Special Issue

Optimization and Energy Maximizing Control Systems for Wave Energy Converters—3rd Edition

Message from the Guest Editors

In recent years, the drive to industrialize wave energy conversion systems has intensified, particularly as global and regional policies, such as those in the European Union, emphasize the importance of renewable energy integration. Building on the progress of previous editions, this third-edition Special Issue continues to focus on maximizing the efficiency, durability, and economic viability of wave energy converters (WECs). This edition delves deeper into advanced control strategies that address both traditional and emerging challenges in WEC design and operation. Key topics include the development of enhanced energy-maximizing control systems that consider multi-objective optimization problems, integrating both performance maximization and structural durability. With a particular focus on handling strong nonlinearities, nonidealities in power take-off, and extreme sea conditions, this Special Issue also explores the latest advancements in estimation, forecasting, and data-driven predictive control. The design of WEC arrays and coordinated control strategies are discussed as critical to scaling wave energy solutions to commercial viability.

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The *Journal of Marine Science and Engineering* (*JMSE*; ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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