

Abstract Submitted  
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**Pion Photoproduction in the Photon Frame** RONALD GILMAN, Rutgers University and Jefferson Lab, ANDREI AFANASEV, Jefferson Lab — Exclusive photoreactions have been interpreted to indicate the importance of orbital angular momentum in the reaction spin dynamics, such as in the proton electromagnetic form factors. Of recent interest is the observation that  $K^+\Lambda^0$  electroproduction polarizes the lambda in the photon spin direction (D. S. Carmen et al., Phys. Rev. Lett. 90, 131804 (2004).). This result shows that helicity is not conserved, and that orbital angular momentum is again important. We have reanalyzed previously published pion photoproduction data (K. Wijesooriya et al., Phys. Rev. C 66, 034614 (2002).) in the photon frame to investigate whether it too displays any simple behavior. It does not. This work was supported in part by the U.S. Department of Energy contract DE-AC05-84ER40150 under which the Southeastern Universities Research Association (SURA) operates the Thomas Jefferson National Accelerator Facility, and by the National Science Foundation grant PHY 03-54871 to Rutgers University.

Ronald Gilman  
Rutgers University and Jefferson Lab

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