

## Muons in Mt Blanc rock, std rock density

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.48003	2.650	159.2	0.14836	3.0000	0.1959	2.9959	4.1588	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	6.217				6.217	$8.959 \times 10^{-1}$		
14.0 MeV	$5.616 \times 10^1$	4.869				4.869	$1.630 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	3.817				3.817	$3.038 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	2.973				2.973	$6.047 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.545				2.546	$9.705 \times 10^0$		
80.0 MeV	$1.527 \times 10^2$	1.923				1.923	$2.835 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.809				1.809	$3.910 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.690				1.690	$6.208 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.625				1.625	$9.842 \times 10^1$		
294. MeV	$3.854 \times 10^2$	1.605			0.000	1.606	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.605			0.000	1.606	$1.605 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.616			0.000	1.617	$2.226 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.693	0.000		0.000	1.693	$4.643 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.726	0.000		0.000	1.726	$5.813 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.779	0.000	0.000	0.001	1.780	$8.093 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.837	0.001	0.000	0.001	1.839	$1.141 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.903	0.001	0.001	0.001	1.907	$1.674 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.949	0.002	0.002	0.002	1.955	$2.192 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	2.053	0.005	0.005	0.004	2.067	$4.175 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	2.085	0.006	0.006	0.005	2.102	$5.134 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	2.130	0.010	0.011	0.006	2.157	$7.011 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	2.175	0.015	0.017	0.009	2.217	$9.753 \times 10^3$		
30.0 GeV	$3.011 \times 10^4$	2.224	0.025	0.030	0.013	2.292	$1.419 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.256	0.035	0.044	0.017	2.352	$1.849 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.329	0.079	0.107	0.033	2.548	$3.480 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.352	0.102	0.141	0.041	2.636	$4.252 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.385	0.151	0.211	0.057	2.804	$5.722 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.421	0.226	0.322	0.081	3.050	$7.773 \times 10^4$		
300. GeV	$3.001 \times 10^5$	2.460	0.357	0.510	0.121	3.448	$1.085 \times 10^5$		
400. GeV	$4.001 \times 10^5$	2.489	0.491	0.705	0.162	3.847	$1.360 \times 10^5$		
711. GeV	$7.107 \times 10^5$	2.546	0.924	1.332	0.289	5.091	<i>Muon critical energy</i>		
800. GeV	$8.001 \times 10^5$	2.557	1.051	1.517	0.327	5.452	$2.229 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.580	1.340	1.935	0.410	6.265	$2.571 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.614	1.920	2.767	0.582	7.883	$3.139 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.650	2.811	4.039	0.842	10.342	$3.802 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.692	4.301	6.156	1.290	14.440	$4.617 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.723	5.816	8.301	1.745	18.585	$5.225 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.797	11.940	16.933	3.639	35.310	$6.761 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.821	15.034	21.278	4.614	43.747	$7.269 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.859	21.210	29.939	6.619	60.627	$8.042 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.899	30.546	42.997	9.698	86.141	$8.869 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.946	46.071	64.729	15.037	128.783	$9.812 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.979	61.666	86.527	20.513	171.686	$1.048 \times 10^6$		
80.0 TeV	$8.000 \times 10^7$	3.062	124.204	173.784	43.459	344.509	$1.209 \times 10^6$		
100. TeV	$1.000 \times 10^8$	3.089	155.553	217.460	55.341	431.443	$1.261 \times 10^6$		