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Overview of the Science Program at the LANL Ultracold Neutron Source TAKEYASU ITO, Los Alamos National Laboratory, LANL AREA B UCN COLLABORATION — Los Alamos National Laboratory (LANL) currently operates a proton-beam-driven solid-deuterium-based ultracold neutron (UCN) source. It was originally built to provide UCN to the UCNA experiment, an experiment to measure the angular correlation between the neutron spin and electron emission in polarized beta decay of free neutrons. The science program at the LANL UCN source has since significantly grown. It now provides UCN to various activities including a suite of neutron beta decay experiments, R&D for the SNS nEDM experiment, detector development for the Nab experiment at the SNS, development of a new nEDM experiment at LANL, and a study of material damage due to neutron induced fission fragments. In addition, the UCN source is in the process of being upgraded and an active research program on UCN source and guide technology is taking place. In this talk, an overview of the science program at the LANL UCN source will be given.

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