

**R003-P05**

**ポスター 2 : 9/25 AM1/AM2 (9:00-12:30)**

## **ニュージーランド北島の火山・非火山地域における長周期 MT 法観測**

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## **Long-period MT surveys at volcanic and non-volcanic regions in North Island of New Zealand**

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The northern part of the North Island of New Zealand is characterized by subduction-related volcanism in the NNW-oriented Coromandel Volcanic Zone during the Miocene-Pliocene and the NE-oriented active Taupo Volcanic Zone (TVZ) during Pleistocene-Recent. The subduction of Pacific Plate and Hikurangi Plateau, with the velocity of subduction ranging from 6 cm/year in the north to 2.5 cm/year in the south [e.g., Wallace et al. 2004], involves the formation of the volcanic island of the North Island. The central part of TVZ discharges ~ 4.2 GW of extraordinary heat flux originated in recent silicic volcanism [e.g., Bibby et al., 1995; Wilson et al., 1995]. Seismic and electromagnetic research have been reported the crustal and upper mantle heterogeneity with magma/melt reservoirs beneath the TVZ [e.g., Stratford and Stern, 2006; Heise et al., 2007]. On the other hand, it is interesting that no volcanic structures are distributed in the southern part of the North Island. Moreover, slow and ordinary earthquakes highly occur in the North Island. Geodetic studies present undocumented deep (25 – 45 km depth), moderate-duration (2 – 3months) slow slip events (SSEs) directly downdip of known shallow (<15km depth), short-term (2 – 3weeks) SSEs at the fore arc of the Hikurangi margin [e.g., Wallace&Eberhart-Phillips, 2013]. At the Gisborne and Manawatu regions in the fore arc, tectonic tremors have been detected. In the subduction zones, it is considered that the fluid/magmatic system in the mantle wedge play a large role in the volcanic and seismic activities. However, the structure of the underlying fluid/magmatic system beneath the North Island is unclear. So thus, we conducted long-period MT surveys in a target region, which covers the southernmost part of the TVZ and the non-volcanic region, in order to reveal the structure of the underlying fluid/magmatic system in the subduction dynamics. In this presentation, we mainly show details of the long-period MT surveys and preliminary analysis results of obtained long-period MT data.