

Abstract Submitted
for the DNP11 Meeting of
The American Physical Society

New Results and Future Experiments on Double Spin Asymmetry A_{LT} in DIS Pion Electroproduction on ^3He JIN HUANG, MIT, JEFFERSON LAB HALL A COLLABORATION, E06-010 COLLABORATION — We report the final results for the first measurement of the double-spin asymmetry A_{LT} of charged pion electroproduction in deep inelastic electron scattering on a transversely polarized ^3He target, obtained by reversing the electron beam helicity at 30 Hz. The corresponding neutron A_{LT} asymmetries were extracted. The kinematics were focused on the valence quark region, $x \sim 0.16-0.35$, with $Q^2 \sim 1.4-2.7 \text{ GeV}^2$. These new data probe the transverse momentum dependent parton distribution function g_{1T}^q and therefore provide direct access to quark spin-orbit correlations. This experiment has laid the foundation for future high-precision measurements using an approved large acceptance spectrometer, which will also be discussed in this talk.

Jin Huang
MIT

Date submitted: 01 Jul 2011

Electronic form version 1.4