

Advanced Book Information

Innovation in Smart Materials and Structural Health Monitoring for Composite Applications

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eBook PDF

Structural health monitoring (SHM) is an automated approach to determine any changes in the integrity of mechanical system. The SHM system gives information in real time and online. Hence it provides advantages in damage detection, damage localization, damage assessment, and life prediction as well compare to Non-destructive test (NDT) which is conducted offline.

Keyword: Smart Materials, Composites, Structural Health Monitoring, Non-destructive Test, Composite Aircraft Structures, Root Mean Square Deviation (RMSD) , Wind Turbine System, Biocomposite Turbine Blade, Vertical Axis Wind Turbine, Micro Energy Harvester

ISBN 13: 978-1-945291-29-6

Publication Date: 2017 (5/5/2017)

Direct URL: <http://www.mrforum.com/product/Structural-Health-Monitoring-Composite-Applications>

184 pages, eBook PDF, USD 125.00

Materials Research Foundations Vol. 13

BISAC Subject Classification code: TEC021000

BIC/Thema Subject Classification code: TGM, TGMT

Imprint: Materials Research Forum LLC, publisher's sales rights are Worldwide

Product Form: ac

Summary:

Structural health monitoring (SHM) is an automated approach to determine any changes in the integrity of a mechanical system. The SHM system gives information in real time and online.

The knowledge on Root Mean Square Deviation (RMSD) techniques is employed and presented in this writing. Besides that, SHM system in wind turbine system is becoming very important. This book places emphasize on the application of biocomposite turbine blades for vertical axis wind turbines. The dynamics characterization of mechanical system on biocomposite turbine blades is determined with several techniques. The SHM for biocomposite turbine blades is enhanced in order for it to become a micro energy harvester.

