

Abstract Submitted  
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**The NPDGamma experiment - A measurement of parity violation in polarized cold neutron capture on parahydrogen** NADIA FOMIN, Los Alamos National Laboratory, NPDGAMMA COLLABORATION — The NPDGamma experiment aims to measure the correlation between the neutron spin and the direction of the emitted photon in neutron-proton capture. An up-down 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 discussed. The next phase of the experiment is currently being commissioned on the Fundamental Neutron Physics Beamline of the Spallation Neutron Source at ORNL. We will discuss the improvements in the apparatus and show commissioning data. The upcoming run is expected to yield a measurement with a projected statistical error of  $1 \times 10^{-8}$  as well as negligible systematic errors. This will finally allow the result can be compared with theoretical predictions.

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