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A Measurement of Cross Sections for Neutron-Induced Transitions in Germanium and ^{136}Xe[1] J.H. ESTERLINE, B.A. FALLIN, S.W. FINCH, M.E. GOODEN, C.R. HOWELL, W. TORNOW, Duke University and TUNL, J.H. KELLEY, N.C. State University and TUNL — We report on a measurement of cross sections for neutron-induced transitions on germanium, using one target with natural isotopic abundances and another enriched in ^{76}Ge, and ^{136}Xe. These reactions were investigated to determine neutron-induced contributions to background contamination in the regions of interest for searches of neutrinoless double beta decay of ^{76}Ge and ^{136}Xe; an accurate understanding of this background is a requisite for any compelling result. These measurements were undertaken at Triangle Universities Nuclear Laboratory (TUNL) using a neutron beam with 8 MeV energy generated with the ^{2}H(d,n)^{3}He source reaction.

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J.H. Esterline
Duke University and TUNL

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