

# Global Energy Interconnection

Volume 8 Number 6 December 2025

## CONTENTS

### Special Issue on Synergistic Optimization of Sustainable Energy Systems and Smart Grids

#### Real-time dispatch strategy for microgrid considering source—load uncertainty: a tailored TD3 reinforcement learning approach

..... Shenpeng Xiang, Mohan Lin, Zhe Chen, Pingliang Zeng, Xiangjin Wang, Diyang Gong / 905

#### Reactive power coordination control strategy of multi-parallel network converter

..... Lizhen Wu, Yunpeng Bao, Long Xian, Nan Qiu, Wei Chen / 918

#### Bi-level optimization of regional virtual power plants based on balancing group mechanism

..... Changwei Wu, Heping Jia, Lianjun Shi, Dunnan Liu, Zhenglin Yang / 931

#### Digital twin topology modelling method of new-type distribution network based on CIM specifications and spectral clustering

..... Zhimin He, Hai Yu, Lin Peng, Aihua Zhou, He Wang, Jin Xu / 947

#### Optimization of microgrid scheduling based on multi-strategy improved MOPSO algorithm

..... Yang Xue, Shiwei Liang, Fengwei Qian, Jinyi Tang / 959

#### Renewable energy finance, policy, and building energy technologies: trends, case studies, and innovations in North America

..... Christian K. Ezealigo, Precious O. Ezealigo / 969

#### Enhanced physics-inspired algorithm for optimal power flow with renewable energy integration using Coulomb's and

#### Franklin's law under climate considerations

..... Saeid Jowkar, Amin Besharatiyan, Ali Esmaeel Nezhad, Ehsan Rahimi, Fariba Esmaei Inezhad,

Toktam Tavakkoli Sabour, Mohammadamin Mobehtaj, Afshin Canani / 982

#### Data-driven insights for optimizing EV charging infrastructure: a case study on efficiency and utilization

..... Kazi Zehad Mostofa, Md. Fokrul Islam, Mohammad Aminul Islam, Mohammad Khairul Basher,

Tarek Abedin, Boon Kar Yap, Mohammad Nur-E-Alam / 997

#### TLCNN: Tabular data-based lightweight convolutional neural network for electricity energy demand prediction

..... Nazmul Huda Badhon, Imrus Salehin, Md Tomal Ahmed Sajib, Md Sakibul Hassan Rifat, S. M. Noman,

Nazmun Nessa Moon / 1010

#### Long term wind energy forecasting using machine learning techniques

..... Marcos V. M. Siqueira, Vitor H. Ferreira, Angelo C. Colombini / 1030

#### Enhancing grid stability and V2G integration by optimizing three-phase bidirectional EV chargers using ANFIS and FPGA-based control systems

..... Nagarajan Munusamy, Indragandhi Vairavasundaram / 1047

#### Dynamic characteristics of sub-cycle incipient faults in medium-voltage cable joints

..... Zhipeng Yu, Yongpeng Xu, Guoliang Qi, Wenwei Tan, Weiliang Guan, Xiuchen Jiang / 1062