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IBM-2 Calculations of Selected Even-Even Ruthenium Nuclei

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Abstract: In this study, we have employed the Interacting Boson Model-2 (IBM-2) to determine the most appropriate Hamiltonian for the study of ruthenium nuclei in the region $A \approx 100$. Using the best fit values of parameters to construct the Hamiltonian, we have estimated energy levels and multipole mixing ratios (δ (E2/M1)) for some doubly-even Ru nuclei. The results are compared with previous experimental and theoretical data and it is observed that they are in good agreement.

Key Words: Ruthenium, electromagnetic transition, multipolarity, Interacting Boson Model-2 (IBM-2), deformation parameters.

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