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Status of the UCNA Experiment MICHAEL BROWN, University of Kentucky, 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 neutron spin and the decay electron's momentum, determines $\lambda = g_A/g_V$, the ratio of the weak axial-vector and vector coupling constants. Measurements of the β-asymmetry presently provide the most precise determination of λ, which, together with the lifetime, permits the extraction of the CKM matrix element V_{ud} solely from neutron decay. At LANSCE, UCN are produced in a solid deuterium source and polarized via transport through a 7 T magnetic field. Their spins can then be flipped in an Adiabatic Fast Passage spin flipper prior to storage within a 1 T solenoidal spectrometer with electron detectors at each end. Previous UCNA results (data from 2010 and earlier) were limited by systematic uncertainties, in particular those from the UCN polarization, calibration of the electron energy, and electron backscattering. This talk will present the status of the analysis of data obtained during run periods in 2011-2013, particularly focusing on updated work on the UCN polarization and energy calibration.

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