千葉大学大学院理学研究科附属
ハドロン宇宙国際研究センター
ICEHAP International Center for Hadron Astrophysics

1 月　ICEHAP セミナー

Date 日時　　**1 月 12 日（金）　15：00～17：00**

Place 場所　　**ICEHAP オフィス (工学系総合研究棟 1　6 階　609-1 号室)**

By 講演者　　**Sarira Sahu　氏（メキシコ国立自治大学）**

Title タイトル

『On the non-detection of Glashow resonance in IceCube』

Abstract 概要

Electron anti-neutrinos at the Glashow resonance (GR, at $E_{\bar{\nu}_e} \sim 6.3$ PeV) have an enhanced probability to be detected. With three neutrinos detected by IceCube in the (1-2) PeV energy range at present, one would expect that about 1 to 4 GR $\bar{\nu}_e$ should have been detected. The high-energy ~ 8.7 PeV muon neutrino detected by IceCube may not be a GR event. If so, we expect to detect 50 to 70 GR $\bar{\nu}_e$, then one would have a "missing Glashow-resonance problem". This would suggest (1) that $p\gamma$ interaction rather than pp interaction is the dominant channel to produce the observed IceCube high-energy neutrinos; (2) that multi-pion $p\gamma$ interactions are suppressed; and (3) that the magnetic field and photon energy density in the $p\gamma$ emission region is such that significant μ^+ cooling occurs before decaying, yet π^+'s essentially do not cool before decaying.

Location:　ニュートリノ天文学部門　工学系総合研究棟１　６階

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