Contribution ID: **31** Type: **Talk**

Status and prospects of the Hyper-Kamiokande Experiment

Thursday 23 October 2025 11:50 (20 minutes)

Water Cherenkov detectors have demonstrated exceptional sensitivity in neutrino observation over the years. The Hyper-Kamiokande (Hyper-K), the third generation of underground detectors in Japan, represents a significant advancement in both sensitivity and scalability. Hyper-K will act as the far detector for a long-baseline neutrino oscillation experiment using the upgraded 1.3 MW J-PARC muon neutrino/antineutrino beam. In addition, it will be capable of observing proton decays, atmospheric neutrinos, and neutrinos from astronomical sources. Hyper-K features a cylindrical tank measuring 71 meters in depth and 68 meters in diameter. Its fiducial volume, holding a mass of 186 kilotons, will be equipped with an array of 20,000 photomultiplier tubes (20-inch PMTs) alongside 800 multi-PMT modules (each housing nineteen 3-inch PMTs). Excavation and tests of the detector are currently undergoing, and the beginning of its operation is scheduled for 2028. Along this talk, the research program and recent developments of the Hyper-K experiment will be presented.

Author: ALMAZAN, Helena (Donostia International Physics Center (DIPC) (ES))

Presenter: ALMAZAN, Helena (Donostia International Physics Center (DIPC) (ES))

Session Classification: Plenary session

Track Classification: Neutrinos