

Abstract Submitted  
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**Polarized Semi-Inclusive DIS measurements at Jefferson Lab** PETER BOSTED, HARUT AVAKIAN, Jefferson Lab, CLAS COLLABORATION — Longitudinally polarized electrons with energies of 4.2 and 5.7 GeV and longitudinally polarized proton and deuteron targets were used to measure the double spin asymmetries in semi-inclusive deep-inelastic scattering. Scattered electrons and electro-produced pions were detected in the CEBAF Large Acceptance Spectrometer at Jefferson Lab. The kinematic range covered is:  $0.3 < z < 0.7$ ,  $Q^2 > 1 \text{ GeV}^2$ ,  $0.12 < x < 0.48$ ,  $p_t < 1 \text{ GeV}$ , and  $0 < \phi^* < 2\pi$ . From the double spin asymmetries, we will present the ratio of structure functions  $g_1/F_1$  as a function of  $x$ ,  $p_t$ , and  $\phi^*$ , in each case averaged over the other kinematic variables due to limited statistical precision. Results will be presented for each of the three possible charge states of the detected pions. The results are sensitive to the spin-flavor structure of the nucleon, with the  $p_t$  and  $\phi^*$  dependence potentially providing access to the coupling of spin and orbital motion. Higher twist contributions may be significant at the low  $Q^2$  values of the experiment, providing both a challenge and an opportunity for the interpretation of the data.

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