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标题: Magnetically Tunable Terahertz Isolator Based on Structured Semiconductor Magneto Plasmonics
作者: Fan, F (Fan, Fei); Chang, SJ (Chang, Sheng-Jiang); Gu, WH (Gu, Wen-Hao); Wang, XH (Wang, Xiang-Hui); Chen, AQ (Chen, Ai-Qi)
来源出版物: IEEE PHOTONICS TECHNOLOGY LETTERS 卷: 24 期: 22 页: 2080-2083
DOI: 10.1109/LPT.2012.2219858 出版年: NOV 15 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: 16
摘要: A tunable terahertz (THz) isolator based on a periodically structured semiconductor magneto plasmonics is proposed. The unique photonic band-gap and one-way transmission property of this structure with different magnetic fields and temperature are investigated in the THz regime. The numerical results show the proposed isolator has a bandwidth of 80 GHz with the maximum isolation of higher than 90 dB and a low insertion loss of 5%. The central operating frequency of this isolator can be broadly tuned from 1.4 to 0.9 THz by changing the external magnetic field from 0.6 to 1.6 Tesla at 195 K. This low-loss high isolation broadband nonreciprocal THz transmission mechanism has great potential applications in promoting the performances of THz application systems.
入藏号: WOS:000311361600016
语种: English
文献类型: Article
作者关键词: Isolator; magneto surface plasmon; one-way waveguide; terahertz (THz)
KeyWords Plus: PHOTONIC CRYSTALS; MAGNETOPLASMONS; CIRCULATOR
地址: [Fan, Fei; Chang, Sheng-Jiang; Gu, Wen-Hao; Wang, Xiang-Hui] Nankai Univ, Inst Modern Opt, Key Lab Opt Informat Sci & Technol, Minist Educ, Tianjin 300071, Peoples R China
[Chen, Ai-Qi] Tianjin 1 High Sch, Tianjin 300051, Peoples R China
通讯作者地址: Fan, F (通讯作者),Nankai Univ, Inst Modern Opt, Key Lab Opt Informat Sci & Technol, Minist Educ, Tianjin 300071, Peoples R China.
电子邮件地址: fanfei_gdz@126.com; sjchang@nankai.edu.cn; whgu@mail.nankai.edu.cn; wangxianghui@nankai.edu.cn; Chenaiqi@163.com
出版商: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC
出版商地址: 445 HOES LANE, PISCATAWAY, NJ 08855-4141 USA
Web of Science 类别: Engineering, Electrical & Electronic; Optics; Physics, Applied
研究方向: Engineering; Optics; Physics
IDS 号: 040YB
ISSN: 1041-1135
29 字符的来源出版物名称缩写: IEEE PHOTONIC TECH L
ISO 来源出版物缩写: IEEE Photonics Technol. Lett.
来源出版物页码计数: 4