

# Results from the First Tritium campaign of KATRIN

## Authorship annotation

for the KATRIN collaboration

## Session and Location

Monday Session, Poster Wall #17 (Robert-Schumann-Room)

## Abstract content

The Karlsruhe Tritium Neutrino Experiment (KATRIN) will perform a direct, kinematics-based measurement of the neutrino mass with a sensitivity of  $200\text{ meV}$  ( $90\%$ , C.L.). The neutrino mass is obtained by investigating the shape of the spectrum of tritium  $\beta$ -decay electrons close to the endpoint at  $18.6\text{ keV}$  with a spectrometer of MAC-E filter type. To achieve the targeted sensitivity, the systematic uncertainties have to be carefully controlled. The main systematic effects are linked to the source and transport section of KATRIN.

The first tritium  $\beta$ -spectra obtained with KATRIN in May 2018 allow to investigate these source related effects, in particular in comparison with extensive model computations of the gas dynamics. Furthermore, these initial data permit to study the homogeneity and stability of the source.

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## Poster included in proceedings:

yes

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