

Special Issue

Applications of Symmetry/Asymmetry in Structural Dynamics and Structural Health Monitoring

Message from the Guest Editor

Structural health monitoring (SHM) is vital for maintaining engineering structures, especially with rapid urbanization. Symmetry and asymmetry are essential for understanding structural integrity and performance. This Special Issue explores innovations in applying these principles to enhance structural diagnostics. The synergy between symmetry and sensor data aids in analyzing behaviors like vibrations and noise, though extracting meaningful parameters is challenging. We seek contributions on using symmetry in SHM across infrastructures, including response analysis, noise reduction, feature identification, vibration control, and dynamics of random structures. Improved signal acquisition and evaluation methods are also key focuses to enhance data accuracy. Your insights will shape the future of SHM through symmetry and asymmetry. We look forward to your submissions.

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.

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