## 2022 5th Asia Conference on Energy and Electrical Engineering (ACEEE 2022)

Virtual Conference 8-10 July 2022



IEEE Catalog Number: CFP22U12-POD ISBN: 978-1-6654-9934-7

### Copyright © 2022 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:
 CFP22U12-POD

 ISBN (Print-On-Demand):
 978-1-6654-9934-7

 ISBN (Online):
 978-1-6654-9933-0

#### **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@proceedi

E-mail: curran@proceedings.com Web: www.proceedings.com



#### **Table of Contents**

# 2022 5th Asia Conference on Energy and Electrical Engineering (ACEEE 2022)

Pre	facevi		
Coı	Committeesvii		
<b></b>	Power System Analysis and Load Forecasting		
Pov	ver Quality Disturbance Identification Method Based on Improved Fully Convolutional Network 1		
	Xu Wenting, Duan Chendong, Wang Xuechun, Dai Jie		
Dis	cussion of the Elasticity Quantization and Aggregation of the Power Load7		
	Jianliang Shen, Guoliang Jin, Peng Liu, Zan Zhong, Chengxin Li		
Sho	ort-Term Photovoltaic Power Prediction Based on LGBM-XGBoost		
	Xuerui Chen, Yumin Liu, Qiang Li, Wenjing Li, Zhu Liu, Wenjing Guo		
	ality of the Electrical Service of the Peruvian Electrical System in Comparison with International untries Through Data Envelope Analysis18		
	Carlos Quispe		
App	olication and Research of Text Analysis in Public Digital Model of Energy Industry		
	Zhangchi Ying, Yuqing Xie, Ke Chen, Jiaqi Wang, Chengxin Zhang		
The	Comparison of WLS and WLAV Based State Estimator in Practical Power System		
	Yangque Zhu, Yong Xie, Ming Wu, Geng Zhu, Xiao Wang, Lilan Dong		
Sho	ort-Term Load Power Prediction Based Deep Learning Gated Recurrent Unit in Solar Power Plant 36		
	Chao-Tsung Yeh, Phuong Nguyen Thanh, Ming-Yuan Cho, Tien Nguyen Quoc		
	th Flame Optimization Algorithm including Renewable Energy for Minimization of Generation & Emission sts in Optimal Power Flow41		
Sal	Mohammad Khurshed Alam, Mohd Herwan Sulaiman, Asma Ferdowsi, Md. Shaoran Sayem, Nazmus kib Bin Khair		
Pre	dicting Leakage Current of Distribution Insulators Based Deep Learning Gated Recurrent Unit 46		
	Phuong Nguyen Thanh, Chao-Tsung Yeh, Ming-Yuan Cho, Cuong Phan Van		

#### ♦ Power System Planning, Control and Diagnosis

Uncertainties
Roberto Quintana, Carlos Quispe
Photovoltaic Virtual Inertia Using a Modified VSM Model in PowerFactory for Frequency Stability 5
Nigel Brett D. Como, Ronald Vincent M. Santiago
Research on Fuse Failure and Countermeasure of Potential Transformer in Non-effect Grounding System6
Hongtao Ren, Xianguang Wei, Haifeng Wu
Functional Analysis for Series Arc Fault Diagnosis in Residential AC Power System 6
Sebastian Taco-Vasquez, Paul Arauz, María Fernanda Trujillo, William Oñate, Gustavo Caiza
Study on Technologies and Applications of Joint Participation of Pumped Storage and Electrochemical Energy Storage in Power Grid Frequency Modulation
Shiyi Ma, Boyu Zhou, Qingwei Wang, Xinlei Wang, Tong Xu, Yuchen Zhao
Study on Oscillation of Doubly Fed Wind Turbine Based on Additional Damping Control Strategy
Zhenbo Li, Zhengyang Ma, Chuanzhuo Yi, Xuekun Cheng, Yangfan Zhang, Xueguang Zhang
Design and Construction of Microgrid in Small Factories
Yeh Chao-Tsung, Phuong Nguyen Thanh, Cho Ming-Yuan, Chen Meng-Jie
♦ Power Electronics and Communication Technology
Sensorless Control of Permanent Magnet Synchronous Linear Motor Based on Improved Second-Order Generalized Integrators
Dekang Kong, Weichao Li, Jinyang Han, Chen Deng, Ming Yan, Liang Zhou
Modeling and Stability Analysis of Doubly-fed Induction Generator Based on Impedance Analysis Method for Voltage Source Control
Chuanzhuo Yi, Zhengyang Ma, Zhenbo Li, Peng Song, Yangfan Zhang, Xueguang Zhang
Comparison between Two-Port Converter and Three-Port Converter at Different Weather Conditions 10
Amani S. Alzahrani, Aziza I. Hussein, Marwa M. Ahmed, Mohamed A. Enany
Design of a High-Power Power Electronics Building Block Based on SiC MOSFET Modules 10
Junduo Wen, Haoyuan Jin, Xiaobo Dong, Chuanjie Wan, Zhenghong Xu, Yongmei Gan, Hong Zhang Laili Wang

Suppression of Sub-synchronous Oscillation in Direct-drive Permanent Magnet Wind Turbine Based on Generator-side Converter Compensation Control
Hui Jiang, Chuanzhuo Yi, Cheng Shi, Hua Yang, Meng Li, Xueguang Zhang
SoC Estimation Lithium Polymer Battery Based on Equivalent Circuit Model and Extended Kalman Filter
Dewi Anggraeni, Budi Sudiarto, Achmad Subhan, Nurul Chasanah, Cahya Edi Santosa, Desti Ika Suryanti, Gunawan Setyo Prabowo, Purnomo Sidi Priambodo
Research on Suppressing the Interference of on-Board BTM Antenna by Installing Metal Shielding Plate
Liu Xueming, Zhao Ta, An Ming, Wang Lin, He Guangzhong, Zhang Jianqiong
An SG-CIM Verification Method Based on Schema Comparison
Zhenbin Zhan, Xiaofei Wang, Zhongxu Li, Sun Jingru, Zhou Zhengyang
A Design and Implementation of Visualization Platform for Intelligent Environmental Monitoring Based on IoT
Xianyuan Zhu, Jonathan M. Caballero, Alexander A. Hernandez
Research on Electromagnetic Interference Coupling Law of BTM Antenna on EMU
Sun Ping, Liu Xueming, Song Gang, Fu Caixin, Teng Wanxiu, Yuan Zhongkang
♦ Renewable Energy Technology and Energy Management
The Agrivoltaic System Development in Baron Technopark, Yogyakarta, Indonesia
Kholid Ahmad, Yureana Wijayanti, Andri Subandriya, Titin Setyorini, Saiful Mukhid, Ridwan Bud Prasetyo
Measurement and Comparative Analysis of Evaporation under the Panel of Panji Floating Photovoltaic  Power Station
Yaoping Bei, Bingqing Yuan, Dongmei Cao, Shaobo Ruan
Study on Achieving Sustainable Energy Use through the Transition from Urban-Rural Dualism to Urban-Rural Integration in China
Su Xu, Jun Wang, Zhechen Zhou
The Effect of Window Openings on Energy Consumption of an University Building: A Case Study in Izmir
Nurdan Yıldırım
Preliminary Study of Stakeholders' Perspectives on Peer-to-Peer (P2P) Energy Trading Implementation in Malaysia
Thiagaletchumi V Maniam, Christina Chin May May, Novita Sakundarini