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ORCA sensitivity to neutrino decay

The upcoming generation of neutrino telescopes is going to push the knowledge of neutrino physics to the limit, shedding light on several scenarios beyond the Standard Model as well as improving current precision to standard neutrino physics. In particular, in this talk I will present a sensitivity study to neutrino decay of the forthcoming KM3NeT-ORCA experiment. In some theories beyond the Standard Model neutrinos are allowed to decay, a process that can affect neutrino oscillations. Given the long baselines travelled by atmospheric neutrinos and the level of precision that will be reached by ORCA, this neutrino telescope will improve current bounds on neutrino decay coming from oscillation experiments. In addition I will comment on the effect of a possible neutrino decay on the sensitivity of ORCA to the atmospheric oscillation parameters, as well as to the neutrino mass ordering.

Collaboration name

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