



electronics

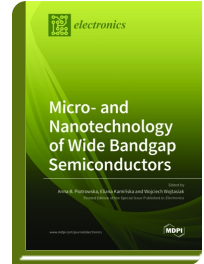


Special Issue Reprint

Micro- and Nanotechnology of Wide Bandgap Semiconductors

www.mdpi.com/books/reprint/4724

Edited by
Anna B. Piotrowska
Eliana Kamińska
Wojciech Wojtasiak



ISBN 978-3-0365-1522-9 (Hardback)
ISBN 978-3-0365-1521-2 (PDF)

Owing to their unique characteristics, direct wide bandgap energy, large breakdown field, and excellent electron transport properties, including operation at high temperature environments and low sensitivity to ionizing radiation, gallium nitride (GaN) and related group III-nitride heterostructures proved to be enabling materials for advanced optoelectronic and electronic devices and systems. Today, they are widely used in high performing short wavelength light emitting diodes (LEDs) and laser diodes (LDs), high performing radar, wireless telecommunications, as well 'green' power electronics. Impressive progress in GaN technology over the last 25 years has been driven by a continuously growing need for more advanced systems, and still new challenges arise and need to be solved. Actually, lighting industry, RF defense industry, and 5G mmWave telecommunication systems are driving forces for further intense research in order to reach full potential of GaN-based semiconductors. In the literature, there is a number of review papers and publications reporting technology progress and indicating future trends. In this Special Issue of Electronics, eight papers are published, the majority of them focusing materials and process technology of GaN-based devices fabricated on native GaN substrates. The specific topics include: GaN single crystalline substrates for electronic devices by ammonothermal and HVPE methods, Selective – Area Metalorganic Vapour – Phase Epitaxy of GaN and AlGaIn/GaN heterostructures for HEMTs, Advances in Ion Implantation of GaN materials including high pressure processing (lattice reconstruction) of junctions (Mg and Be) and III-Nitride Nanowires for electronic and optoelectronic



Ordering information: www.mdpi.com/books/reprint/4724

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.