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Modeling Approaches of Electromagnetic Devices for R&D Engineers

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Message from the Guest Editors

Dear Colleagues,

Electromagnetic devices (e.g., electric machines, electrolyzers, fuel cells, etc.) are used in various fields of electrical engineering, including transportation (e.g., electric/hybrid/ fuel cell vehicles, railway traction, and aerospace), energy harvesting (e.g., flywheel, etc.), renewable energy (e.g., wind power turbine, hydroelectric power plant, etc.), and magnetic refrigeration devices, among others. Traditionally, numerical methods (i.e., the finite-element, finite-difference or boundary-element analysis) have been extensively employed in R&D departments due to their accuracy compared to experimental measurements. However, particularly in 3D design, these approaches are time-consuming and unsuitable for application to optimization problems. Nowadays, engineers aim to create comprehensive computer-aided design for electromagnetic devices, using accurate and fast simulation models to reduce the computation time. Hence, the main objective of this Special Issue is to present the latest advancements in mathematical modeling and the design of electromagnetic devices for diverse applications.



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Special Issue



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Message from the Editor-in-Chief

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