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Metamaterials: A Roadmap From the Perspectives of the Fascinating Properties and Applications

Guest Editor:

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Message from the Guest Editor

Metamaterials are recently embedding new quantum materials such as graphene, dielectric nanostructures, and, as metasurfaces, surface geometries and surface waves, while also embracing new functionalities such as nonlinearity, quantum gain, and strong light–matter coupling. This Special Issue is devoted to exhibiting the current state of the art of the dynamic and vibrant field of photonic metamaterials, reaching across various disciplines, suggesting exciting applications in chemistry, material science, biology, medicine, and engineering. It will illuminate recent advances in the wider photonic metamaterials field, such as (to mention a few) active metamaterials and metasurfaces, self-organized nanoplasmonic metamaterials, graphene metamaterials, metamaterials with negative or vanishing refractive index and topological metamaterials facilitating ultraslow broadband waves on the nanoscale, and novel applications, such as stopped-light lasing.

Keywords

- metamaterial
- nanowires
- metasurfaces
- graphene
- medicine
- refractive index

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