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Neutrino point source search including cascade events with the ANTARES neutrino telescope

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ANTARES is the largest neutrino telescope in the Northern Hemisphere. It has been taking data since 2007. One of the prime objectives is the detection and identification of cosmic neutrino sources in the TeV to PeV energy regime. ANTARES has established excellent pointing resolution for muon neutrinos (0.4 deg). Recently, we achieved good pointing capabilities also for contained cascade events (~2 deg), which opens up the possibility for all-flavour cosmic point source searches. Together with its geographical location, this makes ANTARES an excellent/competing tool to test for the presence of cosmic sources in the Southern Hemisphere, including the area around the Galactic Centre, where IceCube reports a slight excess.

In this contribution, we briefly discuss the method to measure the shower energy and direction, which yields degree-level resolutions. We will also present the latest time-integrated point source search results, which incorporate cascade events alongside the muon-neutrinos, and the impact on the interpretation of the IceCube signal.

Collaboration

ANTARES

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