Special Issue

Advancements in Design and Control of High-Efficiency Electric Motors

Message from the Guest Editors

Recent advancements in electric motor technologies have facilitated their integration across a wide range of modern applications, including pumping systems, wind energy conversion, electric vehicles, rail traction, and fault diagnosis. As the demand for energy-efficient, reliable, and intelligent electric drive solutions continues to grow, electric motors are becoming essential components in industrial, transportation, and renewable energy sectors. Key topics of focus include novel control strategies, optimization techniques (such as AI-based tuning and predictive control), robust design methodologies, and diagnostic frameworks that enhance motor performance under various operating conditions. Special attention is given to sensorless control, torque ripple minimization, fault tolerance, and energy management strategies. Furthermore, innovations in motor design, including multiphase and high-speed machines, are explored, along with their adaptability to application-specific constraints.

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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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