

控制工程

Kong Zhi Gong Cheng

第23卷 第12期

2016年12月20日

目 次

- 基于改进NSGA2算法的给水管网多目标优化设计.....乔俊飞, 魏 静, 韩红桂 (1861)
- 基于模型的汽车电控系统设计.....陈 虹, 褚洪庆, 刘奇芳, 高炳钊 (1867)
- 四旋翼无人系统的容错控制算法设计与实现.....张友民, 余 翔, 王 斑, 刘 丁 (1874)
- ITAE最优III型伺服系统的设计及工程实践.....陈明俊, 李长红 (1883)
- 工业能源系统中的控制问题: 以采矿业为例.....张李军, 夏小华 (1891)
- 基于FlexRay无人机容错飞行控制计算机系统架构.....吕迅竝, 姜 斌, 陈 欣, 齐瑞云 (1901)
- 微纳操控系统的增益调度超前抗饱和控制.....杨晓健, 张扬名, 闫 鹏 (1909)
- 模拟流程工业动态特性的集成组合式系统.....李少阳, 纪兴权, 王鹏飞 (1918)

CONTROL ENGINEERING of CHINA

Vol.23 12

(Monthly) Dec. 20 2016

CONTENTS

- Multi-objective Optimization of Water Distribution System Based on an Improved NSGA2 Algorithm
.....QIAO Jun-fei, et al (1861)
- Model-based Design for Automotive Control Systems.....CHEN Hong, et al (1867)
- Design and Implementation of Fault-Tolerant Control Algorithms for an Unmanned Quadrotor System
.....ZHANG You-min, et al (1874)
- Design and Engineering Practice of ITAE Optimum Type-III Servo System.....CHEN Ming-jun, et al (1883)
- Control of Industrial Energy Systems: Mining Industry as a Case Study.....ZHANG Li-jun, et al (1891)
- A FlexRay-based Fault-tolerant Flight Control Computer for UAV.....LV Xun-hong, et al (1901)
- Gain Scheduled Dynamic Anti-windup with Anticipatory Activation for Nano-positioning systems
.....YANG Xiao-jian, et al (1909)
- Integrated Modular Control System Based on the Simulation of Dynamic Characteristics of Process Industry
.....LI Shao-yang, et al (1918)

Biography of Guest Editors



Xiaohua Xia obtained his Ph.D. degree at Beijing University of Aeronautics and Astronautics, Beijing, China, in 1989. He stayed at the University of Stuttgart, Germany, as an Alexander von Humboldt fellow in May 1994 and for two years, followed by two short visits to Ecole Centrale de Nantes, France and National University of Singapore during 1996 and 1997, respectively, both as a post-doctoral fellow. He joined the University of Pretoria, South Africa, since 1998, and became a full professor in 2000. He is an IEEE fellow, served as the South African IEEE Section/Control Chapter Chair, as the chair of the Technical Committee of Non-linear Systems, as a member of the Technical Board (both of IFAC). He is an A-rated scientist by the National Research Foundation of South Africa, an elected fellow of the South African Academy of Engineering, and an elected member of the Academy of Science of South Africa. He has been an Associate Editor of *Automatica*, *IEEE Transactions on Automatic Control*, *IEEE Transactions on Circuits and Systems II*, and the Specialist Editor (Control) of the *SAIEE Africa Research Journal*. His research interests include: non-linear feedback control, observer design, time-delay systems, hybrid systems, modeling and control of HIV/AIDS, control and handling of heavy-haul trains and energy modeling and optimization.



陈阳泉 教授 1985年毕业于北京科技大学获得学士学位, 1989年毕业于北京理工大学获得硕士学位, 1998年毕业于新加坡南洋理工大学获得博士学位。2000-2012年任职于犹他州立大学工学院, 担任助理教授, 副教授, 以及 Center for Self-Organizing and Intelligent Systems 主任。2012年起加入美国加州大学默塞德分校工学院, 创立 Mechatronics, Embedded Systems and Automation Laboratory。他的研究兴趣包括: 分布参数系统的测量与控制、智能控制系统(无人机)、分数阶微积分及其应用。陈教授在国际学术界非常活跃, 是 ASPRS, AUVSI, AMA, IEEE, ASME, AIAA, and ASEE 会员, *International Journal of Advanced Robotic Systems* 主编, *Unmanned Systems* 创刊副主编, *ASME J. of Dynamic Systems, Measurement and Control*, *IFAC Journal of Mechatronics* 等 9 种国际期刊的副主编。

Control Engineering of China

Special Issue on "Control Systems Engineering"

Control systems contribute to every aspect of modern society. In our life control systems exist in almost everywhere such as toasters, VCRs and smart phones. In science and technology, control systems already have widespread applications, for example, steering ships, guiding missiles and driving driverless cars in the near future. In all the control systems, systems are the key platform where control should be put into. It is at the system level that control shows its values. Extracting and formulating control problems in the system is equally important if not more important than control algorithm design based on the formulated control problem. In the age of IoT (Internet of Things), a control system in industry is usually both "cyber" and "physical". Control is only a small component within the cyber-physical systems and should be driven by the underlying systems.

This special issue is designed to focus on "Control Systems Engineering" with a balanced emphasis on "control", "systems", and "engineering". It is our hope that this special issue is a beginning to start to bring "systems" back into "control" and implement "control algorithms" into "engineering systems".

Guest Editors

Prof. Xia, Xiaohua, University of Pretoria, Republic of South Africa

Prof. Chen, YangQuan, University of California, Merced, USA

Managing Editors

Prof. Fu, Jun, Northeastern University, Shenyang, China

Prof. Lu, Shaowen, Northeastern University, Shenyang, China

Secretary

Dr. Wei, Cui, Northeastern University, Shenyang, China

Control Engineering of China

Editor-in-Chief: Prof. Chai, Tianyou

Journal of Control Engineering of China is directed by the Ministry of Education and sponsored by Northeastern University. Readers are assumed mainly as researchers, professors, engineers, and post- and undergraduate students in the field of automatic control science and technology. The journal publishes bimonthly high-quality papers in either Chinese or English on technological research and development achievements in automation field. The coverage of this journal includes but is not limited to (1) Integrated automation systems; (2) Process control technology and applications; (3) Intelligent control technology and applications; (4) Optimization control technology and applications; (5) Manufacturing execution system; (6) Computer control system and software; (7) Fault diagnosis; (8) Electrified transmission and automation; (9) Integration of mechanical and electrical; (10) Device of detection and monitoring.