

Deep-underwater neutrino telescope Baikal-GVD

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The Baikal-GVD neutrino telescope is a water Cherenkov detector with a volume of 1 cubic kilometer constructed in Lake Baikal for the study of natural fluxes of high-energy neutrinos. Since April 2022, the telescope has been operating in a configuration with 10 clusters consisting of 8 strings of deep-sea optical modules (OM) each. The total number of OM, based on the photomultipliers R7081-100 with a photocathode with a diameter of 10 inches, is 2916. Each cluster is an autonomous independent neutrino telescope, which makes it possible to conduct physical research at all stages of the construction of the Baikal-GVD telescope. Currently Baikal-GVD is the largest neutrino telescope in the Northern Hemisphere. When analyzing the data obtained during the operation of the detector in the configurations of 2019, 2020 and 2021, the first candidates for events initiated by high-energy neutrinos of astrophysical nature, were identified. The Baikal-GVD detector is included in the international multichannel notification systems, in order to search for and further study transient astrophysical sources by methods of multi-wavelength and multi-messenger astronomy.

The speaker is a student or young scientist

No

Section

1. Neutrino physics and nuclear astrophysics

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