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The Project 8 Neutrino Mass Experiment

Measurements of the β^- spectrum of tritium give the most precise direct limits on neutrino mass. Project 8 will investigate neutrino mass using Cyclotron Radiation Emission Spectroscopy (CRES) with an atomic tritium source. CRES is a new experimental technique that has the potential to surmount the systematic and statistical limitations of current-generation direct measurement methods. Atomic tritium avoids an irreducible uncertainty associated with the final states populated by the decay of molecular tritium. Project 8 will proceed in a phased approach toward a goal of 40 meV/c^2 neutrino-mass sensitivity.

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