Special Issue

Automatic Control Strategy and Technology in Power Electronics

Message from the Guest Editors

Automatic control strategies and technologies are essential to achieve fast dynamic response, robust stability, high efficiency, and functional flexibility in power converters. However, the growing complexity, scalability, and interoperability requirements of modern applications such as smart grids, electric vehicles, and renewable energy systems introduce new control challenges related to system-level stability, cyber-physical security, and real-time adaptability.

The potential topics include, but are not limited to, the following:

- Advanced control methods for power converters;
- Digital control and real-time implementation;
- Cyber-physical security and resilient control in power electronic systems;
- Stability analysis and stabilization techniques in multi-converter systems;
- AI and machine learning applied to control in power electronics;
- Sensorless control and state estimation techniques;
- Control strategies for wide-bandgap (SiC, GaN) semiconductor-based converters;
- Grid-forming and grid-supporting converter control;
- Control of electric motor drives and traction systems;
- Modeling and control of power electronics in renewable energy systems.

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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 guestedited by leading experts in selected topics of interest.

Editor-in-Chief

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