

CALCULATION OF VIBRATIONAL ENHANCEMENT OF NUCLEAR LEVEL DENSITY WITHIN RESPONSE FUNCTION METHOD

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The response function approach for description of the vibrational state effects on nuclear level density is analysed. The coefficient of the nuclear level density due to the collective quadrupole vibrations with accounting for damping has been studied as a function of the excitation energy of nucleus. The calculations by the response function approach agree rather-closely with microscopical calculations within finite temperature extension of the interacting boson model and phenomenological calculations where boson partition functions are used with attenuated occupation numbers as well as with complex energies.