

Abstract Submitted  
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**Experimental Results of Ultra-Cold Neutron Production in Solid Oxygen** CHRISTOPHER LAVELLE, CHEN-YU LIU, Indiana University, YUN-CHANG SHIN, University of Kentucky, DAN SALVAT, PATRICK MCCHESENEY, Indiana University, GREG MANUS, GUILHEM RIBEILL, ALBERT YOUNG, NC State University, CHRIS MORRIS, MARK MAKELA, ANDY SAUNDERS, Los Alamos National Laboratory — The results of an experimental investigation of Ultra-cold neutron (UCN) production from magnetic solid oxygen are presented. Using neutrons from flight path 12 at Lujan Center, LANSCE, we study the production of UCN from the cold neutron beam at LANSCE FP12 as a function of temperature, source volume, incident neutron energy, and applied magnetic field up to 5.5 T. Results suggest UCN production from magnetic interactions with the neutron is a dominant mode of production, and that UCN from solid oxygen is comparable to that from deuterium.

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