Table 062: Muons in Samarium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
62 (Sm)	150.36 (2)	7.460	574.0	0.24698	2.6403	0.1520	3.3460	5.8597	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	4.306				4.306	1.330×10^0
14.0 MeV	5.616×10^1	3.414				3.414	2.383×10^0
20.0 MeV	6.802×10^1	2.705				2.705	4.379×10^0
30.0 MeV	8.509×10^1	2.127				2.127	8.602×10^0
40.0 MeV	1.003×10^2	1.831				1.831	1.370×10^1
80.0 MeV	1.527×10^2	1.397				1.397	3.946×10^1
100. MeV	1.764×10^2	1.321				1.321	5.422×10^1
140. MeV	2.218×10^2	1.248				1.249	8.550×10^1
200. MeV	2.868×10^2	1.214				1.214	1.344×10^2
240. MeV	3.294×10^2	1.210	0.000			1.211	*Minimum ionization*
300. MeV	3.917×10^2	1.215	0.000		0.000	1.216	2.169×10^2
400. MeV	4.945×10^2	1.235	0.000		0.000	1.235	2.985×10^2
800. MeV	8.995×10^2	1.320	0.001		0.000	1.321	6.112×10^2
1.00 GeV	1.101×10^3	1.353	0.001		0.000	1.355	7.606×10^2
1.40 GeV	1.502×10^3	1.407	0.002	0.000	0.001	1.410	1.050×10^3
2.00 GeV	2.103×10^3	1.465	0.003	0.001	0.001	1.471	1.466×10^3
3.00 GeV	3.104×10^3	1.531	0.006	0.003	0.001	1.541	2.129×10^3
4.00 GeV	4.104×10^3	1.576	0.008	0.006	0.002	1.593	2.767×10^3
8.00 GeV	8.105×10^3	1.679	0.020	0.019	0.003	1.723	5.172×10^3
10.0 GeV	1.011×10^4	1.710	0.027	0.027	0.004	1.769	6.317×10^3
14.0 GeV	1.411×10^4	1.755	0.041	0.044	0.005	1.846	8.530×10^3
20.0 GeV	2.011×10^4	1.799	0.064	0.072	0.007	1.942	1.170×10^4
30.0 GeV	3.011×10^4	1.845	0.105	0.125	0.011	2.087	1.666×10^4
40.0 GeV	4.011×10^4	1.876	0.148	0.184	0.015	2.223	2.130×10^4
80.0 GeV	8.011×10^4	1.944	0.334	0.441	0.029	2.749	3.745×10^4
100. GeV	1.001×10^5	1.964	0.432	0.581	0.035	3.014	4.439×10^4
140. GeV	1.401×10^5	1.994	0.635	0.867	0.049	3.546	5.662×10^4
175. GeV	1.756×10^5	2.013	0.820	1.132	0.062	4.028	*Muon critical energy*
200. GeV	2.001×10^5	2.024	0.951	1.320	0.070	4.367	7.185×10^4
300. GeV	3.001×10^5	2.059	1.492	2.077	0.105	5.734	9.178×10^4
400. GeV	4.001×10^5	2.083	2.050	2.861	0.140	7.136	1.074×10^5
800. GeV	8.001×10^5	2.142	4.356	6.077	0.284	12.860	1.486×10^5
1.00 TeV	1.000×10^6	2.161	5.540	7.721	0.357	15.780	1.626×10^5
1.40 TeV	1.400×10^6	2.190	7.913	11.002	0.505	21.612	1.842×10^5
2.00 TeV	2.000×10^6	2.222	11.542	16.007	0.730	30.503	2.074×10^5
3.00 TeV	3.000×10^6	2.258	17.599	24.325	1.116	45.300	2.342×10^5
4.00 TeV	4.000×10^6	2.284	23.737	32.730	1.508	60.261	2.533×10^5
8.00 TeV	8.000×10^6	2.348	48.476	66.516	3.133	120.474	2.993×10^5
10.0 TeV	1.000×10^7	2.369	60.940	83.498	3.967	150.776	3.141×10^5
14.0 TeV	1.400×10^7	2.401	85.801	117.383	5.678	211.265	3.364×10^5
20.0 TeV	2.000×10^7	2.436	123.308	168.426	8.300	302.471	3.600×10^5
30.0 TeV	3.000×10^7	2.476	185.749	253.353	12.830	454.409	3.868×10^5
40.0 TeV	4.000×10^7	2.504	248.410	338.480	17.465	606.862	4.058×10^5
80.0 TeV	8.000×10^7	2.576	499.414	679.212	36.812	1218.015	4.514×10^5
100. TeV	1.000×10^8	2.599	625.120	849.730	46.800	1524.250	4.660×10^5