Transition Densities in Odd-A Nuclei

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Transition densities provide us with a detailed information about the dynamics of the spatial distribution of matter in any finite quantum system. In contrast to even-even nuclei in which these quantities have been studied both analytically and numerically [1, 2] they remain yet unexplored in odd-A systems. We derived formulae for the transition densities in core-plus-particle models of different levels of sophistication [3, 4] and evaluated the particle correlation effects by using a schematic model. The implied trends have been verified against the experimental data on radii of cadmium isotopes [5].

References

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