Introduction Web Tension Control

This book includes a selection of reviewed papers presented at the 2016 China Academic Conference on Printing, Packaging Engineering & Media Technology, held on November 25-27, 2016 in Xi'an, China. The conference was jointly organized by China Academy of Printing Technology, Xi'an University of Technology and Stuttgart Media University of Germany. The proceedings cover the recent outcomes on color science and technology, image processing technology, digital media technology, digital process management technology in packaging and packaging etc. They will be of interest to university researchers, R&D engineers and graduate students in graphic communications, packaging, color science, image science, material science, computer science, digital media and network technology fields.

A concise, in-depth introduction to active disturbance rejection control theory for nonlinear systems, with numerical simulations and clearly worked out equations Provides the fundamental, theoretical foundation for applications of active disturbance rejection control Features numerical simulations and clearly worked out equations Highlights the advantages of active disturbance rejection control, including small overshooting, fast convergence, and energy savings

This book includes a selection of reviewed papers presented at the 11th China Academic Conference on Printing and Packaging, held on November 26-29, 2020,

Guangzhou, China. The conference is jointly organized by China Academy of Printing Technology and South China University of Technology. With 10 keynote talks and 200 presented papers on graphic communication and packaging technologies, the conference attracted more than 300 scientists. The proceedings cover the recent findings in color science and technology, image processing technology, digital media technology, mechanical and electronic engineering and numerical control, materials and detection, digital process management technology in printing and packaging, and other technologies. As such, the book is of interest to university researchers, R&D engineers and graduate students in the field of graphic arts, packaging, color science, image science, material science, computer science, digital media, network technology and smart manufacturing technology.

Advances in Engineering Research and ApplicationProceedings of the International Conference on Engineering Research and Applications, ICERA 2020Springer Nature This proceedings book features volumes gathered selected contributions from the International Conference on Engineering Research and Applications (ICERA 2020) organized at Thai Nguyen University of Technology on December 1-2, 2020. The conference focused on the original researches in a broad range of areas, such as Mechanical Engineering, Materials and Mechanics of Materials, Mechatronics and Micromechatronics, Automotive Engineering, Electrical and Electronics Engineering, and Information and Communication Technology. Therefore, the book provides the

research community with authoritative reports on developments in the most exciting areas in these fields.

Motion control is widely used in all types of industries including packaging, assembly, textile, paper, printing, food processing, wood products, machinery, electronics and semiconductor manufacturing. Industrial motion control applications use specialized equipment and require system design and integration. To design such systems, engineers need to be familiar with industrial motion control products; be able to bring together control theory, kinematics, dynamics, electronics, simulation, programming and machine design; apply interdisciplinary knowledge; and deal with practical application issues. The book is intended to be an introduction to the topic for senior level undergraduate mechanical and electrical engineering students. It should also be resource for system design engineers, mechanical engineers, electrical engineers, project managers, industrial engineers, manufacturing engineers, product managers, field engineers, and programmers in industry.

This volume contains the edited technical presentations of PROLMAT 2006, the IFIP TC5 international conference held on June 15-17, 2006 at the Shanghai University in China. The papers collected here concentrate on knowledge strategies in Product Life Cycle and bring together researchers and industrialists with the objective of reaching a mutual understanding of the scientific - industry dichotomy, while facilitating the transfer of core research knowledge to core industrial competencies.

The seriesAdvancesinIndustrialControl aims to report and encourage te- nologytransfer in controlengineering. The rapid development of controlte- nology has an impact on all areas of the control discipline. New theory, new controllers, actuators, sensors, new industrial processes, computer methods, new applications, new philosophies. . . , new challenges. Much of this devel- ment work resides in industrial reports, feasibility study papers, and the - ports of advanced collaborative projects. The series o?ers an opportunity for researchers to present an extended exposition of such new work in all aspects of industrial control for wider and rapid dissemination. Control system design and technology continues to develop in many d- ferent directions. One theme that the Advances in Industrial Control series is following is the application of nonlinear control design methods, and the series has some interesting new commissions in progress. However, another theme of interest is how to endow the industrial controller with the ability to overcome faults and process degradation. Fault detection and isolation is a broad ?eld with a research literature spanning several decades. This topic deals with three questions: • How is the presence of a fault detected? • What is the cause of the fault? • Where is it located? However, there has been less focus on the question of how to use the control system to accommodate and overcome the performance deterioration caused by the identi?ed sensor or actuator fault.
The book is a collection of high-quality peer-reviewed research papers presented in International Conference on Soft Computing Systems (ICSCS 2015) held at Noorul

Islam Centre for Higher Education, Chennai, India. These research papers provide the latest developments in the emerging areas of Soft Computing in Engineering and Technology. The book is organized in two volumes and discusses a wide variety of industrial, engineering and scientific applications of the emerging techniques. It presents invited papers from the inventors/originators of new applications and advanced technologies.

"Practical Applications of Intelligent Systems" presents selected papers from the 2013 International Conference on Intelligent Systems and Knowledge Engineering (ISKE2013). The aim of this conference is to bring together experts from different expertise areas to discuss the state-of-the-art in Intelligent Systems and Knowledge Engineering, and to present new research results and perspectives on future development. The topics in this volume include, but are not limited to: Intelligent Game, Intelligent Multimedia, Business Intelligence, Intelligent Bioinformatics Systems, Intelligent Healthcare Systems, User Interfaces and Human Computer Interaction, Knowledge-based Software Engineering, Social Issues of Knowledge Engineering, etc. The proceedings are benefit for both researchers and practitioners who want to learn more about the current practice, experience and promising new ideas in the broad area of intelligent systems and knowledge engineering. Dr. Zhenkun Wen is a Professor at the College of Computer and Software Engineering, Shenzhen University, China. Dr. Tianrui Li is a Professor at the School of Information Science and Technology,

Southwest Jiaotong University, Xi'an, China.

The book includes the best extended papers which were selected from the 3rd International Conference of Electrical and Information Technologies (ICEIT 2017, Morocco). The book spans two inter-related research domains which shaped modern societies, solved many of their development problems, and contributed to their unprecedented economic growth and social welfare. Selected papers are based on original and high quality research. They were peer reviewed by experts in the field. They are grouped into five parts. Part I deals with Power System and Electronics topics that include Power Electronics & Energy Conversion, Actuators & Micro/Nanotechnology, etc. Part II relates to Control Systems and their applications. Part III concerns the topic of Information Technology that basically includes Smart Grid, Information Security, Cloud Computing Distributed, Big Data, etc. Part IV discusses Telecommunications and Vehicular Technologies topics that include, Green Networking and Communications, Wireless Ad-hoc and Sensor Networks, etc. Part V covers Green Applications and Interdisciplinary topics, that include intelligent and Green Technologies for Transportation Systems, Smart Cities, etc. This book offers a good opportunity for young researchers, novice scholars and whole academic sphere to explore new trends in Electrical and information Technologies.

These proceedings of the 2012 International Conference on Mechatronic Systems and Automation Systems (MSAS 2012), held on July 21st 2012 in Wuhan (China), comprise 102 peer-reviewed papers grouped into 6 chapters: Mechatronic Devices and Systems; Signal Processing and Measurement; Control and Automation Systems; Sensors; Material Science and Processing Technology in Manufacturing; Mechanical Engineering and Electrical Power

This graduate level textbook focuses on the mechanical properties and performance of products made of fiber-based materials such as paper and board. The book aims to help students develop effective skills for solving problems of product performance and engineering challenges in new product development. Therefore the material is organized with a problem-based approach - a practical example of product performance is presented and then the relevant mechanics are analyzed to deduce which material properties control the performance.

The subject matter of this book ranges from new control design methods to control theory applications in electrical and mechanical engineering and computers. The book covers certain aspects of control theory, including new methodologies, techniques, and applications. It promotes control theory in practical applications of these engineering domains and shows the way to disseminate researchers' contributions in the field. This project presents

applications that improve the properties and performance of control systems in analysis and design using a higher technical level of scientific attainment. The authors have included worked examples and case studies resulting from their research in the field. Readers will benefit from new solutions and answers to questions related to the emerging realm of control theory in engineering applications and its implementation.

This application-oriented monograph focuses on a novel and complex type of control systems. Written on an engineering level, including fundamentals, advanced methods and applications, the book applies techniques originating from new methods such as artificial intelligence, fuzzy logic, neural networks etc. This three-volume set constitutes the refereed proceedings of the International Conference on Computational Science and its Applications. These volumes feature outstanding papers that present a wealth of original research results in the field of computational science, from foundational issues in computer science and mathematics to advanced applications in almost all sciences that use computational techniques. Applied Control System Design examines several methods for building up systems models based on real experimental data from typical industrial processes and incorporating system identification techniques. The text takes a comparative approach to the models derived in this way judging their suitability for use in different systems and

under different operational circumstances. A broad spectrum of control methods including various forms of filtering, feedback and feedforward control is applied to the models and the guidelines derived from the closed-loop responses are then composed into a concrete self-tested recipe to serve as a check-list for industrial engineers or control designers. System identification and control design are given equal weight in model derivation and testing to reflect their equality of importance in the proper design and optimization of high-performance control systems. Readers' assimilation of the material discussed is assisted by the provision of problems and examples. Most of these exercises use MATLAB® to make computation and visualization more straightforward. Applied Control System Design will be of interest to academic researchers for its comparison of different systems models and their response to different control methods and will assist graduate students in learning the practical necessities of advanced control system design. The consistent reference to real systems coupled with self-learning tools will assist control practitioners who wish to keep up to date with the latest control design ideas.

The five volume set CCIS 224-228 constitutes the refereed proceedings of the International conference on Applied Informatics and Communication, ICAIC 2011, held in Xi'an, China in August 2011. The 446 revised papers presented were carefully reviewed and selected from numerous submissions. The papers cover a broad range of topics in computer science and interdisciplinary applications including control, hardware

and software systems, neural computing, wireless networks, information systems, and image processing.

Collected here are 112 papers concerned with all manner of new directions in manufacturing systems given at the 41st CIRP Conference on Manufacturing Systems. The high-quality material presented in this volume includes reports of work from both scientific and engineering standpoints and several invited and keynote papers addressing the current cutting edge and likely future trends in manufacturing systems. The book's subjects include: (1) new trends in manufacturing systems design: sustainable design, ubiquitous manufacturing, emergent synthesis, service engineering, value creation, cost engineering, human and social aspects of manufacturing, etc.; (2) new applications for manufacturing systems – medical, life-science, optics, NEMS, etc.; (3) intelligent use of advanced methods and new materials – new manufacturing process technologies, high-hardness materials, bio-medical materials, etc.; (4) integration and control for new machines – compound machine tools, rapid prototyping, printing process integration, etc.

A practical guide for ensuring a defect-free coating and drying process For professionals in the coating and drying industry, the world is a demanding place. New, technically complex products such as fuel cell membranes, thin film batteries, solar cells, and RFID chips require coatings of extreme precision. With the bar raised so high, understanding how to troubleshoot and eliminate defects on a coating line is an

essential skill for all personnel. Coating and Drying Defects, Second Edition provides manufacturing and quality control personnel, equipment operators and supervisors, and plant engineers and scientists with the full complement of proven tools and techniques for detecting, defining, and eliminating coating defects and operating problems, and for ensuring that they do not recur. Updating the valuable contents of the first edition, this practical Second Edition: Describes all major processes for coating and drying of continuous film on sheets or webs Covers technologies that have been recently developed to prevent defect formation and improve operating procedures Provides a rational framework within which to assess and analyze virtually any defect that may arise Offers step-by-step guidelines for conducting every phase of the troubleshooting process, including defect prevention Going beyond simply describing a disparate set of troubleshooting techniques, this unique guide arms readers with a systematic, nonmathematical methodology encompassing the entire coating operation, becoming an indispensable resource for manufacturing and quality-control personnel as well as plant engineers, polymer scientists, surface scientists, organic chemists, and coating scientists.

Printing on Polymers: Fundamentals and Applications is the first authoritative reference covering the most important developments in the field of printing on polymers, their composites, nanocomposites, and gels. The book examines the current state-of-the-art and new challenges in the formulation of inks, surface activation of polymer surfaces, and various

methods of printing. The book equips engineers and materials scientists with the tools required to select the correct method, assess the quality of the result, reduce costs, and keep up-to-date with regulations and environmental concerns. Choosing the correct way of decorating a particular polymer is an important part of the production process. Although printing on polymeric substrates can have desired positive effects, there can be problems associated with various decorating techniques. Physical, chemical, and thermal interactions can cause problems, such as cracking, peeling, or dulling. Safety, environmental sustainability, and cost are also significant factors which need to be considered. With contributions from leading researchers from industry, academia, and private research institutions, this book serves as a one-stop reference for this field—from print ink manufacture to polymer surface modification and characterization; and from printing methods to applications and end-of-life issues. Enables engineers to select the correct decoration method for each material and application, assess print quality, and reduce costs Increases familiarity with the terminology, tests, processes, techniques, and regulations of printing on plastic, which reduces the risk of adverse reactions, such as cracking, peeling, or dulling of the print Addresses the issues of environmental impact and cost when printing on polymeric substrates Features contributions from leading researchers from industry, academia, and private research institutions