

# Special Issue

## Recent Advances in Mathematical Optics

### Message from the Guest Editor

This Special Issue on mathematical optics aims to explore the intersection of mathematics and optical science, focusing on theoretical frameworks, computational techniques, and innovative applications. We encourage authors to contribute research articles, reviews, and case studies that delve into mathematical models and methods applicable to optical phenomena, such as light propagation, wavefront optics, imaging, and diffraction. The scope encompasses various topics, including, but not limited to, the following:

- Analytical and numerical methods in optics.
- Wave optics and geometrical optics.
- Applications of inverse problems in optical imaging.
- Nonlinear optics and its mathematical modeling.
- Quantum optics and mathematical formulations.
- Light-matter interactions.
- Mathematical theory, tools, and methods.
- Photonic signal processing.

This Special Issue aims to foster collaboration and the exchange of ideas among mathematicians, physicists, and engineers working in optics. Authors are invited to submit original research that advances the field and highlights mathematical techniques driving contemporary optical research.

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### Guest Editor

Prof. Dr. Christian Cuadrado-Laborde

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### Deadline for manuscript submissions

30 December 2025



## Mathematics

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## About the Journal

### Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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### Editor-in-Chief

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#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).