

A technique of the calibration of optical modules inside the volume of Cherenkov water detector NEVOD

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In recent decades, Cherenkov water (ice) telescopes such as IceCube, Baikal-GVD and KM3Net are being actively developed for research in the field of neutrino physics and astrophysics. Optical modules are the main detecting elements of such neutrino telescopes.

Calibration of optical modules of different neutrino telescopes under the same conditions is one of the important experimental problems. Such a calibration can be carried out at the Experimental complex NEVOD. Scientific installations of the complex make it possible to identify tracks of single near-vertical and near-horizontal muons, as well as to detect events with large energy deposits and to study the response of the optical modules being tested to these events.

In the report, we discuss the software and hardware complex for calibrating optical modules of Cherenkov neutrino telescopes at the Experimental complex NEVOD, as well as the possibility of its implementation for studying the characteristics of the Baikal-GVD optical module.

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