عنوان مقاله:

Gain Characteristics of Strain Compensated Multiple Quantum Well Laser Diode Based on InP

محل انتشار:

پنجمین کنفرانس بین المللی محاسبات نرم (سال: 1402)

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خلاصه مقاله:

The design of heterostructures that exhibit desired strain characteristics is critical issue for the realization of semiconductor lasers with improved performance. The work described in this article is a theoretical study of the strain compensation effect on the gain characteristics of a typical InP-based multiple quantum well laser diode by using simulation software PICS۳D. The simulator self-consistently combines ۳D simulation of carrier transport, self-heating, and optical wave-guiding. Valence band structures, relative transition strength, peak gain and gain spectrum are investigated theoretically. .Simulation results show that strain compensated barriers show better performance compared to conventional unstrained barriers

کلمات کلیدی:

.Simulation, Gain, PICS۳D,Strain Compensated, MultipleQuantum Well