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Neutrino mass experiments with Ho

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Neutrino oscillation experiments have proven that neutrinos are massive particles, nevertheless the assessment of their absolute mass scale is still an outstanding challenge in today particle physics and cosmology. The experiments dedicated to effective electron-neutrino mass determination are the ones based on the study of nuclear processes involving neutrino, like single beta decay and electron capture decay. The end-point measurement of ^{163}Ho EC is an appealing alternative respect to the single beta decay because fewer nuclei are needed and it is a self-calibrating measurement. Although the calorimetric measurement of the energy released in the EC decay of ^{163}Ho was proposed in 1982 by A. Rujula and M. Lusignoli, only recent detector technological progresses have allowed to design a sensitive experiment. Nowadays the two experiments dedicated to this delicate measurement are ECHO and HOLMES. This contribution gives an outlook for both experiments underling their technical challenges and perspectives.

Summary

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