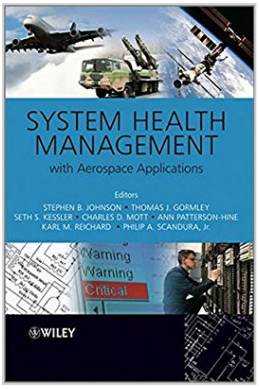

System Health Management: with Aerospace Applications

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System Health Management: with Aerospace Applications provides the first complete reference text for System Health Management (SHM), the set of technologies and processes used to improve system dependability. Edited by a team of engineers and consultants with SHM design, development, and research experience from NASA, industry, and academia, each heading up sections in their own areas of expertise and co-coordinating contributions from leading experts, the book collates together in one text the state-of-the-art in SHM research, technology, and applications. It has been written primarily as a reference text for practitioners, for those in related disciplines, and for graduate students in aerospace or systems engineering.

There are many technologies involved in SHM and no single person can be an expert in all aspects of the discipline.***System Health Management: with Aerospace Applications*** provides an introduction to the major technologies, issues, and references in these disparate but related SHM areas. Since SHM has evolved most rapidly in aerospace, the various applications described in this book are taken primarily from the aerospace industry. However, the theories, techniques, and technologies discussed are applicable to many engineering disciplines and application areas.

Readers will find sections on the basic theories and concepts of SHM, how it is applied in the system life cycle (architecture, design, verification and validation, etc.), the most important methods used (reliability, quality assurance, diagnostics, prognostics, etc.), and how SHM is applied in operations (commercial aircraft, launch operations, logistics, etc.), to subsystems (electrical power, structures, flight controls, etc.) and to system applications (robotic spacecraft, tactical missiles, rotorcraft, etc.).

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Editorial Review

From the Back Cover
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About the Author
Dr Stephen B. Johnson is a Heath Management Systems Engineer at the NASA Marshall Space Flight Center in the USA, as well as an associate research professor at the University of Colorado at Colorado Springs. He has been active in the field of SHM for over 20 years, and has authored many research papers on the topic. He has also authored or edited 3 books in the aerospace field including *The Secret of Apollo: Systems Management in American and European Space Programs*.

Mr Thomas Gormley has been involved with the NASA Aerospace industry for over 20 years, and was the Integrated Vehicle Health Management Project Leader for Rockwell Space Systems during the early 1990s. He brings expertise in systems implementation to the project.

Dr Seth S. Kessler is president and owner of Metis Design Corporation, a design consulting firm specializing in custom sensing solutions. He brings expertise in structural health monitoring and composite materials to the project.

"Charles is the proprietor of Complete Data Management, a business consulting company located in the Upper Peninsula of Michigan. Charles has worked as a business analyst in multiple industries. He has a BSBA from Michigan Technological University and a MS from the University of North Dakota. Charles spent several years living in Alaska and working as a gold miner. His interest include photography, cooking, and physics."

Dr Ann Patterson-Hine is Group Leader of the Health Management Technologies Group at the Ames

Research Center. She brings expertise on the use of engineering models for model-based reasoning in advanced monitoring and diagnostic systems to the project.

Dr Karl Reichard is head of the ARL Penn State Monitoring and Automation Department. He brings expertise in the implementation of signal processing, control and embedded diagnost

Mr Philip A. Scandura, Jr joined Honeywell in 1984 where he currently holds the position of Staff Scientist in their Advanced Technology Organization. He brings expertise in the system definition and implementation of real-time, embedded systems for use in safety-critical and mission-critical applications to the project.

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