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Latest results from IceCube on astrophysical neutrinos and neutrino oscillations

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The IceCube Neutrino Observatory is a cubic kilometer ice Cherenkov neutrino detector, located at the geographic South Pole, detecting neutrinos starting at energies of about 10 GeV. In the last couple of years IceCube has established the existence of a high-energy astrophysical neutrino flux in the 100 TeV - PeV range at the level of $10^{-8} \text{ GeV cm}^{-2} \text{ s}^{-1} \text{ sr}^{-1}$ per flavor with high significance. DeepCore, a region of denser instrumentation at the lower center of the detector, detects low-energy atmospheric neutrinos ($< 100 \text{ GeV}$), which are used to study the phenomenon of neutrino oscillations with a precision comparable to that of the leading experiments in the field. The latest results on both of these topics are discussed.

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Classification de Session: VHE and Dark Matter

Classification de thématique: Experiment