

Abstract Submitted
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Polarimetry Measurements for the NPDGamma Experiment

MATTHEW MUSGRAVE, University of Tennessee, NPDGAMMA COLLABORATION — The NPDGamma experiment intends to measure the parity violating directional asymmetry in the angular distribution of gamma rays in the capture of polarized neutrons on protons. The asymmetry is sensitive to the weak nucleon-nucleon interaction, and the largest contribution to the asymmetry comes from weak pion exchange. The capture of polarized neutrons on protons is a two nucleon system which will provide a measurement of the weak pion-nucleon coupling. The precision of the measurement is dependent on how well the polarization of the neutron beam is known. The neutrons are polarized with a supermirror polarizer, and the polarization will be measured with a polarized ^3He spin filter for different directional neutron polarizations set with a resonant rf spin rotator. The technique to determine the polarimetry as well as simulated results will be discussed.

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