Contribution ID: **82** Type: **Oral**

Development of photosensor and inner detector in DarkSide-20k experiment

Thursday, 5 December 2019 16:50 (20 minutes)

DarkSide-20k experiment utilizes 20 tonnes of 39Ar-depleted argon as fiducial mass in a dual-phase Time Projection Chamber (TPC) to search for dark matter signals. In this talk, I will present the development of Silicon Photomultipliers (SiPMs) based photosensors, specifically for liquid argon detector. I will also present the design and prototyping of the inner detector, with an emphasis on the program ongoing at CERN towards the Darkside-20k inner detector cryogenics construction and test, and the operation of a series of prototype detectors for the finalization of the DarkSide-20k TPC design.

Presenter: XIAO, Xiang (University of California Los Angeles (US))

Session Classification: Parallel

Track Classification: Dark matter