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Status of the KATRIN Experiment

Tuesday 14 May 2024 16:45 (15 minutes)

The Karlsruhe Tritium Neutrino (KATRIN) Experiment directly measures the neutrino mass-scale with a target sensitivity of 0.3 eV/c2 by determining the shape change in the molecular tritium beta spectrum near the endpoint. KATRIN makes this measurement by employing its Magnetic Adiabatic Collimation with Electrostatic (MAC-E) Filter process to measure the integrated energy spectrum of the betas coming from molecular tritium decay. KATRIN is currently operating and has published an electron neutrino mass limit of 0.8 eV/c2 (90% C.L.) from its first two neutrino mass campaigns. The results from its first five neutrino mass campaigns are on track to be released later this year. In this talk, I will explain the operation of KATRIN and the analysis being done to understand the systematics that impact the KATRIN neutrino mass results.

Mini Symposia (Invited Talks Only)

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