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Overview of the Cosmic Ray studies with the KM3NeT detectors

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The KM3NeT Collaboration is currently deploying two neutrino telescopes deep in the Mediterranean Sea. Both detectors share the same technology but are different in their size due to their different physics goals. The KM3NeT/ARCA telescope is located at about 3.5 km depth off-shore Sicily, Italy, while KM3NeT/ORCA is at about 2.5 km depth close to Toulon, France. The detectors are currently taking data while being under construction with 33 and 24 lines installed at the ARCA and ORCA sites, correspondingly. Down-going atmospheric muons produced in the cosmic ray air showers are the vast majority of the reconstructed events in KM3NeT. The measurement of the properties of such muons allows for probing cosmic ray interactions and composition in the phase space complementary to the ground-based observatories. Moreover, atmospheric muons are used for calibration purposes in KM3NeT. In this contribution, the current status of the cosmic ray studies with KM3NeT is presented and its perspectives are discussed.

Secondary track

T03 - Neutrino Physics

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