

Recent progress of EISCAT_3D (Next-Generation Incoherent Scatter Radar Project for Atmospheric and Geospace Science) (5)

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EISCAT_3D is the major upgrade of the existing EISCAT mainland 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 with half transmitting power about 5MW and 2 receiving sites at Kaiseniemi (Sweden) and Karesuvanto (Finland) at the 1st stage. Until May 2015, Sweden, Norway, Finland have jointly allocated their national funding for the construction of the 1st stage, and the deployment of the proto-type system is to start at the Tromso site from September 2015, supported by the EC H2020 funding. The EISCAT_3D program in Japan, on the other hand, was applied to the Master Plan 2014 as a part of 'Study of Coupling Processes in the Solar-Terrestrial System' (PI: Prof. Tsuda, Kyoto Univ.). Supported by this decision, National Institute of Polar Research has started a funding proposal to MEXT for EISCAT_3D, collaborating with Institute for Space-Earth Environmental Research, Nagoya University. In parallel to the funding proposal, we started a development for a high energy-efficient power amplifier collaborating with the EISCAT headquarter and a Japanese industry as well. In this paper, we will overview the current status and outlook on Japan's national contribution to the EISCAT 3D project.

<http://eiscat.nipr.ac.jp/eiscat3d/>

<https://eiscat3d.se/node>

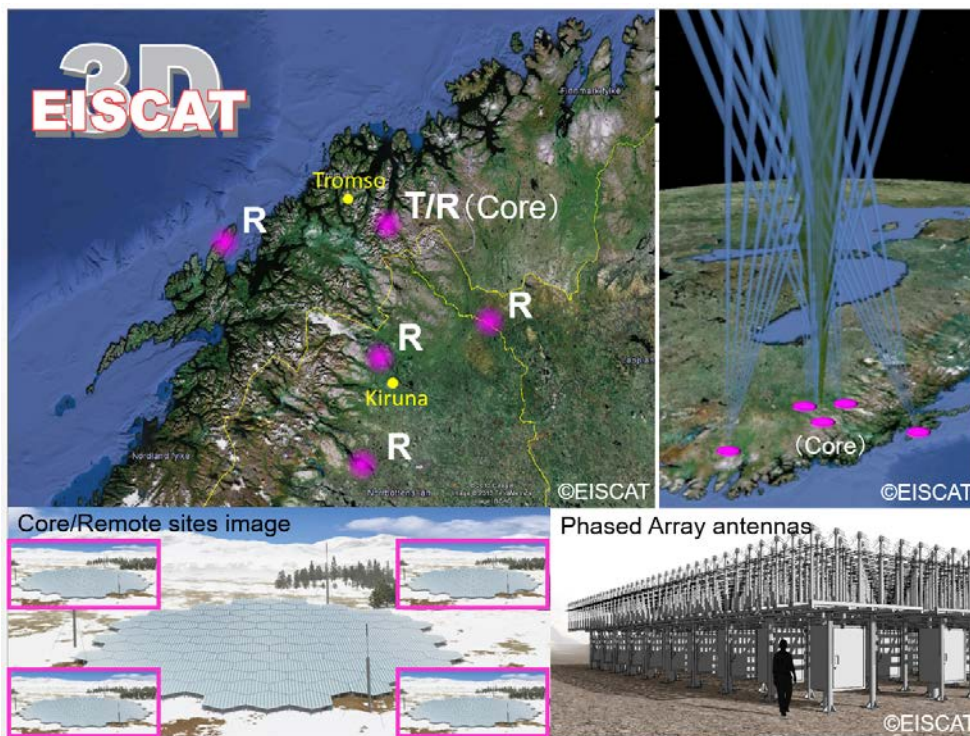


Figure 1. Location of the EISCAT_3D core/remote sites and its outlook.