

Abstract Submitted  
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**Results on the Spin Structure of  $^3\text{He}$  and the Neutron at Low  $Q^2$**

TIMOTHY HOLMSTROM, College of William and Mary, HALL A COLLABORATION COLLABORATION — For the past few decades there has been a strong interest in understanding the nucleon spin structure. Sum rules, including the Gerasimov-Drell-Hearn (GDH), and moments of the nucleon spin structure functions are powerful tools for understanding nucleon structure. The goal of Jefferson Lab experiment E97-110 is to perform a precise measurement of the  $Q^2$  dependence of the generalized GDH integral and the moments of the  $^3\text{He}$  and neutron spin structure functions between 0.02 and 0.3  $(\text{GeV}/c)^2$  using the Hall A polarized  $^3\text{He}$  target. This  $Q^2$  range will allow us to test the dynamics of Chiral Perturbation Theory, and test the GDH sum rule by extrapolating to the real photon point for  $^3\text{He}$  and the neutron. The measurement will also contribute to the understanding of nucleon resonances. The status of the data analysis will be discussed and some preliminary results will be shown.

Timothy Holmstrom  
College of William and Mary

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