Applied Mechanics and Mechatronics Automation 2012

Selected, peer reviewed papers from the 2012 International Applied Mechanics, Mechatronics Automation Symposium (IAMMAS 2012)

Applied Mechanics and Materials Volumes 182-183

Shenyang, Liaoning, China
7-9 September 2012

Volume 1 of 3

Editors:

Huang Xianghong
Huang Xinyou
Mao Hongkui
Yin Zhixi

ISBN: 978-1-62276-374-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2012) by Trans Tech Publications Ltd.
All rights reserved.

Printed by Curran Associates, Inc. (2012)

For permission requests, please contact Trans Tech Publications Ltd.
at the address below.

Trans Tech Publications Ltd.
Laubisrutisr 24
CH-8712 Stafa-Zuerich
Switzerland

Fax: +41 (44) 922 10 33 Fax: +1 (603) 632-5611
e-mail: sales@ttp.net

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

VOLUME 1

Preface and Organizing Committees

Chapter 1: Materials Science and Engineering

Study on Polyurethane-Acrylic Hybrid Emulsion Applying to Water-Based Ink
J.L. Tai, G.X. Chen, Q.F. Chen and B.L. Tang 3

Experimental Study on Cutting Forces in Turning Aluminum-Silicon Alloy
Y.F. Yuan, W.Y. Zhang and X. Chang 8

Improving the Compression Strength after Impact of RTM Composites by Interlaminar Thermoplastic Nonwoven Fabric
P. Zhang, G. Liu, X.L. Hu, W.M. Zhao and X.S. Yi 12

The Study on Microwave Magnetic Roasting Plus Magnetic Seperation and Acid Pickling to Enrich Nb of Low-Grade Niobium Minerals
J. Li, J. Wang, B.W. Li and L. Wang 17

Study the Ferro-Hydrodynamic Characteristic on FHD Bernoulli Model
J.E. Ho 23

Cast - *In Situ* Concrete Hollow Plates, the Application of the Teaching Building
G.Q. Hu and S.X. Hu 28

Preparation and Characterization of Unsaturated Polyester/Graphite Nanosheets Composites under Electric Field
H.Y. Zhang, X.S. Tai and H.Q. Wang 33

Polyurethane-Acrylate Composite Emulsion Applying to the Pre-Coated Adhesive Film
Q.F. Chen, G.X. Chen, B.L. Tang, J.L. Tai and S.S. Wen 37

Improving Compression after Impact of T800H/5228A Composite Laminates through Interlaminate Toughening
L.P. Liu, X.F. An, M. Zhang and X.S. Yi 41

Preparation and Properties of Zinc Diacrylate-Modified Montmorillonite/Rubber Nanocomposite
Y. Cao, N. Gu, S.Q. Hu, R.Y. Jin and J.L. Zhang 47

Synthesis of Pure $Bi_{12}SiO_{20}$ Powder by Molten Salt Method
J.Q. Lu, X.F. Wang and H.T. Jiang 52

Damage Behavior of Foam Core Sandwich Composites Subjected to Quasi-Static Indentation Testing
L. Yan, X.F. An, J.L. Cai and X.S. Yi 57

Study on the Impact Damage Characteristic of the *Ex-Situ* Toughened Composite Laminates
H.Y. Ma, X.F. An, D.J. Zhang and X.S. Yi 65

Flexible Characteristics of Novel OLED Materials
K.Y. Lee, C.C. Lee, K.C. Lin, J.W. Whang, L.L. Chu, H.C. Lee, Y.J. Lin, J.H. Lee, C.Y. Chang, S.T. Yeh and W.Y. Lee 72

Effects of Accelerated Aging Period of Time at 180°C on Tensile Property of Plain Woven Fabric/Epoxy Resin Laminated Composites
L.L. Song, Q.R. Liu and J.L. Li 76

A Study on Polarization Experiment and Mechanical Behavior for PVDF Film
F.M. Lai, C.C. Lin, C.C. Yang, C.H. Lan and C.M. Yang 80

The Effects of Fiber Volume Fraction on the Experiment Modal Behavior of 0°/90° Carbon Fiber Plain Woven Fabric/Epoxy Resin Composites
Y. Gao and J.L. Li 85

Bending Properties of Four-Layer Biaxial Weft Knitted Fabric Reinforced Composite Materials
L.S. Liu, Y.X. Qi and J.L. Li 89

Tailoring of Thermal Transition Temperature and Toughening of Shape Memory Epoxy Polymer
H. Deng, J.P. Gao, X.F. An and X.S. Yi 93

Study on Improvement of Photopolymerization Curing Performance of UV Ink
G.X. Chen, Q.F. Chen, B.L. Tang and J.L. Tai 99

Novel Temperature Dependent Process for α-Al_2O_3 Platelets
C.L. Yu, X. Hao, H.T. Jiang, L.L. Wang, Z.G. Zhang, X.F. Wang, S.B. Lin and J. Dong 104

Aluminium Induced Sub-Microsized α-Al_2O_3 Platelets in the Soda-Lime-Silica Glass
C.L. Yu, X. Hao, H.T. Jiang, L.L. Wang, Z.G. Zhang and X.F. Wang 110

Preparation and Characterization of Copolymerized Aminohexylaminomethyl/Phenylsilsesquioxane Microparticles
H. Wang, X.F. Wang and C.L. Yu 114

Research of the Mechanical Properties for Lazurite with an Open-Type Modeling
H.P. Lin, Y.C. Yu and C.L. Chen 118

Crystallization Characteristics and Thermal Stability of Fluor-Hydroxyapatite Composites with Zirconia
L.L. Wang, X.F. Wang, C.L. Yu and H.T. Jiang 122

Influence of Heat Treated Temperature on the Photoactivating Property of Nanometer ZnO/SnO_2 Powder
X.Y. Huang, C.H. Gao and Z.G. Chen 126

Influence of Fe and Co and Cr Doped Amount on the Photoactivating Property of Nanometer ZnO Powder
X.Y. Huang, C.H. Gao and Z.G. Chen 130

The Mechanical and Tribological Properties of Carbon Fiber Reinforced POM Composites
Y.Q. Tian and J.L. Huo 135

Investigation on the Dispersion of SiC Nanoparticles in Rubber Matrix
S.S. Sun, F.W. Jia and Z.J. Li 139

Research on Conductive Property of Carbon Fiber/Carbon Black-Filled Cement-Based Composites
Y.T. Du, R.R. Zhao and J.Q. Dong 144

Quasi-Static Tensile Properties and Damage Mechanism of Three-Dimensional Angle-Interlock Woven Composites
K. Luan, F. Zhang and L.W. Wu 148

Study on the Structure and Properties of Novel Impact Resistance Fabric Composites
M. Song, C. Zhang, Z.Y. Song, N. Yan and S.Z. Wu 153

Production of V(C,N) Reinforced Iron Matrix Composites
C.H. Zhu 158

Microstructure and Mechanical Properties of Al-12.6%Si Composite Reinforced by $Al_{63}Cu_{25}Fe_{12}$Quasicrystal
C.C. Li, H.R. Geng, Z.Y. Li and H.O. Qin 162

Effects of Plate Magnetic Field on Iron-Rich Phase of Al-20Si-10Fe Alloy during Solidification
M. Li, Z.M. Shi and F. Dong 167

Welding Procedure Research of FH36-TM High Strong Steel by Adopting Single Wire SAW
X.P. Wang, W. Gu and H.H. Yuan 174

Characterization of TiC/Ti5Si3 *In Situ* Synthesis Composite Materials on Ti-5Al-2.5Sn by Argon Tungsten-Arc Welding Deposition
W.Q. Yan, L. Dai and C.B. Gui 180

Bioavailability of Methanobactin to Copper by *Methylosinus trichosporium* 3011
S. Zhang, J.L. Jiang, L.L. Chen, C.G. Xia and J.Y. Xin 185

High Temperature Tensile Properties of Mg-5Li-3Al-1.5Zn-2RE Alloys
T.Q. Li, M. Gao, S.H. Wang and Z.Y. Cao 189

Synthesis and Characterization of PCL/TiO_2 Nanocomposites Obtained by *In Situ* Polymerization
L. Liu, Y. Liu, T. Yu, L.N. Heng and P. Wang 194

Preparation of General Purpose Carbon Fibers by the Two-Step Method from Ethylene Tar Pitch
Z.W. Yang, J.M. Zheng, M.M. Chen and C.Y. Wang 198

Effect of Co Addition on the Glass-Forming Ability and Mechanical Properties of Ti-Zr-Be-Cu-Co Bulk Amorphous Alloys
Z.Y. Suo, Y.L. Song and K.Q. Qiu 203

Investigation and Exploration of a New Indoor Air Filtration Material
L.W. Wu, K. Luan and F. Zhang 208

Effects of Macroscopic Pores on the Damping Behavior of Zn-Al Eutectoid Alloy
J.N. Wei, X.B. Chao, T.C. Huang, L.S. Yu, J.S. Zou and W.J. Xie 213

Synthesis and Thermal Energy Storage Characteristics of Hyperbranched Polyurethane as Novel Solid-Solid Phase Change Material
J. Hu and W.H. Wang 217

The Control of Attached Acid Groups on Sulfonated Polystyrene Nanospheres through the Design of Material Structure
X.N. Tian, Z.Q. Jiang, L.L. Zhang, L.J. Luo and X.S. Zhao 222

Effect of Substrate Bias Voltage on the Mechanical and Tribological Properties of Low Concentration Ti-Containing Diamond Like Carbon Films
J.F. Cui, L. Qiang, B. Zhang, X. Ling and J.Y. Zhang 232

The Development of CZTS Thin Films for Solar Cells
N.J. Ji, K.G. Liu and Z.Q. Ma 237

Preparation and Properties of Cerium Conversion Coatings on the Surface of Aluminum Alloy LY12
C.B. Xia, W.J. Ge and H.C. Yang 241

Synthesis of Gold Nanoparticles by Methanobactin
T.N. Zhang, J.Y. Xin, X.F. Zhang, Y.X. Zhang and C.G. Xia 245

Synthesis and Characterization of PMMA/MMT Nanocomposites
J. Qiao, J.W. Shen, X.H. Huang and Q.F. Zhang 249

Heterogeneous Preparation of Cellulose/Ag/Polyaniline Conductive Composite and its Electrical Property
Z.L. Zhao, Z.L. Mo and Z.Y. Chen 254

Investigation on β-Polypropylene/Talc Composites
J.W. Duan and Q. Dou 259

Shape-Controlled Synthesis of Gadolinium Oxide Nanostructure via Facile Process
Q. Zhang, P.W. Hao, X. Qu, C. Wang and R.X. Li 265

Effect of Alumina Ceramics Slurry Polymerization Reaction Factor
Z.X. Zhang, H.K. Hu and H.F. Bo 270

Research on Plastic Wood Composite Materials Production Technology
F. Huang 274

Water-Resistant Modification of Desulphurization Gypsum Block
Y. Mu, Y.L. Fu and F.Q. Zhao 278

Simulation Analysis of Penetration Performance of Tungsten Alloy and Tungsten Carbide Rod Penetrator
Q.B. Wu, P.H. Shen and R.Z. Liu 283

Analysis of Large-Dimension Rare Earth Inclusion in Steels by Metallographic Microscope and TEM
H.X. Mou, X.H. Li and S.T. Liu 288

The Research of the C-Doped TiO_2 Films Deposited by Arc Ion Plating
S.J. Zhang, M.S. Li, Z.Q. Chen and Y.Z. Fan 292

Influences of Tannic Acid Concentration on Properties of Micro-Arc Coatings Formed on AZ91 Magnesium Alloys
S.F. Zhang, R.F. Zhang, T. Wang, S.S. Yao and Z.H. Chen 297

Study on Crystallization Behavior of Liquid Crystalline Polyacrylates Induced Isotactic Polypropylene
Q.Y. Chen 302

Study on Mechanical Properties of Wood Plastic Composites
F. Huang 307

Effect of Exercising Pressure during Solid Solution on Microstructure and Mechanical Properties of AM60 Magnesium Alloy
W.Y. Duan 311

Microstructure of AM60 Magnesium Alloy by High-Pressure Solution and Subsequent Atmospheric-Pressure Aging Treatment
W.Y. Duan 315

Anti-Friction Effect of Ball-Milled and Subsequently Annealed Expanded Graphite/Iron Powder Mixture
Y.S. Li 319

Study on the Industrial Wastewater Treatment by Modified Bentonite
H. Shao, Z.F. Zhang and N. Cao 323

Study on Effect of Particle Size of Matrix and Reinforcement on Properties of Iron Matrix Composites
Y.F. Yang and K.J. Li 328

Study on Effect of Particle Size of Iron on Properties of Pure Iron Sintered
Y.F. Yang and J.Y. Zhang 332

The Identification of the 3-D Fluorescence Spectroscopy Recognition of the Mineral Oil Based on the ICA and the Wavelet Neural Network
A.J. Song and Q.C. Gu 336

Chapter 2: Advanced Manufacturing Systems and Equipment

Research of Laser Shock Processing
S.M. Li 343

The Standard Parameters Research in Digital Printing by G7 Technology
K. Li, H.G. Sun and W.Y. Jiang 348

Study on Color Management of Digital Proofing
H.G. Sun, K. Li, E.Q. Yin and H.J. Cheng 352

Weigh-in-Motion Device Based on Capacitive Weighing Sensor
M. Chen 357

The Influence of Paper's Whiteness and Smoothness on Colorimetric Effects
G.X. Bao and W.Y. Jiang 361

The Influence of Paper Factors on Digital Printing Quality
W.F. Jing and W.Y. Jiang 365

Recognizability and Controlling Technology of Submicron Particles
T. Zhu, H.R. Li, Y.D. Wan, S. Chen and H.B. Liu 369

Dynamic Bridge Piezoelectric Amplifiers with Signal Generator
H.T. Xin 374

Intra 4*4 Mode Architecture Design in H.264/AVC Intra Prediction
J. Yang, X.X. Wang and H. Liu 378

The Artificial Intelligence in the Ammunition Film in the Research on the Application of Drying Stove
Z.G. Gu, H.Z. Zhang, R.S. Du, P.A. Liu, H.M. Li, H.A. Cao, Y.K. Huang, J.L. Xie and J.Y. Wang 383

The Improvement of the Performence of Microstrip Leaky-Wave Antenna Based on Symmetrical CRLH-TL
J.R. Xiong, K. Sun, X. Lu, R.X. Han and Z.Y. Lu 388

LabVIEW-Based Data Acquisition System for Loom Performance Assessment
F. Zhang, L.W. Wu and K. Luan 392

Study of Region Segmentation Method for Highway Pavement Distress Image
X.G. Hua, S.Q. Wang and J. Li 396

A SMS Based LED Electronic Display System
S.Y. Huan 401

Scheduling a Continuous Casting Batch Machine with Flexible Jobs to Minimize Setup Costs
H.Y. Dong 406

High-Power LED Constant Current Dimming Circuit Design
J. Sun, B. Xiang, P. Zhou and X.Y. Wang 411

Eddy Current Testing Sensor Design and Comparative Experiment Study Based on Amorphous Alloy
L.Y. Yang, R.Q. Yu and Y.L. Qiu 416

The Study of Quality Monitoring and Control for Laser Cutting Based on Pulse-Induced Acoustic Sound
H.J. Hao, G.H. Cheng and J.Y. Xu 422

The Research and Design of the Adaptive Pulse Demagnetizer
L.F. Wei, L. Cheng and X.M. Yang 427

A Fault Detection Method Based on BIT for Satellite Avionics
L.X. Jiang, M.R. Xin and Z.G. Cui 431

Research on Spacecrafts Intelligent Power Distribution Technology
K. Cui, Z.B. Dong and B. Li 436

A Novel Video Detection System on Traffic Flow Inspection
Z.W. Liu, S. Lin and S.G. Dou 440

Personal Motion-Measurement System via Piezoelectric Sensor
Q.H. Yang, J.B. Huang, N.S. Li, R.Q. Yang, X.M. Wu and Y.H. Li 445

A Robust SRAM Design for Ultra Dynamic Voltage Scalable VLSI System
J. Yang, N. Bai, W.Q. Wu, W.W. Shan and Z.K. Cai 450

The Computation and Comparation of the Heat Consumption of the Equipment to Produce Semi-Hydrated Gypsum
Z.Y. You, L.C. Han and Y.H. Wei 456

Relationship between F Value and Slag Entrapment in Mold with Electromagnetic Brake
Z.Q. Zhang, Z.S. Lei, Z. Yu, Z.M. Ren and K. Deng 462

Ultra-Low Power Static Logic Circuits Design in Subthreshold Region
J. Li, Z. Zhang and W.W. Shan 467

Development of Detection Technology of the Scrap-Jumping in Pierce Processing
T. Nonaka, Y. Sakata, Y. Marumo, Y. Okinishi, T. Horinouchi, I. Ogawa and S. Watanabe 472

A Cable Sheath Material Thickness Measurement Method Based on Image Measurement Technology
J.H. Bian, J.L. Wang, S. Xu and T. Zhou 477

Review of Remanufacturing for Automotive Components
B.Q. Wen, X. Xie and B. Wang 482

A New Current-Mode Multiphase Sinusoidal Oscillator Using Adjoint Op-Amp
Y.G. Li, Z.T. Fan and X.N. Zhang 486

Design and Realization of a Digital Multichannel Fluxgate Signal Processing System
S.W. Liu and S.B. Liu 491

A High-Performance Filter for Image Denoising Based on Local Features
X.Q. Zhao, X.M. Wang and Q. Liu 496

Protocol Conversion between PCI-Express and 1553B Bus
P. An 501

Realization of Multi-Channel, High-Speed Waveform Generator Based on FPGA
H.S. Nie, H.S. Liu, Y.M. Zhang, Q.Y. Xie, Q. Liu, J.T. Diao and H. Xu 506

The System of Liquid Level Detection
Y.M. Li and P. Liang 511

High-Speed and Anti-Interference Parallel Bus Design on Board
H.Q. Yu, S. Liu, N. Li, M. Wang, J.L. Xing, Z.L. Sun and X. Xu 515

Design and Realization of High Precision Time Interval Measurement Peripheral Circuit Based on FPGA
J.T. Diao, J.L. Xing, Z. Huo, Z. Zhou and H.Q. Yu 520

Wiring of Cables Based on Virtual Prototyping
F.J. Wang, F.Y. Wei and K.W. Deng 525

Background Extraction and Vehicle Detection Method Based on Histogram in YCbCr Color Space
C.J. Jin, G.R. Chang, W. Cheng and H.Y. Jiang 530

Investigation of Microstrip Antenna Operating Frequency Based on its Parameters
Y.F. Zhang and D.B. Yu 535

A Rapid Computation Method for Kalman Filtering in Vehicular SINS/GPS Integrated System
Q.J. Zhu, G.M. Yan, P.X. Yang and Y.Y. Qin 541

Research on Zero Point Detection Technology of Coriolis Mass Flowmeter Based on Wavelet Transform
J.X. Ren, Y. Pei and P. Zhang 546

Symmetry of Projection Data in 2D-CT and its Application in the Reconstruction
Y. Xuan, X. Wang and D. Yang 551

Development of Portable Intelligent Configuration Terminal Based on WinCE
H.X. Jing, Z.G. Liu, H.Y. Wang and X.H. Shen 556

The Design and Implementation of Telemetry Acquisition System Based on FPGA
S.H. Liu, S.M. Shen, J.J. Xiong and H.F. Guo 561

Research on Two-Electrodes' Magnetic Field in Sea
Z.L. Liu, Y.C. Zhang and H. Zhou 566

Semiconductor Manufacturer's Capacity Reservation with Substitution
G.H. Han and M. Dong 571

Study on Techniques for Optimization of Fault Diagnosis and Tests Based on PSO
X. Chen, J. Sun and S. Zhang 576

Design for Excitation Source of Airborne Radio System on Unmanned Aerial Vehicle Based on USB Bus
J.J. Su, Y. Yang, G.D. Li, J.Y. Peng and M. Li 581

Optimum Digital Filter for High-Performance All-Digital Phase-Locked Loop
H.F. Sun, X.N. Liu and X. Chen 587

A Configurable Routing Protocol for Bluetooth Wireless Networks
C.M. Yu and J.R. Yu 593

Performance Analysis of Seawater Cooling Tower
X.N. Qi 598

GMSK Modulation Design in General Hardware-in-the-Loop Communication Simulator
Q. Zhang 602

The Research of Fiber Optic Gyroscope Error Based on Insertion Loss and Beam-Splitting Ratio of Y-Waveguide
X.W. You, P. Huang and S.F. Lou 606

Design of Master Controller Input Processing Method Based on LPC2292
H. Yan and L. Yu 611

Design and Tests of Wireless Network for Heat Metering System
X. Wang, R.J. Ma and E.P. Zhang 614

The Standard and Realization of MMI Based on EN
Y.H. Ye and X.P. Huang 619

An Improved Leaf Area Measurement Based on Image Processing
D.Y. Han 624

Design and Implementation of 6LoWPAN Protocol Stack on Single-MCU Based on CC2430
H. Wang, J.M. Chen and P. Wang 629

Fabric Defect Classification Based on Local Region Features and SVM
Y.H. Li, Z.Y. Lu, J. Li and L.L. Cui 634

Research of Parallel Processing Technology Based on Multi-Core
X. Li, F. Li and C.H. Wang 639

Discrimination of Mine Water Bursting Source Based on Fuzzy System
W.F. Yang, D.Y. Shen, Y.B. Ji and Y. Wang 644

Improved Camera Calibration Method Based on Vanishing Points
Y.Y. Duan, X.M. Zhang and L. Zhao 649

The Design and Realization of Auto GPS Navigation System Based on ARM Cortex-M3
Z. Xu and Y.X. Tao 655

The Design of Embedded Multi-Channel Data Acquisition System
Y.Z. Qiu, L. Guo and S.H. Liu 660

Design of an Electronic Voltage Transformer Suitable for Digital Transformer Substation
Q.L. Feng and H. Zhang 665

The Data Acquisition of High Speed A/D Conversion Based on STC12C5A32S2 SCM
C.Y. Wu, Z.Y. Fan, H.J. Ma, Z.M. He and Z.M. Wang 670

Effects of GIC in Power System and Control Measures
Y.J. Ma, D.F. Wu and X.S. Zhou 676

The Review of Grid-Connected PV System's Transient Voltage Stability
Y.J. Ma, C. Liao and X.S. Zhou 681

Design Method of DLMS Adaptive Filter Based on FPGA
J. Dai, R. Zhou and S. Tang 685

Design of OTA-C Gaussian Function Generator
K. Gao 690

The A/D Conversion Based on LM3S2110
Y.M. Wang, Y.X. Tao, Y.C. Wang and B.X. Zhang 695

Research on Audio-Video Synchronization Coding Based on Mode Selection in H.264
X.N. Li, H.X. Chen and D.Z. Wang 701

The Application of Flash Memory in Computerized Jacquard Controller
C.J. Zhang, X.Y. Zuo, C. Zhang and X.G. Wu 706

Design and Implement on Ultra Wide-Band Pulse Amplifier
F. Gao and X.Q. Chen 711

The Design and Implementation of Interactive Response System Based on RFID and MAS Technology
J.X. Qiang and Y. Liang 716

Chapter 3: Computer Application in Design and Manufacturing

Fusion of Fuzzy Set and FCM for Image Segmentation
C.Q. Zhang, L. Chen and S.J. Zhou 723

Research of Intelligent Furniture Design
X.L. Li and J.M. Chen 729

Research on the Key Techniques for the Construction of a Digital Mine
X. Liang and D.W. Seng 734

LED Display Panel Grayscale Modulation Based on Computer Calculation
R.G. Wang and F. Chang 738

Survey on Computer Virtual Combination Technology in Product Series Design
Z. Li 743

A Sensing Data Driven Clustering Algorithm for Adaptive Sampling in Wireless Sensor Networks
M.Y. Zhang, W.Y. Cai and L.P. Zhou 748

The Design of Wireless Load Monitoring System of Auxiliary Shift Based on Labview
X.M. Xiao and N. Ma 753

VOLUME 2

An Arc Image Processing System Design and Testing
Y. Zhao and J.M. Liu 758

The Design of the Multifunctional Electronic Timing System Based on the Verilog HDL Language
M. Zhang, H.T. Liu and Y. Wang 763

Design of Electric Power System Based on Component GIS
J.M. Wang and W.Y. Yan 768

The Research and Realization of the Multi-Target Web Evaluation System for Digitized Industrial Design
X. Zhou and Q. Zhao 773

Study on CAD System for Semi-Armor-Piercing Warhead
Y.B. Yang, Y.G. Lu and Y. Zhou 778

The Research of CAE Active Knowledge Aided System Based on Network
X.A. Zhang and F. Ma 783

The Application of LabVIEW in Control System Stability Analysis
X.N. Xing 788

Using VBA Technology to Develop Two-Dimensional Gallery System of Components of Injection Moulds for Plastics
C.W. Chen and L.J. Cai 793

A Recognition Method Using SA Optimized SVM-DS
J. Li and H.B. Pu 798

Modeling and Implementation of 3D Mannequin in Garment CAD
Q. Ma 805

Lithofacies Palaeogeography Reconstruction Based on GIS
S.H. Li, Q. Li and H. Li 810

Design and Implementation of Power GIS Editing System Based on ArcEngine
Z.F. Yao, S.A. Han and R. Wang 814

Simulating 3D Cloud Shape Based on Computer Vision and Particle System
L. Gong 819

ECRPW: Energy-Efficient Clustering Routing Protocol Based on Weight for WSNs
X.P. Gu and R.L. Hu 823

Computer Assisted Surgical Simulation and Evaluation in Anterior Cruciate Ligament Reconstruction
Y. Hu, J. Wei, F. Feng and X.J. Zong 829

Design and Implementation of Keyword Filter System Based on Netfilter
P.Y. Yang and Y.X. Sun 835

The Development of a Product Ontology Information System for Similarity Measurement
J. Song and H.S. Xu 840

Application of Secondary Development of AutoCAD in Railway Signal Engineering Design
J.F. Zheng, S.Q. Ni, B.Z. Zou and H.T. Liu 845

Multi-Channel Voltage Pulse Testing Based on Lab Windows/CVI
Y. Zhao and H.B. Guo 850

Mobile Tour Planning Using Landmark Photo Matching and Intelligent Character Recognition
C.M. Huang, W.H. Liao and S.C. Chen 854

Using RFID Technology to Build Ubiquitous Computing Environment of the Aircraft MRO Process
M.C. Lu, T.W. Tai and L.H. Chiu 860

Modal Analysis on Bus Body Frame Based on I-DEAS Software
Y.H. Chen 865

Image Texture Classification Based on LS-SVM
Y.L. Zhao, X.S. Zheng, G.Q. Liu and N. Li 869

Simulation and Design of the Variable Cross-Section of a Deep Pool
Y.X. Wang, F. Jiang and M.S. Zhang 873

Applying Artificial Intelligence in CRM: Case Studies of Intelligent Virtual Agents and Pegasystems
T.F. Chen 878

Simulation Analysis of Vehicle Crosswind Stability in ADAMS/CAR
H.Y. Jiao, K. Zhang, Y. Li and H. Liu 883

Network Coordinates-Based Request Routing Approach to Improve Multimedia Content Delivery
W. Hui, H.Y. Zhao, C. Lin and Y. Yang 888

Automatic Load-Balanced Partitioning Strategy in Parallel Multilevel Fast Multipole Algorithm
Z.X. Gong, W.Q. Tong and Y. Li 893

Research of GIS System Development Mapx and SQL Server
Y.B. Lou, T.H. Pu and H.S. Gu 898

Application of PLC in the CNC Machine Tool Control System
Q. Zhou 902

Application of Workflow Management Systems in E-Services
H.T. Xin 906

Cross-Views Process Detection Based on Hardware-Assisted Virtual Machine
C. Ling, X. Yang and L.Z. Zhang 910

Design of Semantic Search Engine Architecture Based on Component
H.F. Wang and G.Y. Gao 915

Chapter 4: Automation, Control, System Modeling and Simulation

Research on Wireless Data Transmission Technologies in Regional Grain Emergency System
H.H. Ma, L. Xiao and S. Wang 921

The Control for Predator-Prey Model with Stage-Structured Predator
J. Zheng and Z.J. Zeng 925

FDTD Numerical Analysis of Transmission Enhancement on Two-Dimensional Hole Array
J. Yin, S. Yang and C. Pan 929

Simulation and Computation of Diffusion in Solids
Z.H. Hou and S.Y. Luo 933

Three Dimensional Numerical Analysis of Ground Settlement Induced by Shield Tunneling
Z.C. Wang 937

Numerical Simulation of Safe Strip Mining under Thick Unconsolidated Layers
X. Wei and L.Y. Qing 941

Modeling of the Temperature Distribution in Machining TC4 Titanium Alloy
B. Li and H. Wang 945

Research on Integration Technology of Large-Scale Public Building Energy Detection System Based on OPC
C.T. Wang, J.H. Zhou and Z.H. Han 950

Design and Implementation of Derivation Cryptographic Algorithms in Embedded Contactless IC Card System
X.Q. Fang, H.B. Ge and P. Li 955

Research and Implementation of Enterprise Application Integration Based on SOA
Z. Wu and Y. Li 960

Design and Implementation of Wireless Test Simulation System
L. Wei, H.Y. Chen, L. Li, H.M. Fu and L. Wei 965

Study of Solving Crossing Origin-Destination Matrix Based on Entropy Maximizing Model
G.J. Fu 970

Modeling Urban Eco-Environment Control through Zoning
H.T. Chang 975

Intelligent Multivariable Decision-Making System for Complicated Industrial Process Control
K. Dai, B. Xiang and P. Zhou 981

Design of Experiment Framework Based on Warship Equipment Maintenance Support Simulation Experiment and Exploratory Analysis
Y.W. Peng, W.Y. Chen, M.Z. Ruan and D. Xiao 986

Application of UML in Modeling Complex Logistic Support Simulation System on Warship Spare Part
Y.W. Peng, Q.M. Li, R. Wang, D.J. Mao and D. Xiao 994

Atmospheric Phase Screen Simulation Using Zernike Polynomial
W. Yan, Z.H. Chen, T.J. Du and J.G. Wang 1002

DCOM Based Group Communication for Ship Motion Virtual Simulation
Z.P. Shen, N. Zhang and Y.T. Wang 1007

Study of RFID Anti-Collision Based on Token Ring Network Model
Y.Q. Sun, X.K. Wang, Y.W. Gu and Q. Zhu 1013

Cars Tracking and Counting at Night
Y.B. Chen 1017

A New Method for Photoelectric Device Simulation
X.H. Zhang, J.G. Wang, T.J. Du, F. Liu, Z.H. Chen and Y.L. Zheng 1023

A Remote Monitoring and Control System for Injection Molding Machines Based on Optical Fiber Communications
H.J. Lin, L. Zhong and H.H. Xu 1028

The Runoff Forecasting Model Based on Wavelet Adaptive Neural Fuzzy Inference System
J.F. Gu, X.L. Wang and F.H. Du 1032

A Series Connection Scheme of Iterative Learning Control Based on Disturbance Observer
C.R. Liu and J.X. Xu 1041

Facial Expression Recognition Based on Gabor Features and Fuzzy Classifier
X.B. Jia and C.C. Wen 1046

The Simulation Research of Circle-Electrode's Electric Field of Steady Current Model
X.G. Zhang, Z.L. Liu and H. Li 1051

The Application of Second-Developed ADAMS on Simulation of Individual Soldier Automatic Weapon
Y.J. Zhao, W.Q. Ge and C. Xu 1056

Local Modeling Algorithm Based on Similarity of Vector
J. Zeng, J. Wang and J.Y. Guo 1060

Research and Improvement of Live-Wire Interactive Algorithm for Medical Image Segmentation
J.Y. Li and J.W. Dang 1065

A Piecewise Function Smooth Strength Envelope Model
L.Y. Zhang, R.H. Zhuo, L.J. Liu and S.Z. Feng 1069

A Model of Adsorption Icemaker on a Fishing Boat
X.N. Qi and Z.Y. Liu 1074

Design and Application of Online Testing System Based on Fuzzy Mathematics
L. Min 1079

The Research on the Simulation of Warship Magnetic Localization Based on Genetic Algorithm
H. Li, Q.M. Li and J. Liu 1084

Simulating Gyro of Strapdown Inertial Navigation System Based on Star Sensor
W. Gao and L. Zhang 1090

Simulation of Vehicle Dynamic Behavior on Ro-Ro Ship
D.X. Zhao, Y. Zhao, J.W. Hou and Y.J. Li 1095

Application of Kingview and SQL Server Database on the Full Automatic Coating Production Lines of Solar Collector Tubes
X.Y. Sun, Y. Zhang and C.L. Xiao 1101

A Mesh Topology Approach for Bluetooth Scatternet Formation
C.M. Yu and J.H. Lin 1105

A Novel Coded Excitation Sequence for Ultrasonic Life Location System
Z.J. Yao, T. Gao, J.S. Yang and Y.X. Song 1110

Arsenic Removal Control System of Water Factory Based on Fuzzy Control
L. Wang, X.J. Li and T. Li 1115

A Monitor Calibration Model Based on Artificial Neural Network
L. Zhao, G.X. Chen, B.L. Tang and R.X. Xu 1121

Study on the Prediction Model of Paper Printability in Ink-Jet Printing
S.L. Chen, G.X. Chen, Q.F. Chen, Z.C. Qu and R.X. Xu 1126

Safety Evaluation for the Highway Alignment with 3D Visual Simulation
X.J. Chen and Y.C. Luo 1131

Global Robust Exponential Stability of Cohen-Grossberg Neural Network with Time Varying Delays
R. Zhang and C.T. Wang 1135

Dairy Digital Management Information System Development Based on SOA
H.Q. Li, H.B. Lu, J. Qu and X.L. Li 1141

A Modified PSO-BP Algorithm in Hydraulic System Fault Diagnosis Application
Z.S. Dong, X.Y. Zhang and J.C. Zeng 1145

H_∞ Variable Universe Fuzzy Control for Power System
X.L. Wei, M.L. Lu, J. Wang, B. Deng and Y.Q. Che 1149

Design and Simulation of a Pipeline Analog-to-Digital Converter
G.P. Chen, X.Z. Jian and E.L. Xiao 1154

Design and Implementation of Intelligent Interactive Three-Dimensional Experimental Model
S.C. Ma and W.B. Fang 1159

Automatic Contour Mapping System in Sensor Network
Q.W. Chen 1164

An Effective Similarity Measurement Algorithm for Dominant Color Feature Matching in Image Retrieval
L.F. Yang, X.L. Huang, R. Lv and H. Lv 1169

Design of Computer Control System of Mobile Asphalt Concrete Mixer
X.W. Gong and G.P. Wang 1174

Application of Fuzzy Neural Network to Analog Circuit Fault Diagnosis
S.G. Zhou and Z.F. Luo 1179

Remote Control Simulation System Based on PLC and King View for a Diesel Engine
L. Zhu, D.B. Hu and J.B. Xiao 1184

Design of Towing Operation Training Simulation System with Multi-Channel Display
D.X. Zhao, Y. Zhao and Y.J. Li 1189

Study on Application of Numerical Manifold Method
L. Zheng and Z.Z. Shen 1194

Multi-Objective Robust Decentralized Control for the Interconnected Fuzzy Singularly Perturbed Models
Y.N. Hu and F.C. Sun 1200

License Plate Image Restoration Based on Fuzzy Neural Network
L.H. Yao, J. Xu and H. Jiang 1206

Research on Fuzzy Control of Inverted Pendulum in the MATLAB Environment
X.H. Zhai, S.X. Yao and Z.H. Xu 1211

Design of Multi-Signal Testing System Based on ARM & FPGA
J.J. Dong and T.S. Zhou 1215

Simulation of Three-Phase Voltage Rectifier Based on Voltage Space-Vector Method
X. Wang, Y. Xing and D. Yang 1220

Complete Riemannian Manifold with Curvature Bounded from Below
Q. Xue and X.F. Xiao 1225

Biogas Generator Temperature Monitoring Based on Time Series Algorithm
Z.X. Wang, Y.C. Zhang, G.J. Wang and R.A. Meng 1230

Intelligent Tracking Assistance System Based on GPS and GSM
Z.Q. Lai, C.Q. He, G.D. Liu and M. Yao 1236

A New Nonlinear Excitation Control Strategy with Terminal Voltage Feedback
X.J. Sun and Q.M. Guo 1241

Iterative Regularization Model for Image Denoising Based on Dual Norms
G.N. Chen, D.E. Xu, R. Chen, Z.F. Huang and Z.J. Teng 1245

Simulation of Digital Beam Forming for Radar Seeker
Y. Yang, W. Yi and N. Li 1250

Delay-Dependent Stabilization for Singular Time-Delay Systems
J.F. Gao, J. Ren and C. Meng 1255

Adaptive Controller Design for a Class of Discrete Nonlinear Systems
X.C. Lou 1260

A Study on Fault Model and Fault-Tolerant Routing for Sensor Networks
Z.M. Xu and X. Fu 1265

High-Precision 3D Modeling Method Based on Terrestrial Image Sequences for Alpine-Gorge Area
B. Su, H. Li, Y.Q. Wang and B. Yang 1270

A SOA Control Platform for IMS-Based IPTV
C.G. Tan, G.R. Chang, L.N. Sun, C.S. Miao and J. Jia 1276

Application Research of Stadiums Smart Lighting System Based on ZigBee
Z.X. Wang and J. Sun 1281

Block Statistic for Palmprint Recognition Based on High Frequency Coefficients under Wavelet Transform
Y.Q. Liu, W.Q. Yuan and J.Y. Guo 1287

A Flight Simulator that Grouping Aircrafts Simultaneously Take off and Land in Open Grid Computing Environment
Z. Lü, Z. Gao and Y. Lü 1292

Synchronization of a New Four Dimensional Chaos System with Unknown Parameters
X.X. Zhou and H. Xie 1298

Liner Model of Two-Stage Server Numbers and Load Throughputs
Z.S. Huang 1303

An Automatic Registration Method for Multi-Modal Images Based on Alignment Metric
Y.J. Xia, J.Q. Yin and R. Chen 1308

A Novel Control Scheme Based on Improved RBF Neural Network
X.Z. Xie and X.L. Guan 1313

An Optimization of Targeting in Chaotic Systems Based on Numerical Simulation
H.G. An 1318

A Modeling Method of Wideband Devices Based on Modified Nodal Analysis
F. Lu and J. Lu 1323

The Simulation of Submarine-Launched Missile Out-Water Movement Based on MATLAB/Simulink
Y.Q. Lian, B. Tian and S.Z. Wang 1328

Study on Intelligent Obstacle Avoidance and Autonomous Navigation
M.L. Cao and L.N. Sun 1333

Numerical Simulation of Outburst Prevention Effect of High-Pressure Mini-Jet Fracturing Coal
X.M. Gong, J.Y. Zhang and L.W. Guo 1338

Fast Volume Rendering Techniques for 3D Reconstruction of Geological Objects
D.W. Seng and D.Q. Li 1343

Design of Peer-to-Peer Traffic Classification System Model Based on Cloud Computing
X.Z. Liu and Y.B. Xu 1347

A Novel QoS Guaranteed Cross-Layer Scheduling Scheme for Downlink Multiuser OFDM Systems
W.M. Ma, H.J. Zhang, X.M. Wen, W. Zheng and Z.M. Lu 1352

The Research Based on RBF Neural Network in the Power of Prediction of Grain Depot
L. Xiao and M.P. Hu 1358

Simulation Analysis of Guided Wave Testing on Wind Turbine Blade Shell with Epoxy Resin and Semi-Analytical Finite Element Modeling
F.J. Zhou, Y.L. Sun, Y.M. Wang and F.R. Sun 1362

Video Based Visual Speech Feature Model Construction
X.B. Jia and M.X. Zheng 1367

A Fuzzy Robust Model to a Project Decision Management for DMSMS Problem
Y.C. Tsai and M.C. Chen 1372

Control System Design and Research of Parallel Ship Motion Simulator
B.C. Li, F. Lv and X.F. Li 1377

A Simulation and Verification Tool for Online Scheduling Algorithms Based on Component Technology
X. Chen, H. Guo, N. Ding, K. Fu and H. Jiang 1383

An Integrative Model for Self-Service Technology Adoption
Y.C. Yang, Y.Y. Yang and S.W. Liu 1387

An Intelligent Monitoring System Using a ZigBee-Base Sensor Network
K.Y. Lu 1393

Construct Automatic Monitoring System for Residential District Street Lamps to Increase Maintenance Efficiency
J.R. Lee and S.L. Hsueh 1402

The Numerical Simulation on the Atomization Process of Fluid Movement in the Jet Exhausting Atomization Nozzle
Y.S. Zhu 1408

Flight Rerouting Path Planning Based on Artificial Potential Field and Genetic Algorithm
X.L. Wang, H. Li and F. Wang 1413

Design and Research of Digital-Museum Service System Based on VRML
C.M. Wu, S. Zhang and J.M. Qiu 1418

Chapter 5: Frontiers of Mechanical Engineering

The Measuring Method for Low Rotational Speed with the Frequency Difference Generated by Radial Gratings
W.L. Guo and Y.F. Qiao 1425

Location of Time-Harmonic Magnetic Dipole
Z.L. Liu, Y.C. Zhang and H. Zhou 1430

Sensor Fault Detection and Estimation for Nonlinear Process with Time-Delayed Variables
K.C. Fu, P. Liu, M. Zhu and S.Q. Jiang 1435

Design Methodology for Multipliers with Active Leakage and Dynamic Power Reduction
X. Tian, F. Qiao, Z.W. Dong, Y.J. Liu and Y.T. Zhao 1440

Particle Swarm Optimization for Ship Degaussing Coils Calibration
M.M. Yang, D.M. Liu and L.T. Lian 1446

Path Optimization for Automatic Guided Vehicle Based on Fusion Algorithm of Particle Swarm and Ant Colony
Y.B. Hou, Y.Q. Yuan and B.P. Li 1452

The Output Predictive Control of Optimal Reference Path Based on Fuzzy Inference
T.S. Zhou and J.J. Dong 1458

Design and Implementation of a Home Automation System Based on ZigBee and 3G Terminal
J. Wang, J. Liu and H. Wang 1464

Summarization on Stability of Wind Power Systems Based on Bifurcation Theory
X.S. Zhou, H.X. Zhai and Y.J. Ma 1469

The Research of Frequency Characteristics of Tracking Differentiator
F. Meng, J. Yang, P.S. Yang and B. Sun 1474

Strain Monitoring of T-Stiffened Panels Subjected to Low-Velocity Impact Using Embedded FBG Sensors
Y.J. Zhou, G. Liu, X.Q. Li and X.S. Yi 1479

Application of the Hilbert – Huang Transform for Machine Fault Diagnostics
Z.Y. Xuan and M. Ge 1484

The Study of the Nonstationary Signal in Fault Diagnosis
Z.Y. Xuan and M. Ge 1489

Finite Element Simulation Analysis of Cold Rolling Process for Stainless Steel Tube
Y.H. Li, T. Fan and X.J. Liang 1494

Structural Analysis and Optimization for a Frame-Type Cab of a Heavy-Duty Truck
Y.K. Gao, J.G. Fang and M.C. Xie 1499

Optimization of Contour Path in Laser Processing Based on Dual Coding Improved Genetic Algorithm
J.J. Yang, H. Zhan, J.W. Tan and Y.C. Ding 1504

Research and Design of Polynomial Short Stroke Control Curve for Roughing Process
X.T. Li, Z.M. Huang, M.T. Wang and F.S. Du 1508

VOLUME 3

A Dim-Small Target Tracking Approach Based on Robust Hyperspectral Features
B. Yang, H. Sheng and L.Y. Li 1513

Application of Double Constant Current Source Design in Single-Port Gasless Laparoscopic Surgical Instrument
B. Xiang, J. Sun, P. Zhou and X.Y. Wang 1519

A Node Split Method for Crack Growth Problem
G.L. Peng and Y.H. Wang 1524

The Elastohydrodynamic Lubrication Analysis of Starved Water-Lubricated Rubber Bearing
H. Zhao and Y.Q. Wang 1529

Analysis of Structural Reliability Based on Stochastic Response Surface Method
L. Ying 1533

Microstructure and Properties of Grade 700MPa Pressure Vessel Steel with Large Heat Input Welding
Q.F. Ding, T.S. Wang, W.Y. Liu, X.J. Wang, W.B. Liu and M. Li 1537

Effect of Ball Milling on Powder Preparation by Mechanical Methods
B. Li and H. Wang 1541

The Calibration of Manipulator Based on Linear Precision
W.G. Li, G.L. Liu, D. Yang, T. Chen and W. Chen 1545

Interaction between a Screw Dislocation Located in Strained Reinforcement Layer and a Lip-Shaped Crack
M. Yu and Y.W. Liu 1549

Influence of Inclusions on Strength and Toughness of X70 Pipeline Steel Girth Weld
Y.Y. Cheng, Z.Z. Chen, Y.J. Niu and Z.F. Wang 1554

Optimization of the Sieve's Structure about Vibration Filtration and Transportation Equipment
J.L. Li, C.Y. Lv and Z.F. Wang 1559

Chapter 6: Applied Mechanics

Convergence Analysis for the Elliptic Boundary Value Problem of Rectangle Nested Refinement Finite Element with Q_1 Truncation
Q.S. Wang and Y.G. Zhao 1567

The Weighted Error Estimation of Finite Element Method for Two-Point Boundary Value Problem
Q.S. Wang and J.D. Lai 1571

Studies on the Thermal Decomposition Kinetic of an Nitrate Ester
J. Wang, D.B. Liu and X.L. Zhou 1575

Nonlinear Analysis of Two Shear Walls Using Elastic Plastic Damage Model
L. Lin, C.H. Li and H. Qi 1581

Finite Element Method in the Research on the Application of Contact Deformation
J.J. Su and J.H. Chen 1585

Construction of Planar Dynamic Systems with Function of Non-Linear Angle Variables
Y.L. Sun, L. Zheng and J. Hou 1590

The Load Analysis of Chisel-Edge Ruling Tool for Diffraction Gratings
L. Guo, Jirigalantu and F.C. Zhang 1596

The Parameter Inversion and Stress Simulation Analysis for High RCC Gravity Dam in Construction
S. Qiang, X.R. Wang, Z.Q. Xie and Z.Q. Zheng 1600

Study on Blank Holder Force Control in Sheet Metal Forming Process
X.J. Lin, J.H. Wang and K.G. Liu 1605

Nonlinear Stability Analysis for Schwedler Reticulated Dome
X.L. Li and J. Ji 1609

Finite Element Analysis of Gear under the Pressure of Different Oil Condition
H. Zhao and Y.Q. Wang 1613

Flexural Analysis of Simply Supported Concrete Beam Reinforced with FRP Bars
H.C. Qu, L.L. Chen and S.L. Zhang 1617

Interlaminar Stress Distributions of Notched Angle-Ply AS4/PEEK Laminate under Tension
B.S. Huang, G.H. Zhao and Q.L. Shu 1622

Structure Design and Comparison Analysis of Frame System with Angle-Steel Column and Prestressed Beam
J. Ji, D. Yang, Z.C. Teng and H.G. Ren 1626

Studies on Galloping of Iced Conductor Based on Tower-Line Coupling System – Aerodynamic Loads
H.J. Hu, Y.H. Wang and Z.D. Hu 1630

Research on Piezoelectric Transducer with Negative Impedance by FEM
W.Q. Zhang, X.Y. Wu and W. Cao 1634

Research on Vacuum Sling Technology of Aeronautical Aluminum Alloy Low-Rigid Parts
C.L. Fu, T.G. Li and W.S. Wang 1638

Studies on Galloping of Iced Conductor Based on Tower-Line Coupling System – Mechanic Model and Intial Shape
H.J. Hu, Y.H. Wang and Z.D. Hu 1643

Back-Analysis Improved Particle Swarm Optimization Algorithm on Mechanical Parameters of Divisional Geotechnical Engineering Material
W.H. Fang 1647

3D Finite Element Analysis of Single Cylinder Diesel Engine Crankshaft
B. Zheng, Y.Q. Liu, R.X. Liu and J. Meng 1654

Biomechanical Analysis of Two Techniques Performed in Table Tennis
B.J. Mao 1658

Study on Mechanical Property and Displacement of Latticed Soil Nailing Support
L. Qiao, L.K. Liu, H.T. Wei, Y. Li and X.W. Li 1662

Level Set Method for Topological Optimization of the Naiver-Stokes Fluid Flow
X.B. Duan, F.C. Qian and X.Q. Qin 1668

Study on the Motion Generation Method of Gun Training Simulator
Y. Wang and R.N. Su 1673

A Gravitational Fuzzy C-Means Clustering Algorithm Based on Density Weight
T.W. Zhang and G.B. Guo 1681

Chapter 7: Other Related Topics

Outage Probability of CSI-Assisted Opportunistic Amplify-and-Forward Relaying with MRC Reception
L.H. Wang, F.M. Liu and Q.J. Zheng 1689

Bioelectrical Impedance Measurement Way Based on an Improved DPSD Algorithm
J.T. Diao, Q.Y. Xie, M. Li, W.L. Liu and Z.L. Sun 1694

Research for Algorithm of Shot Boundary Detection Robustness Based on Fuzzy Clustering
H.C. Feng, W.G. Hu and Y. Gong 1698

The Design and Implementation of High-Resolution Camera Driver Based on Windows CE6.0
L.H. Song, Y. Jian and K. Xiao 1703

Pose Estimation for 3D Work Piece Using Differential Evolution Algorithm
W. Liu, J.H. Su, S.W. Zheng and P. Wang 1708

Study on Patrol Service Platform Settings and Scheduling Based on Genetic Algorithm
H.H. Liu, H.F. Qiao, N.P. Li and H.B. Yao 1713

Research on Architecture of Combat Agent Based-on Command Mechanism
Y.H. Liu, Q. Xue, B.W. Cao and Y. Wei 1719

Study on Assembly Design Method Based Digital Mock-Up
Y.B. Yang, K.W. Deng and F.Y. Wei 1723

The Research and Implementation for Vertical Search Engine of Automobile Information
B. Xia, P.Y. Guo, H.B. Qiao and R. Gao 1728

The Realization of Fuzzy Adaptive Filtering Algorithm
J.G. Liu and H.Y. Wang 1733

Research on Image Mosaics Algorithm on the Basis of Feature Points Matching
X. Shi and J. Chen 1738

A Class of New Interval-Valued Intuitionistic Fuzzy Distance Measures and their Applications in Discriminant Analysis
H. Zhao, M.F. Ni and H.F. Liu 1743

Executable Program Slicing
S.H. Shi, Q.X. Zhu and Z.Q. Geng 1746

LED Display Image Correction Based on Computer Simulation
X.F. Zheng and F. Chang 1751

The Characteristic Radial Basis Meshless Method for Convection-Dominated Diffusion Equations
X.Q. Qin, X.B. Duan and W. Guo 1756

The Research on Bispectrum Detection of Underwater Target in Frequency Domain
G.J. He, J.F. Cheng and W. Zhang 1761

Generating Document Tree of Workflow with Synchronization Process
F.H. Hu, J. Jiang, W.Y. Qin and Y. Li 1766

Image Retrieval Based on Contour and Relevance Feedback
W. Lu 1771

Using Cellular Ant Colony Algorithm for Path-Planning of Robots
Y.F. Wu, X.X. Zhang and J.Q. Wu 1776

Abstracting Synchronization Process in Workflow Involving Partial Synchronization Pattern
F.H. Hu, J. Jiang, L. Ma and L.L. Liu 1781

A Line Enhancement Algorithm for Infrared Image Based on Ridgelet
S. Shi, S.R. Qu, H. Zhao and F.L. Chen 1786

FPGA Implementation of Rational Symmetric Biorthogonal 11-9 Wavelet Transform
M. Zhang, Z. Ma and M.X. Zhang 1791

Research Summary of Chaos in Power Systems
X.S. Zhou, X.F. Liu and Y.J. Ma 1796

Color Image Encryption Scheme Based on Chaotic Map
J. Qiu and P. Wang 1800

Granularity Entropy-Based SDG Fault Reasoning Method
Z.J. Zhang, J. Zhang, G. Xie and W.J. Zhao 1805

New Hybrid Blind Equalization Algorithms
S.L. Liu and L. Wang 1810

A New Image De-Noising Algorithm Based on Wavelet Transform
Z.Q. Wang, H.S. An, K.C. Zhao and Y. Liang 1816

Extraction of Mountain Feature Line Based on 3D Laser Scanning
C.H. Wan and X.J. Cheng 1821

A Real-Time Sea-Sky-Line Detection Method under Complicated Sea-Sky Background
Y. Gui, X.H. Zhang, Y. Shang and K.P. Wang 1826

A Image Enhancement Algorithm Combined Wavelet Transform with Image Fusion
S.M. Luo 1832

Color Image Encryption Based on the Multiple-Order Discrete Fractional Cosine Transform and Chaos in YCbCr Space
X.Z. Luo, N.R. Zhou, Q.M. Zhao and J.H. Wu 1839

Histogram Equalization Based on Rough Set
P. Yan, W. Zhan and O.Y. Min-Zi 1844

Relaxed Parallel Scheduling Algorithms Investigation of Support Resource Reservation from Grid
J. Chen, B. Li and E.F. Wang 1849

Iterated Hybrid Localization Algorithm for Random Wireless Sensor Networks Based on Centroid and DV-Hop Algorithm
X.H. Nie and Z.M. Pan 1854

Application of Different Algorithms to Predict the Faults and Fractures in Carbonate Formation
Y.P. Zhang and X.X. Lü 1858

Moving Object Detection Based on Edge Difference and Contour Matching
W. Liu, X.J. Xu, B.T. Fu and X. Zhu 1863

A Region-Based Image Matching Combining Global and Local Features
J. Hou, J.X. Pian, Y. Zhang and M.Y. Wang 1868

The Anti-Interference of the PLC Application System
M.D. Xu 1873

A Method of Improving Calculation Accuracy in Difference Schemes
L.Y. Han, G.H. Cheng, X.S. Zheng, Q. Wang, Y.J. Jin and F.Q. Hao 1877

An Improved Spectral Clustering Algorithm Using Minimum Maximum Principle
X.F. Xu, S. Xu and T. Zhou 1881

Study on Identification Algorithm of EEG Imaginary Movements
J. Zhou, L.J. Li, N.S. Li, X.M. Wu and R.Q. Yang 1885

Fiberglass Reinforced Plastic Winding System Adaptive Controller Design
Z.T. Xue and Z. Li 1890

A New Algorithm of Flight Rerouting Path Planning in Severe Weather
F. Wang 1895

Data Hiding Based on Noise-Balanced Error Diffusion in Color Image
H.S. Chen, B.L. Tang, G.X. Chen and S.S. Wen 1900

***F*- Rough Information Fusion and its Feature Recognition**
J.M. Qiu, C.B. Liu and X.Q. Chen 1904

Using a Compass for the Localization of a Robot with PID Control
W.K. Wong, S.K. Yin and H.S. Chang 1910

The Research of Image Registration Method Based on the Genetic Algorithm
H. Li, D.X. Wu, Q.M. Li, P.Y. Zhang and R. Wang 1916

A Queue Dispatch Optimizing Method for Elevator Traffic System
J. Liu, T. Zhang, J.X. Pian, F.Y. Han, L. Wang and J. Xie 1919

The Research on Object Recognition from Occluded Images
H. Li, Q.M. Li, P.Y. Zhang and R. Wang 1924

An Improved Self-Learning Scene Matching Algorithm
X.S. Wu, M. Tie and L. Wang 1928

An Analysis of Archiving Strategies in Web Archive
Y.F. Li and Y. Lin 1933

Research and Implementation of Malicious Code Behavior Analysis
W. Li, P. Liu and H. Chen 1938

Acquisition Algorithm for GPS Signal Based on Frequency Shift Method
J.L. Zhu, Y.M. Bo and J. Zhang 1943

Heterogeneous Databases Integration Approach Based on Hybrid Ontology
Z.Y. Liu, F.B. Yan and B.H. Zhang 1948

Analysis of FBG Reflection Spectrum with PSO Algorithm
Z.X. Wu, S.Q. Chen, J.W. Wang and L.F. Wang 1953

Identification of the Seaweed Fluorescence Spectroscopy Based on the PCA and ICA-SVM
J.T. Lv and Q.C. Gu 1958

Comparison of Two Texture Retrieval Algorithms
X.W. Chen, Y.X. Shen and S.X. Ma 1962

Study on Client-Side Color Reproduction Methods of Network Printing
B.F. Li 1967

A Novel Approach to Identifying Global Exceptional Patterns in Distributed Data Mining
M.L. Liu 1972

Study on Network Load Balancing Algorithm Based on Server Cluster System
L. Lan and C.H. Qi 1978

An Explicit Difference Method for a Class of Aging Diffusion Equations Group
Z.Y. Wang and X.Z. Zhang 1982

Genetic Algorithm Using the Bimodal Operation to Prevent Prematurity and Reduce Computational Time
L.T. Tseng 1987

Sharing Multiple Digital Images via Halftoning Methods
K.H. Lee and P.L. Chiu 1992

Comparison of Multispectral Image Processing Techniques to Brain MR Image Classification
Y.S. Chen, S.H. Chen and J.J. Liou 1998

Mining Fuzzy Association Rules in Quantitative Databases
Y.M. Bai, X.Y. Meng and X.J. Han 2003

Research and Realization of Streaming Media Video Conferencing System Based on P2P
S. Zhang, Y. Zheng, X. Chen and B.H. Zhang 2008

A Study of Mobile Node Localization Algorithm Based on Ranging MCL for WSN
W.D. Tang, B. Liu, C.Q. Zhang and J.Z. Wu 2012

Management Technology for Satellite Network Based on Service
X. Gao and Z.Z. Xu 2019

A Novel Algorithm for Key Frames Selection
C.K. Yang and S.C. Cheng 2025

The Study and Design of QR*-Tree Spatial Indexing Structure
X.Y. Song, Y.H. Wang and S.J. Wang 2030

Calculation Analysis on Audio Frequency Compression Based on Wavelet Packet Decomposition
K.W. Zhang, Y.L. Zhou and X.G. Hua 2035

A Fast Algorithm for Lip Contour and Feature Extraction
X.B. Jia and K.W. Zhang 2040

The Analysis of Single-Radio Mode, Dual-Radio Mode and Multi-Radio Mode WMN's Capacity
L. Wei 2045

Airspace Congestion Prediction Based on Evidence Theory
C. Wang and M. He 2050

Improved Ant Colony Optimization and Application on TSP
Z.Q. Fu and L.A. Liu 2055

Trusted Bootstrap of Para-Virtualized Domain
B. Xing, Z. Han, J.Q. Liu and X.L. Chang 2059

A New Method for MIMO-OFDM Channel Estimation Based on Discrete Wavelet Transform
H. Shi, R.W. Song and G.F. Wang 2066

An Ant Colony Algorithm Method for Multi-Objective Production System
C.H. Lan, K.T. Lan and T.Y. Hung 2071

Two-Factor Authenticated Key Exchange Protocol in the Three-Party Setting
R.J. Hwang, F.F. Su and L.S. Huang 2075

Auto White Balance Algorithm in Digital Camera
J. Li, X.X. Wang and H. Liu 2080

Corrective Maintenance Based Vulnerability Repair Procedure to Improve Web Application Security
S.T. Lai 2085

Study on Utility Maximization Effectiveness in Packet Network Coding
Y. Guo, Y.G. Ji and J. Xu 2091

A Study of Smart Bus Dynamic Transit System
C.Y. Liu, K.T. Tang and S.K. Chou 2095

A Genetic Algorithm with Weight-Based Encoding for One-Dimensional Bin Packing Problem
Y.T. Lin and J.L. Hou 2100

An Anti-Eavesdropping Network Coding Algorithm
Y.G. Ji, Y. Guo and J. Xu 2105

A Multi-Strategy Word Sense Disambiguation Method
L.L. Yu, D.F. Xu, L.F. Song, G.J. Li and X.D. Song 2109

The Gray Processing of Moon Digital Orthophoto Map
W.J. Xu, H. Sheng, C. Lou and H.J. Zhao 2113

A Hybrid Ant Algorithm for the Vehicle Routing Problem
Y. Li and L. Ma 2118

A Maintenance Strategy of Materialized Views in Distributed Environment
Z.C. Qu and T.L. Guo 2123

The Research of MapReduce on the Cloud Computing
T.L. Gao, J. Li, J.P. Zhang and B.J. Shi 2127

Study on Filter Algorithm of QoS-Based Fuzzy Multi-Attribute Web Service Composition
X.R. Fang 2131

Dynamic Service Selection Based on Ant Colony System
Y. Li, W.Q. Tong, X.L. Zhi and D. Ding 2136