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标题: Effect of plasma resonances on dynamic characteristics of double graphene-layer optical modulator
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摘要: We analyze the dynamic operation of an optical modulator based on double graphene-layer (GL) structure utilizing the variation of the GL absorption due to the electrically controlled Pauli blocking effect. The developed device model yields the dependences of the modulation depth on the control voltage and the modulation frequency. The excitation of plasma oscillations in double-GL structure can result in the resonant increase of the modulation depth, when the modulation frequency approaches the plasma frequency, which corresponds to the terahertz frequency for the typical parameter values. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.4766814]
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