

Frontiers in Gamma Ray Spectroscopy

FIG18

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Lifetime measurements for sensitive tests of nuclear models in the collective regime

Content :

Recent advancements in experimental techniques now enable us to study not only excited-state energies but also electromagnetic transition strengths across long isotopic chains. In particular, the reduced electric quadrupole transition probability, $B(E2)$, connecting the lowest-lying states directly probes the corresponding wave functions and hence provides stringent tests of theory. The results obtained, e.g. in the rare earth region, reveal some striking differences and deficiencies in the predictive power of current nuclear structure models.

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