Muons in standard rock

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.50000	2.650	136.4	0.08301	3.4120	0.0492	3.0549	3.7738	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	6.619				6.619	8.400×10^{-1}
14.0 MeV	5.616×10^1	5.180				5.180	1.530×10^0
20.0 MeV	6.802×10^1	4.057				4.057	2.854×10^0
30.0 MeV	8.509×10^1	3.157				3.157	5.687×10^0
40.0 MeV	1.003×10^2	2.701				2.702	9.133×10^0
80.0 MeV	1.527×10^2	2.028				2.029	2.675×10^1
100. MeV	1.764×10^2	1.904				1.904	3.695×10^1
140. MeV	2.218×10^2	1.779				1.779	5.878×10^1
200. MeV	2.868×10^2	1.710				1.710	9.331×10^1
297. MeV	3.884×10^2	1.688			0.000	1.688	*Minimum ionization*
300. MeV	3.917×10^2	1.688			0.000	1.688	1.523×10^2
400. MeV	4.945×10^2	1.698			0.000	1.698	2.114×10^2
800. MeV	8.995×10^2	1.774	0.000		0.000	1.775	4.418×10^2
1.00 GeV	1.101×10^3	1.808	0.000		0.000	1.808	5.534×10^2
1.40 GeV	1.502×10^3	1.861	0.001	0.000	0.001	1.862	7.712×10^2
2.00 GeV	2.103×10^3	1.920	0.001	0.000	0.001	1.922	1.088×10^3
3.00 GeV	3.104×10^3	1.986	0.001	0.001	0.001	1.990	1.599×10^3
4.00 GeV	4.104×10^3	2.033	0.002	0.002	0.002	2.038	2.095×10^3
8.00 GeV	8.105×10^3	2.138	0.005	0.005	0.004	2.152	3.998×10^3
10.0 GeV	1.011×10^4	2.170	0.007	0.007	0.005	2.188	4.920×10^3
14.0 GeV	1.411×10^4	2.215	0.010	0.011	0.006	2.244	6.724×10^3
20.0 GeV	2.011×10^4	2.262	0.016	0.019	0.009	2.306	9.360×10^3
30.0 GeV	3.011×10^4	2.311	0.027	0.033	0.013	2.383	1.362×10^4
40.0 GeV	4.011×10^4	2.344	0.038	0.048	0.017	2.447	1.776×10^4
80.0 GeV	8.011×10^4	2.420	0.085	0.115	0.033	2.654	3.343×10^4
100. GeV	1.001×10^5	2.444	0.110	0.152	0.041	2.747	4.084×10^4
140. GeV	1.401×10^5	2.479	0.162	0.227	0.057	2.925	5.495×10^4
200. GeV	2.001×10^5	2.515	0.244	0.347	0.081	3.187	7.459×10^4
300. GeV	3.001×10^5	2.557	0.384	0.549	0.121	3.611	1.040×10^5
400. GeV	4.001×10^5	2.586	0.529	0.759	0.162	4.037	1.302×10^5
693. GeV	6.928×10^5	2.643	0.967	1.394	0.282	5.286	*Muon critical energy*
800. GeV	8.001×10^5	2.658	1.131	1.632	0.327	5.748	2.129×10^5
1.00 TeV	1.000×10^6	2.681	1.441	2.082	0.410	6.615	2.453×10^5
1.40 TeV	1.400×10^6	2.717	2.065	2.976	0.582	8.340	2.990×10^5
2.00 TeV	2.000×10^6	2.755	3.023	4.344	0.842	10.964	3.616×10^5
3.00 TeV	3.000×10^6	2.798	4.625	6.621	1.290	15.335	4.384×10^5
4.00 TeV	4.000×10^6	2.830	6.253	8.926	1.745	19.755	4.957×10^5
8.00 TeV	8.000×10^6	2.908	12.836	18.207	3.639	37.590	6.400×10^5
10.0 TeV	1.000×10^7	2.933	16.161	22.878	4.613	46.586	6.877×10^5
14.0 TeV	1.400×10^7	2.972	22.799	32.188	6.619	64.579	7.603×10^5
20.0 TeV	2.000×10^7	3.014	32.834	46.224	9.698	91.770	8.379×10^5
30.0 TeV	3.000×10^7	3.062	49.519	69.586	15.037	137.204	9.264×10^5
40.0 TeV	4.000×10^7	3.097	66.279	93.017	20.513	182.906	9.894×10^5
80.0 TeV	8.000×10^7	3.184	133.489	186.823	43.458	366.954	1.141×10^6
100. TeV	1.000×10^8	3.212	167.180	233.780	55.340	459.512	1.189×10^6