

Abstract

Variable Boussinesq Model (VBM) wave equation is implemented numerically with the finite volume method with a staggered grid scheme, the method becomes the basis in this study. modeling and simulation have some complex calculations and a lot of data so that the computing process takes a long time. To overcome this, the parallel program is applied to the VBM model, where the parallel program utilizes a multiprocessor or multithread owned by a computer. The parallel program is implemented using the cyclic reduction algorithm into the tridiagonal equation contained in the VBM model. Through this research an application is designed that can be used by many people for modeling and wave simulation. Application testing uses soliton waves with different N_x and A_0 (amplitude).

Keywords: finite volume, soliton wave, staggered grid scheme, Variational Boussinesq Model (VBM), parallel program