C181B / MJ001A Correlation Report

General information

- Consists of only one subproject: MJ001A
- Session info: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr18/feedback_apr18.asc
- GBT calibration info (Tsys files for download) and other related information for this session can be found here: https://safe.nrao.edu/wiki/bin/view/GB/Observing/WbandVLBACal/C181
- *Special processing* was applied to all data in order to correlate mismatching frequency setups of ALMA and other GMVA stations. See details here.

Current Status

Correlation finished, data **released** on 10/12/2018.

A **second** data release, rerunning PolConvert with the latest (25.06.2019) ALMA QA2 release, was made on 16/09/2019.

Fringes

Station	Code	Fringes	Plots	Comments
VLBA: Br	b	**yes**	Fringe overview of all baselines of this antenna in LL (left for each baseline) and RR (right for each baseline). Legend: white - scheduled, but no data, blue - no fringe, red-green - fringes of different quality. c181b_FRINGE_RfAnt_Br_LLRR_AllSrc.pdf Examples of fourfit fringe plots: c181b_No0003_3C279_bp_LL.pdf , c181b_No0003_3C279_bp_LR.pdf, c181b_No0003_3C279_bp_RL.pdf, c181b_No0003_3C279_bp_RR.pdf c181b_No0035_1921-293_Ab_LL.pdf, c181b_No0035_1921-293_Ab_LR.pdf, c181b_No0035_1921-293_Ab_RL.pdf, c181b_No0035_1921-293_Ab_RR.pdf Same for all antennas below unless otherwise noted.	
VLBA: Fd	f	**yes**	c181b_FRINGE_RfAnt_Fd_LLRR_AllSrc.pdf c181b_No0003_3C279_fp_LL.pdf, c181b_No0003_3C279_fp_LR.pdf, c181b_No0003_3C279_fp_RL.pdf, c181b_No0003_3C279_fp_RR.pdf c181b_No0035_1921-293_Af_LL.pdf, c181b_No0035_1921-293_Af_LR.pdf, c181b_No0035_1921-293_Af_RL.pdf, c181b_No0035_1921-293_Af_RR.pdf	
VLBA: Kp	k	**yes**	c181b_FRINGE_RfAnt_Kp_LLRR_AllSrc.pdf c181b_No0003_3C279_kp_LL.pdf, c181b_No0003_3C279_kp_LR.pdf, c181b_No0003_3C279_kp_RL.pdf, c181b_No0003_3C279_kp_RR.pdf	

Station	Code	Fringes	Plots	Comments
			c181b_No0035_1921-293_Ak_LL.pdf, c181b_No0035_1921-293_Ak_LR.pdf, c181b_No0035_1921-293_Ak_RL.pdf, c181b_No0035_1921-293_Ak_RR.pdf	
VLBA: La	l	**yes**	c181b_FRINGE_RfAnt_La_LLRR_AllSrc.pdf c181b_No0003_3C279_lp_LL.pdf, c181b_No0003_3C279_lp_LR.pdf, c181b_No0003_3C279_lp_RL.pdf, c181b_No0003_3C279_lp_RR.pdf c181b_No0035_1921-293_Al_LL.pdf, c181b_No0035_1921-293_Al_LR.pdf, c181b_No0035_1921-293_Al_RL.pdf, c181b_No0035_1921-293_Al_RR.pdf	
VLBA: Mk	m	**yes**	c181b_FRINGE_RfAnt_Mk_LLRR_AllSrc.pdf c181b_No0003_3C279_mp_LL.pdf, c181b_No0003_3C279_mp_LR.pdf, c181b_No0003_3C279_mp_RL.pdf, c181b_No0003_3C279_mp_RR.pdf c181b_No0035_1921-293_Am_LL.pdf, no LR fringe detected, c181b_No0035_1921-293_Am_RL.pdf, c181b_No0035_1921-293_Am_RR.pdf	Taken out for several scans because of USNO observing.
VLBA: Nl	n	**yes**	c181b_FRINGE_RfAnt_Nl_LLRR_AllSrc.pdf c181b_No0003_3C279_np_LL.pdf, c181b_No0003_3C279_np_LR.pdf, c181b_No0003_3C279_np_RL.pdf, c181b_No0003_3C279_np_RR.pdf c181b_No0035_1921-293_An_LL.pdf, c181b_No0035_1921-293_An_LR.pdf, c181b_No0035_1921-293_An_RL.pdf, c181b_No0035_1921-293_An_RR.pdf	
VLBA: Ov	o	**yes**	c181b_FRINGE_RfAnt_Ov_LLRR_AllSrc.pdf c181b_No0003_3C279_op_LL.pdf, c181b_No0003_3C279_op_LR.pdf, c181b_No0003_3C279_op_LR.pdf, c181b_No0003_3C279_op_RR.pdf c181b_No0035_1921-293_Ao_LL.pdf, c181b_No0035_1921-293_Ao_LR.pdf, c181b_No0035_1921-293_Ao_RL.pdf, c181b_No0035_1921-293_Ao_RR.pdf	
VLBA: Pt	p	**yes**	c181b_FRINGE_RfAnt_Pt_LLRR_AllSrc.pdf c181b_No0003_3C279_Ap_LL.pdf, c181b_No0003_3C279_Ap_LR.pdf, c181b_No0003_3C279_Ap_RL.pdf, c181b_No0003_3C279_Ap_RR.pdf c181b_No0003_3C279_bp_LL.pdf, c181b_No0003_3C279_bp_LR.pdf, c181b_No0003_3C279_bp_RL.pdf, c181b_No0003_3C279_bp_RR.pdf c181b_No0003_3C279_fp_LL.pdf, c181b_No0003_3C279_fp_LR.pdf, c181b_No0003_3C279_fp_RL.pdf, c181b_No0003_3C279_fp_RR.pdf	Taken out for several scans because of USNO observing.

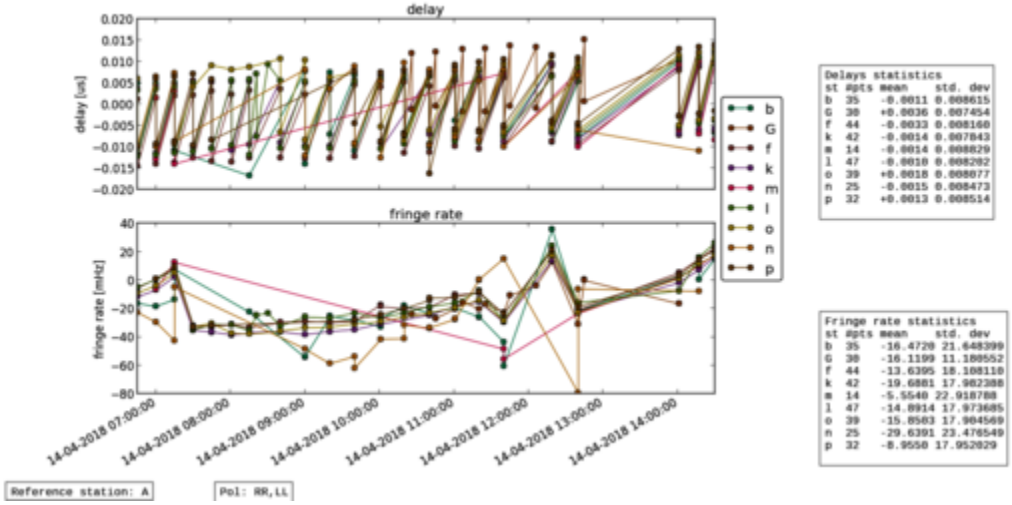
Station	Code	Fringes	Plots	Comments
			c181b_No0003_3C279_kp_LL.pdf, c181b_No0003_3C279_kp_LR.pdf, c181b_No0003_3C279_kp_RL.pdf, c181b_No0003_3C279_kp_RR.pdf c181b_No0003_3C279_lp_LL.pdf, c181b_No0003_3C279_lp_LR.pdf, c181b_No0003_3C279_lp_RL.pdf, c181b_No0003_3C279_lp_RR.pdf c181b_No0003_3C279_mp_LL.pdf, c181b_No0003_3C279_mp_LR.pdf, c181b_No0003_3C279_mp_RL.pdf, c181b_No0003_3C279_mp_RR.pdf c181b_No0003_3C279_np_LL.pdf, c181b_No0003_3C279_np_LR.pdf, c181b_No0003_3C279_np_RL.pdf, c181b_No0003_3C279_np_RR.pdf c181b_No0003_3C279_op_LL.pdf, c181b_No0003_3C279_op_LR.pdf, c181b_No0003_3C279_op_LR.pdf, c181b_No0003_3C279_op_RR.pdf c181b_No0035_1921-293_Ap_LL.pdf, c181b_No0035_1921-293_Ap_LR.pdf, c181b_No0035_1921-293_Ap_RL.pdf, c181b_No0035_1921-293_Ap_RR.pdf	
GBT: Gb	G	**yes**	c181b_FRINGE_RfAnt_Gb_LLRR_AllSrc.pdf c181b_No0035_1921-293_AG_LL.pdf, c181b_No0035_1921-293_AG_LR.pdf, c181b_No0035_1921-293_AG_RL.pdf, c181b_No0035_1921-293_AG_RR.pdf ----------	
ALMA: Aa	A	**yes**	c181b_FRINGE_RfAnt_Aa_LLRR_AllSrc.pdf c181b_No0003_3C279_Ap_LL.pdf, c181b_No0003_3C279_Ap_LR.pdf, c181b_No0003_3C279_Ap_RL.pdf, c181b_No0003_3C279_Ap_RR.pdf c181b_No0035_1921-293_Ab_LL.pdf, c181b_No0035_1921-293_Ab_LR.pdf, c181b_No0035_1921-293_Ab_RL.pdf, c181b_No0035_1921-293_Ab_RR.pdf c181b_No0035_1921-293_Af_LL.pdf, c181b_No0035_1921-293_Af_LR.pdf, c181b_No0035_1921-293_Af_RL.pdf, c181b_No0035_1921-293_Af_RR.pdf c181b_No0035_1921-293_AG_LL.pdf, c181b_No0035_1921-293_AG_LR.pdf, c181b_No0035_1921-293_AG_RL.pdf, c181b_No0035_1921-293_AG_RR.pdf c181b_No0035_1921-293_Ak_LL.pdf, c181b_No0035_1921-293_Ak_LR.pdf, c181b_No0035_1921-293_Ak_RL.pdf, c181b_No0035_1921-293_Ak_RR.pdf c181b_No0035_1921-293_Al_LL.pdf, c181b_No0035_1921-293_Al_LR.pdf, c181b_No0035_1921-293_Al_RL.pdf, c181b_No0035_1921-293_Al_RR.pdf c181b_No0035_1921-293_Am_LL.pdf, no LR fringe detected, c181b_No0035_1921-293_Am_RL.pdf, c181b_No0035_1921-293_Am_RR.pdf	Observed in linear polarization, converted to circular polarization in post-correlation uning PolConvert. For technical reasons the atmospheric correction was applied twice -- both in original ALMA data and during the correlation. Although a special procedure was developed to compensate for this, we found that its application leads to other difficulties, in particular to abnormally high fringe rate jumps, so in the final production run the

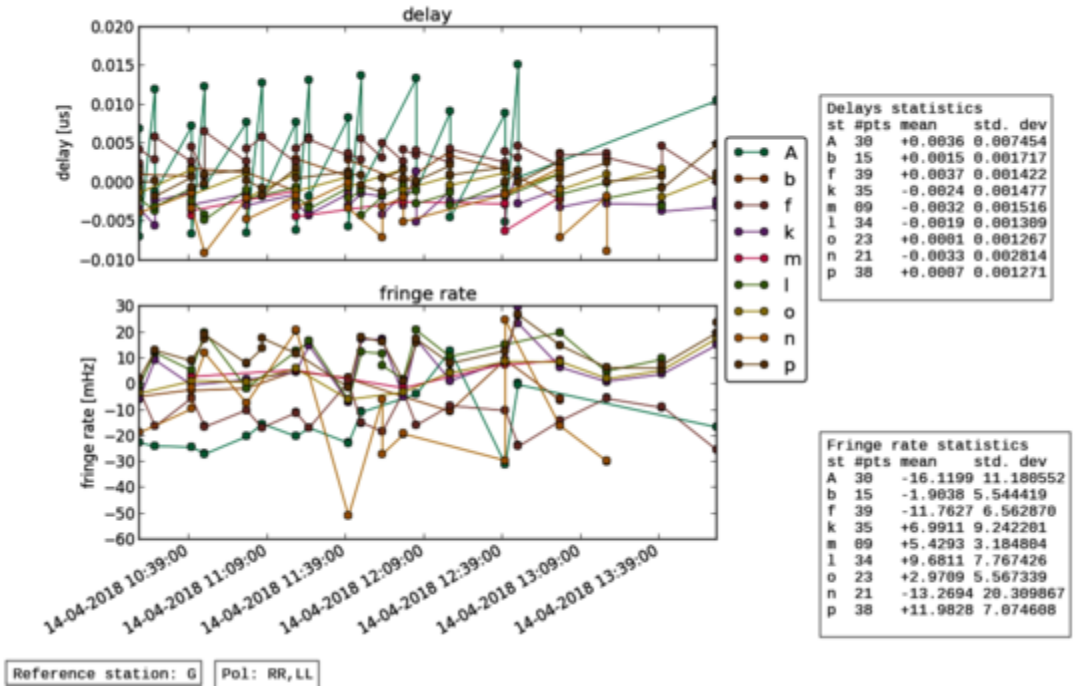
Station	Code	Fringes	Plots	Comments
			c181b_No0035_1921-293_An_LL.pdf, c181b_No0035_1921-293_An_LR.pdf, c181b_No0035_1921-293_An_RL.pdf, c181b_No0035_1921-293_An_RR.pdf c181b_No0035_1921-293_Ao_LL.pdf, c181b_No0035_1921-293_Ao_LR.pdf, c181b_No0035_1921-293_Ao_RL.pdf, c181b_No0035_1921-293_Ao_RR.pdf c181b_No0035_1921-293_Ap_LL.pdf, c181b_No0035_1921-293_Ap_LR.pdf, c181b_No0035_1921-293_Ap_RL.pdf, c181b_No0035_1921-293_Ap_RR.pdf	double atmospheric correction was left as is.

Notes

Post-Correlation checks

Residuals

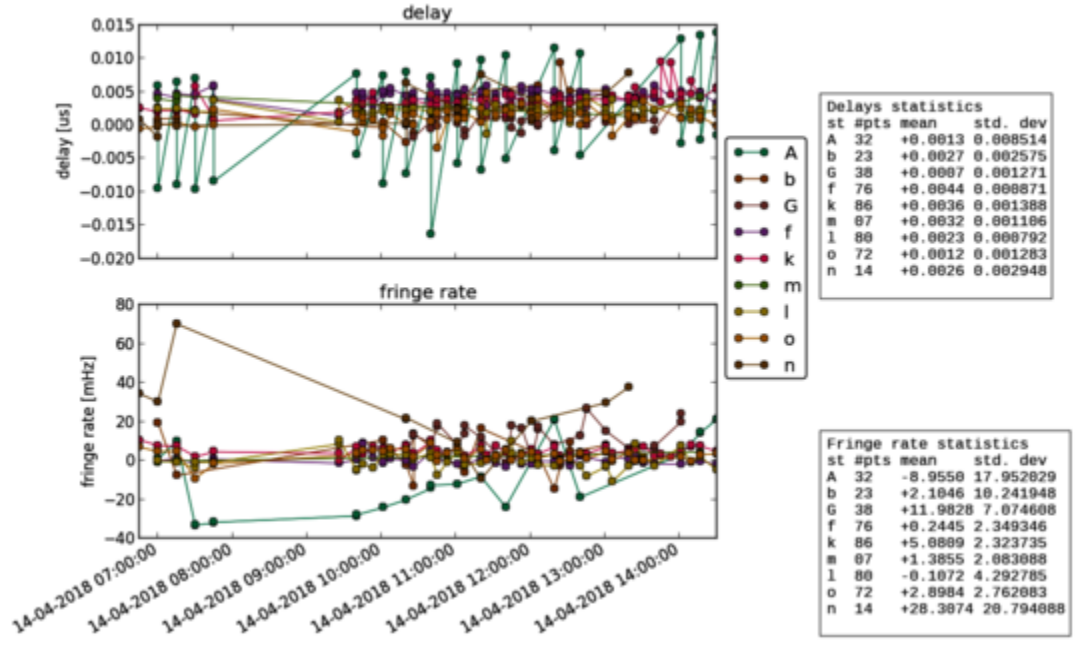





```
Delays statistics
st #pts mean     std. dev
A  30   +0.0036 0.007454
b  15   +0.0015 0.001717
f  39   +0.0037 0.001422
k  35   -0.0024 0.001477
m  09   -0.0032 0.001516
l  34   -0.0019 0.001309
o  23   +0.0001 0.001267
n  21   -0.0033 0.002814
p  38   +0.0007 0.001271
```

```
Fringe rate statistics
st #pts mean     std. dev
A  30   -16.1199 11.188552
b  15   -1.9038 5.544419
f  39   -11.7627 6.562870
k  35   +6.9911 9.242281
m  09   +5.4293 3.184804
l  34   +9.6811 7.767426
o  23   +2.9709 5.567339
n  21   -13.2694 20.309867
p  38   +11.9828 7.074608
```

Reference station: G | Pol: RR,LL




```
Delays statistics
st #pts mean     std. dev
A  32   +0.0013 0.008514
b  23   +0.0027 0.002575
G  38   +0.0007 0.001271
f  76   +0.0044 0.000871
k  86   +0.0036 0.001388
m  07   +0.0032 0.001106
l  80   +0.0023 0.000792
o  72   +0.0012 0.001283
n  14   +0.0026 0.002948
```

```
Fringe rate statistics
st #pts mean     std. dev
A  32   -8.9550 17.952029
b  23   +2.1046 10.241948
G  38   +11.9828 7.074608
f  76   +0.2445 2.349346
k  86   +5.0809 2.323735
m  07   +1.3855 2.083088
l  80   -0.1072 4.292785
o  72   +2.8984 2.762083
n  14   +28.3074 20.794888
```

Reference station: p | Pol: RR,LL

FITS completeness (pclist)

			AA	AA	NL	FD	PT	LA	OV	KP	BR	MK	GB
c181b_01D2D	No0001	3C279 3mm_RDBE	o	o	o	o	42	o	o	o	o	66	.
c181b_02D2D	No0002	3C279 3mm_RDBE	o	o	o	o	o	o	o	o	o	o	.
c181b_03D2D	No0003	3C279 3mm_RDBE	o	o	o	o	o	o	o	o	o	o	.
c181b_04D2D	No0004	NRAO530 3mm_RDBE	o	o	o	o	o	o	o	o	.	.	.
c181b_05D2D	No0005	NRAO530 3mm_RDBE	o	o	o	o	o	o	o	o	.	.	.
c181b_06D2D	No0006	NRAO530 3mm_RDBE	o	o	o	o	x	o	o	o	o	.	.

```
c181b_07D2D No0007  NRAO530 3mm_RDBE o  o  o  o  x  o  o  o  o  .  .
c181b_08D2D No0008    SGR_A 3mm_RDBE o  o  o  o  x  o  o  o  .  .  .
c181b_09D2D No0009    SGR_A 3mm_RDBE o  o  o  o  x  o  o  o  .  .  .
c181b_10D2D No0010  NRAO530 3mm_RDBE o  o  o  o  x  o  o  o  o  .  .
c181b_11D2D No0011    SGR_A 3mm_RDBE o  o  o  o  x  o  o  o  .  .  .
c181b_12D2D No0012    SGR_A 3mm_RDBE .  .  o  o  x  o  o  o  .  .  .
c181b_13D2D No0013  NRAO530 3mm_RDBE o  o  o  o  x  o  o  o  o  x  .
c181b_14D2D No0014    SGR_A 3mm_RDBE o  o  o  o  x  o  o  o  o  .  .
c181b_15D2D No0015  NRAO530 3mm_RDBE o  o  o  o  x  o  o  o  o  x  .
c181b_16D2D No0016    SGR_A 3mm_RDBE o  o  o  o  06 o  o  o  o  06 .
c181b_17D2D No0017  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_18D2D No0018    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_19D2D No0019    SGR_A 3mm_RDBE .  .  o  o  o  o  o  o  o  o  .
c181b_20D2D No0021  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_21D2D No0022    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_22D2D No0023  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_23D2D No0024    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_24D2D No0025  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_25D2D No0026    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_26D2D No0027    SGR_A 3mm_RDBE .  .  o  o  o  o  o  o  o  o  .
c181b_27D2D No0029  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_28D2D No0030    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_29D2D No0031  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_30D2D No0032    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_31D2D No0033    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_32D2D No0035 1921-293 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_33D2D No0036    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_34D2D No0037    SGR_A 3mm_RDBE .  .  o  o  o  o  o  o  o  o  o
c181b_35D2D No0038  NRAO530 3mm_RDBE x  x  o  o  o  o  o  o  o  o  o
c181b_36D2D No0039    SGR_A 3mm_RDBE 96 96 o  o  o  o  o  o  o  o  o
c181b_37D2D No0040  NRAO530 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_38D2D No0041    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_39D2D No0042    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_40D2D No0044 1921-293 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_41D2D No0045    SGR_A 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_42D2D No0046  NRAO530 3mm_RDBE x  x  o  o  o  o  o  o  o  o  o
c181b_43D2D No0047    SGR_A 3mm_RDBE x  x  o  o  o  o  o  o  o  o  .
c181b_44D2D No0048  NRAO530 3mm_RDBE x  x  o  o  o  o  o  o  o  o  o
c181b_45D2D No0049    SGR_A 3mm_RDBE x  x  o  o  o  o  o  o  o  o  .
c181b_46D2D No0050    SGR_A 3mm_RDBE x  x  o  o  o  o  o  o  o  o  .
c181b_47D2D No0052 1921-293 3mm_RDBE x  x  o  o  o  o  o  o  o  o  o
c181b_48D2D No0053    SGR_A 3mm_RDBE x  x  o  o  o  o  o  o  o  o  .
c181b_49D2D No0054    SGR_A 3mm_RDBE .  .  o  o  o  o  o  o  o  o  .
c181b_50D2D No0055 1921-293 3mm_RDBE o  o  o  o  o  o  o  o  o  o  o
c181b_51D2D No0056    SGR_A 3mm_RDBE .  .  .  o  o  o  o  o  o  o  .
c181b_52D2D No0057 1921-293 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
c181b_53D2D No0058 1921-293 3mm_RDBE o  o  o  o  o  o  o  o  o  o  .
```