644.
标题: Carrier dynamics and conductivity of SnO2 nanowires investigated by time-resolved terahertz spectroscopy
作者: Tsokkou, D (Tsokkou, Demetra); Othonos, A (Othonos, Andreas); Zervos, M (Zervos, Matthew)
来源出版物: APPLIED PHYSICS LETTERS 卷: 100 期: 13 文献号: 133101 DOI: 10.1063/1.3698097 出版年: MAR 26 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: 26
摘要: THz spectroscopy has been applied to investigate the photo-induced and intrinsic conductivity in SnO2 nanowires using the Drude-Smith model. The refractive index of the nanowires was found to decrease from 2.4 to 2.1 with increasing THz frequency and the dc mobility of the non-excited nanowires was determined to be 72 +/- 10 cm(2)/Vs. Measurements reveal that scattering times are carrier density dependent, while a strong suppression of long transport is evident. Intensity-dependent measurements provided an estimate of the Auger coefficient found to be gamma = (7.2 +/- 2.0) x 10(-31) cm(6)/s. (C) 2012 American Institute of Physics. [http://dx.doi.org/10.1063/1.3698097]
入藏号: WOS:000302230800059
语种: English
文献类型: Article
KeyWords Plus: OPTICAL-PROPERTIES; THIN-FILMS; OXIDE; SEMICONDUCTORS
地址: [Tsokkou, Demetra; Othonos, Andreas] Univ Cyprus, Dept Phys, Res Ctr Ultrafast Sci, CY-1678 Nicosia, Cyprus
[Zervos, Matthew] Univ Cyprus, Dept Mech Engn, Nanostruct Mat & Devices Lab, CY-1678 Nicosia, Cyprus
通讯作者地址: Tsokkou, D (通讯作者),Univ Cyprus, Dept Phys, Res Ctr Ultrafast Sci, POB 20537, CY-1678 Nicosia, Cyprus
电子邮件地址: othonos@ucy.ac.cy
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: 918DZ
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: 4