Table 071: Muons in Lutetium

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
71 (Lu)	174.9668 (1)	9.840	694.0	0.24033	2.5643	0.1560	3.5218	5.9785	0.14

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	4.072				4.072	1.417×10^0
14.0 MeV	5.616×10^1	3.240				3.240	2.529×10^0
20.0 MeV	6.802×10^1	2.575				2.575	4.628×10^0
30.0 MeV	8.509×10^1	2.030				2.030	9.058×10^0
40.0 MeV	1.003×10^2	1.751				1.751	1.439×10^1
80.0 MeV	1.527×10^2	1.339				1.339	4.130×10^1
100. MeV	1.764×10^2	1.266				1.266	5.669×10^1
140. MeV	2.218×10^2	1.196				1.197	8.933×10^1
200. MeV	2.868×10^2	1.164				1.164	1.403×10^2
237. MeV	3.260×10^2	1.160	0.000			1.161	*Minimum ionization*
300. MeV	3.917×10^2	1.165	0.000		0.000	1.166	2.264×10^2
400. MeV	4.945×10^2	1.185	0.000		0.000	1.185	3.115×10^2
800. MeV	8.995×10^2	1.268	0.001		0.000	1.269	6.372×10^2
1.00 GeV	1.101×10^3	1.301	0.001		0.000	1.303	7.927×10^2
1.40 GeV	1.502×10^3	1.354	0.002	0.000	0.001	1.357	1.093×10^3
2.00 GeV	2.103×10^3	1.412	0.004	0.001	0.001	1.417	1.525×10^3
3.00 GeV	3.104×10^3	1.477	0.006	0.003	0.001	1.488	2.213×10^3
4.00 GeV	4.104×10^3	1.522	0.009	0.006	0.002	1.539	2.873×10^3
8.00 GeV	8.105×10^3	1.625	0.023	0.021	0.003	1.672	5.356×10^3
10.0 GeV	1.011×10^4	1.657	0.030	0.029	0.004	1.720	6.534×10^3
14.0 GeV	1.411×10^4	1.701	0.046	0.047	0.005	1.801	8.805×10^3
20.0 GeV	2.011×10^4	1.746	0.071	0.078	0.007	1.903	1.204×10^4
30.0 GeV	3.011×10^4	1.793	0.116	0.137	0.011	2.058	1.709×10^4
40.0 GeV	4.011×10^4	1.825	0.164	0.201	0.014	2.205	2.178×10^4
80.0 GeV	8.011×10^4	1.894	0.372	0.484	0.028	2.779	3.790×10^4
100. GeV	1.001×10^5	1.915	0.482	0.637	0.035	3.070	4.475×10^4
140. GeV	1.401×10^5	1.945	0.707	0.952	0.049	3.654	5.668×10^4
157. GeV	1.575×10^5	1.955	0.808	1.093	0.055	3.912	*Muon critical energy*
200. GeV	2.001×10^5	1.976	1.060	1.450	0.069	4.556	7.137×10^4
300. GeV	3.001×10^5	2.010	1.661	2.282	0.104	6.058	9.035×10^4
400. GeV	4.001×10^5	2.034	2.283	3.144	0.139	7.601	1.051×10^5
800. GeV	8.001×10^5	2.092	4.849	6.677	0.280	13.900	1.434×10^5
1.00 TeV	1.000×10^6	2.111	6.166	8.485	0.352	17.115	1.564×10^5
1.40 TeV	1.400×10^6	2.139	8.806	12.089	0.498	23.534	1.762×10^5
2.00 TeV	2.000×10^6	2.170	12.842	17.588	0.720	33.323	1.976×10^5
3.00 TeV	3.000×10^6	2.206	19.578	26.726	1.101	49.612	2.220×10^5
4.00 TeV	4.000×10^6	2.231	26.401	35.960	1.488	66.082	2.394×10^5
8.00 TeV	8.000×10^6	2.294	53.901	73.075	3.090	132.361	2.813×10^5
10.0 TeV	1.000×10^7	2.315	67.754	91.729	3.912	165.712	2.948×10^5
14.0 TeV	1.400×10^7	2.347	95.386	128.951	5.598	232.284	3.151×10^5
20.0 TeV	2.000×10^7	2.381	137.068	185.020	8.182	332.652	3.366×10^5
30.0 TeV	3.000×10^7	2.420	206.458	278.307	12.645	499.831	3.609×10^5
40.0 TeV	4.000×10^7	2.448	276.088	371.810	17.211	667.559	3.782×10^5
80.0 TeV	8.000×10^7	2.518	554.989	746.078	36.270	1339.857	4.196×10^5
100. TeV	1.000×10^8	2.541	694.660	933.380	46.110	1676.693	4.330×10^5