

Abstract Submitted
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Accessing $e(x)$ through di-hadron correlations at CLAS12¹ TIMOTHY HAYWARD, The College of William and Mary, CLAS COLLABORATION — Correlations between the azimuthal angles of the hadron pairs produced in semi-inclusive deep-inelastic scattering provide valuable probes of nucleon structure. Several parton distribution functions (PDFs) such as the higher-twist collinear PDF $e(x)$ can be extracted from this information. The PDF $e(x)$ encapsulates knowledge of the interaction between gluons and the struck quark and is sensitive to the pion-nucleon sigma term. The additional degree of freedom present in the two hadron final state allows for additional studies of correlations in the hadronization process, which can provide easier access to $e(x)$ and other observables than in single hadron production. We present preliminary results from charged pion beam-spin asymmetries from data taken in 2018 with the CLAS12 detector at Jefferson Lab. The large kinematic acceptance and sample size allow for a rich multidimensional analysis and a clear signal sensitive to $e(x)$ is observed.

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