

Abstract Submitted  
for the DNP15 Meeting of  
The American Physical Society

**Measurement of spin flip probabilities for ultracold neutrons on guide materials**<sup>1</sup> ZHAOWEN TANG, STEVEN CLAYTON, SCOTT CURRIE, TAKEYASU ITO, MARK MAKELA, CHRISTOPHER MORRIS, ROBERT PATTIE, JOHN RAMSEY, ALEXANDER SAUNDERS, WANCHUN WEI, Los Alamos National Lab, EVAN ADAMEK, NATHAN CALLAHAN, DANIEL SALVAT, Indiana University, AARON BRANDT, ALBERT YOUNG, North Carolina State University, LANL EDM COLLABORATION — Ultracold neutrons (UCNs) are defined as neutrons with kinetic energy sufficiently low so that they can be confined in a material bottle. UCN sources are used in many facilities worldwide to pursue some of the most profound questions in fundamental physics. UCN guides, which transport UCNs from the source to experiments, play a crucial role in achieving high UCN density in an experimental apparatus. In some cases, UCN guides are also required to transport spin polarized UCNs, and therefore the probability of spin flip upon UCN interaction is an important property characterizing UCN guide materials. We have studied the depolarization property of a new nickel based UCN guide coating material. In this talk, the purpose, method, and results of the experiment will be presented and the implication of the results on the depolarization mechanism will be discussed.

<sup>1</sup>LANL LDRD grant #20140015DR

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Date submitted: 01 Jul 2015

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