

## Observational study of the Lithosphere-Atmosphere-Ionosphere Coupling (Chemical channel)

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Recently, Ionospheric anomalies possibly associated with large earthquakes have been reported by many researchers. These reports suggest the existence of "Lithosphere- Atmosphere-Ionosphere Coupling (LAI coupling)". For the LAI coupling, 3 channels have been proposed; they are "acoustic", "chemical", and "electromagnetic" channel. In this study, the chemical channel is considered to be dominant and in order to understand basic characteristics of the chemical channel, we observe ion content concentration, atmospheric electric fields, and meteorological parameters in the southern part of Boso Peninsula. We have installed COM-3700, produced by Com System Inc., to measure ion content concentration at Akishima (Tokyo), Kiyosumi (the southern part of Boso Peninsula) and Uchiura (the southern part of Boso Peninsula). Atmospheric electric field and weather conditions (temperature, humidity, air-pressure and wind conditions) have also been measured simultaneously at Kiyosumi station. We are now collecting fundamental data to understand variations.

After the 2011 off the Pacific coast of Tohoku Earthquake(M9.0), We observed anomalous variations of ion content concentration and atmospheric electric field. It may results from atmospheric radioactive material released by the Fukushima Daiichi Nuclear Power Plant accident. We think this variation of atmospheric electricity parameters is response to increase of radioactive material in the atmosphere.

In our presentation, we will show you details.