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## Recent physics results from DarkSide-50

*Friday, 7 June 2019 11:10 (30 minutes)*

DarkSide uses dual-phase Liquid Argon Time Projection Chambers (TPC) to search for WIMP dark matter. The talk will present the latest result from the current experiment, DarkSide-50, which has been running since mid-2015 and uses 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  $0^{-47}\text{cm}^2$  for a WIMP mass of  $1\text{TeV}/c^2$  in a 5-year run.

### Collaboration name

DarkSide Collaboration

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