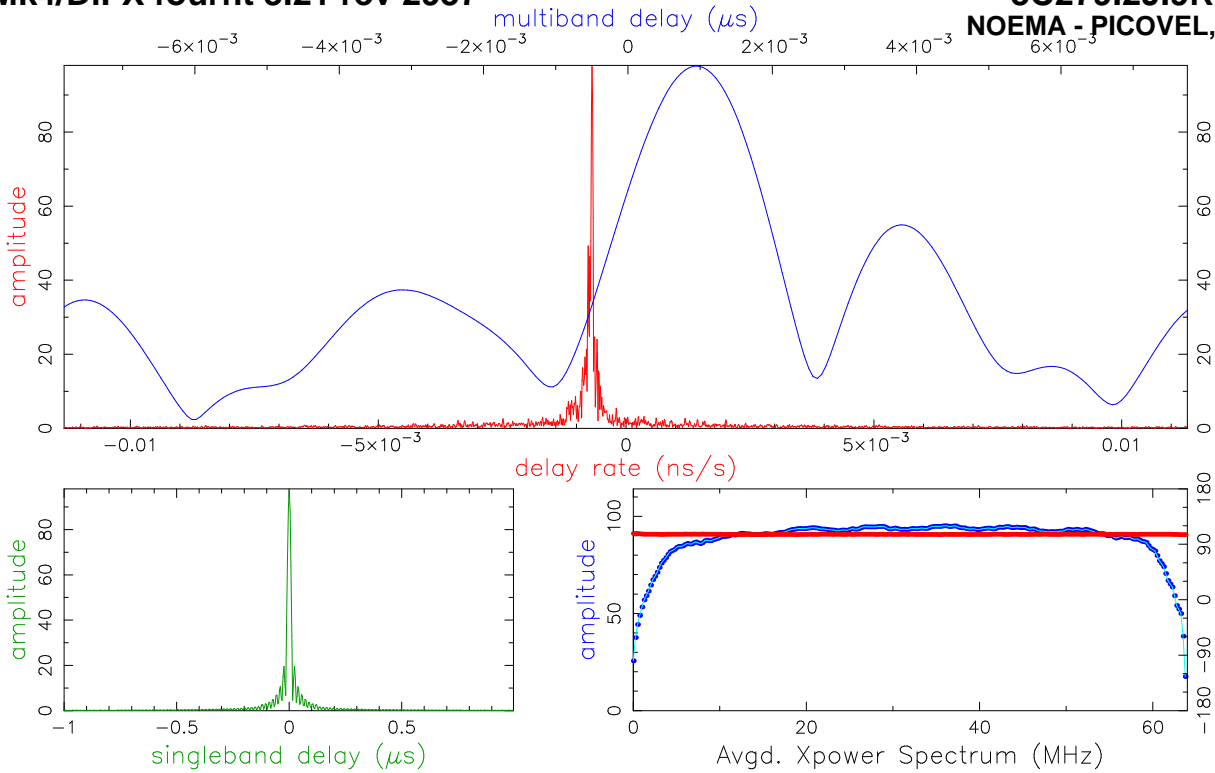


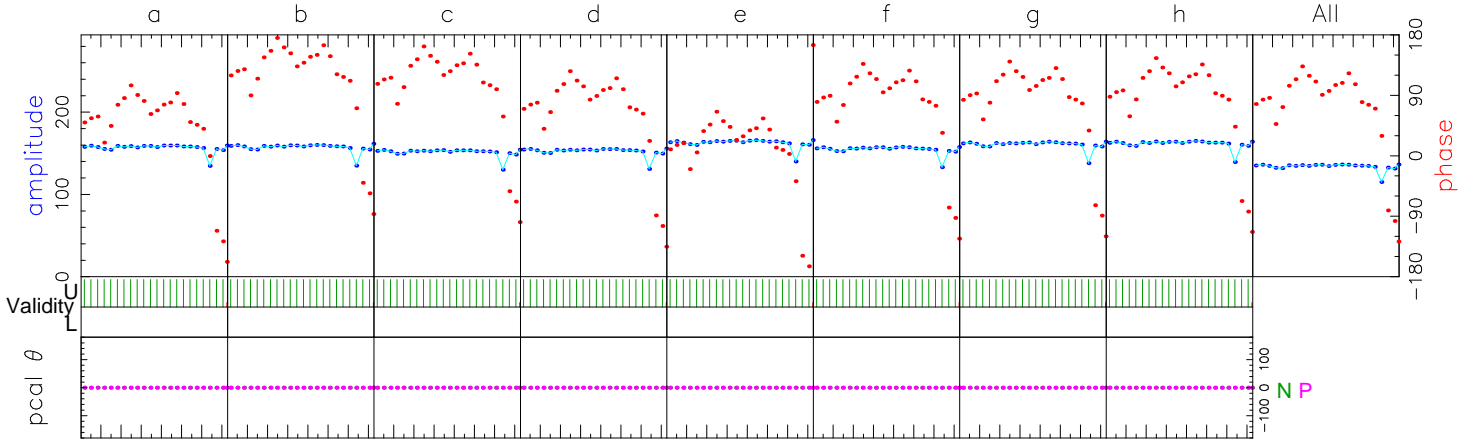
Mk4/DiFX fourfit 3.21 rev 2937

3C279.2J19RJ, No0009, NP  
NOEMA - PICOVEL, fgroup W, pol RR



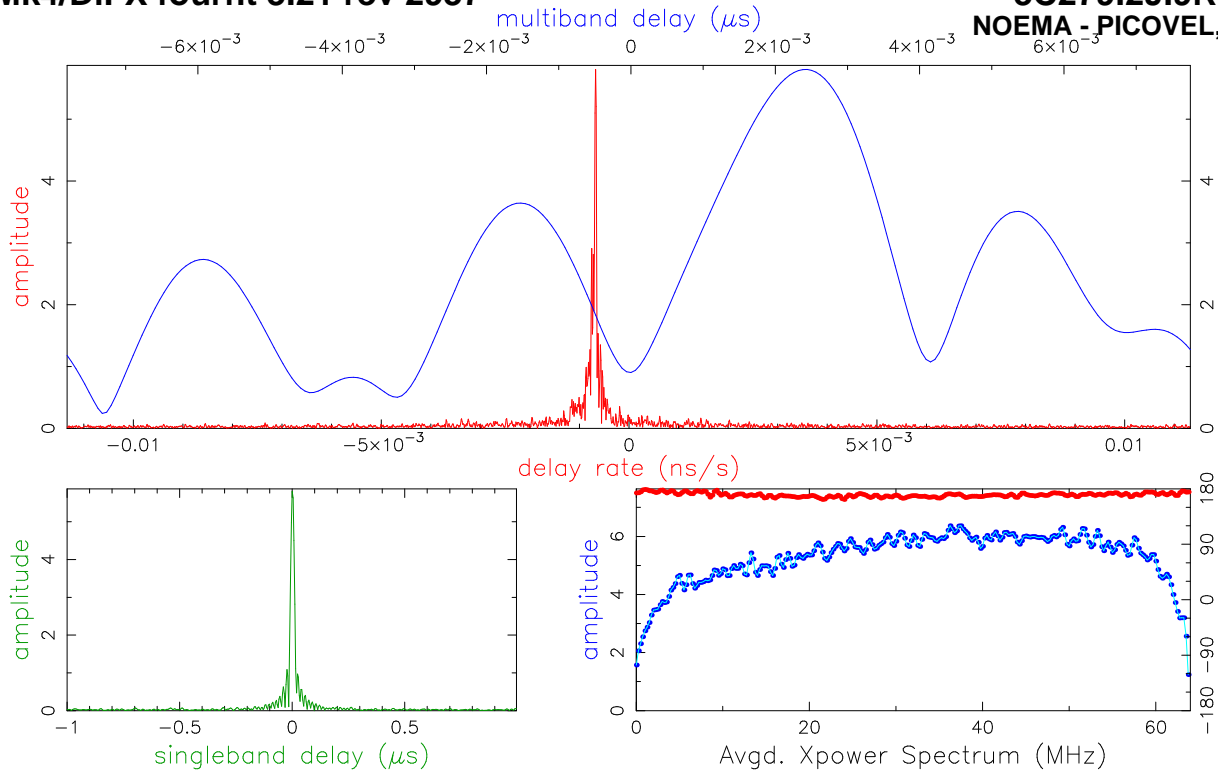
Fringe quality 4  
SNR 5482.9  
Int time 419.824  
Amp 98.000  
Phase 93.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.000173  
MBD 0.000948  
Fringe rate (Hz)  
-0.058753  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140513  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



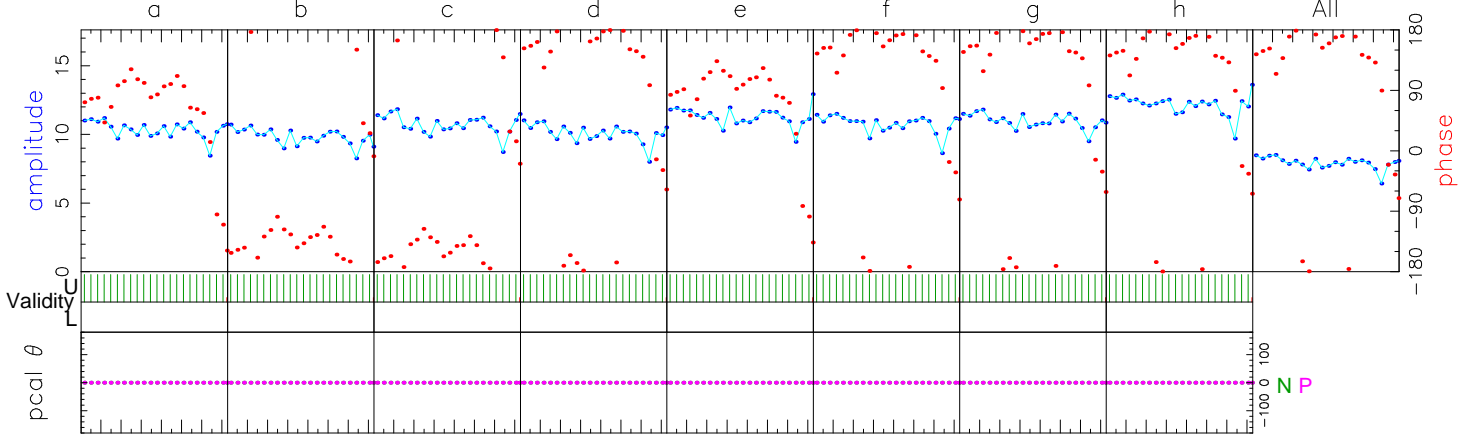
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
N	0	0	0	0	0	0	0	0		
P	0	0	0	0	0	0	0	0		
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0		
N	1000	1000	1000	1000	1000	1000	1000	1000		
P	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR		
Group delay (usec)(sbd)	-2.05265136466E+03								9.47529E-04	+/- 2.0E-07
Sband delay (usec)	-2.05265248519E+03								-1.73000E-04	+/- 1.6E-06
Phase delay (usec)	-2.05265230918E+03								3.00740E-06	+/- 6.7E-10
Delay rate (us/s)	-1.88988854156E-01								-6.82060E-07	+/- 2.8E-12
Total phase (deg)			31.3						93.3	+/- 0.0
Apriori delay (usec)										
Apriori clock (usec)										
Apriori clockrate (us/s)										
Apriori rate (us/s)										
Apriori accel (us/s/s)										
Resid mbdelay (usec)										
Resid sbdelay (usec)										
Resid phdelay (usec)										
Resid rate (us/s)										
Resid phase (deg)										
Pcal mode: MANUAL, MANUAL										
Pcal rate: 0.000E+00, 0.000E+00 (us/s)										
Bits/sample: 2x2										
Sample rate(MISamp/s): 128										
Data rate(Mb/s): 2048										
nlags: 256										
t_cohere infinite										
ion window (TEC)										
PC period (AP's) 5, 5										
sb window (us)									-1.000	1.000
mb window (us)									-0.008	0.008
dr window (ns/s)									-0.011	0.011
ion window (TEC)									0.00	0.00

N: az 185.0 el 39.3 pa 4.2 P: az 172.1 el 46.7 pa -5.6 u,v (fr/asec) 1100.127 802.699 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NP..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NP.W.22.2J19RJ



Fringe quality 3  
 SNR 328.5  
 Int time 419.824  
 Amp 5.871  
 Phase 157.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001285  
 MBD 0.002441  
 Fringe rate (Hz)  
 -0.058710  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 000001.00  
 Stop 000700.84  
 FRT 000331.00  
 Corr/FF/build  
 2022:356:222718  
 2023:010:140516  
 2021:252:122852  
 RA & Dec (J2000)  
 12h56m11.166577s  
 -5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	83.5	-139.9	-153.4	166.4	95.7	159.8	162.2	156.3	Phase	157.1
	7.6	7.2	7.8	7.4	8.3	7.9	8.1	8.8	Ampl.	7.9
	257.6	257.2	256.8	257.3	257.8	257.0	257.6	257.7	Sbd box	257.3
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	PC freqs	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

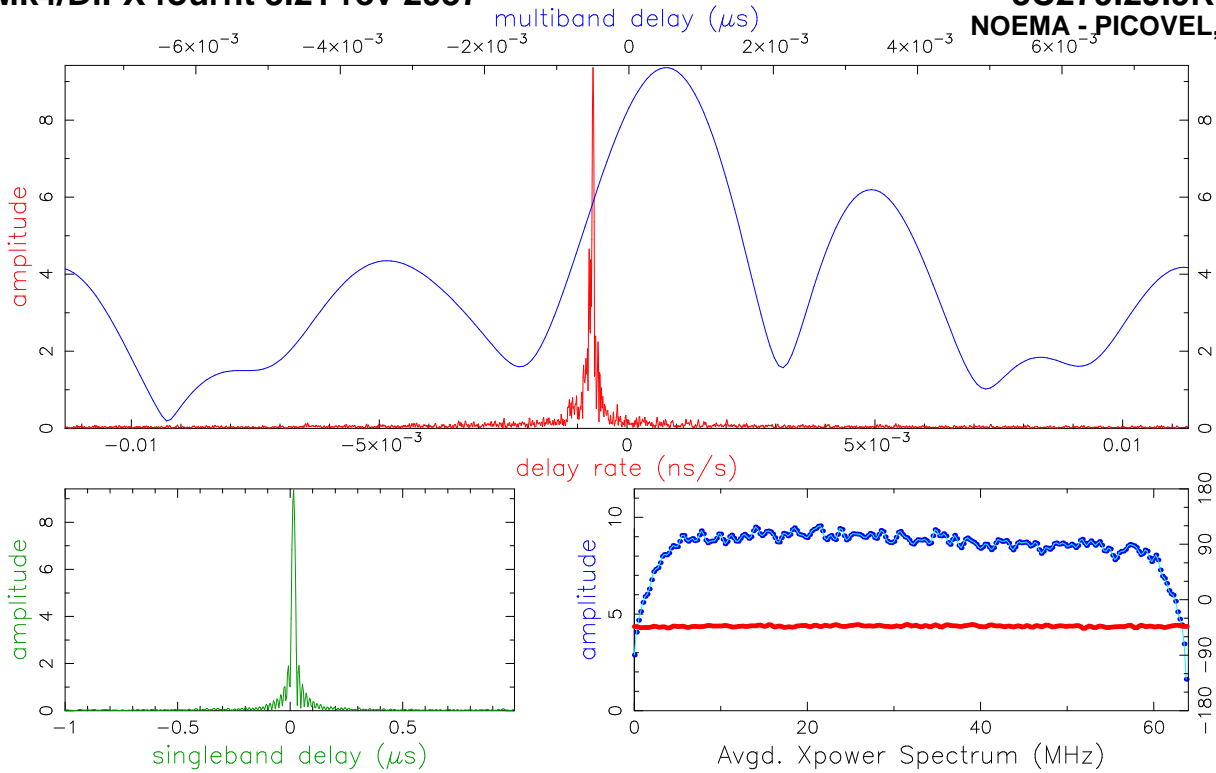
Group delay (usec)(sbd)	-2.05264987160E+03	Apriori delay (usec)	-2.05265231219E+03	Resid mbdelay (usec)	2.44059E-03	+/-	3.3E-06
Sband delay (usec)	-2.05265102769E+03	Apriori clock (usec)	-1.2186016E+01	Resid sbdelay (usec)	1.28450E-03	+/-	2.6E-05
Phase delay (usec)	-2.05265230712E+03	Apriori clockrate (us/s)	4.0399999E-07	Resid phdelay (usec)	5.06650E-06	+/-	1.1E-08
Delay rate (us/s)	-1.88988853656E-01	Apriori rate (us/s)	-1.88988172095E-01	Resid rate (us/s)	-6.81561E-07	+/-	4.6E-11
Total phase (deg)		Apriori accel (us/s/s)	9.68976500863E-06	Resid phase (deg)	157.1	+/-	0.3

ph/seg (deg)	58.1	0.8	Search (2048X32)	5.617	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000	
amp/seg (%)	35.9	1.5	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008	
ph/frq (deg)	51.2	0.5	Inc. seg. avg.	7.933	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011	
amp/frq (%)	35.3	0.9	Inc. frq. avg.	7.883	Data rate(Mb/s): 2048	nlags: 256	t_cohere infinite	ion window (TEC)	0.00	0.00

N: az 185.0 el 39.3 pa 4.2 P: az 172.1 el 46.7 pa -5.6 u,v (fr/asec) 1100.127 802.699 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NP..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NP.W.34.2J19RJ

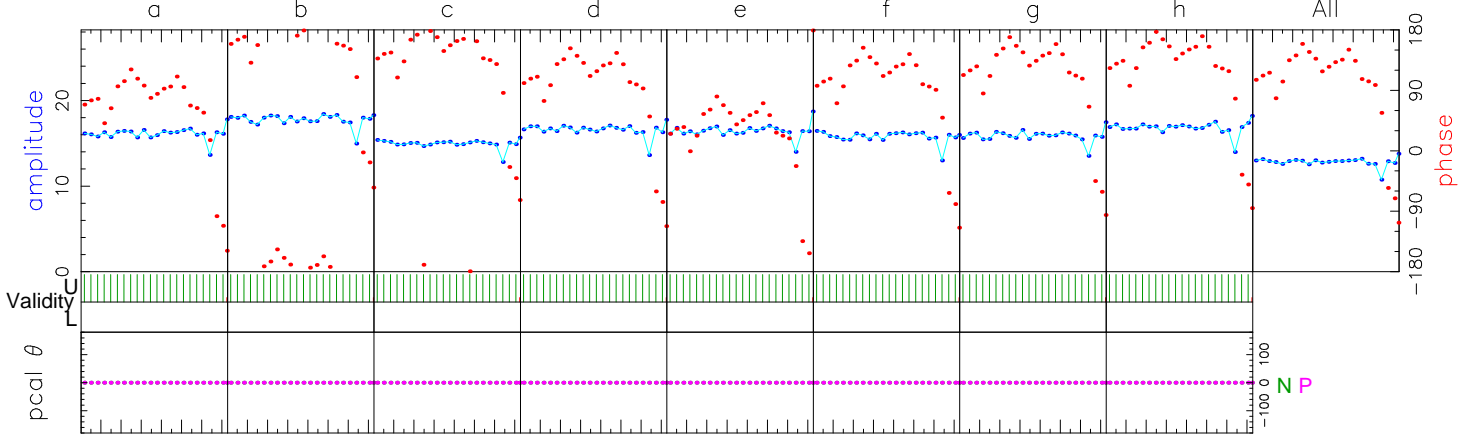
Mk4/DiFX fourfit 3.21 rev 2937

3C279.2J19RJ, No0009, NP  
NOEMA - PICOVEL, fgroup W, pol RL



Fringe quality 3  
 SNR 527.0  
 Int time 419.824  
 Amp 9.419  
 Phase 121.7  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.014776  
 MBD 0.000503  
 Fringe rate (Hz)  
 -0.058751  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512  
 Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 000001.00  
 Stop 000700.84  
 FRT 000331.00  
 Corr/FF/build  
 2022:356:222718  
 2023:010:140519  
 2021:252:122852  
 RA & Dec (J2000)  
 12h56m11.166577s  
 -5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec

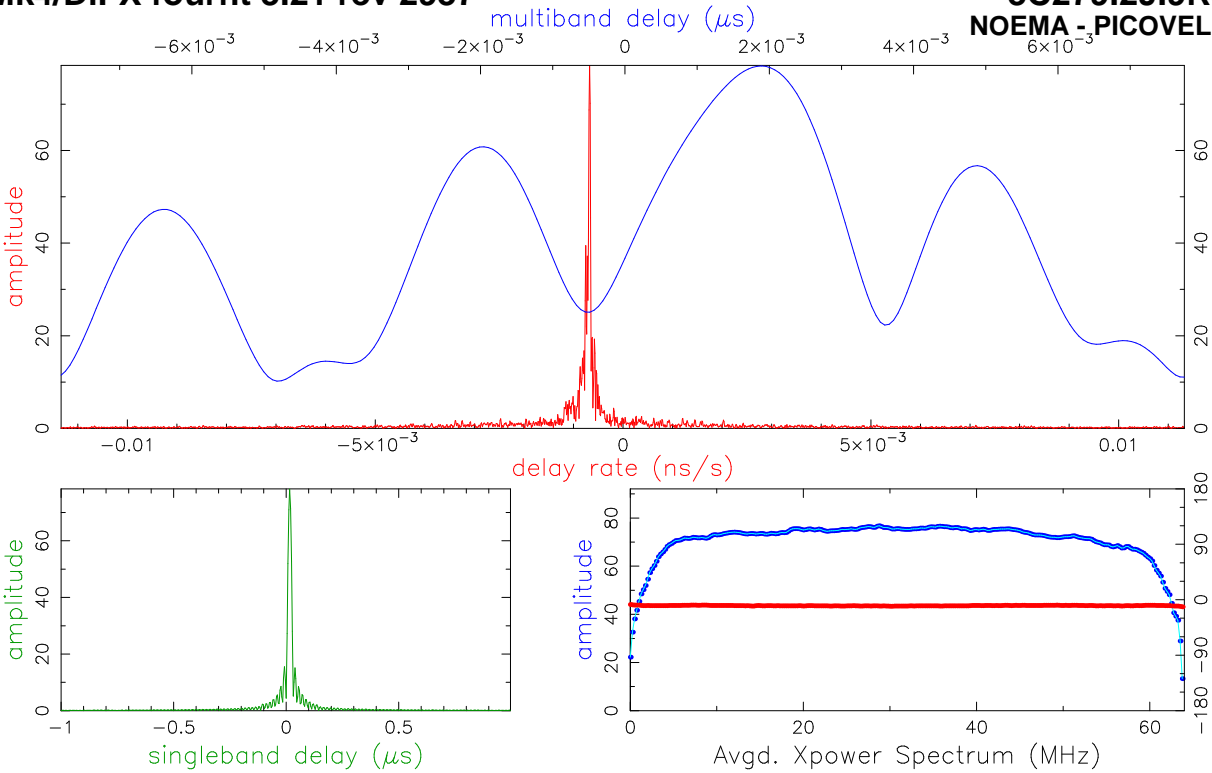


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	82.8	175.3	152.5	116.3	42.1	114.3	130.6	140.6	Phase	121.7
	11.8	13.0	10.9	12.2	12.0	11.6	11.6	12.3	Ampl.	11.9
	260.9	261.0	260.5	260.9	260.9	260.9	261.2	261.4	Sbd box	260.8
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
P	0	0	0	0	0	0	0	0	PC freqs	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	-2.05263618397E+03		Apriori delay (usec)		-2.05265231219E+03		Resid mbdelay (usec)		5.03216E-04	+/- 2.1E-06
Sband delay (usec)	-2.05263753569E+03		Apriori clock (usec)		-1.2186016E+01		Resid sbdelay (usec)		1.47765E-02	+/- 1.6E-05
Phase delay (usec)	-2.05265230827E+03		Apriori clockrate (us/s)		4.0399999E-07		Resid phdelay (usec)		3.92414E-06	+/- 7.0E-09
Delay rate (us/s)	-1.88988854134E-01		Apriori rate (us/s)		-1.88988172095E-01		Resid rate (us/s)		-6.82038E-07	+/- 2.9E-11
Total phase (deg)			Apriori accel (us/s/s)		9.68976500863E-06		Resid phase (deg)		121.7	+/- 0.2

ph/seg (deg) 57.9 0.5 Search (2048X32) 9.021 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 36.4 0.9 Interp. 0.000 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 45.1 0.3 Inc. seg. avg. 12.810 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 27.0 0.5 Inc. frq. avg. 11.899 Sample rate(MISamp/s): 128 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite dr window (ns/s) -0.011 0.011  
 N: az 185.0 el 39.3 pa 4.2 P: az 172.1 el 46.7 pa -5.6 u,v (fr/asec) 1100.127 802.699 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NP..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NP.W.47.2J19RJ

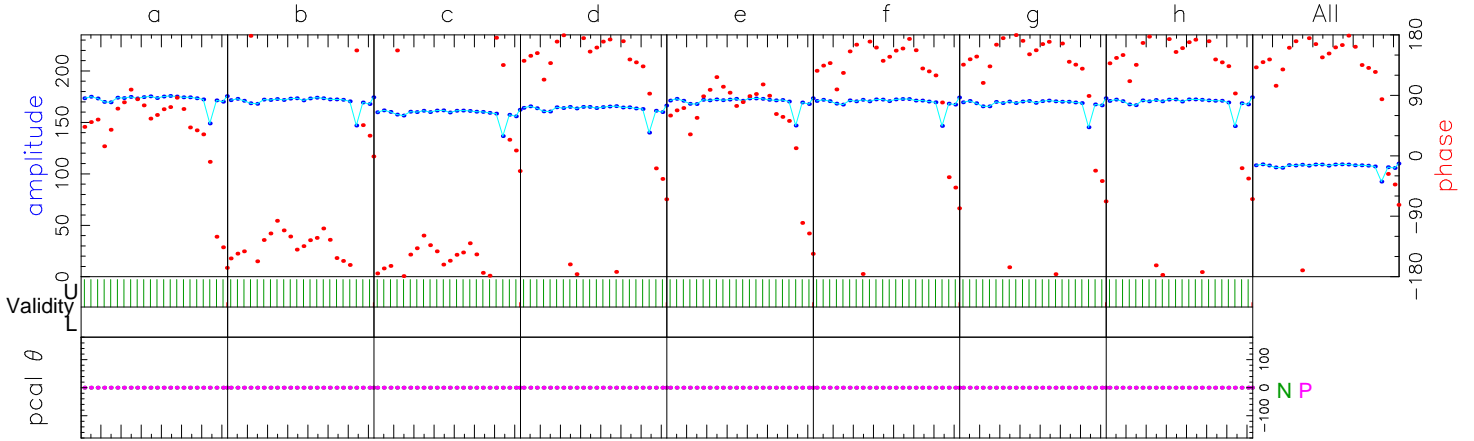
Mk4/DiFX fourfit 3.21 rev 2937

3C279.2J19RJ, No0009, NP  
NOEMA - PICOVEL, fgroup W, pol LL



Fringe quality 2  
SNR 4384.9  
Int time 419.824  
Amp 78.374  
Phase 149.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.015682  
MBD 0.001888  
Fringe rate (Hz)  
-0.058731  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140510  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

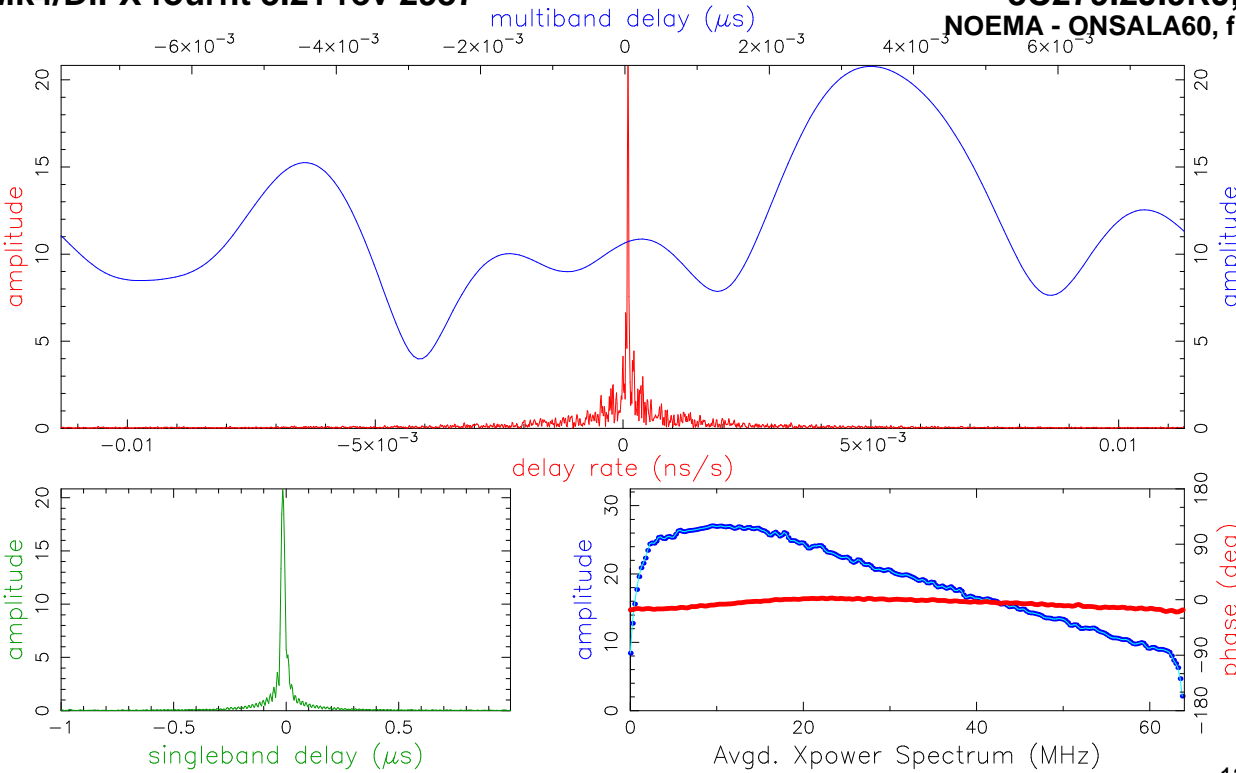
Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0		
N	0	0	0	0	0	0	0	0	APs used	
P	0	0	0	0	0	0	0	0	PC freqs	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:P	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
P	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
P	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-2.05263479869E+03	Apriori delay (usec)	-2.05265231219E+03	Resid mbdelay (usec)	1.88850E-03	+/-	2.5E-07
Sband delay (usec)	-2.05263663044E+03	Apriori clock (usec)	-1.2186016E+01	Resid sbdelay (usec)	1.56817E-02	+/-	2.0E-06
Phase delay (usec)	-2.05265230737E+03	Apriori clockrate (us/s)	4.0399999E-07	Resid phdelay (usec)	4.81427E-06	+/-	8.4E-10
Delay rate (us/s)	-1.88988853906E-01	Apriori rate (us/s)	-1.88988172095E-01	Resid rate (us/s)	-6.81811E-07	+/-	3.5E-12
Total phase (deg)		Apriori accel (us/s/s)	9.68976500863E-06	Resid phase (deg)	149.3	+/-	0.0

ph/seg (deg) 58.3 0.1 Amplitude 78.374 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 37.4 0.1 Search (2048X32) 76.101 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 60.3 0.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 56.3 0.1 Inc. seg. avg. 107.506 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 N: az 185.0 el 39.3 pa 4.2 P: az 172.1 el 46.7 pa -5.6 u,v (fr/asec) 1100.127 802.699 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NP..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NP.W.9.2J19RJ simultaneous interpolator

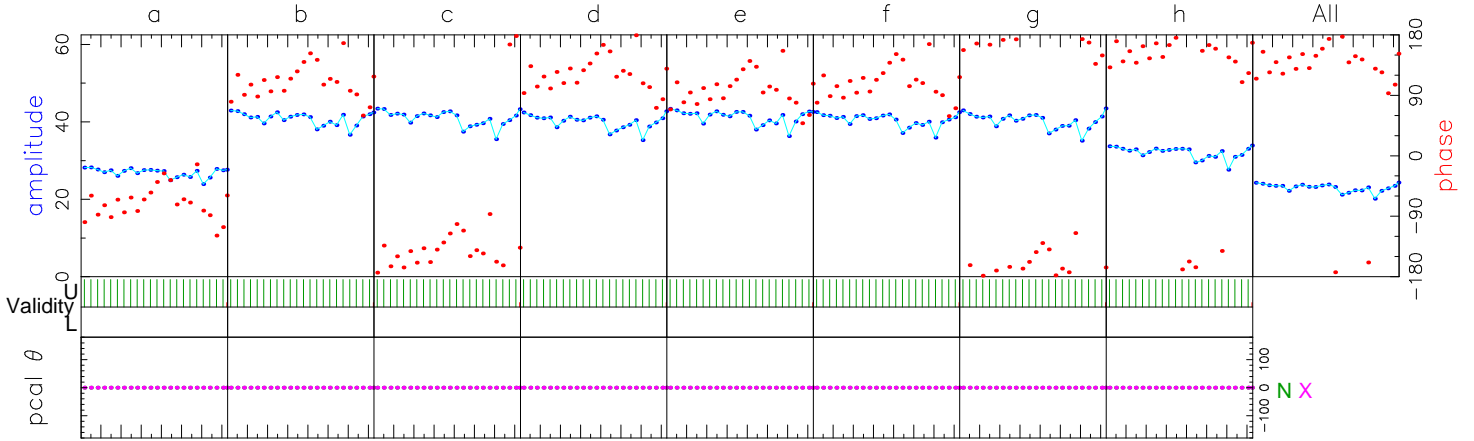


Fringe quality 3

SNR 1167.1  
Int time 419.756  
Amp 20.831  
Phase 142.6  
PFD 0.0e+00  
Delays (us)  
SBD -0.014916  
MBD 0.003373  
Fringe rate (Hz) 0.008985  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

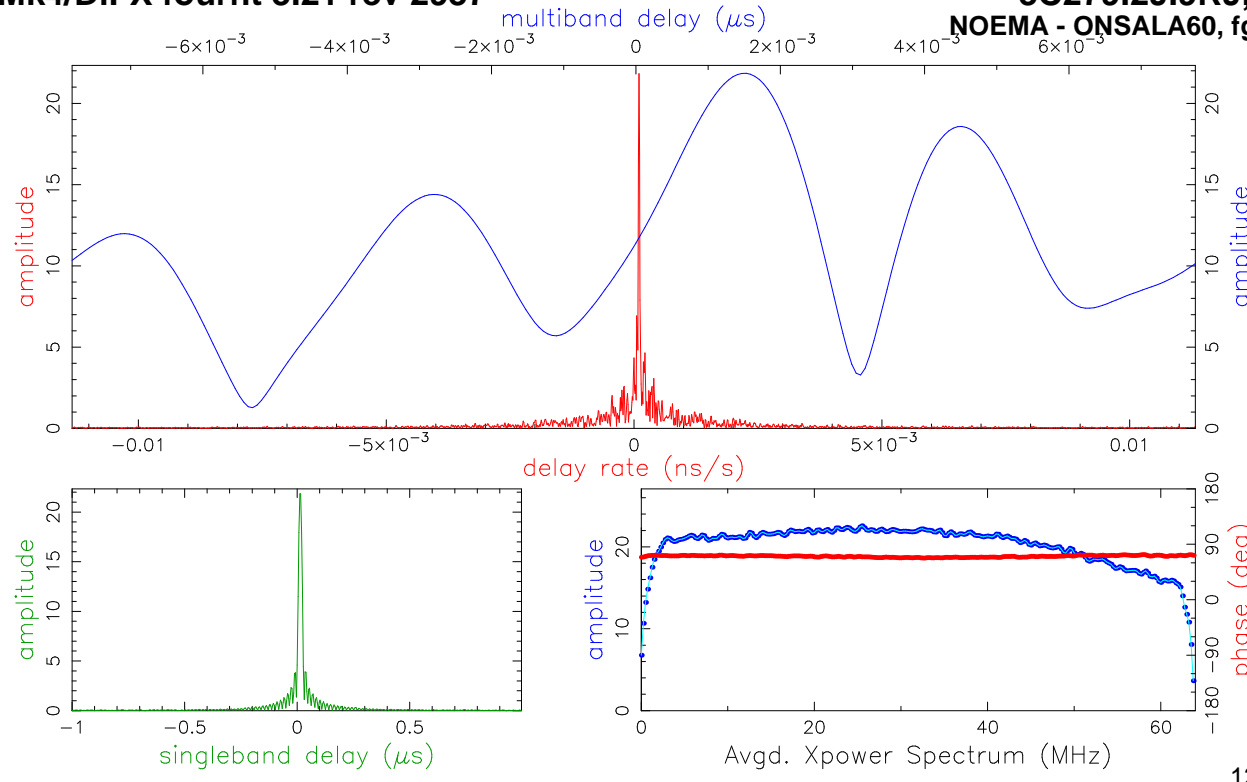
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140511  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-70.3	108.9	-145.7	120.9	97.4	107.3	-174.2	159.1	Phase	142.6
	24.4	37.0	37.1	36.2	37.4	36.7	36.4	29.0	Ampl.	34.3
	255.1	253.4	253.1	252.7	252.9	252.9	253.2	254.0	Sbd box	253.2
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
X	0	0	0	0	0	0	0	0	PC freqs	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.02921874273E+03		Apriori delay (usec)		4.02923099502E+03		Resid mbdelay (usec)		3.37271E-03	+/- 9.3E-07
Sband delay (usec)	4.02921607902E+03		Apriori clock (usec)		-8.5969833E+01		Resid sbdelay (usec)		-1.49160E-02	+/- 7.4E-06
Phase delay (usec)	4.02923099962E+03		Apriori clockrate (us/s)		-8.1100003E-07		Resid phdelay (usec)		4.59773E-06	+/- 3.2E-09
Delay rate (us/s)	6.46397774396E-02		Apriori rate (us/s)		6.46396731364E-02		Resid rate (us/s)		1.04303E-07	+/- 1.3E-11
Total phase (deg)	110.5		Apriori accel (us/s/s)		-2.02577273455E-05		Resid phase (deg)		142.6	+/- 0.1

ph/seg (deg) 25.5 0.2 Theor. Amplitude 20.831 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 11.2 0.4 Search (2048X32) 19.738 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 75.1 0.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 68.1 0.2 Inc. seg. avg. 22.941 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 N: az 185.0 el 39.3 pa 4.2 X: az 191.0 el 26.2 pa 6.5 u,v (fr/asec) -397.198 -1068.333 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NX..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NX.W.13.2J19RJ simultaneous interpolator

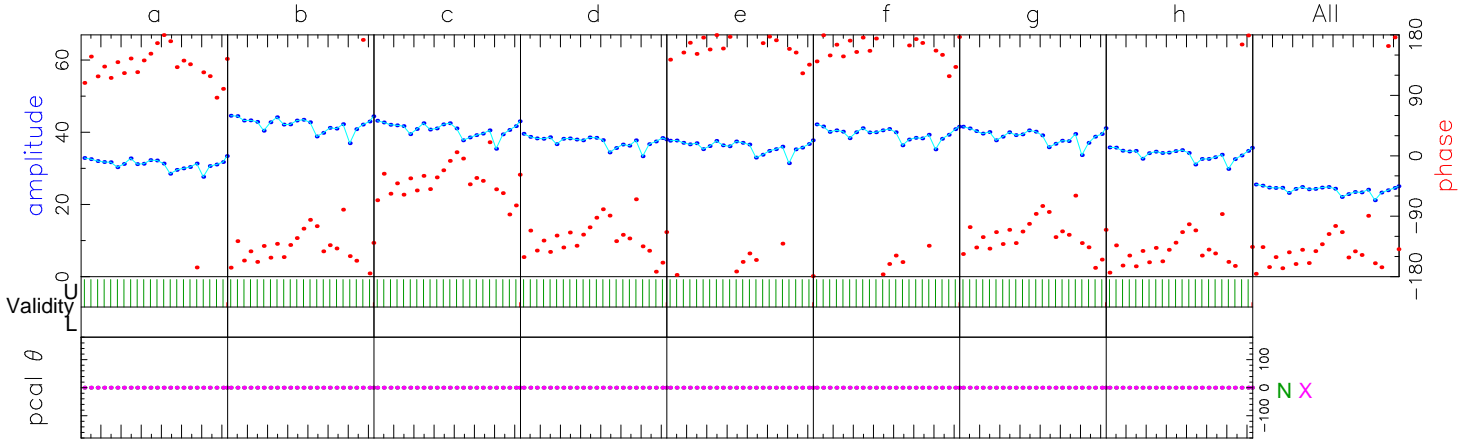


Fringe quality 3

SNR 1251.4  
Int time 419.756  
Amp 22.336  
Phase -147.8  
PFD 0.0e+00  
Delays (us)  
SBD 0.013674  
MBD 0.001442  
Fringe rate (Hz) 0.008979  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140514  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

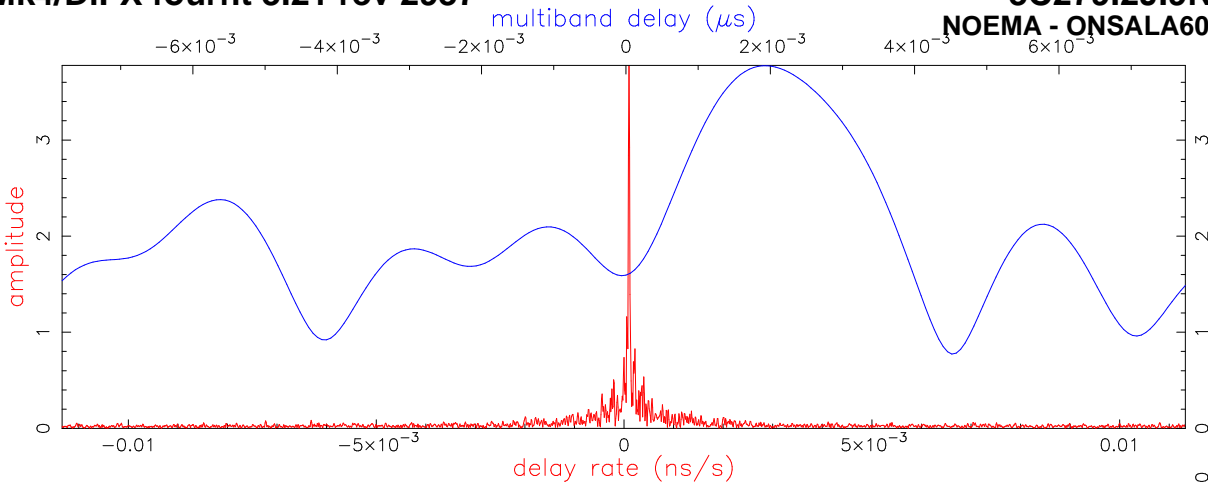
Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	136.0	-138.5	-38.1	-123.1	171.4	167.8	-118.0	-145.3	Phase	-147.8
	28.3	38.3	37.0	34.0	32.7	35.9	35.2	30.7	Ampl.	34.0
	262.0	260.9	260.5	260.1	259.9	260.5	260.6	261.6	Sbd box	260.5
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
X	0	0	0	0	0	0	0	0	PC freqs	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.02924806239E+03		Apriori delay (usec)		4.02923099502E+03		Resid mbdelay (usec)		1.44237E-03	+/- 8.7E-07
Sband delay (usec)	4.02924466902E+03		Apriori clock (usec)		-8.5969833E+01		Resid sbdelay (usec)		1.36740E-02	+/- 6.9E-06
Phase delay (usec)	4.02923099025E+03		Apriori clockrate (us/s)		-8.1100003E-07		Resid phdelay (usec)		-4.76485E-06	+/- 3.0E-09
Delay rate (us/s)	6.46397773758E-02		Apriori rate (us/s)		6.46396731364E-02		Resid rate (us/s)		1.04239E-07	+/- 1.2E-11
Total phase (deg)	180.2		Apriori accel (us/s/s)		-2.02577273455E-05		Resid phase (deg)		-147.8	+/- 0.1

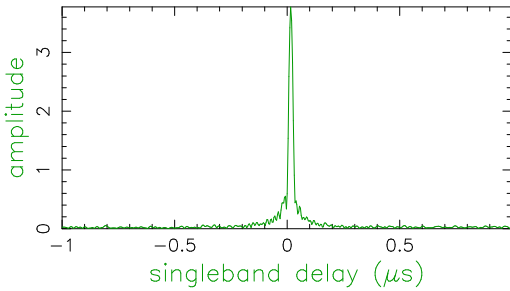
ph/seg (deg) 25.1 0.2 Theor. Amplitude 22.336 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 amp/seg (%) 8.9 0.4 Search (2048X32) 20.779 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 ph/frq (deg) 62.0 0.1 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 amp/frq (%) 54.1 0.2 Inc. seg. avg. 24.037 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 N: az 185.0 el 39.3 pa 4.2 X: az 191.0 el 26.2 pa 6.5 u,v (fr/asec) -397.198 -1068.333 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NX..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NX.W.27.2J19RJ simultaneous interpolator



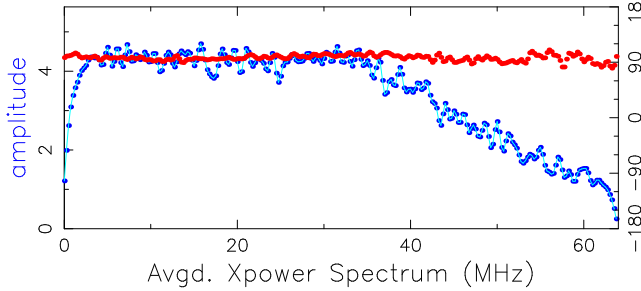


Fringe quality 3

SNR 211.6  
Int time 419.756  
Amp 3.777  
Phase -100.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.016061  
MBD 0.001922  
Fringe rate (Hz)  
0.008967  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

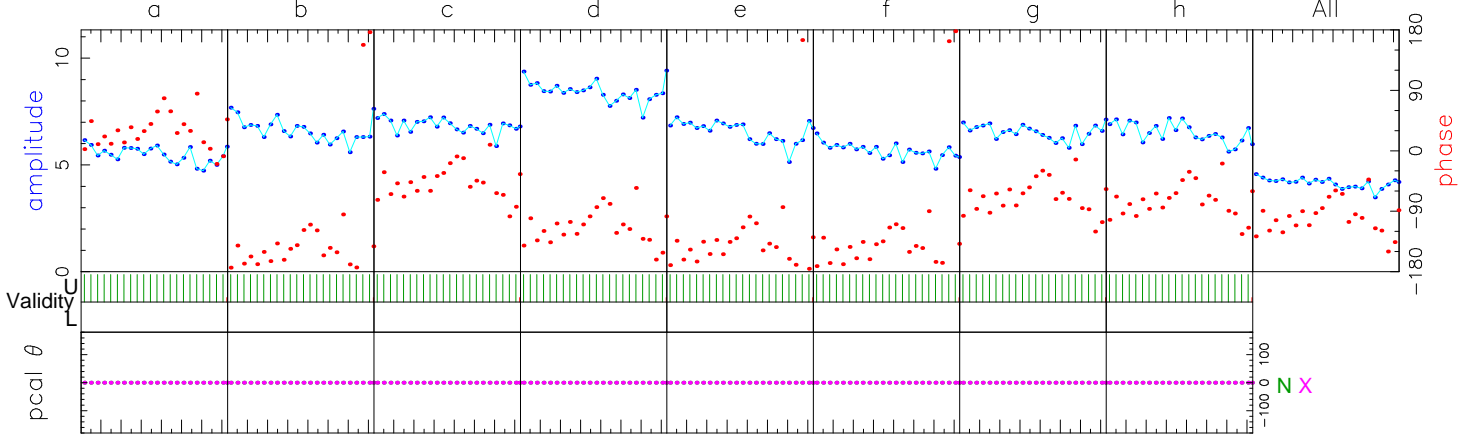


delay rate (ns/s)



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140518  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec

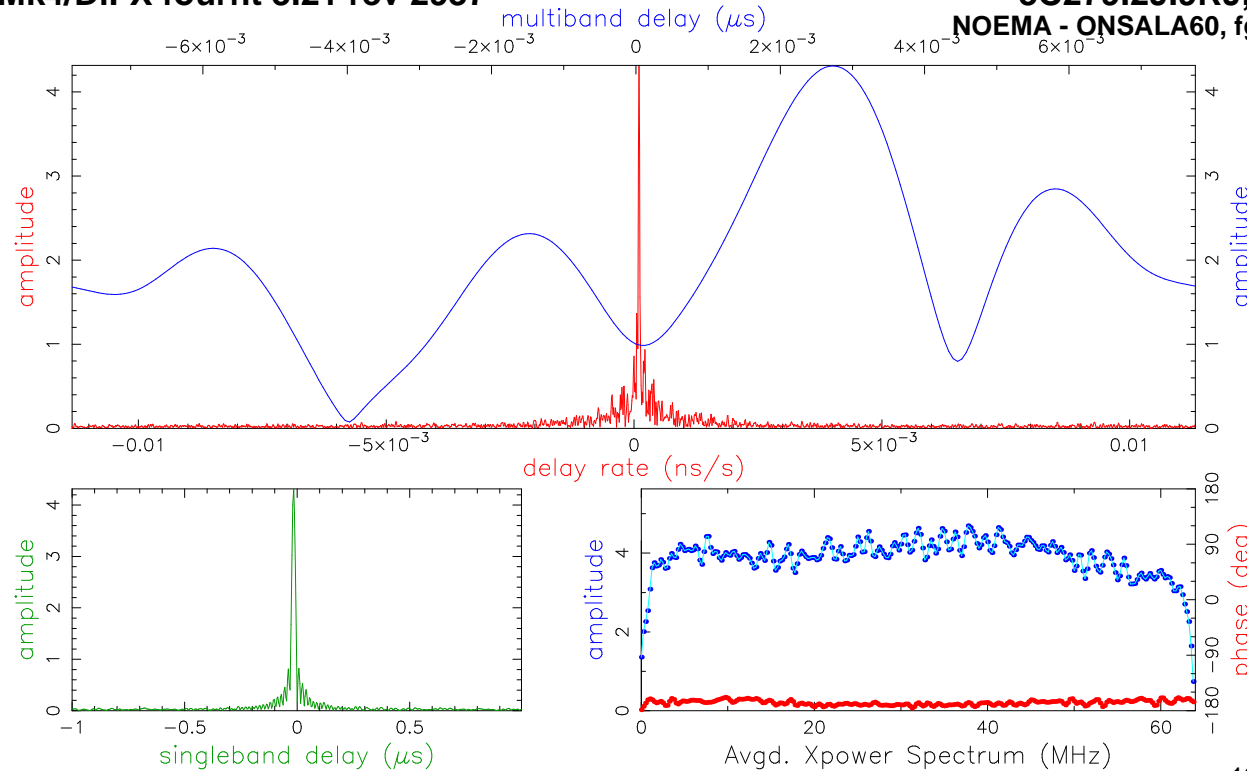


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	27.8	-151.5	-47.7	-114.4	-143.6	-147.2	-69.5	-75.1	Phase	-100.2
	5.0	6.0	6.2	7.6	5.9	5.2	5.9	5.9	Ampl.	6.0
	262.3	261.2	260.7	260.6	260.2	260.6	261.0	262.1	Sbd box	261.1
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
X	0	0	0	0	0	0	0	0	PC freqs	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
X	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd) 4.02924854179E+03 Apriori delay (usec) 4.02923099502E+03 Resid mbdelay (usec) 1.92177E-03 +/- 5.1E-06  
 Sband delay (usec) 4.02924705602E+03 Apriori clock (usec) -8.5969833E+01 Resid sbdelay (usec) 1.60610E-02 +/- 4.1E-05  
 Phase delay (usec) 4.02923099179E+03 Apriori clockrate (us/s) -8.1100003E-07 Resid phdelay (usec) -3.23198E-06 +/- 1.7E-08  
 Delay rate (us/s) 6.46397772320E-02 Apriori rate (us/s) 6.46396731364E-02 Resid rate (us/s) 1.04096E-07 +/- 7.2E-11  
 Total phase (deg) 227.7 Apriori accel (us/s/s) -2.02577273455E-05 Resid phase (deg) -100.2 +/- 0.5

RMS Theor. Amplitude 3.777 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 25.1 1.3 Search (2048X32) 3.600 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 11.8 2.3 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 67.9 0.8 Inc. seg. avg. 4.155 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 61.5 1.3 Inc. frq. avg. 5.976 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

N: az 185.0 el 39.3 pa 4.2 X: az 191.0 el 26.2 pa 6.5 u,v (fr/asec) -397.198 -1068.333 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NX..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NX.W.41.2J19RJ

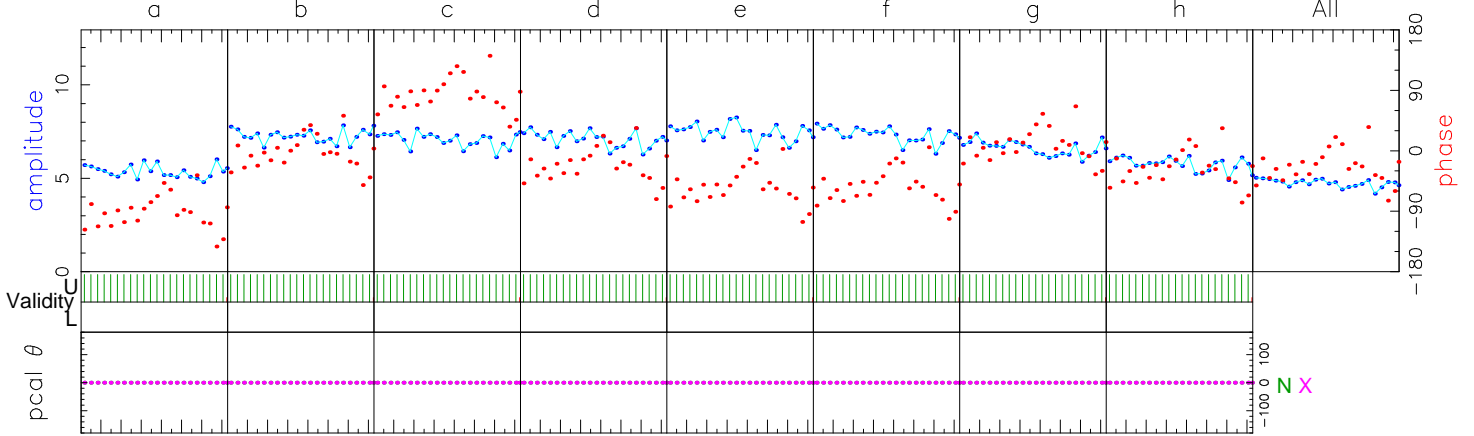


Fringe quality 3

SNR 241.8  
Int time 419.756  
Amp 4.316  
Phase -23.8  
PFD 0.0e+00  
Delays (us)  
SBD -0.016095  
MBD 0.002713  
Fringe rate (Hz) 0.009002  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000001.00  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140521  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 37 APs / seg (18.94 sec / seg.), time ticks 30 sec

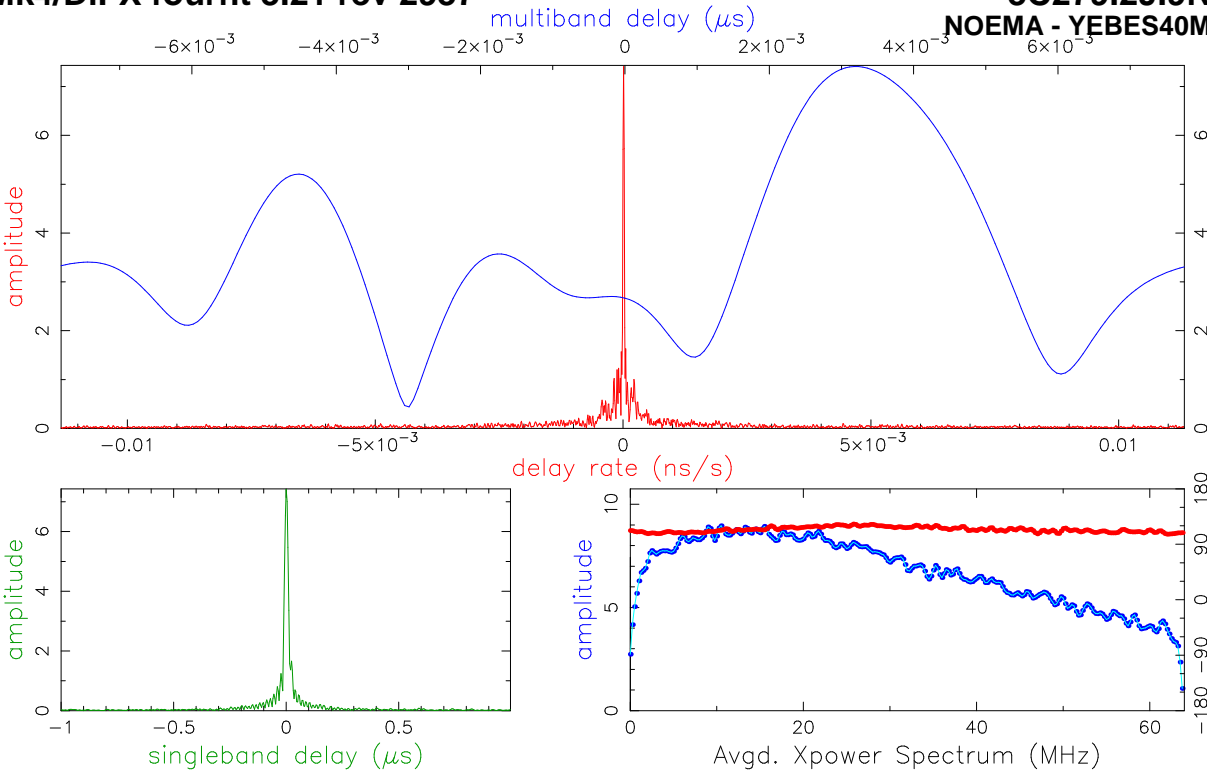


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-92.8	-4.3	83.1	-21.7	-55.1	-53.5	8.2	-28.0	Phase	-23.8
	4.9	6.6	6.4	6.5	6.8	6.6	6.0	5.2	Ampl.	6.1
	254.9	252.9	252.8	252.4	252.6	252.6	252.9	253.7	Sbd box	252.9
U/L	820/0	820/0	820/0	820/0	820/0	820/0	820/0	820/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
X	0	0	0	0	0	0	0	0	PC freqs	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:X	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
X	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
X	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	
									Tracks	
Group delay (usec)(sbd)	4.02921808348E+03		Apriori delay (usec)		4.02923099502E+03		Resid mbdelay (usec)		2.71346E-03	+/- 4.5E-06
Sband delay (usec)	4.02921490052E+03		Apriori clock (usec)		-8.5969833E+01		Resid sbdelay (usec)		-1.60945E-02	+/- 3.6E-05
Phase delay (usec)	4.02923099425E+03		Apriori clockrate (us/s)		-8.1100003E-07		Resid phdelay (usec)		-7.66669E-07	+/- 1.5E-08
Delay rate (us/s)	6.46397776415E-02		Apriori rate (us/s)		6.46396731364E-02		Resid rate (us/s)		1.04505E-07	+/- 6.3E-11
Total phase (deg)	304.2		Apriori accel (us/s/s)		-2.02577273455E-05		Resid phase (deg)		-23.8	+/- 0.5

RMS Theor. Amplitude 4.316 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 25.1 1.1 Search (2048X32) 4.002 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 11.1 2.0 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 57.0 0.7 Inc. seg. avg. 4.747 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 44.8 1.2 Inc. frq. avg. 6.134 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

N: az 185.0 el 39.3 pa 4.2 X: az 191.0 el 26.2 pa 6.5 u,v (fr/asec) -397.198 -1068.333 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NX..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NX.W.52.2J19RJ



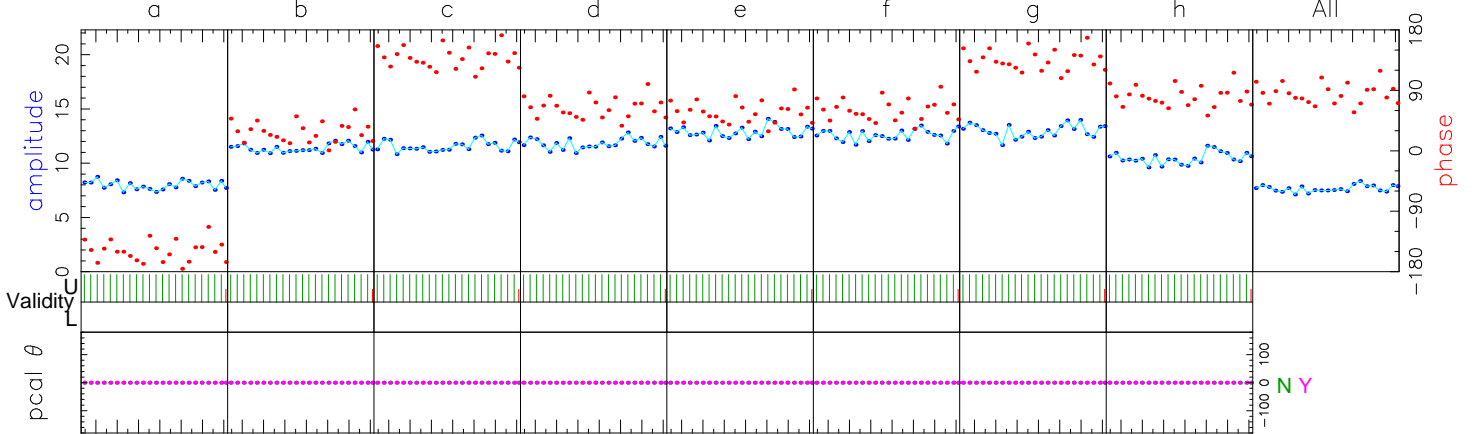


Fringe quality 4

SNR 407.7  
Int time 402.209  
Amp 7.433  
Phase 85.3  
PFD 0.0e+00  
Delays (us)  
SBD 0.000742  
MBD 0.003181  
Fringe rate (Hz) 0.001015  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000018.41  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140513  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
-5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 sec / seg.), time ticks 30 sec

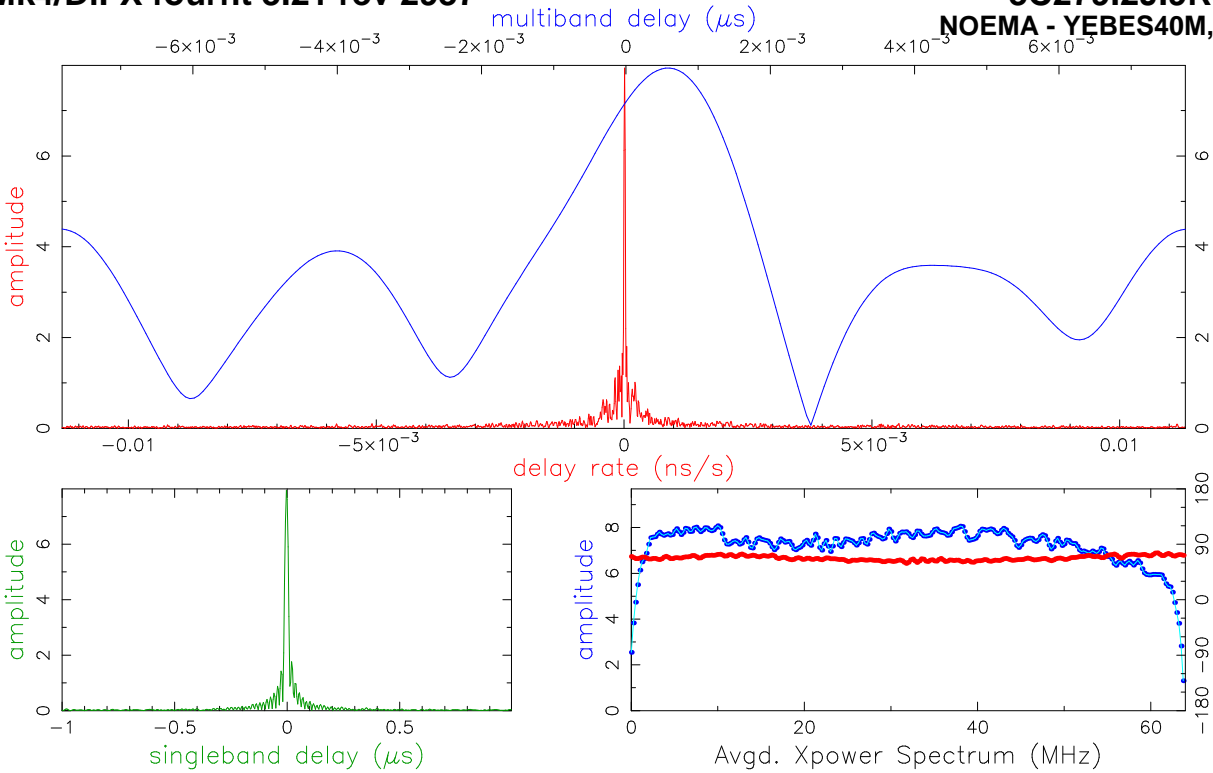


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-148.8	28.6	138.4	64.3	57.6	61.2	134.9	81.3	Phase	85.3
	7.7	11.0	11.2	11.4	12.5	12.2	12.5	10.1	Ampl.	11.1
	259.3	257.6	257.0	257.0	256.9	256.8	257.1	256.9	Sbd box	257.2
U/L	786/0	786/0	786/0	786/0	786/0	786/0	786/0	786/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
Y	0	0	0	0	0	0	0	0	PC freqs	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -1.13644606668E+03 Apriori delay (usec) -1.13644924725E+03 Resid mbdelay (usec) 3.18057E-03 +/- 2.7E-06  
 Sband delay (usec) -1.13644850550E+03 Apriori clock (usec) 7.5269928E+00 Resid sbdelay (usec) 7.41750E-04 +/- 2.1E-05  
 Phase delay (usec) -1.13644924450E+03 Apriori clockrate (us/s) 1.3000000E-06 Resid phdelay (usec) 2.74918E-04 +/- 9.1E-09  
 Delay rate (us/s) -1.78083426708E-01 Apriori rate (us/s) -1.78083438495E-01 Resid rate (us/s) 1.17869E-08 +/- 3.9E-11  
 Total phase (deg) 28.4 Apriori accel (us/s/s) 5.46709132203E-06 Resid phase (deg) 85.3 +/- 0.3

RMS Theor. Amplitude 7.433 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 14.9 0.7 Search (2048X32) 7.336 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 5.1 1.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 66.0 0.4 Inc. seg. avg. 7.665 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 53.0 0.7 Inc. frq. avg. 11.081 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

N: az 185.0 el 39.3 pa 4.2 Y: az 173.0 el 43.3 pa -4.4 u,v (fr/asec) 1032.049 423.931 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NY..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NY.W.18.2J19RJ

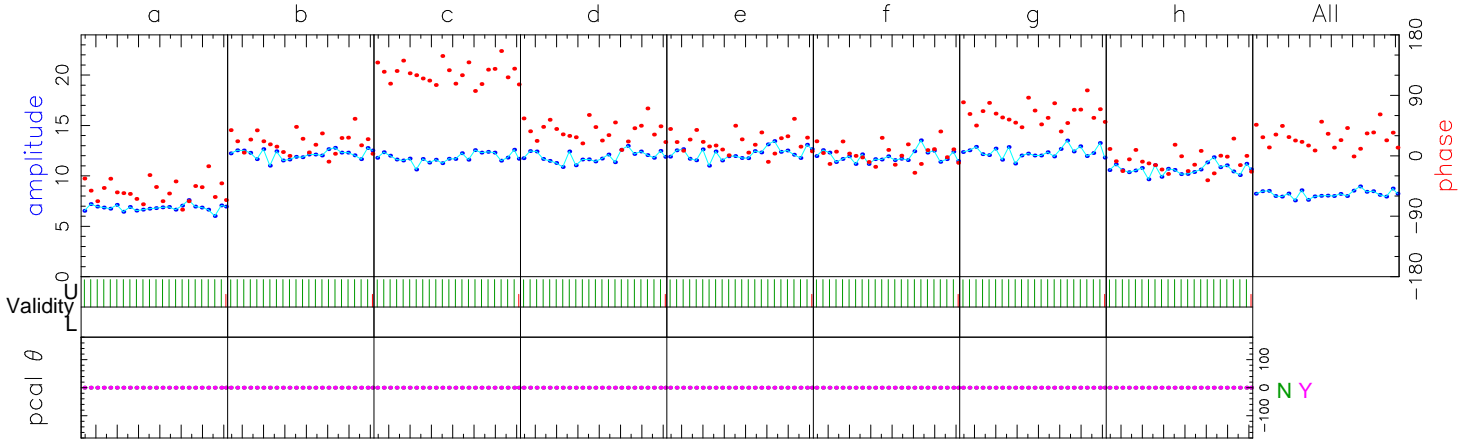


Fringe quality 4

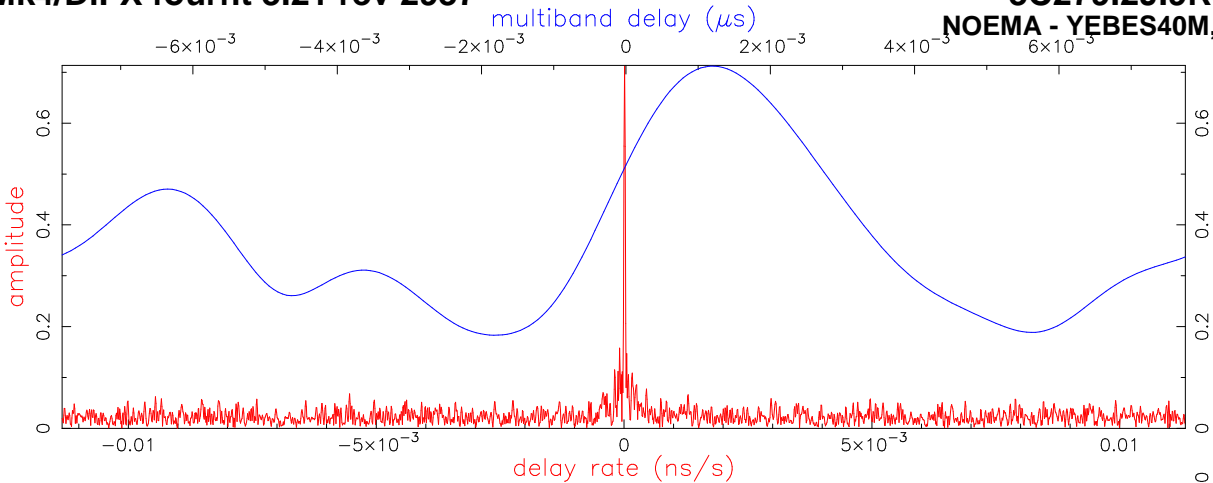
SNR 438.5  
Int time 402.209  
Amp 7.996  
Phase 27.4  
PFD 0.0e+00  
Delays (us)  
SBD -0.002821  
MBD 0.000615  
Fringe rate (Hz) 0.001026  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512

Exp. c221d  
Yr:day 2022:094  
Start 000018.41  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140516  
2021:252:122852  
RA & Dec (J2000) 12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 sec / seg.), time ticks 30 sec

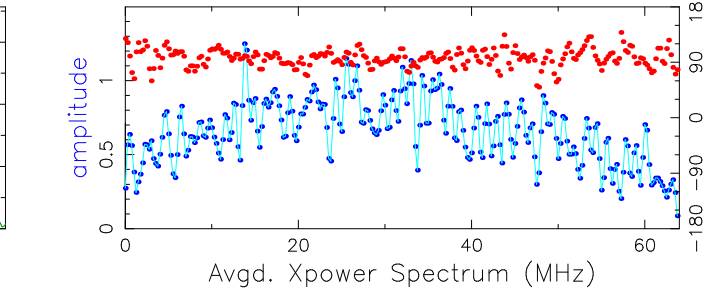
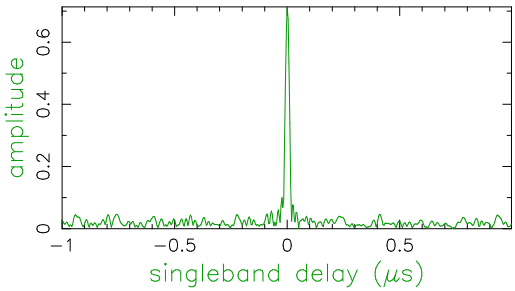


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	-52.0	20.0	123.0	37.0	20.4	3.1	62.2	-7.9	Ampl.	27.4
	6.6	11.7	11.4	11.5	11.8	11.5	11.9	10.3	Ampl.	10.9
	258.6	256.2	256.5	256.4	255.9	256.0	256.3	256.4	Sbd box	256.3
U/L	786/0	786/0	786/0	786/0	786/0	786/0	786/0	786/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
Y	0	0	0	0	0	0	0	0	PC freqs	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	
									Tracks	
Group delay (usec)(sbd)	-1.13644863243E+03								Resid mbdelay (usec)	6.14817E-04 +/- 2.5E-06
Sband delay (usec)	-1.13645206850E+03								Resid sbdelay (usec)	-2.82125E-03 +/- 2.0E-05
Phase delay (usec)	-1.13644924636E+03								Resid phdelay (usec)	8.83385E-07 +/- 8.4E-09
Delay rate (us/s)	-1.78083426579E-01								Resid rate (us/s)	1.19158E-08 +/- 3.6E-11
Total phase (deg)			-29.5						Resid phase (deg)	27.4 +/- 0.3
	RMS	Theor.	Amplitude	7.996 +/- 0.018					PCal mode: MANUAL, MANUAL	PC period (AP's) 5, 5
ph/seg (deg)	15.0	0.6	Search (2048X32)	7.904					PCal rate: 0.000E+00, 0.000E+00 (us/s)	sb window (us) -1.000 1.000
amp/seg (%)	5.0	1.1	Interp.	0.000					Bits/sample: 2x2	SampCntNorm: enabled mb window (us) -0.008 0.008
ph/frq (deg)	55.8	0.4	Inc. seg. avg.	8.214					Sample rate(MISamp/s): 128	dr window (ns/s) -0.011 0.011
amp/frq (%)	41.4	0.6	Inc. frq. avg.	10.854					Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite ion window (TEC) 0.00 0.00



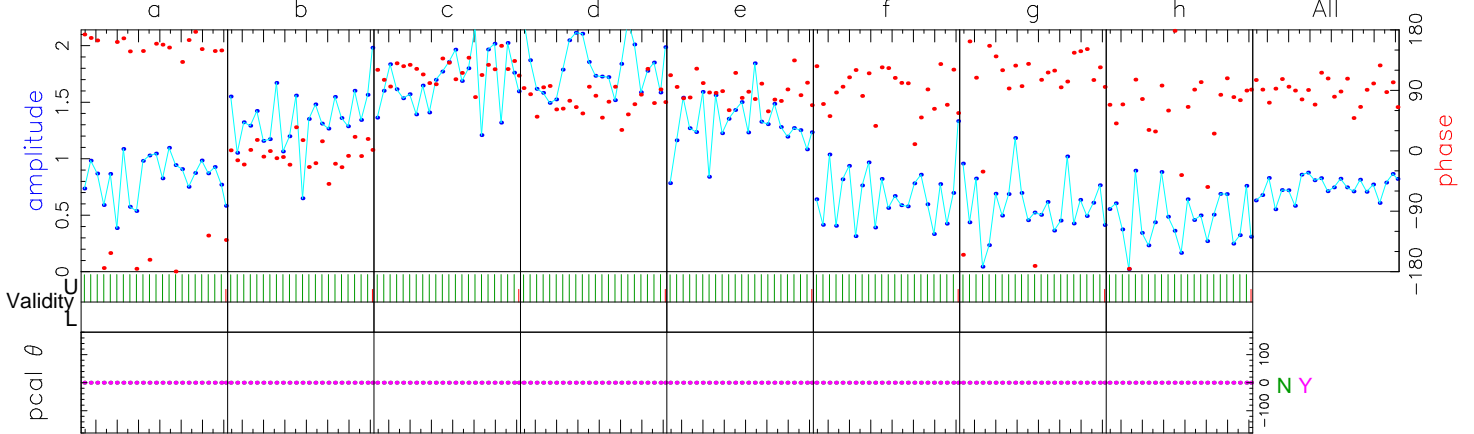
Fringe quality 5

SNR 39.1  
Int time 402.209  
Amp 0.714  
Phase 90.2  
PFD 0.0e+00  
Delays (us)  
SBD 0.000628  
MBD 0.001190  
Fringe rate (Hz)  
0.000926  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512



Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000018.41  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140520  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
-5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 sec / seg.), time ticks 30 sec

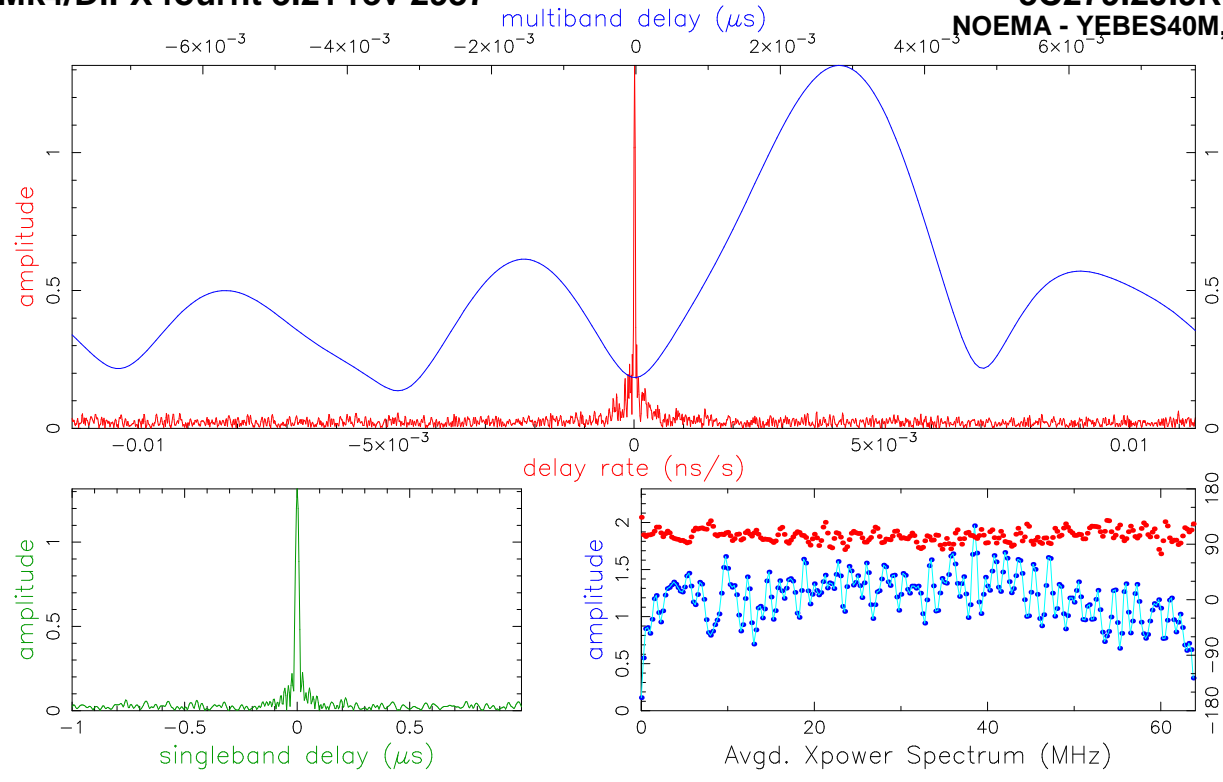


	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
U/L	168.6	-4.7	118.6	74.5	88.8	90.8	127.2	77.3	Phase	90.2
N	0.8	1.3	1.6	1.7	1.2	0.6	0.5	0.4	Ampl.	1.0
Y	259.0	256.7	257.0	257.0	256.2	255.9	256.4	256.4	Sbd box	257.2
N	786/0	786/0	786/0	786/0	786/0	786/0	786/0	786/0	APs used	
Y	0	0	0	0	0	0	0	0	PC freqs	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
Y	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-1.13644805759E+03	Apriori delay (usec)	-1.13644924725E+03	Resid mbdelay (usec)	1.18966E-03	+/-	2.8E-05
Sband delay (usec)	-1.13644861950E+03	Apriori clock (usec)	7.5269928E+00	Resid sbdelay (usec)	6.27750E-04	+/-	2.2E-04
Phase delay (usec)	-1.13644924434E+03	Apriori clockrate (us/s)	1.3000000E-06	Resid phdelay (usec)	2.90782E-06	+/-	9.4E-08
Delay rate (us/s)	-1.78083427746E-01	Apriori rate (us/s)	-1.78083438495E-01	Resid rate (us/s)	1.07488E-08	+/-	4.1E-10
Total phase (deg)	33.3	Apriori accel (us/s/s)	5.46709132203E-06	Resid phase (deg)	90.2	+/-	2.9

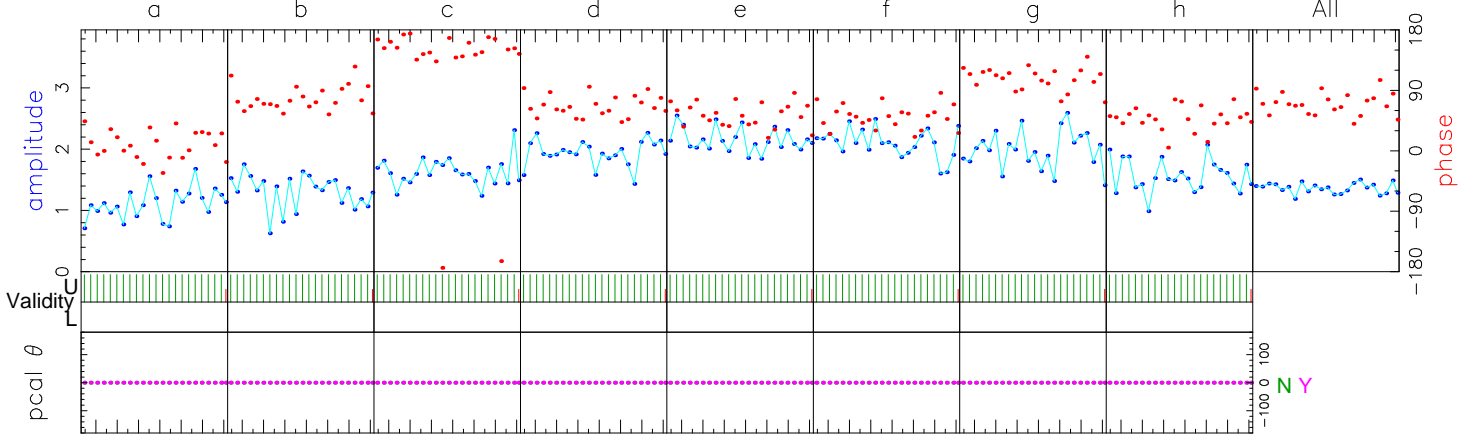
ph/seg (deg)	17.8	Theor.	7.0	Search (2048X32)	0.705	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	13.5		12.3	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	54.4		4.1	Inc. seg. avg.	0.741	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	79.5		7.2	Inc. frq. avg.	1.005	Data rate(Mb/s): 2048	nlags: 256 t_cohere infinite	ion window (TEC)	0.00	0.00

N: az 185.0 el 39.3 pa 4.2 Y: az 173.0 el 43.3 pa -4.4 u,v (fr/asec) 1032.049 423.931 simultaneous interpolator  
Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NY..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NY.W.49.2J19RJ



Fringe quality 5  
SNR 72.2  
Int time 402.209  
Amp 1.316  
Phase 70.5  
PFD 0.0e+00  
Delays (us)  
SBD -0.000010  
MBD 0.002818  
Fringe rate (Hz) 0.001048  
Ion TEC 0.000  
Ref freq (MHz) 86140.0000  
AP (sec) 0.512  
Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000018.41  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140524  
2021:252:122852  
RA & Dec (J2000) 12h56m11.166577s --5°47'21.525129"

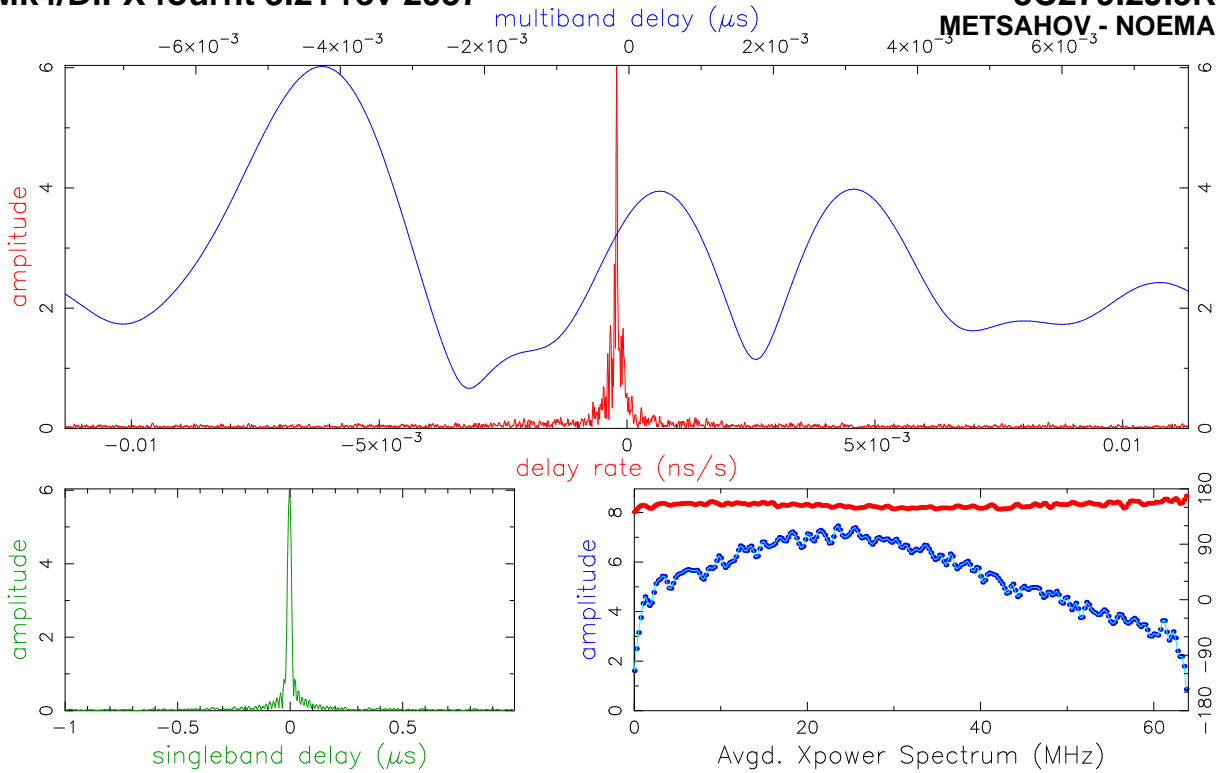
Amp. and Phase vs. time for each freq., 23 segs, 35 APs / seg (17.92 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	11.8	77.5	156.9	66.6	53.9	50.5	107.5	47.4	Phase	70.5
	1.1	1.3	1.6	1.9	2.1	2.0	1.9	1.5	Ampl.	1.7
	259.1	257.2	256.8	256.8	256.5	256.6	256.9	256.8	Sbd box	257.0
U/L	786/0	786/0	786/0	786/0	786/0	786/0	786/0	786/0	APs used	
N	0	0	0	0	0	0	0	0	PC freqs	
Y	0	0	0	0	0	0	0	0	PC freqs	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
N:Y	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
N	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
Y	1000	1000	1000	1000	1000	1000	1000	1000		
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
Y	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd) -1.13644642902E+03 Apriori delay (usec) -1.13644924725E+03 Resid mbdelay (usec) 2.81822E-03 +/- 1.5E-05  
 Sband delay (usec) -1.13644925775E+03 Apriori clock (usec) 7.5269928E+00 Resid sbdelay (usec) -1.05000E-05 +/- 1.2E-04  
 Phase delay (usec) -1.13644924498E+03 Apriori clockrate (us/s) 1.3000000E-06 Resid phdelay (usec) 2.27223E-06 +/- 5.1E-08  
 Delay rate (us/s) -1.78083426327E-01 Apriori rate (us/s) -1.78083438495E-01 Resid rate (us/s) 1.21681E-08 +/- 2.2E-10  
 Total phase (deg) 13.6 Apriori accel (us/s/s) 5.46709132203E-06 Resid phase (deg) 70.5 +/- 1.6

RMS Theor. Amplitude 1.316 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 15.7 3.8 Search (2048X32) 1.307 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 7.4 6.6 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 47.5 2.2 Inc. seg. avg. 1.364 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 36.8 3.9 Inc. frq. avg. 1.654 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00  
 N: az 185.0 el 39.3 pa 4.2 Y: az 173.0 el 43.3 pa -4.4 u,v (fr/asec) 1032.049 423.931 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/NY..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/NY.W.55.2J19RJ

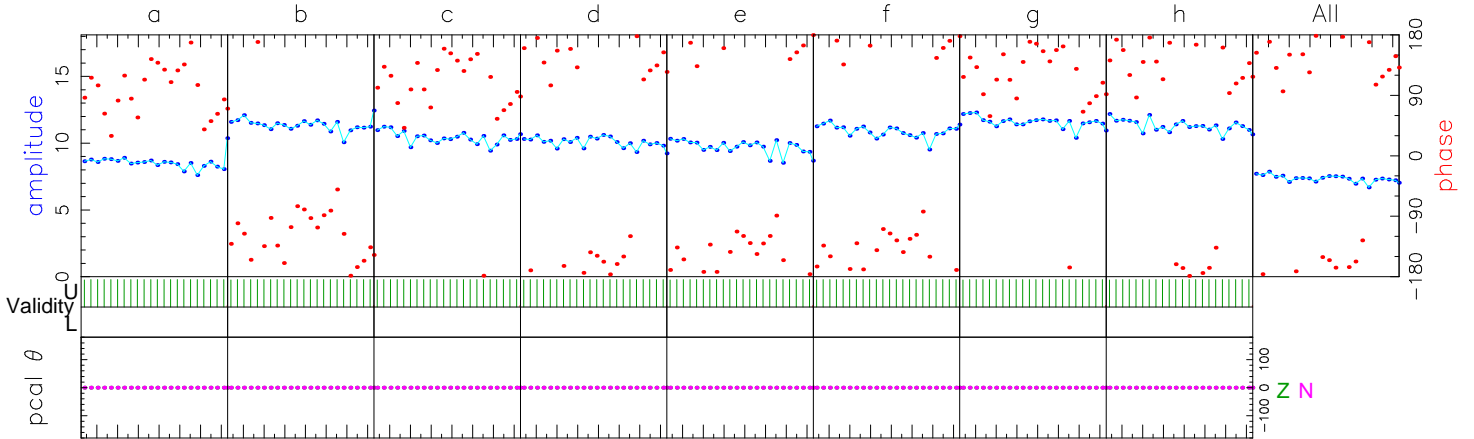


Fringe quality 2

SNR 332.7  
Int time 406.174  
Amp 6.038  
Phase 164.3  
PFD 0.0e+00  
Delays (us)  
SBD -0.003207  
MBD -0.004248  
Fringe rate (Hz)  
-0.018218  
Ion TEC 0.000  
Ref freq (MHz)  
86140.0000  
AP (sec) 0.512

Exp. c221d  
Exper # 16383  
Yr:day 2022:094  
Start 000014.31  
Stop 000700.84  
FRT 000331.00  
Corr/FF/build  
2022:356:222718  
2023:010:140511  
2021:252:122852  
RA & Dec (J2000)  
12h56m11.166577s  
--5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



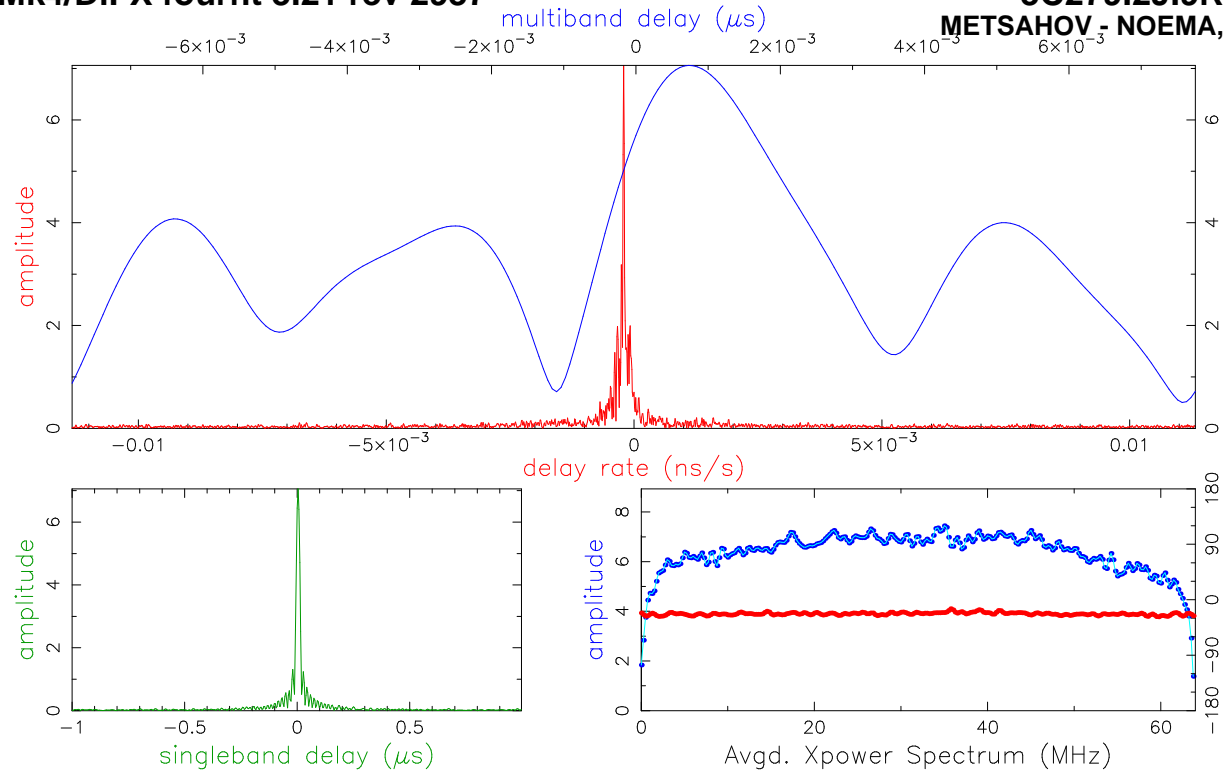
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	97.9	-119.8	112.9	171.5	-158.8	-154.7	126.2	153.6	Phase	164.3
	6.9	9.2	8.5	8.3	7.9	8.9	9.5	9.3	Ampl.	8.6
	254.3	255.7	256.5	256.8	257.1	256.8	256.7	256.0	Sbd box	256.2
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0	APs used	
Z	0	0	0	0	0	0	0	0	PC freqs	
N	0	0	0	0	0	0	0	0	PC freqs	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-5.70363774790E+03	Apriori delay (usec)	-5.70363350039E+03	Resid mbdelay (usec)	-4.24751E-03	+/-	3.3E-06
Sband delay (usec)	-5.70363670689E+03	Apriori clock (usec)	1.2787273E+01	Resid sbdelay (usec)	-3.20650E-03	+/-	2.6E-05
Phase delay (usec)	-5.70363349509E+03	Apriori clockrate (us/s)	3.9799999E-07	Resid phdelay (usec)	5.29944E-06	+/-	1.1E-08
Delay rate (us/s)	-2.12078111172E-01	Apriori rate (us/s)	-2.12077899680E-01	Resid rate (us/s)	-2.11492E-07	+/-	4.7E-11
Total phase (deg)	-96.1	Apriori accel (us/s/s)	2.84747206614E-05	Resid phase (deg)	164.3	+/-	0.3

ph/seg (deg)	35.8	RMS	0.8	Theor.	Amplitude	6.038 +/- 0.018	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	22.3		1.4	Search (2048X32)	5.896		Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	54.0		0.5	Inc. seg. avg.	7.364		Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	43.9		0.9	Inc. frq. avg.	8.568		Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

Z: az 204.0 el 21.6 pa 12.2 N: az 185.0 el 39.3 pa 4.2 u,v (fr/asec) 1256.010 1228.064 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/ZN..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/ZN.V.12.2J19RJ

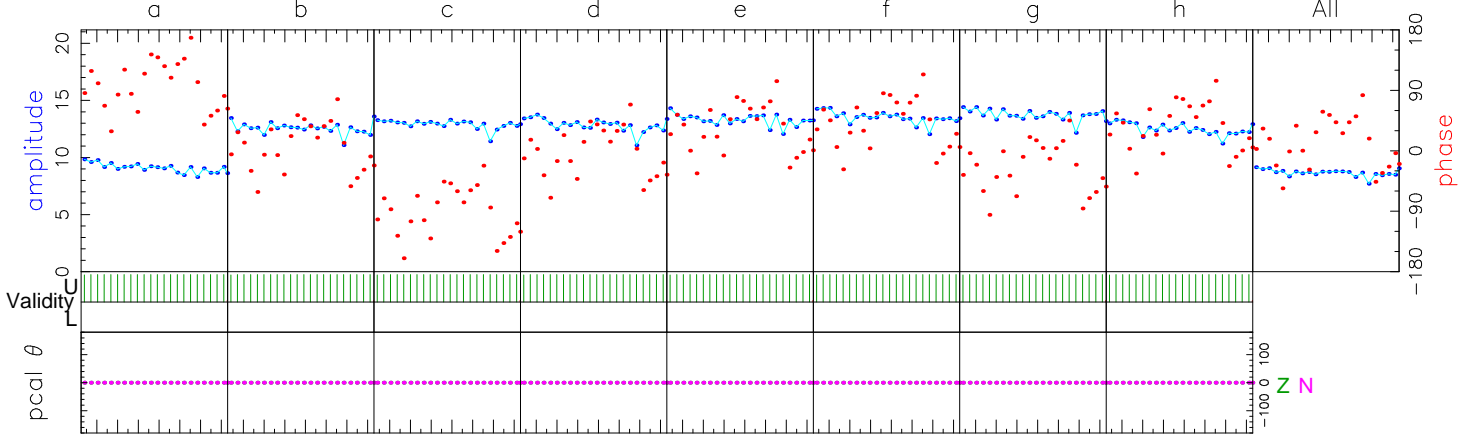


Fringe quality 2

SNR 389.0  
 Int time 406.174  
 Amp 7.059  
 Phase 13.1  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.003848  
 MBD 0.000740  
 Fringe rate (Hz)  
 -0.018213  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 000014.31  
 Stop 000700.84  
 FRT 000331.00  
 Corr/FF/build  
 2022:356:222718  
 2023:010:140514  
 2021:252:122852  
 RA & Dec (J2000)  
 12h56m11.166577s  
 --5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



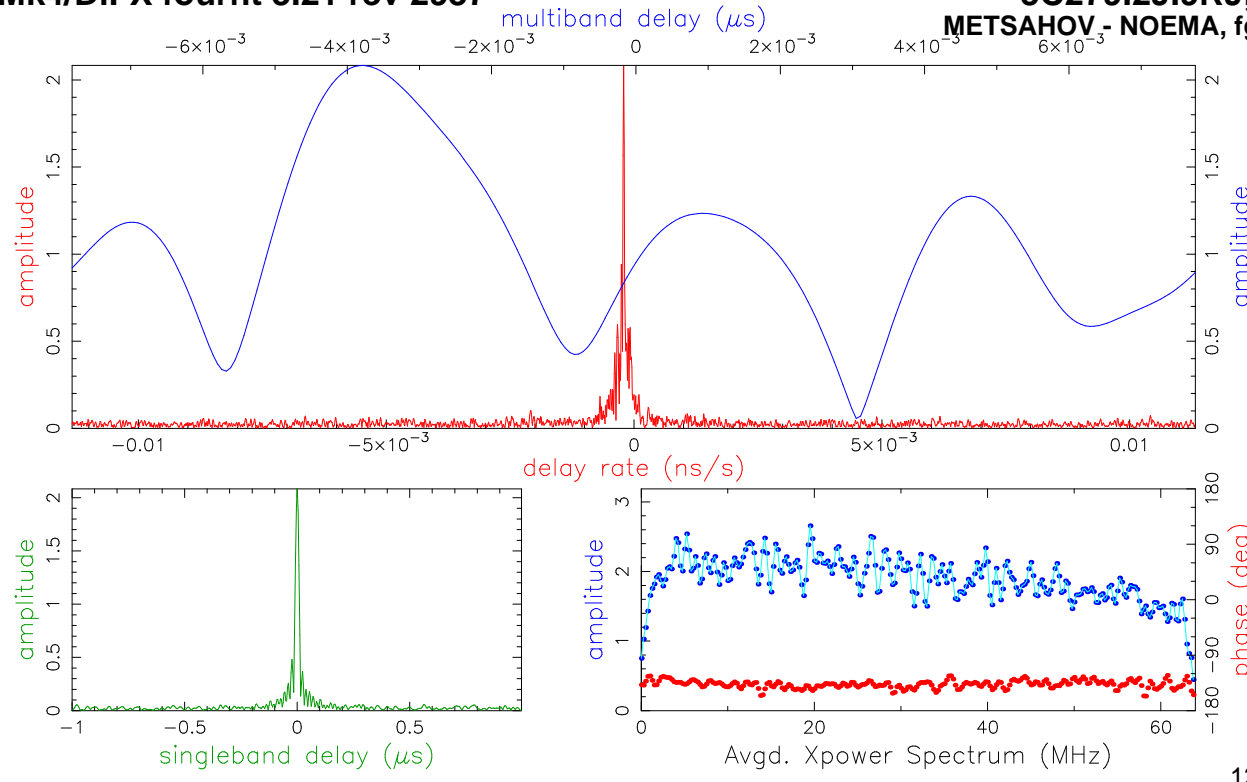
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	97.7	7.1	-90.5	-0.8	34.4	41.9	-25.0	36.4	Phase	13.1
	7.4	10.2	10.5	10.5	10.9	11.0	11.2	10.2	Ampl.	10.2
	256.0	257.5	258.0	258.3	258.4	258.2	258.1	257.3	Sbd box	258.0
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0	APs used	
Z	0	0	0	0	0	0	0	0	PC freqs	
N	0	0	0	0	0	0	0	0	PC freqs	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd) -5.70363276055E+03 Apriori delay (usec) -5.70363350039E+03 Resid mbdelay (usec) 7.39836E-04 +/- 2.8E-06  
 Sband delay (usec) -5.70362965214E+03 Apriori clock (usec) 1.2787273E+01 Resid sbdelay (usec) 3.84825E-03 +/- 2.2E-05  
 Phase delay (usec) -5.70363349997E+03 Apriori clockrate (us/s) 3.9799999E-07 Resid phdelay (usec) 4.22591E-07 +/- 9.5E-09  
 Delay rate (us/s) -2.12078111114E-01 Apriori rate (us/s) -2.12077899680E-01 Resid rate (us/s) -2.11434E-07 +/- 4.0E-11  
 Total phase (deg) -247.3 Apriori accel (us/s/s) 2.84747206614E-05 Resid phase (deg) 13.1 +/- 0.3

RMS Theor. Amplitude 7.059 +/- 0.018 Pcal mode: MANUAL, MANUAL PC period (AP's) 5, 5  
 ph/seg (deg) 36.0 0.7 Search (2048X32) 6.911 Pcal rate: 0.000E+00, 0.000E+00 (us/s) sb window (us) -1.000 1.000  
 amp/seg (%) 22.9 1.2 Interp. 0.000 Bits/sample: 2x2 SampCntNorm: enabled mb window (us) -0.008 0.008  
 ph/frq (deg) 59.7 0.4 Inc. seg. avg. 8.650 Sample rate(MISamp/s): 128 dr window (ns/s) -0.011 0.011  
 amp/frq (%) 47.6 0.7 Inc. frq. avg. 10.233 Data rate(Mb/s): 2048 nlags: 256 t\_cohere infinite ion window (TEC) 0.00 0.00

Z: az 204.0 el 21.6 pa 12.2 N: az 185.0 el 39.3 pa 4.2 u,v (fr/asec) 1256.010 1228.064 simultaneous interpolator  
 Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/ZN..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/ZN.W.26.2J19RJ



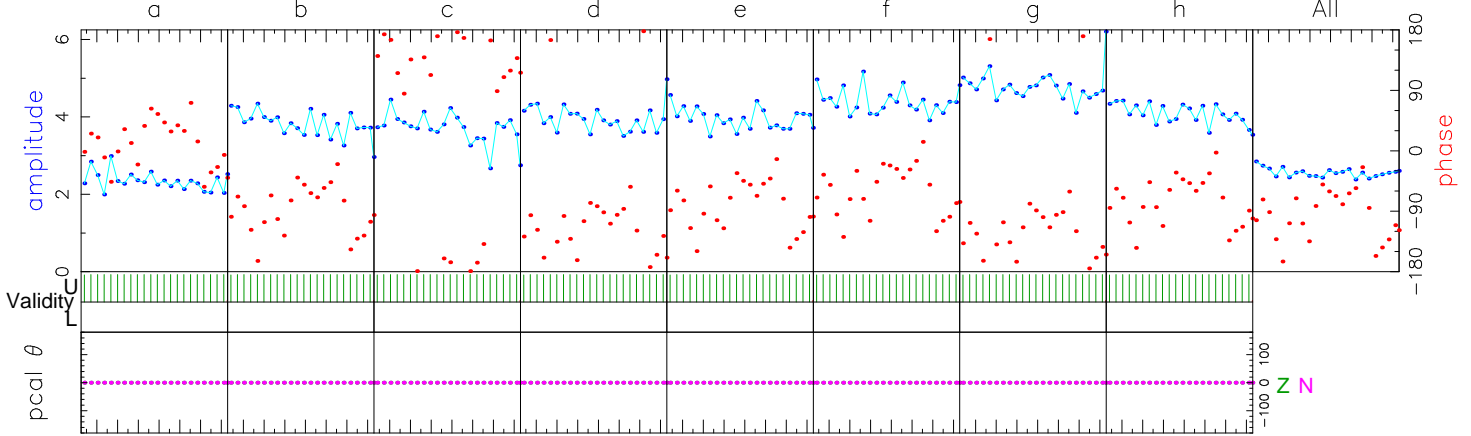


Fringe quality 2

SNR 114.8  
 Int time 406.174  
 Amp 2.083  
 Phase -94.8  
 PFD 0.0e+00  
 Delays (us)  
 SBD -0.000122  
 MBD -0.003793  
 Fringe rate (Hz)  
 -0.018203  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 000014.31  
 Stop 000700.84  
 FRT 000331.00  
 Corr/FF/build  
 2022:356:222718  
 2023:010:140517  
 2021:252:122852  
 RA & Dec (J2000)  
 12h56m11.166577s  
 -5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



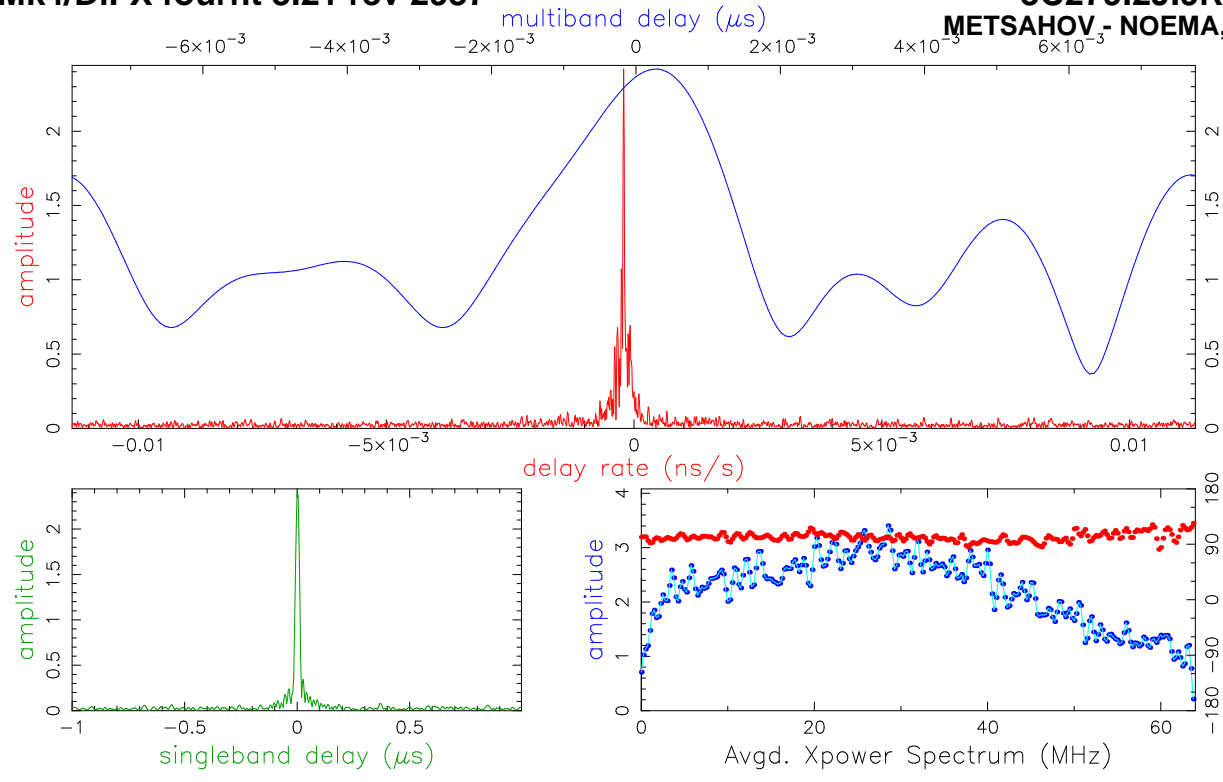
	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	13.0	-88.0	153.1	-121.1	-81.5	-58.3	-126.9	-73.8	Phase	-94.8
	2.0	3.1	3.0	3.2	3.2	3.5	3.9	3.4	Ampl.	3.2
	254.5	256.2	256.7	257.2	257.4	257.1	256.9	256.3	Sbd box	257.0
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0	APs used	
Z	0	0	0	0	0	0	0	0	PC freqs	
N	0	0	0	0	0	0	0	0	PC freqs	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Mani PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Chan ids	
N	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Tracks	

Group delay (usec)(sbd)	-5.70363729383E+03	Apriori delay (usec)	-5.70363350039E+03	Resid mbdelay (usec)	-3.79345E-03	+/-	9.5E-06
Sband delay (usec)	-5.70363362214E+03	Apriori clock (usec)	1.2787273E+01	Resid sbdelay (usec)	-1.21750E-04	+/-	7.5E-05
Phase delay (usec)	-5.70363350345E+03	Apriori clockrate (us/s)	3.9799999E-07	Resid phdelay (usec)	-3.05754E-06	+/-	3.2E-08
Delay rate (us/s)	-2.12078111005E-01	Apriori rate (us/s)	-2.12077899680E-01	Resid rate (us/s)	-2.11324E-07	+/-	1.4E-10
Total phase (deg)	-355.2	Apriori accel (us/s/s)	2.84747206614E-05	Resid phase (deg)	-94.8	+/-	1.0

ph/seg (deg)	36.3	2.4	Search (2048X32)	2.049	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	23.5	4.2	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	68.2	1.4	Inc. seg. avg.	2.557	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	57.8	2.5	Inc. frq. avg.	3.169	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

Z: az 204.0 el 21.6 pa 12.2 N: az 185.0 el 39.3 pa 4.2 u,v (fr/asec) 1256.010 1228.064 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/ZN..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/ZN.W.40.2J19RJ

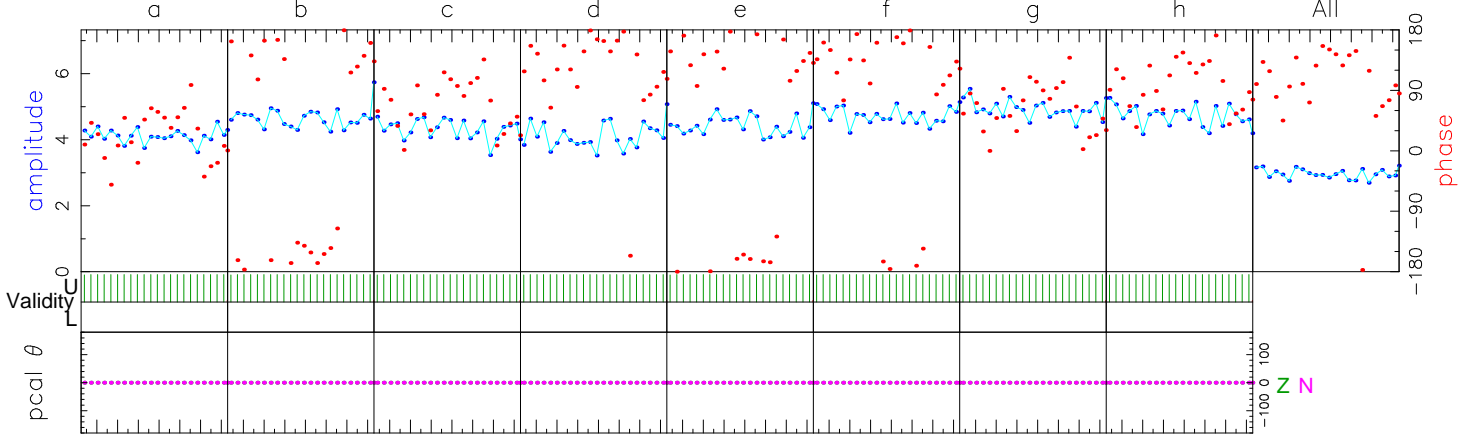


Fringe quality 2

SNR 134.6  
 Int time 406.174  
 Amp 2.443  
 Phase 112.4  
 PFD 0.0e+00  
 Delays (us)  
 SBD 0.001382  
 MBD 0.000261  
 Fringe rate (Hz)  
 -0.018214  
 Ion TEC 0.000  
 Ref freq (MHz)  
 86140.0000  
 AP (sec) 0.512

Exp. c221d  
 Exper # 16383  
 Yr:day 2022:094  
 Start 000014.31  
 Stop 000700.84  
 FRT 000331.00  
 Corr/FF/build  
 2022:356:222718  
 2023:010:140521  
 2021:252:122852  
 RA & Dec (J2000)  
 12h56m11.166577s  
 -5°47'21.525129"

Amp. and Phase vs. time for each freq., 23 segs, 36 APs / seg (18.43 sec / seg.), time ticks 30 sec



	86012.00	86076.00	86140.00	86204.00	86268.00	86332.00	86396.00	86460.00	Freq (MHz)	All
	21.9	176.9	70.5	133.8	162.0	146.5	64.0	100.4	Phase	112.4
	3.3	3.7	3.6	3.3	3.7	3.8	4.0	3.9	Ampl.	3.7
	255.9	257.0	257.8	258.0	258.0	257.9	257.8	257.0	Sbd box	257.4
U/L	794/0	794/0	794/0	794/0	794/0	794/0	794/0	794/0	APs used	
Z	0	0	0	0	0	0	0	0	PC freqs	
N	0	0	0	0	0	0	0	0	PC freqs	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	PC phase	
Z:N	0:0	0:0	0:0	0:0	0:0	0:0	0:0	0:0	Manl PC	
Z	1000	1000	1000	1000	1000	1000	1000	1000	PC amp	
N	1000	1000	1000	1000	1000	1000	1000	1000		
Z	W00UR	W01UR	W02UR	W03UR	W04UR	W05UR	W06UR	W07UR	Chan ids	
N	W00UL	W01UL	W02UL	W03UL	W04UL	W05UL	W06UL	W07UL	Tracks	

Group delay (usec)(sbd)	-5.70363323946E+03	Apriori delay (usec)	-5.70363350039E+03	Resid mbdelay (usec)	2.60930E-04	+/-	8.1E-06
Sband delay (usec)	-5.70363211839E+03	Apriori clock (usec)	1.2787273E+01	Resid sbdelay (usec)	1.38200E-03	+/-	6.4E-05
Phase delay (usec)	-5.70363349676E+03	Apriori clockrate (us/s)	3.9799999E-07	Resid phdelay (usec)	3.62543E-06	+/-	2.7E-08
Delay rate (us/s)	-2.12078111122E-01	Apriori rate (us/s)	-2.12077899680E-01	Resid rate (us/s)	-2.11442E-07	+/-	1.2E-10
Total phase (deg)	-148.0	Apriori accel (us/s/s)	2.84747206614E-05	Resid phase (deg)	112.4	+/-	0.9

ph/seg (deg)	35.9	2.0	Search (2048X32)	2.375	Pcal mode: MANUAL, MANUAL	PC period (AP's) 5, 5	sb window (us)	-1.000	1.000
amp/seg (%)	22.0	3.6	Interp.	0.000	Pcal rate: 0.000E+00, 0.000E+00 (us/s)	SampCntNorm: enabled	mb window (us)	-0.008	0.008
ph/frq (deg)	58.7	1.2	Inc. seg. avg.	2.960	Bits/sample: 2x2	Sample rate(MISamp/s): 128	dr window (ns/s)	-0.011	0.011
amp/frq (%)	51.1	2.1	Inc. frq. avg.	3.669	Data rate(Mb/s): 2048	nlags: 256	ion window (TEC)	0.00	0.00

Z: az 204.0 el 21.6 pa 12.2 N: az 185.0 el 39.3 pa 4.2 u,v (fr/asec) 1256.010 1228.064 simultaneous interpolator

Control file: cf\_1234\_gmva Input file: /Exps/c221d/v1/3mm/3000/No0009/ZN..2J19RJ Output file: /Exps/c221d/v1/3mm/3000/No0009/ZN.W.51.2J19RJ