

# 电网与清洁能源

Power System and Clean Energy

DIANWANG YU QINGJIE NENGYUAN

中文核心期刊 中国科技核心期刊

《科技期刊世界影响力指数(WJCI)报告(2021)》收录期刊



ISSN 1674-3814



12>  
2022

主管单位 国家电网有限公司  
主办单位 国网陕西省电力公司  
Competent Authority  
Sponsors 西安理工大学水利水电土木建筑研究设计院  
State Grid Corporation of China  
State Grid Shaanxi Electric Power Company  
Xi'an University of Technology, Research and Design  
Institute of Hydraulic and Architectural Engineering

9 771674 381221

12  
2022

# 电网与清洁能源

DIANWANG YU QINGJIE NENGYUAN

第38卷

第12期(总第281期)

2022年12月25日

## 目 次

### 智能电网

- 01 基于多源状态参量融合的油纸绝缘套管缺陷预警方法研究 / 邵先军, 陈孝信, 詹江杨, 王帅, 穆海宝
- 08 基于自适应差分进化算法的电力系统动态状态估计 / 刘慧林, 范瑞明, 马鑫晨, 彭珑, 王晨星, 刘羿辰, 邹红波
- 15 一种基于无差拍外环控制的串联型APF有限集模型预测控制策略研究 / 王贵峰, 高煦杰, 武泽文, 郭金星, 刘战
- 24 基于共享铁塔的5G天线对微气象在线监测设备的电磁干扰 / 刘婵媛, 张楠, 匡宇来, 姚佳奇
- 33 基于大数据深化分析的电能质量扰动辨识方法研究 / 徐昌宝, 丁健, 潘成达, 王成全, 孙鹏博, 王启华, 陈辉
- 41 基于LightGBM的输电线路点云分类方法 / 余鹏, 杜长青, 范舟, 杨永前, 黄涛, 梁沛, 钟锦航, 杨黎晖
- 50 基于扩展卡尔曼滤波的DFIG变流器控制系统参数辨识方法 / 李立, 郑天悦, 黄世楼, 邓俊, 王彤, 夏楠
- 61 基于多智能体技术的泛微网区域自治-协同控制技术研究 / 刘维亮, 周旻, 钟伟东, 郑舒
- 72 基于二次扰动的配电网单相接地故障有源电流消弧方案 / 李金东, 王勇, 王猛, 钟当书, 秦建翔, 邵文权, 丁涛
- 79 基于智能融合终端的中压配电线路断线故障检测方案 / 杜志华, 徐驰, 秦至臻, 张志华
- 86 直流受端系统同步调相机容量自动优化配置方法 / 周宁, 孟倩戎, 张宇博, 李程昊, 张迪, 杨松浩, 郝治国
- 95 配电房安全智能监控平台接地刀闸状态位监控方法研究 / 陈泽涛, 王增煜, 刘秦铭, 黄志滔, 周岐林
- 101 基于非侵入式负荷识别的交流电压幅值测量 / 苏欣, 袁葆, 张瑞, 安亚刚, 吕云彤
- 107 基于改进遗传算法的风电场多时段有功功率优化分配 / 丛雨, 李秀芬, 原帅, 曹斌, 张秀琦, 王立强

### 清洁能源

- 115 考虑动态频率约束的风-光-抽蓄互补发电系统短期优化调度模型 / 许丹莉, 顾慧杰, 周华锋, 张秋艳, 谢俊, 鲍永
- 124 基于设备初选的综合能源系统扩容规划研究 / 徐楠, 赵子豪, 王永利, 蔡成聪, 卢煊翼
- 131 基于模型识别相关性的光伏发电并网联络线纵联保护 / 桂小智, 蒙天赐, 潘本仁, 梁振锋
- 138 考虑含光伏接入的配电网故障特性研究 / 张长庚

本刊送阅:

国务院、国家能源局、各省(区)政府电力、能源主管领导  
国家电网、能源企业主要负责人  
中国科学院、中国工程院院士  
电力、能源相关学会、协会  
中国国家图书馆、中国版本图书馆、各省(区)图书馆

# Power System and Clean Energy

Vol.38

No.12 ( Ser.281 )

Dec. 25, 2022

## Contents

### Smart Grid

- 01 Research on the Defects Early Warning Method of Oil–Paper Bushing Based on Multi–Source State Parameter Fusion / *SHAO Xianjun, CHEN Xiaoxin, ZHAN Jiangyang, WANG Shuai, MU Haibao*
- 08 Dynamic State Estimation of Power System Based on Adaptive Differential Evolution Algorithm / *LIU Huilin, FAN Ruiming, MA Xinsheng, PENG Long, WANG Chenxing, LIU Yichen, ZOU Hongbo*
- 15 Research on a Finite Control Set Model Predictive Control Strategy for Series APF Based on Deadbeat Outer Loop Control / *WANG Guifeng, GAO Xujie, WU Zewen, GUO Jinxing, LIU Zhan*
- 24 Electromagnetic Interference of 5G Base Station Antennas of the Shared Tower on Micro–Meteorological Online Monitoring Equipment / *LIU Chanyuan, ZHANG Nan, KUANG Yulai, YAO Jiaqi*
- 33 Research on the Power Quality Disturbance Identification Method Based on Big Data Deepening Analysis / *XU Changbao, DING Jian, PAN Chengda, WANG Chengquan, SUN Pengbo, WANG Qihua, CHEN Hui*
- 41 A Point Cloud Classification Method for Transmission Lines based on LightGBM / *YU Peng, DU Changqing, FAN Zhou, YANG Yongqian, HUANG Tao, LIANG Pei, ZHONG Jinhang, YANG Lihui*
- 50 A Parameters Identification Method of DFIG Converter Control System Based on Extended Kalman Filter / *LI Li, ZHENG Tianyue, HUANG Shilou, DENG Jun, WANG Tong, XIA Nan*
- 61 Research on Regional Autonomous Cooperative Control Technology of the Pan Microgrid Based on Multi–Agent Technology / *LIU Weiliang, ZHOU Min, ZHONG Weidong, ZHENG Shu*
- 72 An Active Current Arc Suppression Method for Single–Phase Grounding Faults in the Distribution Network Based on Secondary Current Disturbance / *LI Jindong, WANG Yong, WANG Meng, ZHONG Dangshu, QIN Jianxiang, SHAO Wenquan, DING Tao*
- 79 A Scheme for Disconnection Fault Detection of Medium–Voltage Distribution Lines Based on Intelligent Fusion Terminals / *DU Zhihua, XU Chi, QIN Zhizhen, ZHANG Zhihua*
- 86 An Automatic Capacity Optimization Method of the Synchronous Condenser for the DC Receiving–End System / *ZHOU Ning, MENG Qianrong, ZHANG Yubo, LI Chenghao, ZHANG Di, YANG Songhao, HAO Zhiguo*
- 95 Research on the Monitoring Method of Grounding Switch Status Position in the Safety Intelligent Monitoring Platform of the Power Distribution Room / *CHEN Zetao, WANG Zengyu, LIU Qinming, HUANG Zhitao, ZHOU Qilin*
- 101 AC Voltage Amplitude Measurement Based on Non–Intrusive Load Identification / *SU Xin, YUAN Bao, ZHANG Rui, AN Yagang, LÜ Yuntong*
- 107 A Multi–Periods Active Power Dispatch Method for Wind Farms Based on Improved GA Algorithm / *CONG Yu, LI Xiufen, YUAN Shuai, CAO Bin, ZHANG Xiuqi, WANG Liqiang*

### Clean Energy

- 115 A Short–Term Optimal Scheduling Model for the Wind–Solar–Pumped Storage Complementary Power Generation System Considering Dynamic Frequency Constraints / *XU Danli, GU Huijie, ZHOU Huafeng, ZHANG Qiuyan, XIE Jun, BAO Yong*
- 124 Research on Capacity Expansion Planning of the Integrated Energy System Based on Primary Equipment Selection / *XU Nan, ZHAO Zihao, WANG Yongli, CAI Chengcong, LU Xuanyi*
- 131 Pilot Protection of the Tie–Line of Photovoltaic Power Generation Based on Model Identification Correlation / *GUI Xiaozhi, MENG Tianci, PAN Benren, LIANG Zhenfeng*
- 138 Research on Fault Characteristics of the Distribution Network Considering Access of Photovoltaic / *ZHANG Changgeng*