Special Issue

Symmetry/Asymmetry in Intelligent Transportation System

Message from the Guest Editors

This Special Issue focuses on exploring the role of symmetry and asymmetry theories in advancing intelligent transportation systems (ITSs). ITSs integrate mathematics, computer science, control theory, artificial intelligence, sensors, and IoT technologies to enhance safety, efficiency, and sustainability across multimodal transportation networks. However, real-world ITS applications still face challenges such as system complexity, data uncertainty, and the need for symmetry breaking in modeling and optimization. This Special Issue aims to explore the role of symmetry and asymmetry theories in advancing ITS research and applications. In this Special Issue, original research articles and reviews are welcome. Research areas may include (but are not limited to) the following:

- Symmetry and asymmetry in modeling and optimization of transportation systems.
- Big data analytics and AI-enhanced traffic management.
- Connected and autonomous vehicles.
- Multimodal transport modeling and control.
- Digital twin-based system optimization.
- Applications of mathematical symmetry theory in ITS design and operation.

We look forward to receiving your valuable contributions.

Guest Editors

Dr. Yuyan Annie Pan
Dr. Bingyan Cui
Dr. Huibo Bi

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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About the Journal

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.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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