

Abstract Submitted
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Photoproduction of Baryon-anti-Baryon Pairs at GlueX. HAO LI, REINHARD SCHUMACHER, Carnegie Mellon University, [GlueX Collaboration] — Baryon-anti-baryon photoproduction has not been extensively studied at Jefferson Lab energies. At the GlueX Experiment, we observe $\bar{\Lambda}\Lambda$ photoproduction (with $\Lambda \rightarrow \pi^- p, \bar{\Lambda} \rightarrow \pi^+ \bar{p}$) for the first time from threshold up to $E_\gamma = 11.4$ GeV. The goal of the study is to investigate the angular momentum structure of strangeness production through the study of spin correlations between the Λ hyperons. Using linearly polarized photons in the energy range between 8.4 and 9.0 GeV, observables such as the beam spin asymmetry can be studied. Preliminary spectra from data accumulated during GlueX run periods in Spring 2016, Spring 2017 and Spring 2018 (GlueX Phase-I), will be presented. Angular distributions of the photoproduced hyperons indicate that more than one production mechanism exists in the reaction channel $\gamma p \rightarrow p\Lambda\bar{\Lambda}$. A tree-level Monte Carlo model with two mechanisms, tested through comparison between simulation and experimental data, will also be presented. Very preliminary beam spin asymmetry spectra for this channel will be shown. Related spectra for the $\bar{p}p$ case will be shown for comparison.

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