Muons in helium gas (He)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
2 (He)	4.002602(2)	1.663×10^{-4}	41.8	0.13443	5.8347	2.2017	3.6122	11.1393	0.00

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	7.709				7.709	7.138×10^{-1}
14.0 MeV	5.616×10^1	5.998				5.998	1.308×10^0
20.0 MeV	6.802×10^1	4.673				4.673	2.455×10^0
30.0 MeV	8.509×10^1	3.616				3.616	4.922×10^0
40.0 MeV	1.003×10^2	3.082				3.083	7.937×10^0
80.0 MeV	1.527×10^2	2.305				2.305	2.343×10^1
100. MeV	1.764×10^2	2.165				2.165	3.240×10^1
140. MeV	2.218×10^2	2.026				2.026	5.159×10^1
200. MeV	2.868×10^2	1.954			0.000	1.954	8.186×10^1
267. MeV	3.577×10^2	1.937			0.000	1.937	*Minimum ionization*
300. MeV	3.917×10^2	1.939			0.000	1.939	1.334×10^2
400. MeV	4.945×10^2	1.961			0.000	1.961	1.847×10^2
800. MeV	8.995×10^2	2.081			0.000	2.082	3.826×10^2
1.00 GeV	1.101×10^3	2.133			0.001	2.134	4.774×10^2
1.40 GeV	1.502×10^3	2.218	0.000		0.001	2.219	6.611×10^2
2.00 GeV	2.103×10^3	2.314	0.000		0.001	2.315	9.255×10^2
3.00 GeV	3.104×10^3	2.427	0.000	0.000	0.002	2.429	1.347×10^3
4.00 GeV	4.104×10^3	2.508	0.000	0.000	0.002	2.511	1.751×10^3
8.00 GeV	8.105×10^3	2.705	0.001	0.001	0.004	2.712	3.277×10^3
10.0 GeV	1.011×10^4	2.768	0.002	0.002	0.005	2.776	4.005×10^3
14.0 GeV	1.411×10^4	2.862	0.002	0.003	0.007	2.874	5.420×10^3
20.0 GeV	2.011×10^4	2.954	0.004	0.004	0.010	2.972	7.470×10^3
30.0 GeV	3.011×10^4	3.033	0.006	0.008	0.014	3.062	1.078×10^4
40.0 GeV	4.011×10^4	3.077	0.009	0.012	0.019	3.117	1.401×10^4
80.0 GeV	8.011×10^4	3.163	0.021	0.029	0.036	3.250	2.656×10^4
100. GeV	1.001×10^5	3.188	0.028	0.039	0.045	3.299	3.266×10^4
140. GeV	1.401×10^5	3.223	0.042	0.058	0.062	3.386	4.463×10^4
200. GeV	2.001×10^5	3.260	0.063	0.090	0.088	3.501	6.205×10^4
300. GeV	3.001×10^5	3.302	0.101	0.144	0.132	3.679	8.990×10^4
400. GeV	4.001×10^5	3.331	0.140	0.201	0.175	3.848	1.165×10^5
800. GeV	8.001×10^5	3.403	0.306	0.443	0.354	4.506	2.124×10^5
1.00 TeV	1.000×10^6	3.426	0.392	0.569	0.445	4.832	2.553×10^5
1.40 TeV	1.400×10^6	3.461	0.566	0.821	0.632	5.481	3.329×10^5
2.00 TeV	2.000×10^6	3.499	0.836	1.210	0.916	6.461	4.337×10^5
2.35 TeV	2.352×10^6	3.517	0.993	1.437	1.086	7.034	*Muon critical energy*
3.00 TeV	3.000×10^6	3.543	1.289	1.861	1.404	8.097	5.717×10^5
4.00 TeV	4.000×10^6	3.575	1.751	2.524	1.902	9.753	6.841×10^5
8.00 TeV	8.000×10^6	3.652	3.634	5.207	3.979	16.472	9.963×10^5
10.0 TeV	1.000×10^7	3.678	4.589	6.563	5.050	19.880	1.107×10^6
14.0 TeV	1.400×10^7	3.717	6.497	9.260	7.260	26.734	1.280×10^6
20.0 TeV	2.000×10^7	3.758	9.390	13.338	10.660	37.147	1.469×10^6
30.0 TeV	3.000×10^7	3.807	14.206	20.112	16.578	54.703	1.690×10^6
40.0 TeV	4.000×10^7	3.842	19.055	26.915	22.660	72.473	1.848×10^6
80.0 TeV	8.000×10^7	3.928	38.527	54.158	48.256	144.869	2.231×10^6
100. TeV	1.000×10^8	3.956	48.300	67.800	61.550	181.606	2.354×10^6