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# Photonics/Optoelectronics Properties and Applications of Two-Dimensional Heterostructures

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## Message from the Guest Editors

Two-dimensional heterostructures have garnered significant attention in photonics and optoelectronics due to their tunable bandgap and potential applications in optoelectronics. Researchers can create advanced devices with enhanced functionalities and performance by combining different two-dimensional materials or integrating them with zero-dimensional quantum dots, one-dimensional nanowires, or three-dimensional bulk materials possessing complementary optical and electronic characteristics. These heterostructures exhibit fascinating optical and electronic properties, such as adjustable photoresponse spectrum, strong light-matter interactions, and efficient charge transport. Recently, there has been a growing emphasis on utilizing two-dimensional heterostructures in various electrical and optoelectronic applications, including photodetectors, photodiodes, solar cells, transistors, and photonic integrated circuits. Exploring the photonics/optoelectronics properties and applications of two-dimensional heterostructures shows great promise for advancing next-generation optoelectronic technologies with improved performance and functionality.

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## Message from the Editor-in-Chief

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