

Abstract Submitted
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Accessing quark orbital motion in semi-inclusive DIS experiments at Jefferson Lab Hall A and Hall C. XIAODONG JIANG, Rutgers University — A program of semi-inclusive deep-inelastic scattering experiments at Jefferson Lab Hall A and Hall C has been developed to access quark orbital motion in a nucleon. This program includes: 1. Single-spin asymmetry A_{UT}^n measurements in Jefferson Lab Hall A through $\vec{n}(e, e'\pi^\pm)$ reactions on a transversely polarized ^3He target to access quark transversity distributions in the neutron. 2. Single-spin asymmetry A_{UT}^p measurements through $\vec{p}(e, e'\pi^\pm)$ reactions on a transversely polarized proton target in Jefferson Lab Hall C to access quark transversity distributions in the proton. 3. Double-spin asymmetry A_{LT}^p measurements with a longitudinally polarized electron beam scattered off a transversely polarized proton target in $\vec{p}(\vec{e}, e'\pi^\pm)$ reactions in Jefferson Lab Hall C to access the leading-twist quark transverse-momentum dependent distribution functions $g_{1T}^q(x)$.

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