

Dark matter search from DarkSide

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DarkSide-50 (DS-50) at Gran Sasso underground laboratory, Italy, is a direct dark matter search experiment based on a TPC with liquid argon from underground sources. The DS-50 TPC, with 50 kg of active argon and a fiducial mass of ~ 37 kg, is installed inside an active neutron veto based on a boron-loaded organic scintillator. The neutron veto is built inside a water cherenkov muon veto.

DS-50 has been taking data since Nov 2013, collecting 47 days livetime of data with atmospheric argon. Also, recently DS-50 commissioned liquid Ar from underground and measured the level of radioactive ^{39}Ar . The first physics result from DarkSide as well as underground argon performance will be presented. This is the most sensitive dark matter search performed with an argon target.

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