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High-energy neutrino astronomy and the Baikal-GVD neutrino telescope

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Neutrino astronomy offers a novel view of the non-thermal Universe, complementary to other astronomical messengers. The field has seen rapid progress in recent years, including the first detection of astrophysical neutrinos in the TeV-PeV energy range by IceCube and first identified extragalactic neutrino source (TXS 0506+056). Further discoveries are aimed for with new cubic-kilometer telescopes in the Northern hemisphere: Baikal-GVD, in lake Baikal, and KM3NeT-ARCA, in the Mediterranean sea. The construction of Baikal-GVD proceeds as planned; the detector currently includes over 2000 optical modules arranged on 56 strings, providing an effective volume of 0.35 km^3 . In this talk we will review the scientific case for Baikal-GVD, construction plan, and first results from the partially built experiment.

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