Special Issue

Advances in Epsilon-Near-Zero Photonics

Message from the Guest Editors

For nearly two decades, the field of epsilon-near-zero (ENZ) photonics, which centers on materials with near-zero refractive index or permittivity, has experienced remarkable growth. Pioneering theoretical work sparked this interest, leading to subsequent research that revealed intriguing light–matter interactions. These interactions hold the potential to revolutionize our control of light. Notable breakthroughs include tunneling and squeezing of electromagnetic energy through subwavelength channels and waveguide bends, extreme nonlinearities, high harmonic generation, photonic doping, and frequency conversions in time-varying ENZ media. Submissions are invited across several key areas:

- Novel ENZ Materials: We welcome research on innovative approaches to reduce losses and achieve functionalities within ENZ materials.
- Fundamental ENZ Interactions: Research exploring new phenomena arising from light–matter interaction at the ENZ frequency is encouraged.
- ENZ-Based Photonic Devices: We seek demonstrations of ENZ materials' capabilities in light manipulation, nanoscale signal processing, nonlinear and quantum photonics.

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About the Journal

Message from the Editor-in-Chief

Editor-in-Chief

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indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.8 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2024).