

Proceedings of the Research Institute of Atmospheric,
Nagoya University, vol. 31(1984)

ACTIVITY REPORT

Section 1. Propagation of Atmospheric and VLF, ELF Radio Noise

In order to carry out ground-based observations of good quality for natural VLF/ELF phenomena in the Arctic region in Europe, the electromagnetic compatibility in the frequency range from 100 Hz to 90 kHz was examined in Kiruna and its suburbs in Sweden in September 1983 by a Grant-in-Aid for Overseas Scientific Survey from the Ministry of Education of Japan, continued to the previous year's campaign. In addition to a mobile VLF observation, the observation using a telemeter system from a place located 10 km northwest of Esmange with very low noise level to Esmange located 50 km east of Kiruna was also carried out and the satisfactory results of good quality were obtained.

On the basis of the fundamental data obtained from a preliminarily installed broadband array of four conical log-spiral antennas, a broadband array of 4x4 conical log-spiral antennas has been constructed through good offices of Dr.T.Watanabe of our institute in the east-west and the north-south directions to observe Jovian decametric radio waves. Observations of Jovian decametric emissions using this broadband array will be started from February 1984.

To investigate the quantitative relationship of solar X-ray bursts with disturbances in the D-region, we have continued the phase measurements for the frequency standard signals of 22.3 kHz(NWC) and 18.6 kHz(NLK) and for the OMEGA signals of 11.3 and 10.2 kHz from four OMEGA stations : Aldra, Haiku, Re-union and N.Dakota.

SPA phenomena observed at Toyokawa were reported every month at Solar-Terrestrial Environments Research Meeting and also to the World Data Center A at Boulder, U.S.A..

From April 1983, Dr.T.Ogino of our research group is staying for a three-dimensional MHD computer simulation on the interaction between the solar wind and the Earth's magnetosphere at IGPP, UCLA, U.S.A..

January 26, 1984

- Tetsuo KAMADA -

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- Kamada, T., T. Ogino and H. Jindoh: Investigation of the ELF-VLF
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