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Advanced Nitride Light Emitters

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Message from the Guest Editors

UV LEDs and LDs

The first laser diode operating in UVC range (below 280 nm) recently appeared.

Nitride-VCSELs

Progress was witnessed in development of nitride-based vertical-cavity surface-emitting lasers (VCSELs). Which approach will be the most successful: Bragg mirrors or hybrid solutions?

Long-wavelength emitters

VCSELs and edge-emitting green lasers grown on polar and nonpolar substrates lead to improved parameters. The biggest challenge remains growing InGaN-based red quantum-dot/well lasers and efficient red LEDs.

Quantum-cascade infrared emitters

Quantum-cascade emission in the near- and mid-infrared range has been achieved in GaN/AlGaIn superlattices due to large conduction band offsets and high longitudinal optical phonon energy.

RGB displays and micro/nano LEDs

Logical direction in the development of full-color display is to transit from existing LCD or OLED solutions to those based on inorganic mLEDs through monolithic integration of red, green and blue emitters on one wafer.

QW and QD structures

High built-in electric fields determine intersubband physical



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Special Issue



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Message from the Editor-in-Chief

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