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Precision Measurement of Nuclear Beta Decay

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ABSTRACT

Precision measurement of nuclear beta decay observables provides an important probe of new physics, beyond the present Standard Model, such as Super Symmetry. New intense sources of cold neutrons at the Spallation Neutron Source and ultracold neutrons at Los Alamos National Laboratory will provide the required statistical precision. New techniques for precision neutron polarimetry and detection of decay particles using large-area silicon detectors will allow systematic errors to also be reduced. A set of neutron beta decay experiments being proposed for these facilities will be discussed.