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Status of Neutron Beta Decay Asymmetry Studies from the UCNA Experiment DAVID PHILLIPS II, North Carolina State University, UCNA COLLABORATION — The UCNA experiment measures the neutron β decay asymmetry parameter $A(E)$ using bottled polarized 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. 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 status of the analysis of our 2011 dataset, the work performed in 2012 and the path forward.

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