

## The Electron Capture in $^{163}\text{Ho}$ experiment - ECHo

### Authorship annotation

for the ECHo Collaboration

### Session and Location

Monday Session, Poster Wall #22 (Robert-Schumann-Room)

### Abstract content

The present upper limit on the electron neutrino mass  $m(\nu_e)$  is still at 225 eV. The Electron Capture in  $^{163}\text{Ho}$  experiment, ECHo, is designed to investigate  $m(\nu_e)$  in the sub-eV region. In ECHo, high sensitivity on a finite  $m(\nu_e)$  will be reached by the analysis of the endpoint region in high statistics and high resolution calorimetrically measured  $^{163}\text{Ho}$  spectra. To perform this experiment, high purity  $^{163}\text{Ho}$  source will be enclosed in a large number of low temperature metallic magnetic micro-calorimeters which are readout using the microwave multiplexing technique. Thanks to the modular approach, the ECHo experiment is designed to be stepwise up-graded. The first on-going phase, ECHo-1k, is characterized by a  $^{163}\text{Ho}$  activity of about 1 kBq will allow for improving the limit on  $m(\nu_e)$  by more than one order of magnitude.

### Poster included in proceedings:

no

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**Session Classification :** Poster Session Monday

**Track Classification :** Poster (not participating in poster prize competition)