



New Advances in Acoustic and Mechanical Metamaterials: Design and Applications

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Message from the Guest Editor

Dear Colleagues,

Metamaterials are man-made and have been engineered to exhibit unusual physical and mechanical properties, including unusual acoustic or mechanical behaviors. It is well known that acoustic metamaterials are generally designed to efficiently manipulate sound waves, including low-frequency sound insulation, acoustic cloaking, sound focusing, biomedical acoustics, passive destructive interference, etc. On the other hand, mechanical metamaterials, also known as building materials, have rationally designed microstructures with unusual static mechanical properties (e.g., negative Poisson's ratio, anisotropic stiffness, and pentamodes) and dynamic behaviors (e.g., selective wave transmission, partial resonance, and full-band vibration isolation). These properties mean that these materials can be applied to noise and vibration control, energy localization and absorption, super-resolution imaging and sensing, multiphysics, hybrid metamaterial or device research, etc. In this Special Issue, we aim to explore recent advances in the design and fabrication of acoustic and mechanical metamaterials.





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Message from the Editor-in-Chief

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