Table 058: Muons in Cerium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
58 (Ce)	140.116 (1)	6.657	523.0	0.18885	2.8592	0.2713	3.3432	5.7837	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	4.405				4.405	1.296×10^0
14.0 MeV	5.616×10^1	3.488				3.488	2.327×10^0
20.0 MeV	6.802×10^1	2.761				2.761	4.281×10^0
30.0 MeV	8.509×10^1	2.170				2.170	8.420×10^0
40.0 MeV	1.003×10^2	1.868				1.868	1.342×10^1
80.0 MeV	1.527×10^2	1.426				1.426	3.867×10^1
100. MeV	1.764×10^2	1.347				1.347	5.314×10^1
140. MeV	2.218×10^2	1.272				1.272	8.384×10^1
200. MeV	2.868×10^2	1.238				1.238	1.318×10^2
239. MeV	3.285×10^2	1.234				1.234	*Minimum ionization*
300. MeV	3.917×10^2	1.239	0.000		0.000	1.240	2.127×10^2
400. MeV	4.945×10^2	1.259	0.000		0.000	1.259	2.928×10^2
800. MeV	8.995×10^2	1.344	0.001		0.000	1.345	5.996×10^2
1.00 GeV	1.101×10^3	1.378	0.001		0.000	1.380	7.464×10^2
1.40 GeV	1.502×10^3	1.431	0.002	0.000	0.001	1.434	1.030×10^3
2.00 GeV	2.103×10^3	1.489	0.003	0.001	0.001	1.495	1.440×10^3
3.00 GeV	3.104×10^3	1.554	0.005	0.003	0.001	1.564	2.093×10^3
4.00 GeV	4.104×10^3	1.599	0.008	0.006	0.002	1.615	2.721×10^3
8.00 GeV	8.105×10^3	1.700	0.019	0.018	0.003	1.742	5.097×10^3
10.0 GeV	1.011×10^4	1.731	0.025	0.026	0.004	1.786	6.231×10^3
14.0 GeV	1.411×10^4	1.774	0.039	0.042	0.005	1.861	8.423×10^3
20.0 GeV	2.011×10^4	1.817	0.060	0.068	0.008	1.954	1.157×10^4
30.0 GeV	3.011×10^4	1.862	0.099	0.119	0.011	2.092	1.651×10^4
40.0 GeV	4.011×10^4	1.893	0.139	0.175	0.015	2.222	2.115×10^4
80.0 GeV	8.011×10^4	1.959	0.315	0.420	0.029	2.724	3.737×10^4
100. GeV	1.001×10^5	1.979	0.408	0.552	0.036	2.976	4.440×10^4
140. GeV	1.401×10^5	2.009	0.599	0.823	0.050	3.482	5.681×10^4
185. GeV	1.852×10^5	2.033	0.823	1.145	0.065	4.067	*Muon critical energy*
200. GeV	2.001×10^5	2.039	0.898	1.254	0.071	4.263	7.237×10^4
300. GeV	3.001×10^5	2.074	1.409	1.973	0.106	5.562	9.286×10^4
400. GeV	4.001×10^5	2.098	1.936	2.717	0.141	6.894	1.090×10^5
800. GeV	8.001×10^5	2.157	4.114	5.771	0.285	12.330	1.518×10^5
1.00 TeV	1.000×10^6	2.177	5.233	7.333	0.359	15.103	1.664×10^5
1.40 TeV	1.400×10^6	2.206	7.475	10.449	0.508	20.640	1.890×10^5
2.00 TeV	2.000×10^6	2.237	10.905	15.204	0.735	29.083	2.134×10^5
3.00 TeV	3.000×10^6	2.274	16.630	23.106	1.123	43.134	2.414×10^5
4.00 TeV	4.000×10^6	2.300	22.431	31.090	1.518	57.340	2.615×10^5
8.00 TeV	8.000×10^6	2.364	45.816	63.187	3.153	114.521	3.099×10^5
10.0 TeV	1.000×10^7	2.385	57.599	79.320	3.992	143.298	3.255×10^5
14.0 TeV	1.400×10^7	2.417	81.101	111.511	5.715	200.746	3.489×10^5
20.0 TeV	2.000×10^7	2.452	116.560	160.002	8.354	287.370	3.738×10^5
30.0 TeV	3.000×10^7	2.492	175.591	240.683	12.915	431.682	4.020×10^5
40.0 TeV	4.000×10^7	2.521	234.833	321.553	17.582	576.491	4.220×10^5
80.0 TeV	8.000×10^7	2.592	472.146	645.259	37.062	1157.062	4.700×10^5
100. TeV	1.000×10^8	2.616	591.000	807.260	47.120	1447.998	4.854×10^5