

Analysis of self-pulsation characteristics of InGaN laser diode

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Abstract

Self-pulsation characteristics of InGaN laser diode emitting at 395 nm wavelength are investigated theoretically and experimentally. The laser structure consists of a multi-quantum well InGaN active layer and an InGaN single quantum well saturable absorber. Self-pulsations with the frequency range from 1.6 to 2.9 GHz have been obtained. The results show a good agreement between measured and calculated characteristics of self-pulsation. We also discuss the impact of the saturable absorber on the laser dynamics.