

Abstract Submitted
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Nuclear Structure Studies of ^{76}Se and ^{76}Ge with the $(n, n'\gamma)$ Reaction¹ B.P. CRIDER, A. CHAKRABORTY, A. KUMAR, E.E. PETERS, F.M. PRADOS-ESTÉVEZ, M.T. MCELLISTREM, S.W. YATES, Departments of Chemistry and Physics and Astronomy, University of Kentucky, Lexington, KY 40506-0055 — A prominent nucleus which may undergo neutrinoless double beta decay is ^{76}Ge , which decays to ^{76}Se . While an unambiguous observation of this lepton-number-violating decay mode has not been made, much work is in progress to obtain the data required for an accurate calculation of the nuclear matrix element (NME), which is vital to extracting the absolute mass scale of the neutrino. In order to provide more information for calculation of the NME, excitation function and gamma-ray angular distributions were performed at the University of Kentucky utilizing the $^{76}\text{Ge}(n, n'\gamma)$ and $^{76}\text{Se}(n, n'\gamma)$ reactions. Spectroscopic information such as lifetimes, parities, and new transitions will be presented.

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