NUCLEAR LEVEL DENSITY PARAMETER DEFORMATION DEPENDENCE AT FINITE TEMPERATURES *

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The macroscopic microscopic calculations have been performed with the Yukawa folded mean field for 134 spherical even-even nuclei and 6 deformed ones at temperatures $0 \leq T \leq 5$ MeV and elongations $0.8 \leq c \leq 1.8$. The free energy shell corrections for this sample of nuclei and their dependence on temperature are found by folding the energies in various temperatures in nucleon number space. The average dependence of the single-particle level density parameter on mass number $A$ and deformation is determined and compared with the previous estimates obtained using the relativistic mean-field theory, Skyrme force and semiclassical approach.

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