



Research Progress of GaN Crystals: Growth and Doping

Guest Editor:

Dr. Lei Zhang

State Key Laboratory of Crystal
Material, Shandong University,
Jinan, China

Deadline for manuscript
submissions:

20 January 2025

Message from the Guest Editor

Dear Colleagues,

Gallium Nitride (GaN) crystals are wide-bandgap semiconductor materials with high breakdown voltage and better electron mobility. They possess many excellent optical and electrical characteristics. These have been widely used in lasers, high voltage and high-frequency power electronic devices, possessing broad application prospects in areas such as solid-state lighting, data storage, image display, ultraviolet detectors, new-energy vehicles, and communication. Studying the growth and properties of GaN crystal materials has greatly promoted the development of optoelectronic and electronic devices. However, low-quality GaN crystals with higher dislocation density, low transparency, and small radius of curvature do not meet the requirements of high-performance devices.

In this Special Issue, we will publish research into physical and chemical phenomena related to the vapor and liquid phase growth of GaN crystal materials, as well as theoretical and experimental studies within these processes. Concurrently, we will also focus on the research analysis that explores the influence of doping on the variation in crystal properties.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank: JCR - Q1 (Metallurgy and Metallurgical Engineering) / CiteScore - Q2 (*Condensed Matter Physics*)

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)