On Possible Shape Isomers in the Pre-Actinide Region of Nuclei

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The super and hyper-deformed shape-isomeric states are predicted in even-even Pt to Ra isotopes. The potential energies of nuclei in the 4 dimensional deformation space in Fourier parametrisation [1] are calculated by the macroscopic-microscopic model, based on the Lublin-Strasbourg-Drop [2] for the macroscopic energy and shell [3] plus pairing [4] corrections with the single particle levels obtained with the Yukawa-folded [5] mean-field potential. Quadrupole moments are evaluated in the local energy minima and are in good agreement with the available experimental data in the ground states.

References

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