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The Jefferson Lab TMD Studies at 12 GeV

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In an effort to understand the internal structure of the nucleon, parton distributions describing longitudinal momentum, helicity and transversity distributions of quarks and gluons, have been generalized to account also for the transverse momentum of partons, providing important information on the spin-orbit correlations of partons in the nucleon. Transverse Momentum Dependent parton distributions (TMDs) yields a 3D picture of the nucleon in momentum space and can be accessed in semi-inclusive processes.

The recently upgraded Continuous Electron Beam Accelerator Facility (CEBAF) at Jefferson Lab (JLab) provides a unique opportunity to study the quark TMDs, particularly in the valence quark region, and a coherent and comprehensive TMD program using SIDIS measurements is underway. The program takes advantages of the complementary capabilities of different detectors in the experimental Halls A, B and C.

In this talk we present an overview of the latest developments in studies of TMDs at JLab and discuss newly released results, ongoing activities, as well as planned near term and future measurements.

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