

# Current status and the upgrade of COSINE-100 and DM-Ice experiments

*Thursday, May 12, 2022 5:20 PM (20 minutes)*

COSINE-100 is the joint effort between KIMS and DM-Ice. It is a direct-detection dark matter search experiment with the goal of testing DAMA/LIBRA's claim of an annual modulation, using the same NaI(Tl) target. COSINE-100 experiment has been collecting physics data since September 2016 at the Yangyang underground laboratory, South Korea. It consists of ~106 kg of low background NaI(Tl) detectors submerged in a 2 tons liquid scintillator veto counter. DM-Ice17 consists of two prototype NaI(Tl) detectors deployed in the Southern hemisphere under Antarctic ice and operating continuously since June 2011. In this talk, I present the status of COSINE-100, including the recent results on WIMP and annual modulation search, and prospects for the next phase, COSINE-200. In addition, I will review ongoing R&D projects for, and the future phases of the DM-Ice experiment at the south pole.

**Primary author:** Dr ADHIKARI, Govinda (Yale University)

**Presenter:** Dr ADHIKARI, Govinda (Yale University)

**Session Classification:** Dark Matter - Parallel II

**Track Classification:** Dark Matter