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Accession Number

12310290

Author

Zhang Hui-Yun. Gao Ying. Zhang Yu-Ping. Wang Shi-Fan.

Author/Editor Affiliation

Zhang Hui-Yun. Gao Ying. Zhang Yu-Ping. Wang Shi-Fan. : College of Science, Shandong University of Science and Technology, Qingdao 266510, China

Title

Independently tunable multichannel terahertz filters

Source

Chinese Physics B, vol.20, no.9, Sept. 2011, 094101 (7 pp.). Publisher: IOP Publishing Ltd., UK.

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. (25 References).