Editor's note

It is a great honor to present this Special Topic of *Chinese Science Bulletin* on high-speed optoelectronic devices and technologies. High-speed optoelectronics is a rapid developing technology dealing with a wide range of disciplines and technologies, such as material sciences, photonics and microelectronics. It is a trend that optoelectronics is cross-integrated with microwave technology, which leads to the emergence of a number of new technologies, such as broadband optical communication technology, optical transmission technology based on next-generation wireless communication technology, optical fiber sensing technology, spectrum and spectrum analysis technology, optical microwave generation technology, nano-photonics technology, bio-photonics technology, high-speed integrated optoelectronic technology, etc. These technologies will play more and more important roles in related fields in China's scientific and technological development.

Although high-speed optoelectronics and related technologies have been used in a very wide range of applications and these will continuously grow in the near future, there are still numerous challenges in the combination of many new technologies. Microwave optoelectronics requires drastic adaptation to the rapid development of our society, economy, environment and information technological revolution.

The 19 papers in this topic, which originate from 13 different institutions, were accepted. The 11 invited papers written by leading researchers present the systematic and broad overviews of the state-of-the-art in their working area, and the remaining contributed papers describe the latest developments in the field in China. Due to the limited length of the special topic, many high-quality papers can not be involved in this issue and will be published as regular papers.

This special topic would not have been possible without the support from Prof. XIA JianBai, Editor-in-Chief, and the professionalism, dedication and expertise of other outstanding staff of *Chinese Science Bulletin*, specially Mr. LI ZhaoLin, Manager Editor. I would like to thank all authors for submitting comprehensive papers and latest results to the journal. At last, I would also like to thank all reviewers for their time and good suggestions to improve the technical quality of the papers.

I hope that this special topic will give readers an overall view and generate new research opportunities in high-speed optoelectronic devices and technologies.

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