

Muons in carbon (graphite) (C)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|----------|---------------------|-----------------------------|---------|---------------------------------------|-----------|---------|------------------------------------|-----------|------------|
| 6 (C) | 12.0107 (8) | 2.210 | 78.0 | 0.20762 | 2.9532 | -0.0090 | 2.4817 | 2.8926 | 0.14 |
| T | p [MeV/c] | Ionization | Brems | Pair prod [MeV cm ² /g] | Photonucl | Total | CSDA range [g/cm ²] | | |
| 10.0 MeV | 4.704×10^1 | 7.114 | | | | 7.114 | 7.773×10^{-1} | | |
| 14.0 MeV | 5.616×10^1 | 5.548 | | | | 5.548 | 1.421×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 4.329 | | | | 4.329 | 2.659×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 3.353 | | | | 3.353 | 5.320×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 2.858 | | | | 2.858 | 8.571×10^0 | | |
| 80.0 MeV | 1.527×10^2 | 2.124 | | | | 2.124 | 2.533×10^1 | | |
| 100. MeV | 1.764×10^2 | 1.989 | | | | 1.989 | 3.508×10^1 | | |
| 140. MeV | 2.218×10^2 | 1.851 | | | | 1.851 | 5.603×10^1 | | |
| 200. MeV | 2.868×10^2 | 1.772 | | | | 1.772 | 8.928×10^1 | | |
| 300. MeV | 3.917×10^2 | 1.742 | | | 0.000 | 1.743 | 1.464×10^2 | | |
| 317. MeV | 4.096×10^2 | 1.742 | | | 0.000 | 1.742 | <i>Minimum ionization</i> | | |
| 400. MeV | 4.945×10^2 | 1.748 | | | 0.000 | 1.749 | 2.037×10^2 | | |
| 800. MeV | 8.995×10^2 | 1.817 | 0.000 | | 0.000 | 1.817 | 4.282×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 1.848 | 0.000 | | 0.000 | 1.848 | 5.373×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 1.898 | 0.000 | | 0.001 | 1.899 | 7.506×10^2 | | |
| 2.00 GeV | 2.103×10^3 | 1.954 | 0.000 | 0.000 | 0.001 | 1.955 | 1.062×10^3 | | |
| 3.00 GeV | 3.104×10^3 | 2.017 | 0.001 | 0.001 | 0.001 | 2.020 | 1.564×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 2.061 | 0.001 | 0.001 | 0.002 | 2.065 | 2.054×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 2.161 | 0.003 | 0.003 | 0.004 | 2.171 | 3.937×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 2.192 | 0.004 | 0.004 | 0.005 | 2.205 | 4.851×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 2.236 | 0.006 | 0.007 | 0.007 | 2.255 | 6.643×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 2.280 | 0.010 | 0.011 | 0.009 | 2.310 | 9.270×10^3 | | |
| 30.0 GeV | 3.011×10^4 | 2.328 | 0.016 | 0.019 | 0.013 | 2.376 | 1.354×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 2.361 | 0.022 | 0.028 | 0.018 | 2.429 | 1.770×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 2.436 | 0.050 | 0.068 | 0.034 | 2.589 | 3.362×10^4 | | |
| 100. GeV | 1.001×10^5 | 2.460 | 0.065 | 0.089 | 0.042 | 2.657 | 4.125×10^4 | | |
| 140. GeV | 1.401×10^5 | 2.495 | 0.097 | 0.134 | 0.059 | 2.785 | 5.595×10^4 | | |
| 200. GeV | 2.001×10^5 | 2.531 | 0.145 | 0.206 | 0.084 | 2.966 | 7.682×10^4 | | |
| 300. GeV | 3.001×10^5 | 2.573 | 0.230 | 0.327 | 0.125 | 3.255 | 1.090×10^5 | | |
| 400. GeV | 4.001×10^5 | 2.602 | 0.317 | 0.453 | 0.167 | 3.540 | 1.384×10^5 | | |
| 800. GeV | 8.001×10^5 | 2.674 | 0.681 | 0.981 | 0.338 | 4.673 | 2.365×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 2.697 | 0.869 | 1.254 | 0.424 | 5.244 | 2.768×10^5 | | |
| 1.06 TeV | 1.057×10^6 | 2.703 | 0.923 | 1.331 | 0.449 | 5.406 | <i>Muon critical energy</i> | | |
| 1.40 TeV | 1.400×10^6 | 2.732 | 1.248 | 1.797 | 0.602 | 6.379 | 3.459×10^5 | | |
| 2.00 TeV | 2.000×10^6 | 2.770 | 1.830 | 2.630 | 0.871 | 8.102 | 4.292×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 2.814 | 2.806 | 4.016 | 1.335 | 10.972 | 5.349×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 2.846 | 3.799 | 5.422 | 1.807 | 13.875 | 6.158×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 2.923 | 7.821 | 11.088 | 3.773 | 25.605 | 8.248×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 2.949 | 9.855 | 13.942 | 4.785 | 31.531 | 8.951×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 2.987 | 13.913 | 19.628 | 6.871 | 43.400 | 1.003×10^6 | | |
| 20.0 TeV | 2.000×10^7 | 3.029 | 20.052 | 28.206 | 10.076 | 61.364 | 1.118×10^6 | | |
| 30.0 TeV | 3.000×10^7 | 3.078 | 30.273 | 42.478 | 15.640 | 91.469 | 1.251×10^6 | | |
| 40.0 TeV | 4.000×10^7 | 3.113 | 40.549 | 56.796 | 21.350 | 121.808 | 1.346×10^6 | | |
| 80.0 TeV | 8.000×10^7 | 3.199 | 81.720 | 114.122 | 45.316 | 244.358 | 1.573×10^6 | | |
| 100. TeV | 1.000×10^8 | 3.227 | 102.350 | 142.820 | 57.740 | 306.137 | 1.646×10^6 | | |