WAVE TRANSMISSION AND REFLECTION ON FLOATING BREAKWATER WITH DISTANCE VARIATION BETWEEN ARRANGEMENT

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ABSTRACT

Floating breakwater has several advantages when compared with fixed breakwater, of which more economical, effective, efficient, simple, has a flexible design, and easily moved. In this study, transmission coefficient (Kt) and the reflection coefficient (Kr) wave will be calculated from a physical model of floating breakwater so the performance of a floating breakwater in reducing wave will be known. In this study a rhombus shape floating breakwater model was made. Floating breakwater will be tested in six different configurations. The first configuration, two floating breakwaters were arranged parallel without any distance. The second and the third configuration, two floating breakwaters were arranged with a distance of 0.5 D and 1 D. The fourth configuration, three floating breakwaters were arranged parallel without any distance. The fifth and the sixth configuration, three floating breakwaters were arranged with a distance of 0.5 D and 1 D. The research was conducted at the Underwater Engineering and Seabed Laboratory where the wave loads (wave height and wave period) will be varied in testing. The result showed that the most optimum performance of floating breakwater in reducing the wave is the smallest transmission coefficient resulted by three floating breakwater with a distance of 1 D with a transmission coefficient 0.787.

Keywords : floating breakwater, transmission coefficient, reflection coefficient