






2 - Mid-infrared light-emitting diodes

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Abstract

There are many applications for light-emitting diodes (LEDs) that can operate in the mid-infrared spectral range. However, the efficiency of these devices at room temperature is limited by competing nonradiative recombination mechanisms, inadequate carrier confinement, and insufficient optical extraction. Earlier devices based on bulk materials and heterojunctions have been quite successful to date, leading to some commercialization, but several new designs containing quantum structures for the active