Muons in promethium (Pm)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
61 (Pm)	[144.91275 (3)]	7.264	560.0	0.24280	2.6674	0.1614	3.3186	5.8163	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	4.418				4.418	1.295×10^0
14.0 MeV	5.616×10^1	3.501				3.501	2.322×10^0
20.0 MeV	6.802×10^1	2.773				2.773	4.268×10^0
30.0 MeV	8.509×10^1	2.180				2.180	8.388×10^0
40.0 MeV	1.003×10^2	1.877				1.877	1.336×10^1
80.0 MeV	1.527×10^2	1.431				1.431	3.850×10^1
100. MeV	1.764×10^2	1.354				1.354	5.291×10^1
140. MeV	2.218×10^2	1.279				1.279	8.344×10^1
200. MeV	2.868×10^2	1.244				1.244	1.312×10^2
243. MeV	3.325×10^2	1.240	0.000			1.240	*Minimum ionization*
300. MeV	3.917×10^2	1.245	0.000		0.000	1.246	2.117×10^2
400. MeV	4.945×10^2	1.265	0.000		0.000	1.266	2.914×10^2
800. MeV	8.995×10^2	1.351	0.001		0.000	1.353	5.967×10^2
1.00 GeV	1.101×10^3	1.386	0.001		0.000	1.388	7.426×10^2
1.40 GeV	1.502×10^3	1.440	0.002	0.000	0.001	1.443	1.025×10^3
2.00 GeV	2.103×10^3	1.500	0.003	0.001	0.001	1.505	1.432×10^3
3.00 GeV	3.104×10^3	1.567	0.006	0.003	0.001	1.577	2.080×10^3
4.00 GeV	4.104×10^3	1.613	0.008	0.006	0.002	1.629	2.703×10^3
8.00 GeV	8.105×10^3	1.717	0.020	0.019	0.003	1.760	5.056×10^3
10.0 GeV	1.011×10^4	1.749	0.027	0.027	0.004	1.807	6.177×10^3
14.0 GeV	1.411×10^4	1.794	0.041	0.043	0.005	1.884	8.344×10^3
20.0 GeV	2.011×10^4	1.838	0.063	0.071	0.007	1.981	1.145×10^4
30.0 GeV	3.011×10^4	1.885	0.104	0.124	0.011	2.125	1.632×10^4
40.0 GeV	4.011×10^4	1.916	0.146	0.182	0.015	2.261	2.088×10^4
80.0 GeV	8.011×10^4	1.985	0.331	0.438	0.029	2.784	3.679×10^4
100. GeV	1.001×10^5	2.006	0.429	0.576	0.036	3.048	4.365×10^4
140. GeV	1.401×10^5	2.036	0.629	0.861	0.049	3.577	5.576×10^4
180. GeV	1.801×10^5	2.058	0.837	1.158	0.063	4.117	*Muon critical energy*
200. GeV	2.001×10^5	2.067	0.943	1.310	0.070	4.392	7.088×10^4
300. GeV	3.001×10^5	2.102	1.479	2.062	0.105	5.750	9.073×10^4
400. GeV	4.001×10^5	2.127	2.033	2.841	0.141	7.143	1.063×10^5
800. GeV	8.001×10^5	2.187	4.320	6.033	0.284	12.826	1.475×10^5
1.00 TeV	1.000×10^6	2.207	5.494	7.666	0.357	15.726	1.616×10^5
1.40 TeV	1.400×10^6	2.237	7.848	10.923	0.506	21.515	1.833×10^5
2.00 TeV	2.000×10^6	2.268	11.447	15.893	0.732	30.342	2.066×10^5
3.00 TeV	3.000×10^6	2.305	17.455	24.152	1.119	45.032	2.335×10^5
4.00 TeV	4.000×10^6	2.332	23.542	32.498	1.511	59.884	2.527×10^5
8.00 TeV	8.000×10^6	2.397	48.079	66.045	3.139	119.662	2.991×10^5
10.0 TeV	1.000×10^7	2.419	60.442	82.907	3.975	149.744	3.140×10^5
14.0 TeV	1.400×10^7	2.451	85.101	116.552	5.690	209.797	3.364×10^5
20.0 TeV	2.000×10^7	2.487	122.304	167.234	8.318	300.344	3.602×10^5
30.0 TeV	3.000×10^7	2.528	184.238	251.560	12.857	451.184	3.872×10^5
40.0 TeV	4.000×10^7	2.557	246.390	336.084	17.501	602.534	4.063×10^5
80.0 TeV	8.000×10^7	2.630	495.360	674.412	36.889	1209.293	4.522×10^5
100. TeV	1.000×10^8	2.653	620.050	843.730	46.900	1513.335	4.670×10^5