Control Systems Society

SEPTEMBER 2013

Publications Content Digest

TABLE OF CONTENTS

Vice-President
Publications Activities
FRANCESCO BULLO
University of California, Santa Barbara
http://www.ieeecss.org/publications/css-publications

Journal Editors

IEEE Transactions on Automatic Control
PANOS J. ANTSAKLIS
University of Notre Dame
http://www.ieeecss.org/publications/tac
IEEE Transactions on Control Systems Technology
THOMAS PARISINI
Imperial College, UK
http://www.ieeecss.org/publications/tcst
IEEE Control Systems Magazine
RICHARD D. BRAATZ
Massachusetts Institute of Technology
http://www.ieeecss.org/publications/csm

Electronics Editor

E-letter on Systems, Control and Signal Processing
MARIA PRANDINI
Politecnico di Milano, Italy
http://www.ieeecss.org/publications/e-letter/e-letter

Submission and editorial instructions can be found on each publication's homepage

For subscription to the monthly E-Letter, please visit:
http://www.ieeecss.org/newsletter/subscriptions

IEEE TRANSACTIONS ON

AUTOMATIC CONTROL

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY

SEPTEMBER 2013 VOLUME 58 NUMBER 9 IETAA9 (ISSN 0018-9286)

Table of Contents
Full Text: PDF [136 KB]

IEEE Transactions on Automatic Control Publication Information
Full Text: PDF [136 KB]

Editorial Continuing the Tradition of Excellence: Where We Have Been and Where We Could Go
P. Antsaklis
Full Text: PDF [345 KB]

Scanning the Issue
Full Text: PDF [117 KB]

Papers

A Distributed Newton Method for Network Utility Maximization–I: Algorithm
E. Wei, A. Ozdaglar, and A. Jadbabaie
Abstract | Full Text: PDF [2787 KB]

A Distributed Newton Method for Network Utility Maximization—Part II: Convergence
E. Wei, A. Ozdaglar, and A. Jadbabaie
Abstract | Full Text: PDF [3429 KB]

Approximately-Optimal Solutions to the Finite-Dimensional Witsenhausen Counterexample
P. Grover, S. Y. Park, and A. Sahai
Abstract | Full Text: PDF [4849 KB]

Weakly Coupled Systems in Quantum Control
N. Boussaïd, M. Caponigro, and T. Chambrion
Abstract | Full Text: PDF [4420 KB]

Stochastic Gradient Descent on Riemannian Manifolds
S. Bonnabel
Abstract | Full Text: PDF [3248 KB]

Optimal Control on Lie Groups: The Projection Operator Approach
A. Saccon, J. Hauser, and A. P. Aguiar
Abstract | Full Text: PDF [5530 KB]

Optimal Strategies for Communication and Remote Estimation With an Energy Harvesting Sensor
A. Nayyar, T. Başar, D. Teneketzis, and V. V. Veeravalli
Abstract | Full Text: PDF [3600 KB]

Asymptotically Optimal Algorithms for One-to-One Pickup and Delivery Problems With Applications to Transportation Systems
K. Treleaven, M. Pavone, and E. Frazzoli
Abstract | Full Text: PDF [3394 KB]

Flatness of Semilinear Parabolic PDEs—A Generalized Cauchy–Kowalevski Approach
B. Schörkhuber, T. Meurer, and A. Jungel
Abstract | Full Text: PDF [5316 KB]

Controller Design for Multivariable Linear Time-Invariant Unknown Systems
W. S. W. Wang, D. E. Davison, and E. J. Davison
Abstract | Full Text: PDF [3400 KB]

Reduced Order Internal Models in Robust Output Regulation
L. Paunonen and S. Pohjolainen
Abstract | Full Text: PDF [4288 KB]

Robust Stability and Boundedness of Nonlinear Hybrid Stochastic Differential Delay Equations
L. Hu, X. Mao, and L. Zhang
Abstract | Full Text: PDF [4027 KB]

Technical Notes and Correspondence

LaSalle-Yoshizawa Corollaries for Nonsmooth Systems
N. Fischer, R. Kamalapurkar, and W. E. Dixon
Abstract | Full Text: PDF [915 KB]

Structural Analysis of Laplacian Spectral Properties of Large-Scale Networks
V. M. Preciado, A. Jadbabaie, and G. C. Verghese
Abstract | Full Text: PDF [1228 KB]

On Event Triggered Tracking for Nonlinear Systems
P. Tallapragada and N. Chopra
Abstract | Full Text: PDF [1231 KB]

Zero Forcing, Linear and Quantum Controllability for Systems Evolving on Networks
D. Burgarth, D. D'Alessandro, L. Hogben, S. Severini, and M. Young
Abstract | Full Text: PDF [1418 KB]

On Linear Solutions of the Output Feedback Pole Assignment Problem
X. A. Wang and U. Konigorski
Abstract | Full Text: PDF [1389 KB]

Stability and Invariance Analysis of Uncertain Discrete-Time Piecewise Affine Systems
M. Rubagotti, S. Trimboli, and A. Bemporad
Abstract | Full Text: PDF [1515 KB]

Connectivity Preservation in Nonholonomic Multi-Agent Systems: A Bounded Distributed Control Strategy
A. Ajorlou and A. G. Aghdam
Abstract | Full Text: PDF [1489 KB]

Observability of a Linear System Under Sparsity Constraints
W. Dai and S. Yuksel
Abstract | Full Text: PDF [1364 KB]

Optimal Decentralized Control of Coupled Subsystems With Control Sharing
A. Mahajan
Abstract | Full Text: PDF [1180 KB]

Sampling Zeros of Discrete Models for Fractional Order Systems
E. A. Yucra, J. I. Yuz, and G. C. Goodwin
Abstract | Full Text: PDF [1152 KB]

Robust Adaptive Failure Compensation of Hysteretic Actuators for a Class of Uncertain Nonlinear Systems
J. Cai, C. Wen, H. Su, and Z. Liu
Abstract | Full Text: PDF [1642 KB]

A Robust MPC Algorithm for Offset-Free Tracking of Constant Reference Signals
G. Betti, M. Farina, and R. Scattolini
Abstract | Full Text: PDF [1368 KB]

On the Formation Patterns Under Generalized Cyclic Pursuit
J.-C. Juang
Abstract | Full Text: PDF [781 KB]

Extremum Seeking for Constrained Inputs
Y. Tan, Y. P. Li, and I. M. Y. Mareels
Abstract | Full Text: PDF [1214 KB]

Stability Analysis of Second-Order Sliding Mode Control Systems With Input-Delay Using Poincaré Map
X. Li, X. Yu, and Q.-L. Han
Abstract | Full Text: PDF [1279 KB]

Boundary Stabilization of Equilibrium Solutions to Parabolic Equations
V. Barbu
Abstract | Full Text: PDF [1263 KB]

On the Optimal Scheduling of Independent, Symmetric and Time-Sensitive Tasks
F. Iannello and O. Simeone
Abstract | Full Text: PDF [1165 KB]

Design of Optimal Sparse Feedback Gains via the Alternating Direction Method of Multipliers
F. Lin, M. Fardad, and M. R. Jovanović
Abstract | Full Text: PDF [1060 KB]

IEEE TRANSACTIONS ON

CONTROL SYSTEMS TECHNOLOGY

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY

SEPTEMBER 2013 VOLUME 21 NUMBER 5 IETTE2 (ISSN 1063-6536)

Table of Contents
Full Text: PDF [129 KB]

IEEE Transactions on Control Systems Technology Publication Information
Full Text: PDF [138 KB]

Papers

Fault Detection of Non-Gaussian Processes Based on Model Migration
Y. Zhang, J. An, and C. Ma
Abstract | Full Text: PDF [1197 KB]

Cyclic Variability and Dynamical Instabilities in Autoignition Engines With High Residuals
E. Hellström, A. G. Stefanopoulou, and L. Jiang
Abstract | Full Text: PDF [2456 KB]

Oscillation, Orientation, and Locomotion of Underactuated Multilink Mechanical Systems
L. Zhu, Z. Chen, and T. Iwasaki
Abstract | Full Text: PDF [646 KB]

Modeling and High Dynamic Compensating the Rate-Dependent Hysteresis of Piezoelectric Actuators via a Novel Modified Inverse Preisach Model
S. Xiao and Y. Li
Abstract | Full Text: PDF [2517 KB]

SI and HCCI Combustion Mode Transition Control of an HCCI Capable SI Engine
X. Yang and G. Zhu
Abstract | Full Text: PDF [1154 KB]

Component-Based Method for the Modeling and Control of Modular Production Systems
D. Côté and R. St-Denis
Abstract | Full Text: PDF [2187 KB]

Proportional-Integral Control of First-Order Time -Delay Systems via Eigenvalue Assignment
S. Yi, P. W. Nelson, and A. G. Ulsoy
Abstract | Full Text: PDF [452 KB]

Vision-Based Spacecraft Relative Navigation Using Sparse-Grid Quadrature Filter
B. Jia and M. Xin
Abstract | Full Text: PDF [1177 KB]

Modeling and Velocity Control for a Novel Narrow Vehicle Based on Mobile Wheeled Inverted Pendulum
J. Huang, F. Ding, T. Fukuda, and T. Matsuno
Abstract | Full Text: PDF [1072 KB]

Optimal Excitation Force Design in Indentation-Based Rapid Broadband Nanomechanical Spectroscopy: Poly(dimethylsiloxane) Example
Z. Xu and Q. Zou
Abstract | Full Text: PDF [510 KB]

Control of Towing Kites for Seagoing Vessels
M. Erhard and H. Strauch
Abstract | Full Text: PDF [839 KB]

Multivariable Control and Optimization of a Compact 6-DOF Precision Positioner With Hybrid **H2** /**H**∞ and Digital Filtering
J. C. Silva-Rivas and W. Kim
Abstract | Full Text: PDF [961 KB]

Horizon-1 Predictive Control of Automotive Electromagnetic Actuators
R. M. Hermans, M. Lazar, I. V. Kolmanovsky, and S. D. Cairano
Abstract | Full Text: PDF [1684 KB]

Online Estimation of Ship Dynamic Flexure Model Parameters for Transfer Alignment
W. Wu, S. Chen, and S. Qin
Abstract | Full Text: PDF [714 KB]

Cyber Security of Water SCADA Systems—Part II: Attack Detection Using Enhanced Hydrodynamic Models
S. Amin, X. Litrico, S. S. Sastry, and A. M. Bayen
Abstract | Full Text: PDF [807 KB]

Active Target Tracking and Cooperative Localization for Teams of Aerial Vehicles
F. Morbidi and G. L. Mariottini
Abstract | Full Text: PDF [1846 KB]

Robust Control of Motion/Force for Robotic Manipulators With Random Time Delays
Y. Kang, Z. Li, X. Cao, and D. Zhai
Abstract | Full Text: PDF [972 KB]

Health-Aware Coverage Control With Application to a Team of Small UAVs
J.-S. Marier, C. A. Rabbath, and N. Léchevin
Abstract | Full Text: PDF [641 KB]

Integrated Optimal Formation Control of Multiple Unmanned Aerial Vehicles
J. Wang and M. Xin
Abstract | Full Text: PDF [3185 KB]

Online Parameterization of Lumped Thermal Dynamics in Cylindrical Lithium Ion Batteries for Core Temperature Estimation and Health Monitoring
X. Lin, H. E. Perez, J. B. Siegel, A. G. Stefanopoulou, Y. Li, R. D. Anderson, Y. Ding, and M. P. Castanier
Abstract | Full Text: PDF [1875 KB]

Optimal Partitioning for the Decentralized Thermal Control of Buildings
V. Chandan and A. Alleyne
Abstract | Full Text: PDF [853 KB]

Combined Signal and Model-Based Sensor Fault Diagnosis for a Doubly Fed Induction Generator
B. Boulkroune, M. Gálvez-Carrillo, and M. Kinnaert
Abstract | Full Text: PDF [2417 KB]

Quantized-Input Control Lyapunov Approach for Permanent Magnet Synchronous Motor Drives
G. Prior and M. Krstic
Abstract | Full Text: PDF [1946 KB]

Disturbance Margin for Quantifying Limits on Power Smoothing by Wind Turbines
B. G. Rawn, P. W. Lehn, and M. Maggiore
Abstract | Full Text: PDF [883 KB]

Synthesis of Optimal Finite-Frequency Controllers Able to Accommodate Passivity Violations
J. R. Forbes and C. J. Damaren
Abstract | Full Text: PDF [1082 KB]

Toward 4-D Trajectory Management in Air Traffic Control: A Study Based on Monte Carlo Simulation and Reachability Analysis
K. Margellos and J. Lygeros
Abstract | Full Text: PDF [1911 KB]

Development of an Approach Toward Comprehensive Identification of Hysteretic Dynamics in Piezoelectric Actuators
L. Liu, K. K. Tan, C. S. Teo, S.-L. Chen, and T. H. Lee
Abstract | Full Text: PDF [1474 KB]

Observer-Based Feedback Control for Stabilization of Collective Motion
S. Napora and D. A. Paley
Abstract | Full Text: PDF [2149 KB]

Discrete-Time Framework for Fault Diagnosis in Robotic Manipulators
F. Caccavale, A. Marino, G. Muscio, and F. Pierri
Abstract | Full Text: PDF [4008 KB]

Optimal Control of Multibattery Energy-Aware Systems
T. Wang and C. G. Cassandras
Abstract | Full Text: PDF [669 KB]

Brief Papers

Nonlinear Attitude Observer Based on Range And Inertial Measurements
S. Brás, R. Cunha, C. J. Silvestre, and P. J. Oliveira
Abstract | Full Text: PDF [602 KB]

Real-Time Middleware for Networked Control Systems and Application to an Unstable System
K.-D. Kim and P. R. Kumar
Abstract | Full Text: PDF [1981 KB]

Sampled Data Model Predictive Control of a Voltage Source Inverter for Reduced Harmonic Distortion
S. Almér, S. Mariéthoz, and M. Morari
Abstract | Full Text: PDF [681 KB]

Kalman Filtering Compensated by Radial Basis Function Neural Network for Seam Tracking of Laser Welding
X. Gao, X. Zhong, D. You, and S. Katayama
Abstract | Full Text: PDF [911 KB]

Robust Adaptive Attitude Tracking on SO(3) With an Application to a Quadrotor UAV
T. Lee
Abstract | Full Text: PDF [577 KB]

Exploiting the Trifocal Tensor in Dynamic Pose Estimation for Visual Control
H. M. Becerra and C. Sagues
Abstract | Full Text: PDF [539 KB]

Adaptive Tracking Control of a Common Rail Injection System for Gasoline Engines: A Discrete-Time Integral Minimal Control Synthesis Approach
U. Montanaro, A. di Gaeta and V. Giglio
Abstract | Full Text: PDF [667 KB]

State-Space Approach to Modeling and Ripple Reduction in AC–DC Converters
H. Pham, H. Jung, and T. Hu
Abstract | Full Text: PDF [517 KB]

Speed Tracking of a Linear Induction Motor-Enumerative Nonlinear Model Predictive Control
J. Thomas and A. Hansson
Abstract | Full Text: PDF [523 KB]

Cyber Security of Water SCADA Systems—Part I: Analysis and Experimentation of Stealthy Deception Attacks
S. Amin, X. Litrico, S. Sastry, and A. M. Bayen
Abstract | Full Text: PDF [643 KB]

Microstepping With Nonlinear Torque Modulation for Permanent Magnet Stepper Motors
W. Kim, D. Shin, and C. C. Chung
Abstract | Full Text: PDF [1260 KB]

Network-Based Rehabilitation System for Improved Mobility and Tele-Rehabilitation
J. Bae, W. Zhang, and M. Tomizuka
Abstract | Full Text: PDF [635 KB]

Model Predictive Control for a Multicompartment Respiratory System
H. Li and W. M. Haddad
Abstract | Full Text: PDF [464 KB]

Corrections to “A Minimum Parameter Adaptive Approach for Rejecting Multiple Narrow-Band Disturbances With Application to Hard Disk Drives”
X. Chen and M. Tomizuka
Abstract | Full Text: PDF [107 KB]

Upcoming IEEE Conferences

Important Dates

Submissions Open:
JANUARY 4, 2013 [CLOSED]

Session Proposals Due:
MARCH 4, 2013 [CLOSED]

Initial Submissions Due:
MARCH 11, 2013 [CLOSED]

Decisions Notification:
MID-JULY 2013 [CLOSED]

Final Submission Opens:
CURRENTLY OPEN

Registration Opens:
CURRENTLY OPEN

Final Submissions Due:
SEPTEMBER 10, 2013

The 52nd IEEE Conference on Decision and Control will be held Tuesday through Friday, December 10-13, 2013 at Palazzo dei Congressi, Florence, Italy. Pre-conference Workshops will be held on Monday December 9, 2013.

The CDC is recognized as the premier scientific and engineering conference dedicated to the advancement of the theory and practice of systems and control. The CDC annually brings together an international community of researchers and practitioners in the field of automatic control to discuss new research results, perspectives on future developments, and innovative applications relevant to decision making, systems and control, and related areas.

www.cdc2013.units.it/

ACC 2014

IMPORTANT DATES

Draft Manuscript due:

September 27, 2013

Workshop Proposals due:

October 18, 2013

Acceptance/Rejection Notice:

TBD

Final Manuscript Submission:

TBD

2014 AMERICAN CONTROL CONFERENCE

JUNE 4-6, 2014

PORTLAND, OREGON, USA

Will be held at the Hilton Portland & Executive Tower, which is centrally located in downtown Portland within blocks of many of Portland's best entertainment and tourist venues. Also in close proximity to the conference venue is the Portland Center for the Performing Arts, Oregon Historical Society, Portland Art Museum, and the Washington Park Zoo. America's most bike friendly city, Portland is also well known for its friendly walkable short city blocks dotted with microbreweries.

http://a2c2.org/conferences/acc2014/