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Heterogeneous electrical structure of Kozu-shima volcanic island, Japan

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Nearly twenty anomalous geoelectricfield changes were observed before earthquakes at Kozu-shima Island, Japan, from 1997 to 2000 (Orihara et al., 2002). In order to help locating the current sources of the observed anomalous changes, a bipole-dipole resistivity survey was conducted (Orihara et al., 2009). From the resistivity survey, including current injection into the ground, it was found that various features of the anomalous changes were systematically different from those of changes caused by artificial sources and induction of geomagnetic disturbances. Moreover, it is suspected that the currents of SES-like anomalous changes were generated not near the ground surface but deep under the ground.

In order to understand this heterogeneous electrical structure and produce electrical resistivity tomography, therefore, we promoted resistivity survey in Kozu-shima by VLF-MT methods.

Keywords: Geoelectric potential difference, Heterogeneous electrical structure, VLF-MT