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Title of the Poster:

Event reconstruction in the KM3NeT/ORCA detector

Abstract:

ORCA is the low-energy branch of KM3NeT, the next generation underwater Cherenkov neutrino detector in the Mediterranean Sea. Its central goal is to determine the neutrino mass hierarchy by probing matter oscillation effects with atmospheric neutrinos. The ORCA detector is a dense configuration of KM3NeT detection units, optimised for measuring few-GeV neutrinos.

Event reconstruction is a key task and substantial for the mass hierarchy sensitivity. The excellent optical properties of deep-sea water allow for accurate reconstruction of both shower (mostly electron neutrinos) and track events (mostly muon neutrinos). Event reconstruction methods and their performance in terms of neutrino energy, direction resolution and track-shower separation capacity will be discussed.