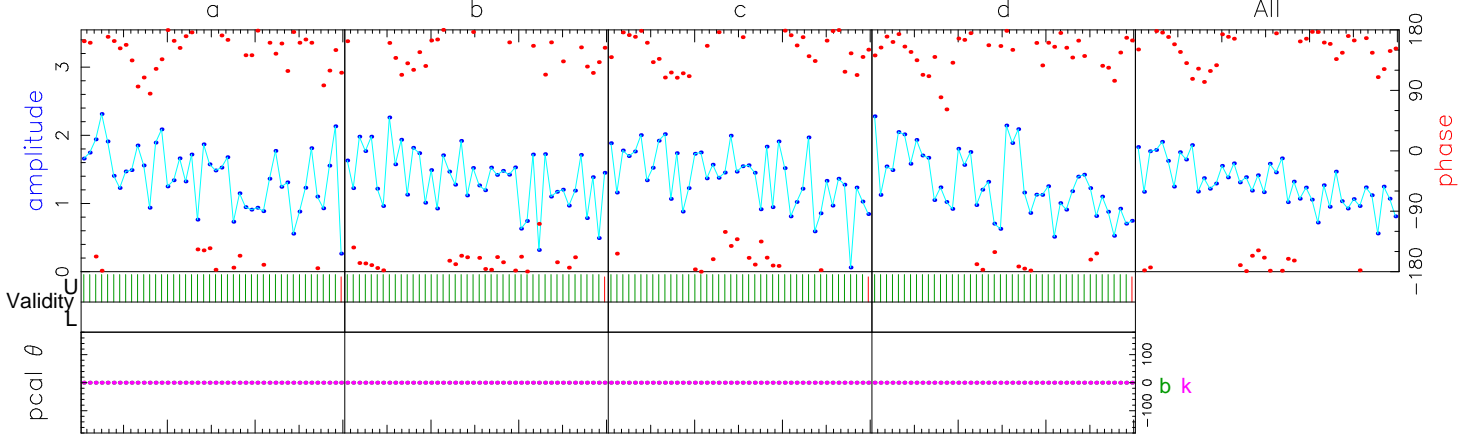


Fringe quality 8

SNR 43.4  
Int time 179.851  
Amp 1.182  
Phase 163.0  
PFD 0.0e+00  
Delays (us)  
SBD 0.014293  
MBD -0.001330  
Fringe rate (Hz)  
0.004544  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142919  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	352/0	352/0	352/0	352/0		
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	

Group delay (usec)(sbd)	-2.95291041060E+03	Apriori delay (usec)	-2.95292470548E+03	Resid mbdelay (usec)	-1.33012E-03	+/- 2.6E-05
Sband delay (usec)	-2.95291041286E+03	Apriori clock (usec)	-4.1986580E+00	Resid sbdelay (usec)	1.42926E-02	+/- 9.9E-05
Phase delay (usec)	-2.95292469493E+03	Apriori clockrate (us/s)	-2.6585000E-07	Resid phdelay (usec)	1.05491E-05	+/- 1.7E-07
Delay rate (us/s)	2.06206941907E-02	Apriori rate (us/s)	2.06205883008E-02	Resid rate (us/s)	1.05890E-07	+/- 1.6E-09
Total phase (deg)	-183.2	Apriori accel (us/s/s)	2.26640783259E-05	Resid phase (deg)	163.0	+/- 2.6

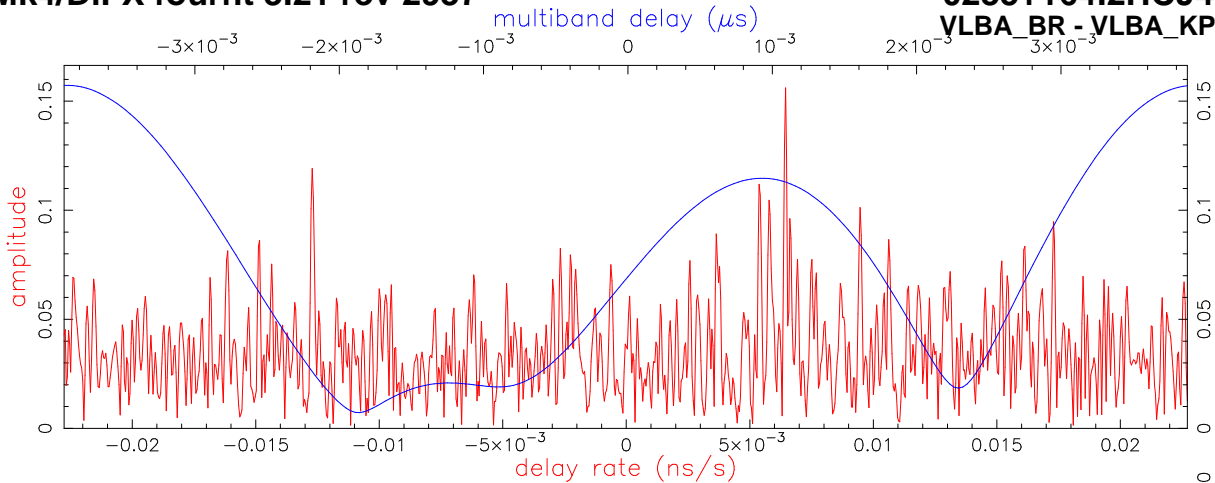
	RMS	Theor.	Amplitude	1.182 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	26.8	8.8	Search (1024X16)	1.134	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	28.3	15.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	8.0	2.6	Inc. seg. avg.	1.292	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	2.5	4.6	Inc. frq. avg.	1.177	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

b: az 129.7 el 49.4 pa -32.3 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) -52.900 1176.625 simultaneous interpolator

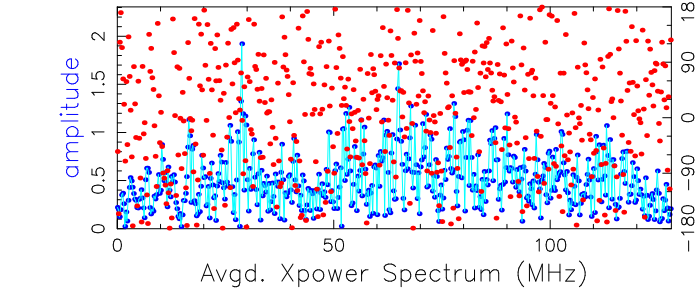
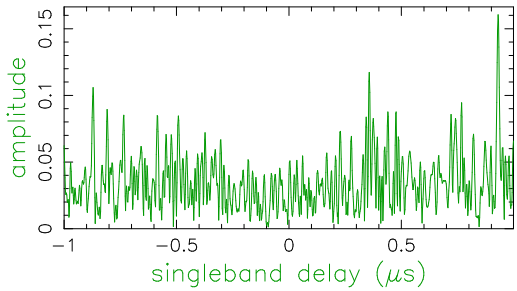
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/bk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/bk.Q.111.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

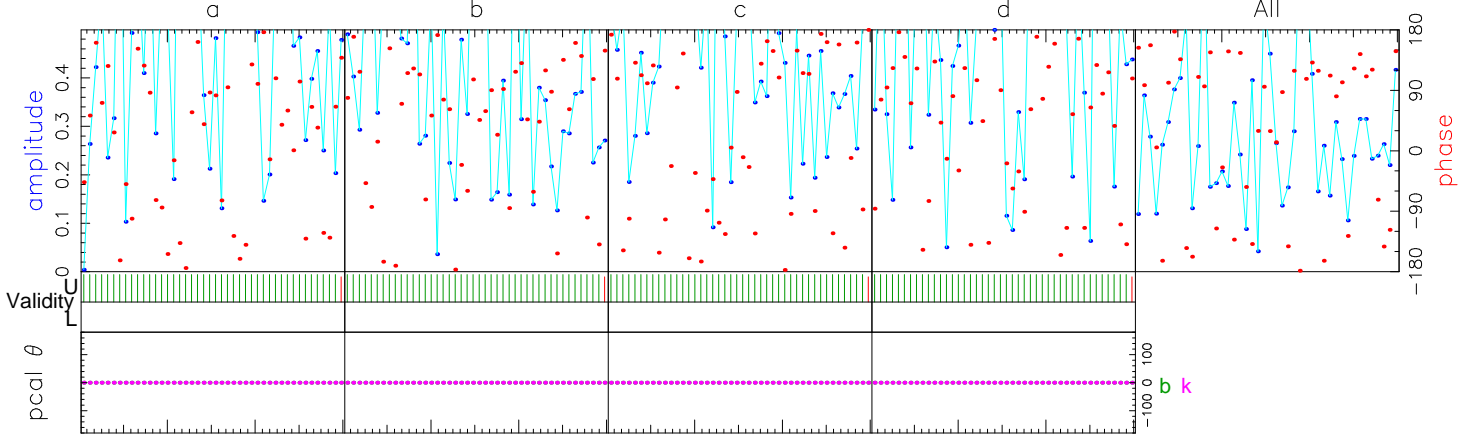
0235+164.2HCJ40, No0315, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol LR



Fringe quality 0  
SNR 5.9  
Int time 179.851  
Amp 0.166  
Phase 140.4  
PFD 3.6e-01  
Delays (us)  
SBD 0.930159  
MBD 0.003801  
Fringe rate (Hz) 0.276595  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142921  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"



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
142.1	102.3	-176.3	138.9	Phase	140.4
0.2	0.2	0.2	0.2	Ampl.	0.2
246.0	102.7	231.0	990.4	Sbd box	989.2
U/L 352/0	352/0	352/0	352/0	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 Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

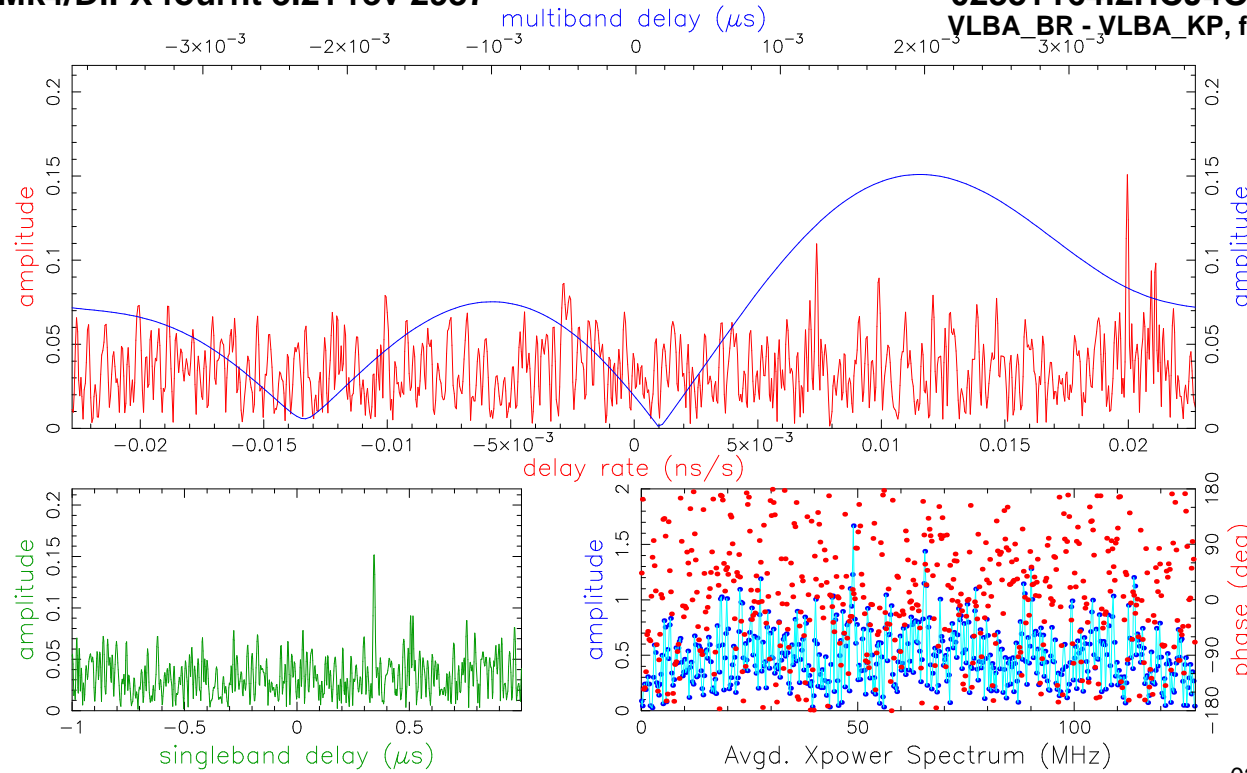
Group delay (usec)(sbd)	-2.95199121689E+03	Apriori delay (usec)	-2.95292470548E+03	Resid mbdelay (usec)	3.80109E-03	+/- 1.9E-04
Sband delay (usec)	-2.95199454636E+03	Apriori clock (usec)	-4.1986580E+00	Resid sbdelay (usec)	9.30159E-01	+/- 7.3E-04
Phase delay (usec)	-2.95292469639E+03	Apriori clockrate (us/s)	-2.6585000E-07	Resid phdelay (usec)	9.08935E-06	+/- 1.3E-06
Delay rate (us/s)	2.06270339271E-02	Apriori rate (us/s)	2.06205883008E-02	Resid rate (us/s)	6.44563E-06	+/- 1.2E-08
Total phase (deg)	-205.8	Apriori accel (us/s/s)	2.26640783259E-05	Resid phase (deg)	140.4	+/- 19.4

ph/seg (deg)	RMS 72.6	Theor. 64.4	Amplitude Search (1024X16)	0.156	0.166 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	126.7	112.4	Interp.	0.000	0.156	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	40.8	19.4	Inc. seg. avg.	0.185	0.156	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	22.9	33.9	Inc. frq. avg.	0.172	0.172	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

b: az 129.7 el 49.4 pa -32.3 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) -52.900 1176.625 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/bk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/bk.Q.122.2HCJ40

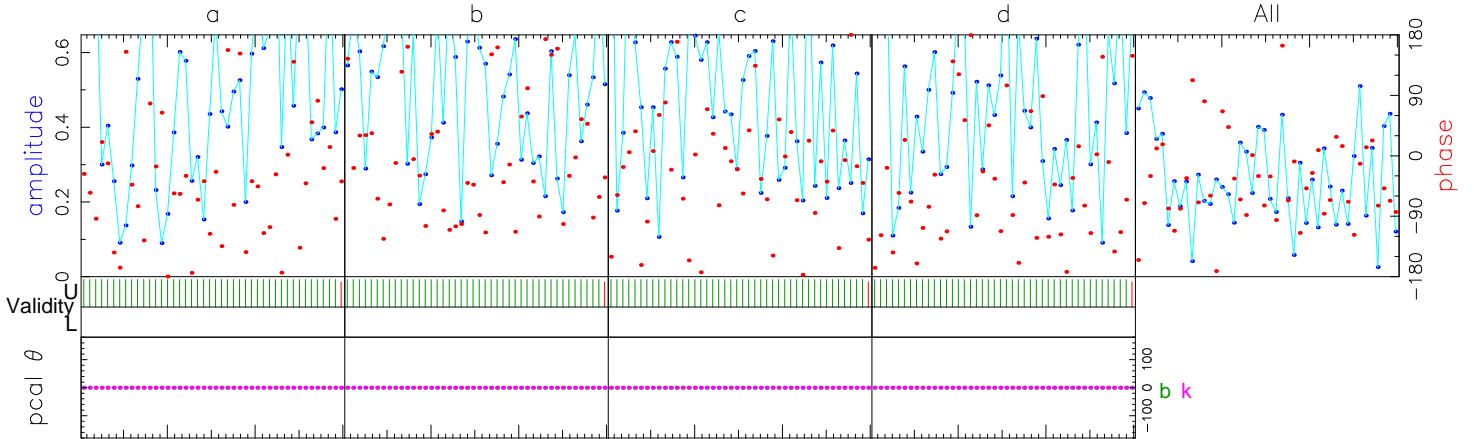
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol RL



Fringe quality 0  
SNR 5.6  
Int time 179.851  
Amp 0.216  
Phase -49.7  
PFD 8.7e-01  
Delays (us)  
SBD 0.342826  
MBD 0.002018  
Fringe rate (Hz)  
0.855750  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142924  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

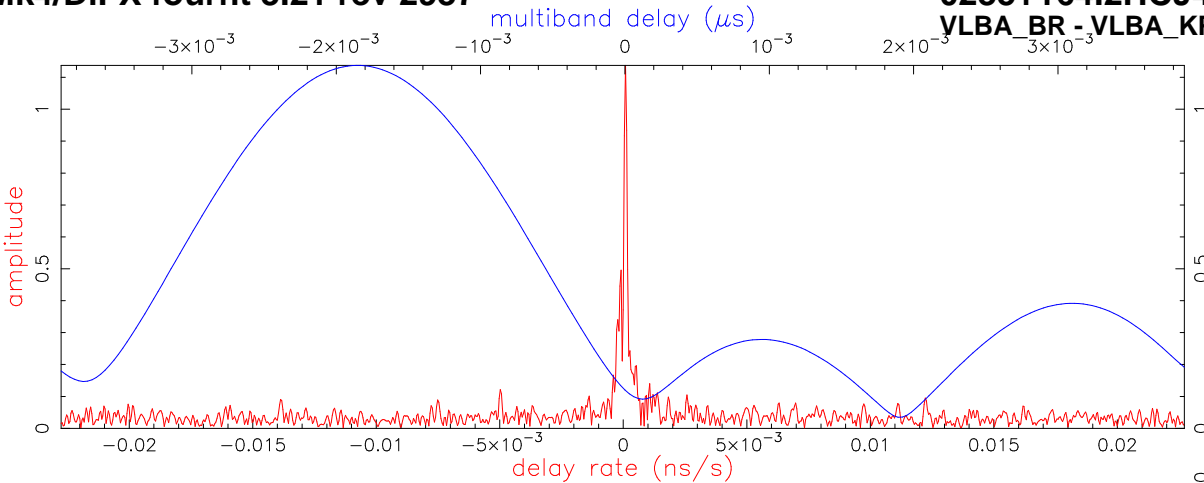
Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



42912.00	43040.00	43168.00	43296.00	43424.00	43552.00	43680.00	43808.00	43936.00	44064.00	44192.00	44320.00	44448.00	44576.00	44704.00	44832.00	44960.00	45088.00	45216.00	45344.00	45472.00	45600.00	45728.00	45856.00	45984.00	46112.00	46240.00	46368.00	46496.00	46624.00	46752.00	46880.00	47008.00	47136.00	47264.00	47392.00	47520.00	47648.00	47776.00	47904.00	48032.00	48160.00	48288.00	48416.00	48544.00	48672.00	48800.00	48928.00	49056.00	49184.00	49312.00	49440.00	49568.00	49696.00	49824.00	49952.00	50080.00	50208.00	50336.00	50464.00	50592.00	50720.00	50848.00	50976.00	51104.00	51232.00	51360.00	51488.00	51616.00	51744.00	51872.00	52000.00	52128.00	52256.00	52384.00	52512.00	52640.00	52768.00	52896.00	53024.00	53152.00	53280.00	53408.00	53536.00	53664.00	53792.00	53920.00	54048.00	54176.00	54304.00	54432.00	54560.00	54688.00	54816.00	54944.00	55072.00	55200.00	55328.00	55456.00	55584.00	55712.00	55840.00	55968.00	56096.00	56224.00	56352.00	56480.00	56608.00	56736.00	56864.00	56992.00	57120.00	57248.00	57376.00	57504.00	57632.00	57760.00	57888.00	58016.00	58144.00	58272.00	58400.00	58528.00	58656.00	58784.00	58912.00	59040.00	59168.00	59296.00	59424.00	59552.00	59680.00	59808.00	59936.00	60064.00	60192.00	60320.00	60448.00	60576.00	60704.00	60832.00	60960.00	61088.00	61216.00	61344.00	61472.00	61600.00	61728.00	61856.00	61984.00	62112.00	62240.00	62368.00	62496.00	62624.00	62752.00	62880.00	63008.00	63136.00	63264.00	63392.00	63520.00	63648.00	63776.00	63904.00	64032.00	64160.00	64288.00	64416.00	64544.00	64672.00	64800.00	64928.00	65056.00	65184.00	65312.00	65440.00	65568.00	65696.00	65824.00	65952.00	66080.00	66208.00	66336.00	66464.00	66592.00	66720.00	66848.00	66976.00	67104.00	67232.00	67360.00	67488.00	67616.00	67744.00	67872.00	68000.00	68128.00	68256.00	68384.00	68512.00	68640.00	68768.00	68896.00	69024.00	69152.00	69280.00	69408.00	69536.00	69664.00	69792.00	69920.00	70048.00	70176.00	70304.00	70432.00	70560.00	70688.00	70816.00	70944.00	71072.00	71200.00	71328.00	71456.00	71584.00	71712.00	71840.00	71968.00	72096.00	72224.00	72352.00	72480.00	72608.00	72736.00	72864.00	72992.00	73120.00	73248.00	73376.00	73504.00	73632.00	73760.00	73888.00	74016.00	74144.00	74272.00	74400.00	74528.00	74656.00	74784.00	74912.00	75040.00	75168.00	75296.00	75424.00	75552.00	75680.00	75808.00	75936.00	76064.00	76192.00	76320.00	76448.00	76576.00	76704.00	76832.00	76960.00	77088.00	77216.00	77344.00	77472.00	77600.00	77728.00	77856.00	77984.00	78112.00	78240.00	78368.00	78496.00	78624.00	78752.00	78880.00	79008.00	79136.00	79264.00	79392.00	79520.00	79648.00	79776.00	79904.00	80032.00	80160.00	80288.00	80416.00	80544.00	80672.00	80800.00	80928.00	81056.00	81184.00	81312.00	81440.00	81568.00	81696.00	81824.00	81952.00	82080.00	82208.00	82336.00	82464.00	82592.00	82720.00	82848.00	82976.00	83104.00	83232.00	83360.00	83488.00	83616.00	83744.00	83872.00	84000.00	84128.00	84256.00	84384.00	84512.00	84640.00	84768.00	84896.00	85024.00	85152.00	85280.00	85408.00	85536.00	85664.00	85792.00	85920.00	86048.00	86176.00	86304.00	86432.00	86560.00	86688.00	86816.00	86944.00	87072.00	87200.00	87328.00	87456.00	87584.00	87712.00	87840.00	87968.00	88096.00	88224.00	88352.00	88480.00	88608.00	88736.00	88864.00	88992.00	89120.00	89248.00	89376.00	89504.00	89632.00	89760.00	89888.00	90016.00	90144.00	90272.00	90400.00	90528.00	90656.00	90784.00	90912.00	91040.00	91168.00	91296.00	91424.00	91552.00	91680.00	91808.00	91936.00	92064.00	92192.00	92320.00	92448.00	92576.00	92704.00	92832.00	92960.00	93088.00	93216.00	93344.00	93472.00	93600.00	93728.00	93856.00	93984.00	94112.00	94240.00	94368.00	94496.00	94624.00	94752.00	94880.00	95008.00	95136.00	95264.00	95392.00	95520.00	95648.00	95776.00	95904.00	96032.00	96160.00	96288.00	96416.00	96544.00	96672.00	96800.00	96928.00	97056.00	97184.00	97312.00	97440.00	97568.00	97696.00	97824.00	97952.00	98080.00	98208.00	98336.00	98464.00	98592.00	98720.00	98848.00	98976.00	99104.00	99232.00	99360.00	99488.00	99616.00	99744.00	99872.00	100000.00
-57.3	-45.3	-10.4	-88.5	-74.5	-60.5	-46.5	-32.5	-18.5	-4.5	9.5	23.5	37.5	51.5	65.5	79.5	93.5	107.5	121.5	135.5	149.5	163.5	177.5	191.5	205.5	219.5	233.5	247.5	261.5	275.5	289.5	303.5	317.5	331.5	345.5	359.5	373.5	387.5	401.5	415.5	429.5	443.5	457.5	471.5	485.5	499.5	513.5	527.5	541.5	555.5	569.5	583.5	597.5	611.5	625.5	639.5	653.5	667.5	681.5	695.5	709.5	723.5	737.5	751.5	765.5	779.5	793.5	807.5	821.5	835.5	849.5	863.5	877.5	891.5	905.5	919.5	933.5	947.5	961.5	975.5	989.5	1003.5	1017.5	1031.5	1045.5	1059.5	1073.5	1087.5	1101.5	1115.5	1129.5	1143.5	1157.5	1171.5	1185.5	1199.5	1213.5	1227.5	1241.5	1255.5	1269.5	1283.5	1297.5	1311.5	1325.5	1339.5	1353.5	1367.5	1381.5	1395.5	1409.5	1423.5	1437.5	1451.5	1465.5	1479.5	1493.5	1507.5	1521.5	1535.5	1549.5	1563.5	1577.5	1591.5	1605.5	1619.5	1633.5	1647.5	1661.5	1675.5	1689.5	1703.5	1717.5	1731.5	1745.5	1759.5	1773.5	1787.5	1801.5	1815.5	1829.5	1843.5	1857.5	1871.5	1885.5	1899.5	1913.5	1927.5	1941.5	1955.5	1969.5	1983.5	1997.5	2011.5	2025.5	2039.5	2053.5	2067.5	2081.5	2095.5	2109.5	2123.5	2137.5	2151.5	2165.5	2179.5	2193.5	2207.5	2221.5	2235.5	2249.5	2263.5	2277.5	2291.5	2305.5	2319.5	2333.5	2347.5	2361.5	2375.5	2389.5	2403.5	2417.5	2431.5	2445.5	2459.5	2473.5	2487.5	2501.5	2515.5	2529.5	2543.5	2557.5	2571.5	2585.5	2599.5	2613.5	2627.5	2641.5	2655.5	2669.5	2683.5	2697.5	2711.5	2725.5	2739.5	2753.5	2767.5	2781.5	2795.5	2809.5	2823.5	2837.5	2851.5	2865.5	2879.5	2893.5	2907.5	2921.5	2935.5	2949.5	2963.5	2977.5	2991.5	3005.5	3019.5	3033.5	3047.5	3061.5	3075.5	3089.5	3103.5	3117.5	3131.5	3145.5	3159.5	3173.5	3187.5	3201.5	3215.5	3229.5	3243.5	3257.5	3271.5	3285.5	3299.5	3313.5	3327.5	3341.5	3355.5	3369.5	3383.5	3397.5	3411.5	3425.5	3439.5	3453.5	3467.5	3481.5	3495.5	3509.5	3523.5	3537.5	3551.5	3565.5	3579.5	3593.5	3607.5	3621.5	3635.5	3649.5	3663.5	3677.5	3691.5	3705.5	3719.5	3733.5	3747.5	3761.5	3775.5	3789.5	3803.5	3817.5	3831.5	3845.5	3859.5	3873.5	3887.5	3901.5	3915.5	3929.5	3943.5	3957.5	3971.5	3985.5	3999.5	4013.5	4027.5	4041.5	4055.5	4069.5	4083.5	4097.5	4111.5	4125.5	4139.5	4153.5	4167.5	4181.5	4195.5	4209.5	4223.5	4237.5	4251.5	4265.5	4279.5	4293.5	4307.5	4321.5	4335.5	4349.5	4363.5	4377.5	4391.5	4405.5	4419.5	4433.5	4447.5	4461.5	4475.5	4489.5	4503.5	4517.5	4531.5	4545.5	4559.5	4573.5	4587.5	4601.5	4615.5	4629.5	4643.5	4657.5	4671.5	4685.5	4699.5	4713.5	4727.5	4741.5	4755.5	4769.5	4783.5	4797.5	4811.5	4825.5	4839.5	4853.5	4867.5	4881.5	4895.5	4909.5	4923.5	4937.5	4951.5	4965.5	4979.5	4993.5	5007.5	5021.5	5035.5	5049.5	5063.5	5077.5	5091.5	5105.5	5119.5	5133.5	5147.5	5161.5	5175.5	5189.5	5203.5	5217.5	5231.5	5245.5	5259.5	5273.5	5287.5	5301.5	5315.5	5329.5	5343.5	5357.5	5371.5	5385.5	5399.5	5413.5	5427.5	5441.5	5455.5	5469.5	5483.5	5497.5	5511.5	5525.5	5539.5	5553.5	5567.5	5581.5	5595.5	5609.5	5623.5	5637.5	5651.5	5665.5	5679.5	5693.5	5707.5	5721.5	5735.5	5749.5	5763.5	5777.5	5791.5	5805.5	5819.5	5833.5	5847.5	5861.5	5875.5	5889.5	5903															

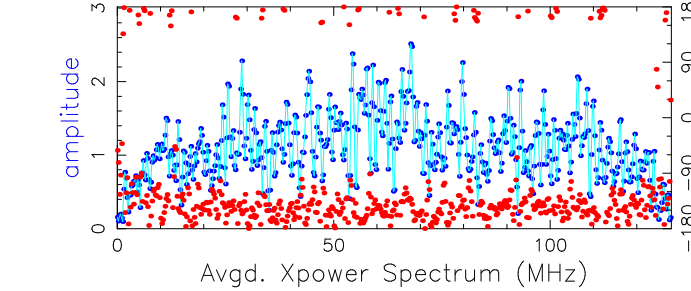
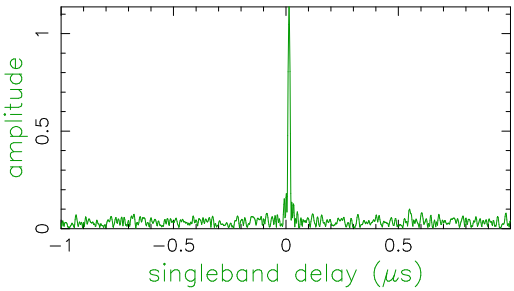
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, bk  
VLBA\_BR - VLBA\_KP, fgroup Q, pol LL



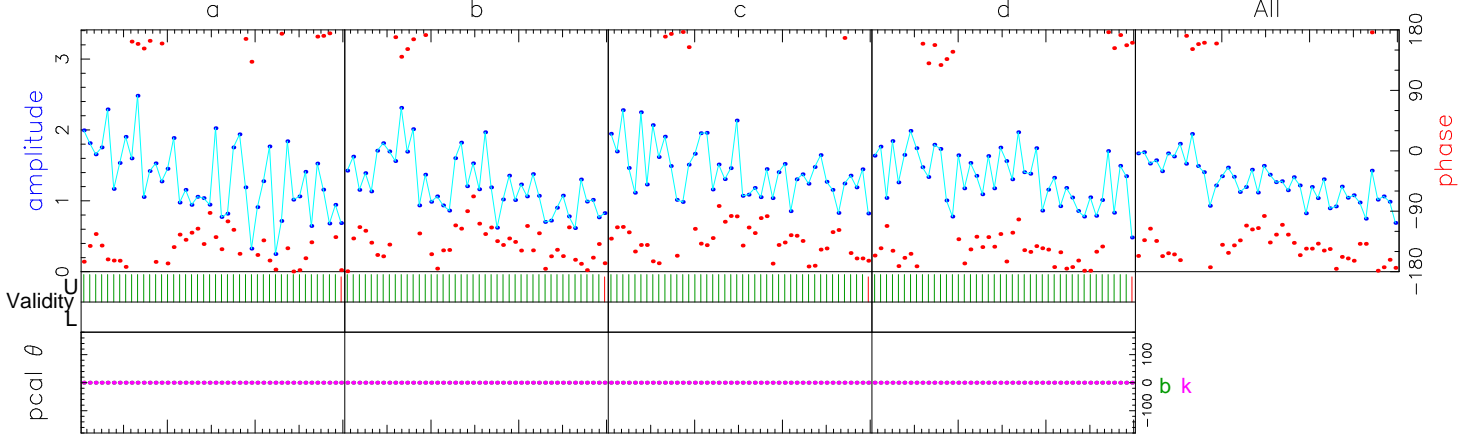
Fringe quality 7

SNR 41.7  
Int time 179.851  
Amp 1.137  
Phase -151.4  
PFD 0.0e+00  
Delays (us)  
SBD 0.013662  
MBD -0.001853  
Fringe rate (Hz)  
0.004733  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142917  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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

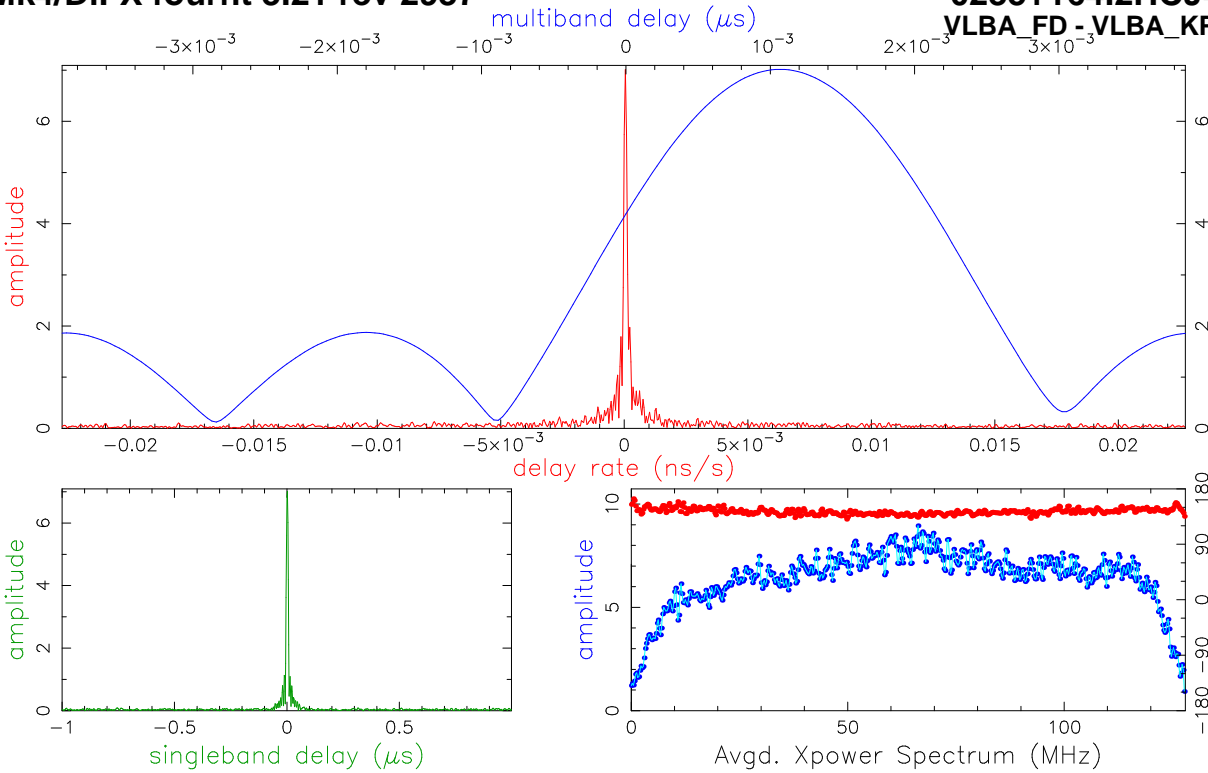


42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-158.4	-146.9	-139.5	-161.4	Phase	-151.4
1.2	1.0	1.3	1.1	Ampl.	1.2
520.4	520.2	519.9	519.4	Sbd box	520.0
U/L 352/0	352/0	352/0	352/0	APs used	
b 1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	PC freqs	
b:k 0:0	0:0	0:0	0:0	PC phase	
b:k 0:0	0:0	0:0	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)	-2.95291093319E+03	Apriori delay (usec)	-2.95292470548E+03	Resid mbdelay (usec)	-1.85271E-03	+/- 2.7E-05
Sband delay (usec)	-2.95291104311E+03	Apriori clock (usec)	-4.1986580E+00	Resid sbdelay (usec)	1.36624E-02	+/- 1.0E-04
Phase delay (usec)	-2.95292471528E+03	Apriori clockrate (us/s)	-2.6585000E-07	Resid phdelay (usec)	-9.80010E-06	+/- 1.8E-07
Delay rate (us/s)	2.06206985914E-02	Apriori rate (us/s)	2.06205883008E-02	Resid rate (us/s)	1.10291E-07	+/- 1.7E-09
Total phase (deg)	-137.6	Apriori accel (us/s/s)	2.26640783259E-05	Resid phase (deg)	-151.4	+/- 2.7

ph/seg (deg)	RMS 26.1	Theor. 9.1	Amplitude 1.137 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	27.5	15.9	Search (1024X16) 1.078	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	12.5	2.7	Interp. 0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	6.8	4.8	Inc. seg. avg. 1.259	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
			Inc. frq. avg. 1.150	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

b: az 129.7 el 49.4 pa -32.3 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) -52.900 1176.625 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/bk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/bk.Q.97.2HCJ40

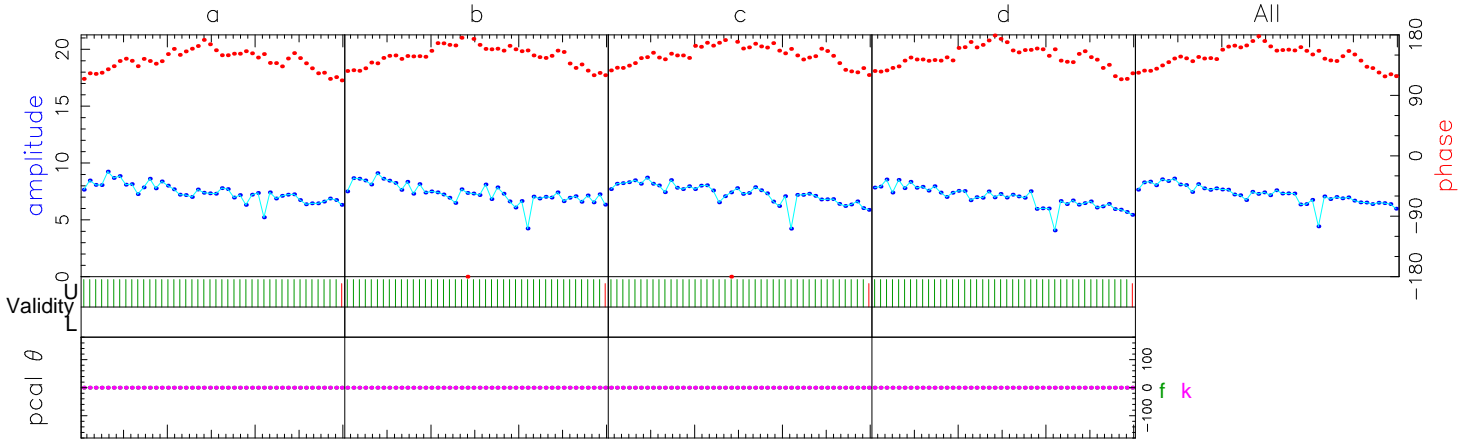


Fringe quality 8

SNR 260.0  
Int time 179.593  
Amp 7.094  
Phase 146.7  
PFD 0.0e+00  
Delays (us)  
SBD 0.001230  
MBD 0.001029  
Fringe rate (Hz) 0.002073  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142852  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

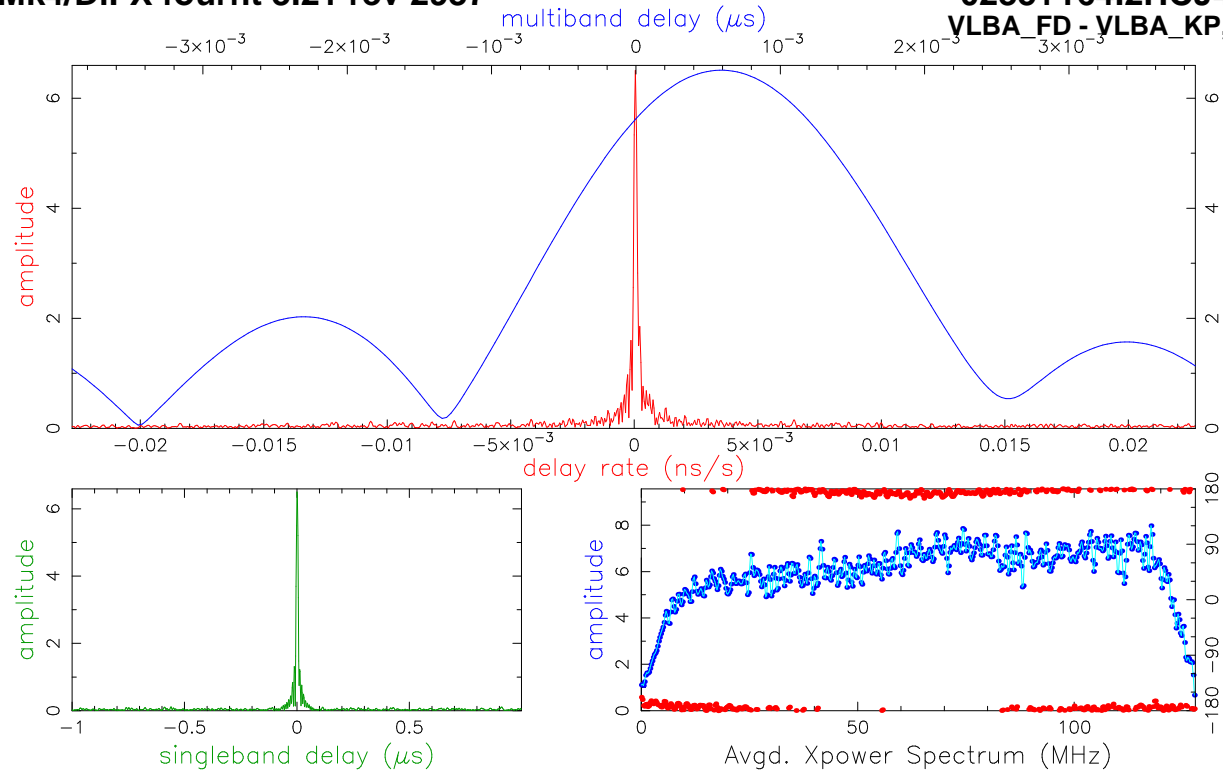
Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0	APs used	
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	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	8.83028524037E+02	Apriori delay (usec)	8.83027495048E+02	Resid mbdelay (usec)	1.02899E-03	+/-	4.3E-06
Sband delay (usec)	8.83028725298E+02	Apriori clock (usec)	1.6578430E+01	Resid sbdelay (usec)	1.23025E-03	+/-	1.7E-05
Phase delay (usec)	8.83027504545E+02	Apriori clockrate (us/s)	3.1925000E-07	Resid phdelay (usec)	9.49723E-06	+/-	2.9E-08
Delay rate (us/s)	-1.55006195355E-01	Apriori rate (us/s)	-1.55006243669E-01	Resid rate (us/s)	4.83138E-08	+/-	2.7E-10
Total phase (deg)	99.0	Apriori accel (us/s/s)	-5.24670355720E-06	Resid phase (deg)	146.7	+/-	0.4

ph/seg (deg)	14.8	1.5	Search (1024X16)	6.979	Pcal mode: MANUAL, MANUAL	PC period (AP's)	5, 5			
amp/seg (%)	11.4	2.6	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000			
ph/frq (deg)	4.7	0.4	Inc. seg. avg.	7.244	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004		
amp/frq (%)	2.9	0.8	Inc. frq. avg.	7.024	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023		
f: az 130.5 el 70.0 pa -42.5		k: az 120.1 el 63.9 pa -49.8		u,v (fr/asec)	459.578 -145.789	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

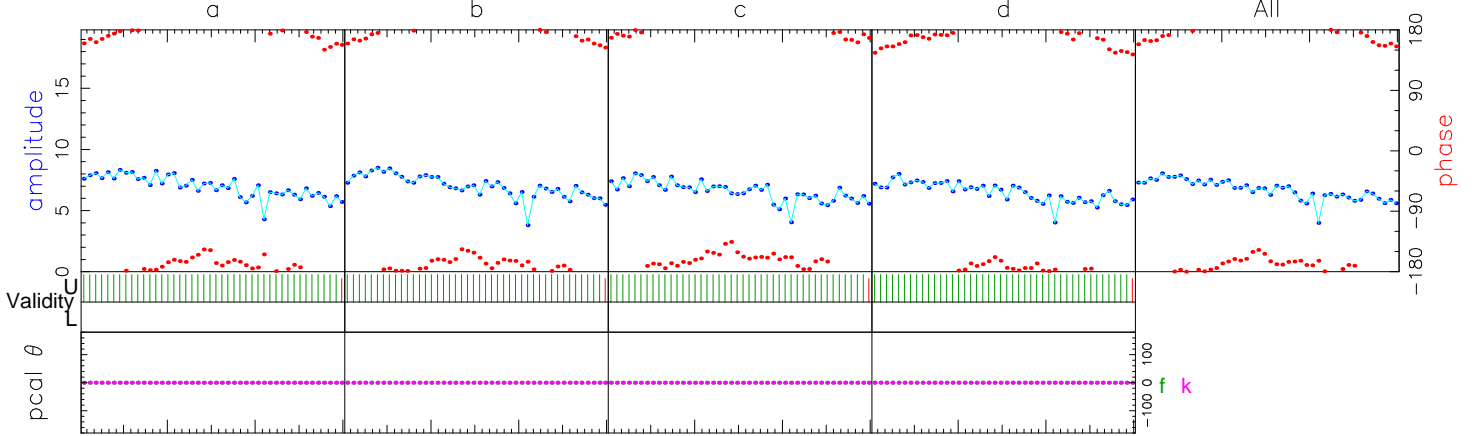


Fringe quality 8

SNR 241.7  
Int time 179.593  
Amp 6.596  
Phase -177.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.000776  
MBD 0.000635  
Fringe rate (Hz) 0.002100  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142854  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

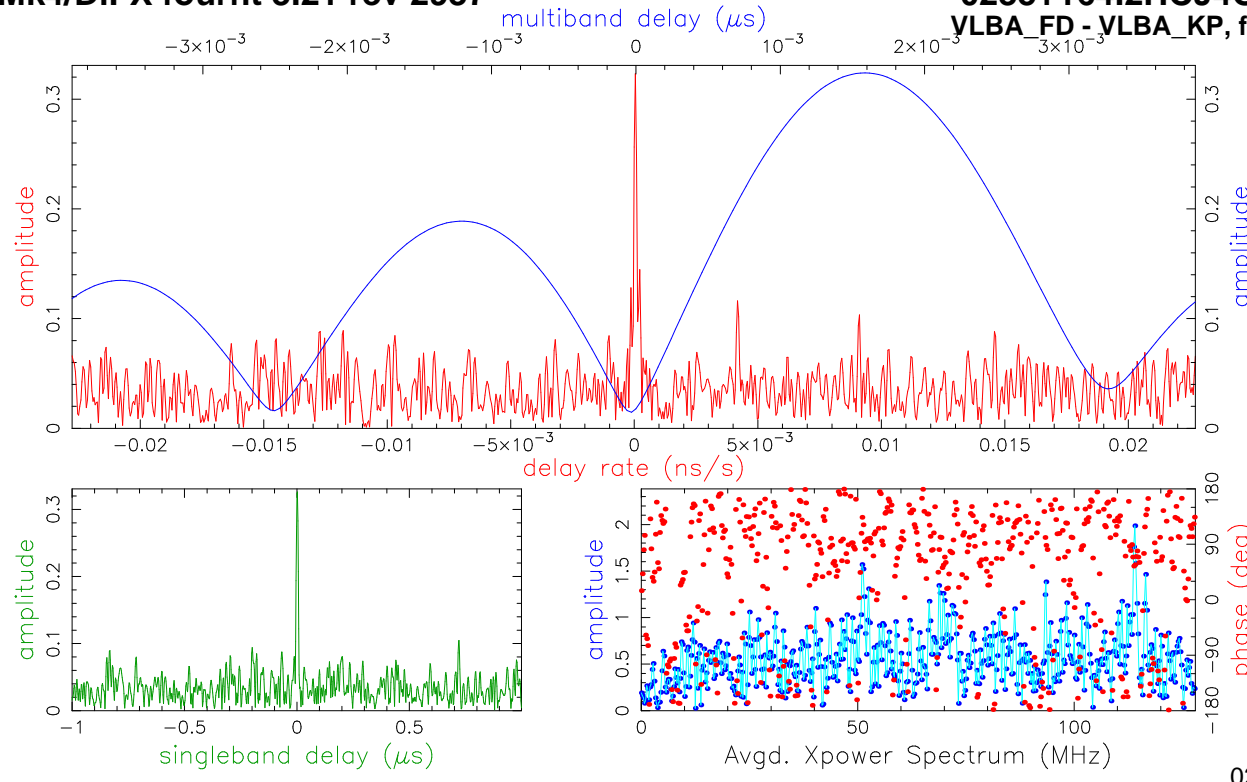
Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-177.2	-176.3	-169.4	173.3	Phase	-177.3
	6.7	6.8	6.4	6.3	Ampl.	6.5
	513.7	513.4	513.4	512.9	Sbd box	513.4
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	
Group delay (usec)(sbd)	8.83028130068E+02		Apriori delay (usec)	8.83027495048E+02	Resid mbdelay (usec)	6.35020E-04 +/- 4.6E-06
Sband delay (usec)	8.83028270673E+02		Apriori clock (usec)	1.6578430E+01	Resid sbdelay (usec)	7.75625E-04 +/- 1.8E-05
Phase delay (usec)	8.83027483569E+02		Apriori clockrate (us/s)	3.1925000E-07	Resid phdelay (usec)	-1.14783E-05 +/- 3.1E-08
Delay rate (us/s)	-1.55006194724E-01		Apriori rate (us/s)	-1.55006243669E-01	Resid rate (us/s)	4.89453E-08 +/- 3.0E-10
Total phase (deg)		135.0	Apriori accel (us/s/s)	-5.24670355720E-06	Resid phase (deg)	-177.3 +/- 0.5

ph/seg (deg) 14.7 1.6 Search (1024X16) 6.467 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 12.2 2.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 8.7 0.5 Inc. seg. avg. 6.714 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004  
 amp/frq (%) 3.5 0.8 Inc. frq. avg. 6.540 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t\_cohere infinite dr window (ns/s) -0.023 0.023  
 f: az 130.5 el 70.0 pa -42.5 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) 459.578 -145.789 simultaneous interpolator  
 Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/fk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/fk.Q.55.2HCJ40



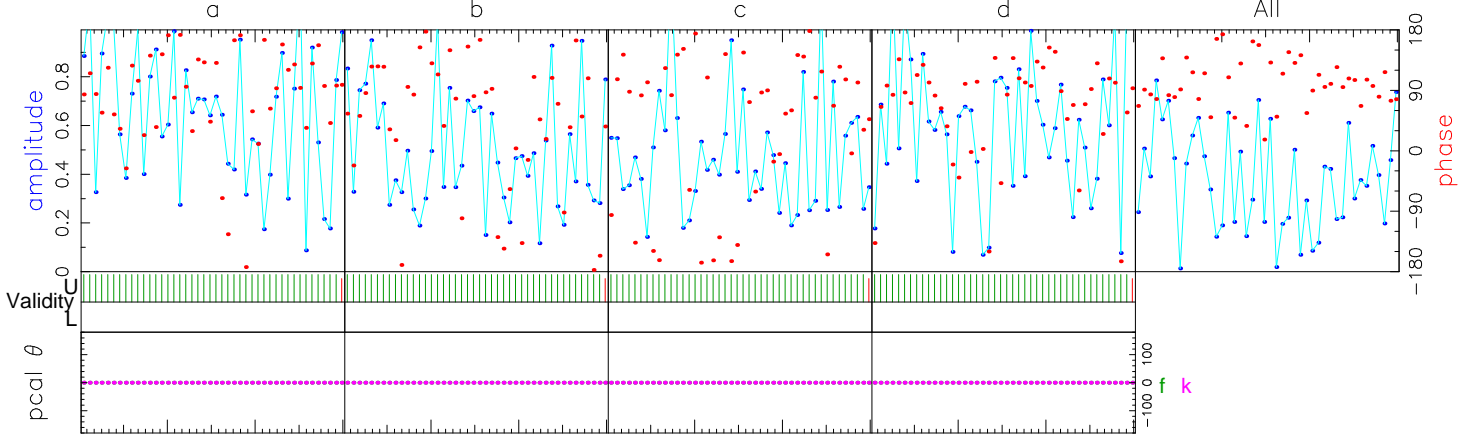


Fringe quality 9

SNR 12.1  
Int time 179.593  
Amp 0.331  
Phase 102.1  
PFD 2.1e-25  
Delays (us)  
SBD 0.001088  
MBD 0.001648  
Fringe rate (Hz) 0.001976  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142857  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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



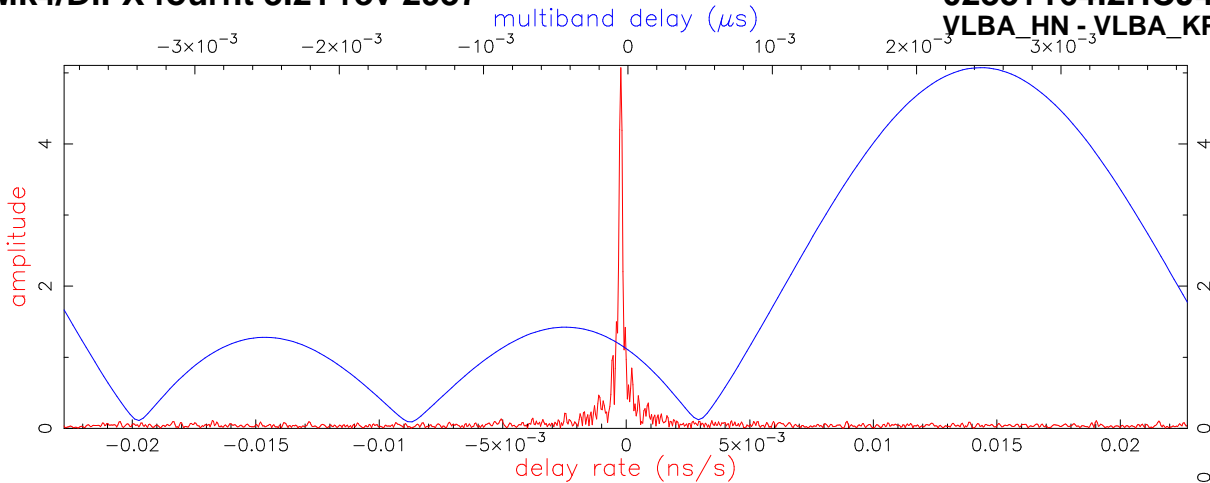
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
f	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
f:k	0:0	0:0	0:0	0:0	PC phase	
f:k	0:0	0:0	0:0	0:0	ManI PC	
f	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
f	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	
Group delay (usec)(sbd)	8.83029143474E+02		8.83027495048E+02		Resid mbdelay (usec)	1.64843E-03 +/- 9.2E-05
Sband delay (usec)	8.83028582798E+02		1.6578430E+01		Resid sbdelay (usec)	1.08775E-03 +/- 3.6E-04
Phase delay (usec)	8.83027501656E+02		3.1925000E-07		Resid phdelay (usec)	6.60861E-06 +/- 6.1E-07
Delay rate (us/s)	-1.55006197631E-01		-1.55006243669E-01		Resid rate (us/s)	4.60381E-08 +/- 5.9E-09
Total phase (deg)		54.4	-5.24670355720E-06		Resid phase (deg)	102.1 +/- 9.5

ph/seg (deg) 35.5 31.4 Search (1024X16) 0.321 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 63.2 54.7 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 20.8 9.5 Inc. seg. avg. 0.327 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004  
amp/frq (%) 28.3 16.5 Inc. frq. avg. 0.327 Sample rate(MSamp/s): 256 Data rate (Mb/s): 2048 nlags: 512 t\_cohere infinite dr window (ns/s) -0.023 0.023  
f: az 130.5 el 70.0 pa -42.5 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) 459.578 -145.789 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/fk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/fk.Q.75.2HCJ40



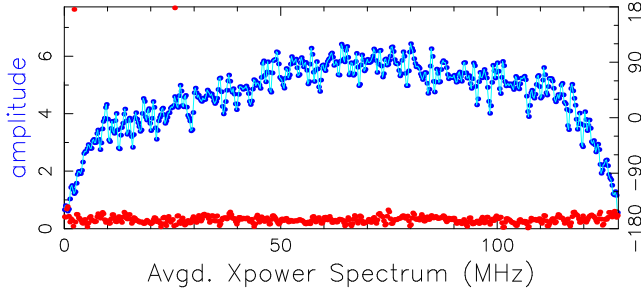
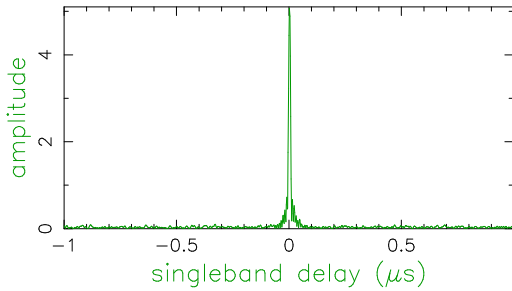
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol LL



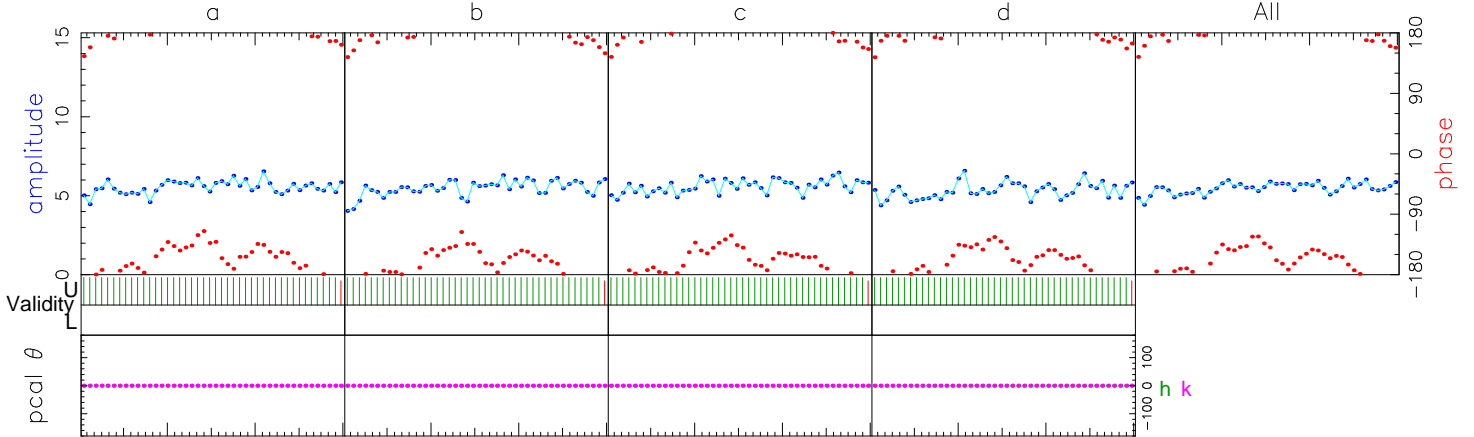
Fringe quality 8

SNR 187.1  
Int time 179.723  
Amp 5.104  
Phase -164.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.002504  
MBD 0.002469  
Fringe rate (Hz)  
-0.009870  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142929  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
	-160.4	-167.4	-165.2	-164.9	Phase	-164.5
	5.1	5.1	5.2	4.9	Ampl.	5.1
	514.1	514.3	514.3	514.5	Sbd box	514.3
U/L	352/0	352/0	352/0	352/0	APs used	
h	1000	1000	1000	1000	PC freqs	
k	1000	1000	1000	1000	PC freqs	
h:k	0:0	0:0	0:0	0:0	PC phase	
h:k	0:0	0:0	0:0	0:0	Manl PC	
h	1000	1000	1000	1000	PC amp	
k	1000	1000	1000	1000		
h	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
k	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

Group delay (usec)(sbd)	-7.21234784563E+02	Apriori delay (usec)	-7.21237253337E+02	Resid mbdelay (usec)	2.46877E-03	+/-	5.9E-06
Sband delay (usec)	-7.21234749837E+02	Apriori clock (usec)	5.8879013E+00	Resid sbdelay (usec)	2.50350E-03	+/-	2.3E-05
Phase delay (usec)	-7.21237263982E+02	Apriori clockrate (us/s)	3.7100000E-07	Resid phdelay (usec)	-1.06454E-05	+/-	4.0E-08
Delay rate (us/s)	-8.04581309287E-01	Apriori rate (us/s)	-8.04581079287E-01	Resid rate (us/s)	-2.30000E-07	+/-	3.8E-10
Total phase (deg)	-169.9	Apriori accel (us/s/s)	8.78764128199E-06	Resid phase (deg)	-164.5	+/-	0.6

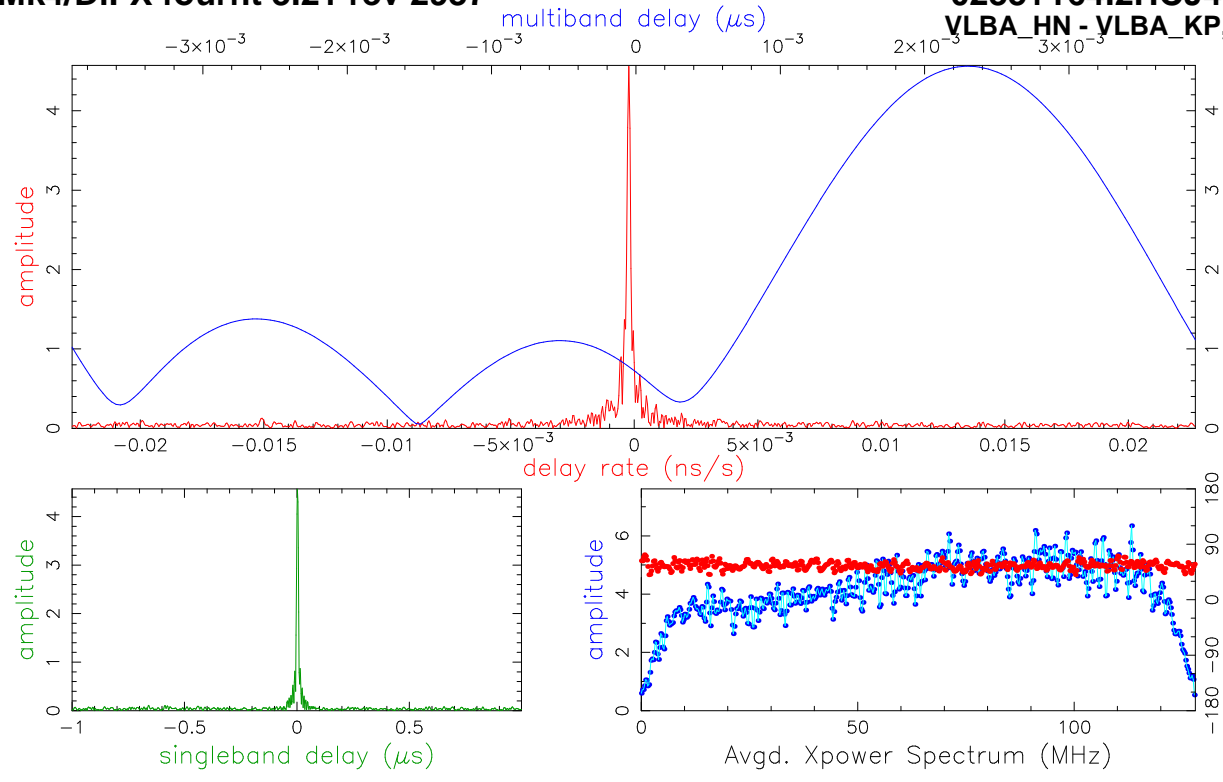
ph/seg (deg)	22.5	Theor.	2.0	Amplitude	5.104 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	10.0	Search (1024X16)	5.024	Search	5.024	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	3.6	Interp.	0.000	Inc. seg. avg.	5.476	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	2.0	Inc. frq. avg.	5.076	Inc. frq. avg.	5.076	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 212.7 el 60.4 pa 24.7 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) 2399.559 740.351 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/hk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/hk.Q.163.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol RR

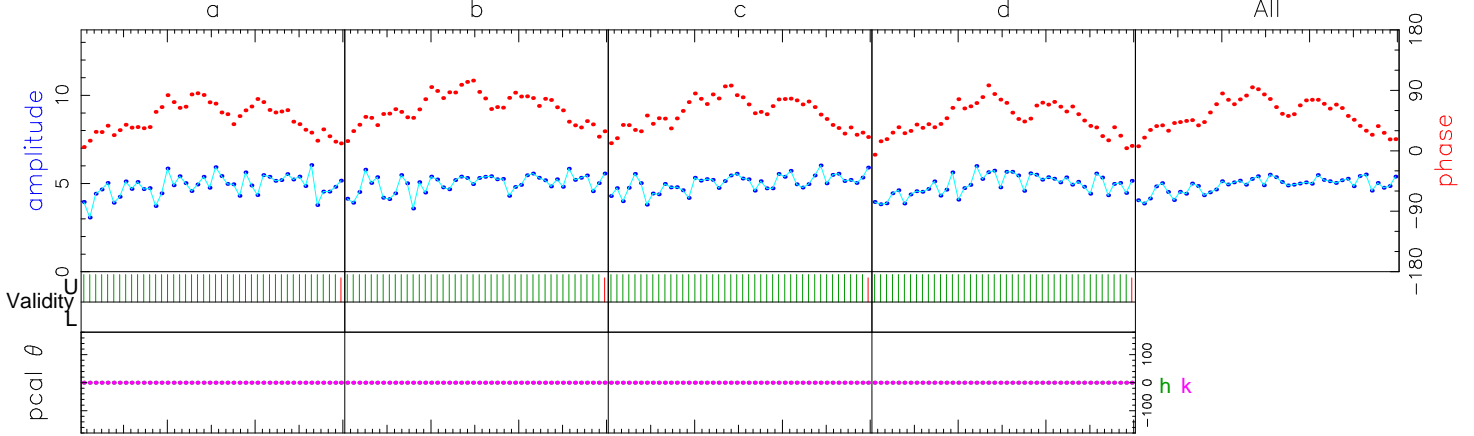


Fringe quality 8

SNR 167.6  
Int time 179.723  
Amp 4.571  
Phase 54.5  
PFD 0.0e+00  
Delays (us)  
SBD 0.002276  
MBD 0.002317  
Fringe rate (Hz)  
-0.009847  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142932  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
48.9	63.9	56.0	48.9	Phase	54.5
4.5	4.6	4.7	4.5	Ampl.	4.6
514.3	514.2	514.3	513.9	Sbd box	514.2
U/L 352/0	352/0	352/0	352/0	APs used	
h 1000	1000	1000	1000	PC freqs	
k 1000	1000	1000	1000	PC freqs	
h:k 0:0	0:0	0:0	0:0	PC phase	
h:k 0:0	0:0	0:0	0:0	Manl PC	
h 1000	1000	1000	1000	PC amp	
k 1000	1000	1000	1000		
h Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
k Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-7.21234935875E+02	Apriori delay (usec)	-7.21237253337E+02	Resid mbdelay (usec)	2.31746E-03	+/-	6.6E-06
Sband delay (usec)	-7.21234976962E+02	Apriori clock (usec)	5.8879013E+00	Resid sbdelay (usec)	2.27637E-03	+/-	2.6E-05
Phase delay (usec)	-7.21237249809E+02	Apriori clockrate (us/s)	3.7100000E-07	Resid phdelay (usec)	3.52831E-06	+/-	4.4E-08
Delay rate (us/s)	-8.04581308752E-01	Apriori rate (us/s)	-8.04581079287E-01	Resid rate (us/s)	-2.29465E-07	+/-	4.3E-10
Total phase (deg)	49.0	Apriori accel (us/s/s)	8.78764128199E-06	Resid phase (deg)	54.5	+/-	0.7

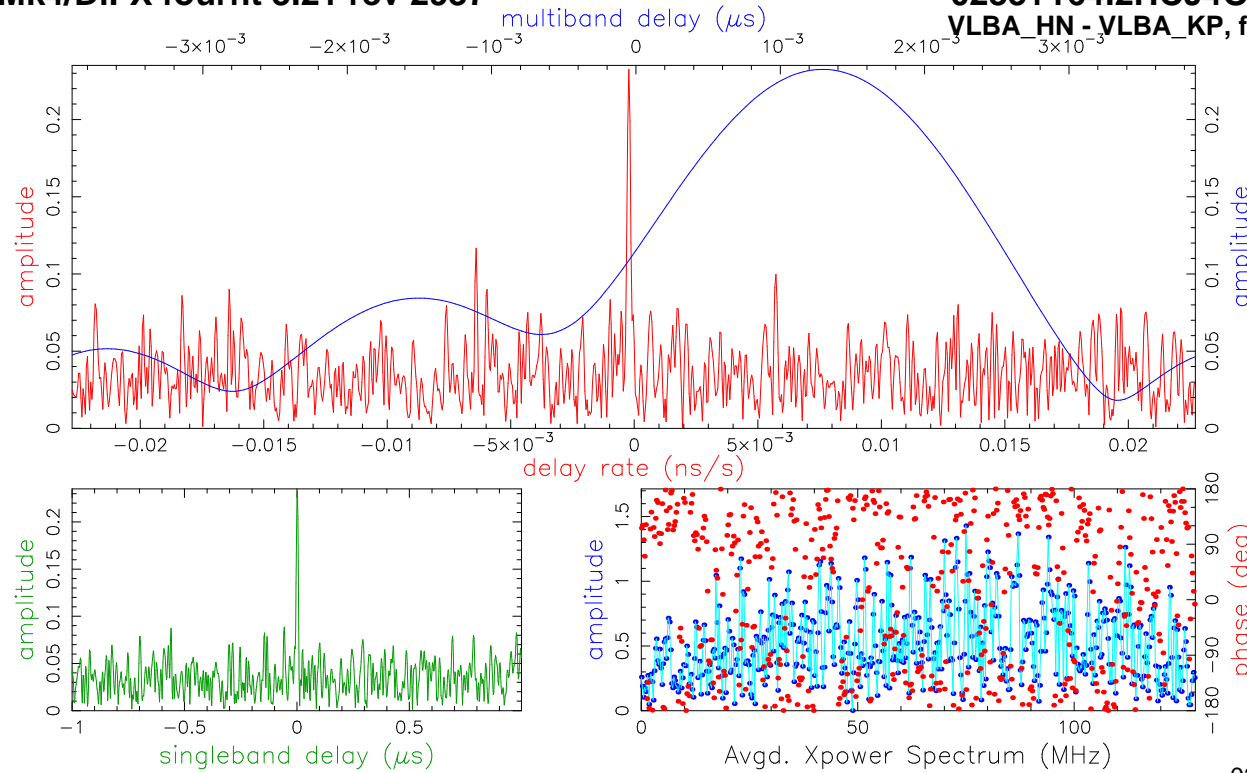
	RMS	Theor.	Amplitude	4.571 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
ph/seg (deg)	22.1	2.3	Search (1024X16)	4.495	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000	
amp/seg (%)	11.5	4.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
ph/frq (deg)	8.8	0.7	Inc. seg. avg.	4.910	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
amp/frq (%)	1.4	1.2	Inc. frq. avg.	4.587	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

h: az 212.7 el 60.4 pa 24.7 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) 2399.559 740.351 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/hk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/hk.Q.169.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, hk  
VLBA\_HN - VLBA\_KP, fgroup Q, pol LR

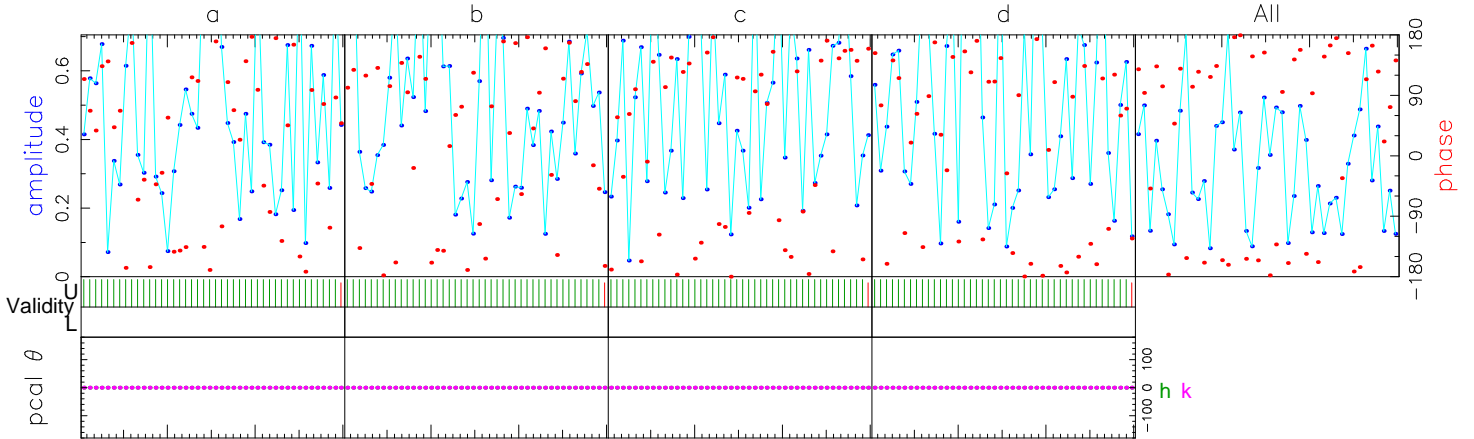


Fringe quality 9

SNR 8.6  
Int time 179.723  
Amp 0.235  
Phase 160.3  
PFD 1.3e-09  
Delays (us)  
SBD 0.001202  
MBD 0.001266  
Fringe rate (Hz)  
-0.009501  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142934  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	352/0	352/0	352/0	352/0		
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	Q00UL	Q01UL	Q02UL	Q03UL		
k	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-7.21235987657E+02	Apriori delay (usec)	-7.21237253337E+02	Resid mbdelay (usec)	1.26568E-03	+/- 1.3E-04
Sband delay (usec)	-7.21236051337E+02	Apriori clock (usec)	5.8879013E+00	Resid sbdelay (usec)	1.20200E-03	+/- 5.0E-04
Phase delay (usec)	-7.21237242961E+02	Apriori clockrate (us/s)	3.7100000E-07	Resid phdelay (usec)	1.03759E-05	+/- 8.6E-07
Delay rate (us/s)	-8.04581300701E-01	Apriori rate (us/s)	-8.04581079287E-01	Resid rate (us/s)	-2.21415E-07	+/- 8.3E-09
Total phase (deg)	154.8	Apriori accel (us/s/s)	8.78764128199E-06	Resid phase (deg)	160.3	+/- 13.3

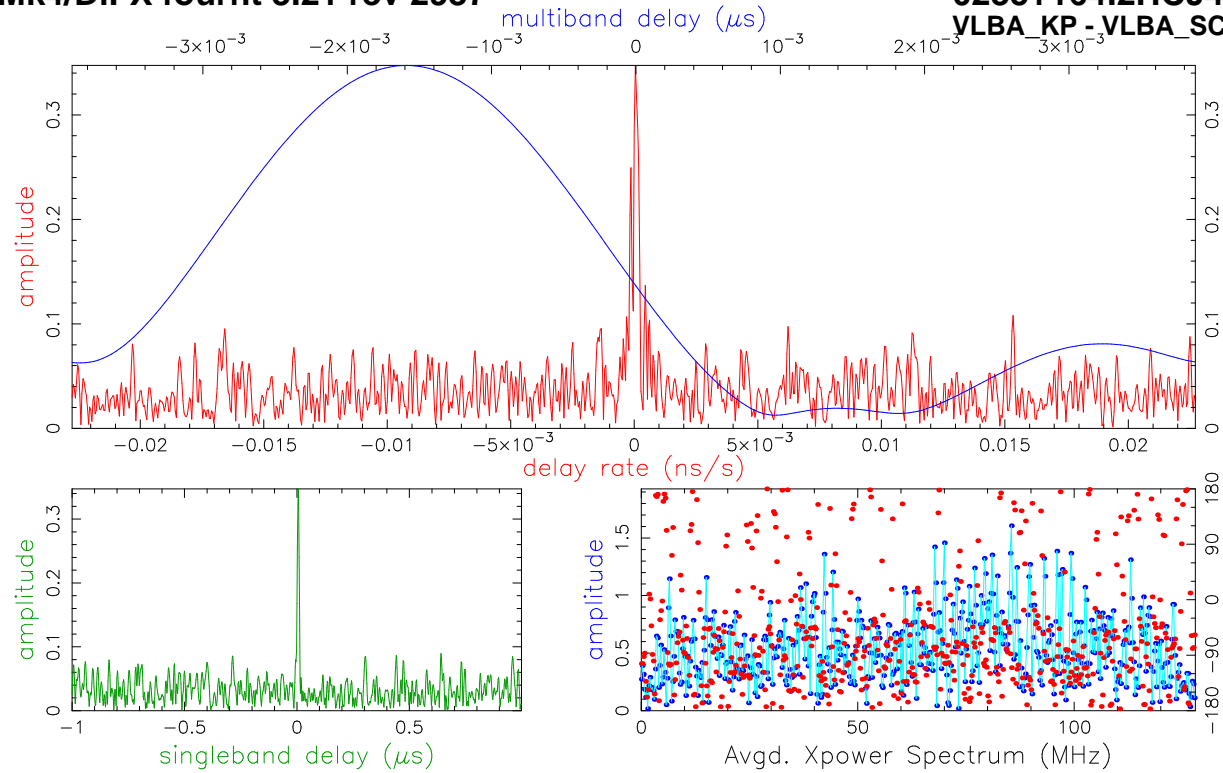
ph/seg (deg)	57.9	Theor.	44.1	Amplitude	0.235 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	82.2		77.0	Search (1024X16)	0.229	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004
ph/frq (deg)	11.6		13.3	Inc. seg. avg.	0.251	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023
amp/frq (%)	26.4		23.2	Inc. frq. avg.	0.229	Data rate(Mb/s): 2048	nlags: 512	ion window (TEC)	0.00	0.00

h: az 212.7 el 60.4 pa 24.7 k: az 120.1 el 63.9 pa -49.8 u,v (fr/asec) 2399.559 740.351 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/hk..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/hk.Q.174.2HCJ40



Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol LL

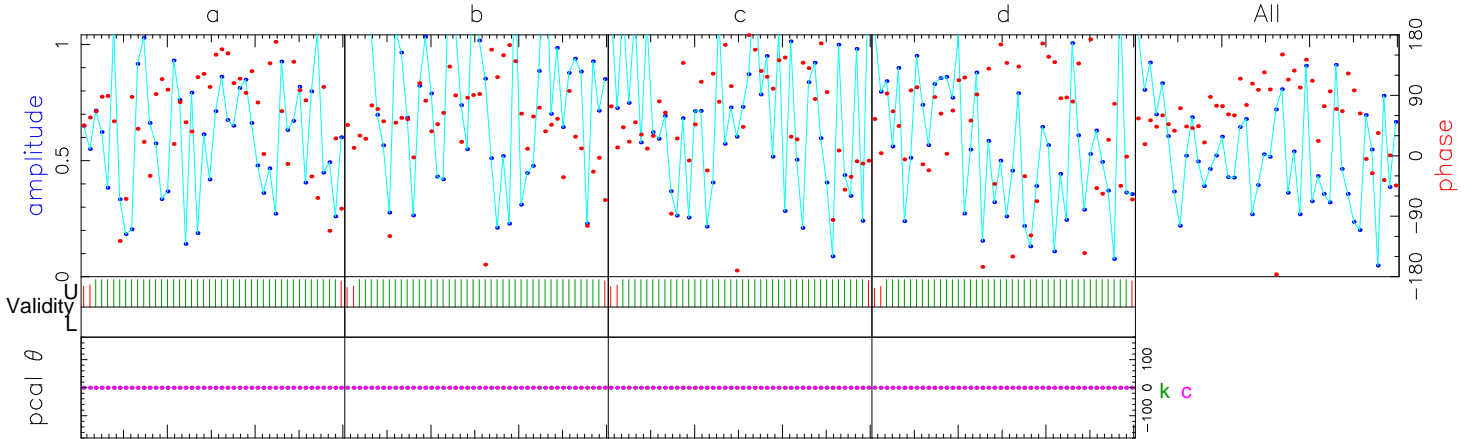


Fringe quality 9

SNR 12.7  
Int time 177.961  
Amp 0.347  
Phase 67.4  
PFD 2.3e-28  
Delays (us)  
SBD 0.005744  
MBD -0.001599  
Fringe rate (Hz) 0.000954  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build 2022:333:032914  
2022:333:142921  
2021:252:122852  
RA & Dec (J2000) 02h38m38.930107s  
+16°36'59.274536"

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



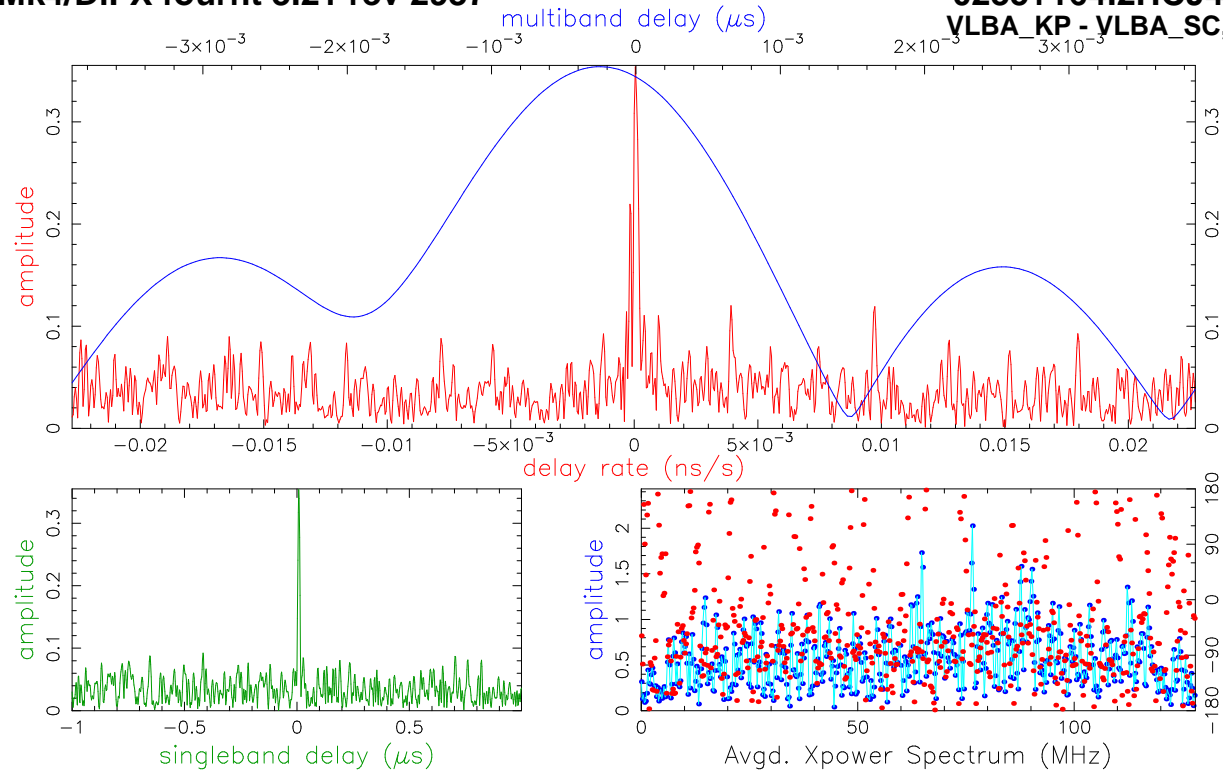
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
k	1000	1000	1000	1000	PC freqs	
c	1000	1000	1000	1000	PC freqs	
k:c	0:0	0:0	0:0	0:0	PC phase	
k:c	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
c	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
c	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	

Group delay (usec)(sbd)	-4.01002682759E+02	Apriori delay (usec)	-4.01008896716E+02	Resid mbdelay (usec)	-1.59854E-03	+/- 8.8E-05
Sband delay (usec)	-4.01003153091E+02	Apriori clock (usec)	-2.0080002E+01	Resid sbdelay (usec)	5.74363E-03	+/- 3.4E-04
Phase delay (usec)	-4.01008892351E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	4.36503E-06	+/- 5.9E-07
Delay rate (us/s)	1.07004183932E+00	Apriori rate (us/s)	1.07004181709E+00	Resid rate (us/s)	2.22282E-08	+/- 5.6E-09
Total phase (deg)	-211.9	Apriori accel (us/s/s)	9.29125020530E-06	Resid phase (deg)	67.4	+/- 9.0

ph/seg (deg)	48.4	Theor.	30.0	Amplitude	0.347 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	81.5		52.3	Search (1024X16)	0.337	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
ph/frq (deg)	9.1		9.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
amp/frq (%)	30.6		15.8	Inc. seg. avg.	0.464	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
				Inc. frq. avg.	0.345	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

k: az 120.1 el 63.9 pa -49.8 c: az 270.9 el 67.5 pa 83.6 u,v (fr/asec) -3184.690 1061.734 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kc..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kc.Q.127.2HCJ40

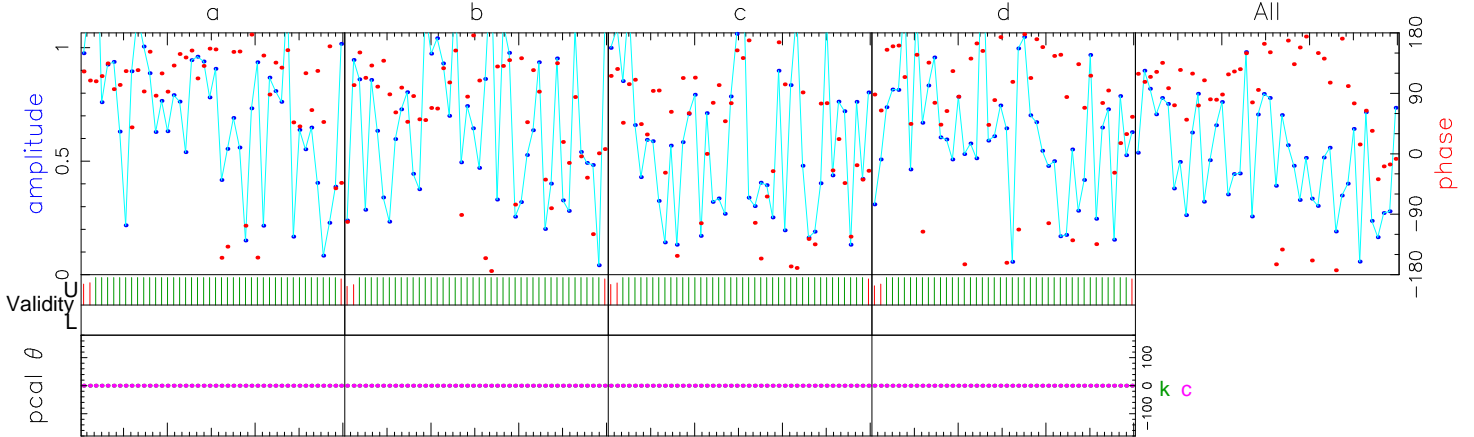


Fringe quality 9

SNR 13.0  
Int time 177.961  
Amp 0.355  
Phase 117.0  
PFD 5.9e-30  
Delays (us)  
SBD 0.008251  
MBD -0.000237  
Fringe rate (Hz)  
0.001426  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142924  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
125.8	105.7	94.2	129.3	129.3	Phase	117.0
0.5	0.4	0.2	0.4	0.4	Ampl.	0.4
517.5	516.9	517.1	517.8	517.8	Sbd box	517.2
U/L 352/0	352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	1000	PC freqs	
c 1000	1000	1000	1000	1000	PC freqs	
k:c 0:0	0:0	0:0	0:0	0:0	PC phase	
k:c 0:0	0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	1000	PC amp	
c 1000	1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Q03UR	Chan ids	
c Q00UR	Q01UR	Q02UR	Q03UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	-4.01001321352E+02	Apriori delay (usec)	-4.01008896716E+02	Resid mbdelay (usec)	-2.37136E-04	+/- 8.6E-05
Sband delay (usec)	-4.01000646091E+02	Apriori clock (usec)	-2.0080002E+01	Resid sbdelay (usec)	8.25062E-03	+/- 3.3E-04
Phase delay (usec)	-4.01008889145E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	7.57082E-06	+/- 5.7E-07
Delay rate (us/s)	1.07004185032E+00	Apriori rate (us/s)	1.07004181709E+00	Resid rate (us/s)	3.32257E-08	+/- 5.5E-09
Total phase (deg)	-162.4	Apriori accel (us/s/s)	9.29125020530E-06	Resid phase (deg)	117.0	+/- 8.8

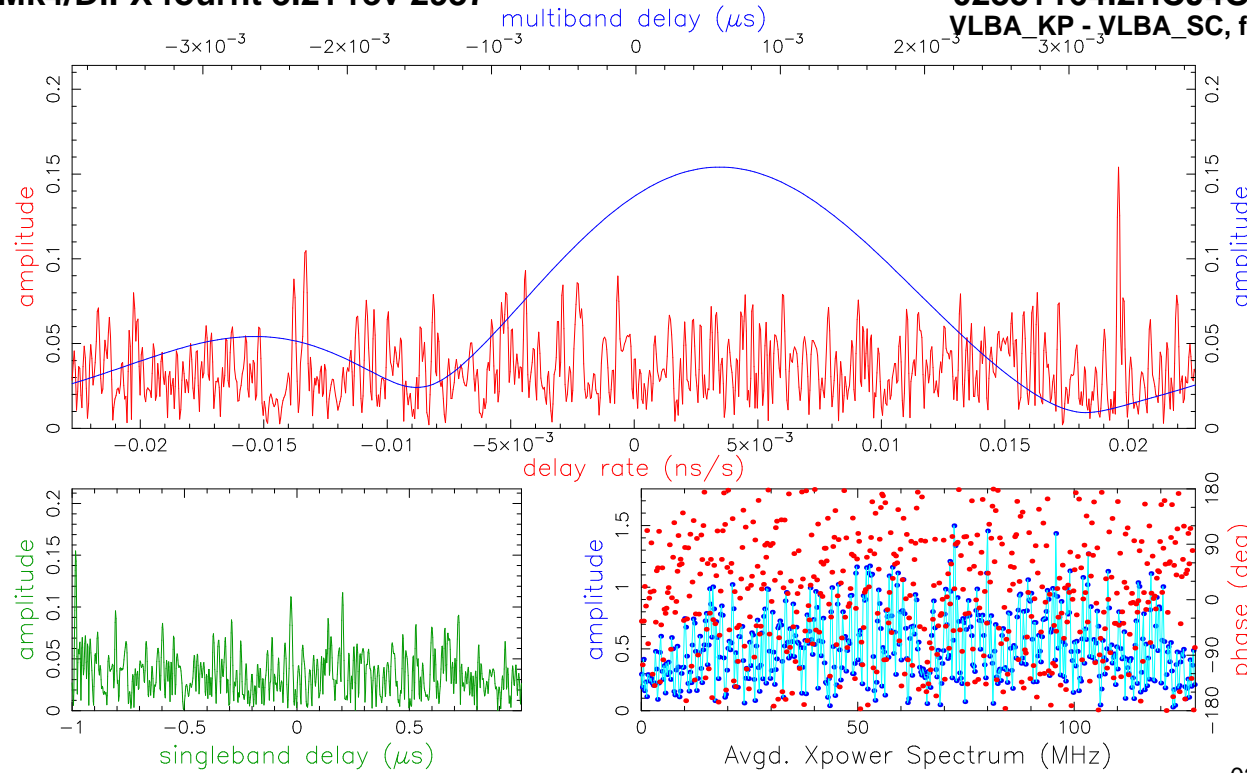
ph/seg (deg)	60.2	Theor.	29.3	Amplitude	0.355 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	76.8	Search (1024X16)	0.342	Search (1024X16)	0.342	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	20.9	Inc. seg. avg.	0.456	Inc. seg. avg.	0.456	Bits/sample: 2x2	mb window (us) -0.004 0.004
amp/frq (%)	29.9	Inc. frq. avg.	0.359	Inc. frq. avg.	0.359	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

k: az 120.1 el 63.9 pa -49.8 c: az 270.9 el 67.5 pa 83.6 u,v (fr/asec) -3184.690 1061.734 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kc..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kc.Q.148.2HCJ40

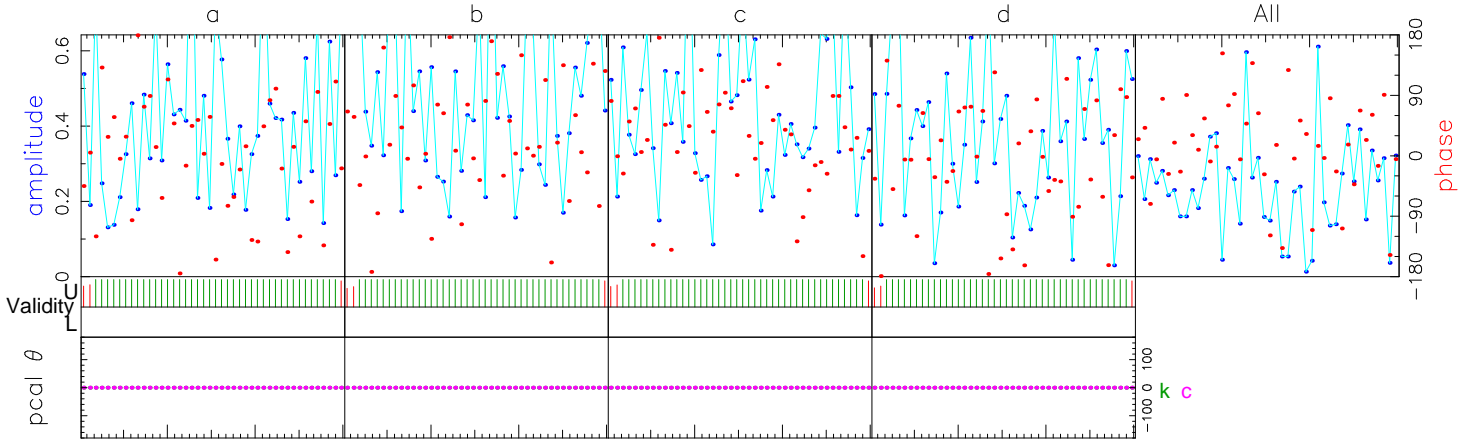
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol LR



Fringe quality 0  
SNR 5.6  
Int time 177.961  
Amp 0.214  
Phase 25.9  
PFD 8.8e-01  
Delays (us)  
SBD -0.984023  
MBD 0.000569  
Fringe rate (Hz)  
0.840619  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142926  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	352/0	352/0	352/0	352/0		
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		
					Chan ids	
					Tracks	
					Chan ids	
					Tracks	

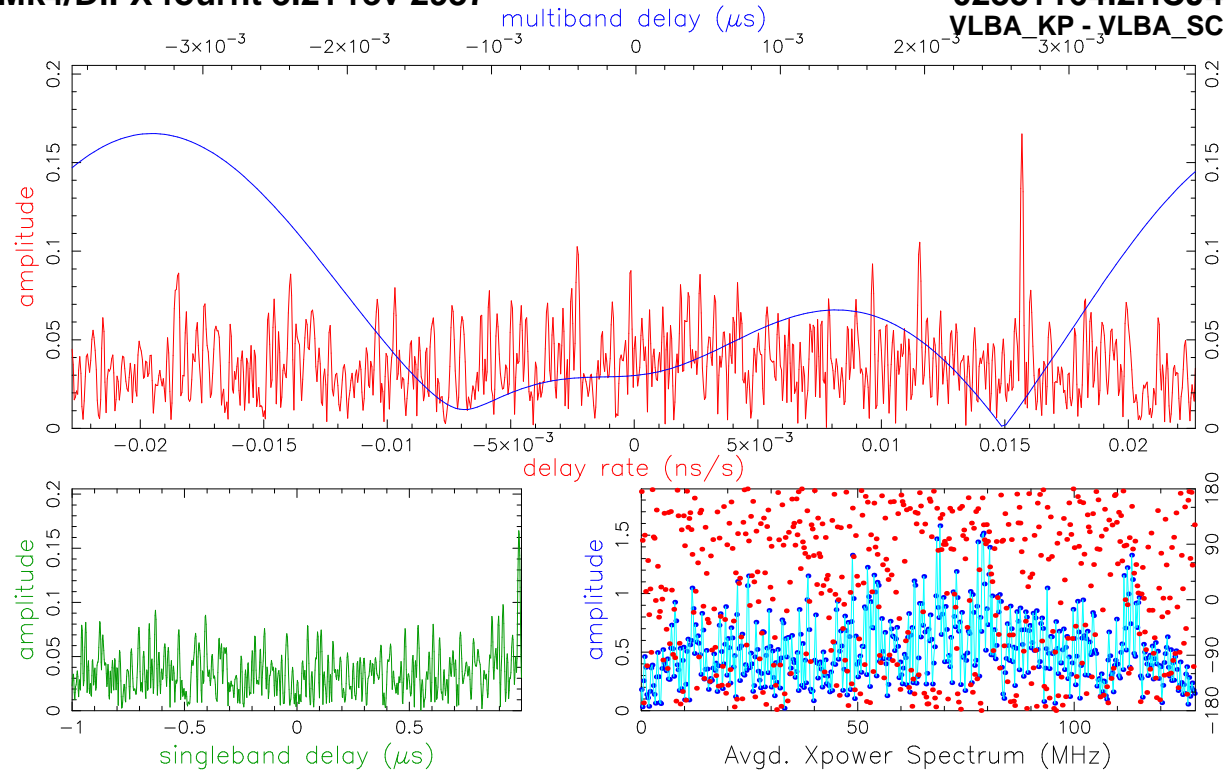
Group delay (usec)(sbd)	-4.01992703159E+02	Apriori delay (usec)	-4.01008896716E+02	Resid mbdelay (usec)	5.68557E-04	+/-	2.0E-04
Sband delay (usec)	-4.01992919966E+02	Apriori clock (usec)	-2.0080002E+01	Resid sbdelay (usec)	-9.84023E-01	+/-	7.6E-04
Phase delay (usec)	-4.01008895042E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	1.67395E-06	+/-	1.3E-06
Delay rate (us/s)	1.07006140645E+00	Apriori rate (us/s)	1.07004181709E+00	Resid rate (us/s)	1.95894E-05	+/-	1.3E-08
Total phase (deg)	-253.5	Apriori accel (us/s/s)	9.29125020530E-06	Resid phase (deg)	25.9	+/-	20.3

ph/seg (deg)	RMS 70.3	Theor. 67.4	Amplitude Search (1024X16)	0.214 +/- 0.038	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	98.5	117.6	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)	14.9	20.3	Inc. seg. avg.	0.195	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	35.2	35.5	Inc. frq. avg.	0.204	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 120.1 el 63.9 pa -49.8 c: az 270.9 el 67.5 pa 83.6 u,v (fr/asec) -3184.690 1061.734 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kc..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kc.Q.158.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kc  
VLBA\_KP - VLBA\_SC, fgroup Q, pol RL

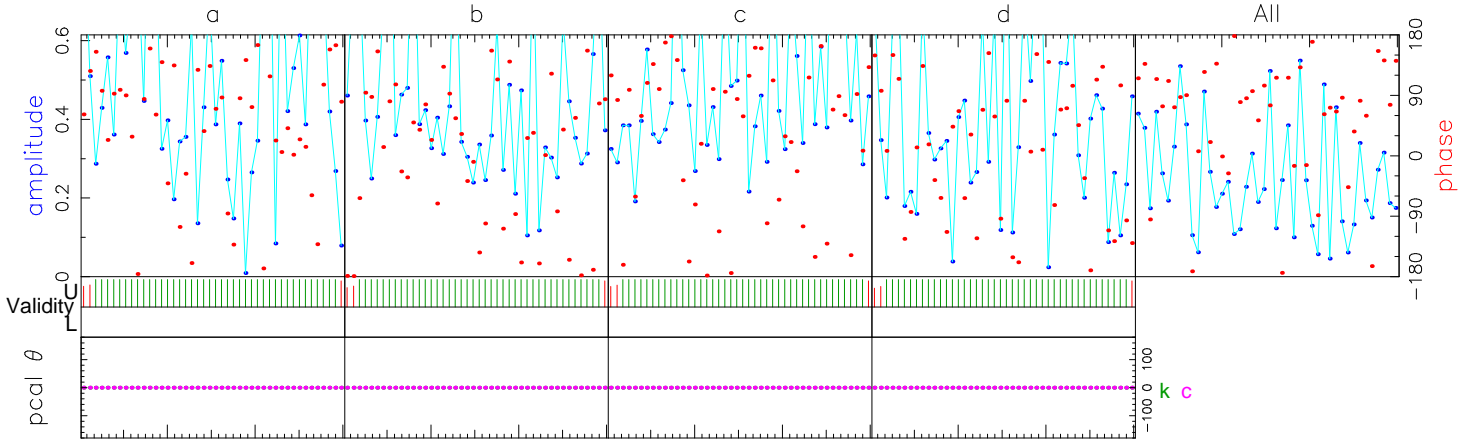


Fringe quality 0

SNR 6.1  
Int time 177.961  
Amp 0.205  
Phase 95.5  
PFD 1.4e-01  
Delays (us)  
SBD 0.986946  
MBD 0.004395  
Fringe rate (Hz)  
0.674124  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142927  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	352/0	352/0	352/0	352/0		
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	Q00UR	Q01UR	Q02UR	Q03UR		
c	Q00UL	Q01UL	Q02UL	Q03UL		

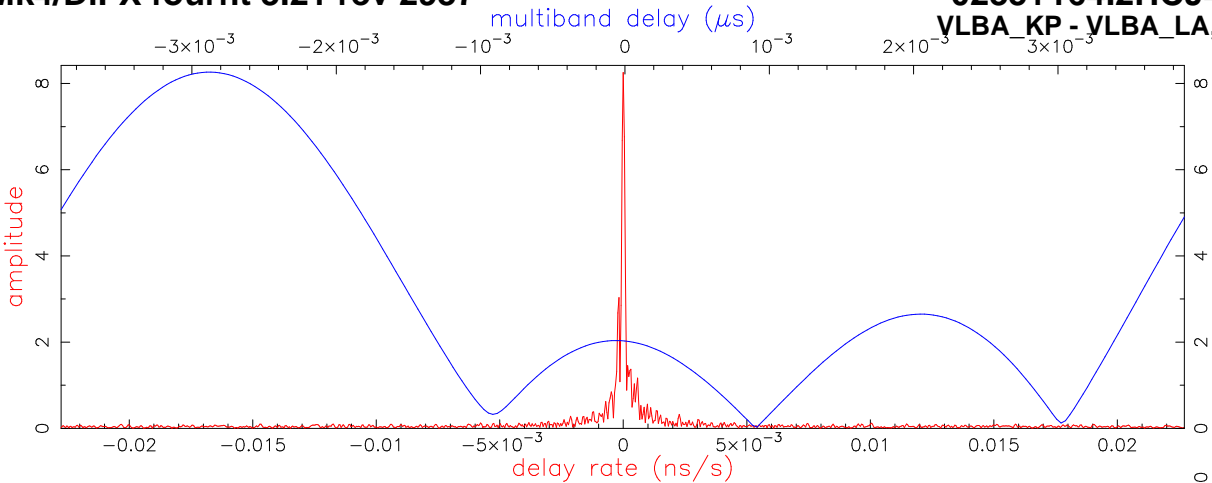
Group delay (usec)(sbd)	-4.00020127185E+02	Apriori delay (usec)	-4.01008896716E+02	Resid mbdelay (usec)	4.39453E-03	+/-	1.8E-04
Sband delay (usec)	-4.00021951216E+02	Apriori clock (usec)	-2.0080002E+01	Resid sbdelay (usec)	9.86946E-01	+/-	7.1E-04
Phase delay (usec)	-4.01008890532E+02	Apriori clockrate (us/s)	0.0000000E+00	Resid phdelay (usec)	6.18377E-06	+/-	1.2E-06
Delay rate (us/s)	1.07005752654E+00	Apriori rate (us/s)	1.07004181709E+00	Resid rate (us/s)	1.57094E-05	+/-	1.2E-08
Total phase (deg)	-183.8	Apriori accel (us/s/s)	9.29125020530E-06	Resid phase (deg)	95.5	+/-	18.8

ph/seg (deg)	69.1	Theor.	62.4	Amplitude	0.205 +/- 0.034	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5		
amp/seg (%)	96.9	108.9	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	mb window (us)	-1.000 1.000		
ph/frq (deg)	17.6	18.8	Inc. seg. avg.	0.193	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	19.8	32.8	Inc. frq. avg.	0.198	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023 0.023	
					Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 120.1 el 63.9 pa -49.8 c: az 270.9 el 67.5 pa 83.6 u,v (fr/asec) -3184.690 1061.734 simultaneous interpolator

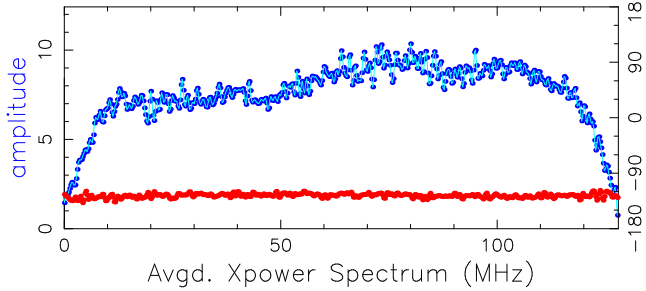
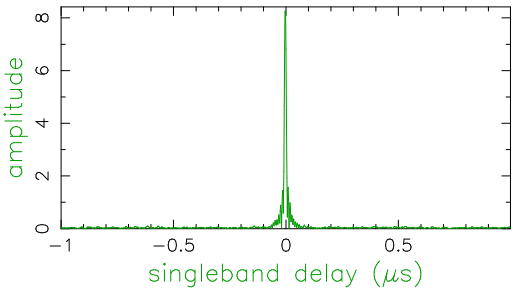
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kc..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kc.Q.162.2HCJ40





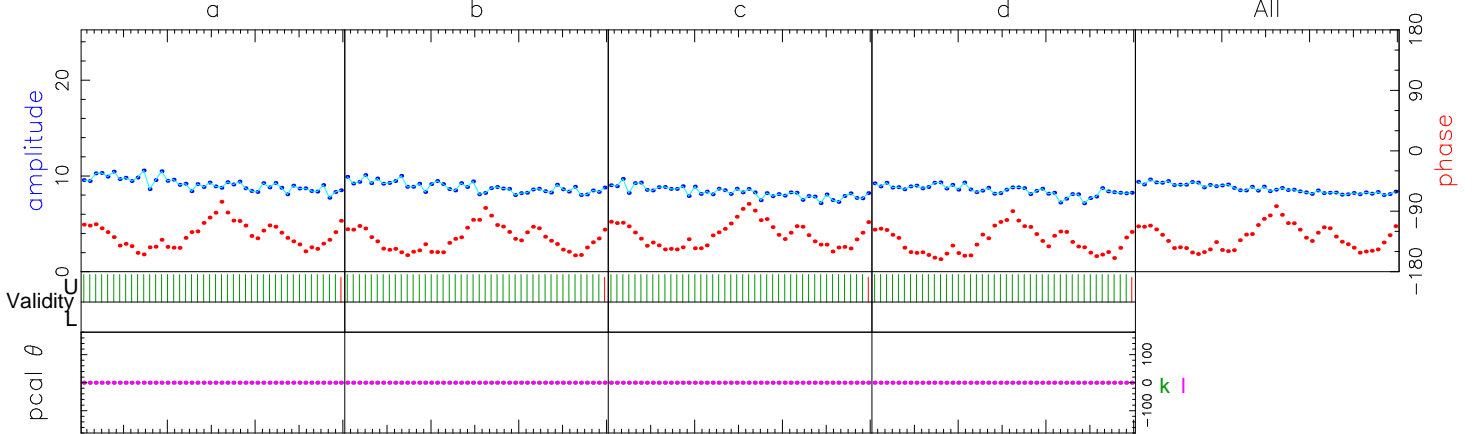
Fringe quality 8

SNR 308.7  
Int time 179.789  
Amp 8.420  
Phase -128.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.002973  
MBD -0.002829  
Fringe rate (Hz)  
-0.000576  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142849  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
-125.1	-130.9	-124.5	-135.0	Phase	-128.8
8.7	8.4	7.9	8.1	Ampl.	8.3
511.6	511.5	511.7	511.1	Sbd box	511.5
U/L 352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	PC freqs	
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	Manl 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	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.66402818887E+02	Apriori delay (usec)	-1.66399989949E+02	Resid mbdelay (usec)	-2.82894E-03	+/- 3.6E-06
Sband delay (usec)	-1.66402963324E+02	Apriori clock (usec)	9.3712196E+00	Resid sbdelay (usec)	-2.97337E-03	+/- 1.4E-05
Phase delay (usec)	-1.6639998290E+02	Apriori clockrate (us/s)	2.2521000E-07	Resid phdelay (usec)	-8.34044E-06	+/- 2.4E-08
Delay rate (us/s)	1.27457364813E-01	Apriori rate (us/s)	1.27457378231E-01	Resid rate (us/s)	-1.34183E-08	+/- 2.3E-10
Total phase (deg)	-261.6	Apriori accel (us/s/s)	-8.59470569018E-07	Resid phase (deg)	-128.8	+/- 0.4

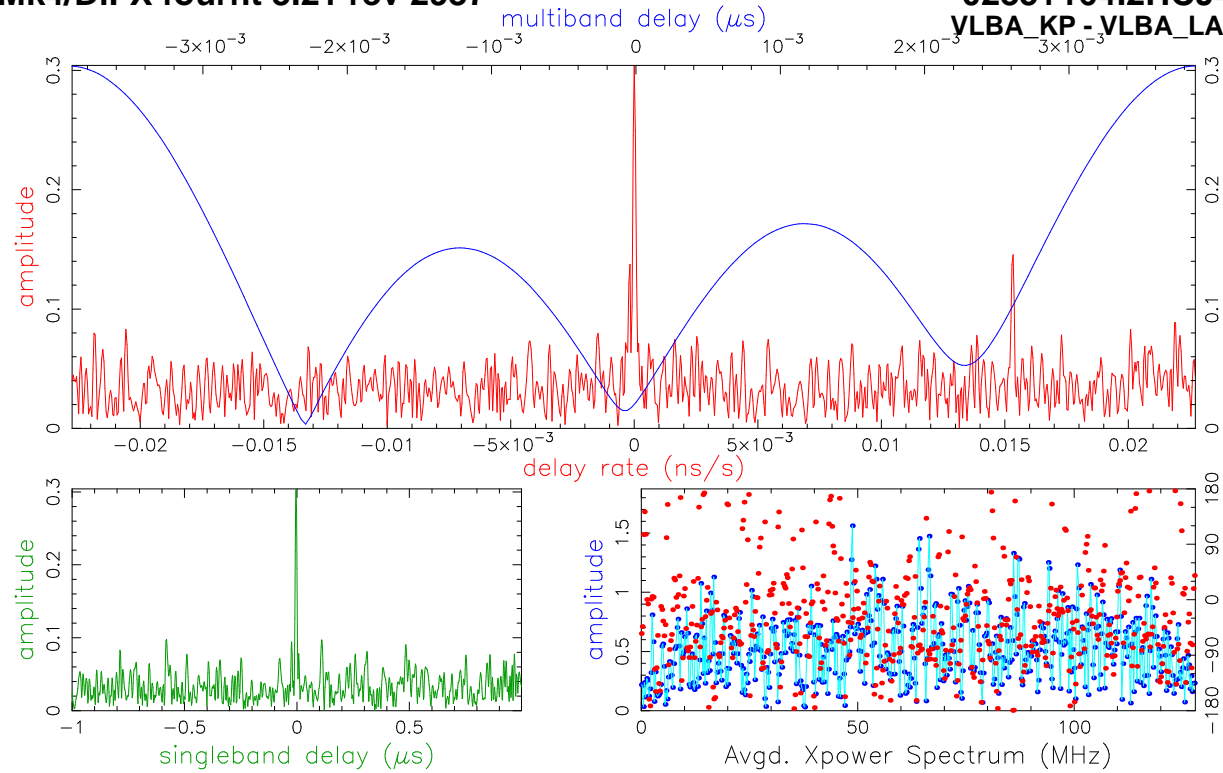
ph/seg (deg)	18.0	Theor.	1.2	Amplitude	8.420 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	6.2			Search (1024X16)	8.110	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	6.1			Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	4.2			Inc. seg. avg.	8.674	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
				Inc. frq. avg.	8.279	Data rate(Mb/s): 2048	nlags: 512
						t_cohere infinite	ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 l: az 135.2 el 65.1 pa -36.0 u,v (fr/asec) -379.712 -243.248 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kl..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kl.Q.15.2HCJ40

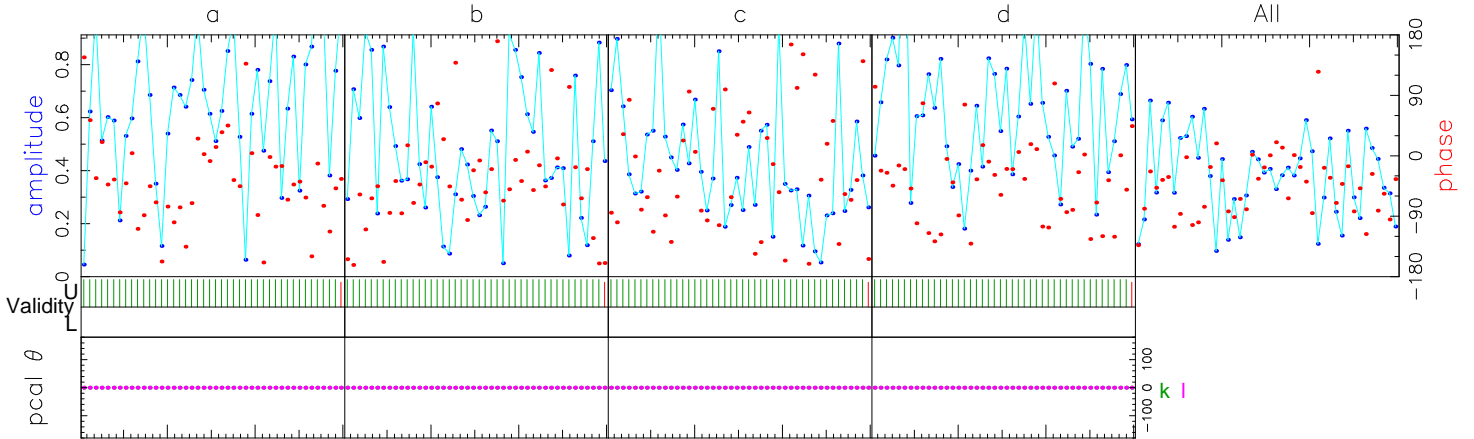
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol LR



Fringe quality 9  
SNR 11.2  
Int time 179.789  
Amp 0.304  
Phase -46.9  
PFD 1.6e-20  
Delays (us)  
SBD -0.004175  
MBD -0.003943  
Fringe rate (Hz) 0.000198  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build 2022:333:032914  
2022:333:142850  
2021:252:122852  
RA & Dec (J2000) 02h38m38.930107s  
+16°36'59.274536"

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
-41.6	-59.3	-58.2	-40.4	Phase	-46.9
0.4	0.3	0.1	0.4	Ampl.	0.3
511.0	510.6	570.0	510.5	Sbd box	510.9
U/L 352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	PC freqs	
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 Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

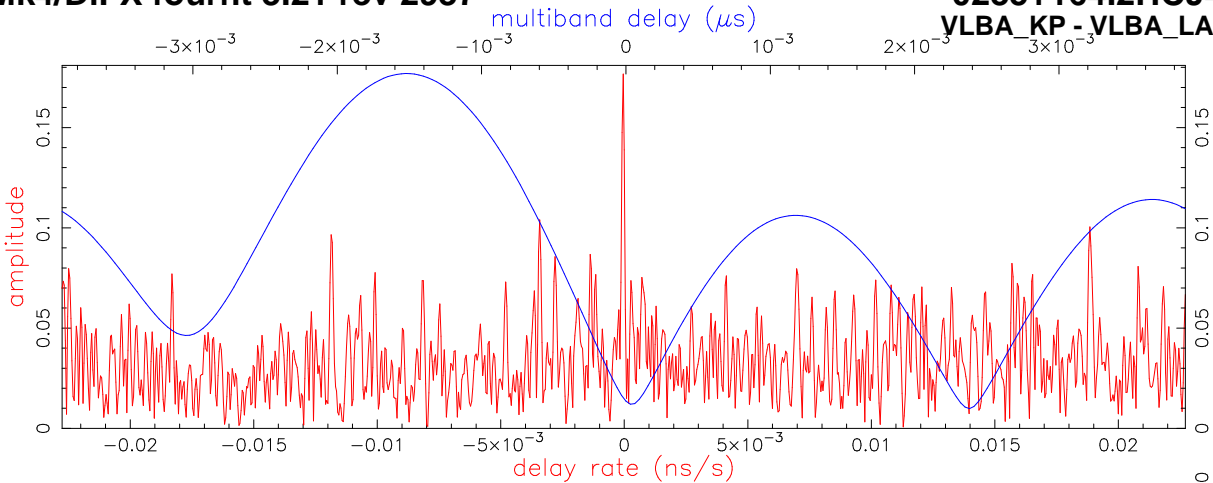
Group delay (usec)(sbd)	-1.66403933387E+02	Apriori delay (usec)	-1.66399989949E+02	Resid mbdelay (usec)	-3.94344E-03	+/- 1.0E-04
Sband delay (usec)	-1.66404164574E+02	Apriori clock (usec)	9.3712196E+00	Resid sbdelay (usec)	-4.17463E-03	+/- 3.9E-04
Phase delay (usec)	-1.66399992986E+02	Apriori clockrate (us/s)	2.2521000E-07	Resid phdelay (usec)	-3.03694E-06	+/- 6.6E-07
Delay rate (us/s)	1.27457382848E-01	Apriori rate (us/s)	1.27457378231E-01	Resid rate (us/s)	4.61689E-09	+/- 6.4E-09
Total phase (deg)	-179.6	Apriori accel (us/s/s)	-8.59470569018E-07	Resid phase (deg)	-46.9	+/- 10.3

ph/seg (deg)	RMS 46.3	Theor. 34.1	Amplitude Search (1024X16)	0.304 +/- 0.027	0.303	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	57.4	59.5	Interp.	0.000	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	13.2	10.3	Inc. seg. avg.	0.327	0.327	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	37.2	17.9	Inc. frq. avg.	0.302	0.302	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

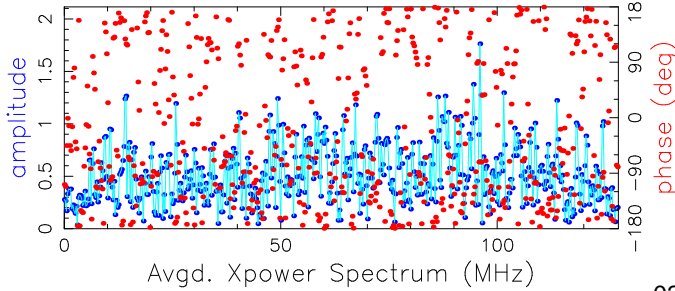
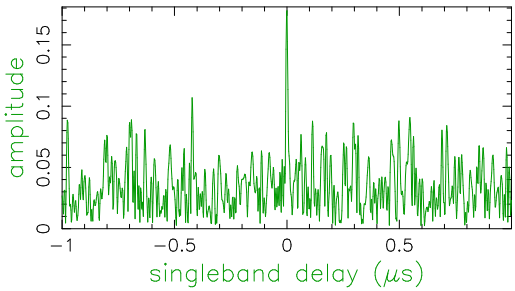
k: az 120.1 el 63.9 pa -49.8 l: az 135.2 el 65.1 pa -36.0 u,v (fr/asec) -379.712 -243.248 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kl..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kl.Q.21.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

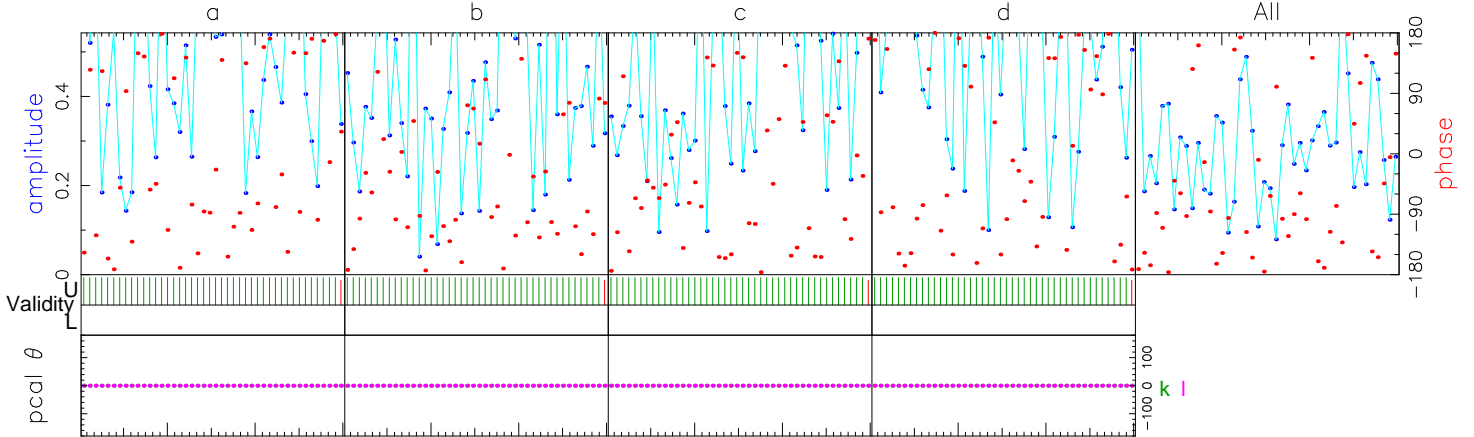
0235+164.2HCJ40, No0315, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol RL



Fringe quality 0  
SNR 6.6  
Int time 179.789  
Amp 0.181  
Phase -141.2  
PFD 4.6e-03  
Delays (us)  
SBD -0.000915  
MBD -0.001471  
Fringe rate (Hz)  
-0.001099  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142852  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"



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
-150.2	-100.0	-122.0	-155.2	Phase	-141.2
0.2	0.1	0.1	0.3	Ampl.	0.2
513.7	523.5	569.9	512.4	Sbd box	512.5
U/L 352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	PC freqs	
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 Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

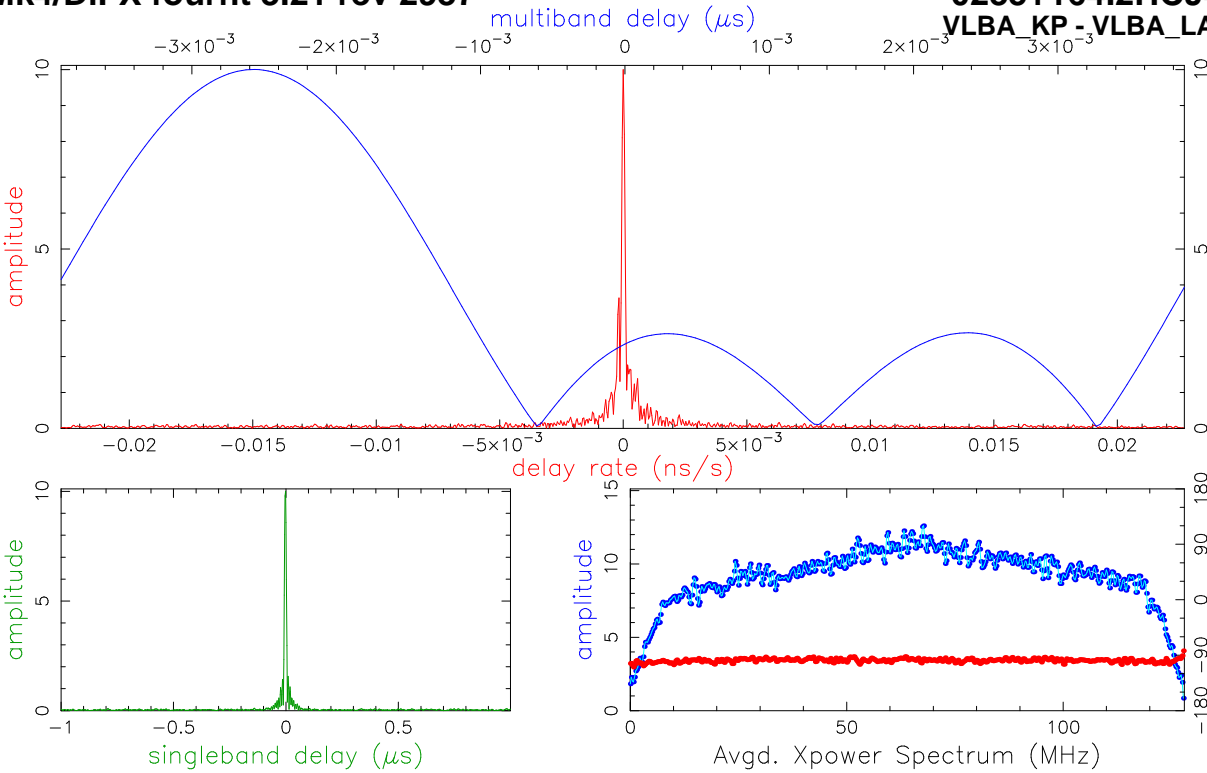
Group delay (usec)(sbd)	-1.66401461438E+02	Apriori delay (usec)	-1.66399989949E+02	Resid mbdelay (usec)	-1.47149E-03	+/- 1.7E-04
Sband delay (usec)	-1.66400905324E+02	Apriori clock (usec)	9.3712196E+00	Resid sbdelay (usec)	-9.15375E-04	+/- 6.5E-04
Phase delay (usec)	-1.66399999088E+02	Apriori clockrate (us/s)	2.2521000E-07	Resid phdelay (usec)	-9.13917E-06	+/- 1.1E-06
Delay rate (us/s)	1.27457352627E-01	Apriori rate (us/s)	1.27457378231E-01	Resid rate (us/s)	-2.56048E-08	+/- 1.1E-08
Total phase (deg)	-273.9	Apriori accel (us/s/s)	-8.59470569018E-07	Resid phase (deg)	-141.2	+/- 17.3

	RMS	Theor.	Amplitude	0.181 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	69.8	57.3	Search (1024X16)	0.172	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	95.7	99.9	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	34.2	17.3	Inc. seg. avg.	0.195	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	41.8	30.1	Inc. frq. avg.	0.179	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 l: az 135.2 el 65.1 pa -36.0 u,v (fr/asec) -379.712 -243.248 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kl..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kl.Q.36.2HCJ40

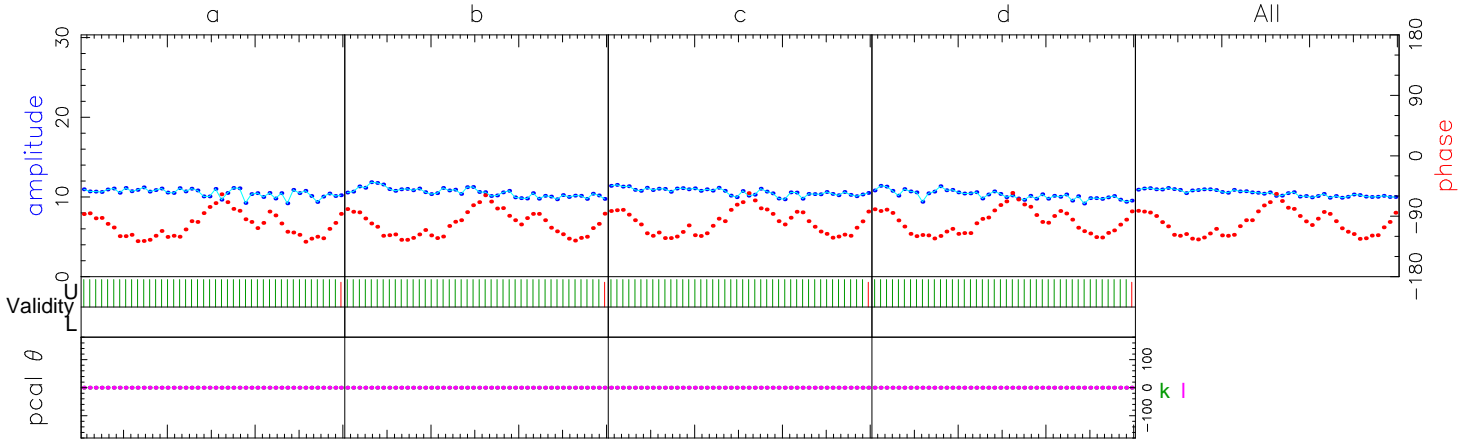
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kl  
VLBA\_KP - VLBA\_LA, fgroup Q, pol LL



Fringe quality 8  
SNR 371.0  
Int time 179.789  
Amp 10.118  
Phase -100.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.002689  
MBD -0.002608  
Fringe rate (Hz)  
-0.000580  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142847  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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



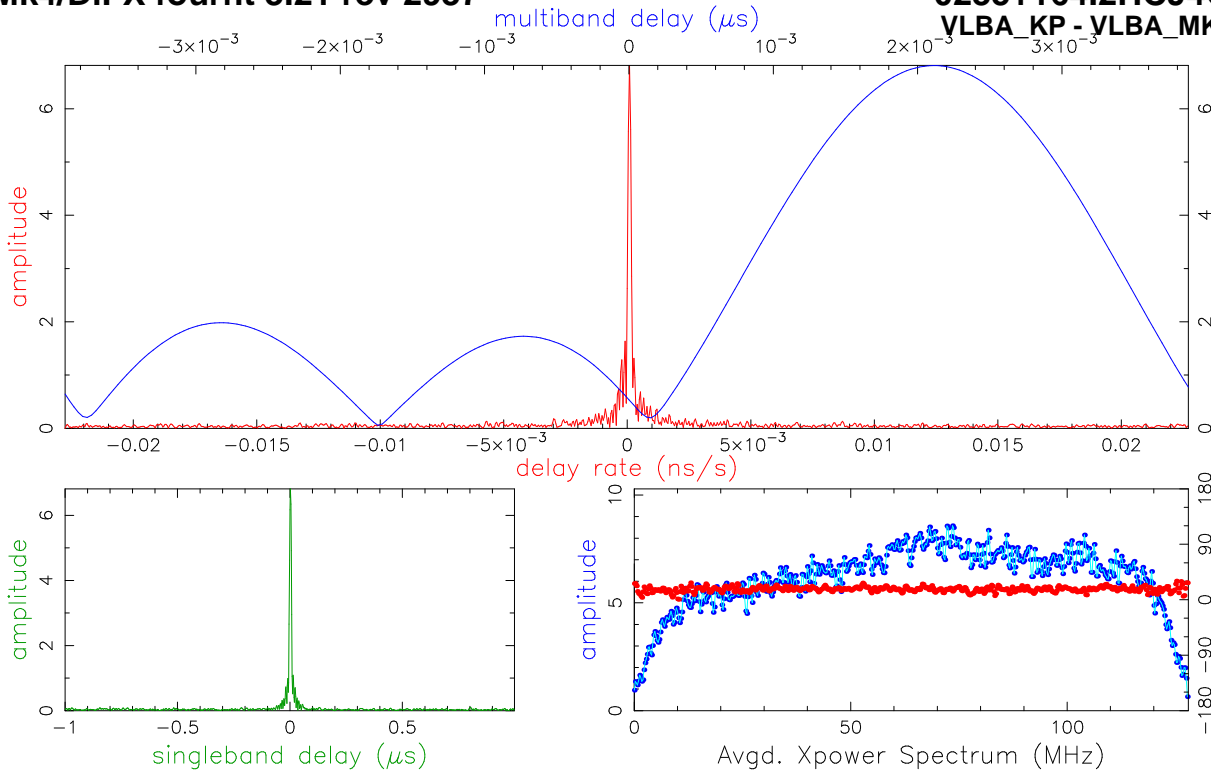
42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-103.1	-101.1	-99.2	-98.2	Phase	-100.4
10.0	10.1	10.2	9.8	Ampl.	10.0
511.7	511.6	511.7	511.5	Sbd box	511.6
U/L 352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	PC freqs	
l 1000	1000	1000	1000	PC freqs	
k:l 0:0	0:0	0:0	0:0	PC phase	
k:l 0:0	0:0	0:0	0:0	Manl PC	
k 1000	1000	1000	1000	PC amp	
l 1000	1000	1000	1000		
k Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
l Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.66402597856E+02	Apriori delay (usec)	-1.66399989949E+02	Resid mbdelay (usec)	-2.60791E-03	+/-	3.0E-06
Sband delay (usec)	-1.66402678574E+02	Apriori clock (usec)	9.3712196E+00	Resid sbdelay (usec)	-2.68862E-03	+/-	1.2E-05
Phase delay (usec)	-1.66399996448E+02	Apriori clockrate (us/s)	2.2521000E-07	Resid phdelay (usec)	-6.49843E-06	+/-	2.0E-08
Delay rate (us/s)	1.27457364725E-01	Apriori rate (us/s)	1.27457378231E-01	Resid rate (us/s)	-1.35065E-08	+/-	1.9E-10
Total phase (deg)	-233.1	Apriori accel (us/s/s)	-8.59470569018E-07	Resid phase (deg)	-100.4	+/-	0.3

ph/seg (deg)	17.8	Theor.	1.0	Amplitude	10.118 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5			
amp/seg (%)	5.4	Search (1024X16)	9.758	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000 1.000		
ph/frq (deg)	2.7	Inc. seg. avg.	10.494	Inc. frq. avg.	10.003	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004 0.004	
amp/frq (%)	1.8	Inc. frq. avg.	10.003			Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023 0.023		
						Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00 0.00

k: az 120.1 el 63.9 pa -49.8 l: az 135.2 el 65.1 pa -36.0 u,v (fr/asec) -379.712 -243.248 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kl..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kl.Q.9.2HCJ40

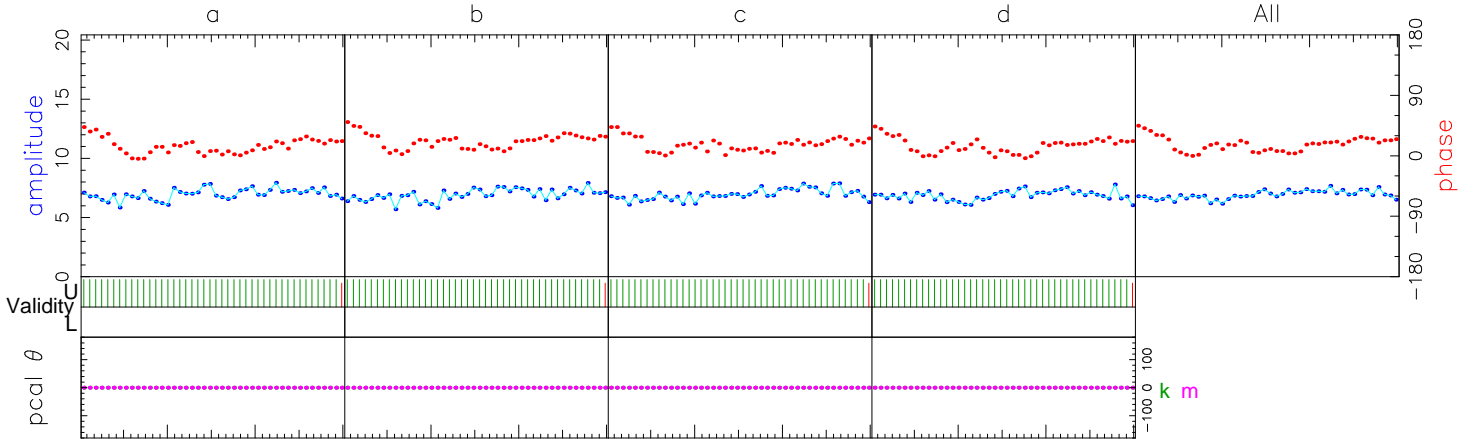


Fringe quality 9

SNR 249.7  
Int time 179.649  
Amp 6.814  
Phase 17.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.002115  
MBD 0.002120  
Fringe rate (Hz)  
0.003443  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142848  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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



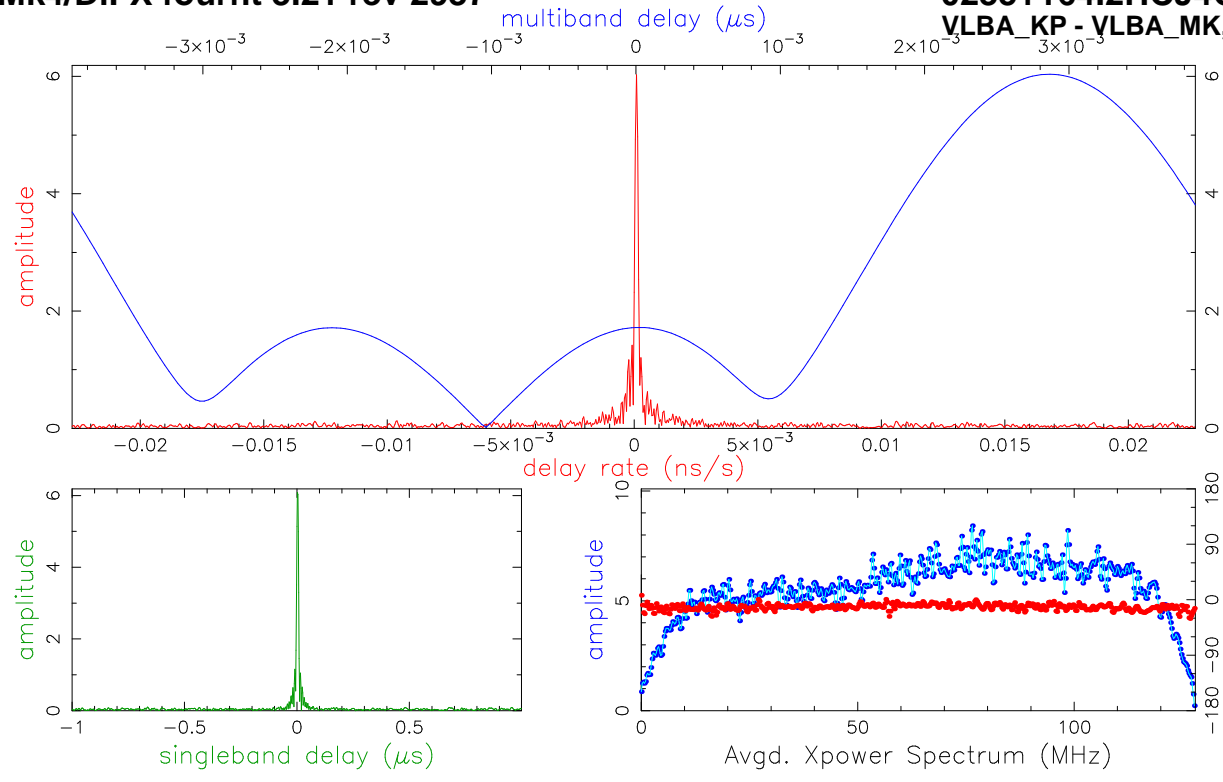
42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
14.6	21.8	17.2	15.0	Phase	17.2
6.9	6.8	6.9	6.8	Ampl.	6.8
514.1	514.2	514.0	514.0	Sbd box	514.1
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
m 1000	1000	1000	1000	PC freqs	
k:m 0:0	0:0	0:0	0:0	PC phase	
k:m 0:0	0:0	0:0	0:0	Manl 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)	9.51353227538E+03	Apriori delay (usec)	9.51353015518E+03	Resid mbdelay (usec)	2.12020E-03	+/-	4.5E-06
Sband delay (usec)	9.51353227018E+03	Apriori clock (usec)	2.7170563E+00	Resid sbdelay (usec)	2.11500E-03	+/-	1.7E-05
Phase delay (usec)	9.51353015629E+03	Apriori clockrate (us/s)	-1.8000000E-07	Resid phdelay (usec)	1.11066E-06	+/-	3.0E-08
Delay rate (us/s)	-7.95464696083E-01	Apriori rate (us/s)	-7.95464776328E-01	Resid rate (us/s)	8.02452E-08	+/-	2.9E-10
Total phase (deg)	24.0	Apriori accel (us/s/s)	-4.44073046407E-05	Resid phase (deg)	17.2	+/-	0.5

	RMS	Theor.	Amplitude	6.814 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	10.5	1.5	Search (1024X16)	6.687	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	5.3	2.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
ph/frq (deg)	4.1	0.5	Inc. seg. avg.	6.923	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	0.6	0.8	Inc. frq. avg.	6.818	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite
						ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 m: az 80.7 el 26.4 pa -75.8 u,v (fr/asec) 2349.223 277.692 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/km..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/km.Q.14.2HCJ40

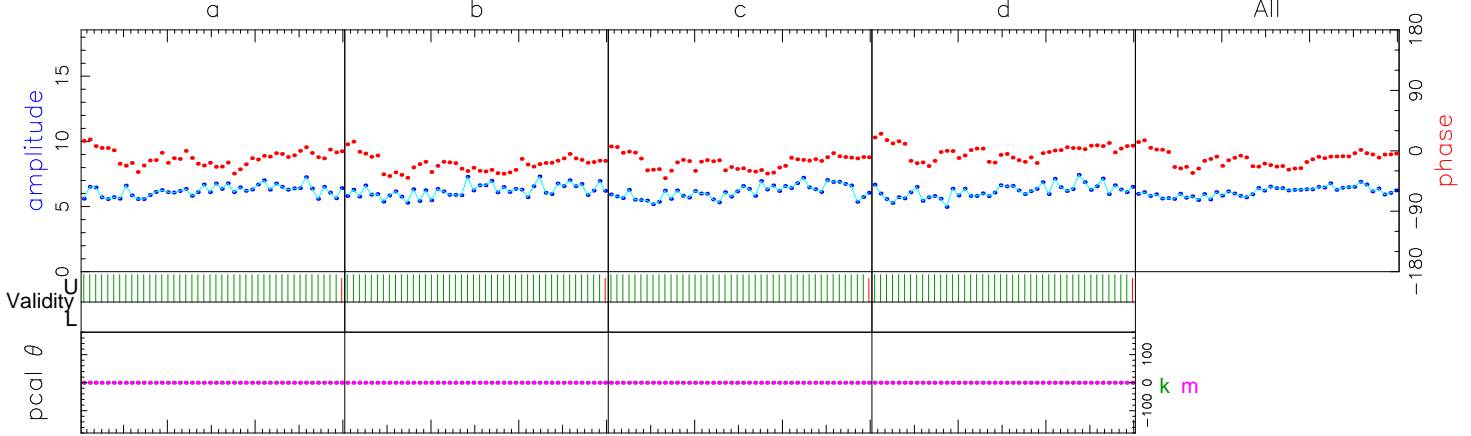


Fringe quality 9

SNR 226.8  
Int time 179.649  
Amp 6.188  
Phase -12.1  
PFD 0.0e+00  
Delays (us)  
SBD 0.002823  
MBD 0.002801  
Fringe rate (Hz) 0.003420  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142850  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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



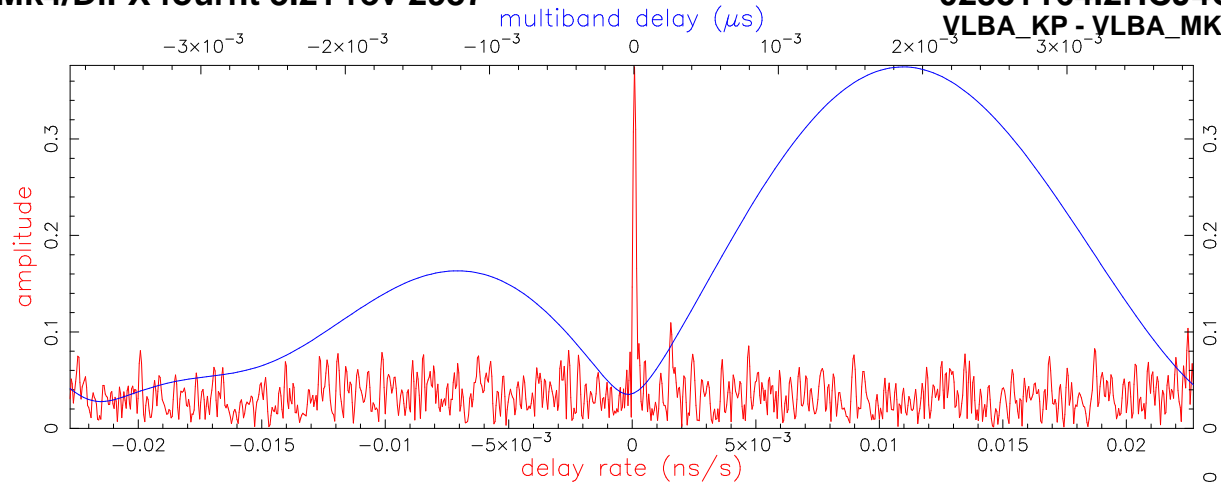
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-10.0	-19.9	-17.2	-1.3	Phase	-12.1
	6.1	6.1	6.0	6.1	Ampl.	6.1
	514.2	514.4	514.6	514.6	Sbd box	514.4
U/L	351/0	351/0	351/0	351/0	APs used	
k	1000	1000	1000	1000	PC freqs	
m	1000	1000	1000	1000	PC freqs	
k:m	0:0	0:0	0:0	0:0	PC phase	
k:m	0:0	0:0	0:0	0:0	Manl PC	
k	1000	1000	1000	1000	PC amp	
m	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
m	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

Group delay (usec)(sbd)	9.51353295660E+03	Apriori delay (usec)	9.51353015518E+03	Resid mbdelay (usec)	2.80142E-03	+/-	4.9E-06
Sband delay (usec)	9.51353297818E+03	Apriori clock (usec)	2.7170563E+00	Resid sbdelay (usec)	2.82300E-03	+/-	1.9E-05
Phase delay (usec)	9.51353015440E+03	Apriori clockrate (us/s)	-1.8000000E-07	Resid phdelay (usec)	-7.82621E-07	+/-	3.3E-08
Delay rate (us/s)	-7.95464696632E-01	Apriori rate (us/s)	-7.95464776328E-01	Resid rate (us/s)	7.96962E-08	+/-	3.2E-10
Total phase (deg)	-5.2	Apriori accel (us/s/s)	-4.44073046407E-05	Resid phase (deg)	-12.1	+/-	0.5

ph/seg (deg)	11.0	1.7	Search (1024X16)	5.965	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5				
amp/seg (%)	5.6	2.9	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us)	-1.000	1.000		
ph/frq (deg)	10.2	0.5	Inc. seg. avg.	6.135	Bits/sample: 2x2	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/frq (%)	1.9	0.9	Inc. frq. avg.	6.075	Sample rate(MISamp/s): 256		dr window (ns/s)	-0.023	0.023	
					Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

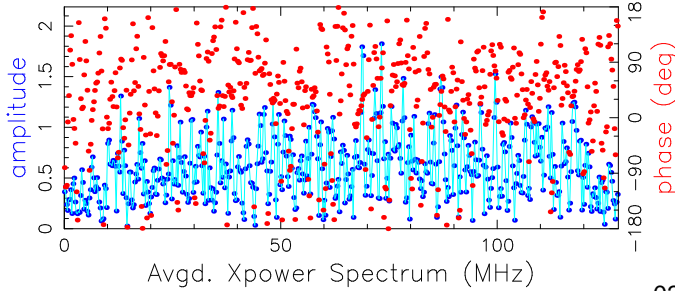
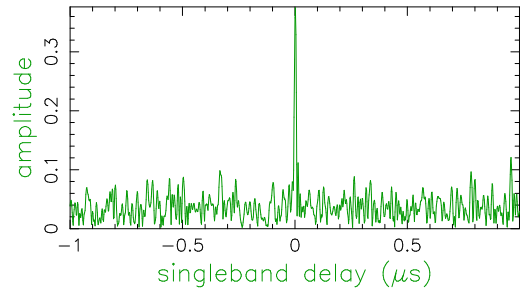
k: az 120.1 el 63.9 pa -49.8 m: az 80.7 el 26.4 pa -75.8 u,v (fr/asec) 2349.223 277.692 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/km..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/km.Q.19.2HCJ40



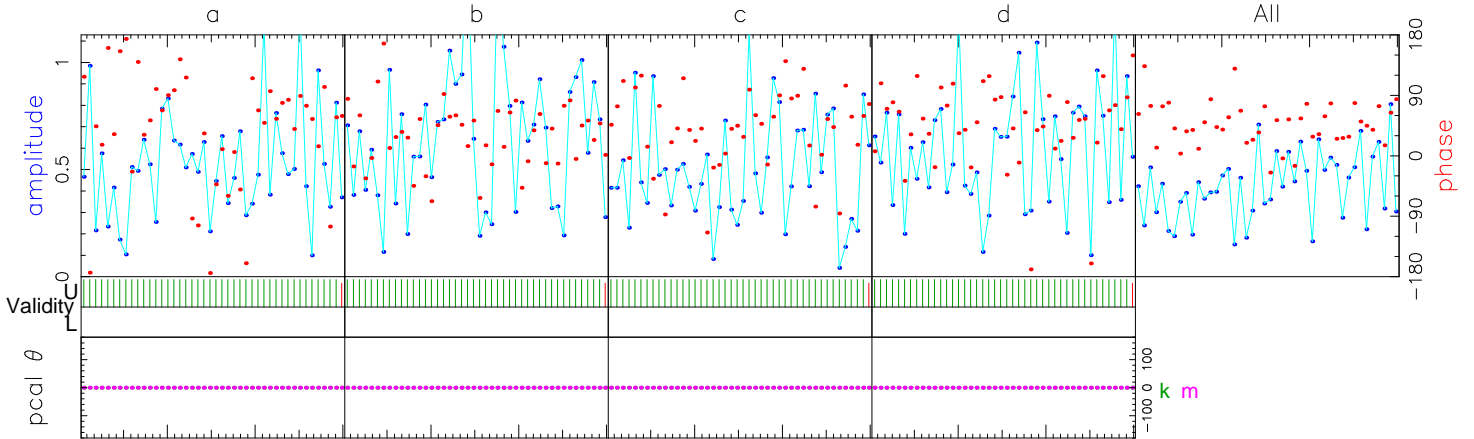
Fringe quality 9

SNR 13.8  
Int time 179.649  
Amp 0.376  
Phase 48.1  
PFD 8.1e-35  
Delays (us)  
SBD 0.001512  
MBD 0.001844  
Fringe rate (Hz)  
0.003403  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142851  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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

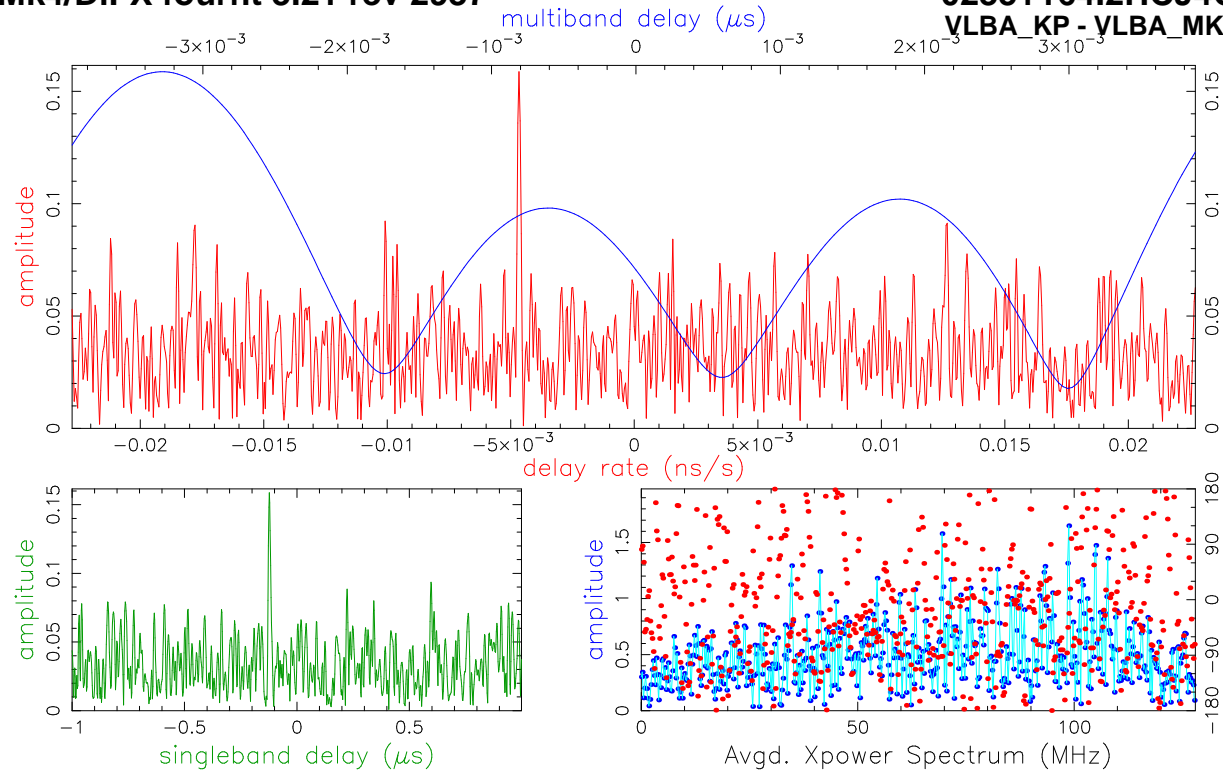


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000		
m	1000	1000	1000	1000		
k:m	0:0	0:0	0:0	0:0		
k:m	0:0	0:0	0:0	0:0		
k	1000	1000	1000	1000		
m	1000	1000	1000	1000		
k	Q00UL	Q01UL	Q02UL	Q03UL		
m	Q00UR	Q01UR	Q02UR	Q03UR		
					Chan ids	
					Tracks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

	9.51353199925E+03	Apriori delay (usec)	9.51353015518E+03	Resid mbdelay (usec)	1.84407E-03	+/- 8.1E-05
Sband delay (usec)	9.51353166743E+03	Apriori clock (usec)	2.7170563E+00	Resid sbdelay (usec)	1.51225E-03	+/- 3.1E-04
Phase delay (usec)	9.51353015830E+03	Apriori clockrate (us/s)	-1.8000000E-07	Resid phdelay (usec)	3.11636E-06	+/- 5.4E-07
Delay rate (us/s)	-7.95464697024E-01	Apriori rate (us/s)	-7.95464776328E-01	Resid rate (us/s)	7.93036E-08	+/- 5.2E-09
Total phase (deg)	55.0	Apriori accel (us/s/s)	-4.44073046407E-05	Resid phase (deg)	48.1	+/- 8.3

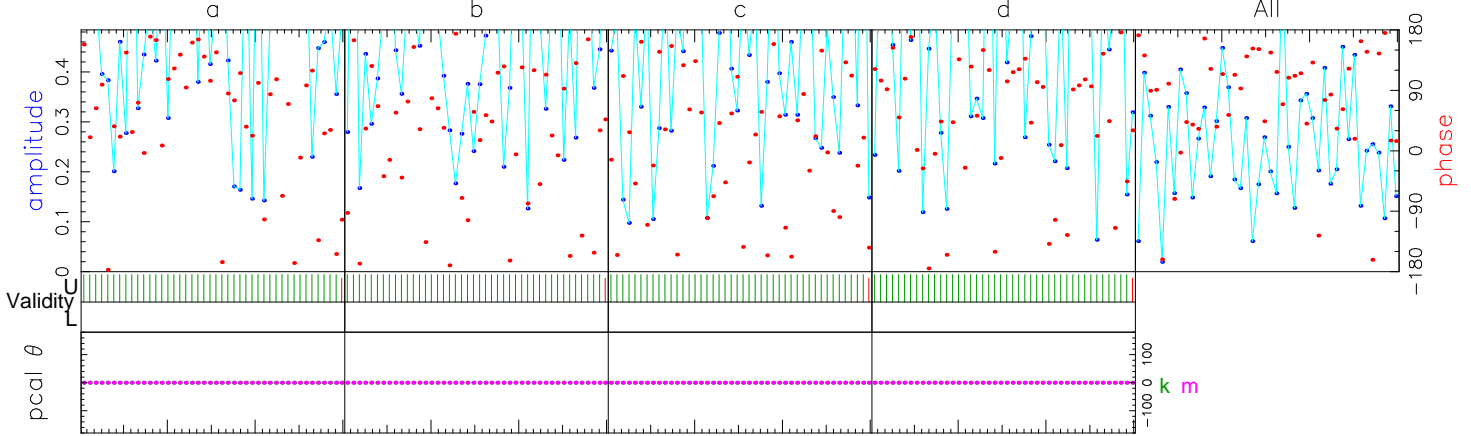
	RMS	Theor.	Amplitude	0.376 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	32.2	27.6	Search (1024X16)	0.370	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	43.6	48.1	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	16.7	8.3	Inc. seg. avg.	0.380	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	27.0	14.5	Inc. frq. avg.	0.379	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 m: az 80.7 el 26.4 pa -75.8 u,v (fr/asec) 2349.223 277.692 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/km..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/km.Q.26.2HCJ40



Fringe quality 0  
 SNR 5.8  
 Int time 179.649  
 Amp 0.162  
 Phase 88.8  
 PFD 5.3e-01  
 Delays (us)  
 SBD -0.122923  
 MBD -0.003281  
 Fringe rate (Hz)  
 -0.201019  
 Ion TEC 0.000  
 Ref freq (MHz)  
 42912.0000  
 AP (sec) 0.512  
 Exp. c221b  
 Exper # 16383  
 Yr:day 2022:092  
 Start 194901.00  
 Stop 195200.71  
 FRT 195031.00  
 Corr/FF/build  
 2022:333:032914  
 2022:333:142853  
 2021:252:122852  
 RA & Dec (J2000)  
 02h38m38.930107s  
 +16°36'59.274536"

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



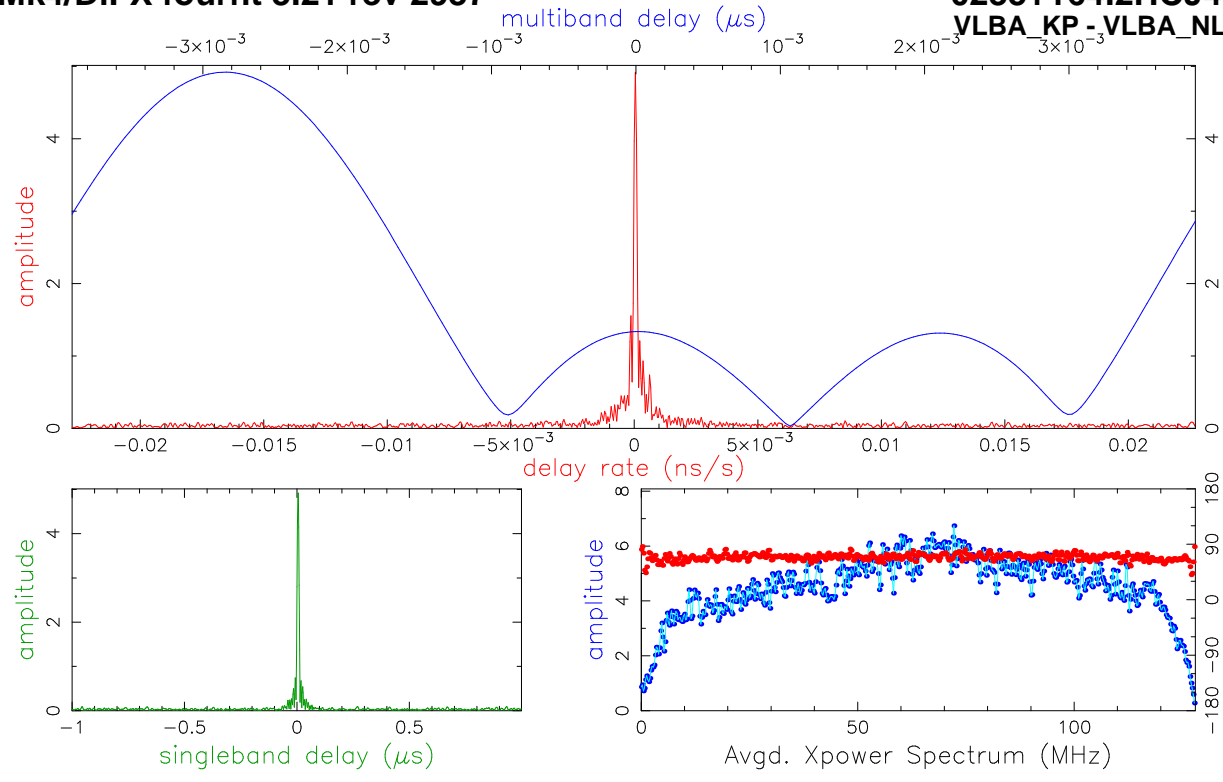
	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	351/0	351/0	351/0	351/0		
k	1000	1000	1000	1000	APs used	1000
m	1000	1000	1000	1000	PC freqs	1000
k:m	0:0	0:0	0:0	0:0	PC freqs	0:0
k:m	0:0	0:0	0:0	0:0	PC phase	0:0
k	1000	1000	1000	1000	ManI PC	1000
m	1000	1000	1000	1000	PC amp	1000
k	Q00UR	Q01UR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

	42912.00	43040.00	43168.00	43296.00		
Group delay (usec)(sbd)	98.9	71.0	54.9	97.6	Resid mbdelay (usec)	-3.28146E-03 +/- 1.9E-04
Sband delay (usec)	0.2	0.1	0.1	0.3	Resid sbdelay (usec)	-1.22923E-01 +/- 7.4E-04
Phase delay (usec)	449.0	424.0	606.5	450.1	Resid phdelay (usec)	5.75098E-06 +/- 1.3E-06
Delay rate (us/s)	-7.95469460784E-01			-7.95464776328E-01	Resid rate (us/s)	-4.68446E-06 +/- 1.2E-08
Total phase (deg)		95.7			Resid phase (deg)	88.8 +/- 19.7

	RMS	Theor.	Amplitude	0.162 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	62.6	65.3	Search (1024X16)	0.154	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	99.4	114.0	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	28.7	19.7	Inc. seg. avg.	0.161	Sample rate(MSamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	46.4	34.4	Inc. frq. avg.	0.158	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 m: az 80.7 el 26.4 pa -75.8 u,v (fr/asec) 2349.223 277.692 simultaneous interpolator  
 Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/km..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/km.Q.43.2HCJ40



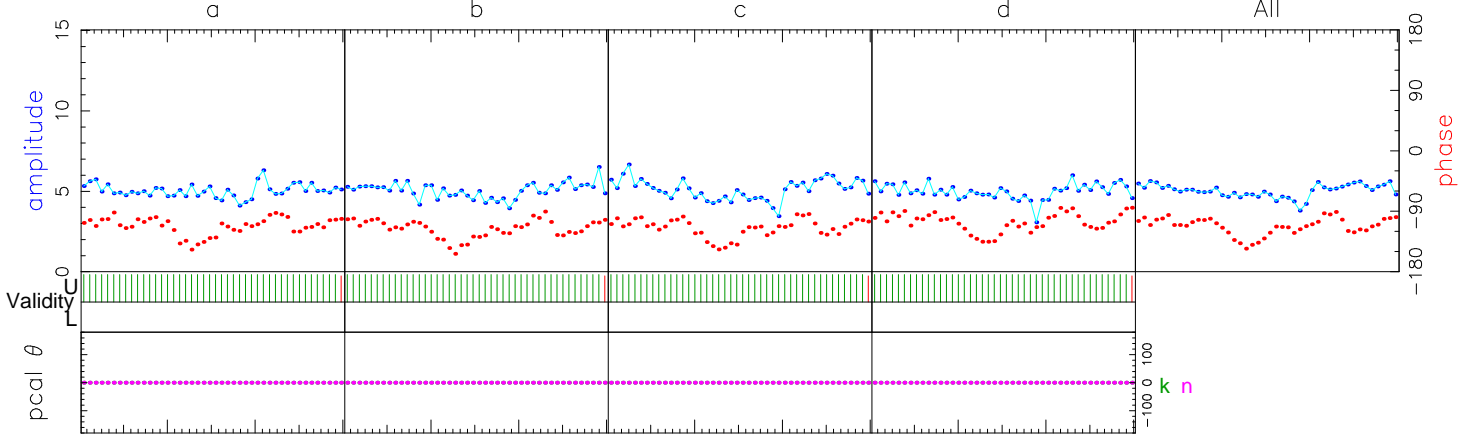


Fringe quality 8

SNR 183.9  
Int time 179.984  
Amp 5.014  
Phase -111.6  
PFD 0.0e+00  
Delays (us)  
SBD 0.004907  
MBD -0.002891  
Fringe rate (Hz)  
0.002563  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

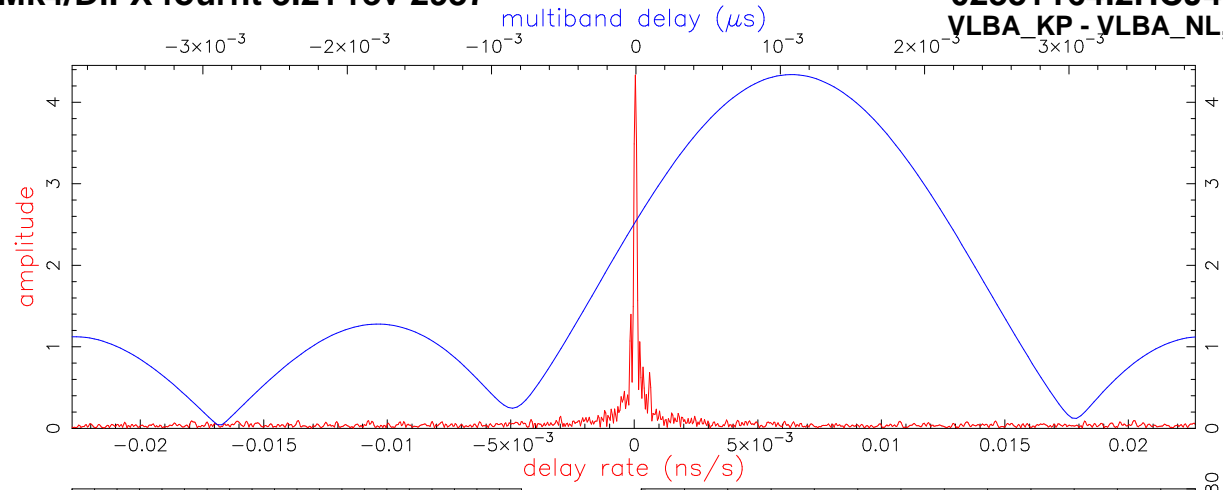
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142920  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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

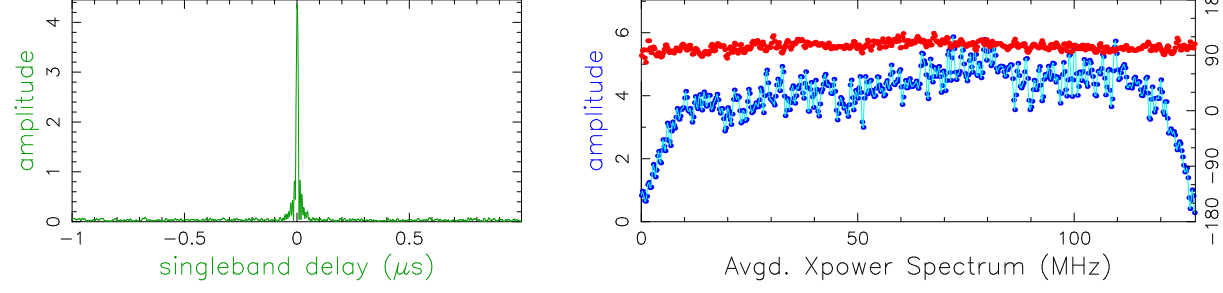


	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
	-111.7	-115.5	-113.8	-105.4	Phase	-111.6
	4.9	4.9	5.0	4.9	Ampl.	4.9
	515.4	515.5	515.6	515.5	Sbd box	515.5
U/L	352/0	352/0	352/0	352/0	APs used	
k	1000	1000	1000	1000	PC freqs	
n	1000	1000	1000	1000	PC freqs	
k:n	0:0	0:0	0:0	0:0	PC phase	
k:n	0:0	0:0	0:0	0:0	ManI 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)	-9.45314407729E+01	Apriori delay (usec)	-9.45363626680E+01	Resid mbdelay (usec)	-2.89060E-03	+/- 6.0E-06
Sband delay (usec)	-9.45314561680E+01	Apriori clock (usec)	-1.4412239E+01	Resid sbdelay (usec)	4.90650E-03	+/- 2.3E-05
Phase delay (usec)	-9.45363698945E+01	Apriori clockrate (us/s)	-3.9471001E-07	Resid phdelay (usec)	-7.22651E-06	+/- 4.0E-08
Delay rate (us/s)	4.35682852482E-01	Apriori rate (us/s)	4.35682792747E-01	Resid rate (us/s)	5.97351E-08	+/- 3.9E-10
Total phase (deg)		Apriori accel (us/s/s)	-4.00839260364E-06	Resid phase (deg)	-111.6	+/- 0.6

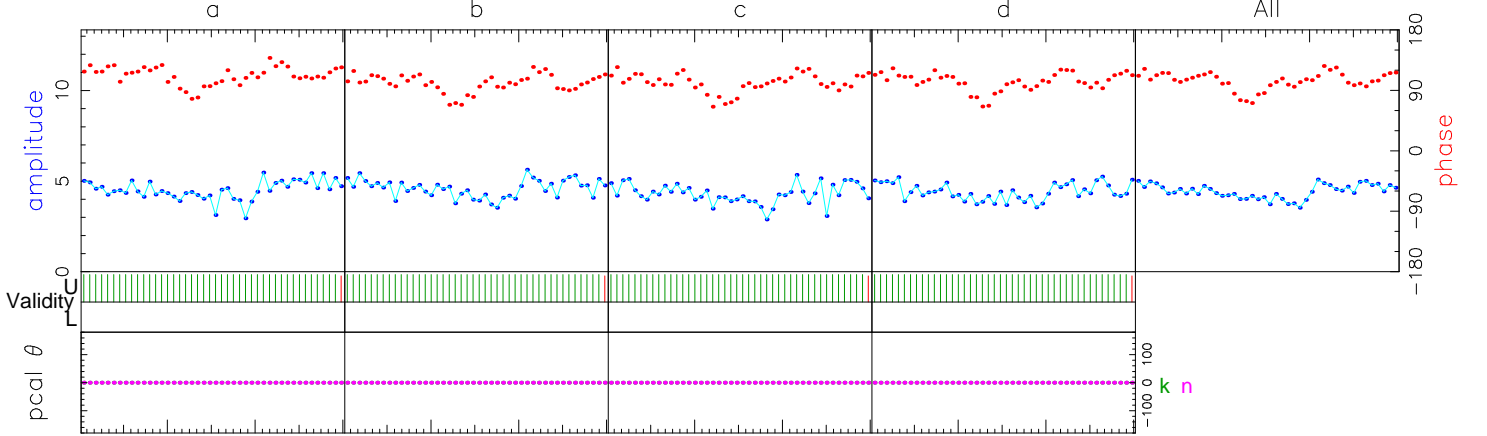
ph/seg (deg) 12.8 2.1 Search (1024X16) 4.786 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
amp/seg (%) 8.0 3.6 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
ph/frq (deg) 5.4 0.6 Inc. seg. avg. 5.035 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.004 0.004  
amp/frq (%) 2.0 1.1 Inc. frq. avg. 4.926 Sample rate(MISamp/s): 256 Data rate(Mb/s): 2048 nlags: 512 t\_cohere infinite dr window (ns/s) -0.023 0.023  
k: az 120.1 el 63.9 pa -49.8 n: az 172.3 el 64.8 pa -5.8 u,v (fr/asec) -1298.727 -622.721 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kn..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kn.Q.115.2HCJ40



Fringe quality 8  
SNR 163.3  
Int time 179.984  
Amp 4.452  
Phase 104.9  
PFD 0.0e+00  
Delays (us)  
SBD 0.001089  
MBD 0.001134  
Fringe rate (Hz) 0.002573  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142921  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"



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	352/0	352/0	352/0	352/0		
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	

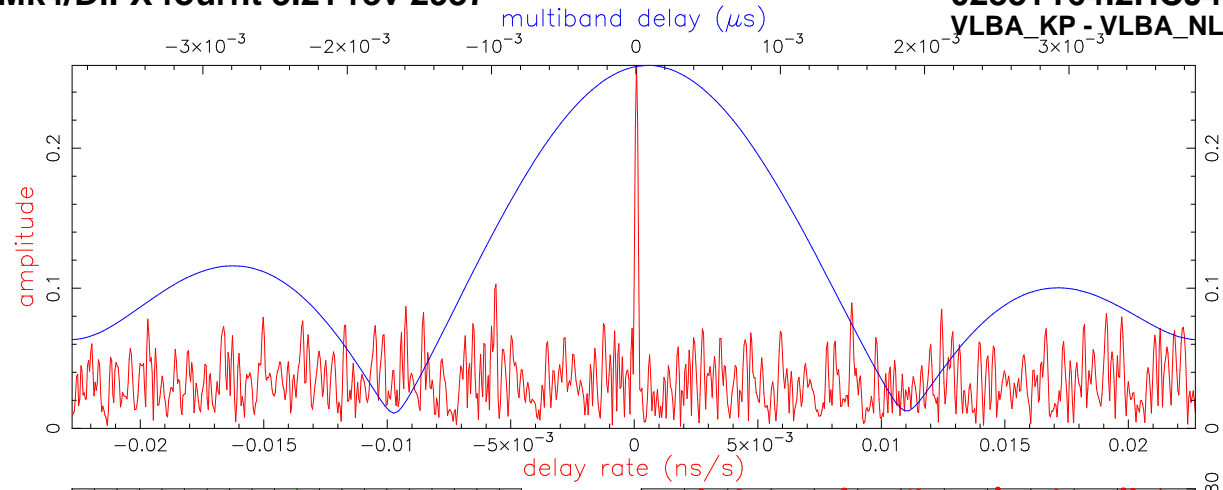
Group delay (usec)(sbd)	-9.45352284916E+01	Apriori delay (usec)	-9.45363626680E+01	Resid mbdelay (usec)	1.13418E-03	+/-	6.8E-06
Sband delay (usec)	-9.45352740430E+01	Apriori clock (usec)	-1.4412239E+01	Resid sbdelay (usec)	1.08863E-03	+/-	2.6E-05
Phase delay (usec)	-9.45363558747E+01	Apriori clockrate (us/s)	-3.9471001E-07	Resid phdelay (usec)	6.79336E-06	+/-	4.5E-08
Delay rate (us/s)	4.35682852701E-01	Apriori rate (us/s)	4.35682792747E-01	Resid rate (us/s)	5.99542E-08	+/-	4.4E-10
Total phase (deg)		Apriori accel (us/s/s)	-4.00839260364E-06	Resid phase (deg)	104.9	+/-	0.7

ph/seg (deg)	12.6	Theor.	2.3	Amplitude	4.452 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	8.7		4.1	Search (1024X16)	4.213	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	6.6		0.7	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	3.4		1.2	Inc. seg. avg.	4.433	Sample rate(MISamp/s): 256	mb window (us) -0.004 0.004
				Inc. frq. avg.	4.348	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

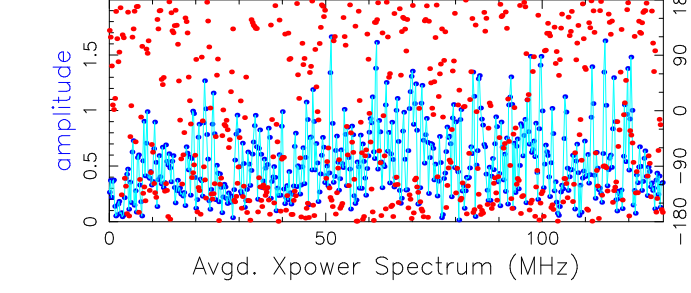
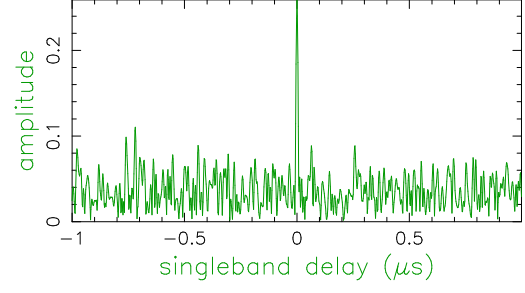
k: az 120.1 el 63.9 pa -49.8 n: az 172.3 el 64.8 pa -5.8 u,v (fr/asec) -1298.727 -622.721 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kn..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kn.Q.124.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

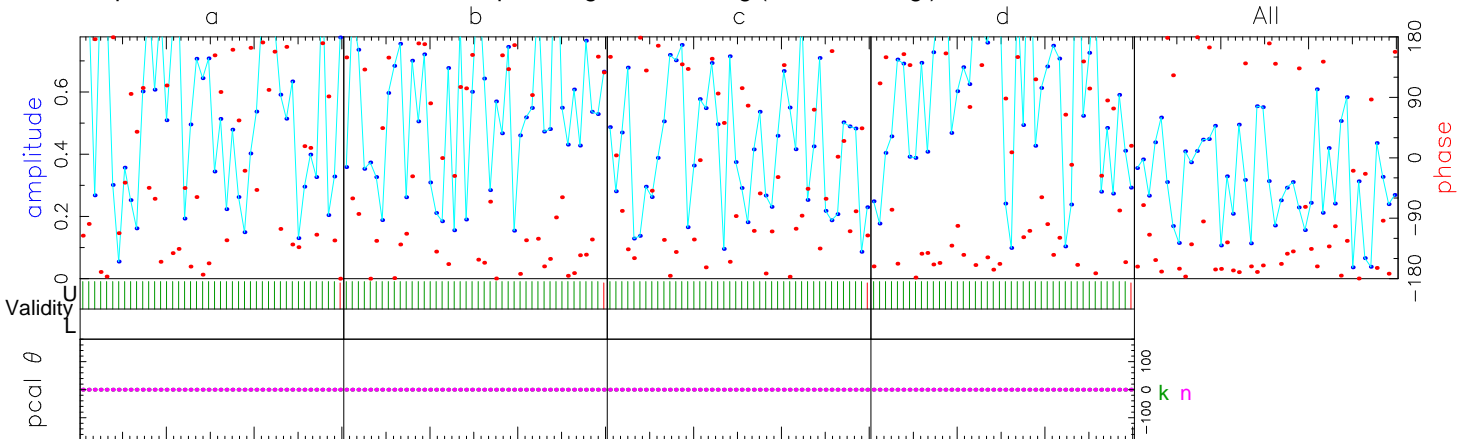
0235+164.2HCJ40, No0315, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol LR



Fringe quality 9  
SNR 9.5  
Int time 179.984  
Amp 0.259  
Phase -158.5  
PFD 4.1e-13  
Delays (us)  
SBD 0.000073  
MBD 0.000087  
Fringe rate (Hz) 0.002945  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142923  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"



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
-160.1	-160.3	-142.2	-162.8	Phase	-158.5
0.2	0.3	0.2	0.4	Ampl.	0.3
513.1	512.0	69.9	513.6	Sbd box	513.0
U/L 352/0	352/0	352/0	352/0	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	ManI 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)	-9.45362760964E+01	Apriori delay (usec)	-9.45363626680E+01	Resid mbdelay (usec)	8.65716E-05	+/-	1.2E-04
Sband delay (usec)	-9.45362896680E+01	Apriori clock (usec)	-1.4412239E+01	Resid sbdelay (usec)	7.30000E-05	+/-	4.5E-04
Phase delay (usec)	-9.45363729276E+01	Apriori clockrate (us/s)	-3.9471001E-07	Resid phdelay (usec)	-1.02595E-05	+/-	7.8E-07
Delay rate (us/s)	4.35682861369E-01	Apriori rate (us/s)	4.35682792747E-01	Resid rate (us/s)	6.86219E-08	+/-	7.5E-09
Total phase (deg)	-300.6	Apriori accel (us/s/s)	-4.00839260364E-06	Resid phase (deg)	-158.5	+/-	12.1

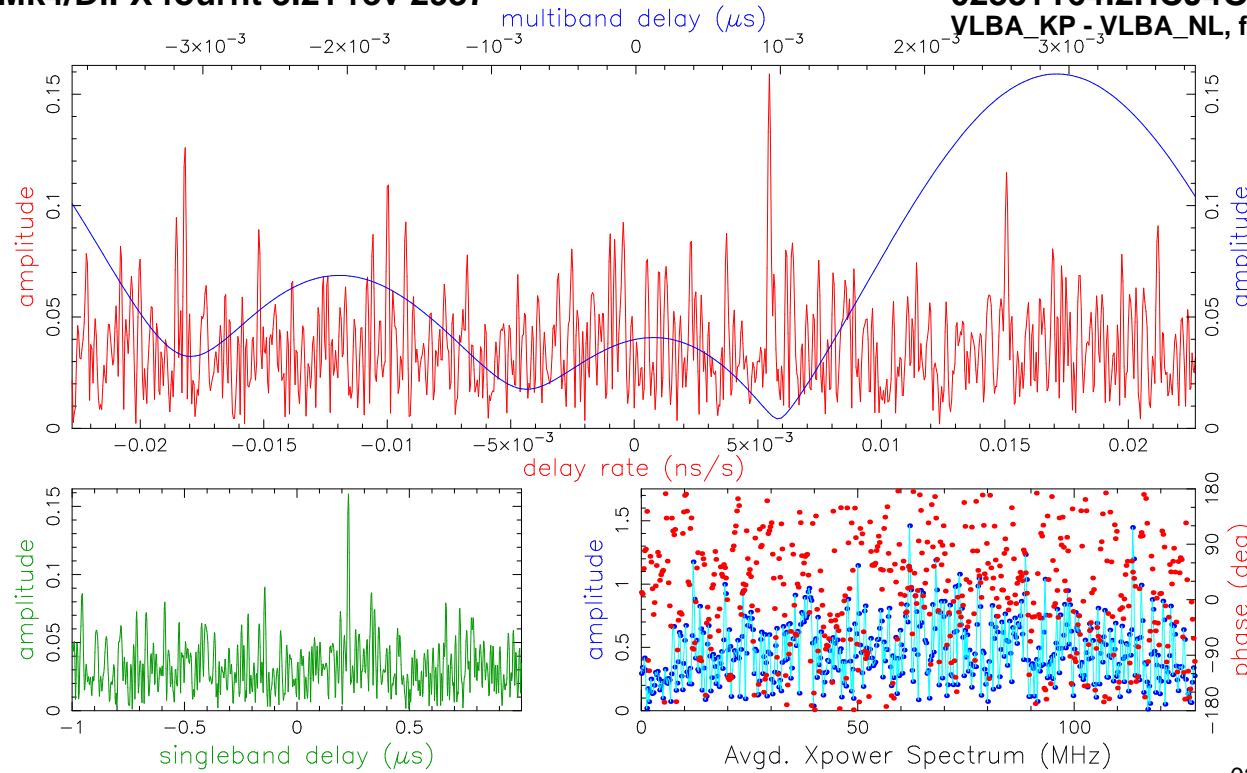
ph/seg (deg)	50.8	Theor.	40.0	Amplitude	0.259 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	62.2	Search (1024X16)	0.248	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	12.1	Inc. seg. avg.	0.257	Inc. frq. avg.	0.255	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	28.3	Inc. frq. avg.	0.255			Sample rate(MSamp/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 120.1 el 63.9 pa -49.8 n: az 172.3 el 64.8 pa -5.8 u,v (fr/asec) -1298.727 -622.721 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kn..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kn.Q.143.2HCJ40

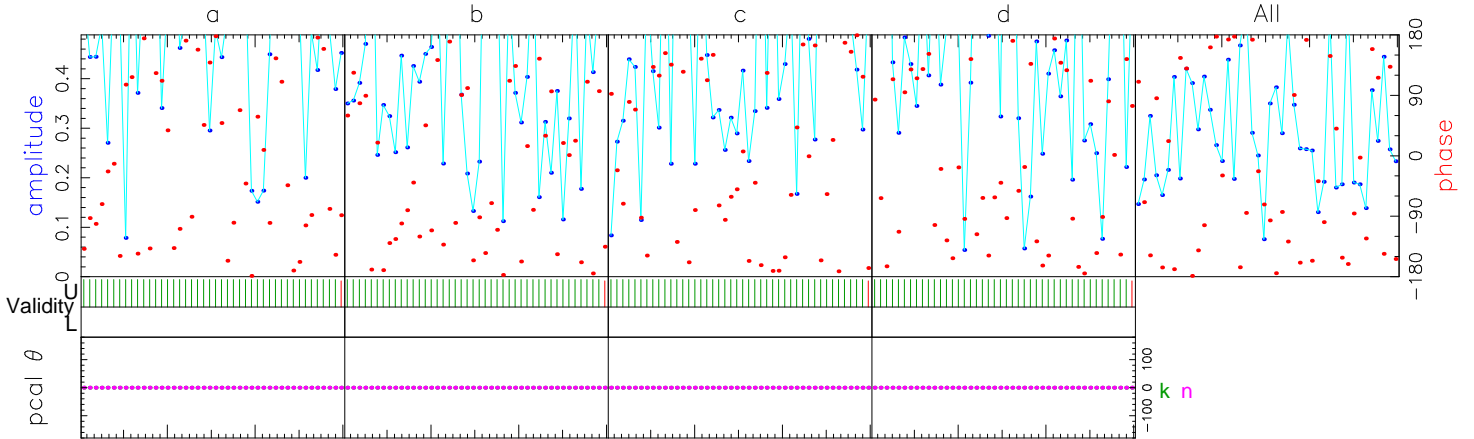
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kn  
VLBA\_KP - VLBA\_NL, fgroup Q, pol RL



Fringe quality 0  
SNR 5.8  
Int time 179.984  
Amp 0.163  
Phase -162.7  
PFD 4.9e-01  
Delays (us)  
SBD 0.228623  
MBD 0.002923  
Fringe rate (Hz)  
0.233955  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142925  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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

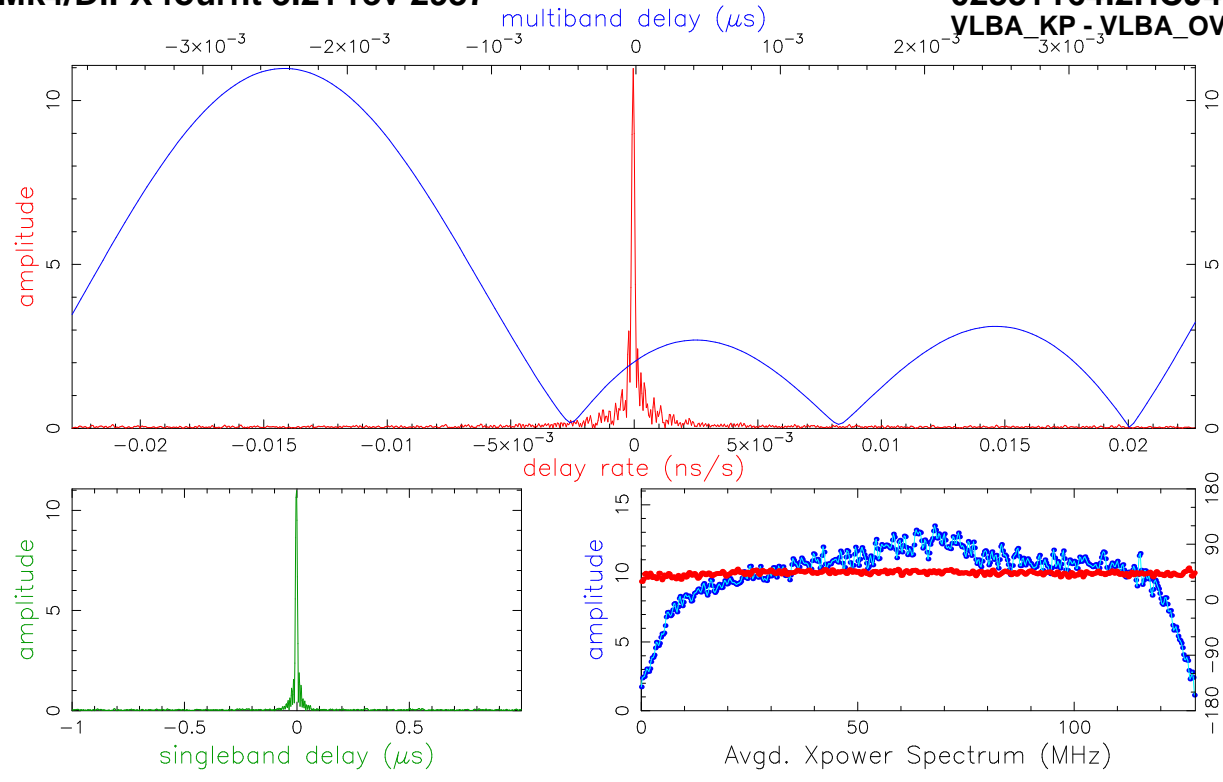


42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
-157.1	-163.7	-174.2	-154.3	Phase	-162.7
0.2	0.1	0.2	0.2	Ampl.	0.2
262.7	904.2	630.9	715.5	Sbd box	630.1
U/L 352/0	352/0	352/0	352/0	APs used	
k 1000	1000	1000	1000	PC freqs	
n 1000	1000	1000	1000	PC freqs	
k:n 0:0	0:0	0:0	0:0	PC phase	
k:n 0:0	0:0	0:0	0:0	ManI PC	
k 1000	1000	1000	1000	PC amp	
n 1000	1000	1000	1000		
k Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
n Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-9.43068767793E+01	Apriori delay (usec)	-9.45363626680E+01	Resid mbdelay (usec)	2.92339E-03	+/-	1.9E-04
Sband delay (usec)	-9.43077397930E+01	Apriori clock (usec)	-1.4412239E+01	Resid sbdelay (usec)	2.28623E-01	+/-	7.4E-04
Phase delay (usec)	-9.45363731999E+01	Apriori clockrate (us/s)	-3.9471001E-07	Resid phdelay (usec)	-1.05319E-05	+/-	1.3E-06
Delay rate (us/s)	4.35688244715E-01	Apriori rate (us/s)	4.35682792747E-01	Resid rate (us/s)	5.45197E-06	+/-	1.2E-08
Total phase (deg)	-304.8	Apriori accel (us/s/s)	-4.00839260364E-06	Resid phase (deg)	-162.7	+/-	19.6

ph/seg (deg)	RMS 74.3	Theor. 65.1	Amplitude Search (1024X16)	0.155	0.163 +/- 0.028	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	115.6	113.6	Interp.	0.000	0.155	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	10.8	19.6	Inc. seg. avg.	0.185	0.155	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	23.0	34.3	Inc. frq. avg.	0.155	0.155	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 120.1 el 63.9 pa -49.8 n: az 172.3 el 64.8 pa -5.8 u,v (fr/asec) -1298.727 -622.721 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kn..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kn.Q.157.2HCJ40

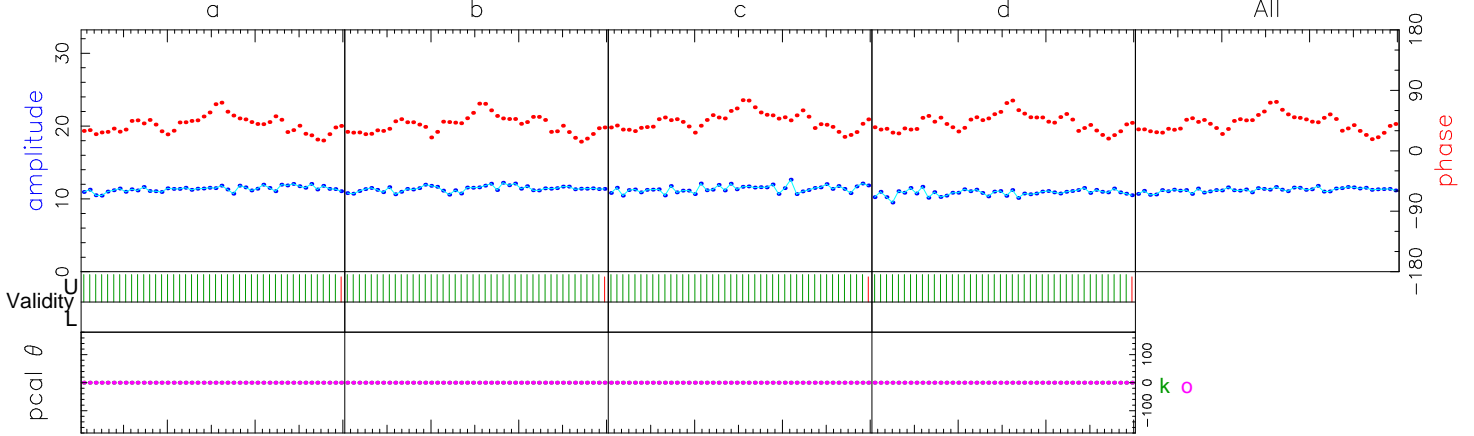


Fringe quality 8

SNR 406.1  
Int time 179.853  
Amp 11.073  
Phase 40.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.002581  
MBD -0.002469  
Fringe rate (Hz)  
-0.002835  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142852  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

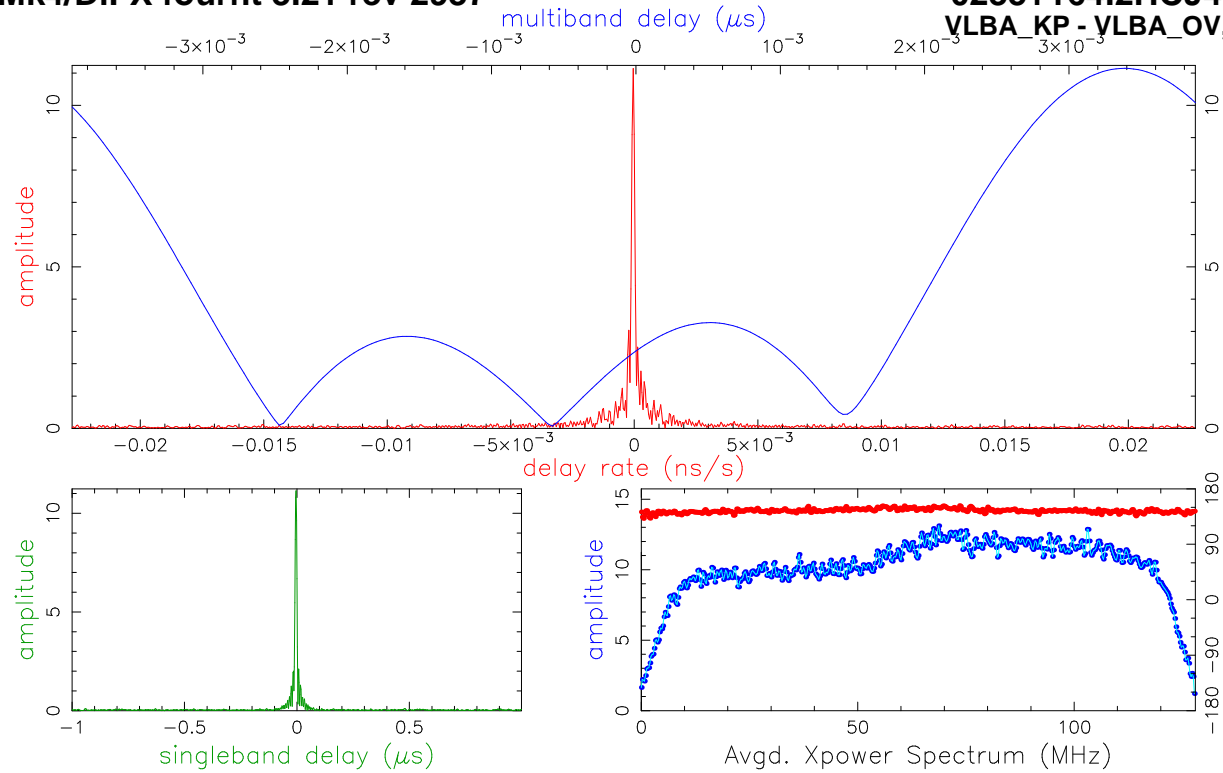
Amp. and Phase vs. time for each freq., 44 segs, 8 APs / seg (4.10 sec / seg.), time ticks 5 sec



	42912.00	43040.00	43168.00	43296.00	Freq (MHz)	All
U/L	352/0	352/0	352/0	352/0		
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)	1.34841518692E+03	1.34841518692E+03	1.34841765615E+03	1.34841765615E+03	Resid mbdelay (usec)	-2.46924E-03 +/- 2.7E-06
Sband delay (usec)	1.34841507515E+03	1.34841507515E+03	-2.2829208E+00	-2.2829208E+00	Resid sbdelay (usec)	-2.58100E-03 +/- 1.1E-05
Phase delay (usec)	1.34841765879E+03	1.34841765879E+03	-2.3450000E-07	-2.3450000E-07	Resid phdelay (usec)	2.63353E-06 +/- 1.8E-08
Delay rate (us/s)	-9.35831360834E-02	-9.35831360834E-02	-9.35830700075E-02	-9.35830700075E-02	Resid rate (us/s)	-6.60759E-08 +/- 1.8E-10
Total phase (deg)		206.6	-9.63687901932E-06	-9.63687901932E-06	Resid phase (deg)	40.7 +/- 0.3
ph/seg (deg)	12.4	0.9	Search (1024X16)	10.476	PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
amp/seg (%)	2.9	1.6	Interp.	0.000	PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
ph/frq (deg)	3.4	0.3	Inc. seg. avg.	11.236	Bits/sample: 2x2	SampCntNorm: enabled
amp/frq (%)	2.2	0.5	Inc. frq. avg.	10.986	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
					Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite
						ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 o: az 119.6 el 56.5 pa -45.9 u,v (fr/asec) 275.043 -433.611 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/ko..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/ko.Q.38.2HCJ40

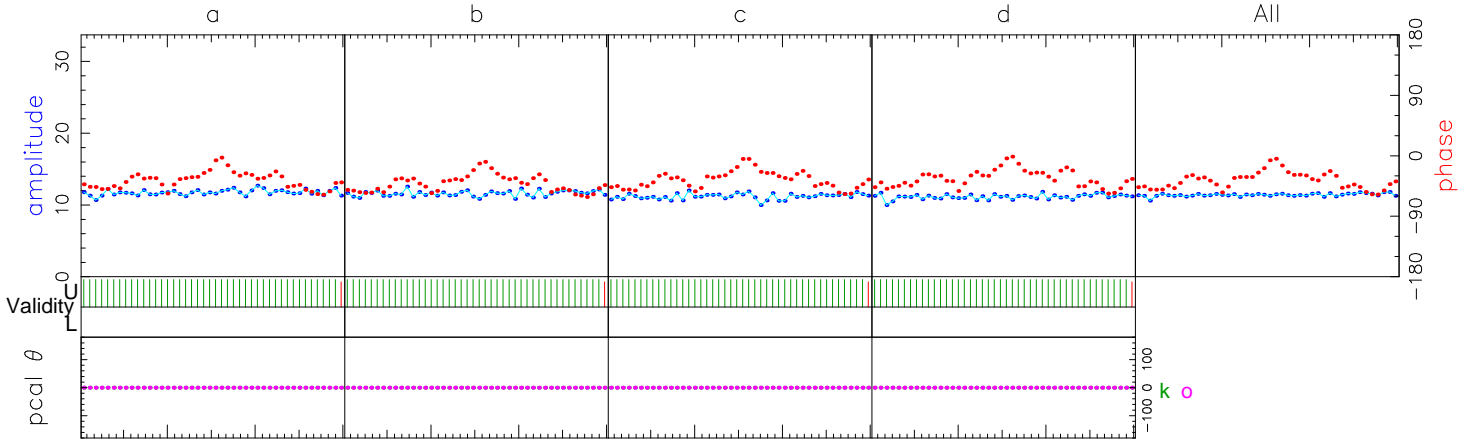


Fringe quality 8

SNR 412.2  
Int time 179.853  
Amp 11.239  
Phase -37.0  
PFD 0.0e+00  
Delays (us)  
SBD -0.004519  
MBD 0.003352  
Fringe rate (Hz)  
-0.002831  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512

Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142854  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
	-36.6	-41.6	-35.9	-33.6	Phase	-37.0
	11.5	11.3	10.9	10.9	Ampl.	11.2
	510.6	510.7	510.7	510.7	Sbd box	510.7
U/L	352/0	352/0	352/0	352/0	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	

	1.34841319585E+03	Apriori delay (usec)	1.34841765615E+03	Resid mbdelay (usec)	3.35220E-03	+/- 2.7E-06
Group delay (usec)(sbd)	1.34841313690E+03	Apriori clock (usec)	-2.2829208E+00	Resid sbdelay (usec)	-4.51925E-03	+/- 1.0E-05
Sband delay (usec)	1.34841765376E+03	Apriori clockrate (us/s)	-2.3450000E-07	Resid phdelay (usec)	-2.39391E-06	+/- 1.8E-08
Phase delay (usec)	-9.35831359725E-02	Apriori rate (us/s)	-9.35830700075E-02	Resid rate (us/s)	-6.59650E-08	+/- 1.7E-10
Delay rate (us/s)		Apriori accel (us/s/s)	-9.63687901932E-06	Resid phase (deg)	-37.0	+/- 0.3
Total phase (deg)	128.9					

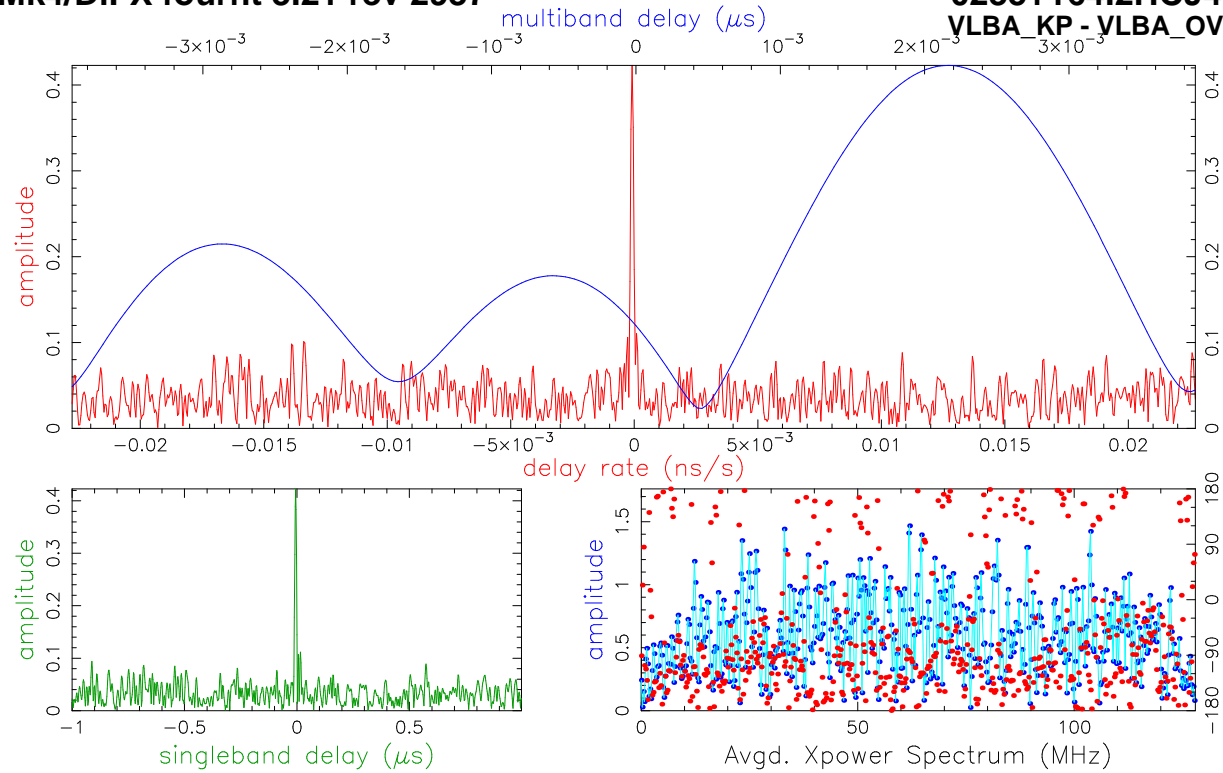
	RMS	Theor.	Amplitude	11.239 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	12.5	0.9	Search (1024X16)	10.632	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	2.4	1.6	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	4.1	0.3	Inc. seg. avg.	11.412	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	2.4	0.5	Inc. frq. avg.	11.157	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 o: az 119.6 el 56.5 pa -45.9 u,v (fr/asec) 275.043 -433.611 simultaneous interpolator

Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/ko..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/ko.Q.57.2HCJ40

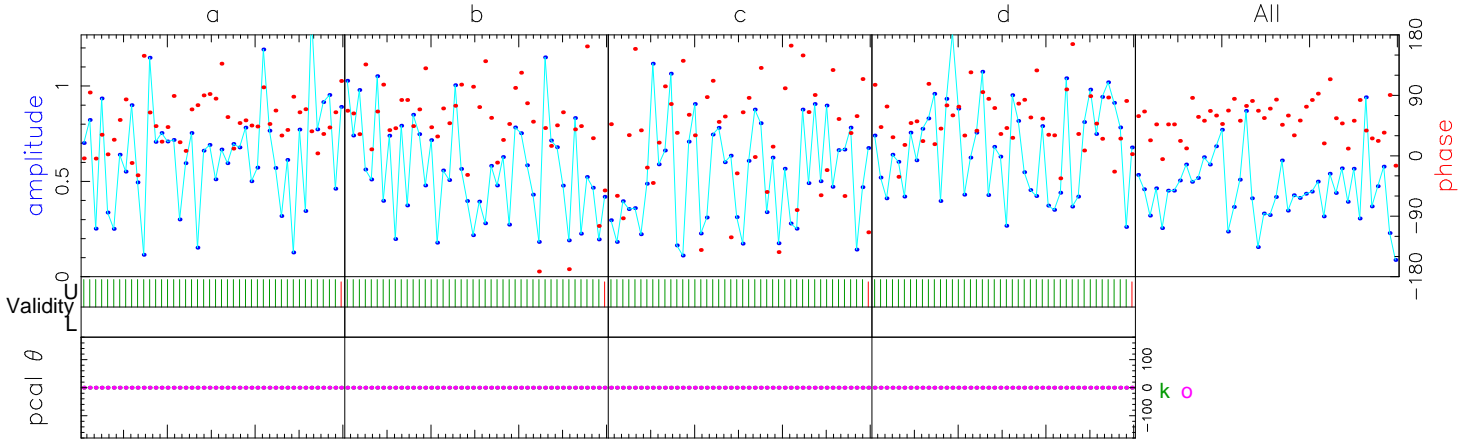
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol LR



Fringe quality 9  
SNR 15.5  
Int time 179.853  
Amp 0.423  
Phase 54.2  
PFD 1.4e-45  
Delays (us)  
SBD -0.005932  
MBD 0.002161  
Fringe rate (Hz)  
-0.003018  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142856  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
51.1	61.0	49.5	53.8	Phase	54.2
0.5	0.4	0.2	0.5	Ampl.	0.4
509.7	510.0	510.3	510.0	Sbd box	510.0
U/L 352/0	352/0	352/0	352/0	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 Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
o Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

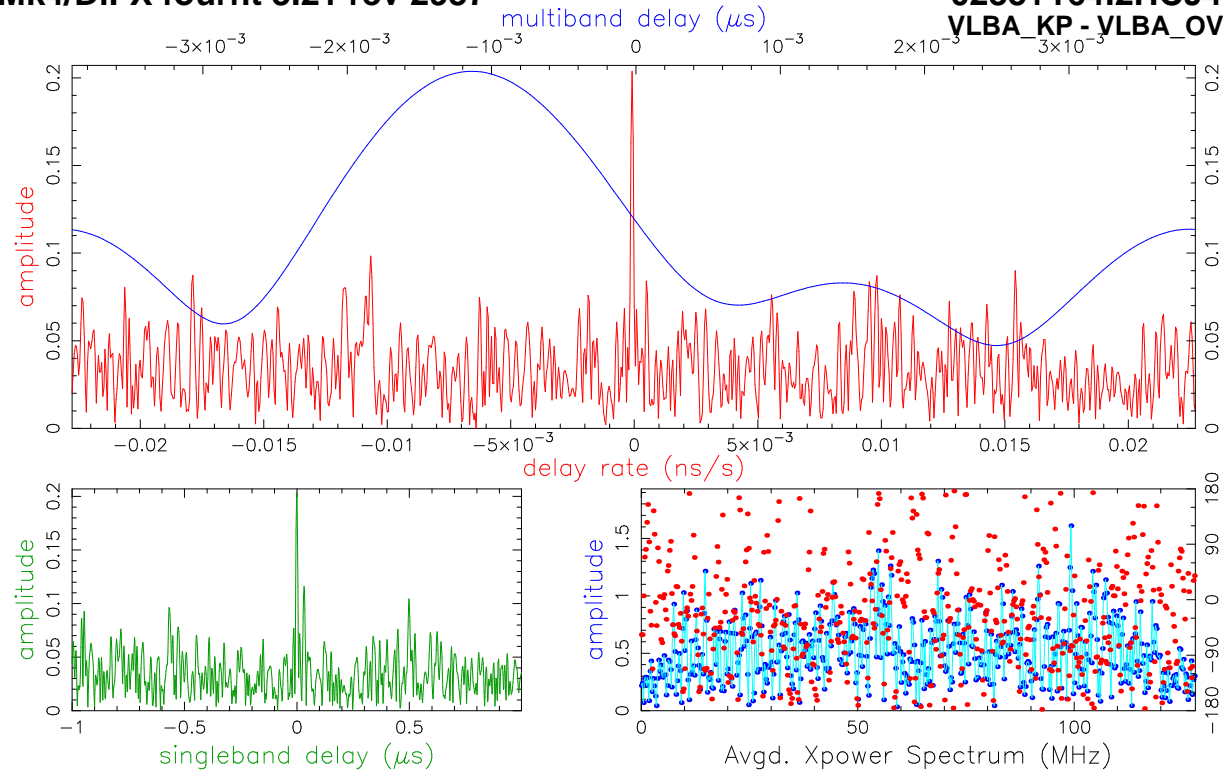
Group delay (usec)(sbd)	1.34841200486E+03	Apriori delay (usec)	1.34841765615E+03	Resid mbdelay (usec)	2.16121E-03	+/- 7.2E-05
Sband delay (usec)	1.34841172403E+03	Apriori clock (usec)	-2.2829208E+00	Resid sbdelay (usec)	-5.93212E-03	+/- 2.8E-04
Phase delay (usec)	1.34841765967E+03	Apriori clockrate (us/s)	-2.3450000E-07	Resid phdelay (usec)	3.51071E-06	+/- 4.8E-07
Delay rate (us/s)	-9.35831403276E-02	Apriori rate (us/s)	-9.35830700075E-02	Resid rate (us/s)	-7.03201E-08	+/- 4.6E-09
Total phase (deg)	220.2	Apriori accel (us/s/s)	-9.63687901932E-06	Resid phase (deg)	54.2	+/- 7.4

ph/seg (deg)	RMS 26.8	Theor. 24.5	Amplitude Search (1024X16)	0.423 +/- 0.027	0.400	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	40.1	42.8	Interp.	0.000	0.400	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	6.2	7.4	Inc. seg. avg.	0.424	0.424	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	31.1	12.9	Inc. frq. avg.	0.420	0.420	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 120.1 el 63.9 pa -49.8 o: az 119.6 el 56.5 pa -45.9 u,v (fr/asec) 275.043 -433.611 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/ko..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/ko.Q.70.2HCJ40

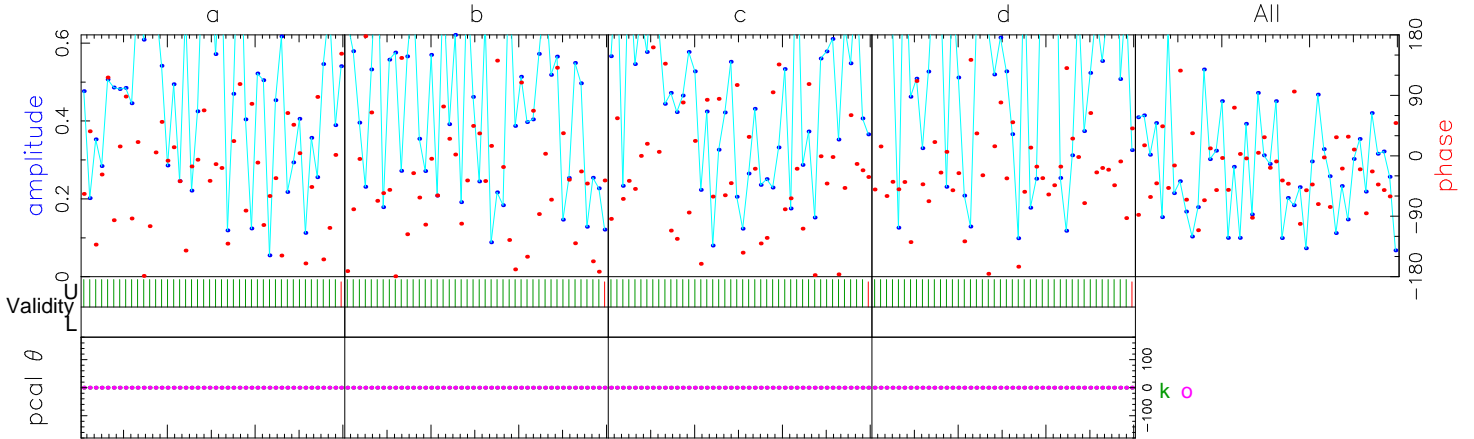
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, ko  
VLBA\_KP - VLBA\_OV, fgroup Q, pol RL



Fringe quality 9  
SNR 7.6  
Int time 179.853  
Amp 0.207  
Phase -28.3  
PFD 5.0e-06  
Delays (us)  
SBD -0.000864  
MBD -0.001167  
Fringe rate (Hz)  
-0.002984  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195201.23  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142858  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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
	-21.6	-50.3	-20.8	-27.0	Phase	-28.3
	0.1	0.1	0.2	0.4	Ampl.	0.2
	112.6	220.7	289.3	511.9	Sbd box	512.6
U/L	352/0	352/0	352/0	352/0	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)	1.34841648908E+03	Apriori delay (usec)	1.34841765615E+03	Resid mbdelay (usec)	-1.16707E-03	+/- 1.5E-04
Sband delay (usec)	1.34841679240E+03	Apriori clock (usec)	-2.2829208E+00	Resid sbdelay (usec)	-8.63750E-04	+/- 5.7E-04
Phase delay (usec)	1.34841765432E+03	Apriori clockrate (us/s)	-2.3450000E-07	Resid phdelay (usec)	-1.83240E-06	+/- 9.8E-07
Delay rate (us/s)	-9.35831395539E-02	Apriori rate (us/s)	-9.35830700075E-02	Resid rate (us/s)	-6.95464E-08	+/- 9.4E-09
Total phase (deg)	137.6	Apriori accel (us/s/s)	-9.63687901932E-06	Resid phase (deg)	-28.3	+/- 15.1

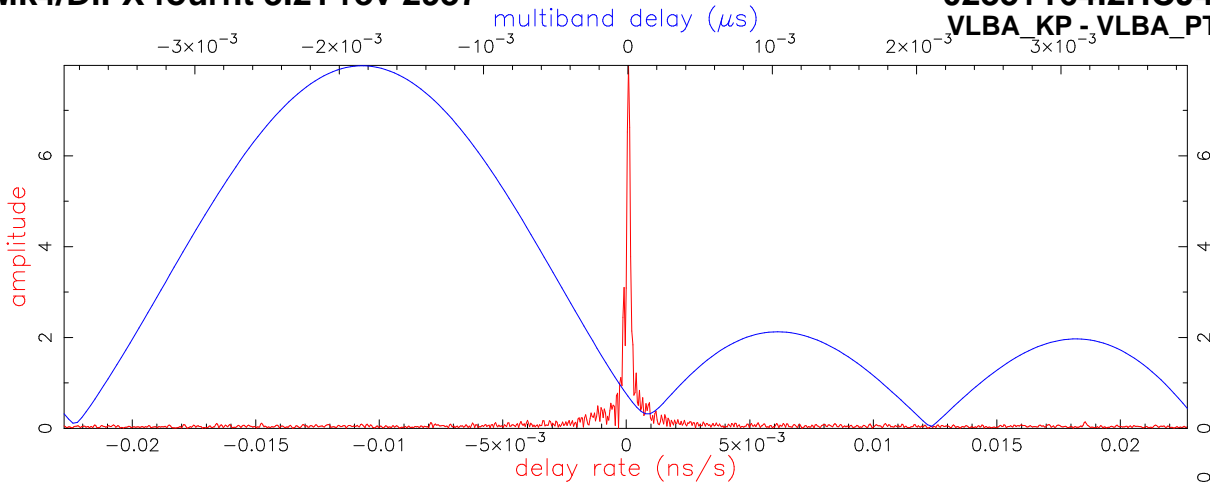
	RMS	Theor.	Amplitude	0.207 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	51.9	50.0	Search (1024X16)	0.194	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	72.4	87.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.004 0.004
ph/frq (deg)	17.1	15.1	Inc. seg. avg.	0.202	Sample rate(MISamp/s): 256	dr window (ns/s) -0.023 0.023
amp/frq (%)	52.3	26.3	Inc. frq. avg.	0.200	Data rate(Mb/s): 2048	nlags: 512 t_cohere infinite ion window (TEC) 0.00 0.00

k: az 120.1 el 63.9 pa -49.8 o: az 119.6 el 56.5 pa -45.9 u,v (fr/asec) 275.043 -433.611 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/ko..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/ko.Q.79.2HCJ40



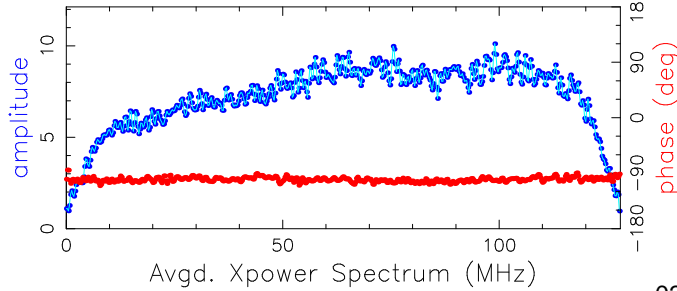
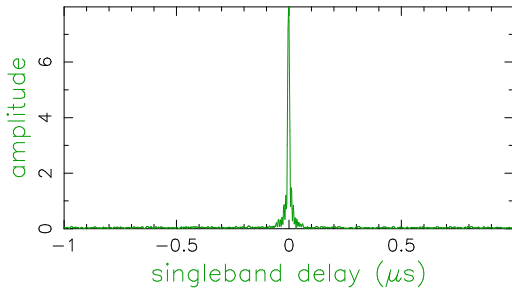
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol LL



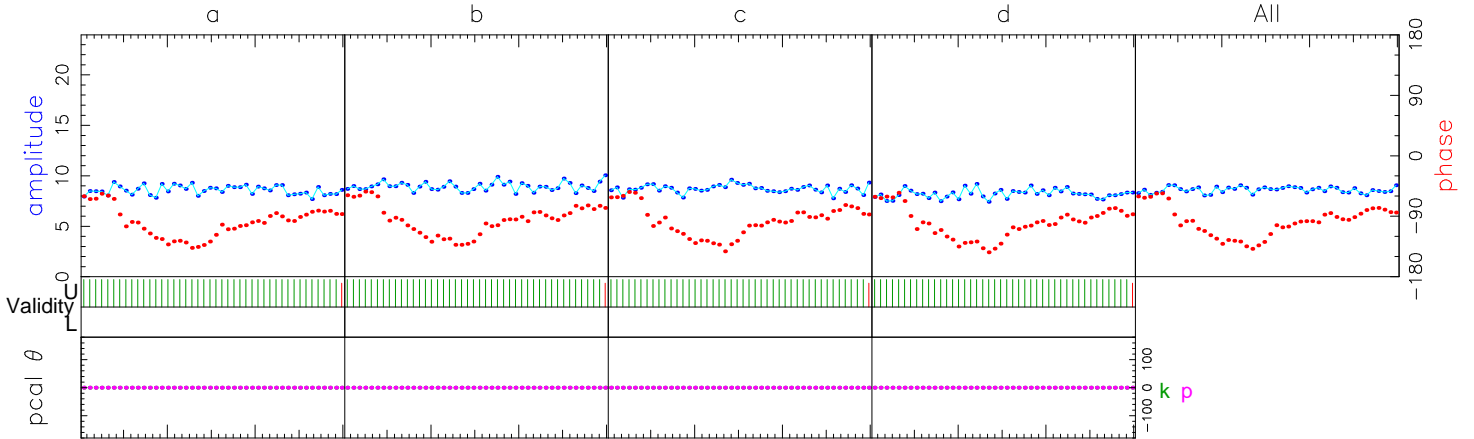
Fringe quality 8

SNR 292.9  
Int time 179.658  
Amp 7.991  
Phase -97.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.001725  
MBD -0.001829  
Fringe rate (Hz)  
0.003418  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142929  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	Q00UL	Q01UL	Q02UL	Q03UL	Tracks	
					Chan ids	
					Tracks	

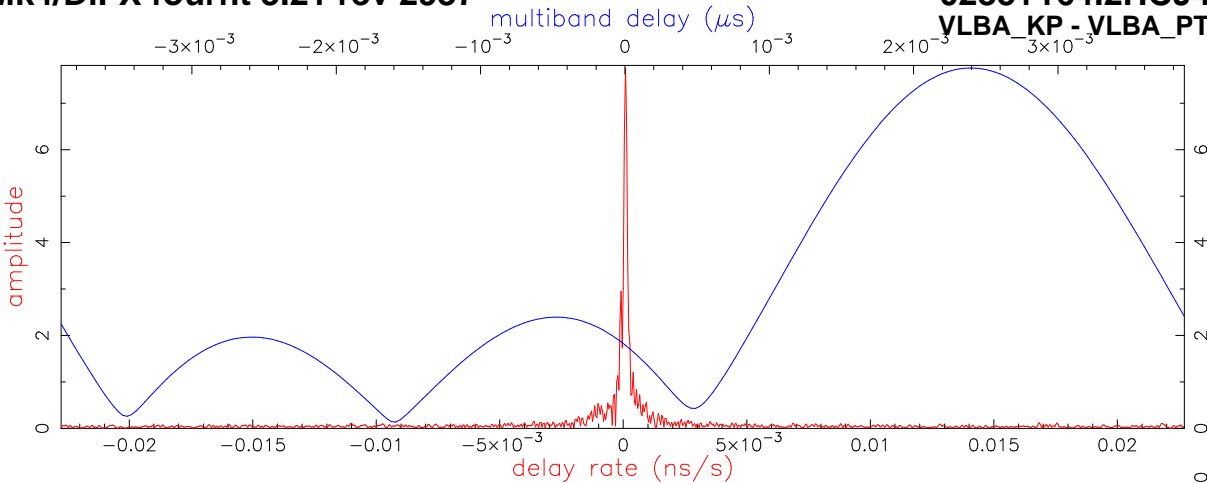
Group delay (usec)(sbd)	-1.57428776867E+02	Apriori delay (usec)	-1.57426947595E+02	Resid mbdelay (usec)	-1.82927E-03	+/-	3.8E-06
Sband delay (usec)	-1.57428672470E+02	Apriori clock (usec)	3.5548553E+00	Resid sbdelay (usec)	-1.72487E-03	+/-	1.5E-05
Phase delay (usec)	-1.57426953920E+02	Apriori clockrate (us/s)	-1.9199999E-07	Resid phdelay (usec)	-6.32540E-06	+/-	2.5E-08
Delay rate (us/s)	8.27306756557E-02	Apriori rate (us/s)	8.27305960050E-02	Resid rate (us/s)	7.96506E-08	+/-	2.4E-10
Total phase (deg)	-160.8	Apriori accel (us/s/s)	-2.56195815040E-07	Resid phase (deg)	-97.7	+/-	0.4

	RMS	Theor.	Amplitude	7.991 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
ph/seg (deg)	22.3	1.3	Search (1024X16)	7.870	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
amp/seg (%)	8.5	2.3	Interp.	0.000	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
ph/frq (deg)	3.2	0.4	Inc. seg. avg.	8.606	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00
amp/frq (%)	3.2	0.7	Inc. frq. avg.	7.988						

k: az 120.1 el 63.9 pa -49.8 p: az 129.5 el 64.9 pa -41.1 u,v (fr/asec) -246.345 -147.524 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kp..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kp.Q.164.2HCJ40

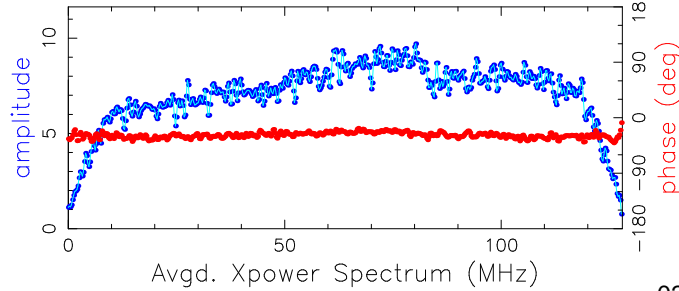
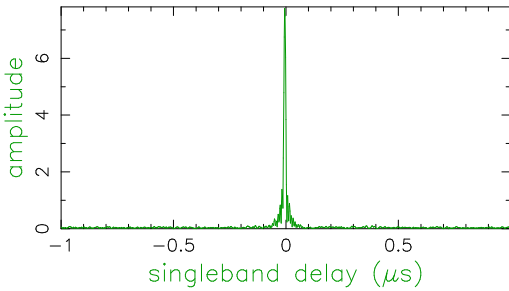
Mk4/DiFX fourfit 3.21 rev 2937

0235+164.2HCJ40, No0315, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol RR



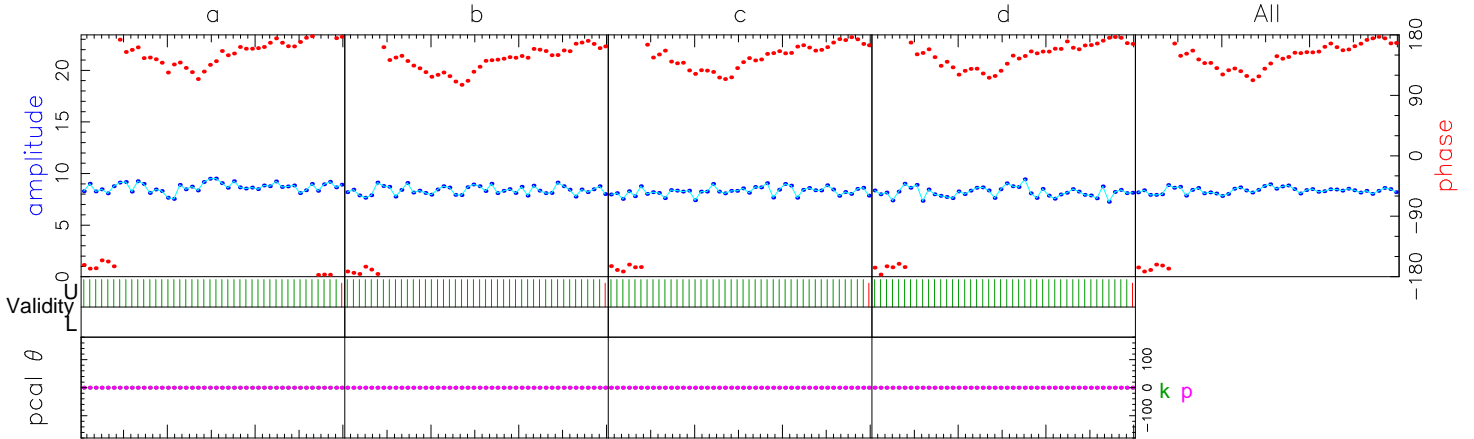
Fringe quality 8

SNR 286.4  
Int time 179.658  
Amp 7.814  
Phase 155.1  
PFD 0.0e+00  
Delays (us)  
SBD -0.005281  
MBD 0.002421  
Fringe rate (Hz)  
0.003436  
Ion TEC 0.000  
Ref freq (MHz)  
42912.0000  
AP (sec) 0.512



Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142932  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"

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	Manl PC	
k	1000	1000	1000	1000	PC amp	
p	1000	1000	1000	1000		
k	Q00UR	Q01UR	Q02UR	Q03UR	Chan ids	
p	Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
					Chan ids	
					Tracks	

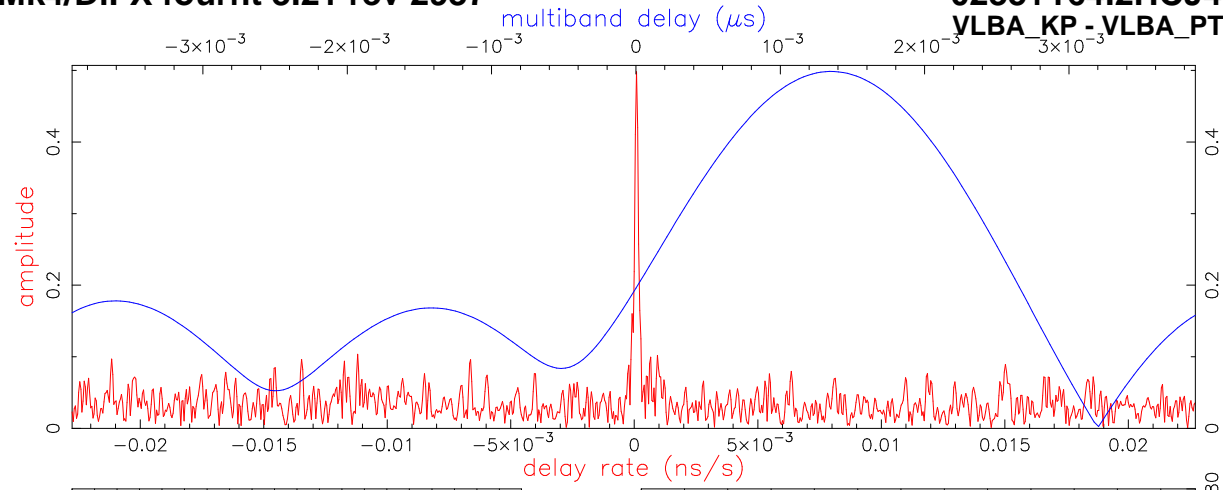
Group delay (usec)(sbd)	-1.57432339336E+02	Apriori delay (usec)	-1.57426947595E+02	Resid mbdelay (usec)	2.42076E-03	+/- 3.9E-06
Sband delay (usec)	-1.57432228970E+02	Apriori clock (usec)	3.5548553E+00	Resid sbdelay (usec)	-5.28137E-03	+/- 1.5E-05
Phase delay (usec)	-1.57426937557E+02	Apriori clockrate (us/s)	-1.9199999E-07	Resid phdelay (usec)	1.00376E-05	+/- 2.6E-08
Delay rate (us/s)	8.27306760710E-02	Apriori rate (us/s)	8.27305960050E-02	Resid rate (us/s)	8.00660E-08	+/- 2.5E-10
Total phase (deg)	92.0	Apriori accel (us/s/s)	-2.56195815040E-07	Resid phase (deg)	155.1	+/- 0.4

	RMS	Theor.	Amplitude	7.814 +/- 0.027	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
ph/seg (deg)	22.3	1.3	Search (1024X16)	7.678	Pcal rate: 0.000E+00, 0.000E+00 (us/s)		mb window (us)	-0.004	0.004
amp/seg (%)	7.9	2.3	Interp.	0.000	Bits/sample: 2x2	SampCntNorm: enabled	dr window (ns/s)	-0.023	0.023
ph/frq (deg)	6.3	0.4	Inc. seg. avg.	8.360	Sample rate(MISamp/s): 256		ion window (TEC)	0.00	0.00
amp/frq (%)	2.3	0.7	Inc. frq. avg.	7.780	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite		

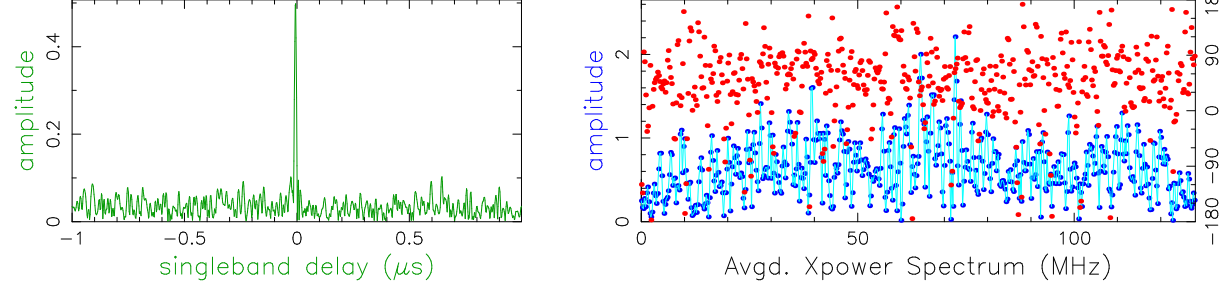
k: az 120.1 el 63.9 pa -49.8 p: az 129.5 el 64.9 pa -41.1 u,v (fr/asec) -246.345 -147.524 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kp..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kp.Q.170.2HCJ40

Mk4/DiFX fourfit 3.21 rev 2937

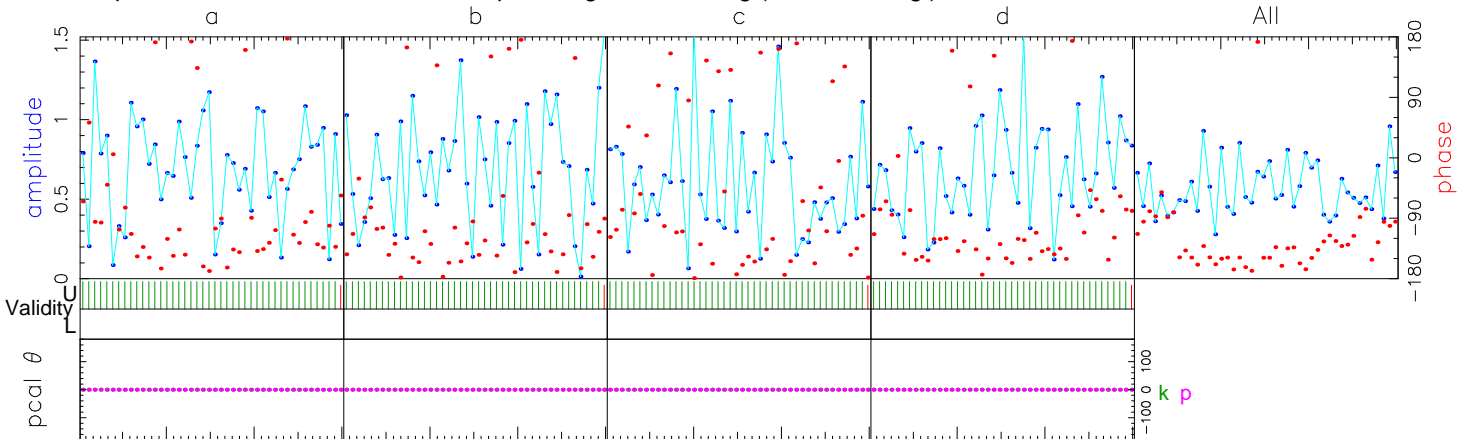
0235+164.2HCJ40, No0315, kp  
VLBA\_KP - VLBA\_PT, fgroup Q, pol LR



Fringe quality 9  
SNR 18.6  
Int time 179.658  
Amp 0.507  
Phase -131.7  
PFD 0.0e+00  
Delays (us)  
SBD -0.006747  
MBD 0.001309  
Fringe rate (Hz) 0.003690  
Ion TEC 0.000  
Ref freq (MHz) 42912.0000  
AP (sec) 0.512  
Exp. c221b  
Exper # 16383  
Yr:day 2022:092  
Start 194901.00  
Stop 195200.71  
FRT 195031.00  
Corr/FF/build  
2022:333:032914  
2022:333:142934  
2021:252:122852  
RA & Dec (J2000)  
02h38m38.930107s  
+16°36'59.274536"



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
-129.2	-135.2	-146.1	-120.4	Phase	-131.7
0.5	0.6	0.4	0.5	Ampl.	0.5
509.5	509.6	509.3	509.8	Sbd box	509.5
U/L 351/0	351/0	351/0	351/0	APs used	
k 1000	1000	1000	1000	PC freqs	
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	Manl PC	
k 1000	1000	1000	1000	PC amp	
p 1000	1000	1000	1000		
k Q00UL	Q01UL	Q02UL	Q03UL	Chan ids	
p Q00UR	Q01UR	Q02UR	Q03UR	Tracks	
				Chan ids	
				Tracks	

Group delay (usec)(sbd)	-1.57433451429E+02	Apriori delay (usec)	-1.57426947595E+02	Resid mbdelay (usec)	1.30867E-03	+/-	6.0E-05
Sband delay (usec)	-1.57433694345E+02	Apriori clock (usec)	3.5548553E+00	Resid sbdelay (usec)	-6.74675E-03	+/-	2.3E-04
Phase delay (usec)	-1.57426956119E+02	Apriori clockrate (us/s)	-1.9199999E-07	Resid phdelay (usec)	-8.52452E-06	+/-	4.0E-07
Delay rate (us/s)	8.27306819879E-02	Apriori rate (us/s)	8.27305960050E-02	Resid rate (us/s)	8.59829E-08	+/-	3.8E-09
Total phase (deg)	-194.8	Apriori accel (us/s/s)	-2.56195815040E-07	Resid phase (deg)	-131.7	+/-	6.2

ph/seg (deg)	RMS 30.3	Theor. 20.4	Amplitude Search (1024X16)	0.507 +/- 0.027	0.494	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	34.4	35.7	Interp.	0.000	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.004	0.004	
ph/frq (deg)	13.3	6.2	Inc. seg. avg.	0.535	0.535	Bits/sample: 2x2	Sample rate(MISamp/s): 256	dr window (ns/s)	-0.023	0.023	
amp/frq (%)	15.5	10.8	Inc. frq. avg.	0.501	0.501	Data rate(Mb/s): 2048	nlags: 512	t_cohere infinite	ion window (TEC)	0.00	0.00

k: az 120.1 el 63.9 pa -49.8 p: az 129.5 el 64.9 pa -41.1 u,v (fr/asec) -246.345 -147.524 simultaneous interpolator  
Control file: cf\_5309\_gmva Input file: /Exps/c221b/v1/7mm/7000/No0315/kp..2HCJ40 Output file: /Exps/c221b/v1/7mm/7000/No0315/kp.Q.173.2HCJ40

