

Muons in bromine gas (Br₂)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|---------|------------|-----------------------------|--------|---------|-----------|--------|--------|-----------|------------|
| 35 (Br) | 79.904 (1) | 7.072×10^{-3} | 343.0 | 0.06335 | 3.4670 | 1.5262 | 4.9899 | 11.7307 | 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 | 5.027 | | | | 5.027 | 1.125×10^0 |
| 14.0 MeV | 5.616×10^1 | 3.963 | | | | 3.963 | 2.030×10^0 |
| 20.0 MeV | 6.802×10^1 | 3.125 | | | | 3.125 | 3.753×10^0 |
| 30.0 MeV | 8.509×10^1 | 2.448 | | | | 2.448 | 7.418×10^0 |
| 40.0 MeV | 1.003×10^2 | 2.103 | | | | 2.103 | 1.185×10^1 |
| 80.0 MeV | 1.527×10^2 | 1.601 | | | | 1.601 | 3.432×10^1 |
| 100. MeV | 1.764×10^2 | 1.513 | | | | 1.513 | 4.720×10^1 |
| 140. MeV | 2.218×10^2 | 1.429 | | | | 1.429 | 7.453×10^1 |
| 200. MeV | 2.868×10^2 | 1.391 | | | | 1.391 | 1.172×10^2 |
| 232. MeV | 3.210×10^2 | 1.388 | | | | 1.388 | <i>Minimum ionization</i> |
| 300. MeV | 3.917×10^2 | 1.396 | 0.000 | | 0.000 | 1.396 | 1.892×10^2 |
| 400. MeV | 4.945×10^2 | 1.423 | 0.000 | | 0.000 | 1.423 | 2.601×10^2 |
| 800. MeV | 8.995×10^2 | 1.537 | 0.001 | | 0.000 | 1.538 | 5.300×10^2 |
| 1.00 GeV | 1.101×10^3 | 1.584 | 0.001 | | 0.000 | 1.585 | 6.580×10^2 |
| 1.40 GeV | 1.502×10^3 | 1.660 | 0.001 | 0.000 | 0.001 | 1.662 | 9.042×10^2 |
| 2.00 GeV | 2.103×10^3 | 1.745 | 0.002 | 0.001 | 0.001 | 1.749 | 1.256×10^3 |
| 3.00 GeV | 3.104×10^3 | 1.844 | 0.004 | 0.002 | 0.001 | 1.852 | 1.810×10^3 |
| 4.00 GeV | 4.104×10^3 | 1.916 | 0.005 | 0.004 | 0.002 | 1.927 | 2.339×10^3 |
| 8.00 GeV | 8.105×10^3 | 2.077 | 0.013 | 0.013 | 0.003 | 2.106 | 4.314×10^3 |
| 10.0 GeV | 1.011×10^4 | 2.125 | 0.017 | 0.018 | 0.004 | 2.164 | 5.250×10^3 |
| 14.0 GeV | 1.411×10^4 | 2.193 | 0.026 | 0.029 | 0.006 | 2.254 | 7.059×10^3 |
| 20.0 GeV | 2.011×10^4 | 2.260 | 0.040 | 0.047 | 0.008 | 2.356 | 9.661×10^3 |
| 30.0 GeV | 3.011×10^4 | 2.329 | 0.066 | 0.082 | 0.012 | 2.490 | 1.379×10^4 |
| 40.0 GeV | 4.011×10^4 | 2.375 | 0.093 | 0.120 | 0.015 | 2.604 | 1.771×10^4 |
| 80.0 GeV | 8.011×10^4 | 2.475 | 0.211 | 0.287 | 0.030 | 3.003 | 3.198×10^4 |
| 100. GeV | 1.001×10^5 | 2.504 | 0.273 | 0.377 | 0.037 | 3.192 | 3.844×10^4 |
| 140. GeV | 1.401×10^5 | 2.545 | 0.401 | 0.563 | 0.052 | 3.562 | 5.029×10^4 |
| 200. GeV | 2.001×10^5 | 2.587 | 0.601 | 0.858 | 0.074 | 4.120 | 6.594×10^4 |
| 300. GeV | 3.001×10^5 | 2.632 | 0.943 | 1.351 | 0.111 | 5.037 | 8.786×10^4 |
| 327. GeV | 3.267×10^5 | 2.641 | 1.036 | 1.485 | 0.121 | 5.284 | <i>Muon critical energy</i> |
| 400. GeV | 4.001×10^5 | 2.663 | 1.296 | 1.862 | 0.148 | 5.969 | 1.061×10^5 |
| 800. GeV | 8.001×10^5 | 2.733 | 2.758 | 3.959 | 0.299 | 9.751 | 1.580×10^5 |
| 1.00 TeV | 1.000×10^6 | 2.756 | 3.510 | 5.033 | 0.376 | 11.675 | 1.767×10^5 |
| 1.40 TeV | 1.400×10^6 | 2.788 | 5.018 | 7.176 | 0.532 | 15.516 | 2.064×10^5 |
| 2.00 TeV | 2.000×10^6 | 2.823 | 7.325 | 10.448 | 0.770 | 21.368 | 2.392×10^5 |
| 3.00 TeV | 3.000×10^6 | 2.862 | 11.181 | 15.886 | 1.178 | 31.108 | 2.778×10^5 |
| 4.00 TeV | 4.000×10^6 | 2.890 | 15.090 | 21.384 | 1.592 | 40.957 | 3.057×10^5 |
| 8.00 TeV | 8.000×10^6 | 2.958 | 30.860 | 43.490 | 3.310 | 80.619 | 3.740×10^5 |
| 10.0 TeV | 1.000×10^7 | 2.981 | 38.811 | 54.604 | 4.193 | 100.590 | 3.962×10^5 |
| 14.0 TeV | 1.400×10^7 | 3.015 | 54.670 | 76.779 | 6.006 | 140.471 | 4.297×10^5 |
| 20.0 TeV | 2.000×10^7 | 3.051 | 78.608 | 110.188 | 8.786 | 200.634 | 4.652×10^5 |
| 30.0 TeV | 3.000×10^7 | 3.094 | 118.459 | 165.776 | 13.592 | 300.922 | 5.057×10^5 |
| 40.0 TeV | 4.000×10^7 | 3.125 | 158.463 | 221.502 | 18.513 | 401.603 | 5.343×10^5 |
| 80.0 TeV | 8.000×10^7 | 3.200 | 318.748 | 444.574 | 39.070 | 805.593 | 6.033×10^5 |
| 100. TeV | 1.000×10^8 | 3.225 | 399.040 | 556.220 | 49.690 | 1008.176 | 6.254×10^5 |