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Model-agnostic interpretation of the first KM3NeT Ultra-High-Energy event within the Global Neutrino Landscape

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On February 13th, 2023, the KM3NeT/ARCA telescope detected a neutrino candidate with an estimated energy in the hundreds of PeVs. We review the observation of this ultra-high-energy neutrino in light of observations above tens of PeV from the IceCube and Pierre Auger observatories. Furthermore, we discuss how the ultra-high-energy data were fit together with the IceCube measurements at lower energies, either with a single power law or with a broken power law, allowing for the presence of a new component in the spectrum. Finally, we present the prospects that may lead to resolving this apparent discrepancy and better characterise the neutrino landscape at ultra-high energies.

Collaboration(s)

KM3NeT

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