

# 2003 Annual Review Report

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November 14, 2003

## Abstract

For my Ph. D. research, I have been working with the Polarized  $^3\text{He}$  target group at Jefferson Lab (JLab). The experiment that I am working on, E97-110, studies the generalized Gerasimov-Drell-Hearn (GDH) sum rule for the neutron at low  $Q^2$ . The measured quantities from the experiment allow us to study the  $^3\text{He}$  and the neutron spin structure. During the experiment, we used the right Hall A spectrometer with an additional septum magnet that allowed us to detect scattered electrons at angles of  $6^\circ$  and  $9^\circ$ . For the experiment, I worked on the NMR and target systems for the polarized  $^3\text{He}$  target. In addition to my target responsibilities, I also worked on the optimization for spectrometer optics data base. Since the experiment, I have continued working on the optimization and will work on the acceptance model for the Septum+spectrometer system before working on the production data analysis. I also plan to begin writing my thesis in the next few months.