Monday

July 4, 2005

Program Brochure

Version 05-06-15

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International Program sub-Committees

1.1 Modelling, Identification & Signal Processing	T. McKelvey (SE)
1.2. Adaptive and Learning Systems	A. Sano (JP)
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5.1. Manufacturing Plant Control	G. Morel (FR)
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5.3. Enterprise Integration and Networking	A. Molina (MX)
5.4. Large Scale Complex Systems	F.G. Filip (RO)
6.1. Chemical Process Control	W. Marquardt (DE)
6.2. Mining, Mineral & Metal Processing	S.C. Won (KR)
6.3. Power Plants and Power Systems	O.P. Malik (CA)
6.4. Safeprocess	M. Kinnaert (BE)
7.1. Automotive Control	L. Nielsen (SE)
7.2. Marine Systems	R. Sutton (UK)
7.3. Aerospace	K. Schilling (DE)
7.4. Transportation Systems	M. Papageorgiou (GR)
7.5. Intelligent Autonomous Vehicles	H. Asama (JP)
8.1. Control in Agriculture	G. van Straten (NL)
8.2. Modelling & Control of Biomedical Systems	D. Feng (AU)
8.3. Modelling & Control of Environmental Systems	R. Soncini-Sessa (IT)
8.4. Control of Biotechnological Processes	M. Pons (FR)
9.1. Economic & Business Systems	R. Neck (AT)
9.2. Social Impact of Automation	J. Stahre (SE)
9.3. Developing Countries	G. Dimirovski (MK)
9.4. Control Education	L. Vlacic (AU)
9.5. SWIIS	F. Kile (US)

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IFAC Congress Prizes

The following prizes will be awarded to the authors for Congress contributions at the Closing Ceremony.

- IFAC Congress Young Author Prize
- IFAC Congress Application Paper Prize
- IFAC Congress Poster Paper Prize

Selection committees nominated the following finalists:

Best Application Paper Finalists

Nonlinear Model Predictive Control of Batch Processes: An Industrial Case Study
Zoltan Nagy (University of Stuttgart)
Bernd Mahn (BASF Aktiengesellschaft, Ludwigshafen)
Rudiger Franke (ABB Corporate Research, Ladenburg)
Frank Allgöwer (University of Stuttgart)
Technical area: 6.1. Chemical Process Control
Session: Knowledge Driven Batch Processes (Mo-A06-TO)
Presentation 04-Jul-2005, 13:00-13:20, Small Theatre

Actual Engaged Gear Identification: A Hybrid Observer Approach
Balluchi Andrea (PARADES, Italy)
Luca Benvenuti (Universitŕ di Roma, Italy)
Claudio Lemma (PARADES, Italy)
Alberto Sangiovanni-Vincentelli (PARADES, Italy and University of California at Berkeley, USA)
Gabriele Serra (Magneti Marelli Powertrain, Italy)
Technical area: 7.1. Automotive Control
Session: Powertrain Control (Mo-E20-TO)
Presentation: 04-Jul-2005, 16:10-16:30, Meeting Room 2.1

Evaluation of Sliding Mode Observer for Vehicle Sideslip Angle
Joanny Stéphant (Laboratoire HEUDIASYC, UMR CNRS-UTC, Compiegne, France)
Ali Charara (Laboratoire HEUDIASYC, UMR CNRS-UTC, Compiegne, France)
Dominique Meizel (GERME, ENSIL, Limoges, France)
Technical area: 7.5. Intelligent Autonomous Vehicles
Session: Intelligent Autonomous Vehicles (We-E04-TP)
Presentation: 06-Jul-2005, 15:30-17:30, North Hall

Process Control of an Open Plate Reactor
Staffan Haugwitz (Lund Institute of Technology, Sweden)
Per Hagander (Lund Institute of Technology, Sweden)
Technical area: 6.1. Chemical Process Control
Session: Control of Complex Processes (Th-A06-TO)
Presentation: 07-Jul-2005, 13:20-13:40, Small Theatre

Best Young Author Paper Finalists

Robust Decentralized Pole Assignment
Alireza Esna Ashari (University of Tehran, Iran)
Batool Labibi (K. N. Toosi University of Technology, Iran)
Technical area: 5.4. Large Scale Complex Systems
Session: Large Scale Complex Systems I- Theory (Mo-M21-TO)
Presentation: 04-Jul-2005, 11:20-11:40, Meeting Room 3.4

On the Stability in Almost Periodic Discrete Systems
Oleksiy Ignatyev (Department of Mathematical Sciences, Kent State University, OH, USA)
Technical area: 2.3. Non-Linear Control Systems
Session: Nonlinear Stability II (Mo-A11-TO)
Presentation: 04-Jul-2005, 14:40-15:00, Meeting Room 2.2

Dynamic Output Feedback Stabilization of a Class of a Nonholonomic Hamiltonian Systems
Satoru Sakai (Kyoto University)
Kenji Fujimoto (Nagoya University)
Technical area: 2.3. Non-Linear Control Systems
Session: Nonlinear Control Systems I (Tu-M03-TO)
Presentation: 05-Jul-2005, 11:20-11:40, Terrace 2

Stabilization of Networked Control Systems: Designing Effective Communication Sequences
Lei Zhang (University of Maryland, USA)
Dimitrios Hristu-Varsakelis (University of Macedonia, Greece)
Technical area: 2.2. Linear Control Systems
Session: Analysis and Synthesis of Linear Control Systems I (Th-A02-TP)
Presentation: 07-Jul-2005, 13:00-15:00, North Hall

Awiator's Design of Multi-Objectives Control Laws
Matthieu Jeanneau (AIRBUS,Toulouse, France)
Jérôme Lamolie (AIRBUS & Ecole Centrale de Lille, France)
Guilhem Puyou (AIRBUS,Toulouse, France)
Nicky Aversa (AIRBUS,Toulouse, France)
Technical area: 7.3. Aerospace
Session: Aircraft Control Design (Th-E18-TO)
Presentation: 07-Jul-2005, 15:30-15:50, Meeting Room 3.3

LEGEND TO PROGRAM PAGES

Session (Page) Header

Session Code	Session Type	Technical Area

Session Code format: Day - Time slot & Room number – Session type

Day: Mo/Tu/We/Th/Fr
Monday/Tuesday/Wednesday/Thursday/Friday

Time slot:

M	Morning (10:00-12:00) except for Tuesday
A	Afternoon (13:00-15:00) except for Tuesday
E	Evening (15:30-17:30) except for Tuesday

Room number:

##	one of 22 rooms available for parallel sessions

Session type:

PL	Plenary
SP	Semi-Plenary
TO	Technical Oral (regular/invited)
TP	Technical Poster
PD	Panel Discussion
MS	Milestone Session

Example: Mo-A03-TP
Regular Poster Session, Monday afternoon

Paper Code format: Session Code / Paper Order in Session

Example: Mo-M03-TO/1
First presentation in the session {Mo-M03-TO}
Paper order in a poster session is insignificant

Regular, contributed sessions have been designed in IFAC Technical Committees linked to Technical Areas listed in the next page.

Session pages are organized according to the time schedule.

Technical Program pages were generated from the Congress database automatically by the conference software package developed by Certicon, a.s.

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1. Systems and Signals
   - 1.1 Modelling, Identification and Signal Processing
   - 1.2 Adaptive and Learning Systems
   - 1.3 Discrete Event and Hybrid Systems
   - 1.4 Stochastic Systems

2. Design Methods
   - 2.1 Control Design
   - 2.2 Linear Control Systems
   - 2.3 Non-Linear Control Systems
   - 2.4 Optimal Control
   - 2.5 Robust Control

3. Computers, Cognition and Communication
   - 3.1 Computers for Control
   - 3.2 Cognition and Control
   - 3.3 Computers and Telematics

4. Mechatronics, Robotics and Components
   - 4.1 Components and Instruments
   - 4.2 Mechatronic Systems
   - 4.3 Robotics
   - 4.4 Cost Oriented Automation
   - 4.5 Human Machine Systems

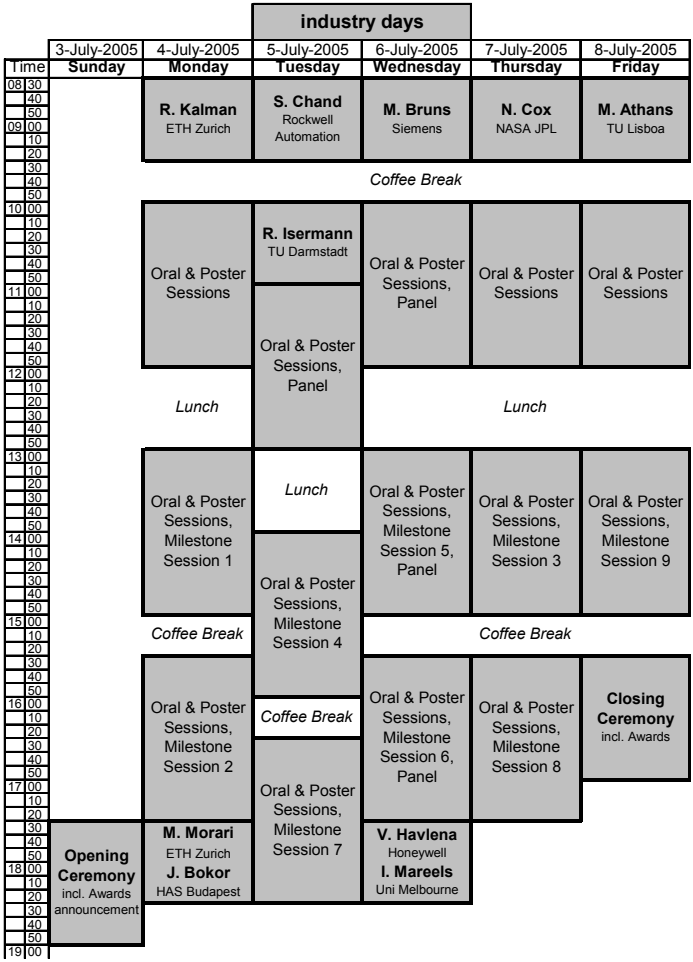
5. Manufacturing Systems
   - 5.1 Manufacturing Plant Control
   - 5.2 Manufacturing Modelling for Management & Control
   - 5.3 Enterprise Integration and Networking
   - 5.4 Large Scale Complex Systems

6. Industrial Systems
   - 6.1 Chemical Process Control
   - 6.2 Mining, Mineral and Metal Processing
   - 6.3 Power Plants and Power Systems
   - 6.4 Fault Detection, Supervision and Safety of Technical Processes

7. Transportation Systems and Vehicles
   - 7.1 Automotive Control
   - 7.2 Marine Systems
   - 7.3 Aerospace
   - 7.4 Transportation Systems
   - 7.5 Intelligent Autonomous Vehicles

8. Bio and Ecological Systems
   - 8.1 Control in Agriculture
   - 8.2 Modelling and Control of Biomedical Systems
   - 8.3 Modelling and Control of Environmental Systems
   - 8.4 Control of Biotechnological Systems

9. Social Systems
   - 9.1 Economic and Business Systems
   - 9.2 Social Impact of Automation
   - 9.3 Developing Countries
   - 9.4 Control Education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5-July-2005 Tuesday
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Time
R. Kalman ETH Zurich
S. Chand Rockwell Automation
M. Bruns Siemens
N. Cox NASA JPL
M. Athans TU Lisboa
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R. Isermann TU Darmstadt
Oral & Poster Sessions, Panel
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Oral & Poster Sessions, Milestone Session 7
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M. Morari ETH Zurich
J. Bokor HAS Budapest
V. Havlena Honeywell
I. Mareels Uni Melbourne

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Congress Center Rooms

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Congress Hall	1&2		Opening Ceremony
Forum Hall Foyer	2		Welcome Party
Conference Hall Foyer			Welcome Party
Forum Hall	2		Closing Ceremony
Conference Hall	4		IFAC General Assembly

Forum Hall	2	♣	**Plenaries**
Meeting Hall I	1	♦	**Semi-Plenaries**
Panorama Hall	1	♠	**Semi-Plenaries**
North Hall	2	●	Poster Sessions
Chamber Hall	3	1	**Milestones Panels**
Club H	1	2	**Panels** Regular Sessions
Terrace 2	2	3	Regular Sessions
Club A	1	4	Regular Sessions
Club E	1	5	Regular Sessions
Small Theatre	0	6	Regular Sessions
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Meeting Room 4.2	4	13	Regular Sessions
Meeting Room 1.1	1	14	Regular Sessions
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Meeting Room 2.1	2	20	Regular Sessions
Meeting Room 3.4	3	21	Regular Sessions
Meeting Room 3.5	3	22	Regular Sessions

RUDOLF E. KALMAN

THE EVOLUTION OF SYSTEM THEORY: MY MEMORIES AND HOPES

Monday 04-Jul-2005 08:30-09:30, Forum Hall

Chair: ***Vladimír Kučera, Czech Technical University in Prague, Czech Republic***

Abstract

Reviewing the evolution of system theory over the last 100 years, and especially since R. M. Foster's famous 1924 paper, the inevitable conclusion is that (after the basic physical issues have been cleared up) progress or failure in engineering research in system theory has been directly linked to progress or failure in solving the underlying purely mathematical problems, regardless of whether these problems were already the subject of study in another unrelated context or had to be formulated ab initio.

Prof. Rudolf E. Kalman
Swiss Federal Institute of Technology, Zurich, Switzerland

MANFRED MORARI

HYBRID SYSTEMS

Monday 04-Jul-2005 17:30-18:30, Meeting Hall I

Chair: ***Sirkka-Liisa Jämsä-Jounela, Helsinki University of Technology, Finland***

Abstract

Theory, computation and applications define the evolution of the field of control. This premise is first illustrated with some historical examples and then with the emerging area of hybrid systems, which can be viewed, loosely speaking, as dynamical systems with switches. Many practical problems can be formulated in the hybrid system framework. Power electronics are hybrid systems by their very nature, systems with hard bounds and/or friction can be described in this manner and problems from other domains, as diverse as driver assistance systems, anesthesia and active vibration control can be put in this form. We will highlight the theoretical developments and mention the extensive software that helps to bring the theory to bear on the practical examples. We will close with an outlook for hybrid systems and control more generally.

Prof. Manfred Morari
Automatic Control Lab
Swiss Federal Institute of Technology ETHZ
Zurich, Switzerland

JOZSEF BOKOR

LINEAR PARAMETER VARYING SYSTEMS: A GEOMETRIC THEORY AND APPLICATIONS

Monday 04-Jul-2005 17:30-18:30, Panorama Hall

Chair: ***Wook Hyun Kwon, Seoul National University, Korea***

Abstract

Linear Parameter Varying (LPV) systems appear in a form of LTI state space representations where the elements of the A(rho); B(rho); C(rho) matrices depend on an unknown but at any time instant measurable vector parameter rho from P. This paper describes a geometric view of LPV systems. Geometric concepts and tools of invariant subspaces and algorithms for LPV systems affine in the parameters will be presented and proposed. Application of these results will be shown and referenced in solving various analysis (controllabilty/observability) problems, controller design and fault detection problems associated to LPV systems.

Prof. József Bokor (with G. Balas)
Computer and Automation Research Institute
Hungarian Academy of Science, Budapest, HU

TOHRU KATAYAMA, TOMAS MCKELVEY, AKIRA SANO, CHRISTOS CASSANDRAS, MARCO CAMPI

TRENDS IN SYSTEMS AND SIGNALS

Monday 04-Jul-2005 13:00-15:00, Chamber Hall

Chair: ***Tohru Katayama, Kyoto University, Japan***

Organizer: ***IFAC Coordinating Committee on Systems and Signals***

Abstract

This report discusses problems and methodologies that lie in the broad scope of systems and signals, with special focus on modeling, identification and signal processing; adaptation and learning; discrete event and hybrid systems; and stochastic systems. A common theme underlying all these areas is that problems in control systems and signals are usually defined and best studied in the framework of stochastic approaches. Although there are common precepts among all these technologies, there are also many unique topics within each area. Therefore, the current key problems in each technology are explained, followed by a discussion of recent major accomplishments with trends, and finally some forecasts of likely developments are provided. The conclusion summarizes some general forecasts for the overall field of systems and signals.

Tohru Katayama, Kyoto University, Japan

Tomas McKelvey, Chalmers University of Technology, Sweden

Akira Sano, Keio University, Japan

Christos Cassandras, Boston University, United States

Marco Campi, University of Brescia, Italy

Mo-E01-MS **Milestone Session** **Area 2.**

RUTH BARS, PATRIZIO COLANERI, CARLOS DE SOUZA, FRANK ALLGÖVER, ANATOLI KLEIMENOV, CARSTEN SCHERER

THEORY, ALGORITHMS AND TECHNOLOGY IN THE DESIGN OF CONTROL SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Chamber Hall

Chair: ***Ruth Bars, Budapest University of Technology and Economics, Hungary***

Organizer: ***IFAC Coordinating Committee on Design Methods***

Abstract

The status report gives an overview of the current key problems in control theory and design, evaluates the recent major accomplishments and forecasts some new areas. Challenges for future theoretical work are modelling, analysis and design of systems in quite new applications fields. New effective real-time optimal algorithms are needed for 2D and 3D pattern recognition. Design of very large distributed systems has presented a new challenge to control theory including robust control. Control over the networks becomes an important application area. Virtual reality is developing in impressive rate arising new theoretical problems. Distributed hybrid control systems involving extremely large number of interacting control loops, coordinating large number of autonomous agents, handling very large model uncertainties will be in the center of future research. New achievements in bioinformatics will result in new applications. All these challenges need development of new theories, analysis and design methods.

Ruth Bars, Budapest University of Technology and Economics, Hungary

Patrizio Colaneri, Politecnico di Milano, Italy

Carlos de Souza, Lab. Nac. de Comp. Cientifica, Brazil

Frank Allgöver, TU Stuttgart, Germany

Anatoli Kleimenov, Russian Academy of Sciences, Russia

Carsten Scherer, TU Delft, Netherlands

Mo-M01-TO Regular-Oral
Area 1.1

NONLINEAR SYSTEM IDENTIFICATION I

Monday 04-Jul-2005 10:00-12:00, Chamber Hall

Chair: ***Jacob Roll, Linköping University, Sweden***

Co-Chair: ***Duncan Potts, University of New South Wales, Australia***

1. (10:00) A General Direct Weight Optimization Framework for Nonlinear System Identification

Jacob Roll, Linköping University, Sweden

Alexander Nazin, Institute of Control Sciences, Russian Federation

Lennart Ljung, Linköping University, Sweden

2. (10:20) Efficient implementation of separable least squares for the identification of composite local linear state-space models

José Borges, Instituto Superior Técnico, Portugal

Vincent Verdult, Delft University of Technology, Netherlands

Miguel Ayala Botto, Instituto Superior Técnico, Portugal

3. (10:40) Exact Nonlinear Modelling Using Symbolic Linear Fractional Transformations

Andres Marcos, University of Leicester, United Kingdom

Declan G. Bates, University of Leicester, United Kingdom

Ian Postlethwaite, University of Leicester, United Kingdom

4. (11:00) Nonlinear Dynamics Identified by Multi-Index Models

David Lindgren, Linkoping University, Sweden

Lennart Ljung, Linkoping University, Sweden

5. (11:20) Online nonlinear system identification using linear model trees

Duncan Potts, University of New South Wales, Australia

Claude Sammut, University of New South Wales, Australia

6. (11:40) The Identification of a Class of Nonlinear Systems using a Correlation Analysis Approach

Z Q Lang, University of Sheffield, United Kingdom

M Futterer, University of Sheffield, United Kingdom

Stephen A. Billings, University of Sheffield, United Kingdom

Mo-M01-TP Regular-Poster
Area 8.4

CONTROL ISSUES IN BIOTECHNOLOGICAL SYSTEMS

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Eugenio Ferreira, DEB, Univ. do Minho, Braga, Portugal***

Co-Chair: ***Marie-Noëlle Pons, LSGC-CNRS, Nancy, France***

1. (10:00) About feedback stabilization of continuous bioprocesses through recirculation

Jérôme Harmand, INRA, France

Alain Rapaport, INRA, France

Frédéric Mazenc, INRIA, France

2. (10:00) Feedback Control System Design for a Fresh Cheese Separator

Markus Hoyer, University of Applied Sciences and Arts Hannover, Germany

Reimar Schumann, University of Applied Sciences and Arts Hannover, Germany

Eberhard Wüst, University of Applied Sciences and Arts Hannover, Germany

Guiliano C. Premier, University of Glamorgan, United Kingdom

3. (10:00) Maximum likelihood adaptive observer for bioprocesses

Xavier Hulhoven, Université Libre de Bruxelles, Belgium

Philippe Bogaerts, Université Libre de Bruxelles, Belgium

4. (10:00) Model Predictive Control of a Simulated Moving Bed

Nicolas Dejardin, ENSIC-INPL, France

Mazen Alamir, ENSIEG-INPG, France

Jean-Pierre Corriou, ENSIC-INPL, France

5. (10:00) Model-based monitoring of immobilized yeast fermentation using fuzzy logic and linguistic equations

Esko Juuso, University of Oulu, Finland

Jukka Kronlöf, Hartwall Ltd, Finland

CONTROL ISSUES IN BIOTECHNOLOGICAL SYSTEMS

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Eugenio Ferreira, DEB, Univ. do Minho, Braga, Portugal***

Co-Chair: ***Marie-Noëlle Pons, LSGC-CNRS, Nancy, France***

6. (10:00) Modeling and predictive control of pellet reactors for water softening

Kim van Schagen, DHV water BV, Netherlands

Robert Babuška, Delft University of Technology, Netherlands

Luuk Rietveld, Delft University of Technology, Netherlands

Jasper Wuister, Delft University of Technology, Netherlands

Alex Veersma, Amsterdam Water Supply, Netherlands

7. (10:00) QFT Robust Control of a Wastewater Treatment Process

Marian Barbu, Dunarea de Jos University of Galati, Romania

Sergiu Caraman, Dunarea de Jos University of Galati, Romania

Emil Ceanga, Dunarea de Jos University of Galati, Romania

8. (10:00) Robust Control with Youla Parametrization of Yeast Fed-Batch Cultures

Alain Vande Wouwer, Faculte Polytechnique de Mons, Belgium

Frederic Renard, Faculte Polytechnique de Mons, Belgium

Sergio Valentinotti, Firmenich SA, Switzerland

Didier Dumur, Supelec, France

FILTERING AND ESTIMATION

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Erik Weyer, The University of Melbourne, Australia***

Co-Chair: ***Ramiro Barbosa, ISEP-Institute of Engineering of Porto, Portugal***

1. (10:00) A Wavelet Approach to Convolutive Blind Separation of Non-stationary Sound Sources

Kiyotaka Takada, The University of Electro-Communications, Japan

Kazushi Nakano, The University of Electro-Communications, Japan

Hirokazu Watai, The University of Electro-Communications, Japan

2. (10:00) Application of a resampling scheme to solve the divergence in the Pathwise filter

Alexsandro Jacob, Instituto Tecnológico de Aeronáutica, Brazil

Takashi Yoneyama, Instituto Tecnológico de Aeronáutica, Brazil

3. (10:00) Arbitrary States Polynomial-like Trajectory (ASPOT) Generation and its applications

Ki Tak Ahn, POSTECH, Korea

Wan Kyun Chung, POSTECH, Korea

Youngil Youm, POSTECH, Korea

4. (10:00) Chaotic-pulse-position Modulation: An Improved third Party Intrusion Scheme using EKF

Franck Hounkpevi, Marquette University, United States

Edwin Yaz, Marquette University, United States

5. (10:00) Constrained deconvolution with filtering

Philippe Neveux, University of Avignon, France

Eric Blanco, Ecole Centrale de Lyon, France

Gérard Thomas, Ecole Centrale de Lyon, France

6. (10:00) Criteria for system identification with quantized data and the optimal quantization schemes

Koji Tsumura, The University of Tokyo, Japan

FILTERING AND ESTIMATION

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Erik Weyer, The University of Melbourne, Australia***

Co-Chair: ***Ramiro Barbosa, ISEP-Institute of Engineering of Porto, Portugal***

7. (10:00) Determining the Degree of System Variability for Time-varying Discrete-time Systems

Przemyslaw Orlowski, Technical University of Szczecin, Poland

8. (10:00) Finite-Frequency Identification: Selftuning of Test Signal

Albert Alexandrov, Institute for Control, Russian Federation

9. (10:00) Fundamental Filtering Limitations in Linear Non-Gaussian Systems

Gustaf Hendeby, Linköping University, Sweden

Fredrik Gustafsson, Linköping University, Sweden

10. (10:00) Global non-asymptotic confidence sets for general linear models

Erik Weyer, Melbourne University, Australia

Marco Campi, University of Brescia, Italy

11. (10:00) Implicit State-Space Representation : a Unifying Framework for FWL Implementation of LTI Systems

Thibault Hilaire, IRCCyN / PSA Peugeot Citroen, France, Metropolitan

Philippe Chevrel, IRCCyN, France, Metropolitan

Yvon Trinquet, IRCCyN, France, Metropolitan

12. (10:00) Observer-based controller for delayed state linear singular systems

Saadni Mohamed salah, Université de Poitiers, France

M. Chaabane, University of Sfax, Tunisia

D. Mehdi, Université de Poitiers, France

O. Bachelier, Université de Poitiers, France

FILTERING AND ESTIMATION

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Erik Weyer, The University of Melbourne, Australia***

Co-Chair: ***Ramiro Barbosa, ISEP-Institute of Engineering of Porto, Portugal***

13. (10:00) Optimal Smoothing Spline Curves and Contour Synthesis

Hiroyuki Kano, Tokyo Denki University, Japan

Hiroyuki Fujioka, Tokyo Denki University, Japan

Magnus Egerstedt, Georgia Institute of Technology, United States

Clyde F. Martin, Texas Tech University, United States

14. (10:00) Output prediction under random measurements. An LMI approach

Ignacio Peñarrocha, Universitat Jaume I, Spain

Antonio Sala, Universitat Politécnica de Valencia, Spain

Roberto Sanchis, Universitat Jaume I, Spain

Pedro Albertos, Universitat Politécnica de Valencia, Spain

15. (10:00) Pole-Zero Approximations of Digital Fractional-Order Integrators and Differentiators Using Signal Modeling Techniques

Ramiro S. Barbosa, ISEP-Institute of Engineering of Porto, Portugal

J. A. Tenreiro Machado, ISEP-Institute of Engineering of Porto, Portugal

Isabel M. Ferreira, Faculty of Engineering of Porto, Portugal

16. (10:00) State estimation schemes for descriptor systems with multi-time delayed measurements

Haoqian Wang, Harbin Institute of Technology, China

Huanshui Zhang, Harbin Institute of Technology, China

Guangren Duan, Harbin Institute of Technology, China

17. (10:00) Synthesis and simulation of fractional orthonormal bases

Mohamed Aoun, Université Bordeaux I, France

Rachid Malti, Université Bordeaux I, France

Alain Oustaloup, Université Bordeaux I, France

CONTINUOUS TIME SYSTEM IDENTIFICATION

Monday 04-Jul-2005 10:00-12:00, Club H

Organizer: ***Liuping Wang, RMIT University, Australia***

Co-Organizer ***Hugues Garnier, Université Henri Poincaré, Nancy 1, France***

Chair: ***Liuping Wang, RMIT University, Australia***

Co-Chair: ***Hugues Garnier, Université Henri Poincaré, Nancy 1, France***

1. (10:00) Continuous time system identification of nonparametric models with constraints

Liuping Wang, RMIT University, Australia

Peter J. Gawthrop, University of Glasgow, United Kingdom

Peter C. Young, University of Lancaster, United Kingdom

2. (10:20) Estimation of phase constrained MIMO transfer functions with application to flexible structures with mixed collocated and non-collocated actuators and sensors

Tomas McKelvey, Chalmers University of Technology, Sweden

S. O. Reza Moheimani, University of Newcastle, Australia

3. (10:40) Frequency-Domain Identification of Continuous-Time ARMA Models from Sampled Data

Jonas Gillberg, Linköping University, Sweden

Lennart Ljung, Linköping University, Sweden

4. (11:00) Identification of continuous-time noise models

Rik Pintelon, Vrije Universiteit Brussel, Belgium

Johan Schoukens, Vrije Universiteit Brussel, Belgium

Yves Rolain, Vrije Universiteit Brussel, Belgium

Bart Cauberghe, Vrije Universiteit Brussel, Belgium

Eli Parloo, Vrije Universiteit Brussel, Belgium

Patrick Guillaume, Vrije Universiteit Brussel, Belgium

5. (11:20) Robustness Issues in Continuous-time System Identification from Sampled Data

Juan Yuz, The Univ. Of Newcastle, Australia

Graham Goodwin, The Univ. Of Newcastle, Australia

Hugues Garnier, Universite Henri Poincare, Nancy 1, France

CONTINUOUS TIME SYSTEM IDENTIFICATION

Monday 04-Jul-2005 10:00-12:00, Club H

Organizer: ***Liuping Wang, RMIT University, Australia***

Co-Organizer ***Hugues Garnier, Université Henri Poincaré, Nancy 1, France***

Chair: ***Liuping Wang, RMIT University, Australia***

Co-Chair: ***Hugues Garnier, Université Henri Poincaré, Nancy 1, France***

6. (11:40) The Cramér-Rao bound for estimation of continuous-time ARX parameters from irregularly sampled data

Erik K Larsson, Uppsala University, Sweden

Magnus Mossberg, Karlstad University, Sweden

Torsten Söderström, Uppsala University, Sweden

CONTROL DESIGN I

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Mikulas Alexik, University of Zilina, Slovakia***

1. (10:00) **An Effective Graphical Approach to Define Objectives and Structure of a Control System**

Zbigniew Mrozek, Cracow University of Technology, Poland

2. (10:00) **Balance-based Adaptive Control of the Electric Flow Heater**

Jacek Czeczot, Silesian University of Technology, Poland

3. (10:00) **Design and Control of a Steering Wheel Vibration Simulator**

James Mynderse, Purdue University, United States

George T.-C. Chiu, Purdue University, United States

4. (10:00) **Engineering Methods of Control Design for Distributed Parameter Systems**

Gabriel Hulkó, Slovak Technical University, Slovakia

Cyril Belavý, Slovak Technical University, Slovakia

Štefan Cibiri, Slovak Technical University, Slovakia

Ján Szuda, Slovak Technical University, Slovakia

5. (10:00) **Fault Detection of Actuators in Superheaters Temperature**

Matei Vinatoru, University of Craiova, Romania

Eugen Iancu, University of Craiova, Romania

6. (10:00) **Fixed-Order Control of Active Suspension: A Hybrid Approach**

Adel Farag, Technical University Hamburg Harburg, Germany

Herbert Werner, Technical University Hamburg Harburg, Germany

7. (10:00) **Nonlinear Control, Disturbance Decoupling and Load Estimation in HVAC Systems**

Mohammad Javad Yazdanpanah, University of Tehran, Iran

Elham Semsar Kazerooni, Concordia University, Canada

Caro Lucas, University of Tehran, Iran

CONTROL DESIGN I

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Mikulas Alexik, University of Zilina, Slovakia***

8. (10:00) On the equivalence of a minimal order MPC and a GTDOF control of time-delay plants

Laszlo Keviczky, Hungarian Academy of Sciences, Hungary

Csilla Banyasz, Hungarian Academy of Sciences, Hungary

9. (10:00) PI Autotuners based on Biased Relay Identification

Roman Prokop, Tomas Bata University, Czech Republic

Jiri Korbel, Tomas Bata University, Czech Republic

Radek Matusu, Tomas Bata University, Czech Republic

10. (10:00) Predictive Functional Control of Integrating Process based on Impulse Response

Bin Zhang, Shanghai Jiaotong University, China

Ping Li, Shanghai Jiaotong University, China

Wei-dong Zhang, Shanghai Jiaotong University, China

11. (10:00) Quantum Feedback Control using Quantum Cloning and State Recognition

Daoyi Dong, University of Science and Technology of China, China

Chenbin Zhang, University of Science and Technology of China, China

Zonghai Chen, University of Science and Technology of China, China

12. (10:00) Rational Bezout equation and interconnection of linear systems

Martin Hromcik, Czech Technical University, Czech Republic

Jiri Lidinsky, Czech Technical University, Czech Republic

Michael Sebek, Inst. of Information Theory and Automation, Czech Republic

13. (10:00) Robust Adaptive Fuzzy CMAC Control for Unknown Systems

Ter-Feng Wu, National Taiwan University, Taiwan

Pu-Sheng Tsai, National Taiwan University, Taiwan

Fan-Ren Chang, National Taiwan University, Taiwan

CONTROL DESIGN I

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Mikulas Alexik, University of Zilina, Slovakia***

14. (10:00) Robust Disturbance Decoupling in Linear Multivariable

Leonid Lyubchyk, NTU, Ukraine

Peter C. Mueller, Wuppertal University, Germany

15. (10:00) Robust Dynamic Stiffness Design of a Linear Servo System

Bin-Hong Shen, National Cheng Kung University, Taiwan

Mi-Ching Tsai, National Cheng Kung University, Taiwan

Da-Wei Gu, University of Leicester, United Kingdom

16. (10:00) Robust Overlapping Decentralized Control for Multi-area Longitudinal Power Systems

Xiaohua Li, Anshan University of Science and Technology, China

Xue-bo Chen, Anshan University of Science and Technology, China

Yuanwei Jing, Northeastern University, China

Wei Wang, Dalian University of Technology, China

17. (10:00) Stability and H_infinity Performance Preserving Scheduling Policy for Networked Control Systems

Hai Lin, Univ of Notre Dame, United States

Guisheng Zhai, Osaka Prefecture Univ, Japan

Lei Fang, Univ of Notre Dame, United States

Panos Antsaklis, Univ of Notre Dame, United States

18. (10:00) Synthesis of Fixed Structure controllers for discrete time systems

Waqar Malik, Texas A & M University, United States

Swaroop Darbha, Texas A & M University, United States

Shankar P. Bhattacharyya, Texas A & M University, United States

19. (10:00) The Non-conventional Sampling Pattern as a Design Parameter

Angel Cuenca, Technical of Valencia, Spain

Julian Salt, Technical of Valencia, Spain

CONTROL DESIGN I

Monday 04-Jul-2005 10:00-12:00, North Hall

Chair: ***Mikulas Alexik, University of Zilina, Slovakia***

20. (10:00) Virtual Reference Feedback Tuning in Restricted Complexity Controller Design of Non-Minimum Phase Systems

Antonio Sala, Universidad Politecnica de Valencia, Spain

Alicia Esparza, Universidad Politecnica de Valencia, Spain

NONLINEAR OBSERVERS I

Monday 04-Jul-2005 10:00-12:00, Terrace 2

Chair: ***Jaime Moreno, Univ. Nac. Aut. de Mexico, Mexico***

Co-Chair: ***Jean-Pierre Corriou, LSGC-CNRS-ENSIC, France***

1. (10:00) State and Unknown Inputs Estimation for a Class of Nonlinear Systems

Mondher Farza, Université de Caen, ENSICAEN, France

Mohammed M'Saad, Université de Caen, ENSICAEN, France

Feng-Long Liu, Université de Caen, ENSICAEN, France

Boubekeur Targui, Université de Caen, ENSICAEN, France

2. (10:20) Constructive design of unknown input nonlinear observers by dissipativity and LMIs

Jaime A. Moreno, Univ. Nac. Aut. de Mexico (UNAM), Mexico

Edmundo Rocha-Cozatl, Univ. Nac. Aut. de Mexico (UNAM), Mexico

Michael Zeitz, University of Stuttgart, ISR, Germany

3. (10:40) An observer for semi-explicit differential-algebraic systems

Erik Frisk, Linköping University, Sweden

Jan Åslund, Linköping University, Sweden

4. (11:00) Riemannian Observers for Euler-Lagrange Systems

David A. Anisi, Royal Institute of Technology, Sweden

Johan Hamberg, Swedish Defence Research Agency, Sweden

5. (11:20) An Algorithm for System Immersion into Nonlinear Observer Form: Forced System

Juhoon Back, Seoul National University, Korea

Hyungbo Shim, Seoul National University, Korea

Jin H. Seo, Seoul National University, Korea

6. (11:40) A new approach for the observer-based synchronization of chaotic systems

G. Iulia Bara, Louis Pasteur University, France

Ali Zemouche, Louis Pasteur University, France

Mohamed Boutayeb, Louis Pasteur University, France

MOBILE ROBOTS I

Monday 04-Jul-2005 10:00-12:00, Club A

Chair: ***Juan Antonio de la Puente, Universidad Politecnica de Madrid, Spain***

Co-Chair: ***Claudio Melchiorri, University of Bologna, Italy***

1. (10:00) A hyperbolic, extended Jacobian inverse kinematics algorithm for mobile manipulators

Krzysztof Tchon, Wroclaw University of Technology, Poland

Janusz Jakubiak, Wroclaw University of Technology, Poland

2. (10:20) Obstacle-avoiding Path Planning for High Velocity Wheeled Mobile Robots

Jorge Villagra, PSA Peugeot-Citroën, France

Hugues Mounier, Institut d'Electronique Fondamentale, Université Paris-Sud, France

3. (10:40) Robot Motion Planning by Approximation of Obstacles in Configuration Space

Martin Ruehl, University of Siegen, Germany

Hubert Roth, University of Siegen, Germany

4. (11:00) Real-Time Path Planning in Unknown Environments using a Virtual Hill

Min Cheol Lee, School of Mechanical Engineering, Pusan National University, Korea

Min Gyu Park, Research Institute of Mechanical Technology, Pusan National University, Korea

Kwon Son, School of Mechanical Engineering, Pusan National University, Korea

5. (11:20) Nonlinear multivariable control of an omnidirectional vehicle

André Desbiens, Université Laval, Canada

Frédérick Bourgoin, Université Laval, Canada

6. (11:40) Energy Efficient Drive of an Omnidirectional Mobile Robot with Steerable Omnidirectional Wheels

Jae-Bok Song, Korea University, Korea

Jeong-Keun Kim, Korea University, Korea

FAULT DETECTION AND IDENTIFICATION

Monday 04-Jul-2005 10:00-12:00, Club E

Chair: ***Mohamed Darouach, CRAN, CNRS, France***

Co-Chair: ***Michel Kinnaert, Université Libre de Bruxelles, Belgium***

1. (10:00) Fault Detection and Identification of Actuator Faults using Linear Parameter Varying Models

Redouane Hallouzi, Delft University of Technology, Netherlands

Vincent Verdult, Delft University of Technology, Netherlands

Robert Babuska, Delft University of Technology, Netherlands

Michel Verhaegen, Delft University of Technology, Netherlands

2. (10:20) Simultaneous Reconstruction Of The State, The Sensor Fault And The Uncertainty In Linear Systems

Maoyin Chen, Tsinghua University, China

Donghua Zhou, Tsinghua University, China

Yun Shang, Shaanxi Normal University, China

3. (10:40) Design of Augmented Fault Detection Filter for Fault Tolerant Control

Hicham Jamouli, Université Ibn Zohr, Agadir, Morocco

Dominique Sauter, Université Henri Poincaré Nancy 1, France

Jean yves Keller, IUT longwy Henri Poincaré, France

Jean-christophe Ponsart, Université Henri Poincaré Nancy 1, France

4. (11:00) An adaptive observer for sensor fault estimation in linear time varying systems

Qinghua Zhang, INRIA, France

5. (11:20) Fault Detection and Identification for Uncertain Linear Neutral Delay Systems

Canghua Jiang, Tsinghua University, China

D. H. Zhou, Tsinghua University, China

FAULT DETECTION AND IDENTIFICATION

Monday 04-Jul-2005 10:00-12:00, Club E

Chair: ***Mohamed Darouach, CRAN, CNRS, France***

Co-Chair: ***Michel Kinnaert, Université Libre de Bruxelles, Belgium***

6. (11:40) Fault Detection using Radial Basis Function Network and Polygonal Line

Bharat Bhushan, The University of Sydney, Australia

Jose A. Romagnoli, The University of Sydney, Australia

Dawei Wang, The University of Sydney, Australia

MODELLING, ESTIMATION AND FAULT DETECTION FOR PROCESS CONTROL

Monday 04-Jul-2005 10:00-12:00, Small Theatre

Chair: ***Sirish Shah, U. Alberta, Canada***

Co-Chair: ***Sunwon Park, KAIST, Korea***

1. (10:00) A Closed Loop Approach to Tank Reactor Model Simplification

Veronica Olesen, Chalmers University of Technology, Sweden

Torsten Wik, Chalmers University of Technology, Sweden

Claes Breitholtz, Chalmers University of Technology, Sweden

2. (10:20) A Simple Test to Confirm Control Valve Stiction

Md Ali A. Shoukat Choudhury, University of Alberta, Canada

Vinay Kariwala, University of Alberta, Canada

Sirish L. Shah, University of Alberta, Canada

Hisato Douke, Mitsubishi Chemical Corporation, Japan

Haruo Takada, Mitsubishi Chemical Corporation, Japan

Nina F. Thornhill, University College London, United Kingdom

3. (10:40) Chemical System Dynamic Identification with Application to Sensor Fault Detection

Silvio Simani, Dipartimento di Ingegneria, Università di Ferrara, Italy

4. (11:00) Subspace Method Identification for Dynamic Multivariate Statistical Process Control

Richard Treasure, The University of Western Australia, Australia

Uwe Kruger, Queens University Belfast, United Kingdom

Victor Sreeram, The University of Western Australia, Australia

5. (11:20) Kalman Filters for Non-uniformly Sampled Multirate Systems

Sirish L. Shah, University of Alberta, Canada

Weihua Li, University of Alberta, Canada

D. Xiao, Tsinghua University, China

MODELLING, ESTIMATION AND FAULT DETECTION FOR PROCESS CONTROL

Monday 04-Jul-2005 10:00-12:00, Small Theatre

Chair: ***Sirish Shah, U. Alberta, Canada***

Co-Chair: ***Sunwon Park, KAIST, Korea***

6. (11:40) Integrated Fault-Detection and Fault-Tolerant Control of Process Systems

Panagiotis Christofides, University of California, Los Angeles, United States

Prashant Mhaskar, University of California, Los Angeles, United States

Adiwinata Gani, University of California, Los Angeles, United States

Nael H. El-Farra, University of California, Los Angeles, United States

James F. Davis, University of California, Los Angeles, United States

ADAPTIVE CONTROL OF LINEAR SYSTEMS

Monday 04-Jul-2005 10:00-12:00, Terrace 1

Chair: ***Itzhak Barkana, Kulicke @ Soffa Industries, Inc., United States***

Co-Chair: ***Naoki Mizuno, Nagoya Institute of Technology, Japan***

1. (10:00) Adaptive learning control of linear systems by output error feedback

Stefano Liuzzo, University of Rome Tor Vergata, Italy

Riccardo Marino, University of Rome Tor Vergata, Italy

Patrizio Tomei, University of Rome Tor Vergata, Italy

2. (10:20) Allowed gain errors for iterative modelling and controller design

Sandor M Veres, University of Southampton, United Kingdom

3. (10:40) Adaptive Narrow-band Disturbance Rejection for Stable Plants under Robust Stabilization Framework

Jwu-Sheng Hu, National Chiao Tung University, Taiwan

Himanshu Pota, UNSW@ADFA, Australian Defence Force Academy, Australia

4. (11:00) Discrete-Time Adaptive Control for Continuous-Time Systems using 2-Delay Limiting-Zero Model

Naoki Mizuno, Nagoya Institute of Technology, Japan

Akira Sato, Yokogawa Electric Corporation, Japan

5. (11:20) On Stability and Gain Convergence in Discrete Simple Adaptive Control

Itzhak Barkana, Kulicke @ Soffa Industries, Inc., United States

6. (11:40) Stabilization of linear systems by dynamic high-gain rotation

Tobias Damm, TU Braunschweig, Germany

Hans Crauel, TU Ilmenau, Germany

Achim Ilchmann, TU Ilmenau, Germany

STRUCTURAL PROPERTIES OF NONLINEAR SYSTEMS

Monday 04-Jul-2005 10:00-12:00, Club B

Chair: ***Ulle Kotta, Institute of Cybernetics at TUT, Estonia***

Co-Chair: ***Shinji Hara, The University of Tokyo, Japan***

1. (10:00) Equivalence of Different Realizability Conditions for Nonlinear MIMO Differential Equations

Ulle Kotta, Institute of Cybernetics at TUT, Estonia

Tanel Mullari, Institute of Cybernetics at TUT, Estonia

2. (10:20) Realization of nonlinear discrete-time composite systems: computational aspects

Sven Nõmm, Institute of Cybernetics at Tallinn University of Technology, Estonia

Ülle Kotta, Institute of Cybernetics at Tallinn University of Technology, Estonia

Maris Tõnso, Institute of Cybernetics at Tallinn University of Technology, Estonia

3. (10:40) Analysis and Nonlinear Control of Implicit Discrete-time Dynamic Systems

Johann Holl, University of Linz, Austria

Kurt Schlacher, University of Linz, Austria

4. (11:00) Generalized dilations and homogeneity

Emre Tuna, UCSB, United States

Andrew Teel, UCSB, United States

5. (11:20) Nonlinear Control Analysis on Kinematically Asymmetrically Affine Control Systems with Nonholonomic Affine Constraints

Tatsuya Kai, The University of Tokyo, Japan

Hidenori Kimura, RIKEN, Japan

Shinji Hara, The University of Tokyo, Japan

6. (11:40) A Generalization of Morse's Theorem for Nonlinear Time-Varying Systems

Ti-Chung Lee, Ming Hsin University of Science and Technology, Taiwan

SWITCHING AND MULTIPLE MODEL APPROACHES TO ADAPTATION

Monday 04-Jul-2005 10:00-12:00, Club D

Chair: ***David Angeli, University of Florence, Italy***

Co-Chair: ***Tatiana Valentine Guy, Czech Academy of Sciences - UTIA, Czech Republic***

1. (10:00) Safe Adaptive Switching through Infinite Controller Set: Stability and Convergence

Margareta Stefanovic, University of Southern California, United States

Ayanendu Paul, University of Southern California, United States

Michael G. Safonov, University of Southern California, United States

2. (10:20) Adaptive switching control of quadratically stabilizable uncertain systems with an anesthesia application

David Angeli, University of Florence, Italy

Claudia Manuelli, University of Florence, Italy

Edoardo Mosca, University of Florence, Italy

3. (10:40) On epsilon–Invariance of Nonlinear Systems with Functional and Signal Uncertainties

Denis Efimov, IPME, Russian Federation

Alexey Bobtsov, ITMO, Russian Federation

4. (11:00) New Supervisory Control using Control-relevant Switching

Tae-Woong Yoon, Korea University, Korea

Jung-Su Kim, Seoul National University, Korea

5. (11:20) Multiobjective probabilistic mixture control

Tatiana Valentine Guy, Institute Information Theory and Automation, Czech Republic

Josef Bohm, Institute Information Theory and Automation, Czech Republic

Miroslav Karny, Institute Information Theory and Automation, Czech Republic

6. (11:40) Bicriterial Dual Control with multiple linearization

Miroslav Flidr, University of West Bohemia in Pilsen, Czech Republic

Miroslav Simandl, University of West Bohemia in Pilsen, Czech Republic

ROBUSTNESS ANALYSIS I

Monday 04-Jul-2005 10:00-12:00, Club C

Chair: ***Tetsuya Iwasaki, University of Virginia, United States***

Co-Chair: ***Andrey Savkin, The University of New South Wales, Australia***

1. (10:00) Analysis and synthesis of networked control systems: topological entropy, observability, robustness and optimal control.

Andrey Savkin, Univ. of New South Wales, Australia

2. (10:20) Efficient Computation of a Guaranteed Robustness Margin

Jean-Marc Biannic, ONERA/DCSD - BP 4025, France

Gilles Ferreres, ONERA/DCSD - BP 4025, France

3. (10:40) sufficient conditions for robust observability of discrete linear time-varying systems

Jaewon Seo, Seoul National University, Korea

Dohyoung Chung, Samsung Electronics Co., Korea

Chan Gook Park, Seoul National University, Korea

Jang Gyu Lee, Seoul National University, Korea

4. (11:00) Some Issues in Common Quadratic Lyapunov Function Problem for a Set of Stable Matrices in Companion Form

Takehiro Mori, Kyoto Institute of Technology, Japan

Hideki Kokame, Osaka Prefecture University, Japan

Yoshihiro Mori, Kyoto Institute of Technology, Japan

5. (11:20) Stability results for continuous and discrete time linear parameter varying systems

Carlo Savorgnan, Università di Udine, Italy

Franco Blanchini, Università di Udine, Italy

Stefano Miani, Università di Udine, Italy

6. (11:40) Tracking Performance Limitations under Disturbance or Uncertainty

Weizhou SU, South China University of Technology, China

Li Qiu, Hong Kong University of Science and Technolgy, Hong Kong

Ian Petersen, Australian Defence Force Academy, Australia

Mo-M11-TO Regular-Oral
Area 2.3

NONLINEAR STABILITY I

Monday 04-Jul-2005 10:00-12:00, Meeting Room 2.2

Chair: ***Iven Mareels, The University of Melbourne, Australia***

Co-Chair: ***Antonio Loria, LSS-CNRS, France***

1. (10:00) Uniform Semiglobal Asymptotic Stability for Time-varying Nonlinear Cascaded Systems

Antoine Chaillet, Universite Paris Sud, France

Antonio Loria, CNRS, France

2. (10:20) Partial stability analysis by means of semidefinite Lyapunov functions

Alexander Ignatyev, Institute for Applied Mathematics and Mechanics, Ukraine

Oleksiy Ignatyev, Kent State University, United States

3. (10:40) Asymptotic Stability of Discontinuous Cauchy Problems in Banach Space with Applications

Anthony N. Michel, University of Notre Dame, United States

Ye Sun, Credit Suisse First Boston, United States

4. (11:00) On Liapunov-Krasovskii Functionals under Carathéodory Conditions

Pierdomenico Pepe, University of L'Aquila, Italy

5. (11:20) Domain of attraction: estimates for non-polynomial systems via LMIs

Graziano Chesi, University of Siena, Italy

6. (11:40) Strict Lyapunov function and Chetaev function for stability/instability analysis of the pendulum

Rafael Kelly, CICESE, Mexico

Victor Santibanez, Instituto Tecnologico de la Laguna, Mexico

Mo-M12-TO Regular-Oral
Area 1.3

PETRI NETS

Monday 04-Jul-2005 10:00-12:00, Meeting Room 4.1

Chair: ***Francesco Basile, Università di Salerno, Italy***

Co-Chair: ***Dimitri Lefevre, University Le Havre, France***

1. (10:00) Feedback Control Logic for Backward Conflict Free Choice Nets

Francesco Basile, Università di Salerno, Italy

Ciro Carbone, Università di Salerno, Italy

Pasquale Chiacchio, Università di Salerno, Italy

2. (10:20) Optimal Observability for Continuous Petri Nets

Cristian Mahulea, Universidad de Zaragoza, Spain

Laura Recalde, Universidad de Zaragoza, Spain

Manuel Silva, Universidad de Zaragoza, Spain

3. (10:40) Modelling and Controlling Traffic Behaviour with Continuous Petri Nets

Jorge Julvez, Zaragoza, Spain

Rene Boel, Gent, Belgium

4. (11:00) A Recursive Method for Minimal Siphon Enumeration in Petri Nets

Arianna Benigno, Politecnico di Milano, Italy

Roberto Cordone, Università degli Studi di Milano, Italy

Luca Ferrarini, Politecnico di Milano, Italy

Luigi Piroddi, Politecnico di Milano, Italy

5. (11:20) A Diagnosis Framework of Hybrid Dynamic Systems based on Time Fuzzy Petri Nets

Eduardo Rocha Loures, LAAS CNRS, France

Jean-Claude Pascal, LAAS CNRS, France

6. (11:40) Immediate Diagnosis of Faulty Behaviours with Petri Net Models

Dimitri Lefebvre, University le Havre, France

MACROECONOMIC CONTROL

Monday 04-Jul-2005 10:00-12:00, Meeting Room 4.2

Organizer: ***Reinhard Neck, University of Klagenfurt, Austria***

Chair: ***Reinhard Neck, University of Klagenfurt, Austria***

Co-Chair: ***Gottfried Haber, University of Klagenfurt, Austria***

1. (10:00) Dynamic Games: Engineering-Based Tools for Analyzing Strategic Economic Interactions

Reinhard Neck, University of Klagenfurt, Austria

2. (10:40) An optimal Macro Economic Policy Mix for Slovenia after EU Accession

Klaus Weyerstrass, Institute for Advanced Studies Carinthia (IHS Kärnten), Austria

3. (11:00) Tradeoffs of Austrian Budgetary Policies: An Optimum Control Analysis

Reinhard Neck, University of Klagenfurt, Austria

Harald Stieber, Austrian Federal Ministry of Finance, Austria

4. (11:20) Impacts of Family Businesses on Economic Stability and Growth – An Optimization Approach

Gottfried Haber, University of Klagenfurt, Austria

5. (11:40) Optimal Lag Structure Selection in VEC-Models

Peter Winker, University of Erfurt, Germany

Dietmar Maringer, University of Erfurt, Germany

STOCHASTIC OPTIMAL CONTROL

Monday 04-Jul-2005 10:00-12:00, Meeting Room 1.1

Organizer: ***Daniil Iourtchenko, University of Miami, United States***

Chair: ***Luis Crespo, National Institute of Aerospace, Hampton, United States***

Co-Chair: ***Boris Miller, Institute for Information Transmission Problems, Russian Federation***

1. (10:00) A Numerical Approach to Stochastic Optimal Control via Dynamic Programming

Luis Crespo, National Institute of Aerospace, United States

Jian Sun, Univeristy of Delaware, United States

2. (10:20) A Stochastic Optimal Control Strategy for Partially Observable Nonlinear Systems

Weiqiu Zhu, Zhejiang University, China

Zuguang Ying, Zhejiang University, China

3. (10:40) Singular Stochastic Maximum Principle

Francois Dufour, Universite Bordeaux 1, France, Metropolitan

Boris Miller, Institute for Information Transmission Problems, Russian Federation

4. (11:00) Distributed Parameter Systems With a Multiplicative Fractional Gaussian Noise

Bozenna Pasik-Duncan, University of Kansas, United States

Tyrone Duncan, University of Kansas, United States

5. (11:20) An Eigenvalue Approach to Infinite-Horizon Optimal Control

Per Rutquist, Volvo Technology Corporation, Sweden

Claes Breitholtz, Chalmers University of Technology, Sweden

Torsten Wik, Volvo Technology Corporation, Sweden

MULTIDIMENSIONAL SYSTEMS IN CONTROL AND TELECOMMUNICATIONS

Monday 04-Jul-2005 10:00-12:00, Meeting Room 2.3

Organizer: ***Krzysztof Galkowski, U. Zielona Gora, Poland***

Chair: ***Krzysztof Galkowski, University of Wuppertal, Germany***

Co-Chair: ***Nirmal K. Bose, Pennsylvania State University, United States***

1. (10:00) Controllability of Goursat-Darboux systems - some numerical results

Dariusz Idczak, University of Lodz, Faculty of Mathematics, Poland

Marek Majewski, University of Lodz, Faculty of Mathematics, Poland

2. (10:20) Atomic Factorization Problem for Bivariate Paraunitary Matrices and Consequences

Nirmal Bose, Pennsylvania State University, United States

3. (10:40) Spectral Factorization of nD Polynomials

Bernd Tibken, University of Wuppertal, Germany

Anton Kummert, University of Wuppertal, Germany

4. (11:00) Parametrizing all solutions of uncontrollable multidimensional linear systems

Daniel Robertz, RWTH Aachen, Germany

Alban Quadrat, INRIA Sophia Antipolis, France

5. (11:20) H2 control of Differential Linear Repetitive Processes

Wojciech Paszke, University of Zielona Gora, Poland

Krzysztof Galkowski, University of Wuppertal, Poland

Eric Rogers, University of Southampton, United Kingdom

David H. Owens, University of Sheffield, United Kingdom

6. (11:40) Computational experience in solving linear matrix equations for automatic control

Vasile Sima, National Institute for Research & Development in Informatics, Romania

MECHATRONICS FOR DATA STORAGE DEVICES I

Monday 04-Jul-2005 10:00-12:00, Meeting Room 3.1

Organizer: ***Masayoshi Tomizuka, University of California, United States***

Chair: ***Masayoshi Tomizuka, University of California, Berkeley, United States***

Co-Chair: ***William Messner, Carnegie Mellon University, United States***

1. (10:00) An Identification Method of Seek-Induced Vibration Modes in Hard Disk Drives

Tetsuo Semba, Hitachi Global Storage Technologies, United States

Matthew White, Hitachi Global Storage Technologies, United States

2. (10:20) A Novel Design of Short-seeking Control for Dual-actuator Hard Disk Drives

Li Yang, University of California-Berkeley, United States

Masayoshi Tomizuka, University of California-Berkeley, United States

3. (10:40) Commutational Ramp Load Control Using a Conventional Disc Drive Actuator

Ryan Ratliff, Oklahoma State University, United States

Prabhakar Pagilla, Oklahoma State University, United States

4. (11:00) Track Seeking Control of Hard Disk Drives Based on New Two-Degree-of-Freedom Control Scheme with Vibration Minimized Trajectories

Mitsuo Hirata, Utsunomiya University, Japan

5. (11:20) RRO Compensation of Hard Disk Drives with Multirate Repetitive PTC

Hiroshi Fujimoto, Yokohama National University, Japan

6. (11:40) Robust Rejection of Periodic and Almost Periodic Disturbances

Vishwesh Kulkarni, University of Colorado, Boulder, United States

Lucy Pao, University of Colorado, Boulder, United States

Hua Zhong, University of Colorado, Boulder, United States

RECOVERY AND CONTROL ADAPTATION FOR DES

Monday 04-Jul-2005 10:00-12:00, Meeting Room 3.2

Organizer: ***Eric Niel, INSA de Lyon, France***

Co-Organizer ***Larry Holloway, University of Kentucky, United States***

Chair: ***Eric Niel, INSA de Lyon, France***

Co-Chair: ***Larry Holloway, University of Kentucky, United States***

1. (10:00) Supervisory Uniqueness for Operating Mode Systems

Oulaid Kamach, INSA de Lyon, France

Samir Chafik, INSA de Lyon, France

Laurent Piétrac, INSA de Lyon, France

Eric Niel, INSA de Lyon, France

2. (10:20) Control Synthesis for Reconfigurable Distributed Systems with Applications in Manufacturing

Mohsen Jafari, Rutgers University, United States

Ardavan Amini, Rutgers University, United States

Peng Zhao, Rutgers University, United States

3. (10:40) A Model for the Reconfiguration of Manufacturing Systems

Florent Frizon de Lamotte, Université de Bretagne Sud, France

Pascal Berruet, Université de Bretagne Sud, France

Jean-Luc Philippe, Université de Bretagne Sud, France

4. (11:00) Reconfiguration of Discrete Event System Controllers with Dynamic Sensing Set

Houshang Darabi, University of Illinois at Chicago, United States

Jing Liu, University of Illinois at Chicago, United States

5. (11:20) Fault recovering taskblocks and control synthesis for a class of condition systems.

Jeffrey Ashley, University of Kentucky, United States

Lawrence E. Holloway, University of Kentucky, United States

Nathalie Dangoumau, Ecole Centrale de Lille, France

RECOVERY AND CONTROL ADAPTATION FOR DES

Monday 04-Jul-2005 10:00-12:00, Meeting Room 3.2

Organizer: ***Eric Niel, INSA de Lyon, France***

Co-Organizer ***Larry Holloway, University of Kentucky, United States***

Chair: ***Eric Niel, INSA de Lyon, France***

Co-Chair: ***Larry Holloway, University of Kentucky, United States***

6. (11:40) Decentralized Diagnosis of Event-Driven Systems for Safely Reacting to Failures

Wenbin Qiu, Iowa State University, United States

Ratnesh Kumar, Iowa State University, United States

TRAFFIC FLOW MODELLING AND CONTROL

Monday 04-Jul-2005 10:00-12:00, Meeting Room 3.3

Chair: ***Bart De Schutter, Technical University of Delft, Netherlands***

Co-Chair: ***Christos Panayiotou, University of Cyprus, Cyprus***

1. (10:00) Real-Time Route Guidance in Large-Scale Urban Express Ring-Roads

Yibing Wang, Technical University of Crete, Greece

George Sarros, Technical University of Crete, Greece

Markos Papageorgiou, Technical University of Crete, Greece

Willem Jan Knibbe, Rijkswaterstaat AVV, Netherlands

2. (10:20) Constrained Split Rate Estimation by Moving Horizon

Balazs Kulcsar, SCL, HAS, Hungary

Istvan VARGA, SCL, HAS, Hungary

Jozsef BOKOR, SCL, HAS, Hungary

3. (10:40) On-Ramp Decentralized Nonlinear Control with Disturbance Rejection

Rafael Becerril-Arreola, Concordia University, Canada

Amir Aghdam, Concordia University, Canada

4. (11:00) Online Traffic Light Control Through Gradient Estimation Using Stochastic Fluid Models

Christos Panayiotou, University of Cyprus, Cyprus

William C. Howell, University of Maryland, United States

Michael Fu, University of Maryland, United States

5. (11:20) Optimal traffic control in freeway networks with bottlenecks

Andreas Hegyi, Delft Universtiy of Technology, Netherlands

Bart De Schutter, Delft Universtiy of Technology, Netherlands

Hans (J.) Hellendoorn, Delft Universtiy of Technology, Netherlands

6. (11:40) Traffic-responsive signalling control through timed Petri nets

Davide Giglio, University of Genova, Italy

Angela Di Febbraro, Polytechnic of Torino, Italy

MARINE SYSTEMS I

Monday 04-Jul-2005 10:00-12:00, Meeting Room 4.3

Chair: ***Robert Sutton, University of Plymouth, United Kingdom***

Co-Chair: ***Steve Daley, University of Sheffield, United Kingdom***

1. (10:00) Depth Control of the Infante AUV using Gain-scheduled Reduced-order Output Feedback

Carlos Silvestre, Instituto Superior Tecnico, Portugal

Antonio Pascoal, Instituto Superior Tecnico, Portugal

2. (10:20) A Sliding Observer for Closed-circuit Underwater Breathing Apparatus

Francesco Garofalo, University of Napoli Federico II, Italy

Luigi Iannelli, University of Sannio in Benevento, Italy

Sabato Manfredi, University of Napoli Federico II, Italy

Stefania Santini, University of Napoli Federico II, Italy

3. (10:40) Control Features of a Vectored-Thruster Underwater Vehicle

Emanuele Cavallo, Telerobot srl, Italy

Rinaldo Michelini, Università degli Studi di Genova, Italy

Vladimir Filaretov, Institute for automation and control process, Russian Federation

Dmitriy Ukhimets, Institute for automation and control process, Russian Federation

4. (11:00) Quasi-Random, Maneoeuvre-Based Motion Planning Algorithm for Autonomous Underwater Vehicles

Chiew Seon Tan, The University of Plymouth, United Kingdom

Robert Sutton, The University of Plymouth, United Kingdom

John Chudley, The University of Plymouth, United Kingdom

5. (11:20) A control architecture for multiple submarines in coordinated search missions

João Sousa, Universidade do Porto, Portugal

Karl Henrik Johansson, Royal Institute of Technology, Sweden

Alberto Speranzon, Royal Institute of Technology, Sweden

Jorge Silva, Instituto Superior Engenharia do Porto, Portugal

MARINE SYSTEMS I

Monday 04-Jul-2005 10:00-12:00, Meeting Room 4.3

Chair: ***Robert Sutton, University of Plymouth, United Kingdom***

Co-Chair: ***Steve Daley, University of Sheffield, United Kingdom***

6. (11:40) Simulation Study of Fish Swimming Modes for Aquatic Robot System

Eunjung Kim, POSTECH, Korea

Youngil Youm, POSTECH, Korea

CONTROL AND ESTIMATION UNDER SET-MEMBERSHIP UNCERTAINTY I

Monday 04-Jul-2005 10:00-12:00, Meeting Room 2.1

Organizer: ***Alexander B. Kurzhanski, Moscow State (Lomonosov) - MGU, Russian Federation***

Co-Organizer ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

Chair: ***Alexander B. Kurzhanski, Moscow State University, Russian Federation***

Co-Chair: ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

1. (10:00) A simple tube controller for efficient robust model predictive control of constrained linear discrete time systems subject to bounded disturbances

Sasa V. Rakovic, Imperial College London, United Kingdom

David Q. Mayne, Imperial College London, United Kingdom

2. (10:20) Nonlinear Control Synthesis under Double Constraints

A. N. Daryin, Moscow State (Lomonosov) University, Russian Federation

A. B. Kurzhanski, Moscow State (Lomonosov) University, Russian Federation

3. (10:40) Identification of Time-Varying Modal Models

John Norton, Australian National University, Australia

4. (11:00) Zubov's Method for Stochastic Control Systems

Lars Gruene, University of Bayreuth, Germany

Fabio Camilli, Universita de l'Aquila, Italy

Fabian Wirth, University of Bremen, Germany

5. (11:20) Motion Planning for Multiple Systems under Coordinated Constraints

João Sousa, Universidade do Porto, Portugal

6. (11:40) Synthesis of optimal feedbacks for linear systems under state constraints

Natalia Balashevich, Institute of Mathematics, NASB, Belarus

LARGE SCALE COMPLEX SYSTEMS I- THEORY

Monday 04-Jul-2005 10:00-12:00, Meeting Room 3.4

Chair: ***Kauko Leiviska, University of Oulu, Finland***

Co-Chair: ***Mietek Brdys, University of Birmingham, United Kingdom***

1. (10:00) Analysis and Design of Softly Switched Model Predictive Control

Jingsong Wang, University of Birmingham, United Kingdom

Michal Grochowski, Gdansk University of Technology, Poland

Mietek Brdys, University of Birmingham, United Kingdom

2. (10:20) On the state agreement problem for multiple nonlinear dynamical systems

Zhiyun Lin, University of Toronto, Canada

Bruce Francis, University of Toronto, Canada

Manfredi Maggiore, University of Toronto, Canada

3. (10:40) Cooperation of Multi-agent System and Its Composition

Yajie Tian, Advanced Telecommunications Research Institute International, Japan

Nobuo Sannomiya, Okayama Prefectural University, Japan

Hiroyasu Inoue, Advanced Telecommunications Research Institute International, Japan

Katsunori Shimohara, Advanced Telecommunications Research Institute International, Japan

4. (11:00) On Robust Exponential Stability of a Class of Attractor Neural Networks

Changyin Sun, Southeast University, China

Shi Zhang, Nanjing University of Technology, China

5. (11:20) Robust Decentralized Pole Assignment

Alireza Esna Ashari, University of Tehran, Iran

Batool Labibi, K. N. Toosi University of Technology, Iran

6. (11:40) Order reduction of large scale DAE models

Thomas Edgar, The University of Texas at Austin, United States

John Hedengren, The University of Texas at Austin, United States

ROBUSTNESS ANALYSIS II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Vladimir Bobal, Tomas Bata University in Zlin, Czech Republic***

1. (13:00) Complex-Step Gradient Approximation For Robustness Analysis of Nonlinear Systems

Jongrae Kim, University of Leicester, United Kingdom

Declan G. Bates, University of Leicester, United Kingdom

Ian Postlethwaite, University of Leicester, United Kingdom

2. (13:00) Construction of Robust Root Loci for Linear Systems with Ellipsoidal Uncertainty of Parameters

Chyi Hwang, I-Shou University, Taiwan

Shih-Feng Yang, Transworld Institute of Technology, Taiwan

3. (13:00) Generalized Lyapunov Function for Stability Analysis of Uncertain Systems

Svetoslav Savov, Inst. Inform. Technologies, Bulgaria

Ivan Popchev, Inst. Inform. Technologies, Bulgaria

4. (13:00) H-infinity guaranteed cost computation via polynomially parameter-dependent Lyapunov functions

Pedro L. D. Peres, University of Campinas, Brazil

Ricardo C. L. F. Oliveira, University of Campinas, Brazil

5. (13:00) Improved Delay-Dependent Robust Stability Criteria for Time Delay Systems

Alpaslan Parlakci, Istanbul Bilgi University, Turkey

6. (13:00) Improved Perturbation Bounds for the Continuous-Time H-infinity-Optimization Problem

Nicolai Christov, Technical University of Sofia, Bulgaria

Mihail Konstantinov, University of Architecture and Civil Engineering, Bulgaria

Petko Petkov, Technical University of Sofia, Bulgaria

7. (13:00) LMI approach to robust stability analysis of Hopfield neural networks

Ce Ji, Northeastern University, China

Hua-guang Zhang, Northeastern University, China

ROBUSTNESS ANALYSIS II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Vladimir Bobal, Tomas Bata University in Zlin, Czech Republic***

8. (13:00) On Computing the Worst-Case Norm of Convolution Systems: A Comparison of Continuous-time and Discrete-time Approaches

Wathanyoo Khaisongkram, Chulalongkorn University, Thailand

David Banjerdpongchai, Chulalongkorn University, Thailand

9. (13:00) On Quantifying Tolerable Uncertainty for a Specified Level Closed-Loop Performance

Yuping Li, The University of Melbourne, Australia

Cantoni Michael, The University of Melbourne, Australia

10. (13:00) Parameter Stability MarginsfFor Polynomial Uncertainty Structures: A Polynomial Programming Approach

Mohammad Bozorg, The University of Yazd, Iran

Hanif D. Sherali, Virginia Polytechnic Institute and State University, United States

Edward J. Davison, University of Toronto, Canada

Ali Delavar-Khalafi, Shahrekord University, Iran

11. (13:00) Perturbation Analysis for the Complex Matrix Equation X - A^H *sqrt(X^(-1)) A=I

Vera Angelova, IIT - BAS, Bulgaria

Mihail Konstantinov, UACG, Bulgaria

Petko Petkov, TU Sofia, Bulgaria

Ivan Popchev, IIT - BAS, Bulgaria

12. (13:00) Robust Control of Time Delay Systems through a Structured Uncertainty Approach

Babak Tavassoli, University of Tehran, Iran

Mohammad Javad Yazdanpanah, University of Tehran, Iran

ROBUSTNESS ANALYSIS II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Vladimir Bobal, Tomas Bata University in Zlin, Czech Republic***

13. (13:00) Robust Pole Assignment by State Feedback Control using Interval Analysis

Marcia Prado, University of Campinas - School of Electrical and Computer Engineering, Brazil

Alfredo Lordelo, University of Campinas - School of Electrical and Computer Engineering, Brazil

Paulo Ferreira, University of Campinas - School of Electrical and Computer Engineering, Brazil

14. (13:00) Robust Stability of Uncertain Discrete Systems with Time-Varying

Emilia Fridman, Tel Aviv University, Israel

Uri Shaked, Tel Aviv University, Israel

15. (13:00) Robustness of Boundary Control of Damped Wave Equations with Large Delays at Boundary Measurement

YangQuan Chen, Utah State University, United States

Jinsong Liang, Utah State University, United States

Weiwei Zhang, Michigan State University, United States

16. (13:00) Stability Margins for a Rate-based Flow control Problem in Multiple Bottleneck Networks

Inci Munyas-Elmas, Anadolu University, Turkey

Altug Iftar, Anadolu University, Turkey

17. (13:00) The inherent robustness of constrained linear model predictive control

William Heath, University of Manchester, United Kingdom

Adrian Wills, University of Newcastle, Australia

ROBUST CONTROLLER SYNTHESIS

Monday 04-Jul-2005 14:00-16:00, North Hall

Chair: ***Petr Dostal, Tomas Bata University in Zlin, Czech Republic***

1. (14:00) An LMI-Based Method for H2/H∞ Control Design under Sparsity Constraints

Mohamed Yagoubi, Ecole des Mines de Nantes (IRCCyN), France

Philippe Chevrel, Ecole des Mines de Nantes (IRCCyN), France

2. (14:00) An interior point minimax algorithm with an application in engineering

Stanislav Zakovic, Imperial College London, United Kingdom

Berc Rustem, Imperial College London, United Kingdom

Stratos Pistikopoulos, Imperial College London, United Kingdom

3. (14:00) Discrete-Time Sliding Mode WMR Control Based on Parameter Identification

Adrian Filipescu, University, Romania

Urbano Nunes, Institute of Systems and Robotics, University of Coimbra, Portugal

Sabin Stamatescu, ASTI Control S.A, Bucharest, Romania

4. (14:00) Extended H-infinity Control with Pole Placement Constraints via LMI Approach and Its Application

Yuichi Chida, Shinshu University, Japan

Yoshiyuki Ishihara, Shinshu University, Japan

5. (14:00) H-infinity State Feedback Control of Discrete-time Piecewise Affine Systems

Lihua Xie, Nanyang Technological University, Singapore

Jun Xu, Nanyang Technological University, Singapore

6. (14:00) Observer design with guaranteed bound for LPV systems

Jamal Daafouz, CRAN - CNRS - INPL, France

G. Millerioux, CRAN - CNRS - UHP, France

L. Rosier, IECN - UHP - CNRS - INRIA, France

ROBUST CONTROLLER SYNTHESIS

Monday 04-Jul-2005 14:00-16:00, North Hall

Chair: ***Petr Dostal, Tomas Bata University in Zlin, Czech Republic***

7. (14:00) Observer-Based Robust Preview Tracking Control Scheme for Uncertain Discrete-Time Systems

Hidetoshi Oya, The University of Electro-Communications, Japan

Kojiro Hagino, The University of Electro-Communications, Japan

Masaki Matsuoka, Shonan Institute of Technology, Japan

8. (14:00) On regulator design for spatial temperature distribution using finite-dimensional modeling of heat equations

Jun Imai, Okayama University, Japan

Yasuaki Ando, Okayama University, Japan

Masami Konishi, Okayama University, Japan

Tatsushi Nishi, Okayama University, Japan

9. (14:00) One-point Feedback Robust Control for Distributed Parameter Systems

Mario Garcia-Sanz, Public University of Navarra, Spain

Ana Huarte, Public University of Navarra, Spain

Alejandro Asenjo, Public University of Navarra, Spain

10. (14:00) Reliability and efficiency of extended linearization algorithms for general robust control problems

Tsuyoshi Kiyama, Osaka University, Japan

Takumi Sakamoto, Osaka University, Japan

11. (14:00) Robust Control of a Flexible Manipulator Arm: A Benchmark Problem

Stig Moberg, ABB Automation Technologies AB - Robotics, Sweden

Jonas Öhr, ABB AB - Corporate Research, Sweden

12. (14:00) Robust H-infinity Control of Uncertain Markovian Jump Linear Systems with Mode-Dependent Time-Delays

Shanbin Li, Zhejiang University, China

Yong-Yan Cao, Zhejiang University, China

Yongqiang Wang, Zhejiang University, China

Youxian Sun, Zhejiang University, China

ROBUST CONTROLLER SYNTHESIS

Monday 04-Jul-2005 14:00-16:00, North Hall

Chair: ***Petr Dostal, Tomas Bata University in Zlin, Czech Republic***

13. (14:00) Robust Stabilization of an Inverted Pendulum using a Slow-fast Decomposition Approach

Roya Amjadifard, Tarbiat Modarres University of Tehran, Iran

Kirsten Morris, University of Waterloo, Canada

Mohammad Beheshti, Tarbiat Modarres University of Tehran, Iran

Hamid Khaloozadeh, K. N. Toosi University of technology of Tehran, Iran

14. (14:00) Robust control of multi-axis shaking system using mu-synthesis

Yasuhiro Uchiyama, IMV CORPORATION, Japan

Masakazu Mukai, Kanazawa University, Japan

Masayuki Fujita, Kanazawa University, Japan

15. (14:00) Robust stability and stabilization of a class of singular systems with multiple time-varying delays

Mohamed Salah Saadni, Université de Poitiers, France

M. Chaabane, University of Sfax, Tunisia

D. Mehdi, Université de Poitiers, France

O. Bachelier, Université de Poitiers, France

16. (14:00) SPRSt - A Robust Strictly Positive Real Synthesis Toolbox for Matlab

Qiang Guan, Institute of Automation, Chinese Academy of Sciences, China

Wensheng Yu, Institute of Automation, Chinese Academy of Sciences, China

Long Wang, Center for Systems and Control, Department of Mechanics and Engineering Science, Peking University, China

ROBUST CONTROLLER SYNTHESIS

Monday 04-Jul-2005 14:00-16:00, North Hall

Chair: ***Petr Dostal, Tomas Bata University in Zlin, Czech Republic***

17. (14:00) Uncertainty Modelling and Mixed Sensitivity Hinf Design on a Pilot- Scale Flotation Column

Maria Auxiliadora Muanis Persechini, Federal University of Minas Gerais, Brazil

Marcio Fantini Miranda, Federal University of Minas Gerais, Brazil

Fabio Goncalves Jota, Federal University of Minas Gerais, Brazil

THEORETICAL METHODS OF AIRCRAFT CONTROL

Monday 04-Jul-2005 13:00-15:00, Club H

Organizer: ***Alexander Nebylov, State University of Aerospace Instrumentation, Russian Federation***

Co-Organizer ***Haydn Thompson, University of Sheffield, United Kingdom***

Chair: ***Alexander Nebylov, State University of Aerospace Instrumentation, Russian Federation***

Co-Chair: ***Haydn Thompson, University of Sheffield, United Kingdom***

1. (13:00) Bifurcation Analysis of Flight Control Systems

Suba Thomas, Drexel University, United States

Harry G. Kwatny, Drexel University, United States

Bor-Chin Chang, Drexel University, United States

2. (13:20) Coefficient Diagram Method in MIMO Application: An Aerospace Case Study

Shunji Manabe, Retired, previously Tokai University, Japan

3. (13:40) Comparison of Linear Dynamic Models for Air Traffic Management

Banavar Sridhar, NASA Ames Research Center, United States

P.K. Menon, Optimal Synthesis Inc, Palo Alto, United States

4. (14:00) Design of Longitudinal Control System for a Nonlinear F-16 Fighter using MSS Method

Y. K. Wong, Hong Kong Polytechnic University, China

Eric H. K. Fung, Hong Kong Polytechnic University, China

Hugh H. T. Liu, University of Toronto, Canada

Y.C. Li, Hong Kong Polytechnic University, China

5. (14:20) Robust Global Exponential Stabilization of an Underactuated Airship

Manabu Yamada, Nagoya Institute of Technology, Japan

Masayoshi Tomizuka, University of California at Berkeley, United States

6. (14:40) Stabilization of a PVTOL Aircraft with Delay in the Input

Rogelio Francisco, CINVESTAV -IPN, Mexico

Frédéric Mazenc, INRIA - INRA, France

Sabine Mondié, CINVESTAV -IPN, Mexico

CONTROL DESIGN II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Bohumil Sulc, Czech Technical University in Prague, Czech Republic***

1. (13:00) **A Model-Free Cross-Coupled Control for Position Synchronization of Multi-Axis Motions**

Dong Sun, City University of Hongkong, Hong Kong

Xiaoyin Shao, City University of Hongkong, Hong Kong

Geng Feng, City University of Hongkong, Hong Kong

2. (13:00) **Advanced Predictive Control Based on Multimodel Learning Techniques**

Nicolae Constantin, University Politehnica of Bucharest, Romania

Ioan Dumitrache, University Politehnica of Bucharest, Romania

3. (13:00) **Algorithms of Networked Control System Design**

Ján Liguš, Technical University of Kosice, Slovakia

Jana Ligušová, Technical University of Kosice, Slovakia

Karol Horanský, Atlas Copco Compressor Int. Slovakia, Slovakia

4. (13:00) **Comparison of Iterative Set-Point Optimisation Strategies under Structural Plant-Model Mismatch**

Weihua Gao, University of Dortmund, Germany

Sebastian Engell, University of Dortmund, Germany

5. (13:00) **Control of a High Voltage DC System Using LMI Approach**

Adel Farag, Technical University Hamburg Harburg, Germany

Herbert Werner, Technical University Hamburg Harburg, Germany

6. (13:00) **Future Reference Trajectory Improvement in Self-Tuning I-PD Controller Based on Generalized Predictive Control Law**

Takao Sato, University of Hyogo, Japan

Akira Inoue, Okayama University, Japan

CONTROL DESIGN II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Bohumil Sulc, Czech Technical University in Prague, Czech Republic***

7. (13:00) Hierarchically supervised output regulation of linear plants with unpredictable parameter step changes

Valentina Orsini, Università Politecnica delle Marche, Italy

Leopoldo Jetto, Università Politecnica delle Marche, Italy

8. (13:00) Hybrid Control Scheme with Discrete Estimator for Efficient Disturbance Rejection

Bořivoj Hanuš, Technical University of Liberec, Czech Republic

Libor Tůma, Technical University of Liberec, Czech Republic

9. (13:00) Implementation of Different Current-Controlled PWM Strategies for VSI

Idris Gadoura, U. of New Brunswick, Canada

Hossein M. Kojabadi, U. of Sahand, Iran

Mohsen Ghribi, University of Moncton, Canada

10. (13:00) Limit shapes of reachable sets for linear impulse control systems

Alexander Ovseevich, IPM RAS, Russian Federation

Elena Goncharova, ISDCT SB RAS, Russian Federation

11. (13:00) Model Predictive Control Design Using Non-minimal State Space Model

Liuping Wang, RMIT University, Australia

Peter C. Young, University of Lancaster, United Kingdom

12. (13:00) Networked Control Systems Design with Time-Varying Delays

Oh-Kyu Kwon, Inha University, Korea

Ho-Jun Yoo, Samsung Electronics Co. Ltd., Korea

13. (13:00) PID-P Controller for TITO Systems

Somanath Majhi, Indian Institute of Technology Guwahati, India

Prabin K. Padhy, Indian Institute of Technology Guwahati, India

Derek P. Atherton, University of Sussex, United Kingdom

CONTROL DESIGN II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Bohumil Sulc, Czech Technical University in Prague, Czech Republic***

14. (13:00) Passivity based control of a seismically excited building

Luis Alvarez-Icaza, Universidad Nacional Autónoma de México, Mexico

Cecilia Cornejo, Universidad Nacional Autónoma de México, Mexico

15. (13:00) Peak Controllers for Uncertain Linear Delayed Systems under Initial Conditions

Fei Liu, Southern Yangtze University, China

Suzhou Li, Southern Yangtze University, China

16. (13:00) Relay Control with Parallel Compensator for Nonminimum Phase Plants

Ryszard Gessing, Silesian University of Technology, Poland

17. (13:00) Robust Adaptive Congestion Control for Next Generation Networks

Antonio Pietrabissa, Univ. of Rome, Italy

Francesco Delli Priscoli, Univ. of Rome, Italy

18. (13:00) Rotor resistance estimation for current-fed induction motors

Dimitrios Karagiannis, Imperial College London, United Kingdom

Alessandro Astolfi, Imperial College London, United Kingdom

19. (13:00) Sensorless control of the trapezoidal BLDC Motors using Sliding Mode Observer for phase-to-phase back-EMF

Hicham Fakham, Laboratoire de Robotique de Versailles, France

Abdellatif Reama, Design and Control of Industrial Systems Laboratory, ESSIE, France

Mohamed Djemai, Equipe Commande des Systèmes, ENSEA, France

CONTROL DESIGN II

Monday 04-Jul-2005 13:00-15:00, North Hall

Chair: ***Bohumil Sulc, Czech Technical University in Prague, Czech Republic***

20. (13:00) Successive Pole Shifting using Sampled-data LQ Regulators

Toru Fujinaka, Osaka Prefecture University, Japan

Sigeru Omatu, Osakak Prefecture University, Japan

21. (13:00) Tracking Control Based on Numerical Methods

Gustavo Scaglia, Universidad Nacional de San Juan (UNSJ), Argentina

José F. Postigo, Universidad Nacional de San Juan (UNSJ), Argentina

Vicente Mut, Universidad Nacional de San Juan (UNSJ), Argentina

Zulma Millan, Universidad Nacional de San Juan (UNSJ), Argentina

Carlos Calvo, Universidad Nacional de San Juan (UNSJ), Argentina

NONLINEAR OBSERVERS II

Monday 04-Jul-2005 13:00-15:00, Terrace 2

Chair: ***Jean-Pierre Barbot, ECS-ENSEA, France***

Co-Chair: ***Murat Arcak, Rensselaer Polytechnic Inst., United States***

1. (13:00) Multirate State Estimation using Moving Horizon Estimation

Stefan Kraemer, Deutsche BP AG, Germany

Ralf Gesthuisen, Deutsche BP AG, Germany

2. (13:20) On the Observer Design of Multi Output Systems in Discrete--Time

Claudia Califano, La Sapienza, Italy

Salvatore Monaco, La Sapienza, Italy

Dorothée Normand-Cyrot, Laboratoire des Signaux et Systèmes, CNRS-ESE, France

3. (13:40) Nonlinear sampled-data observer design via approximate discrete-time models and emulation

Murat Arcak, Rensselaer Polytechnic Institute, United States

Dragan Nesic, University of Melbourne, Australia

4. (14:00) Design of nonlinear observers using Popov's criterion

Jaime A. Moreno, Univ. Nac. Aut. de Mexico (UNAM), Mexico

5. (14:20) Dynamic observers for Nonlinear Lipschitz Systems

Amr Pertew, UNiversity of Alberta, Canada

Horacio Marquez, UNiversity of Alberta, Canada

Qing Zhao, UNiversity of Alberta, Canada

6. (14:40) A nonlinear observer for concentration profiles in simulated moving bed

Mazen Alamir, INPG Grenoble, France

Jean Pierre Corriou, LSGC-INPL Nancy, France

MOBILE ROBOTS II

Monday 04-Jul-2005 13:00-15:00, Club A

Chair: ***Hyungsuck Cho, Korea Advanced Institute of Science & Technology, Korea***

Co-Chair: ***Juan Antonio de la Puente, Universidad Politecnica de Madrid, Spain***

1. (13:00) Cooperation Learning for Behaviour-based Neural-fuzzy Controller in Robot Navigation

Jianing Li, Institute of Automation, Chinese Academy of Sciences, China

Jianqiang Yi, Institute of Automation, Chinese Academy of Sciences, China

Dongbin Zhao, Institute of Automation, Chinese Academy of Sciences, China

Guangcheng Xi, Institute of Automation, Chinese Academy of Sciences, China

2. (13:20) Modeling of frictions in the transmission elements of a robot axis for its identification

Gabriel Abba, ENIM, France, Metropolitan

Philippe Sardain, LMS, France, Metropolitan

3. (13:40) Second order sliding mode observer for stable control of a walking biped robot

Franck Plestan, IRCCyN-Ecole Centrale de Nantes, France

Vincent Lebastard, IRCCyN-Ecole Centrale de Nantes, France

Yannick Aoustin, IRCCyN-Université de Nantes, France

4. (14:00) Modular Pneumatic Snake Robot. 3D Modelling, Implementation and Control.

Pål Liljebäck, SINTEF IKT, Norway

Øyvind Stavdahl, SINTEF IKT, Norway

Kristin Y. Pettersen, Norwegian University of Science and Technology, Norway

MOBILE ROBOTS II

Monday 04-Jul-2005 13:00-15:00, Club A

Chair: ***Hyungsuck Cho, Korea Advanced Institute of Science & Technology, Korea***

Co-Chair: ***Juan Antonio de la Puente, Universidad Politecnica de Madrid, Spain***

5. (14:20) Base Molecule Design and Simulation of Modular Robot RobMAT

Cecilia Garcia, Univesidad Politecnica de Madrid, Spain

Juan A. Escalera, Univesidad Politecnica de Madrid, Spain

Roque Saltarén, Univesidad Politecnica de Madrid, Spain

Manuel Ferre, Univesidad Politecnica de Madrid, Spain

Rafael Aracil, Univesidad Politecnica de Madrid, Spain

Cecilia E. García, Univesidad Politecnica de Madrid, Spain

6. (14:40) Survey of Intelligent Control Algorithms for Humanoid Robots

Dusko Katic, Mihailo Pupin Institute, Yugoslavia

Miomir Vukobratovic, Mihailo Pupin Institute, Yugoslavia

FAULT DETECTION AND ISOLATION FOR LINEAR SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Club E

Chair: ***Janos Gertler, George Mason University, United States***

Co-Chair: ***Elena Zattoni, University of Bologna, Italy***

1. (13:00) Robust Fault Detection and Isolation Filters Design with Sensitivity Constraint for LPV systems

Saverio Armeni, Università; degli studi di Firenze, Italy

Alessandro Casavola, Università; della Calabria, Italy

Edoardo Mosca, Università; degli studi di Firenze, Italy

2. (13:20) A robust deconvolution procedure for fault detection and isolation of uncertain linear systems: an LMI approach

Giuseppe Franzè, Università della Calabria, Italy

Alessandro Casavola, Università della Calabria, Italy

Domenico Famularo, Università degli studi di Reggio Calabria, Italy

3. (13:40) Diagnosis using Finite Memory Observers on an Unknown-Input System

Guillaume Graton, Laboratoire Vision et Robotique, France

Frédéric Kratz, Laboratoire Vision et Robotique, France

Jacques Fantini, Laboratoire Vision et Robotique, France

Pierre Dupraz, Delphi Diesel Systems, France

4. (14:00) Study on full decoupling problem of linear periodic systems

Ping Zhang, University of Duisburg-Essen, Germany

Steven X. Ding, University of Duisburg-Essen, Germany

Torsten Jeinsch, IAV GmbH, Germany

5. (14:20) Entirely left eigenstructure-assignment for fault diagnosis observers

Zdzislaw Kowalczuk, Gdansk University of Technology, Poland

Piotr Suchomski, Gdansk University of Technology, Poland

FAULT DETECTION AND ISOLATION FOR LINEAR SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Club E

Chair: ***Janos Gertler, George Mason University, United States***

Co-Chair: ***Elena Zattoni, University of Bologna, Italy***

6. (14:40) Residual Function Design for Linear Multivariable Systems

Silvio Simani, Dipartimento di Ingegneria, Università of Ferrara, Italy

Roberto Diversi, DEIS, Università di Bologna, Italy

KNOWLEDGE DRIVEN BATCH PROCESSES

Monday 04-Jul-2005 13:00-15:00, Small Theatre

Organizer: ***Denis Dochain, Université catholique de Louvain, Belgium***

Co-Organizer ***Sten Bay Jorgensen, Technical University of Denmark, Denmark***

Chair: ***Denis Dochain, Univ. Catholique de Louvain, Belgium***

Co-Chair: ***Sten Bay Jorgensen, Technical University of Denmark, Denmark***

1. (13:00) Nonlinear Model Predictive Control of Batch Processes: An Industrial Case Study

Zoltan Nagy, Univ. Stuttgart, Germany

Bernd Mahn, BASF Aktiengesellschaft, Ludwigshafen, Germany

Rudiger Franke, ABB Corporate Research, Ladenburg, Germany

Frank Allgower, Univ. Stuttgart, Germany

2. (13:20) Industrial Experience with Oxygen Control of a Fed-batch Filamentous Fungal Fermentation

Levente Bodizs, EPFL, Ecole Polytechnique Federale de Lausanne, Switzerland

Nuno Faria, Novozymes A/S, Bagsvaerd, Denmark

Mariana Titica, Laboratoire de Genie des Procedes,CRTT, Saint-Nazaire Cedex, France

Bala Srinivasan, EPFL, Ecole Polytechnique Federale de Lausanne, Switzerland

Henrik Jorgensen, Novozymes A/S, Bagsvaerd, Denmark

Dominique Bonvin, EPFL, Ecole Polytechnique Federale de Lausanne, Switzerland

Denis Dochain, CESAME, Universite Catholique de Louvain, Louvain-la-Neuve, Belgium

3. (13:40) Batch Process Monitoring through the Integration of Spectral and Process Data

Julian Morris, Univ. Newcastle, United Kingdom

Elaine Martin, Univ. Newcastle, United Kingdom

David Stewart, Univ. Newcastle, United Kingdom

KNOWLEDGE DRIVEN BATCH PROCESSES

Monday 04-Jul-2005 13:00-15:00, Small Theatre

Organizer: ***Denis Dochain, Université catholique de Louvain, Belgium***

Co-Organizer ***Sten Bay Jorgensen, Technical University of Denmark, Denmark***

Chair: ***Denis Dochain, Univ. Catholique de Louvain, Belgium***

Co-Chair: ***Sten Bay Jorgensen, Technical University of Denmark, Denmark***

4. (14:00) Experimental Investigation of Datadriven Modelling for Control of Fed-batch Cultivation

Jan Kamyno Rasmussen, Technical University of Denmark, Denmark

Sten Bay Jørgensen, Technical University of Denmark, Denmark

5. (14:20) A Time Varying State Space Approach for Sugar Crystallization Process Modelling and Monitoring

Petia Georgieva, University of Aveiro, Portugal

Alexandros Simoglou, University of Newcastle, United Kingdom

Elaine Martin, University of Newcastle, United Kingdom

Julian Morris, University of Newcastle, United Kingdom

Sebastiao Feyo de Azevedo, University of Porto, Portugal

6. (14:40) Optimisation of Grade Transitions in an Industrial Gas-Phase Olefin Polymerization Fluidized Bed Reactor Via NCO Tracking

Christos Chatzidoukas, Aristotle University of Thessaloniki & Chemical Process Engineering Research Institute, Thessaloniki, Greece

Costas Kiparissides, Aristotle University of Thessaloniki & Chemical Process Engineering Research Institute, Thessaloniki, Greece

Bala Srinivasan, École Polytechnique Fédérale de Lausanne, Switzerland

Dominique Bonvin, École Polytechnique Fédérale de Lausanne, Switzerland

CONTROL OF INDUCTION MOTORS

Monday 04-Jul-2005 13:00-15:00, Terrace 1

Chair: ***Pavel Vaclavek, Brno University of Technology, Czech Republic***

Co-Chair: ***Henrik Mosskul, Bombardier Transportation, Sweden***

1. (13:00) AC Induction Machine Speed Observer with Rotor Resistance Adaptation

Pavel Václavek, Brno University of Technology, Czech Republic

Petr Blaha, Brno University of Technology, Czech Republic

2. (13:20) High Gain Observer Design for Induction Motor with Non Linear Magnetic Characteristic

F. Giri, GREYC, France

H. Ouadi, LA2I, Morocco

J. De Leon-Morales, mex, Mexico

L. Dugard, LAG, France

3. (13:40) Reference Model and Lyapunov Analysis Approach : Application to an Induction Motor

Sebastien Cauet, ESIP-LAII, France

Laurent Rambault, ESIP-LAII, France

Driss Mehdi, ESIP-LAII, France

Olivier Bachelier, ESIP-LAII, France

4. (14:00) Robustness analysis of nonlinear systems - application to induction motor

Edouard Laroche, University Louis Pasteur of Strasbourg, France

5. (14:20) mu-Analysis of Indirect Self Control of an Induction Machine

Henrik Mosskull, Bombardier Transportation, Sweden

6. (14:40) Rotor Flux Optimal Estimation for Induction Motor Control

Francesco Alonge, University of Palermo, Italy

F. D'Ippolito, University of Palermo, Italy

G. Giardina, University of Palermo, Italy

F. M. Raimondi, University of Palermo, Italy

T. Scaffidi, University of Palermo, Italy

CONSTRAINED NONLINEAR SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Club B

Chair: ***Torkel Glad, Linkoping University, Sweden***

Co-Chair: ***Luigi Chisci, Universita di Firenze, Italy***

1. (13:00) Invariance Control Design for Constrained Nonlinear Systems

Jan Wolff, Technische Universitaet Muenchen, Germany

Martin Buss, Technische Universitaet Muenchen, Germany

2. (13:20) A new concept of invariance for saturated systems

Teodoro Alamo, University of Seville, Spain

Alfonso Cepeda, University of Seville, Spain

Daniel Limon, University of Seville, Spain

Eduardo Fernandez Camacho, University of Seville, Spain

3. (13:40) Flatness based Optimal Noncausal Output-Transitions for Constrained SISO Nonlinear Systems

Guoli Wang, Sun Yat-Sen University, China

Frank Allgower, University of Stuttgart, Germany

4. (14:00) A robust override scheme enforcing strict output constraints for a class of strictly proper systems

Guido Herrmann, University of Leicester, United Kingdom

Matthew C. Turner, University of Leicester, United Kingdom

Ian Postlethwaite, University of Leicester, United Kingdom

5. (14:20) Controllers for amplitude limited model error models

Torkel Glad, Linkoping University, Sweden

Anders Helmersson, Linkoping University, Sweden

Martin Enqvist, Linkoping University, Sweden

Lennart Ljung, Linkoping University, Sweden

6. (14:40) Tracking control for constrained monotone systems

Paola Falugi, Univ. di Firenze, Italy

Luigi Chisci, Univ. di Firenze, Italy

MULTI-AGENT SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Club D

Chair: ***Yoko Kobayashi, Tepco Systems Corporation, Japan***

Co-Chair: ***Henry Lau, The University of Hong Kong, Hong Kong***

1. (13:00) A Bio-Inspired Multi-Agent Control Framework

Henry Y. K. Lau, The University of Hong Kong, Hong Kong

Vicky W. K. Wong, The University of Hong Kong, Hong Kong

Albert W. Y. Ko, The University of Hong Kong, Hong Kong

2. (13:20) Application of Interactive Evolutional Computing to Core Design

Yoko Kobayashi, TEPCO SYSTEMS CORPORATION, Japan

3. (13:40) Design of an Architecture for Industrial Automation based on Multi-Agents Systems

César Bravo, PDVSA, Venezuela

José Aguilar Castro, Universidad de los Andes, Venezuela

Mariela Cerrada, Universidad de los Andes, Venezuela

Francklin Rivas, Universidad de los Andes, Venezuela

4. (14:00) The Modeling of a Multi-Agent System for a Domotics Platform

Paulo Fernando Ferreira Rosa, Instituto Militar de Engenharia, Brazil

Wagner Tanaka Botelho, Instituto Militar de Engenharia, Brazil

Sandro Santos de Lima, Instituto Militar de Engenharia, Brazil

Antonio Carrilho, Instituto Militar de Engenharia, Brazil

5. (14:20) Coordination of an Asynchronous Multi-Agent System via Averaging

Ming Cao, Yale University, United States

A. S. Morse, Yale University, United States

B. D. O. Anderson, The Australian National University, Australia

6. (14:40) Game-Theoretical Models of Team Building

Dmitry Novikov, Institute of Control Sciences, Russian Federation

ROBUSTNESS ANALYSIS WITH IQC'S AND LMI'S

Monday 04-Jul-2005 13:00-15:00, Club C

Chair: ***Ian Petersen, School of Information Technology and Elec Eng, Australia***

Co-Chair: ***Yoshio Ebihara, Kyoto University, Japan***

1. (13:00) Robust Stability Analysis of Linear Systems with Time-Varying Delays

Chung-Yao Kao, University of Melbourne, Australia

Anders Rantzer, Lund Institute of Technology, Sweden

2. (13:20) Robust Stability Analysis for Structured Uncertainties with Bounded Variation Rates

Hakan Köroglu, Delft University of Technology, Delft Center for Systems and Control, Netherlands

Carsten W. Scherer, Delft University of Technology, Delft Center for Systems and Control, Netherlands

3. (13:40) Scalable robustness for consensus protocols with heterogeneous dynamics

Ioannis Lestas, University of Cambridge, United Kingdom

Glenn Vinnicombe, University of Cambridge, United Kingdom

4. (14:00) Robust D-stability Analysis of Uncertain Polynomial Matrices via Polynomial-type Multipliers

Yoshio Ebihara, Kyoto University, Japan

Katsutoshi Maeda, Kyoto University, Japan

Tomomichi Hagiwara, Kyoto University, Japan

5. (14:20) Quadratic separation for feedback connection of an uncertain matrix and an implicit linear transformation

Dimitri Peaucelle, LAAS-CNRS, France, Metropolitan

Didier Henrion, LAAS-CNRS, France, Metropolitan

Denis Arzelier, LAAS-CNRS, France, Metropolitan

6. (14:40) Extension of S-procedure in the Analysis of Multivariable Control Systems

Lev Rapoport, Institute for control sciences RAS, Russian Federation

NONLINEAR STABILITY II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 2.2

Chair: ***Wei Lin, Case Western Reserve University, United States***

Co-Chair: ***Dragan Nesic, The University of Melbourne, Australia***

1. (13:00) Stability Properties of Reset Systems

Luca Zaccarian, Univ. of Rome, Tor Vergata, Italy

Dragan Nesic, Univ. of Melbourne, Australia

Andrew R. Teel, Univ. of California, Santa Barbara, United States

2. (13:20) Stability Results for Networked Control Systems Subject to Packet Dropouts

Christopher M. Kellett, The Hamilton Institute, Ireland

Iven M. Y. Mareels, University of Melbourne, Australia

Dragan Nesic, University of Melbourne, Australia

3. (13:40) Instability in the simplest class of continuous switched linear systems with stable components

Enrique Ponce, University of Sevilla, Spain

Victoriano Carmona, University of Sevilla, Spain

Emilio Freire, University of Sevilla, Spain

Francisco Torres, University of Sevilla, Spain

4. (14:00) Homogeneous eigenvalue analysis of homogeneous systems

Hisakazu Nakamura, Nara Institute of Science and Technology, Japan

Yuh Yamashita, Hokkaido University, Japan

Hirokazu Nishitani, Nara Institute of Science and Technology, Japan

5. (14:20) Invariant sets for a class of discrete-time Lur\'e systems

Alfonso Cepeda, University of Seville, Spain

Teodoro Alamo, University of Seville, Spain

E.F. Camacho, University of Seville, Spain

6. (14:40) On the stability in almost periodic discrete systems

Oleksiy Ignatyev, Kent State University, United States

SUPPLY PLANNING AND INVENTORY CONTROL UNDER UNCERTAINTIES

Monday 04-Jul-2005 13:00-15:00, Meeting Room 4.1

Organizer: ***Alexandre Dolgui, Ecole des Mines de Saint Etienne, France***

Chair: ***Alexandre Dolgui, Ecole des Mines de Saint Etienne, France***

Co-Chair: ***Agostino Villa, Politecnico di Torino, Italy***

1. (13:00) A Survey on Supply Planning under Uncertainties in MRP Environments

Alexandre Dolgui, Ecole des Mines de Saint Etienne, France

Aly Louly, University of Troyes, France

Caroline Prodhon, University of Troyes, France

2. (13:40) Inventory Outsourcing and Risk Management

Charles Tapiero, ESSEC, France

Alberto Grando, SDA Bocconi, Italy

3. (14:00) Management of demand uncertainty within MRP2 using possibility theory

Bernard Grabot, ENIT, France

Laurent Geneste, ENIT, France

Gabriel Reynoso, ENIT-UPA, Mexico

4. (14:20) Optimal Control of a Continuous-Flow Failure Prone Manufacturing System

Liya Gu, INRIA/MACSI-LGIPM, France, Metropolitan

Sophie Hennequin, INRIA/MACSI-ENIM, France, Metropolitan

Xiaolan Xie, INRIA/MACSI, France, Metropolitan

5. (14:40) Uncertain demand & supply networks management: application to a regional health care service

Irene Cassarino, Politecnico di Torino, Italy

Agostino Villa, Politecnico di Torino, Italy

Dario Bellomo, Azienda Sanitaria Locale 19, Asti, Italy

FINANCE AND BANKING

Monday 04-Jul-2005 13:00-15:00, Meeting Room 4.2

Chair: ***Reinhard Neck, University of Klagenfurt, Austria***

Co-Chair: ***Gottfried Haber, University of Klagenfurt, Austria***

1. (13:00) A comparison among performance measures in portfolio theory

Sergio Ortobelli, University of Bergamo, Italy

Almira Biglova, University of Karlsruhe, Germany

Svetlozar Rachev, University of California, Santa Barbara, United States

Frank Fabozzi, Yale University, Connecticut, United States

Stoyan Stoyanov, University of Sofia, Bulgaria

2. (13:20) The Hidden Risks of Optimizing Bond Portfolios under VaR

Peter Winker, University of Erfurt, Germany

Dietmar Maringer, University of Erfurt, Germany

3. (13:40) Building Financial Time Series Predictions with Evolutionary Artificial Neural Network

Serge Hayward, ESC Dijon, France

4. (14:00) Clusters Patterning in High Tech Stock Market

Giuseppina Tomarchio, Universita Degli Studi di Catania, Italy

Maide Bucolo, Universita Degli Studi di Catania, Italy

Luca Galvagno, Universita Degli Studi di Catania, Italy

Luigi Fortuna, Universita Degli Studi di Catania, Italy

5. (14:20) Equilibrium Price Bifurcation in WALRAS Price Formation Model with Delays

Natalia Obrosova, Dorodnicyn Computing Centre of the Russian Academy of Sciences, Russian Federation

FINANCE AND BANKING

Monday 04-Jul-2005 13:00-15:00, Meeting Room 4.2

Chair: ***Reinhard Neck, University of Klagenfurt, Austria***

Co-Chair: ***Gottfried Haber, University of Klagenfurt, Austria***

6. (14:40) On the Stochastic Modelling and Solvency of Banking Systems

Mark Petersen, North-West University (Potchefstroom), South Africa

Isobel Burger, North-West University (Potchefstroom), South Africa

Casper Fouche, North-West University (Potchefstroom), South Africa

Janine Mukuddem-Petersen, North-West University (Potchefstroom), South Africa

OPTIMAL CONTROL IN STOCHASTIC SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Meeting Room 1.1

Chair: ***Maurice Robin, Ecole Polytechnique, France***

Co-Chair: ***Pavel Prautsch, University of West Bohemia in Pilsen, Czech Republic***

1. (13:00) LQG Control with Missing Observation and Control Packets

Bruno Sinopoli, University of California at Berkeley, United States

Schenato Luca, University of Padova, Italy

Franceschetti Massimo, University of California at San Diego, United States

Poolla Kameshwar, University of California at Berkeley, United States

Sastry Shankar, University of California at Berkeley, United States

2. (13:20) On Hybrid Stochastic Singular Control

Maurice Robin, Ecole Polytechnique, France

Jose-Luis Menaldi, Wayne State University Dept of Math, United States

3. (13:40) Optimal Control of Stochastic Systems on Hilbert Space

Nasiruddin Ahmed, University of Ottawa, Canada

4. (14:00) Optimal controller for stochastic systems with algebraic dependencies

Pavel Prautsch, University of West Bohemia in Pilsen, Czech Republic

Pavel Žampa, University of West Bohemia in Pilsen, Czech Republic

Jiří Mošna, University of West Bohemia in Pilsen, Czech Republic

Karel Veselý, University of West Bohemia in Pilsen, Czech Republic

5. (14:20) Receding Horizon Finite Memory Controls for Output Feedback Controls of Discrete-Time State Space Systems

Choon Ki Ahn, Seoul national university, Korea

Wook Hyun Kwon, Seoul national university, Korea

Soohee Han, Seoul national university, Korea

CONTROL IN A BEHAVIORAL SETTING

Monday 04-Jul-2005 13:00-15:00, Meeting Room 2.3

Organizer: ***Harry Trentelman, University of Groningen, Netherlands***

Chair: ***Harry Trentelman, University of Groningen, Netherlands***

Co-Chair: ***Paula Rocha, University of Aveiro, Portugal***

1. (13:00) Linear-Quadratic Control and Quadratic Differential Forms

Jan C. Willems, K.U. Leuven, Belgium

Maria Elena Valcher, Universita di Padova, Italy

2. (13:40) Canonical Controllers and Regular Implementation of nD Behaviors

Paula Rocha, University of Aveiro, Portugal

3. (14:00) Parametrization of all regularly implementing controllers

H.L. Trentelman, University of Groningen, Netherlands

C. Praagman, University of Groningen, Netherlands

4. (14:20) Controller with minimal interaction

Agung Julius, University of Twente, Netherlands

Jan Willem Polderman, University of Twente, Netherlands

Arjan van der Schaft, University of Twente, Netherlands

5. (14:40) Stabilization with J-dissipative controllers

Osamu Kaneko, Osaka University, Japan

Paolo Rapisarda, University of Maastricht, Netherlands

MECHATRONICS FOR DATA STORAGE DEVICES II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.1

Organizer: ***Masayoshi Tomizuka, University of California, United States***

Chair: ***Mayasoshi Tomizuka, University of California, Berkeley, United States***

Co-Chair: ***Prabhakar Pagilla, Oklahoma State University, United States***

1. (13:00) The Modified PQ Method for Robustness to Microactuator Saturation and Failure

William Messner, Carnegie Mellon University, United States

2. (13:20) Fixed order PQ-Control Design Method for a Dual-Stage Instrumented Suspension

M. Graham, University of California, San Diego, United States

R.J.M. Oosterbosch, Eindhoven University of Technology, Netherlands

R.A. de Callafon, University of California, San Diego, United States

3. (13:40) Design, Fabrication, and Control of a High-aspect Ratio

Roberto Horowitz, University of California, United States

Kenn Oldham, University of California, United States

Xinghui Huang, University of California, United States

Alain Chahwan, University of California, United States

4. (14:00) An experimental demonstration of NPID control with application to optical storage drives

Marcel F. Heertjes, Philips Applied Technologies, Netherlands

Frank Cremers, Philips Applied Technologies, Netherlands

Maarten Steinbuch, Eindhoven University of Technology, Netherlands

5. (14:20) Track Following Controller for Optical Disk Drives Based on Adaptive Output Regulation

Chung Choo Chung, Hanyang Unversity, Korea

Hyungjong Kim, Hanyang Unversity, Korea

Won Hee Kim, Hanyang Unversity, Korea

Hyungbo Shim, Seoul National University, Korea

MECHATRONICS FOR DATA STORAGE DEVICES II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.1

Organizer: ***Masayoshi Tomizuka, University of California, United States***

Chair: ***Mayasoshi Tomizuka, University of California, Berkeley, United States***

Co-Chair: ***Prabhakar Pagilla, Oklahoma State University, United States***

6. (14:40) Nonlinear mid-frequency disturbance compensation in hard disk drives

Ying Li, Nanyang Technological University, Singapore

Guoxiao Guo, Data Storage Institute, Singapore

Youyi Wang, Nanyang Technological University, Singapore

DEPENDABLE MANUFACTURING SYSTEMS CONTROL I

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.2

Organizer: ***Faure Jean-Marc, ENS de Cachan, France***

Co-Organizer ***Jean-Jacques Lesage, ENS de Cachan, France***

Chair: ***Jean-Marc Faure, ENS de Cachan, France***

Co-Chair: ***Timothy Johnson, GE Global Research, United States***

1. (13:00) Achieving Tradeoffs between Safety and Functionality in Early System Design

Christian Grante, Volvo Cars, Sweden

Yiannis Papadopoulos, University of Hull, United Kingdom

2. (13:20) Dependable Software in Railway Signaling

Timothy Johnson, GE Global Research, United States

Hunt A. Sutherland, GE Global Research, United States

Bart Ingleston, GE Global Research, United States

Bruce H. Krogh, Carnegie Mellon University, United States

3. (13:40) Scheduling Lacquer Production by Reachability Analysis - A Case Study

Gerd Behrmann, Aalborg University, Denmark

Ed Brinksma, University of Twente, Netherlands

Martijn Hendriks, Radboud University, Netherlands

Angelika Mader, University of Twente, Netherlands

4. (14:00) Designing Dependable Logic Controllers using the Supervisory Control Theory

Jean-Marc Roussel, ENS de CACHAN, France, Metropolitan

Alessandro Giua, Università Di Cagliari, Italy

5. (14:20) Deductive Cause-Consequence Analysis (DCCA)

Frank Ortmeier, University of Augsburg, Germany

Wolfgang Reif, University of Augsburg, Germany

Gerhard Schellhorn, University of Augsburg, Germany

6. (14:40) A Distributed Algorithm for On-line Diagnosis of Place-bordered Petri Nets

Sahika Genc, University of Michigan, United States

Stephane Lafortune, University of Michigan, United States

AIR AND RAIL CONTROL SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.3

Chair: ***Kazuhiko Terashima, Toyohashi University of Technology, Japan***

Co-Chair: ***Bart De Schutter, Technical University of Delft, Netherlands***

1. (13:00) Active Controls and Non-invasive Monitoring for High Speed Trains

Alberto Landi, University of Pisa, Italy

Aldo Balestrino, University of Pisa, Italy

Ottorino Bruno, University of Pisa, Italy

Luca Sani, University of Pisa, Italy

2. (13:20) Active Steering of Railway Vehicles via DOBC

Dong Hu, Loughborough University, United Kingdom

Wen-Hua Chen, Loughborough University, United Kingdom

Roger M. Goodall, Loughborough University, United Kingdom

3. (13:40) Air Traffic Control with an expected value criterion

Andrea Lecchini, University of Cambridge, United Kingdom

William Glover, University of Cambridge, United Kingdom

John Lygeros, University of Patras, Greece

Jan Maciejowski, University of Cambridge, United Kingdom

4. (14:00) Fault Detection with Non-linear Nuisance Parameters and Safe Train Navigation

Hervé Lacresse, Universtite de technologie de Troyes, France

Antoine Grall, Universtite de technologie de Troyes, France

Igor Nikiforov, Universtite de technologie de Troyes, France

5. (14:20) Improving the tilt control performance of high-speed railway vehicles: an LQG approach

Argyrios Zolotas, Loughborough University, United Kingdom

Roger Goodall, Loughborough University, United Kingdom

AIR AND RAIL CONTROL SYSTEMS

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.3

Chair: ***Kazuhiko Terashima, Toyohashi University of Technology, Japan***

Co-Chair: ***Bart De Schutter, Technical University of Delft, Netherlands***

6. (14:40) Optimal Airline Seat Inventory Control for Multi-Leg Flights

Nicholas Nechval, University of Latvia, Latvia

Konstantin N. Nechval, University of Latvia, Latvia

Kristine Rozite, University of Latvia, Latvia

Edgars K. Vasermanis, University of Latvia, Latvia

MARINE SYSTEMS II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 4.3

Chair: ***John Chudley, University of Plymouth, United Kingdom***

Co-Chair: ***Antonio Pascoal, Instituto Superior Tecnico, Italy***

1. (13:00) Influence of Ship Motion Nonlinearities on the Course Controller Design

Markus Graswald, University of Rostock, Germany

Holger Korte, University of Rostock, Germany

Bernhard P. Lampe, University of Rostock, Germany

2. (13:20) Sliding Mode and PID Controllers for Ship Roll Stabilisation: A Comparative Simulation Study

Ali Koshkouei, Coventry University, United Kingdom

Yannick Law, Coventry University, United Kingdom

Keith Burnham, Coventry University, United Kingdom

3. (13:40) Vertical Plane Motion of High Speed Planing Vessels with Controllable Transom Flaps: Modeling and Control

Handa Xi, University of Michigan, United States

Jing Sun, University of Michigan, United States

4. (14:00) Execution control of robotic tasks for marine systems

Massimo Caccia, CNR-ISSIA Sez. di Genova, Italy

Gabriele Bruzzone, CNR-ISSIA Sez. di Genova, Italy

5. (14:20) Nonlinear Path Following Control of Fully Actuated Marine Vehicles with Parameter Uncertainty

Oleg Yakimenko, Naval Postgraduate School, United States

Isaac Kaminer, Naval Postgraduate School, United States

Antonio Pascoal, Instituto Superior Tecnico, Portugal

MARINE SYSTEMS II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 4.3

Chair: ***John Chudley, University of Plymouth, United Kingdom***

Co-Chair: ***Antonio Pascoal, Instituto Superior Tecnico, Italy***

6. (14:40) Nonlinear Model Predictive Control of Combined Cycle Power Plants Folaga: A Very Low Cost Autonomous Underwater Vehicle for Coastal Oceanography

Andrea Caiti, University of Pisa, Italy

Alberto Alvarez, IMEDEA, Spain

Andrea Caffaz, GRAALTECH, Italy

Giuseppe Casalino, University of Genova, Italy

Enrico Clerici, GRAALTECH, Italy

Fabio Giorgi, GRAALTECH, Italy

Lavinio Gualdesi, NURC, Italy

CONTROL AND ESTIMATION UNDER SET-MEMBERSHIP UNCERTAINTY - II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 2.1

Organizer: ***Alexander B. Kurzhanski, Moscow State (Lomonosov) - MGU, Russian Federation***

Co-Organizer ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

Chair: ***Alexander B. Kurzhanski, Moscow State University, Russian Federation***

Co-Chair: ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

1. (13:00) Nonlinear Set Membership forecast of urban ozone peaks

Carlo Novara, Politecnico di Torino, Italy

Marialuisa Volta, Università di Brescia, Italy

Mario Milanese, Politecnico di Torino, Italy

Giovanna Finzi, Università di Brescia, Italy

2. (13:20) Method of decomposition and its applications to uncertain dynamical systems

Felix Chernousko, Institute for Problems in Mechanics of the Russian Academy of Sciences, Russian Federation

Sergey Reshmin, Institute for Problems in Mechanics of the Russian Academy of Sciences, Russian Federation

3. (13:40) New results on the identification of interval predictor models

Marco C. Campi, Università di Brescia, Italy

Giuseppe Calafiore, Poiltecnico di Torino, Italy

Simone Garatti, Politecnico di Milano, Italy

4. (14:00) Informational sets in model problems of aircraft tracking

Valerii Patsko, Institute of Mathematics and Mechanics, Russian Federation

Andrey Fedotov, Institute of Mathematics and Mechanics, Russian Federation

Sergey Kumkov, Institute of Mathematics and Mechanics, Russian Federation

Sergey Pyatko, Academy of Civil Aviation, Russian Federation

CONTROL AND ESTIMATION UNDER SET-MEMBERSHIP UNCERTAINTY - II

Monday 04-Jul-2005 13:00-15:00, Meeting Room 2.1

Organizer: ***Alexander B. Kurzhanski, Moscow State (Lomonosov) - MGU, Russian Federation***

Co-Organizer ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

Chair: ***Alexander B. Kurzhanski, Moscow State University, Russian Federation***

Co-Chair: ***Felix L. Chernousko, Russian Academy of Sciences, Russian Federation***

5. (14:20) Interval Technique for Parameter Estimation under Model Uncertainty

Boris Polyak, Institute for Control Science, Russian Federation

Sergey Nazin, Institute for Control Science, Russian Federation

6. (14:40) Optimal Inputs for Guaranteed System Identification

Mikhail Gusev, Institute Math. & Mech. Ural Branch of RAS, Russian Federation

LARGE SCALE COMPLEX SYSTEMS - APPLICATIONS

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.4

Chair: ***Florin Gheorghe Filip, Romanian Academy & Nat. Inst for Informatics, Bucharest, Romania***

Co-Chair: ***Petros Groumpos, University of Patras, Greece***

1. (13:00) Design of Robust Low-order Controllers for Complex Processes: a Case Study on Reactive Distillation in a Medium-scale Pilot Plant

Marten Völker, Universität Dortmund, Germany

Christian Sonntag, Universität Dortmund, Germany

Sebastian Engell, Universität Dortmund, Germany

2. (13:20) Lower - Level Controller for Hierarchical Control of Dissolved Oxygen Concentration in Activated Sludge Processes

Robert Piotrowski, Gdansk University of Technology, Poland

Mietek Brdys, University of Birmingham; Gdansk University of Technology, Poland

3. (13:40) Probabilistic Robust Parallel Design of the Subsystems Constituting a Complex System

Haitham Mahmoud, University of Michigan, United States

Pierre Kabamba, University of Michigan, United States

A. Galip Ulsoy, University of Michigan, United States

Gerald Brusher, Ford Motor Company, United States

4. (14:00) Set Membership Estimation of Parameters and Variables in Dynamic Networks by Recursive Algorithms with Moving Measurement Window

Mietek Brdys, University of Birmingham, United Kingdom

Kazimierz Duzinkiewicz, Gdansk University of Technology, Poland

5. (14:20) State Feedback Controllers Synthesis Using BMI Optimisation For Large Scale Web Handling Systems

Adlane Benlatreche, University of Strasbourg I / LSIIT(EAVR) - ERT-Enroulement, France, Metropolitan

Dominique Knittel, University of Strasbourg I / LSIIT(EAVR) - ERT-Enroulement, France, Metropolitan

Eric Ostertag, University of Strasbourg I / LSIIT(EAVR), France, Metropolitan

LARGE SCALE COMPLEX SYSTEMS - APPLICATIONS

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.4

Chair: ***Florin Gheorghe Filip, Romanian Academy & Nat. Inst for Informatics, Bucharest, Romania***

Co-Chair: ***Petros Groumpos, University of Patras, Greece***

6. (14:40) Life Extending Control by a Variance Constrained MPC Approach

Donglin Li, University of Alberta, Canada

Tongwen Chen, University of Alberta, Canada

Horacio J. Marquez, University of Alberta, Canada

R. Kent Gooden, Syncrude Canada Ltd., Canada

SYSTEMS BIOLOGY

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.5

Organizer: ***Mustafa Khammash, University of California at Santa Barbara, United States***

Co-Organizer ***Frank Doyle, University of California Santa Barbara, United States***

Chair: ***Mustafa Khammash, University of California Santa Barbara, United States***

Co-Chair: ***Sten Bay Jorgensen, DTU Lyngby, Denmark***

1. (13:00) Circadian Rhythm as a Phase-locked Loop

Hidenori Kimura, RIKEN, Japan

Yoshimichi Nishigaki, The University of Tokyo, Japan

2. (13:20) Computation of amplification for systems arising from cellular signaling pathways

Eduardo Sontag, Rutgers University, United States

Madalena Chaves, Saniofi-Aventis and Rutgers University, United States

3. (13:40) Modelling for control: Understanding role and function of regulatory networks in microorganisms

Krist V. Gernaey, Lund University, Sweden

Morten Lind, Technical University of Denmark, Denmark

Sten B. Jørgensen, Technical University of Denmark, Denmark

4. (14:00) Optimal Performance of the Heat-Shock Gene Regulatory Network

Mustafa Khammash, University of California at Santa Barbara, United States

Hana El-Samad, University of California at Santa Barbara, United States

Chris Homescu, University of California at Santa Barbara, United States

Linda Petzold, University of California at Santa Barbara, United States

SYSTEMS BIOLOGY

Monday 04-Jul-2005 13:00-15:00, Meeting Room 3.5

Organizer: ***Mustafa Khammash, University of California at Santa Barbara, United States***

Co-Organizer ***Frank Doyle, University of California Santa Barbara, United States***

Chair: ***Mustafa Khammash, University of California Santa Barbara, United States***

Co-Chair: ***Sten Bay Jorgensen, DTU Lyngby, Denmark***

5. (14:20) Optimal Selection of Enzyme Levels using Large-scale Kinetic Models

Evgeni V. Nikolaev, Pennsylvania State University, United States

Priti Pharkya, Pennsylvania State University, United States

Costas D. Maranas, Pennsylvania State University, United States

Antonios Armaou, Pennsylvania State University, United States

6. (14:40) Robust Performance in Biophysical Networks

Francis Doyle III, UCSB, United States

Joerg Stelling, ETH, Switzerland

FAULT DIAGNOSIS AND FAULT TOLERANT CONTROL: THEORY

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***Corneliu Caileanu, Technical University of Iasi, Romania***

1. (15:30) Design of observer-based fault detection systems for continuous-time systems from frequency domain data

Ping Zhang, University of Duisburg-Essen, Germany

2. (15:30) Developing D-Optimum Experimental Conditions for Model-based Fault Detection Systems

Marcin Witczak, University of Zielona Gora, Poland

3. (15:30) Disturbance Distribution Matrix Computation: Numerial Improvement

Faisel Uppal, The University of Hull, United Kingdom

Suzanne Lesecq, Laboratoire d'Automatique de Grenoble, France

Ron Patton, The University of Hull, United Kingdom

Alain Barraud, Laboratoire d'Automatique de Grenoble, France

4. (15:30) FPRG: another view and propositions

Cedric Join, Nancy, France

Taha Boukobza, Nancy, France

Frederic Hamelin, Nancy, France

Dominique Sauter, Nancy, France

5. (15:30) Fault Detection Filter for Nonlinear Systems using Linear Approximations

Claudia Navarro Hernandez, University of Sheffield, United Kingdom

Francesco Crusca, Monash University, Australia

Mohammad Aldeen, University of Melbourne, Australia

Steve Banks, University of Sheffield, United Kingdom

6. (15:30) Fault Diagnosis using Neuro-Fuzzy Systems with Local Recurrent Structure

Letitia Mirea, Technical University of Iasi, Romania

Ron J. Patton, University of Hull, United Kingdom

7. (15:30) Fault-Tolerant Time-Invariant Feedback Control

Antonio Sala, Universidad Politecnica de Valencia, Spain

Pedro Albertos, Universidad Politecnica de Valencia, Spain

FAULT DIAGNOSIS AND FAULT TOLERANT CONTROL: THEORY

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***Corneliu Caileanu, Technical University of Iasi, Romania***

8. (15:30) Online fault diagnosis of nonlinear systems based on neurofuzzy networks

Hing Tung Mok, The University of Hong Kong, Hong Kong

C. W. Chan, The University of Hong Kong, Hong Kong

9. (15:30) Plant Data Visualization Using Non-Negative Matrix Factorization

Jonathan Tapson, University of Cape Town, South Africa

John Greene, University of Cape Town, South Africa

10. (15:30) Reliability calculus using Max-plus algebra

Corneliu Caileanu, Technical University of Iasi, Romania

11. (15:30) Robust Fault Detection Filter for Linear Stochastic Systems

Hicham Jamouli, Université Ibn Zohr, Agadir, Morocco

Dominique Sauter, Université Henri Poincaré, France

Jean Yves Keller, Université Henri Poincaré, France

12. (15:30) Robust Fault Diagnosis of Nonlinear Systems Based on an Unknown Input Extended Kalman Observer

Linglai Li, Tsinghua University, China

D.H. Zhou, Tsinghua University, China

K.D. Liu, Hebei Engineering Univeristy, China

13. (15:30) Robust fault detection via GMDH neural networks

Marcin Mrugalski, University of Zielona Gora, Poland

NONLINEAR SYSTEM IDENTIFICATION II

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***Hannu Toivonen, Abo Akademi University, Finland***

Co-Chair: ***Jules Thibault, University of Ottawa, Canada***

1. (15:30) Nonparametric Identification of Static Nonlinearities in a General Interconnected System

Kenneth Hsu, University of California at Berkeley, United States

Mareike Claassen, Fullerton College, United States

Carlo Novara, Politecnico di Torino, Italy

Pramod Khargonekar, University of Florida at Gainesville, United States

Mario Milanese, Politecnico di Torino, Italy

Kameshwar Poolla, University of California at Berkeley, United States

2. (15:30) Parametric Identification of Static Nonlinearities in a General Interconnected System

Kenneth Hsu, University of California at Berkeley, United States

Carlo Novara, Politecnico di Torino, Italy

Mario Milanese, Politecnico di Torino, Italy

Kameshwar Poolla, University of California at Berkeley, United States

3. (15:30) Approximation of Non--linear Systems with Identified Hybrid Models

Silvio Simani, Dipartimento di Ingegneria, Università of Ferrara, Italy

Cesare Fantuzzi, Università di Modena e Reggio Emilia, Italy

4. (15:30) Assessing the Predictions of Dynamic Neural Networks

Kai Dadhe, Univerity of Dortmund, Germany

Sebastian Engell, Univerity of Dortmund, Germany

5. (15:30) Bias Analysis in Periodic Signals Modeling using Nonlinear Odes

Emad Abd-Elrady, Uppsala University, Sweden

Torsten Soderstrom, Uppsala University, Sweden

NONLINEAR SYSTEM IDENTIFICATION II

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***Hannu Toivonen, Abo Akademi University, Finland***

Co-Chair: ***Jules Thibault, University of Ottawa, Canada***

6. (15:30) Identification of Fast-rate Nonlinear Output Error Models From Multi-rate Data

Sachin Patwardhan, IIT Bombay, India

Srinivasarao Meka, IIT Bombay, India

Ravindra Gudi, IIT Bombay, India

7. (15:30) Identification of quasi-ARMAX models of nonlinear stochastic sampled-data systems

Bernt Akesson, Abo Akademi University, Finland

Hannu Toivonen, Abo Akademi University, Finland

8. (15:30) Incorporating linear local models in Gaussian process model

Jus Kocijan, Jozef Stefan Institute, Slovenia

Agathe Girard, University of Glasgow, United Kingdom

9. (15:30) Information Theoretic Identification Criteria: Approaches and Alternatives

Kirill Chernyshov, Institute of Control Sciences, Russian Federation

10. (15:30) Nonlinear Structure Identification with Linear Least Squares and ANOVA

Ingela Lind, Linkopings universitet, Sweden

11. (15:30) Nonlinear System Identification with Shortage of Input-output Data

Feng Sheng, Beijing Institute of Technology, China

J. Chen, Beijing Institute of Technology, China

X.Y. Tu, Beijing Institute of Technology, China

12. (15:30) On Optimal Estimation Problems for Nonlinear Systems and Their Approximate Solution

Cristiano Cervellera, CNR National Research Council of Italy, Italy

Angelo Alessandri, CNR National Research Council of Italy, Italy

Aldo Filippo Grassia, CNR National Research Council of Italy, Italy

Marcello Sanguineti, University of Genova, Italy

NONLINEAR SYSTEM IDENTIFICATION II

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***Hannu Toivonen, Abo Akademi University, Finland***

Co-Chair: ***Jules Thibault, University of Ottawa, Canada***

13. (15:30) On the Hermite Series Approach to Nonparametric Identification of Hammerstein Systems

Adam Krzyzak, Concordia University, Montreal, Canada

J.Z. Sasiadek, Carleton University, Ottawa, Canada

Balazs Kegl, Universite de Montreal, Canada

14. (15:30) Use of Autoassociative Neural Network for Dynamic Data Reconciliation

Jules Thibault, University of Ottawa, Canada

Shuanghua Bai, University of Ottawa, Canada

David D. McLean, University of Ottawa, Canada

NONLINEAR DYNAMICS AND ROBUST CONTROL IN AEROSPACE SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Club H

Organizer: ***Houria Siguerdidjane, SUPELEC, France***

Co-Organizer ***Yevgeny Somov, Research Institute for Control of Mechanic Systems, Russian Federation***

Chair: ***Houria Siguerdidjane, SUPELEC, France***

Co-Chair: ***Yevgeny Somov, Research Institute for Control of Mechanic Systems, Saint Kitts and Nevis***

1. (15:30) Flexible Aerospace Vehicles Simulation and Nonlinear Control Synthesis

Alexander Nebylov, State University of Aerospace Instrumentation, Russian Federation

Sergey Brodsky, State University of Aerospace Instrumentation, Russian Federation

Alexander Panferov, State University of Aerospace Instrumentation, Russian Federation

2. (15:50) Nonlinear Dynamics and Control of a New Hydrazine Pump Generation

JC Vannier, SUPELEC, France

A. Arzandé, SUPELEC, France

Houria Siguerdidjane, SUPELEC, France

P. Vidal, SUPELEC, France

F. Dugué, CSTM Castanet-Tolosan, France

3. (16:10) Nonlinear H∞ for Spacecraft Attitude Control

Ho-Nien Shou, Air Force Institute of Technology, Taiwan

Ying-Wen Jan, National Space Program Office, Taiwan

NONLINEAR DYNAMICS AND ROBUST CONTROL IN AEROSPACE SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Club H

Organizer: ***Houria Siguerdidjane, SUPELEC, France***

Co-Organizer ***Yevgeny Somov, Research Institute for Control of Mechanic Systems, Russian Federation***

Chair: ***Houria Siguerdidjane, SUPELEC, France***

Co-Chair: ***Yevgeny Somov, Research Institute for Control of Mechanic Systems, Saint Kitts and Nevis***

4. (16:30) Robust Nonlinear Gyromoment Control of Agile Remote Sensing Spacecraft

Yevgeny Somov, Researsh Institute for Control of Mechnical Systems, Russian Federation

Sergey Butyrin, Researsh Institute for Control of Mechnical Systems, Russian Federation

Sergey Somov, Samara State Aerospace University, Russian Federation

Vladimir Matrosov, Stability and Nonlinear Dynamics Research Center IMASH RAS, Russian Federation

Gennady Anshakov, State Researsh & Production Rocket-Space Center, Russian Federation

5. (16:50) Stability Margin Analysis in Multiobjective Design: Application to an Aerospace Launcher

Mohamed Abbas-Turki, École Supérieure d'Electricité, France, Metropolitan

Gilles Duc, École Supérieure d'Electricité, France, Metropolitan

Benoît Clement, Centre National d'Etudes Spatiales, France, Metropolitan

6. (17:10) The design method of robust control by flexible spacecraft

Rutkovsky Vladislav, Institute of Control Siences, Russian Federation

Zemlyakov S.D, Institute of Control Siences, Russian Federation

Sukhanov V.M., Institute of Control Siences, Russian Federation

Glumov V.M., Institute of Control Siences, Russian Federation

MARINE SYSTEMS

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***J Chudley, University of Plymouth, United Kingdom***

Co-Chair: ***R Sutton, University of Plymouth, United Kingdom***

1. (15:30) A Cooperation Scenario in the Marine Environment: First Outlook

Jose M Giron-Sierra, Universidad Complutense de Madrid, Spain

J. Jimenez, Universidad Complutense de Madrid, Spain

A. Dominiguez, Universidad Complutense de Madrid, Spain

J.M. Riola, E.T.S. Ingeniewros Navales, Spain

J.M. De la Cruz, Universidad Complutense de Madrid, Spain

B. De Andres-Toro, Universidad Complutense de Madrid, Spain

2. (15:30) Adaptive Robust Fuzzy Fin Stabilizer Design for Ship Roll Nonlinear Systems

Yansheng Yang, Dalian Maritime University, China

3. (15:30) An Exact Method for Berth Allocation at Raw Material Docks

Shaohua Li, Key Laboratory of Process Industry Automation, Ministry of Education, China

Lixin Tang, Northeastern University, China

Jiyin Liu, Loughborough University, United Kingdom

4. (15:30) Overview of a Research on Actuators Control for Better Seakeeping in Fast Ships

Jose M Giron-Sierra, Universidad Complutense de Madrid, Spain

S. Esteban, Universidad Complutense de Madrid, Spain

J. Recas, Universidad Complutense de Madrid, Spain

B. Andres-Toro, Universidad Complutense de Madrid, Spain

J.M. De la Cruz, Universidad Complutense de Madrid, Spain

J.M. Riola, E.T.S. Ingenieros Navales, Spain

J. Aranda, UNED, Spain

MARINE SYSTEMS

Monday 04-Jul-2005 15:30-17:30, North Hall

Chair: ***J Chudley, University of Plymouth, United Kingdom***

Co-Chair: ***R Sutton, University of Plymouth, United Kingdom***

5. (15:30) Robust Control for the Coupling of Lateral and Longitudinal Dynamics in High Speed Crafts

Joaquin Aranda, UNED, Spain

Rocio Munoz-Mansilla, UNED, Spain

José Manuel Díaz, UNED, Spain

Sebastián Dormido-Canto, UNED, Spain

IDENTIFICATION OF CONTINUOUS TIME SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Terrace 2

Chair: ***Anna Soffia Hauksdottir, University of Iceland, Iceland***

Co-Chair: ***Svante Gunnarsson, Linköping University, Sweden***

1. (15:30) A Global Nonlinear Instrumental Variable Method for Identification of Continuous-Time Systems with Unknown Time Delays

Yang Zi-Jiang, Kyushu University, Japan

Hideto Iemura, Kyushu University, Japan

Shunshoku Kanae, Kyushu University, Japan

Kiyoshi Wada, Kyushu University, Japan

2. (15:50) On identification of a flexible mechanical system using decimated data

Svante Gunnarsson, Linköping University, Sweden

3. (16:10) Continuous-time systems identification based on iterative learning control

Fumitoshi Sakai, Nara National College of Technology, Japan

Toshiharu Sugie, Kyoto University, Japan

4. (16:30) Linear continuous time system responses

Anna Soffia Hauksdottir, University of Iceland, Iceland

Bergthor Aevarsson, University of Iceland, Iceland

Gisli Herjolfsson, University of Iceland, Iceland

Sven Th. Sigurdsson, University of Iceland, Iceland

5. (16:50) Frequency-Domain Identification of Continuous-Time Output Error Models from Sampled Data

Jonas Gillberg, Linköping University, Sweden

Lennart Ljung, Linköping University, Sweden

6. (17:10) Modeling Continuous-Time Stochastic Processes using Input-to-State Filters

Kaushik Mahata, University of Newcastle, Australia

Minyue Fu, University of Newcastle, Australia

MOBILE ROBOTS III

Monday 04-Jul-2005 15:30-17:30, Club A

Chair: ***Nicolas Garcia Aracil, Universidad Miguel Hernandez, Spain***

Co-Chair: ***Andrey V. Savkin, University of New South Wales, Australia***

1. (15:30) Vision-Based Docking for Biomimetic Wheeled Robots

Ian Manchester, University of New South Wales, Australia

Andrey Savkin, University of New South Wales, Australia

2. (15:50) Performance Analysis of a Continuous Vision-based Control System for the Navigation of a Mobile Robot

Nicolas Garcia Aracil, Universidad Miguel Hernandez, Spain

Rafel Aracil, Universidad Politecnica de Madrid, Spain

Carlos Perez, Universidad Miguel Hernandez, Spain

Jose Maria Sabater, Universidad Miguel Hernandez, Spain

Jose Maria Azorin, Universidad Miguel Hernandez, Spain

Oscar Reinoso, Universidad Miguel Hernandez, Spain

Roque Saltarén, Universidad Politecnica de Madrid, Spain

3. (16:10) Guidance-Based Path Following for Wheeled Mobile Robots

Morten Breivik, Norwegian University of Science and Technology, Norway

Thor Inge Fossen, Norwegian University of Science and Technology, Norway

4. (16:30) Obstacle Avoidance for Mobile Robots Using Switching Surface Optimization

Mauro Boccadoro, University of Perugia, Italy

Magnus Egerstedt, Georgia Institute of Technology, United States

Yorai Wardi, Georgia Institute of Technology, United States

MOBILE ROBOTS III

Monday 04-Jul-2005 15:30-17:30, Club A

Chair: ***Nicolas Garcia Aracil, Universidad Miguel Hernandez, Spain***

Co-Chair: ***Andrey V. Savkin, University of New South Wales, Australia***

5. (16:50) Traversability Prediction for Unmanned Ground Vehicles based on Identified Soil Parameters

Suksun Hutangkabodee, King's College London, United Kingdom

Yahya H. Zweiri, King's College London, United Kingdom

Lakmal D. Seneviratne, King's College London, United Kingdom

Kaspar Althoefer, King's College London, United Kingdom

6. (17:10) Dynamic modelling of a vibratory asphalt compactor and estimation of contact forces wrench

Pierre-Olivier Vandanjon, Laboratoire Central des Ponts et Chaussées, France

Charles-Eric Lemaire, Laboratoire Central des Ponts et Chaussées, France

Maxime Gautier, Institut de Recherche en Communication et Cybernétique de Nantes, France

FAULT DETECTION AND ISOLATION FOR NONLINEAR SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Club E

Chair: ***Qinghua Zhang, INRIA, France***

Co-Chair: ***Lorenzo Marconi, University of Bologna, Italy***

1. (15:30) Lowering Orders of Derivatives in Non-linear Residual Generation

Jan Åslund, Linköping university, Sweden

Erik Frisk, Linköping university, Sweden

2. (15:50) Flatness for Actuators Monitoring in Process Engineering

Wassim El Osta, Ecole Centrale de Lille, France

Belkacem Ould Bouamama, Ecole Polytechnique de Lille, France

Christophe Sueur, Ecole Centrale de Lille, France

3. (16:10) Improvement of Fault Detection Method for Nonlinear Black-box Systems based on Multi-Form Quasi-ARMAX Modeling

Kousuke Kumamaru, Kyushu Institute of Technology, Japan

Katsuhiro Inoue, Kyushu Institute of Technology, Japan

Fuyuki Tsubouchi, Kyushu Institute of Technology, Japan

Torsten Soderstrom, Uppsala University, Sweden

4. (16:30) Nonlinear Diagnostic Filter Design : Algebraic and Geometric Points of View

Alexey Shumsky, Inst. for automation and control processes, Russian Federation

Alexey Zhirabok, Inst. for automation and control processes, Russian Federation

5. (16:50) Nonlinear system sensor fault estimation

Qinghua Zhang, INRIA, France

Gildas Besançon, LAG-ENSIEG, France

6. (17:10) Unscented Kalman Filter for Fault Detection

Kai Xiong, Beihang University, China

C. W. Chan, The University of Hong Kong, China

H. Y. Zhang, Beihang University, China

NONLINEAR PROCESS CONTROL

Monday 04-Jul-2005 15:30-17:30, Small Theatre

Chair: ***Costas Kravaris, University of Patras, Greece***

Co-Chair: ***Jesus Alvarez, U. Metropolitana, Mexico***

1. (15:30) ISE-Optimal Nonminimum-Phase Compensation for Nonlinear Processes

Costas Kravaris, University of Patras, Greece

Dimitra Mousavere, University of Patras, Greece

2. (15:50) Sliding Mode Control of Non-Minimum Phase Nonlinear Uncertain Input-Delay Chemical Processes

Chyi-Tsong Chen, Feng Chia University, Taiwan

Shih-Tien Peng, Feng Chia University, Taiwan

3. (16:10) Nonlinear Control of Continuous Polymer Reactors via Passivation

Alvarez Calderon Jesus, Universidad Autonoma Metropolitana - Iztapalapa, Mexico

Pablo Gonzalez, Universidad Autonoma Metropolitana - Iztapalapa, Mexico

4. (16:30) A flexible nonlinear MPC Scheme for Quality/Performance Handling in Nonlinear SMB Chromatography

Mazen Alamir, INPG Grenoble, France

Fadi Ibrahim, INPG Grenoble, France

Jean Pierre Corriou, INPL Nancy, France

5. (16:50) Application of Iterative Nonlinear Model Predictive Control to a Batch Pilot Reactor

Carlos Bordons, University of Seville, Spain

Jose R. Cueli, University of Seville, Spain

6. (17:10) Nonlinear Model Predictive Control for the Alstom Gasifier Benchmark Problem

Rihab Al Seyab, Cranfield University, United Kingdom

Yi Cao, Cranfield University, United States

EXCITATION SYSTEMS AND PSS

Monday 04-Jul-2005 15:30-17:30, Terrace 1

Chair: ***Istvan Erlich, University of Duisburg-Essen, Germany***

Co-Chair: ***Kwang Lee, The Pennsylvania State University, United States***

1. (15:30) A Procedure for Tuning STATCOM Parameters for Damping Power System Oscillations

Alexandre B. Nassif, State University of Campinas - UNICAMP, Brazil

Luiz C. P. da Silva, State University of Campinas - UNICAMP, Brazil

Maurício C. de Oliveira, State University of Campinas - UNICAMP, Brazil

Vivaldo F. da Costa, State University of Campinas - UNICAMP, Brazil

2. (15:50) Damping Power System Electromechanical Oscillations using a Robust Adaptive TCSC Controller

Andre M D Ferreira, Federal Center for Education in Technology of Pará (CEFET-PA), Brazil

Jose A L Barreiros, Federal University of Pará (UFPA), Brazil

Walter Barra Jr., Federal University of Pará (UFPA), Brazil

Jorge R. Brito-de-Souza, Federal University of Pará (UFPA), Brazil

Carlos Tavares-da-Costa Jr., Federal University of Pará (UFPA), Brazil

3. (16:10) A Free Model Based Controller Design for Power System Stabilization

Hee-Sang Ko, University of British Columbia, Canada

Kwang Y. Lee, Pennsylvania State University, United States

Ho-Chan Kim, Cheju National University, Korea

4. (16:30) High Order Sliding Mode Controllers and Differentiators for a Synchronous Generator with Exciter Dynamics

Adolfo Soto-Cota, Instituto Tecnológico de Sonora, Mexico

Leonid Fridman, Universidad Nacional Autónoma de México, Mexico

Alexander Loukianov, CINVESTAV IPN Guadalajara, Mexico

EXCITATION SYSTEMS AND PSS

Monday 04-Jul-2005 15:30-17:30, Terrace 1

Chair: ***Istvan Erlich, University of Duisburg-Essen, Germany***

Co-Chair: ***Kwang Lee, The Pennsylvania State University, United States***

5. (16:50) Adaptive gain sliding mode control for multimachine power systems

Haris Psillakis, University of Patras, Greece

Antonio Alexandridis, University of Patras, Greece

6. (17:10) Decentralized Nonlinear Control Design for Multi-machine Power Systems

Jesus de Leon-Morales, Universidad Autonoma de Nuevo Leon, Mexico

Didier Georges, LAG-INPG, France, Metropolitan

O. Huerta-Guevara, Universidad Autonoma de Nuevo Leon, Mexico

NONLINEAR ADAPTIVE CONTROL

Monday 04-Jul-2005 15:30-17:30, Club B

Chair: ***Ivan Tyukin, RIKEN Brain Science Institute, Japan***

Co-Chair: ***Alexander L. Fradkov, Institute of Problem of Mechanical Engineering, Russian Federation***

1. (15:30) Iterative learning control of nonholonomic Hamiltonian systems: Application to a vehicle system

Yugo Kiyasu, Kyoto University, Japan

Kenji Fujimoto, Nagoya University, Japan

Toshiharu Sugie, Kyoto University, Japan

2. (15:50) State-Periodic Adaptive Friction Compensation

YangQuan Chen, CSOIS, Utah State University, United States

Hyosung Ahn, CSOIS, Utah State University, United States

3. (16:10) Adaptive Tuning to a Bifurcation for Nonlinear Systems with High Relative Degree

Denis Efimov, IPME, Russian Federation

Alexander L. Fradkov, IPME, Russian Federation

4. (16:30) Adaptive Regulation to Invariant Sets

Ivan Tyukin, RIKEN Brain Science Institute, Japan

Denis Efimov, Institute for Problems of Mechanical Engineering, RAS, Russian Federation

Cees van Leeuwen, RIKEN Brain Science Institute, Japan

5. (16:50) Adaptive Output Feedback Control of Uncertain MIMO Nonlinear Systems with Unknown Orders

Ikuro Mizumoto, Kumamoto University, Japan

Ryuji Michino, Kumamoto University, Japan

Masanori Takahashi, Ariake National College of Technology, Japan

Makoto Kumon, Kumamoto University, Japan

Zenta Iwai, Kumamoto University, Japan

6. (17:10) Direct Adaptive Control for Nonlinear Uncertain Systems with Time Delay

Tomohisa Hayakawa, Japan Science and Technology Agency, Japan

GENETIC AND EVOLUTIONARY ALGORITHMS

Monday 04-Jul-2005 15:30-17:30, Club D

Chair: ***Mahdi Mahfouf, The University of Sheffield, United Kingdom***

Co-Chair: ***Kang Li, Queen's University Belfast, United Kingdom***

1. (15:30) Adaptive Parameter Selection of Quantum-behaved Particle Swarm Optimization on Global Level

Jun Sun, Southern Yangtze University, China

Wenbo Xu, Southern Yangtze University, China

Bin Feng, Southern Yangtze University, China

2. (15:50) On-Line Temperature Control of an Oven Based on Genetic Algorithms

Zaiyue Yang, Univ. of Hong Kong, China

C. W. Chan, Univ. of Hong Kong, Hong Kong

M. S. Xue, Univ. of Sci. & Tech. of China, China

G. L. Luo, Univ. of Sci. & Tech. of China, China

3. (16:10) Adaptive Zooming Genetic Algorithm for Continuous Optimisation Problems

Kang Li, Queen's University Belfast, United Kingdom

Jian-xun Peng, Queen's University Belfast, United Kingdom

Steve Thompson, Queen's University Belfast, United Kingdom

4. (16:30) Optimal Path Planning for a Dynamic Platform

Horn-Yong Jan, University of Feng Chia, Taiwan

Chun-Liang Lin, National Chung Hsing University, Taiwan

Jr-Rong Lin, University of Feng Chia, Taiwan

5. (16:50) A New Efficient Self-Organising Fuzzy Logic Control (SOFLC) Algorithm using a Dynamic Performance Index (PI) Table

Mahdi Mahfouf, The University of Sheffield, United Kingdom

Qing Lu, The University of Sheffield, United Kingdom

6. (17:10) Strategy Creation, Decomposition and Distribution in Particle Navigation: Memory Module

Ulaş Beldek, Çankaya Universitesi, Turkey

Kemal Leblebicioğlu, Middle East Technical University (METU), Turkey

RECURSIVE ESTIMATION METHODS

Monday 04-Jul-2005 15:30-17:30, Club C

Chair: ***Julia Bara, Université Louis Pasteur Strassbourg, France***

Co-Chair: ***George Mathew, National University of Singapore, Singapore***

1. (15:30) Stationary behavior of an anti-windup scheme for recursive parameter estimation under lack of excitation

Magnus Evestedt, Uppsala University, Sweden

Alexander Medvedev, Uppsala University, Sweden

2. (16:10) Windup properties of recursive parameter estimation algorithms in acoustic echo cancellation

Magnus Evestedt, Uppsala University, Sweden

Alexander Medvedev, Uppsala University, Sweden

Torbjörn Wigren, Uppsala University, Sweden

3. (17:10) Convergence Analysis of Constrained Joint Adaptation in Recording Channels

George Mathew, National University of Singapore and Data Storage Institute, Singapore

Lim Sze Chieh, National University of Singapore, Singapore

4. (16:50) A Stable Recursive Filter for State Estimation of Linear Models in the Presence of Bounded Disturbances

Yasmina Becis-Aubry, Université Henri Poincaré, Nancy 1; CRAN UMR 7039 CNRS, France, Metropolitan

Mohamed Boutayeb, Université Louis Pasteur, Strasbourg 1; LSIIT-CNRS., France, Metropolitan

Mohamed Darouach, Université Henri Poincaré, Nancy 1; CRAN UMR 7039 CNRS, France, Metropolitan

5. (15:50) Adaptive Compensation of Biased Sinusoidal Disturbances with Unknown Frequency

Alexey Bobtsov, SPb SU IFMO, Russian Federation

Artem Kremlev, SPb SU IFMO, Russian Federation

6. (16:30) New Recursive Least Square Algorithms without using the initial information

Zhonghua Quan, Seoul National University, Korea

Soohee Han, Seoul National University, Korea

Wook Hyun Kwon, Seoul National University, Korea

TIME SERIES MODELLING

Monday 04-Jul-2005 15:30-17:30, Meeting Room 2.2

Chair: ***Tomas McKelvey, Chalmers University of Technology, Sweden***

Co-Chair: ***Roberto Diversi, University of Bologna, Italy***

1. (15:30) Gaussian Regression based on Models with two Stochastic Processes

W. E. Leithead, University of Strathclyde, United Kingdom

Kian Seng Neo, NUIM, Ireland

D. J. Leith, NUIM, Ireland

2. (15:50) A PMLP Based Method for Chaotic Time Series Prediction

Hongying Yang, Tsinghua University, China

Hao Ye, Tsinghua University, China

Guizeng Wang, Tsinghua University, China

Maiying Zhong, Tsinghua University, China

3. (16:10) Time Series Analysis for Irregularly Sampled Data

Piet M.T. Broersen, Delft University, Netherlands

4. (16:30) A new estimation approach for AR models in presence of noise

Roberto Diversi, University of Bologna, Italy

Umberto Soverini, University of Bologna, Italy

Roberto Guidorzi, University of Bologna, Italy

5. (16:50) Cyclic Spectral Analysis from the Averaged Cyclic Periodogram

Roger Boustany, Université de Technologie de Compiègne, France

Jérôme Antoni, Université de Technologie de Compiègne, France

6. (17:10) Variability Method for Cyclo-Period Estimation of Cyclostationary Signals

Jiandong Wang, University of Alberta, Canada

Tongwen Chen, University of Alberta, Canada

Biao Huang, University of Alberta, Canada

ANALYSIS AND CONTROL OF DISCRETE EVENT SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Meeting Room 4.1

Chair: ***Philippe Declerck, University of Angers, France***

Co-Chair: ***Lenko Grigorov, Queen's University, Canada***

1. (15:30) MPC for max-plus-linear systems with guaranteed stability

Ton J.J. van den Boom, Delft University of Technology, Netherlands

B. De Schutter, Delft University of Technology, Netherlands

2. (15:50) Issues in Optimal Control of Dynamic Discrete-Event Systems

Lenko Grigorov, Queen's University, Canada

Karen Rudie, Queen's University, Canada

3. (16:10) Optimal Control synthesis in Interval Descriptor Systems Application to Time Stream Event Graphs

Philippe Declerck, LISA FRE 2656, ISTIA, University of Angers, France

Mohamed Khalid Didi Alaoui, LISA FRE 2656, ISTIA, University of Angers, France

4. (16:30) Direct Feedback in Automata Networks

Jörg Neidig, Ruhr-Universität, Germany

Jan Lunze, Ruhr-Universität, Germany

5. (16:50) Stochastic equivalence of CPDP-automata and Piecewise Deterministic Markov Processes

Stefan Strubbe, Twente University, Netherlands

Arjan van der Schaft, Twente University, Netherlands

ECONOMIC SYSTEMS

Monday 04-Jul-2005 15:30-17:30, Meeting Room 4.2

Chair: ***Reinhard Neck, University of Klagenfurt, Austria***

Co-Chair: ***Mahmoud Kaboudan, Redlands University, United States***

1. (15:30) R&D Incentives under Bertrand Competition: A Differential Game

Luca Lambertini, University of Bologna, Italy

Roberto Cellini, University of Catania, Italy

2. (15:50) Renewable Resources, Capital Accumulation and Sustainability

Seiichi Katayama, Kobe University, Japan

Hiroshi Ohta, Kobe University, Japan

3. (16:10) Wavelets in multi-step-ahead forecasting

Mahmoud Kaboudan, University of Redlands, United States

4. (16:30) Nonlinear Strategy to Classify Time Series of the Semiconductor Market Trend

Maide Bucolo, Universita Degli Studi di Catania, Italy

Luigi Fortuna, Universita Degli Studi di Catania, Italy

Luca Galvagno, Universita Degli Studi di Catania, Italy

Francesco Caizzone, STMicroelectronics Catania site, Italy

Giuseppina Tomarchio, Universita Degli Studi di Catania, Italy

5. (16:50) On Pricing in the South African Renewable Commodities Market

Casper Fouche, Northwest, South Africa

Mark Petersen, Northwest, South Africa

6. (17:10) Water Embedded CGE Model to Assess Impacts of South to North Water Transfer To Recipient Region

Shan Feng, Huazhong University of Science and Technology, China

Zhi-gang Duan, GuangHua School of Management, Peking University, China

VIBRATION CONTROL

Monday 04-Jul-2005 15:30-17:30, Meeting Room 1.1

Chair: ***Reza Moheimani, The University of Newcastle, Australia***

Co-Chair: ***GianAntonio Magnani, Politecnico di Milano, Italy***

1. (15:30) Effects of local actuator action on the control of large flexible structures

Christian Benatzky, Vienna University of Technology, Austria

Martin Kozek, Vienna University of Technology, Austria

2. (15:50) Proof-mass inertial vibration control using a shunted electromagnetic transducer.

andrew fleming, University of Newcastle, Australia

Reza Moheimani, University of Newcastle, Australia

3. (16:10) Modeling and Control of a Viscoelastic Piezolaminated Beam

Peter Naucler, Uppsala University, Sweden

Hans Norlander, Uppsala University, Sweden

Anders Jansson, Uppsala University, Sweden

Torsten Söderström, Uppsala University, Sweden

4. (16:30) Nonlinear Flexure Control using Shape Memory Alloy Actuators

M. Moallem, Univ. fo Western Ontario, Canada

J. Lu, Siemens Automotive, London, ON, Canada

5. (16:50) Vibration Isolation System using Zero-power Magnetic Suspension with a Weight Suspension Mechanism

Takeshi Mizuno, Saitama University, Japan

Daisuke Kishita, Saitama University, Japan

Md. Emdadul Hoque, Saitama University, Bangladesh

Masaya Takasaki, Saitama University, Japan

Yuji Ishino, Saitama University, Japan

VIBRATION CONTROL

Monday 04-Jul-2005 15:30-17:30, Meeting Room 1.1

Chair: ***Reza Moheimani, The University of Newcastle, Australia***

Co-Chair: ***GianAntonio Magnani, Politecnico di Milano, Italy***

6. (17:10) Scheduling of Input Shaping and Transient Vibration Absorbers for High-Rise Elevators

Joel Fortgang, Georgia Institute of Technology, United States

Vlad Patrangenaru, Georgia Institute of Technology, United States

William Singhose, Georgia Institute of Technology, United States

SUPPLY CHAINS AND NETWORKS

Monday 04-Jul-2005 15:30-17:30, Meeting Room 2.3

Chair: ***Istvan Mezgar, SZTAKI, Hungary***

Co-Chair: ***Arturo Molina, ITESM, Mexico***

1. (15:30) Multi-objective Evolutionary Scheduling of Distributed Supply Networks

David Naso, Politecnico di Bari, Italy

Michele Surico, Politecnico di Bari, Italy

2. (15:50) A hybrid model for optimal control of single nodes in supply chains

Davide Giglio, University of Genova, Italy

Riccardo Minciardi, University of Genova, Italy

Simona Sacone, University of Genova, Italy

Silvia Siri, University of Genova, Italy

3. (16:10) Supply Contracts with Service Level Requirements

Carmen Del Vecchio, Universita degli Studi del Sannio, Italy

Ioannis Paschalidis, Boston University, United States

4. (16:30) Acheiving X-Sigma Delivery in Supply Chains

Danqing Yu, University of Connecticut, United States

P.B. Luh, University of Connecticut, United States

S.C. Chang, University of Connecticut, United States

5. (16:50) Smart Objects and Services Modeling in the Supply Chain

Eddy Bajic, CRAN - University of Nancy, France

Aldo Cea, CRAN - University of Nancy, France

6. (17:10) Network Design of Integrated E-supply Chain for Agile Manufacturing

Mariagrazia Dotoli, Politecnico di Bari, Italy

Maria Pia Fanti, Politecnico di Bari, Italy

Carlo Meloni, Politecnico di Bari, Italy

MengChu Zhou, New Jersey Institute of Technology, United States

DATA STORAGE DEVICES AND MICRO-ACTUATION

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.1

Chair: ***Roberto Horowitz, University of California, United States***

Co-Chair: ***Mitsuo Hirata, Utsunomiya University, Japan***

1. (15:30) Vibration Suppression Control Profile Generation for Hard Disk Drive Flexible Arm Long Seek Position Control

Li Zhou, Oklahoma State University, United States

Eduardo A. Misawa, Oklahoma State University, United States

2. (15:50) Servo Synthesis for an Optical Pick-up Head with Tilt Compensation

Jia-Yush Yen, National Taiwan University, Taiwan

Ko-Hsin Ouyang, National Taiwan University, Taiwan

3. (16:10) Integral Sliding-Mode Control of a Piezoelectric Actuated Motion Stage

Jing-Chung Shen, National Formorsa University, Taiwan

Wen-Yuh Jywe, National Formorsa University, Taiwan

Chien-Hung Liu, National Formorsa University, Taiwan

Yu-Te Jian, National Formorsa University, Taiwan

Yun-Feng Deng, National Formorsa University, Taiwan

4. (16:30) Position Control of a Levitating Magnetic Actuator-Applications to Microsystems

Jiri Stepanek, LEG/ENSIEG, France

Herve Rostaing, LEG/ENSIEG, France

Suzanne Lesecq, LAG/ENSIEG, France

Jerome Delamare, LEG/ENSIEG, France

Orphee Cugat, LEG/ENSIEG, France

5. (16:50) Variable Frequency Control for SPIDER-Driven Ultra-Precision Stages

Seiji Hashimoto, Gunma University, Japan

Kiyoshi Ohishi, Nagaoka University of Technology, Japan

Koji Kosaka, Kumamoto Technology Inc., Japan

Takeo Ishikawa, Gunma University, Japan

Hiroshi Kubota, Kumamoto University, Japan

Tadahiro Ohmi, Tohoku University, Japan

DATA STORAGE DEVICES AND MICRO-ACTUATION

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.1

Chair: ***Roberto Horowitz, University of California, United States***

Co-Chair: ***Mitsuo Hirata, Utsunomiya University, Japan***

6. (17:10) A neural network controller augmented to a high performance linear controller and its application to a HDD-track following servo system

Guido Herrmann, University of Leicester, United Kingdom

Shuzhi Sam Ge, National University of Singapore, Singapore

Guoxiao Guo, A-Star Data Storage Institute, Singapore

DEPENDABLE MANUFACTURING SYSTEMS CONTROL II

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.2

Organizer: ***Faure Jean-Marc, ENS de Cachan, France***

Co-Organizer ***Jean-Jacques Lesage, ENS de Cachan, France***

Chair: ***Jean-Jacques Lesage, ENS de Cachan, France***

Co-Chair: ***Yiannis Papadopoulos, University of Hull, United Kingdom***

1. (15:30) Continuous Assessment of Desings & Re-use in Model-based Safety Analysis

Yiannis Papadopoulos, University of Hull, United Kingdom

Christian Grante, Volvo Cars, Sweden

Lars Grunske, School of ITEE, The University of Queensland, Australia

Bernhard Kaiser, Fraunhofer IESE, Germany

2. (15:50) Timing Diagram Specifications in Modular Modeling of Industrial Automation Systems

Valeriy Vyatkin, Martin Luther University, Germany

Gustavo Bouzon, Federal University of Santa Catarina, Brazil

Hans-Michael Hanisch, Martin Luther University, Germany

3. (16:10) From Fault Tree Analysis to Model Checking of Logic Controllers

Israel Barragan Santiago, LURPA, France, Metropolitan

Jean-Marc Faure, LURPA, France, Metropolitan

4. (16:30) Fault Detection of Discrete Event Systems using an Identification Approach

Stephane Klein, University of Kaiserslautern, Germany

Lothar Litz, University of Kaiserslautern, Germany

Jean-Jacques Lesage, Ecole Normale Superieure de Cachan, France

5. (16:50) Combined synthesis/verification approach to programmable logic control of a production line

Gasper Music, University of Ljubljana, Slovenia

Drago Matko, University of Ljubljana, Slovenia

DEPENDABLE MANUFACTURING SYSTEMS CONTROL II

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.2

Organizer: ***Faure Jean-Marc, ENS de Cachan, France***

Co-Organizer ***Jean-Jacques Lesage, ENS de Cachan, France***

Chair: ***Jean-Jacques Lesage, ENS de Cachan, France***

Co-Chair: ***Yiannis Papadopoulos, University of Hull, United Kingdom***

6. (17:10) Improving Dependability of Logic Controllers by Algorithmic Verification

Olaf Stursberg, University of Dortmund, Germany

Sven Lohmann, University of Dortmund, Germany

Sebastian Engell, University of Dortmund, Germany

TRANSPORTATION SYSTEMS I

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.3

Chair: ***Said Mammar, Université d'Evry Val d'Essonne, France***

Co-Chair: ***Markos Papageorgiou, Technical University of Crete, Greece***

1. (15:30) Automatic prediction of icy conditions on roads using a LS-SVM classifier

Sophie Beguin, UCL, Belgium

Georges Bastin, UCL, Belgium

Vincent Wertz, UCL, Belgium

2. (15:50) Minimum Time Control using Straight Transfer for a Rotary Crane

Ying Shen, Toyohashi University of Technology, Japan

Kazuhiko Terashima, Toyohashi University of Technology, Japan

Ken'ichi Yano, Gifu University, Japan

3. (16:10) Sensor-based Collision Avoidance for Rope-Suspended Autonomous Material Flow Systems

Thomas Wecker, Universität Ulm, Germany

Harald Aschemann, Universität Ulm, Germany

Eberhard P. Hofer, Universität Ulm, Germany

4. (16:30) Supplier Selection under Purchasing and Transportation Conditions

Aicha Aguezzoul, LAG - INPG, France

Pierre Ladet, LAG - INPG, France

5. (16:50) Simulation of traffic, ventilation and exhaust in a complex road tunnel

Lukas Kurka, Czech Technical University in Prague, Czech Republic

Lukas Ferkl, Czech Technical University in Prague, Czech Republic

Oto Sladek, Kybertec, Ltd., Czech Republic

Jan Porizek, Satra, Ltd., Czech Republic

TRANSPORTATION SYSTEMS I

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.3

Chair: ***Said Mammar, Université d'Evry Val d'Essonne, France***

Co-Chair: ***Markos Papageorgiou, Technical University of Crete, Greece***

6. (17:10) Freeway Traffic Control based on Neural Network Estimation

Nicola Sacco, Department of Control and Computer Engineering - Polytechnic of Turin, Italy

Angela Di Febbraro, Department of Control and Computer Engineering - Polytechnic of Turin, Italy

MARINE SYSTEMS III

Monday 04-Jul-2005 15:30-17:30, Meeting Room 4.3

Chair: ***Bernhard Lampe, University of Rostock, Germany***

Co-Chair: ***Massimo Caccia, CNR-ISSA Sez di Genova, Italy***

1. (15:30) Active Vibration Isolation in a "Smart Spring" Mount using a Repetitive Control Approach

Steve Daley, University of Sheffield, United Kingdom

Jari Hatonen, University of Sheffield, United Kingdom

David Owens, University of Sheffield, United Kingdom

2. (15:50) Adaptive Robust Backstepping Nonlinear Algorithm Applied to Ship Steering

Jialu Du, Dalian Maritime University, China

Guo Chen, Dalian Maritime University, China

Chengen Yang, Dalian Maritime University, China

3. (16:10) Motion Planning and Its Feedback Stabilization for Underactuated Ships: Virtual Constraints Approach

Anton Shiriaev, Umea University, Sweden

Anders Robertsson, Lunf Institute of Thechnology, Sweden

Paul Pacull, Umea University, Sweden

Thor Inge Fossen, Norwegian University of Science and Technology, Norway

4. (16:30) Sliding Mode Based Inverse Model Control for Oil Tanker Guidance

Meghan Loo, University of Glasgow, United Kingdom

Euan W. McGookin, University of Glasgow, United Kingdom

David J. Murray-Smith, University of Glasgow, United Kingdom

5. (16:50) Terrain Based Navigation Tools for Underwater Vehicles using Eigen Analysis

Paulo Oliveira, IST, Portugal

6. (17:10) Modeling, guidance and control of "Esso Osaka" model

Lúcia Moreira, Technical University of Lisbon, Portugal

Thor I. Fossen, Norwegian University of Science and Technology, Norway

Carlos Guedes Soares, Technical University of Lisbon, Portugal

POWERTRAIN CONTROL

Monday 04-Jul-2005 15:30-17:30, Meeting Room 2.1

Chair: ***Bo Egardt, Chalmers TH, Sweden***

Co-Chair: ***Carlos Canudas de Wit, INPG, France***

1. (15:30) Model Predictive Control of Automotive Powertrains with Backlash

Adam Lagerberg, Jönköping University, Sweden

Bo Egardt, Chalmers University of Technology, Sweden

2. (15:50) Controlling Gear Engagement and Disengagement on Heavy Trucks for Minimization of Fuel Consumption

Anders Fröberg, Linköping University, Sweden

Lars Nielsen, Linköping University, Sweden

Lars-Gunnar Hedström, Scania, Sweden

Magnus Pettersson, Scania, Sweden

3. (16:10) Actual Engaged Gear Identification: A Hybrid Observer Approach

Balluchi Andrea, PARADES, Italy

Luca Benvenuti, DIS, Università di Roma, Italy

Claudio Lemma, PARADES, Italy

Alberto Sangiovanni-Vincentelli, PARADES and EECS Dept. University of California at Berkeley, United States

Gabriele Serra, Magneti Marelli Powertrain, Italy

4. (16:30) A Harmonic Controller of Engine Speed Oscillations for Hybrid Vehicles

Philippe Micheau, Université de Sherbrooke, Canada

Patrick Coirault, ESIP, France

5. (16:50) Improved Optimal Control of Dry Clutch Engagement

Pietro Dolcini, Centre Technique Renault, France, Metropolitan

Carlos Canudas de Wit, LAG-ENSIEG, France, Metropolitan

Hubert Bechart, Centre Technique Renault, France, Metropolitan

6. (17:10) Identification of Driveline Parameters using an Augmented Nonlinear Model

Peter Langthaler, Johannes Kepler University Linz, Austria

Luigi del Re, Johannes Kepler University Linz, Austria

NEW TREND IN DECENTRALIZED CONTROL

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.4

Organizer: ***Lubomir Bakule, Czech Academy of Sciences - UTIA, Czech Republic***

Co-Organizer ***Masao Ikeda, Osaka University, Japan***

Chair: ***Lubomir Bakule, Czech Academy of Sciences - UTIA, Czech Republic***

Co-Chair: ***Masao Ikeda, Osaka University, Japan***

1. (15:30) Overlapping Guaranteed Cost Control for Uncertain Continuous-Time Delayed Systems

Lubomir Bakule, Institute of Information Theory and Automation, Academy of Sciences of the Czech Republic, Czech Republic

Jose Rodellar, Department of Applied Mathematics III, Technical University of Catalonia, Spain

Josep Maria Rossell, Department of Applied Mahematics III, Technical University of Catalonia, Spain

2. (15:50) Robust decentralized H-infinity control of multi-channel systems with norm-bounded parametric uncertainties

Ning Chen, Central South University, China

Masao Ikeda, Osaka Univerity, Japan

3. (16:10) Decentralized H2 Controller Design for Descriptor Systems: An LMI Approach

Guisheng Zhai, Osaka Prefecture University, Japan

Masaharu Yoshida, Wakayama University, Japan

Joe Imae, Osaka Prefecture University, Japan

Tomoaki Kobayashi, Osaka Prefecture University, Japan

4. (16:30) Constrained decentralized flow control of communication networks

Zhong-Ping Jiang, Polytechnic University of New York, United States

Yi FAN, Polytechnic University of New York, United States

Yuan Wang, Florida Atlantic University, United States

5. (16:50) Decentralized Control of Large Scale Systems via Disturbance Attenuation and Eigenstructure Assignment

Batool Labibi, K. N. Toosi University of Technology, Iran

NEW TREND IN DECENTRALIZED CONTROL

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.4

Organizer: ***Lubomir Bakule, Czech Academy of Sciences - UTIA, Czech Republic***

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Chair: ***Lubomir Bakule, Czech Academy of Sciences - UTIA, Czech Republic***

Co-Chair: ***Masao Ikeda, Osaka University, Japan***

6. (17:10) A Frequency Domain Design Technique for Robust Decentralized Controllers

Alena Kozakova, Slovak University of Technology, Slovakia

Vojtech Vesely, Slovak University of Technology, Slovakia

STATE ESTIMATION IN BIO/CHEMICAL PROCESSES

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.5

Organizer: ***Edgar Sanchez, CINVESTAV, Unidad Guadalajara, Mexico***

Co-Organizer ***Jean François Beteau, INPG-ENSIEG-LAG, France***

Chair: ***Edgar Sanchez, CINVESTAV, Unidad Guadalajara, Mexico***

Co-Chair: ***Jean-Pierre Corriou, LSGC-CNRS, France***

1. (15:30) Global Observability and Detectability Analysis of Uncertain Reaction Systems

Jaime A. Moreno, Univ. Nac. Aut. de Mexico (UNAM), Mexico

Denis Dochain, Universite Catholique de Louvain, Belgium

2. (15:50) Interval Observers for non monotone systems. Application to bioprocess models

Marcelo Moisan, INRIA Sophia Antipolis, France

Olivier Bernard, INRIA Sophia Antipolis, France

3. (16:10) Chemometric Estimation of Wastewater Composition for the on-line Control of Treatment Plants

Marie-Noëlle Pons, CNRS-ENSIC-INPL, France

Jing Wu, CNRS-ENSIC-INPL / Tsinghua Univ. Beijing, France

Olivier Potier, CNRS-ENSIC-INPL, France

4. (16:30) A Comparative Study of Soft-sensing Methods for Fed-batch Fermentation Processes

Hongwei Zhang, North East Wales Institute of Higher Education, United Kingdom

Zoubir Zouaoui, North East Wales Institute of Higher Education, United Kingdom

Barry Lennox, The University of Manchester, United Kingdom

5. (16:50) Determination of Physiological Modes in Saccharomyces-Cerevisae Culture using Sequential Data Analysis

J. Philippe Cassar, University of Lille (USTL), France

Vincent Guillou, LSPCMIS (CNRS - UPS Toulouse), France

STATE ESTIMATION IN BIO/CHEMICAL PROCESSES

Monday 04-Jul-2005 15:30-17:30, Meeting Room 3.5

Organizer: ***Edgar Sanchez, CINVESTAV, Unidad Guadalajara, Mexico***

Co-Organizer ***Jean François Beteau, INPG-ENSIEG-LAG, France***

Chair: ***Edgar Sanchez, CINVESTAV, Unidad Guadalajara, Mexico***

Co-Chair: ***Jean-Pierre Corriou, LSGC-CNRS, France***

6. (17:10) Design of On-line State Estimators for a Recombinant E. Coli Fed-batch Fermentation

Eugénio Ferreira, Universidade do Minho, Portugal

Isabel Rocha, Universidade do Minho, Portugal

Ana Cristina Veloso, Universidade do Minho, Portugal