

## The numerical experiments of thermo-chemical convection with the effect of geometry and D" layer in the mantle

# Takashi Nakagawa[1], Satoru Honda[2], Tomoeki Nakakuki[3], Hiromi Fujimoto[4]

[1] Dept. of Earth and Planet.Sci.,Univ. of Tokyo, [2] Dept. Earth Planet. Syst. Sci., Hiroshima Univ., [3] Dept Earth Planet Syst Sci, Hiroshima Univ, [4] School of Sci., Tohoku Univ.

We have investigated the numerical experiments of thermo-chemical convection with the effect of geometry and thermo-chemical boundary layer at the bottom region(D" layer) in the mantle. D" layer is dealt with the low viscosity and high density layer. We perform the numerical experiments with varying viscosity ratio between high density layer and low density layer and chemical buoyancy parameter. The regime boundary between two convective styles is shifted to the higher value of chemical buoyancy parameter. This is the reason that the interaction between downwelling flow and thermo-chemical layer at the bottom region becomes stronger than laboratory experiments due to the effect of geometry.