

**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)	[262.1141]	??	1061.0	0.26946	3.0000	0.6150	3.0000	6.4878	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	$4.704 \times 10^1$	3.625				3.625	$1.635 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.919				2.919	$2.875 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.344				2.344	$5.191 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.866				1.866	$1.003 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.618				1.618	$1.582 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.255				1.255	$4.469 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.192				1.192	$6.108 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.135				1.135	$9.561 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.114				1.114	$1.491 \times 10^2$		
209. MeV	$2.968 \times 10^2$	1.113	0.000			1.114	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.127	0.000		0.000	1.128	$2.386 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.155	0.000		0.000	1.156	$3.262 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.254	0.001		0.000	1.255	$6.573 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.290	0.002		0.000	1.292	$8.142 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.346	0.003		0.000	1.350	$1.117 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.406	0.005	0.000	0.001	1.412	$1.551 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.471	0.009	0.003	0.001	1.484	$2.240 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.515	0.013	0.007	0.001	1.537	$2.902 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.613	0.032	0.025	0.003	1.673	$5.386 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.642	0.042	0.036	0.004	1.724	$6.563 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.682	0.065	0.059	0.005	1.812	$8.825 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.722	0.100	0.098	0.007	1.929	$1.203 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.764	0.165	0.175	0.011	2.116	$1.698 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.792	0.233	0.260	0.014	2.300	$2.151 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.854	0.526	0.636	0.027	3.045	$3.658 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.872	0.682	0.840	0.034	3.429	$4.277 \times 10^4$		
118. GeV	$1.180 \times 10^5$	1.886	0.823	1.024	0.040	3.774	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.900	1.001	1.258	0.047	4.208	$5.329 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.930	1.499	1.922	0.067	5.420	$6.583 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.963	2.349	3.030	0.100	7.444	$8.152 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.987	3.227	4.179	0.134	9.528	$9.337 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.044	6.847	8.889	0.270	18.053	$1.234 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.063	8.705	11.299	0.339	22.408	$1.333 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.091	12.424	16.103	0.480	31.101	$1.484 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.122	18.108	23.435	0.694	44.361	$1.645 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.157	27.589	35.615	1.061	66.424	$1.828 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.182	37.189	47.925	1.433	88.731	$1.958 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.244	75.859	97.397	2.974	178.476	$2.269 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.264	95.332	122.261	3.764	223.624	$2.369 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.296	134.171	171.876	5.385	313.730	$2.519 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.329	192.742	246.612	7.868	449.554	$2.678 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.368	290.344	370.939	12.155	675.808	$2.859 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.396	388.289	495.551	16.541	902.779	$2.986 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.465	780.033	994.347	34.837	1811.684	$3.293 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.488	976.020	1243.970	44.280	2266.760	$3.391 \times 10^5$		