

Measurement of Beam Asymmetry, I^\odot in $\vec{\gamma}p \rightarrow p\pi^+\pi^-$ with CLAS spectrometer at Jefferson Laboratory

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The study of baryon resonances help provide a deeper understanding of the strong interaction since the properties of resonance states gives insight as to the dynamics and relevant effective degrees of freedom for a baryonic QCD system. Higher-lying excited states at and above $1.9 \text{ GeV}/c^2$ are generally predicted to have strong couplings to the $\pi\pi N$ final states via $\pi\Delta$ or ρN intermediate states. Double-pion photoproduction is therefore important to investigate properties of higher-mass resonances. The CLAS g9a (FroST) experiment, as part of the N^* program at Jefferson Laboratory, has accumulated photoproduction data using linearly- and circularly-polarized photons incident on a longitudinally-polarized butanol target in the photon energy range 1.20 to 2.32 GeV. In this contribution, the extraction of the beam asymmetry using circularly polarized photons for the reaction $\vec{\gamma}p \rightarrow p\pi^+\pi^-$ will be described. Our preliminary results are in overall good agreement with previous CLAS data.

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