Special Issue

Advanced Technology in Permanent Magnet Motors

Message from the Guest Editor

Permanent magnet motors can be applied across a wide range of fields, including new energy vehicle drive systems, industrial servo drives, household appliances, wind turbines, robotics, and various precision instruments. Due to their high power density, superior efficiency, and high torque density, permanent magnet motors have become indispensable in modern industry and daily life. Nonetheless, as demands for higher performance and broader applications grow, these motor systems face significant challenges. These include the risk of permanent magnet demagnetization at elevated temperatures, manufacturing costs, increased vibration and noise levels, and mechanical stress. However, ongoing advancements and breakthroughs in high-performance permanent magnet materials, innovative motor designs, efficient manufacturing techniques, and intelligent drive control strategies are providing solutions to overcome these challenges. This Special Issue aims to highlight the latest advances related to the theory, design, modelling, and control of various types of permanent magnet motors.

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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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