

Status and Prospects of CDEX-10

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There is compelling evidence that about one-quarter of the energy density of the Universe is made up of Dark Matter, the identification and study of which are among the most important goals in basic research. The China Dark Matter Experiment (CDEX) pursues direct searches of light Weakly Interacting Massive Particles (WIMPs) at the China Jinping Underground Laboratory (CJPL), which is the deepest operating laboratory for astroparticle research in the world. Recent results from a prototype CDEX-1 pPCGe (p-type Point Contact Germanium) detector and CDEX-10 array detector system are reported. The CDEX-10 experiment with a PCGe array of 10 kg target mass range is still taking data. The CDEX program evolves into the targets of “CDEX-1T Experiment” with ton-scale germanium detector arrays, which will be composed of thousands of kg-mass prototype germanium detectors and further contribute to the studies of Dark Matter search and Neutrinoless Double Beta Decay. The key technologies including HPGe detector fabrication, crystal growth and so on has been pursued. A new large space in CJPL-II will be ready by the end of 2018 for CDEX experiment.

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