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标题: Nondestructive and Noncontact Evaluation on FRP Composite Laminates Using a Terahertz Ray
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来源出版物: THIRD INTERNATIONAL CONFERENCE ON SMART MATERIALS AND NANOTECHNOLOGY IN ENGINEERING??丛书: Proceedings of SPIE??卷: 8409??文献号: 84091I??DOI: 10.1117/12.924046??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: 12
摘要: Recently, a terahertz ray (T-ray) technique has emerged as one of the most promising new powerful nondestructive evaluation (NDE) techniques, and new application systems are under processing development for the area applications. In this study T-ray technique will be adopted for the characterization of the FRP composite solid laminates as an imaging and useful nondestructive evaluation (NDE) tool. So, in order to detect and evaluate the flaws in FRP solid composite laminates a new time-domain spectroscopy system was utilized. Various experimental measurements in reflection and through-transmission modes were made in order to map out the T-ray images. Especially in this characterization procedure, we estimated the electromagnetic properties such as the refractive index and a couple of techniques were proposed to measure the refractive index. It is found that estimations of properties with the proposed different ways are in good agreement with known data. Furthermore woven CFRP Honey comb sandwich panel with A1 wire were observed in reflection mode and limitations will be mentioned in the T-ray processing.
入藏号: WOS:000303519900053
语种: English
文献类型: Proceedings Paper
会议名称: 3rd International Conference on Smart Materials and Nanotechnology in Engineering
会议日期: DEC 05-08, 2011
会议地点: Shenzhen, PEOPLES R CHINA
会议赞助商 : Harbin Inst Technol, Natl Inst Stand & Technol, Asia Pacific Comm Smart & Nano Mat, Nanyang Technol Univ, Adv Mat Res Ctr, Natl Nat Sci Fdn China, Chinese Soc Composite Mat, Chinese Mat Res Soc, Chinese Soc Aeronaut & Astronaut, Chinese Soc Theoret & Appl Mech
作者关键词: Fiber reinforced plastics; Composites; Terahertz Ray; Material Characterization; Reflection mode
KeyWords Plus: TEMPERATURE-GROWN GAAS; GENERATION
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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: BAA57
ISSN: 0277-786X
ISBN: 978-0-8194-9087-2
29 字符的来源出版物名称缩写: PROC SPIE
来源出版物页码计数: 6