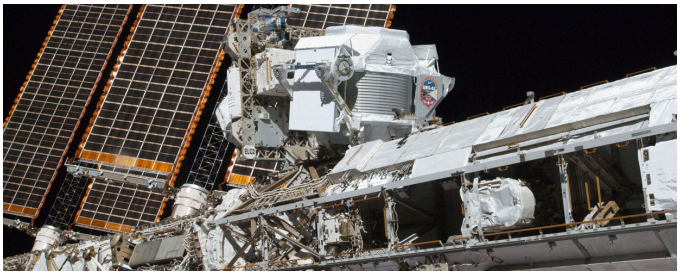

Contribution ID: **28** Type: **not specified**

Recent Results on Ultra-High Energy Cosmic Rays from the Telescope Array

Friday 17 April 2015 12:15 (30 minutes)

TA's recent results on Ultra-High Energy Cosmic Rays (UHECRs) are reported. The energy spectrum based on 20k events above 10^18.2 eV demonstrates a clear dip at 10^18.7 eV and a cutoff at 10^19.7 eV , the shape and the energies of which are well described by the GZK process: energy loss of extra-galactic protons by the interaction with the CMB and IR background. The primary composition obtained from the shower maximum analysis using the hybrid technique is consistent with 100% proton or light nuclei, and inconsistent with 100% iron up to 10^19.3 eV. Above the GZK cutoff energy, a large flux enhancement of medium size (radius=20deg) is observed in the direction of Ursa-Major. The chance probability of this hotspot appearing from the isotropic flux is 4.0sigma. The center of the hotspot is 19 deg off from the Super-Galactic Plane, and no obvious candidate of UHECRs is known in this direction.

Presenter: Prof. FUKUSHIMA, Masaki (University of Tokyo)