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Predicted sensitivity of the KM3NeT/ARCA detector to a diffuse flux of cosmic neutrinos

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The KM3NeT Collaboration has started the construction of a research infrastructure hosting a network of underwater neutrino observatories in the Mediterranean Sea. Two telescopes based on the same technology are being built: KM3NeT/ORCA to measure the neutrino mass hierarchy and to study atmospheric neutrino oscillations and KM3NeT/ARCA to detect high-energy cosmic neutrinos both in diffuse and point source mode. The excellent angular resolution of the ARCA detector, with an instrumented volume of about one Gton, will allow for an unprecedented exploration of the neutrino sky searching for neutrinos coming from defined sources or sky regions, like the Galactic Plane and the Fermi Bubbles. It will also look for diffuse high energy neutrino fluxes following the indication provided by the IceCube signal.

This contribution will report on the sensitivity of the KM3neT telescope with particular attention to the region of the Galactic Plane. Comparison with theoretical expectations are also discussed.

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