

Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

Status of Analysis for the UCNA Experiment's 2011-2012 and 2012-2013 Data Sets MICHAEL A. BROWN, University of Kentucky, FOR THE UCNA COLLABORATION — The UCNA Experiment at the Los Alamos Neutron Science Center (LANSCE) is the first measurement of the β -decay asymmetry parameter A_0 using polarized ultracold neutrons (UCN). A_0 , which represents the parity-violating angular correlation between the direction of the initial neutron spin and the emitted decay electron's momentum, determines $\lambda = g_A/g_V$, the ratio of the weak axial-vector and vector coupling constants. A high-precision determination of λ is important for weak interaction physics, and when combined with the neutron lifetime it permits an extraction of the CKM matrix element V_{ud} solely from neutron decay. At LANSCE, UCN are produced in a pulsed, spallation driven solid deuterium source and then polarized via transport through a 7 T magnetic field. The UCN then travel to a decay storage volume situated within a 1 T solenoidal spectrometer with electron detectors at each end for measurement of decay electrons. Data collected during run periods in 2011-2012 and 2012-2013 are currently under analysis, for which the projected uncertainty on A_0 is $< 0.6\%$. The status of this analysis will be presented in this talk.

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Date submitted: 27 Jun 2014

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