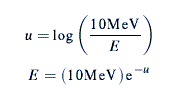
These scripts are part of the lecture materials for my courses on reactor physics at Technical University of Munich. 2011 – 2016. The software comes as is, only for educational purposes and no warranties. © Dr.Sdl

In the early days the transformation from energy to lethargy made the solution of the neutron slowing down equations much simpler and yielded precious insights into the slowing down mechanism. Lethargy is strongly connected with Fermi’s Age Theory. You can read more here: <http://t2.lanl.gov/nis/njoy/grou03.html> or in these lecture notes: <http://www.janleenkloosterman.nl/reports/ap3341.pdf>

Reactor physicists have always been fond of lethargy, with is defined as follows:



Lethargy increases as neutrons slow down. Note that in the slowing-down region, where the flux varies like *1/E*, groups with constant lethargy width all contain the same portion of the flux. In elastic scattering, neutrons loose a fraction of their energy with each scattering; thus, the lethargy increases by a fixed amount with each scattering. Because lethargy is such a natural variable for neutron slowing-down problems, many group structures are based on groups with certain lethargy widths.