

Limits on spin-independent couplings of WIMP dark matter with a p-type point-contact germanium detector

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“We report new limits on spin-independent WIMP-nucleon interaction cross-section using 39.5 kg-days of data taken with a p-type point-contact germanium detector of 840 g fiducial mass at the Kuo-Sheng Reactor Neutrino Laboratory. Crucial to this study is the understanding of the selection procedures and, in particular, the bulk-surface events differentiation at the sub-keV range. The signal-retaining and background-rejecting efficiencies were measured with calibration gamma sources and a novel n-type point-contact germanium detector. Part of the parameter space in cross-section versus WIMP-mass implied by CoGeNT and other experiments is probed and excluded.

Ref:

H.B. Li et al., TEXONO Coll., arXiv:1303.0925 ; Phys. Rev. Lett., in press (2013).”

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