

Abstract Submitted
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An Investigation of the $^{48}\text{Ca}(\gamma, n)$ Cross Section between 9.5 and 15.3 MeV¹ J.R. TOMPKINS, C.W. ARNOLD, H.J. KARWOWSKI, G. RICH, UNC-Chapel Hill and Triangle U. Nuclear Lab (TUNL), L.G. SOBOTKA, Washington U., C.R. HOWELL, Duke U. and TUNL — A 2.7 g ^{48}Ca target enriched to 92.4% was probed using an incident γ -ray beam of $\sim 2\%$ energy resolution generated at the TUNL High Intensity γ -Ray Source (HI γ S). Prior to the experiment, no direct measurements had been made using a quasi-monoenergetic γ -ray beam. Cross sections for the (γ, n) reaction, normalized to the known $D(\gamma, n)$ reaction cross sections,² were measured to a precision of less than $\pm 6\%$ at 34 different energies between 9.5 and 15.3 MeV using a ^3He proportional counter for neutron detection. The γ -ray energies span the region from the neutron emission threshold, across previously identified M1 strength, and up the low-energy edge of the E1 Giant Dipole Resonance. Neutron emission dominates the region though a few excited states in the daughter nucleus are populated. The experimental data will be presented as will the initial interpretation of this excitation function.

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²W.Jaus and W.S.Woolcock, *Nucl. Phys.* **A608** (1996) 399.

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