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UCNA Systematic Uncertainties: Developments in Analysis and Method BRYAN ZECK, North Carolina State University, UCNA COLLABORATION — The UCNA experiment is an effort to measure the beta-decay asymmetry parameter A of the correlation between the electron momentum and the neutron spin, using bottled polarized ultracold neutrons in a homogenous 1 T magnetic field. Continued improvements in both analysis and method are helping to push the measurement uncertainty to the limits of the current statistical sensitivity (less than 0.4%). The implementation of thinner decay trap windows will be discussed, as will the use of a tagged beta particle calibration source to measure angle-dependent scattering effects and energy loss. Additionally, improvements in position reconstruction and polarization measurements using a new shutter system will be introduced. A full accounting of the current systematic uncertainties will be given.

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