

Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Precision photo-induced cross-section measurements using the monoenergetic and polarized photon beams at HI γ S¹ A.P. TONCHEV, C.R. HOWELL, E. KWAN, G. RUSEV, W. TORNOW, Duke, J.H. KELLEY, C. HUIBREGTSE, NCSU, S.L. HAMMOND, UNC, D. VIEIRA, J.B. WILHELMY, LANL — A research program has been initiated at TUNL to perform precision (γ, γ') and (γ, xn) cross-section measurements on actinide nuclei using the novel source of radiation at the High Intensity Gamma-ray Source (HI γ S) facility. This facility provides nearly mono-energetic ($\Delta E/E \pm 2\%$) and intense (10^8 s^{-1}) photon beams after the recent upgrade. A precision knowledge of photoinduced processes is of practical importance for new reactor technologies, nuclear transmutation, and nuclear forensics. Our recent photodisintegration cross section measurements on radioactive ^{241}Am targets in the energy range from $9 < E_\gamma < 16 \text{ MeV}$ will be presented. The experimental data for the $^{241}\text{Am}(\gamma, n)$ reaction in the giant dipole resonance energy region will be compared with statistical nuclear-model calculations.

¹This work was supported by the DOE under grants DE-FG02-97ER41033, DE-FG02-97ER41042, DE-FG02-97ER41041, and DE-FG52-06NA26155.

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Date submitted: 06 Jul 2009

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