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Indirect Search for Dark Matter with the ANTARES Neutrino Telescope

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The ANTARES Collaboration is now operating the largest water Cherenkov neutrino telescope in the Nothern hemisphere. The apparatus, completed in May 2008, comprises 12 detection lines and a multidisciplinary instrumentation line installed at a depth of about 2500 m in the Mediterranean Sea offshore from France.

The goals of ANTARES are among others the search for astrophysical neutrino point sources and for neutrinos produced in self-annihilation of dark matter particles. Likely sources of the latter type of neutrino emission would be the Sun and the Galactic Centre, where dark matter particles from the galactic halo are expected to accumulate.

Prior to its completion, ANTARES has been taking data for more than a year in an intermediate setup with a five and a ten line detector configuration. First results on the search for dark matter annihilation in the Sun with the data recorded in 2007 and 2008 are presented, as well as sensitivity studies on Dark Matter searches with the full ANTARES detector.

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