

Status of COSINE-100

Monday, 12 June 2023 14:00 (20 minutes)

The DAMA/LIBRA collaboration has been observing an annual modulation signal expected to be caused by the dark matter interaction with their NaI(Tl) crystal detectors. There have been many global efforts to test the signal, and COSINE-100 is an experiment to verify it also using NaI(Tl) detectors. Data have been reliably acquired for 6.5 years since September 2016 at the Yangyang Underground Laboratory. The experiment has paused since March this year for a detector upgrade and move to the recently completed Yemilab in Jeongseon. The analysis of the six years of data is nearing completion, and we have achieved better background modeling and event selection than before. The COSINE collaboration is also focusing on the detector upgrade, and we expect an effective increase in target mass and an improvement in light yield. The deeper underground laboratory and the around -30 degrees Celsius environment will also likely lead to improvements. In this presentation, the status of the analysis so far and the installation plans for the next phase will be presented, along with the goals of the COSINE collaboration after the validation of DAMA/LIBRA, including several feasibility tests.

Secondary category for the parallel session (optional)

Dark Matter Physics

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Track Classification: Parallel Sessions: Dark Matter Physics