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Project 8: Towards using Cyclotron Radiation Emission Spectroscopy of Tritium decay to measure the neutrino mass.

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Project 8 has demonstrated Cyclotron Radiation Emission Spectroscopy (CRES) as a novel technique for performing electron spectroscopy. Applying this method to highest energy electrons from tritium beta decay will lead to a direct neutrino mass measurement. A proof of this concept was performed with a waveguide detector utilizing monoenergetic 83mKr conversion electrons. The demonstrator has expanded our knowledge of rich spectral features in CRES signals. As a next step, we have upgraded our hardware to meet the requirements for a demonstration with tritium. Here I present both the hardware and analysis progress which will lead us to the first continuous spectrum measurement

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