Abstracts

Electrically injection-locked intermodal oscillation in a long optical cavity laser diode

A.S. Daryoush, K. Sato, K. Horikawa and H. Ogawa. "Electrically injection-locked intermodal oscillation in a long optical cavity laser diode." 1997 Microwave and Guided Wave Letters 7.7 (Jul. 1997 [MGWL]): 194-196.

This paper presents frequency stabilization of intermodal oscillations observed in long optical cavity laser diodes. A 2170-/spl mu/m-long optical cavity for a 1.5-/spl mu/m laser experiences intermodal oscillation of /spl ap/19.3 GHz. This optical oscillation is stabilized using electrical injection locking process by modulating the gain section. A significant improvement in frequency stability and phase-noise reduction is observed. Performance of the injection-locked intermodal oscillation is compared to the mode-locking experimental results in terms of modulation power and FM noise degradation level.

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