Table 030: Muons in Zinc

Z	A [g/mol]	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
30 (Zn)	65.38 (2)	7.133	330.0	0.14714	2.8652	0.0049	3.3668	4.6906	0.08

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	5.291				5.291	1.068×10^0
14.0 MeV	5.616×10^1	4.168				4.168	1.928×10^0
20.0 MeV	6.802×10^1	3.284				3.284	3.567×10^0
30.0 MeV	8.509×10^1	2.569				2.569	7.057×10^0
40.0 MeV	1.003×10^2	2.204				2.204	1.129×10^1
80.0 MeV	1.527×10^2	1.665				1.665	3.281×10^1
100. MeV	1.764×10^2	1.568				1.568	4.522×10^1
140. MeV	2.218×10^2	1.472				1.472	7.167×10^1
200. MeV	2.868×10^2	1.422				1.422	1.133×10^2
267. MeV	3.577×10^2	1.411			0.000	1.411	*Minimum ionization*
300. MeV	3.917×10^2	1.413	0.000		0.000	1.413	1.840×10^2
400. MeV	4.945×10^2	1.428	0.000		0.000	1.429	2.544×10^2
800. MeV	8.995×10^2	1.510	0.001		0.000	1.511	5.265×10^2
1.00 GeV	1.101×10^3	1.544	0.001		0.000	1.546	6.573×10^2
1.40 GeV	1.502×10^3	1.599	0.001	0.000	0.001	1.601	9.113×10^2
2.00 GeV	2.103×10^3	1.658	0.002	0.001	0.001	1.662	1.279×10^3
3.00 GeV	3.104×10^3	1.726	0.003	0.002	0.001	1.733	1.867×10^3
4.00 GeV	4.104×10^3	1.773	0.005	0.004	0.002	1.784	2.435×10^3
8.00 GeV	8.105×10^3	1.880	0.012	0.012	0.003	1.907	4.596×10^3
10.0 GeV	1.011×10^4	1.912	0.016	0.016	0.004	1.949	5.633×10^3
14.0 GeV	1.411×10^4	1.959	0.024	0.026	0.006	2.015	7.650×10^3
20.0 GeV	2.011×10^4	2.005	0.037	0.043	0.008	2.093	1.057×10^4
30.0 GeV	3.011×10^4	2.054	0.060	0.075	0.012	2.201	1.522×10^4
40.0 GeV	4.011×10^4	2.087	0.085	0.109	0.016	2.297	1.967×10^4
80.0 GeV	8.011×10^4	2.160	0.192	0.262	0.031	2.645	3.587×10^4
100. GeV	1.001×10^5	2.182	0.248	0.344	0.038	2.813	4.320×10^4
140. GeV	1.401×10^5	2.215	0.365	0.513	0.053	3.147	5.664×10^4
200. GeV	2.001×10^5	2.249	0.547	0.782	0.075	3.654	7.432×10^4
300. GeV	3.001×10^5	2.287	0.859	1.232	0.113	4.491	9.897×10^4
311. GeV	3.106×10^5	2.290	0.892	1.281	0.117	4.581	*Muon critical energy*
400. GeV	4.001×10^5	2.314	1.181	1.699	0.150	5.345	1.194×10^5
800. GeV	8.001×10^5	2.379	2.515	3.617	0.304	8.815	1.771×10^5
1.00 TeV	1.000×10^6	2.401	3.201	4.599	0.382	10.582	1.977×10^5
1.40 TeV	1.400×10^6	2.433	4.577	6.559	0.541	14.110	2.304×10^5
2.00 TeV	2.000×10^6	2.468	6.683	9.552	0.782	19.486	2.664×10^5
3.00 TeV	3.000×10^6	2.508	10.204	14.526	1.196	28.435	3.087×10^5
4.00 TeV	4.000×10^6	2.537	13.773	19.556	1.617	37.485	3.392×10^5
8.00 TeV	8.000×10^6	2.608	28.179	39.784	3.364	73.936	4.138×10^5
10.0 TeV	1.000×10^7	2.632	35.443	49.955	4.262	92.293	4.379×10^5
14.0 TeV	1.400×10^7	2.668	49.934	70.247	6.106	128.955	4.744×10^5
20.0 TeV	2.000×10^7	2.706	71.808	100.822	8.934	184.271	5.132×10^5
30.0 TeV	3.000×10^7	2.751	108.223	151.694	13.826	276.494	5.572×10^5
40.0 TeV	4.000×10^7	2.783	144.781	202.694	18.836	369.095	5.884×10^5
80.0 TeV	8.000×10^7	2.862	291.272	406.851	39.777	740.762	6.633×10^5
100. TeV	1.000×10^8	2.888	364.660	509.030	50.600	927.179	6.874×10^5