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Search for Neutrinoless Double-Beta Decay of Xe-136 with the PandaX-4T Detector

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The search for neutrinoless double-beta decay (NLDBD) provides insights to the Majorana or Dirac nature of neutrinos, as well as their mass. PandaX-4T experiment, located at the China Jinping Underground Laboratory, uses a dual-phase xenon time projection chamber with 3.7-tonne natural xenon (8.9% Xe-136 abundance) in the sensitive volume. In this talk, I will present the optimization of data processing and background modeling in the MeV energy region of PandaX-4T, and report the latest results of Xe-136 NLDBD search based on dataset from the commissioning run and the first science run. It represents the most stringent constraint from a natural xenon detector to date.

Collaboration you are representing

PandaX

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