Muons in tantalum (Ta)

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
73 (Ta)	180.94788(2)	16.654	718.0	0.17798	2.7623	0.2117	3.4805	5.5262	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	4.020				4.020	1.438×10^0
14.0 MeV	5.616×10^1	3.200				3.200	2.564×10^0
20.0 MeV	6.802×10^1	2.545				2.545	4.688×10^0
30.0 MeV	8.509×10^1	2.008				2.009	9.168×10^0
40.0 MeV	1.003×10^2	1.733				1.733	1.456×10^1
80.0 MeV	1.527×10^2	1.328				1.328	4.171×10^1
100. MeV	1.764×10^2	1.256				1.256	5.724×10^1
140. MeV	2.218×10^2	1.186				1.186	9.015×10^1
200. MeV	2.868×10^2	1.153				1.154	1.416×10^2
243. MeV	3.325×10^2	1.149	0.000			1.150	*Minimum ionization*
300. MeV	3.917×10^2	1.154	0.000		0.000	1.155	2.285×10^2
400. MeV	4.945×10^2	1.172	0.000		0.000	1.173	3.144×10^2
800. MeV	8.995×10^2	1.253	0.001		0.000	1.254	6.438×10^2
1.00 GeV	1.101×10^3	1.285	0.001		0.000	1.287	8.011×10^2
1.40 GeV	1.502×10^3	1.336	0.002		0.001	1.339	1.106×10^3
2.00 GeV	2.103×10^3	1.391	0.004	0.001	0.001	1.397	1.544×10^3
3.00 GeV	3.104×10^3	1.454	0.006	0.003	0.001	1.465	2.241×10^3
4.00 GeV	4.104×10^3	1.498	0.009	0.006	0.002	1.515	2.912×10^3
8.00 GeV	8.105×10^3	1.596	0.023	0.021	0.003	1.644	5.436×10^3
10.0 GeV	1.011×10^4	1.626	0.031	0.030	0.004	1.691	6.636×10^3
14.0 GeV	1.411×10^4	1.669	0.047	0.048	0.005	1.770	8.947×10^3
20.0 GeV	2.011×10^4	1.711	0.072	0.079	0.007	1.871	1.224×10^4
30.0 GeV	3.011×10^4	1.756	0.119	0.139	0.011	2.026	1.737×10^4
40.0 GeV	4.011×10^4	1.786	0.168	0.204	0.014	2.173	2.214×10^4
80.0 GeV	8.011×10^4	1.853	0.379	0.492	0.028	2.753	3.845×10^4
100. GeV	1.001×10^5	1.873	0.491	0.647	0.035	3.048	4.535×10^4
140. GeV	1.401×10^5	1.902	0.721	0.967	0.049	3.640	5.735×10^4
152. GeV	1.520×10^5	1.909	0.791	1.065	0.053	3.820	*Muon critical energy*
200. GeV	2.001×10^5	1.932	1.081	1.474	0.069	4.557	7.206×10^4
300. GeV	3.001×10^5	1.966	1.694	2.319	0.104	6.084	9.100×10^4
400. GeV	4.001×10^5	1.990	2.328	3.196	0.138	7.653	1.056×10^5
800. GeV	8.001×10^5	2.047	4.944	6.788	0.279	14.060	1.436×10^5
1.00 TeV	1.000×10^6	2.066	6.287	8.625	0.351	17.330	1.564×10^5
1.40 TeV	1.400×10^6	2.095	8.978	12.289	0.497	23.860	1.760×10^5
2.00 TeV	2.000×10^6	2.125	13.092	17.879	0.718	33.817	1.971×10^5
3.00 TeV	3.000×10^6	2.161	19.958	27.169	1.098	50.387	2.211×10^5
4.00 TeV	4.000×10^6	2.186	26.913	36.556	1.483	67.140	2.383×10^5
8.00 TeV	8.000×10^6	2.249	54.943	74.284	3.080	134.557	2.795×10^5
10.0 TeV	1.000×10^7	2.269	69.063	93.247	3.899	168.480	2.928×10^5
14.0 TeV	1.400×10^7	2.301	97.226	131.085	5.580	236.193	3.127×10^5
20.0 TeV	2.000×10^7	2.335	139.708	188.080	8.156	338.280	3.339×10^5
30.0 TeV	3.000×10^7	2.374	210.432	282.907	12.604	508.319	3.578×10^5
40.0 TeV	4.000×10^7	2.402	281.398	377.954	17.156	678.912	3.748×10^5
80.0 TeV	8.000×10^7	2.471	565.656	758.404	36.147	1362.680	4.155×10^5
100. TeV	1.000×10^8	2.494	708.010	948.800	45.950	1705.256	4.286×10^5