

Investigating the Irregular Wave Transmission through Reshaping Breakwaters

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Abstract

Reshaping breakwater is a kind of rubble mound structure that its profile reshapes to an equilibrium one after impinging of waves. In this paper, the effects of wave parameters including significant wave height, peak and mean wave periods, storm duration, as well as structural parameters including water depth at the toe of structure, initial slope of the structure, permeability and stone gradation on irregular wave transmission through reshaping breakwaters have been studied and investigated.

The present research has been carried out using the results of hydraulic model tests accomplished in the wave flume of Soil Conservation and Watershed Management Center, affiliated to the Ministry of Jihad-e Agriculture, using irregular waves.

The results of the research show the variations of wave transmission coefficients versus non-dimensional parameters. Moreover, a new relationship has been presented to calculate the coefficients of wave reflection from reshaping breakwaters.

Keywords: *Reshaping breakwater, Berm breakwater, Hydraulic responses, Irregular wave, Wave transmission, Physical model*
