744
标题: Terahertz wave filter based on photonic crystal
作者: Liu, YH (Liu Yu-Hang); Li, JS (Li Jiu-Sheng)
编者: Yao J; Zhang XC; Yan D; Liu J
来源出版物: PHOTONICS AND OPTOELECTRONICS MEETINGS (POEM) 2011: LASER AND TERAHERTZ SCIENCE AND TECHNOLOGY??丛书: Proceedings of SPIE??卷: 8330??文献号: 833006??DOI: 10.1117/12.917556??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: 8
摘要: In the past decade, spectroscopy and imaging in the terahertz region (0.1-10 THz) of the electromagnetic spectrum has been applied in both basic research and potential industrial applications, such as medical diagnosis, security screening, radio astronomy, atmospheric studies, short-range indoor communication, chemical, biological sensing, medical and biological imaging, and detection of explosives. In this paper, we design a narrow bandpass terahertz wave filter using three kinds of two-dimensional photonic crystals. By using finite-difference time-domain (FDTD) method, we examined the transmittance spectra for the proposed terahertz wave filter. The simulated results show that the proposed filter exhibit excellent transmission performance such as high transmission at the central frequency, adjustable bandpass, and good rejection of the sideband frequencies.
入藏号: WOS:000304667100005
语种: English
文献类型: Proceedings Paper
会议名称: 4th International Photonics and Optoelectronics Meetings (POEM) - Laser and Terahertz Science and Technology/10th International Conference on Photonics and Imaging in Biology and Medicine (PIBM)
会议日期: NOV 02-05, 2011
会议地点: Wuhan, PEOPLES R CHINA
会议赞助商 : Wuhan Natl Lab Optoelect, Huazhong Univ Sci & Technol, China Hubei Prov Sci & Technol Dept, Wuhan E Lake Natl Innovat Model Zone (Opt Valley China, OVC), Opt Soc, Hubei Prov Foreign Experts Affairs Bur, Natl Nat Sci Fdn Comm (NNSFC)
作者关键词: Terahertz; bandpass; terahertz wave; filter; two-dimensional photonic crystal; finite-difference time-domain method; FDTD; sharp edge; spectroscopy
KeyWords Plus: TIME-DOMAIN SPECTROSCOPY; THZ
地址: [Liu Yu-Hang; Li Jiu-Sheng] China Jiliang Univ, Ctr THz Res, Hangzhou 310018, Peoples R China
通讯作者地址: Liu, YH (通讯作者),China Jiliang Univ, Ctr THz Res, Hangzhou 310018, Peoples R China
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: BAM23
ISSN: 0277-786X

ISBN: 978-0-8194-8987-6
29 字符的来源出版物名称缩写: PROC SPIE
来源出版物页码计数: 6