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The Icecube neutrino observatory: status and recent results

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The IceCube neutrino observatory is a Cherenkov light detector in the Antarctic ice sheet, at the South Pole. Composed of a cubic kilometer of detector volume instrumented with over 5000 photo-multiplier tubes, it is the largest neutrino detector in the world, observing neutrinos incident from all directions. Having collected data for 13 years in its current configuration, the IceCube experiment has achieved notable results such as the identification of neutrino sources including the Milky Way and active galaxy NGC 1068, and observation of the Glashow resonance. A more densely instrumented infill (DeepCore) has allowed the experiment to achieve world-leading precision measurements of atmospheric neutrino oscillation parameters. In this talk, a summary of the current status of IceCube and key recent results is presented, as well as an overview of ongoing upgrades to the detector to enhance the neutrino oscillation physics potential of the experiment.

Keyword-1

IceCube

Keyword-2

Neutrinos

Keyword-3

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