

Abstract Submitted
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Precision Polarization of Neutrons ELISE MARTIN, University of Kentucky, LIBERTAD BARRON-PALOS, Universidad Nacional Autonoma de Mexico, AARON COUTURE, LANL, CHRISTOPHER CRAWFORD, University of Kentucky, TIM CHUPP, University of Michigan, AREG DANAGOULIAN, LANL, MARY ESTES, BINITA HONA, University of Kentucky, GORDON JONES, Hamilton College, ANDI KLEIN, LANL, SEPPO PENTTILA, ORNL, MONISHA SHARMA, University of Michigan, SCOTT WILBURN, LANL — Determining polarization of a cold neutron beam to high precision is required for the next generation neutron decay correlation experiments at the SNS, such as the proposed abBA and PANDA experiments. Precision polarimetry measurements were conducted at Los Alamos National Laboratory with the goal of determining the beam polarization to the level of 10^{-3} or better. The cold neutrons from FP12 were polarized using optically polarized ^3He gas as a spin filter, which has a highly spin-dependent absorption cross section. A second ^3He spin filter was used to analyze the neutron polarization after passing through a resonant RF spin rotator. A discussion of the experiment and results will be given.

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