

Muons in UD rock for doug

	$\langle Z/A \rangle$	ρ [g/cm ³]	I [eV]	a	$k = m_s$	x_0	x_1	\bar{C}	δ_0
	0.49602	2.700	145.4	0.13775	3.0000	0.2000	3.0000	3.9450	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	6.508				6.508		8.550×10^{-1}	
14.0 MeV	5.616×10^1	5.094				5.094		1.557×10^0	
20.0 MeV	6.802×10^1	3.992				3.992		2.903×10^0	
30.0 MeV	8.509×10^1	3.107				3.107		5.781×10^0	
40.0 MeV	1.003×10^2	2.659				2.659		9.282×10^0	
80.0 MeV	1.527×10^2	2.007				2.007		2.714×10^1	
100. MeV	1.764×10^2	1.888				1.888		3.743×10^1	
140. MeV	2.218×10^2	1.761				1.762		5.947×10^1	
200. MeV	2.868×10^2	1.691				1.691		9.437×10^1	
298. MeV	3.894×10^2	1.668			0.000	1.668		<i>Minimum ionization</i>	
300. MeV	3.917×10^2	1.668			0.000	1.668		1.541×10^2	
400. MeV	4.945×10^2	1.677			0.000	1.678		2.139×10^2	
800. MeV	8.995×10^2	1.753	0.000		0.000	1.754		4.471×10^2	
1.00 GeV	1.101×10^3	1.786	0.000		0.000	1.787		5.600×10^2	
1.40 GeV	1.502×10^3	1.840	0.001	0.000	0.001	1.842		7.804×10^2	
2.00 GeV	2.103×10^3	1.899	0.001	0.000	0.001	1.902		1.101×10^3	
3.00 GeV	3.104×10^3	1.967	0.001	0.001	0.001	1.971		1.617×10^3	
4.00 GeV	4.104×10^3	2.013	0.002	0.002	0.002	2.019		2.118×10^3	
8.00 GeV	8.105×10^3	2.120	0.005	0.005	0.004	2.134		4.038×10^3	
10.0 GeV	1.011×10^4	2.153	0.007	0.007	0.005	2.171		4.966×10^3	
14.0 GeV	1.411×10^4	2.199	0.011	0.011	0.006	2.228		6.784×10^3	
20.0 GeV	2.011×10^4	2.246	0.016	0.019	0.009	2.290		9.439×10^3	
30.0 GeV	3.011×10^4	2.295	0.027	0.033	0.013	2.368		1.373×10^4	
40.0 GeV	4.011×10^4	2.329	0.038	0.048	0.017	2.432		1.789×10^4	
80.0 GeV	8.011×10^4	2.404	0.086	0.116	0.033	2.640		3.365×10^4	
100. GeV	1.001×10^5	2.428	0.111	0.153	0.041	2.733		4.110×10^4	
140. GeV	1.401×10^5	2.462	0.164	0.229	0.057	2.913		5.527×10^4	
200. GeV	2.001×10^5	2.499	0.246	0.349	0.081	3.176		7.499×10^4	
300. GeV	3.001×10^5	2.540	0.388	0.554	0.121	3.603		1.045×10^5	
400. GeV	4.001×10^5	2.569	0.534	0.767	0.162	4.032		1.308×10^5	
683. GeV	6.827×10^5	2.624	0.961	1.385	0.278	5.248		<i>Muon critical energy</i>	
800. GeV	8.001×10^5	2.640	1.142	1.647	0.327	5.756		2.134×10^5	
1.00 TeV	1.000×10^6	2.663	1.456	2.099	0.411	6.629		2.457×10^5	
1.40 TeV	1.400×10^6	2.698	2.086	3.001	0.582	8.368		2.993×10^5	
2.00 TeV	2.000×10^6	2.736	3.053	4.381	0.843	11.013		3.616×10^5	
3.00 TeV	3.000×10^6	2.779	4.671	6.677	1.291	15.418		4.380×10^5	
4.00 TeV	4.000×10^6	2.811	6.315	9.001	1.746	19.874		4.950×10^5	
8.00 TeV	8.000×10^6	2.888	12.961	18.358	3.640	37.848		6.384×10^5	
10.0 TeV	1.000×10^7	2.913	16.317	23.068	4.616	46.914		6.858×10^5	
14.0 TeV	1.400×10^7	2.952	23.016	32.455	6.622	65.046		7.579×10^5	
20.0 TeV	2.000×10^7	2.993	33.141	46.607	9.704	92.446		8.349×10^5	
30.0 TeV	3.000×10^7	3.041	49.985	70.161	15.046	138.234		9.228×10^5	
40.0 TeV	4.000×10^7	3.076	66.906	93.785	20.525	184.292		9.852×10^5	
80.0 TeV	8.000×10^7	3.162	134.753	188.355	43.484	369.754		1.135×10^6	
100. TeV	1.000×10^8	3.190	168.761	235.692	55.373	463.016		1.184×10^6	