Special Issue

Growth and Characteristics of Nitride Semiconductor Layers

Message from the Guest Editor

The present situation in electronic industry is half-jokingly described as “GaNification”. White LEDs are successfully replacing other lamps, and blue and green laser diodes (LDs) are used not only in CD players, but also in RGB (red, green, blue) projectors (in future also 3D). Nitride-based transistors are being implemented in radar systems, electric vehicles and photovoltaic cells. Besides those mass-markets, there are a number of other applications, such as atomic clocks, welding of gold and copper, and many others. In this pandemic, we all hope that deep UV (about 260 nm) LEDs will be widely used for sterilization and disinfection. However, if we compare knowledge on AlGaInN compounds to other compound semiconductors, one can show a number of blank areas, as these compounds are very difficult to be grown and to be examined. All nitride epi layers contain a very high density of defects which result from the low growth-temperatures and lattice mismatch between substrates and layers. This Special Issue has the aim of focussing on structural/morphological/optical/electrical properties of AlGaInN layers grown on various substrates.

Guest Editor

Prof. Dr. Mike Leszczynski
High Pressure Research Center of the Polish Academy of Sciences, Warsaw, Poland

Deadline for manuscript submissions

closed (10 September 2022)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/62097

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

mdpi.com/journal/materials

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/journal/materials

MDPI

About the Journal

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.

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

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 - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)