
SEM031-P13

Room: Convention Hall

Time: May 26 17:15-18:45

Self-potential anomalies in volcanic and geothermal areas: effects of diffusion potential

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The EKP-postprocessor, which calculates self-potential distribution caused by electrokinetic coupling from underground conditions computed by fluid flow simulations (Ishido and Pritchett, 1999), has been improved so as to incorporate "diffusion potential" as a SP generation mechanism in addition to electrokinetic streaming potential. The results of numerical simulations concerning SP anomalies in geothermal and volcanic areas, which we carried out using a prototype of the extended EKP-postprocessor, will be presented.

Keywords: diffusion potential, electrokinetic effects, hydrothermal system, degassing, numerical simulation