Muons in niobium (Nb)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
41 (Nb)	92.90637(2)	8.570	417.0	0.13883	3.0930	0.1785	3.2201	5.0141	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	4.890				4.890	1.161×10^0
14.0 MeV	5.616×10^1	3.861				3.861	2.091×10^0
20.0 MeV	6.802×10^1	3.049				3.049	3.858×10^0
30.0 MeV	8.509×10^1	2.390				2.390	7.612×10^0
40.0 MeV	1.003×10^2	2.054				2.054	1.215×10^1
80.0 MeV	1.527×10^2	1.561				1.561	3.517×10^1
100. MeV	1.764×10^2	1.474				1.474	4.839×10^1
140. MeV	2.218×10^2	1.390				1.390	7.645×10^1
200. MeV	2.868×10^2	1.349				1.349	1.204×10^2
253. MeV	3.431×10^2	1.343				1.343	*Minimum ionization*
300. MeV	3.917×10^2	1.346	0.000		0.000	1.347	1.948×10^2
400. MeV	4.945×10^2	1.364	0.000		0.000	1.365	2.686×10^2
800. MeV	8.995×10^2	1.449	0.001		0.000	1.450	5.526×10^2
1.00 GeV	1.101×10^3	1.482	0.001		0.000	1.484	6.890×10^2
1.40 GeV	1.502×10^3	1.536	0.001	0.000	0.001	1.539	9.534×10^2
2.00 GeV	2.103×10^3	1.594	0.002	0.001	0.001	1.599	1.336×10^3
3.00 GeV	3.104×10^3	1.660	0.004	0.003	0.001	1.668	1.947×10^3
4.00 GeV	4.104×10^3	1.704	0.006	0.005	0.002	1.717	2.537×10^3
8.00 GeV	8.105×10^3	1.806	0.015	0.015	0.003	1.839	4.779×10^3
10.0 GeV	1.011×10^4	1.836	0.020	0.021	0.004	1.881	5.854×10^3
14.0 GeV	1.411×10^4	1.880	0.030	0.033	0.006	1.950	7.941×10^3
20.0 GeV	2.011×10^4	1.923	0.047	0.055	0.008	2.033	1.095×10^4
30.0 GeV	3.011×10^4	1.969	0.077	0.095	0.012	2.153	1.573×10^4
40.0 GeV	4.011×10^4	2.000	0.108	0.139	0.015	2.263	2.026×10^4
80.0 GeV	8.011×10^4	2.068	0.245	0.332	0.030	2.676	3.648×10^4
100. GeV	1.001×10^5	2.089	0.317	0.437	0.037	2.881	4.368×10^4
140. GeV	1.401×10^5	2.120	0.466	0.652	0.051	3.291	5.667×10^4
200. GeV	2.001×10^5	2.153	0.699	0.992	0.073	3.918	7.336×10^4
241. GeV	2.410×10^5	2.170	0.859	1.222	0.088	4.340	*Muon critical energy*
300. GeV	3.001×10^5	2.189	1.096	1.562	0.110	4.958	9.601×10^4
400. GeV	4.001×10^5	2.215	1.507	2.153	0.146	6.022	1.143×10^5
800. GeV	8.001×10^5	2.278	3.205	4.576	0.295	10.356	1.644×10^5
1.00 TeV	1.000×10^6	2.299	4.078	5.816	0.371	12.565	1.819×10^5
1.40 TeV	1.400×10^6	2.330	5.828	8.290	0.526	16.975	2.092×10^5
2.00 TeV	2.000×10^6	2.364	8.507	12.066	0.761	23.698	2.390×10^5
3.00 TeV	3.000×10^6	2.403	12.980	18.342	1.163	34.889	2.735×10^5
4.00 TeV	4.000×10^6	2.430	17.514	24.686	1.572	46.204	2.984×10^5
8.00 TeV	8.000×10^6	2.499	35.802	50.193	3.268	91.764	3.586×10^5
10.0 TeV	1.000×10^7	2.521	45.021	63.016	4.140	114.700	3.781×10^5
14.0 TeV	1.400×10^7	2.556	63.409	88.600	5.929	160.495	4.074×10^5
20.0 TeV	2.000×10^7	2.593	91.160	127.144	8.670	229.568	4.385×10^5
30.0 TeV	3.000×10^7	2.635	137.359	191.276	13.410	344.681	4.738×10^5
40.0 TeV	4.000×10^7	2.666	183.730	255.565	18.263	460.225	4.988×10^5
80.0 TeV	8.000×10^7	2.742	369.518	512.907	38.530	923.699	5.590×10^5
100. TeV	1.000×10^8	2.767	462.580	641.700	49.000	1156.049	5.783×10^5