

808

标题: Detection of ultrafast THz pulses via electro-absorption in coupled asymmetric quantum wells

作者: Li, CY (Li, Chia-Yeh); Seletskiy, DV (Seletskiy, Denis V.); Cederberg, JG (Cederberg, Jeffrey G.); Sheik-Bahae, M (Sheik-Bahae, Mansoor)

编者: Betz M; Elezzabi AY; Song JJ; Tsen KT

来源出版物: ULTRAFAST PHENOMENA AND NANOPHOTONICS XVI??丛书: Proceedings of SPIE??卷: 8260??文献号: 82600L??DOI: 10.1117/12.907721??出版年: 2012??

在 Web of Science 中的被引频次: 0

被引频次合计: 0

引用的参考文献数: 12

摘要: We utilize quantum-confined Stark-effect in asymmetric double quantum wells (ADQW) to realize coherent detection of broadband THz pulses. For that, broadband THz transients formed by a two-color air plasma are focused onto ADQW, in turn dynamically shifting the ADQW bands, with the bandedge at similar to 825 nm. Spectrally-resolved detection scheme analyzes absorption modulation signatures imprinted onto the transmitted NIR probe spectrum. Use of only few micron thick samples ensures large detection bandwidth, currently demonstrated up to similar to 15 THz. Time-domain analysis of this signal shows pronounced bi-polar (coherent) as well as small unipolar components of the signal.

入藏号: WOS:000302550300013

语种: English

文献类型: Proceedings Paper

会议名称: Conference on Ultrafast Phenomena and Nanophotonics XVI

会议日期: JAN 22-25, 2012

会议地点: San Francisco, CA

会议赞助商 : SPIE, Femtolasers, Inc

作者关键词: Terahertz coherent detection; electro-absorption sampling

KeyWords Plus: TERAHERTZ; RECTIFICATION; AIR

地址: [Li, Chia-Yeh; Seletskiy, Denis V.; Sheik-Bahae, Mansoor] Univ New Mexico, Dept Phys & Astron, Albuquerque, NM 87131 USA

通讯作者地址: Li, CY (通讯作者),Univ New Mexico, Dept Phys & Astron, 1919 Lomas Blvd NE, Albuquerque, NM 87131 USA

出版商: SPIE-INT SOC OPTICAL ENGINEERING

出版商地址: 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA

Web of Science 分类: Optics

学科类别: Optics

IDS 号: BZR31

ISSN: 0277-786X

ISBN: 978-0-8194-8903-6

29 字符的来源出版物名称缩写: PROC SPIE

来源出版物页码计数: 7