

Large-scale electrical resistivity structure 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). In order to reveal a large-scale three-dimensional resistivity structure around SSEs region, we carried out wideband magnetotelluric (MT) surveys around the western part of Shikoku Island. We also plan to establish a permanent long-term MT monitoring network that aims to detect temporal changes of resistivity structure during SSE cycle. 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 obtained using the BIRRP code (Chave and Thomson, 2004) for the period range 300 Hz to 10,000 sec. The spatial distributions of the phase tensor ellipses and the induction vectors suggest that resistivity contrasts are located surrounding SSEs. In this presentation, we show the results of the data analysis and preliminary inverted three-dimensional model around the transition zone between SSEs and stick-slip regions.

キーワード：スロースリップイベント、豊後水道、比抵抗構造

Keywords: slow slip events, Bungo Channel, resistivity structure

