## XeSAT2022 - International Workshop on Applications of Noble Gas Xenon to Science and Technology



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## Status of DEAP-3600 and development of the ARGO dark matter experiment

The direct detection of dark matter particle interactions is one of the most important topics in particle physics - a positive measurement would provide unambiguous evidence of the particle nature of dark matter in the Universe. The DEAP-3600 dark matter search experiment contains 3.3 tonnes of active liquid argon and has to date resulted in the most sensitive search for high-mass WIMPs using argon [1] and the first search with sensitivity to Planck-scale dark matter [2]. In this talk we will present the current status of the DEAP-3600 experiment at SNOLAB, currently undergoing upgrades in advance of a new liquid argon data collection run. We will also present status of R&D towards an ultimate detector that will employ a 300-tonne sensitive target of liquid argon, ARGO, being developed within the Global Argon Dark Matter Collaboration.

[1] R. Ajaj et al (DEAP Collaboration), Phys. Rev. D 100, 022004 (2019)

[2] P. Adhikari et al (DEAP Collaboration), Phys. Rev. Lett. 128, 011801 (2022)

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