Special Issue

Advanced Power Converters and Drives in Smart Grid Systems

Message from the Guest Editors

Encouraged by rapid technological achievements in smart grids and renewable energy systems, power electronic converters and drives have been involved in various electric applications. It is challenging to achieve accurate power regulation due to the system nonlinearities coupling with the states. It is well known that the control performance is always severely affected by parameter uncertainties and external disturbances. Limited control precision cannot satisfy the high requirements. It is imperative to develop reliable, advanced controllers that can maintain a balance between the static and dynamic performances.

- Artificial intelligence control and optimization design with the consideration for multiple converter and drive systems.
- Data-driven and learning-based control methods.
- Model predictive control in power converter and drive systems.
- Optimal and robust control with uncertainty and disturbance rejection.
- Reinforcement learning and deep-learning-assisted control methods.
- Distributed learning and optimization over network-connected converter and drive systems.
- Applications of learning or optimization-based control in different systems.

Guest Editors

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Deadline for manuscript submissions

closed (15 August 2024)

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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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