



Contribution ID: 46

Type: **Presentation**

## A large facility for photosensors test at cryogenic temperature

*Thursday, 22 September 2022 12:10 (15 minutes)*

Silicon based photo-detectors are innovative light collecting devices and represent a successful technology in the field of direct dark matter search detectors based on liquified noble gases.

The DarkSide collaboration started a dedicated development and customization of SiPM technology for its specific needs resulting in the design, production and assembly of a large surface module of  $20 \times 20 \text{ cm}^2$  to be used as PhotoDetectionUnit (PDU) in the DarkSide-20k experiment.

Production of a large number of such devices, as needed to cover about  $15 \text{ m}^2$  of active surface inside the DarkSide-20k detector, requires a robust testing and validation process.

In order to match this requirement a dedicated test facility for the PDU tests was designed, integrated and commissioned at INFN Naples laboratory. The first commissioning test was successfully performed in 2021. Since then a number of testing campaigns were performed.

Results of these tests as well as a detailed description of the facility will be presented and discussed. Possible upgrades on the system will be also reported.

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**Session Classification:** Photosensors

**Track Classification:** Light/charge readout (PMT, SiPM, WLS, electronics etc.)