

Abstract Submitted
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Beam Asymmetry in $\gamma p \rightarrow \eta \Delta^+$ at GlueX¹ VARUN NEELAMANA, JONATHAN ZARLING, ZISIS PAPANDREOU, Univ of Regina, GLUEX COLLABORATION — The photoproduction mechanism studied in the GlueX experiment by impinging an 8.2-8.8 GeV linearly polarized photon beam on a liquid hydrogen target allows for the mapping of light mesons in unprecedented detail with particular interest in exotic meson candidates. Polarization observable such as beam asymmetry Σ is extracted from azimuthal (ϕ) angular distribution between the meson production plane and the polarized photon beam. Beam asymmetry Σ will help understand and constraint quasi-particle t-channel exchange processes using Regge theory. We report preliminary results on the beam asymmetry measurements for η in $\gamma p \rightarrow \eta \Delta^+$. This reaction with a recoiling Δ^+ will allow for comparison and validation of theoretical calculations and provide additional validation of the η asymmetry with a recoiling proton. The differing isospin of the Δ^+ imposes added restrictions that further constrain allowed Regge exchanges. Understanding the exchange mechanisms is a crucial ingredient in establishing new photoproduced light meson states.

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