The Analysis of Changes in the Wave from the Dynamic Fluid through the SCS (Slope Control System) Produced

Choi, Eun Sung

Park, Geon Tae

Na, Seong Yeop

Problem/Purpose ? This experiment of the wave in the textbook is done only in the plane which has no movement of the medium. ? Manufacture a device for advancing the wave experiment in slope. ? Try to explore how the wave in the kinetic fluid changes. Observations/Data/Results ? Wavelength becomes longer as the flow velocity increases. ? Wavelength becomes shorter as frequency increases. ? As the viscosity of the medium increases, the wavelength gets shortened, and the propagation velocity of the medium becomes slow. ? Movement of the medium will become closer to the flat oval as the flow velocity increases. Analysis Obtained data and the hypotheses that were set by using the derived equations from dynamic fluid were coincide. So it is possible to prove the wave equation of the dynamic fluid. And the analysis results were as follows. ? The reason for wavelength changes depending on the flow rate is because of the increase in wave's propagation speed and the frequency is constant. ? The movement of medium does not affect the change of wavelength corresponding to the frequency. ? As viscosity of the medium increases, the friction with the slope increases, attraction between molecules increases, the movement of the medium becomes slower, and finally the wavelength becomes shorter. As the viscosity of the medium increases, propagation speed of the wave slows down because of the constant frequency. ? In a slope, the medium exercises in a flat oval shape as the flow rate is getting larger.

Awards Won: