## Abstract Submitted for the DNP17 Meeting of The American Physical Society

Investigation of <sup>76</sup>Ge structure via inelastic scattering studies<sup>1</sup> B. P. CRIDER, National Superconducting Cyclotron Laboratory / Michigan State University, University of Kentucky, S. MUKHOPADHYAY, University of Kentucky, B. A. BROWN, National Superconducting Cyclotron Laboratory / Michigan State University, S. F. ASHLEY, A. CHAKRABORTY, A. KUMAR, E. E. PETERS, M. T. MCELLISTREM, F. M. PRADOS-ESTVEZ, S. W. YATES, University of Kentucky — The search for neutrinoless double- $\beta$  decay ( $0\nu\beta\beta$ ) of <sup>76</sup>Ge has led to renewed interest in the structure of this mass region, as structural information helps constrain calculations of the  $0\nu\beta\beta$  nuclear matrix elements. The structure of many of the even-even Ge isotopes, including <sup>76</sup>Ge, show interesting features, such as low-lying  $0^+$  states that have been interpreted as evidence for shape coexistence, as well as indications of triaxiality. Of fundamental importance in understanding the nature of the excited states in <sup>76</sup>Ge is the determination of transition strengths, which has been obtained through  ${}^{76}\text{Ge}(n,n'\gamma)$  studies at the University of Kentucky and the  ${}^{76}\text{Ge}(\gamma, \gamma')$  reaction at the High Intensity  $\gamma$ -Ray Source at Duke University. The measured transition strengths support the identification of band structure in <sup>76</sup>Ge, a newly observed mixed-symmetry state, and the M1 scissors mode.

<sup>1</sup>This material is based upon work supported by the U.S. National Science Foundation under Grant No. PHY-1606890.

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Date submitted: 29 Jun 2017

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