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Status of the UCNA Experiment DAVID PHILLIPS, North Carolina State University, UCNA COLLABORATION COLLABORATION — The UCNA experiment at the Los Alamos Neutron Science Center (LANSCE) is the only experiment to ever perform a measurement of the neutron β-decay asymmetry parameter $A(E)$ using ultracold neutrons (UCN). UCN are produced from a pulsed spallation solid deuterium source coupled to the 800 MeV proton beam at LANSCE. The UCN spin states are selected via a 7 T polarizing field and an adiabatic fast passage spin flipper. The polarized UCN are then transported to a 1 T $2\times2\pi$ spectrometer where the emitted electrons are measured from a sample with density of order $\sim$1 UCN/cm^3 (since 2008 running). In the Standard Model, the leading order value of $A(E)$, A_0, is a function of the axial-vector to vector coupling ratio $\lambda \equiv g_{\rm A}/g_{\rm V}$, providing complementary data to the physics probed by measurements of the neutron lifetime $\tau_{\rm n}$. When taken together with $\tau_{\rm n}$, measurements of the beta decay asymmetry permit a nuclear structure independent determination of the CKM matrix element $V_{\rm ud}$. This talk presents an overview of the UCNA experiment, the analysis status of our 2011/2012 & 2012/2013 datasets, and the path forward.

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