

Abstract Submitted  
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**Neutron-Induced Partial Gamma-Ray Cross-Section Measurements on Uranium Using a Monoenergetic and Pulsed Beam at TUNL<sup>1</sup>**  
A. HUTCHESON, A.S. CROWELL, B. FALLIN, C.R. HOWELL, J. KELLEY, M. KISER, A.P. TONCHEV, W. TORNOW, TUNL, R.S. PEDRONI, NC A&T State University, G.J. WEISEL, Penn State Altoona, J.A. BECKER, D. DASHDOR, R.A. MACRI, LLNL, N. FOTIADES, R.O. NELSON, LANL — An experimental program is being carried out at TUNL to study (n,2n) excitation functions on actinide nuclei using monoenergetic neutrons with the goal of improving the partial cross-section data for the NNSA Stockpile Stewardship Program. Measurements have been performed on <sup>235,238</sup>U targets in the TUNL shielded neutron source area using a pulsed neutron beam with incident neutron energies between 5 and 18 MeV. The resultant emitted gamma rays are measured using different types of HPGe detectors. More than thirty (n,n') and (n,2n) partial cross-sections have been measured 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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