Contribution ID: **298** Type: **Poster atmospheric**

Tau-neutrino appearance with KM3NeT/ORCA

ORCA is the low-energy branch of KM3NeT, the next-generation underwater Cherenkov neutrino detector currently being built in the Mediterranean Sea. The detector is optimised to study oscillations of atmospheric neutrinos in the few-GeV energy range in order to determine the neutrino mass ordering. Within its instrumented volume of more than 7 Mm^3 of sea water an unprecedented statistics of >3k ν_τ neutrinos per year will be detected that have oscillated from a purely ν_μ and ν_e initial flux into the ν_τ-channel along their passage through Earth. The ν_τ-flux will be determined as a statistical excess of shower-like events.
The contribution will present the event classification strategies developed in ORCA and the sensitivity of ORCA to ν_τ-appearance. ORCA will confirm the exclusion of non-appearance within the first months of operation.

Authorship annotation

for the KM3NeT collaboration

Session and Location

Wednesday Session, Poster Wall #159 (Ballroom)

Poster included in proceedings:

yes

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Track Classification: Poster (participating in poster prize competition)