

Status of Dark matter searches with IceCube

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The IceCube Neutrino Observatory at the South Pole is the world's largest neutrino telescope in operation. It instruments a kilometer cube of ice with more than 5000 optical sensors that detect the Cherenkov light emitted by particles produced in neutrino-nucleon interactions. Being sensitive to a wide range of neutrino energies, from a few GeV to PeVs, its physics program is extremely rich.

The talk will concentrate on the searches for dark matter gravitationally accumulated at the center of the Sun, the Earth or the galactic center, where dark matter self-annihilations or decay to standard model particles can produce a detectable flux of neutrinos. The latest limits from IceCube on the dark matter-nucleon cross section, on the dark matter self-annihilation cross section and on dark matter lifetime, will be presented.

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