

Muons in promethium (Pm)

Z	A [g/mol]	ρ [g/cm ³]	I [eV]	a	$k = m_s$	x_0	x_1	\bar{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 [MeV cm ² /g]	Photonucl	Total	CSDA range [g/cm ²]		
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	<i>Minimum ionization</i>		
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	1.761	5.055×10^3		
10.0 GeV	1.011×10^4	1.749	0.027	0.027	0.004	1.807	6.176×10^3		
14.0 GeV	1.411×10^4	1.794	0.041	0.044	0.005	1.885	8.341×10^3		
20.0 GeV	2.011×10^4	1.838	0.064	0.072	0.007	1.983	1.144×10^4		
30.0 GeV	3.011×10^4	1.885	0.105	0.126	0.011	2.129	1.631×10^4		
40.0 GeV	4.011×10^4	1.916	0.149	0.185	0.015	2.266	2.086×10^4		
80.0 GeV	8.011×10^4	1.985	0.336	0.445	0.029	2.796	3.672×10^4		
100. GeV	1.001×10^5	2.006	0.435	0.585	0.036	3.063	4.355×10^4		
140. GeV	1.401×10^5	2.036	0.639	0.873	0.050	3.599	5.559×10^4		
178. GeV	1.778×10^5	2.057	0.838	1.157	0.063	4.115	<i>Muon critical energy</i>		
200. GeV	2.001×10^5	2.067	0.958	1.329	0.070	4.426	7.061×10^4		
300. GeV	3.001×10^5	2.102	1.502	2.092	0.106	5.802	9.029×10^4		
400. GeV	4.001×10^5	2.127	2.064	2.882	0.141	7.214	1.057×10^5		
800. GeV	8.001×10^5	2.187	4.384	6.120	0.285	12.978	1.465×10^5		
1.00 TeV	1.000×10^6	2.207	5.576	7.777	0.358	15.919	1.604×10^5		
1.40 TeV	1.400×10^6	2.237	7.965	11.081	0.507	21.790	1.818×10^5		
2.00 TeV	2.000×10^6	2.268	11.618	16.122	0.733	30.743	2.049×10^5		
3.00 TeV	3.000×10^6	2.305	17.716	24.500	1.120	45.642	2.314×10^5		
4.00 TeV	4.000×10^6	2.332	23.894	32.966	1.513	60.706	2.503×10^5		
8.00 TeV	8.000×10^6	2.397	48.797	66.995	3.143	121.335	2.960×10^5		
10.0 TeV	1.000×10^7	2.419	61.345	84.099	3.980	151.844	3.107×10^5		
14.0 TeV	1.400×10^7	2.451	86.372	118.229	5.697	212.752	3.329×10^5		
20.0 TeV	2.000×10^7	2.487	124.130	169.642	8.328	304.588	3.563×10^5		
30.0 TeV	3.000×10^7	2.528	186.989	255.183	12.873	457.574	3.830×10^5		
40.0 TeV	4.000×10^7	2.557	250.069	340.924	17.524	611.076	4.018×10^5		
80.0 TeV	8.000×10^7	2.630	502.752	684.119	36.942	1226.445	4.471×10^5		
100. TeV	1.000×10^8	2.653	629.300	855.870	46.970	1534.795	4.616×10^5		