Neutron Spin Structure in the Resonance Region and Quark-Hadron Duality

Patricia Solvignon, Temple University

(for the Jefferson Lab Hall A collaboration)

Jefferson Lab experiment E01-012 used the polarized ^{3}He target in Hall A for an extraction of the virtual photon asymmetry $A_1^{^3\mathrm{He}}$ and the spin structure function $g_1^{^3\mathrm{He}}$ in the resonance region over a Q^2 range from 1.0 to 4.0 $(GeV/c)^2$. We will ultimately extract the same quantities for the neutron. Data from E01-012 combined with deep inelastic scattering data will provide a test of quark-hadron duality predictions. This will be one of the first test of the spin and flavor dependence of quark-hadron duality. The demonstration of duality for spin structure functions will enable us to use the resonance data to study the nucleon spin structure in the large x_{bj} region. Some details of the experiment and preliminary results will be presented.