Abstract Submitted for the SES11 Meeting of The American Physical Society

^{*nat*}**Dy**(γ , *n*) **Asymmetry Measurements with Linearly Polarized** γ **rays between 11 and 15 MeV**¹ W.R. HENDERSON, R.K. THRASHER, J. HAU-VER, C.S. WHISNANT, James Madison University, M.W. AHMED, H.J. KAR-WOWSKI, J.M. MUELLER, L.S. MYERS, J. SILANO, J.R. TOMPKINS, H.R. WELLER, W.R. ZIMMERMAN, TUNL, B.J. DAVIS, D.M. MARKOFF, North Carolina Central University, M. SPRAKER, R.M. PRIOR, North Georgia College & State Univ., R.H. FRANCE, Georgia College — The ^{*nat*}Dy(γ , *n*) reaction was studied at TUNL's High Intensity γ -ray Source (HI γ S) using a linearly polarized photon beam at energies 11, 12, 13, 14, and 15 MeV. Measurements were made using liquid scintillator detectors at angles 55°, 72°, 90°, 107°, 125°, 142°. The ratio of neutrons detected parallel to the plane of polarization compared to perpendicular to the plane of polarization was measured as a function of E_{γ} , E_n , and θ . This ratio may be useful for distinguishing different isotopes from one another, and ^{*nat*}Dy is one among many isotopes measured to date. The experimental set-up is discussed, along with the data analysis procedure used to determine the ratio.

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