

Abstract Submitted
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Neutron-Induced Partial Gamma-Ray Cross-Section Measurements on Uranium Using a Pulsed and Monoenergetic Beam at TUNL¹

A. HUTCHESON, A.S. CROWELL, J.H. ESTERLINE, B. FALLIN, C.R. HOWELL, M. KISER, A.P. TONCHEV, W. TORNOW, Duke University and TUNL, J.H. KELLEY, North Carolina State University and TUNL, C.T. ANGELL, M. BOSWELL, H.J. KARWOWSKI, University of North Carolina and TUNL, R.S. PEDRONI, North Carolina A&T and TUNL, G.J. WEISEL, Penn State Altoona, J.A. BECKER, D. DASHDORJ, R.A. MACRI, Lawrence Livermore National Laboratory, R.O. NELSON, Los Alamos National Laboratory — Precision measurements have been performed on ^{235,238}U targets at Triangle Universities Nuclear Laboratory using a pulsed and monoenergetic neutron beam. The excitation function of (n,2n) reaction has been studied with incident neutron energies between 5 and 15 MeV and beam flux of 10^4 n s⁻¹ cm⁻² at target position. Multiple (n,n') and (n,2n) partial cross sections have been measured using clover and planar HPGE detectors in this energy range, and experimental results will be compared with the Hauser-Feshbach model. A more in-depth explanation of the experimental techniques and analysis will be presented.

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