

Abstract Submitted
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F2 at Low Q^2 EDWIN SEGBEFIA, Hampton University, JLAB HALL C E00-002 COLLABORATION — The nucleon structure function F_2^N has been measured over a broad range in four-momentum transfer Q^2 and Bjorken x . The structure function data at large values of Q^2 are well understood in terms of logarithmic scaling violations. At low values of Q^2 and higher x , however, the theoretical understanding of F_2^N is less clear. Preliminary results will be presented from Jefferson Lab Hall C experiment E00-002 which ran in Spring 2003. This experiment measured the inclusive electron–nucleon scattering cross sections in both the deep-inelastic and resonance regions on hydrogen and deuterium targets, using beam energies between 2.2 and 5.5 GeV, and spanning the kinematics range $0.05 \leq Q^2 \leq 1.7$ (GeV/c)². The nucleon structure functions F_1 and F_L (F_2^N and R) are being extracted from this data, providing the first L/T separated strength measurements in this unexplored kinematic regime. Recent Jefferson Lab data indicate, in this kinematic regime, the onset of a drop in F_2^p with decreasing Q^2 . This fall-off of the structure function may indicate an insensitivity to the sea quark component of the nucleon at low Q^2 .

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