Intelligent Fault Diagnosis and Prognosis for Engineering Systems

Description:
Expert guidance on theory and practice in condition-based intelligent machine fault diagnosis and failure prognosis

Intelligent Fault Diagnosis and Prognosis for Engineering Systems gives a complete presentation of basic essentials of fault diagnosis and failure prognosis, and takes a look at the cutting-edge discipline of intelligent fault diagnosis and failure prognosis technologies for condition-based maintenance. It thoroughly details the interdisciplinary methods required to understand the physics of failure mechanisms in materials, structures, and rotating equipment, and also presents strategies to detect faults or incipient failures and predict the remaining useful life of failing components. Case studies are used throughout the book to illustrate enabling technologies.

Intelligent Fault Diagnosis and Prognosis for Engineering Systems offers material in a holistic and integrated approach that addresses the various interdisciplinary components of the field--from electrical, mechanical, industrial, and computer engineering to business management. This invaluably helpful book:
- Includes state-of-the-art algorithms, methodologies, and contributions from leading experts, including cost-benefit analysis tools and performance assessment techniques
- Covers theory and practice in a way that is rooted in industry research and experience
- Presents the only systematic, holistic approach to a strongly interdisciplinary topic

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