

Asia Conference on Power and Electrical Engineering 2016 (ACPEE 2016)

MATEC Web of Conferences Volume 55 (2016)

Bangkok, Thailand
20 - 22 March 2016

Editors:

Tek-Tjing Lie
Moustafa Eissa
Emanuele Calabro

ISBN: 978-1-5108-2333-4

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.

This work is licensed under a Creative Commons Attribution license:
<http://creativecommons.org/licenses/by/2.0/>

You are free to:

Share – copy and redistribute the material in any medium or format.

Adapt – remix, transform, and build upon the material for any purpose, even commercial.

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:

You must give appropriate credit, provide a link to the license, and indicate if changes were made.

You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. The copyright is retained by the corresponding authors.

Printed by Curran Associates, Inc. (2016)

For additional information, please contact EDP Sciences – Web of Conferences
at the address below.

EDP Sciences – Web of Conferences
17, Avenue du Hoggar
Parc d'Activité de Courtabœuf
BP 112
F-91944 Les Ulis Cedex A
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.org

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
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

RESEARCH ON IMPROVED CONTROL STRATEGY FOR STATCOM BASED ON VIRTUAL MATRIX METHOD	1
<i>Wang Xudong, Wang Shengtie</i>	
COORDINATED VOLTAGE CONTROL OF ACTIVE DISTRIBUTION NETWORK	11
<i>Xie Jiang, Liu Wenxia, Xu Huiting, Han Xu, Niu Shuya</i>	
INDUCTOR COMPENSATION IN THREE PHASE PFC CONTROL WITH DECOUPLING THE INPUT VOLTAGE AND BUS VOLTAGE	17
<i>Luo Guang, Ai Wu, Chen Bing, Liu Yi</i>	
A FUZZY PREDICTIVE PID CONTROL SCHEME FOR THE EXCITATION SYSTEM OF SYNCHRONOUS GENERATOR	24
<i>Zheng Yang, Zhou Jianzhong, Zhang Chu, Zhang Yuncheng, Zhao Wei</i>	
β STYLE FREE-PISTON STIRLING ENGINE CONTROL SYSTEM RESEARCH	30
<i>Xu Jian, Zhang Yongsheng</i>	
ANALYSIS OF THE CONTROL STRATEGIES OF PARALLEL ACTIVE POWER FILTER	36
<i>Huang Limiao, Zhu Guiping</i>	
PMSM SYSTEM CONTROLLED BY SVM-DTC	44
<i>Zhang Weiwei, Xiao Fei, Qiao Mingzhong</i>	
ANALYSIS OF NON-MINIMUM PHASE IN BUCK-BOOST CONVERTER	50
<i>Huang Jinfeng, Liu Shulin</i>	
DYNAMIC CONTROL BASED PHOTOVOLTAIC ILLUMINATING SYSTEM	56
<i>Zhang Chengkai, Li Ziyu, Zhou Wenhai, Zhang Qili</i>	
DECENTRALIZED CONTROL STRATEGY FOR PV BASED DC MICROGRID WITH HYBRID STORAGE	62
<i>Biswas Ishita, Bajpai Prabodh</i>	
PERFORMANCE ANALYSIS OF PHOTOVOLTAIC PANELS WITH EARTH WATER HEAT EXCHANGER COOLING	68
<i>Jakhar Sanjeev, Soni M.S., Gakkhar Nikhil</i>	
WAVELET STUDY OF METEOROLOGICAL DATA COLLECTED BY ARDUINO-WEATHER STATION: IMPACT ON SOLAR ENERGY COLLECTION TECHNOLOGY	74
<i>Caccamo Maria Teresa, Calabró Emanuele, Cannuli Antonio, Magazù Salvatore</i>	
LIGHTNING PROTECTION PERFORMANCE ASSESSMENT OF TRANSMISSION LINE BASED ON ATP MODEL AUTOMATIC GENERATION	80
<i>Luo Hanwu, Li Mengke, Xu Xinyao, Cui Shigang, Han Yin, Yan Kai, Wang Jing, Le Jian</i>	
ELECTRIC POWER SAVING AWARENESS SYSTEM AT SCHOOL USING ICT	86
<i>Kuzume Koichi, Tabusa Tomonori, Sawa Haruka</i>	
A FAULT ESTIMATION METHOD BASED ON UIO ROBUST RESIDUAL GENERATORS	92
<i>Liu Yongjin, Feng Gang, Zhang Lin, Wang Wenfeng, Jia Zhonghui, Zhang Bo</i>	
A FAULT DIAGNOSIS MODEL OF SURFACE TO AIR MISSILE EQUIPMENT BASED ON WAVELET TRANSFORMATION AND SUPPORT VECTOR MACHINE	100
<i>Zheng Ni, Zhang Lin, Zhang Bo, Wang Wenfeng, Shi Wenjie, Si Wei</i>	
RESEARCH ON DE-NOISING OF FAULT SIGNAL BASED ON IMPROVED MULTI-WAVELETS	106
<i>Zhang Jiali, Wang Jie, Wang Wenfeng, Zhang Lin, Zhao Haizhou, Lei Rongqiang</i>	
RESEARCH FOR THE INFLUENCE OF DISTRIBUTION NETWORK LINE RECLOSING CURRENT ON LINE PROTECTION	112
<i>Yu Kansheng, Wu Ying, Fan Ruixiang, Pan Benren, Cao Bei</i>	
DEEP LEARNING FOR INTELLIGENT SUBSTATION DEVICE INFRARED FAULT IMAGE ANALYSIS	119
<i>Lin Ying, Sun Jianjun, Li Chengqi, Ma Yan, Geng Yujie, Chen Yufeng</i>	
RELIABILITY EVALUATION OF DISTRIBUTION SYSTEM CONSIDERING SEQUENTIAL CHARACTERISTICS OF DISTRIBUTED GENERATION	125
<i>Sheng Wanxing, Meng Xiaoli, Fan Tingting, Du Songhuai</i>	
RISK-BASED SECURITY ASSESSMENT IN DISTRIBUTION NETWORK WITH THE INTEGRATION OF PHOTOVOLTAIC	134
<i>Sheng Wanxing, Liu Keyan, Cai Yating, Du Songhuai</i>	

RELIABILITY ANALYSIS OF DISTRIBUTED GRID-CONNECTED PHOTOVOLTAIC SYSTEM MONITORING NETWORK.....	142
<i>Fu Zhixin, Li Qiaomu, Yuan Yue</i>	
DEVELOPMENT AND UNCERTAINTY EVALUATION OF CALIBRATING SYSTEM FOR DIGITAL ENERGY SETTING	151
<i>Zhao Sha, Bai Jingfen, Lin Fantao, Yang Xiangjiang, Yu Chunping</i>	
MODELLING AND DESIGN OF A 3 KW PERMANENT MAGNET SYNCHRONOUS GENERATOR SUITABLE FOR VARIABLE SPEED SMALL WIND TURBINES	158
<i>Acharya Parash, Papadakis Antonis, Shaikh Muhammad Naveed</i>	
MODELING OF SELF-EXCITED ISOLATED PERMANENT MAGNET INDUCTION GENERATOR USING ITERATIVE NUMERICAL METHOD	164
<i>Mohamed Mostafa R., Abdel-Latif Karam M., Ahmed Mahmoud R.</i>	
INFLUENCE OF LOAD MODES ON VOLTAGE STABILITY OF RECEIVING NETWORK AT DC/AC SYSTEM	174
<i>Mao Chizu, Lin Shenghong</i>	
CHAOS COOPERATIVE PARTICLE SWARM OPTIMIZATION BASED WATER LEVEL CONTROL FOR NUCLEAR STEAM GENERATOR.....	180
<i>Sheng Guimin, Mu Yu</i>	
CALCULATION OF ONSET VOLTAGE OF SLIDING DISCHARGE OVER A DIELECTRIC BARRIER.....	186
<i>Abdel-Salam Mazen, Hashem Azza, El-Hawary Hadeer</i>	
CORONA PERFORMANCE IN WIRE-CYLINDER ESP WITHOUT PARTICLE LOADING	192
<i>El-Mohandes Mohamed Th., Abdel-Salam Mazen, El-deen Seham Kamal</i>	
CORONA PERFORMANCE IN WIRE-CYLINDER ESP WITH PARTICLE LOADING.....	198
<i>Abdel-Salam Mazen, El-Mohandes Mohamed Th., El-deen Seham Kamal</i>	
RESEARCH ON LINE PATROL STRATEGY OF 110KV TRANSMISSION LINE AFTER LIGHTNING STRIKE.....	204
<i>Li Mingjun, Song Kunyu, Ou Yuqiang, Gan Tuanjie, Fan Yazhou, Chen Jianping</i>	
MODELING AND SIMULATION OF ELECTRICAL RESONANCE IN EHV TRANSMISSION LINE CASE STUDY IN WEST JAVA REGION 500 KV SYSTEM.....	211
<i>Aditya Pramana Putu Agus, Munir Buyung Sofianto</i>	
REVIEW OF THE OPTIMAL DESIGN ON A HYBRID RENEWABLE ENERGY SYSTEM	217
<i>Wu Yuan-Kang, Chang Shih-Ming</i>	
IMPACT OF WIND SPEED CORRELATION ON THE OPERATION OF ENERGY STORAGE SYSTEMS	224
<i>Davril Mathieu, Xu Xiaoyuan, Yan Zheng</i>	
SHORT-TERM ELECTRICITY LOAD FORECASTING MODEL AND BAYESIAN ESTIMATION FOR THAILAND DATA	230
<i>Chapagain Kamal, Kittiyakul Somsak</i>	
ABSORBER TUBE WITH INTERNAL PIN-FINS FOR SOLAR PARABOLIC TROUGH COLLECTOR.....	236
<i>Kalidasan B., Shankar R., Srinivas T.</i>	
A REAL-TIME LOAD DISTRIBUTION METHOD OF HYDRO-THERMAL POWER GRID BASED ON WORKING CONDITIONS SELF-MATCHING	242
<i>Chen Fang, Zhou Jianzhong, Wang Xuemin</i>	
RESEARCH OF CHARGING(DISCHARGING) ORDERLY AND OPTIMIZING LOAD CURVE FOR ELECTRIC VEHICLES BASED ON DYNAMIC ELECTRIC PRICE AND V2G.....	248
<i>Yang Shuai, Luan Zhaowen, Qin Zhen</i>	
DIGITAL METERING SYSTEM OF NEW GENERATION SMART SUBSTATION IN CHINA.....	257
<i>Bai Jingfen, Lin Fantao, Yang Xiangjiang, Zuo Jia, Cheng Yingying, Yu Chunping</i>	
SUSTAINABLE DEVELOPMENT OF GEOTHERMAL INDUSTRY IN CHINA: AN OVERVIEW	267
<i>Xu Bang, Li Menggang, Pi Xiyu</i>	
MULTI-OBJECTIVE REACTIVE POWER OPTIMIZATION OF DISTRIBUTION NETWORK WITH DISTRIBUTED GENERATION.....	275
<i>Zhao Hui, Luan Zhaowen, Guo Sixin, Han Chunpeng</i>	
EMERGENCY LINKAGE MODE OF POWER ENTERPRISE	281
<i>Feng Jie, Yu Zhen, Liu Chao</i>	
CACHE MANAGEMENT OF BIG DATA IN EQUIPMENT CONDITION ASSESSMENT.....	288
<i>Ma Yan, Chen Yufeng, Lin Ying, Li Chengqi, Geng Yujie</i>	
A DESIGN OF ULTRA-WIDEBAND FILTER WITH BAND-NOTCHED CHARACTERISTIC BASED ON LEFT - HANDED MATERIALS	294
<i>Li Shun-Li, Zeng Wen-bo</i>	

CONCEPTUAL DESIGN OF A MEDIUM-SIZED COMBINED SMART PHOTOVOLTAIC - AGRICULTURE SYSTEM - CASE STUDY IN MALAYSIA	299
<i>Djojodihardjo Harijono</i>	
Author Index	