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UHE muons at KM3NeT in the context of the anomalous ANITA-IV events

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Recently, the KM3NeT collaboration announced the detection of the neutrino with the highest energy ever measured, 220 PeV. Nevertheless, the observation of this event is in $2.5\text{--}3.5\sigma$ tension with the non-observation of such events in 12 years at IceCube.

In fact, this is not the first anomalous measurement of an ultra-high-energy event. Namely, the ANITA-IV collaboration measured four 1 EeV events, compatible with a tau neutrino, and in strong tension with IceCube. In this talk I will review under which conditions can BSM (and, in particular, LLPs) reconcile these tensions, and the potential of ultra-high-energy neutrino telescopes at constraining models with LLPs.

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