

## Muons in Kolar Gold Fields rock, std rock density

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.48605	2.650	183.4	0.16068	3.0000	0.2284	3.0284	4.5791	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	$4.704 \times 10^1$	6.167				6.168	$9.047 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	4.834				4.834	$1.645 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	3.793				3.793	$3.062 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.957				2.957	$6.089 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.533				2.533	$9.766 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	1.916				1.916	$2.849 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.806				1.806	$3.927 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.692				1.692	$6.225 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.631				1.631	$9.851 \times 10^1$	
280. MeV	$3.708 \times 10^2$	1.614			0.000	1.615	<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.615			0.000	1.615	$1.603 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.629			0.000	1.629	$2.220 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.711	0.000		0.000	1.712	$4.615 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.746	0.000		0.000	1.747	$5.771 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.801	0.001	0.000	0.001	1.803	$8.023 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.862	0.001	0.000	0.001	1.865	$1.129 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.931	0.002	0.001	0.001	1.935	$1.655 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.979	0.002	0.002	0.002	1.985	$2.165 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.087	0.006	0.006	0.004	2.102	$4.116 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.119	0.008	0.008	0.005	2.139	$5.059 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.166	0.011	0.013	0.006	2.196	$6.903 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.212	0.018	0.021	0.009	2.259	$9.595 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.261	0.029	0.036	0.013	2.339	$1.394 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.294	0.041	0.053	0.017	2.405	$1.816 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.369	0.093	0.126	0.033	2.621	$3.406 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.391	0.121	0.166	0.041	2.720	$4.155 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.425	0.178	0.249	0.056	2.909	$5.576 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.461	0.267	0.379	0.080	3.188	$7.546 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.501	0.421	0.601	0.120	3.643	$1.048 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.530	0.579	0.831	0.160	4.101	$1.306 \times 10^5$	
628. GeV	$6.283 \times 10^5$	2.575	0.952	1.371	0.252	5.151	<i>Muon critical energy</i>	
800. GeV	$8.001 \times 10^5$	2.600	1.238	1.785	0.323	5.946	$2.112 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.622	1.577	2.276	0.406	6.883	$2.424 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.657	2.260	3.253	0.576	8.746	$2.939 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.694	3.306	4.748	0.834	11.582	$3.533 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.736	5.057	7.233	1.277	16.304	$4.258 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.767	6.836	9.750	1.727	21.080	$4.796 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.842	14.024	19.878	3.599	40.343	$6.144 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.867	17.653	24.974	4.562	50.057	$6.588 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.905	24.900	35.134	6.544	69.484	$7.264 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.946	35.852	50.449	9.587	98.834	$7.984 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.993	54.064	75.941	14.860	147.859	$8.806 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	3.027	72.355	101.509	20.267	197.158	$9.390 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	3.111	145.699	203.858	42.914	395.583	$1.079 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.138	182.463	255.089	54.637	495.327	$1.124 \times 10^6$	