Oceanography/Vol.1/No.1/Spring 2010/1/13-13

Determining Wave Reflection Coefficient of Irregular Waves from Reshaping Breakwaters Using Physical Modeling Results

Hossein Pour, Mahboubeh[1]; Chegini, Vahid[2]; Shirian, Naser[3];
Aghtouman, Peyman[4]; Shafieefar, Mahdi[3]

1-Faculty of Marine Science and Technology, m_hosseinpour1979@yahoo.com
2- Iranian Nation Institute for Oceanography, v_chegini@inco.ac.ir
3-Tarbiat Modares University, shir@itrc.ac.irt, Shafiee@modares.ac.ir
4- Soil Conservation and Watershed Management Research Center, equasoil@neda.net.ir

Abstract

In This paper, the effect 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 wave reflection from reshaping breakwaters has 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, affliated to the Ministry of Jihad- e-Agriculture, using irregular waves.

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

Keywords: *Reshaping Breakwater, Berm Breakwater, Hydraulic Responses, Irregular Wave, Wave Reflection, Physical Model*