

E134-003

Room: 101A

Time: May 16 14:15-14:30

A numerical approach of volcanomagnetic effects due to hydrothermal activity.

ayako okubo[1]; Wataru Kanda[2]; Kazuhiro Ishihara[3]

[1] DPRI, Kyoto Univ.; [2] DPRI, Kyoto Univ; [3] SVRC, DPRI, Kyoto Univ.

We have developed postprocessors to calculate the geomagnetic field variations caused by hydrothermal activities in the volcanic area. They use distributions of temperature and pressure inside the volcano, which are results of a numerical simulation for hydrothermal activity. The two dominant mechanisms of volcanomagnetic effects are considered here: thermomagnetic and piezomagnetic effects. The aim of this study is to evaluate numerically (1) how the volcanomagnetic changes are observed in the presence of hydrothermal activity and (2) how topography or cap rock affects them. In the presentation, we will show some results of case studies based on different hydrothermal activity models.