

ABSTRACT

Dam is building retaining or hoarding of water for irrigation (power generation and so on) [5]. In this final project will discuss simulation Dam-break three-dimensional. To model the fluid problem using Smoothed Particle Hydrodynamics (SPH). The equation of motion in the Dam-break based on the Navier-Stokes equations and continuity. SPH method domain discretize SPH fluid into particle form. In this thesis there are some cases that is given barrier with narrow and wide angle variation barrier and water volume. The simulation results Dam-break with a duration of 7 seconds is able to generate realistic visualization in describing the movement of the water flow. According to the validation results showed that there are significant different for each size barrier, angles and volume water barrier against water pressure. And there are significant barriers size, angle barrier, and the volume of water to the water speed. While the narrow barrier and the barrier width have significant differences in pressure exerted receive water particles.

Keywords: Dam, Dam-break, Smoothed Particle Hydrodynamics, SPH