

The recent status and prospect of CDEX experiment and China Jinping underground laboratory (presented by S.T. Lin)

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CDEX collaboration has reported on a new experimental limit for WIMP dark matter using a 994 g p-type point-contact germanium (PPCGe) detector based on the China Jinping underground Laboratory (CJPL). The energy threshold achieved by the PPCGe detector was 400 eVee. According to the about 14.6 day \times kg live data, we placed the spin-independent cross-section $N = 1.75 \times 10^{-40}$ cm² at 90% confidence level on the spin-independent cross-section at WIMP mass of 7 GeV before differentiating bulk signals from the surface backgrounds. CDEX 10kg-scale experiment based on 3-element Ge detector array and LAr cooling and active shielding system has also been setup for ground testing now. The CDEX-10 system will be install and run in 2014 at CJPL.

CDEX experiment took place in the China Jin Ping underground Laboratory (CJPL) which was established at the end of 2010. CJPL has the deepest 2400 m rock overburden of all the operational underground laboratories for particle physics. Thus the cosmic-ray flux in CJPL is down to 61.7/year/m², and this makes CJPL a very good site for ultra-low background experiments such as dark matter search, double beta decay, and so on. Tsinghua University collaborating with the Yalong River Hydropower Development Company of China has started to plan the CJPL phase-II design and construction. CJPL-II will has about 10000 m³ of space which is about 20 times larger than the recent CJPL-I. The large space of CJPL-II will house CDEX-1T experiment and other possible ultra-low background experiments in the world.

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