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Application of Symmetry in Mechanics of Materials

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Deadline for manuscript submissions:
15 August 2024

Message from the Guest Editors

Dear Colleagues,

Symmetry is a fundamental concept in the mechanics of materials and has numerous practical applications. In engineering design, structural symmetric designs can ensure uniform stress distribution and enhance the overall durability of structures. The use of symmetric loading conditions in mechanical testing can also simplify the analysis of material behavior and facilitate the determination of key mechanical properties. Additionally, symmetry can be utilized in the development of analytical models for complex structures, reducing computational complexity and enabling more accurate predictions of material behavior. As such, understanding the principles of symmetry in the mechanics of materials is essential for engineers and researchers seeking to optimize the performance of materials and structures.

This Special Issue aims to collect contributions exploring symmetry theories/methods to simplify/solve problems in continuum mechanics, solid mechanics, materials science, and structural engineering. It also seeks to enhance the overall mechanical performance and efficiency of all kinds of materials and structures...

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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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