Special Issue

Advances in Avalanche Photodiodes

Message from the Guest Editors

As a fundamental research area in the field of optoelectronics, light detection is an indispensable part of optical systems that bulids a bridge between light and electrical signals. Relative to many other types of photodetectors, avalanche photodiodes provide higher sensitivity and loss margins due to their internal avalanche gain. Photon-generated carriers are accelerated by the electric field and impact ionize more electron-hole pairs, acting as an internal amplifier. Accordingly, they are ideal receivers for weak light signals or efficient optical systems. The detectable weak light is even down to a single photon, also known as single-photon avalanche diodes (SPADs). The objective of this Special Issue is to document the current advances in avalanche photodiodes, including the latest progress and trends in avalanche photodiodes, state-of-the-art or innovative device-level demonstrations, physical or numerical theory, integration or packaging, and system-level applications.

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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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