

Abstract Submitted
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Structural investigation of the nuclei in $Z=52$ to $Z=78$ region by E-GOS method KELSEY DUDZIAK, D.A. MEYER, Rhodes College — The E-GOS (E-Gamma Over Spin) method allows us to empirically determine the structure of a nucleus as a function of its angular momentum through a comparison to the ideal limits of perfect harmonic vibrator and axially symmetric rotor. Unique to the E-GOS method, no preconceived notion of nuclear structure is necessary. It differs from other common models by analyzing structural evolution as a function of angular momentum rather than as a function of nucleon number. In this project, we applied E-GOS method to the yrast bands of nuclei in the region $Z=52$ to $Z=78$ by plotting the ratio of Gamma Ray Energy divided by spin against that spin. Afterwards, we arranged the plots in order of increasing nucleon number. Mapping the E-GOS curves in this manner shows a clear transition from vibrational to rotational motion.

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