

Abstract

The shallow water - Exner equation is given to simulate a movement of underwater sediment. This journal explains that merging two solution of shallow water equation (SWE) and Exner equation is possible to be done. This is known as splitting technique, which is, after the solution of SWE using numerical flux is found, the Exner equation is solved by semi-implicit technique. Here, for fluid motion, the Harten-Lax-van Leer and Einfeld (HLLE) numerical flux is used. This journal describes the steps in simulating the shallow water-Exner equation: finding the solution of SWE, Exner, numerical flux, and friction of the simulation. After that, some problems are elaborated to show the result of the simulation. The results show that, by comparing the results, the simulations are in a good agreement with other results in other journals.

Keywords: shallow water equations, Exner, friction, splitting, HLLE, semi-implicit, approximation.