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Accession number:20120914808965
Title:Integrated injection seeded terahertz source and amplifier for time-domain spectroscopy
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Source title:Optics Letters
Abbreviated source title:Opt. Lett.
Volume:37
Issue:4
Issue date:February 15, 2012
Publication year:2012
Pages:731-733
Language:English
ISSN:01469592
E-ISSN:15394794
CODEN:OPLEDP
Document type:Journal article (JA)
Publisher:Optical Society of America, 2010 Massachusetts Avenue NW, Washington, DC 20036-1023, United States
Abstract:We used a terahertz (THz) quantum cascade laser (QCL) as an integrated injection seeded source and amplifier for THz time-domain spectroscopy. A THz input pulse is generated inside a QCL by illuminating the laser facet with a near-IR pulse from a femtosecond laser and amplified using gain switching. The THz output from the QCL is found to saturate upon increasing the amplitude of the THz input power, which indicates that the QCL is operating in an injection seeded regime. © 2012 Optical Society of America.
Number of references:14
Main heading:Quantum cascade lasers
Controlled terms:Optics - Optoelectronic devices
Uncontrolled terms:Femto-second laser - Gain switching - Input power - Input pulse - Laser facets - Near-IR - Terahertz sources - THz time domain spectroscopy - Time domain spectroscopy
Classification code:741.1 Light/Optics - 741.3 Optical Devices and Systems - 744.1 Lasers, General
DOI:10.1364/OL.37.000731
Database:Compendex