Advanced Manufacturing Techniques
Using Laser Material Processing

Part of the Advances in Civil and Industrial Engineering (ACIE) Book Series

Esther Titilayo Akinlabi (University of Johannesburg, South Africa), Rasheedat Modupe Mahamood (University of Johannesburg, South Africa & University of Ilorin, Nigeria) and Stephen Akinwale Akinlabi (University of the Witwatersrand, South Africa)

Description:

The use of lasers in material processing has become a useful method for transforming industrial materials into finished products. The benefits of laser material processing are vast, including increased precision, high processing speed, and dustless cutting and drilling.

Advanced Manufacturing Techniques Using Laser Material Processing explores the latest methodologies for using lasers in materials manufacturing and production, the benefits of using lasers in industrial settings, as well as future outlooks for this technology.

Readers:

This innovative publication is an essential reference source for professionals, researchers, and graduate-level students studying manufacturing technologies and industrial engineering.

ISBN: 9781522503293 Release Date: April, 2016 Copyright: 2016 Pages: 288

Topics Covered:

- Computer-Aided Design (CAD)
- Laser Metal Deposition
- Laser Additive Manufacturing
- Laser Surface Alloying
- Laser Machining
- Laser Surface Modification
- Laser-Material Interaction
- Process Optimization

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Esther T. Akinlabi is the Head of Department of Mechanical Engineering Science, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa. Her research interest is in the field of modern manufacturing processes—Friction Stir Welding and Laser based additive manufacturing. Her research in the field of laser based additive manufacturing include laser material processing and surface engineering. She is a rated NRF researcher and has demonstrated excellence in all fields of endeavors. Her mentorship and research experience is enviable as she guides her postgraduate students through the research journey. She is a recipient of several research grants and has received many awards of recognition to her credit. She is a member of the South African Young Academy of Science. Prof Akinlabi has filed two patents and coauthored over 150 peer reviewed publications.

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