

标题: Subwavelength B-shaped metallic hole array terahertz filter with InSb bar as thermally tunable structure

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摘要: We propose a subwavelength B-shaped metallic hole array filter with an embedded thermally tunable InSb semiconductor bar in the terahertz regime. The resonance frequency of this filter can be actively tuned by controlling the temperature of InSb. The transmissions of the filter are calculated with the finite-difference time domain method at various temperatures. Narrowband THz wave with the full width at half maximum of 235 GHz can be selected in the frequency range from 0.74 to 2.02 THz at temperatures from 160 to 350 K. (C) 2012 Optical Society of America

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