



## AUTOMATICA SINICA

A PUBLICATION OF THE IEEE AND CHINESE ASSOCIATION OF AUTOMATION

MAY 2018

VOLUME 5

NUMBER 3

IJASJC

(ISSN: 2329-9266)

## REVIEW

- Advances in Vision-Based Lane Detection: Algorithms, Integration, Assessment, and Perspectives on ACP-Based Parallel Vision ····· Y. Xing, C. Lv, L. Chen, H. J. Wang, H. Wang, D. P. Cao, E. Velenis, and F.-Y. Wang (645)

## PAPERS

- Deep Scalogram Representations for Acoustic Scene Classification ····· Z. Ren, K. Qian, Z. X. Zhang, V. Pandit, A. Baird, and B. Schuller (662)
- A Mode-Switching Motion Control System for Reactive Interaction and Surface Following Using Industrial Robots ····· D. Nakhaeinia, P. Payeur, and R. Laganière (670)
- Adaptive Proportional-Derivative Sliding Mode Control Law With Improved Transient Performance for Underactuated Overhead Crane Systems ····· M. H. Zhang, X. Ma, R. Song, X. W. Rong, G. H. Tian, X. C. Tian, Y. B. Li (683)
- On “Over-Sized” High-Gain Practical Observers for Nonlinear Systems ····· D. Carnevale, C. Possieri, and A. Tornambè (691)
- $H_\infty$  Tracking Control for Switched LPV Systems With an Application to Aero-Engines ····· K. W. Zhu, J. Zhao, and G. M. Dimirovski (699)
- Neural-Network-Based Terminal Sliding Mode Control for Frequency Stabilization of Renewable Power Systems ····· D. W. Qian and G. L. Fan (706)
- Gait Recognition by Cross Wavelet Transform and Graph Model ····· S. A. More and P. J. Deore (718)
- Containment Control of Fractional Order Multi-Agent Systems With Time Delays ····· H. Y. Yang, F. Y. Wang, and F. J. Han (727)
- Preparation of Hadamard Gate for Open Quantum Systems by the Lyapunov Control Method ····· N. Ghaeminezhad and S. Cong (733)
- Group Decision Making With Consistency of Intuitionistic Fuzzy Preference Relations Under Uncertainty ····· Y. Lin and Y. M. Wang (741)
- Dynamic Case Retrieval Method With Subjective Preferences and Objective Information for Emergency Decision Making ····· J. Zheng, Y. M. Wang, and S. Q. Chen (749)
- Refined Jensen-Based Multiple Integral Inequality and Its Application to Stability of Time-Delay Systems ····· J. D. Wang, Z. S. Wang, S. B. Ding, and H. G. Zhang (758)



## AUTOMATICA SINICA

A PUBLICATION OF THE IEEE AND CHINESE ASSOCIATION OF AUTOMATION

MAY 2018

VOLUME 5

NUMBER 3

IJASJC

(ISSN: 2329-9266)

## REVIEW

- Advances in Vision-Based Lane Detection: Algorithms, Integration, Assessment, and Perspectives on ACP-Based Parallel Vision ····· Y. Xing, C. Lv, L. Chen, H. J. Wang, H. Wang, D. P. Cao, E. Velenis, and F.-Y. Wang (645)

## PAPERS

- Deep Scalogram Representations for Acoustic Scene Classification ····· Z. Ren, K. Qian, Z. X. Zhang, V. Pandit, A. Baird, and B. Schuller (662)
- A Mode-Switching Motion Control System for Reactive Interaction and Surface Following Using Industrial Robots ····· D. Nakhaeinia, P. Payeur, and R. Laganière (670)
- Adaptive Proportional-Derivative Sliding Mode Control Law With Improved Transient Performance for Underactuated Overhead Crane Systems ····· M. H. Zhang, X. Ma, R. Song, X. W. Rong, G. H. Tian, X. C. Tian, Y. B. Li (683)
- On “Over-Sized” High-Gain Practical Observers for Nonlinear Systems ····· D. Carnevale, C. Possieri, and A. Tornambè (691)
- $H_\infty$  Tracking Control for Switched LPV Systems With an Application to Aero-Engines ····· K. W. Zhu, J. Zhao, and G. M. Dimirovski (699)
- Neural-Network-Based Terminal Sliding Mode Control for Frequency Stabilization of Renewable Power Systems ····· D. W. Qian and G. L. Fan (706)
- Gait Recognition by Cross Wavelet Transform and Graph Model ····· S. A. More and P. J. Deore (718)
- Containment Control of Fractional Order Multi-Agent Systems With Time Delays ····· H. Y. Yang, F. Y. Wang, and F. J. Han (727)
- Preparation of Hadamard Gate for Open Quantum Systems by the Lyapunov Control Method ····· N. Ghaeminezhad and S. Cong (733)
- Group Decision Making With Consistency of Intuitionistic Fuzzy Preference Relations Under Uncertainty ····· Y. Lin and Y. M. Wang (741)
- Dynamic Case Retrieval Method With Subjective Preferences and Objective Information for Emergency Decision Making ····· J. Zheng, Y. M. Wang, and S. Q. Chen (749)
- Refined Jensen-Based Multiple Integral Inequality and Its Application to Stability of Time-Delay Systems ····· J. D. Wang, Z. S. Wang, S. B. Ding, and H. G. Zhang (758)



# IEEE/CAA JOURNAL OF AUTOMATICA SINICA

Vol. 5 No. 3 May 2018

# 自动化学报(英文版)

第5卷 第3期 2018年5月

Edited by

Editorial Board of  
IEEE/CAA Journal of Automatica Sinica  
Add: 95 Zhongguancun East Road, Beijing 100190, China  
Tel: 010-82544459  
E-mail: jas@ia.ac.cn

Editor-in-Chief

MengChu ZHOU

Administrated by

Chinese Association for Science and Technology

Sponsored by

Chinese Association of Automation,  
Institute of Automation,  
Chinese Academy of Sciences, and  
China Science Publishing & Media Ltd.

Published by

China Science Publishing & Media Ltd.  
Add: 16 Donghuangchenggen North Street,  
Beijing 100717, P. R. China

Printed by

Beijing Kexin Printing Co., Ltd

编

《自动化学报》(英文版) 编辑委员会  
地址: 北京中关村东路 95 号  
邮政编码: 100190  
电话: 010-82544459  
E-mail: jas@ia.ac.cn

主

编 周孟初  
管 中国科学技术协会  
办 中国自动化学会  
研 中国科学院自动化研究所  
份 中国科技出版传媒股份有限公司  
有 中国科技出版传媒股份有限公司  
址 地址: 北京东黄城根北街 16 号  
邮 邮政编码: 100717  
电 电话: 010-64019820

出

版 印刷装订 北京科信印刷有限公司

Copyright © 2018 IEEE/CAA Journal of Automatica Sinica. All rights reserved.

CN 10-1193/TP

RMB ¥210.00