

Numerical simulations of piezomagnetic effect associated with hydrothermal activity.

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Geomagnetic field variations observed at many volcanoes suggest temperature changes and/or stress changes inside those volcanoes. Such volcanomagnetic effects are largely controlled by a behavior of volcanic fluids or hydrothermal systems that transport heat and mass from the deep source. We have developed postprocessors to calculate volcanomagnetic effects caused by hydrothermal activities and examined the influences. In the presentation, we will focus on the modeling of piezomagnetic effect that would be predominant in our problem.