

# Probing the high energy neutrino universe with ANTARES

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The ANTARES high energy neutrino telescope, the largest in the Northern Hemisphere and the first one ever built under the sea, has been running in its final configuration since 2008. It is located in the Mediterranean Sea 40 km off the Southern coast of France, at a depth of 2.5 km.

After the discovery of a cosmic neutrino diffuse flux by the IceCube detector, the search for its origin has become a key mission in high-energy astrophysics. ANTARES searches the Southern sky for diffuse fluxes of high-energy neutrinos of all flavours, using different event topologies and reconstruction methods. It also looks, e.g., for point-like objects or for extended regions of emission (galactic plane, Fermi bubbles for instance), and for signals from transient objects selected through multimessenger observations. The latest results obtained by ANTARES in all these domains will be discussed.

ANTARES has for instance participated to a high-energy neutrino follow-up of the gravitational wave signal GW150914, providing the first constraint on high-energy neutrino emission from a binary black hole coalescence. ANTARES has also performed indirect searches for Dark Matter, yielding limits for the spin-dependent WIMP-nucleon cross-section that improve upon those of current direct-detection experiments.

## Summary

This contribution is a presentation of the most important results obtained recently by the ANTARES high energy neutrino telescope. Other contributions dedicated to, e.g., multi-messenger studies or the all-flavour searches for neutrino point-like sources, will also be submitted.

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