

Abstract Submitted
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Proton-Antiproton Photoproduction with GlueX at Jefferson Lab

VIREN BAJAJ, REINHARD SCHUMACHER, Department of Physics, Carnegie Mellon University — Photoproduction of proton-antiproton pairs has been detected using the GlueX Experiment at Jefferson Lab. This reaction is very poorly understood in the energy range from 4 to 12 GeV, and our study has obtained by far the best statistical precision to date. GlueX uses a polarized real photon beam on a liquid hydrogen target, a solenoidal magnet and drift chambers for tracking charged particles, and scintillator arrays for particle time of flight measurements. Data from the Spring 2016 run have been analyzed to extract about 80,000 fully exclusive events wherein all three final state particles in the reaction $\gamma p \rightarrow p\bar{p}p$ were detected. A study of inclusive events wherein either one final-state proton or the final-state antiproton were missing showed that about 10,000,000 events could be reconstructed. Preliminary results show that the reaction mechanism is t -channel dominated. Work continues on analyzing the energy and angle dependencies of the reaction.

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