Abstract Submitted
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Measuring the B(E2) of the $\frac{1}{2}^- \rightarrow \frac{3}{2}^-$ transition in ^7Be[1] S. L. HENDERSON, Univ of Notre Dame, T. AHN, M. A. CAPRIO, University of Notre Dame, CH. CONSTANTINOU, Yale University, A. SIMON, University of Notre Dame, TWINSOL COLLABORATION — Ab-initio methods have been successful in describing the structure of light nuclei using realistic nucleon-nucleon interactions, but more experimental data is needed for light unstable nuclei. Recent no-core configuration interaction calculations have made predictions for the ratio of E2 transition strengths for the first excited state transition in ^7Be and ^7Li . Additional calculations that include clustering effects show a significant difference in the ^7Be and ^7Li B(E2) value. The E2 transition strength of the ^7Be first excited state has never been measured, which provides an interesting opportunity to investigate the accuracy of these calculations. To measure this E2 transition strength, a Coulomb Excitation experiment was performed at the University of Notre Dame. ^7Be was produced and separated using TwinSol. A beam of ^7Be ions were scattered off a gold target and the gamma rays from the inelastically scattered ions were detected using six clover Ge detectors. The most recent results for the E2 transition strength and its comparison to the no-core configuration interaction approach will be shown. In addition, new systematic checks on the experiment will be presented including the first stages of a Geant4 simulation to help account for beam anisotropies.

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