

2008 International Conference on Mechatronics and Automation (Formerly ICIMA)

(ICMA)

**Takamatsu, Japan
5-8 August 2008**

Pages 1-555



**IEEE Catalog Number: CFP08839-PRT
ISBN: 978-1-4244-2631-7**

TABLE OF CONTENTS

Notification Mechanism in Robots-resources System	1
<i>Xin Jin, Xudong Ma, Xianzhong Dai</i>	
Controller Design of a Two-Wheeled Inverted Pendulum Mobile Robot	7
<i>Jingtao Li, Xueshan Gao, Qiang Huang, Osamu Matsumoto</i>	
An Optimum Vehicle Trajectory Control for Obstacle Avoidance with the Shortest Longitudinal Traveling Distance	13
<i>Yoshikazu Hattori, Eiichi Ono, Shigeyuki Hosoe</i>	
A 4WD Omnidirectional Wheelchair with a Chair Tilting System	21
<i>Masayoshi Wada</i>	
Fuzzy Logic Based Control Strategy for Parallel Hybrid Electric Vehicle.....	27
<i>S. Wahsh, H. G. Hamed, M. N. F. Nashed, T. Dakrory</i>	
Non-linearity Compensation Algorithm For the Output Signal of Non-drive Structural Silicon Micromachined Gyroscope	32
<i>Qing Ye, Yangmeng Tian, Fuxue Zhang</i>	
A Phase Modulation Method for Improving the Scale Factor Stability of Fiber-optic Gyroscope	37
<i>Shitong Chen, Jianhua Cheng, Wei Gao</i>	
Dynamic Event Data aggregation in Wireless Sensor Networks.....	43
<i>Wanming Chen, Tao Mei, Yumei Liu, Max Q.-H. Meng, Huawei Liang</i>	
Thermal Analysis of the Microscale Pyroelectric Thin Film Infrared Detector.....	49
<i>Zheng Dong, Da-gui Huang, De-yin Zhang</i>	
Load Cell Design and Construct with Fault Detection by Probabilistic Neural Network	55
<i>A. Moradkhani, K. Ahmadi, I. Mirmohammadhosseni, M. Aliyari Sh, M. Teshnehlab</i>	
Human Adaptive and Friendly Mechatronics (HAFM)	61
<i>Maki K. Habib</i>	
Adaptive Control of Robot Manipulators Using an Incremental Fuzzy System	66
<i>Chang-Hyun Kim, Soung-Min Im, Ju-Jang Lee</i>	
Falling Avoidance of Biped Robot using State Classification.....	72
<i>Jeong-Jung Kim, Tae-Yong Choi, Ju-Jang Lee</i>	
An Emotion-Based Task Sharing Approach for a Cooperative Multiagent Robotic System.....	77
<i>Sajal Chandra Banik, Keigo Watanabe, Maki K. Habib, Kiyotaka Izumi</i>	
Basic Performance of a Desktop NC Machine Tool with Compliant Motion Capability	83
<i>Fusaomi Nagata, Shintaro Tani, Takanori Mizobuchi, Tetsuo Hase, Zenku Haga, Masaaki Omoto, Keigo Watanabe, Maki K. Habib</i>	
Formulation of Braking Behaviors of Expert Driver toward Automatic Braking System.....	89
<i>Takahiro Wada, Shun'ichi Doi, Naohiko Tsuru, Kazuyoshi Isaji, Hiroshi Kaneko</i>	
Estimation of Power Consumption of Miniature Audio Directional Transducer	95
<i>Xuesheng Li, Limei Xu, Chenguang Cai, Leon Xu, Antti Salo</i>	
Performance Evaluation of Acoustical Array by Combining Microphones and Piezoelectric Devices.....	99
<i>Mitsuharu Matsumoto, Tomomi Abe, Shuji Hashimoto</i>	

Noise Reduction Combining Microphones and Laser Listening Devices	104
<i>Mitsuharu Matsumoto, Tomomi Abe, Shuji Hashimoto</i>	
A Study on Human Audiovisual Integration by behavioural and Event-Related Potentials (ERPs) measurements for Traffic Safety	110
<i>Qi Li, Jinglong Wu</i>	
A Research of Ship Biomimetic Fin Stabilization at Zero Forward Speed	114
<i>Shizhen Bai, Chunmei Hua</i>	
Design and Research of a New Structure Rescue Snake Robot with All Body Drive System	119
<i>Junyao Gao, Xueshan Gao, Wei Zhu, Jianguo Zhu, Boyu Wei</i>	
Modular Design and Realization of a Torpedo-Shape Robot Fish	125
<i>Weishan Chen, Dan Xia, Junkao Liu</i>	
Construction of Arm Motion Support System Using Time – Frequency Analysis of EMG Signals	131
<i>Satoshi Horihata, Hiroaki Iwahara, Ken'ichi Yano, Yutaka Nishimoto, Takaaki Aoki</i>	
Using Biological Spring to Improve Propulsive Efficiency for Fishlike Robot	137
<i>Dan Xia, Weishan Chen, Junkao Liu</i>	
Tracking Control of a Twin-rotor Helicopter Model under Thrust Constrains Using State-Dependent Gain-Scheduling and Reference Management	143
<i>Nobutaka Wada, Masayuki Minami, Yoshiya Matsuo, Masami Saeki</i>	
Wind Tunnel Test of UAV Fault Detection Using Principal Component Based Aerodynamic Model	150
<i>Annop Ruangwiset, Banterng Suwantragul</i>	
Study on Optimal Design for Two DOF Parallel Ankle Joint Mechanism of a Biped Robot	155
<i>Liquan Wang, Zhiwei Yu, Hengnan Li</i>	
Mechanical Design of Cylindrical Track for Sideways Motion	161
<i>Kenjiro Tadakuma, Riichiro Tadakuma, Hiroaki Kinoshita, Keiji Nagatani, Kazuya Yoshida, Martin Udengaard, Karl Iagnemma</i>	
Autonomous-type Tracking Robot with Network Environment	168
<i>Yoshio Nomura, Kouki Yamaji</i>	
Trajectory Navigation Control of Mobile Robot	174
<i>Satoru Takahashi, Shunsuke Nara</i>	
Study on a Novel Laser Measurement System for Float Glass Thickness	179
<i>Yang Ni, Wang Yu-tian, Lin Xiao-lin, Lv Jiang-tao, Pan Zhao</i>	
Design of High Precision Magnetic Grid Displacement Sensor	185
<i>Shuanghui Hao, Jizhu Liu, Minghui Hao, Baoyu Song</i>	
Four-state Modulation in Fiber Optic Gyro	189
<i>Xuyou Li, Yong Zhang, Qiang Yu</i>	
Designing for a Convergent Adaptive Kalman Filter in Time-varying Stochastic Linear Systems	193
<i>Hongxu Ma, Jianwen Wang, Haitao Shui</i>	
Study on Shear Stress Measurement with LCR Wave from Surface Based on LFMCW	197
<i>Xianjin Dai, Jiexiong Ding, Yinglin Liang, Zhijin Bai, Chaozhi Kong</i>	
Ground Angle Estimator from an Ankle Foot Orthosis Based on Strain Sensing and Fourier Series	203
<i>Wolfgang Svensson, Ulf Holmberg</i>	

Development of a 5 DOF Prosthetic Arm for Above Elbow Amputees	207
<i>Subrata Kumar Kundu, Kazuo Kiguchi</i>	
Humanitarian Demining: Difficulties, Needs and the Prospect of Technology	213
<i>Maki K. Habib</i>	
Application of a Model Reference Adaptive Feedback Linearization Controller to a Magnetic Telemanipulation System	219
<i>Ehsan Shameili , Mir Behrad Khamesee, Jan Paul Huissoon</i>	
Fuzzy Radius Basis Function Neural Network Based Vector Control of Permanent Magnet Synchronous Motor	224
<i>Zhihe Gu, Hui Li, Yongkui Sun, Yong Chen</i>	
VR-based a Novel Active Rehabilitation System for Upper Limbs	229
<i>Shuxiang Guo, Zhibin Song</i>	
The Effect Assessment Method of Control Systems for Turbo-generators on Transient Stability of Power Systems	235
<i>Tetsushi Miki</i>	
The Research of Self-tuning Weighted Measurement Fusion Kalman Filter	241
<i>Hao Gang, Ye Xiufen, Li Yun, Zhao Ming</i>	
Digital PID Controller for Brushless DC Motor Based on AVR Microcontroller	246
<i>Chen Xu, Dagui Huang, Yiping Huang, Shugang Gong</i>	
The application in SINS's initial alignment based on Combination of LQ optimal Control and Kalman Filter	252
<i>Gao Wei, Zhao Guiling, Zhang Xin, Zhang Na</i>	
Tabu Algorithms with Two Moves for Solving the Problem of Hot Rolling Scheduling	257
<i>Wang Hongbing, Xu Anjun, Yao Lin, Li Hui</i>	
A Framework for Analysis and Design of Haptic Interfaces	260
<i>D. Braun, I. Tchouchenkov, H. Worn</i>	
Finger Braille Recognition System for People who Communicate with Deafblind People	267
<i>Yasuhiro Matsuda, Ichiro Sakuma, Yasuhiko Jimbo, Etsuko Kobayashi, Tatsuhiko Arafune, Tsuneshi Isomura</i>	
Latency and Operability in Haptic Displays	273
<i>Manabu Ishihara</i>	
A Semi-Autonomous Teleoperation System Based on Robotic Hand-Eye Coordination	278
<i>Mingfu Li, Shiqi Li, Di Zhao</i>	
A Robot Remote Control System Based on VPN and TCP/IP Protocol	284
<i>Xiao Qin, Baojun Jiang, Xingcheng Deng, Xiaotao Zu, Yang Du, Hui Li</i>	
Development of the Needle-insertion System for Path-error Correction in Liver Environment Using a CMTD (Curved Multi-tubed Device)	289
<i>Junji Furusho , Takehito Kikuchi , Tatsuro Yamamoto , Hidekazu Tanaka, Hiroshi Kobayashi , Motokazu Terayama , Morito Monden</i>	
Vibration Suppression Control for a Dies-Driving Spindle of a Form Rolling Machine: Effects of a Model-Based Control with a Rotational Speed Sensor I	295
<i>Masahiko ITOH</i>	
A New Approach to Load Measurement for Industrial Scale Ball Mill	301
<i>Gangguan Si, Hui Cao, Yanbin Zhang, Lixin Jia</i>	
Effect of Machining Processes on Surface Quality and Precision of Three Acclivitous Holes	307
<i>Ruting Xia, Yifan Zeng</i>	

Development of a New Velocity Profile Generation for Improvement of CNC Machining Efficiency	312
<i>Y. K. Ng, Y. Xie, C. Wang, D. Sun</i>	
Design and Implementation of Functional Measuring Circuit for Material-Independent Eddy Current Sensor	318
<i>Dong Wenxuan, Du Pingan, Yu Yating, Xu Lichuan</i>	
A Multivariate Method for Surface Roughness Vision Inspection in Different Ambient Light	323
<i>Zixin Chen, Zhisheng Zhang, Jinfei Shi, Ruwen Chen, Ren Huang, Chaofeng Zhang</i>	
The Study On The Detection And Recognition of The Printed Formula	328
<i>Yonghua Li, Kejun Wang, Qinchang Guo, Junfei Wu</i>	
A Novel Automatic Segmentation Algorithm for Sonar Imagery	335
<i>Xingmei Wang, Xiufen Ye, Chao Fang, Zhehui Zhang, Lin Zhao</i>	
Research of Real Time Embedded Distributed Systems	341
<i>Huang GuangJun, Petr Musilek</i>	
Localization System of Underground Mine Trackless Facilities Based on Wireless Sensor Networks	346
<i>Li Zhang, Xunbo Li, Liang Chen, Sijia Yu, Ningcong Xiao</i>	
Development of Support System for Forward Tilting of the Upper Body	351
<i>Hiroshi Kobayashi, Hirokazu Nozaki</i>	
Pen Tablet Type Surface Acoustic Wave Tactile Display Integrated with Visual Information	356
<i>Masaya Takasaki, Ryo Tamon, Hiroyuki Kotani, Takeshi Mizuno</i>	
Development of Passive Wearable Walking Support System Based on Brake Control	362
<i>Yasuhisa Hirata, Tadashi Isoda, Kazuhiro Kosuge</i>	
EmotiRob: from Understanding to Cognitive Interaction	368
<i>Amel Achour, Marc Le Tallec, Sébastien Saint-Aimé, Brigitte Le Pévédic, Jeanne Villaneau, Jean-Yves Antoine, Dominique Duhaut</i>	
Vitroid - a Robot with Link Between Living Neuronal Network in Vitro and Robot Body	374
<i>Suguru N. Kudoh, Minori Tokuda, Ai Kiyohara, Chie Hosokawa, Takahisa Taguchi, Isao Hayashi</i>	
The Accuracy Evaluation Research on Transfer Alignment	378
<i>Feng Sun, YuHong Lv, Gen Wang, JiaNan Wang</i>	
Fin/Flap Fin Joint Control for Ship Anti-roll System	385
<i>Sheng Liu, Liang Fang, Gao-yun Li, Bing Li</i>	
Research on Dynamic Water Level Model Based on Supercharged Boiler	391
<i>Qidan Zhu, Xin Leng, Yanmin Lei, Gang Liu</i>	
Research of Speed Estimator Based on Wavelet Neural Network Adjusted by Ant Colony Optimization	397
<i>Zhe-ping Yan , Yan-chao Zhang , Xin Zhan</i>	
An Applied CNC Acceleration and Deceleration Control Algorithm Research	403
<i>Shuanghui Hao, Fang Song, Jie Liu, Minghui Hao</i>	
Brain Pathological Image Retrieval Based on Correlation of Visual Feature and Report-Assisted Text	408
<i>Jin Li, Hong Liang, Hong Yu</i>	
Unsupervised Learning Algorithms for Comparison and Analysis of Images	414
<i>G. Vachkov, H. Ishihara</i>	

Further Research on Principal Component Analysis Method of Face Recognition	420
<i>Hao Meng, Xiaohua Ke</i>	
Dynamic Gesture Recognition Based on the Probabilistic Distribution of Arm Trajectory	425
<i>Khairunizam Wan, Hideyuki Sawada</i>	
Face Detection in Video Sequence with Complex Background	431
<i>Minglan Sheng, Zhangli Lan</i>	
Study on the Effects of Processing Parameters Laser Microdrilling	437
<i>Shi Guoquan, Wang Tongyu</i>	
Geometric Quality Aspects of Nd:YAG Laser Drilling Holes	441
<i>Wang Tongyu, Shi Guoquan</i>	
Experimental Analysis of a Protective Wafer Coating Process for the Die Preparation	446
<i>Jian Chen, Limei Xu</i>	
Gear Faults Diagnosis Based on Wavelet Neural Networks	451
<i>Xu Long-yun, Rui Zhi-yuan, Feng Rui-cheng</i>	
Development of CAD/CAM System for PC-based CNC Pipe Bender Machine	455
<i>He Sicong, Huang Dagui, Feng Daiwei, Huang Xiaogang</i>	
Research on Mating Device of Underwater Vehicle Based on Robot Knowledge	460
<i>Zhonglin Zhang, Xiufen Ye, Liquan Wang, Dayu Zheng</i>	
Fuzzy Sliding-Mode Controller for the Motion of Autonomous Underwater Vehicle	465
<i>Xiaocheng Shi, Jiajia Zhou, Xinqian Bian, Juan Li</i>	
Research on the Intelligent Following Control Strategy For an Underwater Moving Target	470
<i>Mingyu Fu, Nanjiang Liu</i>	
Application of Linearization Via State Feedback to Heading Control for Autonomous Underwater Vehicle	476
<i>Xiang-qin Cheng, Zhe-ping Yan, Xin-qian Bian, Jia-jia Zhou</i>	
Research on Hierarchical Control Architecture for Autonomous Underwater Vehicle	482
<i>Juan Li, XinQian Bian, Zheng Qin, Xiaocheng Shi</i>	
Camera Calibration Based on Divided Region LS-SVM	487
<i>Sheng Liu, Huixuan Fu, Yuchao Wang</i>	
Study on the e-HUB System Model Based on Workflow	492
<i>Qingni Yuan, Qingsheng Xie, Mingheng Xu, Shaobo Li</i>	
Extraction of Discriminant Features Based on Optimal Transformation and Cluster Centers of Kernel Space	498
<i>Hongyi Zhang, Xiuwei Wu, Jiexin Pu</i>	
The Application of Wavelet Packet and SVM in Rolling Bearing Fault Diagnosis	504
<i>Meng Li, Ping Zhao</i>	
SVM Parameters Optimization Algorithm and Its Application	508
<i>Sheng Liu, Na Jiang</i>	
Identification of Ship Steering Dynamics Based on ACA-SVR	513
<i>Liu Sheng, Song Jia, Li Bing, Li Gao-yun</i>	
Particle Swarm Optimization for Improved Performance of PID Controller on Buck Converter	519
<i>S. A. Emami, M. Bayati Poudeh, S. Eshtehardiha</i>	
A New Variable Tap-length LMS Algorithm With Variable Step Size	524
<i>Ning Li, Yonggang Zhang, Yanling Hao</i>	

Double Position Closed Loop Fuzzy Control of Great Inertia System with Backlash	529
<i>Daiwei Feng, Dagui Huang, Xiaogang Huang, Sicong He</i>	
Observer-Based Gain-Scheduled H Control for LPV Systems with Time-Varying State Delay	533
<i>Junling Wang, Wei Yuan</i>	
A Novel Adaptive Sliding Mode Excitation Controller Via Baskstepping Approach	539
<i>Xiangyang Yu, Xiaoning Du ,yongxuan Huang , Haipeng Nan</i>	
Assembly of Three-Dimensional Microsystems Using a Hybrid Manipulation Strategy	544
<i>Lidai Wang, James K. Mills, William L. Cleghorn</i>	
IPMC Actuator-based an Underwater Microrobot with 8 Legs	550
<i>Shuxiang Guo, Liwei Shi, Kinji Asaka</i>	
ICPF Actuator-based Novel Type of 3D Swimming Microrobot	556
<i>Xiufen Ye, Yudong Su, Shuxiang Guo, Liquan Wang</i>	
Driving Mechanism of a New Jellyfish-like Microrobot	562
<i>Ye Xiu Fen, Hu Ya Nan, Guo Shu Xiang, Su Yu Dong</i>	
Movement Analysis of Grasp-type Underwater Microrobot	568
<i>Yan Xiaonan, Guo Shuxiang, Sun Xuesong, Su Yudong</i>	
Simulation Comparison between Separate and Combined Control methods of Anti-rolling System based on MFAC	574
<i>A. Jie Ma, B. Tiecheng Lu, C. Xiao He</i>	
Research on Moving Rule and Anti-rolling Technique of Ships under Heavy Sea States	580
<i>A. Jie Ma, B. Tiecheng Lu, C. Xiao He</i>	
Response Improvement of Shape Memory Alloy Actuators with Peltier Elements	586
<i>Yuji Wakasa, Yuya Watanabe, Akira Yoshida, Kanya Tanaka, Takuya Akashi</i>	
Vibration and Input Tracking Control of Flexible Manipulator using Hybrid Fuzzy Logic Controller	592
<i>M.A. Ahmad, A.N.K. Nasir, N. Hambali, H. Ishak</i>	
Modeling Piezoceramics Subject to Dynamic Voltage and Load Inputs	598
<i>Hong Hu, Lue Zhang, Zhaocheng Zhang, Limei Xu</i>	
Wall Climbing Robot Based on Negative Pressure-Thrust Suction Method	603
<i>Jun Li, Xueshan Gao, Ningjun Fan, Wei Zhu, Jin Yin, Yujiao Jia</i>	
Boiler Maintenance Robot with Multi-operational Schema	609
<i>Xueshan Gao, Zhihong Jiang, Junyao Gao, Dianguo Xu, Yan Wang, HuanHuan Pan</i>	
Basic Research on Vacuum-based Wet Adhesion System for Wall Climbing Robots - measurement of Lubricating Action and Seal Action by the Liquid-	615
<i>Tohru Miyake, Hidenori Ishihara, Tatsuya Tomino</i>	
Observation of Load Torque and Auto-tuning of PD Regulator for Space Robot Servo System Based on A Linear Driver	621
<i>Jiang Zhihong, Gao Xueshan, Li Hui, Zeng Zhi</i>	
A Wheel-leg Hybrid Wall Climbing Robot with Multi-surface Locomotion Ability	626
<i>Fu Yili, Li Zhihai, Wang Shuguo</i>	
Interpretation of Nevirapine Concentration from Immunochromatographic Strip Test Using Support Vector Regression	632
<i>Ekkalak Sumonphan, Sansanee Auephanwiriyaikul, Nipon Theera-Umpon</i>	
Data Reconstruction for Missing Electrocardiogram Using Linear Predictive Coding	637
<i>Nipon Theera-Umpon, Panyaphon Phiphatkhunarnon, Sansanee Auephanwiriyaikul</i>	

An Effort on the Fault Diagnosis for the Final Drive Assembly with the Characteristics in Course and Spectrum	643
<i>Zhijin Bai, Jiexiong Ding, Lijuan Yao, Qiang Xiao, Yongfang Li</i>	
Genetic Algorithm Application to the Hybrid Flow Shop Scheduling Problem	648
<i>Yong Zhan, Changhua Qiu</i>	
A GA-based Approach to Optimize Single-Product Flow-Line Configurations of RMS	653
<i>Jianping Dou, Xianzhong Dai, Xudong Ma, Zhengda Meng</i>	
Method of Accurate Gyro Drift Measurement for Inertial Navigation System.....	659
<i>Cheng Jian-hua, Wang Xin-zhe, Wu-lei, Chen Shi-tong, Liu Xing-bo</i>	
The Observation Analysis of the Initial Alignment in the Warship Inertial Navigation System	664
<i>Xu Bo, Sun Feng, Gao Wei, Yu Fei</i>	
On-line Free Inverse Kinematics Joint/cartesian Optimal Control of Redundant Manipulators	671
<i>A. Rodriguez-Angeles, C. A. Cruz-Villar, D. Muro-Maldonado</i>	
Fuzzy Immune Self-tuning PID Control of HVAC System	677
<i>Jiangjiang Wang, Chunfa Zhang, Youyin Jing</i>	
Adaptive Variable Structure System with the Sliding Surfaces Adjustment for the Control of Nonstationary Linear Object	683
<i>Alexander Lebedev, Vladimir Filaretov</i>	
Motion Planning of Underwater Multi-microrobot System	689
<i>Shuxiang Guo, Xiufen Ye, Baofeng Gao</i>	
A Novel Type of Peristaltic Micropump for Biomedical Applications	695
<i>Xuesong Sun, Shuxiang Guo, Xiaonan Yan</i>	
A Research based on Piezoelectric Ceramic Hysteretic Modeling and Inverse Control.....	701
<i>Xihua Wang, Changhai Ru, Shuxiang Guo</i>	
A Monolithic Polymeric Microgripper with Photo-thermal Actuation for Biomanipulation	706
<i>Caglar Elbuken, Lin Gui, Carolyn L. Ren, Mustafa Yavuz, M. Behrad Khamesee</i>	
The Simulation and the Design of a 6-DOF Parallel Micromechanism.....	711
<i>Nan Xiao, Shuxiang Guo, Jian Wang</i>	
A Novel Path Planning Algorithm Based on Twofold Interpolations.....	717
<i>Zhiwei Liang, Xudong Ma, Xianzhong Dai</i>	
Adaptive Sliding-Mode Hybrid Force/Position Controller for Flexible Joint Robot	723
<i>M. Farooq, Dao Bo Wang, N.U. Dar</i>	
Sensing Position Planning for Lunar Exploration Rovers.....	731
<i>Andres Mora, Genya Ishigami, Keiji Nagatani, Kazuya Yoshida</i>	
Trajectory Control of Flexible Space Robot	737
<i>G. Surya Kiran, Amit Kumar, Pushparaj M. Pathak, N. Sukavanam</i>	
Attitude Disturbance Minimization in Space Robot using Dual Arm	743
<i>Nachiket P. Deshpande, Haresh Patolia, Pushparaj M. Pathak, Satish C. Jain</i>	
Parallel Robots Pose Accuracy Compensation Using Artificial Neural Networks	749
<i>Da-yong Yu</i>	
Searching of Brief Message Based on Semantic Context	754
<i>Huang GuangJun, Petr Musilek</i>	

Actualizing of Information Management Systems for Special Vehicles Enterprise using Zachman Framework	759
<i>ZongXiao Yang, ZhiQiang Feng, Lei Song, ShuFang Guo, GuoQiang Ma</i>	
Decision Analysis Systems for Safety Assessments	764
<i>ZongXiao Yang, XiaoBo Yuan, ShuFang Guo, Chong Li, Jia Liu, Hui Shi</i>	
Kernel Scatter-difference-based Discriminant Analysis for Fault Diagnosis	770
<i>Cui Jianfeng, Huang Wenli, Miao Manxiang, Sun Biao</i>	
Target Tracking System Using Analog Circuit for Motion Detection	774
<i>Kimihiro Nishio, Kenji Matsuzaka</i>	
Efficient Mean Shift Tracking Via Particle Swarm Optimization for Multi-Articulated Human Body Features	780
<i>Jin Li, Hong Yu, Hong Liang</i>	
Pressure Control of Pneumatic-Pressure-Load System using Generalized Predictive Controller	787
<i>Pipat Chaewieang, Kaset Sirisantamrit, Teerawat Thepmanee</i>	
Variable Speed Control in Switched Reluctance Drive Based on Least Square-Support Vector Machine	791
<i>Jie Zhou, Hui Li, Yongkui Sun</i>	
Dynamic Optimization of Track Sectioning in Mechatronic Systems for a Hybrid Planner	796
<i>Alexander Schmidt, Natascha Esau, Philipp Adelt, Claudius Stern</i>	
The Control System of Three-Axes High Speed Engraving Machine Based on Embedded System	802
<i>Yong Chen, Hui Li, Yongkui Sun, Zhihe Gu</i>	
Localization System Based on RFID and GIS for Underground Moving Targets	807
<i>Ningcong Xiao, Xunbo Li, Guangxu Qin, Songqing Ma, Li Zhang</i>	
Research on the Dynamic Error of Strapdown Inertial Navigation System	813
<i>Hao Yanling, Gong Jing, Gao Wei, Li Liang</i>	
A Modified PN Code Tracking Loop for DS/SS Signal in the Fast Fading Channel and Strong Interference Environment	819
<i>Feng Shen, Dingjie Xu</i>	
A Particle-Filter-Based Active Loop Closing Approach to Autonomous Robot Exploration and Mapping	823
<i>Xiucui Ji, Hui Zhang, Dan Hai, Zhiqiang Zheng</i>	
An Incremental SLAM Algorithm with Backtracking Revisable Data Association for Mobile Robots	830
<i>Xiucui Ji, Hui Zhang, Dan Hai, Zhiqiang Zheng</i>	
Autonomous Mapping and Navigation System in Rooms and Corridors for Indoor Support Robots	839
<i>Naotaka Hatao, Kei Okada, Masayuki Inaba</i>	
A Robot Manipulator Communications and Control Framework	845
<i>Christian Kohrt, Anthony Pipe, Gudrun Schiedermeier, Richard Stamp, Janice Kiely</i>	
Approximative Approach of Forward-kinematics for One-link Manipulator using Belt-formed Pulleys	851
<i>Dai Nakiri, Tsuyoshi Nakamura, Hitoshi Kino</i>	
Dynamic Modeling and Simulation of Manipulating Deformable Linear Objects	857
<i>Jian Huang, Pei Di, Toshio Fukuda, Takayuki Matsuno</i>	

A Novel Self-Calibration Method for Industrial Robots Incorporating Geometric and Nongeometric Effects	863
<i>Katayon Radkhah, Thomas Hemker, Oskar von Stryk</i>	
The Research on Orientation Capability of the Stewart-Gough Manipulator	869
<i>Yi Cao, Qiuju Zhang, Hui Zhou</i>	
Method Study of Parametric Substructure on Thin Plate with Multi-holes	875
<i>Liu Xiao-bao, Du Ping-an, Liu Jian-tao, Qiao Xue-yuan</i>	
Research on Collaboration Simulation of Complex Mechatronic System Based on HLA	880
<i>Xiang Li, Xunbo Li, Liang Chen</i>	
Research of Multipolar Permanent Magnet Motor with Wide Constant Power for Workover	885
<i>Zhang Bingyi, Wang Sen, Chen Ruiguang, Zhao Yisong, Feng Guihong</i>	
Reconfigurable ATS Based On Software Bus.....	891
<i>Zhihua Xie, Xunbo Li, Yan Shen, Taiwen Yuan, Zhibin Zhu</i>	
A Genetic Optimization Design Methodology Based on Support Vector Regression	897
<i>Guoqi Xiang, Dagui Huang</i>	
An Optimal Microstrip Filter Design Method Based on Advanced Design System for Satellite Receiver	902
<i>Yanling Hao, Bingfa Zu, Ping Huang</i>	
Study of Skywave Interference Cancellation Technique Based on Multi-user Detection.....	907
<i>Wei Wang, Xin Li, ShaoBin Guo</i>	
A PN Code Acquisition Method Based on Prepositive Chip Phase Synchronization.....	912
<i>Yanling Hao, Zhixin Deng, Wei Wang</i>	
A Coupling Loss Algorithm of Leaky Coaxial Cable in the Blind Zone	918
<i>Zixin Zhao, Xiaodong Yang, Shuxiang Guo</i>	
MEMS Ultrasonic Resonance Separator based on two-dimensional Normal Mode.....	923
<i>Yuxiang Wang, Jiexiong Ding , Yong Chen, Qiang Lu, Xiyuan Xiao, Chenhui Hua, Yi Song</i>	
Study on the Laminar Flow in MEMS Separator Based on Two-dimensional Normal mode	929
<i>Xiyuan Xiao, Jiexiong Ding, Yong Chen, Qiang Lü, YuXiang Wang, Yi Song, Chenhui Hua</i>	
Signal Process for The Non-Drive Silicon Micromachined Gyroscope	934
<i>H.L. Liu, X.S. Xu , F.X. Zhang</i>	
Phase Research of No-Drive Structure Silicon Micromachined Gyroscope	938
<i>X.S. Xu, H.L. Liu, F.X. Zhang</i>	
GA-Based Iterative Learning Control Applications to the Weighing System of Large Asphalt Mixing Plant	942
<i>S.l. Song, J. Yan, Q. Zhang, Q.c. Zhou, W.l. Li, D.w. Zuo, C.y. Xiao</i>	
Fuzzy Logic Controller Optimization Using Metamodeling Technique for a Fluid Mixing System	946
<i>M.S.Mohamed Ali, S.S.Abdullah, M.A.Kasno</i>	
Current Threshold On-line Identification Control Theme based on Intelligent Controller for Four-switch Three-phase Brushless DC Motor	953
<i>Changliang Xia, Zhiqiang Li, Yingfa Wang, Tingna Shi</i>	
Neuro-Fuzzy in Six DOF Tele-Robotic Control	958
<i>W. Po-ngaen, R.Choomuang, J.Bhuripanyo</i>	

Control of Inverted Pendulum System Using a Neuro-Fuzzy Controller for Intelligent Control Education	964
<i>Geun Hyeong Lee, Seul Jung</i>	
The Research on Direct Kinematic Problem of a Special Class of the Stewart-Gough Manipulators	970
<i>Hui Zhou, Yi Cao, Qiuju Zhang</i>	
Task Accuracy Measure based on Dynamic Process for Cooperating Manipulation System	976
<i>Tasuku Yamawaki, Masahito Yashima</i>	
The Prototype of the 3 D.O.F Myoelectric Hand System for the Upper Limb Amputee	982
<i>Sehoon Park, Jongkwon Kim, SunWoo Yuk, Eongpyo Hong, Kiwon Choi, Kyung Hoon Kim, Mu-Seong Mun</i>	
Realtime Manipulation Planning System Integrating Symbolic and Geometric Planning Under Interactive Dynamics Simulator	987
<i>Atsushi Haneda, Kei Okada, Masayuki Inaba</i>	
Interpreter Based Interactive Robot Simulator to Realize Dynamics Effects Caused by Robot Kinematic Actions	993
<i>Atsushi Haneda, Kei Okada, Masayuki Inaba</i>	
Design Methodology of High Frequency Ultrasonic Transducer for Wire Bonding	999
<i>Xingyu Zhao, Fujun Wang, Dawei Zhang</i>	
An Optimal Lead of a Ball Screw-nut for Minimizing Energy Dissipated in a Linear Actuator	1005
<i>Zuwei Li, Teruyuki Izumi, Hai Zhou</i>	
Research on Flowable Design Techniques	1011
<i>Sijia Yu, Guangrong Yan, Yi Lei</i>	
Design of Ring Laser Gyroscope SINS Data Acquisition Circuit	1017
<i>Feng Sun, Lihua Zhang, Na Zhang, Jianan Wang</i>	
Simulation of Chassis Electromagnetic Shielding Characteristic Based on ANSYS	1023
<i>Shi Zheng, Du Ping-an, Wang Yong, Liu Jian-tao</i>	
A Change-Direction-Algorithm for distributed Multi-Agent Transport Systems	1029
<i>Gottfried Koppensteiner, Munir Merdan, Ingo Hegny, Gabriel Weidenhausen</i>	
Reconfiguration Optimization for a Swarm of Wheel-manipulator Robots	1034
<i>Minghui Wang, Shugen Ma, Bin Li, Haili Gong, Yuechao Wang</i>	
A Cooperative Partner Selection Method for Networked Manufacturing Systems	1040
<i>Dongyan Shi, Haitao Zhu</i>	
Topological Metrics for Evaluating Self-Reconfigurable Modules properties (Connectivity & Expansion)	1046
<i>Barmak Heshmat, Karim Rostamzadeh, Ali Mohammad Fouladgar</i>	
Container Terminal Scheduling and Decision-making Using Simulation Based Optimization and Business Intelligence	1052
<i>Wenfeng Li, Bin Li, Yu Zhang</i>	
Com-based NC System software for 6-TPS Parallel Platform Milling Machine	1058
<i>Xuwei Guo, Shenghai Hu, Ying Su, Rui Wang, Zhixing Wang</i>	
The development of virtual conceptual Design platform and the simulating verification of kinematic properties for Parallel Manipulators (PM)	1064
<i>Xuwei Guo, Shenghai Hu, Ying Su</i>	

Structure-Control Dynamic Design of Parallel Robots for End-Effector Trajectory Tracking and Singularity Avoidance	1070
<i>Carlos A. Cruz-Villar, Jaime Alvarez-Gallegos, Miguel G. Villarreal-Cervantes</i>	
Kinematic Calibration of Parallel Robots for Docking Mechanism Motion Simulation	1078
<i>Dayong Yu</i>	
Research on Web-based Optimization for Path Generation Synthesis of Planar Four-bar Linkage	1084
<i>Lei Song, Xin Wu, Zongxiao Yang</i>	
Force Analysis and Stress Calculation of Non-Clearance Cycloid Ball Transmissions	1088
<i>Zijun An, Yali Yi</i>	
Error Analysis of Non-Contact Weighted-Stretched-Wire System for Measuring Big Structure Deflections	1093
<i>Zhangli Lan, Minglan Sheng</i>	
Effective Discrete Methods for Intersections of Finite-sized Curved Shell Structures	1098
<i>Jian-tao Liu, Ping-an Du, Ming-jing Huang, Zheng Shi</i>	
Simulation of SPWPM High-frequency Link Inverter for EPS	1105
<i>Hui Li, Xiaobing Li, Tianyou Hu</i>	
The Design and Realization of Gas Turbine Engine Test Visualization	1110
<i>Xunbo Li, Dewu Liu, Tianyou Hu, Yan Shen, Taiwen Yuan</i>	
Author Index	