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Dark Matter Search at SNOLAB with DEAP-1 and DEAP/CLEAN-3600

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The DEAP/CLEAN experiment will search for dark matter particle interactions on liquid argon at SNOLAB, located in an active nickel mine 2 km underground in Sudbury, Canada. The first generation detector (DEAP-1) with a 7-kg liquid argon target mass is currently operating underground at SNOLAB. It has demonstrated a pulse-shape discrimination (PSD) of $6x10^{-8}$ for reducing γ/βbackgrounds, and is currently acquiring data for a dark matter search and improved PSD demonstration at SNOLAB. A larger detector (DEAP/CLEAN-3600) containing a total of 3600 kg of liquid argon is being designed, with a target sensitivity to spin-independent scattering on nucleons of 10^{-46} cm^2, several hundred times more sensitive than current dark matter searches

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