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Nuclear Chaotic Behavior in a Two-j Shell Coupled with a Rotor Model

GUO Lu,[1] ZHOU Xian-Rong,[1] MENG Jie[2,3] and ZHAO En-Guang[1,3]

[1] Institute of Theoretical Physics, Academia Sinica, P.O. Box 2735, Beijing 100080, China
[2] Department of Technical Physics, Peking University, Beijing 100871, China
[3] Center of Theoretical Physics, National Laboratory of Heavy Ion Accelerator, Lanzhou 730000, China
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Abstract: The chaotic properties for six particles interacting by a monopole pairing force in a two-j shell model coupled with a deformed core are studied in the frame of particle-rotor model. The nearest-neighbor distribution of energy levels and spectral rigidity in the two-j shell are compared with those in the single-j case. The results show that the system is more regular in the two-j model than that in the single-j case.

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