Contribution ID: **148** Type: **Talk**

Exploring New Physics with PandaX-4T Low Energy Electronic Recoil Data

Wednesday 26 March 2025 14:45 (15 minutes)

PandaX-4T is a dual-phase liquid xenon (LXe) time projection chamber (TPC) detector that operates in China Jinping Underground Laboratories (CJPL). Searches for novel electronic recoil signals (NERS) from solar axions, axion-like particles (ALPs), dark photons, neutrinos with an enhanced magnetic moment and absorption of fermionic dark matter have attracted increasing attention in PandaX-4T and similar experiments. The observation of NERS could provide evidence of beyond-the-Standard-Model physics and the Majorana nature of neutrinos. We searched NERS with both run-0 and run-1 low-energy electronic recoil data of PandaX-4T.

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Session Classification: SESSION 12: Direct Detection: status of Light DM detection (CHAIR: Tommaso Treu -UCLA)