

Abstract Submitted
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Measuring the Fierz Interference Term in Beta-Decay using Ultracold Neutrons KEVIN HICKERSON, Caltech, UCN-LITTLE-B COLLABORATION — It is theorized that contributions to the Fierz interference term from scalar interactions beyond the Standard Model could be detectable in the spectrum of neutron beta-decay, manifest as a nonzero value for the so-called b parameter. Some supersymmetric models could have b as large as 10^{-3} , which is within reach for measurement, but below the current limits set by superallowed $0+ \rightarrow 0+$ nuclear β -decays. We present a new experiment that uses the Ultracold Neutron (UCN) source at LANSCE in which UCN, which can be trapped inside material bottles, are guided to a 4π scintillator beta calorimeter, shielded from background generated by the pulsed spallation target.

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