



中国电机工程学报

ZHONGGUO DIANJI GONGCHENG XUEBAO

第 40 卷

第 19 期 (总第 654 期)

2020 年 10 月 5 日

目 次

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

· 国家重点研发计划 ·

- 基于控制保护的高压直流输电系统换相失败抑制方法综述.....林圣, 刘健, 刘磊, 雷雨晴, 傅闯 (6045)
考虑供热系统多重热惯性的电热联合系统协调优化.....孙鹏, 滕云, 冷欧阳, 陈哲, 周桂平 (6059)
级联型电力电子变压器内部开路故障特征及定位方法研究.....韩杰祥, 张哲, 尹项根, 冉启胜 (6071)
基于等宽电压脉冲注入的永磁同步电机转子初始位置检测方法.....张树林, 康劲松, 母思远 (6085)
考虑偏置小磁滞回环的非正弦激励下磁性材料损耗计算方法.....刘任, 李琳, 乔光尧, 靳艳娇, 李伊玲 (6093)

· 智能电网 ·

- 含大规模清洁能源电力系统的多时间尺度生产模拟.....邵成成, 冯陈佳, 王雅楠, 王秀丽, 王锡凡 (6103)
混合双馈入直流输电系统的交互作用机理研究(二): 小干扰稳定裕度分析.....刘炜, 郭春义, 杨硕, 等 (6113)
基于分布鲁棒优化的灵活爬坡备用调度方法.....马洪艳, 贡靖洋, 严正 (6121)
考虑奖惩阶梯型碳交易和电-热转移负荷不确定性的综合能源系统规划.....张晓辉, 刘小琰, 钟嘉庆 (6132)
适用于大步长情形下基于模块化多电平拓扑的直流电网高效仿真建模方法.....潘尔生, 杨惠文, 等 (6142)
寿命约束的储能规划.....葛玉友, 尚策 (6150)
期望场景下的并网型微电网两阶段鲁棒优化调度.....桑博, 张涛, 刘亚杰, 刘陵顺, 朱骏杰, 王锐 (6161)
基于交流母线电压扰动量的高压直流系统换相失败抑制策略.....赵丹丹, 韩政, 黄华, 崔勇, 等 (6173)
面向综合能源系统的多区域 AC 协调控制策略.....席磊, 武俊男, 黄悦华, 陈曦 (6182)

· 继电保护、通信及自动化 ·

- 新形态城市电网保护与控制关键技术.....何正友, 李波, 廖凯, 胡思洋, 马子钦, 李佳林, 等 (6193)
应对 CT 断线的高压输电线路高可靠性应急保护方案.....金能, 邢家维, 林湘宁, 童宁, 李正天, 等 (6207)
小电阻接地系统高灵敏度阶段式零序过电流保护.....薛永端, 汪洋, 徐丙垠 (6217)
一种面向需求响应业务的电力通信网资源优化配置策略.....李彬, 曹望璋, 祁兵, 孙毅, 程紫运 (6227)

· 发电 ·

- 火电机组瞬态特性研究现状综述.....谢天, 梁凌, 张婷, 李庚达, 崔青汝, 陈保卫, 胡文森 (6238)
高频响气动探针研究综述.....李新年, 周鹭, 蔡小舒 (6246)
330MW 机组采暖抽汽对发电热经济性的影响分析.....许朋江, 徐睿, 邓佳, 居文平 (6257)
活性焦低温还原 NO_x 原理及应用研究.....李阳, 杨成龙, 车得福, 姚明宇, 蔡铭, 王小成 (6264)
考虑自重影响的大型风力机复合材料叶片结构力学特性分析.....张立, 缪维跑, 闫阳天, 李春, 等 (6272)

· 电力电子与电力传动 ·

- 基于最小电流误差的单相级联 H 桥整流器模块化模型预测控制算法.....吴瑕杰, 余乐, 杨皓, 等 (6284)
铁路功率调节器过渡态出力配置及控制策略研究.....江友华, 房明硕, 王文吉, 江相伟, 曹以龙 (6294)
基于五电平空间矢量的并联三电平逆变器新型零共模电压调制方法.....李伟伟, 张学广, 庄嫣媛, 等 (6308)
一种提高 LCL 型并网逆变器电流控制性能的延时补偿方法.....王林, 孙鹏菊, 薛统宇, 李强, 等 (6320)
SiC-MOSFET 与 Si-IGBT 混合开关车载双向充电器中线桥臂设计及控制.....付永升, 任海鹏, 等 (6330)

· 电机与电器 ·

- 高速低开关频率下永磁同步电机的解耦控制.....张志坚, 荆龙, 赵宇明, 吴学智, 杨晋升, 王晶晶 (6345)
基于功率调节裕度的船舶汽轮机非线性控制切换策略.....朱永欣, 张晓峰, 黄靖 (6354)
基于 Fluent 二次开发的电磁轨道发射运动磁场仿真.....李湘平, 鲁军勇, 谭赛, 李开, 杜佩佩 (6364)

· 高电压技术 ·

- 求解聚合物绝缘热解反应活化能的改进算法.....任鹏, 李庆民, 刘红磊, 彭鹏, 金虎, 李锐海, 王伟 (6371)
基于压缩观测与判别字典学习的干式变压器声纹识别.....周东旭, 王丰华, 党晓婧, 张欣, 刘顺桂 (6380)
变压器-套管体系抗震加固理论分析及振动台试验.....谢强, 孙新豪, 赖炜煌 (6390)
不同间隙尺度下叶片旋转对风力发电机引雷能力影响的试验研究.....邓治强, 王羽, 文习山, 蓝磊, 等 (6399)

· 英文概述见论文电子版

期刊基本参数: CN11-2107/TM * 1964 * S * A4 * 366 * zh * P * ¥84.00 * 4000 * 35 * 2020-10 版权所有 未经许可不得转载及上网

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

Vol.40 No.19 (Ser. 654)

Oct. 5, 2020

CONTENTS

(Electronic Journals <http://www.pcsee.org/EN/volumn/current.shtml>)

• **National Key Research and Development Program** •

- A Review of Commutation Failure Suppression Methods for HVDC Systems Based on Control Protection Measures
..... LIN Sheng, LIU Jian, LIU Lei, LEI Yuqing, FU Chuang (6045)
- Coordinated Optimization of Combined Heat and Power Systems Considering Multiple Thermal Inertia of Heating System
..... SUN Peng, TENG Yun, LENG Ouyang, CHEN Zhe, ZHOU Guiping (6059)
- Research on Fault Characteristic and Location Method for Internal Open Circuit Fault of Cascaded Power Electronic Transformer
..... HAN Jiexiang, ZHANG Zhe, YIN Xianggen, RAN Qisheng (6071)
- Initial Rotor Position Detection for Permanent Magnet Synchronous Motor Based on Identical Width Voltage Pulse Injection
..... ZHANG Shulin, KANG Jinsong, MU Siyuan (6085)
- Calculation Method of Magnetic Material Losses Under Non-sinusoidal Excitation Considering the Biased Minor Loops
..... LIU Ren, LI Lin, QIAO Guangyao, JIN Yanjiao, LI Yiling (6093)

• **Smart Grid** •

- Multiple Time-scale Production Simulation of Power System With Large-scale Renewable Energy
..... SHAO Chengcheng, FENG Chenjia, WANG Yanan, WANG Xiuli, WANG Xifan (6103)
- Research on Interaction Mechanism of Hybrid Dual-infeed HVDC System (Part II): Small-signal Stability Margin Analysis
..... LIU Wei, GUO Chunyi, YANG Shuo, et al (6113)
- Distributionally Robust Optimization Based Dispatch Methodology of Flexible Ramping Products
..... MA Hongyan, YUN Jingyang, YAN Zheng (6121)
- Integrated Energy System Planning Considering a Reward and Punishment Ladder-type Carbon Trading and
Electric-thermal Transfer Load Uncertainty ZHANG Xiaohui, LIU Xiaoyan, ZHONG Jiaqing (6132)
- An Efficient Modeling of Modular Multi-level Converter Based DC Grids by Using Larger Time-steps
..... PAN Ersheng, YANG Huiwen, et al (6142)
- Energy Storage Planning Constrained by Its Life GE Yuyou, SHANG Ce (6150)
- Two-stage Robust Optimal Scheduling of Grid-connected Microgrid Under Expected Scenarios
..... SANG Bo, ZHANG Tao, LIU Yajie, LIU Lingshun, ZHU Junjie, WANG Rui (6161)
- Commutation Failure Suppression Strategy for HVDC System Based on AC Bus Voltage Disturbance
..... ZHAO Dandan, HAN Zheng, HUANG Hua, CUI Yong, et al (6173)
- Multi-region AC Cooperative Control Strategy for Integrated Energy System
..... XI Lei, WU Junnan, HUANG Yuehua, CHEN Xi (6182)

• **Power System Relaying, Communication and Automation** •

- Key Technologies for Protection and Control of Novel Urban Power Grids
..... HE Zhengyou, LI Bo, LIAO Kai, HU Siyang, MA Ziqin, LI Jialin, et al (6193)
- Emergency Protection Scheme With High Reliability for the CT Disconnection of High Voltage Transmission Lines
..... JIN Neng, XING Jiawei, LIN Xiangning, TONG Ning, LI Zhengtian, et al (6207)
- High Sensitive Zero-sequence Stage Current Protection for Low-resistance Grounding System
..... XUE Yongduan, WANG Yang, XU Binyin (6217)
- A Bandwidth Optimization Strategy of Demand Response Services in Electric Power Communication Network
..... LI Bin, CAO Wangzhang, QI Bing, SUN Yi, CHENG Ziyun (6227)

• **Power Generation** •

- Status Quo in Research on Transient Characteristics of Thermal Power Unit
..... XIE Tian, LIANG Ling, ZHANG Ting, LI Gengda, CUI Qingru, CHEN Baowei, HU Wensen (6238)
- A Review of the Study on High Frequency Response Aerodynamic Probe LI Xinnian, ZHOU Wu, CAI Xiaoshu (6246)
- Analysis of the Influence of Heating Steam Extraction of 330MW Unit on the Economy of Electric Generation
..... XU Pengjiang, XU Rui, DENG Jia, JU Wenping (6257)
- Principle and application of NO_x reduction by activated coke at low temperature
..... LI Yang, YANG Chenglong, CHE Defu, YAO Mingyu, CAI Ming, WANG Xiaocheng (6264)
- Analysis of Mechanical Properties of Large Wind Turbine Composite Blade Considering Weight of Blade
..... ZHANG Li, MIAO Weipao, YAN Yangtian, LI Chun, et al (6272)

• **Power Electronics and Drives** •

- Modular Model Predictive Control Algorithm Based on Minimum Current Error for Single-phase Cascaded H-bridge Rectifier
..... WU Xiajie, YU Le, YANG Hao, et al (6284)
- Research on Output Configuration and Control Strategy of Railway Power Conditioner in Transition State
..... JIANG Youhua, FANG Mingshuo, WANG Wenji, JIANG Xiangwei, CAO Yilong (6294)
- A Novel Zero-common-mode-voltage Modulation Method Based on Five-level Vector Space for
Parallel Operated Three-level Inverters LI Weiwei, ZHANG Xueguang, ZHUANG Yanyuan, et al (6308)
- A Delay Compensation Method to Improve the Current Control Performance of the LCL-type Grid-connected Inverter
..... WANG Lin, SUN Pengju, XUE Tongyu, LI Qiang, et al (6320)
- Neutral Leg Design and Control of Electric Vehicle On-board Bidirectional Charger Based on SiC-MOSFET and
Si-IGBT Hybrid Devices FU Yongsheng, REN Haipeng, et al (6330)

• **Electric Machines and Apparatus** •

- Decoupling Control of Permanent Magnet Synchronous Motor at High Speed and Low Switching Frequency
..... ZHANG Zhijian, JING Long, ZHAO Yuming, WU Xuezhi, YANG Jinsheng, WANG Jingjing (6345)
- Switching Strategy of Shipboard Turbo-generator Nonlinear Control Method Based on Its Power Regulation Margin
..... ZHU Yongxin, ZHANG Xiaofeng, HUANG Jing (6354)
- Simulation on Moving Magnetic Field of Electromagnetic Rail launch Based on Fluent Secondary Development
..... LI Xiangping, LU Junyong, TAN Sai, LI Kai, DU Peipei (6364)

• **High Voltage Engineering** •

- An Improved Algorithm To Calculate the Activation Energy of Pyrolysis Reaction of Polymer Insulation
..... REN Peng, LI Qingmin, LIU Honglei, PENG Peng, JIN Hu, LI Ruihai, WANG Wei (6371)
- Dry Type Transformer Voiceprint Recognition Based on Compressed Observation and Discrimination Dictionary Learning
..... ZHOU Dongxu, WANG Fenghua, DANG Xiaojing, ZHANG Xin, LIU Shungui (6380)
- Theoretical Analysis and Shaking Table Test on Seismic Reinforcement of Transformer-bushing System
..... XIE Qiang, SUN Xinhao, LAI Weihuang (6390)
- Experiment of Blade Rotation on Lightning Strikes of Wind Turbines at Different Gap Scales
..... DENG Yeqiang, WANG Yu, WEN Xishan, LAN Lei, et al (6399)

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