

2005 Annual Review Report

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November 15, 2005

Abstract

For my Ph. D. research, I have collaborated with the Polarized ^3He target group at Jefferson Lab. I am currently analyzing the data for experiment E97-110, which measured the generalized Gerasimov-Drell-Hearn (GDH) sum rule for ^3He and the neutron at low Q^2 . From the measured asymmetries and cross sections we will study the ^3He and neutron spin structure. We used one of the Hall A spectrometers with an additional septum magnet, which was commissioned during the experiment and enabled us to access the low Q^2 region. My responsibilities for the analysis include the optics data base optimization, the spectrometer acceptance study, the target analysis, and the production data. Over the past year, I have completed optimization for the spectrometer optics and the NMR analysis for experiment E01-012, Spin-Duality. I have also made significant progress on the spectrometer acceptance study and plan to finish the study within a month. I will then move onto the physics analysis. I have also started writing sections of my dissertation by writing a technical report on the spectrometer optics calibration. I plan to defend my dissertation in the summer of 2006.