Muons, Inc.

Target Solenoid Field Studies

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Muons, Inc.

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Description of Coils

Coil	Z_0, m	dZ, m	R_{in}, m	dR, m	J, amp/mm^2	Type
1	-0.712	0.749	0.178	0.054	24.37	Cu/H_2O
2	-0.712	0.877	0.232	0.122	19.07	Cu/H_2O
3	-0.712	1.073	0.353	0.137	14.87	Cu/H_2O
4	-1.253	1.781	0.636	0.642	23.39	SC
5	0.628	0.729	0.686	0.325	25.48	SC
6	1.457	0.999	0.776	0.212	29.73	SC
7	2.556	1.550	0.776	0.107	38.26	SC
8	4.206	1.859	0.776	0.065	49.39	SC
9	6.008	0.429	0.424	0.027	68.32	SC

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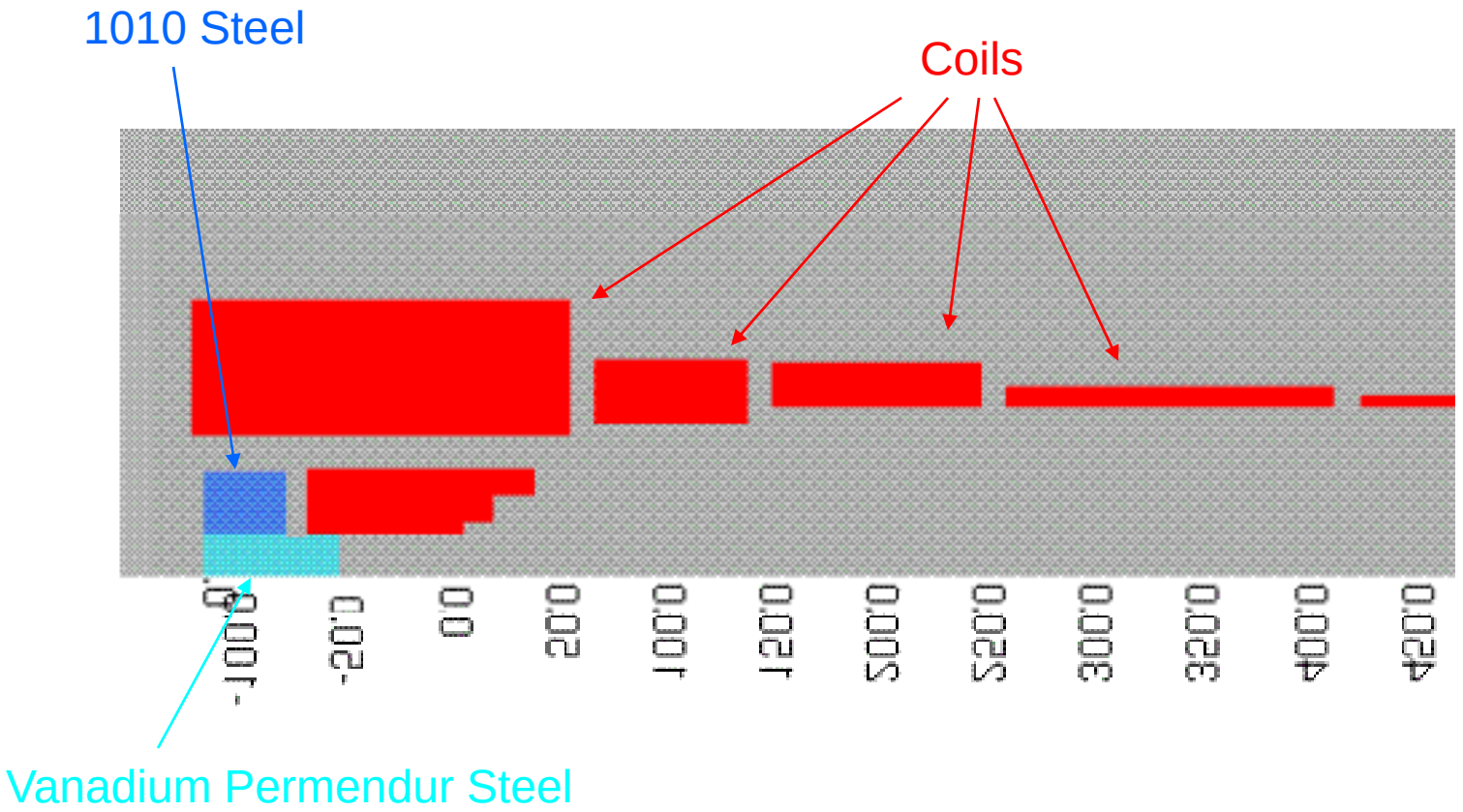
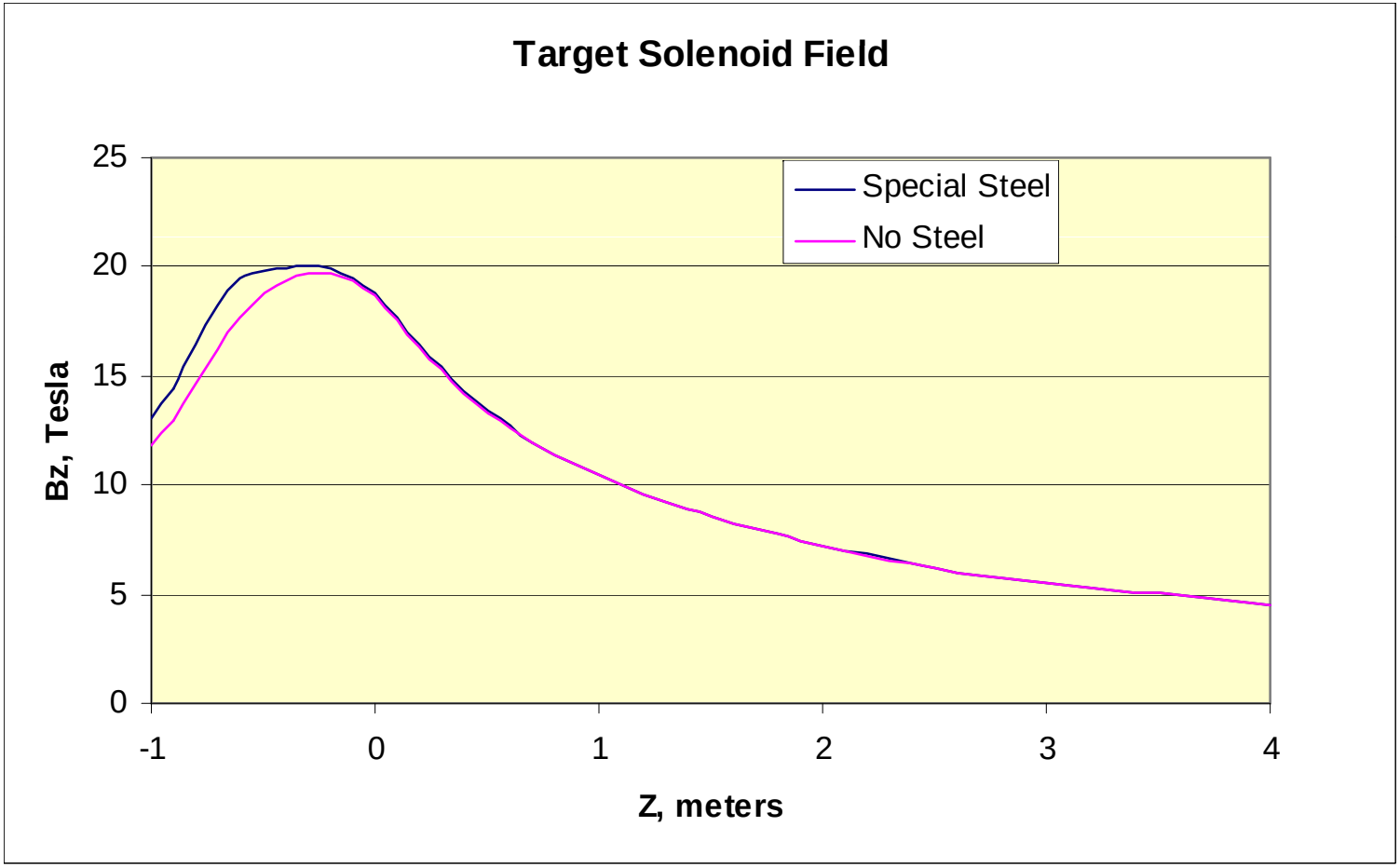
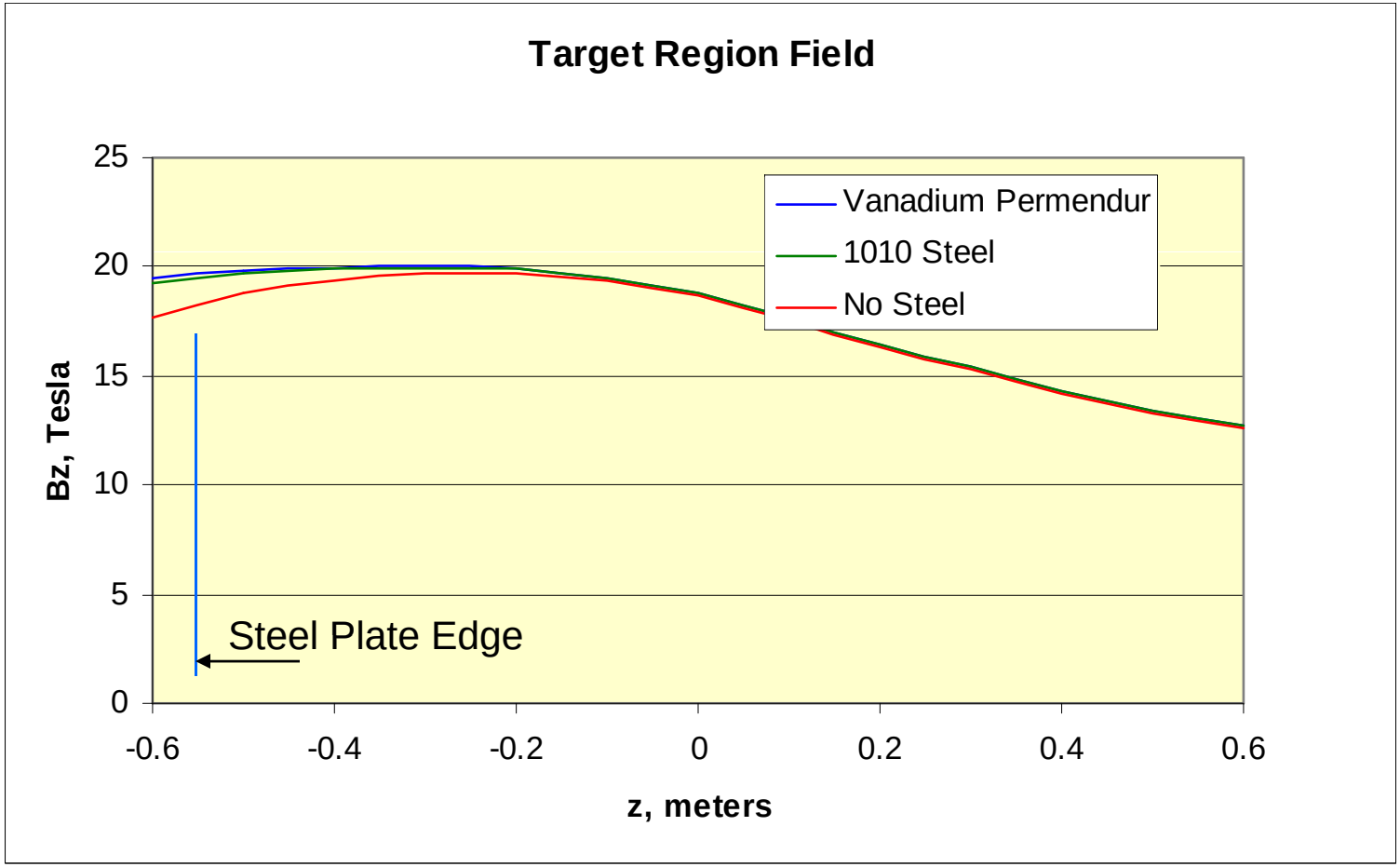
Sketch of Target Solenoid



Field Along Solenoid Axis



Target Region Field



Forces on Coils and the Steel Plate

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Coil	With Steel Plate		Without Steel	
	F_R, tonnes	F_Z, tonnes	F_R, tonnes	F_Z, tonnes
Steel Plate		6652	--	--
1	23660	124	23383	415
2	62112	40	61447	661
3	84038	-1433	83412	-658
4	751933	101533	755238	105594
5	166659	-48737	166400	-48631
6	118853	-29613	118751	-29555
7	86404	-14060	86475	-14048
8	62118	-322	62110	-320
Total Coil		7531		13557