



symmetry



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Symmetry in Mechanical Engineering: Properties and Applications

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Message from the Guest Editors

Dear Colleagues,

Symmetry in mechanical engineering refers to the balanced arrangement of components and features in a system or design. Symmetrical properties, such as axial, radial, or planar symmetry, enable the uniform distribution of forces, vibrations, and loads, resulting in improved structural integrity and reduced wear. A symmetrical design often offers greater stability, ease of manufacturing, and cost-effectiveness, and it has diverse applications in mechanical engineering. On the other hand, asymmetry can offer unique advantages to mechanical systems in specific scenarios. Therefore, constructing or modifying symmetry could provide properties that enhance the reliability, functionality and efficiency of mechanical systems, which is an effective approach in mechanical engineering to satisfy the requirements of performance and functions for different applications and under different conditions.



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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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