Japan Geoscience Union Meeting 2011
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GSU023-P04 Room:Convention Hall Time:May 22 14:00-16:30

Geophysics Experiment in Tohoku University

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Undergraduate students in geophysical course in Tohoku University take a class of geophysics experiment for one year. The class is conducted through three stages. In the first stage, the students measure a physical constant, such as charge of electron, sound velocity, dielectric constant in atmosphere, viscosity coefficients of liquids, gravitational acceleration, earth's rotation velocity, and light speed. Through the measurements of well-known physical constant, they can obtain further understanding on the errors which can not be avoided in the experiments. In the second stage, the students design and build a simple measurements system using basic electric circuits such as thermometers by thermocouple and diode, water-level meter, and ultrasonic range meter. They learn the basics on electric circuits which are used in most of recent geophysical observations. In the third stage, the students perform basic observation of geophysical phenomena such as characteristic vibration of the building, seismic moment, land and sea breeze, ground temperature, ionospheric altitude, and lightning locations. They have an experience of observation and data analysis of the geophysical phenomena with time variations. The unique points of this experiments are as follows: (1) The students can determine the subject and method of their experiment freely. (2) Long periods (2-4 months) are allocated for each experiment. The current status and some problems will be reported in the presentation.

Keywords: Geophysics Experiment