

4th Uppsala workshop on Particle Physics with Neutrino Telescopes (PPNT19)



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Oscillation Physics with KM3NeT-ORCA

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A next generation neutrino telescope, the Kilometer Cube Neutrino Telescope (KM3NeT), is currently under deployment in the Mediterranean Sea. Its low energy configuration ORCA (Oscillations Research with Cosmics in the Abyss) aims to determine the Neutrino Mass Ordering (NMO) with atmospheric neutrinos. In this talk, a sensitivity study to the NMO is presented. Thanks to the Earth matter effect and a low energy threshold of 3 GeV, ORCA is capable of constraining non-standard physics scenarios such as sterile neutrinos, Non-Standard Interactions (NSI) and neutrino decay. The ORCA potential to these scenarios will also be discussed.

Summary

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