

## Condition for the choice between summit and flank fissure eruptions

# Yoshiaki Ida[1]

[1] Earthq. Res. Inst., Univ. of Tokyo

The choice between eruptions in the pre-existing summit crater and a new fissure generated on the flank is determined by magma pressures necessary to induce these eruptions, assuming that they are fed by the same magma chamber. Namely, the eruption that can start with the lower magma pressure is expected to occur. According to this principle, the summit eruption is more likely than the fissure eruption, as the summit is higher, the regional stress is more compressive, or the magma density filling the summit conduit is lower. Sometimes either a summit eruption or a fissure eruption is followed by the other during the same eruptive sequence. This phenomenon is attributed to the change of bubble content and magma density during the preceding eruption.