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Dark matter searches with the ANTARES neutrino telescope

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The ANTARES neutrino telescope was completed in May 2008 with the installation of its twelfth line. Its scientific scope is very broad, but the two main goals are the observation of astrophysical sources and the indirect detection of dark matter. The latter is possible through neutrinos produced after the annihilation of WIMPs, which would accumulate in sources like the Sun, the Earth or the Galactic Centre. The neutralino, which arises in Supersymmetry models, is one of the most popular WIMP candidates. KK particles, which appear in Universal Extra Dimension models, are another one. Though in most models these annihilations would not directly produce neutrinos, they are expected from the decay of secondary particles. An important advantage of neutrino telescopes with respect to other indirect searches (like gamma rays) is that a potential signal (for instance from the Sun) would be very clean, since no other astrophysical explanations could mimic it (like pulsars). Moreover, the Galactic Centre is accessible for ANTARES, being in the Northern Hemisphere. In this talk I will present the results of the ANTARES telescope for dark matter searches, which include neutralino and KK particles.

Primary author: Dr ZORNOZA, Juan de Dios (IFIC)

Presenter: Dr ZORNOZA, Juan de Dios (IFIC)

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