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Ultra-high-energy cosmic neutrino discovered with KM3NeT neutrino telescope

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KM3NeT collaboration announced an observation of the most energetic cosmic neutrino with energy of 220 PeV on Wednesday, February 12, 2025, by means of a publication in Nature journal. This event, practically near-horizontal muon traversing three-dimensional network of optical modules (photosensors) of the telescope, was registered by the ARCA detector that is located offshore Sicily at a depth of about 3450 m in Mediterranean Sea. Based on high energy of this muon (approximately 120 PeV) and its trajectory, a conclusion has been made that the particle cannot be produced by collisions of cosmic rays in Earth's atmosphere, but it is produced by a cosmic neutrino. This is indeed groundbreaking discovery in the field of astronomy, astrophysics and human knowledge.

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