Table 056: Muons in Barium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
56 (Ba)	137.327 (7)	3.500	491.0	0.18268	2.8906	0.4190	3.4547	6.3153	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	4.394				4.394	1.297×10^0
14.0 MeV	5.616×10^1	3.476				3.476	2.331×10^0
20.0 MeV	6.802×10^1	2.750				2.750	4.292×10^0
30.0 MeV	8.509×10^1	2.160				2.160	8.449×10^0
40.0 MeV	1.003×10^2	1.859				1.860	1.347×10^1
80.0 MeV	1.527×10^2	1.420				1.420	3.883×10^1
100. MeV	1.764×10^2	1.342				1.342	5.335×10^1
140. MeV	2.218×10^2	1.268				1.268	8.414×10^1
200. MeV	2.868×10^2	1.234				1.234	1.323×10^2
233. MeV	3.220×10^2	1.231				1.231	*Minimum ionization*
300. MeV	3.917×10^2	1.237	0.000		0.000	1.237	2.134×10^2
400. MeV	4.945×10^2	1.258	0.000		0.000	1.259	2.936×10^2
800. MeV	8.995×10^2	1.346	0.001		0.000	1.347	6.002×10^2
1.00 GeV	1.101×10^3	1.381	0.001		0.000	1.382	7.467×10^2
1.40 GeV	1.502×10^3	1.435	0.002	0.000	0.001	1.438	1.030×10^3
2.00 GeV	2.103×10^3	1.494	0.003	0.001	0.001	1.500	1.438×10^3
3.00 GeV	3.104×10^3	1.561	0.005	0.003	0.001	1.570	2.089×10^3
4.00 GeV	4.104×10^3	1.606	0.007	0.006	0.002	1.621	2.715×10^3
8.00 GeV	8.105×10^3	1.709	0.018	0.018	0.003	1.749	5.081×10^3
10.0 GeV	1.011×10^4	1.740	0.024	0.025	0.004	1.793	6.210×10^3
14.0 GeV	1.411×10^4	1.784	0.037	0.040	0.005	1.867	8.395×10^3
20.0 GeV	2.011×10^4	1.827	0.057	0.065	0.008	1.958	1.153×10^4
30.0 GeV	3.011×10^4	1.873	0.094	0.114	0.011	2.093	1.647×10^4
40.0 GeV	4.011×10^4	1.903	0.133	0.167	0.015	2.219	2.111×10^4
80.0 GeV	8.011×10^4	1.970	0.300	0.401	0.029	2.702	3.741×10^4
100. GeV	1.001×10^5	1.990	0.389	0.528	0.036	2.944	4.450×10^4
140. GeV	1.401×10^5	2.020	0.571	0.788	0.050	3.429	5.708×10^4
194. GeV	1.937×10^5	2.047	0.825	1.154	0.068	4.096	*Muon critical energy*
200. GeV	2.001×10^5	2.050	0.856	1.199	0.071	4.177	7.291×10^4
300. GeV	3.001×10^5	2.084	1.343	1.887	0.106	5.421	9.388×10^4
400. GeV	4.001×10^5	2.108	1.846	2.599	0.141	6.696	1.105×10^5
800. GeV	8.001×10^5	2.166	3.923	5.521	0.286	11.897	1.547×10^5
1.00 TeV	1.000×10^6	2.185	4.989	7.015	0.359	14.550	1.699×10^5
1.40 TeV	1.400×10^6	2.214	7.128	9.996	0.509	19.848	1.933×10^5
2.00 TeV	2.000×10^6	2.245	10.399	14.545	0.736	27.926	2.187×10^5
3.00 TeV	3.000×10^6	2.281	15.859	22.104	1.125	41.370	2.479×10^5
4.00 TeV	4.000×10^6	2.307	21.392	29.743	1.520	54.963	2.689×10^5
8.00 TeV	8.000×10^6	2.370	43.697	60.450	3.158	109.677	3.194×10^5
10.0 TeV	1.000×10^7	2.391	54.937	75.885	3.999	137.213	3.356×10^5
14.0 TeV	1.400×10^7	2.423	77.356	106.683	5.725	192.189	3.602×10^5
20.0 TeV	2.000×10^7	2.457	111.182	153.078	8.370	275.088	3.861×10^5
30.0 TeV	3.000×10^7	2.496	167.494	230.266	12.939	413.196	4.156×10^5
40.0 TeV	4.000×10^7	2.525	224.007	307.636	17.614	551.784	4.364×10^5
80.0 TeV	8.000×10^7	2.595	450.390	617.341	37.132	1107.460	4.866×10^5
100. TeV	1.000×10^8	2.618	563.770	772.340	47.210	1385.940	5.027×10^5