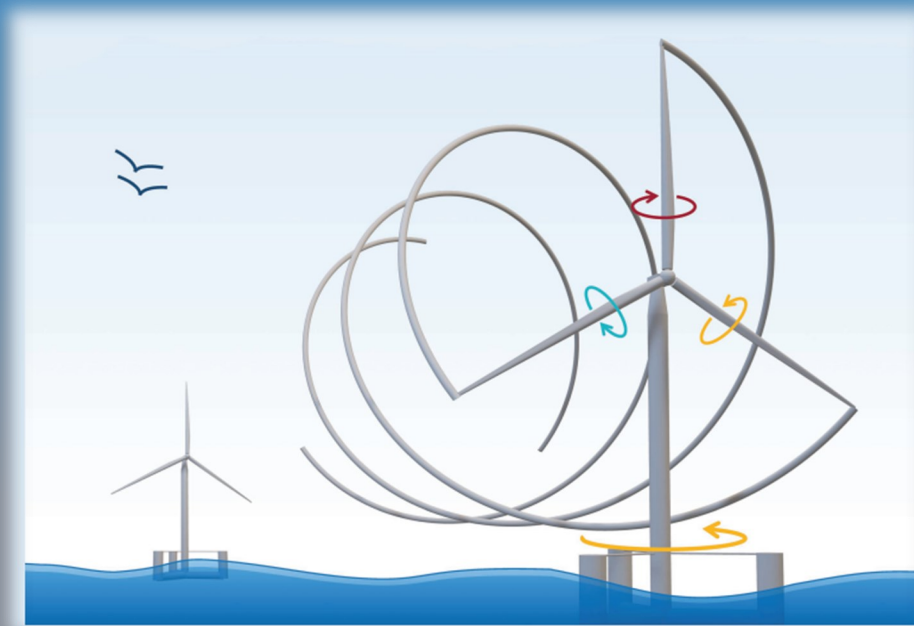


PUBLICATIONS CONTENT DIGEST



CSS Publications Activities

Vice-President

ANDREA SERRANI *Ohio State University*

<http://ieeecss.org/publications>

Journal Editors

IEEE Transactions on Automatic Control

ALESSANDRO ASTOLFI *Imperial College London and University of Rome “Tor Vergata”*

<http://ieeecss.org/publication/transactions-automatic-control>

IEEE Transactions on Control Systems Technology

ILYA KOLMANOVSKY *University of Michigan*

<http://ieeecss.org/publication/transactions-control-systems-technology>

IEEE Transactions on Control of Network Systems

JEFF SHAMMA *University of Illinois at Urbana-Champaign*

<http://ieeecss.org/publication/transactions-control-network-systems>

IEEE Control Systems Letters

MARIA ELENA VALCHER *University of Padua*

<http://ieeecss.org/publication/control-systems-letters>

IEEE Control Systems Magazine

RODOLPHE SEPULCHRE *University of Cambridge*

<http://ieeecss.org/publication/ieee-control-systems-magazine>

IEEE Open Journal of Control Systems

SONIA MARTINEZ *University of California, San Diego*

<http://ieeecss.org/publication/open-journal-control-systems>

Electronic Information

CSS State-Space Forum

FABIO PASQUALETTI *University of California, Riverside*

<https://state-space.ieeecss.org>

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

IEEE TRANSACTIONS ON AUTOMATIC CONTROL

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



OCTOBER 2024

VOLUME 69

NUMBER 10

IETAA9

(ISSN 0018-9286)

REGULAR PAPERS

Gradient Play in Stochastic Games: Stationary Points, Convergence, and Sample Complexity	<i>R. Zhang, Z. Ren, and N. Li</i>	6499
Robust Coordination of Linear Threshold Dynamics on Directed Weighted Networks	<i>L. Arditti, G. Como, F. Fagnani, and M. Vanelli</i>	6515
Learning for Control: \mathcal{L}_1 -Error Bounds for Kernel-Based Regression	<i>M. Bisiacco and G. Pillonetto</i>	6530
Relative Q-Learning for Average-Reward Markov Decision Processes With Continuous States	<i>X. Yang, J. Hu, and J.-Q. Hu</i>	6546
Nash Equilibria for Linear Quadratic Discrete-Time Dynamic Games via Iterative and Data-Driven Algorithms	<i>B. Nortmann, A. Monti, M. Sassano, and T. Mylvaganam</i>	6561
Compressed Gradient Tracking Algorithm for Distributed Aggregative Optimization	<i>L. Chen, G. Wen, H. Liu, W. Yu, and J. Cao</i>	6576
Optimal Utility Design of Greedy Algorithms in Resource Allocation Games	<i>R. Konda, R. Chandan, D. Grimsman, and J. R. Marden</i>	6592
Hybrid Control Barrier Functions for Continuous-Time Systems	<i>M. Marley, R. Skjetne, and A. R. Teel</i>	6605
No-Regret Distributed Learning in Subnetwork Zero-Sum Games	<i>S. Huang, J. Lei, Y. Hong, U. V. Shanbhag, and J. Chen</i>	6620
Distributed Multiagent Reinforcement Learning Based on Graph-Induced Local Value Functions	<i>G. Jing, H. Bai, J. George, A. Chakraborty, and P. K. Sharma</i>	6636
A Youla Operator State-Space Framework for Stably Implementable Distributed Control	<i>M. Naghnaeian, P. G. Voulgaris, and N. Elia</i>	6652
Bounded Synthesis and Reinforcement Learning of Supervisors for Stochastic Discrete Event Systems With LTL Specifications	<i>R. Oura, T. Ushio, and A. Sakakibara</i>	6668
Dynamic Information Flow Tracking for Detection of Advanced Persistent Threats: A Stochastic Game Approach	<i>S. Moothedath, D. Sahabandu, J. Allen, A. Clark, L. Bushnell, W. Lee, and R. Poovendran</i>	6684
Convergence, Consensus, and Dissensus in the Weighted-Median Opinion Dynamics	<i>W. Mei, J. M. Hendrickx, G. Chen, F. Bullo, and F. Dörfler</i>	6700
Distributed Optimization With Personalization: A Flexible Algorithmic Framework	<i>Y. Huang, J. Xu, W. Meng, H.-T. Wai, and L. Chai</i>	6715
Discrete-Time Convergent Nonlinear Systems	<i>M. Jungers, M. F. Shakib, and N. van de Wouw</i>	6731
A Framework on Fully Distributed State Estimation and Cooperative Stabilization of LTI Plants	<i>P. Duan, Y. Lv, G. Wen, and M. Ogorzatek</i>	6746

(Contents Continued on Page 6498)



Disturbance Estimator-Based Boundary Control for a Chaotic Wave System With Disturbance	<i>Q. Xiang, Z.-H. Wu, H.-C. Zhou, J. H. Park, and B.-Z. Guo</i>	6762
Passive Fault-Tolerant Control via Sliding-Mode-Based Lyapunov Redesign	<i>M. A. Estrada, L. Fridman, and J. A. Moreno</i>	6777
Probabilistic Constraint for Safety-Critical Reinforcement Learning	<i>W. Chen, D. Subramanian, and S. Paternain</i>	6789
Sampled-Data Feedback Stabilization in Mean Square for Stochastic Homogeneous Systems	<i>X. Yu and W. Lin</i>	6805
Constrained Common Invariant Subspace and Its Application	<i>D. Zhao, Y. Kang, Y.-B. Zhao, L. Xu, and S. Yan</i>	6821
Stable Inversion of Piecewise Affine Systems With Application to Feedforward and Iterative Learning Control	<i>I. A. Spiegel, N. Strijbosch, R. de Rozario, T. Oomen, and K. Barton</i>	6836
Event-Triggered Sliding Mode Control for 2-D FMII Systems Under Bounded Direction Round-Robin Protocol	<i>X. Lv, Y. Niu, and J. Lam</i>	6852
Hybrid Stabilization of Closed Orbits for a Class of Underactuated Mechanical Systems	<i>L. Navarro and M. Maggiore</i>	6864
Distributed Optimal Consensus Control of Constrained Multiagent Systems: A Nonseparable Optimization Perspective	<i>N. Bai, Q. Wang, Z. Duan, and G. Chen</i>	6880
On Continuation and Convex Lyapunov Functions	<i>W. Jongeneel and R. Schwan</i>	6895
Privacy-Preserving Average Consensus Through Network Augmentation	<i>G. Ramos, A. P. Aguiar, S. Kar, and S. Pequito</i>	6907
Verification of Hyperproperties for Dynamical Systems via Barrier Certificates	<i>M. Anand, V. Murali, A. Trivedi, and M. Zamani</i>	6920
On Input Delay Tolerance of Stochastic Nonlinear Systems With Dominant Homogeneity of Degree Zero	<i>X. Yu and W. Lin</i>	6935

TECHNICAL NOTES

Uniform Local and Global Asymptotic Stabilization of Nonlinear Periodic Discrete-Time Systems by State Feedback ..	<i>V. Zaitsev and S. Dashkovskiy</i>	6951
Optimal Communication and Control Strategies in a Cooperative Multiagent MDP Problem	<i>S. Sudhakara, D. Kartik, R. Jain, and A. Nayyar</i>	6959
$\mathbb{L}^\infty/\mathbb{L}^1$ Duality Results in Optimal Control Problems	<i>D. Goreac and A. Rapaport</i>	6967
Further Methods for Encrypted Linear Dynamic Controllers Utilizing Re-Encryption	<i>J. Kim</i>	6974
Stability of Asynchronous Networked Linear Control Systems With Direct-Feedthrough Terms and Scheduling Protocols ..	<i>Z. Guo, H. Yu, and T. Chen</i>	6980
Backstepping Control of a Hyperbolic PDE System With Zero Characteristic Speed States	<i>G. A. de Andrade, R. Vazquez, I. Karafyllis, and M. Krstic</i>	6988
Lyapunov Characterization of Input-to-State Stability for a Class of Impulsive Systems	<i>P. Bachmann, S. Ahmed, and N. Bajcinca</i>	6996
Consensus Criterion Verification for Heterogeneous Multiagent Systems via Sum-of-Squares Programming	<i>S. Zhang, L. Wang, B. Xue, D. Meng, and Q.-G. Wang</i>	7004
Fault Accommodation of Multiple Faults for a Class of Nonlinear Uncertain Systems: A Dynamic Fault Isolation Information Framework	<i>D. Zhao, Y. Shi, Y. Li, and S. Liu</i>	7012
Value Approximator-Based Learning Model Predictive Control for Iterative Tasks	<i>H. Q. Bao, Q. Kang, X. D. Shi, M. C. Zhou, J. An, and Y. Al-Turki</i>	7020
Improved Criteria for Controllability of Markovian Jump Boolean Control Networks With Time-Varying State Delays ..	<i>T. Tang, X. Ding, J. Lu, and Y. Liu</i>	7028
From Relaxed Constraint Satisfaction to p -Invariance of Sets	<i>S. Olaru, M. Soyer, Z. Zhao, C. E. T. Dórea, E. Kofman, and A. Girard</i>	7036
Minimal Constraint Violation Probability in Model Predictive Control for Linear Systems	<i>M. Fink, T. Brüdigam, D. Wollherr, and M. Leibold</i>	7043
Event-Triggered Control for Nonlinear Systems With Center Manifolds	<i>A. Saradagi, V. Muralidharan, A. D. Mahindrakar, and P. Tallapragada</i>	7051
Event-Triggered Privacy-Preserving Consensus Control With Edge-Based Additive Noise	<i>L. Liang, R. Ding, S. Liu, and R. Su</i>	7059
\mathcal{K} -Monotonicity and Feedback Synthesis for Incrementally Stable Networks	<i>Y. Kawano and F. Forni</i>	7067
Data Informativity for Robust Output Regulation	<i>L. Zhu and Z. Chen</i>	7075

LPRS Analysis of Singularly Perturbed Sliding Mode Control Systems	<i>S. M. Aljaberi and I. Boiko</i>	7081
Linear Optimal Regulation to Zero Dynamics	<i>T. Ludeke and T. Iwasaki</i>	7088
Consensus of Discrete-Time Multiagent Systems With Transient Performance Constraints	<i>Z. Zhang and Z. Chen</i>	7096
Stability Analysis of Trajectories on Manifolds With Applications to Observer and Controller Design		
.	<i>D. Wu, B. Yi, and A. Rantzer</i>	7104
On Stability of Switched Discrete-Time Singular Systems	<i>P. Raj and D. Pal</i>	7112
On Robust Quantized Sampled-Data Tracking Control of Nonlinear Systems		
.	<i>M. Di Ferdinando, S. Di Gennaro, D. Bianchi, and P. Pepe</i>	7120
Global Adaptive Tracking for Nonlinearly Parameterized Systems via Quantized Feedback	<i>X. Jia and S. Xu</i>	7128
No Excuses to Avoid Observing Unstable Nonlinear Systems: An LMI-Based Discontinuous Solution		
.	<i>D. Quintana, V. Estrada-Manzo, and M. Bernal</i>	7136
Convergence in Nonlinear Optimal Sampled-Data Control Problems	<i>L. Bourdin and E. Trélat</i>	7144
Semi-Global and Robust Finite-Time Regulation of the Heisenberg System	<i>M. Mera and H. Ríos</i>	7152
Noninterference Analysis of Bounded Petri Nets Using Basis Reachability Graph		
.	<i>N. Ran, J. Nie, A. Meng, and C. Seatzu</i>	7159
Modification of Infinite and Unstable Invariant Zeros in Linear Systems Using Stability-Preserving State Feedback		
.	<i>V. Kučera</i>	7166
Global ISS for the Viscous Burgers' Equation With Dirichlet Boundary Disturbances	<i>J. Zheng and G. Zhu</i>	7174
Margin-Based Scenario Approach to Robust Optimization in High Dimension	<i>F. Lauer</i>	7182
Exact Worst-Case Execution-Time Analysis for Implicit Model Predictive Control		
.	<i>D. Arnström, D. Broman, and D. Axehill</i>	7190
Distributed Protocols for Constrained Optimization of Integrator Chain Multiagent Systems		
.	<i>Y. Zou, B. Huang, Y. Sun, Q. Li, Z. Meng, and W. He</i>	7197
A Constraint Homotopy Active Set Solver for Linear-Quadratic Optimal Control	<i>J. Buerger and M. Cannon</i>	7205
Stability Analysis of Block Logical Dynamical Systems and Its Application in Logical Networks With Time Delay		
.	<i>H. Li, Y. Li, W. Li, and Y. Liu</i>	7211
Further on Synchronization of Dynamical Networks via Adaptive Intermittent Control		
.	<i>S. Zhu, J. Zhou, J. Lü, and J.-A. Lu</i>	7216
Intermittent Sampled-Data Stabilization of Highly Nonlinear Delayed Stochastic Networks via Periodic Self-Triggered Strategy	<i>H. Zhou, S. Li, J. H. Park, and W. Li</i>	7223
Concealability Analysis for Current-State Opacity Enforcement via Editing Functions		
.	<i>K. Peng, Y. Chen, C. Seatzu, Z. Li, and A. Giua</i>	7231
Deep Neural Network Approximations for the Stable Manifolds of the Hamilton-Jacobi-Bellman Equations		
.	<i>G. Chen</i>	7239
Optimal Covariance Steering for Continuous-Time Linear Stochastic Systems With Multiplicative Noise		
.	<i>F. Liu and P. Tsiotras</i>	7247
Continuous-Time Channel Gain Control for Minimum-Information Kalman-Bucy Filtering		
.	<i>T. Tanaka, V. Zinage, V. Ugrinovskii, and M. Skoglund</i>	7255
Event Concealment and Concealability Enforcement in Discrete Event Systems Under Partial Observation		
.	<i>W. Duan, C. N. Hadjicostis, and Z. Li</i>	7263
Duality of Ensemble Systems Through Moment Representations	<i>V. Narayanan, W. Zhang, and J.-S. Li</i>	7270
Hybrid Disturbance Response Decoupling for Multivariable Systems	<i>F.-C. Wang and C.-H. Lee</i>	7277
Prescribed Performance Tracking for Uncertain MIMO Pure-Feedback Systems With Unknown and Partially Nonconstant Control Directions	<i>T. A. Afrozi and G. A. Rovithakis</i>	7285

IEEE TRANSACTIONS ON CONTROL OF NETWORK SYSTEMS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



COSPONSORED BY
IEEE CIRCUITS AND SYSTEMS SOCIETY
IEEE COMMUNICATIONS SOCIETY
IEEE COMPUTER SOCIETY
IEEE ROBOTICS AND AUTOMATION SOCIETY



SEPTEMBER 2024

VOLUME 11

NUMBER 3

ITCNAY

(ISSN 2325-5870)

REGULAR PAPERS

Dynamic Interventions With Limited Knowledge in Network Games	<i>M. Shakarami, A. Cherukuri, and N. Monshizadeh</i>	1153
Strategic Monitoring of Networked Systems With Heterogeneous Security Levels	<i>J. Milošević, M. Dahan, S. Amin, and H. Sandberg</i>	1165
Identifiability and Identification of Switching Dynamical Networks: A Data-Based Approach	<i>W. Sun, J. Xu, and J. Chen</i>	1177
On Learning Whittle Index Policy for Restless Bandits With Scalable Regret	<i>N. Akbarzadeh and A. Mahajan</i>	1190
Asynchronous Quantizer-Dependent Event-Triggered Control for Nonlinear Networked Control System With Observer-Based Controller	<i>T. Zhou, G. Yue, H. Li, and Z. Zuo</i>	1203
Finite-Time Synchronization of Neutral-Type Coupled Systems via Event-Triggered Control With Controller Failure	<i>Y. Zou, E. Tian, and H. Chen</i>	1214
Finite-Time Output Synchronization for Fractional-Order Complex Networks With Output or Output Derivative Coupling	<i>J.-L. Wang, C.-G. Liu, G. Wen, S.-Y. Ren, and T. Huang</i>	1225
Continuous-Time Distributed Algorithm for Seeking Fixed Points of Multiagent Quasi-Nonexpansive Operators	<i>X. Nian, D. Liu, and F. Li</i>	1238
Sliding Mode Control-Based Synchronization of Complex-Valued Neural Networks	<i>E. Di Palo, J. M. Olm, A. Dòria-Cerezo, and M. di Bernardo</i>	1251
Continuous-Time Distributed Generalized Nash Equilibrium Seeking in Nonsmooth Fuzzy Aggregative Games	<i>J. Liu, X. Liao, J.-S. Dong, and A. Mansoori</i>	1262
Leader-Following Group Consensus of Fractional-Order Multiagent Systems via a Dynamic Event-Triggered Control Strategy	<i>B. Li, B. Xu, and D. Zhang</i>	1275
Zero-Sum Differential Game-Based Optimal Fault-Tolerant Control for Interconnected Systems With Actuator Faults	<i>Q. Liu, K. Zhang, and B. Jiang</i>	1287

(Contents Continued on Page 1151)



Multisensor Power Allocation for Remote Estimation Over Semi-Markov Fading Channels	<i>M. Mei, D. Ye, and J. Wei</i>	1300
Distance-Based Adaptive Formation Control With Guaranteed Collision Avoidance and Connectivity Maintenance	<i>J. Shen, W. Wang, C. Wen, and J. Huang</i>	1310
Neural-Network-Based Distributed Generalized Nash Equilibrium Seeking for Uncertain Nonlinear Multiagent Systems	<i>W. Huo, L. Huang, S. Dey, and L. Shi</i>	1323
Obstacle Avoidance in Distributed Optimal Coordination of Multirobot Systems: A Trajectory Planning and Tracking Strategy	<i>L. An, G.-H. Yang, and S. Wasly</i>	1335
Load Restoration in Islanded Microgrids: Formulation and Solution Strategies	<i>S. Bose and Y. Zhang</i>	1345
Data-Driven H_∞ Control of Networked Nonlinear Systems With External Disturbances and Random Communication Packet Losses	<i>Y. Jiang, S. Xie, and G. Chen</i>	1358
Stability Constrained Reinforcement Learning for Decentralized Real-Time Voltage Control	<i>J. Feng, Y. Shi, G. Qu, S. H. Low, A. Anandkumar, and A. Wierman</i>	1370
Integrated Analysis of Coarse-Grained Guidance for Traffic Flow Stability	<i>S. Li, R. Dong, and C. Wu</i>	1382
Accelerated AB /Push–Pull Methods for Distributed Optimization Over Time-Varying Directed Networks	<i>D. T. A. Nguyen, D. T. Nguyen, and A. Nedić</i>	1395
Event-Triggered Bipartite Synchronization of Delayed Inertial Memristive Neural Networks With Unknown Disturbances	<i>X. Liu, H. He, and J. Cao</i>	1408
Consensus of Networked Multiagent Systems Operating Over Multiple Communication Channels	<i>C. Tan, H. Sui, Y. Li, Z. Zhang, and W. S. Wong</i>	1420
Exact Aggregate Models for Optimal Management of Heterogeneous Fleets of Storage Devices	<i>D. Angeli, Z. Dong, and G. Strbac</i>	1430
An Efficient Distributed Parallel Algorithm for Optimal Consensus of Multiagent Systems	<i>N. Bai, Q. Wang, and Z. Duan</i>	1440
Model-Free Event-Triggered Optimal Containment Control for Multiagent Systems via Adaptive Dynamic Programming	<i>A. Cao, F. Wang, Z. Liu, and Z. Chen</i>	1452
Resilient Scheduling of Control Software Updates in Radial Power Distribution Systems	<i>K. C. Sou and H. Sandberg</i>	1465
On the Interplay Between Self-Driving Cars and Public Transportation	<i>N. Lanzetti, M. Schiffer, M. Ostrovsky, and M. Pavone</i>	1478
Simultaneous Topology Identification and Synchronization of Directed Dynamical Networks	<i>E. Restrepo, N. Wang, and D. V. Dimarogonas</i>	1491
Event-Triggered Bipartite Consensus of Linear Multiagent Systems Under DoS Attacks	<i>Y. Liu, S. Zhou, J. Long, and Y. Jia</i>	1502
On Controllability and Stabilization of Switched Logical Control Networks With Switching-Input-Triggered Restricted Successors	<i>T. Tang, J. Lu, and J. Qiu</i>	1514
Data-Driven Strategies for Modal Consensus and Output Synchronization	<i>A. Monti, S. Galeani, C. Possieri, and M. Sassano</i>	1527
Resilient Containment Control of Heterogeneous Multiagent Systems Against Unbounded Attacks on Sensors and Actuators	<i>S. Zuo, Y. Wang, M. Rajabinezhad, and Y. Zhang</i>	1537
Distributed Online Learning for Leaderless Multicenter Games in Dynamic Environments	<i>R. Yu, M. Meng, and L. Li</i>	1548
Spatiotemporal Evolution Control of Malicious Virus Propagation in Cyber Physical Systems via PD Feedback Control	<i>Q. Zhuang, M. Xiao, J. Ding, Q. Yang, J. Cao, and W. X. Zheng</i>	1562
Reducing Attack Opportunities Through Decentralized Event-Triggered Control	<i>P. Griffioen, R. Romagnoli, B. H. Krogh, and B. Sinopoli</i>	1576
Set Stabilization of Networked Evolutionary Games With Probabilistic Time-Varying Delays	<i>Y. Zheng, J.-e Feng, and C. Li</i>	1587
Optimal Stealthy Joint Attacks Against Distributed State Estimation in Cyber-Physical Systems	<i>G. Su, K. Liu, H. Wang, Q. Zhang, and Y. Xia</i>	1597
Coverage Control for Mobile Sensor Networks With Multiplicative Measurement Errors and Limited Interaction Ranges	<i>P. Wang, C. Song, and L. Liu</i>	1610
Output Tracking of Switched Boolean Networks via Self-Triggered Control	<i>Q. Zhang, J.-e Feng, F. Xiao, and B. Wei</i>	1621
Asynchronous ADMM via a Data Exchange Server	<i>Z. D. Pan and M. Cannon</i>	1631

Dynamic Encirclement for Anonymous Agents With Arbitrary Formations	1644
..... <i>N. Huang, J. Zhuge, Z. Sun, D. Huang, Y. Kong, and Q. Lu</i>	
NPGA: A Unified Algorithmic Framework for Decentralized Constraint-Coupled Optimization ..	1655
..... <i>J. Li and H. Su</i>	
Robust Consensus of Multiple Euler–Lagrange Systems via a Distributed Reduced-Order Observer	1667
..... <i>M. Long and H. Su</i>	
Private and Robust Distributed Nonconvex Optimization via Polynomial Approximation	1679
..... <i>Z. He, J. He, C. Chen, and X. Guan</i>	
Distributed Coupling Chance-Constraint Optimization Under Unknown Uncertainty Distributions	1692
..... <i>B. Wu, Z. Peng, G. Wen, S. Yang, and T. Huang</i>	
Pricing Economic Dispatch With AC Power Flow via Local Multipliers and Conic Relaxation	1704
..... <i>M. Ndrjo, A. Winnicki, and S. Bose</i>	
Optimizing Timely Coverage in Communication-Constrained Collaborative Sensing Systems	1717
..... <i>J. A. Rahal, G. de Veciana, T. Shimizu, and H. Lu</i>	

IEEE

CONTROL SYSTEMS LETTERS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



2024

VOLUME 8

NUMBER 9 (PAPERS from 291 to 340)

PAPERS

- On Weakly Contracting Dynamics for Convex Optimization, *V. Centorrino, A. Davydov, A. Gokhale, G. Russo and F. Bullo* pp. 1745-1750
- Actor–Critic Physics-Informed Neural Lyapunov Control, *J. Wang and M. Fazlyab* pp. 1751-1756
- Advocating Feedback Control for Human–Earth System Applications, *G. Cavraro* pp. 1757-1762
- Physics-Informed Extreme Learning Machine Lyapunov Functions, *R. Zhou, M. Fitzsimmons, Y. Meng and J. Liu* pp. 1763-1768
- Fault Detection, Isolation, and Estimation for a Three-Phase Grid Connected DC-AC Inverter With LCL Filters, *M. Laaziz, F. Nicolau, M. Ghanes, J. -P. Barbot, R. Boisliveau and N. Machkour* pp. 1769-1774
- Computation of Maximal Admissible Robust Positive Invariant Sets for Linear Systems With Parametric and Additive Uncertainties, *A. Dey and S. Bhasin* pp. 1775-1780
- Distributed State Estimation of Linear Systems With Randomly Switching Communication Graphs, *E. Baum, Z. Liu and O. Stursberg* pp. 1781-1786
- Communication-Efficient and Differentially-Private Distributed Nash Equilibrium Seeking With Linear Convergence, *X. Chen, W. Huo, K. Ding, S. Dey and L. Shi* pp. 1787-1792
- Stability of Nonexpansive Monotone Systems and Application to Recurrent Neural Networks, *D. Deplano, M. Franceschelli and A. Giua* pp. 1793-1798
- Model Predictive Control Strategies for Electric Endurance Race Cars Accounting for Competitors' Interactions, *J. van Kampen, M. Moriggi, F. Braghin and M. Salazar* pp. 1799-1804
- Sequential-Quadratic-Hamiltonian Optimal Control of Epidemic Models With an Arbitrary Number of Infected and Non-Infected Compartments, *F. Calà Campana, R. Katz and G. Giordano* pp. 1805-1810
- Optimal Seeding in Large-Scale Super-Modular Network Games, *S. Messina, L. Cianfanelli, G. Como and F. Fagnani* pp. 1811-1816
- Learning-Based Prescribed-Time Safety for Control of Unknown Systems With Control Barrier Functions, *T. -Y. Huang et al.* pp. 1817-1822
- Guaranteed Pseudospectral Sequential Convex Programming for Accurate Solutions to Constrained Optimal Control Problems, *K. Yamamoto, K. Fujimoto and I. Maruta* pp. 1823-1828
- Social Network-Based Epidemic Spread With Opinion-Dependent Vaccination, *S. Bhowmick and N. Selvaganesan* pp. 1829-1834
- Active Sensing Control for Differentially Flat Systems, *O. Napolitano et al.* pp. 1835-1840
- Toward Stochastic Realization Theory for Generalized Linear Switched Systems With Inputs: Decomposition Into Stochastic and Deterministic Components and Existence and Uniqueness of Innovation Form, *E. Rouphael, M. Mejari, M. Petreczky and L. Belkoura* pp. 1841-1846
- A Trust-Region Method for Data-Driven Iterative Learning Control of Nonlinear Systems, *J. Wang, L. Hemelhof, I. Markovsky and P. Patrinos* pp. 1847-1852

On the Stability of Power Transmission Systems Under Persistent Inverter Attacks: A Bi-Linear Matrix Approach, <i>A. Colot, V. Shenoy, G. Cavraro, E. Dall’Anese and J. I. Poveda</i>	pp. 1853-1858
Online Nonstochastic Control Versus Retrospective Cost Adaptive Control, <i>U. Syed, Y. Li and B. Hu</i>	pp. 1859-1864
Control-Oriented Identification via Stochastic Optimization, <i>S. Anderson and J. P. Hespanha</i> ..	pp. 1865-1870
On the Set of Possible Minimizers of a Sum of Convex Functions, <i>M. Zamani, F. Glineur and J. M. Hendrickx</i>	pp. 1871-1876
Estimates of the Kolmogorov n-Width for Nonlinear Transformations With Application to Distributed-Parameter Control Systems, <i>A. Zuyev, L. Feng and P. Benner</i>	pp. 1877-1882
Output Feedback Tracking Control for a Class of Bilinear Systems: Application to Power Electronics Devices, <i>A. Reza Zare, M. Aliyari-Shoorehdeli, M. Tavan and K. Sabahi</i>	pp. 1883-1888
Common Quadratic Lyapunov Functions for Sets of Second-Order Linear Systems: A Simple Graphical Criterion, <i>G. Bainier, B. Marx and J. -C. Ponsart</i>	pp. 1889-1894
Linear Quadratic Zonotopic Control of Switched Systems: Application to Autonomous Vehicle Path-Tracking, <i>S. Zhang, S. Ifqir and V. Puig</i>	pp. 1895-1900
Markov Chain Monte Carlo for Koopman-Based Optimal Control, <i>J. Hespanha and K. Çamsarı</i>	pp. 1901-1906
Robust Maneuver Planning With Scalable Prediction Horizons: A Move Blocking Approach, <i>P. Schitz, J. C. Dauer and P. Mercorelli</i>	pp. 1907-1912
An Observer-Based Extremum Seeking Controller Design for a Class of Second-Order Nonlinear Systems, <i>S. M. Mousavi and M. Guay</i>	pp. 1913-1918
Data-Driven Architecture to Encode Information in the Kinematics of Robots and Artificial Avatars, <i>F. D. Lellis, M. Coraggio, N. C. Foster, R. Villa, C. Becchio and M. D. Bernardo</i>	pp. 1919-1924
Calculation Method of Static Friction Forces for Multi-Joint Manipulators, <i>Y. Murayama and Y. Fukui</i>	pp. 1925-1930
Rate-Distortion Achievability via Event Threshold Quantizers for Planer Wiener Processes, <i>R. Ogden and T. Tanaka</i>	pp. 1931-1936
Bounding Stochastic Safety: Leveraging Freedman’s Inequality With Discrete-Time Control Barrier Functions, <i>R. K. Cosner, P. Culbertson and A. D. Ames</i>	pp. 1937-1942
Notes on Input Design: From Multi-Sine Design to Data-Driven Procedures, <i>L. Gerencsér, G. Michaletzky, J. Bokor and P. Polcz</i>	pp. 1943-1948
Disturbance Observer With Constraints, <i>T. H. Yun and M. J. Kim</i>	pp. 1949-1954
A Unified Non-Strict Finsler Lemma, <i>T. J. Meijer, K. J. A. Scheres, S. v. d. Eijnden, T. Hollicki, C. W. Scherer and W. P. M. H. Heemels</i>	pp. 1955-1960
On Stabilizing Terminal Costs and Regions for Configuration-Constrained Tube MPC, <i>B. Houska, M. A. Müller and M. E. Villanueva</i>	pp. 1961-1966
Step-Size Rules for Lie Bracket-Based Extremum Seeking With Asymptotic Convergence Guarantees, <i>V. Grushkovskaya and C. Ebenbauer</i>	pp. 1967-1972
Safety-Critical Control Allocation for Obstacle Avoidance of Quadrotor Aerial Photography, <i>H. Yang, H. Dong and X. Zhao</i>	pp. 1973-1978
Discrepancies of Implicit and Explicit Opinions Over Time-Varying Social Networks, <i>Q. Liu and Z. Li</i>	pp. 1979-1984
Controller Design for Constrained Discrete-Time Uncertain Linear Systems Using Implicit Functions, <i>D. A. Muñoz-Carpintero and G. Valmorbida</i>	pp. 1985-1990
An STL Formulation for Intent-Expressive Motion Planning and Intent Estimation With Output Feedback, <i>E. Gah and S. Z. Yong</i>	pp. 1991-1996
Safe Stabilizing Control of Traffic Systems With Simultaneous State and Actuator Delays, <i>C. Zhao and H. Yu</i>	pp. 1997-2002

Exploring Oriented Threshold Graphs: A Study on Controllability/Observability, <i>S. Sadat Mousavi</i>	pp. 2003-2008
Dissipative Gradient Descent Ascent Method: A Control Theory Inspired Algorithm for Min-Max Optimization, <i>T. Zheng, N. Loizou, P. You and E. Mallada</i>	pp. 2009-2014
Unilateral Constrained Extended Kalman Filter, <i>L. Herrera, M. Meza-Sánchez and E. Clemente</i>	pp. 2015-2020
Mean-Field Based Time-Optimal Spatial Iterative Learning Within a Virtual Tube, <i>S. Lv, P. Mao and Q. Quan</i>	pp. 2021-2026
Bearing-Only Formation Tracking Control for Multi-Agent Systems With Time-Varying Velocity Leaders, <i>Z. Song, M. Xie and H. Huang</i>	pp. 2027-2032
Inner Approximations of Reachable Sets for Nonlinear Systems Using the Minkowski Difference, <i>M. Wetzlinger, A. Kulmburg and M. Althoff</i>	pp. 2033-2038
Event-Triggered Control Based on Integral Quadratic Constraints, <i>M. Hertneck, S. Lang, J. Berberich and F. Allgöwer</i>	pp. 2039-2044

» FEATURES



81

Cover credit: BESIKI KAZAISHVILI, NATIONAL RENEWABLE ENERGY LABORATORY

» DEPARTMENTS



15

Digital Object Identifier 10.1109/MCS.2024.3440153

24 Control of Floating Offshore Wind Energy Systems

An Introduction to the Special Issue

LUCY PAO, MICHAEL SINNER, and MANUEL PUSCH

28 A Tutorial on the Control of Floating Offshore Wind Turbines

Stability Challenges and Opportunities for Power Capture

DAVID STOCKHOUSE, MANDAR PHADNIS, AOIFE HENRY, NIKHAR J. ABBAS, MICHAEL SINNER, MANUEL PUSCH, and LUCY Y. PAO

58 Challenges and Perspectives in Experimental Study of Floating Offshore Wind Turbine Control

Insights from Recent Research

FANZHONG MENG, ALAN W. H. LIO, and HENRIK BREDMOSE

63 Multiloop Control of Floating Wind Turbines

Tradeoffs in Performance and Stability

DAVID STOCKHOUSE and LUCY Y. PAO

81 Wake Mixing Control For Floating Wind Farms

Analysis of the Implementation of the Helix Wake Mixing Strategy on the IEA 15-MW Floating Wind Turbine

DANIEL VAN DEN BERG, DELPHINE DE TAVERNIER, DAVID MARTEN, JOSEPH SAVERIN, and JAN-WILLEM VAN WINGERDEN

106 Floating Offshore Wind Farm Control via Turbine Repositioning

Unlocking the Potential Unique to Floating Offshore Wind

YUE NIU, ARPIT DWIVEDI, JOEL SATHIARAJ, PARTH P. LATHI, and RYOZO NAGAMUNE

3 FROM THE EDITOR

Efficient Control

5 ABOUT THIS ISSUE

Control of Floating Wind Energy Systems

9 PRESIDENT'S MESSAGE

Just Because the Result Is Correct, It Does Not Mean It Should Be Published

12 25 YEARS AGO

Basic Problems in Stability and Design of Switched Systems

15 TECHNICAL ACTIVITIES

CSS Technical Committee on Discrete Event Systems
IEEE Technical Committee on Aerospace Control

130 Ph.D.s IN CONTROL

Mehran Shakarami
Thomas Lew

136 CONFERENCE REPORTS

The 2025 American Control Conference Will Be in Denver, Colorado
2025 IEEE Conference on Control Technology and Applications

142 OBITUARY

David Quinn Mayne, 1930–2024

Cover 3 CONFERENCE CALENDAR

IEEE PUBLISHING OPERATIONS

445 Hoes Lane, Piscataway, NJ 08854 USA

IEEE OFFICERS

Thomas M. Coughlin, *IEEE President and CEO*
Kathleen A. Kramer, *IEEE President-Elect*
Saifur Rahman, *IEEE Past President*
Forrest D. Wright, *Director & Secretary*
Gerardo Barbosa, *Director & Treasurer*
Rabab Kreidieh Ward, *Director & Vice President, Educational Activities*
Deepak Mathur, *Director & Vice President, Member & Geographic Activities*
Sergio Benedetto, *Director & Vice President, Publication Services and Products*
James E. Matthews III, *Director & President, Standards Association*
Manfred J. Schindler, *Director & Vice President, Technical Activities*
Keith A. Moore, *Director & President IEEE-USA*

IEEE EXECUTIVE STAFF

Sophia Muirhead, *Executive Director and COO*
Anta Cisse-Green, *General Counsel and Chief Compliance Officer*
Ken Gilbert, *Interim Managing Director, Technical Activities*
Russell Harrison, *Managing Director, IEEE-USA*
Karen L. Hawkins, *Chief Marketing Officer*
Steven Heffner, *Managing Director, Publications*
Donna Hourican, *Staff Executive, Corporate Activities*
Marie Hunter, *Managing Director, Conferences, Events and Experiences*
Cecelia Jankowski, *Managing Director, Member and Geographic Activities*
Kelly Lorne, *Chief of Staff to the Executive Director*
Jamie Moesch, *Managing Director, Educational Activities*
Alpesh Shah, *IEEE Standards Association Managing Director*
Thomas Siegert, *Chief Financial Officer*
Jeff Strohschein, *Chief Information Digital Officer*
Cheri N. Wideman, *Chief Human Resources Officer*

IEEE PUBLISHING OPERATIONS

Dawn Melley, *Senior Director, Publishing Operations*
Kevin Lisankie, *Director, Editorial Services*
Peter M. Tuohy, *Director, Production Services*
Neelam Khinvasara, *Associate Director, Digital Assets & Editorial Support*
Felicia Spagnoli, *Advertising Production Manager*
Katie Sullivan, *Senior Manager, Periodicals Production*
Shannon Campos, *Senior Journals Production Manager*

ADVERTISING SALES

Timothy Warder
Director of New Product and Audience Development

IEEE prohibits discrimination, harassment, and bullying. For more information, visit <https://www.ieee.org/nondiscrimination>.

MISSION STATEMENT AND SCOPE: As the official means of communication for the IEEE Control Systems Society, *IEEE Control Systems* publishes interesting, useful, and informative material on all aspects of control system technology for the benefit of control educators, practitioners, and researchers. With this mission statement in mind, *IEEE Control Systems* encourages submissions, both feature articles and columns, on all aspects of control system technology.

SUBMISSION OF MANUSCRIPTS: A feature article typically provides an in-depth treatment of either an application of control technology, a tutorial on some area of control theory, or an innovation in control education.

IEEE Control Systems publishes a variety of columns. "Applications of Control" columns are industrially oriented summaries of innovations in control technology. "Focus on Education" typically describes some aspect of education such as novel control experiments. "Lecture Notes" can be theoretical in nature as long as they have clear tutorial value and intent. See recent issues for examples of these and other types of columns. Authors are encouraged to contact the editor-in-chief about the suitability of potential columns.

A detailed Author's Guide, a sample formatted manuscript, and LATEX template can be found at <http://ieeecss.org/publication/ieee-control-systems-magazine>. The specifications in this guide should be followed by all submissions.

All manuscripts should be submitted electronically to the *IEEE Control Systems* website, <https://css.paperplaza.net/conferences/scripts/start.pl>, with inquiries on appropriateness of content e-mailed to r.sepulchre@eng.cam.ac.uk.

SPECIAL ISSUES: *IEEE Control Systems* encourages proposals for special issues. Proposers are encouraged to contact the editor-in-chief to discuss potential topics.

BOOKS AND CONFERENCES: Submit information about recently published books to the associate editor for book reviews. Submit information about past and future conferences to the corresponding editor for conferences.

ADVERTISING: *IEEE Control Systems* accepts advertising for educational products, books, software, conferences, employment, and control-related technology. For information about advertising, contact Timothy Warder, t.warder@ieee.org, +1 732-562-6596.

IEEE CONTROL SYSTEMS—(ISSN 1066-033X) (ISMAD7) is published bi-monthly by The Institute of Electrical and Electronics Engineers, Inc. Headquarters: 3 Park Avenue, 17th Floor, New York, NY 10016, U.S.A. +1 212 419 7900. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society, or its members. To order individual copies for members and nonmembers, please e-mail the IEEE Contact Center at contactcenter@ieee.org. Member and nonmember subscription prices available on request. Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limits of the U.S. Copyright law for private use of patrons: 1) those post-1977 articles that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01970, U.S.A.; and 2) pre-1978 articles without fee. For other copying, reprint, or republication permission, write to: Copyrights and Permissions Department, IEEE Service Center, 445 Hoes Lane, Piscataway NJ 08854, U.S.A. Copyright © 2024 by The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Periodicals postage paid at New York, NY, and at additional mailing offices. Postmaster: Send address changes to *IEEE Control Systems*, IEEE, 445 Hoes Lane, Piscataway, NJ 08854 U.S.A. Canadian GST #125634188
Printed in U.S.A

UPCOMING CONFERENCES



Conference on Decision and Control **CDC 2024**

December 17–19, Milan, Italy

Initial Paper Submissions to L-CSS with CDC Option Due

March 8, 2024 (Passed)

Invited Session Proposals Due

March 15, 2024 (Passed)

Initial Paper Submissions Due

March 22, 2024 (Passed)

Workshop Proposals Due

April 29, 2024 (Passed)

Decision Notification

Mid-July, 2024

Final Submissions Due

September 10, 2024 (Passed)

<https://cdc2024.ieeeccs.org/>



American Control Conference **ACC 2025**

July 8–10, Denver, CO, USA

L-CSS option Submission

~~September 13, 2024 (Passed)~~

ACC Manuscript Submission

~~September 27, 2024 (Passed)~~

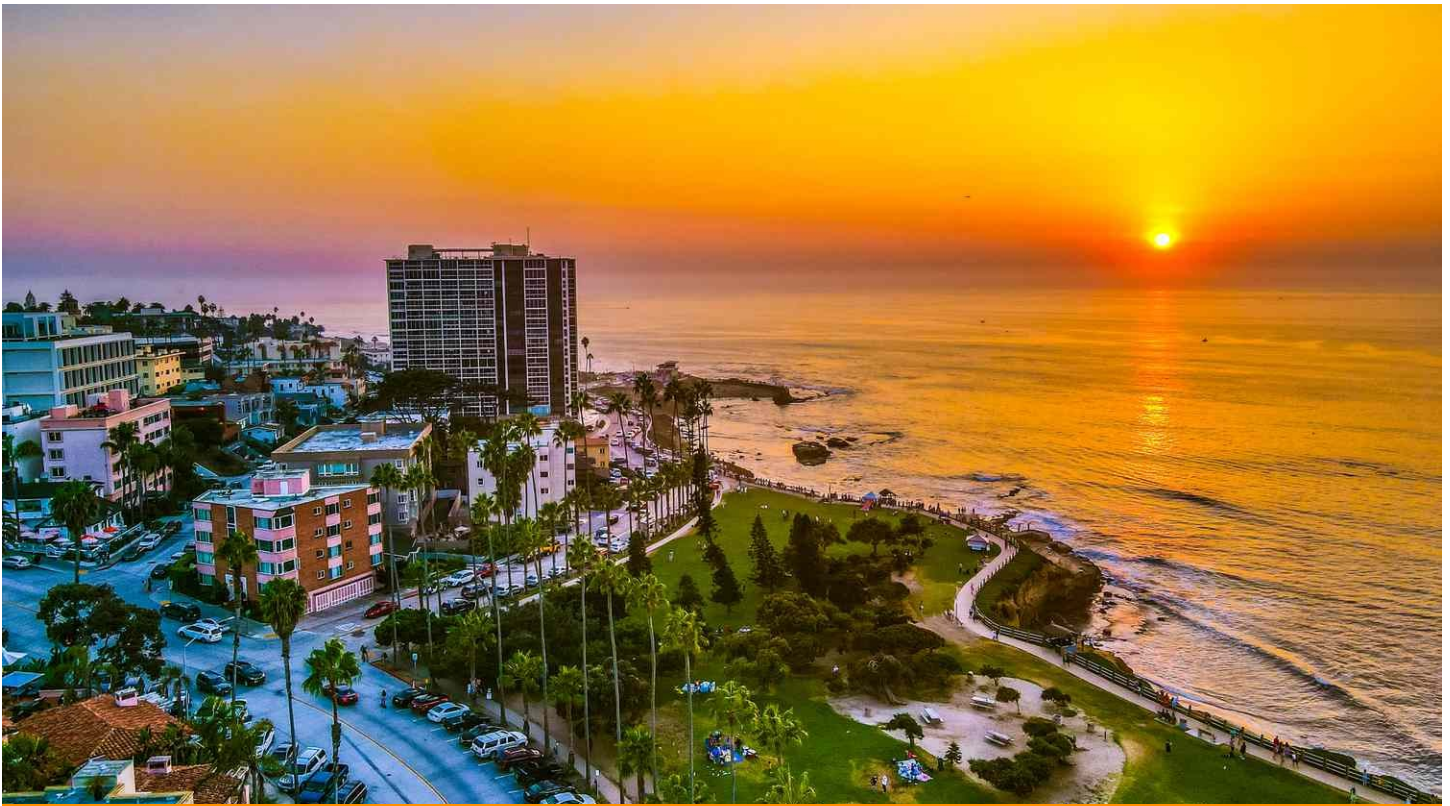
Acceptance/Rejection Notice

January 24, 2025

Final Manuscript Submission

March 14, 2025

<https://acc2025.a2c2.org/>



Conference on
Control Technology and Applications
CCTA 2025

August 25–27, San Diego, USA

Tutorial Session Proposals Due

29 January, 2025

Invited Session Proposals Due

29 February, 2025

Paper Submissions Due

5 February, 2025

Registration Opens

mid May, 2025

Notification of Acceptance

mid May, 2025

Final Paper Uploads

30 June, 2025

<https://ccta2025.ieeecss.org/>



Conference on Decision and Control **CDC 2025**

December 10–12, Rio de Janeiro, Brazil

Initial Paper Submissions to L-CSS with CDC Option Due

March 17, 2025

Invited Session Proposals Due

March 24, 2025

Initial Paper Submissions Due

March 31, 2025

Workshop Proposals Due

May 2, 2025

Decision Notification

Mid-July, 2025

Final Submissions and Advance Registration Due

September 3, 2025

<https://cdc2025.ieeeccs.org/>