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**The Beam-Helicity Asymmetry for $\gamma p \to pK^+K^{-1}$** RAFAEL BADUI, Florida International University, JASON BONO, Florida International University, Rice University, Fermi National Accelerator Facility, LEI GUO, BRIAN RAUE, Florida International University, Thomas Jefferson National Accelerator Facility, CLAS COLLABORATION — The first-time measurement of the angular dependence of the beam-helicity asymmetry is shown for $\gamma p \to pK^+K^-$ and is compared to $\gamma p \to p\pi^+\pi^-$. The data obtained were from the CLAS g12 experiment at Jefferson Lab. The experiment utilized a beam of circularly-polarized photons with energies between 1.1 and 5.4 GeV incident on an unpolarized liquid hydrogen target. An unprecedented number of hadrons with strange quarks in photoproduction were observed in g12. The production mechanism for these hadrons is not well understood. The beam-helicity asymmetry is a polarization observable that provides information on the competing production mechanisms in the reaction. It is shown that the asymmetry is sensitive to several kinematic variables (Mandelstam $t, \sqrt{s}, M(K^+K^-), M(pK^-)$) that are key observables in modeling the reaction's dynamics. Furthermore, the comparison of the beam-helicity asymmetries between the kaon and pion channels serves as a platform for the investigation of its flavor dependence. Its significance to understanding the production mechanisms of the intermediate resonances is also discussed.

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