## Muons in iridium (Ir)

| Z | $A$ [g/mol] | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|---|
| 77 (Ir) | 192.217(3) | 22.420 | 757.0 | 0.12690 | 2.9658 | 0.0819 | 3.5480 | 5.3418 | 0.10 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 3.944 | | | | 3.944 | $1.470 \times 10^0$ |
| 14.0 MeV | $5.616 \times 10^1$ | 3.143 | | | | 3.143 | $2.616 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 2.502 | | | | 2.502 | $4.778 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 1.975 | | | | 1.975 | $9.334 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 1.704 | | | | 1.705 | $1.482 \times 10^1$ |
| 80.0 MeV | $1.527 \times 10^2$ | 1.307 | | | | 1.307 | $4.242 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 1.237 | | | | 1.237 | $5.818 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 1.169 | | | | 1.169 | $9.160 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.137 | | | | 1.137 | $1.438 \times 10^2$ |
| 239. MeV | $3.285 \times 10^2$ | 1.134 | 0.000 | | | 1.134 | *Minimum ionization* |
| 300. MeV | $3.917 \times 10^2$ | 1.138 | 0.000 | | 0.000 | 1.139 | $2.319 \times 10^2$ |
| 400. MeV | $4.945 \times 10^2$ | 1.157 | 0.000 | | 0.000 | 1.157 | $3.190 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.236 | 0.001 | | 0.000 | 1.237 | $6.528 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 1.267 | 0.001 | | 0.000 | 1.269 | $8.123 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 1.318 | 0.002 | | 0.001 | 1.321 | $1.121 \times 10^3$ |
| 2.00 GeV | $2.103 \times 10^3$ | 1.372 | 0.004 | 0.001 | 0.001 | 1.378 | $1.565 \times 10^3$ |
| 3.00 GeV | $3.104 \times 10^3$ | 1.433 | 0.007 | 0.003 | 0.001 | 1.445 | $2.273 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 1.475 | 0.010 | 0.006 | 0.002 | 1.494 | $2.953 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 1.572 | 0.024 | 0.021 | 0.003 | 1.621 | $5.514 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 1.601 | 0.032 | 0.030 | 0.004 | 1.667 | $6.730 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 1.642 | 0.049 | 0.050 | 0.005 | 1.746 | $9.073 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 1.684 | 0.076 | 0.081 | 0.007 | 1.849 | $1.241 \times 10^4$ |
| 30.0 GeV | $3.011 \times 10^4$ | 1.728 | 0.124 | 0.143 | 0.011 | 2.006 | $1.760 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 1.757 | 0.175 | 0.211 | 0.014 | 2.158 | $2.240 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 1.822 | 0.395 | 0.509 | 0.028 | 2.756 | $3.876 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 1.842 | 0.512 | 0.670 | 0.035 | 3.060 | $4.565 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 1.871 | 0.752 | 1.001 | 0.048 | 3.674 | $5.757 \times 10^4$ |
| 145. GeV | $1.450 \times 10^5$ | 1.874 | 0.782 | 1.043 | 0.050 | 3.749 | *Muon critical energy* |
| 200. GeV | $2.001 \times 10^5$ | 1.901 | 1.127 | 1.526 | 0.069 | 4.624 | $7.210 \times 10^4$ |
| 300. GeV | $3.001 \times 10^5$ | 1.934 | 1.766 | 2.402 | 0.103 | 6.207 | $9.072 \times 10^4$ |
| 400. GeV | $4.001 \times 10^5$ | 1.958 | 2.427 | 3.310 | 0.137 | 7.834 | $1.050 \times 10^5$ |
| 800. GeV | $8.001 \times 10^5$ | 2.015 | 5.154 | 7.032 | 0.278 | 14.480 | $1.420 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.034 | 6.554 | 8.935 | 0.349 | 17.873 | $1.544 \times 10^5$ |
| 1.40 TeV | $1.400 \times 10^6$ | 2.062 | 9.358 | 12.731 | 0.494 | 24.647 | $1.734 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 2.093 | 13.645 | 18.523 | 0.714 | 34.977 | $1.938 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 2.128 | 20.800 | 28.146 | 1.092 | 52.167 | $2.170 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 2.153 | 28.046 | 37.871 | 1.475 | 69.547 | $2.336 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 2.215 | 57.250 | 76.956 | 3.062 | 139.485 | $2.734 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 2.236 | 71.960 | 96.601 | 3.877 | 174.675 | $2.862 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 2.267 | 101.301 | 135.799 | 5.549 | 244.917 | $3.054 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 2.300 | 145.558 | 194.844 | 8.110 | 350.814 | $3.258 \times 10^5$ |
| 30.0 TeV | $3.000 \times 10^7$ | 2.339 | 219.236 | 293.077 | 12.531 | 527.185 | $3.489 \times 10^5$ |
| 40.0 TeV | $4.000 \times 10^7$ | 2.367 | 293.165 | 391.537 | 17.055 | 704.125 | $3.652 \times 10^5$ |
| 80.0 TeV | $8.000 \times 10^7$ | 2.436 | 589.275 | 785.647 | 35.934 | 1413.294 | $4.045 \times 10^5$ |
| 100. TeV | $1.000 \times 10^8$ | 2.459 | 737.560 | 982.880 | 45.680 | 1768.581 | $4.172 \times 10^5$ |