777
标题: Investigating the Effects of Terahertz Radiation on Bacillus subtilis
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来源出版物: DYNAMICS AND FLUCTUATIONS IN BIOMEDICAL PHOTONICS IX??丛书: Proceedings of SPIE??卷: 8222??文献号: 822213??DOI: 10.1117/12.910724??出版年: 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: 13
摘要: Medical and security sensing applications of Terahertz (THz) imaging are currently being developed. As a result, there is a need to further investigate the effects of THz radiation on biological systems. In this study, a 94 GHz mechanically tuned Gunn Oscillator was used to irradiate Bacillus subtilis at 94 GHz. The bacteria were cultured in trypticase soy broth (TSB) and placed in polystyrene 96 well plates. The samples where irradiated during the exponential growth phase for 1, 2, and 24 hours. Both the experimental and control plates were kept at room temperature (similar to 25 degrees C) and were monitored for the duration of the experiment using thermocouples interfaced with a computer via Labview software. By evaluating the absorption of each well at 600nm immediately before and after irradiation, the population density within each well was assessed. Following this, the metabolic activity of each well was measured after irradiation by adding tetrazolium dye, XTT, to the wells and evaluating the absorption of each well at 490nm after 2 hours of incubation.
入藏号: WOS:000302554000017
语种: English
文献类型: Proceedings Paper
会议名称: Conference on Dynamics and Fluctuations in Biomedical Photonics IX/SPIE Photonics West Conference
会议日期: JAN 21-23, 2012
会议地点: San Francisco, CA
会议赞助商 : SPIE
KeyWords Plus: GHZ; TECHNOLOGY
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出版商: SPIE-INT SOC OPTICAL ENGINEERING
出版商地址: 1000 20TH ST, PO BOX 10, BELLINGHAM, WA 98227-0010 USA
Web of Science 分类: Optics
学科类别: Optics
IDS 号: BZR34
ISSN: 0277-786X
ISBN: 978-0-8194-8865-7
29 字符的来源出版物名称缩写: PROC SPIE
来源出版物页码计数: 9