Special Issue

Wide Bandgap Semiconductor Electronics and Optoelectronics

Message from the Guest Editors

The development of high-performance ultraviolet photodetector power devices is urgently needed in the fields of security, flame detection, optical switches, imaging, health protection, IC and RF applications, etc. Wide bandgap semiconductors, including Ga2O3, GaN, SiC, AlGaN, etc., have created great expectations as promising candidates with which to construct deep-UV photo-detecting devices, Schottky diodes and field-effect transistors, etc. This is due to their useful bandgap (*E*g ≈4.5–5.2 eV), which is sensitive to the solar-blind portion of the electromagnetic spectrum, and their high Baliga's figure of merit, which translates to low direct-current losses and high efficiency. As an optoelectronic device, they offer a promising route to overcoming the weakness of stopping low-energy photons using high-pass filters and phosphors in mature narrow-bandgap silicon-based technologies. Further, as power devices, they offer higher breakdown voltage and a high breakdown electronic field.

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

Editor-in-Chief

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