

Examination of a simple fluid flow model as a source of long-period earthquake

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As for the excitation of volcanic earthquakes and tremors, there are two types of physical models. One is based on a resonance of fluid filled cavity [e.g., Fujita et al. (1995)], and the other is based on a vibration of a channel wall excited by viscous fluid flow [Julian (1994)]. The model presented by Julian (1994) well explains the features of N-type earthquakes at Asama volcano and C-type tremors at Sakurajima volcano. From our supplementary tests, however, some problems were revealed. The serious problem in his model is that the fluid takes negative pressure in most cases. We report such problems hide in his formulation with some remedies of the model.