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Backgrounds in the NPDGamma Experiment SERPIL KUCUKER DOGAN, University of Tennessee, NPDGAMMA COLLABORATION — The NPDGamma experiment, which measures the parity-violating directional gamma asymmetry in neutron-proton capture, completed its first run cycle in June at the Fundamental Neutron Physics Beamline at the Oak Ridge Spallation Neutron Source. In the experiment intense polarized low-energy neutron beam interacts with liquid para-hydrogen target. Gamma rays from the capture reaction are detected by 48 CsI(Tl) detectors with the 3π acceptance angle. The goal of the experiment is to measure the asymmetry with precision of 1×10^{-8} . The polarized neutrons also interact with other materials in the beam windows and the walls of the target vessel producing a background to the signal that dilutes the PV gamma asymmetry and these materials (primarily Aluminum) could, in principle, have their own PV asymmetries. Therefore, it is important to study the backgrounds and their contributions to measured signals. I will discuss the detected backgrounds and their effect on NPDGamma.

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