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Titolo	Advances in Automation VI : Proceedings of the International Russian Automation Conference, RusAutoCon2024, September 8–14, 2024, Sochi, Russia / / edited by Andrey A. Radionov, Vadim R. Gasiyarov
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031824944 3031824946
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (593 pages)
Collana	Lecture Notes in Electrical Engineering, , 1876-1119 ; ; 1324
Altri autori (Persone)	GasiyarovVadim R
Disciplina	629.8
Soggetti	Industrial engineering Automation Automatic control Computational intelligence Industrial Automation Control and Systems Theory Computational Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Approaches to Building an Automated Control System for Plant Production in the Conditions of Greenhouse Effect Dynamics -- Search for Structurally Similar Projects of Software Systems -- Theoretical Foundations of Adaptive Rotary Drilling Control -- Algorithm for Operational Detection of Abnormally Low Electricity Consumption in Distribution -- Effect of Calculation Algorithms on Accuracy of Gas Flow Measurement Result at Low Temperatures -- Multi-agent Control of a Virtual Power Plant in the Context of the Environmental Rating -- Software Development Methodology of Hydrogen Generator Control System Based on User Interface -- CAE/CAM Integration as a Part of Distributed Production -- Representation of the Metagraph from the Position of the Theory of Categories -- Digital System Dynamics Model for a Motor Transport Company -- Using the Long Functional Series in Technical Systems and Increasing Their Efficiency Due to Recurrent Formulae -- Models of the Early Stage in Digital Design -- Features of

the Decomposition of Nonlinear Processes and Systems Within the Framework of the System Approach -- Nonlinear Control of Thermoelectric Peltier Moduls for Climate Management Systems in Agro-Industrial Complex -- Method of Formation of an Artificial Multiphase Field of a Specified Structure During Phase-Metric Technological Control -- Modeling of Spectral Characteristics of the Links of Phase Distortions Autocompensator of Direct Digital Synthesizers -- Method for Taking into Account Measurement Errors When Sorting Elements into Selective Groups -- Deformable Linear Objects Modeling and Manipulation: an Energy-Based Approach -- Combining Disparate Units of a Quasi-Intelligent Decoder -- The Concept of a Software Module for Automating the Route Design of Mechanical Processing Machine Parts for Use as Part of a Machine-Building CAD System.

Sommario/riassunto

This book reports on innovative research and developments in automation. Spanning a wide range of disciplines, including communication engineering, control engineering, predictive engineering and machine learning, it focuses on methods and findings aimed at improving the control and monitoring of industrial and manufacturing processes as well as their reliability. Based on the 7th International Russian Automation Conference (RusAutoCon2024), held as a hybrid conference on September 8–14, 2024, in/from Sochi, Russia, this book provides academics and professionals with a timely overview of and extensive information on the state of the art in the field of automation and control systems. It is also expected to foster new ideas and collaborations between groups in different countries.

2. Record Nr. UNINA9911019387603321

Autore	Ganoulis J
Titolo	Risk analysis of water pollution / / by Jacques G. Ganoulis
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, 2008
ISBN	9786612252150 9781282252158 1282252151 9783527626663 3527626662 9783527626670 3527626670
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (329 p.)
Disciplina	363.7394 363.73942
Soggetti	Pollution - Risk assessment Water resources development - Environmental aspects Water - Pollution Water-supply engineering - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Risk Analysis of Water Pollution; Contents; Preface to the Second Edition; Preface to the First Edition; 1 Water Resources: Quantity and Quality; 1.1 Water Pollution and Risk Analysis; 1.1.1 A Systemic View of Water Resources; 1.1.1.1 Examples of Application; 1.1.2 The New Paradigm of Water Quality; 1.1.2.1 Human Well-being and Health; 1.1.2.2 Ecological Impacts and Biodiversity; 1.1.2.3 Fishing and Oyster Farming; 1.1.2.4 Tourism; 1.1.2.5 Algal and Chlorophyllic Photosynthesis; 1.1.2.6 Zooplankton Growth; 1.1.2.7 Bacteria; 1.1.3 Integrated Water Resources Management 1.2 Water Pollution in Transboundary Regions1.2.1 The UNECE Convention (Helsinki, 1992); 1.3 The EU Water Framework Directive; 1.4 Uncertainties in Water Resources Management; 1.5 Environmental Risk Assessment and Management; 1.6 Aim and Organisation of the Book;

1.7 Questions and Problems - Chapter 1; 2 Risk Identification; 2.1 Definition of Risk; 2.2 Typology of Risks and the Precautionary Principle; 2.2.1 Unacceptable versus Acceptable Risks; 2.2.2 Controllable versus Uncontrollable Risks; 2.2.3 Gradual versus Sudden Risks; 2.2.4 The Precautionary Principle
2.3 Uncertainties in Water Pollution Problems2.3.1 Aleatory Uncertainties or Randomness; 2.3.2 Epistemic or Man-induced Uncertainties; 2.4 Water Quality Specifications; 2.4.1 Water Quality Standards; 2.4.2 Effluent Standards; 2.5 Probabilistic Risk and Reliability; 2.6 Fuzzy Risk and Reliability; 2.7 Questions and Problems - Chapter 2; 3 Risk Quantification; 3.1 Stochastic Approach; 3.1.1 Direct Evaluation; 3.1.1.1 Margin of Safety; 3.1.1.2 The Safety Factor; 3.1.2 Second-Moment Formulation; 3.1.3 Frequency Analysis of Data; 3.1.3.1 Probability Distribution of Extremes
3.1.3.2 Analysis of Frequency3.1.4 Stochastic Modelling; 3.1.4.1 Deterministic Modelling; 3.1.4.2 Stochastic Modelling; 3.1.5 Monte Carlo Simulation; 3.2 Fuzzy Set Theory; 3.2.1 Fuzzy Regression; 3.2.1.1 Fuzzy Regression as an Extension of Interval Analysis; 3.2.1.2 Statistical Regression; 3.2.1.3 Interval Regression; 3.2.1.4 Fuzzy Regression; 3.2.2 Fuzzy Modelling; 3.3 Time Dependence and System Risk; 3.3.1 Failure and Reliability Functions; 3.3.2 Failure Rate and Hazard Function; 3.3.3 Expected Life; 3.3.4 System Risk and Reliability; 3.3.4.1 Series Systems; 3.3.4.2 Parallel Systems
3.4 Questions and Problems - Chapter 34 Risk Assessment of Environmental Water Quality; 4.1 Risk in Coastal Water Pollution; 4.1.1 Uncertainties in Coastal Water Quality Processes; 4.1.2 Mathematical Modelling; 4.1.2.1 Molecular Diffusion; 4.1.2.2 Turbulent Diffusion; 4.1.2.3 Turbulent Dispersion; 4.1.2.4 Growth Kinetics; 4.1.2.5 Coastal Circulation; 4.1.3 Random Walk Simulation; 4.1.4 Dispersion by Wind-generated Currents; 4.2 Risk in River Water Quality; 4.2.1 Introduction; 4.2.2 Mathematical Modelling and Simulation; 4.2.2.1 Physically Based Mathematical Models
4.2.2.2 Numerical Simulation

Sommario/riassunto

This new edition of a classic text has now been extensively updated to include the latest developments in risk analysis and water quality assessment and management. It takes into account the role of ecological water quality in integrated regional and transboundary water resources management, according to the latest UNESCO programmes and the new EU-Water Framework Directive. This practice-oriented textbook is a unique tool for identifying and evaluating local and regional environmental risks from pollution hazards in groundwater, river water and coastal seawaters. The book explains differ