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The PTOLEMY experiment, a path from a dream to a challenging project

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A paper wrote by the speaker together with two colleagues on 2007 restarted the discussion on the topic of relic neutrino detection after many year of silence on the subject. In the paper a process that makes possible the detection of neutrinos of vanishing energy was discussed and its cross sections with beta unstable elements have been evaluated. After this paper it took 10 years to get to conceive a proposal on a possible experiment. Today the PTOLEMY collaboration is developing an R&D program aiming at showing the feasibility to detect Cosmological Relic Neutrinos.
In the talks the highlights of the phenomenology paper will be presented, and then a detailed discussion on the detector will go trough all steps required for the
measurement. The PTOLEMY collaboration is working also on a new principle of the electrostatic selection of electrons in the desired energy range.
The filter, whose details have been presented in a recent publication of the collaboration, will be discussed extensively.

Collaboration name

PTOLEMY

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