

Muons in yttrium (Y)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|----------|---------------------|-----------------------------|---------|---------------------------------------|-----------|----------|------------------------------------|-----------|------------|
| 39 (Y) | 88.90584(2) | 4.469 | 379.0 | 0.07138 | 3.4585 | 0.3608 | 3.5542 | 5.4801 | 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 | 4.947 | | | | 4.947 | 1.145×10^0 | | |
| 14.0 MeV | 5.616×10^1 | 3.903 | | | | 3.903 | 2.064×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 3.080 | | | | 3.080 | 3.814×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 2.413 | | | | 2.414 | 7.531×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 2.074 | | | | 2.074 | 1.203×10^1 | | |
| 80.0 MeV | 1.527×10^2 | 1.578 | | | | 1.578 | 3.481×10^1 | | |
| 100. MeV | 1.764×10^2 | 1.490 | | | | 1.490 | 4.789×10^1 | | |
| 140. MeV | 2.218×10^2 | 1.405 | | | | 1.405 | 7.566×10^1 | | |
| 200. MeV | 2.868×10^2 | 1.365 | | | | 1.365 | 1.191×10^2 | | |
| 246. MeV | 3.356×10^2 | 1.359 | | | | 1.360 | <i>Minimum ionization</i> | | |
| 300. MeV | 3.917×10^2 | 1.364 | 0.000 | | 0.000 | 1.364 | 1.926×10^2 | | |
| 400. MeV | 4.945×10^2 | 1.383 | 0.000 | | 0.000 | 1.384 | 2.654×10^2 | | |
| 800. MeV | 8.995×10^2 | 1.471 | 0.001 | | 0.000 | 1.472 | 5.454×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 1.505 | 0.001 | | 0.000 | 1.507 | 6.796×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 1.560 | 0.001 | 0.000 | 0.001 | 1.563 | 9.400×10^2 | | |
| 2.00 GeV | 2.103×10^3 | 1.620 | 0.002 | 0.001 | 0.001 | 1.624 | 1.316×10^3 | | |
| 3.00 GeV | 3.104×10^3 | 1.686 | 0.004 | 0.003 | 0.001 | 1.694 | 1.918×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 1.731 | 0.006 | 0.005 | 0.002 | 1.744 | 2.500×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 1.834 | 0.014 | 0.014 | 0.003 | 1.866 | 4.709×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 1.865 | 0.019 | 0.020 | 0.004 | 1.908 | 5.769×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 1.909 | 0.029 | 0.032 | 0.006 | 1.975 | 7.828×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 1.953 | 0.045 | 0.052 | 0.008 | 2.057 | 1.080×10^4 | | |
| 30.0 GeV | 3.011×10^4 | 1.999 | 0.073 | 0.090 | 0.012 | 2.174 | 1.553×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 2.030 | 0.103 | 0.132 | 0.015 | 2.281 | 2.002×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 2.099 | 0.233 | 0.316 | 0.030 | 2.679 | 3.617×10^4 | | |
| 100. GeV | 1.001×10^5 | 2.121 | 0.301 | 0.415 | 0.037 | 2.875 | 4.337×10^4 | | |
| 140. GeV | 1.401×10^5 | 2.152 | 0.442 | 0.620 | 0.052 | 3.267 | 5.642×10^4 | | |
| 200. GeV | 2.001×10^5 | 2.184 | 0.663 | 0.944 | 0.073 | 3.866 | 7.329×10^4 | | |
| 255. GeV | 2.556×10^5 | 2.206 | 0.871 | 1.242 | 0.094 | 4.413 | <i>Muon critical energy</i> | | |
| 300. GeV | 3.001×10^5 | 2.221 | 1.041 | 1.486 | 0.110 | 4.858 | 9.632×10^4 | | |
| 400. GeV | 4.001×10^5 | 2.246 | 1.431 | 2.048 | 0.147 | 5.873 | 1.150×10^5 | | |
| 800. GeV | 8.001×10^5 | 2.309 | 3.044 | 4.354 | 0.296 | 10.005 | 1.666×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 2.330 | 3.873 | 5.535 | 0.372 | 12.110 | 1.848×10^5 | | |
| 1.40 TeV | 1.400×10^6 | 2.361 | 5.535 | 7.890 | 0.528 | 16.315 | 2.131×10^5 | | |
| 2.00 TeV | 2.000×10^6 | 2.394 | 8.080 | 11.485 | 0.763 | 22.723 | 2.442×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 2.432 | 12.330 | 17.460 | 1.168 | 33.391 | 2.803×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 2.460 | 16.638 | 23.500 | 1.578 | 44.177 | 3.062×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 2.528 | 34.017 | 47.784 | 3.280 | 87.610 | 3.693×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 2.551 | 42.777 | 59.993 | 4.155 | 109.477 | 3.897×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 2.585 | 60.251 | 84.352 | 5.951 | 153.140 | 4.204×10^5 | | |
| 20.0 TeV | 2.000×10^7 | 2.621 | 86.624 | 121.050 | 8.704 | 219.001 | 4.530×10^5 | | |
| 30.0 TeV | 3.000×10^7 | 2.664 | 130.529 | 182.110 | 13.462 | 328.767 | 4.900×10^5 | | |
| 40.0 TeV | 4.000×10^7 | 2.695 | 174.601 | 243.319 | 18.334 | 438.950 | 5.163×10^5 | | |
| 80.0 TeV | 8.000×10^7 | 2.770 | 351.173 | 488.341 | 38.685 | 880.971 | 5.793×10^5 | | |
| 100. TeV | 1.000×10^8 | 2.795 | 439.620 | 610.970 | 49.200 | 1102.586 | 5.996×10^5 | | |