XX International Workshop on Neutrino Telescopes



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Overview of ANTARES, the first Mediterranean Sea telescope

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The ANTARES neutrino telescope was located in the Mediterranean Sea, not far from Toulon (France). It was operational from 2007 to 2022, before being dismantled. Its instrumented volumeof 0.01 km³ equipped with photomultipliers made it possible to detect neutrinos with energy from some GeV to PeV. The location of ANTARES allows for an advantageous view of the Southern sky in the search of Galactic neutrino sources. ANTARES has searched for a diffuse flux or individual sources of astrophysical neutrinos produced in cosmic-ray interactions, and also for the presence of dark matter in massive celestial objects from the annihilation or decay of dark matter into neutrinos. Furthermore, ANTARES has been involved in a multi-messenger program which included searching for neutrinos in coincidence with promising transient astrophysical events, as well as triggering electromagnetic follow-up observations of interesting neutrino candidates by sending alert messages to the astronomical community. ANTARES data allowed to study other topics, such as the search for relic massive magnetic monopoles and nuclearites, as well as the study of atmospheric neutrinos and neutrino oscillations. In this talk, the latest and principal ANTARES results, which cover the fields mentioned above, will be presented.

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