



目 次

(论文电子版 <http://www.pcsee.org/CN/volumn/home.shtml>)

· 智能电网 ·

- 主动配电网分层的时变优化追踪算法.....朱星旭, 韩学山, 杨明, 许易经, 王士柏, 李本新 (7093)
- 基于状态量测的电网拓扑结构反向识别方法研究....刘道伟, 章锐, 李柏青, 负志皓, 杨红英, 李宗翰 (7107)
- 有源配电网信息物理系统混合仿真平台设计方法及其算例实现.....付灿宇, 王立志, 齐冬莲, 张建良 (7118)
- 考虑多时间尺度不确定性耦合影响的风光储微电网系统储能容量协同优化....谢鹏, 蔡泽祥, 刘平, 等 (7126)
- 基于区块链的分布式能源交易市场信用风险管理方法.....平健, 严正, 陈思捷, 沈泽宇, 等 (7137)
- 异构柔性负荷建模调控关键技术及发展方向研究.....孙毅, 李泽坤, 许鹏, 李彬, 祁兵, 等 (7146)
- 直流配电下多微网系统集群控制研究.....刘海涛, 熊雄, 季宇, 吴鸣, 李蕊, 孙丽敬 (7159)
- 一种基于可控负荷效率控制的孤岛微网新型调度策略.....随权, 魏繁荣, 林湘宁, 童宁, 徐诗鸿, 等 (7168)
- 考虑不确定性的下垂控制微电网可达性分析.....高佳宁, 韩蓓, 李国杰, 汪可友, 黄兴德 (7179)
- 可适应电压波动环境的谐波源频域卷积模型.....葛鑫亮, 刘有为 (7189)
- 多频段时间尺度变换电磁暂态仿真研究.....姚蜀军, 刘畅, 汪燕, 韩民晓 (7199)

· 可再生能源并网技术 ·

- 用于电网调节能力提升的电热氢多源协调储能系统模型.....滕云, 王泽镛, 金红洋, 周桂平, 陈哲 (7209)
- 大规模光伏电站小信号建模与降阶—分布式云算法.....刘秋男, 解大, 王西田, 顾承红 (7218)
- 计及风电和柔性负荷的核电多目标优化调度研究.....隋鑫, 卢盛阳, 苏安龙, 孙辉, 等 (7232)

· 发电 ·

- CO₂ 催化转化的研究现状及趋势.....郭得通, 丁红蕾, 潘卫国, 周柒, 郭士义, 丁承刚, 邓云天 (7242)
- 高铝耐火砖负载 NiO 载体的沼气化学链重整制氢流化床实验研究.....梅道锋, 赵海波, 晏水平, 等 (7253)
- 一种新型波浪能发电转换装置试验研究.....张步恩, 郑源, 付士凤, 刘惠文, 赵梦响, 李超 (7263)
- 基于核超限学习机和局部加权回归散点平滑法的 PEMFC 剩余使用寿命预测方法.....刘嘉蔚, 李奇, 等 (7272)
- 带外置蒸汽冷却器热力系统热平衡通用矩阵方程.....万逢芳 (7280)

· 电力电子与电力传动 ·

- 混合型模块化多电平换流器小信号模型及其小信号稳定性研究.....鲁晓军, 向往, 林卫星, 文劲宇 (7286)
- 一种基于子模块投入优先级的模块化多电平换流器电容电压均衡控制策略.....苟鑫, 卢继平, 等 (7299)
- 考虑损耗优化的多电平铁路功率调节器的混合环流注入策略.....岳雨霏, 徐千鸣, 郭鹏, 马伏军 (7311)
- 过流保护机制下 IGBT 桥臂小尺度短路失效对比分析.....窦智峰, 王永华, 武洁, 郭磊磊, 等 (7325)

· 电机与电器 ·

- 高速低载波比下永磁同步电机电流环稳定性分析.....国敬, 范涛, 章回炫, 边元均, 温旭辉 (7336)
- 基于 ALE-MRAS 磁链观测器的永磁同步直线电机均匀退磁诊断研究.....许良, 赵吉文, 宋俊材, 等 (7347)
- 新型圆筒型错相式横向磁通永磁直线发电机结构及其漏磁分析与优化.....邱书恒, 黄元峰, 等 (7357)
- 轴向分相永磁式磁悬浮飞轮电机解耦设计与性能分析.....朱志莹, 郭旋, 姜永将, 孙玉坤, 程明 (7366)
- 基于电磁散射中心的风电机叶片雷达回波仿真与分析.....唐波, 陈昊, 黄力, 袁发庭, 奉彭, 李耀伟 (7375)

· 高电压技术 ·

- 扇形不均匀污染支柱绝缘子的交流闪络特性.....张志劲, 向纓竹, 乔新涵, 蒋兴良, 武剑 (7385)
- 不同交直流复合电压下油浸绝缘纸微观结构及电气性能的变化规律分析....欧阳希, 周淦, 李雪丰, 等 (7394)
- 具有自愈行为的智能电缆护套材料.....彭磊, 林木松, 李丽, 付强, 杨力, 赵耀洪, 李剑 (7405)
- 基于识别区域估计优化 NCC-P 算法的断路器储能弹簧形变特性研究.....赵书涛, 王科登, 闫筱, 等 (7413)
- 高精度标准电压互感器误差电压系数测量方法.....周峰, 殷小东, 姜春阳, 雷民, 林福昌 (7421)

· 电工理论与新技术 ·

- 基于电磁加载的铝板残余应力在线检测方法研究.....张闯, 王标, 曹晓琳, 刘素贞, 杨庆新 (7429)
- 考虑畸变磁通及局部磁滞回环影响的层叠铁心损耗有效算法及验证.....赵志刚, 胡鑫剑 (7436)

· 行业信息 ·

- 《中国电机工程学报》2019 年度全年总目录..... (7444)

· 英文概述见论文电子版

PROCEEDINGS OF THE CHINESE SOCIETY FOR
ELECTRICAL ENGINEERING
(PROCEEDINGS OF THE CSEE)

Vol.39 No.24 EOJ (Ser. 635)

Dec. 20, 2019

CONTENTS

• **Smart Grid** •

A Layered Time-varying Optimization Tracking Algorithm for Active Distribution Networks ZHU Xingxu, HAN Xueshan, YANG Ming, XU Yijing, WANG Shibo, LI Benxin (7093)

Research on Reverse Recognition method of Power System Topological Structure Based on State Measurement LIU Daowei, ZHANG Rui, LI Baiqing, YUN Zhihao, YANG Hongying, LI Zonghan (7107)

Design and Experiments of Active Distribution Network CPS Simulation Platform FU Canyu, WANG Lizhi, QI Donglian, ZHANG Jianliang (7118)

Cooperative Optimization of Energy Storage Capacity for Renewable and Storage Involved Microgrids Considering Multi Time Scale Uncertainty Coupling Influence XIE Peng, CAI Zexiang, LIU Ping, et al (7126)

Credit Risk Management in Distributed Energy Resource Transactions Based on Blockchain PING Jian, YAN Zheng, CHEN Sijie, SHEN Zeyu, et al (7137)

Research on Key Technologies and Development Direction of Heterogeneous Flexible Load Modeling and Regulation SUN Yi, LI Zekun, XU Peng, LI Bin, QI Bing, et al (7146)

Cluster Control Research of Multi-microgrids System Under DC Distribution System LIU Haitao, XIONG Xiong, JI Yu, WU Ming, LI Rui, SUN Lijing (7159)

A Novel Dispatching Strategy for Isolated Microgrid Based on Controllable Load Efficiency Control SUI Quan, WEI Fanrong, LIN Xiangning, TONG Ning, XU Shihong, et al (7168)

Reachability Analysis of Droop-controlled Microgrids Considering Uncertainty GAO Jianing, HAN Bei, LI Guojie, WANG Keyou, HUANG Xingde (7179)

Frequency Domain Convolution Model of Harmonic Source Adapting to Voltage Fluctuation Environment GE Xinliang, LIU Youwei (7189)

A Research on Multi-frequency Band Time-scale Frame Transformation for Electromagnetic Transients Simulation YAO Shujun, LIU Chang, WANG Yan, HAN Minxiao (7199)

• **Grid Integration of Renewable Energy Resources** •

A Model and Coordinated Optimization for the Multi-energy Storage System of Electricity Heat Hydrogen to Regulation Enhancement of Power Grid TENG Yun, WANG Zedi, JIN Hongyang, ZHOU Guiping, CHEN Zhe (7209)

The Reduced Order Small Signal Model of Large-scale Photovoltaic Plants and Distributed Cloud-computing Algorithm LIU Qiunan, XIE Da, WANG Xitian, GU Chenghong (7218)

Research on Multi-objective Optimal Scheduling of Nuclear Power Considering Wind Power and Flexible Load SUI Xin, LU Shengyang, SU Anlong, SUN Hui, et al (7232)

• **Power Generation** •

Recent Advances in Catalyzed Conversion and Utilization of CO₂ GUO Detong, DING Honglei, PAN Weiguo, ZHOU Qi, GUO Shiyi, DING Chenggang, DENG Yuntian (7242)

Chemical Looping Reforming of Biogas for Hydrogen Generation Using a High-Aluminum Refractory Brick Supported NiO Oxygen Carrier MEI Daofeng, ZHAO Haibo, YAN Shuiping, et al (7253)

Experimental Study of a New Type Wave Energy Converter ZHANG Buan, ZHENG Yuan, FU Shifeng, LIU Huiwen, ZHAO Mengshang, LI Chao (7263)

Remaining Useful Life Prediction Method of PEMFC Based on Kernel Extreme Learning Machine and Locally Weighted Scatterplot Smoothing LIU Jiawei, LI Qi, et al (7272)

Universal Thermal Balance Matrix Equation of Thermodynamic System With External Steam Cooler WAN Kuifang (7280)

• **Power Electronics and Drives** •

Research on Small Signal Modelling and Small Signal Stability for Hybrid Modular Multilevel Converter LU Xiaojun, XIANG Wang, LIN Weixing, WEN Jinyu (7286)

A Capacitor Voltage Balancing Control Method for Modular Multilevel Converter Based on Insertion Priority of the Sub-modules GOU Xin, LU Jiping, et al (7299)

Hybrid Circulating Current Injection Strategy of Multilevel Railway Power Conditioner Considering Optimized Power Loss YUE Yufei, XU Qianming, GUO Peng, MA Fujun (7311)

Comparative Analysis of Small Scale Short-circuit Failure of IGBT Bridge Leg Under Over-current Protection Mechanism DU Zhifeng, WANG Yonghua, WU Jie, GUO Leilei, et al (7325)

• **Electric Machines and Apparatus** •

Stability Analysis of Permanent Magnet Synchronous Motor Current Loop Control at High Speed and Low Carrier Ratio GUO Jing, FAN Tao, ZHANG Huixuan, BIAN Yuanjun, WEN Xuhui (7336)

Researches on Uniform Demagnetization Diagnosis of Permanent Magnet Synchronous Linear Motors Based on ALE-MRAS Flux Observers XU Liang, ZHAO Jiwen, SONG Juncai, et al (7347)

Magnetic Leakage Analysis and Optimization of Novel Tubular Staggered Transvers Flux Permanent Magnet Linear Generator QIU Shuheng, HUANG Yuanfeng, et al (7357)

Decoupling Design and Analysis of an Axial Split Phase Permanent Magnet Bearingless Flywheel Machine ZHU Zhiying, GUO Xuan, JIANG Yongjiang, SUN Yukun, CHENG Ming (7366)

Simulation and Analysis of Wind Turbine Blades Radar Echo Based on Electromagnetic Scattering Center TANG Bo, CHEN Hao, HUANG Li, YUAN Fating, FENG Peng, LI Yaowei (7375)

• **High Voltage Engineering** •

AC Flashover Performance of Post Insulator With Fan-shaped Non-uniform Pollution ZHANG Zhijin, XIANG Yingzhu, QIAO Xinhan, JIANG Xingliang, WU Jian (7385)

Analysis of Microstructure and Electrical Properties of Oil-impregnated Insulation Paper Under Different AC/DC Composite Voltages OUYANG Xi, ZHOU Quan, LI Xuefeng, et al (7394)

Smart Cable Sheathing Material With Self-healing Behavior PENG Lei, LIN Musong, LI Li, FU Qiang, YANG Li, ZHAO Yaohong, LI Jian (7405)

Circuit Breaker Energy Storage Spring Deformation Characteristics Test Method Based on Identification Region Estimation and Optimization of NCC-P Algorithm ZHAO Shutao, WANG Kedeng, YAN Xiao, et al (7413)

Method to Determine the Errors Voltage Coefficient of Standard Voltage Instrument Transformer With High Accuracy ZHOU Feng, YIN Xiaodong, JIANG Chunyang, LEI Min, LIN Fuchang (7421)

• **Theory and New Technology of Electrical Engineering** •

Researches on On-line Detection Methods of Residual Stress of Aluminum Plates Based on Electromagnetic Loading ZHANG Chuang, WANG Biao, CAO Xiaolin, LIU Suzhen, YANG Qingxin (7429)

Effective Method and Verification of Loss Calculation for Laminated Core With Distorted Flux and Minor Hysteresis Loops ZHAO Zhigang, HU Xinjian (7436)

• **For Extended Summaries, Please See the Electronic Journals.**