Table 098: Muons in Carbon (compact)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
6 (C)	[12.0107 (8)]	2.265	78.0	0.26142	2.8697	−0.0178	2.3415	2.8680	0.12

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	7.116				7.116	7.772×10^{-1}
14.0 MeV	5.616×10^1	5.549				5.549	1.420×10^0
20.0 MeV	6.802×10^1	4.331				4.331	2.658×10^0
30.0 MeV	8.509×10^1	3.355				3.355	5.318×10^0
40.0 MeV	1.003×10^2	2.861				2.861	8.567×10^0
80.0 MeV	1.527×10^2	2.126				2.127	2.531×10^1
100. MeV	1.764×10^2	1.991				1.992	3.505×10^1
140. MeV	2.218×10^2	1.854				1.854	5.597×10^1
200. MeV	2.868×10^2	1.775				1.775	8.917×10^1
300. MeV	3.917×10^2	1.745			0.000	1.745	1.462×10^2
317. MeV	4.096×10^2	1.745			0.000	1.745	*Minimum ionization*
400. MeV	4.945×10^2	1.751			0.000	1.751	2.034×10^2
800. MeV	8.995×10^2	1.819	0.000		0.000	1.820	4.275×10^2
1.00 GeV	1.101×10^3	1.850	0.000		0.000	1.851	5.365×10^2
1.40 GeV	1.502×10^3	1.900	0.000		0.001	1.901	7.496×10^2
2.00 GeV	2.103×10^3	1.955	0.000	0.000	0.001	1.957	1.060×10^3
3.00 GeV	3.104×10^3	2.018	0.001	0.001	0.001	2.021	1.563×10^3
4.00 GeV	4.104×10^3	2.062	0.001	0.001	0.002	2.066	2.052×10^3
8.00 GeV	8.105×10^3	2.161	0.003	0.003	0.004	2.171	3.935×10^3
10.0 GeV	1.011×10^4	2.191	0.004	0.004	0.005	2.204	4.849×10^3
14.0 GeV	1.411×10^4	2.234	0.006	0.007	0.007	2.254	6.643×10^3
20.0 GeV	2.011×10^4	2.278	0.010	0.011	0.009	2.308	9.272×10^3
30.0 GeV	3.011×10^4	2.326	0.016	0.019	0.013	2.374	1.354×10^4
40.0 GeV	4.011×10^4	2.359	0.022	0.028	0.018	2.427	1.770×10^4
80.0 GeV	8.011×10^4	2.434	0.050	0.068	0.034	2.587	3.364×10^4
100. GeV	1.001×10^5	2.458	0.065	0.089	0.042	2.655	4.127×10^4
140. GeV	1.401×10^5	2.493	0.097	0.134	0.059	2.783	5.598×10^4
200. GeV	2.001×10^5	2.529	0.145	0.206	0.084	2.964	7.687×10^4
300. GeV	3.001×10^5	2.571	0.230	0.327	0.125	3.253	1.091×10^5
400. GeV	4.001×10^5	2.600	0.317	0.453	0.167	3.538	1.385×10^5
800. GeV	8.001×10^5	2.672	0.681	0.981	0.338	4.671	2.366×10^5
1.00 TeV	1.000×10^6	2.695	0.869	1.254	0.424	5.242	2.770×10^5
1.06 TeV	1.057×10^6	2.701	0.922	1.330	0.449	5.402	*Muon critical energy*
1.40 TeV	1.400×10^6	2.730	1.248	1.797	0.602	6.377	3.461×10^5
2.00 TeV	2.000×10^6	2.768	1.830	2.630	0.871	8.100	4.294×10^5
3.00 TeV	3.000×10^6	2.812	2.806	4.016	1.335	10.970	5.351×10^5
4.00 TeV	4.000×10^6	2.844	3.799	5.422	1.807	13.873	6.160×10^5
8.00 TeV	8.000×10^6	2.921	7.821	11.088	3.773	25.603	8.250×10^5
10.0 TeV	1.000×10^7	2.947	9.855	13.942	4.785	31.529	8.953×10^5
14.0 TeV	1.400×10^7	2.986	13.913	19.628	6.871	43.398	1.003×10^6
20.0 TeV	2.000×10^7	3.027	20.052	28.206	10.076	61.362	1.119×10^6
30.0 TeV	3.000×10^7	3.076	30.273	42.478	15.640	91.467	1.251×10^6
40.0 TeV	4.000×10^7	3.111	40.549	56.796	21.350	121.806	1.346×10^6
80.0 TeV	8.000×10^7	3.197	81.720	114.122	45.316	244.356	1.573×10^6
100. TeV	1.000×10^8	3.225	102.350	142.820	57.740	306.136	1.646×10^6