

CALL FOR PAPERS

Special Issue on Acoustic Metamaterials and Phononic Crystals at the Ultrasonic Frequency Range

(Submission deadline: August 1, 2023)

Acoustic metamaterials and phononic crystals are a rapidly growing field of research that focus on manipulating sound waves based on effective material properties or band structures. These artificial materials can be engineered to exhibit unusual properties, such as negative refraction and bandgaps, that are not found in natural materials. This makes them promising for various applications, such as acoustic cloaking, energy harvesting, and imaging. Although much of the research in this field has been centered around audible sound, the study of acoustic metamaterials and phononic crystals operating at ultrasound frequencies holds tremendous potential for revolutionizing medical imaging, therapy, and other applications at high frequencies. As such, these materials represent a promising avenue for the development of novel technologies and solutions in a range of fields. These materials also offer a broad design space and flexibility in fabrication, making them highly customizable for specific applications. Ongoing research in this field continues to advance the understanding of how these materials interact with sound waves and how they can be optimized for various applications.

The *IEEE Open Journal on Ultrasonics, Ferroelectrics and Frequency Control (OJ-UFFC)* invites submission of manuscripts on Acoustic Metamaterials and Phononic Crystals at the Ultrasonic Frequency Range that fall within the scope of the UFFC Society. This special issue seeks contributions from authors who are engaged in theoretical development, numerical modeling, experimental characterization, and applications of acoustic metamaterial/phononic crystal that operate at ultrasound frequencies. Review articles and original contributions are sought in a wide range of topics including, but not limited to, the following:

- Analytical and numerical modeling
- Experimental characterization
- Micro- and nano-fabrication techniques
- Topological optimization and data-driven approaches
- Acoustic metasurfaces at the ultrasonic frequency range
- Topological and non-reciprocal Acoustics
- Applications: non-invasive imaging, energy harvesting, beam forming, particle manipulation, surface acoustic wave (SAW) devices, hologram, sensing, etc.

All contributions should be submitted online via <https://mc.manuscriptcentral.com/oj-uffc/>, the Manuscript Central system of *IEEE Open Journal on UFFC*. When submitting, authors should state in the cover letter that the submission is intended for the Special Issue on “Acoustic Metamaterials and Phononic Crystals at the Ultrasonic Frequency Range”, and they should clearly highlight how their manuscript is topically aligned with this area.

All manuscripts will be subjected to peer review. The submission deadline is August 1, 2023. Accepted special issue manuscripts will be published in the *IEEE Open Journal on Ultrasonics, Ferroelectrics and Frequency Control* in the last quarter of 2023. The guest editors for this special issue are:

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