

Power deposition in SC coils

Region	Fluka P (kW)	MARS P (kW)
SC Coil 1	0.367 ± 0.048	0.470
SC Coil 2	0.088 ± 0.021	0.092
SC Coil 3	0.019 ± 0.008	0.022
SC Coil 4	0.031 ± 0.012	0.033
SC Coil 5	0.006 ± 0.004	0.008
SC Coil 6	0.002 ± 0.002	0.002
SC Coil 7	0.008 ± 0.007	0.007
SC Coil 8	0.014 ± 0.006	0.009
SC Coil 9	0.005 ± 0.004	0.004
SC Coil 10	0.055 ± 0.020	0.144
SC Coil 11	0.132 ± 0.025	
SC Coil 12	0.020 ± 0.011	
Total	0.747 ± 0.065	0.791

MARS results: N. Souchlas “IDS120j without resistive magnets” (11 June '12)

Power deposition in all regions

Region	Fluka P (kW)	MARS P (kW)	δP (kW)
SC coils 1–12	0.75 ± 0.07	0.79	+0.04
Lower Shielding SC1–3 ($r < 50$ cm, $z < 83$ cm)	1284.3 ± 7.7	1256.0	−28.3
Lower Shielding SC1–3 ($r < 50$ cm, $z > 83$ cm)	234.7 ± 3.2	179.6	−55.1
Upper Shielding SC1–3 ($r > 50$ cm)	58.3 ± 0.7	41.4	−16.9
Shielding for SC4–6	37.8 ± 1.7	29.5	−8.3
Shielding for SC7–9	11.0 ± 0.7	12.7	−4.2
Shielding for SC10–12	5.9 ± 0.6		
Beam pipe up to $z = 0$ cm	352.0 ± 2.7	322.5	−29.5
Beam pipe from $z = 0$ cm to end of taper	398.4 ± 3.8	384.1	−14.3
Beam pipe from end of taper	21.7 ± 1.0	17.8	−3.9
Lower shielding vessel for SC1–3 ($r < 50$ cm)	7.5 ± 0.2	10.7	+3.2
Upper shielding vessel for SC1–3 ($r > 50$ cm)	6.0 ± 0.1	4.3	−1.7
Shielding vessel for SC4–6	3.5 ± 0.2	2.8	−0.7
Shielding vessel for SC7–9	0.8 ± 0.1	1.5	+0.1
Shielding vessel for SC10–12	0.6 ± 0.1		
Hg Pool Container Vessel	10.4 ± 0.3	6.5	−3.9
Hg Jet	416.3 ± 3.0	396	−20.3
Hg Pool	460.7 ± 8.5	444	−16.7
Be Window	8.8 ± 0.1	7.6	−1.2
Total	3319.5 ± 13.3	3119.0	−200.5

$$\delta = \text{MARS} - \text{Fluka}$$

In general, Fluka has slightly higher energy deposition values