Table 027: Muons in Cobalt

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
27 (Co)	58.933195 (5)	8.900	297.0	0.14474	2.9502	−0.0187	3.1790	4.2601	0.12

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	5.372				5.372	1.049×10^0
14.0 MeV	5.616×10^1	4.226				4.226	1.897×10^0
20.0 MeV	6.802×10^1	3.325				3.325	3.515×10^0
30.0 MeV	8.509×10^1	2.597				2.597	6.964×10^0
40.0 MeV	1.003×10^2	2.225				2.225	1.115×10^1
80.0 MeV	1.527×10^2	1.679				1.679	3.249×10^1
100. MeV	1.764×10^2	1.580				1.581	4.479×10^1
140. MeV	2.218×10^2	1.483				1.483	7.104×10^1
200. MeV	2.868×10^2	1.431				1.431	1.124×10^2
270. MeV	3.602×10^2	1.419			0.000	1.420	*Minimum ionization*
300. MeV	3.917×10^2	1.421			0.000	1.421	1.827×10^2
400. MeV	4.945×10^2	1.435	0.000		0.000	1.435	2.528×10^2
800. MeV	8.995×10^2	1.514	0.000		0.000	1.515	5.238×10^2
1.00 GeV	1.101×10^3	1.547	0.001		0.000	1.548	6.544×10^2
1.40 GeV	1.502×10^3	1.600	0.001	0.000	0.001	1.602	9.081×10^2
2.00 GeV	2.103×10^3	1.658	0.002	0.001	0.001	1.661	1.275×10^3
3.00 GeV	3.104×10^3	1.723	0.003	0.002	0.001	1.730	1.865×10^3
4.00 GeV	4.104×10^3	1.769	0.004	0.003	0.002	1.778	2.434×10^3
8.00 GeV	8.105×10^3	1.872	0.011	0.011	0.003	1.897	4.604×10^3
10.0 GeV	1.011×10^4	1.903	0.014	0.015	0.004	1.936	5.648×10^3
14.0 GeV	1.411×10^4	1.947	0.021	0.024	0.006	1.999	7.679×10^3
20.0 GeV	2.011×10^4	1.992	0.033	0.039	0.008	2.073	1.062×10^4
30.0 GeV	3.011×10^4	2.039	0.055	0.068	0.012	2.174	1.533×10^4
40.0 GeV	4.011×10^4	2.071	0.077	0.099	0.016	2.263	1.984×10^4
80.0 GeV	8.011×10^4	2.142	0.174	0.237	0.031	2.585	3.635×10^4
100. GeV	1.001×10^5	2.164	0.225	0.312	0.038	2.740	4.386×10^4
140. GeV	1.401×10^5	2.196	0.331	0.466	0.053	3.047	5.770×10^4
200. GeV	2.001×10^5	2.230	0.496	0.710	0.076	3.513	7.602×10^4
300. GeV	3.001×10^5	2.268	0.779	1.120	0.114	4.281	1.018×10^5
336. GeV	3.356×10^5	2.278	0.882	1.269	0.127	4.557	*Muon critical energy*
400. GeV	4.001×10^5	2.295	1.072	1.544	0.151	5.063	1.232×10^5
800. GeV	8.001×10^5	2.360	2.283	3.289	0.306	8.239	1.846×10^5
1.00 TeV	1.000×10^6	2.382	2.906	4.183	0.384	9.855	2.068×10^5
1.40 TeV	1.400×10^6	2.414	4.156	5.967	0.545	13.082	2.419×10^5
2.00 TeV	2.000×10^6	2.449	6.070	8.691	0.788	17.999	2.808×10^5
3.00 TeV	3.000×10^6	2.489	9.269	13.220	1.206	26.185	3.267×10^5
4.00 TeV	4.000×10^6	2.518	12.514	17.800	1.630	34.462	3.598×10^5
8.00 TeV	8.000×10^6	2.589	25.609	36.218	3.392	67.810	4.410×10^5
10.0 TeV	1.000×10^7	2.612	32.214	45.481	4.298	84.606	4.674×10^5
14.0 TeV	1.400×10^7	2.648	45.388	63.959	6.158	118.154	5.072×10^5
20.0 TeV	2.000×10^7	2.686	65.278	91.802	9.010	168.777	5.495×10^5
30.0 TeV	3.000×10^7	2.731	98.391	138.129	13.946	253.198	5.976×10^5
40.0 TeV	4.000×10^7	2.763	131.636	184.575	19.003	337.979	6.316×10^5
80.0 TeV	8.000×10^7	2.842	264.858	370.503	40.143	678.346	7.135×10^5
100. TeV	1.000×10^8	2.868	331.600	463.560	51.070	849.099	7.398×10^5