Seventh quarterly newsletter
May 2017

EISCAT3D_PfP Project News

Welcome to the EISCAT3D_PfP project quarterly newsletter.

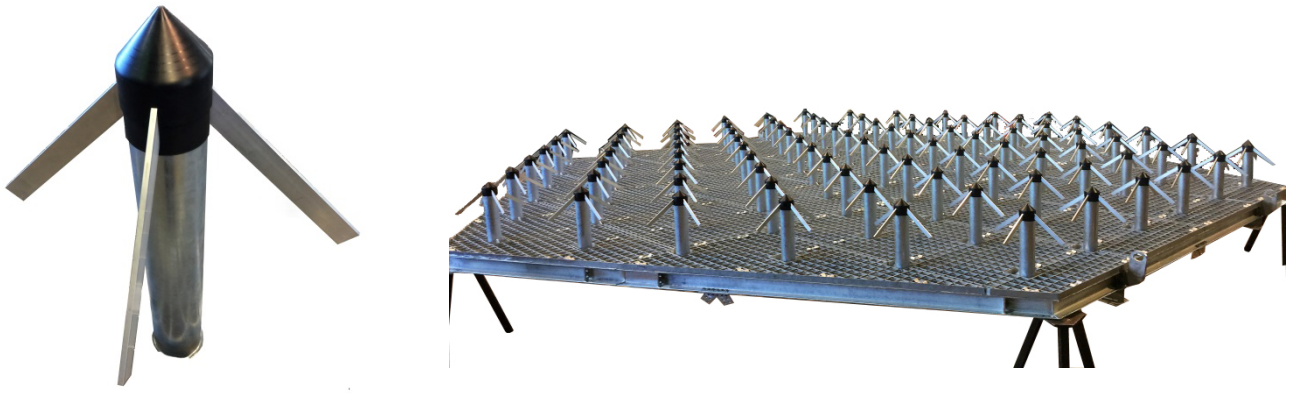
The Solid-State Power Amplifier Unit Project Status

NIPR, Japan has received 19 SSPAs from its vendor for the EISCAT3D_PfP project. Among the 19 SSPAs, one arrived in Kiruna for testing purposes and the rest are being delivered directly to the Tromsø site in Ramfjordmoen, Norway. The SSPA delivered to Kiruna is presently under test using the SSPA-interface unit board, constructed by EISCAT staff. The test results have verified the subsystem performance and indicate that the unit conforms to its specifications.

SSPA and Capacitor delivered at EISCAT Headquarters in Kiruna, Sweden.

The Antenna Unit Project Status

The antenna unit was produced at Huber+Suhner's (H+S) production facility in Tallinn, Estonia. A view of the produced antenna element and the 91-element EISCAT_3D sub-array is shown below. Prior to the final delivery of the antenna unit to the Tromsø site, a pre-assembly session was organised by H+S at their production facility in Tallinn on May 12, 2017. The event was attended by Mr. Lennart Lövqvist from EISCAT Scientific Association and the H+S staff. The final delivery of the complete antenna unit will be done in the second week of June 2017.



One antenna element and the 91-element EISCAT_3D sub-array produced by Huber+Suhner.

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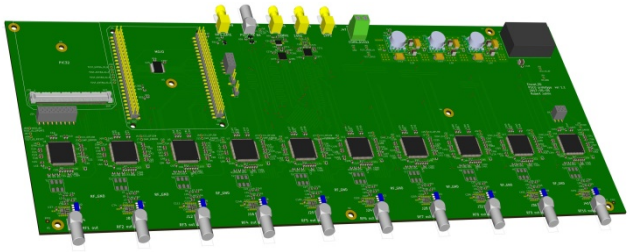
The Pulse and Steering Control Unit Project Status

EISCAT3D_PfP project staff is producing two 10-channel PSCU boards to cater the needs of this project. The in-house produced PSCU board is made up of AD-9957, Mojo FPGA board and PIC-32 micro-controller board. Two 10-channel PSCU boards will work as transmit radar controller and exciter for the 19 SSPAs. The fully functional PSCU boards will be ready for integration with other sub-systems by the mid-June 2017.



Single in-house produced 10-channel PSCU board.

The First Stage Receiver Unit Project Status

The FSRU project with National Instruments (NI), Sweden is proceeding as per the schedule. The FSRU hardware is ready and the first beams has been produced. The factory acceptance tests will be held in California, USA in mid-June and thereafter the complete FSRU sub-system will be delivered to the project site in Norway. The EISCAT staff has received the required FSRU software interfaces from NI to prepare the low-level control software and connections to the EISCAT Realtime Operating System (EROS).

Other EISCAT3D_PfP project news in brief

- A couple of meetings were held at EISCAT Headquarters in Kiruna to finalise the software requirements in the EISCAT3D_PfP project. The meetings were attended by Mr. Jussi Markkanen, Dr. Assar Westman, Mr. Harri Hellgren and Dr. Sathyaveer Prasad. During these meetings, it was decided that a dummy software interface will be tested by the end of May 2017 prior to the final installation at the site.

- The contract for the procurement of instrument container was awarded to VT MOODUL in Estonia. The instrument container will be delivered at the Tromsø site in the second week of June 2017.

- Mr. Lennart Lövqvist has visited the project site in Norway to initiate the test sub-array construction activities by clearing the snow at the site for the installation of container and antenna unit. It is expected that most of the ground preparation will be done by the first week of June 2017.

A view of the under-construction instrument container.

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