

## Hydrothermal System within Volcanic Edifices Delineated by Electric Self-Potential and Magnetotellurics

# Koki Aizawa[1]; Yasuo Ogawa[2]; Shintaro Nagaoka[3]; Azusa Shito[4]; Tsuneo Ishido[5]

[1] Sakurajima Volcano Research Center, Kyoto University; [2] TITECH, VFRC; [3] Earth and Planetary Sci., TITECH; [4] ERI, Univ. of Tokyo; [5] GSJ/AIST

Water within active volcanoes can contribute to various precursors of eruption, and may control the type of eruptions. Over long geological time, volcanoes are weakened by hydrothermal alteration, and raise their potential for catastrophic sector collapses [e.g., Lopez and Williams 1993; Opfergelt et al., 2006]. Therefore earlier imaging of a hydrothermal system in a volcano is critical for evaluating the forthcoming volcanic activities and the hazard evacuation. In this study, we present the SP data and the resistivity structure obtained at some volcanoes in Japan. The two kinds of physical parameters show that there exist close relationship between them. Taking into account the locations of surface geothermal activities and the results of the numerical simulation, we will propose the model of the hydrothermal system within volcanic edifices.