Karlsruher Institut für Technologie

Fakultät für Physik

Physikalisches Kolloquium

Themenänderung!

Guido Drexlin, KIT

»First Neutrino Mass Results from the KATRIN Experiment«

Einführung: Th. Müller

Abstract:
The international Karlsruhe Tritium Neutrino (KATRIN) experiment is targeted to measure the absolute mass scale of neutrinos with a sensitivity of 0.2 eV (90% CL) in a direct kinematic approach and to search for physics beyond the Standard Model. In the 70 m long complex setup at KIT, beta-decay electrons from a high-intensity gaseous molecular tritium source are guided adiabatically to a series of two electrostatic spectrometers for energy analysis. This allows to investigate the energy distribution of electrons close to the 18.6 keV beta-decay endpoint with unprecedented precision.

The talk will give an overview of the importance of neutrino masses in particle physics and cosmology and give details of the experimental setup before reporting on the first neutrino mass result from KATRIN from data taken in spring of this year. The talk will also give an outlook on the future perspectives of direct neutrino mass measurements in the coming years and beyond.

Freitag, 13.12.2019, 15:45 Uhr,

KIT, Campus Süd,
Otto-Lehmann-Hörsaal, Physik-Flachbau (Geb. 30.22).
Anschließend Nachsitzung.

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