Special Issue

II-VI and III-V Semiconductors for Optoelectronic Devices

Message from the Guest Editors

The development of fundamental theories, such as solid-state physics, quantum mechanics and energy band theory, makes semiconductor device manufacturing gradually progress to energy band engineering-based device manufacturing. Compared with traditional silicon-based semiconductors, III-V group compound semiconductors represented by GaAs, GaP and InP possess a high band-gap width, electron mobility and electron saturation rate, making them more applicable for high-speed, high-frequency and high-power optoelectronic devices under high temperatures and intense irradiance conditions. Moreover, the low-dimensional limited structure materials consisting of II-VI group semiconductors, such as CdS, CdTe and CdSe, further diversify material systems for optoelectronic devices. These devices are widely used in semiconductor lighting, power electronic devices, lasers, chemical and biological detection and photovoltaic solar cells.

This Special Issue aims to collect the latest research progress of such semiconductors in the fields of solid-state physics, optics and optoelectronics, and explore relevant basic scientific theories and practical technical applications.

Guest Editors

Dr. Yi Zhang

School of Renewable Energy, Hohai University, Nanjing 211100, China

Dr. Ziyuan Li

MoE Key Lab of Photoelectronic Imaging Technology and System, School of Optics and Photonics, Beijing Institute of Technology, Beijing 100081, China

Deadline for manuscript submissions

closed (30 July 2025)

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/si/216733

Crystals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
crystals@mdpi.com

mdpi.com/journal/crystals

Crystals

an Open Access Journal by MDPI

Impact Factor 2.4
CiteScore 5.0

mdpi.com/journal/crystals

MDPI

About the Journal

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.

Editor-in-Chief

Prof. Dr. Alessandra Toncelli
Department of Physics, University of Pisa, 56126 Pisa, PI, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Inspec, Ei Compendex, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Crystallography) / CiteScore - Q2 (Condensed Matter Physics)