عنوان مقاله:

Two and Three-Electrode Structure for Quantum-Dot Semiconductor Optical Amplifiers

محل انتشار:

بیستمین کنفرانس مهندسی برق ایران (سال: 1391)

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خلاصه مقاله:

To compensate for the decreasing carrier density in the far side of quantum-dot semiconductor optical amplifiers (QD-SOAs), which directly compromises the optical gain, multi-electrode approach for these devices is introduced. In our study two and three-electrode QD-SOA are studied and tried to establish a base for comparison between these multi-electrode techniques and constant form of injected current. The optical gain of QD-SOA is improved by nearly 10% through discretizing the optimum non-uniform current and then applying it to multi-electrode structure. For doing so, the rate equation model is employed and solved through finite difference method and MATLAB ODE

کلمات کلیدی:

Quantum-dot semiconductor optical amplifier (QD-SOA), Multi-electrode, Rate equations

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