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Search for a diffuse cosmic neutrino flux with ANTARES using track and cascade events

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The ANTARES neutrino telescope, taking data in its final configuration since 2008 at the bottom of the Mediterranean Sea, has since then contributed to the searches for high-energy neutrino sources. ANTARES has also been able to set constraints on the cosmic neutrino flux.

The ANTARES sensitivity for a diffuse neutrino flux with six years of data taking is close to the level of the cosmic flux measured by the IceCube observatory.

In this work, prior ANTARES searches for the diffuse events from track-like charged-current muon neutrinos as well as cascade-like interaction from all neutrino flavours are integrated into an new comprehensive all-flavour search. The method employs a multivariate analysis approach on six years of ANTARES data.

Collaboration

ANTARES

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