

Numerical Simulation and Experiment on Dam Break Problem(PDF)

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Title: Numerical Simulation and Experiment on Dam Break Problem

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摘要: In this paper, two novel numerical computation methods are introduced which have been recently developed at Research Institute for Applied Mechanics (RIAM), Kyushu University, for strongly nonlinear wave-body interaction problems, such as ship motions in rough seas and resulting green-water impact on deck. The first method is the CIP-based Cartesian grid method, in which the free surface flow is treated as a multi-phase flow which is solved using a Cartesian grid. The second method is the MPS method, which is a so-called particle method and hence no grid is used. The features and calculation procedures of these numerical methods are described. One validation computation against a newly conducted experiment on a dam break problem, which is also described in this paper, is presented.

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