394.
Accession number:20113914374909
Title:Independently tunable multichannel terahertz filters
Authors:Zhang, Hui-Yun (1); Gao, Ying (1); Zhang, Yu-Ping (1); Wang, Shi-Fan (1)
Author affiliation:(1) College of Science, Shandong University of Science and Technology, Qingdao 266510, China
Corresponding author:Zhang, Y.-P.(zhangyuping1976@yahoo.com.cn)
Source title:Chinese Physics B
Abbreviated source title:Chin. Phys.
Volume:20
Issue:9
Issue date:September 2011
Publication year:2011
Article number:094101
Language:English
ISSN:16741056
Document type:Journal article (JA)
Publisher:Institute of Physics Publishing, Temple Circus, Temple Way, Bristol, BS1 6BE, United Kingdom
Abstract:We numerically demonstrate terahertz multichannel filters with independently tunable defect modes based on fractal photonic crystals. Single defect and multiple defects models are proposed to fabricate the multichannel terahertz filters. The facts that the wave functions of the defect states do not overlap and their bases are orthogonal lead to the independency among the defect modes. The simulated results theoretically provide the principle for fabricating independently tunable multichannel terahertz filters by utilizing one-dimensional photonic crystals with defects.
Number of references:25