Muons in liquid hydrogen (H_2)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
1 (H)	1.008 (7)	7.080×10^{-2}	21.8	0.13483	5.6249	0.4400	1.8856	3.0977	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}	16.508				16.508	3.316×10^{-1}
14.0 MeV	5.616×10^{1}	12.812				12.812	6.097×10^{-1}
20.0 MeV	6.802×10^{1}	9.956				9.956	1.147×10^{0}
30.0 MeV	8.509×10^{1}	7.684				7.684	2.307×10^{0}
40.0 MeV	1.003×10^{2}	6.539				6.539	3.727×10^{0}
80.0 MeV	1.527×10^{2}	4.870				4.870	1.105×10^{1}
100. MeV	1.764×10^{2}	4.568				4.568	1.530×10^{1}
140. MeV	2.218×10^{2}	4.267				4.267	2.440×10^{1}
200. MeV	2.868×10^{2}	4.104			0.000	4.104	3.879×10^{1}
300. MeV	3.917×10^{2}	4.037			0.000	4.038	6.342×10^{1}
344. MeV	4.372×10^{2}	4.034			0.000	4.034	*Minimum ionization*
400. MeV	4.945×10^{2}	4.038			0.000	4.038	8.820×10^{1}
800. MeV	8.995×10^{2}	4.134			0.000	4.135	1.862×10^{2}
1.00 GeV	1.101×10^{3}	4.182			0.001	4.182	2.342×10^{2}
1.40 GeV	1.502×10^{3}	4.261	0.000		0.001	4.262	3.289×10^{2}
2.00 GeV	2.103×10^{3}	4.352	0.000		0.001	4.353	4.682×10^{2}
3.00 GeV	3.104×10^{3}	4.459	0.000	0.000	0.002	4.461	6.949×10^{2}
4.00 GeV	4.104×10^{3}	4.536	0.001	0.000	0.002	4.539	9.170×10^{2}
8.00 GeV	8.105×10^{3}	4.719	0.001	0.001	0.005	4.726	1.779×10^{3}
10.0 GeV	1.011×10^{4}	4.777	0.002	0.002	0.006	4.786	2.199×10^{3}
14.0 GeV	1.411×10^{4}	4.861	0.003	0.003	0.008	4.876	3.027×10^{3}
20.0 GeV	2.011×10^{4}	4.948	0.005	0.006	0.011	4.969	4.245×10^{3}
30.0 GeV	3.011×10^{4}	5.043	0.008	0.010	0.015	5.077	6.234×10^{3}
40.0 GeV	4.011×10^{4}	5.108	0.012	0.015	0.020	5.155	8.188×10^{3}
80.0 GeV	8.011×10^{4}	5.258	0.028	0.038	0.038	5.362	1.578×10^{4}
100. GeV	1.001×10^{5}	5.305	0.037	0.050	0.047	5.439	1.949×10^{4}
140. GeV	1.401×10^{5}	5.374	0.055	0.076	0.066	5.572	2.675×10^{4}
200. GeV	2.001×10^{5}	5.447	0.085	0.118	0.093	5.743	3.735×10^{4}
300. GeV	3.001×10^{5}	5.529	0.137	0.191	0.139	5.996	5.439×10^{4}
400. GeV	4.001×10^{5}	5.588	0.191	0.268	0.185	6.232	7.074×10^{4}
800. GeV	8.001×10^{5}	5.730	0.423	0.592	0.373	7.117	1.307×10^{5}
1.00 TeV	1.000×10^{6}	5.776	0.544	0.761	0.468	7.549	1.580×10^{5}
1.40 TeV	1.400×10^{6}	5.846	0.791	1.101	0.663	8.402	2.082×10^{5}
2.00 TeV	2.000×10^{6}	5.921	1.175	1.627	0.961	9.684	2.747×10^{5}
3.00 TeV	3.000×10^{6}	6.008	1.827	2.504	1.474	11.813	3.680×10^{5}
3.10 TeV	3.102×10^{6}	6.016	1.894	2.595	1.527	12.032	*Muon critical energy*
4.00 TeV	4.000×10^{6}	6.071	2.496	3.399	1.996	13.962	4.458×10^{5}
8.00 TeV	8.000×10^{6}	6.225	5.240	7.012	4.180	22.658	6.686×10^{5}
10.0 TeV	1.000×10^{7}	6.276	6.642	8.837	5.308	27.063	7.493×10^{5}
14.0 TeV	1.400×10^{7}	6.353	9.452	12.466	7.642	35.913	8.772×10^{5}
20.0 TeV	2.000×10^{7}	6.436	13.734	17.952	11.236	49.358	1.019×10^{6}
30.0 TeV	3.000×10^{7}	6.532	20.884	27.062	17.498	71.976	1.186×10^{6}
40.0 TeV	4.000×10^{7}	6.602	28.113	36.210	23.940	94.863	1.307×10^{6}
80.0 TeV	8.000×10^{7}	6.773	57.248	72.833	51.135	187.988	1.601×10^{6}
100. TeV	1.000×10^{8}	6.829	71.920	91.170	65.290	235.209	1.696×10^{6}