

Abstract Submitted
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Beam Asymmetry t -dependence for photoproduced η' at GlueX¹

CHURAMANI PAUDEL, JOERG REINHOLD, Florida International University, GLUEX COLLABORATION — The GlueX experiment is a photoproduction experiment which is being carried out at Thomas Jefferson National Laboratory in Newport News, Virginia. We report on measurements of the beam asymmetry (Σ) in the reaction $\gamma p \rightarrow \eta' p$, using a tagged, linearly polarized 9 GeV photon beam incident on a liquid hydrogen target. This observable is sensitive to the exchange processes via Regge exchange. A previous measurement using $\approx 20\%$ of GlueX Phase-I data allowed the extraction of Σ up to the momentum transfer $-t=0.9$ (GeV/c)² and this indicated that the production mechanism is dominated by natural parity exchange which include ρ and ω meson exchanges while showing little variation with $-t$ [1]. Analysis using $\approx 80\%$ of Phase-I data will allow us to further investigate and understand production mechanisms up to larger momentum transfer than before. We will present preliminary results of the ongoing analysis for azimuthal angular distributions, yield asymmetries and extracted beam asymmetries as a function of $-t$ for different η' decay modes.

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