

Abstract Submitted
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Initial State Helicity Correlation in Wide Angle Compton Scattering JIXIE ZHANG, DONAL DAY, DUSTIN KELLER, OSCAR RONDON, University of Virginia — The applicability of pQCD to exclusive reactions at medium energies is a subject of considerable interest. Real Compton scattering (RCS) has the potential to provide insight to this unsettled issue. In pQCD, three active quarks and two hard gluons are involved when describing RCS. But the cross sections do not agree with the pQCD predictions. In contrast, a handbag dominance model, involving only one single quark coupling to the spectator through generalized parton distributions (GPDs) does a good job of matching the cross section data. A measurement of the longitudinal polarization transfer parameter K_{LL} was found inconsistent with predictions of pQCD yet consistent with calculations within the hand-bag mechanism. Further Miller's handbag approach, which including quark and hadron helicity flip, contradicts pQCD and others which demands that $K_{LL} = A_{LL}$, the initial state helicity correlation asymmetry, by finding that $K_{LL} \neq A_{LL}$. The first ever measurement of A_{LL} has been proposed to run in Jefferson Lab's Hall C. This experiment will utilize an untagged bremsstrahlung photon beam and the longitudinally polarized UVA/JLAB proton target. After a brief introduction to the physics, the experiment will be described and the expected results presented.

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