

Muons in deuterium gas (D₂)

Z	A [g/mol]	ρ [g/cm ³]	I [eV]	a	$k = m_s$	x_0	x_1	\bar{C}	δ_0
1 (D)	2.014101778(13)	6.77×10^{-4}	19.2	0.14092	5.7273	1.8793	3.2872	9.6543	0.00

T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm ² /g]	Photonucl	Total	CSDA range [g/cm ²]
10.0 MeV	4.704×10^1	8.379				8.379	6.528×10^{-1}
14.0 MeV	5.616×10^1	6.500				6.500	1.201×10^0
20.0 MeV	6.802×10^1	5.049				5.049	2.261×10^0
30.0 MeV	8.509×10^1	3.895				3.895	4.548×10^0
40.0 MeV	1.003×10^2	3.313				3.313	7.350×10^0
80.0 MeV	1.527×10^2	2.466				2.466	2.180×10^1
100. MeV	1.764×10^2	2.312				2.313	3.020×10^1
140. MeV	2.218×10^2	2.159				2.159	4.819×10^1
200. MeV	2.868×10^2	2.076			0.000	2.076	7.664×10^1
284. MeV	3.748×10^2	2.053			0.000	2.054	<i>Minimum ionization</i>
300. MeV	3.917×10^2	2.054			0.000	2.054	1.252×10^2
400. MeV	4.945×10^2	2.072			0.000	2.073	1.737×10^2
800. MeV	8.995×10^2	2.188			0.000	2.189	3.615×10^2
1.00 GeV	1.101×10^3	2.239			0.001	2.240	4.518×10^2
1.40 GeV	1.502×10^3	2.323			0.001	2.324	6.269×10^2
2.00 GeV	2.103×10^3	2.418	0.000		0.001	2.419	8.797×10^2
3.00 GeV	3.104×10^3	2.530	0.000	0.000	0.002	2.532	1.283×10^3
4.00 GeV	4.104×10^3	2.611	0.000	0.000	0.002	2.614	1.671×10^3
8.00 GeV	8.105×10^3	2.806	0.001	0.001	0.004	2.812	3.140×10^3
10.0 GeV	1.011×10^4	2.860	0.001	0.001	0.005	2.867	3.844×10^3
14.0 GeV	1.411×10^4	2.927	0.001	0.002	0.007	2.937	5.221×10^3
20.0 GeV	2.011×10^4	2.984	0.002	0.003	0.010	3.000	7.241×10^3
30.0 GeV	3.011×10^4	3.039	0.004	0.005	0.015	3.063	1.054×10^4
40.0 GeV	4.011×10^4	3.074	0.006	0.008	0.019	3.107	1.378×10^4
80.0 GeV	8.011×10^4	3.150	0.014	0.019	0.037	3.220	2.640×10^4
100. GeV	1.001×10^5	3.174	0.018	0.025	0.046	3.263	3.257×10^4
140. GeV	1.401×10^5	3.209	0.027	0.038	0.064	3.338	4.469×10^4
200. GeV	2.001×10^5	3.245	0.042	0.059	0.090	3.436	6.240×10^4
300. GeV	3.001×10^5	3.286	0.068	0.096	0.135	3.584	9.089×10^4
400. GeV	4.001×10^5	3.315	0.094	0.134	0.179	3.723	1.183×10^5
800. GeV	8.001×10^5	3.387	0.209	0.296	0.363	4.255	2.186×10^5
1.00 TeV	1.000×10^6	3.410	0.269	0.381	0.456	4.516	2.643×10^5
1.40 TeV	1.400×10^6	3.445	0.392	0.551	0.647	5.035	3.481×10^5
2.00 TeV	2.000×10^6	3.483	0.582	0.814	0.938	5.817	4.589×10^5
2.94 TeV	2.943×10^6	3.524	0.886	1.228	1.410	7.048	<i>Muon critical energy</i>
3.00 TeV	3.000×10^6	3.526	0.905	1.253	1.439	7.124	6.140×10^5
4.00 TeV	4.000×10^6	3.557	1.237	1.701	1.950	8.445	7.428×10^5
8.00 TeV	8.000×10^6	3.634	2.598	3.510	4.084	13.826	1.110×10^6
10.0 TeV	1.000×10^7	3.660	3.294	4.423	5.185	16.562	1.242×10^6
14.0 TeV	1.400×10^7	3.698	4.688	6.239	7.460	22.085	1.450×10^6
20.0 TeV	2.000×10^7	3.740	6.812	8.984	10.962	30.498	1.680×10^6
30.0 TeV	3.000×10^7	3.788	10.360	13.544	17.064	44.756	1.950×10^6
40.0 TeV	4.000×10^7	3.823	13.948	18.122	23.340	59.233	2.143×10^6
80.0 TeV	8.000×10^7	3.908	28.408	36.452	49.789	118.558	2.612×10^6
100. TeV	1.000×10^8	3.937	35.690	45.630	63.540	148.797	2.762×10^6