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| Autore | Wang Danwei |
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| Descrizione fisica | 1 online resource (xii, 297 pages) : illustrations (some color) |
| Collana | Gale eBooks |
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| Soggetti | Hybrid computers Structural analysis (Engineering) |
| Lingua di pubblicazione | Inglese |
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| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references. |
| Nota di contenuto | Health Monitoring of Engineering Systems -- Hybrid Systems and Hybrid Bond Graph Models -- Quantitative Hybrid Bond Graph-based Fault Detection and Isolation -- Fault Identification Techniques -- Mode Tracking Techniques -- Application of Real Time FDI and Fault Estimation to a Vehicle Steering System -- Multiple Failure Prognosis for Hybrid Systems. |
| Sommario/riassunto | This book systematically presents a comprehensive framework and effective techniques for in-depth analysis, clear design procedure, and efficient implementation of diagnosis and prognosis algorithms for hybrid systems. It offers an overview of the fundamentals of diagnosis\prognosis and hybrid bond graph modeling. This book also describes hybrid bond graph-based quantitative fault detection, isolation and estimation. Moreover, it also presents strategies to track the system mode and predict the remaining useful life under multiple fault condition. A real world complex hybrid system—a vehicle steering control system—is studied using the developed fault diagnosis methods to show practical significance. Readers of this book will benefit from easy-to-understand fundamentals of bond graph models, concepts of health monitoring, fault diagnosis and failure prognosis, as |

well as hybrid systems. The reader will gain knowledge of fault detection and isolation in complex systems including those with hybrid nature, and will learn state-of-the-art developments in theory and technologies of fault diagnosis and failure prognosis for complex systems.
