

2026 5th International Conference on Green Energy and Power Systems (ICGEPS 2026)

Hangzhou, China

17-19 April 2026

Pages 1–453

IEEE Catalog Number:
ISBN:

CFP267B5-POD
979-8-3315-4646-5



Copyright © 2026, IEEE

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:	CFP267B5-POD
ISBN (Print-On-Demand):	979-8-3315-4646-5
ISBN (Online):	979-8-3315-4645-8

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

TABLE OF CONTENTS

Design and Operational Characteristics of a Nuclear Power Unit Coupled with Molten-Salt Thermal Energy Storage	1
<i>Yang Zhou, Wenqi Wu, Jianyuan Zhang, Bing Huang, Dongfeng Chang</i>	
Design and Application of Wind-Photovoltaic-Storage Hybrid Operation System for Clean Energy Bases	10
<i>Fahong Zhang, Lu Chen, Bingyan Ma, Jianjun Xu, Yongchuan Zhang</i>	
Power Optimization Allocation Strategy for Wind-Storage Frequency Regulation Considering Stability and Economic Efficiency	17
<i>Zhixuan Zhao, Jiajun Ma, Qiancun Chen, Ning Wang</i>	
Wasserstein Distributionally Robust Optimization for Park-Level Integrated Energy Systems	24
<i>Xinyu Yang, Yu Guo, Sile Hu, Yuan Gao, Bingqiang Liu, Jiaqiang Yang</i>	
Research on Data Simulation and Energy Analysis Based on Multi-Stage Membrane Separation Process	31
<i>Yunqi Wang, Haoyue Zhang, Jiaxin Fu, Sitong Ren</i>	
Research on Lithium-Ion Battery Health Estimation Methods Based on SMA-GPR	36
<i>Bo Rao, Jie Tian, Jinqiao Du, Yizeng Wu, Jiuchun Jiang, Aina Tian</i>	
Research on Daily Power Generation Prediction of Photovoltaic Power Station Considering Meteorological and Dust Factors	41
<i>Wenping Qiu, Shuhong Fan</i>	
Optimization Method for Safety Domain of Electric Vehicle Cluster and Distributed Photovoltaic Collaborative Operation Based on Graph Reinforcement Learning	45
<i>Meng Ye, Longbo Luo, Zhenhuang Chen, Lanqian Yang, Shaoyu Zeng</i>	
A Data-Driven Safety Risk Identification Method for Grid-Connected Energy Storage Systems	49
<i>Xinming Fan, Wei Jiang, Qian Liu, Bo Wang</i>	
Photovoltaic Power Forecasting Method Based on Similar-Day Clustering and Attention-Based Multi-Scale Transformer	55
<i>Yang Wang, Xiaochen Zou</i>	
Research on Dark Fermentation-Driven Biological Hydrogen Production Systems	59
<i>Minyu Liu, Xinqi Cui, Meitong Li, Hongqi Yan, Zhiyi Mo, Jiawen Ni, Haoran Sun, Bohan Song</i>	
A Lithium-Ion Battery SOC Estimation Method Based on an Attention-Residual Bidirectional LSTM Network	63
<i>Bowen Hu</i>	
Wind Power Forecasting via MSTL Decomposition and Complexity-Driven Dual-Branch Deep Learning	67
<i>Siyu Ge, Xin Guo, Xinyu Zhang</i>	
Short-Term Load Forecasting Based on Graph Convolutional and Kolmogorov-Arnold Network	73
<i>Zeming Li, Peiying Li</i>	
A Hybrid QPSO-LSTM-CEEMDAN-Attention Model for Wind Power Forecasting	80
<i>Daixi Chen</i>	

A Multi-Objective Operational Management Approach for Photovoltaic Charging Stations Based on Reinforcement Learning	85
<i>Xingyu Shen, Kai Liao, Jianwei Yang, Zhengyou He</i>	
Effect of Gradient Distribution of Platinum Content and Perforation Structure on Reaction Transport Processes in the Catalytic Layer	89
<i>Tao Li, Jiadong Liao, Zhiya Zhang, Xiaobin Guo, Riming Lin</i>	
High-Precision Modeling of Key Components in Fuel Cell Hybrid Systems and Research on Multi-Physics Coupling Characteristics	93
<i>Mengjie Li</i>	
Research and Application of Digital Twin System for Offshore Terminals of Large-Capacity Floating Wind Power	102
<i>Guoming Gan, Zifeng Sun, Wei Ye, Tian Jiang</i>	
A Photovoltaic Resource Survey Method Guided by UAV Precision Survey Samples and Trained Across Scale Image Mapping	108
<i>Zhiyong Liu, Yongbiao Liang, Lieliang Hu</i>	
Spatio-Temporal Feature Fusion Network with Multi-Head Attention for Electricity Spot Price Forecasting	116
<i>Guoyang Wang, Liye Xie, Jiayi Wang, Qingkai Sun, Zhao Liu</i>	
Urban Power Grid Load Forecasting and Analysis Based on BO-AM-CNN-KAN and SHAP	120
<i>Chunyu Qu, Jinfu Teng, Yan Li, Xiuping Wang</i>	
Hydro-Thermal Optimization of Battery Thermal Management Based on 3D Composite Variable Cross-Section Channels Under Low Pump Power Conditions	124
<i>Rui Zhang, Zhijun Liang, Yanxin Hu</i>	
STWFormer: Spatial-Temporal Sparse Transformer with Adaptive Gating for Multi-Location Wind Power Forecasting	129
<i>Hongda Jin</i>	
Research on Multi Factor Coupling Modeling and Prediction Optimization Method for Distributed Photovoltaic Power Station Generation Power	135
<i>Qifeng Qian, Honghou Zhang, Qiansheng Qiu, Lingchao Xiao</i>	
Novel Structure and Control Strategy for Electrolysis Hydrogen Powered by Offshore Wind Power	141
<i>Xiaoyan Zhang, Yiping Yang, Xurui Huang, Yujing Zhang, Ying Yang, Dingrong Ou, Ziyu Yu, Yingyuan Zhu Bosen Yang</i>	
Research on Short-Term Power Load Forecasting Method Based on Multi-Dimensional Fusion Model	146
<i>Zhenye Zhang, Chaobin Lin, Kun Hu, Haodong Liu, Ruopeng Li</i>	
Topology Optimization Design of Pemfc Cathode Flow Field Based on Composite Objective Function	153
<i>Pengcheng Zhao, Qiu Yang</i>	
A Short-Term Multivariate Load Forecasting Model Based on ILSO-WTC-BILSTM	158
<i>Qingzheng Li, Kuo Ren, Xingyu Jiang, Qingde Li, Kuisheng Li, Lixin Yuan</i>	
Multi-Objective Parameter Optimization of Artificial-Cavern Compressed Air Energy Storage Systems via Two-Person Zero-Sum Game	165
<i>Xianfeng Zhang, Shengwei Mei, Xuhui Zheng, Sen Cui, Laijun Chen</i>	

State of Health Estimation Based on Multi-Segment Charging Data Fusion	171
<i>Yuntao Zou, Zeling Xu, Zhichun Liu</i>	
A Method for Short-Term Wind Power Forecasting Based on Multi-Scenario Segmentation and Error Correction	176
<i>Fuhan Liu</i>	
Optimal Dispatch of AA-CAES Considering State-of-Charge Dependency	181
<i>Xianfeng Zhang, Laijun Chen, Shasha He, Sen Cui, Shengwei Mei</i>	
An Hybrid Photovoltaic Power Prediction Model Based on VMD-ICPO-LSTM	187
<i>Shenxiang Wang, Zhenggang Han</i>	
Expert Representation-Driven LightGBM for Photovoltaic Power Forecasting	192
<i>Tiannuo Wang, Chaozhu Zhang, Minghui Liu, Jie Wu, Maohai Lin</i>	
Coordinated Control of Active Preheating and Intelligent Balancing for Lithium-Ion Battery Packs Under Low-Temperature Conditions	197
<i>Yiran Wang, Chen He</i>	
A Two-Layer Architecture of BiLSTM Prediction and Nonlinear MPC for Coordinated Multi-Unit PEMWE Hydrogen Production	204
<i>Peng Yang, Mi Lv, Jingguan Zhang, Minghao Yan, Tingting Gao</i>	
An Informer-Based Decision-Oriented Wind Power Forecasting Method with Two-Stage Training for Electricity Spot Markets	209
<i>Jiale Liu, Xinyi Lai, Qi Mo, Ming Cheng, Tao Wu, Siyu Lu</i>	
Physics-Informed BiLSTM with Adaptive Gated Fusion for Lithium-Ion Battery State-of-Health Estimation	214
<i>Zhenkai Yan, Bin Yi, Xuanlin Zhang, Yuqi Ke</i>	
Co-Optimization of Capacity Configuration and Operational Scheduling for a Park-Level Integrated Energy System	221
<i>Kaiqi Xing</i>	
Multi-Source Spatio-Temporal Prediction of EV Charging Demand Based on Spatial Behavior Clustering	229
<i>Weichang Wang, Shuxin Liu</i>	
RHFormer: A Residential Electricity Load Forecasting Model	233
<i>Hongwei Luo, Wei Zhao, Chujia Yan, Tongle Xie, Yanyouyou Liu</i>	
Capacity Optimization of CSP Plants Considering Nonlinear Temperature-Efficiency Interdependence	237
<i>Yan Xu, Zhengfeng Shuai, Feng Tian, Yongnian Yang, Lin Shi, Hongshan Liu, Huan Ma, Qun Chen</i>	
Proactive Rolling Optimization-Based Scheduling Method for Off-Grid Flexible Synthetic Ammonia System	245
<i>Jiaqing Zhou, Ziyue Pan, Zhe Wu, Yufei Pan, Wenjie Huang, Muyang Li</i>	
Investigating Key Meteorological Factors That Affect Atmospheric Transmittance via Simulation	249
<i>Beixi Jia, Chuanhui Wang, Shiru Han</i>	

Finite Element Simulation Analysis of Tritium Transport in Lithium-Lead Droplets Inside Vacuum Sieve Tray	253
<i>Bin Zhang, Yongpeng Lv, Peng Ran, Shixin Ruan, Zhaoting Huang, Cheng Yang, Zhihui Zheng, Kai Huang</i>	
Research on the Integration of DCS and Test Data Acquisition System in Nuclear Power Plants	258
<i>Mengyue Sheng, Meng Guo, Xinxin Fan, Suyang Yan, Shuo Wang, Yue Guo</i>	
Research on Backup Shutdown Design for Modular Multi-Purpose Small Modular Reactor Against Cyberattacks	263
<i>Mengyue Sheng, Chen Zhao, Shuo Wang, Suyang Yan, Yue Guo, Peng Wang</i>	
Experimental Study on the Threshold of Loss of Vacuum in an NBI Cryopump Under Liquid-Helium Flow-Loss Conditions	268
<i>Lunhuan Xia, Yuanlai Xie, Qianxu Wang, Yuanzhe Zhao, Shihua Song, Wei Yi, Caichao Jiang</i>	
An Improved Affine Optimization Method for Lowcarbon Dispatch in Multi-Energy Microgrids Considering Source-Load Correlation	273
<i>Yi Sun, Haotian Yang, Aoqi Gegen</i>	
Adaptive Voltage Control Strategy for Distributed Energy Storage Based on SOC and Voltage Deviation	277
<i>Xuemei Luo, Yu Liu, Guofeng Zhuang, Jie Ma, Jie Wang, Xinzhen Ma</i>	
Cooperative Optimization Method for Thermal Reserve Capacity Considering Non-Curtailment of Wind and Solar Power	282
<i>Haiyang Wen, Lei Chen, Qizhen Yang</i>	
Robust Scheduling Method for a Multi-Energy Microgrid with Hydrogen–Ammonia Coupling	288
<i>Pengwei Zhao, Ruijin Zhu</i>	
Research on Synergistic Optimization of Source-Load-Storage Based on Integrated Energy	292
<i>Jinghong Zhou, Zhewei Cao, Jiangkai Jia, Xin Zhang, Yifan Zhao, Bin Zhang</i>	
Multi-Scenario Optimization and Key Factor Assessment of Renewable Energy Utilization Under High Penetration Levels	296
<i>Jinfang Zhang, Fuqiang Zhang, Meng Wang, Mingxin Zhao, Yinan Hao, Xiong Wu</i>	
Coordinated Optimization of the Hydropower and the Wind Power Based on the Second-Order Eigen-Sensitivity to Suppress the LFO	303
<i>Diwen Tao, Jiangming Jiao, Peng Duan, Xiaoyu Zhang, Peng Yang, Xianke Liu</i>	
Optimization of Coal Mill Output Combination for Multi-Load Operation of the Coal-Fired Unit	309
<i>Zheng Jing, Yichao Zou, Yixuan Liu, Teng Wang, Bin Chen, Wei Han, Jinshi Wang</i>	
PQV Modeling and Voltage Regulation Strategy for Distributed Photovoltaic Systems Under Reverse Power Flow Conditions	316
<i>Zhenhuan Xu, Liang Cao, Hongwei Zhang, Bing Fan</i>	
Stability Analysis and Computational Modeling of New Energy Integration for Smart Grids	322
<i>Zhiyu Xu</i>	
Research on New Power System Grid-Connected Energy Storage Control Strategy Based on Adaptive Adjustment	326
<i>Zhiyin Tian, Shuyao Chen, Jianmin Ye</i>	

Research and Application of Artificial Intelligence in Pattern Recognition of Power Grid Connection	332
<i>Chen Ye, Shangxing Ye, Hang Zheng, Bingwu Lou, Gui Cheng, Qian Wu</i>	
Research on Identification Method of Critical Nodes for Power Grid Support Capability	338
<i>Weigang Jin, Fengjiao Li, He Zou, Lingxue Lin</i>	
Analysis of Electrical Characteristics of Ice-Shedding Jumping in Transmission Lines	345
<i>Jiayang Li, Minghao Wen, Qing Wan, Jieyu Chen, Yu Chen, Luchuan Fu, Shiming Zhang, Ke Han</i>	
Research on Hierarchical Decoupling and Service Permission Control Technology for SCD Files in Smart Substations	350
<i>Jin Zhang, Renhui Dou, Tao Zheng, Hui Ren</i>	
Hierarchical Long-Term Operation Optimization of Flexible Resources Considering Multi-Scale Temporal Characteristics	354
<i>Yonggang Jiao, Yangyang Qi, Xuan Wen</i>	
Horizontal Transfer Strategy Based Collaborative Optimization for Power Grid Emergency Resource Scheduling	359
<i>Jiahua Liu, Huizhong Shi, Nan Ye, Chengyue Yang, Mingyu Ma, Chuanmin Mi, Ningna Liao</i>	
Voltage Risk Assessment of Power Systems Based on an Electrical Coupling-Aware Temporal Fusion Network Model	364
<i>Boqing Yan, Zhe Lv, Zengping Wang, Chenhui Lin</i>	
Preventive Control of Voltage Instability in High-Renewable Sending-End Systems Under UHVDC Blocking	371
<i>Lanxin Zhang, Anjia Mao, Wenying Liu, Yanzhang Ou</i>	
An Improved Zonotope-Based Method for Flexible Resource Aggregation	377
<i>Yuanmeng Zhu, Anjia Mao</i>	
Transfer Learning Enhanced Multi-Scale Non-Intrusive Load Monitoring with Dual-Branch Decomposition	383
<i>Jianmeng Zhang, Runze Li, Xuyong Shang, Minghua Xu, Lianji Liang, Qing Ma</i>	
Weakness Analysis of Distribution Network Based on Multi-Source Heterogeneous Data Collaborative Driving	387
<i>Xin Lin, Guangjin Wu</i>	
Dynamic Power Supply Capability Evaluation Method of Micro-Grid Based on Risk Perception	391
<i>Yubing Zhang, Di Bai</i>	
Multi-Source Data-Driven Multi-Objective Collaborative Decision-Making Method for Comprehensive Perception of Distribution Networks	395
<i>Guihua Qiu, Shuhong Wu, Cheng Ding</i>	
Identification of Electricity Load Fluctuation Characteristics in the Textile and Apparel Industry Based on CatBoost Algorithm Model	399
<i>Zhexin Lin, Han Lin, Chenhan Zhang, Yuqing Cai, Xinying Zheng</i>	
Low-Communication Adaptive Volt/Var Control for PV-Rich Distribution Networks	403
<i>AoJie Hu</i>	

Lightweight Power Quality Disturbance Recognition for Edge Monitoring in Distribution Networks	409
<i>Zihao Peng</i>	
Interactive Support of Frequency and DC Voltage for Receiving-End Network with Offshore Wind VSC-HVDC Integration	414
<i>Peijun Liu, Yuan Fu, Wenbin Ci, Quan Wang, Yongzhi Su, Chunming Liu</i>	
Hierarchical Coordinated Control of Source-Grid-Load-Storage in Highly Resilient Power Grids	418
<i>Xuejiao Jiang, Lei Zhong, Jingxu Yang, Lei Gao, Zheng Fu, Yansong Sun, Lukun Zeng</i>	
A Novel Pre-Synchronization Control Scheme of Grid-Forming Converters Based on VSM Control	424
<i>Jiangqi Qin, Zeliang Sun, Lingbin Zai, Xinian Li</i>	
Research on Optimization Method of Medium Voltage Target Network Based on Reliability and Economy	428
<i>Yuze Yang, Jian Guan, Jiepeng Huang, Luying Cai, Hong Hu</i>	
An Improved Transient Voltage Stability Assessment Method for the Renewable Energy Plants	435
<i>Ruiyu Hu, Zhonggui Gan, Xiayao Li, Zhe Zhang, Zhaowei Li, Qinglong Liu, Ancheng Xue</i>	
Reliability Evaluation for the 110 kV Station-Level Protection System Based on Markov Model Considering Self-Checking Mechanisms	439
<i>Wenkai Kang, Chenggang Li, Yuxiang Yan, Jindong Guo, Huinan Shen, Xinyang Yu, Ancheng Xue</i>	
Research on Investment Optimization of Rural Distribution Network Under the Background of Electric Vehicles Going to the Countryside	443
<i>Yanbo Wang, Tizhe Deng, Yubo Fu, Yongcheng Guo, Zhengzhong Zhang</i>	
Research on Anomaly Detection Scheme for Terminal Behaviors in the Power Internet of Things	449
<i>Shanyi Xie, Kai Zhang, Gang Zhou, Yutao Jiang, Yaogang Liu, Zhiwei Xu</i>	
Research on Data Integrity Verification and Tracing in the Power Internet of Things	454
<i>Shanyi Xie, Kai Zhang, Siyao Xu, Yuze Chen, Ying Li, Zhiwei Xu</i>	
CEEMDAN and Wavelet Thresholding for HVDC Power Quality Denoising	459
<i>Dezhi Zheng, Jiawen Ren, Chun Hu</i>	
A Study on the Mechanism and Coordinated Control of the Conflict Between Excessive Short-Circuit Current and Insufficient Short-Circuit Ratio at the “Desert, Gobi, and Wasteland” New Energy Base	464
<i>Pengfei Song, Wenhui Zhai, Minghui Huang, Xiaoyu Tian, Wenchao Zhang</i>	
Optimization Model of Investment Benefit for Power Grid Enterprises Based on Improved Genetic Algorithm	472
<i>Weiyang You, Xiuna Wang, Gang Yu, Ling Wei, Lei Zhu</i>	
Analysis and Damping Control of Low-Frequency Oscillations in Renewable-Integrated Power Systems: A Brief Review	478
<i>Ze Gong, Guangqiang Peng, Jiyang Wu, Zhidi Huang, Xi Zhang, Qinhao Yang, Longjie Tao, Minyu Yang</i>	
Proactive Resilience-Enhancement Strategy for Power Grids Under Icing Operation Scenarios Based on Tracking Pre-Dispatching Trajectory of Flexible Resources	485
<i>Kaiyuan Yu, Jiayi Ruan, Yan Liu, Dan Zhang, Mingyang Li</i>	
A Concise Review of Resilience Assessment for Power Systems Against Typhoons	496
<i>Wenzhe Zheng, Zhenguo Wang, Wenqi Fan, Fei Yi, Fu Gao, Hui Hou</i>	

Pre- and During-Disaster Co-Optimized Pre-Scheduling Strategy for Distribution Networks	500
<i>Dongwei Guo, Xue Li, Jian Wang, Fubo Zhang, Guiming Wang, Haijian Gao</i>	
Active Power Support and Coordination Control Strategy for Grid-Forming STATCOM Based on Model Predictive Control	504
<i>Ziheng Ma, Haoyu Li, Baoni Sun, Shuailin Lv</i>	
Physical-Data Dual-Driven Method for Power Scheduling Auxiliary Decision: PDEVr Closed-Loop Framework with Constrained Large Language Model	511
<i>Dayong Xu, Weixin Chen, Yuqian Fang</i>	
A Study on Dynamic and Reliable Assessment of Dispatchable Capacity from Electric Vehicles and Risk Early Warning for High-Penetration Renewable Energy Integration	516
<i>Yan Han, Hui Zhou, Liyang Jiang, Zhi Zhu</i>	
Design and Application of a Web-Based Real-Time Management System for Massive Vector Data in Power Grid Engineering Feasibility Study and Design	522
<i>Yufeng Xu, Fang Wang, Mingwei Li, Shengkun Kaung</i>	
Source-Storage Dynamic Collaborative Optimization Method for Comprehensive Voltage Regulation in Low-Voltage Distribution Networks	526
<i>Runjia Li, Jian Le, Zhihang Zhu, Hao Geng, Jing Wang</i>	
Fast Robust Dual Dynamic Programming for Multi-Stage Robust Intra-Day Microgrid Scheduling	537
<i>Zhilu Liu, Jianfeng Zheng, Jinpei Lu</i>	
AC Power Flow-Based Demand Response for Multi-Energy Three-Phase Distribution Systems	544
<i>Shahin Shaikh, Md Asif Shaharear</i>	
Design and Implementation of an Intelligent Management and Control System for Substation Monitoring Information Point Tables	550
<i>Jianbin Qiu, Yueqing Chen, Jianhong Chen, Haomin Ran, Wei Lin, Yongyi Ding</i>	
Site - Selection and Capacity - Planning Method of Soft Open Points Adaptation to Distributed New Energy Access	557
<i>Yiqiong He, Guojun Lan, Lijun Zhao, Xiulu Zhang, Yonghui Sun, Xia Miao, Yong Shi, Jian Le</i>	
Dynamic Fault Probability Modeling and Risk Assessment of Source Network Equipment Under Extreme Cold Wave	567
<i>Yuhang Lin, Qing Liu</i>	
Robust Domain Modeling of Electric Vehicles and its Optimal Operation Strategy for Energy-Frequency Regulation	573
<i>Bingyu Zhang, Qian Jiang, Wei Dai</i>	
Multiple Fault Calculation for Distribution Networks with Inverter-Based Distributed Generator Based on Fault Component Network	582
<i>Yongchen Wang, Yuan Li, Fang Peng, Linli Zhang, Wei Cong, Min Huang</i>	
Key Factors by which Active Distribution Networks Influence Transmission System Transient Stability	590
<i>Shanhua Hu, Pengfei Tian, Qing Mu, Xing Zhan, Yalou Li, Yuan Miao</i>	
Feedforward Phase-Angle Compensation for Transient Stability Enhancement of VSG	597
<i>Yaoqi Bai, Junru Chen, Yongping Chen</i>	

Outlier Detection of Electricity Load Anomalies in the Leather Manufacturing Industry Based on the Isolation Forest Algorithm	601
<i>Zhijun Jiang, Wuxiao Chen, Nan Lin, Yihao Zou, Kexin Liu</i>	
A Rapid Method for Evaluating Power Grid Capacity by Integrating Graph Neural Networks and Deep Reinforcement Learning	605
<i>Huixuan Yang, Dandan Peng, Jinhui Liu, Bo Yan</i>	
A Study on the Modeling of Energy-Intensive Industrial Loads and Their Control Potential in Production Processes	611
<i>Xiang Zhang, Kejian Shi, Hengyu Liu, Zhaochen Liu</i>	
Quantitative Assessment of the Flexibility of Load Regulation in Typical Energy-Intensive Industrial Loads Considering Complex Process Constraints	615
<i>Xiang Zhang, Zhenyang Zhao, Jiazheng Sun, Ziang Wang</i>	
Ambient Wind Impact on Air-Cooling Island Thermal-Flow Characteristics and Resultant Thermal Economy of Adjacent Dual Direct Air-Cooling Units Under Unequal Load	619
<i>Jinhan Xu, Huan Ma</i>	
Optimization Design of Uplift Safety Reserve Factor for Transmission Line Foundations in Collapsible Loess Sites	624
<i>Shaokang Han, Liping Huang, Shaohui Wang, Fan Wen, Lei Yang</i>	
Design of a Fast Battery Balancer Based on Resonant Switching Capacitors	631
<i>Ming Chen</i>	
A PINN-Based Modeling and State Estimation Method for Doubly-Fed Wind Turbines	636
<i>Shaojian Song, Yang Gao</i>	
Study on the Hydrogen Embrittlement Mechanism of Key Metal Materials in Hydrogen Transmission Pipelines	643
<i>Mingtao Yi, Wanli Ma, Guoxi Chen, Mengtian Li, Liya Zhu, Fengshuang Han</i>	
Research on the Energy-Saving Effect of Active Grille Shutters	651
<i>Jingyuan Li, Hanzhengnan Yu, Ligang Lei, Xiaopan An</i>	
Research on Underwater Construction Monitoring Device for Submarine Cable Repair in High-Turbidity Water Bodies	655
<i>Yingjie Wei, Weixiong Zhu, Xiaojun Li, Degao Zhu, Shiguan Zhang, Yuanhong Chen, Deping Zhao</i>	
<i>Linzhuo Wang, Zhengri Tang, Weijia Zhang</i>	
Electricity-Carbon Joint Pricing Guided Coordinated Low-Carbon Operation Strategy for Coupled Vehicle-Road-Grid Systems	665
<i>Liang Feng, Xingyu Shen, Kai Liao, Zhengyou He</i>	
Research on Evaluation and Optimization of MarketBased Regulation for Charging Resource Clusters Based on Multi-Source Data Fusion	669
<i>Yan Han, Hui Zhou, Liyang Jiang, Zhi Zhu</i>	
A Joint Trading and Settlement Framework for Wind-Solar-Thermal-Storage Resources in the Unified National Electricity Market	674
<i>Fen Lin, Gengbo Tu, Xuejing Chen</i>	

Research on Joint Clearing of Energy and Regulation Markets with Renewable Energy Participation	683
<i>Xi Tang, Hongbin Sun, Zhenyu Duan, Qiuchen Shen</i>	
A Study on Differentiated Pricing Strategies for Demand-Side Response in the Electricity Sector Based on a Maximum Entropy Deep Reinforcement Learning Algorithm	688
<i>Meng Yang, Huizhao Li, Hongyan Zhou, Yan Song, Zhen Xu, Ji Zhang, Yulin Yan</i>	
Combined Multi-Parameter Diagnosis for Transformer DC Bias Induced by Metro Stray Current	692
<i>Shi Jiang, Bing Yu, Jiajun Lin, Shiyong Yang, Junxuan Hu, Lingzhi Li</i>	
Early Anomaly Detection of Wind Turbine Main Bearings Based on Multi-Head Self-Attention Network	697
<i>Junshuai Yan, Can Wang, Peng Hu, Yan Du</i>	
Standardized Commercial Building Cooling Audits for Low-Carbon Power Systems: An ANSI/ASHRAE Standard 211 Framework to Operationalize National Cooling Action Plans	702
<i>Godfrey Olivier A. Bautista, Aldrin D. Calderon</i>	
Analysis of China's Dual Carbon Control Progress and Its Impacts on the Power System	710
<i>Yuan Chen, Qing Yang, Jinyu Wen</i>	
The Effects of Relaxing Price Limits on Spot Electricity Markets Under High Renewable Penetration	720
<i>Nan Jiang, Zeyuan Liu, Zhu Li, Xian Zhang, Ziming Ma, Yuanji Cai, Hongye Guo</i>	
Impedance Modelling and Stability Analysis of Grid-Connected Inverters with Power Loop and Feedforward Control	725
<i>Guihua Liu, Kun Liu, Yousu Yao, Chaohou Liu, Lei Wang, Xinyu Wang, Ye Tao</i>	
YOLOv8-EfficientViT for Robust Personnel Detection in Substation Operation Scenes	731
<i>Ming Xue</i>	
High-Sensitivity MEMS Optical Switch with Wide Spectral Response	736
<i>Chenyang Liu, Lei Zhang, Yuehao Zhang, Liming Zheng</i>	
Constant Voltage Output Control Technique for LCCS Topology Wireless Power Transfer Systems Based on Generalized Predictive Control	742
<i>Tingqiang Fu, Penghui Qian, Ke Li</i>	
Loss Modeling and Parameter Co-Optimization of GaN QR Flyback Converter for High-Frequency and High-Efficiency Applications	747
<i>Yida Wu</i>	
Improved YOLOv8-Based Small Target Defect Identification in Substations	751
<i>Hengzhe Shi, Zhengnan Zhang</i>	
Sensorless Control of SPMSM with Unknown Flux Linkage Based on Switching from Standard-Type to Nonlinear-Type Flux Observer	755
<i>Zheng Li, Yutao Huang, Qiang Sun, Huakang Xia</i>	
A Continuous Wavelet Transform Framework with Frequency-Enhanced Convolutional Attention for Bearing Fault Classification	761
<i>Yang Wang, Xinzhe Zhang</i>	
Insulator Defect Detection Algorithm Based on Optimized YOLOv8-Transformer	765
<i>Ying Wang, Pengfei Cui</i>	

TMR Anti-Interference Method Based on Spatial Filtering for Multiple Unknown Quantities	771
<i>Tan Xie, Lijia Ren, Tingting Ding</i>	
YOLO-IRPower: An Efficient Infrared-Based Power Equipment Detection Algorithm	775
<i>Qichen Fu</i>	
Carbon Intensity Sensitivity Analysis Method for Distribution Networks Based on the ABCD Model	779
<i>Xinyu Xu, Yuan Leng</i>	
Online Damage-Updated Lifetime Equalization for a Si IGBT/SiC MOSFET Hybrid Parallel Inverter	784
<i>Weiwu Zhang, Deli Lin, Yu Zheng</i>	
Harmonic Cancellation-Based Virtual DQ Decoupling Control for Totem-Pole Bridgeless PFC with Enhanced Dynamic and Steady-State Performance	788
<i>Shiping Huang, Song Xiong, Jian Zhou, Xin Ni</i>	
Analysis and Handling of an Inter-Turn Short Circuit Fault in a Converter Transformer Winding	794
<i>Jin Wang, Sen Li, Xin Wang, Pengxiang Zhou, Sheng Feng</i>	
Net-Zero Carbon Planning for Port Industrial Parks with High-Grade Heat Demand Based on Multi-Objective Optimization	798
<i>Nan Li, Bohan Meng, Hailin Mu</i>	
Research on IGBT Open-Circuit Fault Diagnosis for Grid-Connected Photovoltaic Inverters Based on EVR-RF	803
<i>Qingjie Wei, Xianglian Xu, Xinrong Gao, Kangning Wang</i>	
Memristor PID Algorithm Based on PSO-Optimized BP Neural Network	809
<i>Guannan Song, Ziqiao Wang, Chang Su, Wenjing Liu</i>	
Current Stress Optimization Control of Dual Active Bridge DC-DC Converter Based on Dual Integral Sliding Mode Control	814
<i>Xinrui Pei, Fei Yu, Jiaming Qi, Xiaoqian Yue, Mingren Wu, Jie Li, Jinjin Zan</i>	
Carbon Pricing, Green Certificates, and Capacity Compensation: Synergistic Effects on Absorption	821
<i>Nan Yang, Xiahui Zhang, Yexuan Jin, Kai Xia, Xiangwen Wu</i>	
An Advanced Nanocomposite Insulation Framework for High-Voltage Power Equipment	826
<i>Xiaonan Cheng</i>	
Optimization of Low-Carbon Transition Pathways for Power Systems Considering Renewable Energy Output Uncertainty	830
<i>Xiaoqing Yan, Qiuli Zhao, Xue Ma, Fang Li, Bo Wang</i>	
Diagnosis and Treatment of a Batch-Related Abnormal Gas Generation Fault in Converter Transformers	836
<i>Jin Wang, Peijie Luo, Xin Wang, Pengxiang Zhou, Sheng Feng</i>	
Fault Analysis and Handling of a Converter Transformer Overheating Gas Production	840
<i>Jin Wang, Wenfeng Liao, Xin Wang, Sen Li, Jingyi Dong</i>	
A Field Diagnosis and Repair Case of Ultra-High Voltage Converter Transformer High-Temperature Overheating Fault	845
<i>Jin Wang, Xin Wang, Wenfeng Liao, Sen Li, Jingyi Dong</i>	

Analysis of a UHV Converter Transformer Electrostatic Ring Discharge Failure	849
<i>Jin Wang, Peijie Luo, Xin Wang, Pengxiang Zhou, Jingyi Dong</i>	
Research on Transmission Line Image Monitoring Technology Based on Ultra-High-Pixel Imaging	853
<i>Minghao Zhang, Mengxuan Li, Peng Li, Bin Zhao</i>	
Analysis of Carbon Reduction Strategies for Parks Considering Dynamic Carbon Emission Factors and Energy Storage Optimization	858
<i>Yurui Wang, Shengjie Zhou, Yutong Wang, Qiang Fang, Ye Zhang</i>	
Mixed Fault Diagnosis of Photovoltaic Array Based on Random Forest-Self-Training Bayesian Optimization Support Vector Machine	863
<i>Shaochi Wang, Lan Cao</i>	
Thermoeconomic Study on Low-Carbon Steam System Retrofitting in a Pulp and Paper Mill	868
<i>Shuwen Zhu, Wenwu Ding, Danyang Wu, Qifeng Jiang, Fang Chen, Weibin Zhang, Zhenggui Li</i>	
Multi-Modal Fusion Bearing Fault Diagnosis Based on CNN-GRU and Multi-Head Self-Attention Mechanism	878
<i>Shuaishuai Guo, Yang Wang</i>	
Air Handling Unit Fault Diagnosis via Bayesian Network Parameter Optimization Under Data-Scarce Conditions	882
<i>Yu Du, Hua Meng, Yingjun Ruan, Dong Zhao, Yuting Yao, Tingting Xu</i>	
Aging Characteristics of XLPE Insulation Materials for 500 kV HVDC Cables	888
<i>Luming Chen, Sheng Jin</i>	
Prototype Development of an Integrated Distributed Energy-Dissipating Modular Multi-Level Converter Based on 6.5kV IGBT	892
<i>Yiliang Xu, Yuebin Zhou, Wanyu Cao, Liu Yang, Yue Wu</i>	
Energy Consumption Analysis and Energy Saving Optimization of Air Conditioning System in Constant Temperature Laboratory of Scientific Research	899
<i>Di Pan, Xinying Zheng, Kaile Sun, Zhun Li</i>	
Adaptive Detection of Early Abnormal States in Inverters via a Mechanism Combining Attention and Transfer Learning	903
<i>Huixuan Yang, Ruizhao Zhang, Jincan Wang, Jinhui Liu, Dandan Peng, Bo Yan</i>	