

# **2nd AASRI Conference on Power and Energy Systems**

## **(PES 2013)**

**AASRI Procedia Volume 7**

**Jeju Island, Korea  
27 – 28 December 2013**

**ISBN: 978-1-63266-892-9**

**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© by Elsevier B.V.  
All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact Elsevier B.V.  
at the address below.

Elsevier B.V.  
Radarweg 29  
Amsterdam 1043 NX  
The Netherlands

Phone: +31 20 485 3911  
Fax: +31 20 485 2457

<http://www.elsevierpublishingsolutions.com/contact.asp>

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

Preface .....	1
---------------	---

### **COMMUNICATION AND SENSOR NETWORK**

<b>The Co-cracking Experiment and Application Route of Waste Plastics and Heavy Oil.....</b>	3
<i>Shikui Wu, Kaixiong Xu, Lusen Jiang, Li Wang</i>	
<b>Evaluating the Energy Consumption of Web Services Protocols in Ad Hoc Networks .....</b>	8
<i>Soheyb Ayad, Okba Kazar, Nabila Benharkat</i>	
<b>Optimization Study to the Ratio of Primeval Ball Loading in φ4.0 × 6.0 m Overflow Ball Mill of Yingezhuang Gold Mine.....</b>	14
<i>Qingfei Xiao, Huaibin Kang, Bo Li, Chunmei Luo</i>	
<b>Trading with Renewable Energy Sources in Slovakia .....</b>	20
<i>Adriana Csikosova, Maria Antosova, Katarina Culkova</i>	
<b>Seismic Response Analysis of Isolated Nuclear Power Plants with Friction Damper Isolation System .....</b>	26
<i>Chuan Qin, Wenguang Liu, Wenfu He</i>	
<b>Vehicle Dynamics Conversion into Power (Dynapower).....</b>	32
<i>Habib Nasser</i>	

### **DISTRIBUTED AND PARALLEL COMPUTING**

<b>Coordinating Control of Reactive Power Optimization in Distribution Power System with Distributed Wind Energy .....</b>	38
<i>Qingfeng Tang, Jianhua Zhang, Linze Huang</i>	
<b>A TCSC Incorporated Power Flow Model for Embedded Transmission Usage and Loss Allocation .....</b>	45
<i>Baseem Khan, Ganga Agnihotri, Samina E. Mubeen, Garima Naidu</i>	
<b>Impacts of the Drain-side nWell Adding on ESD Robustness in 0.25-µm LV/HV nMOSFs.....</b>	51
<i>Shen-Li Chen, Min-Hua Lee</i>	
<b>Electrical Strength Analysis of SF6 Gas Circuit Breaker Element .....</b>	57
<i>Daniil A. Glushkov, Alexandra I. Khalyasmaa, Stepan A. Dmitriev, Sergey E. Kokin</i>	
<b>ZVS Multi-output Push-pull QRC Using Analog Controller UC3825 for Low Power Applications.....</b>	62
<i>K. Deepa, M. Vijaya Kumar</i>	
<b>Research on Energy Efficiency of DC Distribution System .....</b>	68
<i>Zifa Liu, Mengyu Li</i>	
<b>Equipment for Predictive Maintenance in Hydrogenerators.....</b>	75
<i>L. C. Ribeiro, E. L. Bonaldi, L. E. L. De Oliveira, L. E. Borges Da Silva, C. P. Salomon, W. C. Santana, J. G. Borges Da Silva, G. Lambert-Torres</i>	

### **POWER SYSTEM PLANNING, POWER MANAGEMENT, POWER ENGINEERING, AND EDUCATION**

<b>The Application of Grey Theory Model in the Predication of Jiangsu Province's Electric Power Demand.....</b>	81
<i>Xuemei Shen, Zhengnan Lu</i>	
<b>The Logic to Quantify Operation of Social Regulation .....</b>	88
<i>Mei-Ping Liu</i>	
<b>A Power Flow Tracing based Method for Transmission Usage, Loss &amp; Reliability Margin Allocation .....</b>	94
<i>Baseem Khan, Ganga Agnihotri, Gaurav Gupta, Pawan Rathore</i>	
<b>Peak Load Shifting and Electricity Charges Reduction Realized by Electric Vehicle Storage Virtualization .....</b>	101
<i>Harunaga Onda, Soushi Yamamoto, Hidetoshi Takeshit, Satoru Okamoto, Naoki Yamanaka</i>	
<b>Design and Development of a Mini Custom Power Park .....</b>	107
<i>P. V. Manitha, V. C. Jishnu Sankar, P. Anjana, Visal Raveendran, Manjula G. Nair</i>	

## **COMMUNICATION AND INFORMATION SYSTEMS ENGINEERING**

<b>ESD Reliability Improvement of an HV nLDMOS by the Bulk FODs Engineering.....</b>	114
<i>Shen-Li Chen, Min-Hua Lee</i>	
<b>The Effect of Fine Grinding Medium Feature on Grinding Results.....</b>	120
<i>Qingfei Xiao, Bo Li, Huaibin Kang</i>	
<b>Author Index</b>	