Estimation of regional structure beneath the Kyushu district, southwestern Japan, as inferred from the Network-MT survey

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In this study, considering the present condition that it became impossible to cover the whole country with the telluric observation networks comprising the Network-MT method because of a shift to the optical fiber of the communication lines of the Nippon Telegraph and Telephone Corporation (NTT), we re-analyzed data sets observed by the Network-MT in the Kyushu district again. In this re-analysis, we tried to choose triangular elements of the Network-MT again in order to obtain spatial independency of each triangular element, and also we applied detide processing for the Network-MT data, especially observed at places near to sea shore. We calculated the Network-MT responses for each triangular element showing more suitable spatial distribution in the Kyushu district. We compared the geology and tectonics in the Kyushu district with the tendency to distribution of the phase tensors obtained from the Network-MT responses. And following results are obtained. (1) In the eastern region of the volcanic front in the Kyushu district, directions of the major axis of each phase tensor well correspond to that of the subducting Philippine Sea plate. (2) In the Beppu-Shimabara Graben of middle Kyushu, spatial distribution of the major axis of each phase tensor is divided into several regions, along whose boundary there exist the volcanoes such as Aso and Kuju.