

## SiPM at Cryogenic Temperatures for Dark Matter Searches

*Wednesday 26 July 2017 16:30 (15 minutes)*

DarkSide-20k is a proposed 20 tonne fiducial mass liquid argon TPC that will perform an instrumental background-free search for WIMP dark matter. The TPC will be outfitted with more than 125,000 silicon photomultipliers (SiPM) grouped into 5210 single-channel,  $25\text{ cm}^2$  photosensors that are sensitive to single photoelectrons. We will present the performance of the photosensor and associated low-noise electronics at liquid argon temperature and discuss the strategy for scaling up production for DarkSide-20k.

**Author:** GIOVANETTI, Graham (Princeton)

**Presenter:** GIOVANETTI, Graham (Princeton)

**Session Classification:** Labs and Low Background

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