

Abstract Submitted
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Progress toward a measurement of parity violation in $\bar{n} + p \rightarrow d + \gamma$

ROB MAHURIN, University of Tennessee, Knoxville, NPDGAMMA COLLABORATION — The weak part of the nucleon-nucleon interaction produces small parity-violating asymmetries in the gamma rays emitted during polarized neutron capture. The asymmetry for capture on hydrogen is directly related to the nucleon-pion coupling, without complication from nuclear structure, and has an estimated size 50×10^{-9} . With its installation in fall 2005 of a liquid parahydrogen target at the Los Alamos Neutron Science Center, the NPDGamma collaboration can begin to measure this asymmetry directly. I will report the status of the target system and the run plan for the next year, and discuss our plans to achieve our design sensitivity 5×10^{-9} using the higher flux at the Spallation Neutron Source.

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