

Probing the neutrino mass with calorimetric electron capture spectroscopy: the HOLMES project

Authorship annotation

on behalf of the HOLMES Collaboration

Session and Location

Monday Session, Poster Wall #20 (Robert-Schumann-Room)

Abstract content

HOLMES is a experiment with the aim to directly measure the neutrino mass. HOLMES will perform a calorimetric measurement of the energy released in the Electron Capture decay of the artificial isotope ^{163}Ho . The most suitable detectors for this type of measurement are low temperature thermal detectors. HOLMES will deploy 1000 detectors of low temperature microcalorimeters with implanted ^{163}Ho nuclei with the aim to extract information on neutrino mass with a sensitivity below 2 eV. As soon as the embedding technique will be optimized a first sub-array will provide useful data about the EC decay of ^{163}Ho together with a first limit on neutrino mass. In this contribution the current status of the main tasks are reported, with detailed reference to the TES array design and engineering, the isotope preparation and embedding, and the development of a high speed microwave multiplexing and read-out system

Poster included in proceedings:

yes

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Session Classification : Poster Session Monday

Track Classification : Poster (participating in poster prize competition)