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The aCORN Beta spectrometer GUILLAUME DARIUS, Tulane University, ACORN COLLABORATION — In order to measure the electron-antineutrino correlation parameter in neutron decay, the aCORN experiment requires a detector capable of detecting with high efficiency the beta electrons produced and measuring their energies. This is done using a single plastic scintillator coupled to 19 photomultiplier tubes. An array of eight plastic scintillators surrounds the energy detector to veto events where the electrons are backscattered. If kept, these events would lead to a large systematic error and must be removed from the data. The veto scintillators surround an electron beam that diverges in a weakening magnetic field so as to increase the probability that backscattered electrons encounter them. A description of the detector and tests results will be presented.

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