Date: 16th January (The.) 13:30 -

Place: Kenkyu-honkan 1F conference room 1

Speaker: Prof. Aya Ishihara (Chiba Univ.)

Title:
Recent progresses on the neutrino astronomy from IceCube

Abstract:
IceCube is a cubic kilometer scale, deep-ice Cherenkov neutrino detector at
the South Pole. IceCube's cosmic neutrino searches cover an energy region
all the way from TeV and less to EeV and higher. Following the first observation of PeV neutrino events and successful measurements of high energy extraterrestrial neutrino flux in the energy region between a few

tens of TeV and PeV significantly above the atmospheric neutrino background
flux by IceCube, the field of neutrino astrophysics is becoming more and

more active. Also in the EeV energy region, a flux of 'cosmogenic' neutrinos generated by interactions of ultra-high energy cosmic rays on intervening radiation backgrounds is expected. The cosmogenic neutrinos will give us insight into the sources of the ultra-high energy cosmic-rays
(UHECRs). In this talk, I review the recent results from IceCube on cosmic neutrino observations.
In particular I highlight the multi-messenger observation using the neutrino as the trigger for the gamma-ray/x-ray/optical telescopes, and constraints on the UHECR sources from the observation of cosmogenic neutrinos. Finally I discuss the future prospects
for such activities.