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Advanced Ultra High Speed Optoelectronic Devices

Guest Editors:

Prof. Dr. Jin-wei Shi
Department of Electrical Engineering, National Central University, Taoyuan City 32054, Taiwan

Prof. Dr. Andreas Beling
Electrical & Computer Engineering, University of Virginia, Charlottesville, VA, USA

Prof. Dr. Nobuhiko Nishiyama
Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, Tokyo, Japan

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Message from the Guest Editors

The market of data communication has been booming recently. Compared with the traditional telecommunication market, the required linking distance is much shorter for data communication (<2 km), and it thus allows us to directly transmit the high-speed data over fiber without serious limitations of chromatic dispersion and propagation loss on the maximum data rate. From 2016 to now, the data rate of Ethernet has been dramatically increased from 40, 100, and over 400 Gbit/sec. This strongly drives the development of high-speed light sources and detectors for such emerging application. In addition, the ultra-fast optoelectronic devices play an important role in next-generation millimeter wave (MMW) wireless communication systems. The radio-over-fiber technique can be used in these systems to replace the lossy and bulky MMW waveguides or coaxial cables by optical fibers. The purpose of this Special Issue is to highlight the progress in ultra-high speed optical transmitters, photoreceivers, optical modulators, and integrated optoelectronics devices applied to advanced data/tele-communications over optical fibers, radio-over-fiber communications, and terahertz communications.