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Creating future of solid Earth science with high performance computing (HPC): Introduction

HORI, Takane[1]* ; HINO, Ryota[2] ; HONKURA, Yoshimori[3] ; KANEDA, Yoshiyuki[1] ; ARIKAWA, Taro[4] ; ICHIMURA, Tsuyoshi[5] ; TODORIKI, Masaru[5]

[1]JAMSTEC, [2]Tohoku University, [3]Tokyo Institute of Technology, [4]Port and Airport Research Institute, [5]University of Tokyo

In Japan, high performance computing (HPC) had been driven by computer science community (HPC developer). However, recently, computational science community (HPC user) has been expected to contribute to the planning and development of the next generation HPC showing the scientific and/or social issues to be solved for the next 10-20 years using HPC. In various filed of science using HPC, scientists has started to discuss scientific and/or social issues to be solved in each field. Hence, in this session, we aim to examine such issues in solid Earth science, which HPC can contribute to solve. For social issues, we will focus on earthquake and tsunami disaster mitigation. For scientific issues, we would like to discuss construction of the next generation of solid Earth model based on the big data of seismic waves and crustal deformation obtained by high-density observation networks. We will introduce the contents of the "white paper" of the future plans for computer science in various fields including solid Earth science.

Keywords: HPC, hazard mitigation