Monitoring of crustal resistivity variations using a stationary wideband MT measurement system(2)

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To monitor ground resistivity changes associated with crustal activities(crustal movement and seismic activities), we installed stationary wideband(320-0.00055Hz) MT measurement systems at Mizusawa and Esashi geodetic observatory of Geographical Survey Institute, in April, 1996. The system is based on Phoenix V5-16 MT units and it measures continuous time-series data of 2 components of telluric field and 3 components of magnetic field. Two instruments are also synchronized using GPS clocks.We calculated apparent resistivity and phase values of 7.5Hz, 0.0234Hz and 0.00879Hz at Esashi site using six years MT data sets.

The main features are described below: (1)Remote reference processing using a magnetic data of Mizusawa site is very effective to improve MT data quality at Esashi site. (2)Apparent resistivity(YX) values at Esashi site have tendency to become a high with time. This may be implies that apparent resistivity have varied associated with accumulation of strain in the crust caused by subducting the Pacific plate. We will preset the results of analysis derived from MT impedance and discuss one-dimensional resistivity structure.