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标题: Tunable terahertz optical antennas based on graphene ring structures
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来源出版物: APPLIED PHYSICS LETTERS 卷: 100 期: 15 文献号: 153111 DOI: 10.1063/1.3702819 出版年: APR 9 2012
在 Web of Science 中的被引频次: 0
被引频次合计: 0
引用的参考文献数: 23
摘要: Highly tunable optical antennas in teraherz range based on graphene ring structures are proposed, which employ graphene plasmons instead of traditional metallic plasmons. The plasmon resonances of the perfect graphene ring (PGR) can be understood with the edge plasmons in graphene ribbons. While in the nonconcentric graphene ring, the multipolar plasmon modes appear and anti-symmetric mode splits due to symmetry breaking. Furthermore, the symmetric plasmon mode in a graphene ring can concentrate electromagnetic field with an enhancement factor as large as 10(3) in terahertz waveband, which is almost 20 times larger than a gold ring with the same size. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.3702819]
入藏号: WOS:000303128000063
语种: English
文献类型: Article
KeyWords Plus: FANO RESONANCE; MICROSCOPY; LIGHT; METAMATERIALS; PLASMONICS
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出版商: AMER INST PHYSICS
出版商地址: CIRCULATION & FULFILLMENT DIV, 2 HUNTINGTON QUADRANGLE, STE 1 N O 1, MELVILLE, NY 11747-4501 USA
Web of Science 分类: Physics, Applied
学科类别: Physics
IDS 号: 930HJ
ISSN: 0003-6951
29 字符的来源出版物名称缩写: APPL PHYS LETT
ISO 来源出版物缩写: Appl. Phys. Lett.
来源出版物页码计数: 5