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Highliths on KM3NeT

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The KM3NeT collaboration is building two underwater neutrino detectors in the Mediterranean: the ARCA (Astroparticle Research with Cosmics in the Abyss) and ORCA (Oscillation Research with Cosmics in the Abyss) detectors.

ARCA is located off the Sicilian coast of Capo Passero and aims to detect and identify astrophysical neutrino sources. The ORCA detector, located off the French coast of Toulon, has been optimised for the detection of atmospheric neutrinos in the GeV range, with the main aim of studying the fundamental properties of neutrinos. The two detectors, ARCA and ORCA, will allow the study of neutrino astronomy from MeV to tens of PeV. The KM3NeT detectors are already active in multi-messenger astronomy.

The first detection units, which are strings containing the optical sensors, have already been deployed by the KM3NeT collaboration at the French and Italian sites. The two detectors are currently taking data in partial configurations and are already producing some physics results, demonstrating the great potential of the two detectors for the coming years.

Recent results in both astrophysics and neutrino oscillation will be presented, together with the status of the detector construction and the future perspectives.

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