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The PandaX Dark Matter Experiment

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The PandaX Collaboration has designed and constructed dual-phase xenon detectors to search for Weakly Interacting Massive Particles (WIMPs), which is a leading dark matter candidate. We have reported the first 17.4 live-day and full 80.1 live-day exposure results of the first stage of the PandaX experiment (PandaX-I) located in China JinPing Underground Laboratory (CJPL). With a fiducial mass of 54.0kg liquid xenon, no dark matter particle event was found above the expected background. Our results disfavor the interpretation of previously reported positive low-mass WIMP signals and set a stringent bound in this region. The second stage of the PandaX experiment (PandaX-II) with 500-kg sensitive target mass is under preparation in CJPL. With larger sensitive mass and lower background materials for the detector, the PandaX-II detector is expected to push the dark matter sensitivity beyond the current best limit in a wide range of WIMP masses.

Oral or Poster Presentation

Oral

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