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Status and recent results from the DEAP-3600 Experiment

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The true nature of dark matter remains a mystery, and uncovering its origin in the Universe is one of the foremost challenges in physics. Direct detection efforts focus on searching for interactions between weakly interacting massive particles (WIMP), one of favored dark matter candidates, and ordinary matter. Experiments are located in deep underground laboratories, where cosmic ray backgrounds are minimized. Among the most promising detection methods is the use of a substantial volume of liquid argon as a target material. In this talk, I will present the design and operational status of the liquid argon single-phase DEAP-3600 Experiment, which has been taking data 2 km underground at SNOLAB, (Sudbury, Canada) since 2016. Further on, I will talk about recent results, including an overview of the WIMP search, the direct measurement of the Ar-39 half-life and the first observation of neutrino absorption on argon.

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