Special Issue

High-Speed Optical Fiber Communication

Message from the Guest Editors

The rapid development of data-intensive applications, cloud computing, and 5G/6G networks has placed unprecedented demands on optical communication systems. High-speed optical fiber communication has emerged as a cornerstone technology, enabling ultra-high data rates, long transmission distances, and low latency. This Special Issue aims to present recent advances in high-speed optical transmission technologies, including innovative modulation formats, advanced digital signal processing, coherent detection schemes, and photonic integration. Emphasis will also be placed on enabling components such as high-speed lasers, modulators, photodetectors, and amplifiers. We welcome original research articles that explore theoretical breakthroughs, experimental demonstrations, and novel applications. We also welcome detailed review papers summarising the current state of the art and discussing new directions including: High-speed optical fiber communication;
All-optical signal processing;
Modulation formats and coding techniques;
Coherent communication systems;
Optical transceivers;
Wavelength division multiplexing;
High-speed optoelectronic devices;
Optical amplifiers and noise mitigation et al.

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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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