

Contents

Part I Trends and Applications

Probabilistic Prognostics and Health Management:

A Brief Summary 3

Fisseha M. Alemayehu and Stephen Ekwaro-Osire

Introduction to Data-Driven Methodologies for Prognostics and Health Management 9

Jay Lee, Chao Jin, Zongchang Liu and Hossein Davari Ardakani

Prognostics and Health Management of Wind Turbines—Current Status and Future Opportunities 33

Shuangwen Sheng

Overview on Gear Health Prognostics 49

Fuqiong Zhao, Zhigang Tian and Yong Zeng

Probabilistic Model-Based Prognostics Using Meshfree Modeling. 67

Stephen Ekwaro-Osire, Haileyesus Belay Endeshaw,

Fisseha M. Alemayehu and Ozhan Gecgel

Cognitive Architectures for Prognostic Health Management 91

James A. Crowder and John N. Carbone

Part II Modeling and Uncertainty Quantification

A Review of Crack Propagation Modeling Using Peridynamics 111

João Paulo Dias, Márcio Antonio Bazani, Amarildo Tabone Paschoalini

and Luciano Barbanti

Modeling and Quantification of Physical Systems Uncertainties in a Probabilistic Framework. 127

Americo Cunha Jr.

Probabilistic Prognostics and Health Management of
Energy Systems

Ekwaro-Osire, S.; Goncalves, A.C.; Alemayehu, F.M.
(Eds.)

2017, X, 277 p. 121 illus., Hardcover

ISBN: 978-3-319-55851-6