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Sterile neutrino in keV region in Tritium decay by Trotsk nu-vass

We present status and the first results of precision measurements of tritium beta-decay spectrum in the electron energy range 16-18.6 keV by the Troitsk nu-mass experiment. The goal is to find distortions which may be caused by the existence of a heavy sterile neutrinos. A signature would correspond to a kink in the spectrum with characteristic shape and end point shifted by the value of a heavy neutrino mass. We set a new upper limits to the neutrino mixing matrix element U^2_{e4} which improve existing limits by a factor from 2 to 5 in the mass range 0.1-2 keV.

Authorship annotation

for Troitsk nu-mass

Session and Location

Monday Session, Poster Wall #128 (Hölderlin-Room)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)