Abstract Submitted
for the DNP08 Meeting of
The American Physical Society

**Precision Cross Section Measurement for the $^{241}$Am($\gamma$,$n$) Reaction at HI$\gamma$S**[1] A. TONCHEV, A. HUTCHESON, C.R. HOWELL, E. KWAN, G. RUSEV, W. TORNOW, Duke and TUNL, S. HAMMOND, H.J. KARWOWSKI, UNC and TUNL, C. HUIBREGTSE, J.H. KELLEY, NCSU and TUNL, D.L. VIEIRA, J.B. WILHELMY, LANL, M.A. STOYER, LLNL — The photodisintegration cross section on radioactive $^{241}$Am target has been measured for the first time using monoenergetic $\gamma$-ray beams from the HI$\gamma$S facility. Induced activity from $^{240}$Am produced via the ($\gamma$,$n$) reaction was measured by the activation technique using high resolution HPGe detectors. The ($\gamma$,$n$) cross section was determined both by measuring the absolute $\gamma$-flux and by comparison to the $^{197}$Au($\gamma$,$n$) cross section used as a standard. In the following, we report new data for the excitation function of the $^{241}$Am($\gamma$,$n$ ) reaction from near threshold to 16 MeV incident $\gamma$-ray energy and we compare the data with statistical nuclear-model calculations performed with the GNASH, EMPIRE, and TALYS codes.

[1]This work was supported by the National Nuclear Security Administration under the Stewardship Science Academic Alliances Program through Department of Energy grant DE-FG52-06NA26155.

Anton Tonchev
Duke and TUNL

Date submitted: 30 Jun 2008 Electronic form version 1.4