Special Issue

Symmetry/Asymmetry and Their Applications in Railroad and Highway Engineering

Message from the Guest Editor

Transportation infrastructure systems, particularly railways and highways, often exhibit symmetrical and asymmetrical properties in design, operation, and performance. These include geometric symmetry in track or roadway alignment, structural symmetry in bridges and pavements, and asymmetrical behaviors in traffic flow, vibration response, load distribution, deterioration patterns, and environmental impacts. Understanding and modeling these symmetrical and asymmetrical phenomena play a crucial role in enhancing the safety, reliability, sustainability, and resilience of transportation systems. This Special Issue aims to bring together interdisciplinary research combining transportation engineering, structural mechanics, artificial intelligence, and applied mathematics to address emerging challenges in the design, analysis, and management of railroad and highway systems. We are pleased to invite you to submit original research papers and review articles to the Special Issue “Symmetry/Asymmetry and Their Applications in Railroad and Highway Engineering”.

Guest Editor

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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

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