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Searching for Dark Matter with Liquid Argon: DEAP-3600, DarkSide-20k, and Argo

Thursday, 9 June 2022 09:30 (15 minutes)

This overview talk will feature the latest results from DEAP-3600, including world-leading constraints on Planck-scale mass dark matter. Located at SNOLAB, 2 km underground in Sudbury, Ontario, the DEAP-3600 experiment consists of 3.3 tonnes of liquid argon in a large acrylic cryostat instrumented with 255 photomultiplier tubes. The broad physics programme of DEAP-3600 will be presented, including measurements and searches for new physics.

We present the continuing importance of liquid-argon detectors for dark matter and describe the DarkSide-20k detector under development at the Gran Sasso Laboratory in Italy, and Argo, a future multi-hundred tonne detector to be constructed at SNOLAB.

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