

Improvement of Crustal Activity Monitoring System using New Wideband Stationary Magneto-telluric Observation Equipment

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Continuous and high quality monitoring of the ground resistivity changes may be a useful method to detect the tectonic activities such as seismic activity and crustal movements. We introduced new wideband MT system(MTU-5 unit) at Mizusawa Geodetic Observatory and Esashi Observatory, Geographical Survey Institute, in February, 2003. As the systems at both stations are synchronized by GPS clocks, effective noise reduction is expected by applying the remote reference method.

Preliminary studies using eight months MT data set reveal the following results: (1) The remote reference and edit processings using magnetic data at Mizusawa station are markedly effective to improve the MT data quality at Esashi station. (2) We detect successfully that the apparent resistivity at 0.0234Hz tends to increase with time at Esashi station, suggesting accumulation of the strain in the crust caused by the subducting Pacific Ocean plate motion.