GaInAsN based lasers for the 1.3 and 1.5μm wavelength range

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Abstract

Since the introduction of the GaAs based material system GaInAsN for long wavelength laser diodes several years ago rapid progress has been made in improving the performance of these devices. We present some of our efforts and results in the optimized growth of GaInAsN/GaAs quantum well structures in the 1.3-1.55μm wavelength region by solid source MBE using a RF plasma source for the generation of active nitrogen. Based on this preliminary work we have fabricated GaInAsN LDs with emission wavelengths up to >1.5μm. Laser performance data for 1.3 and 1.5μm devices will be presented and compared.