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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 — Double spin asymmetry A_{LT} for the neutron was measured for the first time in Hall A at Jefferson Lab in semi-inclusive deep inelastic deep inelastic $^3He^{\uparrow}(\overrightarrow{e}, e'\pi^{+/-})X$ reactions, using a 6 GeV polarized electron beam on a transversely polarized 3He target. The produced pions were detected in coincidence with the scattered electrons by a high-resolution spectrometer and a BigBite spectrometer. Kinematic coverage was focused on the valence quark region, $x \sim$ 0.1-0.4, at $Q^2 \sim$ 1-3(GeV/c)^2. When combined with the world data, the new data will provide constraints on the g_{1T}^q distribution functions, which describe the longitudinal polarization of up and down quarks for a transversely polarized nucleon. Current data analysis progress and preliminary results will be presented.

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