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标题: Numerical analysis of THz metamaterial with high birefringence liquid crystal

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来源出版物: LIQUID CRYSTALS 卷: 39 期: 6 页: 739-744 DOI: 10.1080/02678292.2012.675647 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: 23

摘要: We analysed the response of a tunable liquid crystal metamaterial (MTM) transducer in the terahertz frequency range. The MTM structure is based on the rod double-split square resonators (SSR) with back-to-back orientation. A full-wave analysis technique based on the finite-difference time-domain method (FDTD) was performed using QuickWave 3D electromagnetic solver. Terahertz transmission properties of the MTM structure can be controlled by the director of the liquid crystal layer. The main aim of this work is to determine the impact of the size of the SSR of the MTM transducer on scattering parameters of the analysed MTM transducer at terahertz frequency range. Numerical simulations were performed in the range 0.32-0.44 THz.

入藏号: WOS:000304347900010

语种: English

文献类型: Article

作者关键词: tunable metamaterial; liquid crystal; metamaterial; numerical analysis

KeyWords Plus: ZERO-POSITIVE INDEX

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出版商: TAYLOR & FRANCIS LTD

出版商地址: 4 PARK SQUARE, MILTON PARK, ABINGDON OX14 4RN, OXON, ENGLAND

Web of Science 分类: Crystallography

学科类别: Crystallography

IDS 号: 946JN

ISSN: 0267-8292

29 字符的来源出版物名称缩写: LIQ CRYST

ISO 来源出版物缩写: Liq. Cryst.

来源出版物页码计数: 6