Special Issue

Frontier of Quantum Devices for Quantum Technologies

Message from the Guest Editors

Quantum science and technology are enabling a new frontier in computing, communication, and sensing, leading to the next era of technology revolution. As the building block for quantum technology, quantum devices such as lasers, detectors, modulators, single photon sources, etc. are seeing tremendous development. These fast-developing technologies are pushing quantum devices including quantum cascade lasers, superlattice detectors, and single-photon sources as ideal building blocks for future quantum sensing, communication, and imaging. This Special Issue aims to present the latest theory and design and state-of-the-art developments for quantum devices and their applications. Topics include but are not limited to:

- New breakthroughs in quantum devices;
- Theories and designs of quantum devices;
- Nonlinear optical effects in quantum devices;
- Single-photon generation and detection;
- Power scaling of lasers;
- Frequency combs;
- Integrated photonic circuits;
- Short-pulse generation;
- High-speed modulated lasers;
- Topological engineered quantum devices;
- Novel-material-based quantum devices;
- On-chip quantum sensing applications;
- Quantum communication applications.

Guest Editors

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Deadline for manuscript submissions

closed (15 March 2023)

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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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