Contribution ID : **337** Type : **Oral talk**

Preliminary Study on Prototype Strings for Baikal-HUNT

Friday, 30 October 2026 11:45 (15)

The High-energy Underwater Neutrino Telescope (HUNT) project aims to identify astrophysical neutrino sources, particularly those associated with ultra-high-energy gamma-ray emission observed by LHAASO. We present the status of its prototype program in Lake Baikal, covering deployment campaigns and preliminary results from 2024 to 2026. Deployments progressed from 12 optical modules with 20-inch photomultiplier tubes in 2024 to 24 complete optical modules in 2025, followed by a second full prototype string in 2026. These campaigns enabled studies of optical-module response, depth-dependent counting rates, and underwater hardware reliability. We report preliminary analyses of muon-like events and joint event studies with Baikal-GVD. Progress in LED timing calibration and optical-module positioning is also presented. These results provide technical input and operational experience for further development of Baikal-HUNT and support future joint observations with Baikal-GVD.

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Session Classification : Astroparticle physics

Track Classification : Astroparticle physics