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Overview of Results from the ANTARES Neutrino Telescope

Friday, October 3, 2025 12:00 PM (25 minutes)

ANTARES was an underwater neutrino telescope operating in the Mediterranean, structured as a photomultiplier array of 12 lines that instrumented a 0.01 km^3 volume of water. It recorded data for about 15 years until its decommissioning in 2022, transferring its legacy to KM3NeT. ANTARES was primarily designed for neutrino astronomy, reaching a sub-degree angular resolution and engaging in the search for sources of extraterrestrial neutrinos. It participated in multi-messenger networking and in the search for an astrophysical diffuse component in the neutrino energy spectrum, to investigate particle acceleration mechanisms. Alongside astronomy, ANTARES also performed measurement of flavour oscillations in atmospheric neutrinos and related effects such as non-standard interactions, sterile neutrinos and neutrino decay. ANTARES also searched for neutrinos from annihilation of dark matter in the Milky Way, exploiting its favourable geographical location. An overview of the main results of ANTARES is discussed here.

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