Table 324: Muons in Francium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
87 (Fr)	[223.0197]	1.870	827.0	0.43214	3.0000	1.1175	3.0000	8.0292	0.00

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	3.771				3.771	1.544×10^0
14.0 MeV	5.616×10^1	3.012				3.012	2.741×10^0
20.0 MeV	6.802×10^1	2.402				2.403	4.994×10^0
30.0 MeV	8.509×10^1	1.902				1.902	9.732×10^0
40.0 MeV	1.003×10^2	1.644				1.644	1.542×10^1
80.0 MeV	1.527×10^2	1.268				1.268	4.393×10^1
100. MeV	1.764×10^2	1.203				1.203	6.016×10^1
140. MeV	2.218×10^2	1.142				1.142	9.443×10^1
200. MeV	2.868×10^2	1.119				1.119	1.477×10^2
216. MeV	3.039×10^2	1.118				1.118	*Minimum ionization*
300. MeV	3.917×10^2	1.130	0.000		0.000	1.130	2.368×10^2
400. MeV	4.945×10^2	1.157	0.000		0.000	1.157	3.243×10^2
800. MeV	8.995×10^2	1.262	0.001		0.000	1.264	6.543×10^2
1.00 GeV	1.101×10^3	1.304	0.002		0.000	1.306	8.099×10^2
1.40 GeV	1.502×10^3	1.372	0.002		0.001	1.375	1.108×10^3
2.00 GeV	2.103×10^3	1.443	0.004	0.001	0.001	1.449	1.532×10^3
3.00 GeV	3.104×10^3	1.520	0.007	0.003	0.001	1.532	2.202×10^3
4.00 GeV	4.104×10^3	1.570	0.011	0.006	0.002	1.589	2.842×10^3
8.00 GeV	8.105×10^3	1.679	0.026	0.022	0.003	1.731	5.242×10^3
10.0 GeV	1.011×10^4	1.711	0.035	0.032	0.004	1.781	6.381×10^3
14.0 GeV	1.411×10^4	1.754	0.053	0.052	0.005	1.865	8.574×10^3
20.0 GeV	2.011×10^4	1.796	0.082	0.086	0.007	1.972	1.170×10^4
30.0 GeV	3.011×10^4	1.839	0.135	0.152	0.011	2.137	1.657×10^4
40.0 GeV	4.011×10^4	1.866	0.190	0.224	0.014	2.296	2.108×10^4
80.0 GeV	8.011×10^4	1.927	0.430	0.543	0.028	2.929	3.647×10^4
100. GeV	1.001×10^5	1.946	0.557	0.715	0.034	3.254	4.295×10^4
140. GeV	1.401×10^5	1.973	0.818	1.070	0.048	3.910	5.415×10^4
142. GeV	1.425×10^5	1.974	0.834	1.092	0.048	3.950	*Muon critical energy*
200. GeV	2.001×10^5	2.002	1.226	1.632	0.068	4.929	6.780×10^4
300. GeV	3.001×10^5	2.034	1.922	2.570	0.102	6.629	8.524×10^4
400. GeV	4.001×10^5	2.057	2.641	3.542	0.136	8.377	9.864×10^4
800. GeV	8.001×10^5	2.113	5.606	7.528	0.274	15.522	1.332×10^5
1.00 TeV	1.000×10^6	2.131	7.128	9.566	0.344	19.171	1.448×10^5
1.40 TeV	1.400×10^6	2.158	10.176	13.631	0.487	26.455	1.625×10^5
2.00 TeV	2.000×10^6	2.188	14.837	19.833	0.705	37.564	1.814×10^5
3.00 TeV	3.000×10^6	2.222	22.611	30.137	1.077	56.050	2.031×10^5
4.00 TeV	4.000×10^6	2.247	30.486	40.550	1.455	74.739	2.185×10^5
8.00 TeV	8.000×10^6	2.307	62.213	82.401	3.020	149.943	2.555×10^5
10.0 TeV	1.000×10^7	2.327	78.193	103.435	3.823	187.780	2.674×10^5
14.0 TeV	1.400×10^7	2.358	110.065	145.406	5.470	263.301	2.853×10^5
20.0 TeV	2.000×10^7	2.390	158.136	208.628	7.994	377.150	3.042×10^5
30.0 TeV	3.000×10^7	2.428	238.164	313.809	12.351	566.754	3.257×10^5
40.0 TeV	4.000×10^7	2.456	318.460	419.232	16.808	756.957	3.409×10^5
80.0 TeV	8.000×10^7	2.523	640.064	841.211	35.408	1519.208	3.775×10^5
100. TeV	1.000×10^8	2.545	801.110	1052.390	45.010	1901.057	3.893×10^5