Muons in titanium dioxide (TiO_2)

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.47572	4.260	179.5	0.08569	3.3267	−0.0119	3.1647	3.9522	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	6.055				6.055	9.212×10^{-1}
14.0 MeV	5.616×10^1	4.746				4.746	1.675×10^0
20.0 MeV	6.802×10^1	3.723				3.723	3.118×10^0
30.0 MeV	8.509×10^1	2.902				2.902	6.202×10^0
40.0 MeV	1.003×10^2	2.486				2.486	9.950×10^0
80.0 MeV	1.527×10^2	1.867				1.867	2.910×10^1
100. MeV	1.764×10^2	1.754				1.755	4.017×10^1
140. MeV	2.218×10^2	1.641				1.641	6.386×10^1
200. MeV	2.868×10^2	1.579				1.580	1.013×10^2
288. MeV	3.788×10^2	1.562			0.000	1.562	*Minimum ionization*
300. MeV	3.917×10^2	1.562			0.000	1.562	1.651×10^2
400. MeV	4.945×10^2	1.573	0.000		0.000	1.574	2.289×10^2
800. MeV	8.995×10^2	1.649	0.000		0.000	1.650	4.771×10^2
1.00 GeV	1.101×10^3	1.682	0.000		0.000	1.683	5.971×10^2
1.40 GeV	1.502×10^3	1.734	0.001	0.000	0.001	1.735	8.310×10^2
2.00 GeV	2.103×10^3	1.791	0.001	0.001	0.001	1.794	1.171×10^3
3.00 GeV	3.104×10^3	1.856	0.002	0.001	0.001	1.861	1.718×10^3
4.00 GeV	4.104×10^3	1.901	0.003	0.002	0.002	1.908	2.248×10^3
8.00 GeV	8.105×10^3	2.003	0.007	0.007	0.004	2.020	4.278×10^3
10.0 GeV	1.011×10^4	2.034	0.009	0.009	0.004	2.057	5.259×10^3
14.0 GeV	1.411×10^4	2.078	0.014	0.015	0.006	2.114	7.176×10^3
20.0 GeV	2.011×10^4	2.123	0.022	0.025	0.009	2.178	9.970×10^3
30.0 GeV	3.011×10^4	2.171	0.035	0.044	0.013	2.262	1.447×10^4
40.0 GeV	4.011×10^4	2.203	0.050	0.064	0.017	2.333	1.882×10^4
80.0 GeV	8.011×10^4	2.276	0.113	0.153	0.032	2.574	3.512×10^4
100. GeV	1.001×10^5	2.298	0.146	0.201	0.040	2.686	4.272×10^4
140. GeV	1.401×10^5	2.331	0.214	0.302	0.056	2.903	5.704×10^4
200. GeV	2.001×10^5	2.366	0.322	0.460	0.079	3.228	7.663×10^4
300. GeV	3.001×10^5	2.406	0.506	0.727	0.119	3.758	1.053×10^5
400. GeV	4.001×10^5	2.434	0.697	1.004	0.158	4.293	1.302×10^5
516. GeV	5.156×10^5	2.458	0.923	1.332	0.204	4.918	*Muon critical energy*
800. GeV	8.001×10^5	2.502	1.487	2.146	0.319	6.455	2.057×10^5
1.00 TeV	1.000×10^6	2.524	1.894	2.733	0.401	7.553	2.343×10^5
1.40 TeV	1.400×10^6	2.558	2.712	3.903	0.569	9.742	2.808×10^5
2.00 TeV	2.000×10^6	2.594	3.965	5.692	0.823	13.075	3.338×10^5
3.00 TeV	3.000×10^6	2.635	6.061	8.666	1.261	18.624	3.976×10^5
4.00 TeV	4.000×10^6	2.665	8.189	11.675	1.705	24.236	4.445×10^5
8.00 TeV	8.000×10^6	2.739	16.784	23.785	3.552	46.862	5.611×10^5
10.0 TeV	1.000×10^7	2.764	21.122	29.878	4.503	58.267	5.993×10^5
14.0 TeV	1.400×10^7	2.801	29.782	42.029	6.458	81.069	6.573×10^5
20.0 TeV	2.000×10^7	2.840	42.865	60.343	9.458	115.507	7.190×10^5
30.0 TeV	3.000×10^7	2.887	64.624	90.816	14.656	172.983	7.893×10^5
40.0 TeV	4.000×10^7	2.920	86.474	121.373	19.985	230.752	8.391×10^5
80.0 TeV	8.000×10^7	3.002	174.071	243.696	42.297	463.067	9.591×10^5
100. TeV	1.000×10^8	3.029	217.970	304.922	53.845	579.766	9.976×10^5