

A finite volume algorithm based on overlapping meshes for simulation of hydrodynamic problems^(PDF)

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Title: A finite volume algorithm based on overlapping meshes for simulation of hydrodynamic problems

作者: Roozbeh PANAHI and Mehdi SHFIEEFAR

Author(s): Roozbeh PANAHI and Mehdi SHFIEEFAR*
Civil Engineering Department, Tarbiat Modares University, Tehran 14155-4838, Iran

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摘要:

A finite volume algorithm was established in order to investigate two-dimensional hydrodynamic problems. These include viscous free surface flow interaction with free rigid bodies in the case of large and/or relative motions. Two-phase flow with complex deformations at the interface was simulated using a fractional step-volume of fluid algorithm. In addition, body motions were captured by an overlapping mesh system. Here, flow variables are transferred using a simple fully implicit non-conservative interpolation scheme which maintains the second-order accuracy of implemented spatial discretisation. Code was developed and an appropriate set of problems investigated. Results show good potential for development of a virtual hydrodynamics laboratory.

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备注/Memo: -

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