

Muons in dysprosium (Dy)

Z	A [g/mol]	ρ [g/cm ³]	I [eV]	a	k = m _s	x ₀	x ₁	$\overline{C}$	δ_0
66 (Dy)	162.500(1)	8.551	628.0	0.24665	2.5849	0.0822	3.4474	5.9182	0.14
T	p	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range		
	[MeV/c]			[MeV cm ² /g]			[g/cm ²]		
10.0 MeV	4.704 × 10 ¹	4.162				4.162	1.381 × 10 ⁰		
14.0 MeV	5.616 × 10 ¹	3.304				3.304	2.469 × 10 ⁰		
20.0 MeV	6.802 × 10 ¹	2.621				2.621	4.530 × 10 ⁰		
30.0 MeV	8.509 × 10 ¹	2.063				2.063	8.887 × 10 ⁰		
40.0 MeV	1.003 × 10 ²	1.776				1.776	1.414 × 10 ¹		
80.0 MeV	1.527 × 10 ²	1.357				1.357	4.069 × 10 ¹		
100. MeV	1.764 × 10 ²	1.283				1.283	5.589 × 10 ¹		
140. MeV	2.218 × 10 ²	1.212				1.212	8.810 × 10 ¹		
200. MeV	2.868 × 10 ²	1.179				1.179	1.384 × 10 ²		
239. MeV	3.285 × 10 ²	1.175	0.000			1.176	<i>Minimum ionization</i>		
300. MeV	3.917 × 10 ²	1.180	0.000		0.000	1.181	2.234 × 10 ²		
400. MeV	4.945 × 10 ²	1.199	0.000		0.000	1.200	3.074 × 10 ²		
800. MeV	8.995 × 10 ²	1.283	0.001		0.000	1.284	6.292 × 10 ²		
1.00 GeV	1.101 × 10 ³	1.316	0.001		0.000	1.318	7.829 × 10 ²		
1.40 GeV	1.502 × 10 ³	1.369	0.002	0.000	0.001	1.372	1.080 × 10 ³		
2.00 GeV	2.103 × 10 ³	1.427	0.003	0.001	0.001	1.432	1.508 × 10 ³		
3.00 GeV	3.104 × 10 ³	1.492	0.006	0.003	0.001	1.503	2.188 × 10 ³		
4.00 GeV	4.104 × 10 ³	1.537	0.009	0.006	0.002	1.554	2.842 × 10 ³		
8.00 GeV	8.105 × 10 ³	1.640	0.021	0.020	0.003	1.684	5.305 × 10 ³		
10.0 GeV	1.011 × 10 ⁴	1.671	0.028	0.028	0.004	1.731	6.475 × 10 ³		
14.0 GeV	1.411 × 10 ⁴	1.715	0.043	0.045	0.005	1.809	8.734 × 10 ³		
20.0 GeV	2.011 × 10 ⁴	1.760	0.067	0.074	0.007	1.908	1.196 × 10 ⁴		
30.0 GeV	3.011 × 10 ⁴	1.806	0.109	0.129	0.011	2.056	1.701 × 10 ⁴		
40.0 GeV	4.011 × 10 ⁴	1.837	0.154	0.190	0.014	2.197	2.171 × 10 ⁴		
80.0 GeV	8.011 × 10 ⁴	1.906	0.348	0.457	0.028	2.740	3.797 × 10 ⁴		
100. GeV	1.001 × 10 ⁵	1.926	0.451	0.602	0.035	3.015	4.493 × 10 ⁴		
140. GeV	1.401 × 10 ⁵	1.956	0.662	0.898	0.049	3.566	5.712 × 10 ⁴		
167. GeV	1.669 × 10 ⁵	1.971	0.808	1.105	0.058	3.943	<i>Muon critical energy</i>		
200. GeV	2.001 × 10 ⁵	1.986	0.992	1.368	0.070	4.417	7.222 × 10 ⁴		
300. GeV	3.001 × 10 ⁵	2.020	1.555	2.153	0.105	5.834	9.186 × 10 ⁴		
400. GeV	4.001 × 10 ⁵	2.044	2.137	2.966	0.139	7.288	1.072 × 10 ⁵		
800. GeV	8.001 × 10 ⁵	2.102	4.540	6.300	0.282	13.225	1.474 × 10 ⁵		
1.00 TeV	1.000 × 10 ⁶	2.121	5.774	8.005	0.354	16.255	1.610 × 10 ⁵		
1.40 TeV	1.400 × 10 ⁶	2.150	8.246	11.406	0.501	22.305	1.819 × 10 ⁵		
2.00 TeV	2.000 × 10 ⁶	2.181	12.027	16.594	0.725	31.529	2.044 × 10 ⁵		
3.00 TeV	3.000 × 10 ⁶	2.216	18.337	25.217	1.109	46.880	2.303 × 10 ⁵		
4.00 TeV	4.000 × 10 ⁶	2.242	24.730	33.930	1.498	62.401	2.487 × 10 ⁵		
8.00 TeV	8.000 × 10 ⁶	2.305	50.497	68.951	3.111	124.866	2.931 × 10 ⁵		
10.0 TeV	1.000 × 10 ⁷	2.326	63.479	86.553	3.939	156.298	3.074 × 10 ⁵		
14.0 TeV	1.400 × 10 ⁷	2.357	89.372	121.677	5.638	219.046	3.289 × 10 ⁵		
20.0 TeV	2.000 × 10 ⁷	2.391	128.434	174.586	8.240	313.653	3.517 × 10 ⁵		
30.0 TeV	3.000 × 10 ⁷	2.431	193.462	262.612	12.736	471.242	3.775 × 10 ⁵		
40.0 TeV	4.000 × 10 ⁷	2.459	258.717	350.842	17.336	629.356	3.958 × 10 ⁵		
80.0 TeV	8.000 × 10 ⁷	2.529	520.105	704.008	36.531	1263.175	4.398 × 10 ⁵		
100. TeV	1.000 × 10 ⁸	2.552	651.010	880.750	46.440	1580.754	4.539 × 10 ⁵		