

# Muons in cesium fluoride (CsF)

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\overline{C}$	$\delta_0$
0.42132	4.115	440.7	0.22052	2.7280	0.0084	3.3374	5.9046	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
10.0 MeV	$4.704 \times 10^1$	4.661				4.661	$1.212 \times 10^0$	
14.0 MeV	$5.616 \times 10^1$	3.676				3.676	$2.188 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	2.901				2.901	$4.046 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.275				2.275	$7.991 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	1.956				1.956	$1.276 \times 10^1$	
80.0 MeV	$1.527 \times 10^2$	1.493				1.493	$3.687 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.410				1.410	$5.069 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.330				1.330	$8.002 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.291				1.292	$1.259 \times 10^2$	
247. MeV	$3.366 \times 10^2$	1.286				1.286	<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.290	0.000		0.000	1.290	$2.036 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.308	0.000		0.000	1.309	$2.806 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.393	0.001		0.000	1.395	$5.763 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.428	0.001		0.000	1.429	$7.179 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.482	0.002	0.000	0.001	1.484	$9.923 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.541	0.003	0.001	0.001	1.545	$1.388 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.607	0.005	0.003	0.001	1.616	$2.020 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.653	0.007	0.005	0.002	1.667	$2.629 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	1.757	0.016	0.016	0.003	1.793	$4.933 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	1.788	0.022	0.022	0.004	1.837	$6.035 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	1.833	0.033	0.036	0.006	1.909	$8.169 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	1.877	0.052	0.059	0.008	1.997	$1.124 \times 10^4$	
30.0 GeV	$3.011 \times 10^4$	1.924	0.085	0.103	0.011	2.124	$1.609 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	1.955	0.120	0.151	0.015	2.242	$2.067 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.024	0.271	0.362	0.029	2.688	$3.694 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.044	0.351	0.476	0.037	2.909	$4.409 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.075	0.515	0.711	0.051	3.353	$5.689 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.106	0.773	1.083	0.072	4.035	$7.318 \times 10^4$	
217. GeV	$2.173 \times 10^5$	2.113	0.847	1.188	0.078	4.227	<i>Muon critical energy</i>	
300. GeV	$3.001 \times 10^5$	2.141	1.212	1.705	0.108	5.167	$9.504 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.165	1.666	2.349	0.144	6.326	$1.125 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.226	3.541	4.991	0.292	11.051	$1.598 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.245	4.505	6.343	0.367	13.461	$1.761 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.275	6.436	9.040	0.520	18.272	$2.016 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.307	9.391	13.156	0.752	25.607	$2.292 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.344	14.324	19.996	1.150	37.815	$2.611 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.371	19.323	26.909	1.554	50.158	$2.840 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.436	39.480	54.698	3.231	99.847	$3.394 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.458	49.639	68.668	4.092	124.857	$3.573 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.490	69.901	96.541	5.860	174.794	$3.843 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.526	100.475	138.530	8.571	250.103	$4.128 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.567	151.373	208.389	13.255	375.585	$4.452 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	2.596	202.455	278.414	18.051	501.517	$4.682 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	2.669	407.093	558.720	38.084	1006.567	$5.234 \times 10^5$	
100. TeV	$1.000 \times 10^8$	2.693	509.587	699.006	48.433	1259.720	$5.411 \times 10^5$	