

# Investigation of the Shape Coexistence and Mixing Phenomena in the $^{42,44}\text{Ca}$ Isotopes

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The shape and the associated dynamics of the  $^{42,44}\text{Ca}$  isotopes are investigated within the phenomenological Bohr-Mottelson Model, having as input the experimental collective energy states, as well with Covariant Density Functional theories based on microscopic structural information. The obtained results of these approaches are shown to be compatible in what concerns the presence of coexisting and mixing shapes in the considered isotopes.