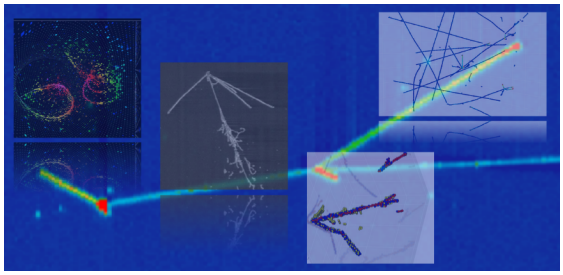

Contribution ID: **30** Type: **Long talk (25min. + 10min. Q/A)**

Machine learning at Baikal-GVD

Tuesday 28 October 2025 10:20 (25 minutes)

Baikal-GVD is a large-scale underwater neutrino telescope in Lake Baikal designed to study the properties of high-energy neutrinos. In this talk, I will present the neural-network–based data processing chain currently under development for Baikal-GVD data analysis. This pipeline addresses the following goals: suppression of extensive air shower background, rejection of optical module activations caused by natural water luminescence, and reconstruction of neutrino energy and arrival direction. The developed methods improve Baikal-GVD's reconstruction accuracy and accelerate data processing. I will also discuss the challenges, including importance of domain adaptation, and outline directions for future developments.

Presenter: KHARUK, Ivan

Session Classification: Experiments - Cherenkov-based Neutrino Telescopes