

**Table 309: Muons in Dubnium**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
105 (Db)	[268.125 (4)]	??	1061.0	0.27114	3.0000	0.6224	3.0000	6.5105	0.00
T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	3.544				3.544	$1.672 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.854				2.854	$2.941 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.291				2.291	$5.310 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.824				1.824	$1.026 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.582				1.582	$1.618 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.227				1.227	$4.572 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.166				1.166	$6.248 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.109				1.109	$9.780 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.089				1.089	$1.526 \times 10^2$		
209. MeV	$2.968 \times 10^2$	1.088	0.000			1.089	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.102	0.000		0.000	1.103	$2.440 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.129	0.000		0.000	1.130	$3.336 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.226	0.001		0.000	1.228	$6.722 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.262	0.002		0.000	1.264	$8.327 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.317	0.003		0.000	1.321	$1.142 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.375	0.005	0.000	0.001	1.381	$1.586 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.439	0.009	0.003	0.001	1.452	$2.290 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.482	0.013	0.007	0.001	1.504	$2.966 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.578	0.032	0.025	0.003	1.638	$5.505 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.606	0.042	0.036	0.004	1.689	$6.707 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.646	0.065	0.059	0.005	1.776	$9.015 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.685	0.100	0.098	0.007	1.892	$1.229 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.726	0.165	0.175	0.011	2.078	$1.733 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.753	0.233	0.260	0.014	2.261	$2.194 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.813	0.526	0.636	0.027	3.004	$3.724 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.832	0.682	0.840	0.034	3.388	$4.351 \times 10^4$		
116. GeV	$1.157 \times 10^5$	1.844	0.805	1.000	0.039	3.689	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.859	1.001	1.258	0.047	4.166	$5.414 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.888	1.499	1.922	0.067	5.378	$6.679 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.920	2.349	3.030	0.100	7.402	$8.259 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.944	3.227	4.179	0.134	9.485	$9.450 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.000	6.847	8.889	0.270	18.008	$1.246 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.018	8.705	11.299	0.339	22.363	$1.346 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.046	12.424	16.103	0.480	31.055	$1.497 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.075	18.108	23.435	0.694	44.315	$1.658 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.110	27.589	35.615	1.061	66.377	$1.841 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.134	37.189	47.925	1.433	88.683	$1.971 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.195	75.859	97.397	2.974	178.427	$2.283 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.215	95.332	122.261	3.764	223.574	$2.382 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.246	134.171	171.876	5.385	313.680	$2.533 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.278	192.742	246.612	7.868	449.503	$2.692 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.316	290.344	370.939	12.155	675.756	$2.872 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.344	388.289	495.551	16.541	902.727	$3.000 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.411	780.033	994.347	34.837	1811.630	$3.306 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.433	976.020	1243.970	44.280	2266.706	$3.405 \times 10^5$		