

Abstract Submitted
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Studies of A=76 Nuclei with Inelastic Neutron Scattering¹ B.P. CRIDER, S.F. ASHLEY, A. CHAKRABORTY, M.T. MCELLISTREM, University of Kentucky, Department of Physics and Astronomy, E.E. PETERS, University of Kentucky, Department of Chemistry, S.W. YATES, University of Kentucky, Department of Chemistry and Department of Physics and Astronomy — Following the observation of neutrinoless double-beta decay, an accurate calculation of the nuclear matrix elements (NMEs) is vital to reach quantitative conclusions about the absolute neutrino mass scale as well as the mass hierarchies. Understanding the nature of the wave functions of the participating states for double-beta decay is of fundamental importance in determining the NMEs. One of the prominent candidates for neutrinoless double-beta decay is ^{76}Ge , which decays to ^{76}Se . In order to further investigate these nuclei and provide information for the calculation of the NMEs, excitation function and gamma-ray angular distribution measurements utilizing the $^{76}\text{Ge}(n, n'\gamma)$ and $^{76}\text{Se}(n, n'\gamma)$ reactions were performed at the University of Kentucky. Lifetimes will be determined using the Doppler-shift attenuation method.

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