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A search for neutrinos from dark matter in the Galactic Centre with IceCube

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The nature of Dark Matter is one of the important unresolved questions in fundamental physics. It is assumed in many Beyond Standard Model theories that dark matter candidates can have weak coupling to Standard Model (SM) particles. In heavy cosmological objects, like galaxies, the Sun, or the Earth, dark matter can be gravitationally accumulated to a high abundance such that it can decay or annihilate into the anomalous flux of SM particles detectable by various detector types. In this analysis, we aim at searching for neutrino signals from dark matter annihilation and decay in the Galactic Centre using ~ 9 years of IceCube DeepCore data with an optimized selection for low energy. The IceCube sensitivities on the thermally averaged dark matter self-annihilation cross-section and decay lifetime for dark matter masses ranging from 5 GeV up to 8 TeV will be presented.

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Classifica Sessioni: IDM: Indirect DM searches

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