An analog model of magma source region

Tohru Watanabe[1]

[1] Dept. Earth Sciences, Toyama Univ.

The propagation of magma-filled cracks is the dominant mechanism of magma transport in the Earth's lithosphere. The problem is from where cracks take off that can traverse the lithosphere. Our working hypothesis is that they originate from the top of partially molten region. In order to clarify the nature of this region, we are now conducting analog experiments using a mixture of glass beads and NH4Cl solution. We will show preliminary results suggesting that the increase in melt pressure due to solidification lead to the initiation of cracks.