

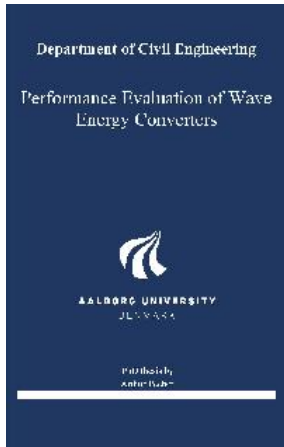
Performance Evaluation of Wave Energy Converters

Author: Arthur Pecher, Department of Civil Engineering, The Faculty of Engineering and Science, Aalborg University, Aalborg, Denmark

e-ISBN: 9788792982278

Available From: December 2012

Price: € 0.00



Description:

Keywords: Wave Energy Converters, Guidelines, Power Production Estimation, Full-Scale

Ocean waves provide a sustainable, power-dense, predictable and widely available source of energy that could provide about 10 % of world's energy needs. While research into wave energy has been undertaken for decades, a significant increase in related activities has been seen in the recent years, with more than 150 concepts currently being developed worldwide. Wave energy conversion concepts can be of many kinds, as the energy in the waves can be absorbed in many different ways. However, each concept is expected to require a thorough development process, involving different phases and prototypes.

Guidelines for the development of wave energy converters recommend the use of different prototypes, having different sizes, which have to perform tank tests or sea trials. This implicates the need of different testing environment, which shifts from being controllable to uncontrollable with the development stages, and results thereby in a need for specific test objectives and procedures for each development stage.

This PhD thesis has looked into the different development stages and more specifically in the performance assessment of wave energy converters based on tank testing and sea trials. The objective was to enhance or complement existing standards and guidelines by making them more transparent, equitable and robust, in order to make power production estimation of full-scale commercial devices more accurate, more comparable between the different development stages and more coherent in between different concepts.

Keywords: Wave Energy Converters, Guidelines, Power Production Estimation, Full-Scale

Denmark Head Office

Alsbjergvej 10
9260 Gistrup
Denmark
www.riverpublishers.com
Email: info@riverpublishers.com

USA Office

Indianapolis, IN
USA
Tel.: +1-3176899634
Email: rajeev.prasad@riverpublishers.com

UK Office

River Publishers
Email: philippa.jefferies@riverpublishers.com