

Abstract Submitted  
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**Calibrating the KATRIN tritium beta-decay experiment** BENJAMIN MONREAL, MIT, KATRIN COLLABORATION — The Karlsruhe Tritium Neutrino experiment (KATRIN) is a large tritium beta-decay experiment which will determine the mass of the electron neutrino with a sensitivity of  $m(\nu_e) < 0.2$  eV (90% CL). This measurement requires a high level of stability in all spectrometer systems, including the source, the electromagnetic filter, and the detector, as well as a detailed measurement of the scattering cross sections of electrons on molecular tritium. We will give an overview of the experiment, then discuss several sources of systematic error and the calibrations which are planned to reduce them. These include Am-Co detector stability monitors and spectrometer testing with  $^{83}\text{Kr}$ . In particular, we will discuss the pulsed electron gun that both calibrates the spectrometer transmission and measures the electron- $\text{T}_2$  scattering cross sections.

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