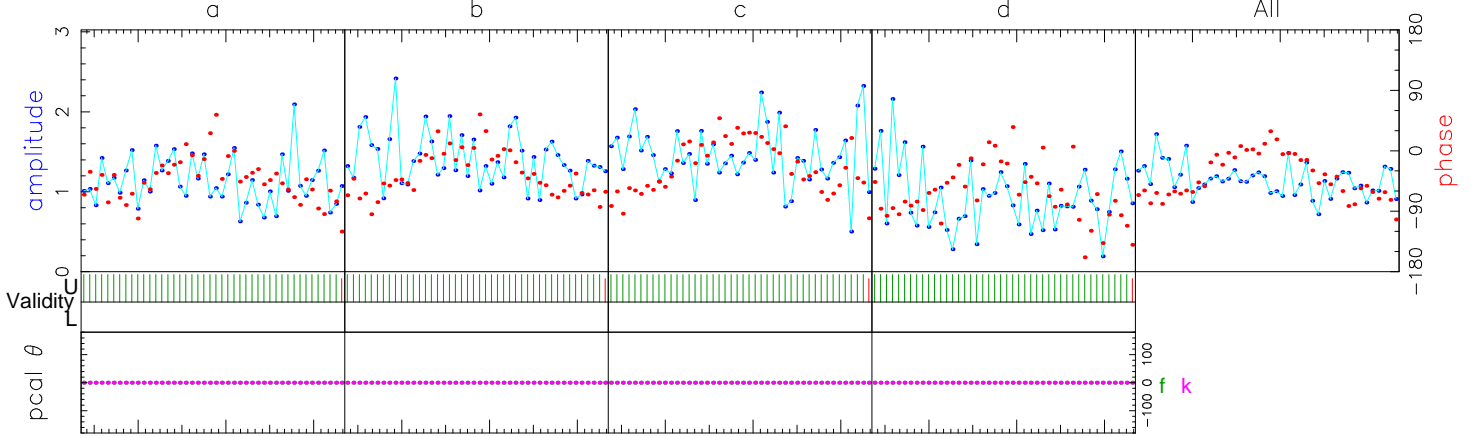


Fringe quality 7

SNR 37.0  
Int time 179.592  
Amp 1.009  
Phase -39.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.001087  
MBD 0.001106  
Fringe rate (Hz)  
0.002538  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134628  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-43.8	-34.7	-23.4	-66.1	Phase	-39.1
	1.0	1.2	1.2	0.7	Ampl.	1.0
	513.7	514.0	513.6	512.6	Sbd box	513.6
U/L	351/0	351/0	351/0	351/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

	1.30207972101E+03	Apriori delay (usec)	1.30207861471E+03	Resid mbdelay (usec)	1.10630E-03	+/-	3.0E-05
Group delay (usec)(sbd)	1.30207970133E+03	Apriori clock (usec)	1.6611099E+01	Resid sbdelay (usec)	1.08663E-03	+/-	1.2E-04
Sband delay (usec)	1.30207861218E+03	Apriori clockrate (us/s)	2.2914000E-07	Resid phdelay (usec)	-2.52929E-06	+/-	2.0E-07
Phase delay (usec)	-1.31337525972E-01	Apriori rate (us/s)	-1.31337585118E-01	Resid rate (us/s)	5.91463E-08	+/-	1.9E-09
Delay rate (us/s)		Apriori accel (us/s/s)	-7.59688524325E-06	Resid phase (deg)	-39.1	+/-	3.1
Total phase (deg)	146.1						

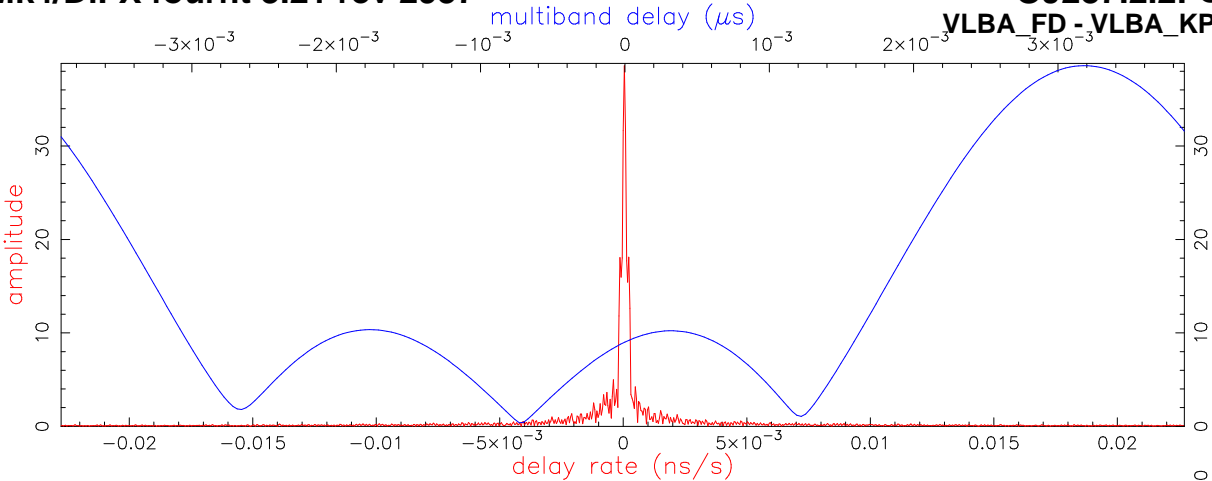
	RMS	Theor.	Amplitude	1.009 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	32.0	10.3	Search (1024X16)	0.962	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	24.0	17.9	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	22.5	3.1	Inc. seg. avg.	1.132	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	18.9	5.4	Inc. frq. avg.	1.013					

f: az 105.1 el 61.7 pa -62.1 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 396.613 -190.530 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/fk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/fk.Q.23.212FQY

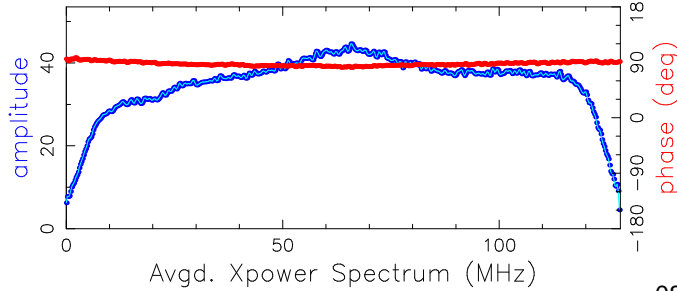
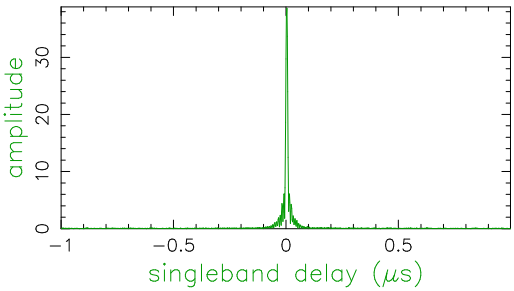
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, fk  
VLBA\_FD - VLBA\_KP, fgroup Q, pol LL



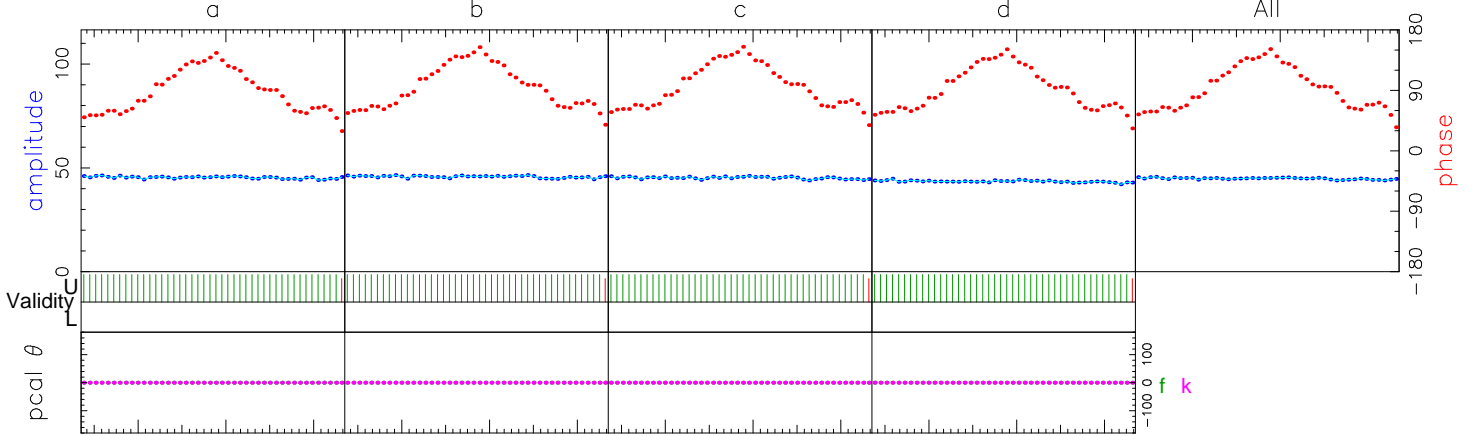
Fringe quality 7

SNR 1423.5  
Int time 179.592  
Amp 38.843  
Phase 91.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.003368  
MBD 0.003153  
Fringe rate (Hz)  
0.002454  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134623  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	86.5	94.0	95.0	90.6	Phase	91.5
	39.1	39.3	38.9	37.3	Ampl.	38.7
	514.9	514.6	514.6	514.8	Sbd box	514.7
U/L	351/0	351/0	351/0	351/0	APs used	
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	Manl PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.30208176798E+03	Apriori delay (usec)	1.30207861471E+03	Resid mbdelay (usec)	3.15327E-03	+/-	7.8E-07
Sband delay (usec)	1.30208198258E+03	Apriori clock (usec)	1.6611099E+01	Resid sbdelay (usec)	3.36788E-03	+/-	3.0E-06
Phase delay (usec)	1.30207862063E+03	Apriori clockrate (us/s)	2.2914000E-07	Resid phdelay (usec)	5.92573E-06	+/-	5.2E-09
Delay rate (us/s)	-1.31337527921E-01	Apriori rate (us/s)	-1.31337585118E-01	Resid rate (us/s)	5.71977E-08	+/-	5.0E-11
Total phase (deg)	276.7	Apriori accel (us/s/s)	-7.59688524325E-06	Resid phase (deg)	91.5	+/-	0.1

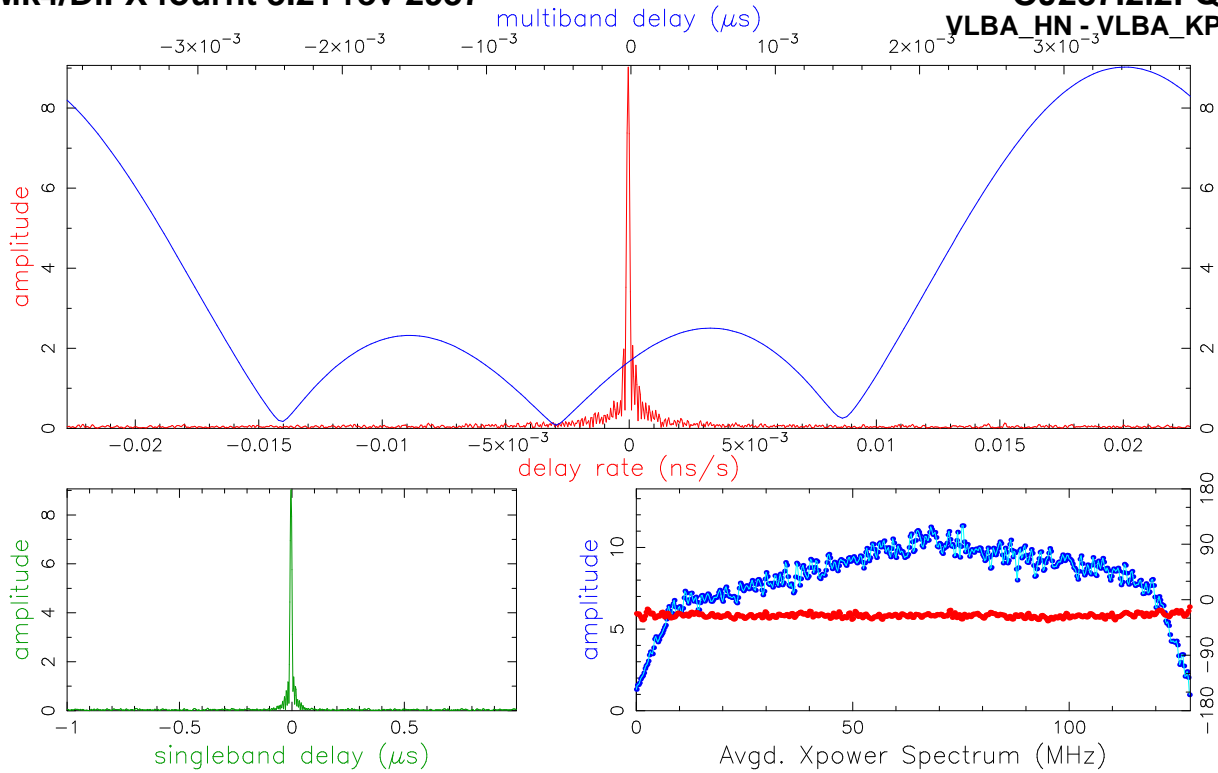
ph/seg (deg)	RMS 31.0	Theor. 0.3	Amplitude 38.843 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	15.6	0.5	Search (1024X16) 37.093	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	4.7	0.1	Interp. 0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	2.0	0.1	Inc. seg. avg. 44.899	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
			Inc. frq. avg. 38.657	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

f: az 105.1 el 61.7 pa -62.1 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 396.613 -190.530 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/fk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/fk.Q.6.212FQY



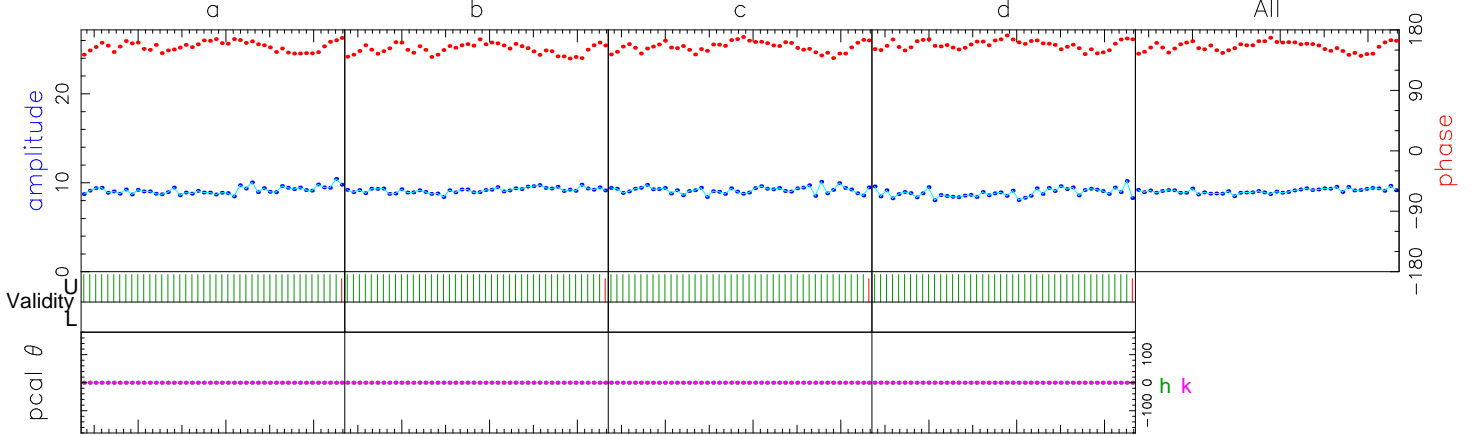
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol LL



Fringe quality 9  
SNR 332.3  
Int time 179.591  
Amp 9.067  
Phase 154.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.004382  
MBD 0.003399  
Fringe rate (Hz)  
-0.002351  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134625  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
h	1000	1000	1000	1000	APs used	
k	1000	1000	1000	1000	PC freqs	
h:k	0:0	0:0	0:0	0:0	PC phase	
h	1000	1000	1000	1000	Manl PC	
k	1000	1000	1000	1000	PC amp	
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

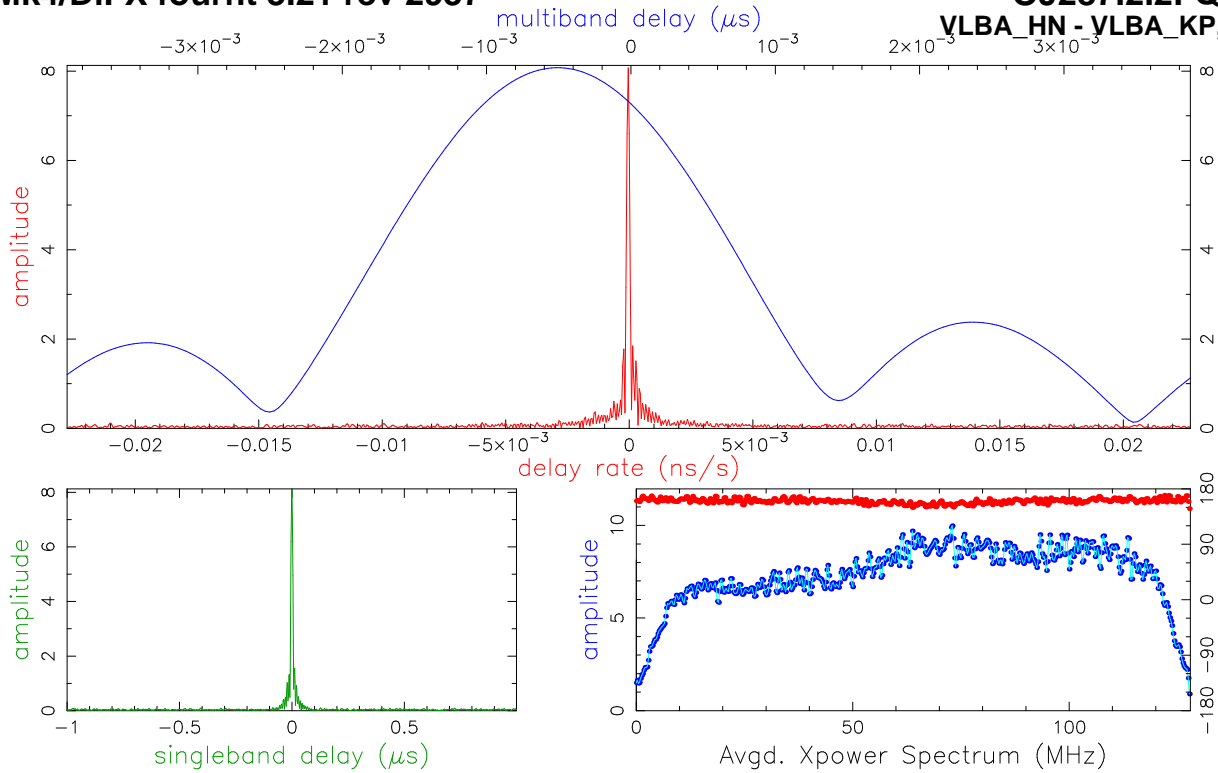
	2.06271325893E+03	Apriori delay (usec)	2.06271767226E+03	Resid mbdelay (usec)	3.39917E-03	+/- 3.3E-06
Group delay (usec)(sbd)	2.06271329026E+03	Apriori clock (usec)	5.9048309E+00	Resid sbdelay (usec)	-4.38200E-03	+/- 1.3E-05
Sband delay (usec)	2.06271768227E+03	Apriori clockrate (us/s)	1.8314000E-07	Resid phdelay (usec)	1.00112E-05	+/- 2.2E-08
Phase delay (usec)	-7.95032757467E-01	Apriori rate (us/s)	-7.95032702682E-01	Resid rate (us/s)	-5.47854E-08	+/- 2.2E-10
Delay rate (us/s)		Apriori accel (us/s/s)	-5.07627851608E-06	Resid phase (deg)	154.7	+/- 0.3
Total phase (deg)	65.4					

	RMS	Theor.	Amplitude	9.067 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	6.8	1.1	Search (1024X16)	8.922	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	2.8	2.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	3.3	0.3	Inc. seg. avg.	9.086	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	1.4	0.6	Inc. frq. avg.	9.031	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

h: az 186.8 el 67.0 pa 5.5 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 2411.672 554.169 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/hk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/hk.Q.12.212FQY

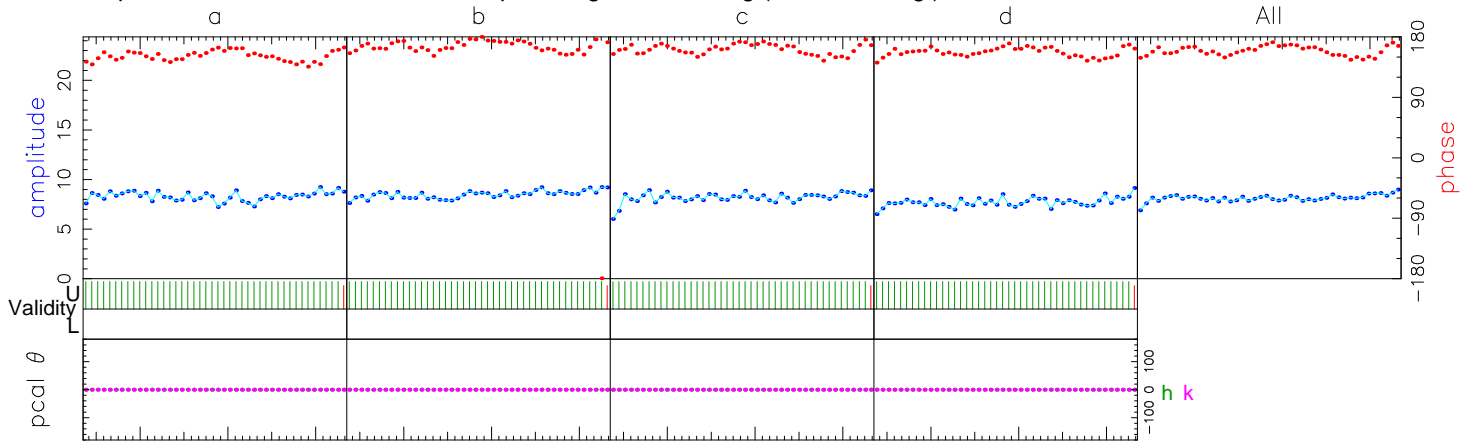
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol RR



Fringe quality 9  
SNR 297.9  
Int time 179.591  
Amp 8.129  
Phase 159.0  
PFD 0.0e+00  
Delays (us)  
SBD -0.000542  
MBD -0.000538  
Fringe rate (Hz)  
-0.002392  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134627  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	Phase	159.0
h	1000	1000	1000	1000	Ampl.	8.1
k	1000	1000	1000	1000	Sbd box	512.7
h:k	0:0	0:0	0:0	0:0	APs used	
h:k	0:0	0:0	0:0	0:0	PC freqs	
h	1000	1000	1000	1000	PC phase	
k	1000	1000	1000	1000	Manl PC	
h	Q00UR	Q01UR	Q02UR	Q03UR	PC amp	
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
					Tracks	
					Chan ids	
					Tracks	

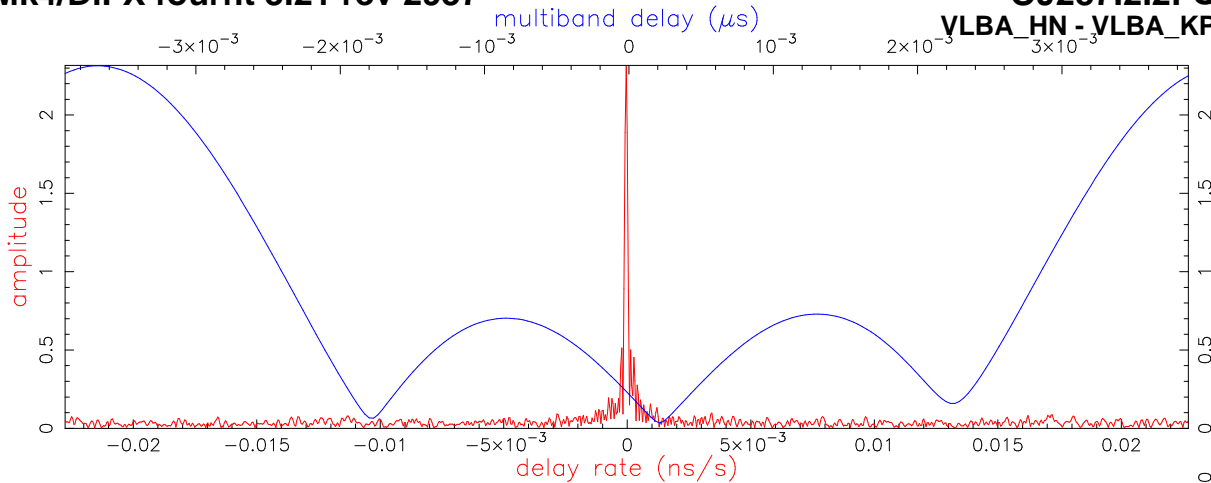
	2.06271713405E+03	Apriori delay (usec)	2.06271767226E+03	Resid mbdelay (usec)	-5.38208E-04	+/- 3.7E-06
Group delay (usec)(sbd)	2.06271712988E+03	Apriori clock (usec)	5.9048309E+00	Resid sbdelay (usec)	-5.42375E-04	+/- 1.4E-05
Sband delay (usec)	2.06271768255E+03	Apriori clockrate (us/s)	1.8314000E-07	Resid phdelay (usec)	1.02946E-05	+/- 2.5E-08
Phase delay (usec)	-7.95032758432E-01	Apriori rate (us/s)	-7.95032702682E-01	Resid rate (us/s)	-5.57498E-08	+/- 2.4E-10
Delay rate (us/s)		Apriori accel (us/s/s)	-5.07627851608E-06	Resid phase (deg)	159.0	+/- 0.4
Total phase (deg)	69.8					

	RMS	Theor.	Amplitude	8.129 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	7.1	1.3	Search (1024X16)	7.968	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.0	2.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	7.8	0.4	Inc. seg. avg.	8.136	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	3.4	0.7	Inc. frq. avg.	8.113	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00
h: az 186.8 el 67.0 pa 5.5			k: az 100.8 el 55.0 pa -62.5			u,v (fr/asec) 2411.672 554.169
Control file: cf_5311_gmva			Input file: /Exps/c221d/v1/7mm/1001/No0021/hk..212FQY			Output file: /Exps/c221d/v1/7mm/1001/No0021/hk.Q.19.212FQY

simultaneous interpolator

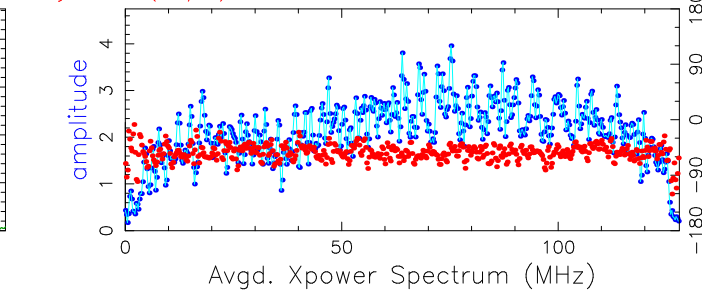
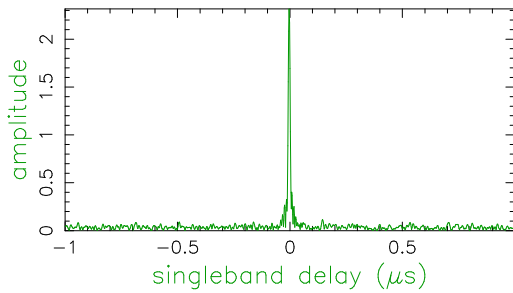
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol LR



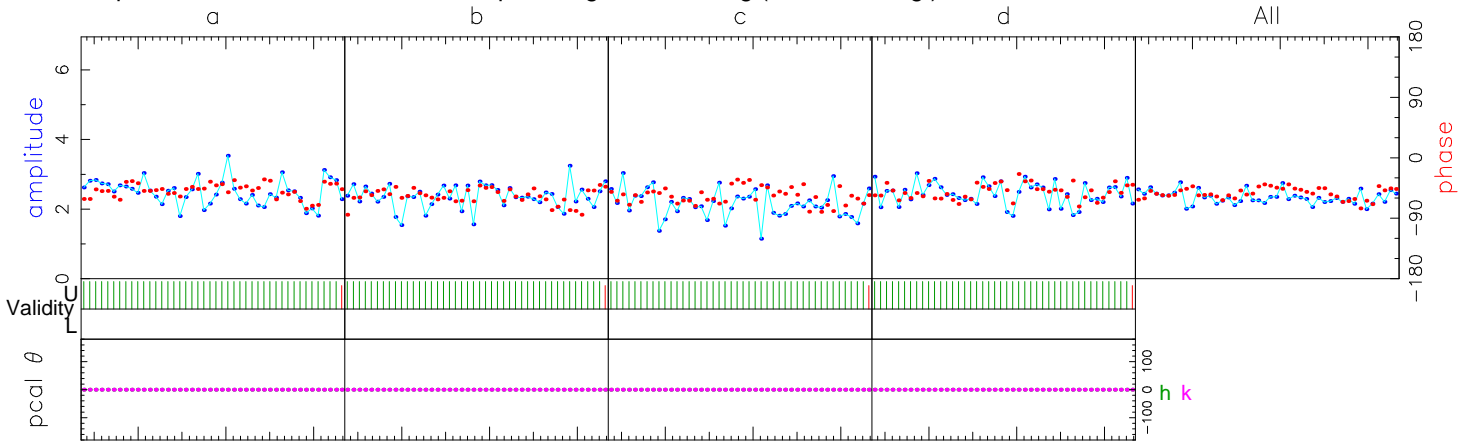
Fringe quality 9

SNR 84.9  
Int time 179.591  
Amp 2.317  
Phase -52.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.003678  
MBD -0.003670  
Fringe rate (Hz)  
-0.002301  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134629  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
h	1000	1000	1000	1000	Phase	-52.8
k	1000	1000	1000	1000	Ampl.	2.3
h:k	0:0	0:0	0:0	0:0	Sbd box	511.1
h:k	0:0	0:0	0:0	0:0	APs used	
h	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
h	Q00UL	Q01UL	Q02UL	Q03UL	PC phase	
k	Q00UR	Q01UR	Q02UR	Q03UR	Manl PC	
					PC amp	
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	2.06271400232E+03	Apriori delay (usec)	2.06271767226E+03	Resid mbdelay (usec)	-3.66994E-03	+/-	1.3E-05
Sband delay (usec)	2.06271399463E+03	Apriori clock (usec)	5.9048309E+00	Resid sbdelay (usec)	-3.67762E-03	+/-	5.1E-05
Phase delay (usec)	2.06271766884E+03	Apriori clockrate (us/s)	1.8314000E-07	Resid phdelay (usec)	-3.42031E-06	+/-	8.7E-08
Delay rate (us/s)	-7.95032756304E-01	Apriori rate (us/s)	-7.95032702682E-01	Resid rate (us/s)	-5.36220E-08	+/-	8.4E-10
Total phase (deg)	217.9	Apriori accel (us/s/s)	-5.07627851608E-06	Resid phase (deg)	-52.8	+/-	1.3

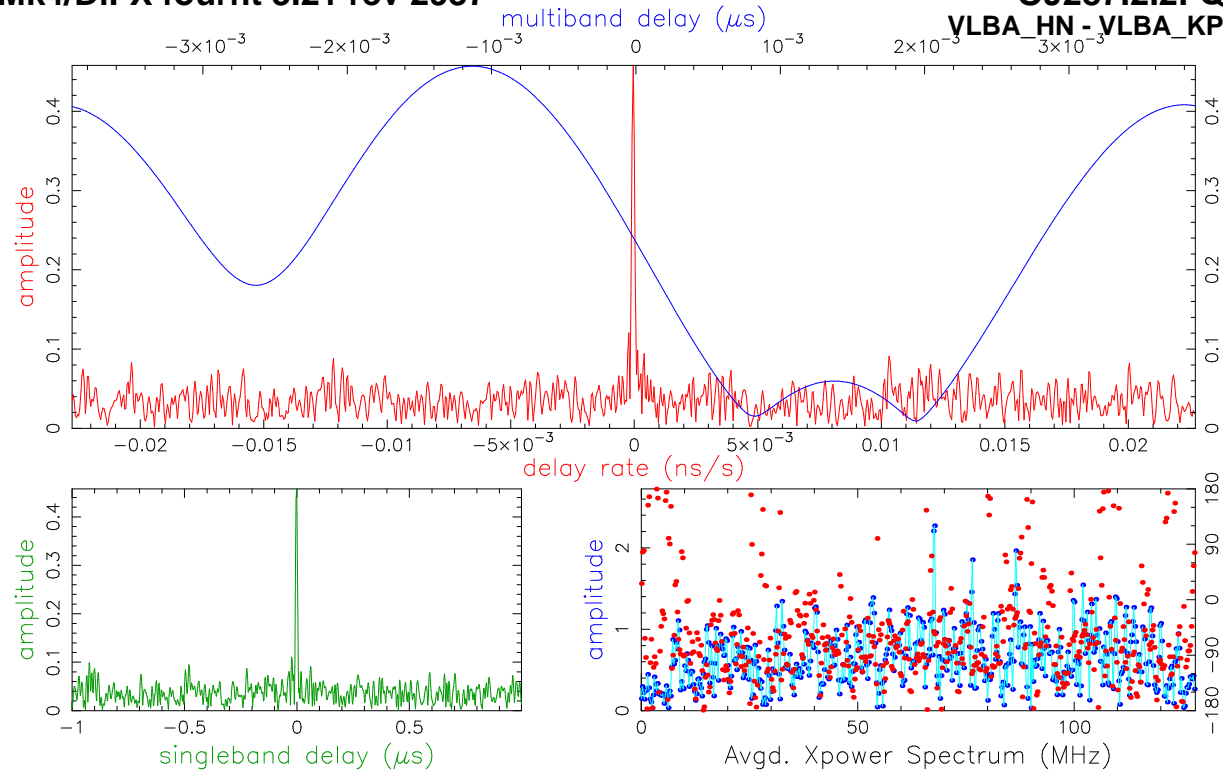
ph/seg (deg)	8.2	Theor.	4.5	Amplitude	2.317 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	8.1		7.8	Search (1024X16)	2.242	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	5.6		1.3	Inc. seg. avg.	2.331	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	5.9		2.4	Inc. frq. avg.	2.319	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
h: az 186.8 el 67.0 pa 5.5		k: az 100.8 el 55.0 pa -62.5		u,v (fr/asec)	2411.672 554.169						

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/hk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/hk.Q.24.212FQY

simultaneous interpolator

Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol RL

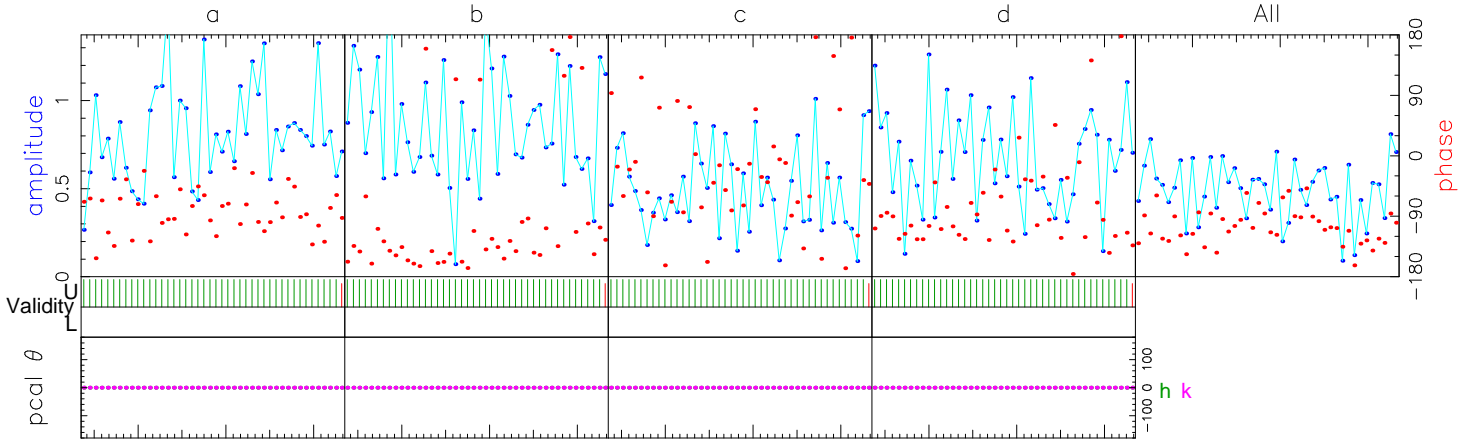


Fringe quality 7

SNR 16.8  
Int time 179.591  
Amp 0.458  
Phase -103.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.002311  
MBD -0.001157  
Fringe rate (Hz)  
-0.002376  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134630  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
h	1000	1000	1000	1000		
k	1000	1000	1000	1000		
h:k	0:0	0:0	0:0	0:0		
h:k	0:0	0:0	0:0	0:0		
h	1000	1000	1000	1000		
k	1000	1000	1000	1000		
h	Q00UR	Q01UR	Q02UR	Q03UR		
k	Q00UL	Q01UL	Q02UL	Q03UL		

	2.06271651549E+03	2.06271767226E+03	2.06271767226E+03	2.06271767226E+03	Resid mbdelay (usec)	-1.15677E-03	+/- 6.6E-05
Group delay (usec)(sbd)	2.06271651549E+03	2.06271767226E+03	2.06271767226E+03	2.06271767226E+03	Resid sbdelay (usec)	-2.31137E-03	+/- 2.6E-04
Sband delay (usec)	2.06271536088E+03	2.06271767226E+03	2.06271767226E+03	2.06271767226E+03	Resid phdelay (usec)	-6.71345E-06	+/- 4.4E-07
Phase delay (usec)	2.06271766555E+03	2.06271767226E+03	2.06271767226E+03	2.06271767226E+03	Resid rate (us/s)	-5.53743E-08	+/- 4.3E-09
Delay rate (us/s)	-7.95032758056E-01	0.000E+00	0.000E+00	0.000E+00	Resid phase (deg)	-103.7	+/- 6.8
Total phase (deg)	167.0	0.447	0.447	0.447			

	RMS	Theor.	Amplitude	0.458 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	26.5	22.6	Search (1024X16)	0.447	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	37.3	39.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	52.2	6.8	Inc. seg. avg.	0.459	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	47.8	11.9	Inc. frq. avg.	0.530	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

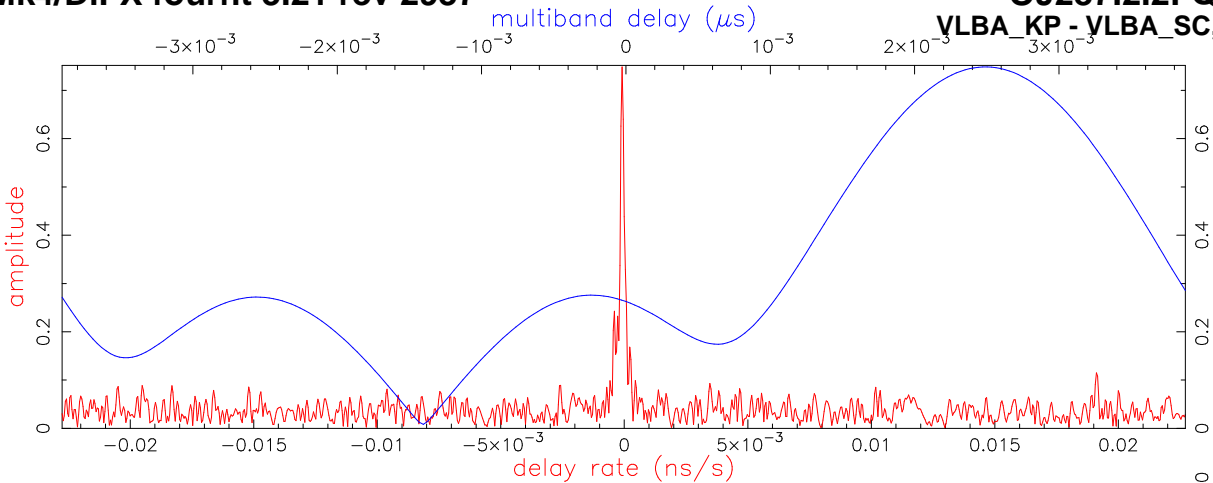
h: az 186.8 el 67.0 pa 5.5 k: az 100.8 el 55.0 pa -62.5 u,v (fr/asec) 2411.672 554.169 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/hk..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/hk.Q.28.212FQY

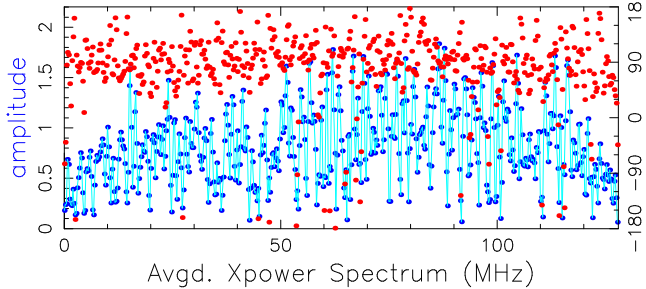
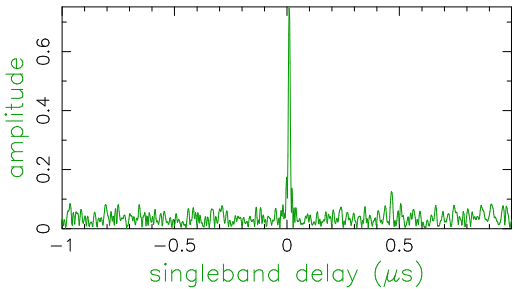


Mk4/DiFX fourfit 3.21 rev 2937

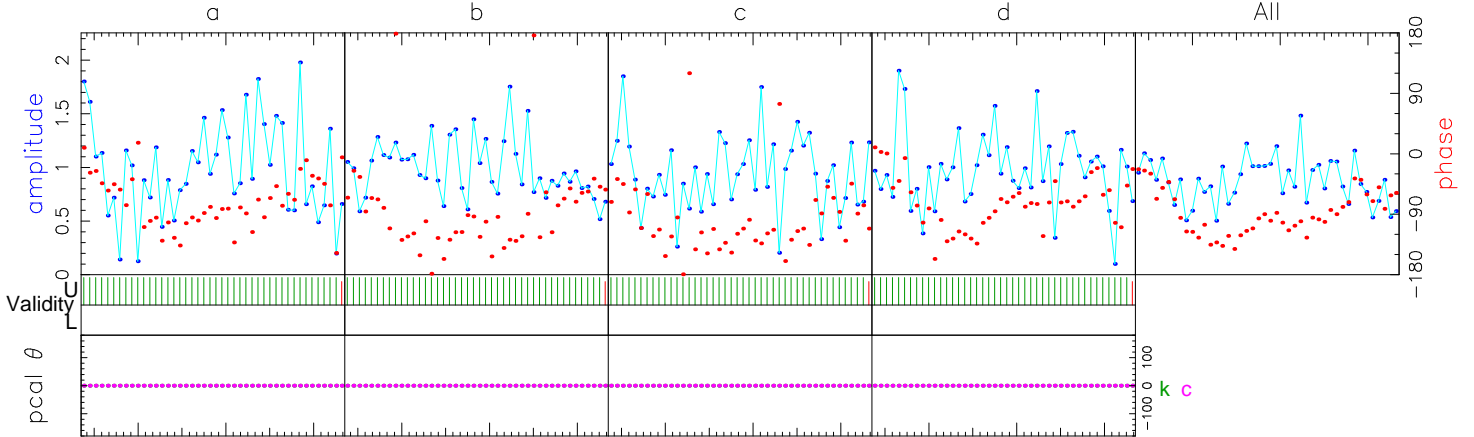
OJ287.212FQY, No0021, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol RR



Fringe quality 7  
SNR 27.5  
Int time 179.590  
Amp 0.752  
Phase -88.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.010204  
MBD 0.002513  
Fringe rate (Hz)  
-0.003898  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134626  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-70.2	-104.0	-107.7	-72.2	Phase	-88.0
0.8	0.8	0.7	0.8	Ampl.	0.8
518.1	518.0	518.5	519.0	Sbd box	518.2
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
k:c 0:0	0:0	0:0	0:0	PC phase	
k:c 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-3.42526733581E+03	Apriori delay (usec)	-3.42527766127E+03	Resid mbdelay (usec)	2.51296E-03	+/-	4.0E-05
Sband delay (usec)	-3.42526745689E+03	Apriori clock (usec)	-2.0083618E+01	Resid sbdelay (usec)	1.02044E-02	+/-	1.6E-04
Phase delay (usec)	-3.42527766696E+03	Apriori clockrate (us/s)	9.8381000E-08	Resid phdelay (usec)	-5.69557E-06	+/-	2.7E-07
Delay rate (us/s)	9.91354630785E-01	Apriori rate (us/s)	9.91354721621E-01	Resid rate (us/s)	-9.08359E-08	+/-	2.6E-09
Total phase (deg)	-88.1	Apriori accel (us/s/s)	2.67597046498E-05	Resid phase (deg)	-88.0	+/-	4.2

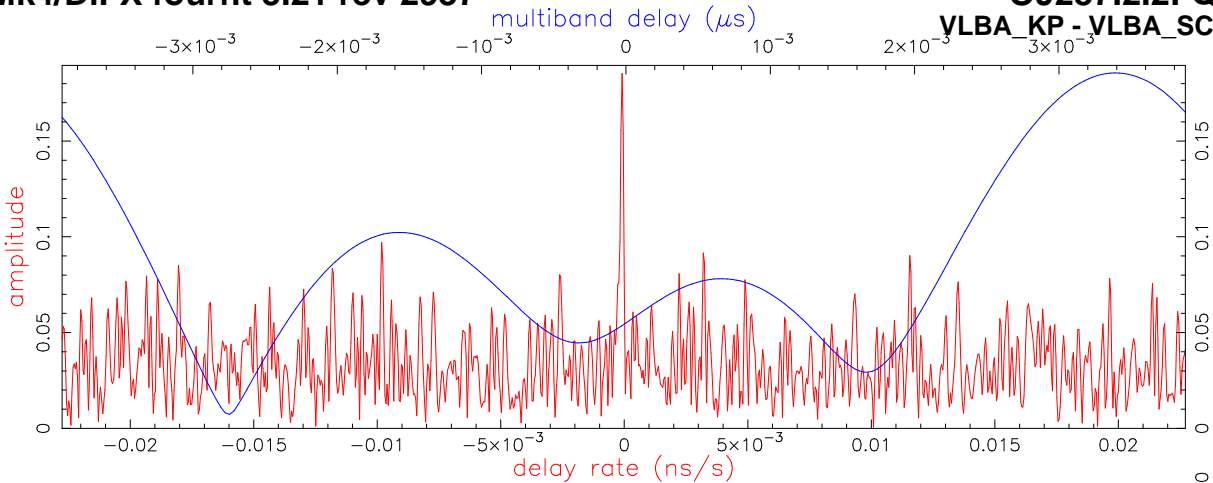
ph/seg (deg)	32.0	Theor.	13.8	Amplitude	0.752 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	32.8	Search (1024X16)	0.746	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		sb window (us)	-1.000 1.000
ph/frq (deg)	24.6	Interp.	0.000	Bits/sample: 2x2		SampCntNorm: enabled	mb window (us) -0.004 0.004
amp/frq (%)	5.6	Inc. seg. avg.	0.854	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023
		Inc. frq. avg.	0.782	Data rate(Mb/s): 2048		nlags: 512	t_cohere infinite
						ion window (TEC)	0.00 0.00

k: az 100.8 el 55.0 pa -62.5 c: az 284.8 el 80.1 pa 102.4 u,v (fr/asec) -3003.718 1313.852 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kc..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kc.Q.16.212FQY

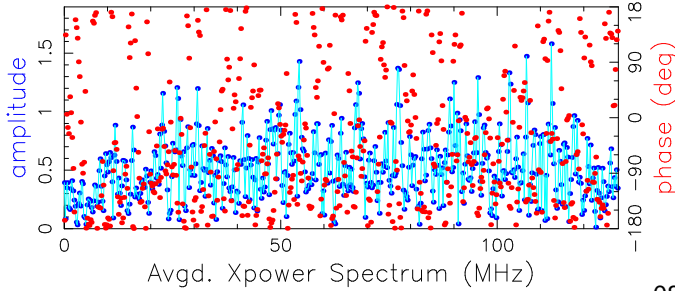
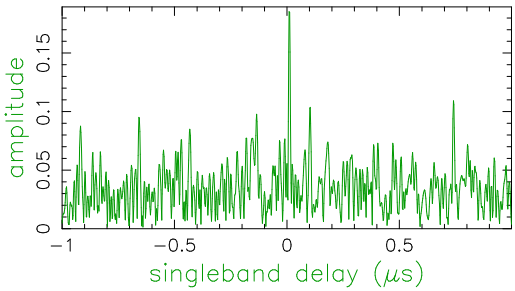


Mk4/DiFX fourfit 3.21 rev 2937

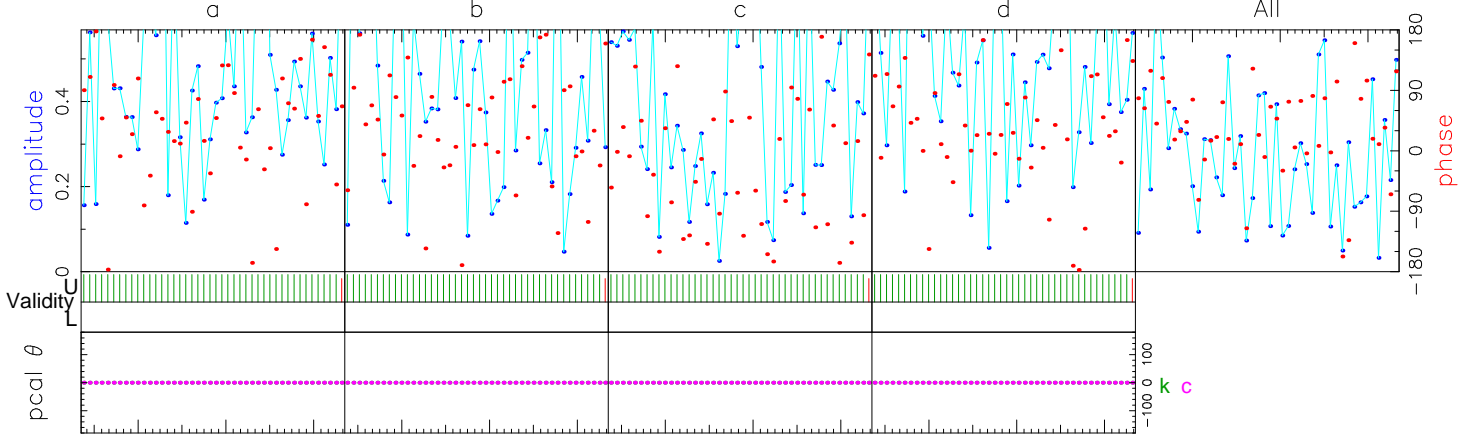
OJ287.212FQY, No0021, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol LR



Fringe quality 0  
SNR 6.9  
Int time 179.590  
Amp 0.189  
Phase 41.8  
PFD 5.7e-04  
Delays (us)  
SBD 0.010704  
MBD 0.003446  
Fringe rate (Hz)  
-0.004620  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134627  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000		
c	1000	1000	1000	1000		
k:c	0:0	0:0	0:0	0:0		
k:c	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
c	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
c	Q00UR	Q01UR	Q02UR	Q03UR		

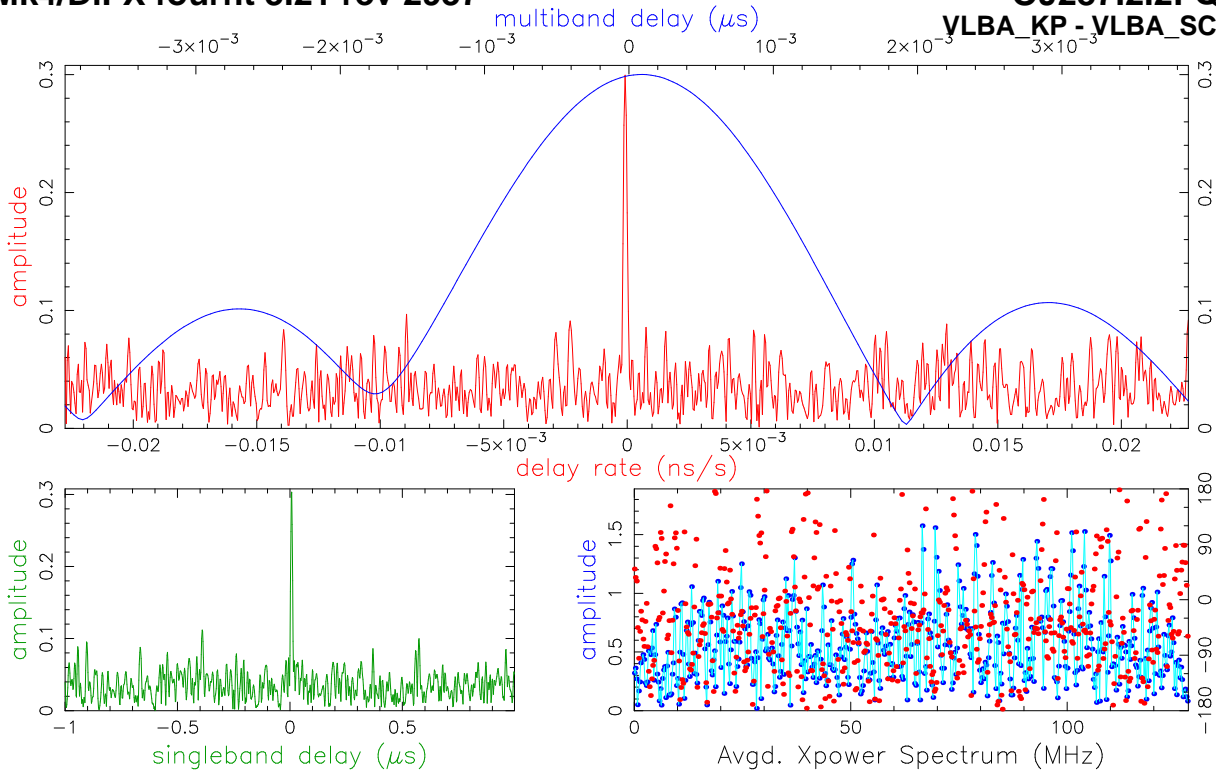
Group delay (usec)(sbd)	-3.42526640271E+03	Apriori delay (usec)	-3.42527766127E+03	Resid mbdelay (usec)	3.44605E-03	+/- 1.6E-04
Sband delay (usec)	-3.42526695739E+03	Apriori clock (usec)	-2.0083618E+01	Resid sbdelay (usec)	1.07039E-02	+/- 6.2E-04
Phase delay (usec)	-3.42527765856E+03	Apriori clockrate (us/s)	9.8381000E-08	Resid phdelay (usec)	2.70719E-06	+/- 1.1E-06
Delay rate (us/s)	9.91354613959E-01	Apriori rate (us/s)	9.91354721621E-01	Resid rate (us/s)	-1.07662E-07	+/- 1.0E-08
Total phase (deg)	41.7	Apriori accel (us/s/s)	2.67597046498E-05	Resid phase (deg)	41.8	+/- 16.5

ph/seg (deg)	RMS 65.3	Theor. 54.7	Amplitude Search (1024X16)	0.179	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	93.7	95.5	Interp.	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	30.9	16.5	Inc. seg. avg.	0.190	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	27.9	28.8	Inc. frq. avg.	0.186	Sample rate(MSamp/s): 256		ion window (TEC)	0.00	0.00
					Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

k: az 100.8 el 55.0 pa -62.5 c: az 284.8 el 80.1 pa 102.4 u,v (fr/asec) -3003.718 1313.852 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kc..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kc.Q.21.212FQY

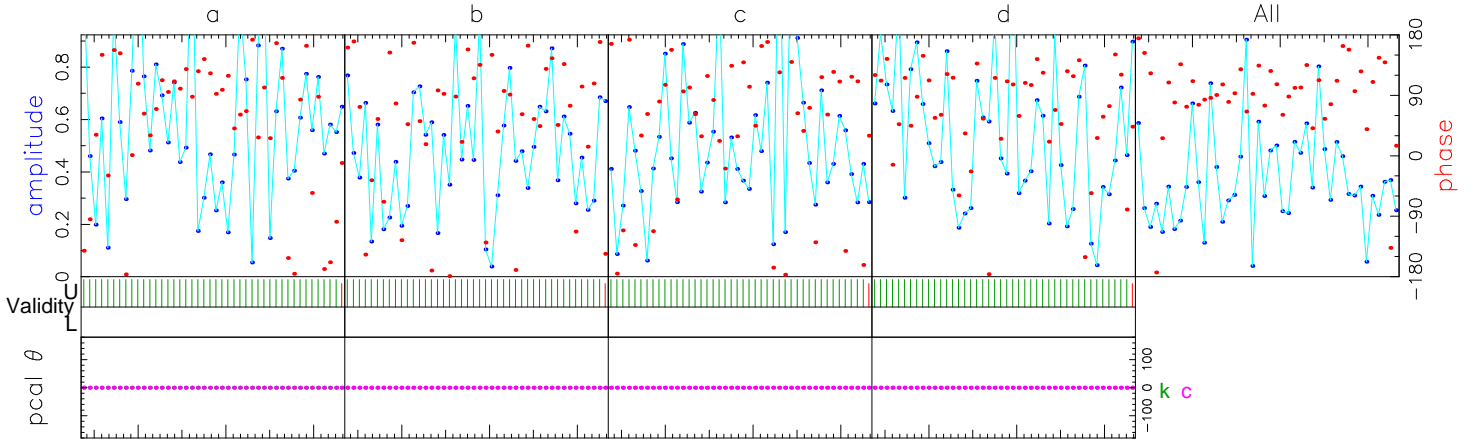
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol RL



Fringe quality 9  
 SNR 11.3  
 Int time 179.590  
 Amp 0.308  
 Phase 107.2  
 PFD 3.9e-21  
 Delays (us)  
 SBD 0.006977  
 MBD 0.000153  
 Fringe rate (Hz)  
 -0.004371  
 Ion TEC 0.000  
 Ref freq (MHz)  
 42912.0000  
 AP (sec) 0.512  
 Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 010621.00  
 Stop 010920.71  
 FRT 010751.00  
 Corr/FF/build  
 2022:347:122231  
 2022:347:134629  
 2021:252:122852  
 RA & Dec (J2000)  
 08h54m48.874928s  
 +20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
107.2	115.6	109.7	99.2	Phase	107.2
0.3	0.3	0.3	0.4	Ampl.	0.3
515.6	517.0	516.8	516.4	Sbd box	516.6
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	PC freqs	
k:c 0:0	0:0	0:0	0:0	PC phase	
k:c 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
c Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

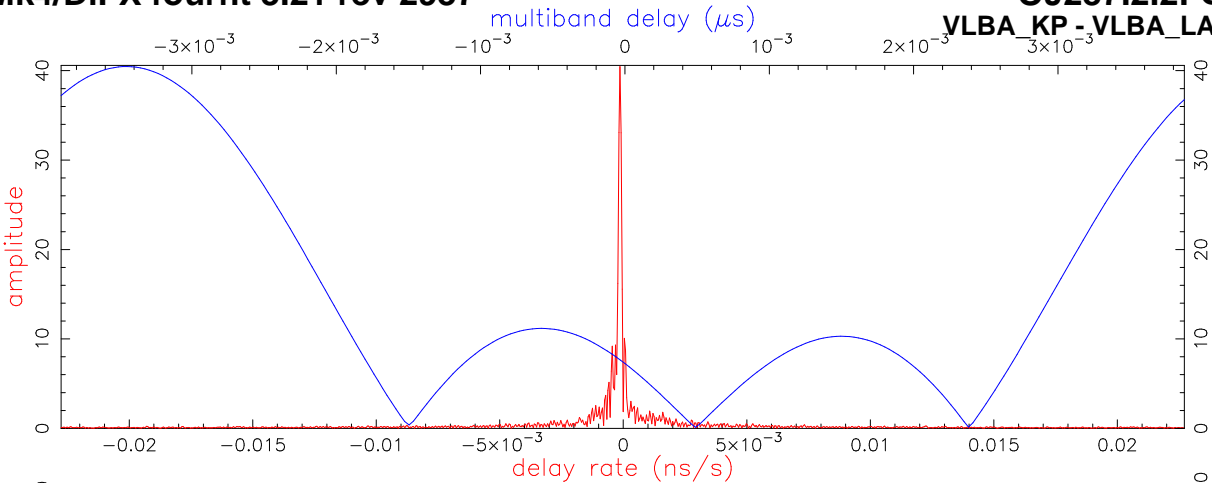
Group delay (usec)(sbd)	-3.42526969565E+03	Apriori delay (usec)	-3.42527766127E+03	Resid mbdelay (usec)	1.53116E-04	+/-	9.9E-05
Sband delay (usec)	-3.42527068452E+03	Apriori clock (usec)	-2.0083618E+01	Resid sbdelay (usec)	6.97675E-03	+/-	3.8E-04
Phase delay (usec)	-3.42527765433E+03	Apriori clockrate (us/s)	9.8381000E-08	Resid phdelay (usec)	6.94215E-06	+/-	6.6E-07
Delay rate (us/s)	9.91354619762E-01	Apriori rate (us/s)	9.91354721621E-01	Resid rate (us/s)	-1.01859E-07	+/-	6.3E-09
Total phase (deg)	107.1	Apriori accel (us/s/s)	2.67597046498E-05	Resid phase (deg)	107.2	+/-	10.2

ph/seg (deg)	41.5	Theor.	33.7	Amplitude	0.308 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	63.6		58.8	Search (1024X16)	0.296	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	8.4		10.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	11.7		17.7	Inc. seg. avg.	0.320	Sample rate(MSamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.296	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

k: az 100.8 el 55.0 pa -62.5 c: az 284.8 el 80.1 pa 102.4 u,v (fr/asec) -3003.718 1313.852 simultaneous interpolator  
 Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kc..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kc.Q.25.212FQY

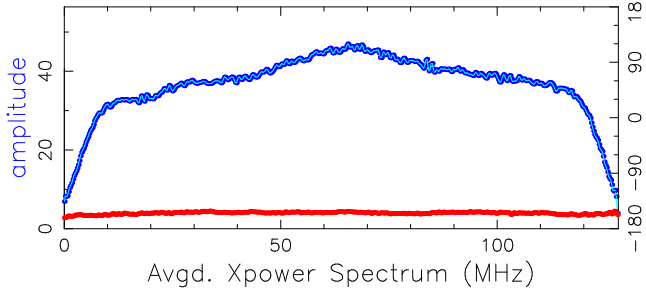
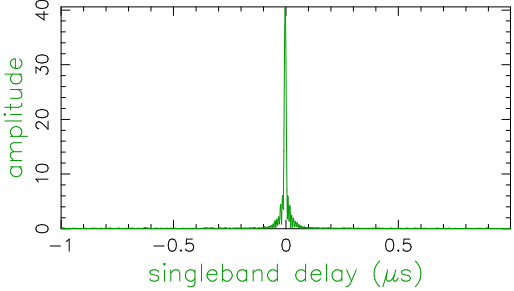
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol LL



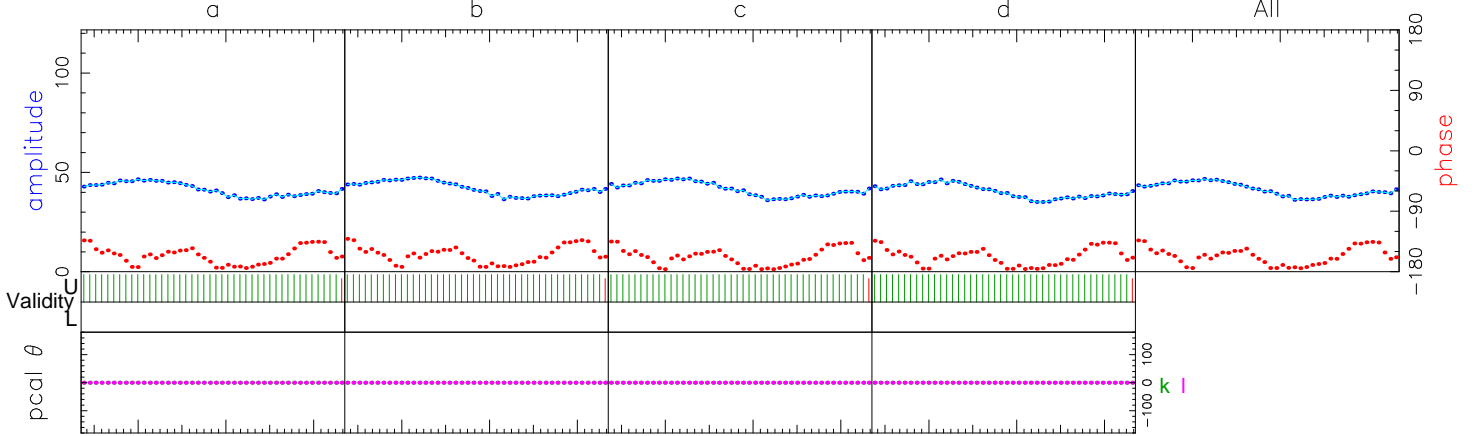
Fringe quality 8

SNR 1487.6  
Int time 179.593  
Amp 40.592  
Phase -156.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.003520  
MBD -0.003435  
Fringe rate (Hz)  
-0.005870  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134634  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec

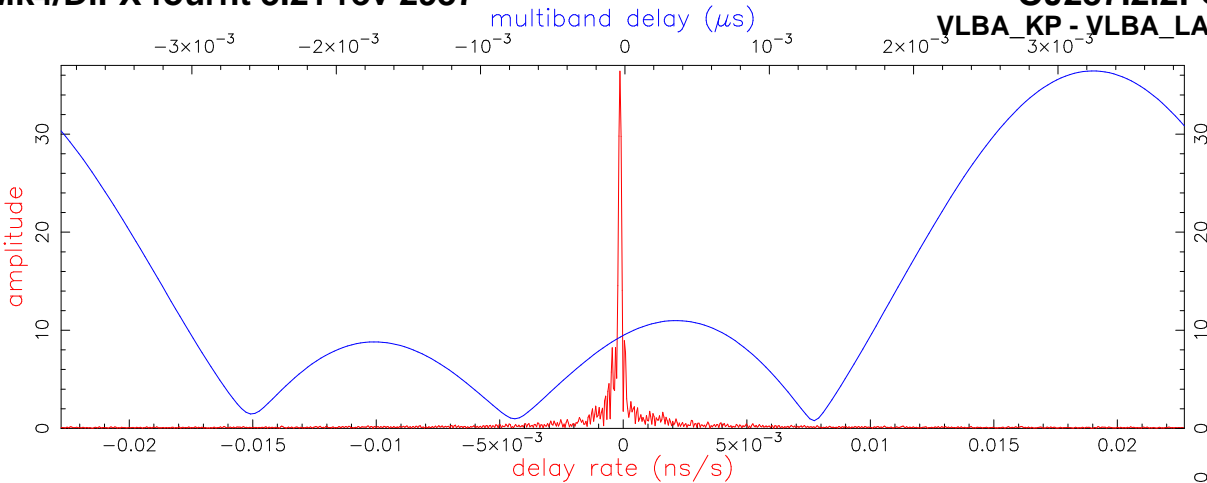


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
l	Q00UL	Q01UL	Q02UL	Q03UL		

Group delay (usec)(sbd)	-6.3918895244E+02	Apriori delay (usec)	-6.39185520715E+02	Resid mbdelay (usec)	-3.43453E-03	+/-	7.5E-07
Sband delay (usec)	-6.39189040340E+02	Apriori clock (usec)	9.3962173E+00	Resid sbdelay (usec)	-3.51962E-03	+/-	2.9E-06
Phase delay (usec)	-6.39185530836E+02	Apriori clockrate (us/s)	3.4394999E-07	Resid phdelay (usec)	-1.01212E-05	+/-	5.0E-09
Delay rate (us/s)	1.24269348223E-01	Apriori rate (us/s)	1.24269485011E-01	Resid rate (us/s)	-1.36789E-07	+/-	4.8E-11
Total phase (deg)	-179.7	Apriori accel (us/s/s)	1.31215810015E-06	Resid phase (deg)	-156.4	+/-	0.1

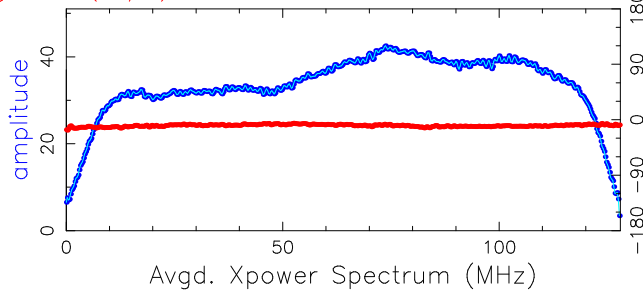
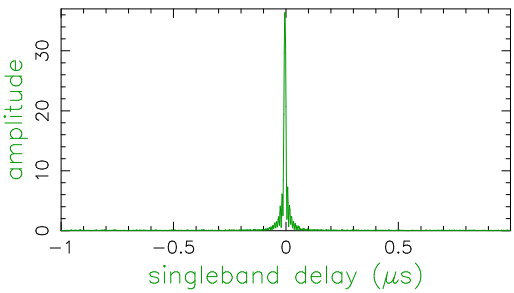
ph/seg (deg)	RMS 12.5	Theor. 0.3	Amplitude 40.592 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	8.5	0.4	Search (1024X16) 0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	1.9	0.1	Interp. 41.413	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	1.4	0.1	Inc. seg. avg. 40.469	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00

k: az 100.8 el 55.0 pa -62.5 l: az 111.3 el 58.3 pa -53.5 u,v (fr/asec) -376.580 -210.260 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kl..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kl.Q.32.212FQY



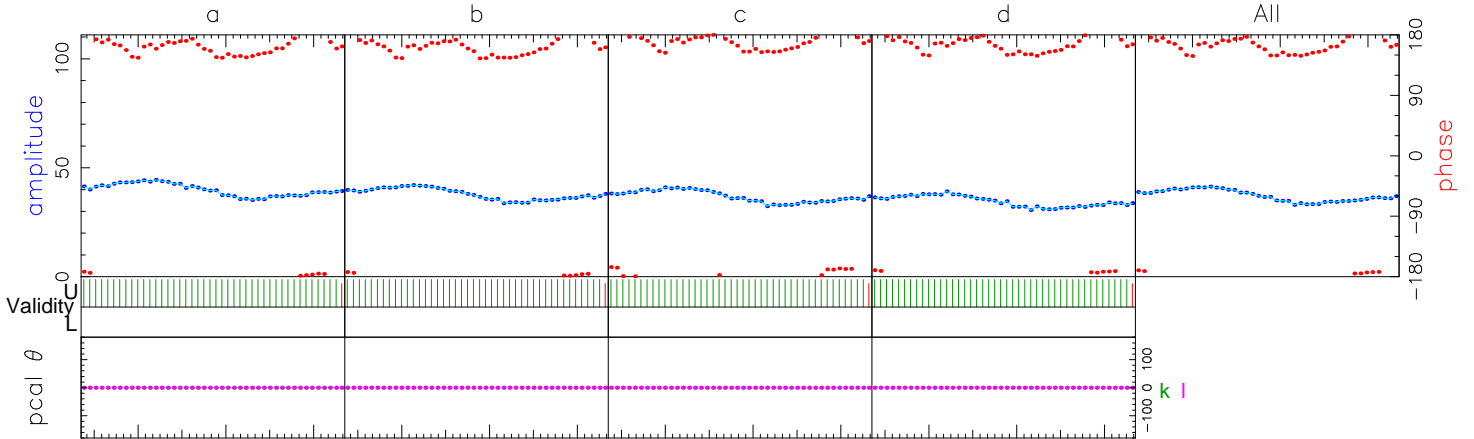
Fringe quality 8

SNR 1356.3  
Int time 179.593  
Amp 37.009  
Phase 166.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.004747  
MBD 0.003199  
Fringe rate (Hz)  
-0.005855  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134635  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	
l	1000	1000	1000	1000	PC freqs	
k:l	0:0	0:0	0:0	0:0	PC phase	
k:l	0:0	0:0	0:0	0:0	ManI PC	
k	1000	1000	1000	1000	PC amp	
l	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	

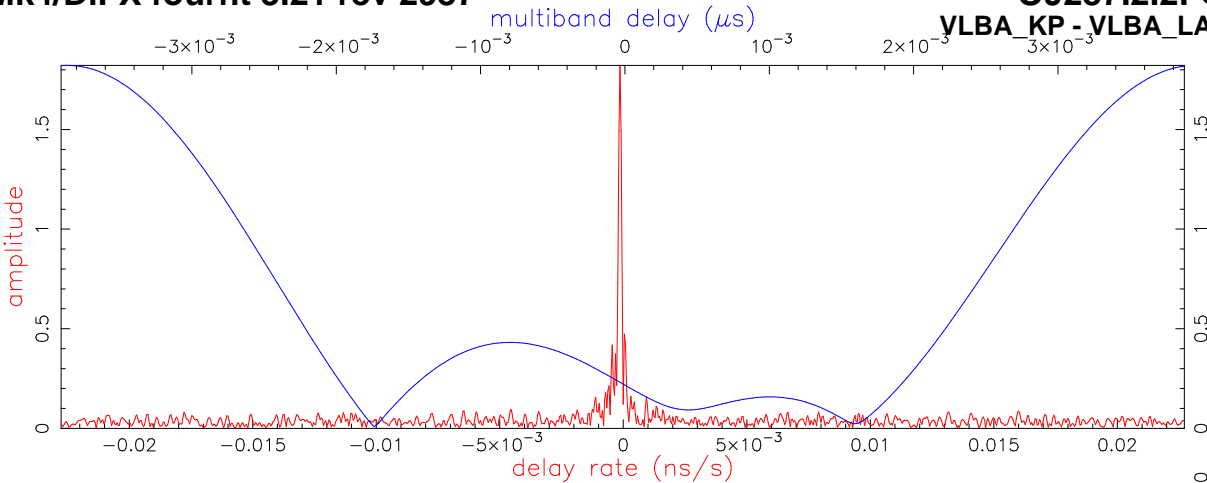
	-6.39190134651E+02	Apriori delay (usec)	-6.39185520715E+02	Resid mbdelay (usec)	3.19856E-03	+/- 8.2E-07
Group delay (usec)(sbd)	-6.39190134651E+02	Apriori clock (usec)	9.3962173E+00	Resid sbdelay (usec)	-4.74737E-03	+/- 3.2E-06
Sband delay (usec)	-6.39190268090E+02	Apriori clockrate (us/s)	3.4394999E-07	Resid phdelay (usec)	1.07984E-05	+/- 5.5E-09
Phase delay (usec)	-6.39185509917E+02	Apriori rate (us/s)	1.24269485011E-01	Resid rate (us/s)	-1.36444E-07	+/- 5.3E-11
Delay rate (us/s)	1.24269348567E-01	Apriori accel (us/s/s)	1.31215810015E-06	Resid phase (deg)	166.8	+/- 0.1
Total phase (deg)	143.4					

	RMS	Theor.	Amplitude	37.009 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	12.3	0.3	Search (1024X16)	35.944	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	7.1	0.5	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	4.9	0.1	Inc. seg. avg.	37.251	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	5.2	0.1	Inc. frq. avg.	36.484	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 l: az 111.3 el 58.3 pa -53.5 u,v (fr/asec) -376.580 -210.260 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kl..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kl.Q.33.212FQY

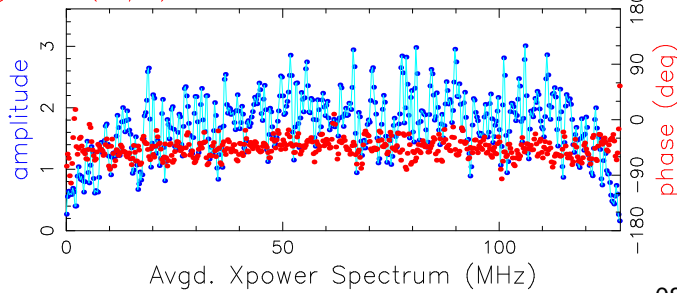
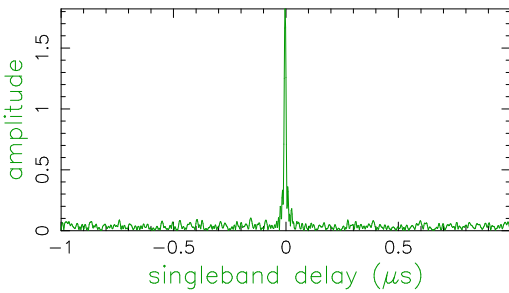
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol LR



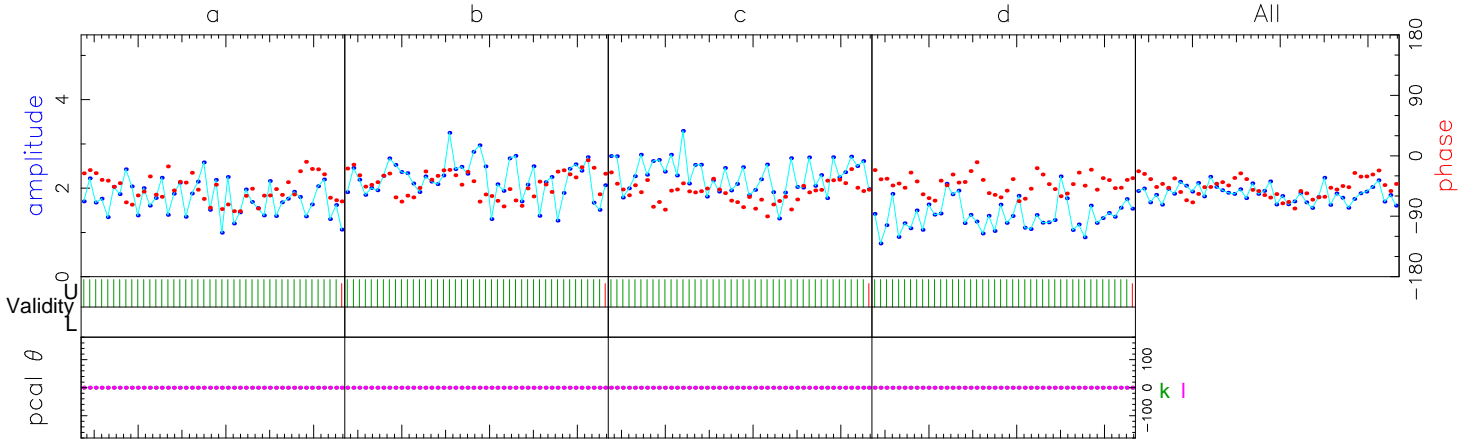
Fringe quality 8

SNR 66.8  
Int time 179.593  
Amp 1.822  
Phase -46.9  
PFD 0.0e+00  
Delays (us)  
SBD -0.003880  
MBD -0.003861  
Fringe rate (Hz)  
-0.005907  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134637  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k:l	0:0	0:0	0:0	0:0		
k:l	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
l	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
l	Q00UR	Q01UR	Q02UR	Q03UR		

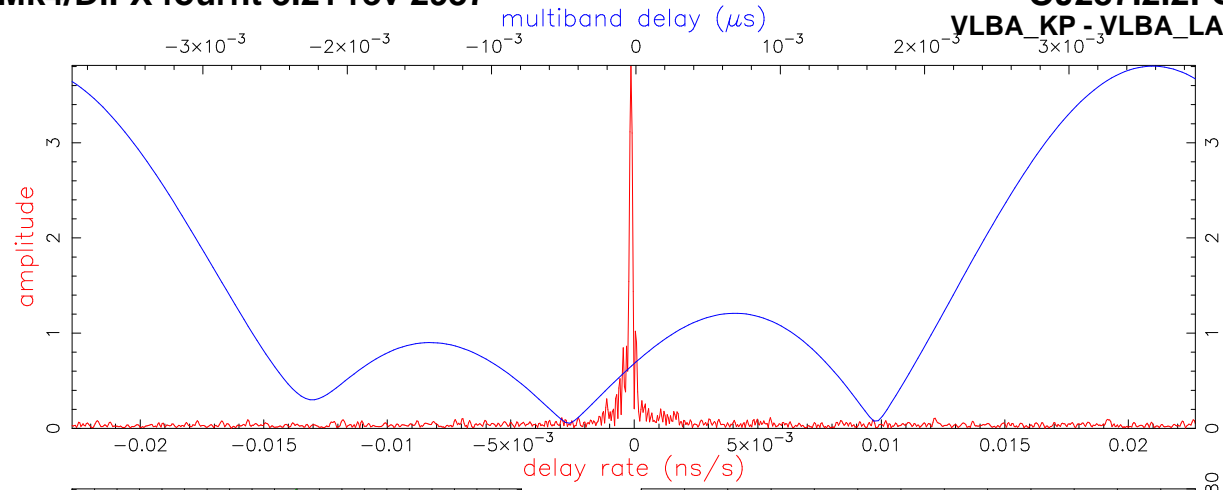
Group delay (usec)(sbd)	-6.39189381840E+02	Apriori delay (usec)	-6.39185520715E+02	Resid mbdelay (usec)	-3.86113E-03	+/- 1.7E-05
Sband delay (usec)	-6.39189400215E+02	Apriori clock (usec)	9.3962173E+00	Resid sbdelay (usec)	-3.87950E-03	+/- 6.5E-05
Phase delay (usec)	-6.39185523752E+02	Apriori clockrate (us/s)	3.4394999E-07	Resid phdelay (usec)	-3.03716E-06	+/- 1.1E-07
Delay rate (us/s)	1.24269347358E-01	Apriori rate (us/s)	1.24269485011E-01	Resid rate (us/s)	-1.37653E-07	+/- 1.1E-09
Total phase (deg)	-70.3	Apriori accel (us/s/s)	1.31215810015E-06	Resid phase (deg)	-46.9	+/- 1.7

ph/seg (deg)	14.0	Theor.	5.7	Amplitude	1.822 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	10.5		9.9	Search (1024X16)	1.813	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	7.6		1.7	Inc. seg. avg.	1.869	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	19.0		3.0	Inc. frq. avg.	1.830	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

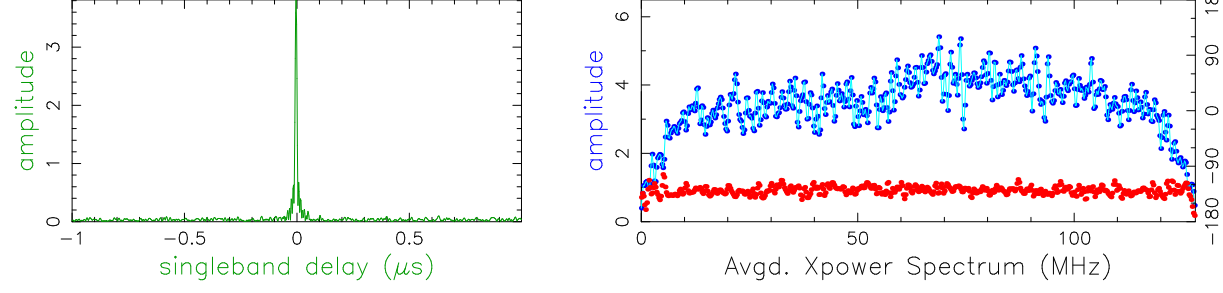
k: az 100.8 el 55.0 pa -62.5 l: az 111.3 el 58.3 pa -53.5 u,v (fr/asec) -376.580 -210.260 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kl..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kl.Q.35.212FQY

Mk4/DiFX fourfit 3.21 rev 2937

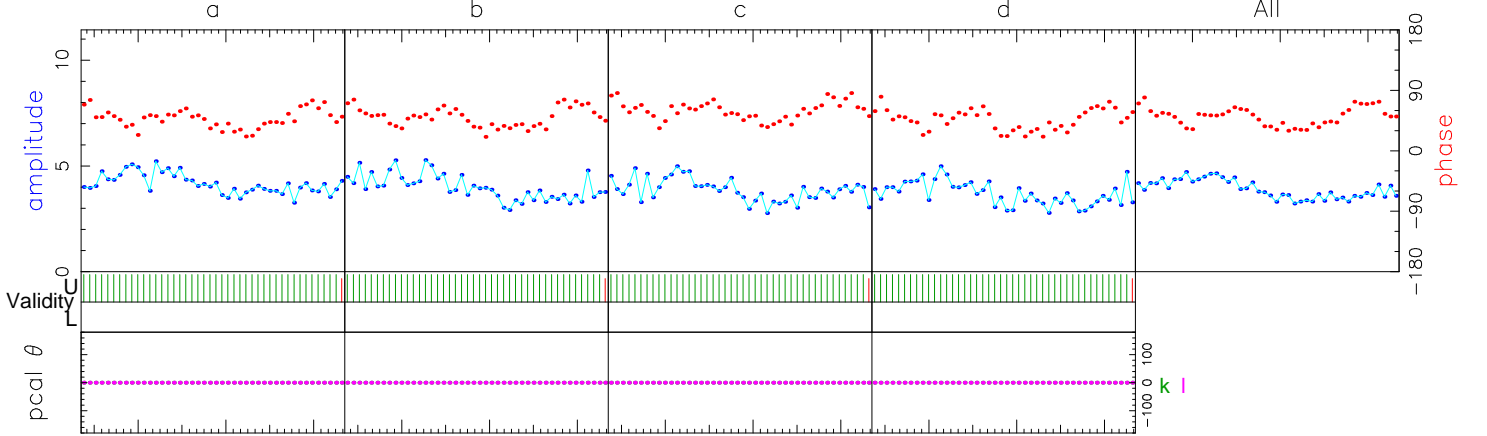
OJ287.212FQY, No0021, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol RL



Fringe quality 8  
SNR 139.7  
Int time 179.593  
Amp 3.813  
Phase 51.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.004221  
MBD 0.003564  
Fringe rate (Hz)  
-0.005906  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134638  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	APs used	1000
k	1000	1000	1000	1000	PC freqs	1000
l	1000	1000	1000	1000	PC freqs	1000
k:l	0:0	0:0	0:0	0:0	PC phase	0:0
k:l	0:0	0:0	0:0	0:0	Manl PC	0:0
k	1000	1000	1000	1000	PC amp	1000
l	1000	1000	1000	1000		1000
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
l	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-6.39189769401E+02	Apriori delay (usec)	-6.39185520715E+02	Resid mbdelay (usec)	3.56381E-03	+/-	8.0E-06
Sband delay (usec)	-6.39189741715E+02	Apriori clock (usec)	9.3962173E+00	Resid sbdelay (usec)	-4.22100E-03	+/-	3.1E-05
Phase delay (usec)	-6.39185517388E+02	Apriori clockrate (us/s)	3.4394999E-07	Resid phdelay (usec)	3.32718E-06	+/-	5.3E-08
Delay rate (us/s)	1.24269347375E-01	Apriori rate (us/s)	1.24269485011E-01	Resid rate (us/s)	-1.37636E-07	+/-	5.1E-10
Total phase (deg)	28.0	Apriori accel (us/s/s)	1.31215810015E-06	Resid phase (deg)	51.4	+/-	0.8

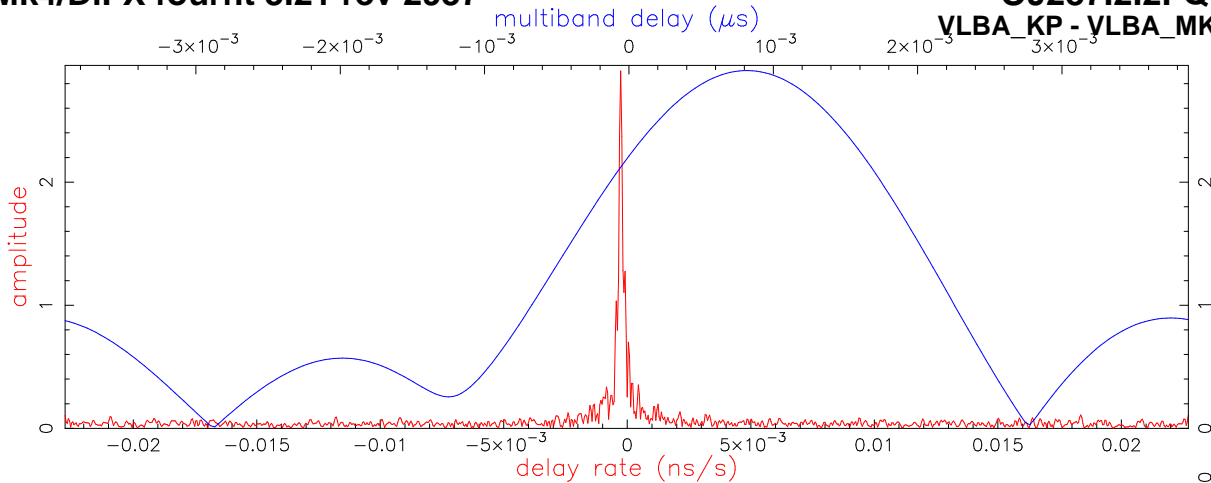
ph/seg (deg)	13.4	2.7	Search (1024X16)	3.743	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	11.5	4.7	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	7.7	0.8	Inc. seg. avg.	3.901	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	4.5	1.4	Inc. frq. avg.	3.821	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00

k: az 100.8 el 55.0 pa -62.5 l: az 111.3 el 58.3 pa -53.5 u,v (fr/asec) -376.580 -210.260 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kl..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kl.Q.36.212FQY



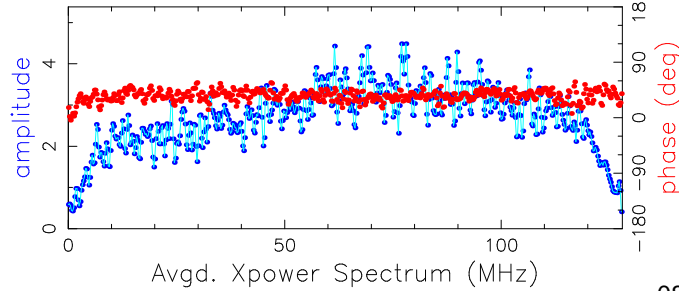
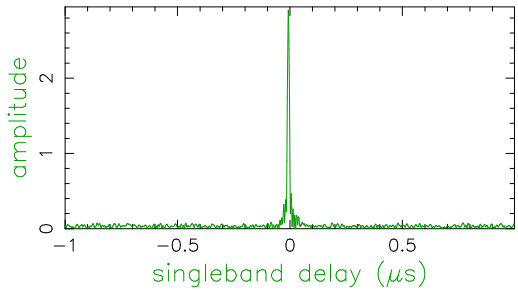
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.2I2FQY, No0021, km  
VLBA\_KP - VLBA\_MK, fgroup Q, pol LR



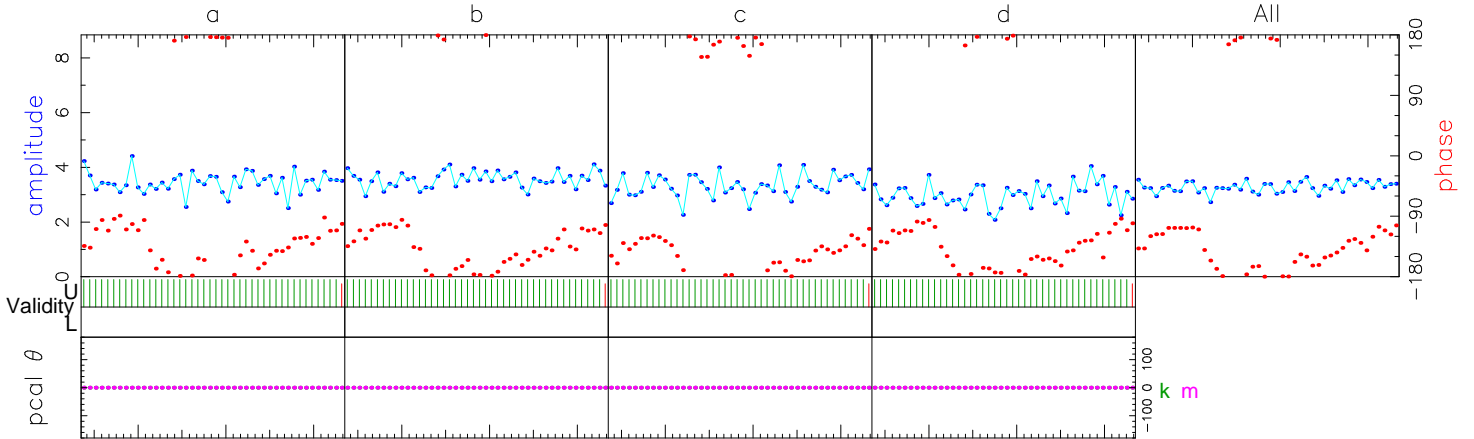
Fringe quality 7

SNR 108.0  
Int time 179.582  
Amp 2.948  
Phase -143.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.006970  
MBD 0.000869  
Fringe rate (Hz)  
-0.011210  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134626  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-138.7	-140.3	-155.7	-140.6	Phase	-143.8
	3.0	3.2	2.9	2.6	Ampl.	2.9
	509.3	509.5	509.2	509.7	Sbd box	509.4
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

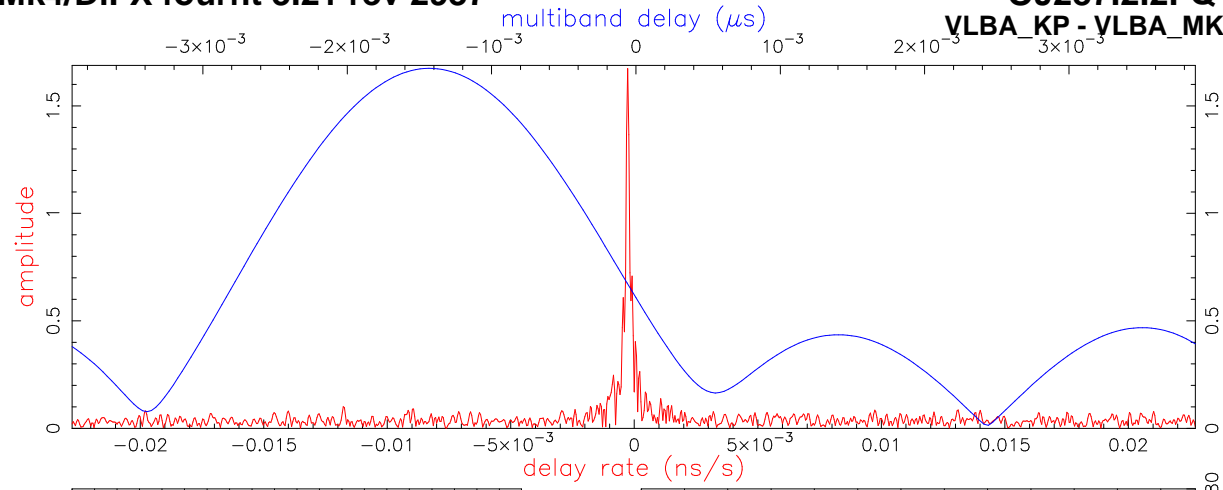
	1.18510609054E+04	Apriori delay (usec)	1.18510678492E+04	Resid mbdelay (usec)	8.68660E-04	+/- 1.0E-05
Group delay (usec)(sbd)	1.18510608796E+04	Apriori clock (usec)	2.7171669E+08	Resid sbdelay (usec)	-6.96963E-03	+/- 4.0E-05
Sband delay (usec)	1.18510678399E+04	Apriori clockrate (us/s)	-3.7539999E-08	Resid phdelay (usec)	-9.31078E-06	+/- 6.9E-08
Phase delay (usec)	-6.19011846435E-01	Apriori rate (us/s)	-6.19011585198E-01	Resid rate (us/s)	-2.61237E-07	+/- 6.6E-10
Delay rate (us/s)		Apriori accel (us/s/s)	-5.56582719855E-05	Resid phase (deg)	-143.8	+/- 1.1
Total phase (deg)	52.4					

	RMS	Theor.	Amplitude	2.948 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	28.1	3.5	Search (1024X16)	2.865	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	13.3	6.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	9.8	1.1	Inc. seg. avg.	3.280	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	6.7	1.9	Inc. frq. avg.	2.924	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

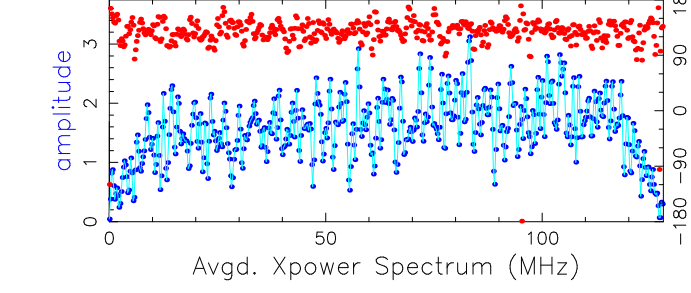
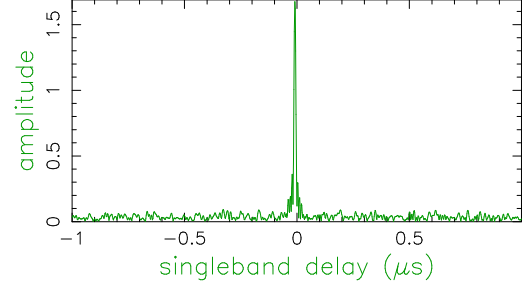
k: az 100.8 el 55.0 pa -62.5 m: az 73.7 el 15.1 pa -74.2 u,v (fr/asec) 1861.134 -7.550 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/km..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/km.Q.13.2I2FQY

Mk4/DiFX fourfit 3.21 rev 2937

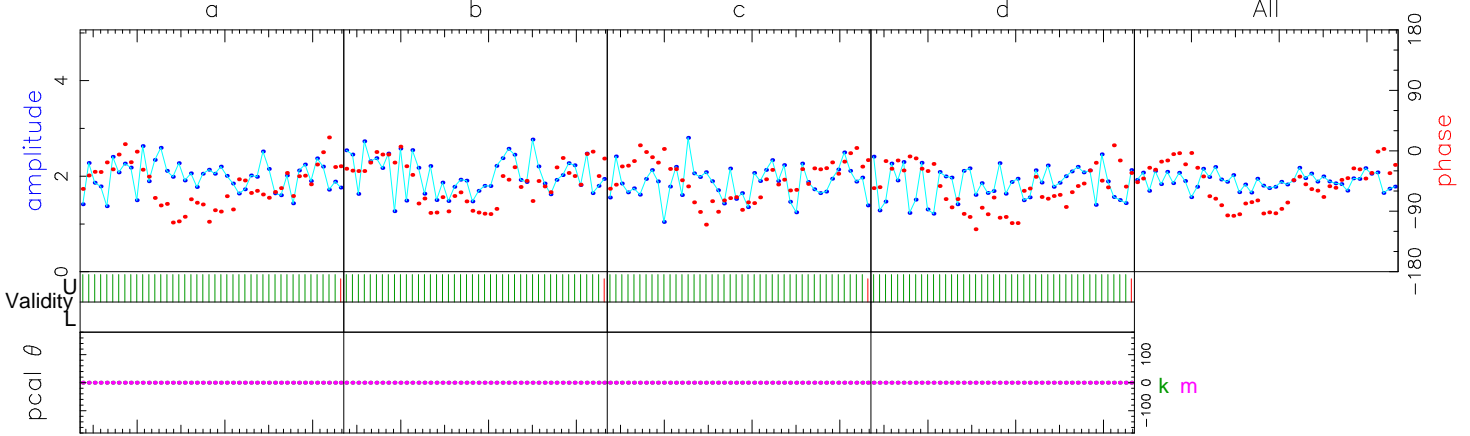
OJ287.2I2FQY, No0021, km  
VLBA\_KP - VLBA\_MK, fgroup Q, pol RL



Fringe quality 8  
SNR 61.9  
Int time 179.582  
Amp 1.688  
Phase -48.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.009159  
MBD -0.001399  
Fringe rate (Hz)  
-0.011248  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134627  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"



Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-51.4	-43.6	-41.6	-57.1	Phase	-48.3
	1.7	1.8	1.7	1.6	Ampl.	1.7
	508.4	508.1	508.6	508.1	Sbd box	508.3
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

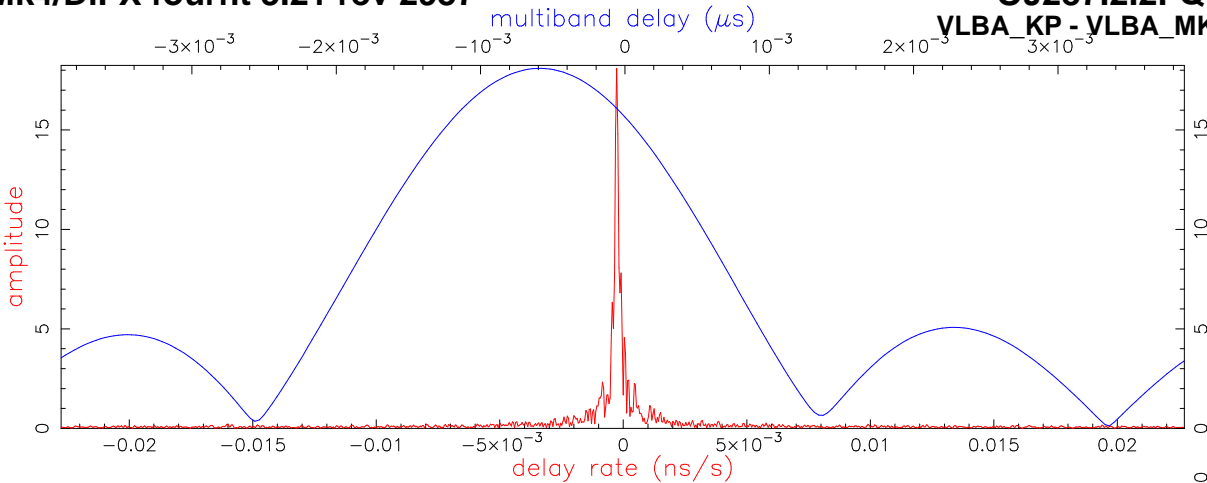
	1.18510586375E+04	Apriori delay (usec)	1.18510678492E+04	Resid mbdelay (usec)	-1.39925E-03	+/- 1.8E-05
Group delay (usec)(sbd)	1.18510586902E+04	Apriori clock (usec)	2.7171669E+00	Resid sbdelay (usec)	-9.15900E-03	+/- 7.0E-05
Sband delay (usec)	1.18510678461E+04	Apriori clockrate (us/s)	-3.7539999E-08	Resid phdelay (usec)	-3.12709E-06	+/- 1.2E-07
Phase delay (usec)	-6.19011847326E-01	Apriori rate (us/s)	-6.19011585198E-01	Resid rate (us/s)	-2.62127E-07	+/- 1.2E-09
Delay rate (us/s)		Apriori accel (us/s/s)	-5.56582719855E-05	Resid phase (deg)	-48.3	+/- 1.9
Total phase (deg)	147.9					

	RMS	Theor.	Amplitude	1.688 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	29.2	6.1	Search (1024X16)	1.662	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	15.9	10.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	8.8	1.9	Inc. seg. avg.	1.895	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	3.9	3.2	Inc. frq. avg.	1.683	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 m: az 73.7 el 15.1 pa -74.2 u,v (fr/asec) 1861.134 -7.550 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/km..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/km.Q.18.2I2FQY

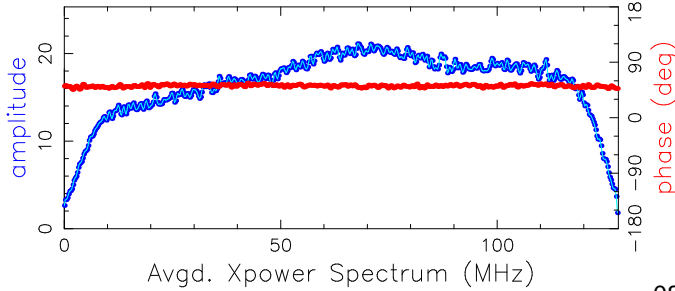
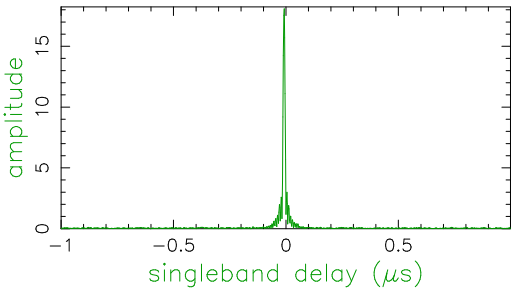
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.2I2FQY, No0021, km  
VLBA\_KP - VLBA\_MK, fgroup Q, pol LL



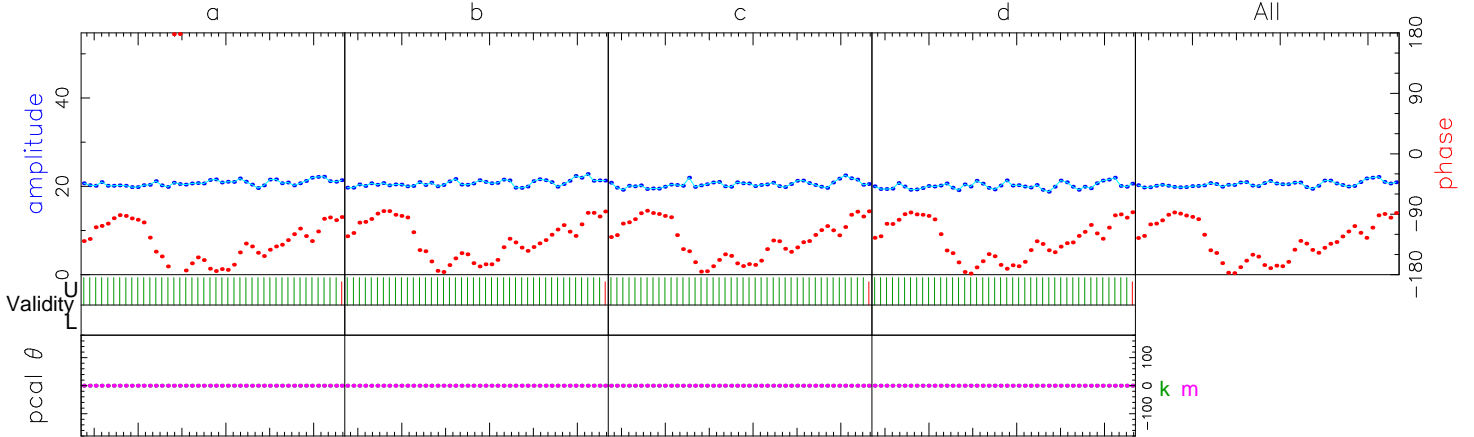
Fringe quality 7

SNR 668.6  
Int time 179.582  
Amp 18.245  
Phase -128.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.008433  
MBD -0.000619  
Fringe rate (Hz)  
-0.011236  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134623  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-133.2	-126.1	-127.0	-128.6	Phase	-128.7
	18.3	18.3	18.1	17.7	Ampl.	18.1
	508.8	508.8	508.7	508.6	Sbd box	508.7
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
m	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

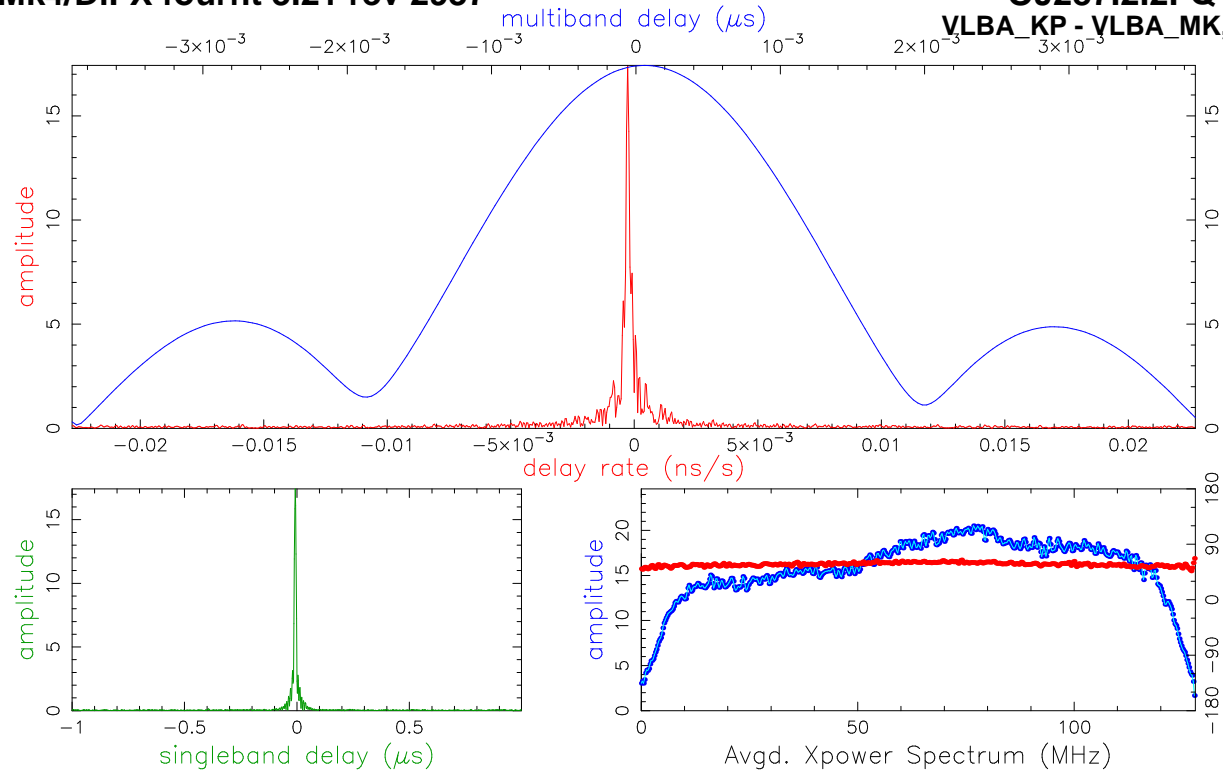
Group delay (usec)(sbd)	1.18510594182E+04	Apriori delay (usec)	1.18510678492E+04	Resid mbdelay (usec)	-6.18527E-04	+/-	1.7E-06
Sband delay (usec)	1.18510594161E+04	Apriori clock (usec)	2.7171669E+08	Resid sbdelay (usec)	-8.43312E-03	+/-	6.4E-06
Phase delay (usec)	1.18510678409E+04	Apriori clockrate (us/s)	-3.7539999E-08	Resid phdelay (usec)	-8.33398E-06	+/-	1.1E-08
Delay rate (us/s)	-6.19011847044E-01	Apriori rate (us/s)	-6.19011585198E-01	Resid rate (us/s)	-2.61846E-07	+/-	1.1E-10
Total phase (deg)	67.5	Apriori accel (us/s/s)	-5.56582719855E-05	Resid phase (deg)	-128.7	+/-	0.2

	RMS	Theor.	Amplitude	18.245 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
ph/seg (deg)	28.3	0.6	Search (1024X16)	17.934	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/seg (%)	12.8	1.0	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
ph/frq (deg)	3.9	0.2	Inc. seg. avg.	20.498	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	1.5	0.3	Inc. frq. avg.	18.112						

k: az 100.8 el 55.0 pa -62.5 m: az 73.7 el 15.1 pa -74.2 u,v (fr/asec) 1861.134 -7.550 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/km..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/km.Q.5.2I2FQY

Mk4/DiFX fourfit 3.21 rev 2937

OJ287.2I2FQY, No0021, km  
VLBA\_KP - VLBA\_MK, fgroup Q, pol RR

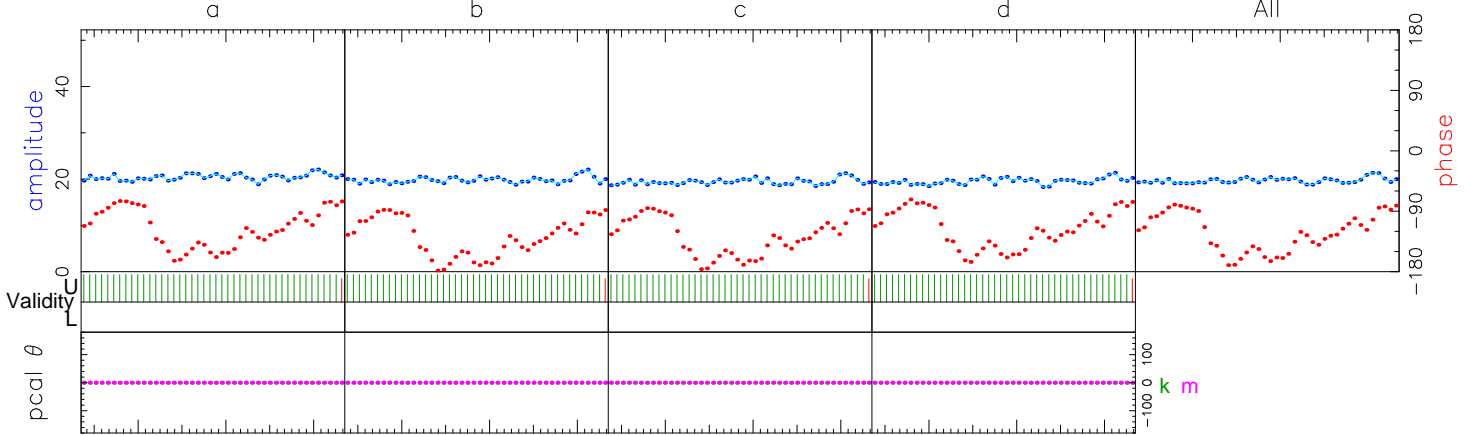


Fringe quality 7

SNR 638.4  
Int time 179.582  
Amp 17.421  
Phase -121.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.007728  
MBD 0.000063  
Fringe rate (Hz)  
-0.011260  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134624  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-115.0	-128.4	-126.9	-116.0	Phase	-121.5
	18.1	17.5	17.2	17.3	Ampl.	17.5
	508.8	509.0	509.1	509.2	Sbd box	509.0
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.18510601001E+04	Apriori delay (usec)	1.18510678492E+04	Resid mbdelay (usec)	6.34102E-05	+/-	1.7E-06
Sband delay (usec)	1.18510601213E+04	Apriori clock (usec)	2.7171669E+08	Resid sbdelay (usec)	-7.72787E-03	+/-	6.7E-06
Phase delay (usec)	1.18510678413E+04	Apriori clockrate (us/s)	-3.7539999E-08	Resid phdelay (usec)	-7.86473E-06	+/-	1.2E-08
Delay rate (us/s)	-6.19011847596E-01	Apriori rate (us/s)	-6.19011585198E-01	Resid rate (us/s)	-2.62398E-07	+/-	1.1E-10
Total phase (deg)	74.8	Apriori accel (us/s/s)	-5.56582719855E-05	Resid phase (deg)	-121.5	+/-	0.2

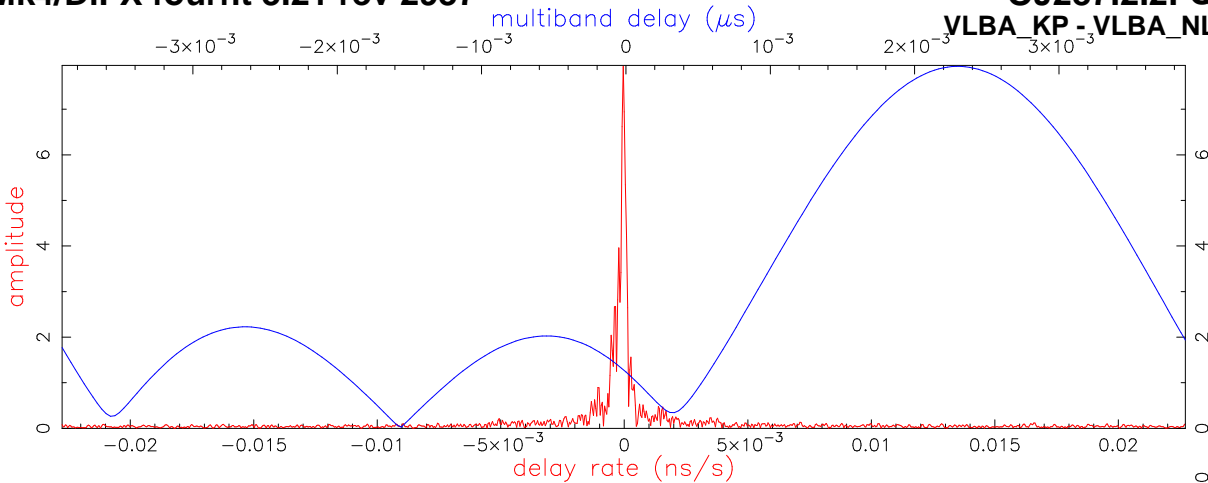
	RMS	Theor.	Amplitude	17.421 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	28.2	0.6	Search (1024X16)	17.266	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
amp/seg (%)	13.6	1.0	Interp.	0.000	Sample rate(MISamp/s): 256	nlags: 512	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	8.6	0.2	Inc. seg. avg.	19.718	Data rate(Mb/s): 2048	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	2.1	0.3	Inc. frq. avg.	17.518					

k: az 100.8 el 55.0 pa -62.5 m: az 73.7 el 15.1 pa -74.2 u,v (fr/asec) 1861.134 -7.550 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/km..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/km.Q.8.2I2FQY

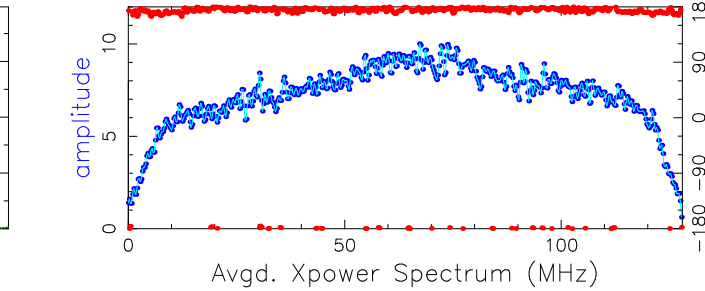
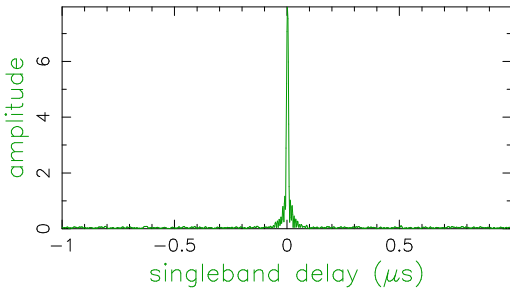
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.2I2FQY, No0021, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol LL



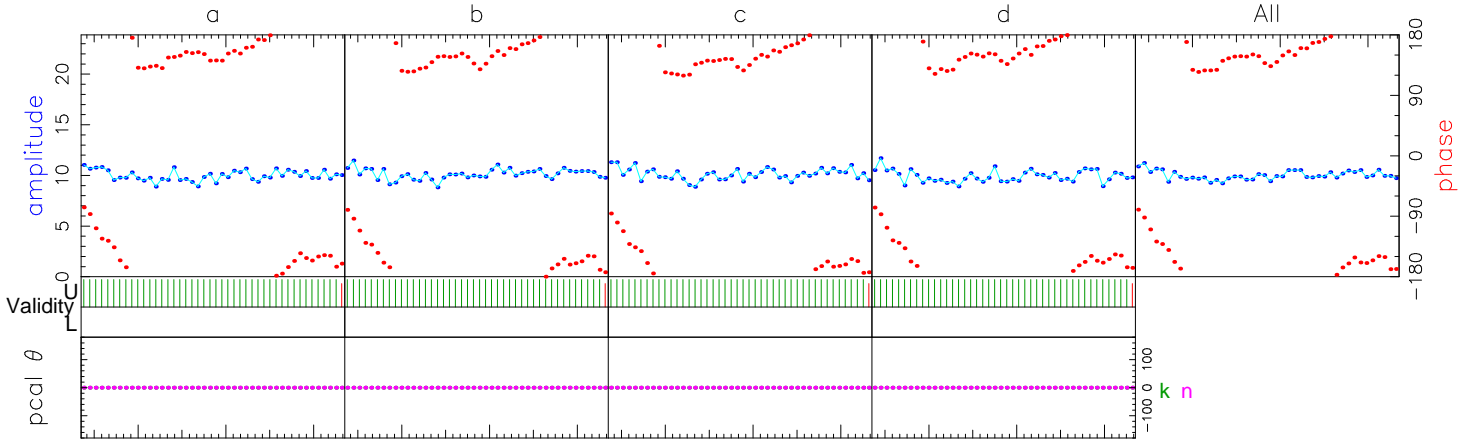
Fringe quality 6

SNR 291.8  
Int time 179.592  
Amp 7.961  
Phase 175.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.002314  
MBD 0.002316  
Fringe rate (Hz)  
-0.001321  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134617  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
n	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

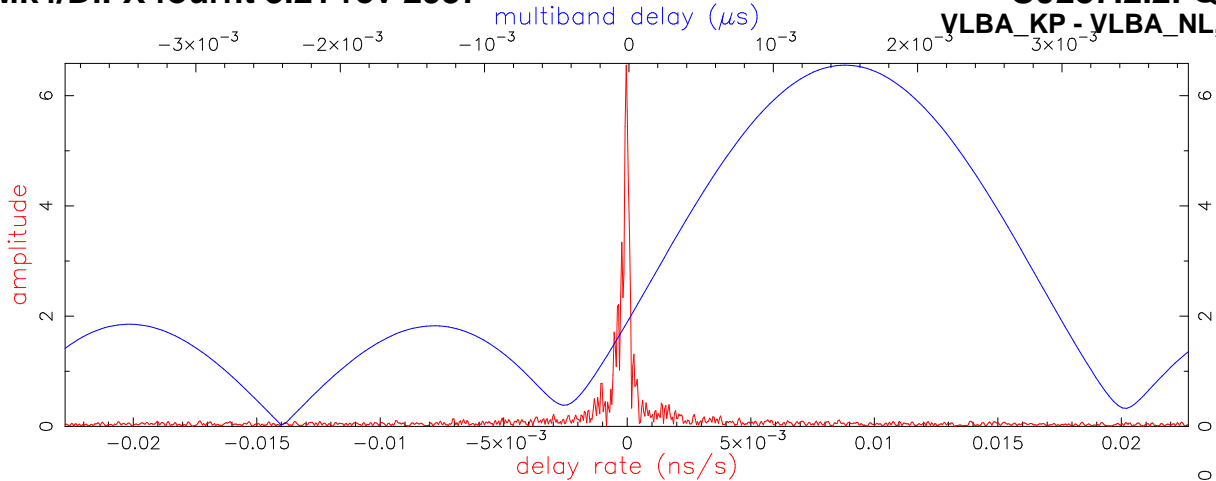
Group delay (usec)(sbd)	-1.65908956311E+03	Apriori delay (usec)	-1.65909187924E+03	Resid mbdelay (usec)	2.31614E-03	+/- 3.8E-06
Sband delay (usec)	-1.65908956562E+03	Apriori clock (usec)	-1.4443527E+01	Resid sbdelay (usec)	2.31363E-03	+/- 1.5E-05
Phase delay (usec)	-1.65909186789E+03	Apriori clockrate (us/s)	-3.2422001E-07	Resid phdelay (usec)	1.13573E-05	+/- 2.5E-08
Delay rate (us/s)	4.28152648819E-01	Apriori rate (us/s)	4.28152679610E-01	Resid rate (us/s)	-3.07907E-08	+/- 2.5E-10
Total phase (deg)	-84.5	Apriori accel (us/s/s)	3.46429671893E-06	Resid phase (deg)	175.5	+/- 0.4

ph/seg (deg)	RMS 38.7	Theor. 1.3	Amplitude 7.961 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	26.6	2.3	Search (1024X16) 7.750	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	4.7	0.4	Interp. 0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	1.2	0.7	Inc. seg. avg. 10.028	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
			Inc. frq. avg. 7.952	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 n: az 141.8 el 64.0 pa -29.2 u,v (fr/asec) -1298.160 -516.138 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kn..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kn.Q.1.2I2FQY

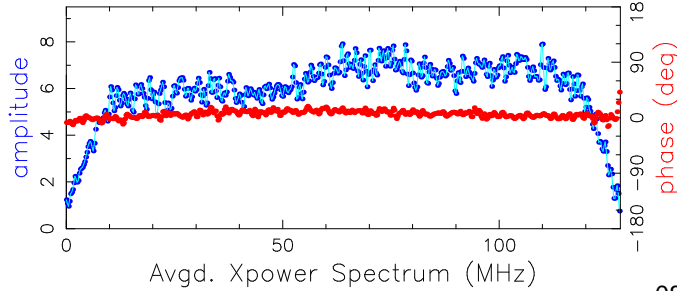
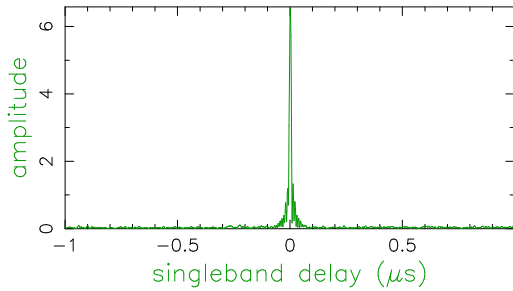
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.2I2FQY, No0021, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol RR



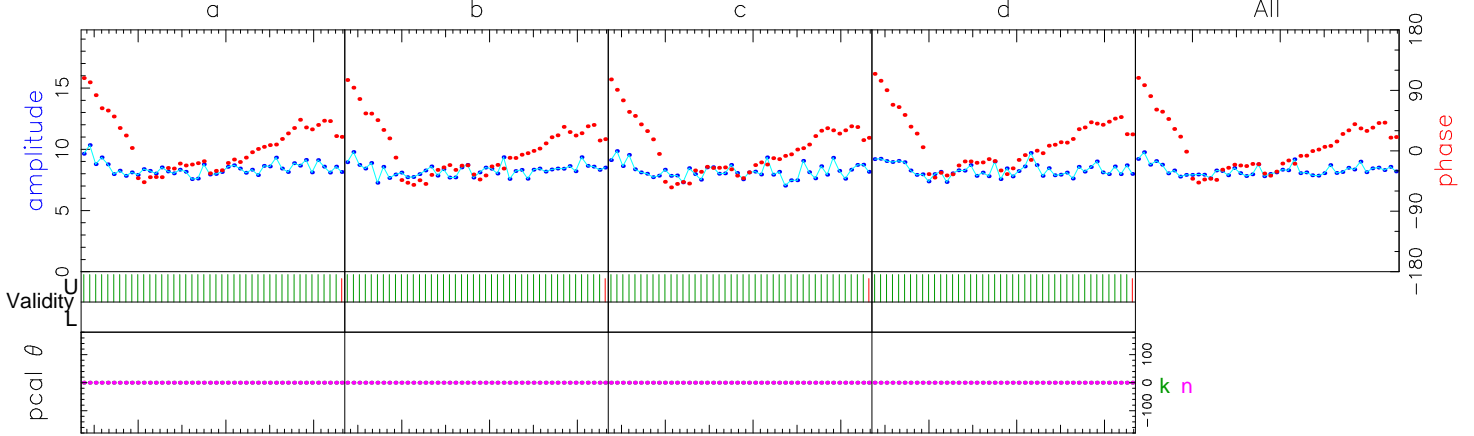
Fringe quality 6

SNR 241.3  
Int time 179.592  
Amp 6.584  
Phase 6.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.001488  
MBD 0.001474  
Fringe rate (Hz)  
-0.001338  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134619  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	
n	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
n	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
n	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-1.65909040542E+03	Apriori delay (usec)	-1.65909187924E+03	Resid mbdelay (usec)	1.47382E-03	+/-	4.6E-06
Sband delay (usec)	-1.65909039162E+03	Apriori clock (usec)	-1.4443527E+01	Resid sbdelay (usec)	1.48762E-03	+/-	1.8E-05
Phase delay (usec)	-1.65909187885E+03	Apriori clockrate (us/s)	-3.2422001E-07	Resid phdelay (usec)	3.90431E-07	+/-	3.1E-08
Delay rate (us/s)	4.28152648441E-01	Apriori rate (us/s)	4.28152679610E-01	Resid rate (us/s)	-3.11690E-08	+/-	3.0E-10
Total phase (deg)	-253.9	Apriori accel (us/s/s)	3.46429671893E-06	Resid phase (deg)	6.0	+/-	0.5

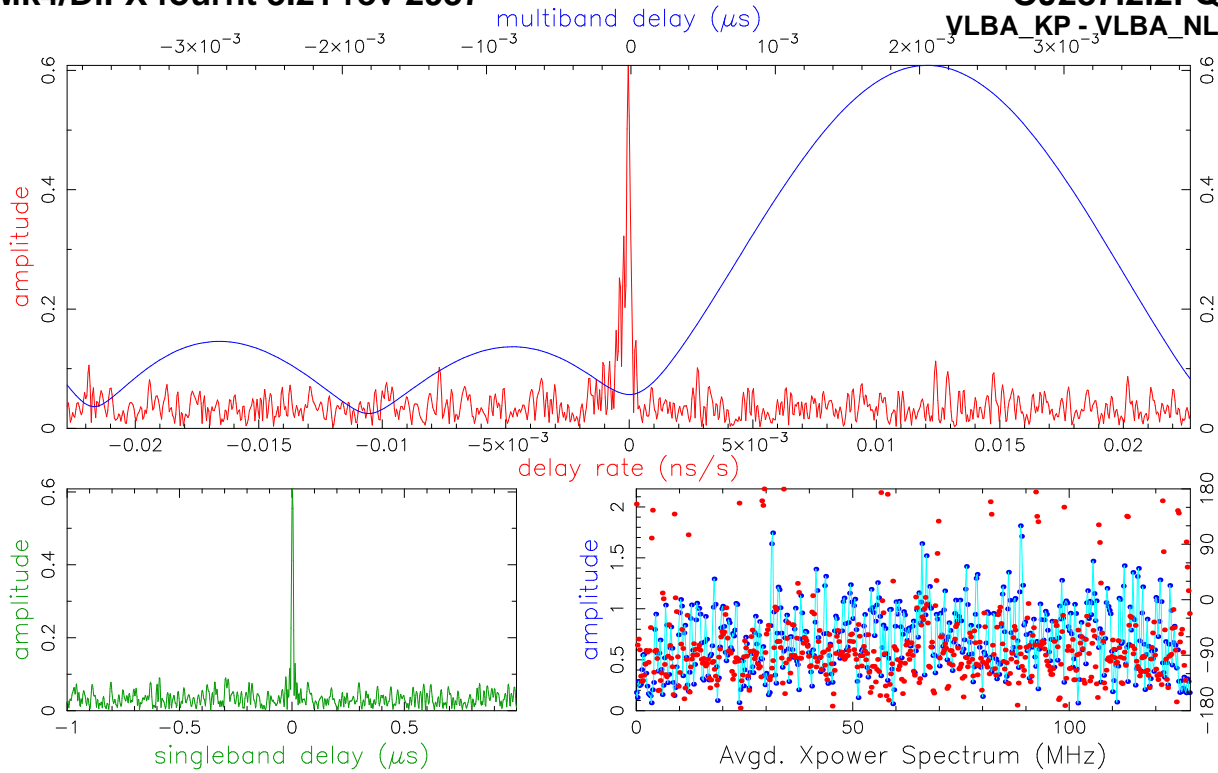
ph/seg (deg)	RMS 38.5	Theor. 1.6	Amplitude 6.584 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	26.8	2.7	Search (1024X16) 6.445	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	6.4	0.5	Inc. seg. avg. 8.288	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	0.8	0.8	Inc. frq. avg. 6.572	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 100.8 el 55.0 pa -62.5 n: az 141.8 el 64.0 pa -29.2 u,v (fr/asec) -1298.160 -516.138 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kn..2I2FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kn.Q.2.2I2FQY



Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol LR

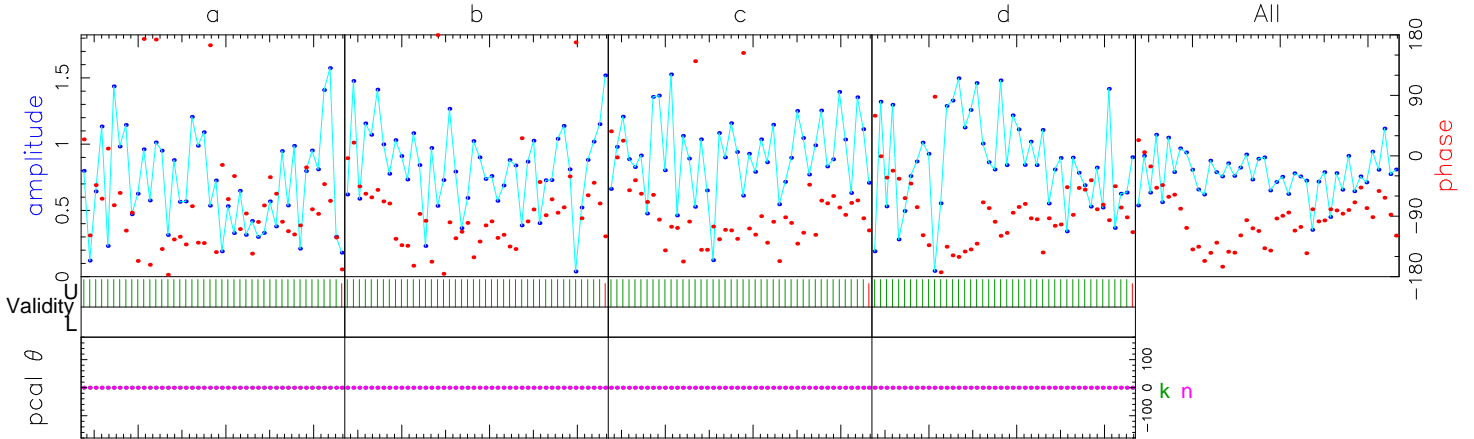


Fringe quality 9

SNR 22.3  
Int time 179.592  
Amp 0.608  
Phase -95.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.001965  
MBD 0.002053  
Fringe rate (Hz)  
-0.001275  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134620  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-97.0	-92.7	-94.6	-96.0	Phase	-95.0
0.5	0.6	0.7	0.7	Ampl.	0.6
514.1	514.2	513.6	514.2	Sbd box	514.0
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	PC freqs	
k:n 0:0	0:0	0:0	0:0	PC phase	
k:n 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000		
k Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
n Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.65908982611E+03	Apriori delay (usec)	-1.65909187924E+03	Resid mbdelay (usec)	2.05314E-03	+/-	5.0E-05
Sband delay (usec)	-1.65908991462E+03	Apriori clock (usec)	-1.4443527E+01	Resid sbdelay (usec)	1.96462E-03	+/-	1.9E-04
Phase delay (usec)	-1.65909188539E+03	Apriori clockrate (us/s)	-3.2422001E-07	Resid phdelay (usec)	-6.14725E-06	+/-	3.3E-07
Delay rate (us/s)	4.28152649906E-01	Apriori rate (us/s)	4.28152679610E-01	Resid rate (us/s)	-2.97040E-08	+/-	3.2E-09
Total phase (deg)	-354.9	Apriori accel (us/s/s)	3.46429671893E-06	Resid phase (deg)	-95.0	+/-	5.1

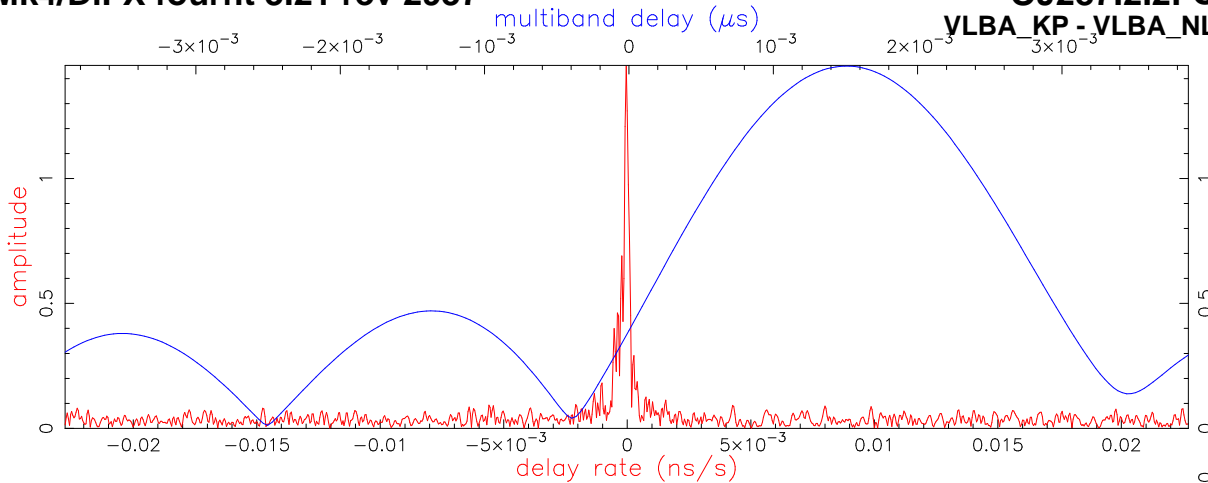
ph/seg (deg)	41.1	Theor.	17.0	Amplitude	0.608 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	37.0	Search (1024X16)	0.593	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	2.3	Inc. seg. avg.	0.742	Inc. frq. avg.	0.606	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	13.7	Inc. frq. avg.	0.606			Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
						Data rate(Mb/s): 2048	dr window (ns/s) -0.023 0.023
						nlags: 512	t_cohere infinite
							ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 n: az 141.8 el 64.0 pa -29.2 u,v (fr/asec) -1298.160 -516.138 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kn..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kn.Q.3.212FQY

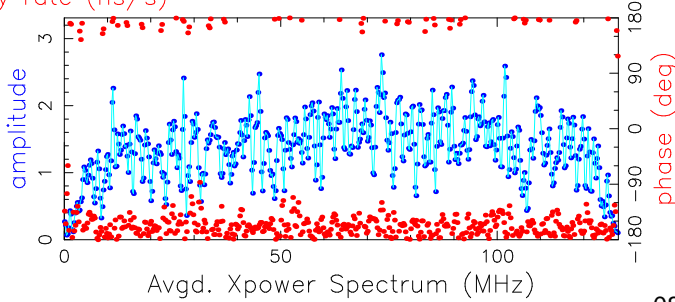
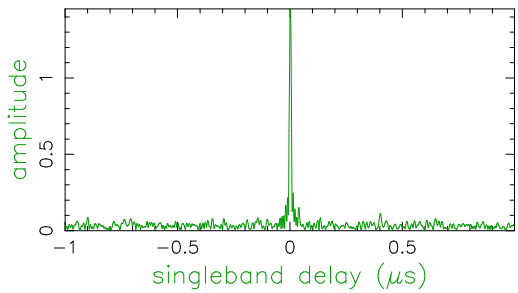
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol RL



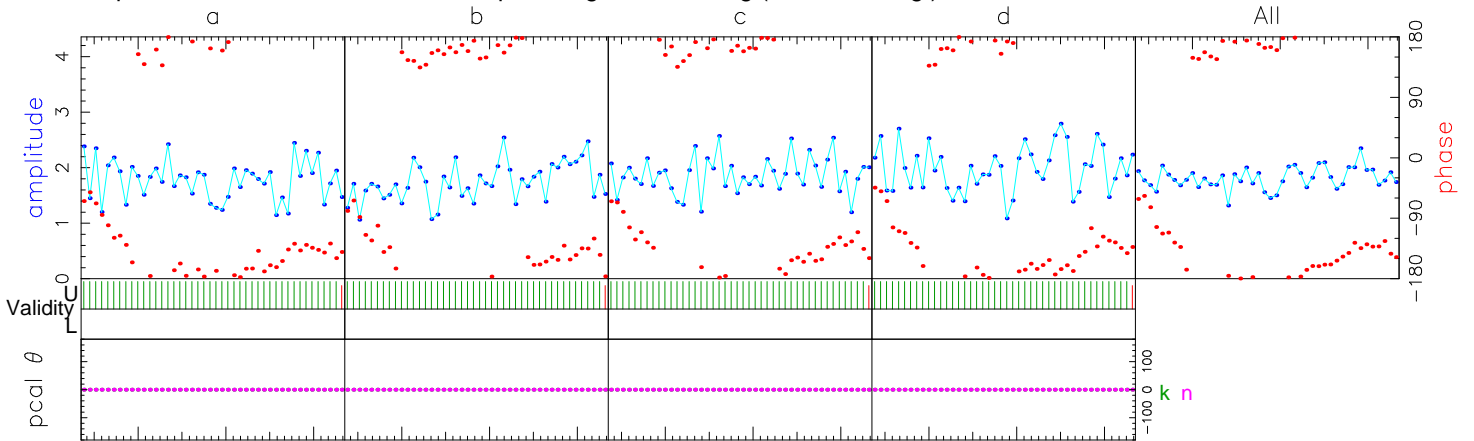
Fringe quality 8

SNR 53.2  
Int time 179.592  
Amp 1.453  
Phase -158.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.001660  
MBD 0.001493  
Fringe rate (Hz)  
-0.001176  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134622  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	43296.00	Freq (MHz)	All
-152.7	-168.2	-159.0	-153.8	-153.8	Phase	-158.2
1.4	1.4	1.5	1.5	1.5	Ampl.	1.5
513.8	513.6	514.1	513.8	513.8	Sbd box	513.8
U/L 351/0	351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	1000	PC freqs	
k:n 0:0	0:0	0:0	0:0	0:0	PC phase	
k:n 0:0	0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Q03UR	Chan ids	
n Q00UL	Q01UL	Q02UL	Q03UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-1.65909038583E+03	Apriori delay (usec)	-1.65909187924E+03	Resid mbdelay (usec)	1.49342E-03	+/- 2.1E-05
Sband delay (usec)	-1.65909021937E+03	Apriori clock (usec)	-1.4443527E+01	Resid sbdelay (usec)	1.65988E-03	+/- 8.1E-05
Phase delay (usec)	-1.65909188949E+03	Apriori clockrate (us/s)	-3.2422001E-07	Resid phdelay (usec)	-1.02435E-05	+/- 1.4E-07
Delay rate (us/s)	4.28152652196E-01	Apriori rate (us/s)	4.28152679610E-01	Resid rate (us/s)	-2.74140E-08	+/- 1.3E-09
Total phase (deg)	-58.2	Apriori accel (us/s/s)	3.46429671893E-06	Resid phase (deg)	-158.2	+/- 2.2

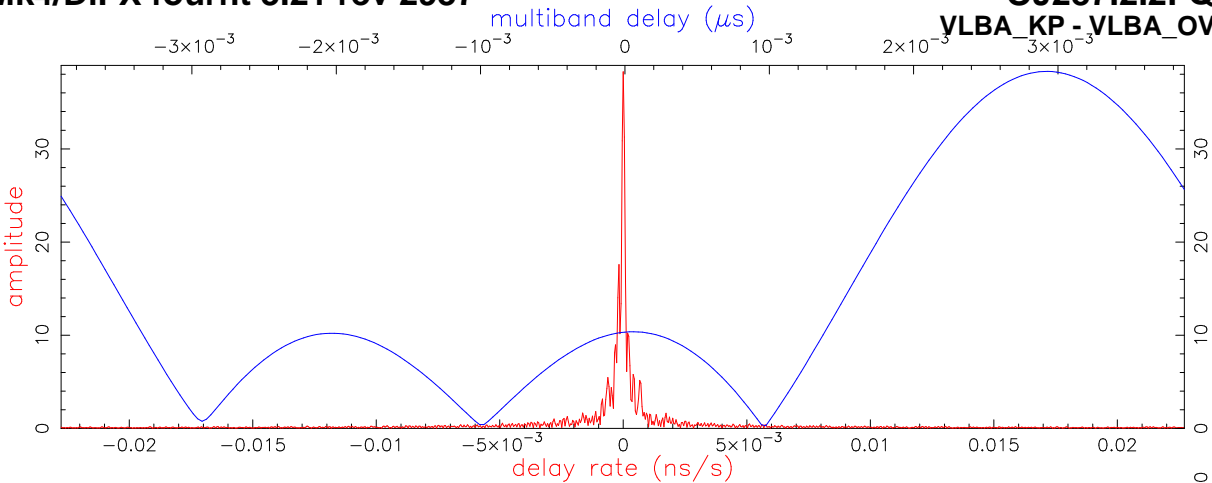
ph/seg (deg)	38.8	Theor.	7.1	Amplitude	1.453 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	28.2		12.5	Search (1024X16)	1.412	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	8.7		2.2	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	4.6		3.8	Inc. seg. avg.	1.800	Sample rate(MSamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	1.457	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

k: az 100.8 el 55.0 pa -62.5 n: az 141.8 el 64.0 pa -29.2 u,v (fr/asec) -1298.160 -516.138 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kn..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kn.Q.4.212FQY

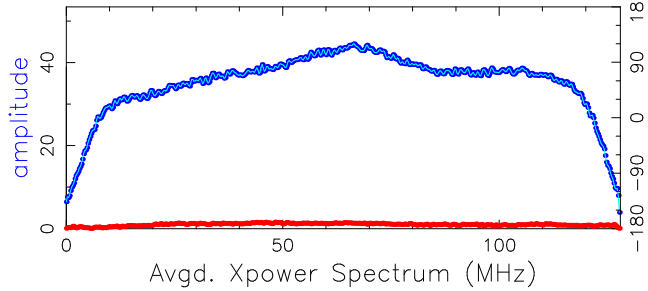
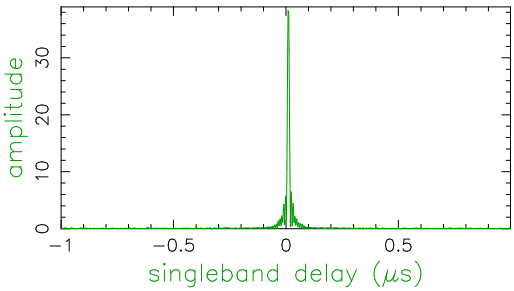
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol LL



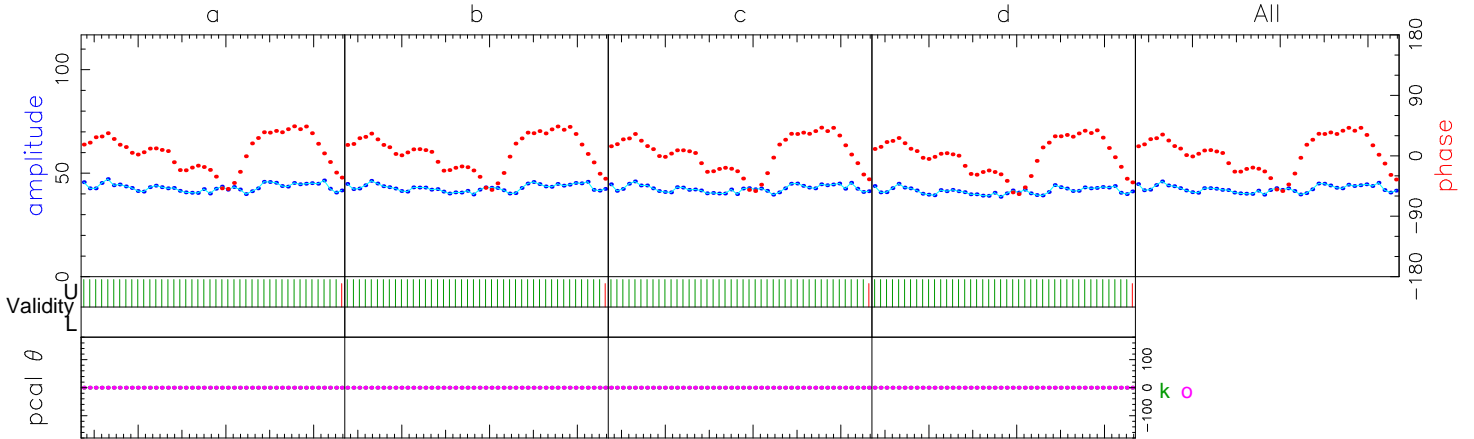
Fringe quality 7

SNR 1427.7  
Int time 179.593  
Amp 38.959  
Phase 4.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.010658  
MBD 0.002969  
Fringe rate (Hz)  
-0.000642  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134626  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	1000
o	1000	1000	1000	1000	PC freqs	1000
k:o	0:0	0:0	0:0	0:0	PC phase	0:0
k:o	0:0	0:0	0:0	0:0	Manl PC	0:0
k	1000	1000	1000	1000	PC amp	1000
o	1000	1000	1000	1000		1000
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

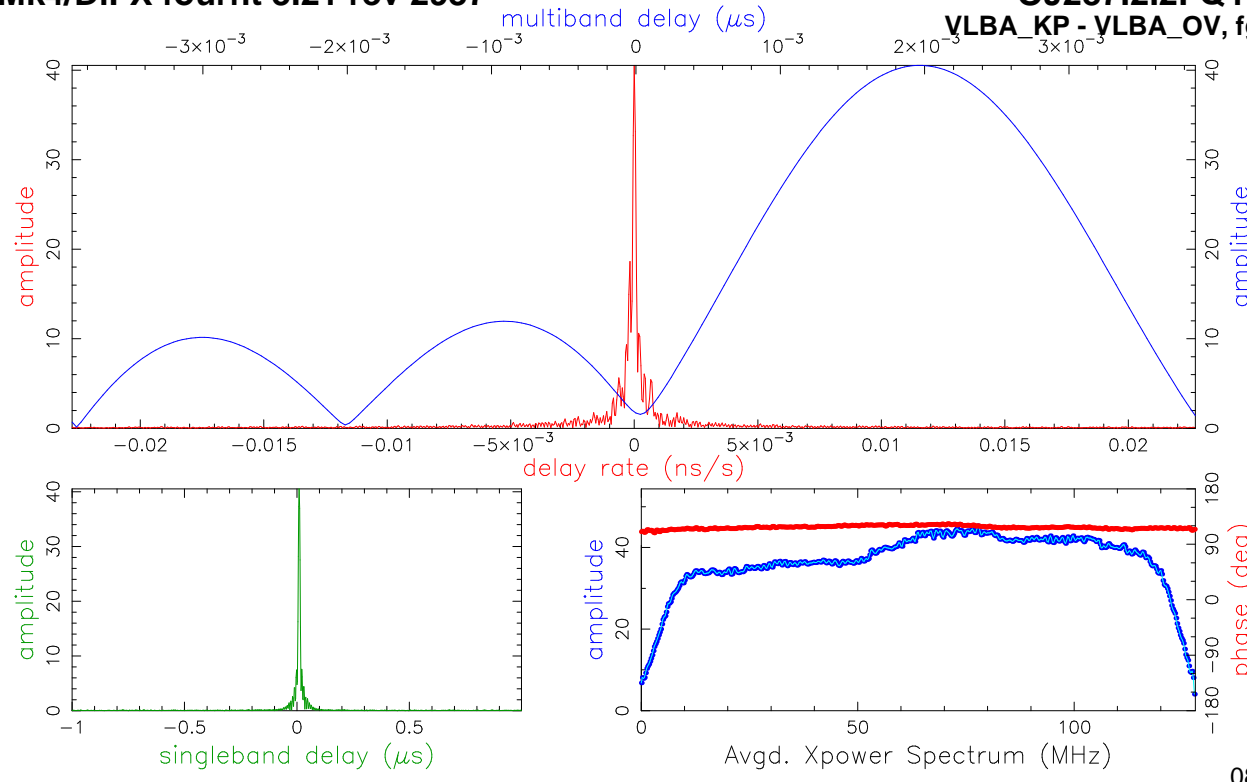
Group delay (usec)(sbd)	1.4708599861E+03	Apriori delay (usec)	1.47084920448E+03	Resid mbdelay (usec)	2.96913E-03	+/- 7.8E-07
Sband delay (usec)	1.47085986248E+03	Apriori clock (usec)	-2.3245049E+00	Resid sbdelay (usec)	1.06580E-02	+/- 3.0E-06
Phase delay (usec)	1.47084920478E+03	Apriori clockrate (us/s)	-1.9240000E-07	Resid phdelay (usec)	2.94060E-07	+/- 5.2E-09
Delay rate (us/s)	-5.89440087327E-02	Apriori rate (us/s)	-5.89439937811E-02	Resid rate (us/s)	-1.49516E-08	+/- 5.0E-11
Total phase (deg)	27.1	Apriori accel (us/s/s)	-1.07567135471E-05	Resid phase (deg)	4.5	+/- 0.1

ph/seg (deg)	RMS 26.0	Theor. 0.3	Amplitude 38.959 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	10.1	0.5	Search (1024X16) 37.449	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	3.7	0.1	Interp. 0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	2.3	0.1	Inc. seg. avg. 42.516	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
			Inc. frq. avg. 38.315	Data rate(Mb/s): 2048	ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 o: az 102.2 el 48.6 pa -55.9 u,v (fr/asec) 176.177 -467.435 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/ko..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/ko.Q.14.212FQY

Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol RR

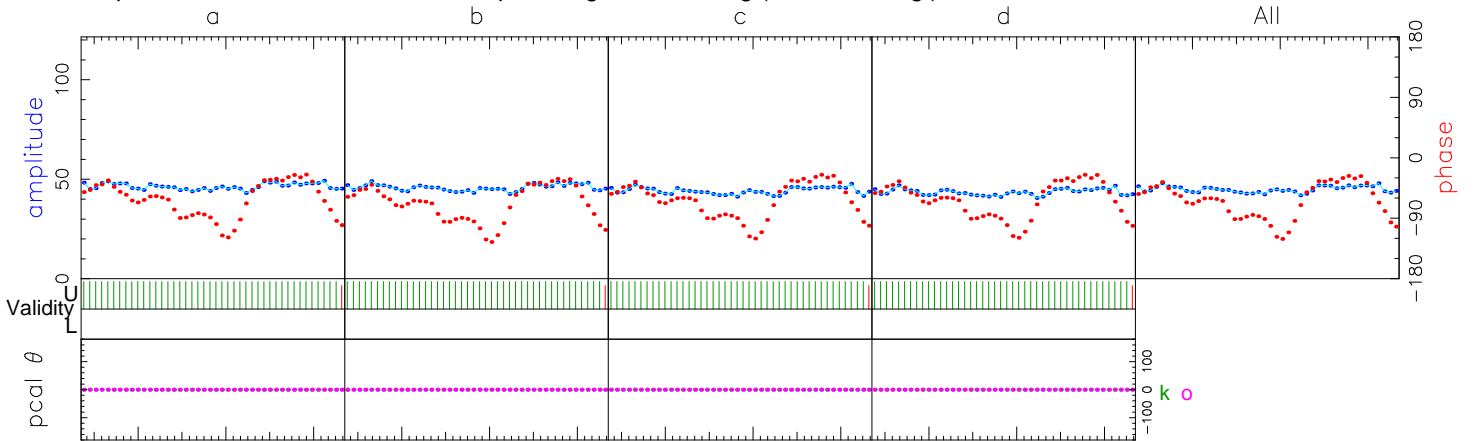


Fringe quality 7

SNR 1485.2  
Int time 179.593  
Amp 40.527  
Phase -63.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.009715  
MBD 0.001963  
Fringe rate (Hz)  
-0.000644  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134628  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-61.2	-67.6	-62.6	-62.4	Phase	-63.5
	41.9	41.3	39.8	39.2	Ampl.	40.6
	517.9	518.0	518.0	518.0	Sbd box	518.0
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
o	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
o	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	1.47085897951E+03	Apriori delay (usec)	1.47084920448E+03	Resid mbdelay (usec)	1.96253E-03	+/-	7.5E-07
Sband delay (usec)	1.47085891948E+03	Apriori clock (usec)	-2.3245049E+00	Resid sbdelay (usec)	9.71500E-03	+/-	2.9E-06
Phase delay (usec)	1.47084920037E+03	Apriori clockrate (us/s)	-1.9240000E-07	Resid phdelay (usec)	-4.10746E-06	+/-	5.0E-09
Delay rate (us/s)	-5.89440087896E-02	Apriori rate (us/s)	-5.89439937811E-02	Resid rate (us/s)	-1.50085E-08	+/-	4.8E-11
Total phase (deg)	-40.9	Apriori accel (us/s/s)	-1.07567135471E-05	Resid phase (deg)	-63.5	+/-	0.1

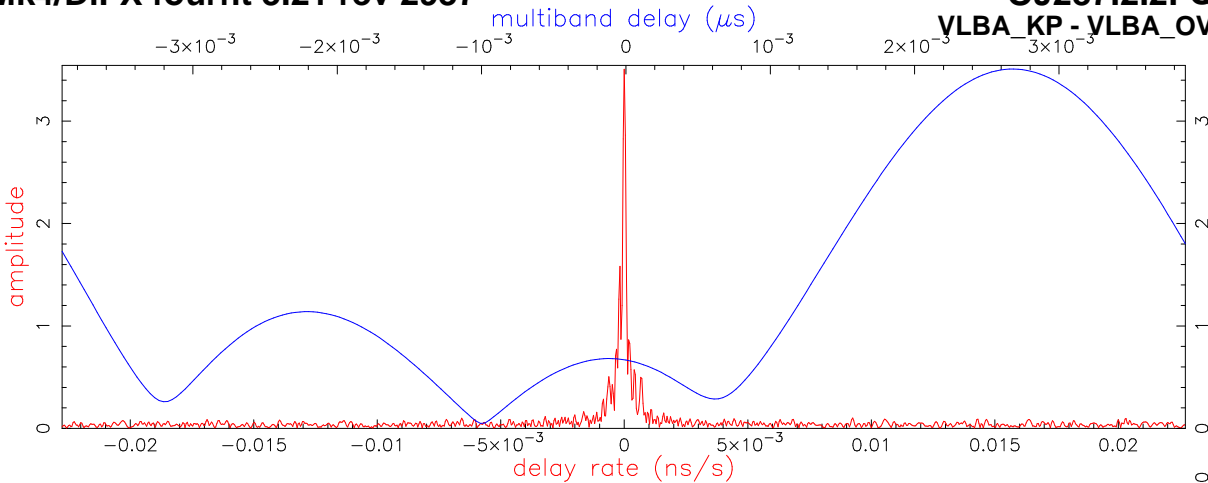
ph/seg (deg)	RMS 25.9	Theor. 0.3	Amplitude Search (1024X16)	40.527 +/- 0.027	39.610	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	11.6	0.4	Interp.	0.000	44.961	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	3.5	0.1	Inc. seg. avg.	44.961	40.565	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	2.7	0.1	Inc. frq. avg.	40.565		Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 100.8 el 55.0 pa -62.5 o: az 102.2 el 48.6 pa -55.9 u,v (fr/asec) 176.177 -467.435 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/ko..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/ko.Q.22.212FQY

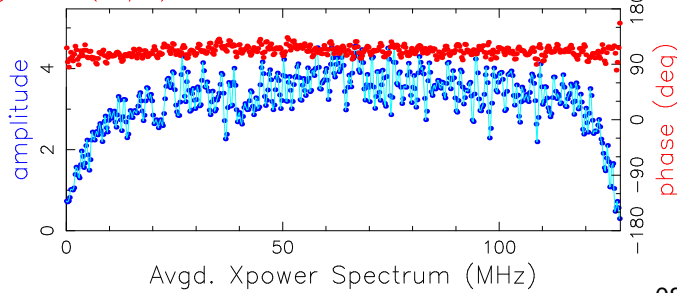
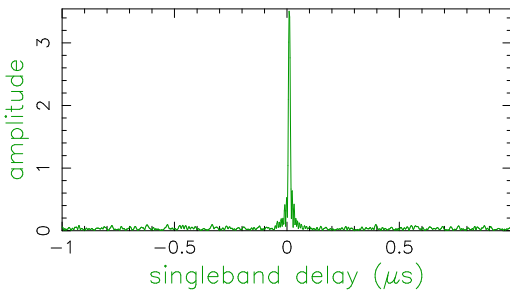
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol LR



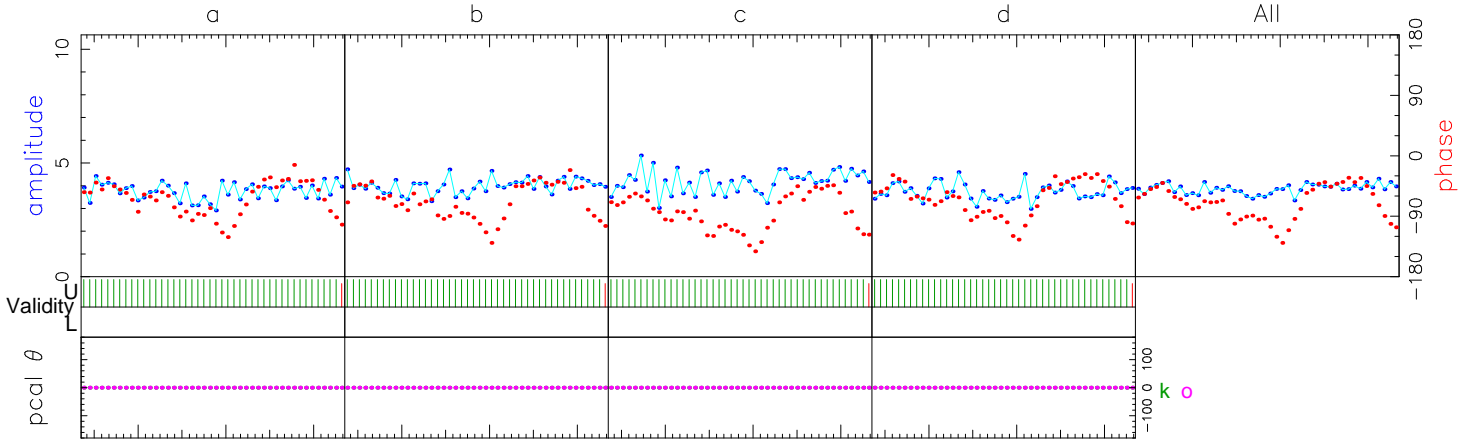
Fringe quality 6

SNR 129.9  
Int time 179.593  
Amp 3.545  
Phase -69.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.010451  
MBD 0.002721  
Fringe rate (Hz)  
-0.000638  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134630  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	
o	1000	1000	1000	1000	PC freqs	
k:o	0:0	0:0	0:0	0:0	PC phase	
k:o	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
o	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

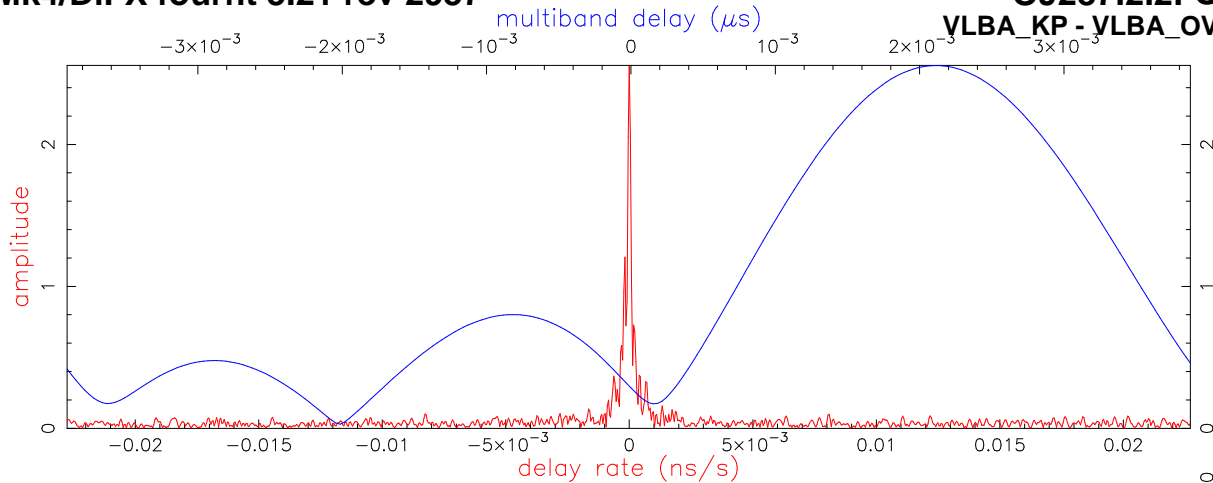
Group delay (usec)(sbd)	1.47085973751E+03	Apriori delay (usec)	1.47084920448E+03	Resid mbdelay (usec)	2.72053E-03	+/-	8.6E-06
Sband delay (usec)	1.47085965523E+03	Apriori clock (usec)	-2.3245049E+00	Resid sbdelay (usec)	1.04507E-02	+/-	3.3E-05
Phase delay (usec)	1.47084919997E+03	Apriori clockrate (us/s)	-1.9240000E-07	Resid phdelay (usec)	-4.51663E-06	+/-	5.7E-08
Delay rate (us/s)	-5.89440086530E-02	Apriori rate (us/s)	-5.89439937811E-02	Resid rate (us/s)	-1.48719E-08	+/-	5.5E-10
Total phase (deg)	-47.2	Apriori accel (us/s/s)	-1.07567135471E-05	Resid phase (deg)	-69.8	+/-	0.9

ph/seg (deg)	25.2	RMS	2.9	Theor.	2.9	Amplitude	3.545 +/- 0.027	Pcal mode:	MANUAL, MANUAL	PC period (AP's)	5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	11.1	Search (1024X16)	3.355	Interp.	0.000	Pcal rate:	0.000E+00, 0.000E+00 (us/s)	SampCntNorm:	enabled	mb window (us)	-0.004	0.004		
ph/frq (deg)	11.9	Inc. seg. avg.	3.864	Inc. frq. avg.	3.546	Bits/sample:	2x2	Sample rate (MSamp/s):	256	dr window (ns/s)	-0.023	0.023		
amp/frq (%)	4.2	Inc. frq. avg.	3.546	Data rate (Mb/s):	2048	nlags:	512	t_cohere:	infinite	ion window (TEC)	0.00	0.00		

k: az 100.8 el 55.0 pa -62.5 o: az 102.2 el 48.6 pa -55.9 u,v (fr/asec) 176.177 -467.435 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/ko..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/ko.Q.27.212FQY

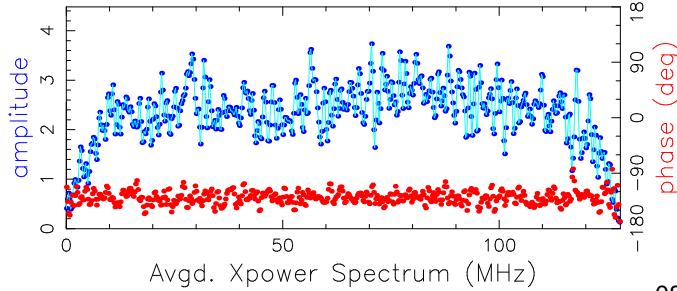
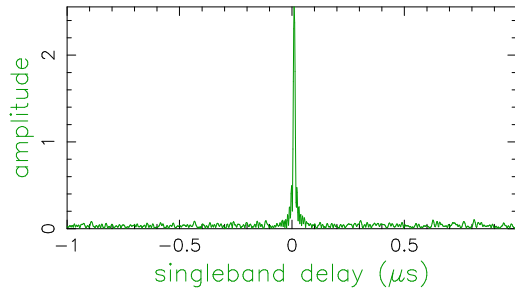
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol RL



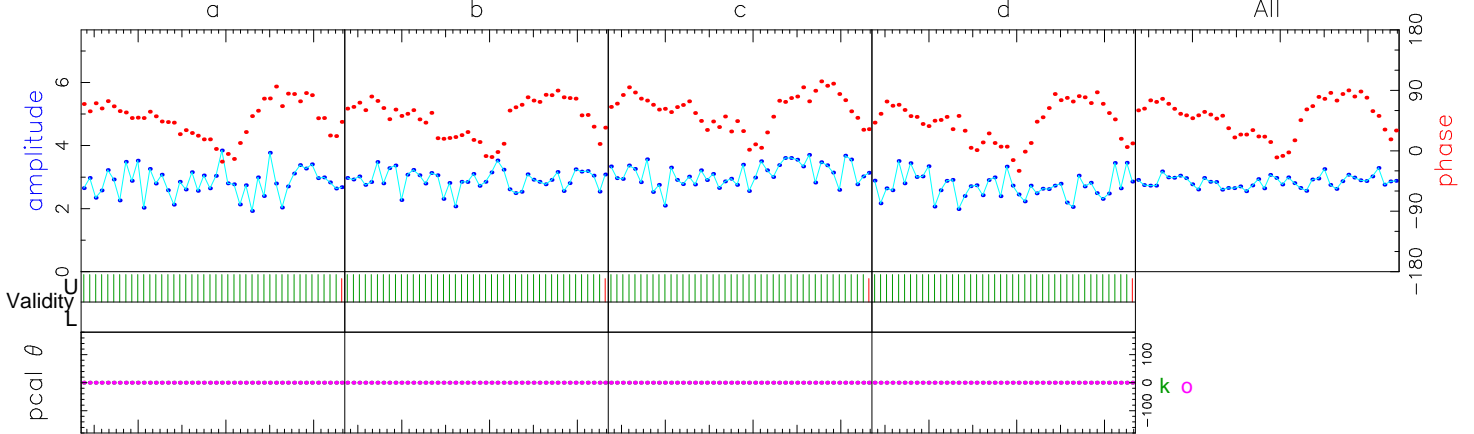
Fringe quality 7

SNR 93.7  
Int time 179.593  
Amp 2.557  
Phase 50.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.009923  
MBD 0.002121  
Fringe rate (Hz)  
-0.000659  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Yr:day 16383  
Start 2022:094  
Stop 2022:094  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134631  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
47.9	49.5	61.7	41.8	Phase	50.6
2.5	2.6	2.8	2.4	Ampl.	2.6
518.0	518.1	518.4	517.8	Sbd box	518.1
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
o 1000	1000	1000	1000	PC freqs	
k:o 0:0	0:0	0:0	0:0	PC phase	
k:o 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
o 1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
o Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	1.47085913811E+03	Apriori delay (usec)	1.47084920448E+03	Resid mbdelay (usec)	2.12113E-03	+/-	1.2E-05
Sband delay (usec)	1.47085912748E+03	Apriori clock (usec)	-2.3245049E+00	Resid sbdelay (usec)	9.92300E-03	+/-	4.6E-05
Phase delay (usec)	1.47084920776E+03	Apriori clockrate (us/s)	-1.9240000E-07	Resid phdelay (usec)	3.27850E-06	+/-	7.9E-08
Delay rate (us/s)	-5.89440091309E-02	Apriori rate (us/s)	-5.89439937811E-02	Resid rate (us/s)	-1.53498E-08	+/-	7.6E-10
Total phase (deg)	73.2	Apriori accel (us/s/s)	-1.07567135471E-05	Resid phase (deg)	50.6	+/-	1.2

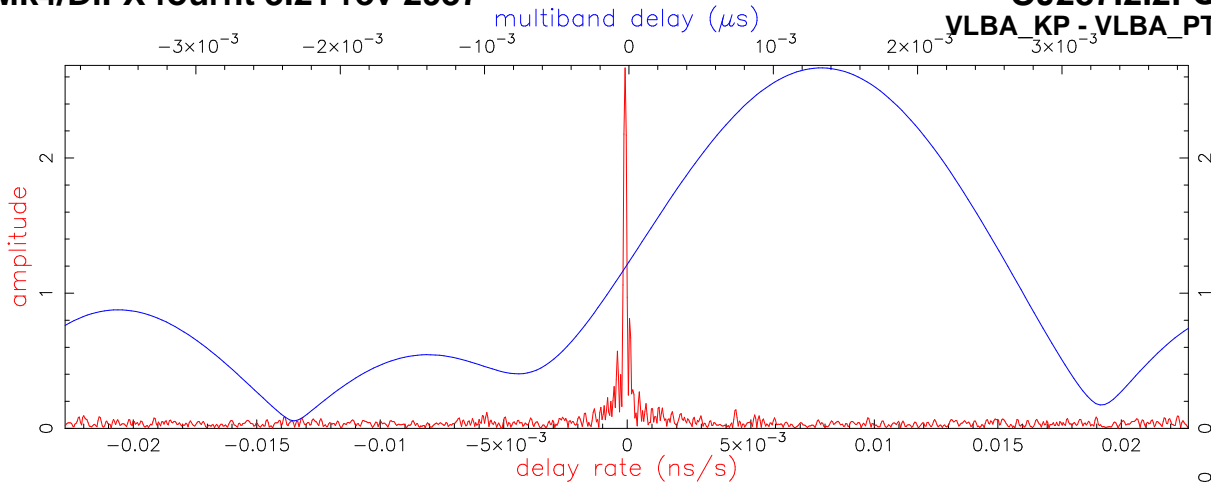
ph/seg (deg)	26.8	4.1	Amplitude	2.557 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	13.7	7.1	Search (1024X16)	2.469	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	10.3	1.2	Inc. seg. avg.	2.850	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	6.0	2.1	Inc. frq. avg.	2.576	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 100.8 el 55.0 pa -62.5 o: az 102.2 el 48.6 pa -55.9 u,v (fr/asec) 176.177 -467.435 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/ko..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/ko.Q.29.212FQY



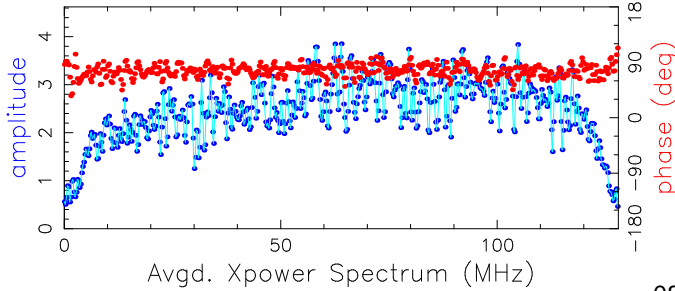
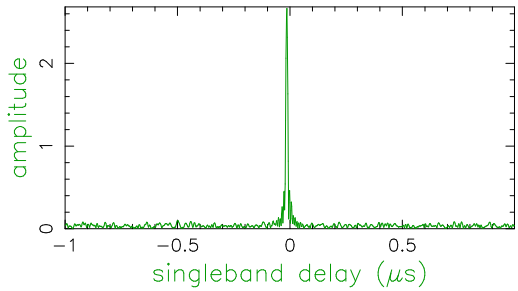
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol LR



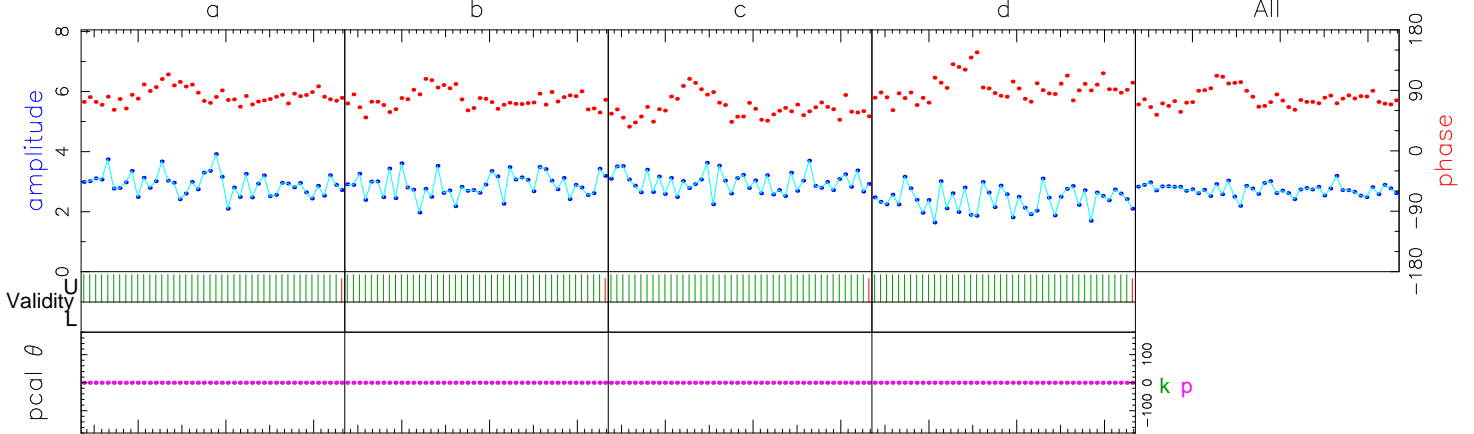
Fringe quality 7

SNR 98.4  
Int time 179.593  
Amp 2.685  
Phase 77.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.014236  
MBD 0.001306  
Fringe rate (Hz)  
-0.004324  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134626  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	1000
p	1000	1000	1000	1000	PC freqs	1000
k:p	0:0	0:0	0:0	0:0	PC phase	0:0
k:p	0:0	0:0	0:0	0:0	Manl PC	0:0
k	1000	1000	1000	1000	PC amp	1000
p	1000	1000	1000	1000		1000
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

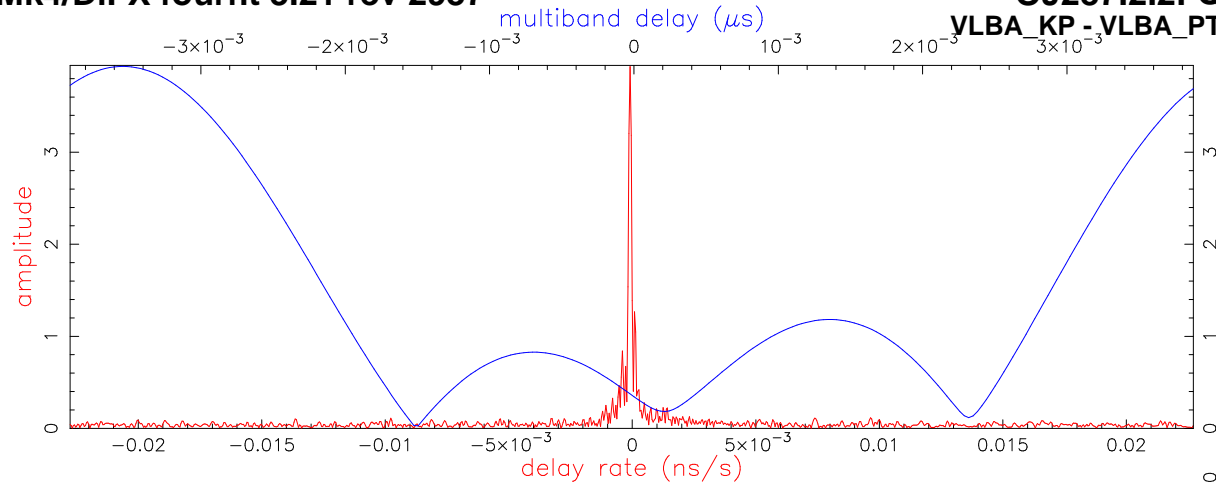
	42912.00	43040.00	43168.00	43296.00		
Group delay (usec)(sbd)	-4.5983837100E+02		Apriori delay (usec)	-4.59824068215E+02	Resid mbdelay (usec)	1.30612E-03 +/- 1.1E-05
Sband delay (usec)	-4.59838303965E+02		Apriori clock (usec)	3.5516815E+00	Resid sbdelay (usec)	-1.42357E-02 +/- 4.4E-05
Phase delay (usec)	-4.59824063182E+02		Apriori clockrate (us/s)	-3.5779000E-08	Resid phdelay (usec)	5.03320E-06 +/- 7.5E-08
Delay rate (us/s)	7.97124183852E-02		Apriori rate (us/s)	7.97125191461E-02	Resid rate (us/s)	-1.00761E-07 +/- 7.3E-10
Total phase (deg)		-71.7	Apriori accel (us/s/s)	1.13943430460E-06	Resid phase (deg)	77.8 +/- 1.2

	RMS	Theor.	Amplitude	2.685 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	12.9	3.9	Search (1024X16)	2.610	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	6.9	6.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	15.1	1.2	Inc. seg. avg.	2.727	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	9.0	2.0	Inc. frq. avg.	2.710	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 p: az 107.2 el 57.3 pa -57.1 u,v (fr/asec) -241.473 -125.685 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kp..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kp.Q.15.212FQY

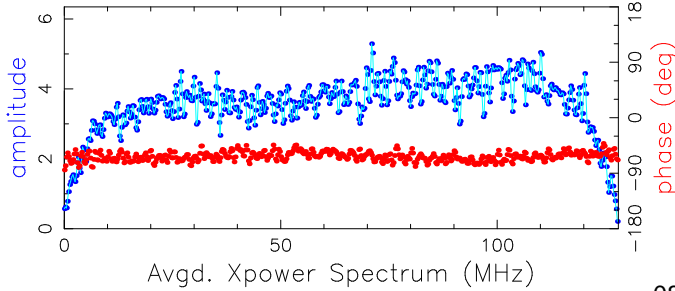
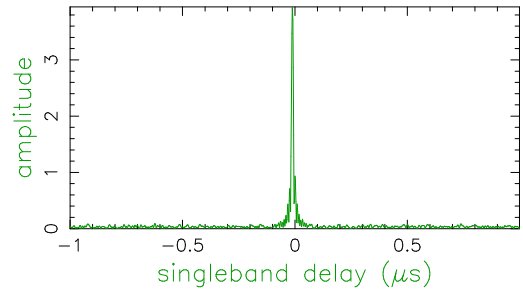
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol RL



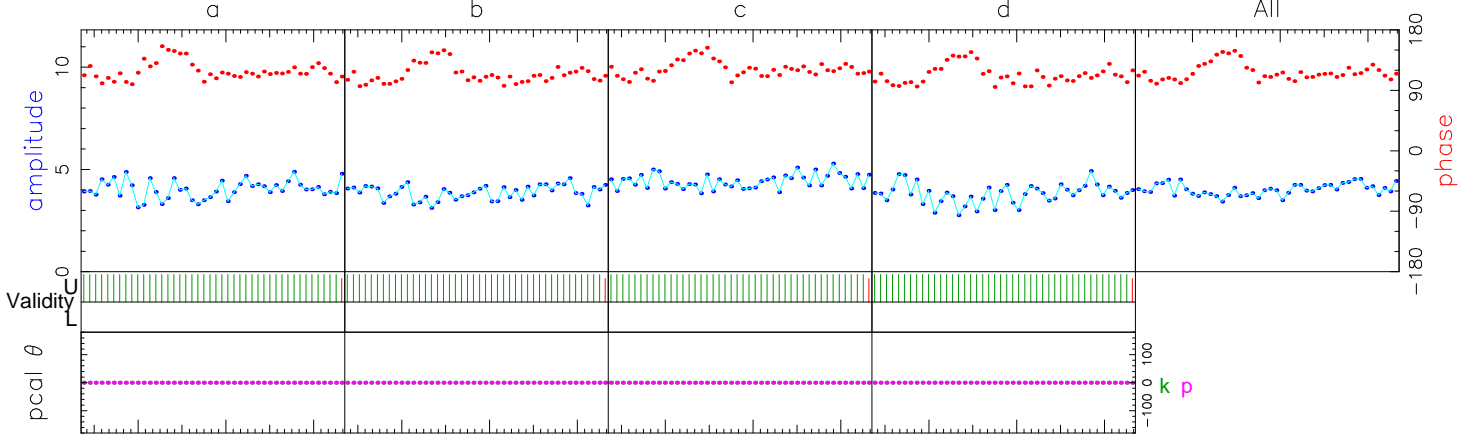
Fringe quality 8

SNR 144.5  
Int time 179.593  
Amp 3.943  
Phase 116.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.011362  
MBD -0.003519  
Fringe rate (Hz)  
-0.004319  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134627  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	
p	1000	1000	1000	1000	PC freqs	
k:p	0:0	0:0	0:0	0:0	PC phase	
k:p	0:0	0:0	0:0	0:0	ManI PC	
k	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

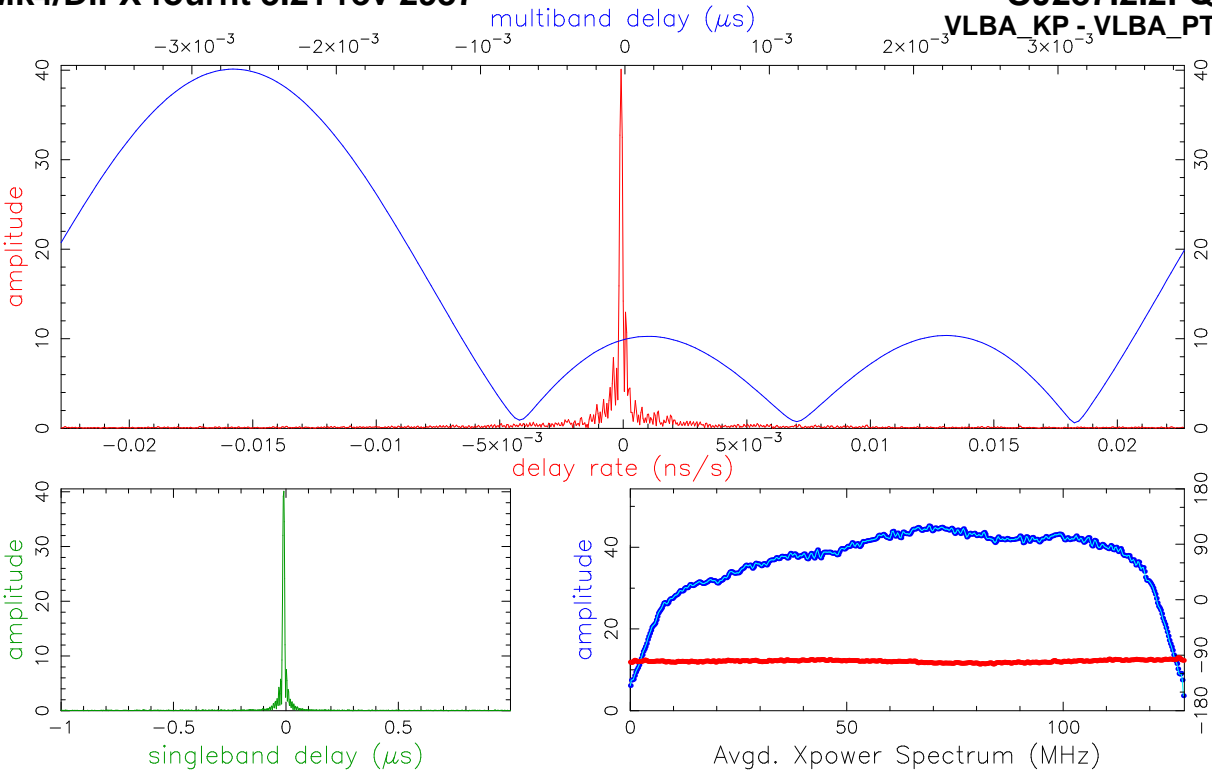
Group delay (usec)(sbd)	-4.59835399943E+02	Apriori delay (usec)	-4.59824068215E+02	Resid mbdelay (usec)	-3.51923E-03	+/-	7.7E-06
Sband delay (usec)	-4.59835430465E+02	Apriori clock (usec)	3.5516815E+00	Resid sbdelay (usec)	-1.13622E-02	+/-	3.0E-05
Phase delay (usec)	-4.59824060663E+02	Apriori clockrate (us/s)	-3.5779000E-08	Resid phdelay (usec)	7.55270E-06	+/-	5.1E-08
Delay rate (us/s)	7.97124184989E-02	Apriori rate (us/s)	7.97125191461E-02	Resid rate (us/s)	-1.00647E-07	+/-	4.9E-10
Total phase (deg)	-32.8	Apriori accel (us/s/s)	1.13943430460E-06	Resid phase (deg)	116.7	+/-	0.8

ph/seg (deg)	RMS 12.5	Theor. 2.6	Amplitude 3.943 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	7.4	4.6	Search (1024X16) 3.851	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	5.5	0.8	Interp. 0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	6.2	1.4	Inc. seg. avg. 4.018	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00
			Inc. frq. avg. 3.940					

k: az 100.8 el 55.0 pa -62.5 p: az 107.2 el 57.3 pa -57.1 u,v (fr/asec) -241.473 -125.685 simultaneous interpolator  
Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kp..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kp.Q.20.212FQY

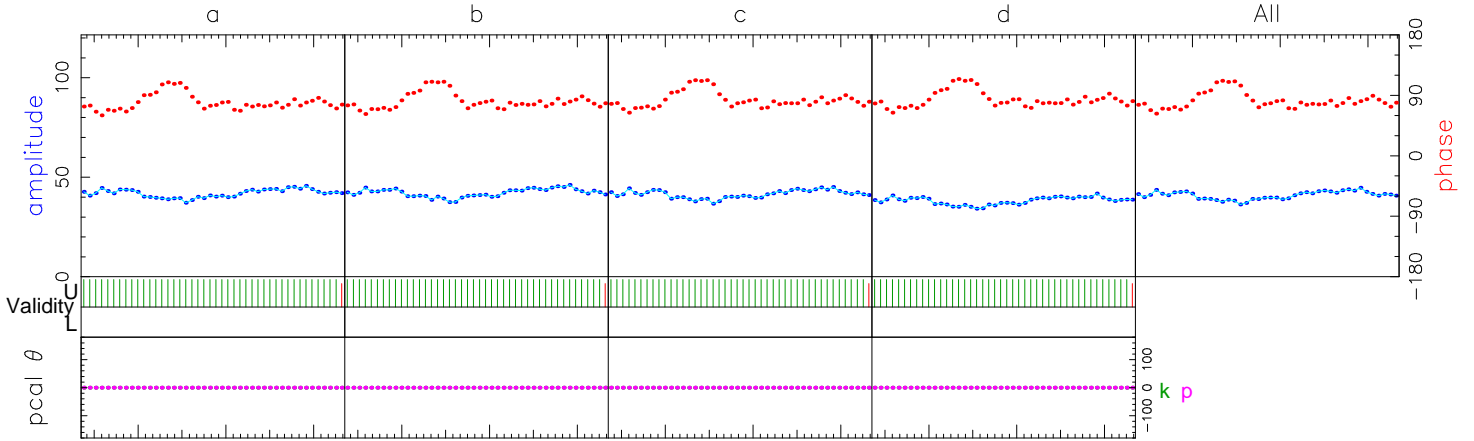
Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol LL



Fringe quality 8  
SNR 1485.3  
Int time 179.593  
Amp 40.529  
Phase 81.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.010467  
MBD -0.002746  
Fringe rate (Hz)  
-0.004307  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134623  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000		
p	1000	1000	1000	1000		
k:p	0:0	0:0	0:0	0:0		
k:p	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
p	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
p	Q00UL	Q01UL	Q02UL	Q03UL		
Group delay (usec)(sbd)	-4.59834626662E+02					
Sband delay (usec)	-4.59834535215E+02					
Phase delay (usec)	-4.59824062937E+02					
Delay rate (us/s)	7.97124187663E-02					
Total phase (deg)		-68.0				
Apriori delay (usec)			-4.59824068215E+02			
Apriori clock (usec)			3.5516815E+00			
Apriori clockrate (us/s)			-3.5779000E-08			
Apriori rate (us/s)			7.97125191461E-02			
Apriori accel (us/s/s)			1.13943430460E-06			
Resid mbdelay (usec)				-2.74595E-03		+/- 7.5E-07
Resid sbdelay (usec)				-1.04670E-02		+/- 2.9E-06
Resid phdelay (usec)				5.27789E-06		+/- 5.0E-09
Resid rate (us/s)				-1.00380E-07		+/- 4.8E-11
Resid phase (deg)				81.5		+/- 0.1

pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
Pcal rate: 0.000E+00, 0.000E+00 (us/s)  
Bits/sample: 2x2 SampCntNorm: enabled  
Sample rate(MISamp/s): 256  
Data rate(Mb/s): 2048 nlags: 512 t\_cohere infinite

sb window (us) -1.000 1.000  
mb window (us) -0.004 0.004  
dr window (ns/s) -0.023 0.023  
ion window (TEC) 0.00 0.00

ph/seg (deg) 12.0 0.3 Search (1024X16) 38.718  
amp/seg (%) 4.9 0.4 Interp. 0.000  
ph/frq (deg) 2.5 0.1 Inc. seg. avg. 40.949  
amp/frq (%) 4.1 0.1 Inc. frq. avg. 40.112

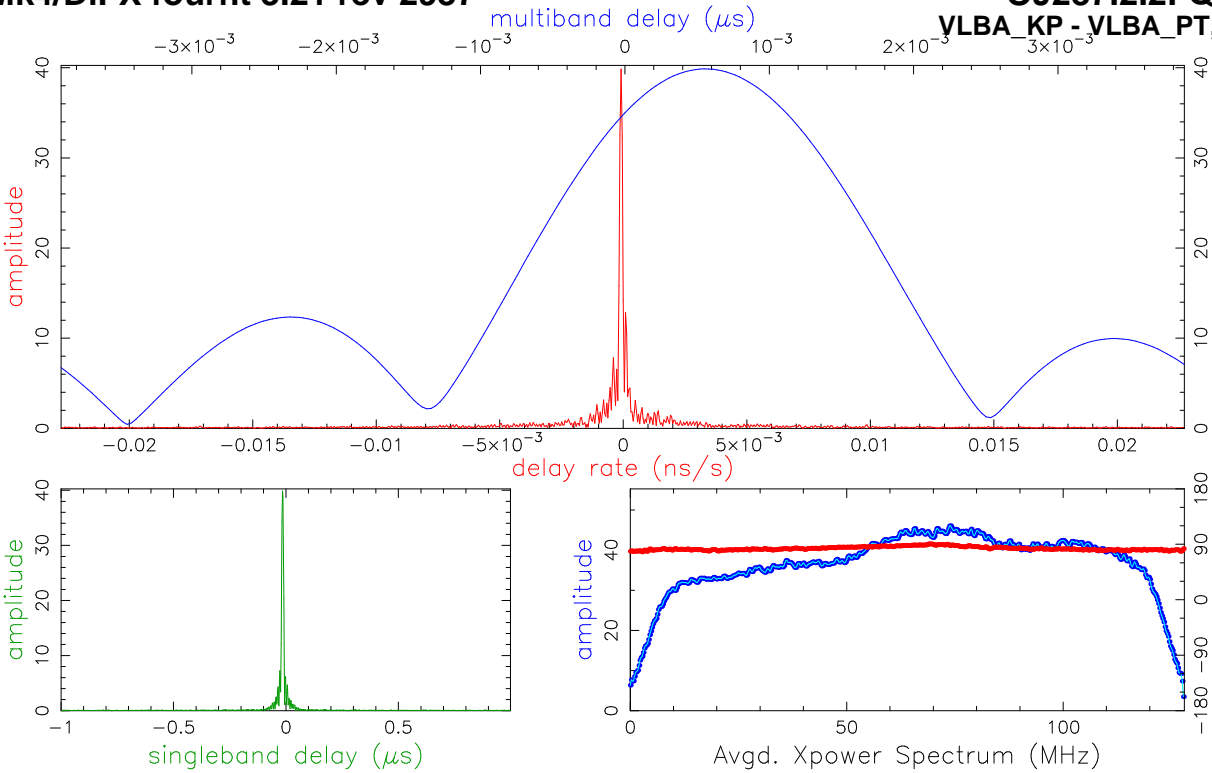
k: az 100.8 el 55.0 pa -62.5 p: az 107.2 el 57.3 pa -57.1 u,v (fr/asec) -241.473 -125.685

simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kp..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kp.Q.7.212FQY

Mk4/DiFX fourfit 3.21 rev 2937

OJ287.212FQY, No0021, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol RR

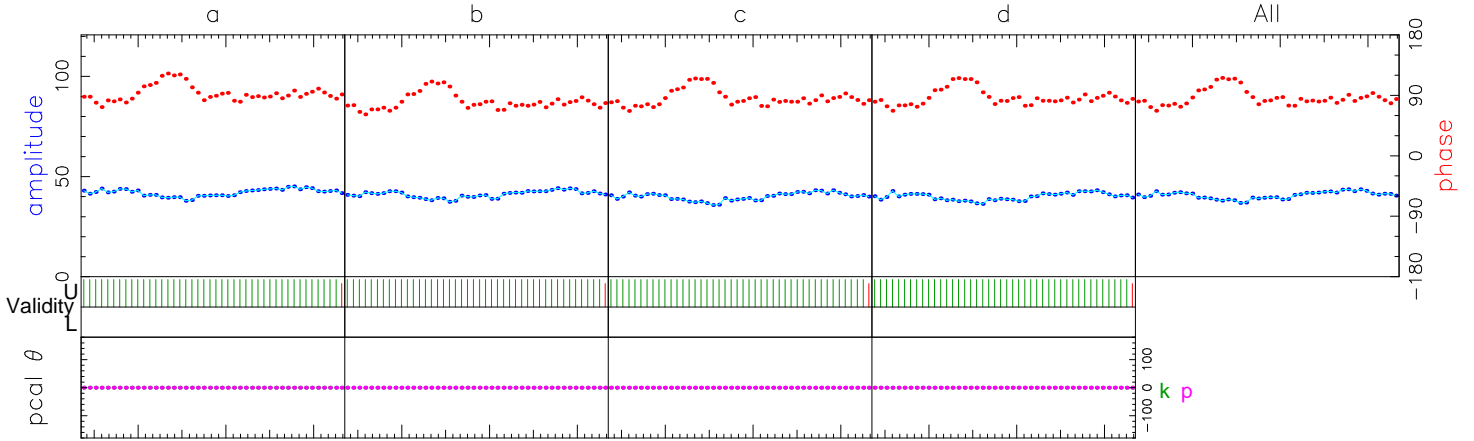


Fringe quality 8

SNR 1475.6  
Int time 179.593  
Amp 40.266  
Phase 86.2  
PFD 0.0e+00  
Delays (us)  
SBD -0.014951  
MBD 0.000587  
Fringe rate (Hz)  
-0.004312  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 010621.00  
Stop 010920.71  
FRT 010751.00  
Corr/FF/build  
2022:347:122231  
2022:347:134625  
2021:252:122852  
RA & Dec (J2000)  
08h54m48.874928s  
+20°06'30.640850"

Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	APs used	1000
k	1000	1000	1000	1000	PC freqs	1000
p	1000	1000	1000	1000	PC freqs	1000
k:p	0:0	0:0	0:0	0:0	PC phase	0:0
kp	0:0	0:0	0:0	0:0	Manl PC	0:0
k	1000	1000	1000	1000	PC amp	1000
p	1000	1000	1000	1000		1000
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

	42912.00	43040.00	43168.00	43296.00	Resid mbdelay (usec)	5.86991E-04	+/- 7.5E-07
Group delay (usec)(sbd)	-4.59839106225E+02				Resid sbdelay (usec)	-1.49506E-02	+/- 2.9E-06
Sband delay (usec)	-4.59839018840E+02				Resid phdelay (usec)	5.58032E-06	+/- 5.0E-09
Phase delay (usec)	-4.59824062635E+02				Resid rate (us/s)	-1.00479E-07	+/- 4.8E-11
Delay rate (us/s)	7.97124186668E-02				Resid phase (deg)	86.2	+/- 0.1
Total phase (deg)		-63.3					

	RMS	Theor.	Amplitude	40.266 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	11.9	0.3	Search (1024X16)	39.175	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	4.4	0.4	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	6.3	0.1	Inc. seg. avg.	40.699	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	2.2	0.1	Inc. frq. avg.	39.982	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 100.8 el 55.0 pa -62.5 p: az 107.2 el 57.3 pa -57.1 u,v (fr/asec) -241.473 -125.685 simultaneous interpolator

Control file: cf\_5311\_gmva Input file: /Exps/c221d/v1/7mm/1001/No0021/kp..212FQY Output file: /Exps/c221d/v1/7mm/1001/No0021/kp.Q.9.212FQY