

Abstract Submitted
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Measurements of Dipole Excitations in ^{48}Ca Between $E_\gamma = 9.5$ and 15.3 MeV¹ J.R. TOMPKINS, C.W. ARNOLD, H.J. KARWOWSKI, G.C. RICH, UNC-Chapel Hill and TUNL, C.R. HOWELL, Duke University and TUNL, L.G. SOBOTKA, Washington University in St. Louis — ^{48}Ca photodisintegration cross sections were measured using γ -ray beams of 34 different energies between 9.5 and 15.3 MeV generated with the TUNL High-Intensity γ -ray Source (HI γ S). The cross sections were measured with a 2.7 g ^{48}Ca target enriched to 92% using an array of ^3He proportional-counters embedded in thermalizing polyethylene. The absolute cross sections for the $^{48}\text{Ca}(\gamma,n)$ reaction were obtained by normalization to the well known $^2\text{H}(\gamma,n)$ reaction cross sections. Single neutron emission is the dominant channel in this energy range and its detection provides a measurement of dipole excitation strength such as the previously identified M1 strength at $E_\gamma = 10.22$ MeV,² for which a new value will be presented. Structures on the low-energy tail of the E1 GDR were also observed and will be presented.

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²W.Steffen *et al.* Nucl. Phys. A **404**, 413 (1983).

Jeromy Tompkins
UNC-Chapel Hill and TUNL

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