SUBMERGED WAVE BREAKER AS A COUNTER-EFFECT ON OCEAN WAVE ENERGY

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ABSTRACT

The intention of this research is to study the energy of ocean wave that harmful to coast and people, and produce a structure to make the wave breaks further away from the coastal region. To conduct the experiment on relationship between height of submerged wave breaker affecting the wave energy, the construction of narrow wave tank is necessary. The size ratio for this experiment to the real size is 1:45.45. The still water level in the narrow wave tank was scaled for 15 m depth at sea water level. The concrete blocks were arranged to several heights such as 10, 17.5, 20, 22.5, 25, 27.5 and 30 cm and each height of the wave breaker represents the actual height for the wave breaker at sea as 4.55, 7.95, 9.09, 10.23, 11.36, 12.5, 13.64 m respectively. The wave energy is found to decrease when the height of the submerged wave breaker increased. As the experiment was conducted, the chosen height is $25 \times 10^{-2}\ m$. It is because, at this height of the submersible wave breaker, the energies for weak and strong waves are decreasing simultaneously between frequencies 2.5 and 4.0 Hz. The maximum actual size for the height of the submersible wave breaker is 11.36 m at depth of sea water level 15 m.

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