Comparison of Power Depositions

Xiaoping Ding

UCLA

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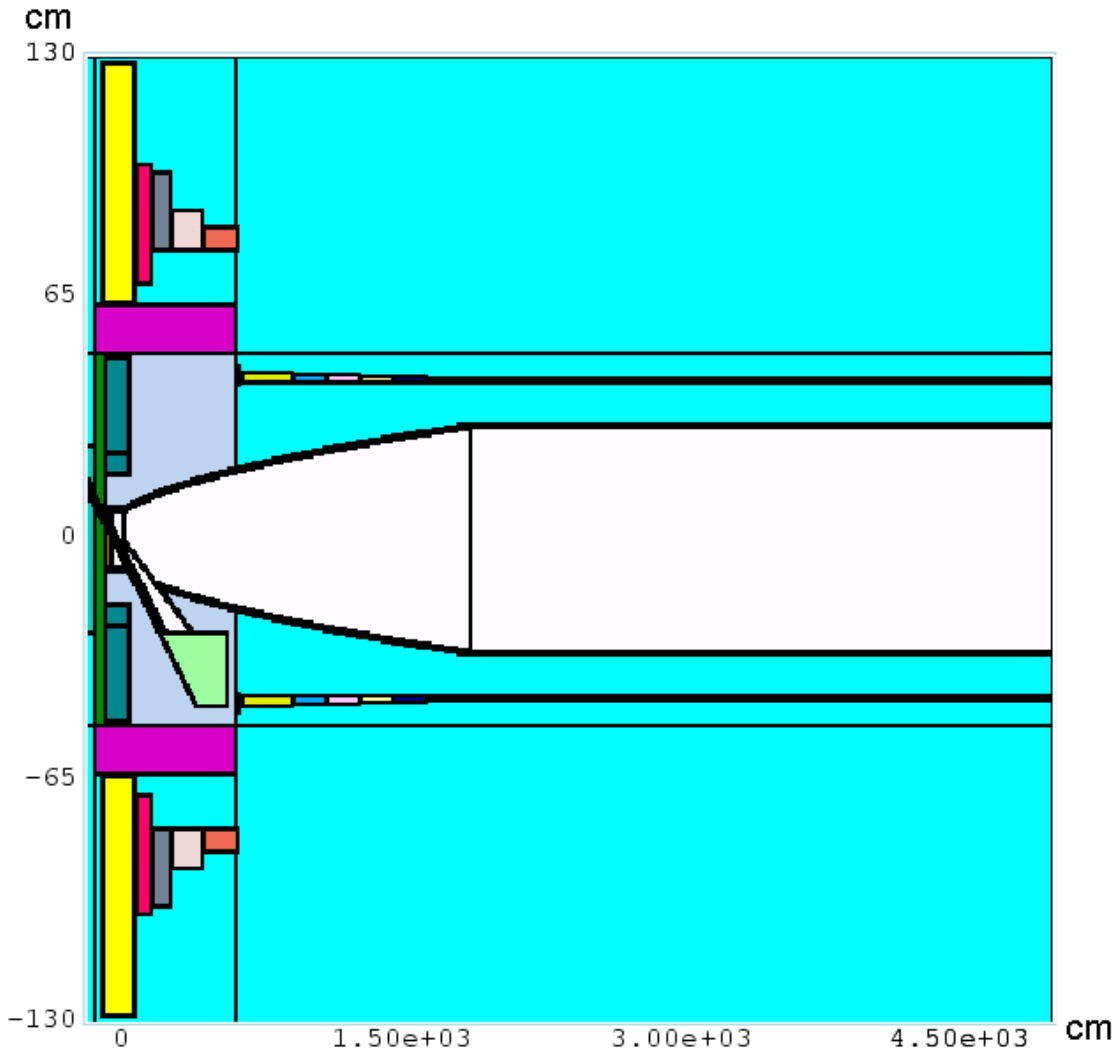
Geometry

Standard Shielding: Gray; Enhanced Shielding: Gray+Pink



Power Deposition

8GeV & 4MW Proton beam, Standard Shielding

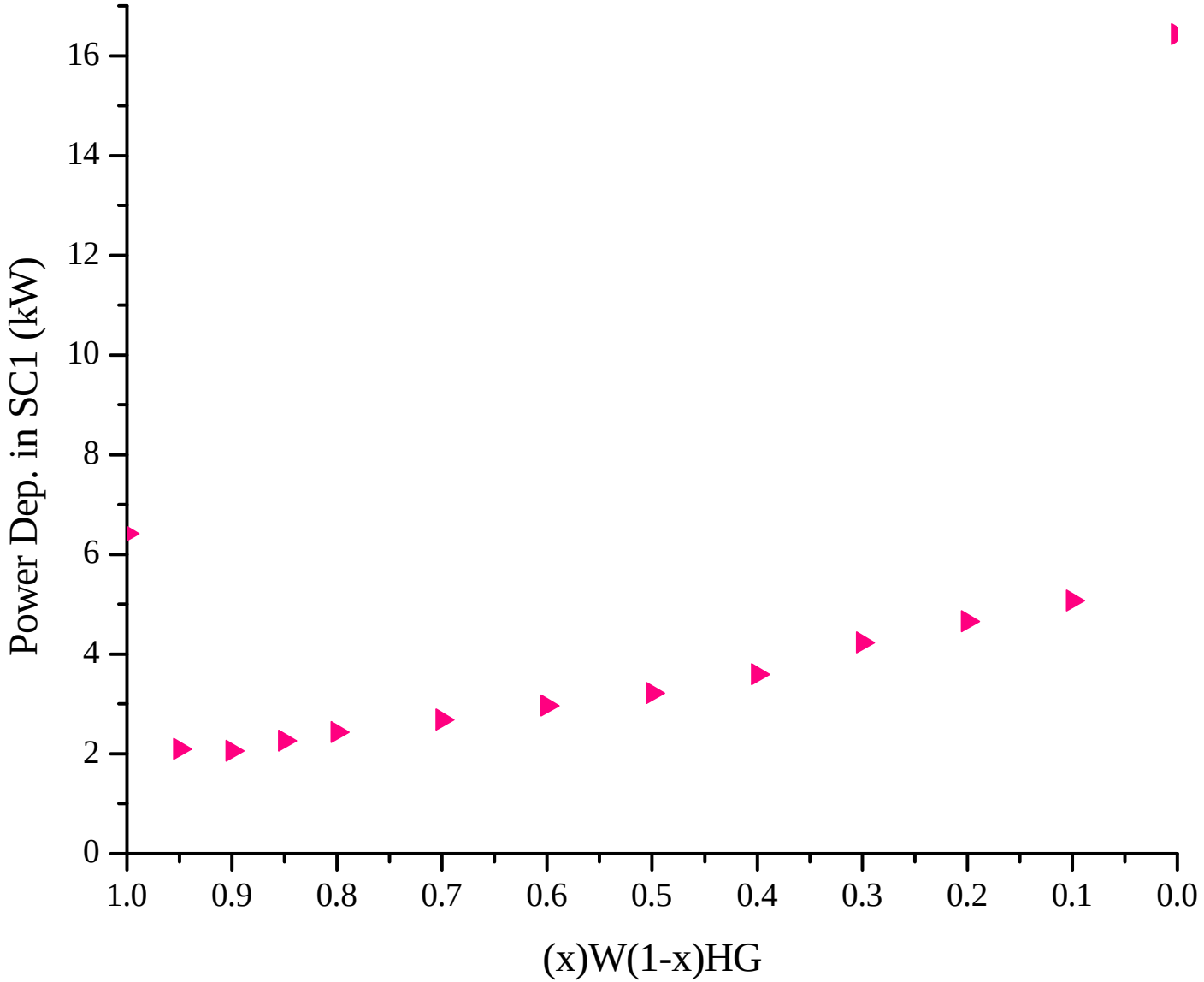
Shielding Material	Power Dep. In SC1 (kW)	Total Power Dep. In SC1-SC13 (kW)	Power Dep. in shielding material (kW)
0.8WC+0.2Water	24.780	35.91	1828
100%HG	33.115	60.424	1668
100%W	20.605	46.28	1903
0.6W+0.4HG	23.915	36.23	1768
0.8W+0.2HG	23.17	34.13	1796.5
0.8TA+0.2Water	24.61	34.55	1827.5
0.6TA+0.4Water	26.85	39.6	1870.5
0.8TA+0.2HG	25.87	38.97	1774
0.6TA+0.4HG	27.13	40.854	1744.5

Power Deposition

8GeV & 4MW Proton beam, Enhanced Shielding

Shielding Material	SC1 (kW)	SC1-SC13 (kW)	Shielding material (kW)
0.8WC+0.2Water	5.555	13.55	1868.3
0.8TA+0.2Water	4.773	12.53	1864.6
100%W	6.41	13.79	1939.4
0.95W+0.05HG	2.092	9.25	1848.23
0.9W+0.1HG	2.055	9.1	1834.55
0.85W+0.15HG	2.263	9.46	1824
0.8W+0.2HG	2.43	9.95	1825.8
0.7W+0.3HG	2.685	10.48	1817.775
0.6W+0.4HG	2.97	10.4	1800.835
0.5W+0.5HG	3.22	10.70	1790.8
0.4W+0.6HG	3.59	10.95	1790.5
0.3W+0.7HG	4.23	11.77	1784.1
0.2W+0.8HG	4.66	12.11	1763.25
0.1W+0.9HG	5.07	12.86	1737.55
100%HG	16.43	34.3	1700

Plot of Power Deposition vs the content of W/HG



Power Deposition

8GeV & 4MW Proton beam, Enhanced shielding+downstream(R<=37cm)

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	10.06	1857
0.8TA+0.2Water	5.76	8.89	1836.5
0.6TA+0.4Water	10.675	12.98	1872.5
100%HG	16.315	27.92	1707
100%W	6.335	7.09	1935.5
0.8W+0.2HG	7.54	8.69	1821
0.8TA+0.2HG	10.195	12.153	1791.5
0.6TA+0.4HG	10.795	13.305	1773