VOLNACO-LOOP: toward the monitoring phreatic eruption environment in terms of resistivity

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In order to monitor the phreatic eruption environment, resistivity is one of the most sensitive physical parameters, because it is sensitive to the existence of vapor, clay, and fluids. For volcanological monitoring applications of the resistivity, the conventional methods are the DC resistivity and LOTEM method and they are in operation.¥

In this paper, we propose VOLCANO-LOOP system, which is a so-called coincident loop system. This system consists of transmitter and the rceiver loop around the crater pit and can measure the step responses directly under the crater pit zone. The advantage of the system is the easy installation, and direct response from the vent.¥

We show some theroretical calcutaion toward the application of the sysytem at Mizugama crater at Kusatsu-Shirane volcano.