

## عنوان مقاله:

Optimal Non-uniform Current Injection for Quantum-Dot Semiconductor Optical Amplifiers

## محل انتشار:

نوزدهمین کنفرانس مهندسی برق ایران (سال: 1390)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

The influence of non-uniform current injection on the linear operation of a quantum dot semiconductor optical amplifier (QD-SOA) is investigated and optimal current injection profiles are determined. For this purpose, we have utilized some functions to generate various non-uniform current injection profiles. These profiles have been considered in our numerical calculations, where the rate equation model is employed to construct different characteristics of the QD-SOA. We have found that the gain, as well as the crosstalk of QDSOA is closely related to the variance of the carrier density along the cavity. Simulation results show that non-uniform current injection can be used as a technique for gain enhancement as well as crosstalk suppression

## کلمات کلیدی:

quantum-dot semiconductor optical amplifier (QD-SOA), Non-uniform current injection, Rate equations

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/153996>

