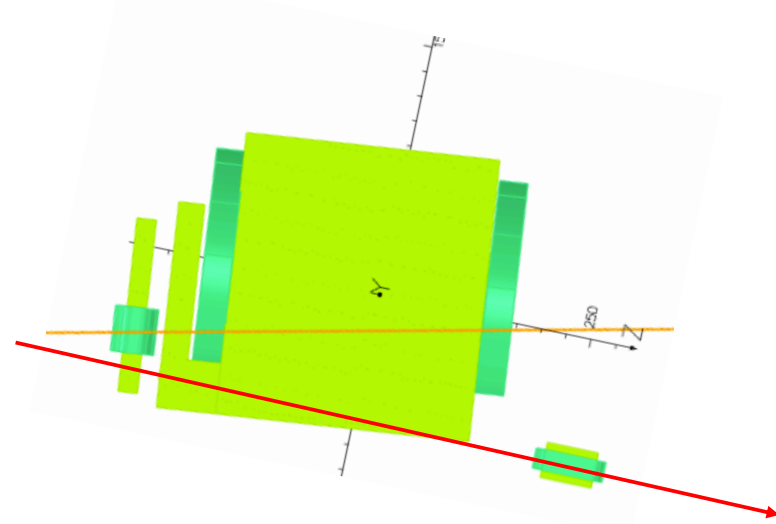
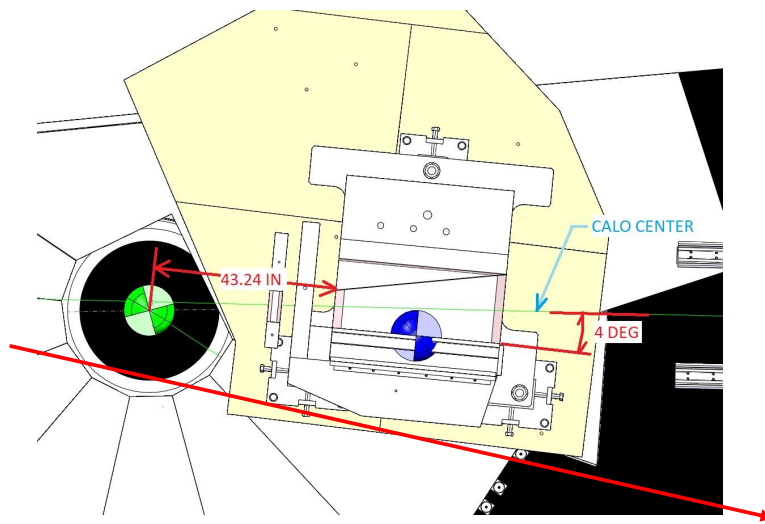


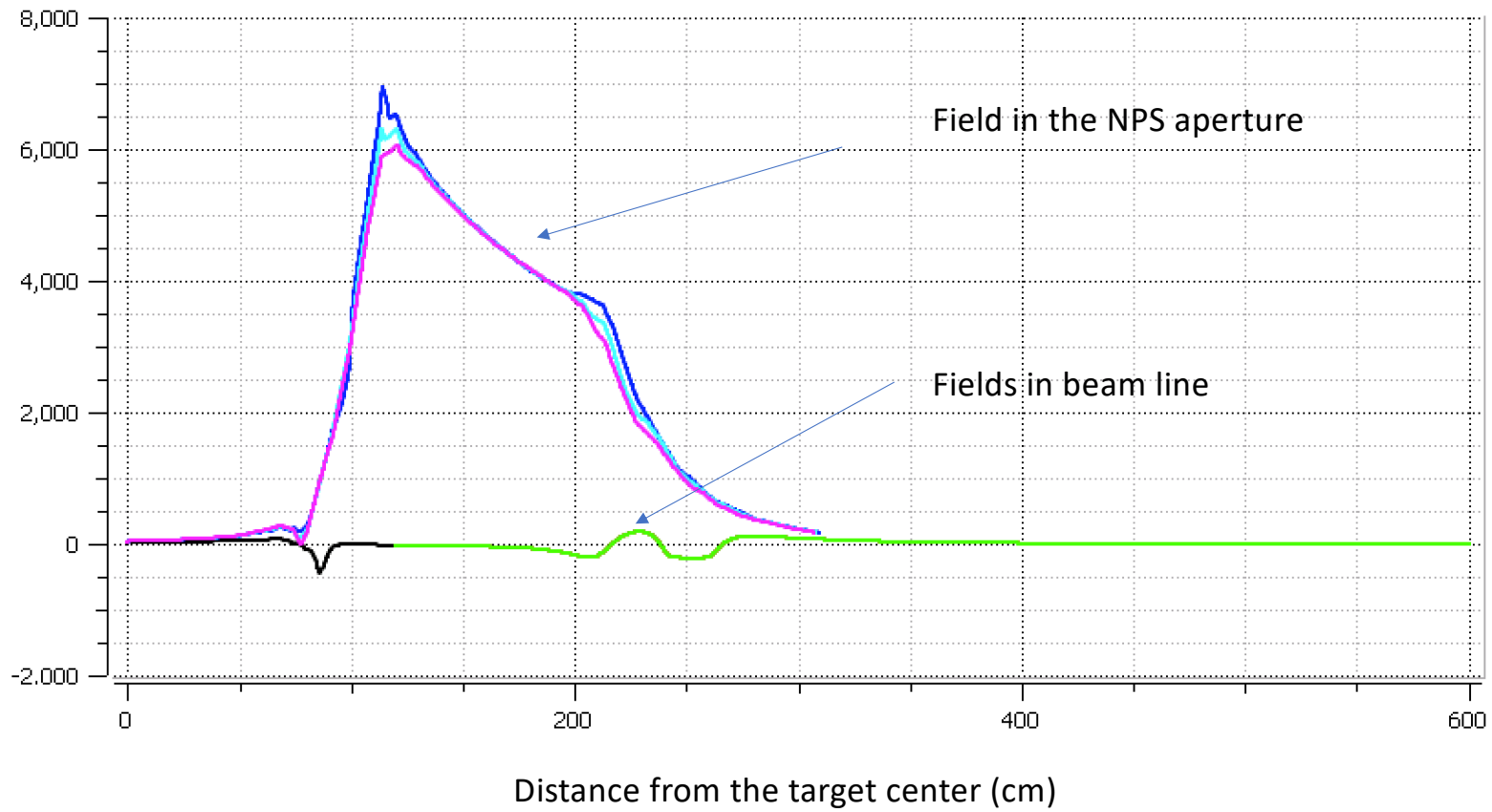
Sweeper magnet for NPS (SNPS)



Correctors tuning procedure:

1. Put SNPS at $\sim 10\%$ (48 Amp) and UpStreamCorrector and DownSC at 0%; observe deflection at dump, record the direction of the deflection.
2. Put UpSC at $\sim 10\%$ (10 Amp), observe the deflection at dump, adjust the current, record the deflection.
3. Put DownSC at $\sim 10\%$ (2 Amp), tune it to get beam at the center at dump, record the value and the sign of the optimal current.
4. Ramp currents proportional to the SNPS settings per a table in next slides. Adjust DSC current to made beam at center of dump.

Bx (Gauss) profile in horizontal plane for kin. 25_4



Corrector currents 468 Amp in Sweeper NPS (SNPS)

Setup Name		KinC_x36_1	KinC_x36_2	KinC_x36_3	KinC_x36_4	N1-name	KinC_x36_5
HMS Mom	(GeV)	1.956	4.042	6.117	2.562	4.637	2.416
HMS	(deg)	28.341	17.01	12.373	24.773	16.435	26.849
Calo Angle to beamline	(deg)	11.235	14.364	15.961	9.891	12.117	7.401
SHMS Optics (Camera) Angle	(deg)	27.665	30.794	32.391	26.321	28.547	23.831
Separation angle NPS magnet & Calo to HMS	(deg)	39.576	31.374	28.334	34.664	28.552	34.25
Separation angle SHMS to HMS	(deg)	56.006	47.804	44.764	51.094	44.982	50.68
NPS magnet Wing (beamline shield)		On	On	On	On	On	On
NPS magnet Pole face angle to Beamline	(deg)	7.235	10.364	11.961	5.891	8.117	3.401
NPS magnet Pole face angle to Calo centerline	(deg)	4	4	4	4	4	4
NPS magnet backside yoke angle to CL of Calo	(deg)	113.43	113.43	113.43	113.43	113.43	113.43
Calo-Dist	(m)	3	3	3	4	3	4
HMS Settings based on golden tune							
Q1	(A)	249.8	524.2	805.3	328.6	604.0	309.6
Q2	(A)	169.3	396.1	669.0	230.3	469.5	215.2
Q3	(A)	98.4	202.9	307.5	128.7	232.8	121.4
Dipole	(A)	554.9	1046.4	1808.0	692.0	1220.2	659.3
kBeam	(GeV)	6.397	8.483	10.558	8.483	10.558	10.558
NPS magnet current, Amp	(A)	468	468	468	468	468	468
NPS Upstream Compensation coils, Amp	(A)	-37	-87	-118	-56	-19	-19
NPS downstream Corrector, Amp	(A)	15	10	7	13	23	23

Table of kinematics with expected currents in the SNPS

Corrector currents 468 Amp in Sweeper NPS (SNPS)

KinC_x50_1	KinC_x50_2	KinC_x50_3	KinC_x60_1	KinC_x60_2	KinC_x60_3	N2-name	KinC_x25_1	KinC_x25_2	KinC_x25_3	KinC_x25_4
4.859	6.934	5.442	1.868	3.953	6.028	5.229	2.134	4.22	6.294	4.163
16.512	12.372	16.619	38.136	22.487	16.274	18.976	22.067	13.575	9.952	15.012
19.858	21.432	16.241	13.171	17.383	19.498	16.852	10.282	12.74	14.017	9.367
36.288	37.862	32.671	29.601	33.813	35.928	33.282	26.712	29.17	30.447	25.797
36.37	33.804	32.86	51.307	39.87	35.772	35.828	32.349	26.315	23.969	24.379
52.8	50.234	49.29	67.737	56.3	52.202	52.258	48.779	42.745	40.399	40.809
On	On	On	On	On	On	On	On	On	Off	Off
15.858	17.432	12.241	9.171	13.383	15.498	12.852	6.282	8.74	10.017	5.367
4	4	4	4	4	4	4	4	4	4	4
113.43	113.43	113.43	113.43	113.43	113.43	113.43	113.43	113.43	113.43	113.43
3	3	3	3	3	3	3	6	4	4	6
633.9	918.3	713.0	238.4	512.3	793.1	684.0	272.9	548.0	829.7	540.4
497.9	789.4	575.0	160.8	385.4	656.3	546.4	186.8	417.6	694.4	410.7
244.0	348.8	273.4	94.0	198.4	303.0	262.6	107.3	211.8	316.4	208.9
1292.6	2266.1	1507.0	534.4	1022.6	1764.6	1424.3	595.7	1095.7	1897.8	1079.7
8.483	10.558	10.558	6.397	8.483	10.558	10.558	6.397	8.483	10.558	10.558
468	468	468	468	468	468	468	468	468	468	468
-93	-87	-93	-62	-93	-124	-124	-37	-50	19	-12
-5	-9	7	12	4	4	4.5	16	14	-4	9

Table of kinematics with expected currents in the SNPS