Table 012: Muons in Magnesium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
12 (Mg)	24.3050 (6)	1.740	156.0	0.08163	3.6166	0.1499	3.0668	4.5297	0.08

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	6.400				6.400	8.717×10^{-1}
14.0 MeV	5.616×10^1	5.013				5.013	1.585×10^0
20.0 MeV	6.802×10^1	3.930				3.930	2.952×10^0
30.0 MeV	8.509×10^1	3.060				3.060	5.876×10^0
40.0 MeV	1.003×10^2	2.618				2.618	9.432×10^0
80.0 MeV	1.527×10^2	1.973				1.973	2.759×10^1
100. MeV	1.764×10^2	1.860				1.860	3.805×10^1
140. MeV	2.218×10^2	1.748				1.748	6.033×10^1
200. MeV	2.868×10^2	1.689				1.689	9.537×10^1
274. MeV	3.642×10^2	1.674			0.000	1.674	*Minimum ionization*
300. MeV	3.917×10^2	1.675			0.000	1.675	1.550×10^2
400. MeV	4.945×10^2	1.690			0.000	1.691	2.144×10^2
800. MeV	8.995×10^2	1.775	0.000		0.000	1.776	4.451×10^2
1.00 GeV	1.101×10^3	1.811	0.000		0.000	1.811	5.566×10^2
1.40 GeV	1.502×10^3	1.867	0.001	0.000	0.001	1.868	7.739×10^2
2.00 GeV	2.103×10^3	1.927	0.001	0.000	0.001	1.929	1.090×10^3
3.00 GeV	3.104×10^3	1.995	0.002	0.001	0.001	1.999	1.598×10^3
4.00 GeV	4.104×10^3	2.042	0.002	0.002	0.002	2.048	2.092×10^3
8.00 GeV	8.105×10^3	2.147	0.006	0.005	0.004	2.162	3.987×10^3
10.0 GeV	1.011×10^4	2.179	0.007	0.007	0.005	2.198	4.904×10^3
14.0 GeV	1.411×10^4	2.225	0.011	0.012	0.006	2.254	6.699×10^3
20.0 GeV	2.011×10^4	2.270	0.017	0.020	0.009	2.316	9.323×10^3
30.0 GeV	3.011×10^4	2.319	0.028	0.035	0.013	2.395	1.357×10^4
40.0 GeV	4.011×10^4	2.352	0.040	0.051	0.017	2.460	1.768×10^4
80.0 GeV	8.011×10^4	2.427	0.091	0.123	0.033	2.673	3.326×10^4
100. GeV	1.001×10^5	2.450	0.117	0.161	0.041	2.770	4.060×10^4
140. GeV	1.401×10^5	2.485	0.173	0.242	0.057	2.956	5.458×10^4
200. GeV	2.001×10^5	2.521	0.260	0.369	0.080	3.230	7.399×10^4
300. GeV	3.001×10^5	2.562	0.409	0.584	0.121	3.675	1.030×10^5
400. GeV	4.001×10^5	2.591	0.563	0.807	0.161	4.122	1.287×10^5
659. GeV	6.587×10^5	2.642	0.973	1.402	0.266	5.284	*Muon critical energy*
800. GeV	8.001×10^5	2.662	1.203	1.734	0.325	5.923	2.092×10^5
1.00 TeV	1.000×10^6	2.685	1.532	2.212	0.408	6.837	2.406×10^5
1.40 TeV	1.400×10^6	2.719	2.196	3.161	0.578	8.655	2.925×10^5
2.00 TeV	2.000×10^6	2.757	3.213	4.612	0.837	11.420	3.527×10^5
3.00 TeV	3.000×10^6	2.800	4.915	7.028	1.282	16.026	4.263×10^5
4.00 TeV	4.000×10^6	2.831	6.645	9.473	1.734	20.684	4.811×10^5
8.00 TeV	8.000×10^6	2.908	13.634	19.318	3.615	39.476	6.187×10^5
10.0 TeV	1.000×10^7	2.933	17.164	24.272	4.583	48.953	6.641×10^5
14.0 TeV	1.400×10^7	2.972	24.212	34.147	6.575	67.906	7.332×10^5
20.0 TeV	2.000×10^7	3.013	34.864	49.034	9.632	96.544	8.069×10^5
30.0 TeV	3.000×10^7	3.061	52.576	73.814	14.931	144.383	8.911×10^5
40.0 TeV	4.000×10^7	3.095	70.366	98.667	20.365	192.495	9.509×10^5
80.0 TeV	8.000×10^7	3.181	141.708	198.154	43.132	386.176	1.095×10^6
100. TeV	1.000×10^8	3.209	177.470	247.950	54.920	483.549	1.141×10^6