

The Effect of Surface Wave on the Performance Characteristic of a Wave-Tidal Integral Turbine Hybrid Generation System

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Abstract : More than 70% of the Earth is covered by oceans, which are considered to possess boundless renewable energy, such as tidal energy, tidal current energy, wave energy, thermal energy, and chemical energy. The hybrid system help in improving the economic and environmental sustainability of renewable energy systems to fulfill the energy demand. The concept of hybridizing renewable energy is to meet the desired system requirements, with the lowest value of the energy cost. This paper propose a hybrid power generation system suitable for remote area application and highlight the impact of surface waves on turbine design and performance, and the importance of understanding the site-specific wave conditions.

Keywords : marine current energy, tidal turbines, wave turbine, renewable energy, surface waves, hydraulic flume experiments, instantaneous wave phase

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