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标题: Discrete Terahertz Beam Steering with an Electrically Controlled Liquid Crystal Device
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来源出版物: JOURNAL OF INFRARED MILLIMETER AND TERAHERTZ WAVES 卷: 33 期: 11 页: 1117-1122 DOI: 10.1007/s10762-012-9927-5 出版年: NOV 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: 35
摘要: We present an electronic beam switching/steering device for operation at THz frequencies. The propagation direction of the THz beam is switched via electronic manipulation of the refractive index of a liquid crystal. The design of the steering device and the parameters of the liquid crystal are described and angle-dependent THz-TDS measurements of the beam steering are reported. This device is able to deflect the propagation direction of the THz beam by 6.3 A degrees. This particular device approach offers a viable option for beam steering/switching in various THz applications including fiber switches, scanning imagers, and free-space communication systems in which the detector or emitter is in motion.
入藏号: WOS:000309238200005
语种: English
文献类型: Article
作者关键词: THz spectroscopy; Quasi-optics; Liquid Crystal (LC)
KeyWords Plus: PHOTONIC CRYSTAL; PHASE MODULATOR; SPECTROSCOPY; FIBERS; TRANSMISSION; SWITCH; RANGE; WAVES
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出版商: SPRINGER
出版商地址: 233 SPRING ST, NEW YORK, NY 10013 USA
Web of Science 类别: Engineering, Electrical & Electronic; Optics; Physics, Applied
研究方向: Engineering; Optics; Physics
IDS 号: 012LR
ISSN: 1866-6892
29 字符的来源出版物名称缩写: J INFRARED MILLIM TE
ISO 来源出版物缩写: J. Infrared Millim. Terahertz Waves
来源出版物页码计数: 6