R003-02 **会場: B** **時間: 11月25日 9:15-9:30**

Heterogeneous electrical resistivity image around the long-term Slow Slip Events beneath the Bungo Channel region, southwest Japan

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Recent geodetic observations detect recurrent slow slip events (SSEs), which occurred beneath the Bungo Channel and southwest Shikoku Island, with interval of approximately 6 years (e.g. GSI, 2010). To reveal a large-scale three-dimensional resistivity structure around this SSEs region, we carried out wideband magnetotelluric (MT) surveys around the western part of Shikoku Island. As of June, 2016, MT surveys were performed at 31 sites by using Phoenix wideband MT instruments. In the most of sites, high quality MT responses were estimated by using the BIRRP code (Chave and Thomson, 2004) for the period range 300 Hz to 10,000 sec (Yoshimura et al., 2016). In addition, we used 8 more MT and telluric data obtained for different purposes; 6 sites from the opposite side of the Bungo Channel, namely the eastern part of Kyushu Island, measured by Metronix ADU and NT System Design ELOG systems (Aizawa et al., 2017) and 2 sites from the region of the central part of SSEs measured by Phoenix MTU system (Okazaki et al., 2017). These additional data were also reprocessed by the BIRRP code. In this study, we totally used 38 sites for three-dimensional inversions.

Using obtained MT responses, we constructed a three-dimensional resistivity model around the SSE region. We inverted the impedance tensor and the vertical magnetic transfer function by the "femtic" inversion code developed by Usui (2015). The "femtic" inversion code employs the edge-based finite element method for unstructured tetrahedral elements and estimates the subsurface resistivity structure and the distortion tensor for each observation site. The total number of nodes and elements in the discrete model are 211,378 and 1,321,175, respectively. The elements, excluding those located in the air and sea water regions of the mesh, were grouped into 41,282 unknowns of model parameters. The main features of the obtained three-dimensional model are 1) a moderate conductive zone in the central part of SSEs 2) whose trenchward extension shows more conductive and 3) conductive zone surrounding the SSEs regions. These results suggest that the lateral electrical heterogeneity could have controlled the slip distributions of SSEs along the upper boundary of the Philippine Sea slab.