

International Conference on Test, Measurement and Computational Methods 2015 (TMCM 2015)

Advances in Computer Science Research Volume 26

Chiang Mai, Thailand
22 – 23 November 2015

Editors:

S. B. Kafaki
S. Wahab

B. Kalantari

ISBN: 978-1-5108-1738-8

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2015) by Atlantis Press
All rights reserved.
<http://www.atlantis-press.com/php/pub.php?publication=tmcm-15>

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact the publisher:

Atlantis Press
Amsterdam / Paris

Email: contact@atlantis-press.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

COMPUTATIONAL METHODS AND ALGORITHMS, APPLIED INFORMATION TECHNOLOGIES

2-RAINBOW DOMINATION OF THE CIRCULANT GRAPH $C(N;\{1,3\})$	1
<i>Xueliang Fu, Xiaofeng Wu, Gaifang Dong, Honghui Li, William Guo</i>	
FORECASTING OF ELECTRICITY LOAD BASED ON IMPROVED PARTICLE SWARM OPTIMIZATION AND SUPPORT VECTOR REGRESSION MACHINE	8
<i>Limei Liu</i>	
THE COMPARISON OF IMAGE RETARGETING ALGORITHMS BASED ON SEAM CARVING	12
<i>Zijuan Zhang</i>	
THE OPTIMAL CONTROL POLICY OF DYNAMIC PRICING WITH REFERENCE EFFECT	15
<i>Hui Yang, Hui Jin</i>	
MODERN DECISION SUPPORT SYSTEMS IN OIL INDUSTRY: TYPES, APPROACHES AND APPLICATIONS	19
<i>Iakov S. Korovin, Igor A. Kalyaev</i>	
COMPARATIVE STUDY ON 3D CAPACITANCE IMAGING SENSORS	23
<i>Hua Yan, Shizhe Liu, Yanhui Sun</i>	
COMPARISON OF SOIL-STRUCTURE INTERACTION METHODS BETWEEN CHINESE MAINLAND BUILDING SEISMIC DESIGN CODE AND TAIWANESE CODE	27
<i>Kun Xia, Lingxin Zhang</i>	
RESEARCH ON MAXIMAL COVERING PROBLEM BASED ON COST AND CUSTOMER SATISFACTION DEGREE	31
<i>Xiuyan Wang, Ying Qu, Chunyou Wu</i>	
STUDY ON THE INFLUENCE OF COVER PLATE ON THE SAFE OPERATION OF HIGHWAY IN SHALLOW BURIAL TUNNEL CONSTRUCTION	37
<i>Jiancong Xu, Yuan Hu</i>	
TRANSFORMER DEFECT DATA ANALYSIS BASED ON DATA MINING TECHNOLOGY	42
<i>Feng Li, Hongbin Wang, Kun Feng</i>	
STUDY OF AN ANTI-VIRUS FRAMEWORK	48
<i>Ming Zhang, Wei Chen</i>	
REFORMATION AND PRACTICE OF HIGHER VOCATION CURRICULUM BASED ON NB INDUSTRY CHAIN	52
<i>Zhongbo Deng, Xinyuan Liang, Caixia Guo, Qiang Yao</i>	
ON HOW TO DEAL WITH CHINESE COMPANIES LISTED OVERSEAS RISK	56
<i>Huiping Huang, Huemin Huang</i>	

MEASUREMENT AND DETECTION OF MECHANICAL, ACOUSTIC, NOISE, ELECTRONIC

THE INFLUENCE OF GRAIN SIZE OF DISSIMILAR WELDING BETWEEN CARBON STEEL AND STAINLESS STEEL ON ULTRASONIC TESTING	60
<i>Kwanruethai Sorn-Ard, Asa Prateepasen, Mai Noipitak</i>	
RESEARCH ON THE DETECTION ALGORITHM OF WORKPIECE SURFACE DEFECTS BASED ON MACHINE VISION	65
<i>Yuntao Zhang, Xiaorong Chen, Yin Yi</i>	
2FSK-LFM COMPOUND SIGNAL PARAMETER ESTIMATION BASED ON JOINT FRFT-ML METHOD	69
<i>Zhaoyang Qiu, Bin Tang</i>	
THE NYQUIST FOLDING RECEIVER AND ZERO-SUM GAME	74
<i>Kaili Jiang, Sujuan Chen, Bin Tang</i>	
THE APPLICATION FOR HARMONIC SUPERPOSITION IN WIND FARM USING THE METHODOLOGY OF MONTE-CARLO	78
<i>Jiayi Wang, Yanchi Zhang, Hongkun Yang, Xiangping Xu, Yi Zha</i>	
THE LIQUID NITROGEN LEVEL MEASUREMENT FOR CRYOGENIC FUEL TANK	84
<i>Tao Wang, Limin Wang, Zhicheng Wang, Yubei Liu</i>	

GRASPING POSITION ESTIMATION FOR PROSTHETIC HAND	87
<i>Rong Wang, Xiaogang Duan, Hua Deng</i>	
STUDY ON THE SOUND FIELD DISTRIBUTION IN THE INTERCITY HIGH-SPEED RAILWAY COACHES.....	91
<i>Weijie Bai, Liu Yan, Xiaopai Zhang, Xiaojuan Zhang, Changbin Zhang</i>	
STUDY ON THE ACOUSTIC CHARACTERISTICS OF DIFFERENT CAVITY THICKNESS AND THE STRUCTURE OF DIFFERENT ABSORPTION MATERIALS.....	95
<i>Qingbin Zhao, Liu Yan, Xiaopai Zhang, Xiaojuan Zhang, Changbin Zhang</i>	
PARALLEL COMPUTING METHOD FOR THE NON-LINEAR MODEL OF DISPLACEMENT MEASUREMENT	99
<i>Yuze Chai, Jinchun Hu, Longmin Chen, Shengwu Du</i>	
DISCUSSION ON MEASUREMENT AND OPTIMAL MANAGEMENT TECHNOLOGY OF FOREST BASED ON VISUAL IDENTITY.....	104
<i>Rui Pan, Jidong Ma</i>	
A WEIGHT ESTIMATION METHOD FOR PROSTHETIC HAND.....	107
<i>Bei Yang, Xiaogang Duan, Hua Deng</i>	
STEADY-STATE KALMAN ESTIMATOR FOR DESCRIPTOR SYSTEMS WITH COLORED NOISE.....	112
<i>Yan Xu, Guosheng Zhang</i>	
RESEARCH ON TOWER CRANE STRUCTURE DAMAGE DETECTION BASED ON ARX MODEL	116
<i>Shengchun Wang, Ye Zhang, Peiwei Ni, Yan Tian</i>	
THE RESEARCH OF POSITIONING MEASUREMENT BASED ON SENSOR SIGNAL STRENGTH.....	121
<i>Mack Jianhua Du, Roger Liu</i>	
FORCE ESTIMATION FOR PROSTHETIC HANDS USING SURFACE ELECTROMYOGRAPHY	124
<i>Xiaobao Deng, Xiaogang Duan, Hua Deng</i>	
ANALYSIS OF EFFECTS ON DYNAMIC ALIGNMENT PRECISION OF WARSHIP COMBAT SYSTEM CAUSED BY ITS ATTITUDE	127
<i>Zhiheng Zhou, Jianjun Zhao, Deyi Sang, Libin Yang</i>	
DISCUSSION ON THE MEASURING METHOD OF THE ELECTRIC RESISTANCE OF SCREEN CLOTHES-SHOES	133
<i>Hongyun Yu, Rui Li, Weijian Pan, Libin Cui, Cheng Ye, Miao Qian, Wenxian Li</i>	
LITERATURE REVIEW ON LIGHTNING PROTECTION OF WIND TURBINE BLADES	136
<i>Ruifeng Wang, Xiaojin Fu, Feng Xiao</i>	
COMPOSITE PERMEABILITY MODEL OF SHALE MATRIX WITH THE EFFECT OF ADSORPTION.....	139
<i>Cheng Cao, Tiantai Li, Bojiang Fan</i>	
WIRELESS GRAPHENE NANOWIRES QCM ETHANOL VAPOR SENSOR NETWORK BASED ON ZIGBEE PROTOCOL	144
<i>Jiaping Liao, Yang Lu, Xiaohua Wang, Ding Qian, Rujiao Cheng, Dongli Zhu</i>	

TEST THEORIES AND ITS APPLICATION

A STUDY ON THE PERFORMANCE TEST OF WEIGHT SENSOR SYSTEM FOR AGENT MONITORING OF GASEOUS EXTINGUISHING SYSTEM	148
<i>Sungho Hong, Moonsoo Choi, Dongsuk Kim, Jihyun Kwark, Goseop Roh</i>	
AN EXPERIMENTAL STUDY ON THE CAPABILITY TEST OF A GAS LEAKAGE CHECKER FOR EXTINGUISHING AGENT VESSELS	152
<i>Jihyun Kwark, Sungho Hong, Moonsoo Choi, Dongsuk Kim, Goseop Roh</i>	
DEVELOPMENT OF DATA INTEGRITY TESTING TOOL FOR MISSION-CRITICAL SYSTEMS	155
<i>Bup-Ki Min, Yong Jun Park, Yongjin Seo, Hyeon Soo Kim</i>	
STRUCTURAL OPTIMIZATION OF BACKHOE HYDRAULIC EXCAVATOR WORKING ATTACHMENT BASED ON TESTED DANGEROUS CONDITIONS.....	159
<i>Yuan Wang, Xiaoping Pang, Jin Chen, Xingtong Gu</i>	
TESTING METHODS RESEARCH AND DESIGN FOR NIPS ANTI-EVASION ATTACK	163
<i>Xuan Li, Jian Gu, Qian Li</i>	
USE OF AUTOMATION IN SENSOR READOUT ASIC CHIP CHARACTERIZATION TO IMPROVE TEST YIELD, COVERAGE AND MAN-HOUR REDUCTION	167
<i>Noor Shelida Salleh, Siti Noor Harun, Tan Kong Yew</i>	

TEST AND ANALYSIS OF HIGH VOLTAGE AND HIGH FREQUENCY CAPACITORS CONCERNING FREQUENCY CHARACTERISTICS	171
<i>Heisik Kim, Seoyeon Won, Daeseong Hwang, Kyeongjin Lee</i>	
RESEARCH ON SKIN TEXTURE CLASSIFICATION BY GRAY LEVEL CO-OCCURRENCE MATRIX AND THE BP NEURAL NETWORK.....	173
<i>Qiaohua Liu, Tianhua Chen, Xiaoyi Wang, Jiping Xu, Li Wang, Yinmao Dong, Hong Meng</i>	
A CFD MODEL OF A HEADBOX FOR INJECTING DILUTION WATER AT DIFFERENT LOCATIONS ALONG A STEP DIFFUSION TUBE.....	177
<i>Jinsong Zeng, Huang Huang, Yucheng Feng, Ya Dai, Kuoyan Ma</i>	
Author Index	