



## Symmetry in Applied Mechanics Analysis on Smart Optical Fiber Sensors

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### Message from the Guest Editor

Symmetry is an important concept during the mathematical and mechanical modeling of control systems in artificial intelligence domains. When sensors have been used to perceive the structural behavior, symmetry can be used to simplify the theoretical analysis on the strain transfer characteristics of multi-layered sensing models. Taking optical fiber sensor as an example, it can be used to measure strain and temperature information of engineering structures due to the unique advantages of high sensitivity, absolute measurement, stable physical and chemical properties and so on. It is expected that smart optical fiber sensors can play an important role in promoting the development of artificial intelligence and intelligent manufacturing in engineering. How to use the measured information for the configuration of the structural performance and safety state is also an important issue. Applied mechanics analysis with symmetry considered is thus significant to scientifically explain the interaction between the smart optical fiber sensor and the monitored structure.





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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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