R005-05
A 会場 ：11/24　PM1 （13:15-15:15）
14:15〜14:30

#小川 泰信 [1)], 宮岡 宏 [1)], 野澤 悟徳 [2)], 橋本 大志 [1)], 大山 伸一郎 [3)], 西村 耕司 [7)], 津田 卓雄 [4)], 藤原 均 [5)], 堤 雅基 [1)], 田中 良昌 [6)], 西山 尚典 [1)], 吹澤 瑞貴 [1)], 細川 敬祐 [8)], 三好 由純 [9)], 中村 卓司 [1)], 藤井 良一 [1)]
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EISCAT_3D and Japan's Activities

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The European Incoherent Scatter (EISCAT) scientific association started construction of the first stage of the EISCAT_3D radar in 2017 under international collaboration. The EISCAT_3D is a new generation of incoherent scatter radar system based on phased array technology. At the first stage, a core site with a transmission power of about 3.4 MW and two receive-only remote sites will be operated. All antennas have been installed at the Skibotn site (the core site with 119 sub-arrays, Norway), the Kaiseniemi site (the remote site with 55 sub-arrays, Sweden) and the Karesuvanto site (the remote site with 54 sub-arrays, Finland) by summer 2023. A first light with 7 sub-arrays is planned at the Skibotn core site or the Kaiseniemi site. This will be followed by various testing and commissioning phases at the three sites, and then operations at the first stage will begin. In connection with the operation of EISCAT_3D, the EISCAT scientific association has taken a strategic decision to transfer its assets, operation and commitments to EISCAT AB, which will be newly established. The EISCAT_3D radar is expected to be utilized for a variety of science cases, including studies on energy and mass transport from the solar wind and magnetosphere to the ionosphere and atmosphere.

The National Institute of Polar Research (NIPR) had been contributing to the EISCAT_3D construction by supplying radar transmitter power amplifiers (SSPAs) in collaboration with the EISCAT scientific association and ISEE Nagoya University. The high energy-efficient SSPAs have been used for engineering verification tests at the EISCAT Tromsoe and Kiruna sites since 2016. In 2020, NIPR has concluded an MoU with EISCAT to supply in-kind sub-array transmitter units which are selected for the first stage by the EISCAT Headquarters through the international tendering process. In addition to these contributions to the EISCAT_3D construction, NIPR established the Advanced Radar Research Promotion Center in April 2022. Under the Center, joint usage and collaborative research of the EISCAT_3D radar are being prepared.

In this paper, we report the latest status of the EISCAT_3D project and discuss the prospects of Japan's activities for the EISCAT_3D project.