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# Can KM3-230213A be compatible with a cosmogenic origin?

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On the 13th February 2023 the KM3NeT/ARCA telescope observed a track-like event compatible with a ultra-high-energy muon with an estimated energy of 120 PeV, produced by a neutrino with an even higher energy, making it the most energetic neutrino event ever detected. The reported equivalent flux suggest the possible existence of a new diffuse component. A diffuse cosmogenic flux is expected to originate from the interactions of ultra-high-energy cosmic rays with ambient photon and matter fields. Here we show that this component can be compatible with the reported flux level only integrating the cosmogenic emission, at least up to redshift ˜ 6 and assuming a subdominant fraction of protons in the ultra-high-energy cosmic-ray flux, thus placing constraints on known cosmic accelerators.
These conditions impose constraints on known cosmic accelerators and open a window into an unexplored region of the Universe at this energy scale.

## Collaboration(s)

KM3NeT

**Authors:** CONDORELLI, Antonio; MARINELLI, Antonio (Università di Napoli, Federico II)

**Presenter:** MARINELLI, Antonio (Università di Napoli, Federico II)

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