

Special Issue

Optical Metrology with Deep Learning

Message from the Guest Editor

Optical metrology utilizes the fundamental properties of light as standards or information carriers to realize high accuracy and non-contact measurements. Deep learning (DL) adopting deep neural network (DNN) is an active branch of artificial intelligence and has been applied to various engineering including optical metrology. It has succeeded in pre-processing including image enhancement and denoising, data analyses including phase retrieval, phase unwrapping, error compensation, and postprocessing including three-dimensional reconstruction et al. This Special Issue on “Optical Metrology with Deep Learning” will welcome basic, methodological and applied cutting-edge research contributions, as regular and review papers, dealing with:

- Introduction and validation of new DL method or DNN to traditional optical metrology;
- Development or comparison research of current DL methods in optical metrology;
- Physics-informed DL methods for optical metrology;
- Metrology system design with DL guidance;
- Measurement data generation or acquisition for DNN training;
- Improvement of the generalization ability of DNNs in optical metrology, etc

Guest Editor

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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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