

Exploring the Low- Z Shore of the $N = 40$ Island of Inversion

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We plan to propose a new experiment at RIBF employing the LISA active target in combination with the DALI2+ γ -ray spectrometer to investigate the evolution of collectivity from $^{64}\text{Cr}_{40}$ (center of the island of inversion) to $^{62}\text{Ti}_{40}$. By combining complementary observables—such as lifetimes, momentum distributions, and reaction cross sections—deduced from one- and two-proton removal reactions, we aim to gain new insights on the low- Z shore of the island of inversion and the predicted shape coexistence.

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