# MK016D Correlation Report

## General information

- A part of C202B.
- Includes 3mm and 7mm parts
- PI: KADLER
- Targets: Ext.Blaz MRK421
- Session info: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/
- Station feedback: http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sessions/oct20/feedback_oct20.asc
- Text files with detailed antenna statistics, scroll down to get to the cumulative statistics for the whole experiment:
  c202b_ALL_3mm.antrep

  c202b_7mm_ALL.antrep

## Current Status

Correlation finished, data **released to PI** on 28.04.2021.

## Fringes

| Station | Code | Fringes | Plots | Comments |
|---|---|---|---|---|
| Ef | B | **yes** | **Note: all plots and statistics are done for the whole of c202b**<br><br>Fringe overview of all baselines including this antenna in LL(left for each baseline) and RR (right for each baseline).<br>Legend: white box - scheduled, but no data (or sometimes fourfit had trouble with the particular baseline/pol, so no data in alist), blue - no fringe, shades of green and brown -- fringes of varying quality.<br><br>c202b_FRINGE_RfAnt_Ef_LLRR_AllSrc_3mm.pdf<br><br>Examples of fourfit fringe plots can be found in (all fringe plots with baselines including the given antenna):<br><br>No0055_B_3mm.pdf<br><br>Antenna statistics:<br><br>c202b_Ef_3mm.antrep<br><br>**Same for all antennas below unless otherwise noted.** | Participated in 99% scans (3mm only), fringes in 38% baselines*\|\|pols, mean SNR 67.<br><br>**bad weather** |
| On | X | **yes** | c202b_FRINGE_RfAnt_On_LLRR_AllSrc_3mm.pdf<br><br>No0082_X_3mm.pdf<br><br>No0283_X_3mm.pdf<br><br>c202b_On_3mm.antrep | Participated in 100% scans (3mm only), fringes in 39% baselines*\|\|pols, mean SNR 55. |

| | | | | |
|---|---|---|---|---|
| Ys | Y | **yes** | c202b_FRINGE_RfAnt_Ys_LLRR_AllSrc_3mm.pdf<br>No0079_Y_3mm.pdf<br>No0080_Y_3mm.pdf<br>c202b_Ys_3mm.antrep | Participated in 94% scans (3mm only), fringes in 47% baselines*\|\|pols, mean SNR 102. |
| Mh | Z | **yes** | c202b_FRINGE_RfAnt_Mh_LLRR_AllSrc_3mm.pdf<br>No0163_Z_3mm.pdf<br>c202b_Mh_3mm.antrep | Participated in 84% scans (3mm only), fringes in 26% baselines*\|\|pols, mean SNR 26.<br>**bad weather** |
| Pv | P | **yes** | c202b_FRINGE_RfAnt_Pv_LLRR_AllSrc_3mm.pdf<br>No0079_P_3mm.pdf<br>No0080_P_3mm.pdf<br>c202b_Pv_3mm.antrep | Participated in 100% scans (3mm only), fringes in 61% baselines*\|\|pols, mean SNR 113. |
| VLBA: Br | b | **yes** | c202b_FRINGE_RfAnt_Br_LLRR_AllSrc_3mm.pdf<br>No0079_b_3mm.pdf<br>No0101_b_3mm.pdf<br>c202b_Br_3mm.antrep<br>c202b_FRINGE_RfAnt_Br_LLRR_AllSrc_7mm.pdf<br>No0154_b_7mm.pdf<br>c202b_7mm_Br.antrep | 3mm: participated in 100% scans, fringes in 33% baselines*\|\|pols, mean SNR 22.<br>7mm: participated in 100% scans, fringes in 83% baselines*\|\|pols, mean SNR 200.. |
| VLBA: Fd | f | **yes** | c202b_FRINGE_RfAnt_Fd_LLRR_AllSrc_3mm.pdf<br>No0028_f_3mm.pdf<br>No0117_f_3mm.pdf<br>c202b_Fd_3mm.antrep<br>c202b_FRINGE_RfAnt_Fd_LLRR_AllSrc_7mm.pdf<br>No0154_f_7mm.pdf<br>c202b_7mm_Fd.antrep | 3mm: participated in 99% scans, fringes in 49% baselines*\|\|pols, mean SNR 33.<br>7mm: participated in 99% scans, fringes in 87% baselines*\|\|pols, mean SNR 238. |

| | | | | |
|---|---|---|---|---|
| VLBA: Kp | k | **yes** | c202b_FRINGE_RfAnt_Kp_LLRR_AllSrc_3mm.pdf<br>No0119_k_3mm.pdf<br>c202b_Kp_3mm.antrep<br>c202b_FRINGE_RfAnt_Kp_LLRR_AllSrc_7mm.pdf<br>No0154_k_7mm.pdf<br>c202b_7mm_Kp.antrep | 3mm: participated in 99% scans, fringes in 37% baselines*\|\|pols, mean SNR 26.<br>7mm: participated in 99% scans, fringes in 87% baselines*\|\|pols, mean SNR 261. |
| VLBA: La | l | **yes** | c202b_FRINGE_RfAnt_La_LLRR_AllSrc_3mm.pdf<br>No0070_l_3mm.pdf<br>No0111_l_3mm.pdf<br>c202b_La_3mm.antrep<br>c202b_FRINGE_RfAnt_La_LLRR_AllSrc_7mm.pdf<br>No0154_l_7mm.pdf<br>c202b_7mm_La.antrep | 3mm: participated in 80% scans, fringes in 46% baselines*\|\|pols, mean SNR 34.<br>7mm: participated in 80% scans, fringes in 89% baselines*\|\|pols, mean SNR 217.<br>**dropped out for several scans due to USNO observations** |
| VLBA: Mk | m | **yes** | c202b_FRINGE_RfAnt_Mk_LLRR_AllSrc_3mm.pdf<br>No0105_m_3mm.pdf<br>c202b_Mk_3mm.antrep<br>c202b_FRINGE_RfAnt_Mk_LLRR_AllSrc_7mm.pdf<br>No0154_m_7mm.pdf<br>c202b_7mm_Mk.antrep | 3mm: participated in 96% scans, fringes in 29% baselines*\|\|pols, mean SNR 17.<br>7mm: participated in 96% scans, fringes in 85% baselines*\|\|pols, mean SNR 176.<br>**dropped out for several scans due to USNO observations** |
| VLBA: Nl | n | **yes** | c202b_FRINGE_RfAnt_Nl_LLRR_AllSrc_3mm.pdf<br>No0105_n_3mm.pdf<br>c202b_Nl_3mm.antrep<br>c202b_FRINGE_RfAnt_Nl_LLRR_AllSrc_7mm.pdf<br>No0154_n_7mm.pdf<br>c202b_7mm_Nl.antrep | 3mm: participated in 100% scans, fringes in 17% baselines*\|\|pols, mean SNR 15.<br>7mm: participated in 100% scans, fringes in 82% baselines*\|\|pols, mean SNR 167. |
| VLBA: Ov | o | **yes** | c202b_FRINGE_RfAnt_Ov_LLRR_AllSrc_3mm.pdf | . |

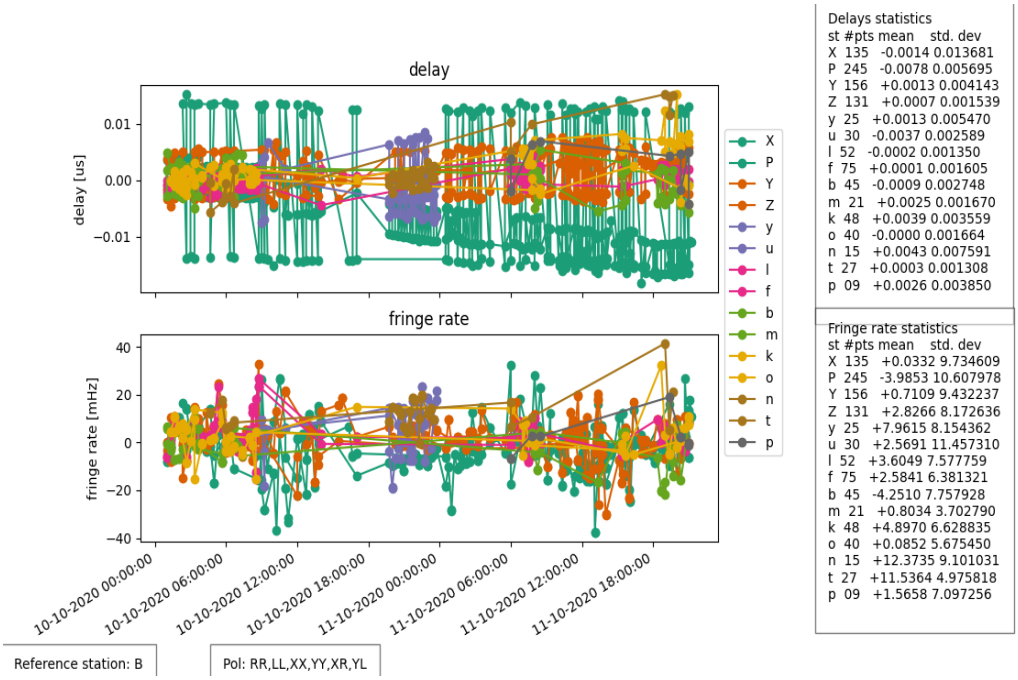
| | | | | |
|---|---|---|---|---|
| | | | No0103_o_3mm.pdf<br>No0277_o_3mm.pdf<br>c202b_Ov_3mm.antrep<br>c202b_FRINGE_RfAnt_Ov_LLRR_AllSrc_7mm.pdf<br>No0154_o_7mm.pdf<br>c202b_7mm_Ov.antrep | 3mm: participated in 100% scans, fringes in 31% baselines*\|\|pols, mean SNR 25.<br>7mm: participated in 100% scans, fringes in 72% baselines*\|\|pols, mean SNR 187. |
| VLBA: Pt | p | yes | c202b_FRINGE_RfAnt_Pt_LLRR_AllSrc_3mm.pdf<br>No0113_p_3mm.pdf<br>c202b_Pt_3mm.antrep<br>c202b_FRINGE_RfAnt_Pt_LLRR_AllSrc_7mm.pdf<br>No0154_p_7mm.pdf<br>c202b_7mm_Pt.antrep | 3mm: participated in 100% scans, fringes in 20% baselines*\|\|pols, mean SNR 20.<br>7mm: participated in 100% scans, fringes in 66% baselines*\|\|pols, mean SNR 120.<br>**lots of technical problems, see logs** |
| VLBA: Hn | h | yes | c202b_FRINGE_RfAnt_Hn_LLRR_AllSrc_7mm.pdf<br>No0154_h_7mm.pdf<br>c202b_7mm_Hn.antrep | Participated in 100% scans (7mm only), fringes in 71% baselines*\|\|pols, mean SNR 106. |
| VLBA: Sc | c | yes | c202b_FRINGE_RfAnt_Sc_LLRR_AllSrc_7mm.pdf<br>No0154_c_7mm.pdf<br>c202b_7mm_Sc.antrep | Participated in 100% scans (7mm only), fringes in 70% baselines*\|\|pols, mean SNR 94. |

## Notes

## Post-Correlation checks

### Residuals

Ef as reference (3mm):



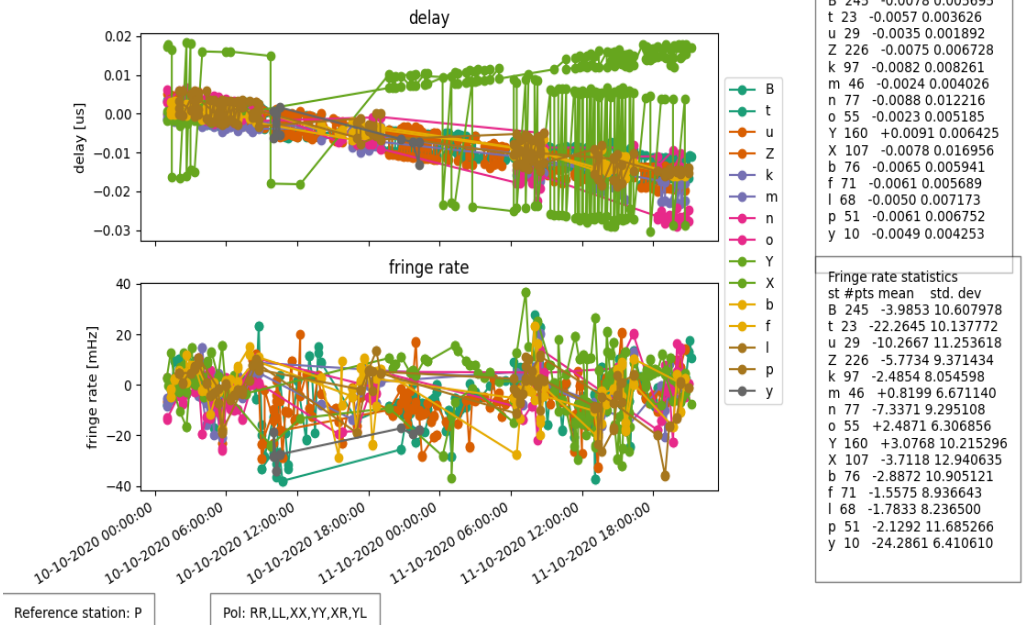

Delays statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| X | 135 | -0.0014 | 0.013681 |
| P | 245 | -0.0078 | 0.005695 |
| Y | 156 | +0.0013 | 0.004143 |
| Z | 131 | +0.0007 | 0.001539 |
| y | 25 | +0.0013 | 0.005470 |
| u | 30 | -0.0037 | 0.002589 |
| l | 52 | -0.0002 | 0.001350 |
| f | 75 | +0.0001 | 0.001605 |
| b | 45 | -0.0009 | 0.002748 |
| m | 21 | +0.0025 | 0.001670 |
| k | 48 | +0.0039 | 0.003559 |
| o | 40 | -0.0000 | 0.001664 |
| n | 15 | +0.0043 | 0.007591 |
| t | 27 | +0.0003 | 0.001308 |
| p | 09 | +0.0026 | 0.003850 |

Fringe rate statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| X | 135 | +0.0332 | 9.734609 |
| P | 245 | -3.9853 | 10.607978 |
| Y | 156 | +0.7109 | 9.432237 |
| Z | 131 | +2.8266 | 8.172636 |
| y | 25 | +7.9615 | 8.154362 |
| u | 30 | +2.5691 | 11.457310 |
| l | 52 | +3.6049 | 7.577759 |
| f | 75 | +2.5841 | 6.381321 |
| b | 45 | -4.2510 | 7.757928 |
| m | 21 | +0.8034 | 3.702790 |
| k | 48 | +4.8970 | 6.628835 |
| o | 40 | +0.0852 | 5.675450 |
| n | 15 | +12.3735 | 9.101031 |
| t | 27 | +11.5364 | 4.975818 |
| p | 09 | +1.5658 | 7.097256 |

Pv as reference (3mm):



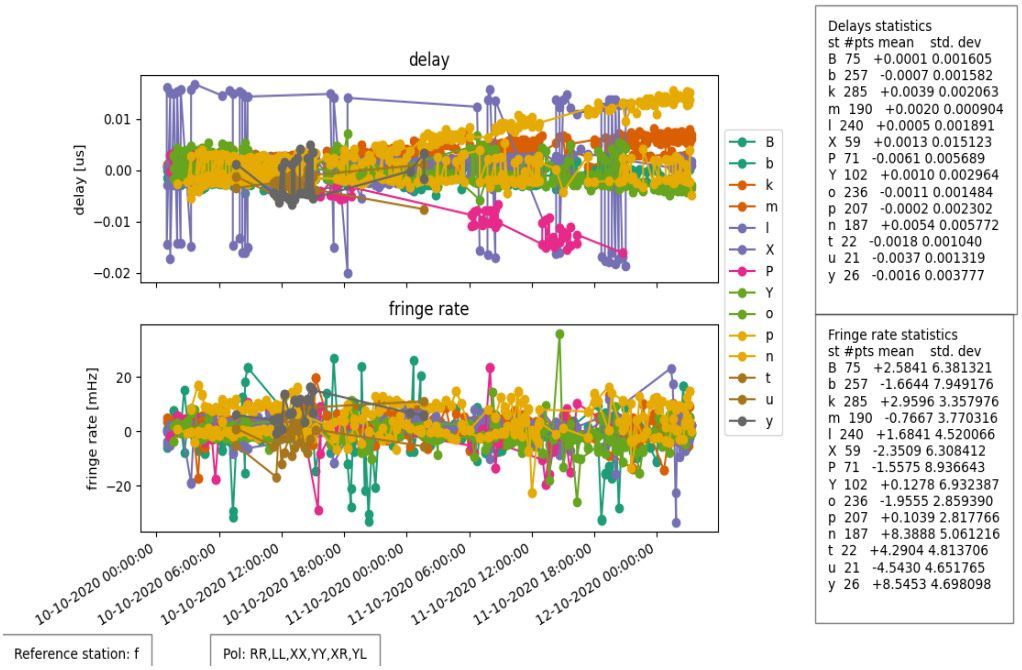

Delays statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| B | 245 | -0.0078 | 0.005695 |
| t | 23 | -0.0057 | 0.003626 |
| u | 29 | -0.0035 | 0.001892 |
| Z | 226 | -0.0075 | 0.006728 |
| k | 97 | -0.0082 | 0.008261 |
| m | 46 | -0.0024 | 0.004026 |
| n | 77 | -0.0088 | 0.012216 |
| o | 55 | -0.0023 | 0.005185 |
| Y | 160 | +0.0091 | 0.006425 |
| X | 107 | -0.0078 | 0.016956 |
| b | 76 | -0.0065 | 0.005941 |
| f | 71 | -0.0061 | 0.005689 |
| l | 68 | -0.0050 | 0.007173 |
| p | 51 | -0.0061 | 0.006752 |
| y | 10 | -0.0049 | 0.004253 |

Fringe rate statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| B | 245 | -3.9853 | 10.607978 |
| t | 23 | -22.2645 | 10.137772 |
| u | 29 | -10.2667 | 11.253618 |
| Z | 226 | -5.7734 | 9.371434 |
| k | 97 | -2.4854 | 8.054598 |
| m | 46 | +0.8199 | 6.671140 |
| n | 77 | -7.3371 | 9.295108 |
| o | 55 | +2.4871 | 6.306856 |
| Y | 160 | +3.0768 | 10.215296 |
| X | 107 | -3.7118 | 12.940635 |
| b | 76 | -2.8872 | 10.905121 |
| f | 71 | -1.5575 | 8.936643 |
| l | 68 | -1.7833 | 8.236500 |
| p | 51 | -2.1292 | 11.685266 |
| y | 10 | -24.2861 | 6.410610 |

Fd as reference (3mm):



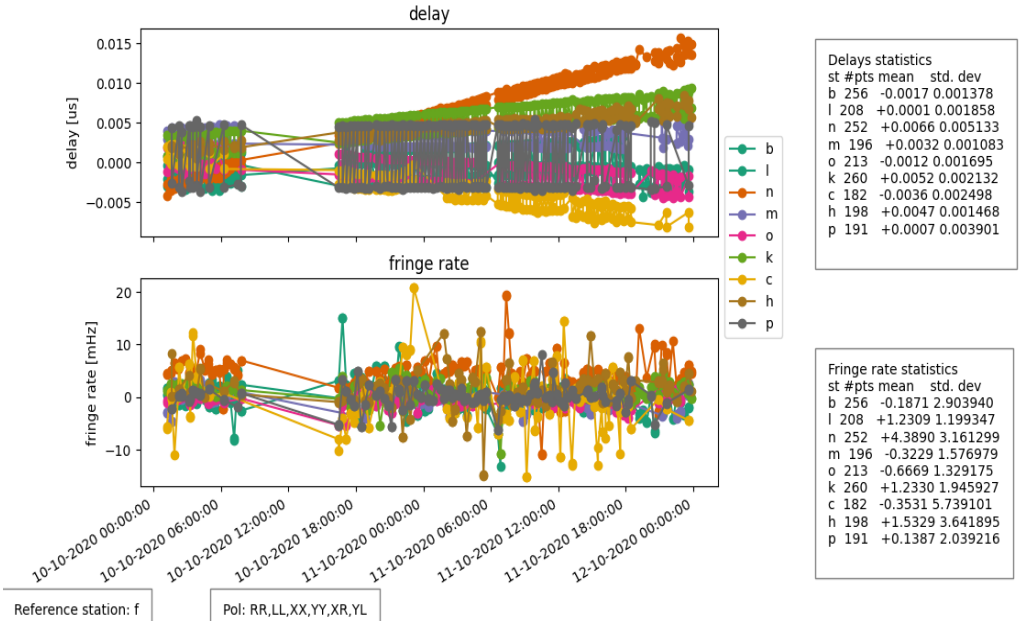

Delays statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| B | 75 | +0.0001 | 0.001605 |
| b | 257 | -0.0007 | 0.001582 |
| k | 285 | +0.0039 | 0.002063 |
| m | 190 | +0.0020 | 0.000904 |
| l | 240 | +0.0005 | 0.001891 |
| X | 59 | +0.0013 | 0.015123 |
| P | 71 | -0.0061 | 0.005689 |
| Y | 102 | +0.0010 | 0.002964 |
| o | 236 | -0.0011 | 0.001484 |
| p | 207 | -0.0002 | 0.002302 |
| n | 187 | +0.0054 | 0.005772 |
| t | 22 | -0.0018 | 0.001040 |
| u | 21 | -0.0037 | 0.001319 |
| y | 26 | -0.0016 | 0.003777 |

Fringe rate statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| B | 75 | +2.5841 | 6.381321 |
| b | 257 | -1.6644 | 7.949176 |
| k | 285 | +2.9596 | 3.357976 |
| m | 190 | -0.7667 | 3.770316 |
| l | 240 | +1.6841 | 4.520066 |
| X | 59 | -2.3509 | 6.308412 |
| P | 71 | -1.5575 | 8.936643 |
| Y | 102 | +0.1278 | 6.932387 |
| o | 236 | -1.9555 | 2.859390 |
| p | 207 | +0.1039 | 2.817766 |
| n | 187 | +8.3888 | 5.061216 |
| t | 22 | +4.2904 | 4.813706 |
| u | 21 | -4.5430 | 4.651765 |
| y | 26 | +8.5453 | 4.698098 |

Fd as reference (7mm):




Delays statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| b | 256 | -0.0017 | 0.001378 |
| l | 208 | +0.0001 | 0.001858 |
| n | 252 | +0.0066 | 0.005133 |
| m | 196 | +0.0032 | 0.001083 |
| o | 213 | -0.0012 | 0.001695 |
| k | 260 | +0.0052 | 0.002132 |
| c | 182 | -0.0036 | 0.002498 |
| h | 198 | +0.0047 | 0.001468 |
| p | 191 | +0.0007 | 0.003901 |

Fringe rate statistics

| st | #pts | mean | std. dev |
|---|---|---|---|
| b | 256 | -0.1871 | 2.903940 |
| l | 208 | +1.2309 | 1.199347 |
| n | 252 | +4.3890 | 3.161299 |
| m | 196 | -0.3229 | 1.576979 |
| o | 213 | -0.6669 | 1.329175 |
| k | 260 | +1.2330 | 1.945927 |
| c | 182 | -0.3531 | 5.739101 |
| h | 198 | +1.5329 | 3.641895 |
| p | 191 | +0.1387 | 2.039216 |

## 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
```

**mk016d.fits (3mm):**

| | | | | FD | NL | OV | PT | BR | KP | MK | LA | EF | ON | YS | PV | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| c202b_205 | No0287 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_208 | No0291 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_209 | No0292 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | . | o |
| c202b_212 | No0296 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_213 | No0297 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | . | o |
| c202b_216 | No0302 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_217 | No0303 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | . | o |
| c202b_220 | No0307 | 4C39.25 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_223 | No0311 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_224 | No0312 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_227 | No0316 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_228 | No0317 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_231 | No0321 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_232 | No0322 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_235 | No0327 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_236 | No0328 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_239 | No0332 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_240 | No0333 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_243 | No0337 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_244 | No0338 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_247 | No0343 | 4C39.25 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_248 | No0344 | MRK421 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_251 | No0348 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_252 | No0349 | MRK421 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_253 | No0351 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_254 | No0352 | MRK421 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_255 | No0354 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_256 | No0355 | MRK421 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_257 | No0357 | 4C39.25 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_258 | No0358 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_259 | No0360 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_260 | No0361 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_261 | No0364 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | . | o | o | o | o | o | o |
| c202b_262 | No0365 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_263 | No0367 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_264 | No0368 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_265 | No0370 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_266 | No0371 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_267 | No0373 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_268 | No0374 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_269 | No0377 | 1156+295 | 3mm_ddc | . | . | . | . | . | . | . | . | o | o | o | o | o |
| c202b_270 | No0378 | 4C39.25 | 3mm_ddc | o | o | o | o | o | o | o | o | . | . | . | . | . |
| c202b_271 | No0379 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_272 | No0381 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_273 | No0382 | MRK421 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |
| c202b_274 | No0384 | 1156+295 | 3mm_ddc | o | o | o | o | o | o | o | o | o | o | o | o | o |

```
c202b_275 No0385   MRK421 3mm_ddc o  o  o  o  o  o  o  o  o  o  o  o  o
c202b_276 No0387 1156+295 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_277 No0388   MRK421 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_280 No0392    OJ287 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_281 No0393   MRK421 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_284 No0397 1156+295 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_285 No0398   MRK421 3mm_ddc o  o  o  o  o  o  o  o  .  .  .  .  .
c202b_288 No0403    OJ287 3mm_ddc o  o  o  o  o  o  x  x  .  .  .  .  .
c202b_289 No0404   MRK421 3mm_ddc o  o  o  o  o  o  x  x  .  .  .  .  .
```

**mk016d.fits (7mm):**

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                              FD NL OV PT BR KP MK LA HN SC
c202b_098 No0350   MRK421 7mm_ddc o  o  o  o  o  o  .  o  o  o
c202b_099 No0353   MRK421 7mm_ddc o  o  o  o  o  o  .  o  o  o
c202b_100 No0356   MRK421 7mm_ddc o  o  o  o  o  o  .  o  o  o
c202b_101 No0359   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_102 No0362   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_103 No0363 1156+295 7mm_ddc o  o  o  o  o  o  .  o  o  o
c202b_104 No0366   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_105 No0369   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_106 No0372   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_107 No0375   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_108 No0376  4C39.25 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_109 No0380   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_110 No0383   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_111 No0386   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_112 No0389   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_113 No0394   MRK421 7mm_ddc o  o  o  o  o  o  o  o  o  o
c202b_114 No0399   MRK421 7mm_ddc o  o  o  o  o  o  o  88 o  o
c202b_115 No0400    OJ287 7mm_ddc o  o  o  o  o  o  x  x  o  o
c202b_116 No0405   MRK421 7mm_ddc o  o  o  o  o  o  x  x  o  o
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