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Recent results from the ANTARES deep-sea neutrino telescope

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The ANTARES detector, located in the deep Mediterranean sea off the coast of Toulon (France), is the first deep-sea neutrino telescope and has been running in its final configuration since 2008. It consists of a 3D array of 885 photomultipliers distributed on 12 lines anchored on the sea bed, that detect the Cherenkov light induced by upward-going charged leptons produced by neutrino interactions in and around the detector.

The primary goal of ANTARES is to search for astrophysical neutrinos in the TeV-PeV range. This comprises generic searches for any diffuse cosmic neutrino flux as well as more specific searches for astrophysical sources such as active galactic nuclei or Galactic sources. The search program also includes multi-messenger analyses requiring time and/or space coincidences with other cosmic probes (cosmic rays, gamma rays or gravitational waves).

Thanks to its location in the Northern hemisphere and its excellent pointing accuracy, ANTARES is a privileged observer of the central part of our galaxy. This allows it to put interesting constraints on the origin of the signal reported by the IceCube collaboration. The ANTARES sensitivity is also high enough to study a wide-range of other phenomena, from atmospheric neutrino oscillations to dark matter annihilation or potential exotics such as nuclearites and magnetic monopoles.

This contribution will present the most recent results obtained by the collaboration in the fields mentioned above.

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