408.
标题: Single sub-wavelength aperture with greatly enhanced transmission
作者: Bulgarevich, DS (Bulgarevich, D. S.); Watanabe, M (Watanabe, M.); Shiwa, M (Shiwa, M.)
来源出版物: NEW JOURNAL OF PHYSICS 卷: 14 文献号: 053001 DOI: 10.1088/1367-2630/14/5/053001 出版年: MAY 1 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: 48
摘要: High transmission efficiency at terahertz (THz) frequency is reported for a single aperture with sub-wavelength dimensions having a Siemens-star shape, microfabricated in the metal film and surrounded by periodic surface corrugations. Compared to theoretical predictions for a simple circular hole of equivalent area, up to similar to 10(6) transmission enhancements were observed experimentally. Such a pointed-shape aperture was also used to obtain the detailed profile of the electric field distribution in the focal plane of a linearly polarized focused THz beam. Applications could be extended to other regions of the electromagnetic spectrum by appropriate scaling of aperture microstructure.
入藏号: WOS:000304871300001
语种: English
文献类型: Article
KeyWords Plus: LOCAL-FIELD ENHANCEMENT; TIME-DOMAIN; RAMAN-SCATTERING; TERAHERTZ; RESONATORS; SURFACES; ANTENNA
地址: [Bulgarevich, D. S.; Watanabe, M.; Shiwa, M.] Natl Inst Mat Sci, Tsukuba, Ibaraki 3050047, Japan
通讯作者地址: Bulgarevich, DS (通讯作者),Natl Inst Mat Sci, 1-2-1 Sengen, Tsukuba, Ibaraki 3050047, Japan
电子邮件地址: DMITRY.Bulgarevich@nims.go.jp
出版商: IOP PUBLISHING LTD
出版商地址: TEMPLE CIRCUS, TEMPLE WAY, BRISTOL BS1 6BE, ENGLAND
Web of Science 分类: Physics, Multidisciplinary
学科类别: Physics
IDS 号: 953MD
ISSN: 1367-2630
29 字符的来源出版物名称缩写: NEW J PHYS
ISO 来源出版物缩写: New J. Phys.
来源出版物页码计数: 13