

## Muons in baksan rock

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.49228	2.740	175.6	0.15462	3.0000	0.2000	3.0000	4.3153	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
				[MeV cm <sup>2</sup> /g]					
10.0 MeV	$4.704 \times 10^1$	6.286				6.286	$8.871 \times 10^{-1}$		
14.0 MeV	$5.616 \times 10^1$	4.926				4.926	$1.613 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	3.864				3.864	$3.004 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	3.011				3.011	$5.976 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.579				2.579	$9.587 \times 10^0$		
80.0 MeV	$1.527 \times 10^2$	1.950				1.950	$2.798 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.836				1.836	$3.857 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.717				1.718	$6.121 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.653				1.653	$9.695 \times 10^1$		
287. MeV	$3.779 \times 10^2$	1.635			0.000	1.635	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.635			0.000	1.635	$1.579 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.647			0.000	1.648	$2.189 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.728	0.000		0.000	1.729	$4.559 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.762	0.000		0.000	1.763	$5.704 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.818	0.001	0.000	0.001	1.819	$7.936 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.878	0.001	0.000	0.001	1.881	$1.118 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.947	0.002	0.001	0.001	1.951	$1.639 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.994	0.002	0.002	0.002	2.000	$2.145 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	2.102	0.005	0.005	0.004	2.117	$4.082 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	2.134	0.007	0.007	0.005	2.154	$5.019 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	2.181	0.011	0.012	0.006	2.211	$6.851 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	2.228	0.017	0.020	0.009	2.274	$9.525 \times 10^3$		
30.0 GeV	$3.011 \times 10^4$	2.277	0.028	0.034	0.013	2.353	$1.385 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.310	0.040	0.050	0.017	2.418	$1.804 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.386	0.090	0.121	0.033	2.630	$3.387 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.409	0.116	0.160	0.041	2.726	$4.134 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.443	0.171	0.239	0.057	2.911	$5.554 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.479	0.257	0.365	0.080	3.183	$7.524 \times 10^4$		
300. GeV	$3.001 \times 10^5$	2.520	0.405	0.578	0.121	3.624	$1.047 \times 10^5$		
400. GeV	$4.001 \times 10^5$	2.549	0.557	0.800	0.161	4.067	$1.307 \times 10^5$		
654. GeV	$6.541 \times 10^5$	2.599	0.957	1.378	0.264	5.199	<i>Muon critical energy</i>		
800. GeV	$8.001 \times 10^5$	2.620	1.191	1.717	0.325	5.853	$2.123 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.643	1.518	2.191	0.408	6.759	$2.440 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.677	2.175	3.131	0.579	8.562	$2.965 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.715	3.182	4.568	0.837	11.303	$3.573 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.758	4.868	6.961	1.282	15.870	$4.317 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.789	6.581	9.384	1.735	20.489	$4.870 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.865	13.504	19.135	3.616	39.122	$6.259 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.891	17.001	24.043	4.585	48.519	$6.717 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.929	23.981	33.825	6.577	67.313	$7.414 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.970	34.533	48.572	9.635	95.710	$8.158 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	3.018	52.077	73.118	14.937	143.150	$9.006 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	3.052	69.699	97.737	20.373	190.862	$9.609 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	3.137	140.364	196.287	43.149	382.939	$1.106 \times 10^6$		
100. TeV	$1.000 \times 10^8$	3.165	175.788	245.614	54.942	479.509	$1.153 \times 10^6$		