## Muons in pyridine ($C_5H_5N$)

| $\langle Z/A \rangle$ | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|
| 0.53096 | 0.982 | 66.2 | 0.16399 | 3.1977 | 0.1670 | 2.5245 | 3.3148 | 0.00 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 7.742 | | | | 7.742 | $7.131 \times 10^{-1}$ |
| 14.0 MeV | $5.616 \times 10^1$ | 6.035 | | | | 6.035 | $1.304 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 4.711 | | | | 4.711 | $2.443 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 3.652 | | | | 3.652 | $4.888 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 3.117 | | | | 3.118 | $7.870 \times 10^0$ |
| 80.0 MeV | $1.527 \times 10^2$ | 2.338 | | | | 2.338 | $2.316 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 2.191 | | | | 2.191 | $3.202 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 2.040 | | | | 2.040 | $5.103 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.952 | | | | 1.952 | $8.121 \times 10^1$ |
| 300. MeV | $3.917 \times 10^2$ | 1.918 | | | 0.000 | 1.919 | $1.330 \times 10^2$ |
| 318. MeV | $4.105 \times 10^2$ | 1.918 | | | 0.000 | 1.918 | *Minimum ionization* |
| 400. MeV | $4.945 \times 10^2$ | 1.924 | | | 0.000 | 1.924 | $1.851 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.995 | 0.000 | | 0.000 | 1.996 | $3.893 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 2.028 | 0.000 | | 0.000 | 2.029 | $4.887 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 2.081 | 0.000 | | 0.001 | 2.082 | $6.832 \times 10^2$ |
| 2.00 GeV | $2.103 \times 10^3$ | 2.140 | 0.000 | 0.000 | 0.001 | 2.142 | $9.671 \times 10^2$ |
| 3.00 GeV | $3.104 \times 10^3$ | 2.207 | 0.001 | 0.001 | 0.001 | 2.210 | $1.426 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 2.253 | 0.001 | 0.001 | 0.002 | 2.257 | $1.874 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 2.359 | 0.003 | 0.003 | 0.004 | 2.369 | $3.598 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 2.391 | 0.004 | 0.004 | 0.005 | 2.404 | $4.436 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 2.438 | 0.006 | 0.006 | 0.007 | 2.457 | $6.081 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 2.485 | 0.009 | 0.011 | 0.009 | 2.514 | $8.494 \times 10^3$ |
| 30.0 GeV | $3.011 \times 10^4$ | 2.536 | 0.016 | 0.019 | 0.014 | 2.584 | $1.241 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 2.570 | 0.022 | 0.028 | 0.018 | 2.638 | $1.624 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 2.651 | 0.050 | 0.067 | 0.034 | 2.803 | $3.093 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 2.675 | 0.065 | 0.089 | 0.043 | 2.873 | $3.797 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 2.713 | 0.096 | 0.134 | 0.059 | 3.002 | $5.159 \times 10^4$ |
| 200. GeV | $2.001 \times 10^5$ | 2.752 | 0.145 | 0.205 | 0.084 | 3.186 | $7.098 \times 10^4$ |
| 300. GeV | $3.001 \times 10^5$ | 2.796 | 0.229 | 0.326 | 0.126 | 3.477 | $1.010 \times 10^5$ |
| 400. GeV | $4.001 \times 10^5$ | 2.827 | 0.317 | 0.453 | 0.168 | 3.764 | $1.286 \times 10^5$ |
| 800. GeV | $8.001 \times 10^5$ | 2.903 | 0.681 | 0.979 | 0.339 | 4.903 | $2.215 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.928 | 0.869 | 1.252 | 0.426 | 5.475 | $2.601 \times 10^5$ |
| 1.14 TeV | $1.145 \times 10^6$ | 2.943 | 1.005 | 1.447 | 0.491 | 5.886 | *Muon critical energy* |
| 1.40 TeV | $1.400 \times 10^6$ | 2.965 | 1.248 | 1.795 | 0.605 | 6.613 | $3.264 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 3.006 | 1.831 | 2.627 | 0.876 | 8.340 | $4.071 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 3.052 | 2.809 | 4.013 | 1.342 | 11.217 | $5.101 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 3.086 | 3.805 | 5.419 | 1.817 | 14.126 | $5.894 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 3.168 | 7.837 | 11.084 | 3.793 | 25.882 | $7.955 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 3.195 | 9.877 | 13.937 | 4.811 | 31.821 | $8.651 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 3.236 | 13.949 | 19.622 | 6.909 | 43.717 | $9.719 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 3.281 | 20.110 | 28.199 | 10.133 | 61.723 | $1.087 \times 10^6$ |
| 30.0 TeV | $3.000 \times 10^7$ | 3.332 | 30.368 | 42.468 | 15.732 | 91.900 | $1.219 \times 10^6$ |
| 40.0 TeV | $4.000 \times 10^7$ | 3.370 | 40.684 | 56.784 | 21.479 | 122.316 | $1.313 \times 10^6$ |
| 80.0 TeV | $8.000 \times 10^7$ | 3.461 | 82.033 | 114.099 | 45.606 | 245.199 | $1.539 \times 10^6$ |
| 100. TeV | $1.000 \times 10^8$ | 3.491 | 102.759 | 142.791 | 58.117 | 307.158 | $1.612 \times 10^6$ |