Memorandum

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An:

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Ag $20 \times 20\,\mathrm{mm}^2$ on a Ni Sample Plate

The sample used for these test measurements was a $20 \times 20\,\mathrm{mm}^2$, 125 μm thick 99.99+% Ag foil (Goodfellows Part No: AG000360, impurities: typical values in (ppm): Al 1, Au 10, Bi < 1, Ca 1, Cd < 1, Cr < 1, Cu 5, Fe 8, Mg < 1, Mn < 1, Na < 1, Pb 1, Pd 3, Si 2, Sn < 1) mounted on a 70 mm diameter Al sample plate which was covered by Ni (sputtered by Horisberger, in the following called Ni plate).
The goal of this study was

1. Find optimal RA-steering values for a given implantation energy E, and a given field B.
2. Check if the strong initial depolarization for low implantation energies $E \lesssim 4$(keV) can be improved by applying HV's to the sample guard rings.
3. Try to get a feeling if, and how the beam spot is changing as function of the field and the implantation energy.

The idea to use a Ni plate is that for TF fields, muons stopping in the Ni plate, instead on the Ag, will depolarize extremely fast and therefore being "lost". Hence, the remaining, measured asymmetry will be a measure of the beam spot position.

ZF results

The ZF measurements are not yet fully analyzed and hence nothing quantitative can be said for now. ZF results will be added as soon as possible.

The elog entry elog:LEM_experiment/4072 shows the ZF asymmetry spectra for $T = 18$(K), 15(kV) transport settings (assuming $\alpha = 1.0$), reproduced here in Fig.1. For $E = 2$(keV) a pronounced initial depolarization is present with a depolarization rate of ≈ 1 ($\mu\mathrm{sec}^{-1}$) and a slow depolarization rate of ≈ 0.1 ($\mu\mathrm{sec}^{-1}$) for later times (**comparison to the 2006 data needed!**). The asymmetry of the slow depolarizing part is $\simeq 0.15$. In comparison, the $E = 20$ (keV) data show *no* depolarization at all with an asymmetry of $\simeq 0.24$, as one would expect.

$\mathrm{B}_\parallel$ TF results

All the TF-data were analyzed by single histogram fits with the following model (time fit window $t = 0.15 \ldots 10.0\,(\mu\mathrm{sec}^{-1})$):

$$N_\mathrm{L}(t) = N_0\, e^{-t/\tau} \left[1 + A \exp\left\{-\frac{1}{2}(\sigma t)^2\right\} \cos(\gamma_\mu B t + \phi_\mathrm{L})\right] + \mathrm{Bkg}_\mathrm{L} \tag{1}$$

$$N_\mathrm{R}(t) = \alpha_\mathrm{RL}\, N_0\, e^{-t/\tau} \left[1 + a_\mathrm{rel} A \exp\left\{-\frac{1}{2}(\sigma t)^2\right\} \cos(\gamma_\mu B t + \phi_\mathrm{R})\right] + \mathrm{Bkg}_\mathrm{R} \tag{2}$$

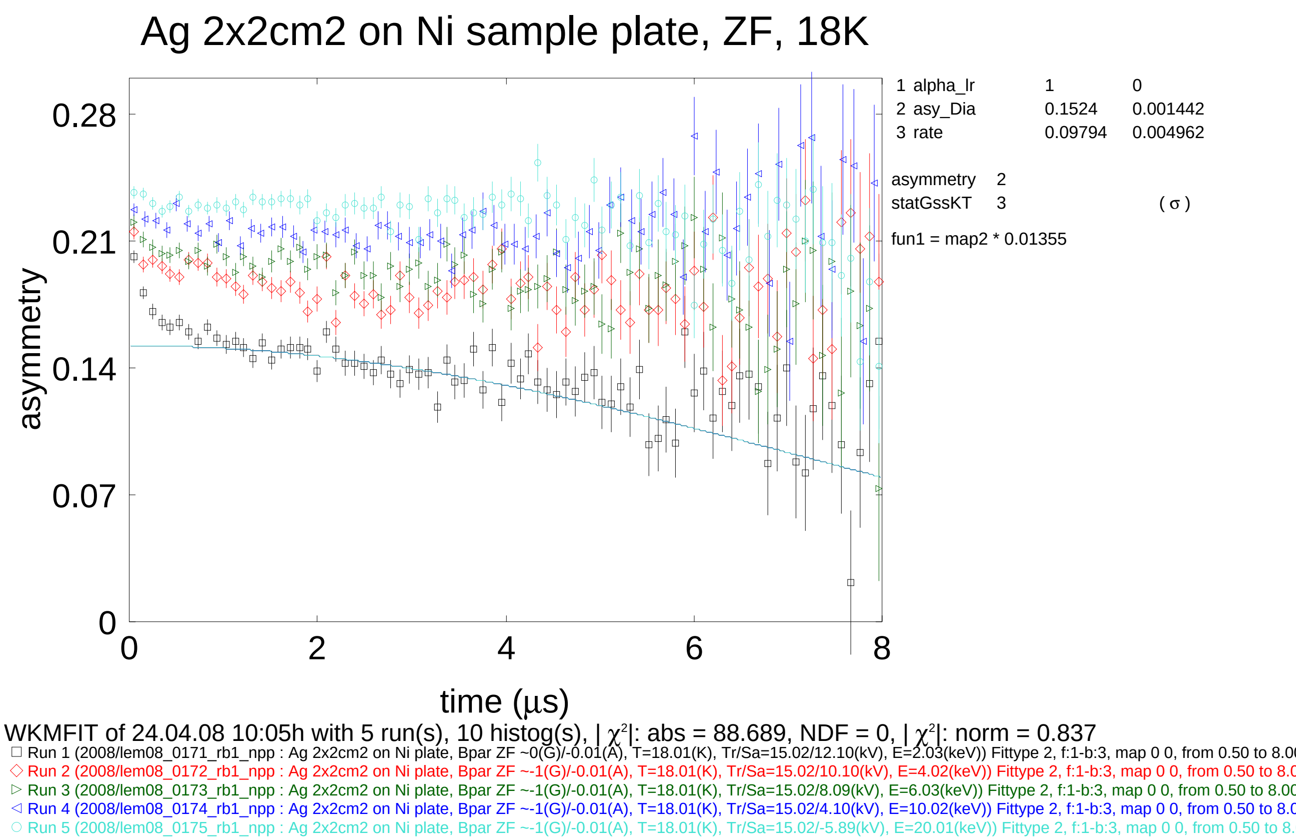


Figure 1: ZF asymmetry spectra of the Ag $20 \times 20\,\mathrm{mm}^2$, 125 μm thick 99.99+% Ag foil on a Ni plate.

In the online analysis, α_{RL} is called "misleading $\alpha = N_{0,\mathrm{R}}/N_{0,\mathrm{L}}$", and a_{rel} = "Relative right asymmetry". α_{RL} includes at least two relevant contributions: (i) potential misalignment of the e^+ detectors (L/R) or difference in the e^+ detector efficiency. (ii) "1/3 tail" of muons stopping in the Ni instead of the sample. As will be discussed, the e^+ detectors misalignment seems to be the dominant contribution. Any attempts trying to separate the Ni contribution from the detector misalignment in α_{RL} would need additional a priory knowledge. Fig.2 shows α_{RL} versus $\mathrm{RAL} - \mathrm{RAR}$ for $B_{\|} = 144.6$ (G). The optimal $\mathrm{RAL} - \mathrm{RAR}$ (maximal asymmetry) is found between -624 and -513 (V) depending on the implantation energy, which means an $\alpha_{\mathrm{RL}}^{\mathrm{opt}} \approx 1.14$. Since for the optimal RA-steering, the beam is centered rather well on the Ag sample (at least for $B_{\|} = 95.1$ (G)) the main contribution to $\alpha_{\mathrm{RL}}^{\mathrm{opt}}$ must be due to misalignment of the e^+ detectors (for details see elog:LEM_Experiment/4086, elog:LEM_Experiment/4088, and elog:LEM_Experiment/4094)

Guard On/Off

To cut a long story short: elog:LEM_Experiment/4072 and the Au measurements (see $B_{\perp}$ TF results elog:LEM_Experiment/4067) show that there is not only no advantage but a worsening of the situation when applying HV's to the guards instead of keeping them on ground potential.

While the effects for the $B_{\perp}$ TF are not to bad (no change in the depolarization rate, even a small increase in the asymmetry), the situation is different for $B_{\|}$ TF. Here (as the attachments 14ff of elog:LEM_Experiment/4072 show), one finds a reduction of the asymmetry for low implantation energies when applying HV's to the guards. This shows that a beam which is not on axis, the extended electric field (when applying HV's to the guards) will make the beam spot worse.

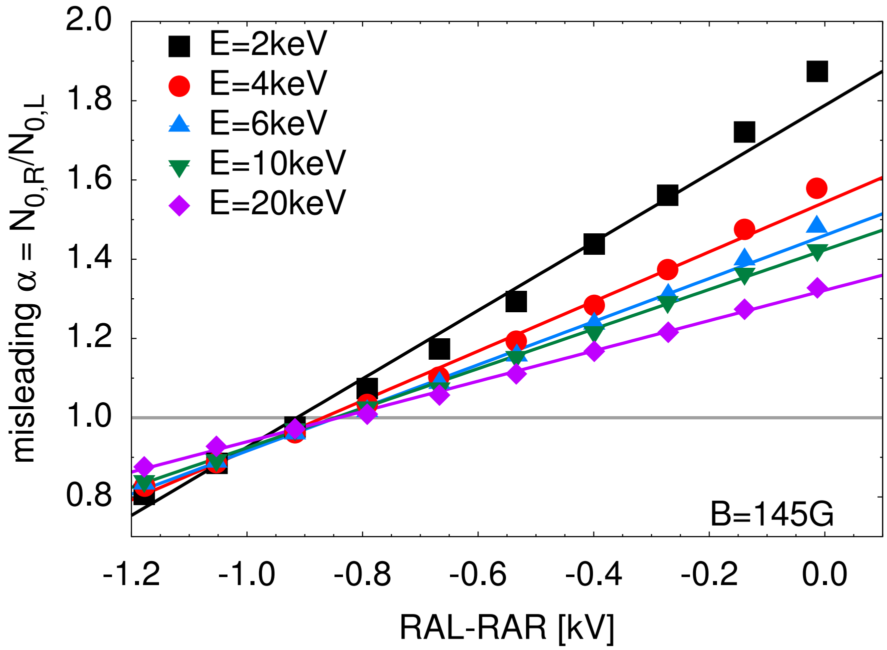


Figure 2: α_{RL} versus RAL − RAR for $B_{\parallel} = 144.6$ (G). The optimal RAL − RAR (maximal asymmetry) is found between −624 and −513 (V) depending on the implantation energy.

RA-Steering Results

Fig.3 shows the optimal RA-steering as a function of the implantation energy. The different field curves are shifted so that the 20 (keV) points coincide. This allows to see if there is a simple functional dependence. $(\mathrm{RAL} - \mathrm{RAR})_{\mathrm{opt}}(E)$ shows an up-shift in energy of the inflection point for higher fields, only meaning that for higher fields there is a stronger implantation energy dependence for $(\mathrm{RAL} - \mathrm{RAR})_{\mathrm{opt}}(E)$.

The optimal RA-steering for a 15kV transport setting is shown in Fig.4. In order to describe the data in a useful way, the implantation energy dependence was separated from the main trend. The top graph of Fig.4 shows the mean optimal RA-steering which can be described by the formula

$$\langle \mathrm{RAL} - \mathrm{RAR} \rangle_{\mathrm{opt}}\,(\mathrm{V}) = 2.13 - 1.787B\,(\mathrm{G}) - 0.01449B^2\,(\mathrm{G}^2) \tag{3}$$

This means that fine tuning deviation due to the variation of the implantation energy is omitted. The bottom graph of Fig.4 shows the deviation from the Eq.(3) due to the implantation energy as function of the field.

These two graphs should make it easy to get the proper RA-steering for a given field and implantation energy for a 15kV transport setting. Table 1 gives some RA-steering values and is the equivalent information given in Fig.4.

Beam Spot

Can we gain any information about the beamspot size for all these test measurements? Yes, we can. Fig.5 shows the maximal asymmetries obtained for the optimal RA-steering, versus the implantation energy for various fields. If the beamspot would *not* change when changing $B_{\parallel}$, the asymmetry for a given implantation energy should be a constant for the fields tested. As shown in Fig.5 this is not that case for any implantation energy. According to the beam spot measurements (see elog:LEM_Experiment/4088), at high implantation energies, roughly 10% of the muons will not hit a 20×20 (mm^2) sample. This is consistent with the asymmetry found for $B_{\parallel} = 95.1$ (G), $E = 20.0$ (keV) which is 0.254(1). Table 2 collects two tables, the top table shows a background estimate for the $E = 20$ (keV) data where the backscattering is

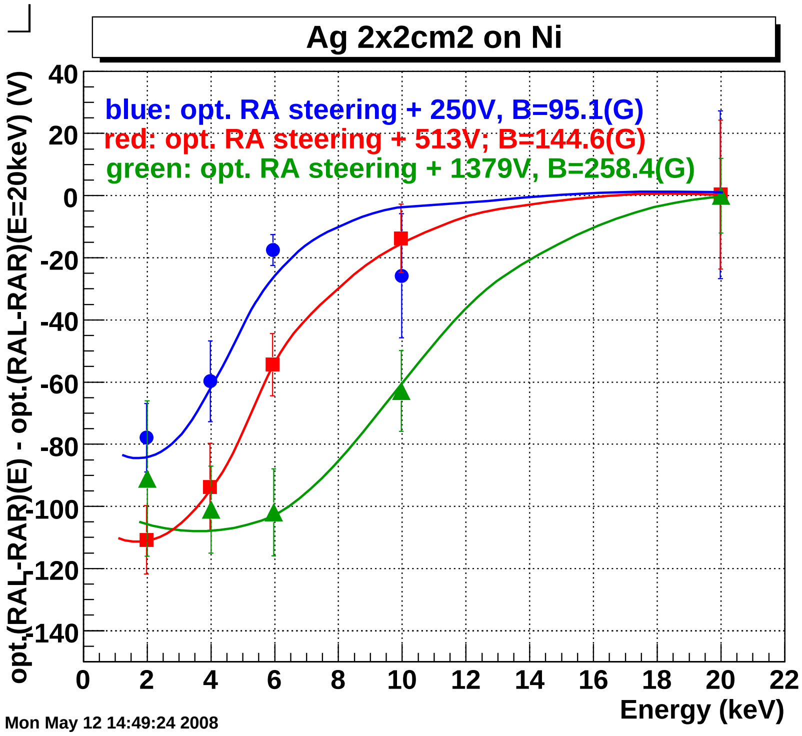


Figure 3: $(\mathrm{RAL} - \mathrm{RAR})_{\mathrm{opt}}$ versus E for different fields. The graph is presented that $(\mathrm{RAL} - \mathrm{RAR})_{\mathrm{opt}}(E) - (\mathrm{RAL} - \mathrm{RAR})_{\mathrm{opt}}(E = 20\ (\mathrm{keV}))$ is shown. This allows to compare the various fields more easily.

negligble and hence the background estimate is straight forward. It shows that the background for $B_{\|} = 258.4$ (G) is almost 3 times larger compared to $B_{\|} = 95.1$ (G)!

Using the 2006 data taken on a $\varnothing 50$ (mm) Ag foil[1], at least for the $B_{\|} = 144.6$ (G) data there is an independent way to estimate the background (muons not stopping the 20×20 (mm^2) sample). Assuming that in the 2006 setup all the muons were hitting the Ag foil, one can use those asymmetries (see the open crosses in Fig.5). Taking those values is resulting in the two additional background values of the top table of Table 2. Whereas the 4 (keV) data are consistent with the trends, the 2 (keV) is not. Why the 2 (keV) data are not fitting in the main trend is unclear.

Since for lower implantation energies the backscattering uncertainty might be an issue (difference between the asymmetry reduction and the `trim.sp` results) another way of looking at the trends was used: the bottom table of Table 2 shows the ratios of the asymmetries $(\mathrm{Asym}(B_{\|})/\mathrm{Asym}(B_{\|} = 95.1(\mathrm{G})))$. It shows that while $\mathrm{Asym}(B_{\|} = 144.6\ (\mathrm{G}))/\mathrm{Asym}(B_{\|} = 95.1(\mathrm{G}))$ is only weakly changing as function of the implantation energy, i.e. a marginal increase in the beamspot size, the effect on $\mathrm{Asym}(B_{\|} = 258.4\ (\mathrm{G}))/\mathrm{Asym}(B_{\|} = 95.1(\mathrm{G}))$ is a rather "dramatic" one, meaning that the beamspot at $B_{\|} = 258.4$ (G) and low implantation energies is blowing up substantially. Most likely the the beam is becoming more elliptic or egg-shaped for high fields and low implantation energies with the longer axis in the horizontal plane (L/R) due to the combined effects of the RA and the magnetic field.

[1]The Ag-foil used 2006 and 2008 are from the same batch, see p.1

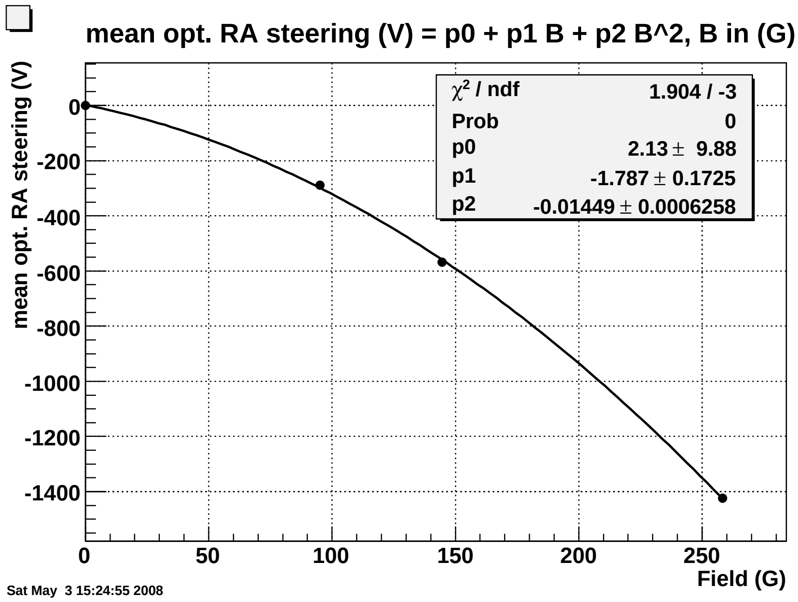
B (G)	E (keV)	RAL (kV)	RAR (kV)	RAT/RAB (kV)	RAL – RAR (kV)
95.1	2.0	10.396	10.724	10.56	−0.328(11)
95.1	4.0	10.405	10.715	10.56	−0.310(13)
95.1	6.0	10.426	10.694	10.56	−0.268(5)
95.1	10.0	10.422	10.698	10.56	−0.276(10)
95.1	20.0	10.435	10.685	10.56	−0.250(27)
144.6	2.0	10.248	10.872	10.56	−0.624(11)
144.6	4.0	10.257	10.864	10.56	−0.607(14)
144.6	6.0	10.2755	10.8435	10.56	−0.568(10)
144.6	10.0	10.2965	10.8235	10.56	−0.527(11)
144.6	20.0	10.3035	10.8165	10.56	−0.513(24)
258.5	2.0	9.822	11.298	10.56	−1.476(25)
258.5	4.0	9.819	11.301	10.56	−1.482(14)
258.5	6.0	9.819	11.301	10.56	−1.482(14)
258.5	10.0	9.839	11.281	10.56	−1.442(13)
258.5	20.0	9.8705	11.2495	10.56	−1.379(13)

Table 1: Table with some typical RA-steering values (see also Fig.4) for 15kV transport settings.

E (keV)	$B_{\parallel}$ (G)	Asym$^{\mathrm{Ni}}$	Asym$^{\mathrm{norm}}$	**Bkg (%)**
20.0	95.1	0.254	0.27	**5.9**
20.0	144.6	0.244	0.27	**9.6**
20.0	258.4	0.223	0.27	**17.4**
4.0	144.6	0.178	0.203	**12.3**
2.0	144.6	0.140	0.147	**4.8??**

E (keV)	$B_{\parallel}$ (G)	Asym	Asym($B_{\parallel}$)/Asym($B_{\parallel} = 95.1$(G))
20.0	95.1	0.254	1.0
20.0	144.6	0.244	0.96
20.0	258.4	0.223	0.88
10.0	95.1	0.229	1.0
10.0	144.6	0.224	0.98
10.0	258.4	0.176	0.77
6.0	95.1	0.208	1.0
6.0	144.6	0.197	0.95
6.0	258.4	0.150	0.72
4.0	95.1	0.192	1.0
4.0	144.6	0.178	0.93
4.0	258.4	0.130	0.68
2.0	95.1	0.156	1.0
2.0	144.6	0.140	0.90
2.0	258.4	0.096	0.62

Table 2: top: background estimate assuming a maximal possible asymmetry of 0.27 (for $E = 20.0$ (keV)), and the values of the open crosses of Fig.5 for $E = 2.0$, 4.0 (keV). bottom: ratio of the asymmetries at fixed energy.



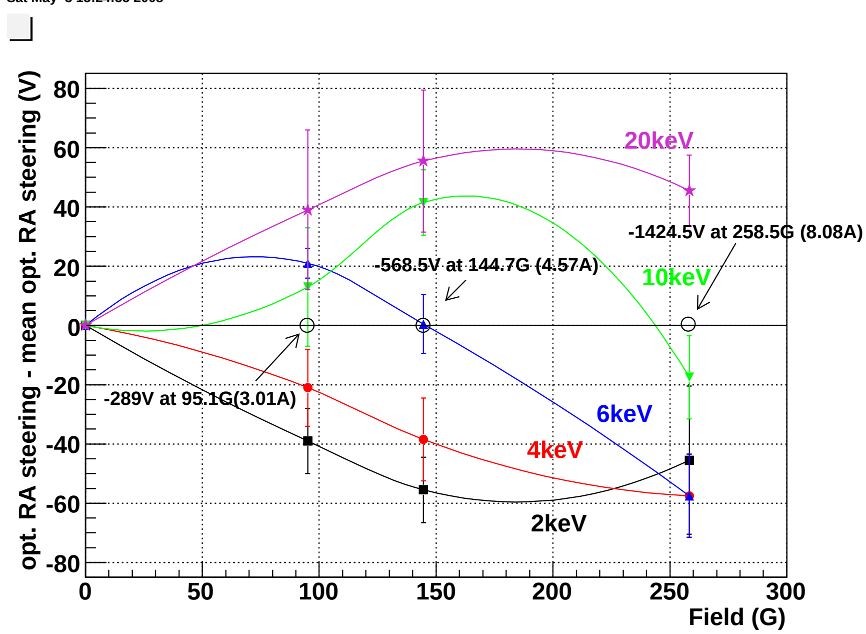


Figure 4: The top figure shows the mean optimal RA-steering versus the field. The bottom figure shows the deviations for a given energy from the mean values, i.e. the zero line of the bottom graph is the mean line of the top one.

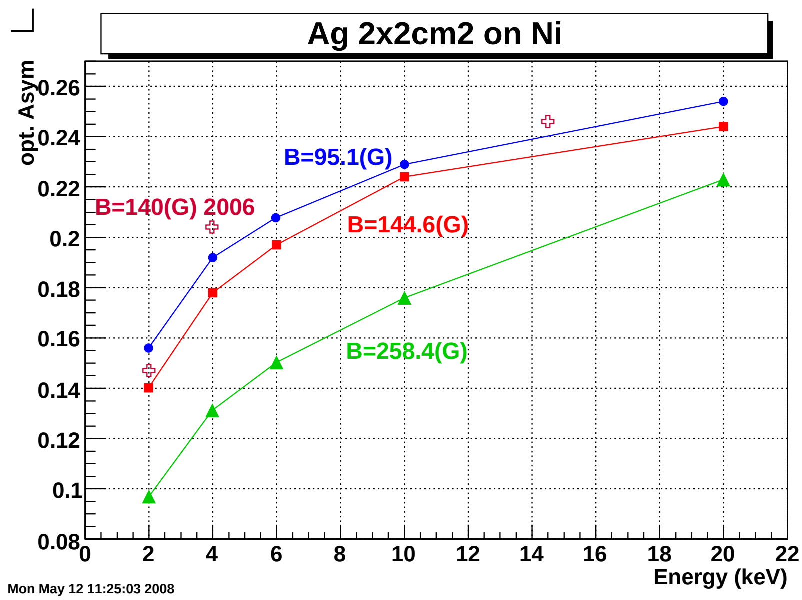


Figure 5: Maximum values for the asymmetries, obtained for the optimal RA-steering, versus implantation energy for various fields. The error bars are smaller than the symbols. The open crosses show the asymmetries found in 2006 for the same type of Ag sample as for this tests but with ∅50 (mm) ($B_{\|} = 140$ (G)).

Conclusions

- Keeping the sample guard rings on ground potential seems to be the best way to do experiments. The reason is that the electrical fields acting on the muons are much less extend in front of the sample and hence cannot lead to defocusing effects.
- To optimize the RA-steering so that $\alpha_{\mathrm{RL}} = 1$ is in the current setup a bad idea, because this is heavily relying on the fact that the e^+-detectors are symmetrically positioned (and having the same efficiency). Unfortunately with the current setup this cannot be guaranteed. For the moment one should use Fig.4 to find the best RA-steering.
- For the $B_{\|}$ setup the beamspot is field dependent! For fields $B_{\|} \lesssim 150$ (G) the effects are still small, but for higher fields they are becoming substantial, meaning that the beamspot is increasing in size, most likely in the horizontal plane. The background due to muons *not* hitting a $20 \times 20\,(\mathrm{mm}^2)$ sample is increasing by a factor of 3 between 95 (G) and 260 (G) (see Table 2).

A List of the Relevant Elog Entries

- elog:LEM_Experiment/4072:
  - ZF measurements, E-scan, $T = 18$(K), Tr 15kV, RAL − RAR = −0.3(kV)
  - Guard On/Off check. $T = 18$(K), Tr 15kV, $E = 2/20$(keV), RAL − RAR = −0.3(kV)
  - first RA-, E-scan for $B_{\|} = 95.1$(G)
- elog:LEM_Experiment/4078: Full RA-, E-scan for $B_{\|} = 95.1$(G). $T = 18$(K), Tr 15kV, $E = 2, 4, 6, 10, 20$(keV)
- elog:LEM_Experiment/4082: Full RA-, E-scan for $B_{\|} = 144.6$(G). $T = 18$(K), Tr 15kV, $E = 2, 4, 6, 10, 20$(keV)
- elog:LEM_Experiment/4086: e^+ detector misalignment
- elog:LEM_Experiment/4088: MCP2 beam spot measurements
- elog:LEM_Experiment/4093: change in the *asymmetry* due to shifted beam spot.
- elog:LEM_Experiment/4094: $\alpha_{\mathrm{opt}} \backsimeq$ const., i.e. largish alpha shift is mainly due to the e^+ detector misalignment
- elog:LEM_Experiment/4098: link to previous Ag measurements (2006).
- elog:LEM_Experiment/4101: Full RA-, E-scan for $B_{\|} = 258.5$(G). $T = 18$(K), Tr 15kV, $E = 2, 4, 6, 10, 20$(keV)

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171 Thu Apr 24 2008::08:54:35 --- 10:11:22 2229.6k Ag 2x2cm2 on Ni plate, Bpar ZF ~0(G)/-0.01(A), T=18.01(K), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
172 Thu Apr 24 2008::10:12:11 --- 11:46:06 2001.9k Ag 2x2cm2 on Ni plate, Bpar ZF ~-1(G)/-0.01(A), T=18.01(K), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
173 Thu Apr 24 2008::11:46:26 --- 12:49:44 2003.6k Ag 2x2cm2 on Ni plate, Bpar ZF ~-1(G)/-0.01(A), T=18.01(K), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
174 Thu Apr 24 2008::12:50:05 --- 13:50:45 1849.3k Ag 2x2cm2 on Ni plate, Bpar ZF ~-1(G)/-0.01(A), T=18.01(K), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
175 Thu Apr 24 2008::16:00:43 --- 17:53:43 3134.4k Ag 2x2cm2 on Ni plate, Bpar ZF ~-1(G)/-0.01(A), T=18.01(K), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
176 Thu Apr 24 2008::18:02:35 --- 18:26:04  727.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
177 Thu Apr 24 2008::18:28:28 --- 19:01:06 1003.4k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
178 Thu Apr 24 2008::19:02:08 --- 19:35:55 1015.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
179 Thu Apr 24 2008::19:36:52 --- 20:11:04 1036.1k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
180 Thu Apr 24 2008::20:12:27 --- 20:45:42 1003.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
181 Thu Apr 24 2008::20:51:17 --- 21:25:18 1004.4k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
182 Thu Apr 24 2008::21:27:51 --- 22:03:19 1067.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
183 Thu Apr 24 2008::22:14:42 --- 22:48:28 1011.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
184 Thu Apr 24 2008::22:50:27 --- 23:24:27 1012.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
185 Thu Apr 24 2008::23:25:48 --- 23:59:53 1017.2k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
186 Fri Apr 25 2008::00:14:24 --- 02:00:32 3001.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.30(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
187 Fri Apr 25 2008::02:00:52 --- 03:44:00 3001.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.30(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
188 Fri Apr 25 2008::03:44:20 --- 05:24:27 3000.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.30(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
189 Fri Apr 25 2008::05:24:48 --- 07:05:30 3002.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.30(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
190 Fri Apr 25 2008::07:07:45 --- 08:47:37 3003.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.30(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
191 Fri Apr 25 2008::08:53:05 --- 09:25:45 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=0.09(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
192 Fri Apr 25 2008::09:26:06 --- 09:58:56 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
193 Fri Apr 25 2008::09:59:17 --- 10:32:12 1001.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
194 Fri Apr 25 2008::10:32:33 --- 11:05:34 1002.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
195 Fri Apr 25 2008::11:05:54 --- 11:39:25 1002.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
196 Fri Apr 25 2008::11:39:45 --- 12:13:31 1001.1k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.04(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
197 Fri Apr 25 2008::12:13:52 --- 12:47:42 1003.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
198 Fri Apr 25 2008::12:48:03 --- 13:21:29 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.02(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
199 Fri Apr 25 2008::13:21:49 --- 13:55:20 1002.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV)
200 Fri Apr 25 2008::15:37:40 --- 16:20:58 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.06(K), RAL-RAR=0.09(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
201 Fri Apr 25 2008::16:21:19 --- 17:22:01 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
202 Fri Apr 25 2008::17:22:21 --- 17:57:42 1002.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.02(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
203 Fri Apr 25 2008::17:58:03 --- 18:52:23 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.02(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
204 Fri Apr 25 2008::18:52:44 --- 19:30:35 1002.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.00(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
205 Fri Apr 25 2008::19:30:56 --- 20:05:37 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.03(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
206 Fri Apr 25 2008::20:05:58 --- 20:41:19 1003.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.05(K), RAL-RAR=-0.52(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV), Guard On
207 Fri Apr 25 2008::20:41:39 --- 21:16:20 1002.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.04(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
208 Fri Apr 25 2008::21:16:40 --- 21:51:31 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.05(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
209 Fri Apr 25 2008::21:51:52 --- 22:26:28 1000.1k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=17.98(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV), Guard On
210 Fri Apr 25 2008::22:30:30 --- 23:08:57 1111.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/-5.89(kV), E=20.01(keV), Guard On
211 Sat Apr 26 2008::23:20:56 --- 00:14:36 1001.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.10(K), RAL-RAR=0.09(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
212 Sat Apr 26 2008::00:14:57 --- 00:49:03 1002.1k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=17.99(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
213 Sat Apr 26 2008::00:49:23 --- 01:23:59 1002.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.03(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
214 Sat Apr 26 2008::01:24:20 --- 01:59:26 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
215 Sat Apr 26 2008::01:59:46 --- 02:34:57 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
216 Sat Apr 26 2008::02:35:18 --- 03:10:59 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.04(A), T=18.01(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
217 Sat Apr 26 2008::03:11:19 --- 03:47:11 1001.1k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.52(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
218 Sat Apr 26 2008::03:47:31 --- 04:23:07 1001.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
219 Sat Apr 26 2008::04:23:28 --- 04:59:04 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
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Table 3: Runlist Part I

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220 Sat Apr 26 2008::04:59:24 --- 05:34:46 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
221 Sat Apr 26 2008::05:35:21 --- 06:10:02 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=0.09(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
222 Sat Apr 26 2008::06:10:23 --- 06:45:24 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
223 Sat Apr 26 2008::06:45:44 --- 07:20:50 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.04(A), T=18.01(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
224 Sat Apr 26 2008::07:28:11 --- 08:03:27 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
225 Sat Apr 26 2008::08:03:48 --- 08:39:09 1000.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
226 Sat Apr 26 2008::08:39:29 --- 09:15:01 1003.3k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
227 Sat Apr 26 2008::09:15:21 --- 09:50:52 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
228 Sat Apr 26 2008::09:51:13 --- 10:26:44 1000.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
229 Sat Apr 26 2008::10:27:04 --- 11:12:58 1002.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
230 Sat Apr 26 2008::11:13:19 --- 11:50:10 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
231 Sat Apr 26 2008::11:50:46 --- 12:25:22 1001.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=0.09(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
232 Sat Apr 26 2008::12:25:42 --- 13:00:44 1001.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
233 Sat Apr 26 2008::13:01:04 --- 13:36:15 1001.0k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.11(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
234 Sat Apr 26 2008::13:36:36 --- 14:12:07 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.21(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
235 Sat Apr 26 2008::14:12:27 --- 14:47:38 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
236 Sat Apr 26 2008::14:47:59 --- 15:23:15 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.42(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
237 Sat Apr 26 2008::15:23:35 --- 15:58:51 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
238 Sat Apr 26 2008::15:59:12 --- 16:34:38 1000.8k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.61(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
239 Sat Apr 26 2008::16:34:58 --- 17:11:25 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.04(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
240 Sat Apr 26 2008::17:11:45 --- 17:48:42 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~97(G)/3.03(A), T=18.01(K), RAL-RAR=-0.81(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
241 Sat Apr 26 2008::17:53:59 --- 18:21:40  804.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.58(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
242 Sat Apr 26 2008::18:21:58 --- 18:55:59 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.56(A), T=18.01(K), RAL-RAR=-0.14(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
243 Sat Apr 26 2008::18:56:20 --- 19:31:16 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.27(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
244 Sat Apr 26 2008::19:31:37 --- 20:07:44 1000.8k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.40(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
245 Sat Apr 26 2008::20:08:04 --- 20:44:46 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.53(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
246 Sat Apr 26 2008::20:45:06 --- 21:23:19 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.67(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
247 Sat Apr 26 2008::21:23:39 --- 22:00:36 1002.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.79(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
248 Sat Apr 26 2008::22:00:57 --- 22:37:29 1003.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.92(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
249 Sat Apr 26 2008::22:37:49 --- 23:14:31 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.05(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
250 Sat Apr 26 2008::23:14:52 --- 23:51:04 1003.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.18(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
251 Sun Apr 27 2008::23:51:39 --- 00:27:11 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
252 Sun Apr 27 2008::00:27:31 --- 01:02:48 1003.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.14(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
253 Sun Apr 27 2008::01:03:08 --- 01:38:50 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.27(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
254 Sun Apr 27 2008::01:39:10 --- 02:15:57 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.40(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
255 Sun Apr 27 2008::02:16:18 --- 02:52:45 1000.5k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.53(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
256 Sun Apr 27 2008::02:53:05 --- 03:29:52 1001.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.67(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
257 Sun Apr 27 2008::03:30:12 --- 04:07:10 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.79(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
258 Sun Apr 27 2008::04:07:30 --- 04:44:17 1000.5k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.92(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
259 Sun Apr 27 2008::04:44:38 --- 05:21:15 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.58(A), T=18.01(K), RAL-RAR=-1.05(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
260 Sun Apr 27 2008::05:21:35 --- 05:57:52 1000.5k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.18(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
261 Sun Apr 27 2008::05:58:27 --- 06:35:10 1003.1k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
262 Sun Apr 27 2008::06:35:30 --- 07:11:07 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.14(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
263 Sun Apr 27 2008::07:11:27 --- 07:46:49 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.27(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
264 Sun Apr 27 2008::07:47:09 --- 08:22:31 1002.1k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.40(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
265 Sun Apr 27 2008::08:22:51 --- 08:58:03 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~146(G)/4.57(A), T=18.01(K), RAL-RAR=-0.53(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
266 Sun Apr 27 2008::08:58:23 --- 09:33:34 1000.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.67(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
267 Sun Apr 27 2008::09:33:55 --- 10:09:22 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.79(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
268 Sun Apr 27 2008::10:09:42 --- 10:45:04 1002.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.92(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
269 Sun Apr 27 2008::10:45:24 --- 11:20:35 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.05(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
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Table 4: Runlist Part II

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270 Sun Apr 27 2008::11:20:56 --- 11:56:33 1000.7k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.18(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
271 Sun Apr 27 2008::11:57:08 --- 12:31:50 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.56(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
272 Sun Apr 27 2008::12:32:10 --- 13:07:12 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.14(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
273 Sun Apr 27 2008::13:07:33 --- 13:42:35 1001.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.27(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
274 Sun Apr 27 2008::13:42:55 --- 14:18:12 1002.1k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.56(A), T=18.01(K), RAL-RAR=-0.40(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
275 Sun Apr 27 2008::14:18:32 --- 14:54:14 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.53(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
276 Sun Apr 27 2008::14:54:34 --- 15:31:36 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.67(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
277 Sun Apr 27 2008::15:31:57 --- 16:09:34 1000.9k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.79(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
278 Sun Apr 27 2008::16:09:55 --- 16:45:46 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.92(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
279 Tue Apr 29 2008::16:46:07 --- 20:34:55 1000.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.05(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
280 Tue Apr 29 2008::20:35:15 --- 21:27:56 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.18(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
281 Wed Apr 30 2008::21:30:27 --- 00:45:52 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.01(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
282 Wed Apr 30 2008::00:46:12 --- 02:18:12 1000.1k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.14(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
283 Wed Apr 30 2008::02:18:32 --- 04:16:59 1001.4k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.27(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
284 Wed Apr 30 2008::04:17:19 --- 05:14:05 1000.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.40(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
285 Wed Apr 30 2008::05:14:26 --- 06:13:33 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.53(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
286 Wed Apr 30 2008::06:13:53 --- 07:22:47 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.67(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
287 Wed Apr 30 2008::07:23:07 --- 08:53:52 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.79(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
288 Wed Apr 30 2008::08:54:12 --- 09:49:44 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-0.92(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
289 Wed Apr 30 2008::09:50:04 --- 10:36:33 1002.7k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.05(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
290 Wed Apr 30 2008::10:36:54 --- 11:22:47 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~147(G)/4.57(A), T=18.01(K), RAL-RAR=-1.18(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
291 Wed Apr 30 2008::11:27:46 --- 12:10:33 1002.5k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-2.11(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
292 Wed Apr 30 2008::12:10:53 --- 12:54:30 1000.9k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.91(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
293 Wed Apr 30 2008::12:54:51 --- 13:37:03 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.07(A), T=18.01(K), RAL-RAR=-1.72(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
294 Wed Apr 30 2008::13:37:24 --- 14:18:06 1001.4k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.51(kV), Tr/Sa=15.02/12.09(kV), E=2.03(keV)
295 Wed Apr 30 2008::14:18:26 --- 14:58:17 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.31(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
296 Wed Apr 30 2008::14:58:38 --- 15:35:54 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.12(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
297 Wed Apr 30 2008::15:36:14 --- 16:19:03 1002.1k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.07(A), T=18.01(K), RAL-RAR=-0.91(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
298 Wed Apr 30 2008::16:19:23 --- 16:54:08 1002.3k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
299 Wed Apr 30 2008::16:54:28 --- 17:29:25 1003.1k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
300 Wed Apr 30 2008::17:29:45 --- 18:01:23 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/12.10(kV), E=2.03(keV)
301 Wed Apr 30 2008::18:01:54 --- 18:39:44 1000.8k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.31(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
302 Wed Apr 30 2008::18:40:05 --- 20:30:35 1002.6k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
303 Wed Apr 30 2008::20:30:56 --- 21:07:23 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.07(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
304 Wed Apr 30 2008::21:07:43 --- 22:06:17 1001.5k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.91(kV), Tr/Sa=15.02/10.10(kV), E=4.02(keV)
305 Wed Apr 30 2008::22:06:37 --- 22:45:35 1002.2k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.11(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
306 Wed Apr 30 2008::22:45:55 --- 23:31:34 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.31(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
307 Thu May  1 2008::23:31:55 --- 00:15:08 1000.4k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.51(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
308 Thu May  1 2008::00:15:29 --- 01:03:58 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.07(A), T=18.01(K), RAL-RAR=-1.72(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
309 Thu May  1 2008::01:04:19 --- 01:44:16 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.91(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
310 Thu May  1 2008::01:44:37 --- 02:23:34 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-2.11(kV), Tr/Sa=15.02/10.10(kV), E=4.03(keV)
311 Thu May  1 2008::02:24:04 --- 03:19:35 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-2.11(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
312 Thu May  1 2008::03:19:56 --- 04:15:52 1001.4k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.91(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
313 Thu May  1 2008::04:16:13 --- 04:55:46 1002.4k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.72(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
314 Thu May  1 2008::04:56:07 --- 05:36:29 1002.8k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.51(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
315 Thu May  1 2008::05:36:50 --- 06:17:43 1000.5k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.31(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
316 Thu May  1 2008::06:18:03 --- 07:01:11 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.11(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
317 Thu May  1 2008::07:01:32 --- 07:39:59 1001.3k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.91(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
318 Thu May  1 2008::07:40:20 --- 08:18:37 1001.1k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
319 Thu May  1 2008::08:18:57 --- 08:56:14 1000.8k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.00(K), RAL-RAR=-0.52(kV), Tr/Sa=15.02/8.09(kV), E=6.03(keV)
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Table 5: Runlist Part III

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320 Thu May  1 2008::08:56:44 --- 09:34:57 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
321 Thu May  1 2008::09:35:17 --- 10:13:25 1000.2k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
322 Thu May  1 2008::10:13:45 --- 10:52:02 1001.1k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-0.91(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
323 Thu May  1 2008::10:52:23 --- 17:25:45 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~260(G)/8.08(A), T=18.01(K), RAL-RAR=-1.11(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
324 Thu May  1 2008::17:26:06 --- 20:52:38 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=17.98(K), RAL-RAR=-1.31(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
325 Thu May  1 2008::20:52:58 --- 21:44:38 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.03(K), RAL-RAR=-1.51(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
326 Thu May  1 2008::21:44:59 --- 22:28:10 1000.6k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.07(A), T=18.00(K), RAL-RAR=-1.72(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
327 Thu May  1 2008::22:28:30 --- 23:11:34 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.02(K), RAL-RAR=-1.91(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
328 Thu May  1 2008::23:11:54 --- 23:52:37 1002.0k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=17.99(K), RAL-RAR=-2.11(kV), Tr/Sa=15.02/4.10(kV), E=10.02(keV)
329 Fri May  2 2008::23:55:03 --- 00:37:16 1001.9k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.03(K), RAL-RAR=-2.11(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
330 Fri May  2 2008::00:37:37 --- 01:19:30 1001.6k Ag 2x2cm2 on Ni plate, Bpar ~262(G)/8.08(A), T=18.04(K), RAL-RAR=-1.91(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
331 Fri May  2 2008::01:19:50 --- 02:01:43 1001.8k Ag 2x2cm2 on Ni plate, Bpar ~262(G)/8.08(A), T=17.95(K), RAL-RAR=-1.72(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
332 Fri May  2 2008::02:02:04 --- 02:41:46 1003.2k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.04(K), RAL-RAR=-1.51(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
333 Fri May  2 2008::02:42:06 --- 03:22:54 1002.1k Ag 2x2cm2 on Ni plate, Bpar ~262(G)/8.08(A), T=18.02(K), RAL-RAR=-1.31(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
334 Fri May  2 2008::03:23:15 --- 04:02:47 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~262(G)/8.08(A), T=17.97(K), RAL-RAR=-1.12(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
335 Fri May  2 2008::04:03:08 --- 04:42:20 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.03(K), RAL-RAR=-0.91(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
336 Fri May  2 2008::04:42:40 --- 05:21:33 1001.2k Ag 2x2cm2 on Ni plate, Bpar ~262(G)/8.08(A), T=17.96(K), RAL-RAR=-0.71(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
337 Fri May  2 2008::05:21:53 --- 06:00:20 1001.7k Ag 2x2cm2 on Ni plate, Bpar ~261(G)/8.08(A), T=18.04(K), RAL-RAR=-0.51(kV), Tr/Sa=15.02/-5.90(kV), E=20.02(keV)
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Table 6: Runlist Part IV