

The PandaX-4T Dark Matter Experiment

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The PandaX-4T is a dark matter direct detection experiment with a dual-phase xenon detector. It is located at Jinping underground laboratory in Sichuan, China. In the 2.8-tonne fiducial mass and energy region of interest (1-10 keV), the total electron recoil and nuclear recoil backgrounds are supposed to be $(4.9 \pm 0.5) \times 10^{-2}$ mDRU and $(2.8 \pm 0.5) \times 10^{-4}$ mDRU. With an exposure of 5.6 ton-years, the expected sensitivity of PandaX-4T could reach a spin-independent dark matter-nucleon cross section of 6×10^{-48} cm² at a dark matter mass of 40 GeV/c². An overview of detector design, background control and current status will be presented in this talk.

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