259.
标题: Study on the Optical Properties of Ultra-Thin Metal Films in the THz Band
作者: Ma, FY (Ma Feng-ying); Chi, Q (Chi Quan); Su, JP (Su Jian-po); Du, YL (Du Yan-li); Zhang, WW (Zhang Wei-wei); Chen, M (Chen Ming); Liu, JL (Liu Jian-li); Guo, MT (Guo Mao-tian); Yuan, B (Yuan Bin)
来源出版物: SPECTROSCOPY AND SPECTRAL ANALYSIS 卷: 32 期: 3 页: 610-613
DOI: 10.3964/j.issn.1000-0593(2012)03-0610-04 出版年: MAR 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: 14
摘要: Thin metal films are good candidates of terahertz detectors, reflectors, waveguides and terahertz quantum-cascade lasers (THz-QCLs). The optical parameter is the basis not only for designing the THz components but also for developing novel optoelectronic materials. In the present paper, the complex refractive indices of the ultra-thin metal (Cr, Ni and Ti) films in the THz band were obtained by the THz differential time-domain spectroscopy. The reflection spectra of the GaAs/metals interface were calculated according to the Fresnel formula. The mean reflectance of 25 nm Cr, Ni and Ti are over 80% from 0.3 to 1.5 THz. The results show that ultra-thin metal films can be used for reflectors as well as the electrodes in the THz band.
入藏号: WOS:000301329300009
语种: Chinese
文献类型: Article
作者关键词: THz difference time-domain spectroscopy (THz-DTDS); Ultra-thin metal film; Optical parameters; THz optical components
KeyWords Plus: TIME-DOMAIN SPECTROSCOPY
地址: [Ma Feng-ying; Chi Quan; Su Jian-po; Du Yan-li; Zhang Wei-wei; Chen Ming; Liu Jian-li; Guo Mao-tian; Yuan Bin] Zhengzhou Univ, Sch Phys Sci & Engn, Zhengzhou 450001, Peoples R China
通讯作者地址: Su, JP (通讯作者),Zhengzhou Univ, Sch Phys Sci & Engn, Zhengzhou 450001, Peoples R China
电子邮件地址: mafy@zzu.edu.cn; sujp@zzu.edu.cn
出版商: OFFICE SPECTROSCOPY & SPECTRAL ANALYSIS
出版商地址: NO 76 COLLAGE SOUTH RD BEIJING, BEIJING 100081, PEOPLES R CHINA
Web of Science 分类: Spectroscopy
学科类别: Spectroscopy
IDS 号: 906FC
ISSN: 1000-0593
29 字符的来源出版物名称缩写: SPECTROSC SPECT ANAL
ISO 来源出版物缩写: Spectrosc. Spectr. Anal.
来源出版物页码计数: 4