

First neutrino oscillation measurement with KM3NeT/ORCA

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The KM3NeT/ORCA detector is a next-generation neutrino telescope on the bottom of the Mediterranean Sea. With a sensitivity optimized for atmospheric neutrinos between 1 GeV to 100 GeV , this detector will offer competitive sensitivity for measuring the neutrino mass ordering, as well as θ_{23} and Δm_{23}^2 . Currently under construction, 6 of the 115 planned Detection Units are already installed and are steadily taking data since January 2021. This contribution will present the results from the first neutrino oscillation analysis with 1 year of data. These early results already out-perform the ANTARES measurement, and approach the sensitivity of current world-leading atmospheric neutrino experiments. We will also discuss the latest estimates of the sensitivity of the complete KM3NeT/ORCA detector.

Working group

WG1

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