Special Issue

Wide Bandgap Semiconductor

Message from the Guest Editor

SiC, GaN and AlN refer to wide bandgap semiconductors with high bond energy. On the basis of this group of semiconductors, various optoelectronic devices can be created, including ultraviolet light-emitting diodes, laser diodes and room temperature quantum emitters, as well as powerful high-frequency, high temperature electronic devices and piezoelectric resonators. However, high-quality bulk crystals of large diameter (4 inches or more) are required for the successful implementation of the industrial production of such devices. The growth of these crystals is one of the most important problems standing in the way of their widespread use in the modern industry. Another problem is the insufficient knowledge of the doping mechanisms, which makes it difficult to obtain a material with the required properties.

The potential topics include, but are not limited to:

- Growth of the high quality SiC, AlN and GaN bulk crystals
- Doping of the crystals
- High temperature diffusion
- Native defects and impurities
- Application

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Message from the Editor-in-Chief

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.

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