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Sensitivity to the Neutrino Mass Hierarchy of KM3NeT/ORCA

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KM3NeT is the next generation underwater neutrino telescope being installed in the Mediterranean Sea. Its low-energy branch KM3NeT/ORCA will measure neutrinos in the energy range of several GeV, aiming to resolve the long-standing question whether the neutrino mass hierarchy is normal or inverted by measuring matter-induced oscillation effects in atmospheric neutrinos.

In the presentation, the expected sensitivity of KM3NeT/ORCA for a measurement of the mass hierarchy and other oscillation parameters is discussed, based on input from the latest MC simulations. A detailed overview is given of the sensitivity study, the various inputs and the log-likelihood ratio method employed. In particular, the various systematics taken into account in the study will be given attention.

Collaboration

KM3NeT

Registration number following "ICRC2015-I"

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