

Abstract Submitted  
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**Analysis of Ultracold Neutron Depolarization Studies** Y.-P. XU, H.O. BACK, A.T. HOLLEY, R.W. PATTIE, A.R. YOUNG, NCSU, J.-H. YUAN, Caltech, P. GELTENBORT, ILL, M. MAKELA, A. SAUNDERS, LANL, A. PICHLMAIER, PSI, R.R. MAMMEI, M. PITT, R. VOGELAAR, Virginia Tech, UCNA COLLABORATION — Studies of ultracold neutron (UCN) transport and depolarization provide important support data for experiments such as the UCNA experiment at LANSCE. The UCNA experiment's goal is to make an absolute measurement of the beta-asymmetry for neutron decay using UCN, a measurement which requires essentially 100% polarized UCN. We present progress on the analysis of several experiments conducted at ILL which have measured the depolarization rate for UCN on guides with diamond-like carbon (DLC) coatings. These experiments provide a consistent picture of depolarization rates expected for these coatings on non-magnetic substrates, and indicate that DLC coatings will be more than adequate for the UCNA project's first planned measurements.

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