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Neutron Polarimetry with Polarized 3He for the NPDGamma Experiment MATTHEW MUSGRAVE, University of Tennessee, NPDGAMMA COLLABORATION — The goal of the NPDGamma experiment is to measure the parity violating directional γ-ray asymmetry in the capture of polarized neutrons on protons. The neutrons are polarized with a multichannel super mirror polarizer, and the neutron spins can be flipped with an RF spin flipper (RFSF) to measure the γ-ray asymmetry for both neutron spin states. The neutron polarization and the RFSF efficiency are multiplicative corrections to the measured γ-ray asymmetry and are measured to a precision of a few percent. The large spin dependent capture cross section of polarized ^{3}He is used to determine the neutron polarization and the RFSF efficiency. Transmission measurements are taken through a polarized glass ^{3}He cell at various locations in the neutron beam, and the beam average neutron polarization and RFSF efficiency are determined from a weighted average of these transmission measurements. The results are compared to simulations.

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