

## Special Issue

# Advanced Methods in Exploring Light–Matter Interactions and Nonlinear Effects Optics Applications

### Message from the Guest Editors

The investigation of light–matter interactions and nonlinear optics has been a research hotspot in recent years. This research has gained significant momentum owing to its pivotal role in advancing technologies across various fields. Its aim is to understand the new application of light–matter interactions and nonlinear optics. The scope of this Special Issue includes the latest advances in experimental, theoretical, and computational aspects of light–matter interactions and nonlinear effects optics. Here, we invite original research articles and reviews on these topics. We encourage contributions that explore new aspects of these areas, including but not limited to the following:

- Solid-state laser technology and their applications;
- Nonlinear optics and high-power laser interactions;
- Nonlinear optical microscopy;
- AO systems and component technologies;
- Machine learning applications in optical systems;
- Wavefront shaping for enhanced optical performance;
- Computational imaging techniques in nonlinear optics;
- Millimeter-wave/terahertz system-on-chip.

### Guest Editors

Prof. Dr. Zhaohong Liu

Prof. Dr. Yuanqin Xia

Dr. Xiao Fang

Dr. Jiawei Sun

Dr. Zeyu Gao

Dr. Jiarui Li

### Deadline for manuscript submissions

closed (30 November 2025)



## Photonics

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## About the Journal

### Message from the Editor-in-Chief

You are invited to contribute a research article or a comprehensive review for consideration and publication in *Photonics* (ISSN 2304-6732). *Photonics* is an online open access journal covering both the fundamental and applications of optics and photonics. *Photonics* strives to provide an avenue to allow authors to disseminate their scientific findings—both theoretical/ simulations and experimental works—in highly accessible peer-reviewed journal publications. The manuscript in *Photonics* will be handled with quick turnaround production processing time. We welcome authors to submit their manuscripts for publications in *Photonics*. Our goal in *Photonics* is to enable fast dissemination of high impact works to the scientific community.

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### Editor-in-Chief

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