

عنوان مقاله:

Modeling of Turbulent Flow Due to the Dam Break Against Trapezoidal Barrier

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خلاصه مقاله:

Dam is considered as a strategic structure whose collapse and destruction is a catastrophic event and could bring about significant life threatening and financial losses. Also its destruction may cause environmental damages due to uncontrollable exit of large amounts of water and sediment from the reservoir which results into propagation of devastating flood at downstream. Presence of barriers and buildings changes the flow patterns downstream of a dam. Regarding the importance of this issue, in this research modeling of this phenomenon was performed in the presence of a trapezoidal barrier using the finite volume method and OpenFOAM software. Modeling is in 2D form and, for validation of the results, use has been made of the numerical and experimental research conducted by other researchers. The results show that this model has a good performance in simulation of these problems and has been able to simulate the results with a good accuracy, compared to the experimental results. For simulation of other phenomena similar to the dam break, the present model could be developed.

کلمات کلیدی:

Dam Break, Two, Phase Flow, Finite volume, OpenFoam software

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