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Hunting for Glashow Resonance with PeV Neutrino Telescopes

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The Glashow resonance, which corresponds to the production of a W boson from the resonant interaction between a high-energy electron antineutrino and an electron at rest, offers us a unique signature to disentangle electron antineutrinos from the total high-energy astrophysical neutrino flux. Identification of neutrino flavors in neutrino telescopes is important to the study of production mechanisms and interactions of high-energy neutrinos in astronomical sources and during their propagation. At the same time, a great number of neutrino telescopes are advancing towards a better understanding of the Universe in highest energies. In this talk, I will discuss the prospect of observing Glashow resonant events in current experiments such as IceCube and future experiments which aim to observe Earth-skimming or mountain-penetrating tau neutrinos.

Collaboration name

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