

Abstract Submitted
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First Results from the NPDGamma Experiment at the Spallation Neutron Source NADIA FOMIN, Los Alamos National Laboratory, NPDGAMMA COLLABORATION — The NPDGamma experiment aims to measure the parity-odd correlation between the neutron spin and the direction of the emitted photon in neutron-proton capture. A parity violating asymmetry from this process can be directly related to the strength of the hadronic weak interaction between nucleons. The methodology and results from the first run of this experiment, completed at LANSCE in 2006, will be summarized. The next phase of the experiment has finished a very successful commissioning on the Fundamental Neutron Physics Beamline of the Spallation Neutron Source at ORNL. We will discuss the improvements in the apparatus and show results from the commissioning data. The upcoming run is expected to yield a measurement with a projected statistical error of 1×10^{-8} as well as negligible systematic errors. This result will finally test the theoretical predictions.

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