

## **Neutron Beta Decay as a Probe of Weak Interactions**

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The beta decay of the free neutron provides a unique low energy probe for the weak nuclear force. Precision measurements of the neutron lifetime and correlations between the neutron spin and its decay products can have a physics reach comparable and complementary to the highest energy particle physics experiments. Experiments using cold and ultra-cold neutrons have measured the parameters of neutron decay, including the lifetime and the correlations between the neutron spin and its decay products. In this talk, I will review the history and status of the world's neutron beta decay programs, with emphasis on the present discrepancies in the values of the neutron lifetime and the axial-vector weak coupling constant and prospects for their resolution in the near future.