Recent progress of EISCAT_3D
(Next-Generation Incoherent Scatter Radar Project for Atmospheric and Geospace Science) (7)

Hiroshi Miyaoka[1], Satonori Nozawa[2], Yasunobu Ogawa[1], Koji Nishimura[1], Takuji Nakamura[1], Shin-ichiro Oyama[2], Ryoichi Fujii[3] and Craig Heinselman[4]
[1]*National Institute of Polar Research*
[2]*Institute for Space-Earth Environmental Research, Nagoya University*
[3]*Research Organization of Information and Systems*
[4]*EISCAT Scientific Association*

EISCAT_3D is the major upgrade of the existing EISCAT mainlamd radars, with a multi-static phased array system composed of one central active (transmit-receive) site and 4 receive-only sites to provide us 50-100 times higher temporal resolution than the present system. The construction of EISCAT_3D is planned to implement by 4-staged approach, starting from the core site at Skibotn (Norway) with half transmitting power about 5MW, and 2 remote receiving sites at Kaiseniemi (Sweden) and Karesuvanto (Finland) for the 1st stage. Sweden, Norway and Finland have successfully allocated their national fundings for the construction of the 1st stage by 2015, and the UK also decided a funding commitment this April. After careful examinations regarding possible funding scenarios, the EISCAT Council has finally decided on 1 June 2017 to start the implementation of the 1st stage of EISCAT_3D from 1st September 2017 to be completed by the end of 2021 including a commissioning of the radar system. The kickoff event has been successfully made on 7 September at UiT, The Arctic University of Norway, Tromso and Skibotn, the core site location.

The EISCAT_3D program in Japan, on the other hand, was applied to the Master Plan 2017 of the Science Council of Japan as a part of 'Study of Coupling Processes in the Solar-Terrestrial System' (PI: Prof. Toshitaka Tsuda, Kyoto Univ./ROIS), and has been granted as one of 28 high-priority programs of Master Plan 2017 by the Science Council of Japan. In parallel to funding proposals for EISCAT_3D to the Ministry since 2014, the National Institute of Polar Research started a development of the EISCAT 3D transmitter power amplifiers (SSPAs) to provide in-kind for the 1st stage of EISCAT_3D. In this paper, we overview the recent progress of the project and our development regarding the EISCAT 3D transmitter sub-system.

http://eiscat.nipr.ac.jp/eiscat3d/
https://eiscat3d.se/node

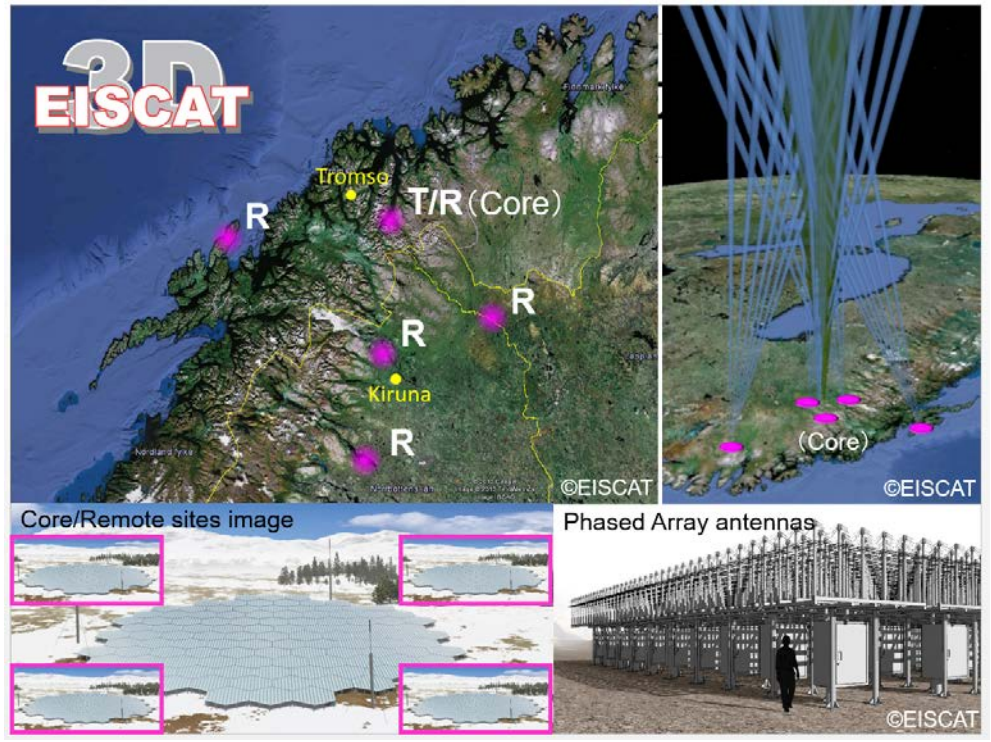

Figure 1. Location of the EISCAT_3D core/remote sites and its outlook.