

Muons in cerium (Ce)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|---------|------------|-----------------------------|--------|---------|-----------|--------|--------|-----------|------------|
| 58 (Ce) | 140.116(1) | 6.770 | 523.0 | 0.18885 | 2.8592 | 0.2676 | 3.3395 | 5.7669 | 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 | 4.405 | | | | 4.405 | 1.296×10^0 |
| 14.0 MeV | 5.616×10^1 | 3.488 | | | | 3.488 | 2.327×10^0 |
| 20.0 MeV | 6.802×10^1 | 2.761 | | | | 2.761 | 4.281×10^0 |
| 30.0 MeV | 8.509×10^1 | 2.170 | | | | 2.170 | 8.421×10^0 |
| 40.0 MeV | 1.003×10^2 | 1.868 | | | | 1.868 | 1.342×10^1 |
| 80.0 MeV | 1.527×10^2 | 1.425 | | | | 1.425 | 3.867×10^1 |
| 100. MeV | 1.764×10^2 | 1.347 | | | | 1.347 | 5.314×10^1 |
| 140. MeV | 2.218×10^2 | 1.272 | | | | 1.272 | 8.385×10^1 |
| 200. MeV | 2.868×10^2 | 1.238 | | | | 1.238 | 1.318×10^2 |
| 239. MeV | 3.285×10^2 | 1.234 | | | | 1.234 | <i>Minimum ionization</i> |
| 300. MeV | 3.917×10^2 | 1.239 | 0.000 | | 0.000 | 1.239 | 2.127×10^2 |
| 400. MeV | 4.945×10^2 | 1.259 | 0.000 | | 0.000 | 1.259 | 2.928×10^2 |
| 800. MeV | 8.995×10^2 | 1.344 | 0.001 | | 0.000 | 1.345 | 5.998×10^2 |
| 1.00 GeV | 1.101×10^3 | 1.378 | 0.001 | | 0.000 | 1.379 | 7.466×10^2 |
| 1.40 GeV | 1.502×10^3 | 1.431 | 0.002 | 0.000 | 0.001 | 1.434 | 1.031×10^3 |
| 2.00 GeV | 2.103×10^3 | 1.489 | 0.003 | 0.001 | 0.001 | 1.494 | 1.440×10^3 |
| 3.00 GeV | 3.104×10^3 | 1.554 | 0.005 | 0.003 | 0.001 | 1.564 | 2.093×10^3 |
| 4.00 GeV | 4.104×10^3 | 1.598 | 0.008 | 0.006 | 0.002 | 1.614 | 2.722×10^3 |
| 8.00 GeV | 8.105×10^3 | 1.700 | 0.019 | 0.018 | 0.003 | 1.741 | 5.099×10^3 |
| 10.0 GeV | 1.011×10^4 | 1.730 | 0.025 | 0.026 | 0.004 | 1.785 | 6.233×10^3 |
| 14.0 GeV | 1.411×10^4 | 1.773 | 0.039 | 0.042 | 0.005 | 1.860 | 8.427×10^3 |
| 20.0 GeV | 2.011×10^4 | 1.816 | 0.060 | 0.068 | 0.008 | 1.953 | 1.157×10^4 |
| 30.0 GeV | 3.011×10^4 | 1.861 | 0.099 | 0.119 | 0.011 | 2.091 | 1.652×10^4 |
| 40.0 GeV | 4.011×10^4 | 1.892 | 0.139 | 0.175 | 0.015 | 2.221 | 2.116×10^4 |
| 80.0 GeV | 8.011×10^4 | 1.958 | 0.315 | 0.420 | 0.029 | 2.723 | 3.739×10^4 |
| 100. GeV | 1.001×10^5 | 1.978 | 0.408 | 0.552 | 0.036 | 2.975 | 4.441×10^4 |
| 140. GeV | 1.401×10^5 | 2.008 | 0.599 | 0.823 | 0.050 | 3.481 | 5.683×10^4 |
| 185. GeV | 1.851×10^5 | 2.032 | 0.822 | 1.144 | 0.065 | 4.065 | <i>Muon critical energy</i> |
| 200. GeV | 2.001×10^5 | 2.038 | 0.898 | 1.254 | 0.071 | 4.262 | 7.239×10^4 |
| 300. GeV | 3.001×10^5 | 2.073 | 1.409 | 1.973 | 0.106 | 5.561 | 9.289×10^4 |
| 400. GeV | 4.001×10^5 | 2.097 | 1.936 | 2.717 | 0.141 | 6.893 | 1.090×10^5 |
| 800. GeV | 8.001×10^5 | 2.156 | 4.114 | 5.771 | 0.285 | 12.329 | 1.518×10^5 |
| 1.00 TeV | 1.000×10^6 | 2.176 | 5.233 | 7.334 | 0.359 | 15.102 | 1.665×10^5 |
| 1.40 TeV | 1.400×10^6 | 2.205 | 7.476 | 10.450 | 0.508 | 20.640 | 1.890×10^5 |
| 2.00 TeV | 2.000×10^6 | 2.236 | 10.905 | 15.204 | 0.735 | 29.082 | 2.134×10^5 |
| 3.00 TeV | 3.000×10^6 | 2.273 | 16.630 | 23.106 | 1.123 | 43.134 | 2.415×10^5 |
| 4.00 TeV | 4.000×10^6 | 2.299 | 22.431 | 31.091 | 1.518 | 57.340 | 2.615×10^5 |
| 8.00 TeV | 8.000×10^6 | 2.363 | 45.817 | 63.188 | 3.153 | 114.522 | 3.099×10^5 |
| 10.0 TeV | 1.000×10^7 | 2.384 | 57.601 | 79.321 | 3.992 | 143.300 | 3.255×10^5 |
| 14.0 TeV | 1.400×10^7 | 2.416 | 81.104 | 111.513 | 5.715 | 200.749 | 3.490×10^5 |
| 20.0 TeV | 2.000×10^7 | 2.451 | 116.564 | 160.006 | 8.354 | 287.376 | 3.738×10^5 |
| 30.0 TeV | 3.000×10^7 | 2.491 | 175.597 | 240.689 | 12.915 | 431.693 | 4.020×10^5 |
| 40.0 TeV | 4.000×10^7 | 2.520 | 234.841 | 321.561 | 17.582 | 576.506 | 4.220×10^5 |
| 80.0 TeV | 8.000×10^7 | 2.591 | 472.156 | 645.275 | 37.062 | 1157.087 | 4.700×10^5 |
| 100. TeV | 1.000×10^8 | 2.615 | 591.010 | 807.280 | 47.120 | 1448.026 | 4.854×10^5 |