CONTROL THEORY AND TECHNOLOGY Vol. 17 2019 CONTENTS

No. 1

Special issue on control theory and technologies in honor of the 70th birthday of Professor Frank L. Lewis

Editorial	1	J. Huang, B. M. Chen
A new semi-tensor product of matrices	4	D. Cheng, Z. Liu
Precedence-constrained path planning of messenger UAV for air-ground coordination	13	Y. Ding, B. Xin, J. Chen
Prediction method for energy consumption per ton of fused magnesium furnaces using data driven and mechanism model	24	D. Guo, Z. Wu, T. Chai, J. Yang, J. Ding
Distributed adaptive Kalman filter based on variational Bayesian technique	37	C. Hu, X. Hu, Y. Hong
Axis-coupled trajectory generation for chains of integrators through smoothing splines	48	S. Lai, M. Lan, K. Gong, B. M. Chen
An output-based distributed observer and its application to the cooperative linear output regulation problem	62	T. Liu, J. Huang
Adaptive dynamic programming for finite-horizon optimal control of linear time-varying discrete-time systems	73	B. Pang, T. Bian, ZP. Jiang
Distributed optimal consensus of multiple double integrators under bounded velocity and acceleration	85	Z. Qiu, L. Xie, Y. Hong
Event-triggered state estimation for T-S fuzzy affine systems based on piecewise Lyapunov-Krasovskii functionals	99	M. Wang, J. Qiu, G. Feng
Stabilization of discrete-time linear systems by delay independent truncated predictor feedback	112	Y. Wei, Z. Lin

No. 2

Special issue on benchmark problems in automotive system control

Editorial	119	T. Shen, L. Eriksson, P. Tunestal
An overview of various control benchmarks with a focus on automotive control	121	L. Eriksson
JSAE-SICE benchmark problem for vehicle dynamics control	131	Y. Hirano
SICE benchmark problem: starting speed control of SI engines	138	J. Kako
Revisiting the benchmark problem of starting control of combustion engines	148	J. Zhang, Z. Xu, J. Gao
Control of the common rail pressure in gasoline engines through an extended state observer based MPC	156	C. Wu, K. Song, H. Xie
Introduction to the benchmark challenge on common rail pressure control of gasoline direct injection engines	167	Q. Liu, J. Hong, B. Gao, H. Chen
Rail pressure controller design of GDI basing on predictive functional control	176	Z. Zhang, L. Xie, H. Su
Terminal sliding mode control of rail pressure for gasoline direct injection engines	183	C. Zhang, Y. Zhang, C. Chai, M. Zhou
Robust current and speed control of a permanent magnet synchronous motor using SMC and ADRC	190	Y. Zhao, L. Dong

* * * *				
International conferences in 2019 & 2020	200			
No. 3				
Parallel loop recovery with quiescent compensation for high performance feedback control of systems with imperfect actuators	201	Y. V. O'Brien, J. F. O'Brien		
Nonlinear observer-based control design and experimental validation for gasoline engines with EGR	216	W. Jiang, T. Shen		
Invariant observer design of attitude and heading reference system	228	M. Barczyk		
On the mechanism and control for the ultra-low frequency oscillation in NY Power Grid with large-scale hydropower	241	A. Xue, J. Wang, C. Zheng, J. H. Chow, T. Bi		
Guaranteed feasible control allocation using model predictive control	252	M. Naderi, A. Khaki Sedigh, T. A. Johansen		
Diagnosability of a class of discrete event systems based on observations	265	S. Reshmila, D. Rajagopalan		
Optimal finite-dimensional spectral densities for the identification of continuous-time MIMO systems	276	I. M. Mithun, S. Mohan B. Bhikkaji		
Routh table test for stability of commensurate fractional degree polynomials and their commensurate fractional order systems	297	SG. Wang, S. Liang, L. Ma, K. Peng		
No. 4				
Special issue on networked system control and co opportunities and challenges	onne	cted vehicles:		

Editorial	307	H. Chen, T. Shen		
Optimization management of hybrid energy source of fuel cell truck based on model predictive control using traffic light information	309	Q. Guo, Z. Zhao, P. Shen, P. Zhou		
Predictive car-following scheme for improving traffic flows on urban road networks	325	A. S. M. Bakibillah, M. Hasan, M. M. Rahman, M. A. S. Kamal		
Two-stage on-board optimization of merging velocity planning with energy management for HEVs	335	B. Zhang, W. Cao, T. Shen		
A unified optimal planner for autonomous parking vehicle	346	D. Zeng, Z. Yu, L. Xiong, P. Zhang, Z. Fu		
An MPC-based manoeuvre stability controller for full drive-by-wire vehicles	357	P. Wang, Z. Liu, Q. Liu, H. Chen		
Distributed active fault tolerant control design against actuator faults for multiple mobile robots	367	M. Hussein, J. Ghommam, A. Ghodbane, M. Saad, V. Nerguizian		
Robust control for electric vehicle powertrains	382	J. Buerger, J. Anderson		
* * * *				
New directions in quantum neural networks research	393	W. Cui, S. Yan		
Call for papers	396			
Volume contents	I			