EISCAT_3D レーダーで推進する EISCAT-Japan 国際共同研究
EISCAT-Japan collaborative studies drove by EISCAT_3D radars

Hiroshi Miyaoka 1,*, Satonori Nozawa 2, Yasunobu Ogawa 1, Shin-ichiro Oyama 2, Takuji Nakamura 1, Ryoichi Fujii 2, Craig Heinselman 3

1 National Institute of Polar Research, 2 STE Laboratory, 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. Since 1996, National Institute of Polar Research, in collaboration with STEL of Nagoya University has promoted the EISCAT project for the user community in Japan to use the EISCAT facility for their scientific subjects.

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-J 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