

Mini-symposium proposal

Title: Advanced numerical approaches for complex multi-phase flows

Organizers: Takashi Yabe (Tokyo Institute of Technology/ yabe@mech.titech.ac.jp)

Nobuatsu Tanaka (Ibaraki University/ ntanaka@mx.ibaraki.ac.jp)

Feng Xiao (Tokyo Institute of Technology/ xiao@es.titech.ac.jp)

Abstract:

Multi-phase flows are found in almost all areas of engineering applications. The complexity of these sorts of problems makes computation or numerical simulation the practical and in many cases the only way to get the solutions. The researches on the numerical methods for flows that involve fluid/fluid or fluid/solid phases are among the most active fields of computational mechanics in recent years. This symposium provides a forum for the presentations of the new development of numerical methods as well as the latest work in real world applications related to multi-phase flows. The symposium encompasses a wide range of topics, such as, interface tracking/capturing method, immersed boundary method, interfacial physics and modeling, Lagrangian/Eulerian model, particle-based methods, averaged modeling and so forth. This symposium aims to bring together computational scientists and experts with different application interests to share the updated knowledge and experience in this important field of computational mechanics.