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Title:Triple-band terahertz metamaterial absorber: Design, experiment, and physical interpretation
Authors:Shen, Xiaopeng (1); Yang, Yan (1); Zang, Yuanzhang (2); Gu, Jianqiang (2); Han, Jiaguang (2); Zhang, Weili (2); Jun Cui, Tie (1)
Author affiliation:(1) State Key Laboratory of Millimeter Waves, Southeast University, Nanjing 210096, China; (2) Center for Terahertz Waves, College of Precision Instrument and Optoelectronics Engineering, Tianjin University, Tianjin 300072, China; (3) School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, OK 74078, United States
Corresponding author:Jun Cui, T.(tjcui@seu.edu.cn)
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Abstract:We demonstrate the design, characterization, and interference-theory interpretation of a terahertz triple-band metamaterial absorber (MA). The experiments show that the fabricated MA has three distinctive absorption peaks at 0.5, 1.03, and 1.71 THz with absorption rates of 96.4, 96.3, and 96.7, respectively. We use the multi-reflection interference theory to investigate the physical insight of the proposed triple-band terahertz MA, which provides a design guideline for MA of such type. The theoretical predictions of the interference model have excellent agreements with experimental results. The designed multiband absorber is easy to manufacture and insensitive to incident polarizations with high absorption, which is favorable for various applications. © 2012 American Institute of Physics.
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