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 Light Water Reactors the neutron spectrum can be roughly approximated as the sum of three parts: the high energy fission part, the 1/E slowing down part and the thermal part. The thermal part is approximately a Maxwell distribution since the neutrons are like a free gas in thermal equilibrium with the surrounding crystal lattice. The high energy part is also approximately a Maxwell distribution but for much higher temperatures of neutrons inside a “hot” nucleus. The task in this project is to appropriately normalize the three parts so that they fit together continuously.