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KM3NeT-ARCA project status and plans

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The discovery of a diffuse flux by the IceCube collaboration of extra-terrestrial origin from not identified sources requires a next generation neutrino telescopes with full sky coverage and good angular resolution.

The KM3NeT Collaboration aims at building a research infrastructure in the depths of the Mediterranean Sea hosting a several cubic kilometre neutrino telescope.

KM3NeT, in its intermediate stage, will comprise two detectors with different granularity of the arrays of optical modules: KM3NeT/ARCA at the KM3NeT-It site of two building blocks dedicated to high-energy neutrino astronomy and KM3NeT/ORCA, a single building block located at the KM3NeT-Fr site offshore Toulon (France) dedicated to the study of neutrino mass hierarchy (covered by another presentation).

The latitude of KM3NeT/ARCA will allow for a wide coverage of the observable sky including the region of the galactic centre. Thanks to the favorable characteristics of sea water the direction of neutrinos will be measured with excellent angular resolution also for cascade events.

The technologically innovative component of the detector, the status of construction and the first results from prototypes of the KM3NeT/ARCA detector will be presented as well as its capability to discover neutrinos.

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