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Recoil-order and radiative corrections to the aCORN experiment

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Recoil-order and radiative corrections to neutron decay correlations enter at the 10^{-3} level, important at the precision of recent and future experiments, especially when comparing results for $\lambda = G_A/G_V$. The aCORN experiment obtains the neutron electron-antineutrino correlation (a -coefficient) from an asymmetry in proton-electron coincidence events, in contrast to previous experiments that obtained it from the shape of the proton energy spectrum. We show that at recoil order the interpretation of these two methods are quite different. We update the recent aCORN results to include recoil-order and radiative corrections and compare to previous neutron decay experiments.

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