Geophysical Research Abstracts
Vol. 14, EGU2012-11339, 2012
EGU General Assembly 2012

Space Weather Studies with EISCAT_3D: Developing the Science Case

IW McCrea (1), A Aikio (2), and the EISCAT_3D Science Working Group ()

(1) STFC Rutherford Appleton Laboratory, Space Science and Technology Department, Harwell, United Kingdom (ian.mccrea@stfc.ac.uk, 01235445848), (2) Department of Physics, University of Oulu, Oulu, Finland

The EISCAT Scientific Association, in conjunction with a range of international partners, is currently engaged in a Preparatory Phase study for its next generation of mainland radar facilities, known as EISCAT_3D. EISCAT_3D will comprise a multistatic distributed network of phased array radars in northern Scandinavia, some of which will have transmission and reception capabilities, while others will be purely passive receivers. The new facility will be capable of both large-scale (volumetric) and small scale (aperture synthesis) imaging, with the capacity for continuous observations and significantly improved sensitivity and flexibility compared to the present radar systems.

As part of the Preparatory Phase study, funded by the Seventh Framework programme of the European Union, a working group has been established to develop the science case for the new radar. This science working group has a rolling membership, specialising in a range of subjects, enabling a variety of different science topics to be covered over the lifetime of the study. In the current year, the main focus of the working group is on space weather science and potential service applications of the new EISCAT_3D radar system.

Our presentation will briefly review the space weather topics which have already been considered by the science working group, looking at the demands which these might place on the design and performance of the new radar, and its relationship to other instruments. In addition, we will encourage suggestions for further space weather topics which EISCAT_3D could address and might be considered by the Science Working Group during the remainder of the study.