Baryon Antibaryon Photoproduction using CLAS at Jefferson Lab

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Abstract

There is little known about the baryon antibaryon photoproduction mechanism. Three reactions, γp$\rightarrow$pp$\bar{p}$, γp$\rightarrow$pp$\pi^-\bar{n}$, and γp$\rightarrow$p$\bar{p}\pi^+$n have been investigated for the photon energy range of 4.4-5.45 GeV. The data were from the g12 experiment taken with the CLAS detector using a liquid hydrogen target at Thomas Jefferson National Accelerator Facility. This experiment had high statistics, with an integrated luminosity of 68 pb^{-1}. General features of the data for these three reactions will be shown. In particular, the angular and energy dependence of the antibaryons as well as the preliminary normalized yields will be presented. Also, preliminary partial wave analysis results for the $p\bar{p}$ system will be discussed.