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Performance improvement of AlGaIn-based deep-ultraviolet light-emitting diodes via Al-composition graded quantum wells

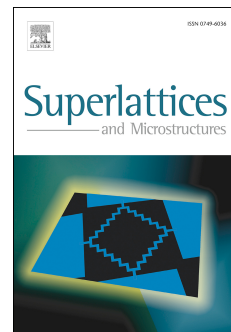
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Hightlights:

- A novel AlGaIn-based LED structure for reducing separation of electron-hole wavefunctions distribution is proposed.
- By adjusting Al composition of the QWs to compensate energy band bending of the MQWs caused by strong polarization effect.
- The distribution of carriers are well modulated while increasing the degree of overlap of electron-hole wavefunctions.
- More efficient recombination between electrons and holes improving the internal quantum efficiency (IQE) as well as the light output power (LOP).

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