

Joint CCA, ISIC and CACSD, 2004**Technical Program****Thursday September 2, 2004**

ThA01	Room 1
Aerospace and Vehicle Systems	Regular Session
Chair: Chang, Bor-chin	Drexel Univ.
Co-Chair: Kida, Takashi	Univ. of Electro-Communications
10:00-10:20, Paper ThA01.1	
Tracking Control for Laser-Driven Micro-Airplane	
Hoshino, Kentaro	Tokyo Inst. of Tech.
Kajiwara, Itsuro	Tokyo Inst. of Tech.
Hara, Shinji	The Univ. of Tokyo
Ishikawa, Hiroyasu	Tokyo Inst. of Tech.
Shiokata, Daisuke	The Univ. of Tokyo
10:20-10:40, Paper ThA01.2	
Space Environment Information System for Mission Control Purposes: Real-Time Monitoring and Inference of Space Craft Status	
Moura-Pires, João	Univ. Nova de Lisboa
Pantoquilha, Marta	Uninova
Viana, Nuno Carlos Santos Simões	UNINOVA
10:40-11:00, Paper ThA01.3	
Output Feedback Control of Practical Launch Vehicle Systems	
Oberoi, Sunil	IIT Bombay
Janardhanan, S.	Res. Scholar
Bandyopadhyay, Bijan	IIT Bombay
11:00-11:20, Paper ThA01.4	
Cooperative Control of a Magnetically Levitated Interferometer	
Wang, P.K.C.	Univ. of California at Los Angeles
Yee, John	Univ. of California
Xia, Chi Yun	Univ. of California
Mokuno, Masaaki	Japan Aerospace Exploration Agency
Hadaegh, Fred Y.	California Inst. of Tech.
11:20-11:40, Paper ThA01.5	
Discrete-Time Cooperative Control of a Faulty Mechanical System	
Hu, Chunlong	Drexel Univ.
Chang, Bor-chin	Drexel Univ.
11:40-12:00, Paper ThA01.6	
LMI-Based Anti-Windup Control for an Underwater Robot with Propellers Saturations	
Folcher, Jean-Pierre	Univ. de Nice Sophia-Antipolis
ThA02	Room 2
Communication and Manufacturing Systems	Regular Session
Chair: Savkin, Andrey V.	Univ. of New South Wales
Co-Chair: Ogai, Harutoshi	Professor (Waseda Univ.)
10:00-10:20, Paper ThA02.1	
Control of Power-Assisted Crane System Using Direct Manual Manipulation	
Miyoshi, Takanori	Toyohashi Univ. of Tech.
Terashima, Kazuhiko	Toyohashi Univ. of Tech.
10:20-10:40, Paper ThA02.2	
A MC-CDMA System Based on CMFBA MC-CDMA System Based on CMFB	
Liu, Mei	Harbin Inst. of Tech.

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Liu, WeiDong	Heilongjiang Science and Tech. Development Center,
Li, Ruixue	Harbin Inst. of Tech.
Sun, DeQing	Harbin Inst. of Tech.
Yang, TaiXing	Harbin Inst. of Tech.
10:40-11:00, Paper ThA02.3	
Adaptive Optimal Predictive Power Control of Cellular CDMA Systems	
Lee, Bore-Kuen	Chung Hua Univ.
Chen, Bor Sen	National Tsing Hua Univ.
Chen, Sheng-Kai	National Hsing Hua Univ.
11:00-11:20, Paper ThA02.4	
Cross-Coupled Control Design of Bi-Axis Feed Drive Servomechanism Based on Multitasking Real-Time Kernel	
Chen, Chin-Sheng	National Taipei Univ. of Tech.
11:20-11:40, Paper ThA02.5	
Robust Extended Kalman Filter Applied to Location Tracking and Trajectory Prediction for PCS Networks	
Pathirana, Pubudu N.	Deakin Univ.
Savkin, Andrey V.	Univ. of New South Wales
Jha, Sanjay	Univ. of New South Wales
11:40-12:00, Paper ThA02.6	
A Load-Balancing Distributed Platform Based on Differentiated Services for a Telecare Application	
Serra, Antonio de Barros	Inst. National des Télécommunications - GET
Gäiti, Dominique	Univ. de Tech. de Troyes
Barroso, Giovanni	Univ. Federal do Ceará
Boudy, Jérôme	Inst. National des Télécommunications - GET
ThA03	Room 3
Electromagnetic Mechanical Systems	
Chair: Tomizuka, Masayoshi	Regular Session UC Berkeley/NSF
Co-Chair: Lian, Kuang-Yow	Chung-Yuan Christian Univ.
10:00-10:20, Paper ThA03.1	
Accounting for Magnetic Saturation in Induction Motor Modeling - Theoretical Development and Experimental Validation.	
Ouaadi, Hamid	Ismra
Giri, F.	ISMRA
Dugard, Luc	CNRS-INPG
10:20-10:40, Paper ThA03.2	
Fuzzy Sliding-Mode Control for Thin-Disc Ultrasonic Motor	
Wen, Fuh-Liang	St. John's & St. Mary's Inst. of Tech.
Yen, Chi-Yung	National United Univ.
Ouyang, Minsun	National Tsing Hua Univ.
10:40-11:00, Paper ThA03.3	
Control System Design for the PenduLIM: A Novel Integrated Architecture of Inverted Pendulum and Linear Induction Motor	
Cheng, Chi-Chun	NATIONAL TAIWAN Univ.
Wang, Su-Chiun	NATIONAL TAIWAN Univ.
Fu, Li-Chen	National Taiwan Univ.
11:00-11:20, Paper ThA03.4	
Design and Control of a 2-Dimensional Electro-Magnetic Suspension Actuator	
Chen, Mei-Yung	China Inst. of Tech.
Tsai, chia-feng	National Taiwan Univ. Dert. of Electrical Engineering
Fu, Li-Chen	National Taiwan Univ.
ThA04	Room 4
Control Applications 1: Motion Control	
Chair: Kitagawa, Hideo	Regular Session Gifu National Coll. of Tech.
Co-Chair: Suzuki, Tatsuya	Nagoya Univ.
10:00-10:20, Paper ThA04.1	

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Switching Based Repetitive Control for Hard Disk Drives: Experiments on RDKR and RPTC Methods	
Fujimoto, Hiroshi	Yokohama National Univ.
Kawakami, Fumihiro	Nagaoka Univ. of Tech.
Kondo, Seiji	Nagaoka Univ. of Tech.
10:20-10:40, Paper ThA04.2	
A Simulation Model of Focus and Radial Servos in Compact Disc Players with Disc Surface Defects	
Odgaard, Peter Fogh	Aalborg Univ.
Stoustrup, Jakob	Aalborg Univ.
Andersen, Palle	Aalborg Univ.
Wickerhauser, Mladen Victor	Washington Univ.
Mikkelsen, Henrik	Bang & Olufsen
10:40-11:00, Paper ThA04.3	
Time Localisation of Surface Defects on Optical Discs	
Odgaard, Peter Fogh	Aalborg Univ.
Wickerhauser, Mladen Victor	Washington Univ.
11:00-11:20, Paper ThA04.4	
Developing a New Low-Cost XY Table Using Optical Pickup Head with Adaptive Controller	
Yen, Ping-Lang	National Taipei Univ. of Tech.
Hsiao, Wen-I	National Taipei Univ. of Tech.
Lu, Tien-Sen	National Taipei Univ. of Tech.
11:20-11:40, Paper ThA04.5	
Power Assist System for Omni-Directional Transport Wheelchair Using Fuzzy Reasoning	
Kitagawa, Hideo	Gifu National Coll. of Tech.
Terashima, Kazuhiko	Toyohashi Univ. of Tech.
Miyoshi, Takanori	Toyohashi Univ. of Tech.
Urbano, Juan	Toyohashi Univ. of Tech.
Nishisaka, Susumu	Toyohashi Univ. of Tech.
11:40-12:00, Paper ThA04.6	
H[∞] Control of a Three-Wheeled Electric Cart for Health Care	
She, Jin-Hua	Tokyo Univ. of Tech.
Ohyama, Yasuhiro	Tokyo Univ. of Tech.
KOBAYASHI, Hiroyuki	Tokyo Univ. of Tech.
Suzuki, Tetsuya	Sigmatron Co., Ltd.
ThA05	Room 5
Advanced Control Applications	Regular Session
Chair: Parro, Vanderlei	Escola de Engenharia Maua
Co-Chair: Yen, Jia-Yush	National Taiwan Univ.
10:00-10:20, Paper ThA05.1	
Energetically Optimized Control of an Electric Arc Furnace	
Jörtl, H. Peter	Vienna Univ. of Tech.
Görtler, Gregor	Vienna Univ. of Tech.
10:20-10:40, Paper ThA05.2	
An Automatic Impedance Matching System for a Multi Point Power Delivery Continuous Industrial Microwave Oven	
Parro, Vanderlei	Escola de Engenharia Maua
Pait, Felipe M	Univ. Sao Paulo; also Alphatech, Inc.
10:40-11:00, Paper ThA05.3	
Multi-Optimum Programming Based Particle Swarm Optimization Algorithm and Its Application in Multi-Dimensional & Multi-Modal Function Optimization	
Wang, Lei	Tongji Univ.
Kang, Qi	Tongji Univ.
Zuo, Zhenyu	Tongji Univ.
Wu, Qidi	Tongji Univ.
11:00-11:20, Paper ThA05.4	
Stability Analysis for a Partial Element Equivalent Circuit (PEEC) Model of Neutral Type	
Han, Qing-Long	Central Queensland Univ.
Yue, Dong	Nanjing Normal Univ.
Ma, Xia	Central Queensland Univ.

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Ma, Aili	Central Queensland Univ.
11:20-11:40, Paper ThA05.5	
A Dynamic Model for Naphtha Catalytic Reformers	
Hu, Yongyou	Zhejiang Univ.
Xu, Weihua	Zhejiang Univ.
Su, Hongye	Zhejiang Univ.
Chu, Jian	Zhejiang Univ.
ThA06	Room 6
Fuzzy Control	Regular Session
Chair: Wang, Wen-june	National Central Univ.
Co-Chair: Chen, Fu-Chuang	National Chiao-Tung Univ.
10:00-10:20, Paper ThA06.1	
A Robust Model Reference Fuzzy Control for Nonlinear Systems	
Ren, Tsai-Jiun	National Cheng Kung Univ.
Chen, Tien-Chi	National Cheng Kung Univ.
10:20-10:40, Paper ThA06.2	
A Robust Fuzzy Model Following Observer-Based Control Design for Nonlinear System	
Uang, Huey-Jian	Ming Hsin Univ. of Science and Tech.
Huang, Guo-Shing	National Chin-Yi Inst. of Tech.
10:40-11:00, Paper ThA06.3	
A GA-Based Fuzzy Logic Controller for the Retrofitted Wire Transport System of Wire-EDM	
Yan, Mu-Tian	Huafan Univ.
11:00-11:20, Paper ThA06.4	
Fuzzy Logic Control of Active Magnetic Bearing	
Rezeka, Sohair	Alexandria Univ.
Awad, Taher	Alexandria Univ.
Saafan, Amr	Alexandria Univ.
El Mahdy, Ahmed	Dekheila Steel Company
11:20-11:40, Paper ThA06.5	
Design of a Hierarchical Fuzzy Vibration Absorber for a Continuum with a Moving Oscillator	
Lin, Jonqlan	Ching Yun Univ.
11:40-12:00, Paper ThA06.6	
Coke Oven Heating Temperature Fuzzy Control System	
Guo, Yi'nan	China Univ. of Mining and Tech.
Gong, Dun-Wei	China Univ. of Mining and Tech.
Cheng, Jian	China Univ. of Mining and Tech.
ThA07	Room 7
New Techniques for Intelligent Control	Invited Session
Chair: Feng, Gang	City Univ. of Hong Kong
Co-Chair: Ge, Shuzhi	National Univ. of Singapore
Organizer: Ge, Shuzhi	National Univ. of Singapore
Organizer: Samad, Tariq	Honeywell Lab.
Organizer: Su, Chun-Yi	Concordia Univ.
Organizer: Huang, Jie	Chinese Univ. of Hong Kong
Organizer: Guan, Xiping	Yanshan Univ.
Organizer: Feng, Gang	City Univ. of Hong Kong
10:00-10:20, Paper ThA07.1	
Robust Adaptive Control of Nonlinear Systems with Unknown Time Delays (I)	
Ge, Shuzhi Sam	National Univ. of Singapore
Hong, Fan	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore
10:20-10:40, Paper ThA07.2	
Statistical Performance Verification for an Autonomous Rotorcraft (I)	
Elgersma, Michael R.	Honeywell Lab.
Ganguli, Subhabrata	Honeywell Lab.
Ha, Vu	Honeywell Lab.
Samad, Tariq	Honeywell Lab.

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10:40-11:00, Paper ThA07.3		
New Techniques for Intelligent Control (I)		
Hsu, Chun-Fei		National Chiao-Tung Univ.
Lin, Chin-Teng		National Chiao-Tung Univ.
11:00-11:20, Paper ThA07.4		
Fuzzy Sliding Mode Control Algorithm for Networks Operating TCP-Like Congestion Control (I)		
Yang, Bo		Yanshan Univ.
Guan, Xinping		Yanshan Univ.
11:20-11:40, Paper ThA07.5		
Observer Based H-Inf. Control for Discrete Time Fuzzy Systems (I)		
Chen, Cailian		City Univ. of Hong Kong
Feng, Gang		City Univ. of Hong Kong
ThA08		Room 8
Hybrid Dynamical Systems		Regular Session
Chair: Moudgalya, Kannan M.		I.I.T. Bombay
Co-Chair: Xie, Guangming		Peking Univ.
10:00-10:20, Paper ThA08.1		
Optimal Feedback Switching Laws for Autonomous Hybrid Automata		
Corona, Daniele		Univ. di Cagliari
Giua, Alessandro		Univ. di Cagliari
Seatzu, Carla		Univ. di Cagliari
10:20-10:40, Paper ThA08.2		
Translating PWA Systems into MLD Systems		
Villa, Jose-Luis		Ec. des Mines de Nantes
Duque, Mauricio		Univ. de los Andes
Gauthier, Alain		Univ. de los Andes
Rakoto-Ravalontsalama, Naly		Ec. des Mines de Nantes
10:40-11:00, Paper ThA08.3		
Commuting and Stable State Feedback Design for Switched Linear Systems		
Xie, Guangming		Peking Univ.
Wang, Long		Peking Univ.
11:00-11:20, Paper ThA08.4		
On Reachability of Switched Linear Discrete-Time Systems with Time-Delay in State		
Xie, Guangming		Peking Univ.
Wang, Long		Peking Univ.
ThA09		Room 9
CACSD Toolboxes and Tools		Regular Session
Chair: Hara, Shinji		The Univ. of Tokyo
Co-Chair: Magni, Jean-Francois		ONERA-CERT
10:00-10:20, Paper ThA09.1		
KYPD: A Solver for Semidefinite Programs Derived from the Kalman-Yakubovich-Popov Lemma (I)		
Wallin, Ragnar		Linkoping Univ.
Hansson, Anders		Linkoping Univ.
10:20-10:40, Paper ThA09.2		
Advanced Axis Control Implementation within a Virtual Machine-Tool Environment		
Susanu, Mara		SUPELEC
Dumur, Didier		SUPELEC
10:40-11:00, Paper ThA09.3		
Quantitative I/O-Controllability Assessment for Uncertain Plants		
Völker, Marten		Univ. Dortmund
Engell, Sebastian		Univ. of Dortmund
11:00-11:20, Paper ThA09.4		
Sampled-Data Control Toolbox: Object-Oriented Software for Sampled-Data Feedback Control Systems		
Fujioka, Hisaya		Kyoto Univ.

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Hara, Shinji	The Univ. of Tokyo
Yamamoto, Yutaka	Kyoto Univ.
11:20-11:40, Paper ThA09.5	
Enhanced LFR-Toolbox for MATLAB	
Hecker, Simon	German Aerospace Center - DLR
Varga, Andras	German Aerospace Center - DLR
Magni, Jean-Francois	ONERA-CERT
11:40-12:00, Paper ThA09.6	
The Development of Finite Element Method Package in CEMTool	
Ahn, Choon ki	Seoul National Univ.
Han, Soo Hee	Seoul National Univ.
Kwon, Wook Hyun	Seoul National Univ.
ThM01	Room 1
Aerospace Applications	Regular Session
Chair: Gorinevsky, Dimitry	Honeywell Inc.
Co-Chair: Wang, Li-Sheng	NATIONAL TAIWAN Univ.
13:20-13:40, Paper ThM01.1	
The Problem of Precision Missile Guidance Based on Multiple-Video Information Fusion with Bit-Rate Communication Constraints	
Malyavej, Veerachai	Univ. of New South Walse
Manchester, Ian	Univ. of New South Wales
Savkin, Andrey V.	Univ. of New South Wales
13:40-14:00, Paper ThM01.2	
Using Multi-Frequency for GPS Positioning and Receiver Autonomous Integrity Monitoring	
Tsai, Yi-Hsueh	National Taiwan Univ.
Chang, Fan Ren	National Taiwan Univ.
Yang, Wen-Chieh	Intelligent Business Tech. Inc.
Ma, Chia-Lung	Intelligent Business Tech. Inc.
14:00-14:20, Paper ThM01.3	
A New Super-Resolution Image Reconstruction Method Based on Hybrid Genetic Algorithm	
Liu, Mei	Harbin Inst. of Tech.
Liu, WeiDong	Heilongjiang Science and Tech. Development Center,
Sun, DeQing	Harbin Inst. of Tech.
Chen, GuoQiao	Harbin Inst. of Tech.
Liu, HuiNian	Harbin Inst. of Tech.
14:20-14:40, Paper ThM01.4	
Application of a New Multivariable Controller Synthesis Approach to Nonlinear Liquid Propellant Engines	
Karimi, Hassan	Khaje Nassir-Al Deen Toosi Univ. of Tech.
Nassirharand, Amir	Farab Co.
14:40-15:00, Paper ThM01.5	
Parametric Fault Modeling and Diagnostics of a Turbofan Engine	
Ganguli, Subhabrata	Honeywell
Deo, Shardul	Honeywell, Stanford Univ.
Gorinevsky, Dimitry	Honeywell Inc.
15:00-15:20, Paper ThM01.6	
Estimation of Thrust and Mass Flow in a Jet Engine	
Henriksson, Mattias	Chalmers Univ. of Tech.
Breitholtz, Claes	Chalmers Univ. of Tech.
ThM02	Room 2
Real-Time Networked Control Systems	Regular Session
Chair: Buss, Martin	Tech. Univ. Muenchen
Co-Chair: Witrant, Emmanuel	Grenoble
13:20-13:40, Paper ThM02.1	
Telepresence Control in Packet Switched Communication Networks	
Hirche, Sandra	Tech. Univ. Muenchen
Buss, Martin	Tech. Univ. Muenchen

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13:40-14:00, Paper ThM02.2	
State Feedback Controller Design of Networked Control Systems	
Yue, Dong	Nanjing Normal Univ.
Han, Qing-Long	Central Queensland Univ.
Peng, Chen	Nanjing Normal Univ.
14:00-14:20, Paper ThM02.3	
Compensation Time-Varying Delays in Networked Control System Via Delay-Dependent Stabilization Approach	
Wang, Chang-hong	Harbin Inst. of Tech.
Wang, Yu-feng	Harbin Inst. of Tech.
Gao, Huijun	Harbin Inst. of Tech.
14:20-14:40, Paper ThM02.4	
Allocating IEC Function Blocks for Parallel Real-Time Distributed Control System	
Xia, Feng	Zhejiang Univ. China
Wang, Zhi	Zhejiang Univ. China
Sun, Youxian	Zhejiang Univ. China
14:40-15:00, Paper ThM02.5	
Controller Design Based on Model Predictive Control for Real-Time Tracking Synchronization in Closed-Loop Control Via Internet	
Wang, Changhong	Dept. of Control Science and Engineering, Harbin Inst. of Tech.
Zhang, Lixian	Dept. of Control Science and Engineering, Harbin Inst. of Tech.
Wen, Qiyong	Dept. of Control Science and Engineering, Harbin Inst. of Tech.
ThM03	
	Room 3
Motor Systems	
	Regular Session
Chair: Tsao, Tsu-chin	UCLA
Co-Chair: Maciejowski, Jan M.	Univ. of Cambridge
13:20-13:40, Paper ThM03.1	
A Simple Rotor Current Observer with an Arbitrary Rate of Convergence for the Brushless Doubly-Fed (Induction) Machine (BDFM)	
Roberts, Paul C.	Univ. of Cambridge
Maciejowski, Jan M.	Univ. of Cambridge
McMahon, Richard A.	Univ. of Cambridge
Flack, Timothy J.	Univ. of Cambridge
13:40-14:00, Paper ThM03.2	
Optimal Positioning Control of a DC Servo Motor Using Sliding Mode	
Yu, Gwo-Ruey	I-Shou Univ.
Lin, Yuan-Kai	I-Shou Univ.
Tseng, Ming-Hung	I-Shou Univ.
14:00-14:20, Paper ThM03.3	
The Grey GM(2, 1) Integral Variable Structure Controller of Synchronous Reluctance Motor Drive	
Chiang, Huann-Keng	National Yunlin Univ. of Science & Tech.
Tseng, Chih-Huang	Nan Jeon Inst. of Tech.
14:20-14:40, Paper ThM03.4	
A Gain Scheduled Robust Regulator for Torque Ripple Elimination of AC Permanent Magnet Motor Systems	
Gan, Wai-Chuen	ASM Assembly Automation Hong Kong Ltd
Qiu, Li	Hong Kong Univ. of Sci. & Tech.
14:40-15:00, Paper ThM03.5	
High Performance Position Controller for PMSM Drives Based on TMS320F2812 DSP	
Kung, Ying-Shieh	Southern Taiwan Univ. of Tech.
Huang, Pin-Ging	Southern Taiwan Univ. of Tech.
15:00-15:20, Paper ThM03.6	
Performance Improvement of Practical Control Method for Positioning Systems in the Presence of Actuator Saturation	

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Martono, Wahyudi	International Islamic Univ. Malaysia
Albagul, Abdulghani	International Islamic Univ. Malaysia
ThM04	Room 4
Robot Manipulator Control	Regular Session
Chair: Hong, Keum-Shik	Pusan National Univ.
Co-Chair: Li, Tzuu-Hseng S.	National Cheng Kung Univ.
13:20-13:40, Paper ThM04.1	
Bayesian Position Estimation of an Industrial Robot Using Multiple Sensors	
Karlsson, Rickard	Linköping Univ.
Norrlöf, Mikael	Linköping Univ.
13:40-14:00, Paper ThM04.2	
A Fault Tolerant Manipulator Robot Based on H2, H-Infty, and Mixed H2/H-Infty Markovian Controls	
Siqueira, Adriano A G	Univ. of Sao Paulo
Terra, Marco Henrique	Univ. of Sao Paulo
14:00-14:20, Paper ThM04.3	
A Multiestimation-Based Scheme for Robustly Stable Adaptive Control of Robotic Manipulators	
Ibeas-Hernandez, Asier	Univ. Del Pais Vasco
de la Sen, Manuel	Univ. del Pais Vasco
14:20-14:40, Paper ThM04.4	
Stability of Inverse Jacobian Control for Robot Manipulator	
Cheah, C.C.	Nanyang Tech. Univ.
Liu, C.	Nanyang Tech. Univ.
Liaw, H.C.	Singapore Inst. of Manufacturing Tech.
14:40-15:00, Paper ThM04.5	
Multiple Robot Force Control with Delayed Force Measurements	
Montemayor, Gustavo	Rensselaer Pol. Inst.
Wen, John T.	Rensselaer Pol. Inst.
15:00-15:20, Paper ThM04.6	
Inverse Dynamics of Star Parallel Manipulator	
Staicu, Stefan	Univ. Pol. of Bucharest
Staicu, Laurian	Univ. Pol. of Bucharest
Rugescu, Radu	Univ. Pol. of Bucharest
ThM05	Room 5
Automotive Applications	Regular Session
Chair: Kawabe, Taketoshi	Nissan Motor Co., Ltd.
Co-Chair: Juang, Jyh-Ching	National Cheng Kung Univ.
13:20-13:40, Paper ThM05.1	
Nonlinear Stabilization of Slip in a Continuously Variable Transmission	
Klaassen, Tim	Eindhoven Univ. of Tech.
Bonsen, Bram	Eindhoven Univ. of Tech.
Meerakker, Koen van de	Eindhoven Univ. of Tech.
Steinbuch, Maarten	Eindhoven Univ. of Tech.
Veenhuizen, Bram	Eindhoven Univ. of Tech.
Veldpaus, Frans	Eindhoven Univ. of Tech.
13:40-14:00, Paper ThM05.2	
Identification of Cornering Stiffness During Lane Change Maneuvers	
Ding, E.L.	Univ. of Applied Sciences Gelsenkirchen
Massel, Thomas	Univ. of Applied Sciences
Arndt, Marc	Univ. of Applied Sciences Gelsenkirchen
14:00-14:20, Paper ThM05.3	
Integrated Longitudinal and Lateral Control for Vehicle Low Speed Automation	
Mammar, Said	INRETS
Netto, Mariana	LIVIC - LCPC/INRETS
14:20-14:40, Paper ThM05.4	
A Signal Processing Algorithm for Compensating for Back Flow Effect in Intake Air Mass Measurement	

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in Internal Combustion Engines

Aono, Toshihiro	Hitachi Ltd.
Kowatari, Takehiko	Hitachi
14:40-15:00, Paper ThM05.5	
<i>Genetic Algorithm Optimization of Fuel Economy for PFI Engine with VVT-VCR</i>	
Ye, Zhengmao	Wayne State Univ.
Lai, Ming-Chia	Wayne State Univ.
Washko, Frank	Wayne State Univ.
15:00-15:20, Paper ThM05.6	
<i>Sliding-Mode Control of Active Suspension Systems: Unit Vector Approach</i>	
Esna Ashari, Alireza	Univ. of Tehran
ThM06	Room 6
Learning Control	Regular Session
Chair: Kwon, Wook Hyun	Seoul National Univ.
Co-Chair: Hwang, Rey-Chue	I-Shou Univ.
13:20-13:40, Paper ThM06.1	
<i>Application of Iterative Learning to Tracking Control of a Piezoelectric System</i>	
Chien, Chiang-Ju	Huafan Univ.
Lee, Fu-Shin	Huafan Univ.
Wang, Jhen-Cheng	Tungnan Inst. of Tech.
Chen, Po-Jia	Huafan Univ.
13:40-14:00, Paper ThM06.2	
<i>Analysis and Comparison of Two Practical Iterative Learning Control Schemes</i>	
Xu, Jian-Xin	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore
Zhang, Hengwei	National Univ. of Singapore
14:00-14:20, Paper ThM06.3	
<i>Iterative Learning Control for Position Tracking of a Pneumatic Actuated X-Y Table</i>	
Chen, Chih-Keng	Da-Yeh Univ.
Hwang, James	Da-Yeh Univ.
14:20-14:40, Paper ThM06.4	
<i>Development of an Evolutionary PD Control Development of an Evolutionary PD Control for Robotic System Applications</i>	
Ouyang, Puren	Univ. of Saskatchewan
Zhang, Wunjun	Univ. of Saskatchewan
14:40-15:00, Paper ThM06.5	
<i>Learning Task Sequences from Scratch: Applications to the Control of Tools and Toys by a Humanoid Robot</i>	
Arsenio, Artur	MIT, Computer Science and Artificial Intelligence Lab.
15:00-15:20, Paper ThM06.6	
<i>The Model Reference Control by Auto-Tuning PID-Like Fuzzy Controller</i>	
Hwang, Rey-Chue	I-Shou Univ.
Huang, Huang-Chu	National Kaohsiung Inst. of Marine Tech.
Chen, Yu-Ju	Cheng-Shiu Univ.
Tsai, Pin-Yan	I-Shou Univ.
ThM07	Room 7
Embedded Intelligent Control and Applications	Invited Session
Chair: Jagannathan, Sarangapani	The Univ. of Missouri-Rolla
Co-Chair: song, gangbing	Univ. of houston
Organizer: Jagannathan, Sarangapani	The Univ. of Missouri-Rolla
13:20-13:40, Paper ThM07.1	
<i>Neural Network Controller for Manipulation of Micro-Scale Objects (I)</i>	
Janardhan, Vijayakumar	Univ. of Missouri-rolla
He, Pingan	The Univ. of Missouri-rolla
Jagannathan, Sarangapani	The Univ. of Missouri-Rolla
13:40-14:00, Paper ThM07.2	

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13:40-14:00, Paper ThM07.2	
A Neural Network Based Approach to Adaptive Fault Tolerant Flight Control (I)	
Polycarpou, Marios M.	Univ. of Cincinnati
Zhang, Xiaodong	Intelligent Automation Inc.
Xu, Roger	Intelligent Automation, Inc.
Yang, Yanli	Univ. of Cincinnati
Kwan, Chi-Man	Intelligent Automation, Inc.
14:00-14:20, Paper ThM07.3	
System Intelligence Requires Distributed Learning (I)	
Commuri, Seshadri	Univ. of Oklahoma
Fierro, Rafael	Oklahoma State Univ.
Hougen, Dean	Univ. of Oklahoma
Muthuraman, R	Univ. of Oklahoma
14:20-14:40, Paper ThM07.4	
An Effective Learning Approach for Nonlinear System Modeling (I)	
Ge, Ming	Honeywell International
Liu, San	Zhejiang Univ.
14:40-15:00, Paper ThM07.5	
Adaptive Robust Sliding-Mode Control of a Flexible Beam Using PZT Sensor and Actuator	
Gu, Haichang	Univ. of Houston
Song, Gangbing	Univ. of Houston
ThM08	Room 8
Randomized Algorithms	Regular Session
Chair: Ge, Shuzhi	National Univ. of Singapore
Co-Chair: Slimani, Yahya	Faculty of Sciences of Tunis, Univ. of Tunis El Manar
13:20-13:40, Paper ThM08.1	
Fast Sequential Learning Methods on RBF Network Using Decomposed Training Algorithms	
Asirvadam, Vijanth Sagayan	Multimedia Univ.
Mcloone, Sean	National Univ. of Ireland, Maynooth
Irwin, George W.	Queen's Univ. of Belfast
13:40-14:00, Paper ThM08.2	
A Robust PD-Type Evolutionary Learning Control for Nonlinear Time-Varying Systems	
Ouyang, Puren	Univ. of Saskatchewan
Zhang, Wenjun	Univ. of Saskatchewan
Gupta, M.M.	Univ. of Saskatchewan
14:00-14:20, Paper ThM08.3	
A Random Search Approach to the Machine Loading Problem of an FMS	
Chan, Felix T. S.	The Univ. of Hong Kong
Swamkar, Rahul	The Univ. of Hong Kong
Tiwari, Manoj K	National Inst. of Foundry and Forge Tech.
14:20-14:40, Paper ThM08.4	
An Adaptive Resource Reservation Scheme for Sectored Cellular Communications Using Support Vector Machines	
Huang, Chenn-Jung	National Hualien Teachers Coll.
Lai, Wei Kuang	National Sun Yat-Sen Univ.
Chang, Chih Cheng	National Hualien Teachers Coll.
Yan, You-Lin	National Sun Yat-Sen Univ.
14:40-15:00, Paper ThM08.5	
Tracking of Uncertain Time-Varying Systems by State-Space Recursive Least-Squares with Adaptive Memory	
Malik, Mohammad	National Univ. of Sciences and Tech.
Bhatti, Rashid	National Univ. of Sciences and Tech.
Qureshi, Hafsa	National Univ. of Sciences and Tech.
ThM09	Room 9
Formal Methods for Supporting the Design of Controllers for Timed and Hybrid Systems	Invited Session
Chair: Engell, Sebastian	Univ. of Dortmund

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Co-Chair: Frehse, Goran	Carnegie Mellon Univ.
Organizer: Stursberg, Olaf	Univ. of Dortmund
Organizer: Engell, Sebastian	Univ. of Dortmund
13:20-13:40, Paper ThM09.1	
Optimal Hybrid Control for Switched Affine Systems under Safety and Liveness Constraints (I)	
Corona, Daniele	Univ. degli Studi
Seatzu, Carla	Univ. of Cagliari
Giua, Alessandro	Univ. di Cagliari
Gromov, Dmitry	Otto-von-Guericke Univ. Magdeburg
Mayer, Eckart	Max-Planck-Inst. fuer Dynamik komplexer Tech. Systeme
Raisch, Joerg	Dynamik komplexer Tech. Systeme
13:40-14:00, Paper ThM09.2	
Control Input Synthesis for Hybrid Systems Using Informed Search (I)	
Kapinski, James	Carnegie Mellon Univ.
Schmidt, Klaus	Univ. of Erlangen - Nuremberg
Krogh, Bruce H.	Carnegie Mellon Univ.
14:00-14:20, Paper ThM09.3	
A Formal Approach to Compute Hybrid Automata Models for Linear Physical Systems with Ideal Switches (I)	
buisson, Jean	Supelec - IETR
Commerais, Hervé	Supelec - IETR
Zainea, Marius	Supélec-IETR
Gueguen, Herve	Supelec - IETR
Godoy, Emmanuel	Supelec
14:20-14:40, Paper ThM09.4	
Algorithmic Verification of Logic Controllers Given As Sequential Function Charts (I)	
Pereira Remelhe, Manuel Augusto	Univ. Dortmund
Lohmann, Sven	Univ. of Dortmund
Stursberg, Olaf	Univ. of Dortmund
Engell, Sebastian	Univ. of Dortmund
Bauer, Nanette	BASF AG
14:40-15:00, Paper ThM09.5	
Compositional Verification of Hybrid Systems with Discrete Interaction Using Simulation Relations	
Frehse, Goran	Carnegie Mellon Univ.
ThP01	Room 1
Control Applications in Aerospace Engineering	Invited Session
Chair: Kida, Takashi	Univ. of Electro-Communications
Co-Chair: Chida, Yuichi	Shinshu Univ.
Organizer: Kida, Takashi	Univ. of Electro-Communications
15:40-16:00, Paper ThP01.1	
Vibration Isolation Controller Design by Frequency Shaping with Pole Placement Constraints (I)	
Chida, Yuichi	Shinshu Univ.
Ishihara, Yoshiyuki	Shinshu Univ.
16:00-16:20, Paper ThP01.2	
Robust Control of Flexible Mechanical System by Utilizing Symmetry and Its Application to Large Space Structures (I)	
Nagashio, Tomoyuki	Univ. of Electro-Communications
Kida, Takashi	Univ. of Electro-Communications
16:20-16:40, Paper ThP01.3	
Attitude Control of a Tethered Space Robot by Link Motion under Microgravity (I)	
Nohmi, Masahiro	Kagawa Univ.
16:40-17:00, Paper ThP01.4	
A Study on a Missile Guidance System against a Randomly Maneuvering Air-To-Surface Missile (I)	
Imado, Fumiaki	Shinshu Univ.
17:00-17:20, Paper ThP01.5	
A Study on Rendezvous Docking Control of HOPE (I)	

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Hashizume, Yuji	Shinshu Univ.
Imado, Fumiaki	Shinshu Univ.
17:20-17:40, Paper ThP01.6	
Robust H2 Problem for LPV Systems and Its Application to Model-Following Controller Design for Aircraft Motions (I)	
Sato, Masayuki	Japan Aerospace Exploration Agency
ThP02	Room 2
Control Techniques Using Networks	Invited Session
Chair: Goodwin, Graham C.	Univ. of Newcastle
Co-Chair: Ishii, Hideaki	Univ. of Tokyo
Organizer: Ishii, Hideaki	Univ. of Tokyo
15:40-16:00, Paper ThP02.1	
Design Issues Arising in a Networked Control System Architecture (I)	
Quevedo, Daniel E.	The Univ. of Newcastle
Goodwin, Graham C.	Univ. of Newcastle
Welsh, James S.	The Univ. of Newcastle
16:00-16:20, Paper ThP02.2	
Theory and Experiments in Bilateral Teleoperation Over the Internet (I)	
Berestesky, Paul	Univ. of Illinois, Urbana-Champaign
Chopra, Nikhil	Coordinated Science Lab. Univ. of Illinois
Spong, Mark W.	Univ. of Illinois at Urbana-Champaign
16:20-16:40, Paper ThP02.3	
Ethernet Switch Controller Design for Real-Time Control Applications (I)	
Lian, Feng-Li	National Taiwan Univ.
Tu, Yuan-Chung	National Taiwan Univ.
Li, Ching-Wei	National Taiwan Univ.
16:40-17:00, Paper ThP02.4	
An Analysis on Quantization Effects in H^{∞} Parameter Identification (I)	
Ishii, Hideaki	Univ. of Tokyo
Basar, Tamer	Univ. of Illinois at Urbana-Champaign
17:00-17:20, Paper ThP02.5	
Remote Stabilization Via Time-Varying Communication Network Delays: Application to TCP Networks (I)	
Witrant, Emmanuel	ENSIEG-INPG
Canudas de Wit, Carlos	ENSIEG-INPG
Georges, Didier	ENSIEG - INPG
Alamir, Mazen	ENSIEG - INPG
17:20-17:40, Paper ThP02.6	
Controller Switching Strategies for Constrained Mechanical Systems with Applications to the Remote Control Over Networks (I)	
Kogiso, Kiminao	Nara Inst. of Science and Tech.
Hirata, Kenji	Osaka Univ.
ThP03	Room 3
Applications of Force and Visual Feedback Control to Advanced Mechatronic Systems	Invited Session
Chair: Cheng, Ming-Yang	National Cheng Kung Univ.
Co-Chair: Lin, Ku Chin	Ku Shan Univ. of Tech.
Organizer: Tsai, Mi-Ching	National Cheng Kung Univ.
15:40-16:00, Paper ThP03.1	
A Measure of Golf Logo Contour Quality by Piecewise Interpolation of the Accumulation of Turn Angles (I)	
Lin, Ku Chin	Ku Shan Univ. of Tech.
Chang, Ming Feng	Kun Shan Univ. of Tech.
16:00-16:20, Paper ThP03.2	
Design and Analysis of an Interactive Motion Simulator with Multiple Bilateral Controllers in Virtual Entertainment System (I)	

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Hsu, Kuei-Shu	Kao Yuan Inst. of Tech.
Her, Ming-Guo	Tatung Univ.
Chen, Jih-Ming	Tatung Univ.
16:20-16:40, Paper ThP03.3	
Using Haptic Manipulator in a Virtual Design Studio (I)	
Leong, Iat-Fai	National Cheng Kung Univ.
Fang, Jing-Jing	National Cheng Kung Univ.
Tsai, Ming-June	National Cheng Kung Univ.
Yen, Yu-Hong	National Cheng Kung Univ.
16:40-17:00, Paper ThP03.4	
An Image-Based Vehicle Guidance System (I)	
Liaw, Der-Cherng	National Chiao Tung Univ.
Li, Hung-Hsiang	National Chiao Tung Univ.
Chien, Ming-Chi	National Chiao Tung Univ.
Chen, Wei-Chao	National Chiao Tung Univ.
Wu, Wei-Han	National Chiao Tung Univ.
Chen, Hung-Hsiang	National Chiao Tung Univ.
Song, Chau-Chung	Chung Hua Univ.
17:00-17:20, Paper ThP03.5	
Implementation of a Virtual Fishing System (I)	
Wang, Ming-Shyan	Southern Taiwan Univ. of Tech.
Lee, Jing	Southern Taiwan Univ. of Tech.
Huang, Chih-Kai	Southern Taiwan Univ. of Tech.
Chang, Chia-Ming	Southern Taiwan Univ. of Tech.
Su, Kun-Pa	Southern Taiwan Univ. of Tech.
17:20-17:40, Paper ThP03.6	
An Air Combat Simulator in the Virtual Reality with the Visual Tracking System and Force-Feedback Components (I)	
Huang, Cheng-Ming	NATIONAL TAIWAN Univ.
Wang, Su-Chiun	NATIONAL TAIWAN Univ.
Chang, Chih-Fu	National Taiwan Univ.
Huang, Chin_I	National Taiwan Univ. Taipei, Taiwan
Cheng, Yu-Shan	NATIONAL TAIWAN Univ.
Fu, Li-Chen	National Taiwan Univ.
ThP04	Room 4
Control of Disk Drive Storage System	Invited Session
Chair: Yamaguchi, Takashi	Hitachi Global Storage Tech.
Co-Chair: Hingwe, Pushkar	Hitachi Global Storage Tech.
Organizer: Yamaguchi, Takashi	Hitachi Global Storage Tech.
15:40-16:00, Paper ThP04.1	
Short Seeking by Multi-Rate Digital Controllers for Computation Saving with Initial Value Adjustment (I)	
Yang, Li	Univ. of California at Berkeley
Tomizuka, Masayoshi	UC Berkeley/NSF
16:00-16:20, Paper ThP04.2	
Robust Feedforward Tracking Servo System Considering Force Disturbance for Optical Disk Recording System (I)	
Ohishi, Kiyoshi	Nagaoka Univ. of Tech.
Kuramochi, Kazuyoshi	Nagaoka Univ. of Tech.
Miyazaki, Toshimasa	Nagaoka National Coll. of Tech.
Koide, Daiichi	JAPAN BROADCASTING Corp.
Tokumaru, Haruki	JAPAN BROADCASTING Corp.
16:20-16:40, Paper ThP04.3	

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Design or Seek Control of Hard Disk Drive Using Discrete-Time Sliding Mode Control (I)	
Chung, Chung Choo	Hanyang Univ.
Jang, Jae-Wan	Samsung Electronics
Lee, Ho-Seong	Samsung Electronics
16:40-17:00, Paper ThP04.4	
Tracking Error Signal Generation for a Raster Scanned Optical Disc System (I)	
Messner, William	Carnegie Mellon Univ.
Drechsler, Corey	Carnegie Mellon Univ.
17:00-17:20, Paper ThP04.5	
Track Follow Servo Optimization for Disk Drives (I)	
Hingwe, Pushkar	Hitachi Global Storage Tech.
Akhil, Gupta	Hitachi Global Storage Tech.
17:20-17:40, Paper ThP04.6	
Nanoposition Sensing and Control in HDD Dual-Stage Servo Systems (I)	
Pang, Chee Khiang	National Univ. of Singapore, Data Storage Inst.
Guo, Guoxiao	A*STAR, Data Storage Inst.
Chen, Ben M.	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore
ThP05	
	Room 5
Bio-Systems	
	Regular Session
Chair: Yang, Jiann-Shiou	Univ. of Minnesota
Co-Chair: Lin, Chun-liang	National Chung Hsing Univ.
15:40-16:00, Paper ThP05.1	
Viral Load Analysis of a Biodynamical Model of HIV-1 with Unknown Equilibrium Points	
Cheng, Cheng-Fa	National Taiwan Ocean Univ.
Chang, Chin-Teng	Kee-Lung General Hospital
16:00-16:20, Paper ThP05.2	
Analytical Framework for Constraining the Initial Control Effort in a Biomechanical Model	
Roy, Anindo	Univ. of Arkansas at Little Rock
Iqbal, Kamran	Univ. of Arkansas at Little Rock
16:20-16:40, Paper ThP05.3	
Self-Organizing PID Control Design Based on DNA Computing Method	
Jan, Horn-Yong	Feng Chia Univ.
16:40-17:00, Paper ThP05.4	
Properties of Time – of - Flight Sensor; Using in Biochemical Laboratory	
Adámek, Milan	Tomas Bata Univ.
Matysek, Miroslav	Tomas Bata Univ.
17:00-17:20, Paper ThP05.5	
Controlling Depth of Anesthesia Using PID Tuning: A Comparative Model-Based Study	
Ejaz, Khaled	Univ. of Minnesota Duluth
Yang, Jiann-Shiou	Univ. of Minnesota Duluth
ThP06	
	Room 6
Neural Networks and Fuzzy Systems	
	Regular Session
Chair: Lin, Chih-Min	Yuan-Ze Univ.
Co-Chair: Young, Kuu-young	National Chiao-Tung Univ.
15:40-16:00, Paper ThP06.1	
Memory Efficient BFGS Neural-Network Learning Algorithms Using MLP-NETwork: A Survey	
Asirvadam, Vijanth Sagayan	Multimedia Univ.
Mcloone, Sean	National Univ. of Ireland, Maynooth
Irwin, George	Queen's Univ. of Belfast
16:00-16:20, Paper ThP06.2	
Adaptive Neural Predictive Control for Nonlinear Systems with Time-Delay	
Lu, Chi-Huang	National Chung-Hsing Univ.
Tsai, Ching-Chih	National Chung-Hsing Univ.
16:20-16:40, Paper ThP06.3	

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Fuzzy Neural Network for Identification and Control of Dc Drive Systems		
Mostafa, M. S.		menofia Univ.
Al Bardini, mohamed		menofia Univ.
Sharaf, Soliman		Helwan Univ.
Shams, mohamed		menofia Univ.
16:40-17:00, Paper ThP06.4		
Robust Adaptive Fuzzy Sliding-Mode Control with Tracking Performance for a Class of Nonlinear Systems		
Hsu, Chun-Fei		National Chiao-Tung Univ.
Lee, Tsu-Tian		Nation Chiao Tung Univ.
Lin, Chih-Min		Yuan-Ze Univ.
ThP07		Room 7
Modelling and Control of Probability Density Functions		Invited Session
Chair: Wang, Hong		UMIST
Co-Chair: Zhang, Jie		Univ. of Newcastle Upon Tyne
Organizer: Wang, Hong		UMIST
15:40-16:00, Paper ThP07.1		
Integrated Batch-To-Batch Control and within Batch Control of Batch Processes Using Neural Network Models (I)		
Zhang, Jie		Univ. of Newcastle Upon Tyne
16:00-16:20, Paper ThP07.2		
Neural Network Based Probability Density Function Shape Control for Unknown Stochastic Systems (I)		
Wang, Hong		UMIST
16:20-16:40, Paper ThP07.3		
Multi-Level Solution of Population Balance Moels Employing a Hierarchical Two-Tier Strategy (I)		
SUN, Nanfeng		Imperial Coll.
Immanuel, Charles David		Imperial Coll. London
16:40-17:00, Paper ThP07.4		
Probabilistic Control Design for Continuous-Time Stochastic Nonlinear Systems - a PDF-Shaping Approach (I)		
Forbes, Michael Gregory		Univ. of Alberta
Guay, Martin		Queen's Univ.
Forbes, J. Fraser		Univ. of Alberta
17:00-17:20, Paper ThP07.5		
Modelling and Control of Molecular Weight Distribution for a Polycondensation Process (I)		
Cao, Liulin		Beijing Univ. of Chemical Tech.
Yue, Hong		Inst. of Automation, Chinese Acad. of Sciences
17:20-17:40, Paper ThP07.6		
Improved Identification Algorithm for B-Spline Modelling of Output Probability Density Functions (I)		
Zhang, Jinfang		Inst. of Automation, Chinese Acad. of Sciences
Yue, Hong		Inst. of Automation, Chinese Acad. of Sciences
ThP08		Room 8
Architectures for Autonomy		Regular Session
Chair: Polycarpou, Marios M.		Univ. of Cincinnati
Co-Chair: Chen, Yung-Yaw		National Taiwan Univ.
15:40-16:00, Paper ThP08.1		
A Behavior-Based Architecture for Unmanned Aerial Vehicles		
Dong, Miaobo		Tsinghua Univ.
Sun, Zengqi		Tsinghua Univ.
16:00-16:20, Paper ThP08.2		
A Framework for Coordinated Control of Multi-Agent Systems		
Karray, Fakhri		Univ. of Waterloo

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Basir, Otman	Univ. of Waterloo
Song, Insop	Univ. of Waterloo
Li, Howard	Univ. of Waterloo
16:20-16:40, Paper ThP08.3	
BOAs: BackOff Adaptive Scheme for Task Allocation with Fault Tolerance and Uncertainty Management	
Fua, Cheng-Heng	National Univ. of Singapore
Ge, Shuzhi Sam	National Univ. of Singapore
Lim, Khiang Wee	Singapore Inst. of Manufacturing Tech.
16:40-17:00, Paper ThP08.4	
Multiple Teams for Mobile Robot Formation Control	
Hsu, Harry Chai-Hung	National Chung Cheng Univ.
Liu, Alan	National Chung Cheng Univ.
17:00-17:20, Paper ThP08.5	
AE-SIM: Simulating Intelligent Robots in Intelligent Environments	
Raggi, Andrea	Univ. of Genova
Sgorbissa, Antonio	Univ. of Genova
Zaccaria, Renato	Univ. of Genova
ThP09	Room 9
Computer Automated Multi Paradigm Modeling	
Chair: Mosterman, Pieter	Invited Session The MathWorks, Inc.
Co-Chair: Lee, Jin-Shyan	National Chiao-tung Univ.
Organizer: Mosterman, Pieter	The MathWorks, Inc.
Organizer: Lee, Jin-Shyan	National Chiao-tung Univ.
15:40-16:00, Paper ThP09.1	
Meta-Modelling Hybrid Formalisms (I)	
Lacoste-Julien, Simon	McGill Univ.
Vangheluwe, Hans	McGill Univ.
de Lara, Juan	Univ. Autonoma de Madrid
Mosterman, Pieter	The MathWorks, Inc.
16:00-16:20, Paper ThP09.2	
Validation and Verification of Fly-By-Wire Flight Control System Using Multi-Paradigm Simulation Framework (I)	
Liu, Hugh HT	Univ. of Toronto
16:20-16:40, Paper ThP09.3	
A Multi-Paradigm Modeling Approach for Hybrid Dynamic Systems (I)	
Lee, Jin-Shyan	National Chiao-Tung Univ.
Zhou, Meng-Chu	New Jersey Inst. of Tech.
Hsu, Pau-Lo	National Chiao-Tung Univ.
16:40-17:00, Paper ThP09.4	
Heterogeneous Modeling for Automotive Electronic Control Units Using a CASE-Tool Integration Platform (I)	
Mueller-Glaser, Klaus D.	Univ. Karlsruhe
Reichmann, Clemens	Univ. Karlsruhe
Kuehl, Markus	Forschungszentrum Informatik (FZI)
Graf, Philipp	Univ. Karlsruhe
Ritter, Klaus	Forschungszentrum Informatik

Friday September 3, 2004

FrA01	Room 1
Linear Control Synthesis and Modeling	
Chair: Dimirovski, Georgi Marko	Regular Session Dogus Univ. of Istanbul, Turkey; SS Cyril and Methodius Univ. of Skopje, Macedonia
Co-Chair: Huang, Yi-Cheng	National Changhua Univ. of Education

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10:00-10:20, Paper FrA01.1	
The Maximal Controllable Set for Open-Loop Unstable Systems under Input Saturation	
Wang, Wen-Liang, Abraham	Chung Hua Univ.
Mukai, Hiro	Washington Univ.
Chen, Yenming J	Taichung Healthcare and Management Univ.
10:20-10:40, Paper FrA01.2	
Parameterization of Stabilizing Controllers for Linear Systems with Unknown Inputs	
Xie, Wei	Kitami Inst. of Tech.
Eisaka, Toshio	Kitami Inst. of Tech.
10:40-11:00, Paper FrA01.3	
Optimal Control Using Structure at Infinity	
Stefanovski, Jovan	St.Cyril & St. Methodius Univ.
Dimirovski, Georqi Marko	Dogus Univ. of Istanbul, Turkey; SS Cyril and Methodius Univ. of
11:00-11:20, Paper FrA01.4	
Closed Analytic Form of Time Maximum Disturbance for Stable Linear Systems	
You, Kwan-Ho	Sungkyunkwan Univ.
Lee, E. Bruce	Univ. of Minnesota
11:20-11:40, Paper FrA01.5	
LMI Decentralized Controller Design for Stochastic Large-Scale Time-Delay Systems	
Wu, Wen-Ben	Chung Cheng Inst. of Tech.
Chen, Pang-Chia	Air Force Inst. of Tech.
Chang, Yeong-Hwa	Chang Gung Univ.
Chen, Gong	Chung Cheng Inst. of Tech.
11:40-12:00, Paper FrA01.6	
On Frequency Weighted Balanced Truncation Technique Retaining Hankel Singular Values	
Ghafoor, Abdul	Univ. of Western Australia
Sreeram, Victor	Univ. of Western Australia
Treasure, Richard J.	Univ. of Western Australia
FrA02	Room 2
Hybrid Systems	Regular Session
Chair: Imura, Jun-ichi	Tokyo Inst. of Tech.
Co-Chair: Xie, Guangming	Peking Univ.
10:00-10:20, Paper FrA02.1	
Comparison of Three Procedures for the Identification of Hybrid Systems	
Niessen, J.H.G.	Eindhoven Univ. of Tech.
Juloski, Aleksandar	Eindhoven Univ. of Tech.
Ferrari-Trecate, Giancarlo	INRIA
Heemels, Maurice	Eindhoven Univ. of Tech.
10:20-10:40, Paper FrA02.2	
Online-Type State Feedback Design for Switched Systems with Time-Delay in Detection of Switching Signal	
Xie, Guangming	Peking Univ.
Wang, Long	Peking Univ.
10:40-11:00, Paper FrA02.3	
Optimal Sampled-Data Controller Design with Time-Multiplied Performance Index for Load Frequency Control	
Kanchanaharuthai, Adirak	Rangsit Univ.
11:00-11:20, Paper FrA02.4	
Real-Time Control of a Hybrid Laboratory Plant Using a Receding Horizon Control Strategy	
Gambier, Adrian	Univ. of Mannheim
11:20-11:40, Paper FrA02.5	
A New Approach for Robust Model Predictive Control with an Application to an Air-Conditioning System	
Moreira, Vicente Delgado	Univ. of Campinas
Amaral, W.C.	UNICAMP
Ferreira, Paulo A Valente	Univ. of Campinas

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11:40-12:00, Paper FrA02.6		
Supervised Nonlinear Control of Hybrid System with Application to HVAC System		
Huang, Chin-I		National Taiwan Univ. Taipei, Taiwan
Chan, Yu-Ming		National Taiwan Univ. Taipei, Taiwan
Fu, Li-Chen		National Taiwan Univ.
FrA03		Room 3
Process Control		Regular Session
Chair: Hashimoto, Yoshihiro		Nagoya Inst. of Tech.
Co-Chair: Ohtani, Tetsuya		Yokogawa Electric Corp.
10:00-10:20, Paper FrA03.1		
Feedback Cooperative Control for Releasing Input Saturation		
Xia, Hao		Univ. of Stathclyde
Giovannini, Leonardo		Industrial Control Centre
10:20-10:40, Paper FrA03.2		
One-Spot Tuning PID Control of a Sulforane Process		
Yamamoto, Toru		Hiroshima Univ.
Fujii, Kenzo		Idemitsu Kosan
10:40-11:00, Paper FrA03.3		
Dynamic Safety Margin Principle and Application in Control of Safety Critical Systems		
Badreddin, E.		ETH
Abdel-geliel, Mostafa		Mannheim Univ.
11:00-11:20, Paper FrA03.4		
Comparison of Methods to Identify the Root Cause of Plant-Wide Oscillations		
Zang, Xiaoyun		Univ. of Glasgow
Howell, John		Univ. of Glasgow
11:20-11:40, Paper FrA03.5		
Potential Energy Savings in Refrigeration Systems Using Optimal Set-Points		
Larsen, Lars Sloth		Danfoss A/S
Thybo, Claus		Danfoss A/S
11:40-12:00, Paper FrA03.6		
A Modified Iterative Set-Point Optimization Strategy with Application to Batch Chromatography		
Gao, Weihua		Univ. Dortmund
Engell, Sebastian		Univ. of Dortmund
FrA04		Room 4
Advanced Motion Control		Invited Session
Chair: Yen, Jia-Yush		National Taiwan Univ.
Co-Chair: Hsu, Pau-Lo		National Chiao Tung Univ.
Organizer: Tsao, Tsu-chin		UCLA
10:00-10:20, Paper FrA04.1		
Iterative Control of Dynamics-Coupling Effects in Piezo-Based Nano-Positioners for High-Speed AFM (I)		
Tien, Szuchi		Univ. of Washington
Zou, Qingze		Univ. of Washington
Devasia, Santosh		Univ. of Washington
10:20-10:40, Paper FrA04.2		
High Performance Motion Tracking Control (I)		
Potsaid, Benjamin		Rensselaer Pol. Inst.
Wen, John T.		Rensselaer Pol. Inst.
10:40-11:00, Paper FrA04.3		
The Integrated Linear and Nonlinear Motion Control Design for Precise CNC Machine Tools		
Tsai, Zheng-Hong		National Chiao-Tung Univ. , Taiwan, R.O.C.
Yeh, Shy-Shiuh		National Chiao-Tung Univ. , Taiwan, R.O.C.
Hsu, Pau-Lo		National Chiao-Tung Univ. , Taiwan, R.O.C.
11:00-11:20, Paper FrA04.4		
A Mechatronics Approach to Machine Tool Servo Design Based on Solid Modeling (I)		
Yen, Jia-Yush		National Taiwan Univ.

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11:20-11:40, Paper FrA04.5		National Taiwan Univ.
Compensating for Spatially Repetitive Disturbance with Linear Parameter Varying Repetitive Control (I)		
Chen, Cheng-Lun		Lexmark International
Chiu, George T.-C.		Purdue Univ.
11:40-12:00, Paper FrA04.6		
Design and Control of a Dual Stage Fast Tool Servo for Precision Machining (I)		
Kalyanam, Krishnamoorthy		UCLA
Lin, Chi-Ying		UCLA
Tsao, Tsu-Chin		UCLA
FrA05		Room 5
Control Applications 2: Crane/noise Control		Regular Session
Chair: Nakamoto, Masashi		Toshiba Corp.
Co-Chair: Su, Wu-Chung		National Chung Hsing Univ.
10:00-10:20, Paper FrA05.1		
Anti-Sway Control of a Rotary Crane Via Switching Feedback Control		
Kondo, Ryou		Ibaraki Univ.
Shimahara, Sei		Ibaraki Univ.
10:20-10:40, Paper FrA05.2		
The Switching Fuzzy Controller of the Overhead Crane System		
Chang, Cheng-Yuan		Ching Yun Univ. Chung Li 320, Taiwan, ROC
Hsu, Shih-Wei		Ching Yun Univ.
Chiang, Kuo-Hung		Ching Yun Univ.
10:40-11:00, Paper FrA05.3		
Study of Operator Behavior, Learning, and Performance Using an Input-Shaped Bridge Crane		
Khalid, Attir		Georgia Inst. of Tech.
Singhose, William E.		Georgia Inst. of Tech.
Huey, John		Georgia Inst. of Tech.
Lawrence, Jason		Georgia Inst. of Tech.
Frakes, Dave		4-D Imaging, Inc.
11:00-11:20, Paper FrA05.4		
Active Noise Control Systems with Optimized Secondary Path		
Kuo, Sen M.		Northern Illinois Univ.
Gan, Woon-Seng		Nanyang Tech. Univ.
11:20-11:40, Paper FrA05.5		
Robust Control of an Acoustic Cavity		
Pota, Hemanshu R.		Univ. Coll. Univ. of New South Wales
Pulthasthan, Suwit		Univ. of New South Wales at the Australian Defence Force
Petersen, Ian R.		Australian Defence Force Acad.
11:40-12:00, Paper FrA05.6		
Control Design Decoupling for Two-Way Coupled Systems		
de Ruiter, Anton		Univ. of Toronto
Liu, Hugh HT		Univ. of Toronto
FrA06		Room 6
Neural Networks and Adaptive Control		Regular Session
Chair: Tsai, Ching-Chih		National Chung-Hsing Univ.
Co-Chair: Fujita, Masayuki		Kanazawa Univ.
10:00-10:20, Paper FrA06.1		
Discrete Multiestimation-Based Robust Adaptive Control Using an Estimation Dead-Zone and Model Order-Reduction		
Bilbao-Guillerna, Aitor		Univ. del País Vasco
de la Sen, Manuel		Univ. del Pais Vasco
Alonso Quesada, Santiago		Univ. del País Vasco
IBEAS-HERNANDEZ, ASIER		Univ. DEL PAIS VASCO

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10:20-10:40, Paper FrA06.2	
A Bayesian Approach to Modeling the Conditional Density of the Inverse Controller	
Herzallah, Randa	Al-Balqa' Applied Univ.
Lowe, David	Aston Univ.
10:40-11:00, Paper FrA06.3	
Adaptive \mathcal{H}_∞ Control for Linear Slider with Friction Compensation	
Sato, Kazuya	Saga Univ.
Mishima, Yoshio	EPSON Co., Ltd.
Tsuruta, Kazuhiro	Kyushu Sangyo Univ.
Murata, Ken-ichi	YASKAWA Corp.
11:00-11:20, Paper FrA06.4	
A Novel Adaptive Gain-Scheduling Controller for Synchronous Generator	
Mohammadi-Milasi, Rasoul	Tehran
Yazdanpanah, M. J.	Univ. of Tehran
Jabehdar Maralani, Parviz	Univ.
11:20-11:40, Paper FrA06.5	
Nonlinear System Control Using Neural Networks Based on Trajectory Linearization	
Liu, Yong	Ohio Univ.
Huang, Rui	Ohio Univ.
Zhu, J. Jim	Ohio Univ.
FrA07	Room 7
Recent Advances in Intelligent Control	Invited Session
Chair: Xu, Jian-Xin	National Univ. of Singapore
Co-Chair: Samad, Tariq	Honeywell Lab.
Organizer: Xu, Jian-Xin	National Univ. of Singapore
Organizer: Wang, Qing-Guo	National Univ. of Singapore
10:00-10:20, Paper FrA07.1	
Adaptive Regulation of Robots Using Approximate Models (I)	
Liu, Chao	Nanyang Tech. Univ.
Cheah, C.C.	Nanyang Tech. Univ.
Liaw, H.C.	Singapore Inst. of Manufacturing Tech.
10:20-10:40, Paper FrA07.2	
A Multiple Internal Model Approach to Movement Planning (I)	
Xu, Jian-Xin	National Univ. of Singapore
Wang, Wei	National Univ. of Singapore
10:40-11:00, Paper FrA07.3	
Robust Adaptive Fuzzy Control of Uncertain Nonholonomic Systems (I)	
Hong, Fan	National Univ. of Singapore
Ge, Shuzhi Sam	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore
11:00-11:20, Paper FrA07.4	
Intelligent PI Control Design for Maximum Sensitivity and Stability Margins (I)	
Lee, Tong Heng	National Univ. of Singapore
Tan, Kok Kiong	National Univ. of Singapore
Ferdous, Raihana	National Univ. of Singapore
11:20-11:40, Paper FrA07.5	
Adaptive Backstepping Control of a Class of MIMO Systems (I)	
Zhou, Jing	Nanyang Tech. Univ.
Wen, Changyun	Nanyang Tech. Univ.
Zhang, Ying	Singapore Inst. of Manufacturing Tech.
11:40-12:00, Paper FrA07.6	
Natural Language Interface for Mobile Robot Navigation Control	
Song, Insop	Univ. of Waterloo
Guedea, Federico	Center for Integrated Manufacturing Systems, ITESM
Karray, Fakhri	Univ. of Waterloo
Dai, Yanqin	Univ. of Waterloo
El Khalil, Ibrahim	American Univ. of Beirut

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FrA08		Room 8
Intelligent Control Applications - a Portfolio		Regular Session
Chair: Takagi, Yasuo		Toshiba Corp.
Co-Chair: Patino, H. Daniel		Univ. Nacional de San Juan
10:00-10:20, Paper FrA08.1		
Multimode Optimal Vibration Control of Flexible Structure Using Piezoceramics		
Sethi, Vineet		Univ. of Houston
song, gangbing		Univ. of Houston
10:20-10:40, Paper FrA08.2		
Robust and Stabilized MPC Formulations for Fault Tolerant and Reconfigurable Flight Control		
Kale, Mangesh		Univ. of Southampton,
Chipperfield, Andrew		Univ. of Southampton,
10:40-11:00, Paper FrA08.3		
Hybrid Spectral/Intelligent Modeling and Decoupling Control for a Nonlinear Distributed Parameter System in IC Packaging		
Li, Hanxiong		City Univ. of Hong Kong
11:00-11:20, Paper FrA08.4		
A Distributed-Based Approach for Diagnosis of Manufacturing Systems		
Slimani, Yahya		Faculty of Sciences of Tunis, Univ. of Tunis El Manar
Hamami, Salah		ISCAE, Univ. of Manouba, Tunisia
Darragi, Soumaya		IPEST, Univ. of Carthage, Tunisia
11:20-11:40, Paper FrA08.5		
Robust Fuzzy Gain Scheduled Visual-Servoing with Sampling Time Uncertainties		
Kadmiry, Bourhane		Linköping Univ.
Bergsten, Pontus		Oerebro Univ.
FrA09		Room 9
Polynomial Design Methods		Invited Session
Chair: Kucera, Vladimir		Czech Tech. Univ. in Prague
Co-Chair: Kaczorek, Tadeusz		Warsaw Tech. Univ.
Organizer: Hromcik, Martin		Czech Tech. Univ.
Organizer: Hurak, Zdenek		Centre For Applied Cybernetics, Czech Tech. Univ.
Organizer: Henrion, Didier		LAAS-CNRS
10:00-10:20, Paper FrA09.1		
Application of Polynomial Method in Control of Time Delay Systems (I)		
Dostal, Petr		Tomas Bata Univ. In Zlin
Bobal, Vladimir		Tomas Bata Univ. In Zlin
10:20-10:40, Paper FrA09.2		
DirectSD - a Toolbox for Polynomial Design of Multivariable Sampled-Data Systems (I)		
Polyakov, Konstantin		SMTU Saint Petersburg
Rosenwasser, Efim N.		Marine Tech. Univ. of Saint Petersburg
Lampe, Bernhard P.		Univ. of Rostock
10:40-11:00, Paper FrA09.3		
Library of Adaptive MIMO Controllers Based on Polynomial Methods (I)		
Kubalcik, Marek		Tomas Bata Univ.
Bobal, Vladimir		Tomas Bata Univ. In Zlin
11:00-11:20, Paper FrA09.4		
The H2 Control Problem with Internal Stability (I)		
Kucera, Vladimir		Czech Tech. Univ. in Prague
11:20-11:40, Paper FrA09.5		
Application of Polynomial Methods for Design of Adaptive Decentralized Control (I)		
Bobal, Vladimir		Tomas Bata Univ. In Zlin
Chalupa, Petr		Tomas Bata Univ. in Zlin
Dostal, Petr		Tomas Bata Univ. In Zlin
FrM01		Room 1

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Nonlinear Control	regular session
Chair: Tomizuka, Masayoshi	UC Berkeley/NSF
Co-Chair: Qu, Zhihua	Univ. of Central Florida
13:20-13:40, Paper FrM01.1	
Unstable, Nonminimum Phase, Nonlinear Tracking by Trajectory Linearization Control	
Mickle, M. Chris	Raytheon Missile Systems
Huang, Rui	Ohio Univ.
Zhu, J. Jim	Ohio Univ.
13:40-14:00, Paper FrM01.2	
A Dynamic Feedback Tracking Design for Systems with Friction Using the LMI Formulation.	
Khayati, Karim	Ec. de Tech. Superieure
Bigras, Pascal	ETS-Univ. of Quebec
Dessaint, Louis A.	Ec. de Tech. superieure
14:00-14:20, Paper FrM01.3	
Synthesis of Absolutely Stabilizing PID Controllers and Its Application to a Ball and Wheel System	
Ho, Ming-Tzu	National Cheng Kung Univ.
Lu, Jun-Ming	National Cheng Kung Univ.
14:20-14:40, Paper FrM01.4	
Online Model Predictive Control Based on the Best-Step Newton Algorithm	
Wen, John T.	Rensselaer Pol. Inst.
Lizarralde, Fernando	Federal Univ. of Rio de Janeiro
14:40-15:00, Paper FrM01.5	
Control of Nonholonomic Systems Via Direct Gradient Descent Control -Variable Constraint Control Based Approach	
Shimizu, Kiyotaka	Keio Univ.
Tamura, Kenichi	Keio Univ.
15:00-15:20, Paper FrM01.6	
A Global-Stabilizing Near-Optimal Control for Real-Time Trajectory Tracking of Nonholonomic Chained Systems	
Qu, Zhihua	Univ. of Central Florida
Wang, Jing	EE, Univ. of Central Florida
Plaisted, Clinton E.	Lockheed Martin Missiles and Fire Control
FrM02	Room 2
Hybrid and Constrained System Applications	Invited Session
Chair: Imura, Jun-ichi	Tokyo Inst. of Tech.
Co-Chair: Suzuki, Tatsuya	Nagoya Univ.
Organizer: Imura, Jun-ichi	Tokyo Inst. of Tech.
Organizer: Suzuki, Tatsuya	Nagoya Univ.
13:20-13:40, Paper FrM02.1	
Hybrid Trajectory Planning for a Mechatronic Tilting System (I)	
Sobotka, Marion	Tech. Univ. Muenchen
Buss, Martin	Tech. Univ. Muenchen
13:40-14:00, Paper FrM02.2	
Experimental Evaluations of Reference Governor Control Schemes with Applications to the Constrained Control of RC Helicopters (I)	
Hirata, Kenji	Osaka Univ.
Minemura, Hiroshi	Osaka Univ.
14:00-14:20, Paper FrM02.3	
Tracking Control of Discrete and Continuous Hybrid Systems: Modeling and Servoing Problem of Dexterous Multi-Fingered Hand Manipulation (I)	
Yin, Yingjie	Bio-Mimetic Control Res. Center, RIKEN
Hosoe, Shigeyuki	Nagoya Univ.
14:20-14:40, Paper FrM02.4	
Optimization of Sensor Parameters in Programmable Logic Controller Via Mixed Integer Programming (I)	
Konaka, Eiji	Nagoya Univ.
Suzuki, Tatsuya	Nagoya Univ.

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Okuma, Shigeru	Nagoya Univ.
14:40-15:00, Paper FrM02.5	
<i>A Collision Avoidance Control for Multi-Vehicle Using PWA/MLD Hybrid System Representation (I)</i>	
Mukai, Masakazu	Kanazawa Univ.
Azuma, Takehito	Kanazawa Univ.
Fujita, Masayuki	Kanazawa Univ.
15:00-15:20, Paper FrM02.6	
<i>Approximate Continuous-Time Optimal Control in Obstacle Avoidance by Time/Space Discretization of Non-Convex State Constraints (I)</i>	
Hagenaars, Hubertus Luberta	Eindhoven Univ. of Tech.
Imura, Jun-ichi	Tokyo Inst. of Tech.
Nijmeijer, Hendrik	Eindhoven Univ. of Tech.
FrM03	Room 3
Advanced Control Technology for Iron and Steel Processes	
Chair: Konishi, Masami	Okayama Univ.
Co-Chair: Ogai, Harutoshi	Professor (Waseda Univ.)
Organizer: Ogai, Harutoshi	Professor (Waseda Univ.)
13:20-13:40, Paper FrM03.1	
<i>Development of the Visual Information Technique of Blast Furnace Process Data (I)</i>	
ITO, Masahiro	NIPPON STEEL Corp.
MATSUZAKI, Shinroku	NIPPON STEEL Corp.
KAKIUCHI, Kazumoto	NIPPON STEEL Corp.
ISOBE, Makoto	NIPPON STEEL Corp.
ISHIDA, Takashi	NITTETSU PLANT DESIGNING Corp.
FUJII, Akira	NIPPON STEEL Corp.
NAITO, Masaaki	NIPPON STEEL Corp.
13:40-14:00, Paper FrM03.2	
<i>Modeling of Gain Tuning Operation for Hot Strip Looper Controller by Recurrent Neural Network (I)</i>	
Konishi, Masami	Okayama Univ.
Imajo, Shuya	Okayama Univ.
Imai, Jun	Okayama Univ.
nishi, tatsushi	Okayama Univ.
14:00-14:20, Paper FrM03.3	
<i>Improvement of Accuracy for Gauge and Elongation Control by Dynamic-Process-Control-Simulator (I)</i>	
SORAO, KENJI	NS-ELEX Co.,Ltd.
Ueno, Toshiaki	NIPPON STEEL Corp.
14:20-14:40, Paper FrM03.4	
<i>Optimization Model and Simulation-Based Solution for a Class of Crane Scheduling Problems (I)</i>	
Tamaki, Hisashi	Kobe Univ.
Sakakibara, Kazutoshi	Kobe Univ.
Murao, Hajime	Kobe Univ.
Kitamura, Shinzo	Kobe Univ.
14:40-15:00, Paper FrM03.5	
<i>Large Scale Database Online Modeling for Blast Furnace (I)</i>	
ITO, Masahiro	NIPPON STEEL Corp.
MATSUZAKI, Shinroku	NIPPON STEEL Corp.
Odate, Naoki	Waseda Univ.
Uchida, Kenko	Waseda Univ.
Ogai, Harutoshi	Waseda Univ.
Akizuki, Kageo	Waseda Univ.
15:00-15:20, Paper FrM03.6	
<i>Strip Width Control for Cold Tandem Mill (I)</i>	
Kadoya, Yasunori	Sumitomo Metal Industries,LTD
Washikita, Yoshiro	Sumitomo Metal Industries,LTD
Kimura, Kazuyoshi	Sumitomo Metal Industries,LTD
Hamada, Ryouji	Sumitomo Metal Industries,LTD
FrM04	Room 4

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Examples of Interacting and Cooperating Robotic Systems	Invited Session
Chair: Sawodny, Oliver	Tech. Univ. Ilmenau
Co-Chair: Suzuki, Ryoichi	Kanazawa Inst. of Tech.
Organizer: Sawodny, Oliver	Tech. Univ. Ilmenau
Organizer: Suzuki, Ryoichi	Kanazawa Inst. of Tech.
13:20-13:40, Paper FrM04.1	
Design and Control of a Quadruped Robot Walking in Unstructured Terrain (I)	
Hiller, Manfred	Univ. of Duisburg-Essen
Germann, Daniel	Univ. of Duisburg-Essen
Morgado de Gois, Jorge Audrin	Univ. of Duisburg-Essen
13:40-14:00, Paper FrM04.2	
Adaptive Autonomy: A Suggestion for the Definition of the Notation 'Autonomy' in Mobile Robotics (I)	
Glotzbach, Thomas	Ilmenau Tech. Univ.
14:00-14:20, Paper FrM04.3	
Internal Model Control for Assisting Unit of Wheeled Walking Frames (I)	
Tani, Masashi	Kanazawa Inst. of Tech.
Suzuki, Ryoichi	Kanazawa Inst. of Tech.
Furuya, Shigehiko	Kanazawa Tech. Coll.
Kobayashi, Nobuaki	Kanazawa Inst. of Tech.
14:20-14:40, Paper FrM04.4	
Manipulation Support System for Large Serving Robots (I)	
Hildebrandt, Alexander	Tech. Univ. Ilmenau
Sawodny, Oliver	Tech. Univ. Ilmenau
14:40-15:00, Paper FrM04.5	
Structure Variable Multi-Sensoric Supervisory Control of Human Interactive Robots (I)	
Giesen, Klaus	Fraunhofer IITB
Deutscher, Reiner	IITB Karlsruhe
Milighetti, Giulio	IITB Karlsruhe
Frey, Christian Walter	MRD
Kuntze, H.-B.	IITB Karlsruhe
15:00-15:20, Paper FrM04.6	
Invited Paper: Biomechatronics - How Much Biology Does the Engineer Need? (I)	
Witte, Hartmut	Tech. Univ. Ilmenau
Schilling, Cornelius	Tech. Univ. Ilmenau
Lutherdt, Stefan	Tech. Univ. Ilmenau
FrM05	Room 5
Flexible Structures	Regular Session
Chair: Etxebarria, Victor	Facultad De Ciencias, Univ. Del Pais Vasco
Co-Chair: Hu, Jwu-Sheng	National Chiao-Tung Univ.
13:20-13:40, Paper FrM05.1	
Speed Regulation of an Eccentric Rotor with a Flexible Joint	
Wu, Shang-Teh	National Yunlin Univ. of Science and Tech.
Shen, Wei-Ming	National Yunlin Univ. of Science and Tech.
13:40-14:00, Paper FrM05.2	
Real-Time Experimental Control of a Flexible Robotic Manipulator Using a Composite Approach	
Etxebarria, Victor	Facultad De Ciencias, Univ. Del Pais Vasco
Sanz, Arantza	UPV/EHU
Lizarraga, Ibone	UPV/EHU
14:00-14:20, Paper FrM05.3	
Minimum Time Optimal Control of Flexible Spacecraft for Rotational Maneuvering	
Ebrahimi, Asghar	K.N.Toosi Univ. of Tech.
Moosavian, S. Ali A.	K.N.Toosi Univ. of Tech.
Mirshams, Mehran	K.N.Toosi Univ. of Tech.
14:20-14:40, Paper FrM05.4	
A General Model-Matching Formulation of Feedforward Control Systems for Active Noise Cancellation in Ducts	

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Hu, Jwu-Sheng	National Chiao Tung Univ.
Hsiao, Tesheng	Univ. of California at Berkeley
14:40-15:00, Paper FrM05.5	
Adaptive Inverse Control for Piezoelectric Actuator with Dominant Hysteresis	
Ru, Changhai	Harbin Inst. of Tech.
Sun, Lining	Harbin Inst. of Tech.
Rong, Weibin	Harbin Inst. of Tech.
Cheng, Liguo	Harbin Inst. of Tech.
15:00-15:20, Paper FrM05.6	
Robust Tracking Control of a Novel Piezodriven Monolithic Flexure-Hinge Stage	
Huang, Yi-Cheng	National Changhua Univ. of Education
Cheng, Chih-Hao	National Changhua Univ. of Education
FrM06	Room 6
Learning Control Applications	Invited Session
Chair: Xu, Jian-Xin	National Univ. of Singapore
Co-Chair: Chien, Chiang-Ju	Huafan Univ.
Organizer: Xu, Jian-Xin	National Univ. of Singapore
13:20-13:40, Paper FrM06.1	
Cutoff-Frequency Phase-In Method to Overcome Initial Position Offsets in Iterative Learning Control Systems (I)	
Zhang, Bin	IEEE
Wang, Danwei	Nanyang Tech. Univ.
Ye, Yongqiang	Nanyang Tech. Univ.
13:40-14:00, Paper FrM06.2	
An Iterative Learning Approach for Local Ramp Metering (I)	
Hou, Zhongsheng	Beijing Jiaotong Univ.
Zhong, Hongwei	Beijing Jiaotong Univ.
Xu, Jian-Xin	National Univ. of Singapore
14:00-14:20, Paper FrM06.3	
A DSP Based Sampled-Data Iterative Learning Control System for Brushless DC Motors (I)	
Chien, Chiang-Ju	Huafan Univ.
Tai, Chia-Liang	Huafan Univ.
14:20-14:40, Paper FrM06.4	
Iterative Learning Control for a Linear Piezo Electric Motor with a Nonlinear Unknown Input Deadzone (I)	
Xu, Jian-Xin	National Univ. of Singapore
Xu, Jing	Nanyang Tech. Univ.
Lee, Tong Heng	National Univ. of Singapore
14:40-15:00, Paper FrM06.5	
Experimental Evaluation of an Adaptive Iterative Learning Control Scheme on a 5-DOF Robot Manipulator (I)	
Tayebi, Abdelhamid	Lakehead Univ.
Islam, Shafiqul	Lakehead Univ.
15:00-15:20, Paper FrM06.6	
Iterative Learning Control of a Flexible Robot Arm Using Accelerometers (I)	
Gunnarsson, Svante	Linköping Univ.
Norrlöf, Mikael	Linköping Univ.
FrM07	Room 7
Intelligent and Advanced Control in the Process Industries	Invited Session
Chair: Samad, Tariq	Honeywell Lab.
Co-Chair: Si, Jennie	Arizona State Univ.
Organizer: Samad, Tariq	Honeywell Lab.
13:20-13:40, Paper FrM07.1	
Transitions in the Process Industries: Opportunities and Prospective Solutions (I)	
Ng, Yew Seng	National Univ. of Singapore
Srinivasan, Rajagopalan	National Univ. of Singapore

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13:40-14:00, Paper FrM07.2	
Operation-Oriented Advanced Process Control (I)	
Su, H. Ted	Honeywell Process Solutions
14:00-14:20, Paper FrM07.3	
Hybrid Model of an Industrial HDPE Reactor (I)	
Moudgalya, Kannan M.	I.I.T. Bombay
14:20-14:40, Paper FrM07.4	
The Power System of the Loosely Coupled Distributed Mini Grids (I)	
Takagi, Yasuo	Toshiba Corp.
14:40-15:00, Paper FrM07.5	
SVC Supplementary Damping Control Using Direct Neural Dynamic Programming (I)	
Lu, Chao	Tsinghua Univ.
Si, Jennie	Arizona State Univ.
Tong, Luyuan	Tsinghua Univ.
Xie, Xiaorong	Tsinghua Univ.
Dankert, James	Arizona State Univ.
FrM08	Room 8
Intelligent Control for Robots	Regular Session
Chair: Ge, Shuzhi	National Univ. of Singapore
Co-Chair: Commuri, Seshadri	Univ. of Oklahoma
13:20-13:40, Paper FrM08.1	
An Acceleration-Based Weighting Scheme for Minimum-Effort Inverse Kinematics of Redundant Manipulators	
Ge, Shuzhi Sam	National Univ. of Singapore
Zhang, Yunong	Univ. of Strathclyde
Lee, Tong Heng	National Univ. of Singapore
13:40-14:00, Paper FrM08.2	
Adaptive Stabilization of Nonholonomic Systems with Unknown Virtual Control Coefficients and Nonlinear Drifts	
Wang, Zhuping	National Univ. of Singapore
Ge, Shuzhi Sam	National Univ. of Singapore
Lee, Tong Heng	National Univ. of Singapore
14:00-14:20, Paper FrM08.3	
Feedback Design for Pendulum-Like Systems Guaranteeing Gradient-Like Behavior	
Yang, Ying	Peking Univ.
Huang, Lin	Peking Univ.
14:20-14:40, Paper FrM08.4	
Linear Neural Model-Based Predictive Controller Design for Flexible Link Robot	
Zmeu, Konstantin V.	Far-Eastern State Tech. Univ.
Shipitko, Eliya A.	Far-Eastern State Tech. Univ.
Perevozchikov, Andrey S.	Far-Eastern State Tech. Univ.
14:40-15:00, Paper FrM08.5	
Distributed Control Framework Design and Implementation for Multi-Robotic Systems: A Case Study on Block Manipulation	
Guedea, Federico	Center for Integrated Manufacturing Systems, ITESM
Song, Insop	Univ. of Waterloo
Karray, Fakhri	Univ. of Waterloo
FrM09	Room 9
Scilab/Scicos: An Open Source Environment for CACSD	Invited Session
Chair: Delebecque, Francois	INRIA, Rocquencourt
Co-Chair: Nikoukhah, Ramine	INRIA, Rocquencourt
Organizer: Delebecque, Francois	INRIA, Rocquencourt
Organizer: Nikoukhah, Ramine	INRIA, Rocquencourt
13:20-13:40, Paper FrM09.1	
COSMAD : A Scilab Toolbox for Output-Only Modal Analysis and Diagnosis of Vibrating Structures (I)	
Courat, Maurice	INRIA Rocquencourt

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Coursat, Maurice	INRIA-Rocquencourt
Mevel, Laurent	INRIA-IRISA
13:40-14:00, Paper FrM09.2	
Control of Pollutant Concentrations in a Road Tunnel Using Electric Fans (I)	
Chancelier, Jean-Philippe	ENPC
Cohen, Guy	ENPC
Henniart, Jean-Baptiste	ENPC
14:00-14:20, Paper FrM09.3	
Computation of Consistent Initial Conditions for Multi-Mode DAEs: Application to Scicos (I)	
Nikoukhah, Ramine	INRIA, Rocquencourt
14:20-14:40, Paper FrM09.4	
A Slicot/Scilab Implementation of Exact Disturbance Decoupling (I)	
Delebecque, Francois	INRIA, Rocquencourt
Petkov, P.Hr.	Tech. Univ. of Sofia
14:40-15:00, Paper FrM09.5	
Scilab Tools for PDE's : Application to the Simulation of Time-Reversal of Acoustic Waves (I)	
Pincon, Bruno	Univ. Henri Poincaré
Ramdani, Karim	INRIA
15:00-15:20, Paper FrM09.6	
Design and Implementation of Scilab Fuzzy Logic Toolbox	
Feng, Chuan	Tsinghua Univ.
Sun, Zengqi	Tsinghua Univ.
Su, Ling	Tsinghua Univ.
FrP01	Room 1
Methods for Nonlinear and Robust Control in Specific Applications	Invited Session
Chair: Sawodny, Oliver	Tech. Univ. Ilmenau
Co-Chair: Suzuki, Ryoichi	Kanazawa Inst. of Tech.
Organizer: Sawodny, Oliver	Tech. Univ. Ilmenau
Organizer: Suzuki, Ryoichi	Kanazawa Inst. of Tech.
15:40-16:00, Paper FrP01.1	
Robust Stability of Nonlinear Polynomial Systems by LMI (I)	
Tibken, Bernd	Univ. of Wuppertal
Dilaver, Kamil Fatih	Univ. of Wuppertal
16:00-16:20, Paper FrP01.2	
Robust Performance and Transient Response of the H_∞/μ DIA Control for Magnetic Suspension Systems (I)	
Seto, Hiroki	Nagaoka Univ. of Tech.
Namerikawa, Toru	Nagaoka Univ. of Tech.
16:20-16:40, Paper FrP01.3	
Modeling and Control Strategies for Heating Processes in the Glass Industry (I)	
Kharitonov, Alexander	Tech. Univ. Ilmenau
Sawodny, Oliver	Tech. Univ. Ilmenau
16:40-17:00, Paper FrP01.4	
Adaptive Tracking within Prescribed Funnels (I)	
Ilchmann, Achim	Tech. Univ. Ilmenau, FRG
Ryan, Eugene P.	Univ. of Bath, UK
Trenn, Stephan	Tech. Univ. Ilmenau, FRG
17:00-17:20, Paper FrP01.5	
Passive and Active Switching Vibration Control with Pendulum Type Damper (I)	
Abe, Naoto	Meiji Univ.
17:20-17:40, Paper FrP01.6	
Guaranteed Output Prediction under Uncertainty of Glucose Endogenous Metabolism for Diabetic Type I Patients (I)	
Tarin Sauer, Cristina	Tech. Univ. of Valencia
Picó, Jesús	Tech. Univ. of Valencia
Bondia Company, Jorge	Tech. Univ. of Valencia

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FrP02	Room 2
Mobile Robot Systems	Regular Session
Chair: SONG, KAI-TAI	National Chiao Tung Univ.
Co-Chair: Chang, Wen-Chung	National Taipei Univ. of Tech.
15:40-16:00, Paper FrP02.1	
Autonomous Vision-Based Pose Control of Mobile Robots with Tele-Supervision	
Chang, Wen-Chung	National Taipei Univ. of Tech.
Lee, Shu-An	National Taipei Univ. of Tech.
16:00-16:20, Paper FrP02.2	
Path Tracking Control of a Laser-Guided Wheeled Mobile Robot	
Tsai, Ching-Chih	National Chung-Hsing Univ.
Lin, Hung-Hsing	National Chung-Hsing Univ.
16:20-16:40, Paper FrP02.3	
Visual Servo Tracking Control of a Wheeled Mobile Robot with a Monocular Fixed Camera	
Chen, Jian	Clemson Univ.
Dixon, Warren E.	Univ. of Florida
Dawson, Darren M.	Clemson Univ.
Chitrakaran, Vilas	Clemson Univ.
16:40-17:00, Paper FrP02.4	
Flexible Trajectory Planning of Multiple Mobile Robot Systems under Dynamic Environment	
Yamamoto, Yoshio	Tokai Univ.
Ya-Chun, Chang	Tokai Univ.
Hiyama, Yoshihisa	Graduate School of Tokai Univ.
17:00-17:20, Paper FrP02.5	
Mobile Robot Navigation Using Sonar Direction Weights	
SONG, KAI-TAI	National Chiao Tung Univ.
Huang, Shin-Yi	National Chiao Tung Univ.
17:20-17:40, Paper FrP02.6	
Design and Implementation of a Multi-Purpose Real-Time Pan-Tilt Visual Tracking System	
Wang, Chun-Kai	National Cheng Kung Univ.
Cheng, Ming-Yang	National Cheng Kung Univ.
Liao, Chien-Hsien	National Cheng Kung Univ.
Lee, Cheng Chien	National Cheng Kung Univ., Taiwan
Sun, Chia Yang	National Cheng Kung Univ.
Tsai, Mi-Ching	National Cheng Kung Univ.
FrP03	Room 3
Advances in Process Control and Monitoring	Invited Session
Chair: Hashimoto, Yoshihiro	Nagoya Inst. of Tech.
Co-Chair: Yu, Cheng-Ching	National Taiwan Univ.
Organizer: Hashimoto, Yoshihiro	Nagoya Inst. of Tech.
Organizer: Kano, Manabu	Kyoto Univ.
15:40-16:00, Paper FrP03.1	
Model Gain Scheduling and Reporting System for Ethylene Plant On-Line Optimizer (I)	
Takinami, Akitoshi	SHOWA DENKO K.K.
Takeuchi, Youichi	SHOWA DENKO K.K.
16:00-16:20, Paper FrP03.2	
Multi-Agent Structure for Batch Process Control (I)	
Hamaguchi, Takashi	Nagoya Inst. of Tech.
Hattori, Tomohiko	Nagoya Inst. of Tech.
Sakamoto, Masaru	Nagoya Inst. of Tech.
Eguchi, Hajime	Nagoya Inst. of Tech.
Hashimoto, Yoshihiro	Nagoya Inst. of Tech.
Itoh, Toshiaki	Nagoya Inst. of Tech.
16:20-16:40, Paper FrP03.3	
Reconstruction Based Sensor Fault Identification in Chemical Processes (I)	
Lee, Changkyu	Pohang Univ. of Science and Tech.
Choi, Sang-Mook	Ulsan Univ. of Science and Tech.

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Choi, Sang Wook	Univ. of Newcastle
Lee, Jong-Min	Pohang Univ. of Sci. & Tech.
Lee, In-Beum	Pohang Univ. of Science & Tech.
16:40-17:00, Paper FrP03.4	
<i>Design and Control of Parallel Processes: Application to Heat-Integrated Distillation (I)</i>	
Tsai, Weng-Hen	National Taiwan Univ.
Yu, Cheng-Ching	National Taiwan Univ.
Huang, Hsiao-Ping	National Taiwan Univ.
17:00-17:20, Paper FrP03.5	
<i>Adaptive Controller Design Using Just-In-Time Learning Algorithm (I)</i>	
Cheng, Cheng	National Univ. of Singapore
Hashimoto, Yoshihiro	Nagoya Inst. of Tech.
Chiu, Min-Sen	National Univ. of Singapore
FrP04	Room 4
Sensor and Control Applications in Motion Systems	
Invited Session	
Chair: Ohishi, Kiyoshi	Nagaoka Univ. of Tech.
Co-Chair: Chen, Min-Shin	National Taiwan Univ.
Organizer: Murakami, Toshiyuki	Keio Univ.
Organizer: Namerikawa, Toru	Nagaoka Univ. of Tech.
15:40-16:00, Paper FrP04.1	
<i>Observing Passing People by Using Fiber Grating Vision Sensor (I)</i>	
Terada, Kenji, -	The Univ. of Tokushima
Umemoto, Takushi, -	The Univ. of Tokushima
16:00-16:20, Paper FrP04.2	
<i>Shaft Insertion for Moving Object by Using Robot Manipulator with One Dimensional PSDs Sensor (I)</i>	
Hayakawa, Soichiro	Toyota Tech. Inst.
Yamada, Yuichi	Toyota Tech. Inst.
Tsuchida, Nuo	Toyota Tech. Inst.
16:20-16:40, Paper FrP04.3	
<i>Anti-Skid Re-Adhesion Control Using Tangential Force Estimator Based on Disturbance Observer for Electric Commuter Train (I)</i>	
Kadowaki, Satoshi	Nagaoka Univ. of Tech.
Ohishi, Kiyoshi	Nagaoka Univ. of Tech.
Yasukawa, Shinobu	Toyo Electric Manufacturing Co.,Ltd.,
Sano, Takashi	Toyo Electric Manufacturing Co.,Ltd.,
16:40-17:00, Paper FrP04.4	
<i>Improving the Transient Response of Magnetic Bearings by the H-Infinity DIA Control (I)</i>	
Wataru, Shinozuka	Nagaoka Univ. of Tech.
Namerikawa, Toru	Nagaoka Univ. of Tech.
17:00-17:20, Paper FrP04.5	
<i>PSD Based Virtual Nonholonomic Constraint for Human Interaction of Redundant Manipulator (I)</i>	
Shibata, Satoshi	Keio Univ.
Murakami, Toshiyuki	Keio Univ.
17:20-17:40, Paper FrP04.6	
<i>Optimal Posture Control for Object Recognition on Active Vision Robot (I)</i>	
Shibata, Masaaki	Seikei Univ.
Ichikawa, Mariko	Seikei Univ.
Motoki, Satoshi	Seikei Univ.
Shibata, Satoshi	Keio Univ.
FrP05	Room 5
Control of Fluid Power Systems	
Invited Session	
Chair: sanada, kazushi	Yokohama National Univ.
Co-Chair: Hayakawa, Yasuhiro	Nara National Coll. of Tech.
Organizer: SANADA, Kazushi	Yokohama National Univ.
15:40-16:00, Paper FrP05.1	
<i>Development of a Body Protection Orthosis by Using Silicon Outer Fence Mold Actuator (I)</i>	
Hayakawa, Yasuhiro	Nara National Coll. of Tech.

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NayaKawa, Tasuhiro	Nara National Coll. of Tech.
Morishita, Kensuke	Nara National Coll. of Tech.
Hata, Taichi	Nara National Coll. of Tech.
Hirota, Shogo	Nara National Coll. of Tech.
16:00-16:20, Paper FrP05.2	
A Study on Full-Electric Control System of Hydro Static Transmission for Construction Machines (I)	
sanada, kazushi	Yokohama National Univ.
16:20-16:40, Paper FrP05.3	
Digital Control of Pneumatic Servo Valve for High Speed and Precise Positioning (I)	
Miyajima, Takashi	Tokyo Inst. of Tech.
Sakaki, Kazutoshi	Sumitomo Heavy Industries, Ltd.
Shibukawa, Takashi	Sumitomo Heavy Industries, Ltd.
Fujita, Toshinori	Tokyo Denki Univ.
Kawashima, Kenji	Tokyo Inst. of Tech.
Kagawa, Toshiharu	Tokyo Inst. of Tech.
16:40-17:00, Paper FrP05.4	
Application of Minor Feedback of Flow Rate to Pressure Spring System (I)	
Kato, Tomonori	Tokyo Metropolitan Coll. of Tech.
Kagawa, Toshiharu	Tokyo Inst. of Tech.
Kawashima, Kenji	Tokyo Inst. of Tech.
Funaki, Tatsuya	Tokyo Inst. of Tech.
Yanagisawa, Michio	Canon Inc.
17:00-17:20, Paper FrP05.5	
Field Test of Pneumatic Robot System for Remote Operation of Construction Machinery (I)	
Kawashima, Kenji	Tokyo Inst. of Tech.
Sasaki, Takahiro	Tokyo Inst. of Tech.
Miyata, Toshiyuki	Tokyo Inst. of Tech.
Nagai, Takayuki	Tokyo Inst. of Tech.
Chayama, Kazuhiro	Fujita Corp.
Mori, Toshio	Fujita Coporation
Fujioka, Akira	Fujita Coporation
17:20-17:40, Paper FrP05.6	
Development of a New Hydraulic Cylinder with Built-In Compound Control Function of Displacement and Thrust (I)	
Wu, ChunNan	Tokyo Inst. of Tech.
Kitagawa, Ato	Tokyo Inst. of Tech.
FrP06	Room 6
Robust Control	Regular Session
Chair: Oishi, Yasuaki	The Univ. of Tokyo
Co-Chair: Wu, Fen	North Carolina State Univ.
15:40-16:00, Paper FrP06.1	
Implementation of a Randomized Algorithm for Solving Parameter-Dependent Linear Matrix Inequalities	
Oishi, Yasuaki	The Univ. of Tokyo
16:00-16:20, Paper FrP06.2	
Convexified Robust Control Approach and Its Application to Actuator Saturation Control	
Wu, Fen	North Carolina State Univ.
16:20-16:40, Paper FrP06.3	
Multivariable Robust Digital Control: A Modified Dyadic Approach	
LIU, Xiang	Automation Association, Zhejiang Province, P.R.China
Sun, Youxian	Zhejiang Univ.
16:40-17:00, Paper FrP06.4	
Guaranteed Cost Control of Linear Uncertain Neutral Type Systems with Multiple Delays	
Nian, Xiaohong	Peking Univ.
Juntao Feng, Feng	Central South Univ.
17:00-17:20, Paper FrP06.5	
Combination of Kinematical and Robust Dynamical Controllers for Mobile Robotics Tracking Control : (I) Optimal Hinf Control	

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Hwang, Chi-Kuang	Chung-Hua Univ.
Chen, Bor Sen	National Tsing Hua Univ.
Chang, Yu-Te	Chung-Hua Univ.
17:20-17:40, Paper FrP06.6	
<i>Combination of Kinematical and Robust Dynamical Controllers for Mobile Robotics Tracking Control : (II) Suboptimal L1 Control</i>	
Hwang, Chi-Kuang	Chung-Hua Univ.
Chen, Bor Sen	National Tsing Hua Univ.
Chang, Yu-Te	Chung-Hua Univ.
FrP07	Room 7
Advanced Stabilization and Signal Synthesis	Invited Session
Chair: Kano, Hiroyuki	Tokyo Denki Univ.
Co-Chair: Chen, Xinkai	Shibaura Inst. of Tech.
Organizer: Kano, Hiroyuki	Tokyo Denki Univ.
Organizer: Chen, Xinkai	Shibaura Inst. of Tech.
15:40-16:00, Paper FrP07.1	
<i>Hybrid Stabilization of Linear Time-Invariant Systems with Two Quantizers (I)</i>	
Zhai, Guisheng	Osaka Prefecture Univ.
Matsumoto, Yuuki	Wakayama Univ.
Chen, Xinkai	Shibaura Inst. of Tech.
Mi, Yanchun	Wakayama Univ.
16:00-16:20, Paper FrP07.2	
<i>Stability and H-Infinity Disturbance Attenuation Analysis for Symmetric Takagi-Sugeno Fuzzy Systems (I)</i>	
Zhai, Guisheng	Osaka Prefecture Univ.
Chen, Xinkai	Shibaura Inst. of Tech.
16:20-16:40, Paper FrP07.3	
<i>Distributed Metrology and Active Control for Picoradian Stabilization of Space Telescopes (I)</i>	
Canuto, Enrico S.	Pol. di Torino
Musso, Fabio	Pol. di Torino
16:40-17:00, Paper FrP07.4	
<i>Estimation and Smoothing for Data Sets of Deterministic and Random Values Using Linear Control (I)</i>	
Martin, Clyde F.	Texas Tech. Univ.
Zhou, Yishao	Stockholm Univ.
17:00-17:20, Paper FrP07.5	
<i>Motion Recovery for a Class of Movements under Perspective Observation (I)</i>	
Chen, Xinkai	Shibaura Inst. of Tech.
Kano, Hiroyuki	Tokyo Denki Univ.
17:20-17:40, Paper FrP07.6	
<i>Constructing and Reconstructing Characters, Words and Sentences (I)</i>	
Fujioka, Hiroyuki	Tokyo Denki Univ.
Kano, Hiroyuki	Tokyo Denki Univ.
Nakata, Hiroaki	Canon Inc.
Shinoda, Hayato	Tokyo Denki Univ.
FrP08	Room 8
Intelligent Adaptive Control	Regular Session
Chair: Su, Ted	Honeywell
Co-Chair: Forbes, Michael Gregory	Univ. of Alberta
15:40-16:00, Paper FrP08.1	
<i>A Time-Varying Output Feedback Controller for Nonlinear Systems with Linear Output Structure</i>	
Wang, Hong	UMIST
16:00-16:20, Paper FrP08.2	
<i>Adaptive Robust Output Feedback Control of a Magnetic Levitation System by K-Filter Approach</i>	
Yang, Zi-jiang	Kyushu Univ.
Kunitoshi, Kazuhiro	Kyushu Univ.
Kanae, Shunshoku	Kyushu Univ.

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Wada, Kiyoshi	Kyushu Univ.
16:20-16:40, Paper FrP08.3	
Adaptive H^∞ RBFN Tracking Control for Nonlinear Dynamic Systems with Unknown Hysteresis	
Tan, Yonghong	Guilin Univ. of Electronic Tech.
16:40-17:00, Paper FrP08.4	
Adaptive Feedforward Model Reference Control Scheme for Vibration Suppression	
Fei, Juntao	
song, gangbing	Univ. of houston
17:00-17:20, Paper FrP08.5	
Simultaneous PID Self-Tuning and Control	
Yang, Qiwen	Hohai Univ.
xue, yuncan	Hohai Univ.
Huang, Jiao	Hohai Univ.
FrP09	Room 9
Interval Tools for Control	Invited Session
Chair: Vehi, Josep	Univ. de Girona
Co-Chair: Ogita, Takeshi	Waseda Univ.
Organizer: Vehi, Josep	Univ. de Girona
15:40-16:00, Paper FrP09.1	
Accurate Sum and Dot Product with Applications (I)	
Ogita, Takeshi	Waseda Univ.
Rump, Siegfried M.	Tech. Univ. Hamburg-Harburg
Oishi, Shin'ichi	Waseda Univ.
16:00-16:20, Paper FrP09.2	
Automatic Design of QFT Prefilter Using Interval Analysis (I)	
Nataraj, P.S.V.	Indian Inst. of Tech.
Tharewal, Sachin	Indian Inst. of Tech. Bombay
16:20-16:40, Paper FrP09.3	
On the Computation of Value Sets of Multi-Linear Functions (I)	
Ohta, Yuzo	Kobe Univ.
Nagahara, Masaaki	Graduate School of Informatics
16:40-17:00, Paper FrP09.4	
Application of Local Consistency Techniques to the Design of Controllers with Robust Performance (I)	
Monreal Tolmo, Javier	Univ. Pol. de Valencia
Bondia Company, Jorge	Tech. Univ. of Valencia
Picó, Jesús	Tech. Univ. of Valencia
17:00-17:20, Paper FrP09.5	
On the Design of Robust Controllers Using the Interval Diophantine Equation (I)	
Lordelo, Alfredo Del Sole	Univ. of Campinas
Juzzo, Edvaldo A.	Univ. of Campinas
Ferreira, Paulo A Valente	Univ. of Campinas
17:20-17:40, Paper FrP09.6	
Quantified Set Inversion with Applications to Control (I)	
Herrero, Pau	Univ. de Girona
Sainz, Miguel	Univ. of Girona
Vehi, Josep	Univ. de Girona
Jaulin, Luc	Univ. d'Angers

Saturday September 4, 2004

SaA01	Room 1
Fault Detection and Accomodation	Regular Session
Chair: Benitez-perez, Hector	Ilmas Unam
Co-Chair: Hsu, Pau-Lo	National Chiao Tung Univ.

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10:00-10:20, Paper SaA01.1	
Structural Analysis for Residual Generation: Towards Implementation	
Dustegor, Dilek	Univ. des sciences et Tech. de Lille
Cocquempot, Vincent	Univ. des Sciences et Tech. de Lille
Staroswiecki, Marcel	Univ. des Sciences et Tech. Lille
10:20-10:40, Paper SaA01.2	
Sensor Fault Identification Based on Kernel Principal Component Analysis	
Cho, Ji-Hoon	Pohang Univ. of science and Tech.
Lee, Jong-Min	Pohang Univ. of Sci. & Tech.
Choi, Sang Wook	Univ. of Newcastle
Lee, Dongkwon	LG Chem. Ltd.
Lee, In-Beum	Pohang Univ. of Science & Tech.
10:40-11:00, Paper SaA01.3	
Model Based Fault Diagnosis on a Centrifugal Pump Application Using Structural Analysis	
Kallesøe, Carsten Skovmose	Grundfos Management A/S
Izadi-Zamanabadi, Roozbeh	Aalborg Univ.
Cocquempot, Vincent	Univ. des Sciences et Tech. de Lille
Rasmussen, Henrik	Aalborg Univ.
11:00-11:20, Paper SaA01.4	
Robust Sensor Fault Reconstruction for an Inverted Pendulum Using Right Eigenstructure Assignment	
Tan, Chee Pin	Monash Univ. Malaysia
Habib, Maki Khalil	Monash Univ.
11:20-11:40, Paper SaA01.5	
A Time Frequency Distribution and ART2 Network Approach in Non Destructive Evaluation, Fault Localization Proposal	
Benitez-perez, Hector	Ilamas Unam
Garcia-Nocetti, Fabian	DISCA-IIMAS-UNAM
rubio-acosta, Ernesto	DISCA-IIMAS-UNAM
11:40-12:00, Paper SaA01.6	
Development of Fault Detection and Diagnosis Schemes for Industrial Refrigeration Systems - Lessons Learned	
Thybo, Claus	Danfoss A/S
Izadi-Zamanabadi, Roozbeh	Aalborg Univ.
SaA02	Room 2
Vehicle Control and Estimation	
Chair: Fujimoto, Hiroshi	Yokohama National Univ.
Co-Chair: Massel, Thomas	Univ. of Applied Sciences Gelsenkirchen
10:00-10:20, Paper SaA02.1	
On One Approach to Constraining Wheel Slip for the Autonomous Control of a 4WS/4WD Vehicle	
Peng, Shou-Tao	Southern Taiwan Univ. of Tech.
Sheu, Jer-Jia	Southern Taiwan Univ. of Tech.
Chang, Chau-Chin	Southern Taiwan Univ. of Tech.
10:20-10:40, Paper SaA02.2	
Estimation of Vehicle Loading State	
Massel, Thomas	Univ. of Applied Sciences
Ding, E.L.	Univ. of Applied Sciences Gelsenkirchen
Arndt, M.	Univ. of Applied Sciences Gelsenkirchen
10:40-11:00, Paper SaA02.3	
Motion Control and Road Condition Estimation of Electric Vehicles with Two In-Wheel Motors	
Fujimoto, Hiroshi	Yokohama National Univ.
Saito, Takeo	Nagaoka Univ. of Tech.
Tsumasaka, Akio	Nagaoka Univ. of Tech.
Noguchi, Toshihiko	Nagaoka Univ. of Tech.
11:00-11:20, Paper SaA02.4	
A Heuristic Rule-Based Switching and Adaptive PID Controller for a Large Autonomous Tracked Vehicle: From Development to Implementation	
Gong, Zhiming	Singapore Inst. of Manufacturing Tech.
Thybo, Claus	Danfoss A/S

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Danez-Guzman, Javier	Singapore Inst. of Manufacturing Techn.
Scheding, Steven	Univ. Sydney
Rye, David	Univ. Sydney
Dissanayake, Gamini	Univ. Sydney
Durrant-Whyte, Hugh	Univ. Sydney
11:20-11:40, Paper SaA02.5	
M3S System Prototype – a Comprehensive System with Straightforward Implementation	
Chen, Chiun-fan	National Taiwan Univ.
Chang, Yi-Chu	National Taiwan Univ.
Luh, Jer-junn	National Taiwan Univ. Hospital
Chong, Fok-ching	National Taiwan Univ.
11:40-12:00, Paper SaA02.6	
Identification of Road Gradient and Vehicle Pitch Angle	
Massel, Thomas	Univ. of Applied Sciences
Ding, E.L.	Univ. of Applied Sciences Gelsenkirchen
Arndt, M.	Univ. of Applied Sciences Gelsenkirchen
SaA03	Room 3
Simulation and Control of Industrial Processes	Invited Session
Chair: Ohtani, Tetsuya	Yokogawa Electric Corp.
Co-Chair: Nakamoto, Masashi	Toshiba Corp.
Organizer: Ohtani, Tetsuya	Yokogawa Electric Corp.
Organizer: Nakamoto, Masashi	Toshiba Corp.
10:00-10:20, Paper SaA03.1	
Development of the Blast Furnace Integrated Java-Based Simulator (I)	
Koga, Masanobu	Kyushu Inst. of Tech.
Ogai, Harutoshi	Waseda Univ.
Ogawa, Masatoshi	Waseda Univ.
Ito, Masahiro	NIPPON STEEL Corp.
Uchida, Kenko	Waseda Univ.
Matsuzaki, Shinroku	NIPPON STEEL Corp.
10:20-10:40, Paper SaA03.2	
On-Line Adaptive Switching Control for Open-Loop Stable and Integrating Processes (I)	
Huang, Hsiao-Ping	National Taiwan Univ.
Lin, Feng-Yi	National Taiwan Univ.
10:40-11:00, Paper SaA03.3	
An Approach of Operation and Control Design for Thermal Power Plants Using Dynamic Simulation (I)	
Nakamoto, Masashi	Toshiba Corp.
11:00-11:20, Paper SaA03.4	
A Simulation-Based Control System - a Case Study for Distillation Columns (I)	
Yumoto, Takamasa	Omega Simulation Co., Ltd.
Ohtani, Tetsuya	Yokogawa Electric Corp.
Ohmori, Hiromitsu	Keio Univ.
11:20-11:40, Paper SaA03.5	
Application of Simulation Technology to Plant Optimization and Control (I)	
Takatsu, Haruo	Yokogawa Electric Corp.
SaA04	Room 4
Adaptive Control and Identification	Regular Session
Chair: Kanamori, Mitsuru	Maizuru National Coll. of Tech.
Co-Chair: Hu, Jwu-Sheng	National Chiao-Tung Univ.
10:00-10:20, Paper SaA04.1	
Model Reference Adaptive Control of Linear Systems with Input Saturation	
Kanamori, Mitsuru	Maizuru National Coll. of Tech.
Tomizuka, Masayoshi	UC Berkeley/NSF
10:20-10:40, Paper SaA04.2	
Adaptive Control for a Class of MIMO Nonlinear Systems with Non-Symmetric Input Matrix	
Zhang, Ximing T.	Clemson Univ.
Duncan, Dorian M.	Clemson Univ.

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Dawson, Darren W.	Clemson Univ.
de Queiroz, Marcio	Louisiana State Univ.
Xian, Bin	Clemson Univ.
10:40-11:00, Paper SaA04.3	
Active Noise Control Systems with Adaptive Nonlinear Filters	
Kuo, Sen M.	Northern Illinois Univ.
Wu, Hsien-Tsai	Southern Taiwan Univ. of Tech.
11:00-11:20, Paper SaA04.4	
A Multi-Model Adaptive Control System for Teleoperation Via Internet	
Kamrani, Ehsan	Tarbiat Modarres Univ.
Momeni, Hamid R.	Tarbiat Modarres Univ.
Sharafat, Ahmad R.	Tarbiat Modarres Univ.
11:20-11:40, Paper SaA04.5	
Feedforward Active Noise Cancellation in Ducts with On-Line Identification of Sensor and Actuator Dynamics	
Hu, Jwu-Sheng	National Chiao Tung Univ.
Hsiao, Tesheng	Univ. of California at Berkeley
11:40-12:00, Paper SaA04.6	
Generalized Minimum Variance with Pole Assignment Controller Modified for Practical Applications	
Paz-Ramos, Marco Antonio	a)ITESM CCM b)CENIDET
Quintero-Marmol, Enrique	CENIDET
Fernandez-del-Busto, Ricardo	ITESM CCM
SaA05	Room 5
Sliding Mode Control	Regular Session
Chair: Chung, Chung Choo	Hanyang Univ.
Co-Chair: Chen, Jian-Shiang	National Tsing Hua Univ.
10:00-10:20, Paper SaA05.1	
An Approach to Discrete-Time Sliding Mode Control	
Chung, Chung Choo	Hanyang Univ.
Lee, Choung woo	Hanyang Univ.
Lee, Seung Hi	Samsung Adv. Inst. of Tech.
10:20-10:40, Paper SaA05.2	
Discrete-Time Output Feedback Sliding Mode Control for Time-Delay Systems with Uncertainty	
Janardhanan, S.	IIT Bombay
Bandyopadhyay, Bijan	IIT Bombay
Thakar, Vishvjit	IIT Bombay
10:40-11:00, Paper SaA05.3	
Disturbance Decoupling of Uncertain Nonlinear Delayed Systems	
Meng, Hongxia	The seventh Res. Div. of Beijing Univ. of aeronautics and astron
Jia, Yingmin	The seventh Res. Div. of Beijing Univ. of aeronautics and astron
11:00-11:20, Paper SaA05.4	
Multirate Output Feedback Sliding Mode Control of Permanent Magnet Stepper Motor Using Flatness Property	
Bandyopadhyay, Bijan	IIT Bombay
Thakar, Vishvjit	Res. Scholar, IIT, Bombay
11:20-11:40, Paper SaA05.5	
Robust Nonlinear Control of a Thermal Mixing Process	
Richter, Hanz	NASA - Stennis Space Center
11:40-12:00, Paper SaA05.6	
Adaptive Voltage Regulation of PWM Buck DC-DC Converters Using Backstepping Sliding Mode Control	
Tsai, Ching-Chih	National Chung-Hsing Univ.
SaA06	Room 6
Adaptive Critic Controls (ISIC)	Invited Session
Chair: Yen, Gary G.	Oklahoma State Univ.
Co-Chair: Liu, Derong	Univ. of Illinois at Chicago

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Organizer: Yen, Gary G.	Oklahoma State Univ.
Organizer: Liu, Derong	Univ. of Illinois at Chicago
10:00-10:20, Paper SaA06.1	
Neural Network Modeling and Adaptive Critic Control of Automotive Fuel-Injection Systems (I)	
Kovalenko, Olesia	Univ. of Illinois
Liu, Derong	Univ. of Illinois at Chicago
Javaherian, Hossein	GM R&D and Planning
10:20-10:40, Paper SaA06.2	
Understand Direct NDP with Linear Quadratic Regulation (I)	
Yang, Lei	Arizona State Univ.
Si, Jennie	Arizona State Univ.
Tsakalis, Konstantinos	Arizona State Univ.
Rodriguez, Armando	Arizona State Univ.
10:40-11:00, Paper SaA06.3	
Adaptive Critics for Dynamic Particle Swarm Optimization (I)	
Venayagamoorthy, Ganesh	Univ. of Missouri-Rolla
11:00-11:20, Paper SaA06.4	
Addressing to Online Adaptive Controller Malfunction in Fault Tolerant Control (I)	
deLima, Pedro	Oklahoma State Univ.
Yen, Gary G.	Oklahoma State Univ.
11:20-11:40, Paper SaA06.5	
Neural Network-Based Optimal Control for Autonomous Mobile Vehicle Navigation (I)	
Patino, H. Daniel	Univ. Nacional de San Juan
11:40-12:00, Paper SaA06.6	
Neuro-Dynamic Programming-Based Optimal Control for Crop Growth in Precision Agriculture (I)	
Patino, H. Daniel	Univ. Nacional de San Juan
SaA07	Room 7
Fuzzy Systems	Regular Session
Chair: Yoneyama, Jun	Aoyama Gakuin Univ.
Co-Chair: Yang, Zi-jiang	Kyushu Univ.
10:00-10:20, Paper SaA07.1	
Analysis of TS-Fuzzy-Model-Based Systems Via Shifted Chebyshev Series	
Ho, Wen-Hsien	National Kaohsiung First Univ. of Science and Tech.
Chou, Jyh-Hornq	National Kaohsiung First Univ. of Science and Tech.
10:20-10:40, Paper SaA07.2	
H-Infinity Control for Fuzzy Time-Delay Systems Via Descriptor System Approach	
Yoneyama, Jun	Aoyama Gakuin Univ.
10:40-11:00, Paper SaA07.3	
Macro-Clustering: Improved Information Retrieval Using Fuzzy Logic	
Bandara, Dharmapriya C.	Univ. of Peradeniya
Liyanaage, Harshana	Univ. of Peradeniya
11:00-11:20, Paper SaA07.4	
On Continuous Petri-Net-Type Fuzzy Cognitive Maps: Generalized Approach	
Jasinevicius, Raimundas	Kaunas Univ. of Tech.
Petrauskas, Vytautas	Kaunas Univ. of Tech.
11:20-11:40, Paper SaA07.5	
Design of a Fuzzy Logic-Based Bidirectional Mapping for Kohonen Networks	
Hülsen, Helge	Univ. of Oldenburg
SaA08	Room 8
Computer Tools for Control Education	Regular Session
Chair: Engell, Sebastian	Univ. of Dortmund
Co-Chair: Moudgalya, Kannan M.	I.I.T. Bombay
10:00-10:20, Paper SaA08.1	
Learn2Control: A Project-Oriented Approach to Teaching Control Engineering	

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Völker, Marten	Univ. Dortmund
Liefeldt, Andreas	Univ. Dortmund
Engell, Sebastian	Univ. of Dortmund
Schmid, Christian	Ruhr-Univ. Bochum
10:20-10:40, Paper SaA08.2	
<i>A Polynomial Based First Course in Digital Control</i>	
Moudgalya, Kannan M.	I.I.T. Bombay
Shah, Sirish L.	Univ. of Alberta
10:40-11:00, Paper SaA08.3	
<i>ARTIST: A Real-Time Interactive Simulink-Based Telelab</i>	
Basso, Michele	Univ. di Firenze
Bagni, Gianni	Univ. di Firenze
11:00-11:20, Paper SaA08.4	
<i>The Design of a Control System Testbed for a 2-DOF Robot</i>	
Cheng, Frank S.	Central Michigan Univ.
Zhao, Lin	Central Michigan Univ.
11:20-11:40, Paper SaA08.5	
<i>Computer Aided Feedback Controller Design Environment for Switching Converter Circuits</i>	
Su, Juing-Huei	Lunghwa Univ. of science and Tech.
Chen, Jiann-Jong	Lunghwa Univ. of science and Tech.
Wang, Chien-Ming	Lunghwa Univ. of science and Tech.
Chien, Chao-Liang	Lunghwa Univ. of science and Tech.
Lee, Jing-Da	Lunghwa Univ. of science and Tech.
SaA09	Room 9
LMI-Based Control System Analysis and Synthesis	
Chair: Ebihara, Yoshio	Invited Session
Co-Chair: Satoh, Atsushi	Kyoto Univ.
Organizer: Ebihara, Yoshio	Nara Inst. of Science And Tech.
10:00-10:20, Paper SaA09.1	
<i>Robust Impulse-To-Peak Synthesis: Application to the Control of an Aerospace Launcher (I)</i>	
Arzelier, Denis	LAAS-CNRS
Peaucelle, Dimitri	LAAS-CNRS
10:20-10:40, Paper SaA09.2	
<i>LMIs for Constrained Polynomial Interpolation with Application in Trajectory Planning (I)</i>	
Henrion, Didier	LAAS-CNRS
Lasserre, Jean B.	CNRS
10:40-11:00, Paper SaA09.3	
<i>Transient Response Shaping in H Infinity Control by Loose Eigenstructure Assignment Technique (I)</i>	
Satoh, Atsushi	Nara Inst. of Science And Tech.
Sugimoto, Kenji	Nara Inst. of Science and Tech.
11:00-11:20, Paper SaA09.4	
<i>System Analysis Using Redundancy of Descriptor Representation (I)</i>	
Chen, Gan	Nanzan Univ.
11:20-11:40, Paper SaA09.5	
<i>An Improved LMI-Based D-Stability Condition for Polytopic Uncertain Systems (I)</i>	
Fang, Chun-Hsiung	National Kaohsiung Univ. of Applied Sciences
11:40-12:00, Paper SaA09.6	
<i>An LMI Approach to Robust H₂ Analysis and Design for Uncertain Continuous-Time Systems (I)</i>	
Fang, Chun-Hsiung	National Kaohsiung Univ. of Applied Sciences
SaM01	Room 1
Manufacturing Systems	
Chair: Huang, Han-Pang	Regular Session
Co-Chair: Chang, Shi-Chung	National Taiwan Univ.
13:20-13:40, Paper SaM01.1	National Taiwan Univ.
<i>Deadlock-Free Scheduling in Automated Manufacturing Systems with Multiple Resource Demands</i>	

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Deadlock-Free Scheduling in Automated Manufacturing Systems with Multiple Resource Requests	
Huang, Zhonghua	Shanghai Jiaotong Univ.
Wu, Zhiming	Shanghai Jiaotong Univ.
13:40-14:00, Paper SaM01.2	
Optimum Cast Plan for Steelmaking-Continuous Casting Production Scheduling	
Xue, Yuncan	Hohai Univ.
Yang, Qiwen	Hohai Univ.
Shao, Huihe	Shanghai Jiaotong Univ.
14:00-14:20, Paper SaM01.3	
A Deadlock-Free Scheduling Method for Automated Manufacturing Systems Using Dynamic-Edge Graph with Tokens	
Huang, Zhonghua	Shanghai Jiaotong Univ.
Wu, Zhiming	Shanghai Jiaotong Univ.
14:20-14:40, Paper SaM01.4	
Supervision of Multiple Industrial Robots - Optimal and Collision Free Work Cycles	
Flordal, Hugo	Chalmers Univ. of Tech.
Spensieri, Domenico	Chalmers Univ. of Tech.
Åkesson, Knut	Chalmers Univ. of Tech.
Fabian, Martin	Chalmers Univ. of Tech.
14:40-15:00, Paper SaM01.5	
Temperature Control of Wafer in Semiconductor Manufacturing Systems by MR-ILQ Design Method	
Matsumoto, Kazuyuki	Osaka Univ.
Suzuki, Keita	Osaka Univ.
Kunimatsu, Sadaaki	Osaka Univ.
Fujii, Takao	Osaka Univ.
SaM02	
	Room 2
Automotive Controls and the Advanced Development Environment	
	Invited Session
Chair: Ohata, Akira	Toyota Motor Corp.
Co-Chair: Gopalswamy, Swaminathan	Emmeskay, Inc
Organizer: Ohata, Akira	Toyota Motor Corp.
Organizer: Sugiki, Akihiko	Tokyo Denki Univ.
13:20-13:40, Paper SaM02.1	
The Development of a Controller Confirmation System for Automatic Transimission and Its Applications (I)	
Matsumura, Toshio	JATCO Ltd
Ichikawa, Shuji	JATCO Ltd
Katsu, Fuyuku	JATCO Ltd
Sato, Masayuki	JATCO Ltd
13:40-14:00, Paper SaM02.2	
Engine Modeling Based on Projection Method and Conservation Laws (I)	
Ohata, Akira	Toyota Motor Corp.
Sugiki, Akihiko	Tokyo Denki Univ.
Ohta, Yoshikazu	Tokyo Denki Univ.
Suzuki, Satoshi	Tokyo Denki Univ.
Furuta, Katsuhisa	Tokyo Denki Univ.
14:00-14:20, Paper SaM02.3	
Practical Considerations for the Implementation of Model Based Control System Development Processes (I)	
Gopalswamy, Swaminathan	Emmeskay, Inc
Sivashankar, Narayanan	Emmeskay, Inc.
Kinikar, Jaydeo	Emmeskay, Inc
14:20-14:40, Paper SaM02.4	
Defining a Model-Based Calibration Process for a Twin-Independent Valve Timing Engine (I)	
Sheridan, Letitia A. D.	The MathWorks Limited
Goyder, Russell	The MathWorks Limited
Cherrie, Jon B.	The MathWorks Limited
Morton, Tanya	The MathWorks Limited
14:40-15:00, Paper SaM02.5	

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14:40-15:00, Paper SaM02.5	
Visualization of Embedded Software for Engine Control Systems (I)	
Shin, Seiichi	Univ. of Tokyo
Tanaka, Satoru	Tokyo Inst. of Tech.
Ohata, Akira	Toyota Motor Corp.
Ozawa, Konori	Univ. of Tokyo
15:00-15:20, Paper SaM02.6	
System Identification and LQG Control of Variable-Compression HCCI Engine Dynamics (I)	
Pfeiffer, Roland	Lund Inst. of Tech.
Haraldsson, Göran	Lund Inst. of Tech.
Olsson, Jan-Ola	Volvo Cars
Tunestål, Per	Lund Inst. of Tech.
Johansson, Rolf	Lund Univ.
Johansson, Bengt	Lund Inst. of Tech.
SaM03	Room 3
Control Applications 3: Mechanical/power Systems	Regular Session
Chair: Abdulla, Ismail	UAE Univ.
Co-Chair: Chen, Mei-Yung	National Taiwan Univ.
13:20-13:40, Paper SaM03.1	
A Robust Controller for an Electro-Mechanical Fin Actuator	
Yoo, Chung-Hee	Agency for Defense Development
Lee, Young-Cheol	Agency for Defense Development
Lee, Sang-Yeal	Agency for Defense Development
13:40-14:00, Paper SaM03.2	
Practical Approach to Modelling and Controlling Stick-Slip Oscillations in Oilwell Drillstrings	
Navarro-López, Eva María	Inst. Mexicano del Petróleo
Suarez, Rodolfo	Inst. Mexicano del Petróleo
14:00-14:20, Paper SaM03.3	
Development of a Tactile Low-Cost Microgripper with Integrated Force Sensor	
Kemper, Markus	Univ. of Oldenburg
14:20-14:40, Paper SaM03.4	
Design of a Control Law for a Semiactive Suspension System Using a Solenoid Valve Damper	
Giua, Alessandro	Univ. di Cagliari
Melas, Mauro	Univ. of Cagliari
Seatzu, Carla	Univ. of Cagliari
14:40-15:00, Paper SaM03.5	
A Fuzzy-Feedback Linearizing Nonlinear Control of Current Source Inverter-Based STATCOM for Synchronous Generator Stabilization	
Chia, Boniface H.K.	Multimedia Univ.
Morris, Stella	Multimedia Univ.
Dash, P.K.	Silicon Inst. of Tech.
15:00-15:20, Paper SaM03.6	
Robust Stability and Control of Nonlinear Reheat Power Systems	
Ismail, Abdulla	UAE Univ.
Mahmoud, Magdi S.	UAE Univ.
SaM04	Room 4
Filtering and Estimation	Regular Session
Chair: Fang, Chun-Hsiung	National Kaohsiung Univ. of Applied Sciences
Co-Chair: Huang, Guo-Shing	National Chin-Yi Inst. of Tech.
13:20-13:40, Paper SaM04.1	
Optimal Design of the Variable Structure(IMM)Tracking Filters Using Genetic Algorithm	
Vahabian, Ali	Univ. of Tehran
Khaki Sedigh, Ali	K.N. Toosi Univ. of Tech.
Akhbardeh, Alireza	Iran Univ. of Science & Tech. Iran
13:40-14:00, Paper SaM04.2	
Neural Calibration and Kalman Filter Position Estimation for Touch Panels	
Lai, Chih-Chann	Wintek

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Tsai, Ching-Chih	National Chung-Hsing Univ.
14:00-14:20, Paper SaM04.3	
Simultaneous Estimations of Ground Target Location and Aircraft Direction Heading Via Image Sequence and GPS Carrier-Phase Data	
Wang, Luke K.	National Kaohsiung Univ. of Applied Sciences
shieh, shan-chih	National Kaohsiung Univ. of Applied Sciences
hsiao, Fei-Bin	National Cheng Kung Univ.
Huang, Kou-Yuan	National Chiao-Tung Univ.
Tsai, Fan-Jen	National Kaohsiung Univ. of Applied Sciences
Huang, Guo-Shing	National Chin-Yi Inst. of Tech.
14:20-14:40, Paper SaM04.4	
Optimal Filtering for Linear Systems with State Delay	
Basin, Michael V.	Autonomous Univ. of Nuevo Leon
Rodriguez Gonzalez, Jesus	Autonomous Univ. of Nuevo Leon
Martinez Zuniga, Rodolfo	Autonomous Univ. of Coahuila
14:40-15:00, Paper SaM04.5	
Adaptive Control Based on Neural Estimation for Systems with Unknown Hysteresis	
Tan, Yonghong	Guilin Univ. of Electronic Tech.
15:00-15:20, Paper SaM04.6	
A Combined Geometric-Volumetric Calibration of Inclined Cylindrical Underground Storage Tanks Using the Regularized Least-Squares Method	
Khaisongkram, Wathanyoo	Chulalongkorn Univ.
Banierdpongchai, David	Chulalongkorn Univ.
SaM05	Room 5
New Trends in Fixed/Reduced-Order Robust Controller Synthesis: New Design Algorithms with Advanced CACSD Tools	
	Invited Session
Chair: Anai, Hirokazu	Fujitsu Lab. Ltd.
Co-Chair: Xin, Xin	Okayama Prefectural Univ.
Organizer: Anai, Hirokazu	Fujitsu Lab. Ltd.
13:20-13:40, Paper SaM05.1	
Unfalsified Parameter Space Design of PID Controllers for Nonlinear Plants (I)	
Saeki, Masami	Hiroshima Univ.
Takahashi, Akihisa	Hiroshima Univ.
Hamada, Osamu	Hiroshima Univ.
Wada, Nobutaka	Hiroshima Univ.
13:40-14:00, Paper SaM05.2	
Fixed Order Controller Design Via Generalized KYP Lemma (I)	
Hara, Shinji	The Univ. of Tokyo
Shiokata, Daisuke	Graduate School of Information Science and Tech. The Univ. of To
Iwasaki, Tetsuya	Univ. of Virginia
14:00-14:20, Paper SaM05.3	
On the Recursive Reduction of the Order of Stabilizing Controllers for LTI Systems (I)	
Darbha, Swaroop	Texas A & M Univ.
Choi, Woosuk	Texas A&M Univ.
Bhattacharyya, Shankar P.	Texas A & M Univ.
14:20-14:40, Paper SaM05.4	
Fixed-Structure Robust Controller Synthesis Based on Symbolic-Numeric Computation: Design Algorithms with a CACSD Toolbox (I)	
Anai, Hirokazu	Fujitsu Lab. Ltd.
Yanami, Hitoshi	Fujitsu Lab. Ltd.
Hara, Shinji	The Univ. of Tokyo
Sakabe, Kei	The Univ. of Tokyo
14:40-15:00, Paper SaM05.5	
RobSin: A New Tool for Design of Robust PID and Three-Term Controllers Based on Singular Frequencies (I)	

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Bajcinca, Naim	DLR
Hulin, Thomas	DLR
15:00-15:20, Paper SaM05.6	
H_infty Controller Order Reduction Due to Stable Invariant Zeros and Its Application to a Magnetic Suspension System (I)	
Xin, Xin	Okayama Prefectural Univ.
Kaneda, Masahiro	Okayama Prefectural Univ.
Hara, Shinji	The Univ. of Tokyo
SaM06	Room 6
Intelligent Sensing (ISIC)	Regular Session
Chair: Yue, Hong	UMIST
Co-Chair: Yu, Wen	CINVESTAV-IPN
13:20-13:40, Paper SaM06.1	
Smart, Intelligent and Cogent MEMS Based Sensors	
Gaura, Elena	Coventry Univ.
Newman, Robert	Coventry Univ.
13:40-14:00, Paper SaM06.2	
Markov-Localization through Color Features Comparison	
Castelнови, Mattia	Univ. of Genova
Sgorbissa, Antonio	Univ. of Genova
Zaccaria, Renato	Univ. of Genova
14:00-14:20, Paper SaM06.3	
Application of Generalized Adaptive Wavelet Neural Network Based on Resemblance Coefficient to Signal Recognition	
Zhang, Gexiang	National EW Lab.
Jin, Weidong	Southwest Jiaotong Univ.
Hu, Laizhao	National EW Lab.
14:20-14:40, Paper SaM06.4	
Sliding Windows in Non-Destructive Testing Systems	
Kazanavicius, Egidijus	Kaunas Univ. of Tech.
Mikuckas, Antanas	Kaunas Univ. of Tech.
Mikuckiene, Irena	Kaunas Univ. of Tech.
14:40-15:00, Paper SaM06.5	
Visual Servoing with Velocity Observer and Neural Compensation	
Yu, Wen	CINVESTAV-IPN
Li, Xiaou	CINVESTAV-IPN
SaM07	Room 7
Applications and Analyses of Genetic Algorithms	Regular Session
Chair: Su, Chun-Yi	Concordia Univ.
Co-Chair: Venayagamoorthy, Ganesh	Univ. of Missouri-Rolla
13:20-13:40, Paper SaM07.1	
Mixed H2/H_inf Control for Uncertain Systems under Pole Placement Constraints Using Genetic Algorithms and LMIs	
Neumann, Donald	Pontifical Catholic Univ. of Paraná - PUCPR
Araújo, Humberto Xavier de	Pontifical Catholic Univ. of Paraná - PUCPR
13:40-14:00, Paper SaM07.2	
Control of Uncertain Chaotic Systems with Improved Performance Using Modified Adaptive Backstepping and Genetic Algorithms	
Grinits, Erick Vile	UNICAMP
Bottura, Celso Pascoli	UNICAMP
14:00-14:20, Paper SaM07.3	
Equal Size Lot Streaming to Job-Shop Scheduling Problem Using Genetic Algorithms	
Chan, Felix T. S.	The Univ. of Hong Kong
Wong, T. C.	The Univ. of Hong Kong
Chan, P. L. Y.	The Univ. of Hong Kong

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14:20-14:40, Paper SaM07.4	
GP and GA in the Design of a Constrained Control System with Disturbance Rejection	
Soltoggio, Andrea	Norwegian Univ. of Science and Tech.
14:40-15:00, Paper SaM07.5	
Neural Gain Scheduling Multiobjective Genetic Fuzzy PI Control	
Oliveira Serra, Ginalber Luiz	State Univ. of Campinas
Bottura, Celso Pascoli	State Univ. of Campinas
15:00-15:20, Paper SaM07.6	
Raman Spectrum Baseline Identification and Its Optimization Using Genetic Algorithm	
Ye, Zhengmao	Wayne State Univ.
Auner, Gregory	Wayne State Univ.
SaM08	Room 8
Tools and Methods for Networked and Real-Time Systems	Regular Session
Chair: Kowalewski, Stefan	RWTH Aachen Univ.
Co-Chair: Hanzalek, Zdenek	Czech Tech. Univ. in Prague
13:20-13:40, Paper SaM08.1	
A Remote Control System for Home Appliances Using the Internet and Radio Connection	
Chen, John Yanhao	St. John's & St. Mary's Inst. of Tech.
Kuan, Jen-Tsan	St. John's & St. Mary's Inst. of Tech.
Wen, Fuh-Liang	St. John's & St. Mary's Inst. of Tech.
Lin, Shi-jie	St. John's & St. Mary's Inst. of Tech.
13:40-14:00, Paper SaM08.2	
A Formal Method to Guarantee a Deterministic Behaviour of Switched Ethernet Networks for Time-Critical Applications	
Georges, Jean-Philippe	CRAN
Divoux, Thierry	CRAN
Rondeau, Eric	CRAN
14:00-14:20, Paper SaM08.3	
Extension of the Linear Fractional Representation Toolbox (LFRT)	
Magni, Jean-Francois	ONERA-CERT
14:20-14:40, Paper SaM08.4	
Scheduling with Start Time Related Deadlines	
Sucha, Premysl	Czech Tech. Univ. in Prague
Hanzalek, Zdenek	Czech Tech. Univ. in Prague
14:40-15:00, Paper SaM08.5	
Adaptive Controller Implementation into PLC Library	
Sysala, Tomas	Tomas Bata Univ. in Zlin
Dostal, Petr	Tomas Bata Univ. In Zlin
15:00-15:20, Paper SaM08.6	
Robot Control System Implementation with Rapid Control Prototyping Technique	
Chen, Chwan-Hsen	Yuan Ze Univ.
SaM09	Room 9
Software Tools for Semidefinite Programming and Its Applications to Control	Invited Session
Chair: Wallin, Ragnar	Linkoping Univ.
Co-Chair: Sebek, Michael	Czech Tech. Univ. in Prague
Organizer: Hansson, Anders	Linkoping Univ.
13:20-13:40, Paper SaM09.1	
YALMIP : A Toolbox for Modeling and Optimization in MATLAB (I)	
Lofberg, Johan	ETH Zürich
13:40-14:00, Paper SaM09.2	
On the Implementation of SDPT3 (version 3.1) -- a Matlab Software Package for Semidefinite-Quadratic-Linear Programming (I)	
Toh, Kim-Chuan	National Univ. of Singapore, Singapore
Tutuncu, R.H.	Carnegie Mellon Univ.

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1000, M.I.J.	Cornell Univ.
14:00-14:20, Paper SaM09.3	
A MATLAB Toolbox for Robustness Analysis (I)	
Kao, Chung-Yao	Royal Inst. of Tech.
Megretski, Alexandre	Massachusetts Inst. of Tech.
Jonsson, Ulf T.	Royal Inst. of Tech.
Rantzer, Anders	LTH, Lund Univ.
14:20-14:40, Paper SaM09.4	
Fixed-Order Robust Controller Design with Polynomial Toolbox 3.0 (I)	
Henrion, Didier	LAAS-CNRS
Sebek, Michael	Czech Tech. Univ. in Prague
Hurak, Zdenek	Centre For Applied Cybernetics, Czech Tech. Univ.
Celikovsky, Sergej	Czech Acad. of Sciences
14:40-15:00, Paper SaM09.5	
A Skew Mu Toolbox (SMT) for Robustness Analysis	
Ferrerres, Gilles	ONERA-CERT / DCSD
Biannic, Jean-Marc	Onera Cert
Magni, Jean-Francois	ONERA-CERT
15:00-15:20, Paper SaM09.6	
SOSTOOLS: Control Applications and New Developments (I)	
Praina, Stephen	California Inst. of Tech.
Papachristodoulou, Antonis	California Inst. of Tech.
Seiler, Peter	Univ. of Illinois at Urbana-Champaign
Parrilo, Pablo A.	Swiss Federal Inst. of Tech.
SaP01	Room 1
Port Automation Technology	Invited Session
Chair: Hong, Keum-Shik	Pusan National Univ.
Co-Chair: Lee, Kwon Soon	Dong-A Univ.
Organizer: Hong, Keum-Shik	Pusan National Univ.
15:40-16:00, Paper SaP01.1	
Implementation of Dual Redundant CAN Module Based on IEEE 1451 in In-Vehicle Network System (I)	
Lee, Suk	Pusan National Univ.
Lee, Kyung Chang	Pusan National Univ.
Kim, Man Ho	Pusan National Univ.
16:00-16:20, Paper SaP01.2	
Anti-Sway Control of Container Cranes As a Flexible Cable System (I)	
Kim, Chang Won	Pusan National Univ.
Hong, Keum-Shik	Pusan National Univ.
Lodewijks, Gabriël	Delft Univ. of Tech.
16:20-16:40, Paper SaP01.3	
Input Shaping and VSC of Container Cranes (I)	
Hong, Kyung Tae	Pusan National Univ.
Hong, Keum-Shik	Pusan National Univ.
16:40-17:00, Paper SaP01.4	
Adaptive PID Control of an AGV System Using Humoral Immune Algorithm and Neural Network Identifier Technique (I)	
Lee, Young Jin	Korea Aviation Pol. Coll.
Suh, Jin Ho	Dong-A Univ.
Lee, Jin Woo	Dong-A Univ.
Lee, Kwon Soon	Dong-A Univ.
17:00-17:20, Paper SaP01.5	
The Effect of the Loading Position on Strength of a Frame in a Shuttle Car for LMTT (I)	
Han, Dong Seop	Dong-A Univ.
Han, Geun Jo	Dong-A Univ.
Lee, Kwon Soon	Dong-A Univ.
17:20-17:40, Paper SaP01.6	

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Position Accuracy Improvement of Linear Motor Container Transfer System Using DR-FNNs (I)	
Lee, Jin Woo	Dong-A Univ.
Suh, Jin Ho	Dong-A Univ.
Lee, Young Jin	Korea Aviation Pol. Coll.
Lee, Kwon Soon	Dong-A Univ.
SaP02	Room 2
Real-Time Prediction and Optimization for Vehicles and Mechanical Systems	Invited Session
Chair: Ohtsuka, Toshiyuki	Osaka Univ.
Co-Chair: Kawabe, Taketoshi	Nissan Motor Co., Ltd.
Organizer: Ohtsuka, Toshiyuki	Osaka Univ.
Organizer: Kawabe, Taketoshi	Nissan Motor Co., Ltd.
15:40-16:00, Paper SaP02.1	
Control System Design for Obstacle Avoidance System Using Model Predictive Control (I)	
Fujiwara, Yukihiro	Honda R&D Co., Ltd.
Adachi, Shuichi	Utsunomiya Univ.
16:00-16:20, Paper SaP02.2	
An Optimal Path Generator Using a Receding Horizon Control Scheme for Intelligent Automobiles. (I)	
Kawabe, Taketoshi	Nissan Motor Co., Ltd.
Nishira, Hikaru	Nissan Motor Co., Ltd.
Ohtsuka, Toshiyuki	Osaka Univ.
16:20-16:40, Paper SaP02.3	
Visual Feedback Control of an Unmanned Planar Blimp System with Self-Scheduling Parameter Via Receding Horizon Approach (I)	
Kawai, Yasunori	Kanazawa Univ.
Hirano, Hiroyuki	Kanazawa Univ.
Azuma, Takehito	Kanazawa Univ.
Fujita, Masayuki	Kanazawa Univ.
16:40-17:00, Paper SaP02.4	
Preconditioned C/GMRES Algorithm for Nonlinear Receding Horizon Control of Hovercrafts Connected by a String (I)	
Tanida, Takuma	Osaka Univ.
Ohtsuka, Toshiyuki	Osaka Univ.
17:00-17:20, Paper SaP02.5	
Nonlinear Receding Horizon Gradient Method (I)	
takeuchi, hiroki	National Inst. of Advanced Industrial Science and Tech.
17:20-17:40, Paper SaP02.6	
Comparative Study of Simultaneous Parameter-State Estimations 3 (I)	
Yamakita, Masaki	Tokyo Inst. of Tech.
Musha, Yoshio	Tokyo Inst. of Tech.
Kinoshita, Gohki	TOYOTA MOTOR Corp.
SaP03	Room 3
Power Systems	Regular Session
Chair: mizukami, koichi	Hiroshima Kokusai Gakuin Univ.
Co-Chair: Lin, Bor-Ren	National Univ. of Science and Tech.
15:40-16:00, Paper SaP03.1	
Unified PID Design for Load Frequency Control	
Khodabakhshian, Amin	Isfahan Univ.
Golbon, Navid	Behineh Niru
16:00-16:20, Paper SaP03.2	
Shunt Active Power Filter with Three-Phase Switch-Clamped Inverter	
Lin, Bor-Ren	National Yunlin Univ. of Science and Tech.
Ou, Yuan-An	National Yunlin Univ. of Science and Tech.
Yang, Tsung-Yu	National Yunlin Univ. of Science and Tech.
16:20-16:40, Paper SaP03.3	

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<i>Unidirectional Single-Phase Rectifier with Power Factor Correction</i>		
Lin, Bor-Ren		National Yunlin Univ. of Science and Tech.
Ou, Yuan-An		National Yunlin Univ. of Science and Tech.
Yang, Tsung-Yu		National Yunlin Univ. of Science and Tech.
16:40-17:00, Paper SaP03.4		
<i>Power Flow Control of a Doubly-Fed Induction Machine Coupled to a Flywheel</i>		
Batlle, Carles		Tech. Univ. of Catalonia (UPC)
Dòria-Cerezo, Arnau		Tech. Univ. of Catalonia (UPC)
Ortega, Romeo		LSS-SUPELEC
17:00-17:20, Paper SaP03.5		
<i>Achieving Maximum-Efficiency Tracking Control for Backlight Electronic Ballast with Phase-Locked Loop Techniques</i>		
LIN, CHANG-HUA		St. John's & St. Mary's Inst. of Tech.
Lu, Ying		St. John's & St. Mary's Inst. of Tech.
Pai, Kai-Jun		St. John's & St. Mary's Inst. of Tech.
17:20-17:40, Paper SaP03.6		
<i>Near-Optimal H_∞ State Feedback Control of Power Systems</i>		
Mukaidani, Hiroaki		Hiroshima Univ.
Xu, Hua		Univ. of Tsukuba
Mizukami, Koichi		Hiroshima Kokusai Gakuin Univ.
SaP04		Room 4
Predictive Control		Regular Session
Chair: Sugie, Toshiharu		Kyoto Univ.
Co-Chair: Peng, Hui		Central South Univ.
15:40-16:00, Paper SaP04.1		
<i>Stability Analysis for Generalized Predictive Control (GPC) and Time Varying Weighting Generalized Predictive Control (TGPC)</i>		
Gomma, H. W.		Univ. of Helwan
Owens, David H.		The Univ. of Sheffield
16:00-16:20, Paper SaP04.2		
<i>Robust Reference Shaping of Periodic Trajectories for Systems with State/Input Constraints</i>		
Sugie, Toshiharu		Kyoto Univ.
Suzuki, Hiromi		Kyoto Univ.
16:20-16:40, Paper SaP04.3		
<i>A Modified Dynamic Matrix Control for Integrating Processes</i>		
Li, Zhijun		North China Electric Power Univ.
Liu, Jizhen		North China Electric Power Univ.
Fu, Caifen		North China Electric Power Univ.
Tan, Wen		North China Electric Power Univ.
16:40-17:00, Paper SaP04.4		
<i>Nonlinear MPC Based on the State-Space Form of RBF-ARX Model</i>		
Peng, Hui		Central South Univ.
17:00-17:20, Paper SaP04.5		
<i>Adaptive PID Control Design Based on Generalized Predictive Control (GPC)</i>		
Gomma, H. W.		Univ. of Helwan
17:20-17:40, Paper SaP04.6		
<i>End Point Constraints Nonlinear Predictive Control with Integral Action for Induction Motor</i>		
Hedjar, Ramdane		Usthb
Toumi, R		Usthb
Boucher, Patrick		Ec. Superieure d'Electricite
Dumur, Didier		Ec. Superieure d'Electricite
SaP05		Room 5
Robust Motion and Vibration Control of Electromechanical Systems		Invited Session
Chair: Namerikawa, Toru		Nagaoka Univ. of Tech.
Co-Chair: Lee, Jun-Ho		Univ. of Virginia
Organizer: Namerikawa, Toru		Nagaoka Univ. of Tech.

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Organizer: Lee, Jun-Ho	Univ. of Virginia
15:40-16:00, Paper SaP05.1 H infinity DIA Control of Magnetic Suspension Systems (I)	
Namerikawa, Toru	Nagaoka Univ. of Tech.
Fujita, Masayuki	Kanazawa Univ.
16:00-16:20, Paper SaP05.2 Gain-Scheduled Vibration Control in Consideration of Actuator Saturation (I)	
Itagaki, Noriaki	Chiba Univ.
Nishimura, Hidekazu	Chiba Univ.
16:20-16:40, Paper SaP05.3 Gain Scheduling Control for Electro-Hydraulic Servo System Considering Time-Delay Modeling Error (I)	
Sugiyama, Takahiro	Moog Japan Ltd.
Uchida, Kenko	Waseda Univ.
16:40-17:00, Paper SaP05.4 Integrated Actuator/Control Design of Smart Pantograph Mechanism for Vibration Suppression (I)	
Iwadare, Motoko	Tokyo Inst. of Tech.
Kajiwara, Itsuro	Tokyo Inst. of Tech.
Tsuchiya, Ryo	Tokyo Inst. of Tech.
Horie, Mikio	Tokyo Inst. of Tech.
17:00-17:20, Paper SaP05.5 Control System for Partial Body Weight Support Device for Human Gait Training (I)	
Lee, Jun-Ho	Univ. of Virginia
Allaire, Paul	Univ. of Virginia
Wolovic, Adam	Univ. of Virginia
Jiang, Wei	Univ. of Virginia
Kerrigan, Casey	Univ. of Virginia
Riley, Patrick	Univ. of Virginia
17:20-17:40, Paper SaP05.6 Optimal Control Theoretic Splines and Its Application to Mobile Robot (I)	
Takahashi, Satoru	Kagawa Univ.
Martin, Clyde F.	Texas Tech. Univ.
SaP06	Room 6
Observers (CCA)	Regular Session
Chair: Suzuki, Ryoichi	Kanazawa Inst. of Tech.
Co-Chair: Wu, Shang-Teh	National Yunlin Univ. of Science and Tech.
15:40-16:00, Paper SaP06.1 Robust H-Infinity Observer Design for a Class of Lipschitz Discrete-Time Systems	
Lu, Guoping	Nantong Inst. of Tech.
Ho, Daniel W. C.	City Univ. of Hong Kong
16:00-16:20, Paper SaP06.2 Generalized Luenberger Observer Design for Matrix Second-Order Linear Systems	
Duan, Guang-Ren	Harbin Inst. of Tech.
Wu, Yun-li	Harbin Inst. of Tech.
16:20-16:40, Paper SaP06.3 AC Induction Motor Sensorless Control Using Lyapunov Function Based Flux and Speed Observer Implemented on Motorola DSP	
Vaclavek, Pavel	Brno Univ. of Tech.
Blaha, Petr	Brno Univ. of Tech.
16:40-17:00, Paper SaP06.4 Disturbance Decoupling Control of a Mechanical System by Reduced Order Observer Based Stabilizing Controller	
Suzuki, Ryoichi	Kanazawa Inst. of Tech.
Tani, Masashi	Kanazawa Inst. of Tech.
Yamashita, Daisuke	Kanazawa Inst. of Tech.
Kobayashi, Nobuaki	Kanazawa Inst. of Tech.
17:00-17:20, Paper SaP06.5	

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17:00-17:20, Paper SaP00.9	
Multi-Rate Control Systems with Multi-Rate Model-Based Holds and Observers	
Armesto, Leopoldo	Pol. Univ. of Valencia
Tomero, Josep	Pol. Univ. of Valencia
Tomizuka, Masayoshi	Univ. of California at Berkeley
SaP07	Room 7
Robustness and Stability in Intelligent Control	Regular Session
Chair: Wu, Hansheng	Hiroshima Prefectural Univ.
Co-Chair: Zhai, Guisheng	Osaka Prefecture Univ.
15:40-16:00, Paper SaP07.1	
Strict LMI Conditions for Stability and Stabilization of Discrete-Time Descriptor Systems	
Zhai, Guisheng	Osaka Prefecture Univ.
Koyama, Naoki	Wakayama Univ.
Bruzelius, Fredrik	Chalmers Univ. of Tech.
Yoshida, Masaharu	Wakayama Univ.
16:00-16:20, Paper SaP07.2	
An Improved LMI Representation for Enlarging the Domain of Attraction for Linear Systems with Actuator Saturation	
Zuo, Zhigiang	Peking Univ.
Wang, Jinzhi	Peking Univ.
Huang, Lin	Peking Univ.
16:20-16:40, Paper SaP07.3	
Decentralized Adaptive Robust Controllers Guaranteeing Uniform Asymptotic Stability for Uncertain Large Scale Time-Delay Systems	
Wu, Hansheng	Hiroshima Prefectural Univ.
Shigemaru, Shinji	Hiroshima Prefectural Univ.
16:40-17:00, Paper SaP07.4	
Discrete Time Delayed System Stability Theory in the Sense of Lyapunov: New Results	
Debeljkovic, D.L.J.	Univ. of Belgrade, Professor of Control. Eng.
Lazarevic, Mihailo	Assistant Prof.
Stojanovic, Sreten	assistant prof.
Jovanovic, Mica	associate professor
Milinkovic, S.A.	Univ. of Belgrade
17:00-17:20, Paper SaP07.5	
Root Locus Analysis of Dahlin Controller	
Zhu, Xuefeng	Chinese Ministry of Education
Dong, Yu	South China Univ. of Tech.
SaP08	Room 8
Controller Design Algorithms	Regular Session
Chair: Imae, Joe	Osaka Prefecture Univ.
Co-Chair: Tibken, Bernd	Univ. of Wuppertal
15:40-16:00, Paper SaP08.1	
Ant Colony Optimization for Designing of PID Controllers	
Hsiao, Ying-Tung	Tamkang Univ.
Chuang, Cheng-Long	Tamkang Univ.
Chien, C.C.	TamKang Univ.
16:00-16:20, Paper SaP08.2	
A Minimax Control Design for Nonlinear Systems Based on Genetic Programming: Jung's Collective Unconscious Approach	
Imae, Joe	Osaka Prefecture Univ.
Ohtsuki, Obuyuki	Osaka Prefecture Univ.
Kikuchi, Yoshiteru	Osaka Prefecture Univ.
Kobayashi, Tomoaki	Osaka Prefecture Univ.
16:20-16:40, Paper SaP08.3	
A Nonlinear Control System Design Based on HJB/HJI/FBI Equations Via Differential Genetic Programming Approach	
Imae, Joe	Osaka Prefecture Univ.

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Kikuchi, Yosniteru	Osaka Prefecture Univ.
Ohtsuki, Nobuyuki	Osaka Prefecture Univ.
Kobayashi, Tomoaki	Osaka Prefecture Univ.
16:40-17:00, Paper SaP08.4	
A New Approach for Approximating the Free Transfer Function in Q-Parametrization.	
Sanchez, Gustavo	Simon Bolivar Univ.
Ferrer, José	Simon Bolivar Univ.
17:00-17:20, Paper SaP08.5	
P-D Feedback Eigenstructure Assignment with Minimum Control Effort in Second-Order Dynamic Systems	
Duan, Guang-Ren	Harbin Inst. of Tech.
Wang, Guo-sheng	Harbin Inst. of Tech.
SaP09	Room 9
Applications of LMIs to Switched and Chaotic Systems	Regular Session
Chair: Xie, Guangming	Peking Univ.
Co-Chair: Buss, Martin	Tech. Univ. Muenchen
15:40-16:00, Paper SaP09.1	
An LMI Approach to L2 Gain Analysis and Control Synthesis of Switched Systems (I)	
Xie, Dongmei	Peking Univ.
Wang, Long	Peking Univ.
Xie, Guangming	Peking Univ.
Hao, Fei	Peking Univ.
16:00-16:20, Paper SaP09.2	
State Feedback Control of Networked Systems Via Periodical Switching (I)	
Mu, Shumei	Peking Univ.
Chu, Tianguang	Peking Univ.
Wang, Long	Peking Univ.
Xie, Guangming	Peking Univ.
16:20-16:40, Paper SaP09.3	
Stabilization of Networked Control Systems with Data Packet Dropout Via Switched System Approach (I)	
Yu, Mei	Peking Univ.
Wang, Long	Peking Univ.
Xie, Guangming	Peking Univ.
Chu, Tianguang	Peking Univ.
16:40-17:00, Paper SaP09.4	
An LMI Criterion for Chaos Synchronization Via the Linear-State-Feedback Approach (I)	
Jiang, Guo-Ping	Nanjing Univ. of Posts & Telecommunications
Zheng, Wei Xing	Univ. of Western Sydney
17:00-17:20, Paper SaP09.5	
Controller Synthesis for Stabilizing Oscillations in Tapping-Mode Atomic Force Microscopes (I)	
Basso, Michele	Univ. di Firenze
Bagni, Gianni	Univ. di Firenze