

# Dark matter searches with the KM3NeT neutrino telescope

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Indirect dark matter detection experiments aim to observe the annihilation or decay products of dark matter. The flux of neutrinos produced by such processes in nearby dark matter containers, such as the Sun and the Galactic Centre, could be observed in neutrino telescopes. The KM3NeT observatory is composed of two undersea Čerenkov neutrino telescopes (KM3NeT-ORCA and ARCA) located offshore of France and Italy, respectively. In this work, searches for WIMP annihilations in the Galactic Centre and the Sun with KM3NeT are presented. An unbinned likelihood method is used to discriminate the signal originating from the Galactic Centre and the Sun from the background in the data samples of the first configurations of both detectors, ORCA6 and ARCA6/8/19/21. No significant excess over the expected background was found in either of the two analyses, resulting in limits on the velocity-averaged pair-annihilation cross section of WIMPs and the WIMP-nucleon scattering cross section.

## Alternate track

1. Astro-particle Physics and Cosmology

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Yes

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