Table 057: Muons in Lanthanum

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
57 (La)	138.90547 (7)	6.154	501.0	0.18591	2.8828	0.3161	3.3293	5.7850	0.14

T	p [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm^2]
		[MeV cm^2/g]					
10.0 MeV	4.704×10^1	4.404				4.404	1.295×10^0
14.0 MeV	5.616×10^1	3.485				3.485	2.326×10^0
20.0 MeV	6.802×10^1	2.757				2.757	4.282×10^0
30.0 MeV	8.509×10^1	2.166				2.166	8.428×10^0
40.0 MeV	1.003×10^2	1.864				1.864	1.344×10^1
80.0 MeV	1.527×10^2	1.423				1.423	3.874×10^1
100. MeV	1.764×10^2	1.344				1.344	5.324×10^1
140. MeV	2.218×10^2	1.269				1.269	8.400×10^1
200. MeV	2.868×10^2	1.235				1.235	1.321×10^2
239. MeV	3.285×10^2	1.231				1.231	*Minimum ionization*
300. MeV	3.917×10^2	1.236	0.000		0.000	1.236	2.132×10^2
400. MeV	4.945×10^2	1.255	0.000		0.000	1.256	2.935×10^2
800. MeV	8.995×10^2	1.340	0.001		0.000	1.341	6.013×10^2
1.00 GeV	1.101×10^3	1.373	0.001		0.000	1.375	7.485×10^2
1.40 GeV	1.502×10^3	1.426	0.002	0.000	0.001	1.429	1.034×10^3
2.00 GeV	2.103×10^3	1.484	0.003	0.001	0.001	1.489	1.444×10^3
3.00 GeV	3.104×10^3	1.548	0.005	0.003	0.001	1.558	2.100×10^3
4.00 GeV	4.104×10^3	1.592	0.008	0.006	0.002	1.607	2.732×10^3
8.00 GeV	8.105×10^3	1.692	0.019	0.018	0.003	1.733	5.119×10^3
10.0 GeV	1.011×10^4	1.722	0.025	0.025	0.004	1.777	6.258×10^3
14.0 GeV	1.411×10^4	1.765	0.038	0.041	0.005	1.850	8.463×10^3
20.0 GeV	2.011×10^4	1.808	0.059	0.067	0.008	1.941	1.163×10^4
30.0 GeV	3.011×10^4	1.852	0.096	0.116	0.011	2.077	1.660×10^4
40.0 GeV	4.011×10^4	1.882	0.136	0.171	0.015	2.204	2.128×10^4
80.0 GeV	8.011×10^4	1.948	0.307	0.410	0.029	2.695	3.765×10^4
100. GeV	1.001×10^5	1.968	0.398	0.539	0.036	2.941	4.476×10^4
140. GeV	1.401×10^5	1.997	0.584	0.804	0.050	3.437	5.733×10^4
188. GeV	1.881×10^5	2.022	0.817	1.139	0.066	4.045	*Muon critical energy*
200. GeV	2.001×10^5	2.027	0.876	1.225	0.071	4.200	7.310×10^4
300. GeV	3.001×10^5	2.061	1.374	1.927	0.106	5.469	9.392×10^4
400. GeV	4.001×10^5	2.085	1.888	2.655	0.141	6.771	1.103×10^5
800. GeV	8.001×10^5	2.144	4.013	5.639	0.286	12.083	1.540×10^5
1.00 TeV	1.000×10^6	2.163	5.104	7.165	0.359	14.793	1.689×10^5
1.40 TeV	1.400×10^6	2.192	7.291	10.209	0.508	20.203	1.920×10^5
2.00 TeV	2.000×10^6	2.223	10.637	14.855	0.735	28.452	2.169×10^5
3.00 TeV	3.000×10^6	2.259	16.222	22.575	1.124	42.182	2.456×10^5
4.00 TeV	4.000×10^6	2.285	21.881	30.377	1.519	56.064	2.661×10^5
8.00 TeV	8.000×10^6	2.349	44.695	61.738	3.155	111.939	3.156×10^5
10.0 TeV	1.000×10^7	2.370	56.191	77.502	3.995	140.059	3.315×10^5
14.0 TeV	1.400×10^7	2.402	79.120	108.956	5.719	196.199	3.555×10^5
20.0 TeV	2.000×10^7	2.436	113.714	156.338	8.362	280.852	3.810×10^5
30.0 TeV	3.000×10^7	2.476	171.306	235.172	12.925	421.881	4.098×10^5
40.0 TeV	4.000×10^7	2.505	229.104	314.192	17.595	563.398	4.303×10^5
80.0 TeV	8.000×10^7	2.576	460.633	630.488	37.092	1130.791	4.794×10^5
100. TeV	1.000×10^8	2.599	576.590	788.780	47.160	1415.130	4.952×10^5