

ANTARES - Baikal GVD Alerts Analysis

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ANTARES and Baikal-GVD are both Cherenkov neutrino telescopes located in the Northern Hemisphere. As a consequence, their fields of view overlap allowing for a combined study of the sky. ANTARES sends alerts after a fast on-line analysis based on energy and reconstruction direction of track-like events. From December of 2018 up to the beginning of 2021, Baikal-GVD received 38 ANTARES alerts, and followed up a total of 32.

No prompt coincidence was found. However, a search into the Baikal-GVD cascade sample showed some events falling within an angular distance of less than 5° for three of the ANTARES alerts in a time span of 48 hours. The 4.5° angular resolution of Baikal-GVD allows for the possibility of these events to be spatially correlated, which makes them of special interest.

A dedicated offline analysis based on the full ANTARES data sample has been started to search for additional coincident tracks and cascades at a 3σ significance. With this contribution we present the final results on the offline analysis of the three ANTARES alerts: limits on the astrophysical neutrino fluency as obtained by this analysis are reported.

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Experimental Results

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