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Project 8 - A Tritium Endpoint Experiment to Measure Neutrino Mass[1]

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The Project 8 Collaboration is developing the next-generation experiment to measure the mass of the electron antineutrino by the tritium endpoint method. To improve in sensitivity beyond the impending KATRIN experiment, Project 8 must address serious scaling issues to accommodate a sufficiently intense tritium source for statistical sensitivity, while also addressing systematic limitations of molecular tritium sources. The method of Cyclotron Radiation Emission Spectroscopy (CRES) introduces a more favorable scaling relation between the tritium source volume, density, and statistical sensitivity. We also address the technical challenges of the required *atomic* tritium source, which evades systematic issues associated with the molecular dynamics of tritium's more natural dimer state. Progress on both fronts, as well as plans for the future are presented.

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