



New Developments of Algorithms Optimization with Symmetry/Asymmetry

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Deadline for manuscript
submissions:
closed (31 May 2025)

Message from the Guest Editors

This Special Issue aims to provide a platform for researchers to share their latest findings, methodologies, and innovations in the realm of symmetry-contributed machinery coordination and the design, control, and optimization of driven power electronic systems. We encourage submissions that explore the multidisciplinary aspects of this field, including, but not limited to, the following:

1. Symmetrical design principles and methodologies for machinery coordination and integration;
2. Symmetry-based approaches for enhancing the performance and efficiency of power electronic systems in machinery;
3. Utilization of symmetry properties in advanced control strategies for improved motion coordination and precision;
4. Symmetry-driven fault detection, diagnosis, and fault-tolerant control in machinery systems;
5. Control and optimization techniques leveraging symmetry to enhance the overall performance and reliability of machinery and power electronic systems;
6. Case studies and real-world applications showcasing the practical implementation and benefits of symmetry in machinery coordination and power electronic systems.





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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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