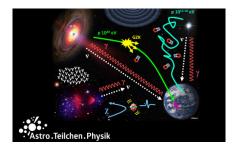
Astroparticle Physics in Germany - Long-Term Strategy 2024



Contribution ID: 101 Type: Poster

Tau Appearance with KM3NeT/ORCA6

Wednesday, October 16, 2024 6:01 PM (2 minutes)

KM3NeT is a neutrino telescope currently under construction in the Mediterranean Sea. Its densely instrumented ORCA part is optimised for the detection of atmospheric neutrinos in order to study neutrino oscillations, measure the oscillation parameters, and eventually determine the neutrino mass ordering.

KM3NeT/ORCA is also sensitive to tau appearance, i.e. the observation of tau neutrinos produced through neutrino oscillations. Their detection allows us not only to measure the charged current tau neutrino cross section, but also to probe the unitarity of the PMNS matrix and to constrain its elements.

This contribution presents the first measurement of tau appearance with KM3NeT/ORCA6, an early detector configuration of about 5% of the final detector volume, corresponding to an exposure of 433 kton-years.

Summary

Author: GEISSELBRECHT, Nicole (ECAP)

Session Classification: Poster session leading into social dinner buffet