

# 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](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	<p><b>Note: all plots and statistics are done for the whole of c202b</b></p> <p>Fringe overview of all baselines including this antenna in LL(left for each baseline) and RR (right for each baseline).</p> <p>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.</p> <p><a href="#">c202b FRINGE RfAnt Ef LLRR AllSrc 3mm.pdf</a></p> <p>Examples of fourfit fringe plots can be found in (all fringe plots with baselines including the given antenna):</p> <p><a href="#">No0055 B 3mm.pdf</a></p> <p>Antenna statistics:</p> <p><a href="#">c202b Ef 3mm.antrep</a></p> <p><b>Same for all antennas below unless otherwise noted.</b></p>	<p>Participated in 99% scans (3mm only), fringes in 38% baselines*  pols, mean SNR 67.</p> <p><b>bad weather</b></p>
On	X	yes	<p><a href="#">c202b FRINGE RfAnt On LLRR AllSrc 3mm.pdf</a></p> <p><a href="#">No0082 X 3mm.pdf</a></p> <p><a href="#">No0283 X 3mm.pdf</a></p> <p><a href="#">c202b On 3mm.antrep</a></p>	<p>Participated in 100% scans (3mm only), fringes in 39% baselines*  pols, mean SNR 55.</p>

Ys	Y	yes	<a href="#">c202b FRINGE RfAnt Ys LLRR AllSrc 3mm.pdf</a> <a href="#">No0079_Y_3mm.pdf</a> <a href="#">No0080_Y_3mm.pdf</a> <a href="#">c202b_Ys_3mm.antrep</a>	Participated in 94% scans (3mm only), fringes in 47% baselines*  pols, mean SNR 102.
Mh	Z	yes	<a href="#">c202b FRINGE RfAnt Mh LLRR AllSrc 3mm.pdf</a> <a href="#">No0163_Z_3mm.pdf</a> <a href="#">c202b_Mh_3mm.antrep</a>	Participated in 84% scans (3mm only), fringes in 26% baselines*  pols, mean SNR 26.  <b>bad weather</b>
Pv	P	yes	<a href="#">c202b FRINGE RfAnt Pv LLRR AllSrc 3mm.pdf</a> <a href="#">No0079_P_3mm.pdf</a> <a href="#">No0080_P_3mm.pdf</a> <a href="#">c202b_Pv_3mm.antrep</a>	Participated in 100% scans (3mm only), fringes in 61% baselines*  pols, mean SNR 113.
VLBA: Br	b	yes	<a href="#">c202b FRINGE RfAnt Br LLRR AllSrc 3mm.pdf</a> <a href="#">No0079_b_3mm.pdf</a> <a href="#">No0101_b_3mm.pdf</a> <a href="#">c202b_Br_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt Br LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_b_7mm.pdf</a> <a href="#">c202b_7mm_Br.antrep</a>	3mm: participated in 100% scans, fringes in 33% baselines*  pols, mean SNR 22.  7mm: participated in 100% scans, fringes in 83% baselines*  pols, mean SNR 200..
VLBA: Fd	f	yes	<a href="#">c202b FRINGE RfAnt Fd LLRR AllSrc 3mm.pdf</a> <a href="#">No0028_f_3mm.pdf</a> <a href="#">No0117_f_3mm.pdf</a> <a href="#">c202b_Fd_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt Fd LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_f_7mm.pdf</a> <a href="#">c202b_7mm_Fd.antrep</a>	3mm: participated in 99% scans, fringes in 49% baselines*  pols, mean SNR 33.  7mm: participated in 99% scans, fringes in 87% baselines*  pols, mean SNR 238.

VLBA: Kp	k	yes	<a href="#">c202b FRINGE RfAnt Kp LLRR AllSrc 3mm.pdf</a> <a href="#">No0119_k_3mm.pdf</a> <a href="#">c202b_Kp_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt Kp LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_k_7mm.pdf</a> <a href="#">c202b_7mm_Kp.antrep</a>	<p>3mm: participated in 99% scans, fringes in 37% baselines*  pols, mean SNR 26.</p> <p>7mm: participated in 99% scans, fringes in 87% baselines*  pols, mean SNR 261.</p>
VLBA: La	l	yes	<a href="#">c202b FRINGE RfAnt La LLRR AllSrc 3mm.pdf</a> <a href="#">No0070_l_3mm.pdf</a> <a href="#">No0111_l_3mm.pdf</a> <a href="#">c202b_La_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt La LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_l_7mm.pdf</a> <a href="#">c202b_7mm_La.antrep</a>	<p>3mm: participated in 80% scans, fringes in 46% baselines*  pols, mean SNR 34.</p> <p>7mm: participated in 80% scans, fringes in 89% baselines*  pols, mean SNR 217.</p> <p><b>dropped out for several scans due to USNO observations</b></p>
VLBA: Mk	m	yes	<a href="#">c202b FRINGE RfAnt Mk LLRR AllSrc 3mm.pdf</a> <a href="#">No0105_m_3mm.pdf</a> <a href="#">c202b_Mk_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt Mk LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_m_7mm.pdf</a> <a href="#">c202b_7mm_Mk.antrep</a>	<p>3mm: participated in 96% scans, fringes in 29% baselines*  pols, mean SNR 17.</p> <p>7mm: participated in 96% scans, fringes in 85% baselines*  pols, mean SNR 176.</p> <p><b>dropped out for several scans due to USNO observations</b></p>
VLBA: Nl	n	yes	<a href="#">c202b FRINGE RfAnt Nl LLRR AllSrc 3mm.pdf</a> <a href="#">No0105_n_3mm.pdf</a> <a href="#">c202b_Nl_3mm.antrep</a> <a href="#">c202b FRINGE RfAnt Nl LLRR AllSrc 7mm.pdf</a> <a href="#">No0154_n_7mm.pdf</a> <a href="#">c202b_7mm_Nl.antrep</a>	<p>3mm: participated in 100% scans, fringes in 17% baselines*  pols, mean SNR 15.</p> <p>7mm: participated in 100% scans, fringes in 82% baselines*  pols, mean SNR 167.</p>
VLBA: Ov	o	yes	<a href="#">c202b FRINGE RfAnt Ov LLRR AllSrc 3mm.pdf</a>	.

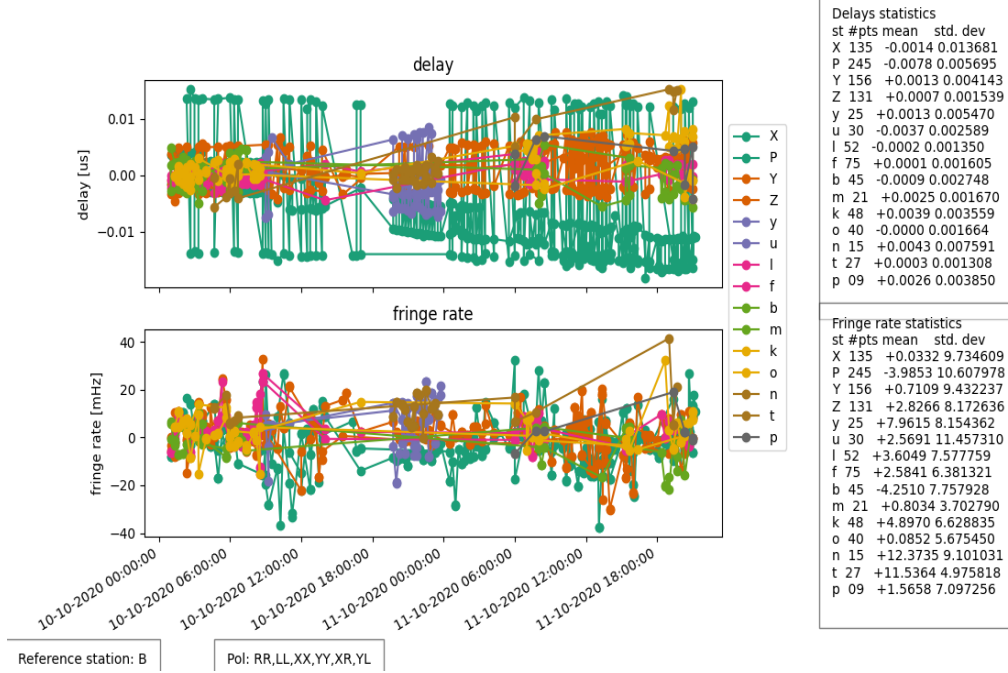
			<a href="#">No0103_o_3mm.pdf</a> <a href="#">No0277_o_3mm.pdf</a> <a href="#">c202b_Ov_3mm.antrep</a> <a href="#">c202b_FRINGE_RfAnt_Ov_LLRR_AllSrc_7mm.pdf</a> <a href="#">No0154_o_7mm.pdf</a> <a href="#">c202b_7mm_Ov.antrep</a>	<p>3mm: participated in 100% scans, fringes in 31% baselines*  pols, mean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

## Notes

### Post-Correlation checks

#### Residuals

Ef as reference (3mm):



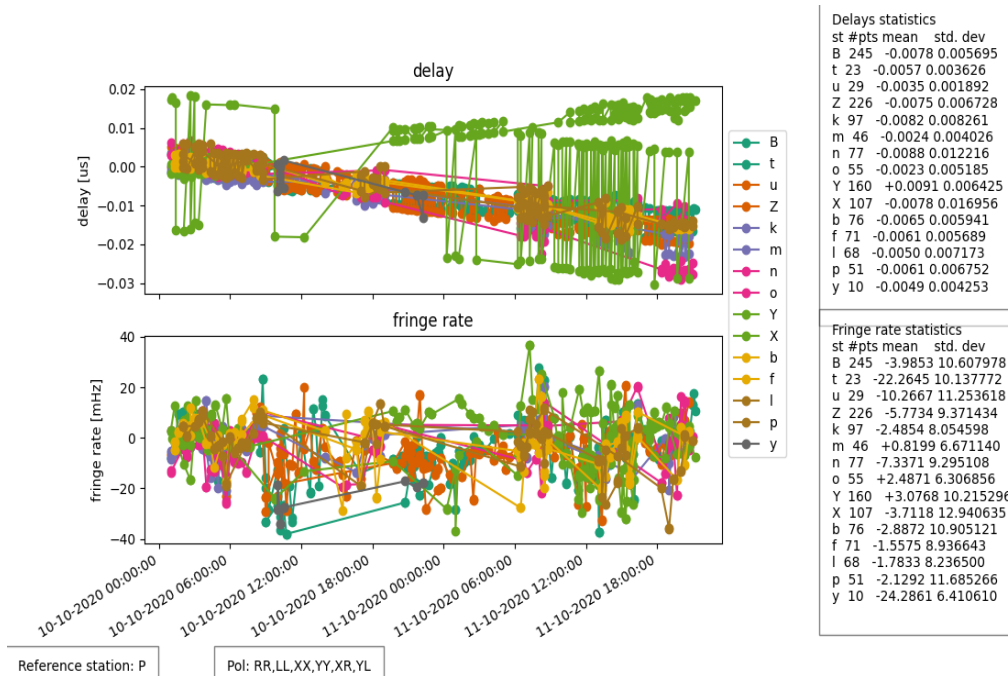
Delays statistics

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):



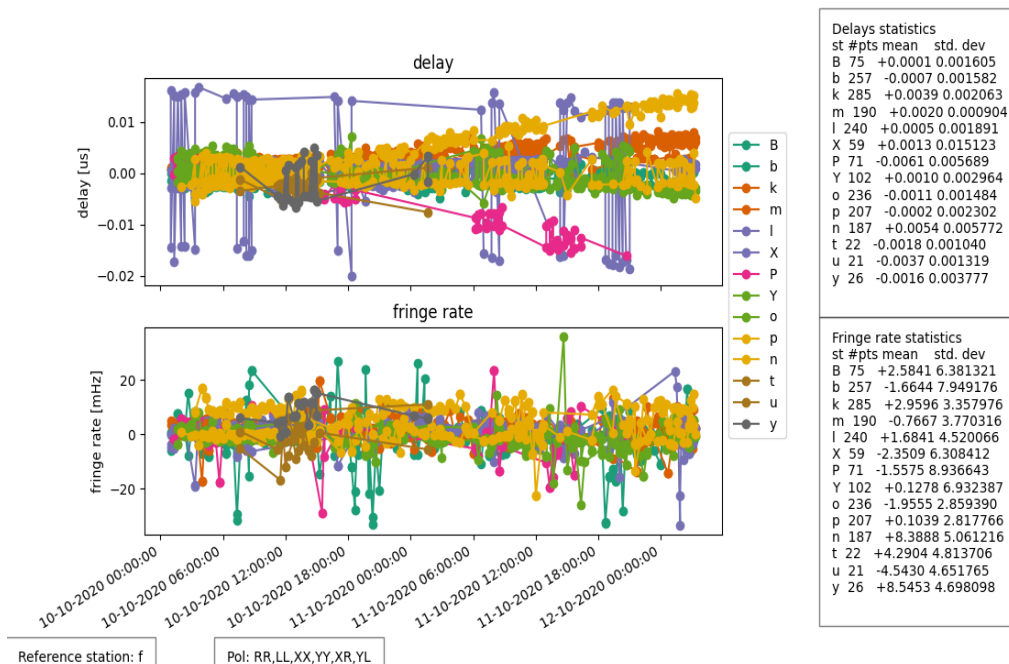
Delays statistics

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

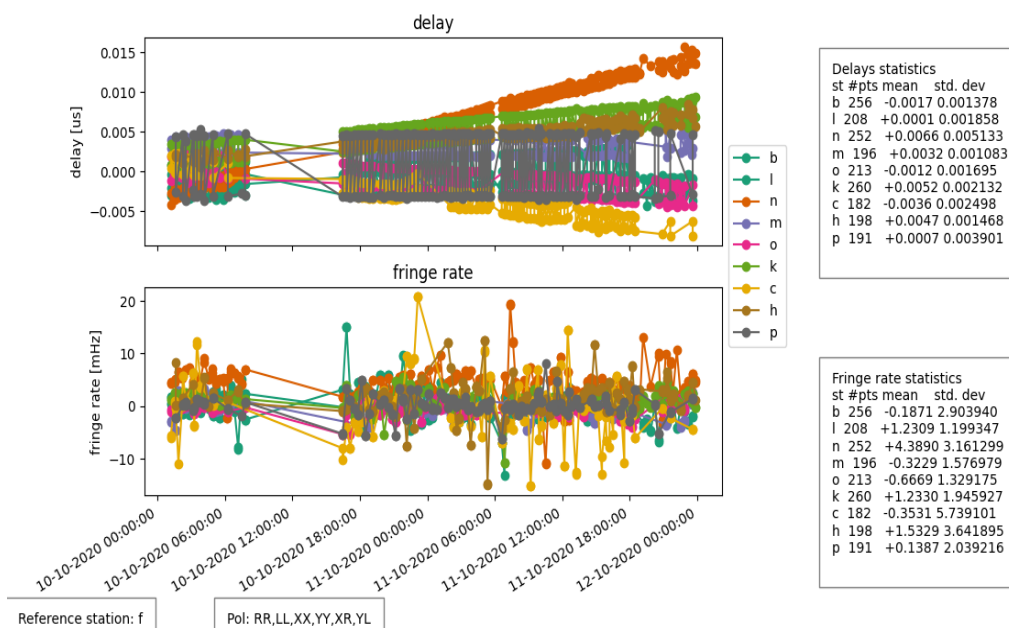
Fringe rate statistics

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):



Fd as reference (7mm):



### 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	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	o	x	x	.	.	.	.	.	.	.
c202b_289	No0404	MRK421	3mm_ddc	o	o	o	o	o	o	o	x	x	.	.	.	.	.	.	.

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

				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