

Abstract Submitted  
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**Measurement of the Neutron ( $^3\text{He}$ ) Spin Structure Functions at low  $Q^2$**  VINCENT SULKOSKY, Jefferson Lab, HALL A COLLABORATION — Experiment E97-110 was performed at Jefferson Lab in Hall A to examine the neutron and  $^3\text{He}$  spin structure. A longitudinally-polarized electron beam ( $1.1 \leq E \leq 4.4$  GeV) was scattered from a longitudinally or transversely polarized  $^3\text{He}$  target. Polarized cross-section differences were measured to extract the spin structure functions  $g_1(x, Q^2)$  and  $g_2(x, Q^2)$ . The extended Gerasimov-Drell-Hearn integral and the moments of the neutron and  $^3\text{He}$  spin structure functions were extracted at very low momentum transfers ( $0.02 < Q^2 < 0.3$  GeV $^2$ ). This  $Q^2$  range allows us to make a benchmark-check of chiral perturbation theory calculations. The experimental details will be discussed and results on moments of the spin structure functions will be presented.

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