



energies

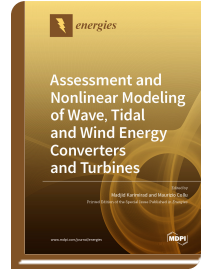


Special Issue Reprint

Assessment and Nonlinear Modeling of Wave, Tidal and Wind Energy Converters and Turbines

www.mdpi.com/books/reprint/2804

Edited by
Madjid Karimirad
Maurizio Collu



ISBN 978-3-03936-912-6 (Hardback)
ISBN 978-3-03936-913-3 (PDF)

The Special Issue “Assessment and Nonlinear Modeling of Wave, Tidal, and Wind Energy Converters and Turbines” contributes original research to stimulate the continuing progress of the offshore renewable energy (ORE) field, with a focus on state-of-the-art numerical approaches developed for the design and analysis of ORE devices. Particularly, this collection provides new methodologies, analytical/numerical tools, and theoretical methods that deal with engineering problems in the ORE field of wave, wind, and current structures. This Special Issue covers a wide range of multidisciplinary aspects, such as the 1) study of generalized interaction wake model systems with elm variation for offshore wind farms; 2) a flower pollination method based on global maximum power point tracking strategy for point-absorbing type wave energy converters; 3) performance optimization of a Kirsten–Boeing turbine using a metamodel based on neural networks coupled with CFD; 4) proposal of a novel semi-submersible floating wind turbine platform composed of inclined columns and multi-segmented mooring lines; 5) reduction of tower fatigue through blade back twist and active pitch-to-stall control strategy for a semi-submersible floating offshore wind turbine; 6) assessment of primary energy conversion of a closed-circuit OWC wave energy converter; 7) development and validation of a wave-to-wire model for two types of OWC wave energy converters; 8) assessment of a hydrokinetic energy converter based on vortex-induced angular oscillations of a cylinder; 9) application of wave-turbulence decomposition methods on a tidal energy site assessment; 10) parametric study for an oscillating water column wave energy conversion system installed on a breakwater; 11) optimal dimensions of a semi-submersible floating platform for a 10 MW wind turbine; 12) fatigue life assessment of semi-submersible floating platforms in offshore wind turbines.



Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/2804

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.