## Muons in arsenic (As)

| Z | $A$ [g/mol] | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|---|
| 33 (As) | 74.921595(6) | 5.730 | 347.0 | 0.06633 | 3.4176 | 0.1767 | 3.5702 | 5.0510 | 0.08 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 5.040 | | | | 5.040 | $1.122 \times 10^0$ |
| 14.0 MeV | $5.616 \times 10^1$ | 3.973 | | | | 3.973 | $2.025 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 3.133 | | | | 3.133 | $3.744 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 2.453 | | | | 2.453 | $7.400 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 2.107 | | | | 2.107 | $1.183 \times 10^1$ |
| 80.0 MeV | $1.527 \times 10^2$ | 1.600 | | | | 1.600 | $3.428 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 1.510 | | | | 1.510 | $4.717 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 1.422 | | | | 1.422 | $7.458 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.378 | | | | 1.378 | $1.176 \times 10^2$ |
| 257. MeV | $3.471 \times 10^2$ | 1.370 | | | 0.000 | 1.370 | *Minimum ionization* |
| 300. MeV | $3.917 \times 10^2$ | 1.373 | 0.000 | | 0.000 | 1.373 | $1.905 \times 10^2$ |
| 400. MeV | $4.945 \times 10^2$ | 1.389 | 0.000 | | 0.000 | 1.390 | $2.629 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.472 | 0.001 | | 0.000 | 1.472 | $5.422 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 1.505 | 0.001 | | 0.000 | 1.506 | $6.765 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 1.558 | 0.001 | 0.000 | 0.001 | 1.560 | $9.372 \times 10^2$ |
| 2.00 GeV | $2.103 \times 10^3$ | 1.615 | 0.002 | 0.001 | 0.001 | 1.619 | $1.314 \times 10^3$ |
| 3.00 GeV | $3.104 \times 10^3$ | 1.680 | 0.003 | 0.002 | 0.001 | 1.687 | $1.918 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 1.725 | 0.005 | 0.004 | 0.002 | 1.736 | $2.502 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 1.826 | 0.012 | 0.012 | 0.003 | 1.854 | $4.724 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 1.857 | 0.016 | 0.017 | 0.004 | 1.894 | $5.790 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 1.900 | 0.025 | 0.028 | 0.006 | 1.959 | $7.865 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 1.944 | 0.038 | 0.045 | 0.008 | 2.036 | $1.087 \times 10^4$ |
| 30.0 GeV | $3.011 \times 10^4$ | 1.990 | 0.063 | 0.078 | 0.012 | 2.144 | $1.565 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 2.021 | 0.089 | 0.114 | 0.016 | 2.240 | $2.021 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 2.091 | 0.200 | 0.274 | 0.030 | 2.596 | $3.677 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 2.112 | 0.260 | 0.359 | 0.038 | 2.769 | $4.423 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 2.143 | 0.381 | 0.537 | 0.052 | 3.114 | $5.784 \times 10^4$ |
| 200. GeV | $2.001 \times 10^5$ | 2.176 | 0.572 | 0.817 | 0.074 | 3.640 | $7.565 \times 10^4$ |
| 290. GeV | $2.898 \times 10^5$ | 2.209 | 0.863 | 1.238 | 0.108 | 4.420 | *Muon critical energy* |
| 300. GeV | $3.001 \times 10^5$ | 2.213 | 0.897 | 1.288 | 0.111 | 4.510 | $1.003 \times 10^5$ |
| 400. GeV | $4.001 \times 10^5$ | 2.238 | 1.234 | 1.775 | 0.149 | 5.397 | $1.205 \times 10^5$ |
| 800. GeV | $8.001 \times 10^5$ | 2.301 | 2.627 | 3.776 | 0.300 | 9.005 | $1.773 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.322 | 3.343 | 4.801 | 0.378 | 10.844 | $1.975 \times 10^5$ |
| 1.40 TeV | $1.400 \times 10^6$ | 2.353 | 4.779 | 6.845 | 0.535 | 14.514 | $2.293 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 2.387 | 6.978 | 9.967 | 0.774 | 20.107 | $2.643 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 2.425 | 10.652 | 15.156 | 1.184 | 29.418 | $3.052 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 2.453 | 14.378 | 20.402 | 1.600 | 38.834 | $3.347 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 2.521 | 29.408 | 41.497 | 3.327 | 76.755 | $4.066 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 2.544 | 36.986 | 52.104 | 4.215 | 95.850 | $4.298 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 2.578 | 52.103 | 73.265 | 6.038 | 133.985 | $4.650 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 2.615 | 74.922 | 105.148 | 8.832 | 191.518 | $5.022 \times 10^5$ |
| 30.0 TeV | $3.000 \times 10^7$ | 2.658 | 112.909 | 158.197 | 13.665 | 287.430 | $5.446 \times 10^5$ |
| 40.0 TeV | $4.000 \times 10^7$ | 2.689 | 151.042 | 211.379 | 18.614 | 383.725 | $5.746 \times 10^5$ |
| 80.0 TeV | $8.000 \times 10^7$ | 2.765 | 303.838 | 424.259 | 39.294 | 770.156 | $6.467 \times 10^5$ |
| 100. TeV | $1.000 \times 10^8$ | 2.790 | 380.380 | 530.800 | 49.980 | 963.950 | $6.699 \times 10^5$ |