

# C181F / MJ001B Correlation Report

## General information

- Consists of only one subproject: MJ001B.
- 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](http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/apr18/feedback_apr18.asc)
- GBT calibration info (Tsyes 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, with a problem, spotted in the original release, corrected, was made on 31/01/2019.

A **third** 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>Br | b    | yes     | <p>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.</p> <p><a href="#">c181f FRINGE RfAnt Br LLRR AllSrc.pdf</a></p> <p>Examples of fourfit fringe plots:</p> <p><a href="#">c181f No0002 3C279 bp LL.pdf</a>, <a href="#">c181f No0002 3C279 bp LR.pdf</a>,<br/> <a href="#">c181f No0002 3C279 bp RL.pdf</a>, <a href="#">c181f No0002 3C279 bp RR.pdf</a></p> <p><a href="#">c181f No0042 1921-293 Ab LL.pdf</a>, <a href="#">c181f No0042 1921-293 Ab LR.pdf</a>,<br/> <a href="#">c181f No0042 1921-293 Ab RL.pdf</a>, <a href="#">c181f No0042 1921-293 Ab RR.pdf</a></p> <p>Same for all antennas below unless otherwise noted.</p> |          |
| VLBA:<br>Fd | f    | yes     | <p><a href="#">c181f FRINGE RfAnt Fd LLRR AllSrc.pdf</a></p> <p><a href="#">c181f No0002 3C279 fp LL.pdf</a>, <a href="#">c181f No0002 3C279 fp LR.pdf</a>,<br/> <a href="#">c181f No0002 3C279 fp RL.pdf</a>, <a href="#">c181f No0002 3C279 fp RR.pdf</a></p> <p><a href="#">c181f No0042 1921-293 Af LL.pdf</a>, <a href="#">c181f No0042 1921-293 Af LR.pdf</a>,<br/> <a href="#">c181f No0042 1921-293 Af RL.pdf</a>, <a href="#">c181f No0042 1921-293 Af RR.pdf</a></p>  |          |
| VLBA:<br>Kp | k    | yes     | <p><a href="#">c181f FRINGE RfAnt Kp LLRR AllSrc.pdf</a></p>  |          |

| Station     | Code | Fringes | Plots   | Comments  |
|-------------|------|---------|---|---|
|             |      |         | <a href="#">c181f No0042 1921-293 Ak LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ak LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ak RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ak RR.pdf</a>  |   |
| VLBA:<br>La | l    | yes     | <a href="#">c181f FRINGE RfAnt La LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0002 3C279 lp LL.pdf</a> , <a href="#">c181f No0002 3C279 lp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 lp RL.pdf</a> , <a href="#">c181f No0002 3C279 lp RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Al LL.pdf</a> , <a href="#">c181f No0042 1921-293 Al LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Al RL.pdf</a> , <a href="#">c181f No0042 1921-293 Al RR.pdf</a>   |   |
| VLBA:<br>Mk | m    | yes     | <a href="#">c181f FRINGE RfAnt Mk LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0002 3C279 mp LL.pdf</a> , <a href="#">c181f No0002 3C279 mp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 mp RL.pdf</a> , <a href="#">c181f No0002 3C279 mp RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Am LL.pdf</a> , <a href="#">c181f No0042 1921-293 Am LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Am RL.pdf</a> , <a href="#">c181f No0042 1921-293 Am RR.pdf</a>   |   |
| VLBA:<br>Nl | n    | yes     | <a href="#">c181f FRINGE RfAnt Nl LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0002 3C279 np LL.pdf</a> , <a href="#">c181f No0002 3C279 np LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 np RL.pdf</a> , <a href="#">c181f No0002 3C279 np RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 An LL.pdf</a> , <a href="#">c181f No0042 1921-293 An LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 An RL.pdf</a> , <a href="#">c181f No0042 1921-293 An RR.pdf</a>   |   |
| VLBA:<br>Ov | o    | yes     | <a href="#">c181f FRINGE RfAnt Ov LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0002 3C279 op LL.pdf</a> , <a href="#">c181f No0002 3C279 op LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 op RL.pdf</a> , <a href="#">c181f No0002 3C279 op RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Ao LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ao LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ao RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ao RR.pdf</a>   |   |
| VLBA:<br>Pt | p    | yes     | <a href="#">c181f FRINGE RfAnt Pt LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0042 1921-293 Ap LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ap LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ap RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ap RR.pdf</a><br><br><a href="#">c181f No0002 3C279 bp LL.pdf</a> , <a href="#">c181f No0002 3C279 bp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 bp RL.pdf</a> , <a href="#">c181f No0002 3C279 bp RR.pdf</a><br><br><a href="#">c181f No0002 3C279 fp LL.pdf</a> , <a href="#">c181f No0002 3C279 fp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 fp RL.pdf</a> , <a href="#">c181f No0002 3C279 fp RR.pdf</a> | Taken out for several scans because<br>of USNO observing. |

| Station     | Code | Fringes | Plots   | Comments  |
|-------------|------|---------|---|---|
|             |      |         | <a href="#">c181f No0002 3C279 lp LL.pdf</a> , <a href="#">c181f No0002 3C279 lp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 lp RL.pdf</a> , <a href="#">c181f No0002 3C279 lp RR.pdf</a><br><br><a href="#">c181f No0002 3C279 mp LL.pdf</a> , <a href="#">c181f No0002 3C279 mp LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 mp RL.pdf</a> , <a href="#">c181f No0002 3C279 mp RR.pdf</a><br><br><a href="#">c181f No0002 3C279 np LL.pdf</a> , <a href="#">c181f No0002 3C279 np LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 np RL.pdf</a> , <a href="#">c181f No0002 3C279 np RR.pdf</a><br><br><a href="#">c181f No0002 3C279 op LL.pdf</a> , <a href="#">c181f No0002 3C279 op LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 op RL.pdf</a> , <a href="#">c181f No0002 3C279 op RR.pdf</a>  |   |
| GBT:<br>Gb  | G    | no      | -----   | unrecoverable read error of the Mk5 module, logs indicate bad weather, so this loss is considered non-critical  |
| ALMA:<br>Aa | A    | yes     | <p>In this case bright red indicates false fringes (detected as the ones having abnormally high single-band delay) that fourfit in this particular case finds for all baselines for which there is no true fringe as a result of a glitch.</p> <a href="#">c181f SBD RfAnt Aa LLRR AllSrc.pdf</a><br><br><a href="#">c181f No0002 3C279 Ap LL.pdf</a> , <a href="#">c181f No0002 3C279 Ap LR.pdf</a> ,<br><a href="#">c181f No0002 3C279 Ap RL.pdf</a> , <a href="#">c181f No0002 3C279 Ap RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Ab LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ab LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ab RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ab RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Af LL.pdf</a> , <a href="#">c181f No0042 1921-293 Af LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Af RL.pdf</a> , <a href="#">c181f No0042 1921-293 Af RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Ak LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ak LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ak RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ak RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Al LL.pdf</a> , <a href="#">c181f No0042 1921-293 Al LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Al RL.pdf</a> , <a href="#">c181f No0042 1921-293 Al RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Am LL.pdf</a> , <a href="#">c181f No0042 1921-293 Am LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Am RL.pdf</a> , <a href="#">c181f No0042 1921-293 Am RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 An LL.pdf</a> , <a href="#">c181f No0042 1921-293 An LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 An RL.pdf</a> , <a href="#">c181f No0042 1921-293 An RR.pdf</a><br><br><a href="#">c181f No0042 1921-293 Ao LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ao LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ao RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ao RR.pdf</a> | Observed in linear polarization, converted to circular polarization in post-correlation using 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 double atmospheric correction was left as is. |

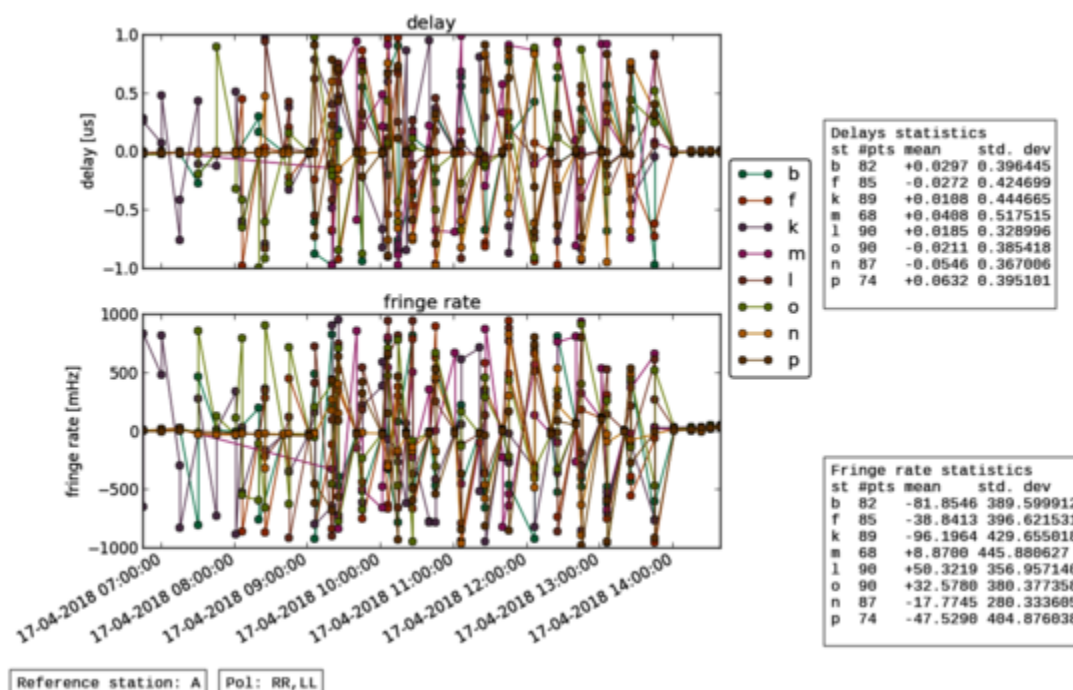
| Station | Code | Fringes | Plots  | Comments |
|---------|------|---------|--|----------|
|         |      |         | <a href="#">c181f No0042 1921-293 Ap_LL.pdf</a> , <a href="#">c181f No0042 1921-293 Ap_LR.pdf</a> ,<br><a href="#">c181f No0042 1921-293 Ap_RL.pdf</a> , <a href="#">c181f No0042 1921-293 Ap_RR.pdf</a> |          |

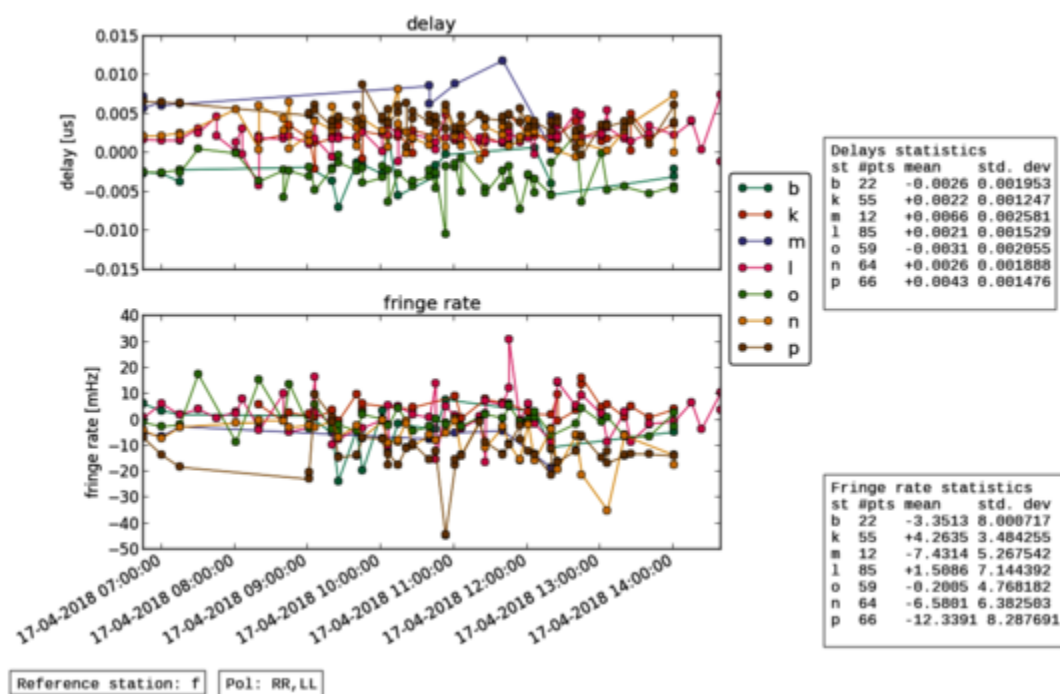
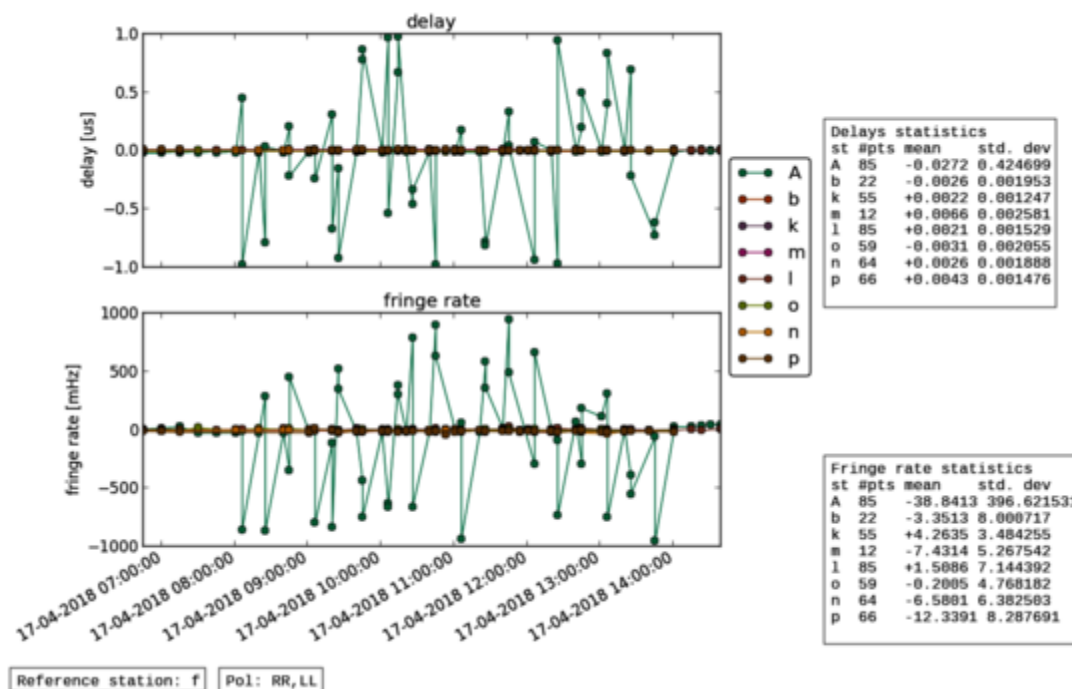
Notes

Post-Correlation checks

Residuals

Due to fourfit problems there are false fringes to ALMA that create outliers in the plots of residuals. The bottom plot has ALMA removed to show the residuals at normal scale.





FITS completeness (pclist)

|             |        |         |          | AA | AA | NL | FD | PT | LA | OV | KP | BR | MK | GB |
|-------------|--------|---------|----------|----|----|----|----|----|----|----|----|----|----|----|
| c181f_01D2D | No0001 | 3C279   | 3mm_RDBE | o  | o  | o  | o  | o  | o  | o  | o  | o  | o  | .  |
| c181f_02D2D | No0002 | 3C279   | 3mm_RDBE | o  | o  | o  | o  | o  | o  | o  | o  | o  | o  | .  |
| c181f_03D2D | No0003 | 3C279   | 3mm_RDBE | o  | o  | o  | o  | o  | o  | o  | o  | o  | o  | .  |
| c181f_04D2D | No0005 | NRAO530 | 3mm_RDBE | o  | o  | o  | o  | x  | o  | o  | o  | o  | .  | x  |
| c181f_05D2D | No0006 | NRAO530 | 3mm_RDBE | o  | o  | o  | o  | x  | o  | o  | o  | o  | .  | x  |
| c181f_06D2D | No0008 | NRAO530 | 3mm_RDBE | o  | o  | o  | o  | x  | o  | o  | o  | o  | .  | x  |

|             |        |          |          |   |   |   |   |    |   |   |   |   |   |   |
|-------------|--------|----------|----------|---|---|---|---|----|---|---|---|---|---|---|
| c181f_07D2D | No0009 | SGR_A    | 3mm_RDBE | o | o | o | o | x  | o | o | o | . | . | x |
| c181f_08D2D | No0010 | NRAO530  | 3mm_RDBE | o | o | o | o | x  | o | o | o | o | . | x |
| c181f_09D2D | No0011 | SGR_A    | 3mm_RDBE | o | o | o | o | x  | o | o | o | . | . | x |
| c181f_10D2D | No0012 | NRAO530  | 3mm_RDBE | o | o | o | o | x  | o | o | o | o | . | x |
| c181f_11D2D | No0013 | SGR_A    | 3mm_RDBE | o | o | o | o | x  | o | o | o | . | . | x |
| c181f_12D2D | No0015 | NRAO530  | 3mm_RDBE | o | o | o | o | 77 | o | o | o | o | . | x |
| c181f_13D2D | No0016 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | . | x |
| c181f_14D2D | No0017 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_15D2D | No0018 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_16D2D | No0019 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_17D2D | No0020 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_18D2D | No0022 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_19D2D | No0023 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_20D2D | No0024 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_21D2D | No0026 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | . | . | x |
| c181f_22D2D | No0027 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_23D2D | No0028 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_24D2D | No0029 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_25D2D | No0030 | SGR_A    | 3mm_RDBE | . | . | o | o | o  | o | o | o | o | o | . |
| c181f_26D2D | No0032 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_27D2D | No0033 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_28D2D | No0035 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_29D2D | No0036 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_30D2D | No0037 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_31D2D | No0038 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | x |
| c181f_32D2D | No0039 | SGR_A    | 3mm_RDBE | . | . | o | o | o  | o | o | o | o | o | x |
| c181f_33D2D | No0040 | NRAO530  | 3mm_RDBE | x | x | o | o | o  | o | o | o | o | o | . |
| c181f_34D2D | No0041 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_35D2D | No0042 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_36D2D | No0043 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_37D2D | No0044 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_38D2D | No0045 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_39D2D | No0046 | NRAO530  | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_40D2D | No0047 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_41D2D | No0048 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_42D2D | No0049 | SGR_A    | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_43D2D | No0050 | NRAO530  | 3mm_RDBE | . | . | o | o | o  | o | o | o | o | o | . |
| c181f_44D2D | No0051 | SGR_A    | 3mm_RDBE | o | o | . | o | o  | o | o | o | o | o | . |
| c181f_45D2D | No0052 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_46D2D | No0053 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_47D2D | No0054 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_48D2D | No0055 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |
| c181f_49D2D | No0056 | 1921-293 | 3mm_RDBE | o | o | o | o | o  | o | o | o | o | o | . |