Contribution ID: **67** Type: **01** - 分会报告

Search for Solar pp Neutrinos in PandaX-4T

Thursday, 9 May 2024 14:40 (20 minutes)

The precise measurement of solar neutrino flux is essential for the Standard Solar Model (SSM) and neutrino physics. The proton-proton (pp) fusion chain dominates the neutrino production in the Sun, and pp neutrinos contribute roughly 91% of the solar neutrino flux. PandaX-4T, an experiment located in China Jinping underground Laboratory, aims to detect dark matter and astrophysical neutrinos using a large-scale dual-phase xenon TPC. In this talk, using the 0.63 tonne×year exposure of PandaX-4T, the first search for solar pp neutrinos below 165 keV electron recoil energy with a natural xenon detector will be presented.

Collaboration (if any)

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Session Classification: 04-3 - 太阳、地球中微子

Track Classification: 04 - 中微子实验: 04-3 - 太阳、地球中微子