

Simulation of the light emission from quantum-well based heterojunction bipolar transistors

박영규, 박문호, 김광웅, 박정호
고려대학교 전자전기공학과

Abstract : In this work, we demonstrate the modelling and simulation of the AlGaAs/GaAs quantum-well based light emitting transistor(LET). Based on the experimental and theoretical model, we have compared between a heterojunction bipolar transistor(HBT) structure with quantum wells in the base region and a HBT without quantum wells in the base region. For the purpose of optimizing device design, several analytic and numerical studies have been presented.

Key Words : Light emitting transistor, AlGaAs, GaAs, quantum well, simulation