Abstract Submitted
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^{8}Li $B(E2; 2^+ \rightarrow 1^+)$ measurement and comparison with ab initio calculations[1] SAMUEL L. HENDERSON, TAN AHN, CRAIG S. REINGOLD, MARK A. CAPRIO, PATRICK J. FASANO, PATRICK P. O'MALLEY, SEBASTIAN AGUILAR, DREW T. BLANKSTEIN, LOUIS CAVES, ALEXANDER DOMBOS, SHILUN JIN, REBECCA KELMAR, JAMES J. KOLATA, ANNA SIMON, University of Notre Dame — Measuring electromagnetic transition strengths can provide stringent tests of nuclear *ab initio* calculations in light nuclei. For the A=7 isobars, ^{7}Li and ^{7}Be, the B(E2) transition strengths of the first excited states have been used to benchmark a variety of *ab initio* calculations (S. L. Henderson *et al.* Phys. Rev. C 99, 064320 (2019)). We have continued these tests by extending into the A=8 region and performed a Coulomb excitation experiment to measure the $B(E2; 2^+ \rightarrow 1^+)$ of the transition from the first excited state in ^{8}Li. This measurement will provide additional constraints to these *ab initio* calculations and these calculations can then give insight into the structural changes from ^{7}Li to ^{8}Li due to the addition of a neutron.The ^{8}Li was produced and separated with TwinSol and the cross sections were measured by observing γ-ray yields in coincidence with scattered ^{8}Li. The newly remeasured B(E2) value will be presented and compared to NCSM calculations for ^{8}Li, performed with a variety of nuclear interactions.

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Samuel Henderson
University of Notre Dame

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