

Abstract

Shallow water equations or commonly referred as Saint-Venant equations which are used to model fluid phenomena such as flood, analysis of dambreak, and tsunami. In this final project the shallow water equation will be used to model and simulate 2D radial dambreak with finite volume method using HLLC flux. In simulating 2D radial dambreak a solution is needed. The more discrete points used on domain, the better solutions are obtained but it will cost computational time. Thus parallel computing technique using openACC platform is used to minimize computational time on the numerical scheme used. In the end the parallel program has successfully minimized computation time and obtained speedup around 50 times and efficiency 39 % for simulation dry and wet dambreak.

Keywords: Shallow water equation, radial dambreak, openACC, speedup, efficiency, dry dambreak, wet dambreak.