2018-03-15

180315_dataset_OMAE2018

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Title*	A novel hybrid wind-wave energy converter for jacket-frame substructures
Authors*	Carlos Perez-Collazo; Deborah Greaves; Gregorio Iglesias
Publication date*	TBC
Material type*	Dataset
Publisher*	University of Plymouth
Subject keywords	Wave Energy; Hybrid wind-wave; concept development; OWC; Physical modelling; Hydrodynamic response
Abstract	The growth of the offshore wind industry in the last couple of decades has made this technology a key player in the maritime sector. A sustainable development of the offshore wind sector is crucial for this to consolidate on a global scenario of climate change and increasing threats to the marine environment. In this context, multipurpose platforms have been proposed as a sustainable approach to harness different marine resources and combine their use under the same platform. Hybrid wind-wave systems are a type of multipurpose platforms where a single platform combines the exploitation of offshore wind and wave energy. In particular, this paper deals with a novel hybrid wind-wave system that integrates an oscillating water column wave energy converter with an offshore wind turbine on a jacket-frame substructure. The main objective of this paper is to characterise the hydrodynamic response of the WEC sub-system of this hybrid energy converter. A 1:50 scale model was tested under regular and irregular waves to characterise the hydrodynamic response of the WEC sub-system. The results from this analysis lead to the proof of concept of this novel hybrid system; but also, to characterise its behaviour and interaction with the wave field, a requirement to fully understand the benefits of hybrid systems.
Additional information	This metadata are supplementary to the journal paper "A novel hybrid wind-wave energy converter for jacket-frame substructures"
Language	English
Funder	Higher Education Innovation Fund (HEIF) School of Engineering of the University of Plymouth
Project	
Sponsors / Commisioning bodies	
DOI	
Citation	[PEARL Admin will complete]
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