Special Issue

Permanent Magnet Machines for Wave Energy Converters

Message from the Guest Editor

In wave energy, efficiency plays an important role in the lifetime cost of energy—more than the capital cost of the generator. Low-speed, high-torque, and fixed-space constraints naturally lead the electrical machine designer towards rare earth permanent magnet (PM) topologies. However, there are numerous configurations. Selection of a specific topology is guided by such performance requirements as rated torque, torque ripple, power factor, efficiency, overload capacity, and mechanical constraints. In many configurations, the electrical drive is also responsible for wave energy control. This unusual application has led to the design, development, and demonstration of a range of novel electrical machines and drives at various scales. This Special Issue aims to pull together recent developments in the area of permanent magnet electrical machines designed for use as the power take-off in wave energy converters. The scope of this Special Issue includes novel machine topologies, novel configurations, magnetic gears, electric drives, and design and integration issues.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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