C191A/MH004A Correlation Report

General information

- Consists of only one science project: **MH004A**
- PI: Hada
- Targets: 3C84, M87, 3C273, 3C279
- Session info: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr19/feedback_apr19.asc
- Text file with detailed antenna statistics, scroll down to get to the cumulative statistics for the whole experiment:
  c191a.antrep

Current Status

correlation finished, data **released** on 19/09/2019.

the **second release** was made on 18/01/2020 to fix the double autocorrelation issue.

Fringes

Fourfit fringe plots with fringes to multiple antennas:

Scan No0068, source 3C273, fringes to all stations: No0068_all.pdf

Station	Code	Fringes	Plots	Comments
GLT: Gl	g	yes	Fringe overview of all baselines (all of C191A) including this antenna in LL (left for each baseline) and RR (right for each baseline). Legend: white - scheduled, but no data, blue - no fringe, dark red/ brown/green - fringes of different quality. c191a_FRINGE_RfAnt_Gl_LLRR_AllSrc.pdf Examples of fourfit fringe plots can be found in: No0068_all.pdf **Same for all antennas below unless otherwise noted.**	confirmed correct polarization configuration for this session
GBT: Gb	G	yes	c191a_FRINGE_RfAnt_Gb_LLRR_AllSrc.pdf No0068_all.pdf	broken Cal-Wheel, no Tsys
VLBA: Br	b	yes	c191a_FRINGE_RfAnt_Br_LLRR_AllSrc.pdf No0068_all.pdf	

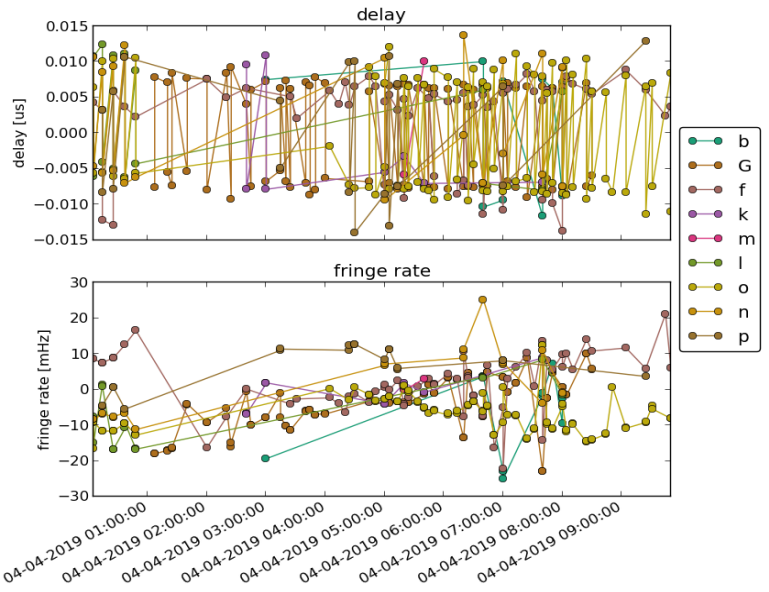
Station	Code	Fringes	Plots	Comments
VLBA: Fd	f	yes	c191a_FRINGE_RfAnt_Fd_LLRR_AllSrc.pdf No0068_all.pdf	high winds
VLBA: Kp	k	yes	c191a_FRINGE_RfAnt_Kp_LLRR_AllSrc.pdf No0068_all.pdf	
VLBA: La	l	yes	c191a_FRINGE_RfAnt_La_LLRR_AllSrc.pdf No0068_all.pdf	partially cloudy
VLBA: Mk	m	yes	c191a_FRINGE_RfAnt_Mk_LLRR_AllSrc.pdf No0068_all.pdf	3mm receiver was just replaced and is still far too warm. **This severely deteriorated the quality of the data.** Taken out for several scans because of USNO observing.
VLBA: Nl	n	yes	c191a_FRINGE_RfAnt_Nl_LLRR_AllSrc.pdf No0068_all.pdf	cloudy conditions, receiver slightly warm
VLBA: Ov	o	yes	c191a_FRINGE_RfAnt_Ov_LLRR_AllSrc.pdf No0068_all.pdf	.
VLBA: Pt	p	yes	c191a_FRINGE_RfAnt_Pt_LLRR_AllSrc.pdf No0068_all.pdf	Taken out for several scans because of USNO observing.

Notes

Post-Correlation checks

Residuals

GLT:

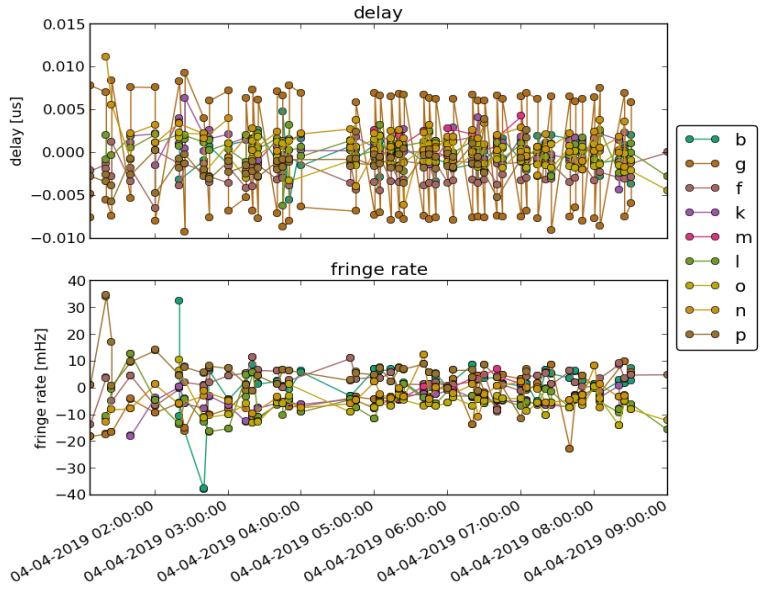



```
Delays statistics
st #pts mean     std. dev
b  10   +0.0005 0.008741
G  84   -0.0001 0.007113
f  63   +0.0021 0.006336
k  08   -0.0023 0.007352
m  02   +0.0021 0.007982
l  15   +0.0011 0.007936
o  83   -0.0003 0.008002
n  20   +0.0017 0.008321
p  19   +0.0001 0.008962
```

```
Fringe rate statistics
st #pts mean     std. dev
b  10   -6.7368 11.185659
G  84   -4.2191 7.316273
f  63   +2.0678 8.036102
k  08   -0.4815 4.947847
m  02   +1.4691 1.640536
l  15   -6.3474 8.583562
o  83   -6.6857 5.400743
n  20   +0.4751 9.332470
p  19   +6.3346 6.072602
```

`Reference station: g` `Pol: RR,LL`

GBT:

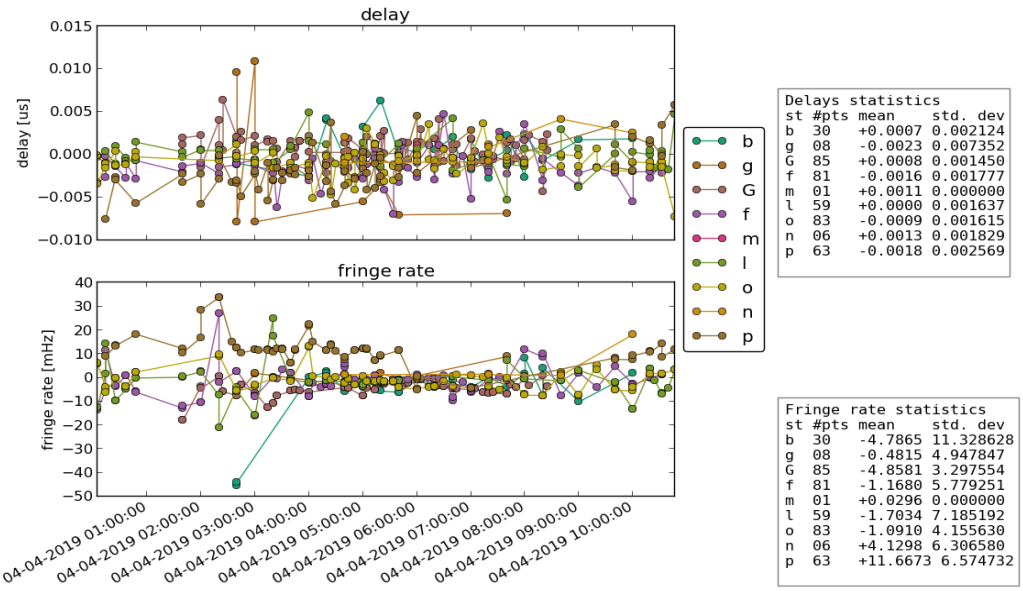



```
Delays statistics
st #pts mean     std. dev
b  77   -0.0002 0.001784
g  84   -0.0001 0.007113
f  90   -0.0022 0.001273
k  85   +0.0008 0.001450
m  15   +0.0013 0.001355
l  91   +0.0004 0.001398
o  78   -0.0003 0.001420
n  67   +0.0012 0.002326
p  66   -0.0014 0.001698
```

```
Fringe rate statistics
st #pts mean     std. dev
b  77   +1.7375 8.232475
g  84   -4.2191 7.316273
f  90   +2.7568 4.090744
k  85   -4.8581 3.297554
m  15   -0.1728 4.117743
l  91   -5.1307 5.132821
o  78   -5.8851 3.924063
n  67   -2.1421 4.644161
p  66   +6.1770 6.484253
```

`Reference station: G` `Pol: RR,LL`

Kp:



Delays statistics

st	#pts	mean	std. dev
b	30	+0.0007	0.002124
g	08	-0.0023	0.007352
G	85	+0.0008	0.001450
f	81	-0.0016	0.001777
m	01	+0.0011	0.000000
l	59	+0.0000	0.001637
o	83	-0.0009	0.001615
n	06	+0.0013	0.001829
p	63	-0.0018	0.002569

Fringe rate statistics

st	#pts	mean	std. dev
b	30	-4.7865	11.328628
g	08	-0.4815	4.947847
G	85	-4.8581	3.297554
f	81	-1.1680	5.779251
m	01	+0.0296	0.000000
l	59	-1.7034	7.185192
o	83	-1.0910	4.155630
n	06	+4.1298	6.306580
p	63	+11.6673	6.574732

Reference station: k | Pol: RR,LL

FITS completeness (pclist)

legend:

```
o -- station scheduled and fully accounted for in the fits file
42 (or another number) -- station scheduled, but data found
                          only for 42% of the scheduled interval
x -- station scheduled, but corresponding entry not found in the fits file
. -- station not scheduled
```

mh004a.fits:

```
                              NL PT LA FD OV KP BR MK GL GB
c191a_01 No0001  3C84 3mm_RDBE o  06 o  06 06 o  o  06 o  .
c191a_02 No0002  3C84 3mm_RDBE o  93 o  93 93 o  o  93 o  .
c191a_03 No0003  3C84 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_04 No0004  3C84 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_05 No0005  3C84 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_06 No0007 3C273 3mm_RDBE o  .  o  o  .  .  .  .  o  o
c191a_07 No0008   M87 3mm_RDBE o  o  o  o  .  .  .  .  o  o
c191a_08 No0009 3C273 3mm_RDBE o  o  o  o  .  .  .  .  o  o
c191a_09 No0010   M87 3mm_RDBE o  o  o  o  .  .  .  .  o  o
c191a_10 No0011   M87 3mm_RDBE o  o  o  o  .  .  .  .  o  .
c191a_11 No0013 3C273 3mm_RDBE o  o  o  o  o  o  .  .  o  o
c191a_12 No0014   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_13 No0015 3C273 3mm_RDBE o  o  o  o  o  o  44 .  o  o
c191a_14 No0016   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_15 No0017   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  .
c191a_16 No0019 3C273 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_17 No0020   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
```

```
c191a_18 No0021   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_19 No0022 3C273 3mm_RDBE o  o  o  o  o  o  o  .  o  88
c191a_20 No0023   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_21 No0024   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  .
c191a_22 No0026 3C273 3mm_RDBE o  77 o  77 o  o  o  .  o  o
c191a_23 No0027   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_24 No0028   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_25 No0029 3C273 3mm_RDBE o  o  o  o  o  o  o  .  o  88
c191a_26 No0030   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_27 No0031   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  .
c191a_28 No0033 3C273 3mm_RDBE o  77 o  77 77 o  o  .  o  o
c191a_29 No0034   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_30 No0035   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_31 No0036 3C273 3mm_RDBE o  22 o  22 22 o  o  .  o  o
c191a_32 No0037   M87 3mm_RDBE o  o  o  o  o  o  o  .  o  o
c191a_33 No0038   M87 3mm_RDBE o  93 o  93 93 o  o  .  o  .
c191a_34 No0040 3C273 3mm_RDBE o  o  o  o  o  o  o  .  o  88
c191a_35 No0041   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_36 No0042   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_37 No0043 3C279 3mm_RDBE o  22 o  22 o  o  o  .  .  o
c191a_38 No0044   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_39 No0045   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_40 No0047 3C273 3mm_RDBE o  77 o  77 o  o  o  o  o  o
c191a_41 No0048   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_42 No0049   M87 3mm_RDBE o  93 o  93 o  o  o  o  o  o
c191a_43 No0050 3C273 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_44 No0051   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_45 No0052   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_46 No0054 3C273 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_47 No0055   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_48 No0056   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_49 No0057 3C279 3mm_RDBE o  22 o  22 o  o  o  o  .  o
c191a_50 No0058   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_51 No0059   M87 3mm_RDBE o  93 o  93 93 o  o  93 o  .
c191a_52 No0061 3C273 3mm_RDBE o  o  o  o  o  o  o  o  o  88
c191a_53 No0062   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_54 No0063   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_55 No0064 3C273 3mm_RDBE o  22 o  22 22 o  o  22 o  o
c191a_56 No0065   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  o
c191a_57 No0066   M87 3mm_RDBE o  o  o  o  o  o  o  o  o  .
c191a_58 No0068 3C273 3mm_RDBE o  77 o  77 77 o  o  77 o  o
c191a_59 No0069   M87 3mm_RDBE o  60 o  o  o  o  o  60 o  o
c191a_60 No0070   M87 3mm_RDBE o  x  o  93 93 o  26 x  o  o
c191a_61 No0071 3C279 3mm_RDBE o  x  o  o  o  o  o  x  .  o
c191a_62 No0072   M87 3mm_RDBE o  x  o  o  o  o  o  x  o  o
c191a_63 No0073   M87 3mm_RDBE o  x  o  o  o  o  o  x  o  .
c191a_64 No0075 3C273 3mm_RDBE o  x  o  44 44 o  o  x  o  o
c191a_65 No0076   M87 3mm_RDBE o  x  o  o  o  o  o  x  o  o
c191a_66 No0077   M87 3mm_RDBE o  x  o  o  o  o  o  x  o  o
c191a_67 No0078 3C273 3mm_RDBE o  x  o  22 22 o  o  x  o  o
```

c191a_68	No0079	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	o
c191a_69	No0080	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	.
c191a_70	No0082	3C273	3mm_RDBE	o	x	o	77	77	o	o	x	.	o
c191a_71	No0083	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	o
c191a_72	No0084	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	o
c191a_73	No0085	3C279	3mm_RDBE	o	x	o	22	22	o	o	x	.	o
c191a_74	No0086	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	o
c191a_75	No0087	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	.
c191a_76	No0089	3C273	3mm_RDBE	o	x	o	77	77	o	o	x	.	o
c191a_77	No0090	M87	3mm_RDBE	o	x	o	o	o	o	o	x	o	o
c191a_78	No0091	3C273	3mm_RDBE	o	22	o	22	22	o	o	22	.	o
c191a_79	No0092	M87	3mm_RDBE	o	o	o	o	o	o	o	o	o	o
c191a_80	No0093	M87	3mm_RDBE	o	o	o	o	o	o	o	o	o	.
c191a_81	No0095	3C273	3mm_RDBE	o	77	o	77	77	o	o	x	.	o
c191a_82	No0096	M87	3mm_RDBE	o	o	o	o	o	o	o	o	o	o
c191a_83	No0097	M87	3mm_RDBE	o	o	o	o	o	o	o	o	o	o
c191a_84	No0098	3C273	3mm_RDBE	o	22	o	22	22	o	o	22	.	o
c191a_85	No0099	M87	3mm_RDBE	o	o	o	o	o	o	o	o	.	o
c191a_86	No0100	M87	3mm_RDBE	o	o	o	o	o	o	o	o	.	.
c191a_87	No0102	3C273	3mm_RDBE	o	o	o	o	o	o	o	o	.	o
c191a_88	No0103	M87	3mm_RDBE	o	o	o	o	o	o	o	o	.	o
c191a_89	No0104	3C273	3mm_RDBE	o	o	44	o	44	o	o	44	.	.
c191a_90	No0105	M87	3mm_RDBE	o	o	o	o	88	o	o	88	.	.
c191a_91	No0106	M87	3mm_RDBE	o	o	o	o	o	o	o	o	.	.
c191a_92	No0107	M87	3mm_RDBE	o	o	o	o	o	o	o	o	.	.