

## Simulating volcanic eruption by moving particles

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Fragmentation of magma in the conduit is important to understand the explosive eruption. We present a simple model which demonstrates how the fragmentation front is formed and how it moves. We employed a simplified version of particle dynamics approximation for gas-liquid multi phase flow in the conduit. In the model, magma and gas are represented by mixture of liquid particles and gas particles, each having contrasting compressibility. In this model, the fragmentation front is defined as rapid decrease of the pressure.