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**Frequency comb seeding of a single-mode near-infrared semiconductor laser**


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**Abstract**

An amplitude-modulated optical frequency comb generated by a passively mode-locked InGaAs double quantum well semiconductor laser is optically injected into a laser emitting a single optical mode continuous wave output in solitary operation. Optical frequency comb generation in the injected laser is experimentally demonstrated and regimes of injection locking are analyzed.

**Conference Presentation**

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Frequency comb seeding of a single-mode near-infrared semiconductor laser

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ABSTRACT
We describe a novel technique for frequency comb seeding of a single-mode near-infrared semiconductor laser. A frequency comb is used as a modelocking source for an optical feedback mechanism which stabilizes the single-mode laser. The method is demonstrated in a long cavity semiconductor laser stabilized around a frequency close to that of an interband cascade laser.

KEYWORDS
Frequency combs, Radiation source, Interferometry, Surface stabilization, Lasers

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