

Abstract

The final project is about three-dimensional simulation of fluid flow generated by the dam break when hit stationary objects. Stationary objects is a representation of the retaining waves on the coast or on the beach. This simulation using Smoothed Particle Hydrodynamics (SPH) running on DualSPHysics program. Then the results of DualSPHysics visualized with software Blender to produce a near-real simulation. In this simulation, there are three scenarios in the form of stationary objects are different, that is trapezoidal, cylindrical, and spherical. With all three forms of different objects, velocity of fluid flow when the object hit the silent analyzed. The simulation results showed that the maximum speed at the point (0754, 0:31, 0:06) for stationary object trapezoid, ball and cylinder are respectively 2:20 m / s, 2:26 m / s, and 2:31 m / s. Trapezoid stationary object produces a decrease in fluid flow velocity of the most significant so that the trapezoidal shape suitable for use as a drag wave than spherical and cylindrical.

Keywords: SPH method, dam break, fluid flow, 3D simulations