PRELIMINARY MEASUREMENT OF LONGITUDINAL SPIN ASYMMETRY $A_1^{^3He}$

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Recent measurements of the nucleon-virtual photon longitudinal spin asymmetry A_1 for the proton and neutron have called into question the perturbative QCD prediction that the ratio of polarized-to-unpolarized down-quark PDFs, $\Delta d/d$, approaches 1 at large x. As part of Experiment E06-014 in Hall A of Jefferson Lab, double-spin asymmetries were measured in the scattering of a polarized electron beam from a polarized ^{3}He target in the deep inelastic scattering region, allowing the eventual extraction of the neutron asymmetry A_1^n. We will discuss our analysis of data with beam energies of 5.9 and 4.7 GeV and present preliminary results for the nuclear asymmetry $A_1^{^3He}$ as measured with 4.7-GeV electrons for $0.2 < x < 0.65$ and 2 GeV^2 $< Q^2 <$ 5 GeV^2. Once corrections for nuclear effects have been completed, the resulting measurements of A_1^n will provide a test of previous results in advance of two upcoming experiments at Jefferson Lab.