

Abstract Submitted
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The Parity Dependence of Nuclear Level Densities¹ HANGHUI CHEN, YORAM ALHASSID, ANGEL MANZUR, Yale University — We use a simple model to calculate the odd-to-even parity ratio of nuclear level densities as a function of excitation energy. The model is based on a deformed single-particle Hamiltonian with pairing interaction. It differs from the model introduced in Ref. [1] by including fluctuations in the pairing gap and using number-parity projection to account for odd-even effects in particle number. We compare the results of the simple model with microscopic shell model Monte Carlo calculations in the full $fp + g_{9/2}$ shell for nuclei in the iron region.

[1] Y. Alhassid, G.F. Bertsch, S. Liu, and H. Nakada, Phys. Rev. Lett. 84, 4313 (2000).

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Hanghui Chen
Yale University

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