

Abstract Submitted
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Recent results from the aCORN experiment¹ MD T HASSAN, Los Alamos National Laboratory, ACORN COLLABORATION — Free neutron decay into a proton, electron, and antineutrino is one of the simplest examples of nuclear beta decay. The electron-antineutrino correlation (a -coefficient) is one important experimental observable of neutron decay. Along with other observables such as the neutron lifetime and beta asymmetry, the a -coefficient can be used to determine the charged weak couplings of neutrons and protons, measure the CKM matrix element V_{ud} , and conduct precision low energy tests of physics beyond the Standard Model. The aCORN experiment uses a novel “wishbone asymmetry” method that does not require detailed proton spectroscopy to measure the neutron a -coefficient. We will present results from the second aCORN run on the high-flux beamline NG-C at the NIST Center for Neutron Research.

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