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**Measurement of the Isovector Giant Quadrupole Resonance of  $^{89}\text{Y}$  at HI $\gamma$ S** MARK SIKORA, GERALD FELDMAN, George Washington University, MOHAMMAD AHMED, JONATHAN MUELLER, LUKE MYERS, HENRY WELLER, WILLIAM ZIMMERMAN, Triangle Universities Nuclear Laboratory — The isovector giant quadrupole resonance (IVGQR) is challenging to characterize due to its broad width and low cross section relative to the nearby giant dipole resonance. The nearly 100 % linearly polarized monochromatic photon beam available at the High Intensity  $\gamma$ -ray Source (HI $\gamma$ S) provides a convenient method to study this collective state via Compton scattering. The interference of the E1 and E2 terms in the total elastic scattering amplitude provides enhanced sensitivity to the IVGQR parameters when measured simultaneously at forward and backward angles, significantly reducing the uncertainty in the extracted resonance parameters. We have performed such a measurement on  $^{89}\text{Y}$  over a photon energy range of 23-35 MeV. Scattered photons were detected by the 8 element HIGS NaI Detector Array (HINDA) at polar angles of  $55^\circ$  and  $125^\circ$ , located in planes parallel and perpendicular to the plane of incident photon polarization. The out-of-plane to in-plane scattering ratio was measured as a function of beam energy at both polar angles, and the IVGQR parameters were determined from a least squares fit. Preliminary data will be presented along with the extracted resonance parameters for the IVGQR in  $^{89}\text{Y}$ .

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