Abstract Submitted
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Development of an Electrostatic Ion Beam Trap for the Study of Beta Decay Correlations YUAN MEI, Lawrence Berkeley National Laboratory — Precision measurements of beta decay correlation parameters, to the level of 0.1% or better, can be used to test the Standard Model and to search for possible evidence of new physics such as Supersymmetry. We are developing an Electrostatic Ion Beam Trap (EIBT) to measure the beta-neutrino correlation parameter of short lived radioactive isotopes produced by the 88-inch Cyclotron at LBNL. The EIBT uses two opposing sets of electrodes to create a parallel pair of electrostatic mirrors to confine ions. Position sensitive beta telescopes and micro-channel plates will be used to detect the beta and recoil nucleus, thus allowing the reconstruction of the momentum vectors of both beta and recoil nucleus on an event-by-event basis. I will describe the measurement technique and update on the status and progress of this program.

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