

2D and 3D Resistivity Structure beneath Kyushu in Consideration of the Dipole Length of the Electric Field in the NetworkMT Survey

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Network-MT observations, which use telephone line networks in long baseline telluric measurements (Uyeshima, 1990), were carried out in the Kyushu district, southwestern Japan, from 1993 to 1998. We reanalyzed these data sets to determine regional scale electrical conductivity structure. As a preparatory step for imaging three-dimensional modeling, we carried out several two-dimensional inversion analyses to the Network-MT impedance responses across the characteristic geology, tectonics and volcanoes. Here we made an improvement the inversion code (REBOCC: Siripunvaraporn and Egbert, 1999) for Network-MT to treat measured voltage differences for several tens kilometers electrode spacing. And we could get much clearer overall resistivity structure to explain the observed Network-MT data set and have a rough grasp of the resistivity structure beneath the whole Kyushu. Then we carried out a three-dimensional inversion analyses to take thought of the effects of the three-dimensional geographical features and seawater on every side. In this presentation, we would like to explain details of our reanalysis and obtained two-dimensional and three-dimensional models, and introduce the future direction of this study.