Nonlinear Vibration and Mechanical Dynamic Optimization Design in Engineering

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Message from the Guest Editors

Nonlinear vibrations and waves are prevalent in mechanical, civil, aerospace, and other engineering fields, giving rise to complex and intriguing dynamic phenomena such as bifurcation, chaos, and diverse higher harmonic resonances. While engineering nonlinear vibrations or waves may lead to unfavorable consequences, they can also occasionally bring about beneficial effects that linear vibrations systems can never achieve. Consequently, there is a pressing need for extensive research into nonlinear vibrations and waves, and optimization for mitigating their adverse effects and harnessing their favorable aspects.

This Special Issue aims to report state-of-the-art developments in the field of nonlinear vibrations and waves, and mechanical dynamic optimization design. Original research and review articles related to the following topics are welcomed; however, please note that this list is by no means exhaustive:

- Nonlinear dynamics and motion stability;
- High-dimensional and complex nonlinear system;
- Nonlinear vibration control;
- Nonlinear vibration energy harvesting;
- Nonlinear waves propagation;
- Chaos and bifurcation;
- Dynamical design and inverse problem.

Special Issue

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Message from the Editor-in-Chief

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