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Low-Mass Dark Matter Searches with Sub-keV Germanium Detectors

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Germanium detectors with sub-keV sensitivities can probe low-mass WIMP Dark Matter. This experimental approach is pursued at the Kuo-Sheng Neutrino Laboratory (KSNL) in Taiwan and at the China Jinping Underground Laboratory (CJPL) in China via the TEXONO and CDEX programs, respectively. The highlights of R&D efforts on point-contact germanium detectors and in particular the differentiation of surface and bulk events by pulse shape analysis [1] will be described. The latest results on WIMP-nucleon scattering cross-sections [2] will be presented. Some of the allowed parameter space implied by other experiments are probed and excluded. Future prospects will be discussed.

1. H.B. Li et al., *Astropart. Phys.* 56, 1 (2014)
2. H.B. Li et al., *Phys. Rev. Lett.* 110, 261301 (2013) ; W. Zhao et al. *Phys. Rev. D* 88, 052004 (2013).

Summary

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