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## Nuclear level density for Uranium

The energy level density for  $^{234-240}\text{U}$  at the minima and saddle point are calculated based on the framework of covariant density functional theory. The total level density is calculated by convoluting the intrinsic density with the corresponding collective level density. For even-even nuclei, the collective level density is obtained by the five-dimensional collective Hamiltonian while the parameters of the Hamiltonian like the inertia parameters are extracted from the covariant density functional theory. For even-odd nuclei, the collective level density is acquired by the core-quasiparticle coupling model together with collective wave functions of the neighboring even-even nuclei. The intrinsic level density is computed from the entropy and its determinant matrix in the finite-temperature covariant density functional theory.

The nuclear level density at the minimum is consistent with the available data while the trends and details at the high excitation energy for both the minima and the saddle points are close to the results obtained by Hilarie.

### Notes

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