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Measurement of Double Spin Asymmetry A_{LT} in Semi-Inclusive Pion Electroproduction on a Transversely Polarized ^{3}He Target JIN HUANG, Massachusetts Institute of Technology, JEFFERSON LAB HALL A COLLABORATION, JEFFERSON LAB E06-010 COLLABORATION — We recently measured the neutron double spin asymmetry A_{LT} in the semi-inclusive deep inelastic $^3He^{\uparrow}(\overrightarrow{e}, e'\pi^{+/-})X$ reactions with polarized electron beam and a transversely polarized ^{3}He target. The measurement was performed in Jefferson Lab Hall A, using a 6 GeV polarized electron beam scattered from a 40 cm polarized 3He target. The produced pions were detected by the left high-resolution spectrometer in coincidence with the scattered electrons detected by the BigBite spectrometer. The kinematic coverage focused on the valence quark region, $x \sim$ 0.13-0.41, at $Q^2 \sim$ 1.31-3.10(GeV/c)^2. When combined with the world data, the new data will provide constraints on the g_{1T}^q distribution functions. These distribution functions describe the longitudinal polarization of up and down quarks in the valence region for a transversely polarized nucleon. Current data analysis progress will be presented in this talk.

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