

From Spin to Structure: Beam Spin Asymmetry in Exclusive Pion Electroproduction

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The KaonLT/PionLT Collaboration probes hadron structure by measuring deep exclusive meson production reactions at Jefferson Lab. A set of high momentum, high resolution spectrometers in Hall C allow for precision measurements from which form factors and other observables can be extracted. One possible measurement is the beam spin asymmetry, which allows for the extraction of a polarized interference cross-section $\sigma_{LT'}/\sigma_0$. In this work, $\sigma_{LT'}/\sigma_0$ was extracted from exclusive pion production, and results are compared to predictions from leading QCD models. Furthermore, these data are combined with recent results from other Jefferson Lab experiments to determine the dependence of $\sigma_{LT'}/\sigma_0$ on the virtual photon momentum Q^2 . This was fairly flat, with Q^2 not having a measurable effect on the value of $\sigma_{LT'}/\sigma_0$ in the range explored. This talk will present final results from this analysis, and discuss what the results imply about the structure of the proton.

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