Special Issue

Advanced Control Techniques for Power Electronics: Addressing Challenges in Renewable Energy System Applications

Message from the Guest Editors

Power electronics serve as a critical interface between energy sources and loads, ensuring efficient energy conversion and control. However, the increasing complexity of power systems requires robust and advanced control methods to optimize performance, enhance stability, and ensure reliability under diverse operating conditions. This Special Issue on advanced control methods for power electronics aims to explore cutting-edge solutions in control theory and their application to power electronic systems. The focus is on addressing the critical challenges that arise from the integration of renewable energy, hybrid AC/DC systems, energy storage, and more complex converter architectures. Research areas may include (but are not limited to) the following:

- Nonlinear Control in Power Electronics
- Model Predictive Control for Power Converters
- Sliding Mode Control
- Artificial Intelligence and Machine Learning-based Control
- Robust and Adaptive Control Techniques
- Hybrid Control Strategies for Grid-Connected Systems
- Stability and Dynamic Response in Complex Power Electronic Systems

We look forward to receiving your contributions.

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About the Journal

Message from the Editor-in-Chief

Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

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