

Experimental Study on Floating Breakwater Anchored by Piles

Authors : Yessi Nirwana Kurniadi, Nira Yunita Permata

Abstract : Coastline is vulnerable to coastal erosion which damage infrastructure and buildings. Floating breakwaters are applied in order to minimize material cost but still can reduce wave height. In this paper, we investigated floating breakwater anchored by piles based on experimental study in the laboratory with model scale 1:8. Two type of floating model were tested with several combination wave height, wave period and surface water elevation to determined transmission coefficient. This experimental study proved that floating breakwater with piles can prevent wave height up to 27 cm. The physical model shows that ratio of depth to wave length is less than 0.6 and ratio of model width to wave length is less than 0.3. It is confirmed that if those ratio are less than those value, the transmission coefficient is 0.5. The result also showed that the first type model of floating breakwater can reduce wave height by 60.4 % while the second one can reduce up to 55.56 %.

Keywords : floating breakwater, experimental study, pile, transimission coefficient

Conference Title : ICOE 2017 : International Conference on Ocean Engineering

Conference Location : Kyoto, Japan

Conference Dates : November 16-17, 2017