

Comparison of Power Depositions

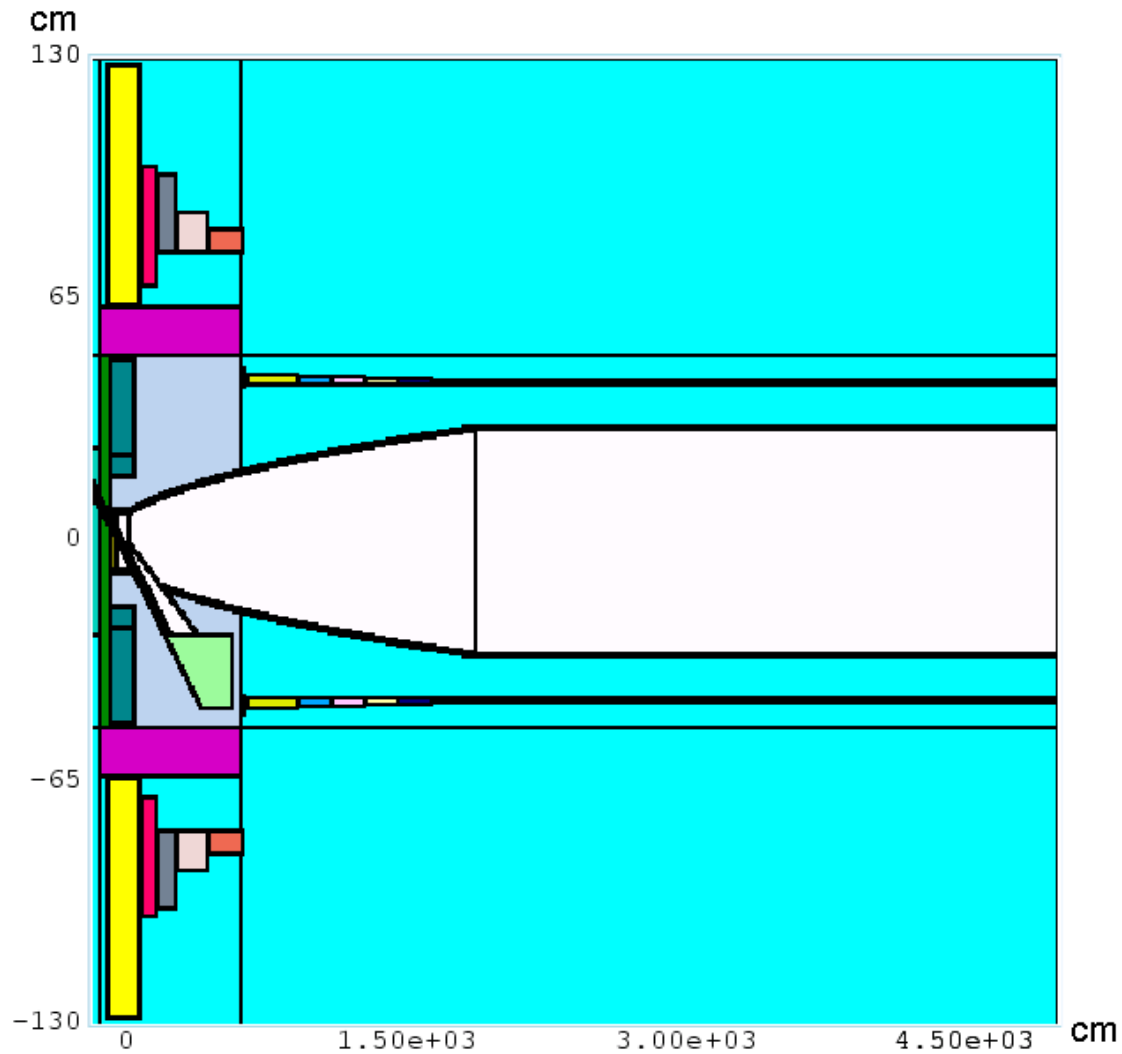
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Target Studies Jul. 27, 2010

Geometry

Standard Shielding: Gray; Enhanced Shielding: Gray+Pink



Power Deposition

8GeV & 4MW Proton beam, Standard Shielding

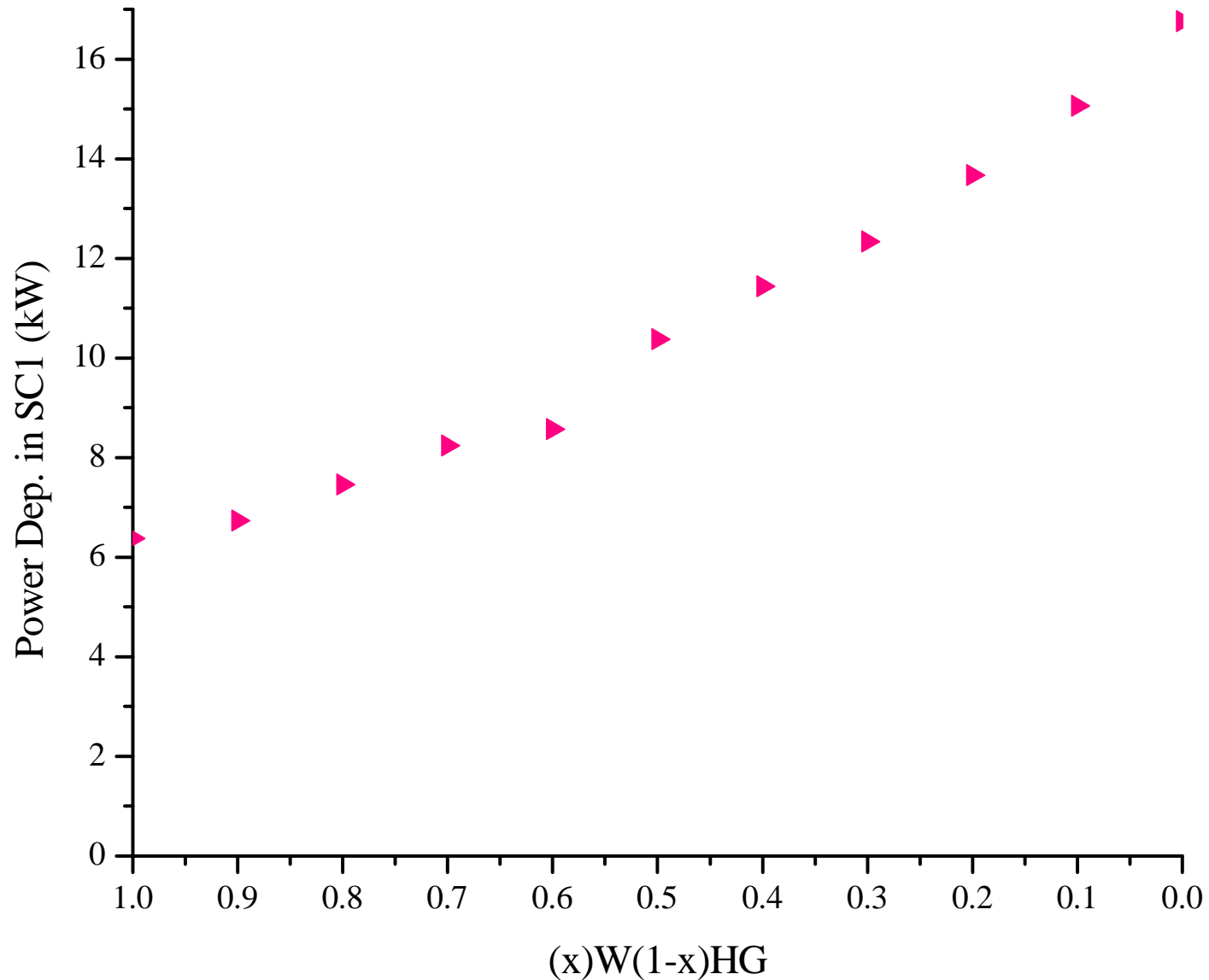
Shielding Material	Power Dep. In SC1 (kW)	Total Power Dep. In SC1-SC13 (kW)	Power Dep. in shielding material (kW)
0.8WC+0.2Water	24.905	36.13	1838.5
0.5HG0.5HG	32.5	61.12	1651
0.5W0.5W	20.92	30.825	1826
0.6W+0.4HG	23.715	35.1	1891.5
0.8W+0.2HG	22.605	33.175	1860
0.8TA+0.2Water	24.405	35.02	1833.5
0.6TA+0.4Water	27.03	39.835	1866
0.8TA+0.2HG	25.44	38.25	1829
0.6TA+0.4HG	26.86	40.455	1869

Power Deposition

8GeV & 4MW Proton beam, Enhanced Shielding

Shielding Material	SC1 (kW)	SC1-SC13 (kW)	Shielding material (kW)
0.8WC+0.2Water	8.595	16.775	1865.5
0.8TA+0.2Water	8.16	15.84	1859.5
0.5W0.5W (MIX3)	6.375	13.92	1838.5
100%W (W)	6.5	13.96	1934
0.9W+0.1HG	6.73	14.27	1833
0.8W+0.2HG	7.46	15.01	1817
0.7W+0.3HG	8.24	15.92	1804.5
0.6W+0.4HG	8.57	16.44	1793.5
0.5W+0.5HG	10.37	21.105	1796
0.4W+0.6HG	11.44	23.22	1775.5
0.3W+0.7HG	12.335	25.41	1752
0.2W+0.8HG	13.665	27.945	1740.5
0.1W+0.9HG	15.055	31.685	1709.5
0.5HG0.5HG	16.755	35.93	1682.5

Plot of Power Deposition vs the content of W/HG



Power Deposition

8GeV & 4MW Proton beam, Enhanced shielding+downstream($R \leq 37\text{cm}$)

Shielding Material	Power Dep. In SC1 (kW)	Total Power Dep. In SC1-SC13 (kW)	Power Dep. in shielding material (kW)
0.8WC+0.2Water	8.57	10.0385	1860.5
0.8TA+0.2Water	8.18	9.541	1854
0.5HG0.5HG	16.88	29.325	1687.5
0.5W0.5W	6.39	7.1655	1841.5
0.8W+0.2HG	7.42	8.4795	1814
0.8TA+0.2HG	10.04	11.8875	1793.5