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## A Measurement of the Electron-Antineutrino Correlation in Free Neutron Beta Decay

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The aCORN Collaboration has analyzed data taken on the NG-6 beamline at the NIST (National Institute of Standards and Technology) Center for Neutron Research and achieved the most precise measurement to date of the angular correlation ( $a$ -coefficient) between the electron and antineutrino emitted in free neutron beta decay. Such a measurement provides a test of the Electroweak Standard Model and, with the neutron lifetime, a determination of the weak vector and axial vector coupling constants. aCORN employs a novel asymmetry method that leads to smaller systematic uncertainties compared to previous experiments that obtained the  $a$ -coefficient from the shape of the recoil proton energy spectrum.

A brief description of the aCORN method, apparatus, result, and systematic effects will be presented. Additionally, as the experiment is nearing the end of its data collection time on the more intense beamline NG-C, an overview of this new data set will be provided.

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