Special Issue

Advanced Modeling and Design of Vibration and Wave Systems

Message from the Guest Editors

This Special Issue seeks to explore methodologies in the modeling and design of vibration and wave systems. Such methodologies include analytical, numerical, data-driven, and physics-informed AI approaches. Vibration and wave engineering are critical in various fields, including mechanics, acoustics, materials science, and others. These advancements will address challenges such as multi-physics and/or multi-scale interactions, nonlinear problems, and complex geometries. We encourage the submission of contributions that concentrate on innovative modeling techniques for vibration and wave analysis and design optimization strategies intended to enhance output performance. The interdisciplinary nature of this Special Issue invites submissions that connect theoretical developments with practical applications, thereby fostering a deeper integration of advanced modeling with real-world engineering solutions. By fostering collaboration between researchers from diverse backgrounds, this Special Issue aims to accelerate the development of next-generation technologies for the improved design of vibration and wave systems.

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The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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