

Mantle convection simulations on HPC: past, present and future

KAMEYAMA, Masanori^{1*} ; MIYAGOSHI, Takehiro² ; FURUICHI, Mikito² ; NAKAGAWA, Takashi² ; YANAGISAWA, Takatoshi² ; NAKAKUKI, Tomoeiki³ ; OGAWA, Masaki⁴

¹GRC, Ehime University, ²JAMSTEC, ³Hiroshima University, ⁴University of Tokyo

In this presentation, we will discuss (a rather personal view of) the possible directions of the advanced numerical studies of mantle dynamics in concert with the progress of high-performance computing in the next era. We will start with a brief overview of the research targets and outcrops of the numerical modelings of mantle convection to date from a viewpoint of geosciences. Then we will discuss the scientific goals which the mantle dynamics researchers are to tackle with in coming years, together with the technical issues in terms of both software and hardware developments.

Keywords: mantle convection, numerical simulation