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Highlights from the IceCube Neutrino Observatory

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Over the past decade, the IceCube Neutrino Observatory, situated at the geographical South Pole, has opened a new window to observe and study the high-energy Universe. In 2013, IceCube discovered the first high-energy neutrino events confirming the existence of a diffuse flux of astrophysical neutrinos. The level of this neutrino flux implies a much richer hadronic activity in the non-thermal Universe than previously expected. In the recent years, IceCube has continue to break ground by identifying the first steady source emission of neutrinos, the starburst galaxy NGC1068, as well as capturing the neutrino emission from our own Milky Way. These fluxes, on the other hand, amount to a small percentage of the total diffuse astrophysical neutrino leaving much of this diffuse flux yet to be understood. In this presentation I will provide an overview of the latest results from the IceCube collaboration highlighting the ongoing efforts to characterize the diffuse neutrino flux, as well as to search and identify the first neutrino sources.

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