

Study of dynamics of tsunami ionospheric hole from geomagnetic observation

*Yuto Tomida¹, Tatsuya Kanaya¹, Masashi Kamogawa¹, Makoto Uyeshima²

1.Department of Physics, Tokyo Gakugei University, 2.Earthquake Research Institute, The University of Tokyo

Approximately several minutes after the occurrence of the mainshock of the M9.0 off the Pacific coast of Tohoku Earthquake on 11 March 2011, various geo-electromagnetic phenomena was in Japan and even in the magnetic conjugate point of Japan (i.e. Australia) through magnetic field lines as a field align current. In this paper, we show electromagnetic phenomena after the 2011Tohoku earthquake in the ionosphere such as tsunami ionospheric hole, seismo-field align current, Rayleigh-wave-induced ionospheric arc current, and seismic- ionospheric ring current (SRIC). SRIC was highly related to tsunami ionospheric hole observed by GPS-TEC.

Keywords: Magnetic field, Earthquake, Tsunami, Tsunami ionospheric hole