



Contribution ID: 86

Type: Oral

Configuration mixing investigation in Ge isotopes through $E0$ strength measurements

Thursday, 16 June 2022 14:30 (20 minutes)

Experimental and theoretical studies of the germanium isotopes point increasingly toward exotic combinations of nuclear-structure effects, with indications of triaxiality, configuration mixing, and shape coexistence. Studies of the $E0$ strengths, which can provide a direct measure of the amount of configuration mixing, are lacking along the Ge chain. Thus, an experimental determination of $E0$ transition strengths is essential for an understanding of the evolution of structures in the germanium isotopes.

Beta-decay experiments populating excited states in the $^{72,74,76,78}\text{Ge}$ isotopes were performed at the Isotope Separator and Accelerator (ISAC) radioactive ion beam facility at TRIUMF. The GRIFFIN spectrometer combined with the PACES silicon array enabled us to perform both gamma-ray and electron spectroscopic investigations, to measure $E0$ strengths between states of $J > 0$. Preliminary results from this study will be discussed.

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Session Classification: NS2022 Plenary

Track Classification: Oral Presentations