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WIMP Annihilations in the Sun : A search using first year of operation of the completed IceCube neutrino telescope.

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Weakly Interacting Massive Particles, which are possible candidates for Dark Matter can be gravitationally captured in the Sun and undergo self annihilation to produce standard model particles including neutrinos. The resulting neutrino flux from the Sun could be detected by terrestrial neutrino telescopes such as IceCube. In addition to the standard analysis using upward going neutrino induced events during Austral Winter, improved veto techniques have been used to reduce the atmospheric muon background and improve sensitivity during the Austral Summer. Overall sensitivity has also benefit from better analysis methods and reconstructions and improved with respect to all previous analyses. Results from the analysis of 341 days of operation of IceCube-DeepCore in the completed 86 string configuration will be presented.

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Classification de thématique: Experiment