Abstract

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Experimental Test for Performance of WAVE HUNTER System in Wave Energy Conversion

Energy is indispensable for continued human development and economic growth. Providing adequate, a ordable energy is essential for eliminating poverty, improving human happiness, and raising living standards worldwide. and without economic growth, it will be di cult to address environmental challenges, especially those associated with poverty. But energy production, conversion, and use always generate undesirable by-products and emissions at least in the form of dissipated heat. Energy cannot be created destroyed, but it can be converted from one form to another. Although it is common to discuss energy consumption, energy is actually transformed rather than consumed. What is consumed is the ability of oil, gas, coal, biomass, wind wave to produce useful work. In this study, only conversion of Selected renewable energy sources is investigated. Waves are caused by wind forces at sea. Waves can measure many meters in heights and store a great amount of energy. Many wave energy converters absorb power via hydrostatic forces such as buoyancy versus weight versus hydrostatic pressure. However, in order to create a wave energy converter (WEC) with a high level of e ciency it is important to consider the waves-induced hydrodynamic forces, namely inertia, drag and slamming. In this study, a new WEC design has been developed in which power is produced from regular and irregular waves. This system is tested with different innovative float designs in order to investigate the influence of the float shape on the optimal design of the direct wave converter.