86
标题: The intensive terahertz electroluminescence induced by Bloch oscillations in SiC natural superlattices
作者: Sankin, V (Sankin, Vladimir); Andrianov, A (Andrianov, Alexandr); Petrov, A (Petrov, Alexey); Zakhar'in, A (Zakhar'in, Alexey); Lepneva, A (Lepneva, Ala); Shkrebiy, P (Shkrebiy, Pavel)
来源出版物: NANOSCALE RESEARCH LETTERS 卷: 7 文献号: 560 DOI: 10.1186/1556-276X-7-560 出版年: OCT 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: 28
摘要: We report on efficient terahertz (THz) emission from high-electric-field-biased SiC structures with a natural superlattice at liquid helium temperatures. The emission spectrum demonstrates a single line, the maximum of which shifts linearly with increases in bias field. We attribute this emission to steady-state Bloch oscillations of electrons in the SiC natural superlattice. The properties of the THz emission agree fairly with the parameters of the Bloch oscillator regime, which have been proven by high-field electron transport studies of SiC structures with natural superlattices.
入藏号: WOS:000311677200001
语种: English
文献类型: Article
作者关键词: Terahertz emission; Natural superlattice; Bloch oscillations; Wannier-Stark localization; Transport in high electrical fields
KeyWords Plus: SILICON-CARBIDE POLYTYPES; WANNIER-STARK LOCALIZATION; FIELD-INDUCED LOCALIZATION; SEMICONDUCTOR SUPERLATTICES; ELECTRIC-FIELD; 6H
地址: [Sankin, Vladimir; Andrianov, Alexandr; Petrov, Alexey; Zakhar'in, Alexey; Lepneva, Ala; Shkrebiy, Pavel] AF Ioffe Phys Tech Inst, St Petersburg 194021, Russia
通讯作者地址: Sankin, V (通讯作者),AF Ioffe Phys Tech Inst, 26 Politekhnicheskaya, St Petersburg 194021, Russia.
电子邮件地址: sankin@mail.ioffe.ru
出版商: SPRINGER
出版商地址: 233 SPRING ST, NEW YORK, NY 10013 USA
Web of Science 类别: Nanoscience & Nanotechnology; Materials Science, Multidisciplinary; Physics, Applied
研究方向: Science & Technology - Other Topics; Materials Science; Physics
IDS 号: 045EG
ISSN: 1931-7573
29 字符的来源出版物名称缩写: NANOSCALE RES LETT
ISO 来源出版物缩写: Nanoscale Res. Lett.
来源出版物页码计数: 7