

On study of geomagnetically induced current in Hokkaido

Shinichi Watari[1]; Manabu Kunitake[1]; Kazuhiro Ohtaka[1]; Kentarou Kitamura[1]; Tomoaki Hori[1]; Keiko T. Asai[2]; Takashi Kikuchi[3]; Kazuo Shiokawa[4]; Nozomu Nishitani[4]; Yohsuke Kamide[5]; Teruo Aso[6]; Yuji Watanabe[6]; yuji Tsuneta[6]

[1] NICT; [2] Space Weather G., NICT; [3] STELab; [4] STELAB, Nagoya Univ.; [5] STEL, Nagoya Univ; [6] R & D Dept., Hokkaido Electric Power Co., Inc.

The space weather influences power grids by geomagnetically induced current (GIC) besides influence on satellites with energetic particles. Current flows in power line connected both end of the transformers of which neutral points are grounded directly if the ground level potential is caused by geomagnetic variation. This current influences power grids such as transformers. In 2005 fiscal year the study on the GIC has started in Hokkaido by the cooperation of National Institute of Info. & Com. Tech. (NICT), Hokkaido Electric Power Co., Inc., and Solar and Terrestrial Environment (STE) Lab., Nagoya University. Hokkaido Electric Power Co., Inc. measures the GIC of the power grids. NICT and STE Lab., Nagoya University do observations related the GIC, such as geomagnetic field observations. Three organizations analyze the obtained data jointly. The acquisition of GIC measurement data has been begun since December, 2005. It is reported that the outline of the project and the initial result of the GIC study.