

IEEE

CONTROL SYSTEMS LETTERS

A PUBLICATION OF THE IEEE CONTROL SYSTEMS SOCIETY



OCTOBER 2020

VOLUME 4

NUMBER 4

ICSLBO

(ISSN 2475-1456)

PAPERS

On Dead-Time Compensation in Repetitive Control	<i>L. Mirkin</i>	791
On Assessing Control Actions for Epidemic Models on Temporal Networks	<i>L. Zino, A. Rizzo, and M. Porfiri</i>	797
Observability of Nonlinear Time–Delay Systems and Its Application to Their State Realization	<i>C. Califano and C. H. Moog</i>	803
Uniform Detectability of Linear Time Varying Systems With Exponential Dichotomy	<i>M. Tranninger, R. Seeber, M. Steinberger, and M. Horn</i>	809
Near-Optimal MAP Estimation for Markov Jump Linear Systems Using Relaxed Dynamic Programming	<i>A. R. P. Andri�en and D. J. Antunes</i>	815
Controllability Maximization of Large-Scale Systems Using Projected Gradient Method	<i>K. Sato and A. Takeda</i>	821
Compositional Quantification of Invariance Feedback Entropy for Networks of Uncertain Control Systems ...	<i>M. S. Tomar and M. Zamani</i>	827
Amidst Data-Driven Model Reduction and Control	<i>N. Monshizadeh</i>	833
On Multiconsensus of Multi-Agent Systems Under Aperiodic and Asynchronous Sampling	<i>M. Mattioni</i>	839
Compositional Construction of Control Barrier Certificates for Large-Scale Stochastic Switched Systems	<i>A. Nejati, S. Soudjani, and M. Zamani</i>	845
Integrated Neural Networks for Nonlinear Continuous-Time System Identification	<i>B. Mavkov, M. Forgone, and D. Piga</i>	851
Feedback Stabilization of Third-Order Switched Linear Control Systems	<i>Z. Sun</i>	857
A Robust Internal Model-Based Fractional Order Controller for Fractional Order Plus Time Delay Processes	<i>P. P. Arya and S. Chakrabarty</i>	862
A Feedback Nash Equilibrium for Affine-Quadratic Zero-Sum Stochastic Differential Games With Random Coefficients	<i>J. Moon</i>	868
Fault Detection and Isolation for Linear Structured Systems	<i>J. Jia, H. L. Trentelman, and M. K. Camlibel</i>	874
NSM Converges to a k-NN Regressor Under Loose Lipschitz Estimates ...	<i>E. T. Maddalena and C. N. Jones</i>	880

(Contents Continued on Page ii)



A Nonsmooth Newton Method for Linear Model-Predictive Control in Tracking Tasks for a Mobile Robot With Obstacle Avoidance	A. Britzelmeier and M. Gerdts	886
On Matched Disturbance Suppression for Port-Hamiltonian Systems ...	J. Ferguson, D. Wu, and R. Ortega	892
Sequential Markov Games With Ordered Agents: A Bellman-Like Approach	N. Yang and J. J. R. Liu	898
On the Sample Complexity of Data-Driven Inference of the \mathcal{L}_2 -Gain	M. Sharf	904
TuneMPC—A Tool for Economic Tuning of Tracking (N)MPC Problems	J. De Schutter, M. Zanon, and M. Diehl	910
Model-Free Reinforcement Learning of Minimal-Cost Variance Control	G. Jing, H. Bai, J. George, and A. Chakraborty	916
On the Trajectory Generation of the Hydrodynamic Chaplygin Sleigh	N. Sansonetto and M. Zoppello	922
Robust Under-Approximations and Application to Reachability of Non-Linear Control Systems With Disturbances	E. Goubault and S. Putot	928
Function Approximation Technique Based Immersion and Invariance Control for Unknown Nonlinear Systems	Y. Bai, Y. Wang, M. Svinin, E. Magid, and R. Sun	934
Co-Optimization of VaR and CVaR for Data-Driven Stochastic Demand Response Auction	M. Roveto, R. Mieth, and Y. Dvorkin	940
Positive Dynamical Networks in Neuronal Regulation: How Tunable Variability Coexists With Robustness	A. Franci, T. O’Leary, and J. Golowasch	946
A Multiobjective LQR Synthesis Approach to Dual Control for Uncertain Plants	A. Iannelli and R. S. Smith	952
Necessary Conditions of Optimality in the Gamkrelidze’s Form for State Constrained Problems With Differential Inclusion	N. T. Khalil and F. Lobo Pereira	958
On the Extinction–Free Stabilization of Predator-Prey Dynamics	S. Massaroli, F. Califano, A. Faragasso, A. Yamashita, and H. Asama	964
Recursive Bias-Correction Method for Identification of Piecewise Affine Output-Error Models	M. Mejeri, V. Breschi, and D. Piga	970
Distributed Collision-Free Motion Coordination on a Sphere: A Conic Control Barrier Function Approach ...	T. Ibuki, S. Wilson, A. D. Ames, and M. Egerstedt	976
Extended, Unscented Kalman, and Sigma Point Multiple Distribution Estimation Filters for Nonlinear Discrete State-Space Models	M. Murata, I. Kawano, and K. Inoue	982
Private and Hot-Pluggable Distributed Averaging	I. L. Donato Ridgley, R. A. Freeman, and K. M. Lynch	988
An Extended Kalman Filter for Data-Enabled Predictive Control	D. Alpagó, F. Dörfler, and J. Lygeros	994
Control Design for Risk-Based Signal Temporal Logic Specifications	S. Safaoui, L. Lindemann, D. V. Dimarogonas, I. Shames, and T. H. Summers	1000
Stackelberg Strategy for Uncertain Markov Jump Delay Stochastic Systems	H. Mukaidani, R. Saravanakumar, H. Xu, and W. Zhuang	1006
A Discrete-Time Model for Swarm Formation With Coordinates Coupling Matrix	G. Fedele, L. D’Alfonso, and A. Bono	1012
Convergence Time Bounds for a Family of Second-Order Homogeneous State-Feedback Controllers	R. Seeber	1018
Initial-State Estimation of Multi-Channel Networked Discrete Event Systems ...	Y. Yao, Y. Tong, and H. Lan	1024
Achieving Almost Feedback-Linearization via Low-Power Extended Observer	Y. Wu, A. Isidori, and L. Marconi	1030
Exact Complexity Certification of a Nonnegative Least-Squares Method for Quadratic Programming	D. Arnström, A. Bemporad, and D. Axehill	1036
Hybrid Integrator-Gain Systems: A Remedy for Overshoot Limitations in Linear Control?	S. J. A. M. van den Eijnden, M. F. Heertjes, W. P. M. H. Heemels, and H. Nijmeijer	1042
Fast, Convexified Stochastic Optimal Open-Loop Control for Linear Systems Using Empirical Characteristic Functions	V. Sivaramakrishnan and M. M. K. Oishi	1048
Coordinated Lateral and Longitudinal Vehicle-Following Control of Connected and Automated Vehicles Considering Nonlinear Dynamics	Y. Wang, N. Bian, L. Zhang, and H. Chen	1054
Oblique Projected Dynamical Systems and Incremental Stability Under State Constraints	W. P. M. H. Heemels, M. K. Camlibel, and M. F. Heertjes	1060
