

The DarkSide-LowMass search for dark matter below $10 \text{ GeV}/c^2$

Wednesday 26 March 2025 14:00 (15 minutes)

DarkSide-LowMass is a tonne-scale liquid argon time projection chamber (LArTPC) being planned by the Global Argon Dark Matter Collaboration (GADMC) to search for WIMP-like dark matter with masses below $10 \text{ GeV}/c^2$, achieving low thresholds with a design optimized for an electron-counting analysis. Building upon the success of DarkSide-50's light dark matter search, DarkSide-LowMass will aim to achieve sensitivity to the solar neutrino floor with a tonne-year exposure. This talk will present sensitivity projections for the DarkSide-LowMass experiment, based on simulations of expected backgrounds, and it will discuss challenges to optimizing sensitivity.

Author: WESTERDALE, Shawn Scott (University of California Riverside (US))

Presenter: WESTERDALE, Shawn Scott (University of California Riverside (US))

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