1. Record Nr. UNINA9910459828003321

Titolo	2014 China functional materials technology and industry forum : selected, peer reviewed papers from the 2014 China Functional Material Technology and Industry Forum (CFMTIF 2014), August 26-28, 2014, Xi'an, China / / edited by Guangming Zhao [and six others]
Pubbl/distr/stampa	Pfaffikon, Switzerland : , : Trans Tech Publications Ltd, , 2015 Pfaffikon, Switzerland ; ; Enfield, New Hampshire : , : Trans Tech Publications Ltd : , : Trans Tech Publications Inc., , [date of distribution not identified] ©2015
ISBN	3-03826-737-6
Descrizione fisica	1 online resource (938 p.)
Collana	Materials Science Forum, , 1662-9752 ; ; Volume 809-810
Disciplina	620.11
Soggetti	Nanostructured materials Materials science Electronic books.
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 at the end of each chapters and indexes.
Nota di contenuto	2014 China Functional Materials Technology and Industry Forum; Preface, Committees and Sponsors; Table of Contents; Chapter 1: Nanoscale Materials and Nanocomposites; Thermoelectric Properties of Binary-Phased Nanocomposites; Effect of Additives on the Formation of SmCo Magnetic Nanoparticles by Chemical Synthesis; Research Development of Preparation Technology of BaTiO3 Nano-Power; Synthesis of PbS Nanocrystals by Heterogeneous Reaction; Lubrication Mechanism of Nanoparticles in Metal Hot Deformation; The Preparation and Photo-Thermal Property of Ag2S Nanomaterials Multiwalled Carbon Nanotubes Covered with Cobalt (II) Phthalocyanine by In Situ Synthesis and its Electrochemical Sensing Performance towards DA and UAMild and Low-Cost Synthetic Process for Monodispersive Platinum Nanoparitcles on Carbon Aerogel; Synthesis and Characterization of Poly(2-acrylamido-2-methyl propyl sulfonic acid-co-2-hydroxyethyl methclate)/ Silver Nanoparticle Composite

Hydrogel as Catalysts for the Reduction of 4-Nitrophenol; Synthesis and Optical Property of -In2S3 Nanorods; Preparation of Chromium Nitride Nanopowders Using High Pressure Gas-Solid Reaction Bed Preparation of Silver Nanoparticles in Water-Alcohol MedieaNew Preparation Method and Characterization of Nanosilver; Influence of Nd Doping on the Magnetic Properties of Nd2Fe14B/-Fe Nanocomposite Magnets; Influence of Fabrication Parameter on the Nanostructure of SiNWs under HF/AgNO3/Fe(NO3)3 Etching System; Giant Magnetoimpedance in Fe73.5Cu1Nb2V1Si13.5B9 Nanocrystalline Ribbons; Preparation and Performance of Polypropylene/Modified Carbon Fibers by Physical Blending Method; One-Step Preparation of Nanoparticulate TbFeO3 by Microwave Process and its Visible-Light Photocatalytic Activity
Nanoscale Hollow-Bubbly Polypyrrole Obtained via Interfacial Polymerization with Phase Transfer CatalystInfluences of Reaction Temperature on Structure and Performances of SnO2 Nanocrystals Prepared by Microwave Hydrothermal Method; Chiral Resolution of Ofloxacin Using Carboxylated Multi-Walled Carbon Nanotubes Mediated Thin-Layer Chromatography; Lawson Cypress Leaf-Like ZnO Hierarchical Nanostructures by Self-Assembly; Research on Preparation of Barium Titanate Nano Powder by Sol-Gel; Preparation of Nanoparticulate ErFeO3 by Microwave Assisted Process and its Photocatalytic Activity
Multifunctionalities of Nanocarbon Materials Filled Cement-Based CompositesEffect of Nano-Magnesium on the Thermal Decomposition of PTFE; Synthesis and Properties of Nano-TiO2 Modified Fluorine-Containing Polyacrylate Soap-Free Emulsion; Fabrication of Highly Hydrophobic Polyurethane Foam for the Oil-Absorption Application; Effects of Carboxyl Functionalized Carbon Nanotube on the Tensile Strength and Wear Resistance of Epoxy Composites; Improved Low Temperature Solution Synthesis of Silicon Nanoparticles for Lithium-Ion Batteries
Synthesis of Highly-Ordered V2O5 Nanowires by AAO Template and its Electrocatalytic Activity for Dopamine Electro-Oxidation

Sommario/riassunto

Collection of selected, peer reviewed papers from the 2014 China Functional Material Technology and Industry Forum (CFMTIF 2014), August 26-28, 2014, Xi'an, China. The 149 papers are grouped as follows: Chapter 1: Nanoscale Materials and Nanocomposites; Chapter 2: Microscale Materials and Thick Films; Chapter 3: Polymer Materials; Chapter 4: Metallic Materials and Alloys; Chapter 5: Composites; Chapter 6: Biomaterials; Chapter 7: Thin Film and Coating Materials; Chapter 8: Optical, Electrical and Sensing Material Properties; Chapter 9: Energy Materials; Chapter 10: Natural and Environmental Ma

2. Record Nr. UNINA9910825981003321

Autore	Santos Hector J. de los
Titolo	Understanding nanoelectromechanical quantum circuits and systems (NEMX) for the Internet of Things (IOT) era / / Hector J. De Los Santos
Pubbl/distr/stampa	London, England ; ; New York, New York : , : River Publishers, , [2019] ©2019
ISBN	1-00-333993-X 1-003-33993-X 1-000-79360-5 1-5231-3896-3 87-7022-127-8
Edizione	[1st ed.]
Descrizione fisica	1 online resource (232 pages)
Collana	River Publishers Series in Electronic Materials and Devices Is a Series of Comprehensive Academic and Professional Books Which Focus on the Theory and Applications of Advanced Electronic Materials and Devices. the Series Focuses on Topics Ranging from the
Disciplina	621.395
Soggetti	Nanoelectromechanical systems Internet of things
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	The operational theme permeating most definitions of the IoT concept is the wireless communication of networked objects, smartsensing devices and machines, exchanging data via the Internet. In this book, a detailed look is taken at the fundamental principles of devices and techniques whose exploitation will facilitate the development of compact, power-efficient, autonomous, smart, networked sensing nodes underlying and encompassing the emerging IoT era.

3. Record Nr. UNINA9910812539303321

Autore	Kruger Uwe, Dr.
Titolo	Statistical monitoring of complex multivariate processes : with applications in industrial process control / / Uwe Kruger and Lei Xie
Pubbl/distr/stampa	Chichester [England] ; ; Hoboken, N.J., : Wiley, 2012
ISBN	9786613862228 9781283549776 1283549778 9780470517253 0470517255 9780470517246 0470517247 9781118381267 1118381262
Edizione	[1st edition]
Descrizione fisica	1 online resource (472 p.)
Collana	Statistics in practice
Classificazione	MAT029020
Altri autori (Persone)	XieLei
Disciplina	519.5/35
Soggetti	Multivariate analysis
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	Machine generated contents note: Preface Introduction I Fundamentals of Multivariate Statistical Process Control 1 Motivation for Multivariate Statistical Process Control 1.1 Summary of Statistical Process Control 1.1.1 Roots and Evolution of Statistical Process Control 1.1.2 Principles of Statistical Process Control 1.1.3 Hypothesis Testing, Type I and II errors 1.2 Why Multivariate Statistical Process Control 1.2.1 Statistically Uncorrelated Variables 1.2.2 Perfectly Correlated Variables 1.2.3 Highly Correlated Variables 1.2.4 Type I and II Errors and Dimension Reduction 1.3 Tutorial Session 2 Multivariate Data Modeling Methods 2.1 Principal Component Analysis 2.1.1 Assumptions for Underlying Data Structure 2.1.2 Geometric Analysis of Data Structure 2.1.3 A Simulation Example 2.2 Partial Least Squares 2.2.1 Assumptions for Underlying Data Structure 2.2.2 Deflation Procedure for Estimating Data Models 2.2.3 A Simulation Example 2.3 Maximum Redundancy Partial Least Squares 2.3.1 Assumptions for Underlying Data Structure 2.3.2 Source Signal

Estimation 2.3.3 Geometric Analysis of Data Structure 2.3.4 A Simulation Example 2.4 Estimating the Number of Source Signals 2.4.1 Stopping Rules for PCA Models 2.4.2 Stopping Rules for PLS Models 2.5 Tutorial Session 3 Process Monitoring Charts 3.1 Fault Detection 3.1.1 Scatter Diagrams 3.1.2 Nonnegative Quadratic Monitoring Statistics 3.2 Fault Isolation and Identification 3.2.1 Contribution Charts 3.2.2 Residual-Based Tests 3.2.3 Variable Reconstruction 3.3 Geometry of Variable Projections 3.3.1 Linear Dependency of Projection Residuals 3.3.2 Geometric Analysis of Variable Reconstruction 3.4 Tutorial Session II Application Studies 4 Application to a Chemical Reaction Process 4.1 Process Description 4.2 Identification of a Monitoring Model 4.3 Diagnosis of a Fault Condition 5 Application to a Distillation Process 5.1 Process Description 5.2 Identification of a Monitoring Model 5.3 Diagnosis of a Fault Condition III Advances in Multivariate Statistical Process Control 6 Further Modeling Issues 6.1 Accuracy of Estimating PCA Models 6.1.1 Revisiting the Eigendecomposition of Sz0z0 6.1.2 Two Illustrative Examples 6.1.3 Maximum Likelihood PCA for Known Sgg 6.1.4 Maximum Likelihood PCA for Unknown Sgg 6.1.5 A Simulation Example 6.1.6 A Stopping Rule for Maximum Likelihood PCA Models 6.1.7 Properties of Model and Residual Subspace Estimates 6.1.8 Application to a Chemical Reaction Process - Revisited 6.2 Accuracy of Estimating PLS Models 6.2.1 Bias and Variance of Parameter Estimation 6.2.2 Comparing Accuracy of PLS and OLS Regression Models 6.2.3 Impact of Error-in-Variables Structure upon PLS Models 6.2.4 Error-in-Variable Estimate for Known See 6.2.5 Error-in-Variable Estimate for Unknown See 6.2.6 Application to a Distillation Process - Revisited 6.3 Robust Model Estimation 6.3.1 Robust Parameter Estimation 6.3.2 Trimming Approaches 6.4 Small Sample Sets 6.5 Tutorial Session 7 Monitoring Multivariate Time-Varying Processes 7.1 Problem Analysis 7.2 Recursive Principal Component Analysis 7.3 MovingWindow Principal Component Analysis 7.3.1 Adapting the Data Correlation Matrix 7.3.2 Adapting the Eigendecomposition 7.3.3 Computational Analysis of the Adaptation Procedure 7.3.4 Adaptation of Control Limits 7.3.5 Process Monitoring using an Application Delay 7.3.6 MinimumWindow Length 7.4 A Simulation Example 7.4.1 Data Generation 7.4.2 Application of PCA 7.4.3 Utilizing MWPCA based on an Application Delay 7.5 Application to a Fluid Catalytic Cracking Unit 7.5.1 Process Description 7.5.2 Data Generation 7.5.3 Pre-analysis of Simulated Data 7.5.4 Application of PCA 7.5.5 Application of MWPCA 7.6 Application to a Furnace Process 7.6.1 Process Description 7.6.2 Description of Sensor Bias 7.6.3 Application of PCA 7.6.4 Utilizing MWPCA based on an Application Delay 7.7 Adaptive Partial Least Squares 7.7.1 Recursive Adaptation of Sx0x0 and Sx0y0 7.7.2 MovingWindow Adaptation of Sv0v0 and Sv0y0 7.7.3 Adapting The Number of Source Signals 7.7.4 Adaptation of the PLS Model 7.8 Tutorial Session 8 Monitoring Changes in Covariance Structure 8.1 Problem Analysis 8.1.1 First Intuitive Example 8.1.2 Generic Statistical Analysis 8.1.3 Second Intuitive Example 8.2 Preliminary Discussion of Related Techniques 8.3 Definition of Primary and Improved Residuals 8.3.1 Primary Residuals for Eigenvectors 8.3.2 Primary Residuals for Eigenvalues 8.3.3 Comparing both Types of Primary Residuals 8.3.4 Statistical Properties of Primary Residuals 8.3.5 Improved Residuals for Eigenvalues 8.4 Revisiting the Simulation Examples in Section 8.1 8.4.1 First Simulation Example 8.4.2 Second Simulation Example 8.5 Fault Isolation and Identification 8.5.1 Diagnosis of Step-Type Fault Conditions 8.5.2 Diagnosis of General Deterministic Fault Conditions 8.5.3 A Simulation Example 8.6 Application Study to a Gearbox System 8.6.1 Process Description 8.6.2 Fault Description 8.6.3 Identification of

	a Monitoring Model 8.6.4 Detecting a Fault Condition 8.7 Analysis of Primary and Improved Residuals 8.7.1 Central Limit Theorem 8.7.2 Further Statistical Properties of Primary Residuals 8.7.3 Sensitivity of Statistics based on Improved Residuals 8.8 Tutorial Session IV Description of Modeling Methods 9 Principal Component Analysis 9.1 The Core Algorithm 9.2 Summary of the PCA Algorithm 9.3 Properties of a PCA Model 10 Partial Least Squares 10.1 Preliminaries 10.2 The Core Algorithm 10.3 Summary of the PLS Algorithm10.4 Properties of PLS 10.5 Properties of Maximum Redundancy PLS References Index.
Sommario/riassunto	"The book summarises recent advances in statistical-based process monitoring of complex multivariate process systems"--