



Contribution ID: 114

Type: Poster

Analysis of KATRIN Data Using Monte Carlo Propagation

The KATRIN experiment is designed to measure the effective electron anti-neutrino mass m_ν by investigating the energy spectrum of tritium β -decay. This poster presents one of the analysis strategies pursued by the collaboration which is based upon Monte Carlo propagation of uncertainties. It was already successfully applied to the first neutrino measurement campaign which took place in spring 2019. As a result, we derive an upper limit of $m_\nu < 1.1$ eV at 90 % confidence level using the sensitivity limit method of Lokhov and Tkachov. These results as well as a sterile neutrino search based on this first data set will be presented. Finally, we plan to discuss first results of the subsequent data taking phase in autumn 2019.

Mini-abstract

New KATRIN neutrino mass data is analysed using Monte Carlo propagation of uncertainty.

Experiment/Collaboration

KATRIN

Primary author: Mr KARL, Christian (Max Planck Institute for Physics)

Co-authors: Dr SLEZAK, Martin (Max Planck Institute for Physics); Dr MERTENS, Susanne (Max Planck Institute for Physics)

Presenter: Mr KARL, Christian (Max Planck Institute for Physics)

Session Classification: Poster Session 2