

## Darkside Status and Prospects

*Thursday, 31 May 2018 16:30 (20 minutes)*

DarkSide uses dual-phase Liquid Argon Time Projection Chambers to search for WIMP dark matter. The talk will present the latest result from the current experiment, DarkSide-50, running since mid 2015 using a 50-kg-active-mass TPC, filled with argon from an underground source. The next stage of the DarkSide program will be a new generation experiment involving a global collaboration from all the current Argon based experiments. DarkSide-20k, based on a 20-tonne fiducial mass TPC with SiPM based photosensors, is designed to have a background well below that from coherent scattering of solar and atmospheric neutrinos. Like its predecessor, DarkSide-20k will be housed at the Gran Sasso (LNGS) underground laboratory, and it is expected to attain a WIMP-nucleon cross section of  $10^{-47}$  cm<sup>2</sup> for a WIMP mass of 1 TeV/c<sup>2</sup> in a 5 year run.

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### Collaboration name

DarkSide

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**Session Classification:** Dark Matter

**Track Classification:** DM