

2020 2nd International Conference on Smart Power & Internet Energy Systems (SPIES 2020)

**Bangkok, Thailand
15 – 18 September 2020**



IEEE Catalog Number: CFP20V85-POD
ISBN: 978-1-7281-6612-4

**Copyright © 2020 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:	CFP20V85-POD
ISBN (Print-On-Demand):	978-1-7281-6612-4
ISBN (Online):	978-1-7281-6611-7

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

2020 2nd International Conference on Smart Power & Internet Energy Systems (SPIES 2020)

Table of Contents

Preface	xii
Committees.....	xiii

▲ High Voltage and Insulation Technology

Space High Voltage Power Module Design.....	1
<i>Zhao Wen-jie, Wan Cheng-an, Gao Yi-fei, Zhang Guo-shuai, Zheng Yan, Chen Yong-gang, Zhu Bo-wei</i>	
Analytical Approaches on Optimal Placement of STATCOM under Contingency Occasions.....	7
<i>Bazilah Ismail, Noor Izzri Abdul Wahab, Mohammad Lutfi Othman, Mohd Amran Mohd Radzi, Kanendra Naidu Vijayakumar, Muhammad Mat Naain</i>	
An Optimal Preventive Maintenance Method for MMC based VSC-HVDC.....	13
<i>Chang Yuan, Dumeng Dai, Junqing Qiu, Lu Chen, Haitao Qu, Junzheng Cao</i>	
Research on SVG Control Based on Grid Voltage Tracking	17
<i>Erliang Kang, Huanyu Liu, He Yang, Ting Zhao, Yu Tian</i>	
Load Flow Analysis using Intelligence-based Hopfield Neural Network for Voltage Stability Assessment	21
<i>Veerapandiyan Veerasamy, Noor Izzri Abdul Wahab, Rajeswari Ramachandran, Mohammad Lutfi Othman, Hashim Hizam, Mohammad Zohrul Islam, Mohamad Nasrun Mohd Nasir, Andrew Xavier Raj Irudayaraj</i>	
Lightning Overvoltage Analysis of a 380 kV Gas Insulated Substation Using PSCAD/EMTDC	27
<i>Saad Abdul Basit, Chokri Belhaj Ahmed, Firoz Ahmad, Mohammed Arif</i>	
Design of an LED Sink Driver Using a Switched-Inductor and Switched-Capacitor Buck-Boost Converter with High Voltage Gains	33
<i>Kei Eguchi, Akira Shibata, Farzin Asadi, Takaaki Ishibashi, Yujiro Harada, Ichirou Oota</i>	
Research on Switching Overvoltage of Noload Transformer with Long Cable.....	39
<i>Ren Hongtao</i>	

Design, Simulation, and Laboratory Experiments of High Voltage Strike for Lightning Protection System in Fishing Boat Model.....	43
<i>Harry Prabowo, Bernard Evan Kanigara</i>	
▲ Power Transmission and Circuit System	
The Modelling of Stress Assessment Based on Solid State Electronic Switch and Research on It's Safety Characteristics	49
<i>Hui-yao Li, Wen-jie Zhao, Cheng-an Wang, Xin-shun Zhou, Zhi-po Ji, Bo-lin Zhang</i>	
A PVDF-film Energy Harvesting Circuit Using 40-nm CMOS Process	55
<i>Chua-Chin Wang, Pin-Chuan Chen, Ya-Hsin Hsueh, Cheng-Tang Pan, Chung-Kun Yen, Tzung-Je Lee, John Richard Hizon</i>	
Research on Automatic Test System of On-site Relay Protection Device.....	59
<i>Ye Xia, Wei Li, Xiaoli Zhang, Chaoqun Kang, Hongjun Zhou, Bingtao Zheng</i>	
3D Stator Bar Modelling with Investigation on the Effect of Shapes and Sizes of Cavities and Distribution of Electric Field.....	64
<i>Daphne Tay Ye Chee, Hadi Nabipour-Afrouzi, Chin-Leong Wooi, Kamyar Mehranzamir, Jubaer Ahmed, Mohammad Ali Bagherian</i>	
A Wide Duty Cycle Magnetic Isolation MOSFET Drive Circuit for Aerospace High-Reliability Power Supply	70
<i>Wu Jian-chao, Zhao Wen-jie, Zhang Guo-shuai</i>	
Single Line-to-Ground Fault Special Protection Scheme for Integrated WindFarm Transmission Line Using Data Mining	76
<i>Osaji Emmanuel, Mohammad Lutfi Othman, Hashim Hizam, Muhammad M. Othman, Okeke Chidiebere A, Nwagbara Samuel O</i>	
Stabilization of Power System including Wind Farm by Two-Step P and Q control of HVDC Interconnection Line	82
<i>Ayaka Nakamura, Atsushi Umemura, Rion Takahashi, Junji Tamura, Atsushi Sakahara, Fumihito Tosaka, Ryosuke Nakamoto</i>	
Analysis of Fault Characteristics of Hybrid Multiterminal HVDC Transmission System.....	88
<i>Meng Li, Keao Chen, Jinghan He, Yiping Luo, Xiaojun Wang, Guomin Luo, Dahai Zhang</i>	
A Novel Wavelet Aided Probabilistic Generative Model for Fault Detection and Classification of High Voltage Transmission Line.....	94
<i>Shahriar Rahman Fahim, Sajal K. Das, Yeahia Sarker, Md. Rafiqul Islam Sheikh, Subrata K Sarker, Dristi Datta</i>	

Pilot Protection for Wind Power Transmission Line Based on Similarity of Time-Frequency Matrix..... 100

Liming Zheng, Ke Jia, Bohan Liu, Jiankang Zhang

▲ Distribution Network and System Evaluation

Analysis and Experimental Study in a Load Break Switch for a Smart Distribution System..... 105

Praditpong Suksirithawornkul, Teratam Bunyagul, Noppadol Charbkaew, Yotaka Chompusri, Tirapong Kasirawat, Narong Tantichayakorn

Integral Backstepping Control for Water Pumping System FED by MPPT Fuzzy-Logic PV Source..... 111

Fateh Mehazzem, Abdellatif Reama

Credibility Evaluation of the Phase Identification Algorithm Based on Data Analysis in LVDN 116

Kun Li, Yongjun Zhang, Wenhui Hong, Thanh tung Ha

Fault Detection in Active Hybrid Distribution Networks: Overcoming Uncertainty 120

Shahram Negari, David Xu

Optimal Placement, Sizing and Operating Power Factor of PV for Loss Minimization and Voltage Improvement in Distribution Network via DigSilent..... 126

Mohamed Abdul Rasheed, Renuga Verayiah, Ba-swaimi Saleh

Protection Coordination with High Penetration of Solar Power to Distribution Networks 132

Mahamad Nabab Alam, Saikat Chakrabarti, Vinay Kumar Tiwari

▲ Modern Power Generation Technology and Characteristics

Rider Optimization Algorithm for Optimal DG Allocation in Radial Distribution Network 138

Mansur Khasanov, Salah Kamel, Hany M. Hasanien, Ahmed Al-Durra

Cooperative Virtual Inertia Control of PMSG based wind Generator and Battery for Power System Stability Enhancement..... 144

Takamasa Sato, Atsushi Umemura, Rion Takahashi, Junji Tamura

A Multi-Parameter Algorithm for Wind Power Ramp Detection 150

Danielle Lyners, Hendrik Johannes Vermeulen, Matthew Goch

A Slip Angle Computation Algorithm for Synchronization and Current Control of a Grid-Connected Doubly-Fed Induction Generator 156

Thanapon Wongyai, Yuttana Kumsuwan

Maximum Variation of Asynchronous Generation in Power System Based on Rotational Inertia and Frequency Response 161

Somboon Nuchprayoon

Model-Free Power Optimization of Wind Farm Based on Nelder-Mead Method 166

Zhiwei Xu, Hua Geng, Bing Chu

Blockchain-Integrated Virtual Power Plant Demonstration	172
---	-----

Ashot Mnatsakanyan, Hamad Albeshr, Ali Al Marzooqi, Endika Bilbao

▲ Battery Development and Energy Storage Technology

Identifying Optimal Parameters of Proton Exchange Membrane Fuel Cell Using Water Cycle Algorithm	176
--	-----

Hamdy M. Sultan, Ahmed S. Menesy, Salah Kamel, Hany M. Hasanien, Ahmed Al-Durra

Influence of Battery Energy Storage Location on the Dynamic Performance of Hybrid AC/DC Microgrid	182
---	-----

Morteza Daviran Keshavarzi, Mohd Hasan Ali

Research on High-Efficiency Battery Charge Regulator Based on Superbuck Topology	188
--	-----

Zhang Guo-shuai, Wu Jian-chao, Zhao Wen-jie, Zhi Shu-bo, Zheng Yan, Wan Cheng-an

Control and Sizing of a Hybrid Battery and Compressed Air Energy Storage system	193
---	-----

Phaisan Omsin, Suleiman M. Sharkh, Mohamed Moshrefi-Torbatı

Electric Vehicles and Batteries as Domestic Storage Units in the United Kingdom	199
---	-----

Sinan Küfeoğlu, Donato Melchiorre

20V HV Energy Harvesting Circuit with ACC/CV Mode and MPPT Control for a 5 W Solar Panel	205
--	-----

Tzung-Je Lee, Po-Kai Su, Chua-Chin Wang

Frequency Separation-based Power Management Strategy for a Fuel Cell-Powered Drone	209
--	-----

Mohamed Nadir Boukoberine, Zhibin Zhou, Mohamed Benbouzid, Teresa Donateo

A Comparative Study Between Modified MPPT Algorithms Using Different Types of Solar Cells	215
---	-----

Doaa Khodair, Ahmed Shaker, Hossam E. Abd El Munim, Ahmed Saeed, Mohamed Abouelatta

Novel Sizing Method of Energy Storage System Considering Intermittent Usage of EVs in a Constrained Grid	219
--	-----

U.B. Irshad, S. Rafique, M.J. Hossain, S.C. Mukhopadhyay

High Efficiency Tandem Perovskite/CIGS Solar Cell	224
---	-----

Mohamed Mousa, Mostafa M. Salah, Fathy Z. Amer, Ahmed Saeed, Roaa I. Mubarak

Optimization Configuration Method of Industrial User-side Energy Storage	228
--	-----

Ze Wang, Jianbing Yang, Xinhui Du, Yongguang Li, Haotian Su

▲ Modern Power System and Control Engineering

Mitigation of Oscillations in SMIB using a Novel Farmland Fertility Optimization based PIDPSS	234
---	-----

Aliyu Sabo, Noor Izzri Abdul Wahab, Mohammad Lutfi Othman, Mai Zurwatul Ahlam Mohd Jaffar

On the Key Factors of Frequency Stability in Future Low-Inertia Power Systems	240
---	-----

Shiyong Wu, Peng Yang, Yunfan Zhang, Dongxue Gao, Chenghao Li, Feng Liu

Developing a Framework for a Retail Electricity Model Incorporating Energy Storage	246
<i>Neil McIlwaine, Aoife Foley, D. John Morrow, Chongyu Zhang, Xi Lu</i>	
Using BESS to Achieve Power System Dynamic Stability when High Solar Penetration is present: Case study Sri Lanka	252
<i>C. Devin Aluthge, K. T. M. Udayanga Hemapala, J. Rohan Lucas</i>	
Machine Learning Algorithms Against Hacking Attack and Detection Success Comparison.....	258
<i>Levent Yavuz, Ahmet Soran, Ahmet Onen, Sm Muyeen</i>	
Impact of PV Plant and Load Models on System Strength and Voltage Recovery of Power Systems...	263
<i>Abdulrhman Alshareef, Rakibuzzaman Shah, N. Mithulananthan</i>	
Influence of Induction Motor in Stability of Power System with High Penetration of Large-Scale PV	269
<i>Abdulrhman Alshareef, Mithulananthan Nadarajah, Rakibuzzaman Shah</i>	
Dynamic Voltage Signature of Large Scale PV Enriched Stressed Power System.....	275
<i>Saeed Alzahrani, Rakibuzzaman Shah, N. Mithulananthan, Arthit Sode-Yome</i>	
Power System Performance Enhancement using Superconducting Magnetic Energy Storage unit and Proportional Integral Derivative Control.....	281
<i>Luky Handayani, A. Abu-Siada, Suwarno, Nanang Hariyanto, Muhammad Ruswandi Djalal</i>	
Forced Oscillation in Power System with Renewable Generations.....	287
<i>Tossaporn Surinkaew, Kianoush Emami, Rakibuzzaman Shah, Syed Islam, N. Mithulananthan</i>	
Cuttlefish Optimization Algorithm based Optimal PI Controller for Performance Enhancement of an Autonomous Operation of a DG System.....	293
<i>A. M. Hussien, S. F. Mekhamer, Hany M. Hasanien</i>	
▲ Smart Grid and Micro Grid Technology	
Improved Voltage Oscillation Damping and Tracking of Subgrid of a Hybrid AC/DC Microgrid using Robust Integral Linear Quadratic Gaussian Control.....	299
<i>Sajal K. Das, Dristi Datta, Subrata K. Sarker, Shahriar Rahman Fahim, Md. Rafiqul Islam Sheikh, Faisal R. Badal</i>	
Improved Multivariable PPF Controller to Mitigate Damping and Cross Coupling Effects of LCL-Type Filter in PV Islanded Microgrids.....	305
<i>Subarto Kumar Ghosh, Md. Rafiqul Islam Sheikh, Sajal Kumar Das, S.M. Muyeen, Ajay Krishno Sarkar, H. R. Pota</i>	
Optimal Power and Heat Scheduling of Microgrids under Renewable Generation Uncertainties	311
<i>Mojtaba Mohseni, Mehrdad Abedi, Hossein Jafari, Ehsan Heydarian-Foroushani, Ameena Saad Al-Sumaiti</i>	

Study of Voltage Oscillation in Multi-Converter Based DC Microgrid	316
<i>Mohammad Habibullah, N. Mithulanthan, Rakibuzzaman Shah, K. Bhumkittipich</i>	
Optimal Sizing of Networked Microgrid using Game Theory considering the Peer-to-Peer Energy Trading	322
<i>Liaqat Ali, S. M. Muyeen, Arindam Ghosh, Hamed Bizhani</i>	
Demand Response in Smart Grid – A Systematic Mapping Study	327
<i>S. M. Shahnewaz Siddiquee, Bianca Howard, Ken Bruton, Dominic T. J. O'Sullivan</i>	
Multi-Agent based Autonomous Control of Microgrid.....	333
<i>Mohammad Hasanuzzaman Shawon, Arindam Ghosh, SM Muyeen, Murilo S. Baptista, Syed Islam</i>	
▲ Power Grid Construction and Safety Assessment	
Cyber Security Risk Analysis and Protection Structure Design for Power Distribution IoT	339
<i>Chao-qun Kang, Lian-jie He, Zi-long Han, Ye Xia</i>	
Economic and Environmental Impact of Vehicle-to-Grid (V2G) Integration in an Intermittent Utility Grid	345
<i>Hayder Ali, Sajid Hussain, Hassan A. Khan, Naveed Arshad, Irfan Ahmad Khan</i>	
Extended Self-Tuning Filter-Based Synchronization Technique for Unbalanced and Distorted Grid	350
<i>Hafiz Ahmed, Samet Biricik, Mohamed Benbouzid</i>	
Heuristic Inertia Estimation Technique for Power Networks with High Penetration of RES.....	356
<i>Peter Makolo, Ramon Zamora, Tek-Tjing Lie</i>	
A Wideband Synchronous Sampling Method for Power Analyzer	362
<i>Kai Chen, Yunpeng Yang, Xuan Gou, Wenjian Zhou, Lei Wang, Gen Qiu</i>	
Utilizing Data Centers for Inertia and Fast Frequency Response Services	368
<i>Dlzar Al Kez, Aoife M. Foley, Paul Brogan, D John Morrow</i>	
▲ Electric Vehicles and Power Drive Technology	
Permanent Magnet Synchronous Motor Steering Control for Omnidirectional Autonomous Vehicle	374
<i>Cao Shuyu, Tan Kuan Tak, Wei Feng, Choo Jian Huei, Kenneth Sng Eng Kian, Luh Yip-Ping</i>	
Utilization of Innovative Materials toward Permanent Magnet Synchronous E-Motors for Traction Application: A Review.....	380
<i>Donovan O'Donnell, Samantha Bartos, Jimi Tjong, Narayan C. Kar</i>	
Comparative Analysis of Search Algorithm based Loss Minimization Techniques used in Vector Controlled Induction Motors	386
<i>Hamed Bizhani, S. M. Muyeen, Fatemeh R. Tatari, Fei Gao, Hua Geng</i>	

Bidirectional Power Flow Control of Solar PV Array Based Multifunctional E-Mobility Charger 391

Saurabh Shukla, Ahmed Al-Durra, Tarek H. M. El-Fouly, Ehab F. El-Saadany

Anti-Islanding Method for Houses Equipped with Electric Vehicles and Photovoltaic System 397

U.B. Irshad, S. Rafique, M.J. Hossain, S.C. Mukhopadhyay

Optimal Sequential Distribution Planning for Low Voltage Network with Electric Vehicle Loads..... 402

Surasit Sangob, Somporn Sirisumrannukul

Deep Learning-based Intrusion Detection System for Electric Vehicle Charging Station 408

Manoj Basnet, Mohd. Hasan Ali

Comparison of Electric Bus Power Consumption Modelling and Simulation Using Basic Power Model,
ADVISOR and FASTSim 414

Chai Wayne Ng, Laoonual Yossapong

A Review on Impact Analysis of Electric Vehicle Charging on Power Distribution Systems 420

Syed Rahman, Irfan Ahmad Khan, M. Hadi Amini

▲ Electrical Engineering and Automation

Current Rating Analysis of a Nine-Switch based Unified Expandable Power Converter Considering
Different Configurations..... 426

*Hamed Bizhani, S. M. Muyeen, Fatemeh R. Tatari, Kuaanan Techato, Lazhar Ben-Brahim, Frede
Blaabjerg*

Thirteen-Level Modified Packed U-Cell Multilevel Inverter for Renewable-Energy Applications 431

Sherouk Fouda, Marwa S. Salem, Ahmed Saeed, Ahmed Shaker, Mohamed Abouelatta

Optimal Tuning of Unified Power Flow Controller Using Firefly Algorithm to Improve Damping of
Inter-Area Oscillations in Multi-Machine System 436

*Rathy Shinta Utami, A. Abu-Siada, Suwarno, Nanang Hariyanto, Muhammad Ruswandi Djalal, Joko
Hartono*

4.15 W SIDO Buck Converter with Low Cross Regulation Using Adaptive PCCM Control..... 442

Tzung-Je Lee, Chih-Kai Wang, Chua-Chin Wang

An Autonomous DG Controller Using Artificial Intelligence Approach for Voltage Control 446

Saifullah Shafiq, Bilal Khan, Ali Taleb Al-Awami

The Effect of Inner Secondary Air on the Flow Field of a Swirl Burner..... 452

Weiliang Wang, Qian Wang, Junfu Lyu, Min Liu, Guangxi Yue, Jizhen Liu

Severity Level of An Insulator in Polluted and Dry Conditions Based on Ultraviolet Emission 457

Tumiran, Mochammad Wahyudi, Noor Akhmad Setiawan, Kukuh Pambudi, Dharma Saputra

▲ Electricity Market Operation and Planning

Reuse Legacy to Repower the Microgrids—An Affordable Solution for Test and Restoration of Repurposed Lead Acid Batteries 463

Khadim Ullah Jan, Anne Migan Dubois, Demba Diallo, Waqar Uddin, Mashhood Nasir, Imran Khan

Interval Forecasting of Hourly Electricity Spot Prices using Rolling Window Based Gaussian Process Regression 469

Nasir Mehmood, Naveed Arshad

Influence Analysis of Electricity Price Mechanisms on CCHP Investment and Operation Planning 474

Yansong Liu, Feng Zhu, Jingqi Fu, Bin Zou

Motivational Game-Theory P2P Energy Trading: A Case Study in Malaysia 480

Yu Hang Yap, Jinnie, Wen-Shan Tan, Noor Azlinda Ahmad, Chin-Leong Wooi, Yuan-Kang Wu

Block-chain Based Energy Trading in ADN with its Probable Impact on Aggregated Load Profile and Available Distribution Capability 486

Devesh Shukla, Shailendra Singh, Satyendra Pratap Singh, Amit Kumar Thakur, S.P. Singh

Price-Based Demand Response Strategy for Coordinated PV Distributed Generation and Demand Side Management in Distribution Network 492

Saritra Pawakul, Watcharin Srirattanawichaikul

▲ Solar and Photovoltaic Systems

A Combined Approach of Connecting Small Energies to Meet the Challenges of Developing Countries 498

Mohammad Khurshed Alam

Multi-Objective Optimal Reactive Power Dispatch Considering Probabilistic Load Demand Along with Wind and Solar Power Integration 502

M.U. Keerio, Aamir Ali, Muhammad Saleem, Noor Hussain, Riaz Hussain

Determination of Optimal PV Energy Share Considering Voltage Stability Index 508

Khairdir Ali, Lesnanto Multa Putranto, Adha Imam, Tumiran, Muhammad Yasirroni

Robust Continuous Nonlinear Predictive Controller (CNMPC) via Integral Sliding Mode Control (ISMC) for Grid-Tied PV Inverter 514

Biyadgie Ayalew, Abass Afolabi Yahaya, Ahmed Al Durra

Economic Assessment of Rooftop Photovoltaic Investment by Considering Uncertainty Solar Irradiation: A Case Study of Semarang City, Central Java, Indonesia 520

Rizki Firmansyah Setya Budi, Sarjiya, Sasongko Pramono Hadi

Coordination Control and Protection for Photovoltaic DC Distribution System 526

Congbo Wang, Ke Jia, Bohan Liu, Jiankang Zhang

PID Controller Design for Solar Tracker via Modified Ziegler Nichols Rules.....	531
---	-----

Chan Aye Aung, Yogesh V. Hote, Gopinath Pillai, Shivam Jain

▲ Renewable Energy and Energy Management

Optimal Power Flow of Power Networks with Penetration of Renewable Energy Sources by Harris hawks Optimization Method	537
---	-----

Mohamed A. M. Shaheen, Hany M. Hasanien, S. F. Mekhamer, Hossam E. A. Talaat

Energy Management System for an Islanded Renewables-based DC Microgrid	543
--	-----

Muhammad Fahad Zia, Mashood Nasir, Elhoussin Elbouchikhi, Mohamed Benbouzid, Juan C. Vasquez, Josep M. Guerrero

An Optimal Energy Management Strategy under Hybrid Generation and Price-based Demand Response Program in Smart Grid	548
---	-----

Adil Imran, Ahmad Wahid, Muhammad Ilyas, Imran Khan, Ghulam Hafeez, Khadim Ullah Jan, Demba Diallo

Efficient Energy Managemet System Based on Demand Shifts in Domestic Grid Considering Emission and Tax on Carbon.....	554
---	-----

Mohammad Hossein Fouladfar, Amir Baharvandi, Mousa Marzband, Nagham Saeed, Ameena Saad al-sumaiti

Achieving New and Renewable Energy Target: A Case Study of Java-Bali Power System, Indonesia.	560
---	-----

Sarjiya, Rizki Firmansyah Setya Budi, Lesnanto Putra Multanto

Development of Biomass-fueled Cogeneration Systems for Off-grid Electrification.....	566
--	-----

Mohammad Ali Bagherian, Kamyar Mehranzamir, Jubaer Ahmed, Marwan Nafea, Hadi Nabipour-Afrouzi, Chin-leong Wooi

Research on the Influence of Vibration Response of Permanent Magnet Motor under Harmonic Current	572
--	-----

Jianmin Du, Zhanyang Yu, Yan Li, Jiakuan Xia

A Review on Optimal Power Flow Problems: Conventional and Metaheuristic Solutions	577
---	-----

Paul Charles, Fateh Mehazzem, Ted Soubdhan

Method for Identifying PMU Bad Data Based on Long Short-Term Memory Network.....	583
--	-----

Wen Xiong, Li Wang, Renbo Wu, Zhiwei Yang, Hao Liu, Tianshu Bi

Author Index
