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Title:Terahertz wave bandpass filter based on metamaterials
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Abstract:We designed and demonstrated experimentally a narrow terahertz wave bandpass filter based on metamaterials. By using terahertz time-domain spectroscopy system, we examined the transmittance spectra for the proposed terahertz wave filter. The experimental results show that terahertz wave bandpass filter with a narrow transmission bandwidth (1.5%) centered at 2.0 THz, transmittance peak of 0.56419 (i.e., insertion loss of 2.48 dB) and very sharp edges can be achieved. The measurement results closely correspond to the simulated predictions are observed.
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