On the Finite Element Technique for the Shallow-Water Equations

N. T. Hung[1]

Abstract: A non-standard Galerkin method for the solution of the shallow water equations in conservative form with using the characteristic-based split algorithm is presented. The main advantage of the model are high accuracy and ability solving the time discontinuous shock waves, the supercritical and subcritical regimes as well as the transitions between the regimes; the domain is discrete by triangular elements, so it is capable of handling complex geometry. The results are verified by comparison with measurement datas and analytical solutions.

[1] Division of Water Resources Engineering Fundamentals
Danang University of Technology
Danang City, Vietnam
hungnt@udn.vn, hungntdanang@gmail.com