

RECENT ADVANCES IN MESHFREE AND PARTICLE METHODS

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Meshfree and particle methods have been developed in the field of computational mechanics by taking advantage of their robustness against dynamic changes in free surfaces and propagation of discontinuities. While the advantages of these methods derive from their meshless nature, these features can conversely pose difficulties in the treatment of boundary conditions and in problems of multiphase flows with high density ratios. The purpose of this mini-symposium is to provide discussions for researchers of the meshfree and particle methods to share their recent knowledge and advanced insights. The topics are mathematical theory, discretization schemes, multi-resolution techniques, multi-physics analysis, boundary conditions, accuracy, adaptive analysis, parallel processing, large scale analysis, applications, verification and validation etc. for the particle methods.