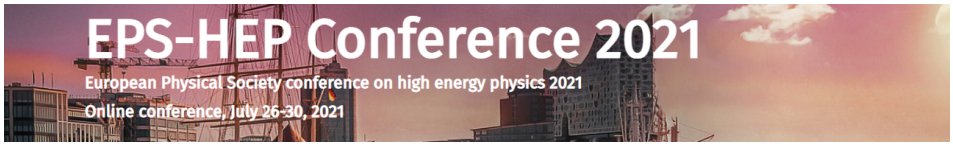

Contribution ID: **1025** Type: **Parallel session talk**

The KM3NeT neutrino telescopes: status and perspectives

Tuesday 27 July 2021 10:45 (15 minutes)

The KM3NeT international collaboration has started to build two underwater neutrino telescopes, located in two deep sites of the Mediterranean Sea. ARCA (Astroparticle Research with Cosmics in the Abyss) in its final configuration will instrument 1 Gton of seawater, using more than 100,000 PMTs with a 3"diameter. ARCA is optimised to detect cosmic neutrinos within an energy range of 1 TeV –10 PeV; it will provide an excellent view of the Southern Sky, including the Galactic Centre. ORCA (Oscillation Research with Cosmics in the Abyss) will be a smaller detector, with an instrumented volume of few Mtons. The photosensors are distributed in a more compact lattice for ORCA, in order to reveal atmospheric neutrinos in the 1 –100 GeV range.

ORCA is running in a 6-line configuration since more than one year. ARCA has recently completed the installation of new strings, bringing the total number of active lines to 6. The 12 DUs of ARCA and ORCA represent the first core towards full construction of KM3NeT, with new deployment campaigns foreseen in the next months and years at the two installation sites.

This talk will focus on the status and the long-term perspectives for the detector completion, together with a description of the main technological solutions adopted. The ARCA and ORCA science program for neutrino astronomy will be presented. Finally, a preliminary analysis of the ARCA 6-line data will be discussed.

Collaboration / Activity

KM3NeT Collaboration

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