

Abstract Submitted
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Measurement of neutron beta decay asymmetry using ultracold neutrons STEVEN CLAYTON, Los Alamos National Laboratory, UCNA COLLABORATION — An experiment to measure the neutron beta-decay angular correlation between the emitted beta particle and the neutron spin (the beta asymmetry) using ultracold neutrons (UCN) will be described. The experimental method involves loading highly polarized UCN into a material decay trap within a solenoidal beta spectrometer. The neutron polarization is systematically flipped to cancel the effect of differing efficiencies between the two ends of the spectrometer. First physics results, which represent a demonstration of the experimental method, were recently published in PRL based on data taken in 2007. In Fall 2008 a much higher statistics data set was collected and several systematics studies were performed. These are expected to give a measurement of the neutron beta asymmetry that approaches the best measurements using cold neutrons.

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