Muons in barium sulfate $BaSO_4$

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.44561	4.500	285.7	0.11747	3.0427	−0.0128	3.4069	4.8923	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	5.288				5.288	1.061×10^0
14.0 MeV	5.616×10^1	4.157				4.157	1.923×10^0
20.0 MeV	6.802×10^1	3.270				3.271	3.569×10^0
30.0 MeV	8.509×10^1	2.557				2.557	7.074×10^0
40.0 MeV	1.003×10^2	2.194				2.194	1.132×10^1
80.0 MeV	1.527×10^2	1.659				1.659	3.293×10^1
100. MeV	1.764×10^2	1.563				1.563	4.538×10^1
140. MeV	2.218×10^2	1.467				1.467	7.193×10^1
200. MeV	2.868×10^2	1.417				1.417	1.137×10^2
267. MeV	3.577×10^2	1.406			0.000	1.407	*Minimum ionization*
300. MeV	3.917×10^2	1.408	0.000		0.000	1.408	1.847×10^2
400. MeV	4.945×10^2	1.423	0.000		0.000	1.423	2.553×10^2
800. MeV	8.995×10^2	1.503	0.001		0.000	1.504	5.285×10^2
1.00 GeV	1.101×10^3	1.536	0.001		0.000	1.537	6.600×10^2
1.40 GeV	1.502×10^3	1.589	0.001	0.000	0.001	1.591	9.155×10^2
2.00 GeV	2.103×10^3	1.647	0.002	0.001	0.001	1.651	1.285×10^3
3.00 GeV	3.104×10^3	1.713	0.004	0.002	0.001	1.720	1.878×10^3
4.00 GeV	4.104×10^3	1.758	0.005	0.004	0.002	1.769	2.451×10^3
8.00 GeV	8.105×10^3	1.861	0.013	0.012	0.003	1.890	4.630×10^3
10.0 GeV	1.011×10^4	1.892	0.017	0.017	0.004	1.931	5.676×10^3
14.0 GeV	1.411×10^4	1.937	0.026	0.028	0.006	1.997	7.711×10^3
20.0 GeV	2.011×10^4	1.982	0.040	0.046	0.008	2.076	1.066×10^4
30.0 GeV	3.011×10^4	2.029	0.066	0.080	0.012	2.187	1.534×10^4
40.0 GeV	4.011×10^4	2.061	0.093	0.117	0.016	2.287	1.981×10^4
80.0 GeV	8.011×10^4	2.131	0.211	0.282	0.031	2.655	3.601×10^4
100. GeV	1.001×10^5	2.153	0.273	0.371	0.038	2.835	4.330×10^4
140. GeV	1.401×10^5	2.184	0.401	0.554	0.053	3.192	5.659×10^4
200. GeV	2.001×10^5	2.217	0.601	0.843	0.075	3.737	7.395×10^4
285. GeV	2.847×10^5	2.249	0.890	1.253	0.107	4.500	*Muon critical energy*
300. GeV	3.001×10^5	2.254	0.943	1.329	0.113	4.640	9.793×10^4
400. GeV	4.001×10^5	2.280	1.297	1.832	0.150	5.561	1.176×10^5
800. GeV	8.001×10^5	2.344	2.760	3.899	0.303	9.307	1.726×10^5
1.00 TeV	1.000×10^6	2.365	3.511	4.957	0.381	11.216	1.922×10^5
1.40 TeV	1.400×10^6	2.396	5.019	7.068	0.540	15.024	2.229×10^5
2.00 TeV	2.000×10^6	2.430	7.326	10.291	0.781	20.829	2.567×10^5
3.00 TeV	3.000×10^6	2.469	11.179	15.646	1.196	30.491	2.961×10^5
4.00 TeV	4.000×10^6	2.497	15.085	21.061	1.616	40.261	3.246×10^5
8.00 TeV	8.000×10^6	2.567	30.840	42.832	3.363	79.603	3.939×10^5
10.0 TeV	1.000×10^7	2.589	38.782	53.777	4.261	99.411	4.163×10^5
14.0 TeV	1.400×10^7	2.624	54.625	75.614	6.107	138.970	4.502×10^5
20.0 TeV	2.000×10^7	2.661	78.535	108.513	8.938	198.648	4.861×10^5
30.0 TeV	3.000×10^7	2.705	118.337	163.251	13.836	298.129	5.270×10^5
40.0 TeV	4.000×10^7	2.736	158.287	218.124	18.854	398.002	5.559×10^5
80.0 TeV	8.000×10^7	2.813	318.350	437.779	39.839	798.781	6.254×10^5
100. TeV	1.000×10^8	2.838	398.526	547.713	50.689	999.767	6.478×10^5