

Speaker:

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Title:

Alloy Disorder Effects in Nitride Materials

Abstract:

The electrical and optical properties of nitride LEDs are controlled to a large extent by alloy disorder. A novel theory of localization in disordered systems is developed allowing to determine the localization landscape of the semiconducting alloys without solving the Schrödinger equation. Experimentally, the magnitude of alloy disorder in InGaN is characterized by photocurrent spectroscopy and linked to the new theory associated with alloy potential fluctuations.