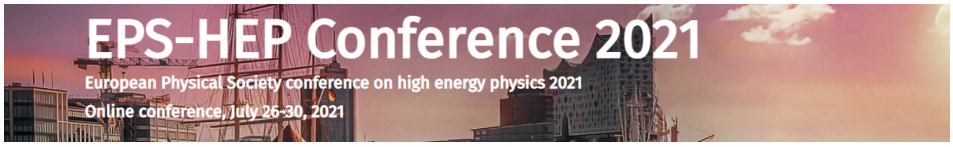

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Indirect Dark Matter Searches with the ANTARES and KM3NeT Neutrino Telescopes

Wednesday 28 July 2021 10:50 (20 minutes)

Neutrino telescopes perform an indirect search for dark matter (DM) through its annihilation into standard model channels yielding neutrinos, for a broad range of WIMP masses. The ANTARES telescope, anchored to the Mediterranean seabed at a depth of about 2500 m, looks for a DM signal from two promising sources with high WIMP density: the Galactic Center and the Sun. We present the latest results of ANTARES on indirect detection for several WIMP masses and channels, and give a future prospect on sensitivities of DM searches with KM3NeT, the next-generation neutrino telescope, currently in deployment in the Mediterranean Sea. These detectors have specific advantages, complementary to other strategies, and can provide a smoking-gun signal in the case of the Sun. The geographical location of ANTARES and KM3NeT is particularly suited for searches in the Galactic Center, allowing for the world-best limits on annihilation cross-section for large WIMP masses.

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Collaboration / Activity

ANTARES-KM3NeT

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