

2018 10th International Conference on Modelling, Identification and Control (ICMIC 2018)

**Guiyang, China
2-4 July 2018**



**IEEE Catalog Number: CFP1890K-POD
ISBN: 978-1-5386-5417-0**

**Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP1890K-POD
ISBN (Print-On-Demand):	978-1-5386-5417-0
ISBN (Online):	978-1-5386-5416-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Page	Title	Paper ID	Authors
1	Maximum likelihood parameter estimation for ARMAX models based on stochastic gradient algorithm	2	Lun Li Yan Pu Jing Chen
7	Unity3D Serious Game Engine for High Fidelity Virtual Reality Training of Remotely-Operated Vehicle Pilot	3	Cheng Siong Chin Nurshaqinah B. Kamsani Xionghu Zhong Rongxin Cui Chenguang Yang
13	Improved Controller of LCL-Type Grid-connected Inverter based on Active-Damping	4	Peng Tian Zetao Li Zhenghang Hao
19	Architecture Analysis and Simulation Research of Distributed Generation for Flexible Distribution Network	5	ZhukuiTan Yutao Xu Zhuo Chen Peng Tian Yong Xiao WeiChen ChengHui Lin
25	Application of artificial Bee Colony algorithm based on Co-evolution in automatic layout of Building multiple Pipelines	6	Chang-tao Wang Zhe Wang Zhong-hua Han
30	Neural Network Based Switching State Selection For Direct Power Control of Three Phase PWM-Rectifier	7	Arezki Fekik Hakim Denoun Mohamed Lamine Hamida Ahmad Taher Azar Mahdi Atig Quan Min Zhu
36	Synchronization Between a Novel Integer-Order Hyperchaotic System and a Fractional-Order Hyperchaotic System Using Tracking Control	8	Ayub Khan Shikha Singh Ahmad Taher Azar Quanmin Zhu
44	Medium Density Fiberboard Continuous Hot-Pressing Process Based on Intelligent DSC	9	Yugang Zhou Liangkuan Zhu Zibo Wang
50	A Novel Software Test Platform for Train Handling	12	Hailong Song
54	Recognition of Complex Objects by Hierarchical Attributes	13	Wenqiang Zhang Wensheng Li Shuai Dong Yueqiao Li
60	The improved multi-innovation parameter estimation algorithms for the sine signal modeling with the single-frequency	14	Ling Xu Feng Ding Xiao Zhang
65	Mathematical Prediction Model of Cutting Forces and Intuitive Representation Based on Experimental Study of High-speed Milling of Ti6Al4V	15	Maohua Du Jianfei Zhang

70	Study of the Drive and Speed Governing Control for a Pipeline Pig	16	Xu Xingping Wang Hai Xie Fuzheng Wang Bin
76	Unbalance loads compensation with STATCOM Based on PR controller and notch filter	17	Zhihao Zhang Yanmin Liu Hongfei Guan
82	Cloud Service Selection Based on Chaos Quantum Immune Algorithm	20	Chao Zhou Ping Pan Ping Yang Liang Huang
88	Study on the Influence of Solar Array Damage on Satellite Power System	21	Xinjun Liu Donglai Zhang Anshou Li Fang Sun Yang Yang
93	Comparison of De-phase algorithm and DC offset cancellation on pre-whitening	23	Xinghui Zhang Jianmin Zhao and Rusmir Bajrić
98	A passivity-based control strategy for three-phase current source inverter based on interconnection and damping assignment	24	Pengwei Li Jing Wang Jing Bai
102	A Star Identification Method Based on Mixed Characteristics and LVQ Neural Network	25	Sun Hongchi Mu Rongjun Du Hua jun
108	Maximum likelihood recursive extended least squares estimation for multivariate equation-error moving average systems	26	Lijuan Liu Yan Ji Feng Ding Junhong Li
114	Finite-time Sliding Mode Control of the Valve-Controlled Hydraulic System	27	Hao Yan Ling-Ling Xu Li- Jing Dong
119	Improved Active Frequency Drift Islanding Detection Method for Grid-connected Photovoltaic Power Generation System	28	ZHOU Xingchi SHEN Anwen XU Jinbang
125	Comparison and Analysis of Image Fusion Algorithms for GF-2 Satellite	29	Wan-zhen Zhou Jia-ze Li
131	Research on Meta genomic Attribute Reduction Based on a New Algorithm	31	Jian XUE Fu LIU Jing BAI Tao HOU
137	An iterative algorithm for dual-frequency signals with unknown frequencies and amplitudes	32	Siyu Liu Guanglei Song Feng Ding Li Xie
143	Position Control of Continuum Manipulator with Twin-Pivot Compliant Joints	34	Xin Liu Chenguang Yang Shilu Dai Ying Feng
149	Face Recognition and Tracking System Based on Embedded Platform	35	Chen Zhang Tianyue Li Boquan Li Xi Ye

154	A recommendation system based on eXtreme Gradient Boosting Classifier	36	Longteng Xu Jiwei Liu Yu Gu
159	Robust SMC for uncertain descriptor time-delay systems: A linear switching surface approach	37	Zhen Liu Cunchen Gao Huimin Xiao
165	Entry trajectory reconstruction for an unpowered reusable launch vehicle under the change of landing field	38	Wenbiao Xu Xuejing Lan
170	Comparison of Different Topologies of Shaft Generation System in Marine Applications	39	Y. Wu S. Shao Y. Liu F. Yue Z. Wu Q. Xu
177	Robust Adaptive Position/Force Control of Multiple Mobile Manipulators with Flexible Joints	40	Shurong Li Pandeng Xu Baigeng Wang
183	Computer-aided diagnosis of pulmonary nodules on CT scan images	41	Jing Jia Jiwei Liu Yu Gu
189	UAV formation and obstacle avoidance based on Improved APF	42	Yunduo Feng Yanxuan Wu Haozhe Cao Jiankun Sun
195	Research on Network Topology Discovery Algorithm for Internet of Things based on Multi-protocol	43	Shaopeng Zhou Lingguo Cui Chen Fang Senchun Chai
201	Takagi-Sugeno Fuzzy Modeling and Control of Nonlinear System with Adaptive Clustering Algorithms	44	Kai Zhao Shurong Li Zhongjian Kang
207	Emotion-aroused human behaviors Perception Using RNNPB	45	Jie Li Chenguang Yang Junpei Zhong Shilu Dai
213	Complex Network Node Centrality Measurement Based on Multiple Attributes	47	Fengzeng Liu Bing Xiao Hao Li Junjie Xue
218	Ground Penetrating Radar Signal Processing Based on Morphological Component Analysis	48	Jianhua Zhang Haohao Zhang Yang Li Feng Gao Xueli Wu Feng Zhu
224	Improved Sliding-Mode Disturbance Observer for Nonlinear System	49	Kangyi Zhan Yongji Wang Lei Liu
229	Research of Nonlinear Adaptive Control Based on BP Neural Network	50	Xin Liu Sufang Wang Weicun Zhang Qing Li
233	An Intelligent Terminal Sliding Mode Control Algorithm with Chattering Reduction Based on Particle Swarm Optimization	52	Binghe An Yongji Wang Lei Liu Zhiwei Hou
239	Research on the blast furnace charge position tracking based on machine learning regression model	53	Jingchu Duan Weicun Zhang

245	Research on UAV Conflict Resolution Algorithm based on Improved Particle Swam Algorithm	54	Jianhua Zhang Shuangcheng Dou Yang Li Xueli Wu Ran Zhen Kai Gao Dongwen Zhang
251	Tail Rudder Optimization Design and Dynamics Modeling for the Small Flexible Membrane Wing Aircraft	56	Zhiyuan HAO Zhengjie WANG Jiantong LIU
257	Multivariable feedback control design for hypersonic vehicles based on stochastic robustness analysis	57	Xiaomeng Yin Lei Liu Yongji Wang
263	Multi-stage boost Aircraft trajectory optimization strategy based on hp adaptive Gauss pseudo spectral method	58	Bangzhi Xu Yongji Wang Lei Liu
270	Compensation Vehicle Distortion Field and Improvement of Magnetic Target Localization	59	Zhuoshan Geng Xin Chen Chong Kang
275	Robust back-stepping controller on $S^2(3)$ for a quadrotor attitude tracking	61	Chao Liu Shengyi Yang Dacan Luo Jianqiu Zhou
281	Automatic Reading System for Analog Instruments Based on Computer Vision and Inspection Robot for Power Plant	62	Junzhe Wang Jian Huang Rong Cheng
287	Kinematics Modelling and Trajectory Planning for an Industrial Robot	63	Wenjin Ma Guanbin Gao Jun Zhao
293	Analysis of Channel Selection Methods with Dynamic Spectrum Access technology	64	Hui Sun Chengrui Bai Lei Gao Xianyu Wang Sabir Ghauri Rui Wang
299	Mechanical Analyses of a Modified Lorenz System	65	Rui Wang Lei Gao Chengrui Bai Chengjie Wang Xianyu Wang Hui Sun
304	CNN-based Mitosis Detection for Assisting Doctors Diagnosis	66	Yu Bai Jiwei Liu Jianfei Liu Zhewei Zhao Ronghu Mao
309	Automatic Segmentation and 3D Reconstruction of Spine based on FCN and Marching Cubes in CT Volumes	67	Lingyu Fang Jiwei Liu Jianfei Liu Ronghu Mao
314	Research on Consensus Efficiency Based on Practical Byzantine Fault Tolerance	68	Li Zhang Qinwei Li
320	Coprime Factor Perturbation in Robust Control for Lightly Damped System	70	F. W. Meng C Han X. F. Dong A. P. Pang S. H. Zhang

326	Research on Multiple Unmanned Aerial Vehicles Area Coverage for Gas Distribution Mapping	71	Qiuyue Yu Lei Cheng Xin Wang Pengxiang Bao Quanmin Zhu
331	Variable Gain Super-Twisting Sliding Mode Control for Preisach Hysteresis Nonlinearity System	72	Xuehui Gao Bo Sun Chengyuan Zhang
336	Multisource data analysis for stock prediction	73	Nian-xiang Yang Xue-bo Jin Ting-li Su Jian-lei Kong
342	Time-series main trend analysis by adaptive dynamics model	74	Xue-bo Jin Nian-xiang Yang Ting-li Su Jian-lei Kong
347	Non-singular finite-time adaptive attitude control of rigid spacecraft	75	Shuzong Xie Qiang Chen Mingxuan Sun Yi Hu
352	Bio-inspired inverse internal model feedforward control for UAV photoelectric platform	76	ZhiDe ZHANG ZhengJie WANG Shuo ZHANG
357	A Novel Methodology of Inter-harmonic Detection Based on VMD	77	Zhouxing Fu Chuiyang Zeng Yunge Li
362	ESO-Based Adaptive Sliding Control for Nonlinear Servo System with Unknown Disturbance and Uncertainties	78	Shubo Wang Haisheng Yu Xuehui Gao Xudong Liu
367	Parameter estimation algorithm for state space systems with time-delay based on the iterative identification	79	Ya Gu Jicheng Liu Peiyi Zhu Yongxin Chou
373	control of longitudinal motion for under water high speed supercavitating vehicles	81	Aiping Pang Zhen He Minghan Zhao Jinghua Wang Feng Guo Chengbao Zhou
379	The solution and realization of the main problem of smart home	82	GaoSong DUjiang YANGTao LUXiuwen
384	Fault Diagnosis of the Speed Sensor of Electro-mechanical Transmission of the High Speed Rotorcraft	83	Yue Ma Lu Lin Yu Wang
389	Natural characteristics analysis of power transmission system of electric vehicle	84	Guoqiang Chen Zhifei Yang Ruidong Xu Shaobin Lv Xiaofeng Li
395	Application of matter element information entropy and SVM in lithium battery efficiency evaluation and prediction	85	NIU Guo-cheng HU Zhen HU Dongmei

401	The Fractional Kalman Filter Based Asynchronous Multi-Rate Sensors Information Fusion	86	Guangyue Xue Jing Guo Yubin Xu Wei Zhao
408	Center Difference Set Membership Filter by Zonotopes for Nonlinear System	87	Rong Cheng Jian Huang
414	A Modified Cell Transmission Model Incorporating Capacity Drop at Merge Bottleneck Considering On-Ramp Flow	88	Song Wang Xu Xie Wei Duan Ke-di Huang
420	T-S Fuzzy Logic Control with Genetic Algorithm Optimization for Pneumatic Muscle Actuator	89	Cheng Chen Jian Huang Dongrui Wu Zhikang Song
426	A New Scheme for Dynamic Response Improvement of Variable Speed Pump Control Systems: Leaking Valve Control	91	Xiaoyu Yu Yonglin Yang Haigang Ding Jiansong Li
431	Wind Turbine Blade Condition Monitoring and Damage Detection by Image-based Method and Frequency-based Analysis	93	Jiansheng Yang Ling Zhao Zi-Qiang Lang Yang Zhang
437	Research on Application of Optimized PID Control Based on Particle Swarm Optimization in Reactive Power Compensation Device	94	Fan Bai Minhui Wang
443	Modeling and Simulation of Aero-derivative Gas Turbine for Power Generation	95	Lirui Shen Zhongzhi Hu Qiangang Zheng
449	Reliability analysis for trans-scale safety and arming device based on FORM+G-PCM method	97	Dakui Wang Wenzhong Lou Hengzhen Feng Fuquan Zheng
455	System Reliability Analysis of MEMS Gyroscope with Multiple Failure Modes	98	Hengzhen Feng Wenzhong Lou Dakui Wang Fuquan Zheng Maohao Liao
461	Parameter Estimation of Piezoelectric Transducers Circuit Model Using GA-PSO Algorithm	100	Tao Liu Yongyong Duan Zongmei Bai
467	Data-Driven Based Optimal Output-Feedback Control of Continuous-Time Systems	101	Zican Li Tao Wu Jing Na Guanbin Gao Guido Herrmann
473	Application of Fuzzy Smith Control in SCR De-NOx System	102	S. H. Zhang B. Xu J. M. Gu F. W. Meng H. Z. Bing H. Wan
478	Invertibility of Nonlinear Interconnected System	103	Mei ZHANG Ze-tao LI Boutaïeb DAHHOU Michel CABASSUD

484	Research on Buffer Dynamic Capacity-Increase Scheduling Method in Flexible Flow Shop Based on Public buffer	104	Shuo Lin Chao Han Zhonghua Han Xiaoting Dong
490	Range-only SLAM for underwater navigation system with uncertain beacons	105	Wei Chen Ruisheng Sun
495	Fuzzy Modeling by Data-Extracted Fuzzy Rules of Cement Rotary Kiln Based on WM Method	106	Mingyun Chen Feng Guo Mengqi Chen Zheng Shen Jianshu She
500	Research on Flexible Flow Shop Scheduling Problem with Variable Processing Times	107	Zhijun Gao Meiqi Jia Zhonghua Han Boqiu Zhu
506	Experimental Study on the Detection of Damage in Large-scale Used Parts Using SIMO NOFRFs	108	Hanling Mao Weili Tang Yang Huang Zhengfeng Huang Xinxin Li
512	Research on Control and Planning of Soft-Wing UAV for Haze Removal	109	Wei Huang Liying Yang Yuqing He Bingbing Li
518	Application of Teaching Learning Based Optimization in Long term Optimal Reservoir Operation	110	You Wenxia Qiu Tianyi Li Wenwu Zhang Zhi
523	Research on the Application of Bat Algorithm in the Medium and Long Term Optimization of Reservoir Operation	111	Wang Jingyi Zhang Zhi Li Wenwu Daniel Eliote Mbanze
529	Fault detection of nonlinear rotor-bearing systems by using the Nonlinear Output Frequency Response Functions (NOFRFs)	112	Yunpeng Zhu Z Q Lang Zhong Luo S Rajintha A S Gunawardena
535	Study on Modeling and State Estimation of Ultrasonic Motor Based on Data Driving	116	Yao Shuncaï Zhang Ru Du Fei Ren Yifeng
540	Research on Multiple Features Extraction Technology of Insulator Images	117	Li-Ping Zhang Jun-Mei Zhao Yi-Feng Ren
546	Strong Structural Controllability of Multi-agent Systems with Switching Topologies	118	Peng Liu Tie-Hua Ma
552	A Novel LIDAR Classification Method Based on Ensemble Random Forest and D-S Evidence Synthesis	119	Dawei Li Ye Chen
557	Infrared Image Semantic Segmentation Based On Improved DeepLab And Residual Network	120	Zheng-guang Xu Jie Wang Lu-yao WANG
564	Fault Diagnosis for Transmission System of Large Equipment Using Nonlinear Output Frequency Response Function	126	Jialiang Zhang Jianfu Cao Jie Wu Lin Wang

566	Dynamic analysis of nonlinear energy sink and giant magnetostrictive material energy harvester on account of nonlinear output frequency response functions	127	Ke-Fan Xu Ye-Wei Zhang Yan-Nan Lu Li-Qun Chen
569	A quality-relevant monitoring method for closed-loop industrial processes with dual consideration of static and dynamic analysis	129	Y. Qin C.H. Zhao
575	Fault detection of nonlinear rotor-bearing systems by using the Nonlinear Output Frequency Response Functions (NOFRFs)	130	Yunpeng Zhu Z Q Lang Zhong Luo S Rajintha A S Gunawardena
581	Numerical Study to Valve Control Scheme of 660MW Supercritical Steam Turbine Based on SPE	132	QIAN Jin QIN Haibo GONG Dehong Yu yujie
586	Fuzzy evidence functions and synthesis rule using weighted distance testing in process industry	133	Xiao Wang Zetao Li Xiaoyong Yang Jing Yang