

Analysis Of Oreda Data For Maintenance Optimisation

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Safety, Reliability and Risk Analysis R.D.J.M.

Steenbergen 2013-09-18 During the last decade there have been increasing societal concerns over sustainable developments focusing on the conservation of the environment, the welfare and safety of the individual and at the same time the optimal allocation of available natural and financial resources. As a consequence the methods of risk and reliability analysis are becoming

Bayesian Networks in Fault Diagnosis Cai Baoping 2018-08-24 Fault diagnosis is useful for technicians to detect, isolate, identify faults, and troubleshoot. Bayesian network (BN) is a

probabilistic graphical model that effectively deals with various uncertainty problems. This model is increasingly utilized in fault diagnosis. This unique compendium presents bibliographical review on the use of BNs in fault diagnosis in the last decades with focus on engineering systems. Subsequently, eleven important issues in BN-based fault diagnosis methodology, such as BN structure modeling, BN parameter modeling, BN inference, fault identification, validation, and verification are discussed in various cases. Researchers, professionals, academics and graduate students will better understand the theory and application, and benefit those who are

keen to develop real BN-based fault diagnosis system.

The Maintenance Management Framework Adolfo Crespo Márquez 2007-06-10 “The Maintenance Management Framework” describes and reviews the concept, process and framework of modern maintenance management of complex systems; concentrating specifically on modern modelling tools (deterministic and empirical) for maintenance planning and scheduling. It will be bought by engineers and professionals involved in maintenance management, maintenance engineering, operations management, quality, etc. as well as graduate students and researchers in this field.

Down Time Terms and Information Used for Assessment of Equipment Reliability and Maintenance Performance Jon T. Selvik 2017 Reliability and maintenance data is important for predictive analysis related to equipment downtime in the oil and gas industry. For example, downtime data together with equipment reliability data is vital for improving system designs, for optimizing maintenance and in estimating the potential for hazardous events that could harm both people and the environment. The quality is largely influenced by the repair time taxonomy, such as the measures used to define downtime linked to equipment failures. However, although it is important to achieve high quality from maintenance operations as part of this picture,

these often seem to receive less focus compared to reliability aspects. Literature and experiences from, e.g., the OREDA project suggest several challenging issues, which we discuss in this chapter, e.g., for the interpretation of "MTTR." Another challenge relates to the duration of maintenance activities. For example, while performing corrective maintenance on an item, one could also be working on several other items while being on site. This provides an opening for different ways of recording the mobilization time and repair time, which may then influence the data used for predictive analysis. Some relevant examples are included to illustrate some of the challenges posed, and some remedial actions are proposed.

CAD/CAM, Robotics and Factories of the Future Dipak Kumar Mandal 2016-01-05 This volume is based on the proceedings of the 28th International Conference on CAD/CAM, Robotics and Factories of the Future. This book specially focuses on the positive changes made in the field of robotics, CAD/CAM and future outlook for emerging manufacturing units. Some of the important topics discussed in the conference are product development and sustainability, modeling and simulation, automation, robotics and handling systems, supply chain management and logistics, advanced manufacturing processes, human aspects in engineering activities, emerging scenarios in engineering education and training.

The contents of this set of proceedings will prove useful to both researchers and practitioners.

Operational Reliability and Systematic

Maintenance K. Holmberg 2018-01-18 Scientists from four countries cooperated in a research effort aimed at the improvement of operational reliability via innovations in design and testing and systematic maintenance. The scientists had varied backgrounds ranging from mathematics to applied mechanical engineering, and the results of this effort are documented in this book.

Meeting United States-Japan Marine Facilities

Panel United States-Japan Cooperative Program in Natural Resources. Panel on Marine Facilities. Meeting 1994

Effective Maintenance Management V. Narayan

2004 Utilize your assets effectively, safely, and profitably.

Safety and Reliability. Theory and Applications

Marko Cepin 2017-06-14 *Safety and Reliability – Theory and Applications* contains the contributions presented at the 27th European Safety and Reliability Conference (ESREL 2017, Portorož, Slovenia, June 18-22, 2017). The book covers a wide range of topics, including: • Accident and Incident modelling • Economic Analysis in Risk Management • Foundational Issues in Risk Assessment and Management • Human Factors and Human Reliability • Maintenance Modeling and Applications • Mathematical Methods in Reliability and Safety •

Prognostics and System Health Management • Resilience Engineering • Risk Assessment • Risk Management • Simulation for Safety and Reliability Analysis • Structural Reliability • System Reliability, and • Uncertainty Analysis. Selected special sessions include contributions on: the Marie Skłodowska-Curie innovative training network in structural safety; risk approaches in insurance and finance sectors; dynamic reliability and probabilistic safety assessment; Bayesian and statistical methods, reliability data and testing; organizational factors and safety culture; software reliability and safety; probabilistic methods applied to power systems; socio-technical-economic systems; advanced safety assessment methodologies: extended Probabilistic Safety Assessment; reliability; availability; maintainability and safety in railways: theory & practice; big data risk analysis and management, and model-based reliability and safety engineering. *Safety and Reliability – Theory and Applications* will be of interest to professionals and academics working in a wide range of industrial and governmental sectors including: Aeronautics and Aerospace, Automotive Engineering, Civil Engineering, Electrical and Electronic Engineering, Energy Production and Distribution, Environmental Engineering, Information Technology and Telecommunications, Critical Infrastructures, Insurance and Finance, Manufacturing, Marine

Industry, Mechanical Engineering, Natural Hazards, Nuclear Engineering, Offshore Oil and Gas, Security and Protection, Transportation, and Policy Making.

Offshore Process Safety 2018-06-18 Methods in Chemical Process Safety, Volume Two, the latest release in a serial that publishes fully commissioned methods papers across the field of process safety, risk assessment, and management and loss prevention, aims to provide informative, visual and current content that appeals to both researchers and practitioners in process safety. This new release contains unique chapters on offshore safety, offshore platform safety, human factors in offshore operation, marine safety, safety during well drilling and operation, safety during processing (top side), safety during transportation of natural resources (offshore pipeline), and regulatory context Helps acquaint the reader/researcher with the fundamentals of process safety Provides the most recent advancements and contributions on the topic from a practical point-of-view Presents users with the views/opinions of experts in each topic Includes a selection of the author(s) of each chapter from among the leading researchers and/or practitioners for each given topic

A Holistic Approach to Ship Design Apostolos Papanikolaou 2018-12-11 This book introduces a holistic approach to ship design and its optimisation for life-cycle operation. It deals with

the scientific background of the adopted approach and the associated synthesis model, which follows modern computer aided engineering (CAE) procedures. It integrates techno-economic databases, calculation and multi-objective optimisation modules and s/w tools with a well-established Computer-Aided Design (CAD) platform, along with a Virtual Vessel Framework (VVF), which will allow virtual testing before the building phase of a new vessel. The resulting graphic user interface (GUI) and information exchange systems enable the exploration of the huge design space to a much larger extent and in less time than is currently possible, thus leading to new insights and promising new design alternatives. The book not only covers the various stages of the design of the main ship system, but also addresses relevant major onboard systems/components in terms of life-cycle performance to offer readers a better understanding of suitable outfitting details, which is a key aspect when it comes the outfitting-intensive products of international shipyards. The book disseminates results of the EU funded Horizon 2020 project HOLISHIP.

Proceedings 1992

Reliability and Maintenance of Complex Systems Süleyman Özekici 2013-06-29 Complex high-technology devices are in growing use in industry, service sectors, and everyday life. Their reliability and maintenance is of utmost importance in view

of their cost and critical functions. This book focuses on this theme and is intended to serve as a graduate-level textbook and reference book for scientists and academics in the field. The chapters are grouped into five complementary parts that cover the most important aspects of reliability and maintenance: stochastic models of reliability and maintenance, decision models involving optimal replacement and repair, stochastic methods in software engineering, computational methods and simulation, and maintenance management systems. This wide range of topics provides the reader with a complete picture in a self-contained volume.

Safety and Reliability of Complex Engineered Systems Luca Podofillini 2015-09-03 Safety and Reliability of Complex Engineered Systems contains the Proceedings of the 25th European Safety and Reliability Conference, ESREL 2015, held 7-10 September 2015 in Zurich, Switzerland. It includes about 570 papers accepted for presentation at the conference. These contributions focus on theories and methods in the area of risk, safety and

On the process of maintenance decision-making in the offshore operational environment of the oil and gas industry Mario Marcondes Machado 2022-07-08 The overall objective of this research is to develop a decision support framework for preventive maintenance program implementations in the offshore operational environment of the oil

and gas industry. The author investigates the problems surrounding the maintenance decision-making process, which elements are systematically identified and categorized, including organizational aspects. The interface with operations is considered in order to promote integration between maintenance and production schedules. The research subjacent objectives have been to identify, among major oil and gas offshore operators, the state-of-practices regarding the maintenance decision-making process and identify, in the literature, the main techniques used for maintenance decisions and optimization in order to propose alternatives for supporting future implementations. Through a Systems Engineering approach, assisted by a literature review, interviews with experts (in Norway and in Brazil), an on-line survey and case studies, the results of this research complement a toolkit for maintenance engineers and managers aiming to facilitate information sharing and interdisciplinary cooperation in the operational environment. Among the results: A concept map for the maintenance decision-making process ontology; A plan for PM program implementations; The suggested cross-sector solution: the minimum equipment list; A Markovian dependability nomogram; and A Markov decision model application.

Gas and Oil Reliability Engineering Eduardo Calixto 2016-06-22 Gas and Oil Reliability

Engineering: Modeling and Analysis, Second Edition, provides the latest tactics and processes that can be used in oil and gas markets to improve reliability knowledge and reduce costs to stay competitive, especially while oil prices are low. Updated with relevant analysis and case studies covering equipment for both onshore and offshore operations, this reference provides the engineer and manager with more information on lifetime data analysis (LDA), safety integrity levels (SILs), and asset management. New chapters on safety, more coverage on the latest software, and techniques such as ReBi (Reliability-Based Inspection), ReGBI (Reliability Growth-Based Inspection), RCM (Reliability Centered Maintenance), and LDA (Lifetime Data Analysis), and asset integrity management, make the book a critical resource that will arm engineers and managers with the basic reliability principles and standard concepts that are necessary to explain their use for reliability assurance for the oil and gas industry. Provides the latest tactics and processes that can be used in oil and gas markets to improve reliability knowledge and reduce costs Presents practical knowledge with over 20 new internationally-based case studies covering BOPs, offshore platforms, pipelines, valves, and subsea equipment from various locations, such as Australia, the Middle East, and Asia Contains expanded explanations of reliability skills with a new chapter on asset integrity

management, relevant software, and techniques training, such as THERP, ASEP, RBI, FMEA, and RAMS

Safety and Reliability 92 K.E. Peterson
1992-05-01

Advances in Uncertainty Quantification and Optimization Under Uncertainty with Aerospace Applications Massimiliano Vasile 2021 The 2020 International Conference on Uncertainty Quantification & Optimization gathered together internationally renowned researchers in the fields of optimization and uncertainty quantification. The resulting proceedings cover all related aspects of computational uncertainty management and optimization, with particular emphasis on aerospace engineering problems. The book contributions are organized under four major themes: Applications of Uncertainty in Aerospace & Engineering Imprecise Probability, Theory and Applications Robust and Reliability-Based Design Optimisation in Aerospace Engineering Uncertainty Quantification, Identification and Calibration in Aerospace Models This proceedings volume is useful across disciplines, as it brings the expertise of theoretical and application researchers together in a unified framework.

Complex System Maintenance Handbook Khairy Ahmed Helmy Kobbacy 2008-04-15 This utterly comprehensive work is thought to be the first to integrate the literature on the physics of the

failure of complex systems such as hospitals, banks and transport networks. It has chapters on particular aspects of maintenance written by internationally-renowned researchers and practitioners. This book will interest maintenance engineers and managers in industry as well as researchers and graduate students in maintenance, industrial engineering and applied mathematics.

Risk Analysis in Engineering and Economics,

Second Edition Bilal M. Ayyub 2014-03-18 Risk

Analysis in Engineering and Economics is required reading for decision making under conditions of uncertainty. The author describes the fundamental concepts, techniques, and applications of the subject in a style tailored to meet the needs of students and practitioners of engineering, science, economics, and finance. Drawing on his extensive experience in uncertainty and risk modeling and analysis, the author covers everything from basic theory and key computational algorithms to data needs, sources, and collection. He emphasizes practical use of the methods presented and carefully examines the limitations, advantages, and disadvantages of each to help readers translate the discussed techniques into real-world solutions. This Second Edition: Introduces the topic of risk finance Incorporates homeland security applications throughout Offers additional material on predictive risk management Includes

a wealth of new and updated end-of-chapter problems Delivers a complementary mix of theoretical background and risk methods Brings together engineering and economics on balanced terms to enable appropriate decision making Presents performance segregation and aggregation within a risk framework Contains contemporary case studies, such as protecting hurricane-prone regions and critical infrastructure Provides 320+ tables and figures, over 110 diverse examples, numerous end-of-book references, and a bibliography Unlike the classical books on reliability and risk management, Risk Analysis in Engineering and Economics, Second Edition relates underlying concepts to everyday applications, ensuring solid understanding and use of the methods of risk analysis.

Risk, Reliability and Safety: Innovating Theory and Practice Lesley Walls 2016-11-25 Risk, Reliability and Safety contains papers describing innovations in theory and practice contributed to the scientific programme of the European Safety and Reliability conference (ESREL 2016), held at the University of Strathclyde in Glasgow, Scotland (25–29 September 2016). Authors include scientists, academics, practitioners, regulators and other key individuals with expertise and experience relevant to specific areas. Papers include domain specific applications as well as general modelling methods. Papers cover

evaluation of contemporary solutions, exploration of future challenges, and exposition of concepts, methods and processes. Topics include human factors, occupational health and safety, dynamic and systems reliability modelling, maintenance optimisation, uncertainty analysis, resilience assessment, risk and crisis management.

Safety, Reliability and Risk Analysis Sebastian Martorell 2008-09-10 Safety, Reliability and Risk Analysis. Theory, Methods and Applications contains the papers presented at the joint ESREL (European Safety and Reliability) and SRA-Europe (Society for Risk Analysis Europe) Conference (Valencia, Spain, 22-25 September 2008). The book covers a wide range of topics, including: Accident and Incident Investigation; Crisi

Multicriteria and Multiobjective Models for Risk, Reliability and Maintenance Decision Analysis Adiel Teixeira de Almeida 2015-07-01 This book integrates multiple criteria concepts and methods for problems within the Risk, Reliability and Maintenance (RRM) context. The concepts and foundations related to RRM are considered for this integration with multicriteria approaches. In the book, a general framework for building decision models is presented and this is illustrated in various chapters by discussing many different decision models related to the RRM context. The scope of the book is related to ways of how to integrate Applied Probability and

Decision Making. In Applied Probability, this mainly includes: decision analysis and reliability theory, amongst other topics closely related to risk analysis and maintenance. In Decision Making, it includes a broad range of topics in MCDM (Multi-Criteria Decision Making) and MCDA (Multi-Criteria Decision Aiding; also known as Multi-Criteria Decision Analysis). In addition to decision analysis, some of the topics related to Mathematical Programming area are briefly considered, such as multiobjective optimization, since methods related to these topics have been applied to the context of RRM. The book addresses an innovative treatment for the decision making in RRM, thereby improving the integration of fundamental concepts from the areas of both RRM and decision making. This is accomplished by presenting an overview of the literature on decision making in RRM. Some pitfalls of decision models when applying them to RRM in practice are discussed and guidance on overcoming these drawbacks is offered. The procedure enables multicriteria models to be built for the RRM context, including guidance on choosing an appropriate multicriteria method for a particular problem faced in the RRM context. The book also includes many research advances in these topics. Most of the multicriteria decision models that are described are specific applications that have been influenced by this research and the advances in this field.

Multicriteria and Multiobjective Models for Risk, Reliability and Maintenance Decision Analysis is implicitly structured in three parts, with 12 chapters. The first part deals with MCDM/A concepts methods and decision processes. The second part presents the main concepts and foundations of RRM. Finally the third part deals with specific decision problems in the RRM context approached with MCDM/A models.

Advances in Evolutionary and Deterministic Methods for Design, Optimization and Control in Engineering and Sciences António Gaspar-Cunha

2020-11-23 This book presents improved and extended versions of selected papers from EUROGEN 2019, a conference with interest on developing or applying evolutionary and deterministic methods in optimization of design and emphasizing on industrial and societal applications.

Optimal Observation and Preventive Maintenance Schedules for Partially Observed Multi-state Deterioration Systems with Obvious Failures Lisa M. Maillart 2001

System Reliability Constantin Volosencu
2017-12-20 Researchers from the entire world write to figure out their newest results and to contribute new ideas or ways in the field of system reliability and maintenance. Their articles are grouped into four sections: reliability, reliability of electronic devices, power system reliability and feasibility and maintenance. The book is a

valuable tool for professors, students and professionals, with its presentation of issues that may be taken as examples applicable to practical situations. Some examples defining the contents can be highlighted: system reliability analysis based on goal-oriented methodology; reliability design of water-dispensing systems; reliability evaluation of drivetrains for off-highway machines; extending the useful life of asset; network reliability for faster feasibility decision; analysis of standard reliability parameters of technical systems' parts; cannibalisation for improving system reliability; mathematical study on the multiple temperature operational life testing procedure, for electronic industry; reliability prediction of smart maximum power point converter in photovoltaic applications; reliability of die interconnections used in plastic discrete power packages; the effects of mechanical and electrical straining on performances of conventional thick-film resistors; software and hardware development in the electric power system; electric interruptions and loss of supply in power systems; feasibility of autonomous hybrid AC/DC microgrid system; predictive modelling of emergency services in electric power distribution systems; web-based decision-support system in the electric power distribution system; preventive maintenance of a repairable equipment operating in severe environment; and others.

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International Conference on
Offshore Mechanics and Arctic Engineering 1990
Reliability Engineering and Risk Analysis

Proceedings of the ... International Conference on
Offshore Mechanics and Arctic Engineering 1990
Reliability Engineering and Risk Analysis

Mohammad Modarres 2016-11-25 This undergraduate and graduate textbook provides a practical and comprehensive overview of reliability and risk analysis techniques. Written for engineering students and practicing engineers, the book is multi-disciplinary in scope. The new edition has new topics in classical confidence interval estimation; Bayesian uncertainty analysis; models for physics-of-failure approach to life estimation; extended discussions on the generalized renewal process and optimal maintenance; and further modifications, updates, and discussions. The book includes examples to clarify technical subjects and many end of chapter exercises. PowerPoint slides and a Solutions Manual are also available.

Current Index to Statistics, Applications, Methods and Theory 1998 The Current Index to Statistics (CIS) is a bibliographic index of publications in statistics, probability, and related fields.

Reliability of Sealing Systems for Rotating Machinery 2000 The papers recorded in this text are drawn from practical and relevant industry experience and should be useful to all those who use, design, produce, or operate rotating

machinery, as well as those who supply seals.

The Handbook of Reliability, Maintenance, and System Safety through Mathematical Modeling

Amit Kumar 2021-01-09 The Handbook of Reliability, Maintenance, and System Safety through Mathematical Modeling discusses the many factors affect reliability and performance, including engineering design, materials, manufacturing, operations, maintenance, and many more. Reliability is one of the fundamental criteria in engineering systems design, with maintenance serving as a way to support reliability throughout a system's life. Addressing these issues requires information, modeling, analysis and testing. Different techniques are proposed and implemented to help readers analyze various behavior measures (in terms of the functioning and performance) of systems. Enables mathematicians to convert any process or system into a model that can be analyzed through a specific technique Examines reliability and mathematical modeling in a variety of disciplines, unlike competitors which typically examine only one Includes a table of contents with simple to complex examples, starting with basic models and then refining modeling approaches step-by-step

Engineering Assets and Public Infrastructures in the Age of Digitalization Jayantha P. Liyanage 2020-08-17 This proceedings of the 13th World Congress on Engineering Asset Management

covers a range of topics that are timely, relevant and practically important in the modern digital era towards safer, cost effective, efficient, and secure engineered assets such as production and manufacturing plants, process facilities, civil structures, equipment, machinery, and infrastructure. It has compiled some pioneering work by domain experts of the global Engineering Asset Management community representing both public and private sectors. The professional coverage of the book includes: Asset management in Industry 4.0; Standards and models; Sustainable assets and processes; Life cycle perspectives; Smart and safer assets; Applied data science; Workplace safety; Asset health; Advances in equipment condition monitoring; Critical asset processes; and Innovation strategy and entrepreneurship The breadth and depth of these state-of-the-art, comprehensive proceedings make them an excellent resource for asset management practitioners, researchers and academics, as well as undergraduate and postgraduate students.

Design of Simple and Robust Process Plants J. L. A. Koolen 2001-10-15 The approaches to design process plants described in this book lead to process designs which require 30-40% less capital than usual. The book is unique since it is the first comprehensive work addressing both the total process design and operational approach. Technological developments during the last

decade made the design of really competitive processes possible. Mechanical developments have resulted in reliable and robust equipment. Process developments have created opportunities to minimize the amount of equipment; furthermore, different logistic approaches, integration of process functionality and intensification of the unit operations are possible. Computer and control technology allows remote-control operation and first pass prime production. In this work design philosophies are discussed and their implementation is shown as a structured approach for planned and existing plants. Numerous examples are presented to illustrate what simple design can create. The work is intended for experienced engineers and managers involved in process design, control design and operation, but is also interesting for students. Project engineers and managers have to apply these new approaches to achieve competitive processes. "A process plant should meet the simplicity and robustness of a household refrigerator." This book has been written to allow to achieve this aim. "Chairman of the Judges Award" from IChemE 2003 *Reliability and Maintenance* Leo Kounis 2020-07-01 Amid a plethora of challenges, technological advances in science and engineering are inadvertently affecting an increased spectrum of today's modern life. Yet for all supplied products and services provided,

robustness of processes, methods, and techniques is regarded as a major player in promoting safety. This book on systems reliability, which equally includes maintenance-related policies, presents fundamental reliability concepts that are applied in a number of industrial cases. Furthermore, to alleviate potential cost and time-specific bottlenecks, software engineering and systems engineering incorporate approximation models, also referred to as meta-processes, or surrogate models to reproduce a predefined set of problems aimed at enhancing safety, while minimizing detrimental outcomes to society and the environment.

Reliability, Risk, and Safety, Three Volume Set

Radim Bris 2009-08-20 Containing papers presented at the 18th European Safety and Reliability Conference (Esrel 2009) in Prague, Czech Republic, September 2009, Reliability, Risk and Safety Theory and Applications will be of interest for academics and professionals working in a wide range of industrial and governmental sectors, including Aeronautics and Aerospace, Aut

Progress in Renewable Energies Offshore C.

Guedes Soares 2016-11-18 Progress in Renewable Energies Offshore includes the papers presented in the 2nd International Conference on Renewable Energies Offshore (RENEW2016, Lisbon, Portugal, 24-26 October 2016). The scope of the book is broad, covering

all aspects of renewable energies offshore activities such as resource assessment; wind energy; wave energy; tidal energy; ocean energy devices; multiuse platforms; PTO design; grid connection; economic assessment; installation and maintenance planning. The contents of the present book are organized in these main subject areas corresponding to the sessions in the Conference. The conference reflects the importance of the renewable energies offshore worldwide and is an opportunity to contribute to the exchange of information on the developments and experience obtained in concept development, design and operation of these devices. Progress in Renewable Energies Offshore has as main target academics and professionals working in the related areas of renewable energies.

Risk Analysis in Engineering and Economics Bilal M. Ayyub 2003-06-26 More than any other book available, Risk Analysis in Engineering and Economics introduces the fundamental concepts, techniques, and applications of the subject in a style tailored to meet the needs of students and practitioners of engineering, science, economics, and finance. Drawing on his extensive experience in uncertainty and risk modeling and analysis, the author leads readers from the fundamental concepts through the theory, applications, and data requirements, sources, and collection. He emphasizes the practical use of the methods presented and carefully examines the limitations,

advantages, and disadvantages of each. Case studies that incorporate the techniques discussed offer a practical perspective that helps readers clearly identify and solve problems encountered in practice. If you deal with decision-making under conditions of uncertainty, this book is required reading. The presentation includes more than 300 tables and figures, more than 100 examples, many case studies, and a wealth of end-of-chapter problems. Unlike the classical books on reliability and risk assessment, this book helps you relate underlying concepts to everyday applications and better prepares you to understand and use the methods of risk analysis.

Introduction à l'analyse probabiliste des risques industriels PROCACCIA Henri L'analyse probabiliste des risques technologiques et industriels est maintenant bien acceptée par les scientifiques et les autorités réglementaires. Cette analyse a été utilisée dans le domaine de la conception, de l'exploitation et de la maintenance des installations industrielles comme les installations à risques Seveso (chimie, pétrochimie, armement, transport), ou dans les domaines de haute technologie tels le spatial et le nucléaire où la réglementation impose justement l'élaboration d'un rapport de sûreté dès la conception et un suivi des résultats pendant toute la durée d'exploitation de l'installation. Cet ouvrage présente très simplement les différentes démarches de l'analyse des risques industriels,

leur intérêt, leurs limites, leurs points communs et leur complémentarité, en partant d'un événement indésirable aléatoire ou, ce qui est plus complexe, d'un événement dépendant du temps. Les paradigmes possibles dans ce dernier cas sont alors optimisés de façon probabiliste en fonction de différents critères d'intérêt. La principale ambition de ce livre est d'être abordable au néophyte en statistique, comme au spécialiste en ce domaine : il part du plus simple pour aller vers le plus compliqué. Il démontre de façon détaillée chacun des sujets abordés et les agrémentes systématiquement d'exemples. Des applications industrielles concrètes illustrent enfin l'utilisation pratique des méthodes proposées. Ce livre s'adresse aux concepteurs, exploitants, universitaires et étudiants concernés par l'analyse probabiliste, le retour d'expérience ou l'expertise.

Reliability Wallace R. Blischke 2011-09-20
Bringing together business and engineering to reliability analysis
With manufactured products exploding in numbers and complexity, reliability studies play an increasingly critical role throughout a product's entire life cycle—from design to post-sale support.
Reliability: Modeling, Prediction, and Optimization presents a remarkably broad framework for the analysis of the technical and commercial aspects of product reliability, integrating concepts and methodologies from such diverse areas as engineering, materials science, statistics, probability, operations

research, and management. Written in plain language by two highly respected experts in the field, this practical work provides engineers, operations managers, and applied statisticians with both qualitative and quantitative tools for solving a variety of complex, real-world reliability problems. A wealth of examples and case studies accompanies:

- * Comprehensive coverage of assessment, prediction, and improvement at each stage of a product's life cycle
- * Clear explanations of modeling and

analysis for hardware ranging from a single part to whole systems

- * Thorough coverage of test design and statistical analysis of reliability data
- * A special chapter on software reliability
- * Coverage of effective management of reliability, product support, testing, pricing, and related topics
- * Lists of sources for technical information, data, and computer programs
- * Hundreds of graphs, charts, and tables, as well as over 500 references

PowerPoint slides are available from the Wiley editorial department.