



ISSN 1000-6753

CN 11-2188/TM

半月刊

SEMIMONTHLY

电工技术学报

TRANSACTIONS OF
CHINA ELECTROTECHNICAL SOCIETY



中国电工技术学会主办

2019年 第12期

第34卷 Vol.34 No.12

ISSN 1000-6753



电工技术学报

2019年 第34卷 第12期

目 次

电工理论与新技术

- 2445 半波长输电传输特性的缩尺实验研究..... 焦重庆 汪 贝 何 日 胡逸帆 李昱蓉
2452 铁心材料饱和磁化强度的偏差对求解变压器涌流的影响(英)..... 王迎迎 袁建生
2460 基于超导脉冲变压器的脉冲电源剩余能量回收方法..... 李海涛 张 涛 安韵竹 李震梅 宋美春
2468 计及金属回流线影响的±500kV 高压直流输电线路地面合成电场计算分析
..... 郝黎明 王东来 卢铁兵 陈 博 王振国

电力电子

- 2477 分立型功率 MOSFET 结温估计的非线性热网络模型和参数辨识方法..... 万 萌 应展烽 张 伟
2489 基于模型预测控制的三相-一相矩阵变换器偏磁控制..... 宋卫章 刘 江 孙向东 高大庆 王有云 钟彦儒
2499 矩阵式隔离型双向 AC-DC 变换器控制策略..... 梅 杨 黄伟超 刘子毓
2507 双重移相控制的双主动全桥变换器全局电流应力分析及优化控制策略..... 曾进辉 孙志峰 雷 敏 兰 征
2519 共模-差模电压型控制连续导电模式单电感双输出 Boost 变换器交叉影响特性分析..... 冉 祥 周国华 周述晗
2529 交错并联 LLC 谐振变换器的磁集成均流特性..... 杨玉岗 吴 晗 关婷婷
2539 一种有源电容变换器的分析与设计..... 魏川翔 罗全明 俎阿倩 周维维
2549 增强型柔性逆阻模块化多电平换流器的故障阻断特性分析..... 杨晓峰 李泽杰 薛 尧 陈博伟
2558 不平衡电网下三相四桥臂高频链矩阵整流器及其解耦鞍型波脉宽调制方法
..... 闫朝阳 梁晨阳 康 鸣 李建霞 杨丽君
2572 基于分数阶滤波器的三相锁相环技术..... 何 宇 漆汉宏 罗 琦 邓 超 陈洪涛
2584 二阶广义积分器锁频环数字实现准确性对比..... 杨才伟 王 剑 游小杰 王琛琛 詹哲军

新能源发电技术

- 2597 基于差分进化的波浪能转换装置阵列优化..... 方红伟 宋如楠 冯郁竹 陈紫薇
2606 基于全局学习自适应细菌觅食算法的光伏系统全局最大功率点跟踪方法..... 商立群 朱伟伟
2615 基于灵活虚拟惯性控制的直流微网小信号建模及参数分析..... 孟建辉 邹培根 王 毅 王 琛
2627 微电网中电力电子变压器与储能的协调控制策略..... 涂春鸣 黄 红 兰 征 孟 阳 肖 凡
2637 配电网的严格与非严格安全边界..... 肖 峻 肖居承 张黎元 祖国强 张宝强

高电压与绝缘

- 2649 一种 SF₆ 替代气体—氟碳气体的故障分解气体产生规律及基于分解物气体的故障判据研究
..... 李 康 郭润睿 张国强
2657 电动汽车高压系统绝缘状态在线监测方法..... 张 超 杜博超 崔淑梅 郑 维 韩守亮
2664 环氧树脂浇注类绝缘管型母线易发缺陷分析及检测手段..... 朱思瑞 刘 洋 阮 羚 任 想 李文佩

TRANSACTIONS OF CHINA ELECTROTECHNICAL SOCIETY

2019 Vol.34 No.12

Contents

- 2445 Experimental Study on Propagation Characteristics of Half Wavelength Power Transmission Lines with Reduced Scale Jiao Chongqing Wang Bei He Ri Hu Yifan Li Yurong
- 2452 Influence of the Error of Saturation Magnetization of Core Material on the Solution of Transformer Inrush Current Wang Yingying Yuan Jiansheng
- 2460 Residual Energy Recovery Method of Inductive Pulsed Power Supply Based on Superconducting Pulse Transformer Li Haitao Zhang Tao An Yunzhu Li Zhenmei Song Meichun
- 2468 Calculation and Analysis of Ground-Level Total Electric Field under $\pm 500\text{kV}$ HVDC Lines Considering the Influence of Metal Return Lines Hao Liming Wang Donglai Lu Tiebing Chen Bo Wang Zhenguo
- 2477 Nonlinear Thermal Network Model and Parameter Identification Method for Junction Temperature Estimation of Discrete Power MOSFET Wan Meng Ying Zhanfeng Zhang Wei
- 2489 Research on Bias Control of 3 Phase-1 Phase Matrix Converter Based on Model Predictive Control Song Weizhang Liu Jiang Sun Xiangdong Gao Daqing Wang Youyun Zhong Yanru
- 2499 Bidirectional and Isolated AC-DC Converter Based on Reduced Matrix Converter Mei Yang Huang Weichao Liu Ziyu
- 2507 Global Current Stress Analysis and Optimal Control Strategy of Dual-Active Full Bridge Converter Based on Dual Phase Shift Control Zeng Jinhui Sun Zhifeng Lei Min Lan Zheng
- 2519 Cross-Regulation Characteristic of Continuous Conduction Mode Single-Inductor Dual-Output Boost Converter with Common-Mode Voltage and Differential-Mode Voltage Control Ran Xiang Zhou Guohua Zhou Shuhan
- 2529 Magnetic Integrated Current Sharing Characteristics of Interleaved LLC Resonant Converter Yang Yugang Wu Han Guan Tingting
- 2539 Analysis and Design of an Active Capacitor Converter Wei Chuanxiang Luo Quanming Zu Aqian Zhou Luowei
- 2549 Fault Blocking Performance Analysis of Enhanced Flexible Reverse Blocking Multilevel Modular Converter Yang Xiaofeng Li Zejie Xue Yao Chen Bowei
- 2558 Three-Phase Four-Leg High Frequency Link Matrix Rectifier and Its De-Re-Coupling SAPWM Method under Unbalanced Grid Conditions Yan Zhaoyang Liang Chenyang Kang Ming Li Jianxia Yang Lijun
- 2572 A Novel Three-Phase Phase-Locked Loop Method Based on Fractional-Order Filter He Yu Qi Hanhong Luo Qi Deng Chao Chen Hongtao
- 2584 Accuracy Comparison of Digital Implementation on the Second-Order Generalized Integrator Frequency-Locked Loop Yang Caiwei Wang Jian You Xiaojie Wang Chenchen Zhan Zhejun
- 2597 Array Optimization of Wave Energy Converters by Differential Evolution Algorithm Fang Hongwei Song Runan Feng Yuzhu Chen Ziwei
- 2606 Photovoltaic System Global Maximum Power Point Tracking Method Based on the Global Learning Adaptive Bacteria Foraging Algorithm Shang Liqun Zhu Weiwei
- 2615 Small-Signal Modeling and Parameter Analysis of the DC Microgrid Based on Flexible Virtual Inertia Control Meng Jianhui Zou Peigen Wang Yi Wang Chen
- 2627 Coordinated Control Strategy of Power Electronic Transformer and Energy Storage in Microgrid Tu Chunming Huang Hong Lan Zheng Meng Yang Xiao Fan
- 2637 Strict and Non-Strict Security Boundary of Distribution Network Xiao Jun Xiao Jucheng Zhang Liyuan Zu Guoqiang Zhang Baoqiang
- 2649 Study on Fault Decomposition Properties and Fault Diagnostic Criterion of Fluorocarbon Gas—a Substitute Gas for SF_6 Li Kang Guo Runrui Zhang Guoqiang
- 2657 Online Insulation Detection of Electric Vehicle High Voltage System Zhang Chao Du Bochao Cui Shumei Zheng Wei Han Shouliang
- 2664 The Defects in the Resin Impregnated Paper Insulated Tubular Bus-Bar and Its Test Method Zhu Sirui Liu Yang Ruan Ling Ren Xiang Li Wenpei