

Table 298: Muons in Deuterium gas (D₂)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|----------|---------------------|-----------------------------|--------|---------------------------------------|-----------|---------|------------------------------------|-----------|------------|
| 1 (D) | 2.01410177803 | 0.677×10^{-4} | 19.2 | 0.14092 | 5.7273 | 1.8793 | 3.2872 | 9.6543 | 0.00 |
| 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 | 8.379 | | | | 8.379 | 6.528×10^{-1} | | |
| 14.0 MeV | 5.616×10^1 | 6.500 | | | | 6.500 | 1.201×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 5.049 | | | | 5.049 | 2.261×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 3.895 | | | | 3.895 | 4.548×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 3.313 | | | | 3.313 | 7.350×10^0 | | |
| 80.0 MeV | 1.527×10^2 | 2.466 | | | | 2.466 | 2.180×10^1 | | |
| 100. MeV | 1.764×10^2 | 2.312 | | | | 2.312 | 3.020×10^1 | | |
| 140. MeV | 2.218×10^2 | 2.159 | | | | 2.159 | 4.819×10^1 | | |
| 200. MeV | 2.868×10^2 | 2.076 | | | 0.000 | 2.076 | 7.663×10^1 | | |
| 284. MeV | 3.748×10^2 | 2.053 | | | 0.000 | 2.054 | <i>Minimum ionization</i> | | |
| 300. MeV | 3.917×10^2 | 2.054 | | | 0.000 | 2.054 | 1.252×10^2 | | |
| 400. MeV | 4.945×10^2 | 2.072 | | | 0.000 | 2.073 | 1.737×10^2 | | |
| 800. MeV | 8.995×10^2 | 2.188 | | | 0.000 | 2.189 | 3.615×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 2.239 | | | 0.001 | 2.240 | 4.518×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 2.323 | 0.000 | | 0.001 | 2.324 | 6.269×10^2 | | |
| 2.00 GeV | 2.103×10^3 | 2.418 | 0.000 | | 0.001 | 2.420 | 8.797×10^2 | | |
| 3.00 GeV | 3.104×10^3 | 2.530 | 0.000 | 0.000 | 0.002 | 2.533 | 1.283×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 2.611 | 0.001 | 0.000 | 0.002 | 2.615 | 1.671×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 2.806 | 0.001 | 0.001 | 0.005 | 2.814 | 3.140×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 2.860 | 0.002 | 0.002 | 0.006 | 2.870 | 3.843×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 2.927 | 0.003 | 0.003 | 0.008 | 2.941 | 5.218×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 2.984 | 0.005 | 0.006 | 0.011 | 3.005 | 7.235×10^3 | | |
| 30.0 GeV | 3.011×10^4 | 3.039 | 0.008 | 0.010 | 0.015 | 3.073 | 1.052×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 3.074 | 0.012 | 0.015 | 0.020 | 3.121 | 1.375×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 3.150 | 0.028 | 0.038 | 0.038 | 3.255 | 2.628×10^4 | | |
| 100. GeV | 1.001×10^5 | 3.174 | 0.037 | 0.050 | 0.047 | 3.309 | 3.238×10^4 | | |
| 140. GeV | 1.401×10^5 | 3.209 | 0.055 | 0.076 | 0.066 | 3.406 | 4.429×10^4 | | |
| 200. GeV | 2.001×10^5 | 3.245 | 0.085 | 0.118 | 0.093 | 3.541 | 6.156×10^4 | | |
| 300. GeV | 3.001×10^5 | 3.286 | 0.137 | 0.191 | 0.139 | 3.753 | 8.898×10^4 | | |
| 400. GeV | 4.001×10^5 | 3.315 | 0.191 | 0.268 | 0.185 | 3.960 | 1.149×10^5 | | |
| 800. GeV | 8.001×10^5 | 3.387 | 0.423 | 0.592 | 0.373 | 4.774 | 2.068×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 3.410 | 0.544 | 0.761 | 0.468 | 5.183 | 2.470×10^5 | | |
| 1.40 TeV | 1.400×10^6 | 3.445 | 0.791 | 1.101 | 0.663 | 6.001 | 3.186×10^5 | | |
| 1.86 TeV | 1.858×10^6 | 3.475 | 1.083 | 1.501 | 0.890 | 6.950 | <i>Muon critical energy</i> | | |
| 2.00 TeV | 2.000×10^6 | 3.483 | 1.175 | 1.627 | 0.961 | 7.246 | 4.095×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 3.526 | 1.827 | 2.504 | 1.474 | 9.331 | 5.309×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 3.557 | 2.496 | 3.399 | 1.996 | 11.448 | 6.275×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 3.634 | 5.240 | 7.012 | 4.180 | 20.067 | 8.882×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 3.660 | 6.642 | 8.837 | 5.308 | 24.447 | 9.783×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 3.698 | 9.452 | 12.466 | 7.642 | 33.258 | 1.118×10^6 | | |
| 20.0 TeV | 2.000×10^7 | 3.740 | 13.734 | 17.952 | 11.236 | 46.662 | 1.270×10^6 | | |
| 30.0 TeV | 3.000×10^7 | 3.788 | 20.884 | 27.062 | 17.498 | 69.232 | 1.445×10^6 | | |
| 40.0 TeV | 4.000×10^7 | 3.823 | 28.113 | 36.210 | 23.940 | 92.085 | 1.570×10^6 | | |
| 80.0 TeV | 8.000×10^7 | 3.908 | 57.248 | 72.833 | 51.135 | 185.124 | 1.870×10^6 | | |
| 100. TeV | 1.000×10^8 | 3.937 | 71.920 | 91.170 | 65.290 | 232.317 | 1.966×10^6 | | |