Special Issue

Artificial Electromagnetic Materials: Synthesis, Characterization, and Symmetry

Message from the Guest Editor

Artificial electromagnetic materials, such as metamaterials and photonic crystals, have shown their unique abilities in controlling the propagations of electromagnetic waves at will. Symmetry of the unit cell of artificial material always plays an important role in determining its electromagnetic properties. A small unit cell with fourfold symmetry is good for achieving polarization-independent electromagnetic responses. Changing the symmetry of the unit cell at the interface of the photonic crystal is a feasible way for effectively coupling the electromagnetic wave into photonic crystals. In this sense, symmetry could be an effective way for further enriching the controllable propagation of electromagnetic waves in artificial materials.

Guest Editor

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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.

Editor-in-Chief

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