

IEEE TRANSACTIONS ON AUTOMATIC CONTROL

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



JANUARY 2016

VOLUME 61

NUMBER 1

IETAA9

(ISSN 0018-9286)

Scanning the Issue	1
------------------------------	---

REGULAR PAPERS	
Input-to-State Stability, Integral Input-to-State Stability, and $\mathcal{L}_2$ -Gain Properties: Qualitative Equivalences and Interconnected Systems	<i>C. M. Kellett and P. M. Dower</i> 3
A Supervisory Control Theory Approach to Control Gene Regulatory Networks	<i>F. L. Baldissera, J. E. R. Cury, and J. Raisch</i> 18
Team-Triggered Coordination for Real-Time Control of Networked Cyber-Physical Systems	<i>C. Nowzari and J. Cortés</i> 34
Nonlinear Observers Robust to Measurement Disturbances in an ISS Sense	<i>H. Shim and D. Liberzon</i> 48
A Simulation Budget Allocation Procedure for Enhancing the Efficiency of Optimal Subset Selection	<i>S. Zhang, L. H. Lee, E. P. Chew, J. Xu, and C-H. Chen</i> 62
New Approach to the Stability of Chemical Reaction Networks: Piecewise Linear in Rates Lyapunov Functions	<i>M. Ali Al-Radhawi and D. Angeli</i> 76
Stochastic Averaging in Discrete Time and its Applications to Extremum Seeking	<i>S-J. Liu and M. Krstic</i> 90
Sampled Data Models for Nonlinear Stochastic Systems: Truncation Errors and Sampling Zero Dynamics	<i>D. S. Carrasco, G. C. Goodwin, and J. I. Yuz</i> 103
Root Loci for Systems Defined on Hilbert Spaces	<i>B. Jacob and K. Morris</i> 116
Optimal Distributed Controllers Realizable Over Arbitrary Networks	<i>A. S. Mohan Vamsi and N. Elia</i> 129
On Rates of Convergence for Markov Chains Under Random Time State Dependent Drift Criteria	<i>R. Zurkowski, S. Yüksel, and T. Linder</i> 145
Robust Recursive State Estimation With Random Measurement Droppings	<i>T. Zhou</i> 156

TECHNICAL NOTES AND CORRESPONDENCE	
Unscented Orientation Estimation Based on the Bingham Distribution	<i>I. Gilitschenski, G. Kurz, S. J. Julier, and U. D. Hanebeck</i> 172
“Polynomial Time Verification of Decentralized Diagnosability of Discrete Event Systems” Versus “Decentralized Failure Diagnosis of Discrete Event Systems”: A Critical Appraisal	<i>M. V. Moreira, J. C. Basilio, and F. G. Cabral</i> 178
A Sparse Bayesian Approach to the Identification of Nonlinear State-Space Systems	<i>W. Pan, Y. Yuan, J. Gonçalves, and G-B. Stan</i> 182
Stability Analysis of Integral Delay Systems With Multiple Delays	<i>B. Zhou and Z-Y. Li</i> 188

(Contents Continued on Back Cover)

On the “Counter-Example” in the Article “Max’-Controlled Siphons for Liveness of S^3PGR^2 ” Regarding the Results in “Deadlock Avoidance in Sequential Resource Allocation Systems With Multiple Resource Acquisitions and Flexible Routings”	<i>S. Reveliotis</i>	194
Structural Sequence Detectability in Free Choice Interpreted Petri Nets	<i>S-A. Nuño-Sánchez, A. Ramírez-Treviño, and J. Ruiz-León</i>	198
Universal Integral Control: An Approach Based on Mollifiers	<i>S. Riachy, D. Efimov, and M. Mboup</i>	204
Weighted Homogeneity for Time-Delay Systems: Finite-Time and Independent of Delay Stability	<i>D. Efimov, A. Polyakov, W. Perruquetti, and J-P. Richard</i>	210
Memoryless Approach to the LQ and LQG Problems With Variable Input Delay	<i>F. Cacace, F. Conte, and A. Germani</i>	216
Second-Order Consensus of Networked Thrust-Propelled Vehicles on Directed Graphs	<i>H. Wang</i>	222
Stabilizing Solution and Parameter Dependence of Modified Algebraic Riccati Equation With Application to Discrete-Time Network Synchronization	<i>M. Z. Q. Chen, L. Zhang, H. Su, and G. Chen</i>	228
Discrete-Time Positive Periodic Systems With State and Control Constraints	<i>M. Ait Rami and D. Napp</i>	234
A New Type of Stability Theorem for Stochastic Systems With Application to Stochastic Stabilization	<i>X. Zhao and F. Deng</i>	240
Leak Detection, Size Estimation and Localization in Pipe Flows	<i>O. M. Aamo</i>	246
Exponential Stability With Decay Rate Estimation for Linear Difference Equations	<i>S. Damak, M. Di Loreto, S. Mondié, and X. Brun</i>	252
Persistent Excitation by Deterministic Signals for Subspace Parametric Identification of MISO Hammerstein Systems	<i>A. Naitali and F. Giri</i>	258
The Influence of System Stability and Dynamics on the Accuracy of Level-Crossing Prediction	<i>R. Martin</i>	264
Discrete-Time Robust Iterative Learning Kalman Filtering for Repetitive Processes	<i>Z. Cao, R. Zhang, Y. Yang, J. Lu, and F. Gao</i>	270
Characterization of Controllability Based on Continuity of Closed-Loop Eigenvectors: Application to Controller-Driven Sampling Stabilization	<i>H. Haimovich and E. N. Osella</i>	276
