

Abstract Submitted
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Dark matter search at SNOLAB with DEAP-1 and DEAP-3600

MARK BOULAY, BEI CAI, Queen's University, Canada, DEAP/CLEAN COLLABORATION — The DEAP/CLEAN experiment will search for WIMPs (Weakly Interacting Massive Particles) through elastic scattering on liquid argon. The first generation detector (DEAP-1) with a 7-kg liquid argon target mass is currently operating underground at SNOLAB. An overview of that experiment, including pulse-shape discrimination (PSD) results for reducing γ/β backgrounds, will be presented. A larger detector (DEAP-3600) containing a total of 3600 kg of liquid argon will allow a sensitivity to spin-independent scattering on nucleons of 10^{-46} cm², several hundred times more sensitive than current dark matter experiments. Construction activities are planned for SNOLAB in 2009, with data taking planned to commence in 2011. The design and construction status of DEAP-3600 will be outlined.

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