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标题: Experimental study of multichromatic terahertz wave propagation through planar micro-channels
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摘要: Previous theoretical and numerical studies [Y. M. Shin and L. R. Barnett, Appl. Phys. Lett. 92, 091501 (2008) and Y. M. Shin et al., Appl. Phys. Lett. 93, 221504 (2008)] have reported that a planar micro-channel with an asymmetric corrugation array supports strongly confined propagation of broadband THz plasmonic waves. The highly broad spectral response is experimentally demonstrated in the near-THz regime of 0.19-0.265 THz. Signal reflection and transmission tests on the three designed micro-channels including directional couplers resulted in a full-width-half-maximum bandwidth of similar to 50-60GHz with an insertion loss of approximately -5 dB, which is in good agreement with simulation data. These micro-structures can be utilized for free electron beam and electronic/optic integrated devices. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.3698362]
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