

Comparison between geodetic data and volcanic conduit flow models

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Volcanic conduit flow models have been improved from many results of geologic sample analyses and laboratory experiments, and have been used for understanding the behaviors of magma flow in the conduit based on the spatio-temporal changes of pressure and velocity etc. of volcanic flow that are numerically and analytically obtained. Since the geodetic data can quantify locations and magnitude as well as shapes of the pressure sources in the volcanic edifices, analyses of geodetic data are quite useful to directly examine the volcanic flows in real volcanoes. The present study summarizes and discusses relations between geodetic data analyses and volcanic flow model, giving attentions into gas bubble growth and rising, and out-gassing during magma ascent as well as propagation of magma-fragmentation surface in the conduit during eruptions.

Keywords: Volcanic conduit flow model, geodetic data