Special Issue

Advances in Model Predictive Control for Power Electronics

Message from the Guest Editors

Power electronics play a vital role in many critical and emerging applications, including renewable generation, industrial applications, energy storage systems, power electronics transformers, HVDC, electric vehicles, smart grids, etc. This Special Issue aims to collect, present and disseminate the most recent advances regarding the control of power electronics converters using model predictive control techniques. Topics of interest include, but are not limited to:

- Innovative MPC techniques or approaches;
- MPC-based control of power electronics converters in all fields of application, including solid-state transformers, transportation, renewables, energy storage, HVDC, power conditioning, etc.;
- MPC of complex converter topologies (e.g., multilevel or modular converters);
- MPC performance optimization techniques (e.g., through parameter estimation or adaptive behavior);
- Techniques for MPC computational load reduction;
- MPC weighting factor selection or real-time optimization techniques;
- MPC of multi-converter systems;
- Advanced MPC implementations (e.g., FPGA-based);
- Fault-tolerant MPC techniques.

https://www.mdpi.com/journal/electronics/special_issues/Control_Power

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Deadline for manuscript submissions

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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 guestedited by leading experts in selected topics of interest.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.8 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).

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