Table 004: Muons in Beryllium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
4 (Be)	9.012182 (3)	1.848	63.7	0.80392	2.4339	0.0592	1.6922	2.7847	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	6.491				6.491	8.504×10^{-1}
14.0 MeV	5.616×10^1	5.058				5.058	1.556×10^0
20.0 MeV	6.802×10^1	3.945				3.945	2.915×10^0
30.0 MeV	8.509×10^1	3.054				3.054	5.836×10^0
40.0 MeV	1.003×10^2	2.603				2.603	9.406×10^0
80.0 MeV	1.527×10^2	1.940				1.940	2.778×10^1
100. MeV	1.764×10^2	1.818				1.818	3.845×10^1
140. MeV	2.218×10^2	1.694				1.694	6.136×10^1
200. MeV	2.868×10^2	1.622				1.622	9.769×10^1
300. MeV	3.917×10^2	1.595			0.000	1.595	1.600×10^2
318. MeV	4.105×10^2	1.595			0.000	1.595	*Minimum ionization*
400. MeV	4.945×10^2	1.600			0.000	1.600	2.227×10^2
800. MeV	8.995×10^2	1.658			0.000	1.659	4.683×10^2
1.00 GeV	1.101×10^3	1.685	0.000		0.000	1.685	5.879×10^2
1.40 GeV	1.502×10^3	1.727	0.000		0.001	1.728	8.221×10^2
2.00 GeV	2.103×10^3	1.774	0.000	0.000	0.001	1.775	1.164×10^3
3.00 GeV	3.104×10^3	1.826	0.001	0.000	0.001	1.828	1.719×10^3
4.00 GeV	4.104×10^3	1.861	0.001	0.001	0.002	1.865	2.260×10^3
8.00 GeV	8.105×10^3	1.944	0.002	0.002	0.004	1.951	4.352×10^3
10.0 GeV	1.011×10^4	1.969	0.002	0.002	0.005	1.979	5.369×10^3
14.0 GeV	1.411×10^4	2.007	0.004	0.004	0.007	2.022	7.367×10^3
20.0 GeV	2.011×10^4	2.046	0.006	0.007	0.009	2.068	1.030×10^4
30.0 GeV	3.011×10^4	2.089	0.010	0.012	0.014	2.124	1.507×10^4
40.0 GeV	4.011×10^4	2.118	0.014	0.018	0.018	2.167	1.972×10^4
80.0 GeV	8.011×10^4	2.185	0.032	0.043	0.035	2.295	3.763×10^4
100. GeV	1.001×10^5	2.206	0.042	0.057	0.043	2.348	4.624×10^4
140. GeV	1.401×10^5	2.237	0.062	0.086	0.060	2.444	6.294×10^4
200. GeV	2.001×10^5	2.269	0.093	0.132	0.085	2.579	8.683×10^4
300. GeV	3.001×10^5	2.306	0.147	0.210	0.127	2.790	1.241×10^5
400. GeV	4.001×10^5	2.332	0.204	0.292	0.169	2.997	1.587×10^5
800. GeV	8.001×10^5	2.396	0.439	0.635	0.342	3.812	2.767×10^5
1.00 TeV	1.000×10^6	2.416	0.561	0.813	0.430	4.221	3.265×10^5
1.33 TeV	1.328×10^6	2.443	0.762	1.103	0.577	4.886	*Muon critical energy*
1.40 TeV	1.400×10^6	2.448	0.807	1.168	0.610	5.033	4.132×10^5
2.00 TeV	2.000×10^6	2.482	1.186	1.713	0.884	6.265	5.199×10^5
3.00 TeV	3.000×10^6	2.520	1.823	2.622	1.355	8.320	6.579×10^5
4.00 TeV	4.000×10^6	2.548	2.471	3.545	1.834	10.398	7.653×10^5
8.00 TeV	8.000×10^6	2.617	5.099	7.266	3.830	18.813	1.047×10^6
10.0 TeV	1.000×10^7	2.640	6.430	9.142	4.859	23.071	1.143×10^6
14.0 TeV	1.400×10^7	2.675	9.086	12.878	6.980	31.619	1.291×10^6
20.0 TeV	2.000×10^7	2.712	13.106	18.518	10.240	44.576	1.450×10^6
30.0 TeV	3.000×10^7	2.755	19.801	27.896	15.903	66.355	1.632×10^6
40.0 TeV	4.000×10^7	2.786	26.536	37.308	21.718	88.348	1.763×10^6
80.0 TeV	8.000×10^7	2.862	53.530	74.993	46.136	177.521	2.076×10^6
100. TeV	1.000×10^8	2.888	67.060	93.860	58.800	222.608	2.176×10^6