

Accession number:20123715436459

Title:Tunable metamaterials for controlling THz radiation

Authors:Vendik, Irina B. (1); Vendik, Orest G. (1); Odit, Mikhail A. (1); Kholodnyak, Dmitry V. (1); Zubko, Svetlana P. (1); Sitnikova, Margarita F. (1); Turalchuk, Pavel A. (1); Zemlyakov, Kirill N. (1); Munina, Irina V. (1); Kozlov, Dmitry S. (1); Turgaliev, Viacheslav M. (1); Ustinov, Alexey B. (1); Park, Yeonsang (2); Kihm, Jinyun (2); Lee, Chang-Won (2)

Author affiliation:(1) St. Petersburg Electrotechnical University LETI, 197376 St. Petersburg, Russia; (2) Samsung Advanced Institute of Technology, Giheung-Gu, Yongin-Si, 449-712, Korea, Republic of

Corresponding author:Vendik, I.B.(ibvendik@rambler.ru)

Source title:IEEE Transactions on Terahertz Science and Technology

Abbreviated source title:IEEE Trans. Terahertz Sci. Technol.

Volume:2

Issue:5

Issue date:2012

Publication year:2012

Pages:538-549

Article number:6287628

Language:English

ISSN:2156342X

Document type:Journal article (JA)

Publisher:IEEE Microwave Theory and Techniques Society, 2458 East Kael Circle, Mesa, AZ 85213, United States

Abstract:Remarkable progress in terahertz (THz) sources and detectors is followed by the necessity of manipulating of terahertz radiation. Since natural materials can not perform efficient interaction with THz radiation, artificial structures called metamaterials are designed to overcome THz gap in this area. A variety of tunable metamaterials using different methods of control are presented and discussed in this review paper. © 2011-2012 IEEE.

Number of references:89

Main heading:Metamaterials

Controlled terms:Terahertz waves

Uncontrolled terms:Artificial structures - Efficient interaction - Natural materials - Terahertz - Terahertz radiation - THz radiation - Tunable metamaterials

Classification code:711 Electromagnetic Waves - 951 Materials Science

DOI:10.1109/TTHZ.2012.2209878

Database:Compendex

Compilation and indexing terms, Copyright 2012 Elsevier Inc.