

岩手・宮城内陸地震域の浅部比抵抗構造

Shallower resistivity structure at the focal area of the Iwate-Miyagi inland earthquake

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The Iwate-Miyagi Inland Earthquake occurred at the border of Iwate, Miyagi and Akita prefecture on June 14, 2008. We had carried out MT (Magneto-tellurics) survey across the focal area a few days after the earthquake.

A couple years before the earthquake, MT surveys were done around this area aiming to investigate the deep structure associated with low-frequency earthquake beneath volcanoes (Mishina, 2009). Firstly we had installed three MT sites at the same places among these previous sites just after the earthquake in order to detect resistivity change in the focal area. We had monitored resistivity for about one and half months at these three sites. Probably because of determination of artificial noise in the frequency range from 0.1 to 1 Hz as well, however, we could not detect the resistivity changes.

In addition, one and half months after the earthquake, we had carried out another campaign of the MT observation setting out WNW-ESE survey line including 14 sites. The survey line, named 200 8-line, runs across just on the epicenter. We put out two-dimensional resistivity models including focal area. The models were calculated with TM mode. The out standing feature of the model was that a low resistivity block exists beneath the focal area at the lower crust.

The remained problems of the model and the data are as follows:

- i) Around the focal area at the upper crust, it seems low resistive in our model.
- ii) At several sites around the focal area, the data at frequencies of 0.1 to 1 Hz were contaminated by unknown noises.
- iii) Just the east area of the focal area, anomalous phase are observed.

Now we construct a model out of consideration of the low frequencies reflect the anomalous phase. Namely we put out shallower resistivity structure including the upper part of the focal area that would avoid three dimensional effects.

In addition, we installed a new site at the focal area recently. The site is on a granite area spotted on the north and south banks of the Iwai stream. We also put out a re-calculated model along the same survey line of Mishina (2009).

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