

# Status and prospects of CDEX experiment

*Friday 31 March 2023 11:45 (15 minutes)*

CDEX experiment at the China Jinping Underground Laboratory (CJPL) is a germanium detector experiment located at Sichuan of China, which targets for Weakly interacting massive particles (WIMP) dark matter search and neutrinoless double beta decay search. In this report, we will describe current status and future plans of CDEX experiment. In particular we will present various results based on analysis from 1-kg mass p-type point-contact germanium detector of the CDEX-1B experiment and CDEX-10 experiment. These results include WIMP-nucleus with Migdal effect and WIMP-electrons interactions with earth scattering correction, as well as other analysis from various dark sectors. Efforts ongoing toward to the next phase CDEX-50 for dark matter search and the projected sensitivities will be presented. The upgrades at CJPL-II toward ton scale germanium experiments will be also discussed.

## Reference:

H. Jiang, et. al., Phys. Rev. Lett. 120, 241301 (2018).  
Z. Z. Liu, et. al., Phys. Rev. Lett. 123, 161301 (2019).  
Z. She, et. al., Phys. Rev. Lett. 124, 111301 (2020).  
Y. Wang, et. al., Phys. Rev. D 101, 052003 (2020).  
Z. Z. Liu, et. al., Phys. Rev. D 105, 052005 (2022).  
R. Xu, et. al., Phys. Rev. D 106, 052008 (2022).  
Z. Y. Zhang, et. al., Phys. Rev. Lett. 129, 221301 (2022).  
W. H. Dai, et. al., Phys. Rev. Lett. 129, 221802 (2022).  
X. P. Geng, et. al., arXiv:2210.01604.  
Z. H. Zhang, et. al., arXiv:2211.07477.  
W. H. Dai, et. al., Phys. Rev. D 106, 032012 (2022)

**Author:** Dr LI, Hau-Bin (Institute of Physics, Academia Sinica, Taipei, Taiwan)

**Presenter:** Dr LI, Hau-Bin (Institute of Physics, Academia Sinica, Taipei, Taiwan)

**Session Classification:** SESSION 11: Direct Detection: status of crystalline WIMP detectors (CHAIR: Bernard Sadoulet - Berkeley)

**Track Classification:** Non-directional direct dark matter detection