Recent results from KM3NeT and ANTARES and Introduction to the ACME project

Thursday 3 October 2024 08:30 (30 minutes)

The pioneering underwater neutrino observatory, ANTARES, was in operation almost continuously in the Mediterranean Sea from its establishment in 2008 until its recent decommissioning in 2022. This presentation will shed light on its inception, principal findings in particle physics and astrophysics, including its extensive multi-messenger initiative. This encompassed sending alerts and following up on external astrophysical alerts.

Presently, attention has shifted towards KM3NeT, a scientific infrastructure accommodating the next generation detectors in the Mediterranean Sea. This infrastructure comprises two distinct detectors, ARCA and ORCA, each tailored to different scientific endeavors. ARCA is poised to explore remote astrophysical sources, while ORCA is optimised for the study of atmospheric neutrino oscillations with the main objective to infer the neutrino mass ordering. Upon completion, these detectors will encompass a volume exceeding one cubic kilometer. The most recent results in these domains, gleaned from the existing partial configurations of these detectors, will be showcased.

Finally, an introduction to the EU-funded ACME (Astrophysics Centre for Multimessenger Studies in Europe) project will be given. The project gathers 40 institutes in Europe with the main goal to help developing services related to the current research infrastructures in the domain, and to strengthen the links between the astroparticle and the astrophysics communities.

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Track Classification: Multi-Messenger Astrophysics and Astro-Particle Physics