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标题: The study of negative THz conductivity of graphene under the phonon scattering mechanism
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摘要: The variety of optical and electronic properties of graphene attracts enormous interests. The relaxation and recombination mechanism of photogenerated electrons and holes in undoped monolayer graphene are studied with the changing pump intensities. The population inversion in graphene can lead to the negative AC conductivity in THz spectral range. And the conductivity depends on the carrier density, the carrier distribution in energy as well as the effective temperature. It indicates that the negative dynamic conductivity is associated with the THz emission and can be used in graphene-based new THz lasers. (C) 2012 Elsevier B.V. All rights reserved.
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