

Sensitivity estimates for diffuse, point-like, and extended neutrino sources with KM3NeT/ARCA

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The identification of cosmic objects emitting high energy neutrinos could provide new insights about the Universe and its active sources. The existence of these neutrinos has been proven by the IceCube collaboration, but the big question from which sources these neutrinos originate is yet unanswered. The KM3NeT detector for Astroparticle Research with Cosmics in the Abyss (ARCA) that is currently being built in the Mediterranean Sea, will excel in the identification of cosmic objects emitting high energy neutrinos because of its precise angular resolution for muon neutrinos (< 0.2 degree for $E > 10$ TeV events). In order to identify the signature of cosmic sources in the background of atmospheric neutrinos and muons with KM3NeT, statistical methods are being developed and tested with Monte-Carlo pseudo-experiments. This poster presents the most recent results concerning the detection of diffuse, point-like and extended neutrino sources with KM3NeT/ARCA.

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