

# A Tonne-scale Demonstrator of The DarkSide-20k Inner Detector

*Thursday 28 August 2025 17:00 (20 minutes)*

The DarkSide-20k experiment represents the latest phase of the Global Argon Dark Matter Collaboration, leveraging expertise from previous argon-based detectors. This effort is focused on constructing a dual-phase liquid argon time projection chamber (LAr-TPC) that will deploy 100 tonnes of underground argon outfitted with silicon photomultiplier (SiPM) arrays for precise light detection. Currently in the construction phase, the external cryostat is being installed at the Laboratori Nazionali del Gran Sasso (LNGS) in Italy. This presentation will provide an overview of the DarkSide TPC, highlight its key design elements and provide results from ongoing prototypes to validate the design.

## Collaboration you are representing

GADMC

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