25
标题: Plasmonic terahertz lasing in an array of graphene nanocavities
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摘要: We propose a novel concept of terahertz lasing based on stimulated generation of plasmons in a planar array of graphene resonant micro/nanocavities strongly coupled to terahertz radiation. Due to the strong plasmon confinement and superradiant nature of terahertz emission by the array of plasmonic nanocavities, the amplification of terahertz waves is enhanced by many orders of magnitude at the plasmon resonance frequencies. We show that the lasing regime is ensured by the balance between the plasmon gain and plasmon radiative damping.
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