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11-00366

Title: NPD gamma - A measurement of parity violation in polarized cold neutron capture.

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Intended for: APS April Meeting



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# The NPDGamma experiment - A measurement of parity violation in polarized cold neutron capture

Nadia Fomin for the NPDGamma Collaboration

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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 first phase of the experiment was completed in 2006 at LANSCE. The methodology will be discussed and first run results will be presented. The next phase of the experiment is being commissioned at the SNS at ORNL with several improvements, which will be discussed and commissioning data will be shown. The upcoming run will yield a measurement with a projected statistical error  $1 \times 10^{-8}$ . This will finally allow the result can be compared with theoretical predictions.