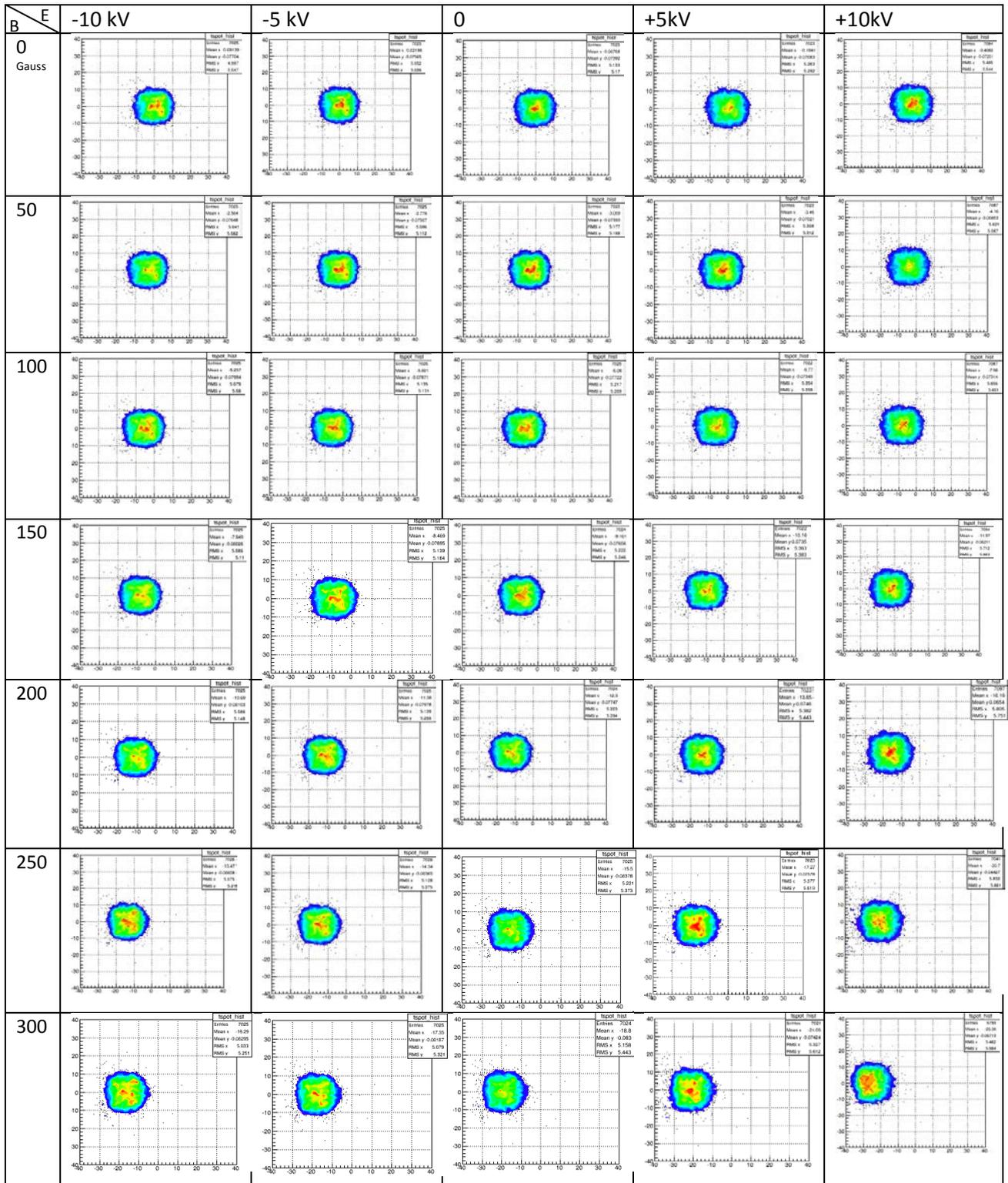


Moderator = 16.5 kV, RA=13.24



The table in the previous page shows that magnetic field shifts the beamspot, and the following tables give the value of RAL-RAR, $RAL+RAL=13.24*2$, the parameters of the RA make the beamspot shift to the center. And the next page gives the steered beamspot.

	-10kV	-5kV	0	5kV	10kV
0	0	0	0	0	0
50 g	-0.32	-0.34	-0.36	-0.35	-0.42
100g	-0.67	-0.68	-0.72	-0.73	-0.80
150g	-1.00	-1.06	-1.08	-1.04	-1.14
200g	-1.36	-1.40	-1.42	-1.40	-1.54
250g	-1.72	-1.76	-1.80	-1.80	-1.94
300g	-2.08	-2.12	-2.16	-2.18	-2.32

The blue table gives the meanX and meanY of the beamspot without correcting the RA; The green table gives the meanX and meanY of the beamspot after tuning the parameters of the RA. (16.5 kV)

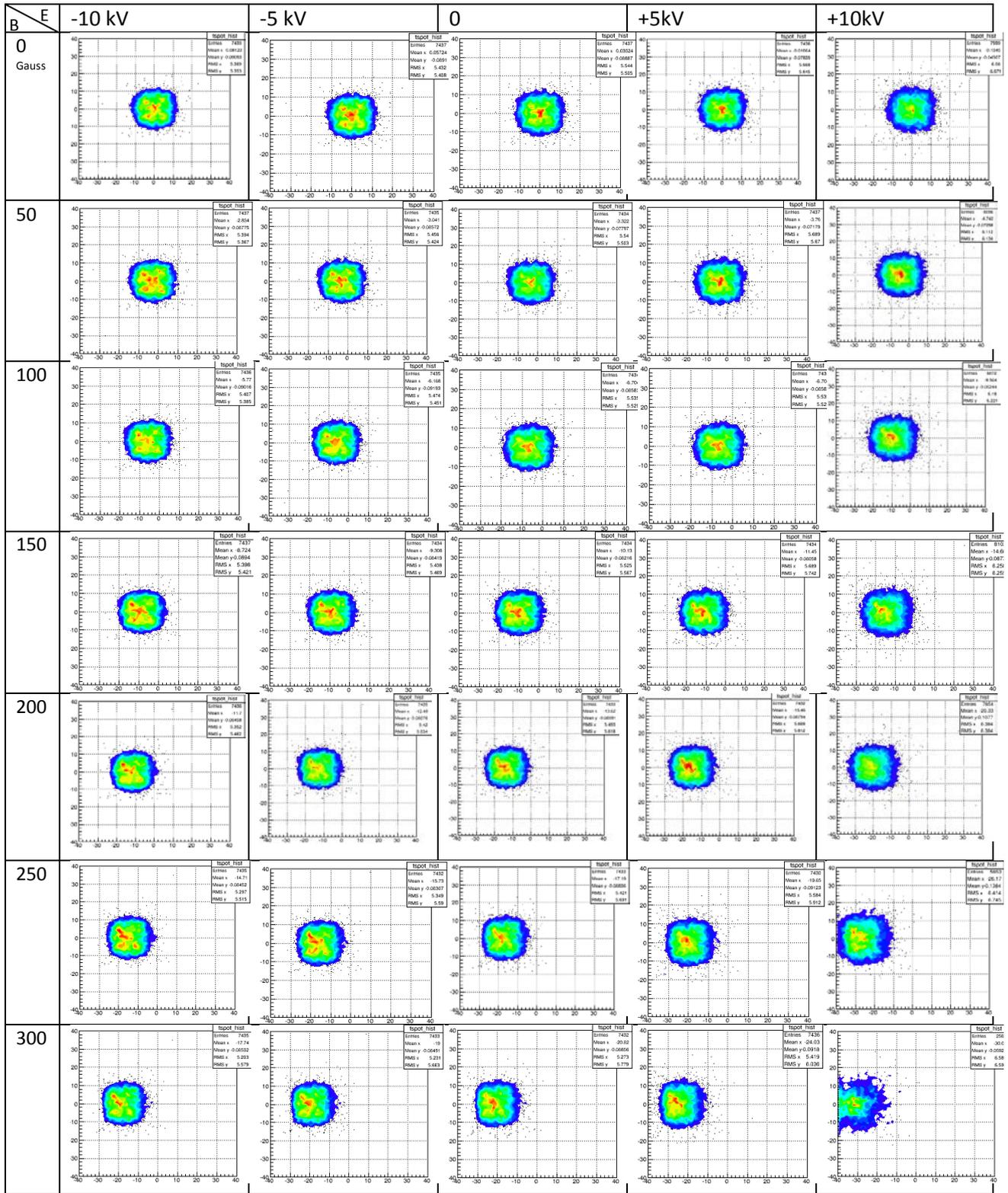
	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	0.0914	-0.0770	0.0220	-0.0757	0.0677	-0.0739	-0.1941	-0.0706	-0.1083	-0.0725
50g	-2.564	-0.0765	-2.778	-0.0751	-3.059	-0.0733	-3.46	-0.0702	-4.16	-0.0585
100g	-5.237	-0.0799	-5.601	-0.0787	-6.06	-0.0772	-6.77	-0.0735	-7.980	-0.0731
150g	-7.949	-0.0949	-8.469	-0.0790	-9.161	-0.0766	-10.16	-0.0735	-11.97	-0.0621
200g	-10.69	-0.0610	-11.38	-0.0798	-12.30	-0.0775	-13.65	-0.0746	-16.19	-0.0654
250g	-13.47	-0.0866	-14.34	-0.0657	-15.50	-0.0638	-17.27	-0.0738	-20.7	-0.0443
300g	-16.29	-0.0830	-17.35	-0.0619	-18.80	-0.083	-21.05	-0.0742	-25.26	-0.0671

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	0.0914	-0.0770	0.0220	-0.0757	0.0677	-0.0739	-0.1941	-0.0706	-0.1083	-0.0725
50g	-0.0151	-0.0780	0.0255	-0.0808	0.0426	-0.0770	-0.2539	-0.0729	0.0864	-0.0628
100g	0.1086	-0.0695	0.0379	-0.0795	0.1644	-0.0742	-0.0165	-0.0682	-0.2184	-0.0539
150g	-0.1363	-0.0761	0.4296	-0.0671	0.3407	-0.0656	-0.3655	-0.587	0.0200	-0.0313
200g	0.288	-0.0629	0.394	-0.0652	0.433	-0.0496	-0.325	-0.0575	0.3868	-0.0090
250g	0.3618	-0.0877	0.4567	-0.0607	0.4495	-0.0658	-0.0052	-0.0022	0.6095	-0.0129
300g	0.3616	-0.0214	0.4241	-0.0009	0.4502	-0.0038	0.1821	0.0187	0.5594	-0.0421

The following table shows the mean energy (keV) of different magnetic and electric fields with or without the correction of the RA.

	-10 kV		-5 kV		0		5 kV		10 kV	
	before	after								
0	25.69	25.69	20.72	20.72	15.72	15.72	10.74	10.74	5.731	5.731
50 g	25.69	25.69	20.72	20.72	15.72	15.72	10.74	10.74	5.734	5.730
100 g	25.69	25.69	20.71	20.72	15.72	15.72	10.74	10.74	5.746	5.733
150 g	25.68	25.69	20.71	20.71	15.73	15.72	10.75	10.74	5.757	5.734
200 g	25.67	25.67	20.70	20.70	15.73	15.72	10.76	10.74	5.801	5.739
250 g	25.96	25.65	20.69	20.67	15.73	15.71	10.78	10.74	5.913	5.753
300 g	25.64	25.62	20.68	20.67	15.73	15.70	10.82	10.75	6.134	5.767

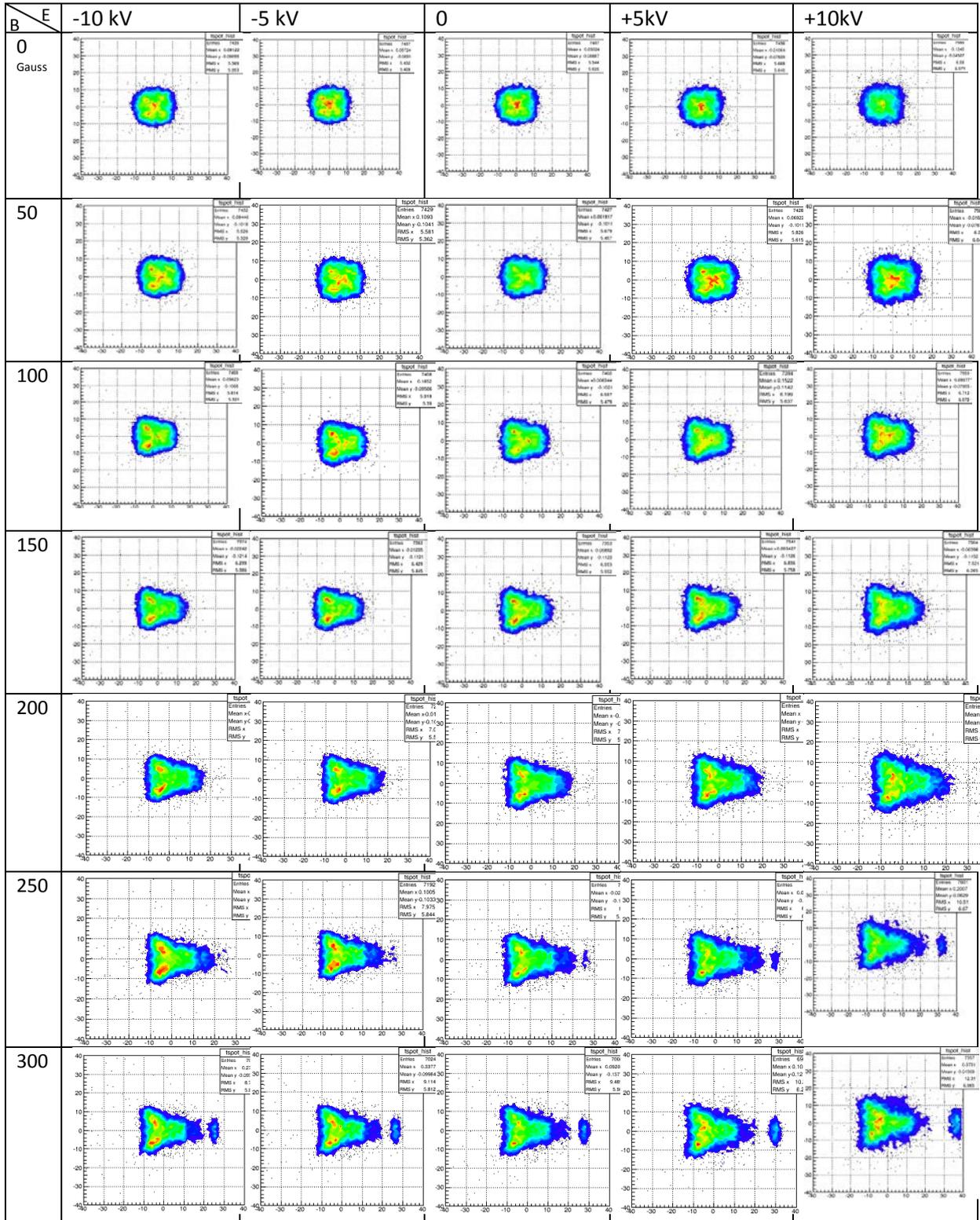
Moderator = 13.5 kV, RA=10.6



The following table shows value of RAL-RAR to shift the beamspot to the center. $RAL+RAR=10.6*2$

	-10kV	-5kV	0	5kV	10kV
0	0	0	0	0	0
50 g	-0.31	-0.32	-0.32	-0.34	-0.36
100g	-0.62	-0.64	-0.64	-0.68	-0.72
150g	-0.92	-0.94	-0.96	-1.00	-1.06
200g	-1.22	-1.26	-1.28	-1.32	-1.42
250g	-1.56	-1.60	-1.62	-1.68	-1.80
300g	-1.90	-1.94	-1.96	-2.02	-2.2

Moderator = 13.5 kV, RAL+RAR=10.6*2, steered beamspot using RA



The following two tables give the meanX and meanY of the beamspot with (green one) and without (blue one) correcting the RA parameters,

The following table shows the mean energy (keV) of different magnetic and electric fields with or without the correction of the RA

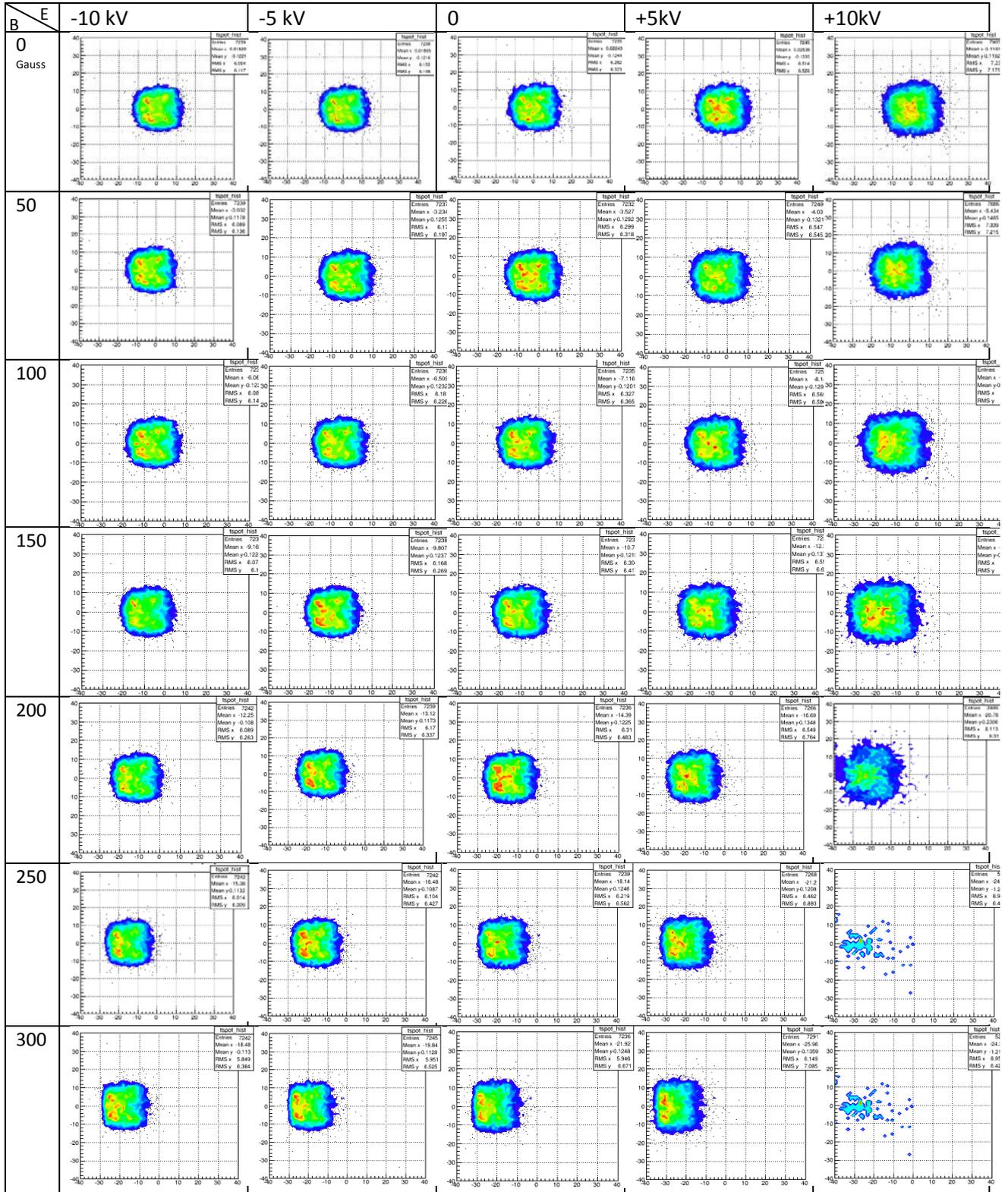
	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY								
0	0.081	-0.091	0.057	-0.069	0.030	-0.089	-0.011	-0.078	-0.135	-0.045
50g	-2.834	-0.068	-3.041	-0.066	-3.322	-0.078	-3.760	-0.072	-4.742	-0.073
100g	-5.770	-0.090	-6.168	-0.092	-6.704	-0.066	-7.568	-0.061	-9.564	-0.052
150g	-8.724	-0.099	-9.308	-0.064	-10.13	-0.062	-11.45	-0.061	-14.66	-0.098
200g	-11.70	-0.065	-12.49	-0.061	-13.62	-0.066	-15.46	-0.068	-20.33	-0.108
250g	-14.71	-0.065	-15.73	-0.063	-17.19	-0.069	-19.65	-0.091	-26.17	-0.138
300g	-17.74	-0.065	-19.00	-0.065	-20.82	-0.089	-24.03	-0.092	-30.03	-0.059

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY								
0	0.081	-0.091	0.057	-0.069	0.030	-0.089	-0.011	-0.078	-0.135	-0.045
50g	0.084	-0.101	0.109	-0.104	0.002	-0.101	0.069	-0.101	-0.016	-0.079
100g	0.096	-0.107	0.165	-0.095	0.006	-0.102	0.152	-0.114	0.091	-0.080
150g	-0.022	-0.121	-0.012	-0.112	-0.059	-0.112	0.003	-0.113	-0.064	-0.115
200g	-0.136	-0.119	-0.019	-0.101	-0.131	-0.104	-0.161	-0.123	-0.048	-0.103
250g	0.001	-0.110	0.101	-0.103	-0.023	-0.140	-0.048	-0.119	0.201	-0.063
300g	0.271	-0.094	0.338	-0.100	0.092	-0.138	0.102	-0.122	0.370	-0.015

The following table shows the mean energy (keV) of different magnetic and electric fields with or without the correction of the RA.

	-10 kV		-5 kV		0		5 kV		10 kV	
	before	after								
0	22.68	22.68	17.69	17.69	12.70	12.70	7.715	7.715	2.623	2.623
50 g	22.67	22.68	17.69	17.69	12.70	12.70	7.716	7.715	2.620	2.621
100 g	22.67	22.68	17.68	17.68	12.70	12.70	7.721	7.717	2.632	2.618
150 g	22.66	22.68	17.68	17.68	12.70	12.68	7.730	7.717	2.655	2.621
200 g	22.65	22.66	17.67	17.68	12.70	12.70	7.744	7.717	2.709	2.633
250 g	22.63	22.64	17.66	17.65	12.70	12.69	7.770	7.724	3.291	2.654
300 g	22.61	22.63	17.65	17.66	12.71	12.68	7.826	7.733	5.839	2.809

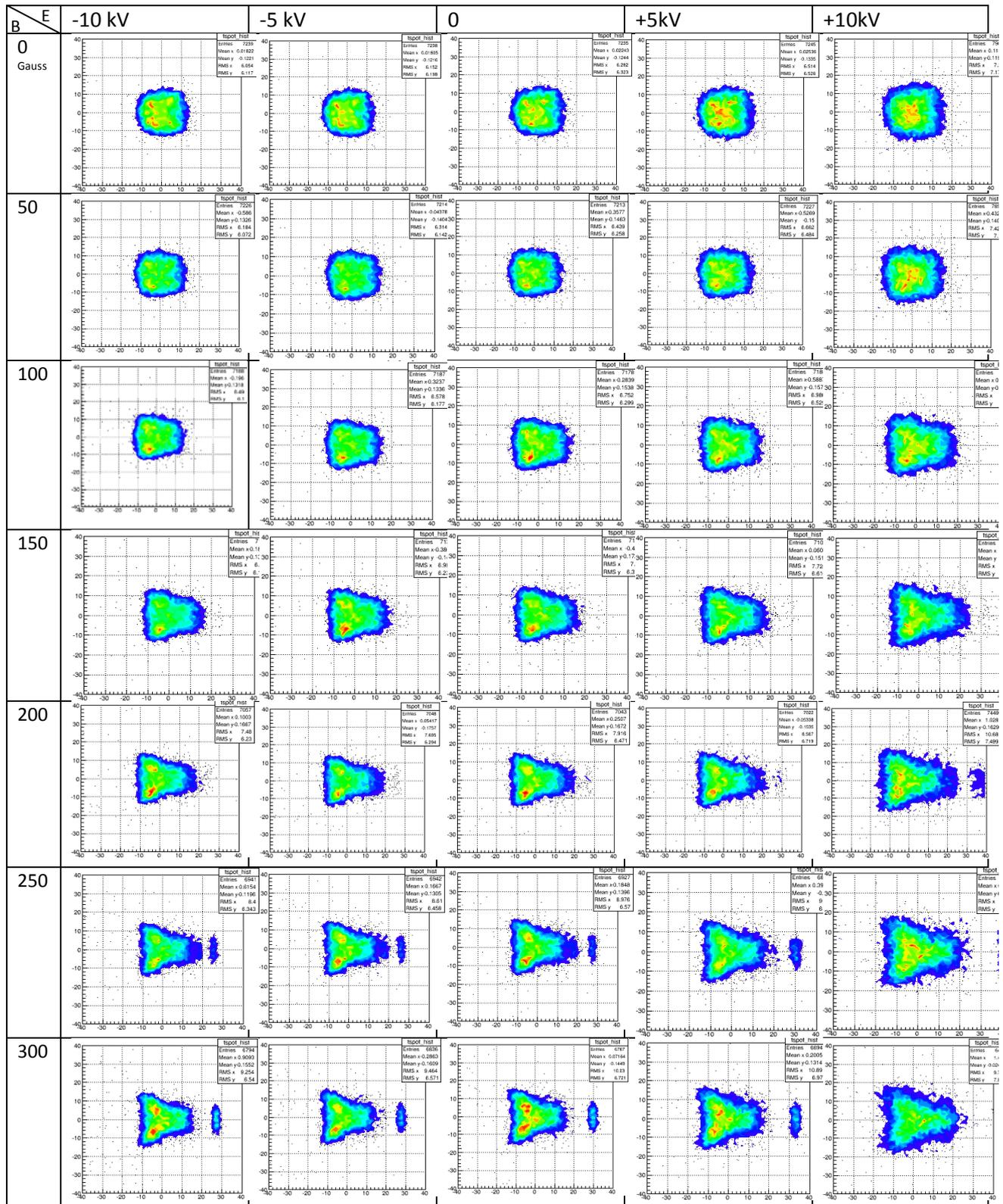
Moderator = 12 kv, RA=9.15



The following table shows value of RAL-RAR to shift the beamspot to the center. $RAL+RAR=9.15*2$

	-10kV	-5kV	0	5kV	10kV
0	0	0	0	0	0
50 g	-0.24	-0.30	-0.28	-0.28	-0.32
100g	-0.58	-0.56	-0.60	-0.58	-0.62
150g	-0.88	-0.88	-0.90	-0.94	-1.16
200g	-1.22	-1.24	-1.24	-1.30	-1.50
250g	-1.58	-1.56	-1.56	-1.64	-1.92
300g	-1.94	-1.84	-1.90	-2.0	-2.30

Moderator = 12 kV, RAL+RAR=9.15*2, steered beamspot using RA



The following two tables give the meanX and meanY of the beamspot with (green one) and without (blue one) correcting the RA parameters.

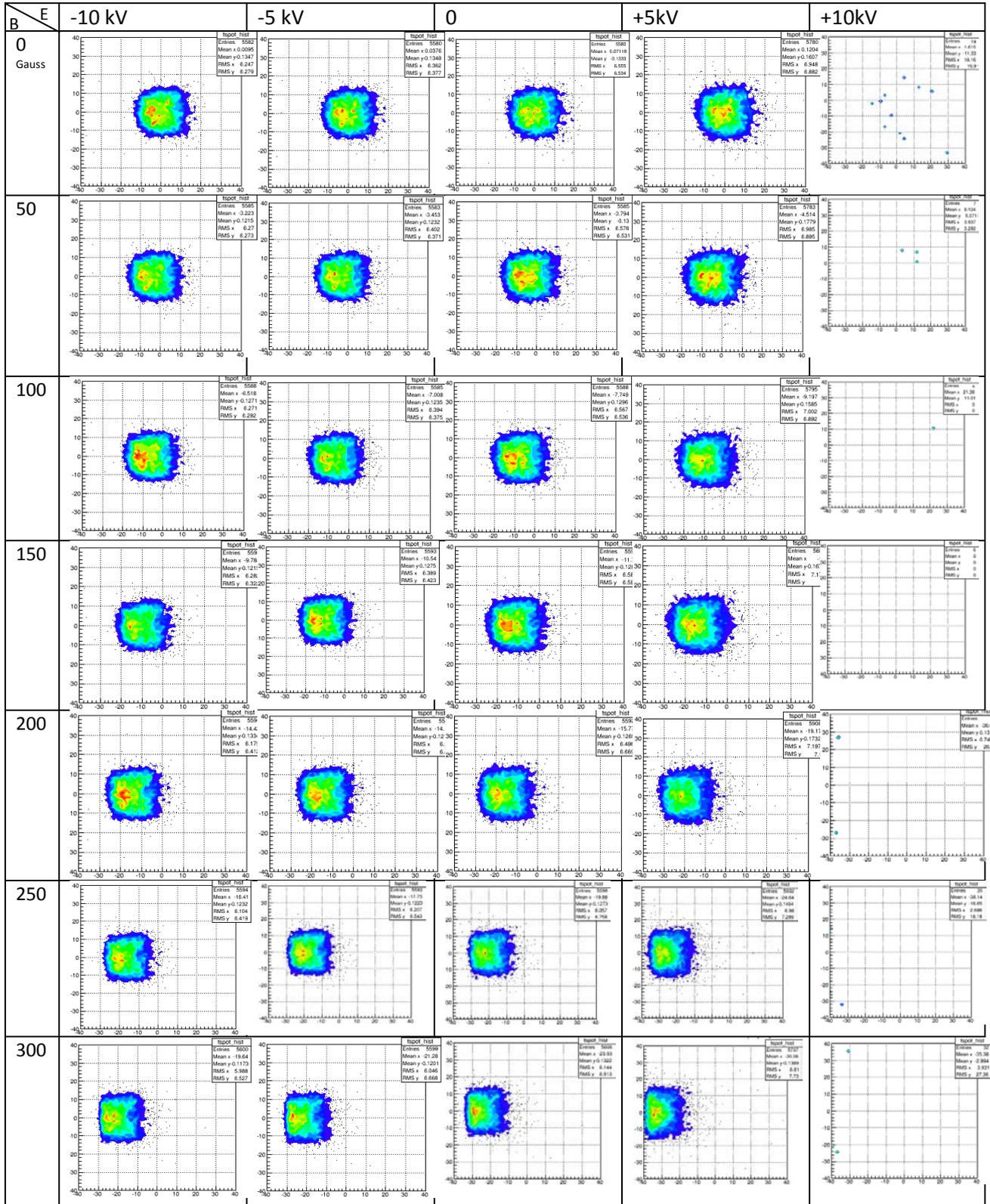
	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY								
0	0.018	-0.122	0.018	-0.123	0.022	-0.124	0.025	-0.134	0.118	-0.119
50g	-3.032	-0.118	-3.234	-0.126	-3.527	-0.129	-4.03	-0.132	-5.434	-0.149
100g	-6.097	-0.122	-6.509	-0.123	-7.116	-0.120	-8.14	-0.130	-11.35	-0.102
150g	-9.163	-0.122	-9.807	-0.124	-10.74	-0.122	-12.34	-0.138	-17.55	-0.215
200g	-12.25	-0.108	-13.12	-0.117	-14.39	-0.123	-16.69	-0.135	-20.76	-0.231
250g	-15.36	-0.113	-16.48	-0.109	-18.41	-0.125	-21.20	-0.121	-23.35	-0.259
300g	-18.48	-0.113	-19.84	-0.113	-21.92	-0.125	-25.96	-0.136	-24.31	-1.212

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	0.018	-0.122	0.018	-0.123	0.022	-0.124	0.025	-0.134	0.118	-0.119
50g	-0.596	-0.133	-0.044	-0.140	-0.358	-0.146	-0.527	-0.150	-0.433	-0.140
100g	-0.196	-0.132	-0.324	-0.134	-0.3294	-0.154	-0.589	-0.157	0.238	-0.146
150g	-0.187	-0.138	-0.386	-0.144	-0.446	-0.173	0.060	-0.151	1.461	-0.196
200g	-0.100	-0.167	0.054	-0.176	-0.251	-0.167	-0.054	-0.154	1.029	-0.163
250g	0.615	-0.120	0.167	-0.131	-0.185	-0.140	0.395	-0.120	0.234	-0.069
300g	0.909	-0.155	-0.296	-0.161	0.072	-0.145	0.201	-0.131	1.452	-0.025

The following table shows the mean energy (keV) of different magnetic and electric fields with or without the correction of the RA.

	-10 kV		-5 kV		0		5 kV		10 kV	
	before	after								
0	21.16	21.16	16.17	16.17	11.19	11.19	6.197	6.197	1.160	1.160
50 g	21.15	21.16	16.17	16.17	11.19	11.19	6.198	6.197	1.162	1.154
100 g	21.15	21.15	16.16	16.16	11.19	11.19	6.203	6.198	1.192	1.164
150 g	21.14	21.15	16.16	16.16	11.19	11.18	6.215	6.206	1.340	1.179
200 g	21.12	21.14	16.15	16.15	11.19	11.18	6.230	6.204	1.710	1.266
250 g	21.10	21.12	16.14	16.15	11.19	11.18	6.269	6.213	3.316	1.517
300 g	21.07	21.08	16.11	16.12	11.19	11.18	6.369	6.223	7.834	1.498

Moderator = 10 kV, RA=7.5

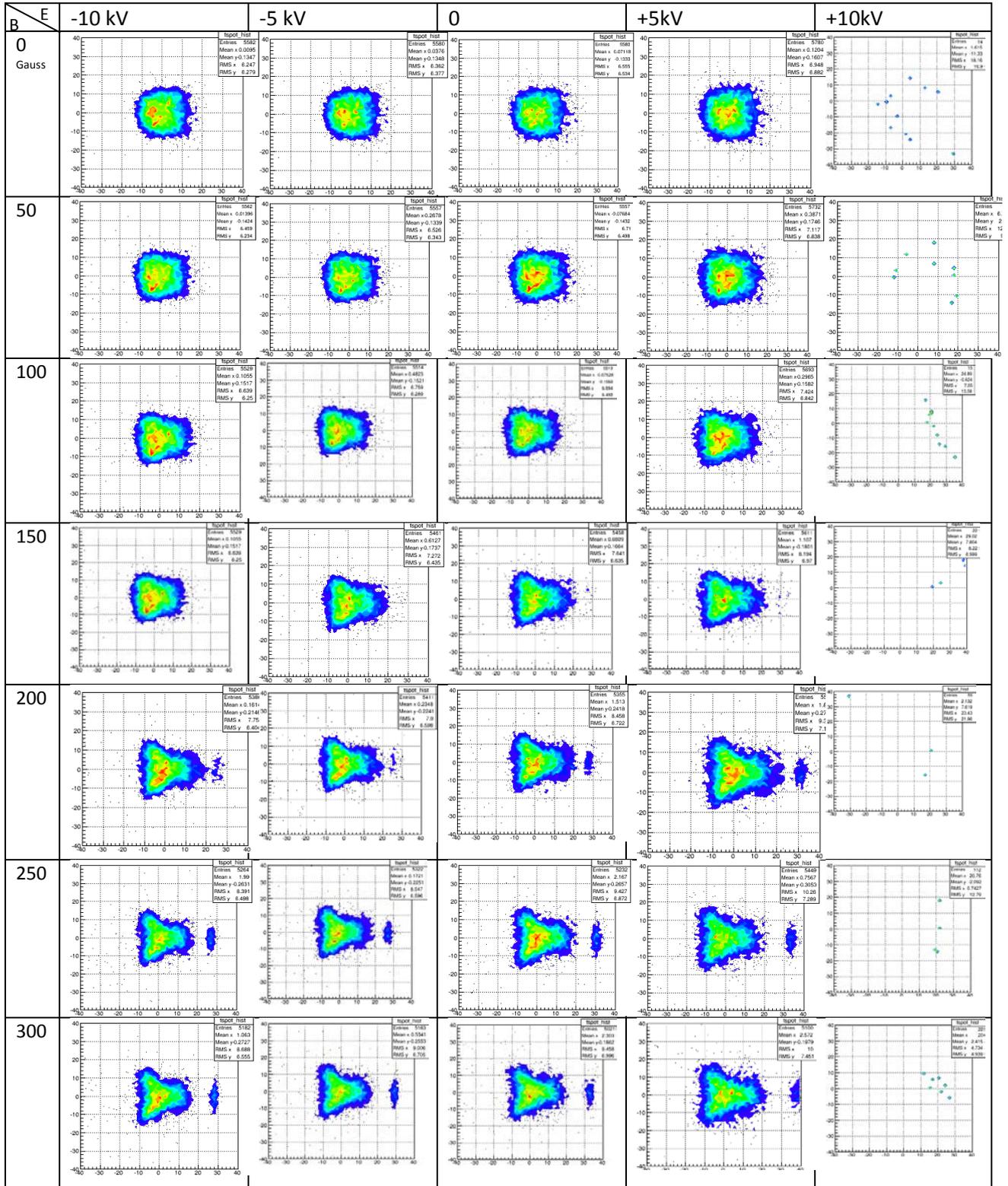


When the electric field is 10kV, there is almost no muon at the sample.

The following table gives the value of RAL-RAR to shift the beamspot to the center. $RAL+RAR=7.5*2$

	-10kV	-5kV	0	5kV	10kV
0	0	0	0	0	0
50 g	-0.28	-0.26	-0.28	-0.32	-0.28
100g	-0.56	-0.60	-0.56	-0.66	-0.60
150g	-0.90	-0.80	-0.92	-0.98	-1.00
200g	-1.24	-1.22	-1.28	-1.34	-1.40
250g	-1.58	-1.48	-1.64	-1.58	-1.80
300g	-1.80	-1.78	-2.00	-2.10	-2.20

Moderator = 10 kV, RAL+RAR=7.5*2, steered beamsport using RA



The following two tables give the meanX and meanY of the beamspot with (green one) and without (blue one) correcting the RA parameters.

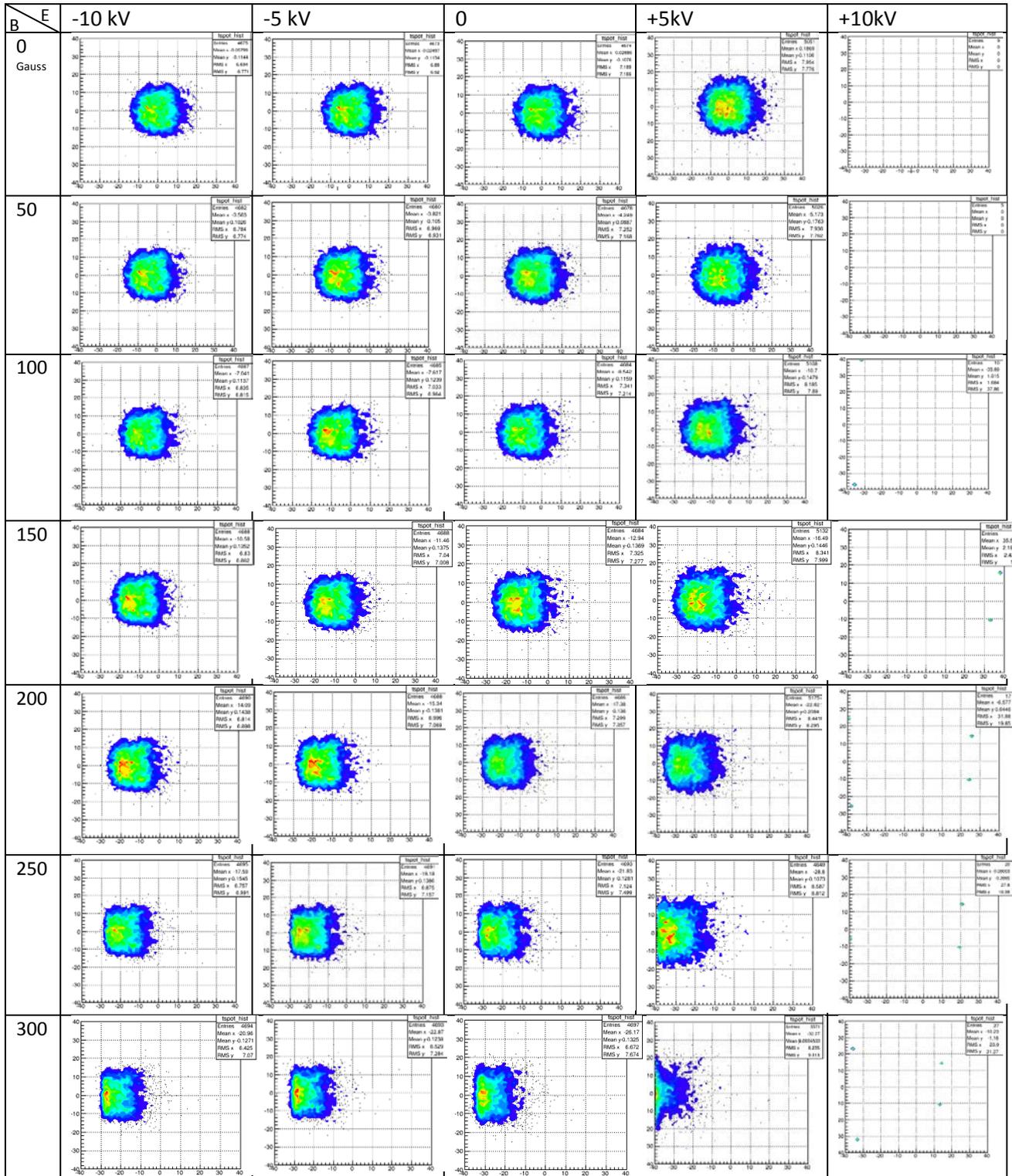
	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	0.0095	-0.1347	0.0376	-0.1348	0.0712	-0.1333	0.1204	-0.1607	-	-
50g	-3.223	-0.1215	-3.453	-0.1232	-3.794	-0.1300	-4.514	-0.1779	-	-
100g	-6.518	-0.1271	-7.008	-0.1235	-7.749	-0.1296	-9.197	-0.1585	-	-
150g	-9.784	-0.1215	-10.54	-0.1275	-11.71	-0.1289	-14.00	-0.1678	-	-
200g	-14.42	-0.1334	-14.15	-0.1215	-15.77	-0.1269	-19.17	-0.1732	-	-
250g	-16.41	-0.1232	-17.75	-0.1223	-19.88	-0.1273	-24.64	-0.1494	-	-
300g	-19.64	-0.1173	-21.28	-0.1201	-23.93	-0.1322	-30.06	-0.1389	-	-

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	0.0095	-0.1347	0.0376	-0.1348	0.0712	-0.1333	0.1204	-0.1607	-	-
50g	0.0140	-0.1424	-0.2678	-0.1339	-0.0768	-0.1432	0.3871	-0.1746	-	-
100g	0.1055	-0.1517	0.4823	-0.1521	0.0753	-0.1563	-0.2965	-0.1582	-	-
150g	0.7692	-0.1620	0.6127	-0.1737	0.6609	-0.1664	1.107	-0.1801	-	-
200g	0.1614	-0.2146	0.2349	-0.2241	1.513	-0.2418	1.877	-0.2754	-	-
250g	1.990	-0.2631	0.1721	-0.2251	2.167	-0.2657	0.7567	-0.3053	-	-
300g	1.063	-0.2727	0.5341	-0.2553	2.303	-0.1862	2.572	-0.1979	-	-

The following table gives the mean energy of muons at the sample, before and after tuning the RA parameters. (10 kV)

	-10 kV		-5 kV		0		5 kV		10 kV	
	before	after								
0	19.14	19.14	14.15	14.15	9.171	17.10	4.118	4.118	2.091	-
50 g	19.14	19.14	14.15	14.15	9.171	9.167	4.120	4.123	-	-
100 g	19.13	19.13	14.15	14.14	9.170	9.169	4.123	4.127	-	-
150 g	19.12	19.13	14.14	14.14	9.172	9.167	4.115	4.127	-	-
200 g	19.10	19.11	14.13	14.13	9.173	9.159	4.143	4.133	-	-
250 g	19.08	19.11	14.12	14.13	9.172	9.146	4.237	4.136	-	-
300 g	19.04	19.09	14.09	14.12	9.170	9.143	4.824	4.178	-	-

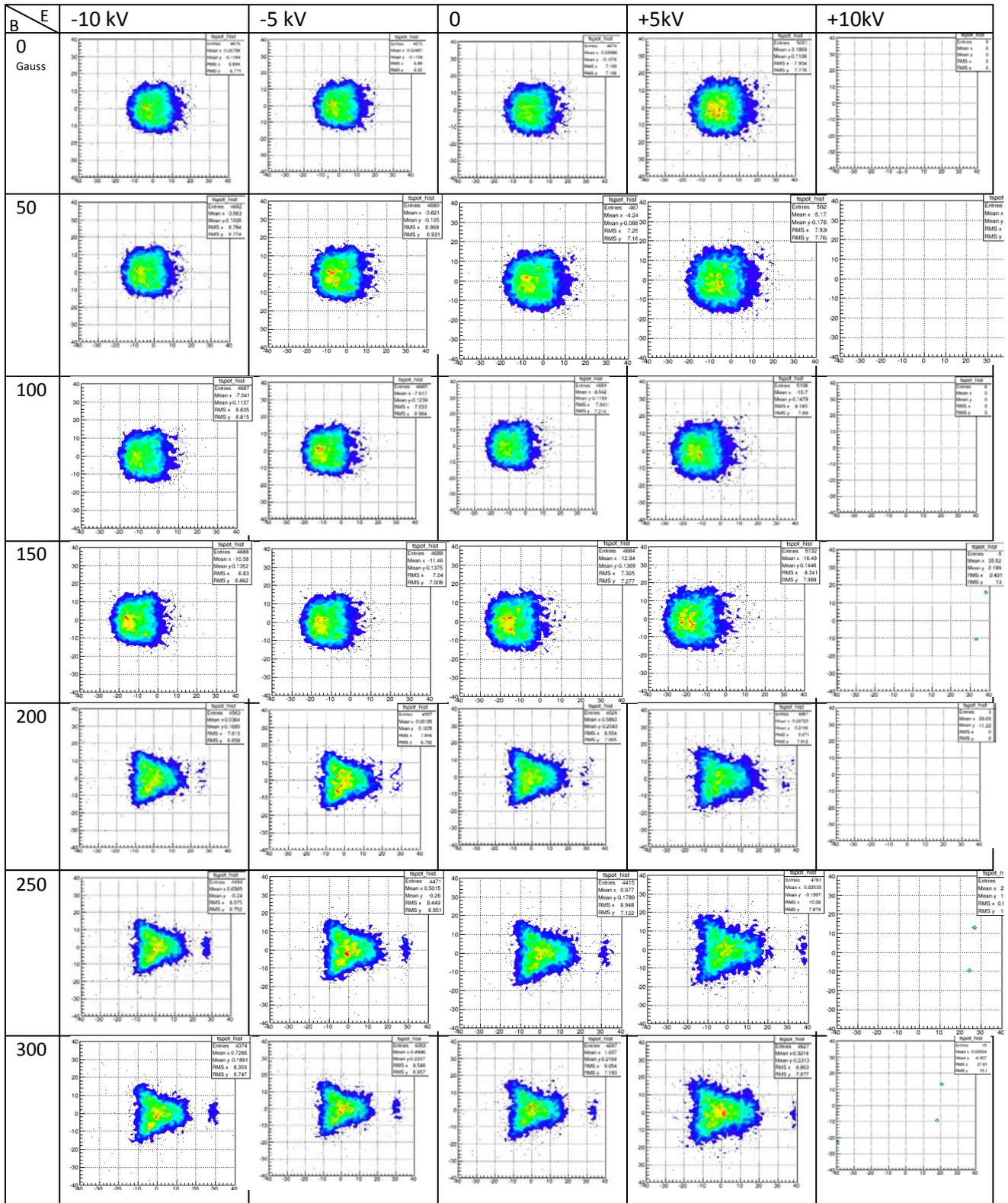
Moderator = 8.5 kV, RA=6.12



The following table gives value of the RAL-RAR to shift the beamspot to the center. $RAL+RAR=6.12 \times 2$

	-10kV	-5kV	0	5kV	10kV
0	0	0	0	0	0
50 g	-0.24	-0.28	-0.28	-0.30	-0.20
100g	-0.54	-0.56	-0.54	-0.60	-0.50
150g	-0.82	-0.84	-0.84	-0.90	-0.80
200g	-1.06	-1.08	-1.16	-1.18	-1.12
250g	-1.38	-1.40	-1.48	-1.52	-1.42
300g	-1.68	-1.70	-1.80	-1.86	-1.72

Moderator = 8.5 kV, RAL+RAR=6.12*2 kV, steered beamspot using RA



The following two tables give the meanX and meanY of the beamspot with (green one) and without (blue one) correcting the RA parameters

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	-0.0580	-0.1144	-0.0250	-0.1134	0.0288	-0.1076	0.1869	-0.1106	-	-
50g	-3.563	-0.1026	-3.821	-0.105	-4.249	-0.0887	-5.173	-0.1763	-	-
100g	-7.041	-0.1137	-7.617	-0.1239	-8.542	-0.1159	-10.70	-0.1479	-	-
150g	-10.59	-0.1352	-11.48	-0.1375	-12.94	-0.1369	-16.49	-0.1446	-	-
200g	-14.09	-0.1438	-15.34	-0.1381	-17.38	-0.1380	-22.82	-0.2084	-	-
250g	-17.59	-0.1545	-19.18	-0.1386	-21.83	-0.1281	-28.80	-0.1073	-	-
300g	-20.96	-0.1271	-22.87	-0.1238	-26.17	-0.1325	-32.27	-0.0004	-	-

	-10kV		-5kV		0		5kV		10kV	
	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY	meanX	meanY
0	-0.0580	-0.1144	-0.0250	-0.1134	0.0288	-0.1076	0.1869	-0.1106	-	-
50g	-0.3576	-0.1309	0.118	-0.1219	0.0468	-0.1172	0.2769	-0.1468	-	-
100g	0.0720	-0.1305	0.2294	-0.1241	-0.2717	-0.1255	0.2859	-0.1664	-	-
150g	0.3398	-0.1734	0.3708	-0.1712	0.0372	-0.1821	0.3652	-0.2043	-	-
200g	-0.0364	-0.1685	-0.0514	-0.1878	0.5863	-0.2043	-0.0672	-0.2196	-	-
250g	0.6385	-0.240	0.5015	-0.2600	0.977	-0.1789	0.0254	-0.1997	-	-
300g	0.7286	-0.1891	0.4996	-0.2207	1.057	-0.2164	-0.3214	-0.2313	-	-

The following table gives the mean energy of muons at the sample, before and after tuning the RA parameters. (8.5 kV)

	-10 kV		-5 kV		0		5 kV		10 kV	
	before	after								
0	17.62	17.62	12.63	12.63	7.652	7.652	2.557	2.557	-	-
50 g	17.62	17.62	12.63	12.63	7.654	7.655	2.571	2.568	-	-
100 g	17.62	17.62	12.63	12.63	7.657	7.656	2.561	2.566	-	-
150 g	17.60	17.62	12.62	12.63	7.658	7.654	2.585	2.572	-	-
200 g	17.58	17.61	12.61	12.62	7.658	7.650	2.691	2.598	-	-
250 g	17.55	17.60	12.59	12.61	7.655	7.648	3.475	2.609	-	-
300 g	17.50	17.59	12.56	12.61	7.653	7.648	4.998	2.624	-	-

When the moderator is 8 kV and the electric voltage at the sample is 10 kV, there are less muons at the sample.