Japan Geoscience Union Meeting 2014
(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

PEM06-11 Room:312 Time:April 30 15:30-15:45

Advancement of geospace and atmospheric sciences with EISCAT_3D

MIYAOKA, Hiroshi[1*] ; NOZAWA, Satonori[2] ; OGAWA, Yasunobu[1] ; OYAMA, Shin-ichiro[2] ; NAKAMURA, Takuji[1] ; FUJII, Ryoichi[2] ; HEINSELMAN, Craig[3]

[1]National Institute of Polar Research, [2]STEL, Nagoya University, [3]EISCAT Scientific Association

The EISCAT(European Incoherent SCATter) Scientific Association is an international research organization, which operates incoherent scatter radars at 931MHz, 224MHz and 500MHz in northern Scandinavia and Svalbard for studies of physical and environmental processes in the middle/upper atmosphere and near-Earth space. Affiliated in the EISCAT scientific association in 1996, Japanese science community has jointly contributed to achieve further understanding of the magnetosphere-ionosphere-thermosphere coupling processes using the integrated ground-based instruments and rocket/satellite simultaneous observations with EISCAT radars.

EISCAT_3D is the major upgrade of the existing EISCAT radars in the northern Scandinavia.With a multi-static phased array system composed of one central active (transmit-receive) site and several receive-only sites, the EISCAT_3D system is expected to provide us 10 times higher temporal and spatial resolution and capabilities than the present radars.

In this presentation, we will overview our scientific activity and achievements with the EISCAT facility and our strategic plan of national funding for EISCAT_3D as well as the science targets which we expect to be unraveled by EISCAT_3D.

Keywords: Incoherent scatter radar, EISCAT, Ionosphere, Thermosphere, Mesosphere, 3D imaging observation