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Title:Enhanced transmission of THz radiation through sub-wavelength, asymmetry metallic hole arrays
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Abstract:Strongly enhanced transmission of terahertz radiation pulses through asymmetry rectangular hole arrays with various hole lengths are obtained experimentally. The transmission magnitudes increase and their positions shift to lower frequency with increasing hole length. The maximum transmittance peak is observed for the sample with a hole length of 400 m. Apparent angle-dependent behavior is observed in the transmission spectra of the 200 400 m2 hole array, which due to the size effect of the rectangular hole along the two orthogonal axes. The resonance frequencies are deduced according to the surface plasmon polaritons modes. Our experiment results closely match the theoretical calculations.
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