



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

2016年 第10期

第31卷 Vol.31 No.10

ISSN 1000-6753



电工技术学报

2016年 第31卷 第10期

目次

电气设备绝缘状态监测与故障诊断专题

- 1 换流变压器下新型纤维素绝缘纸特性综述..... 廖瑞金 王季宇 袁媛 高飞 李剑
- 16 油纸绝缘微水二次扩散过渡过程的分析..... 林元棣 廖瑞金 夏桓桓 杨丽君
- 26 油纸绝缘频域介电谱的修正 Cole-Cole 模型特征参量提取及水分含量评估方法
..... 杨丽君 高思航 高竣 刘捷丰 姚人允等
- 34 基于改进电声脉冲测试系统的油纸绝缘混合体系空间电荷动态行为特性
..... 郝建 伏进 侯兴哲 郝淼 唐超等
- 42 变压器油中腐蚀性硫浓度对绕组绝缘电气性能的影响..... 杨丽君 徐积全 胡恩德 刘洋
- 49 不同气隙尺寸的油纸绝缘气隙放电特征及发展阶段识别..... 陈伟根 龙震泽 谢波 凌云 陈曦
- 59 交直流复合电场中油纸绝缘沿面放电现象及特征..... 齐波 魏振 李成榕 苑清 高怡等
- 68 变压器绝缘纸纤维素耐热老化性能提升的模拟及试验..... 唐超 张松 张福州 李旭 周渠
- 77 含污秽薄层的高压复合绝缘子表面电场计算新方法..... 汪飒 廖平军 黄俊 罗勇 肖运军
- 85 空间介质颗粒对交流导线电晕特性影响规律..... 朱雷 刘云鹏 吴振扬 耿江海
- 93 高海拔地区特高压换流站大尺寸复合支柱绝缘子直流污闪特性
..... 谷裕 阳林 张福增 薛艺为 郝艳捧等
- 102 染污硅橡胶在不同憎水性时的污闪特性..... 戴罕奇 赵晨龙 梁建瑜 周军 王黎明
- 112 基于紫外图像的接触网棒瓷绝缘子污秽状态检测..... 艾建勇 金立军
- 119 一种多样本信息的局部放电源逐次逼近定位方法..... 唐炬 黄亮 曾福平 张晓星
- 127 检测气体绝缘组合电器局部放电的四频段微带单极子特高频天线设计..... 谭巧 唐炬 曾福平
- 136 电力设备局部放电超高频信号检测用新型微带天线..... 王有元 吴俊锋 徐海鹰

电工理论

- 145 用电子束辐照注入电荷包研究低密度聚乙烯中的电荷迁移率..... 郭世忠 张冶文 赵晖 郑飞虎 安振连
- 151 碳纳米管、蒙脱土共掺杂环氧树脂复合材料介电性能研究..... 张明艳 王晨 吴淑龙 孙国辉 吴子剑
- 159 基于不同衰退路径下的锂离子动力电池低温应力差异性..... 孙丙香 姜久春 韩智强 马泽宇 郑方丹

电力系统

- 168 计及风电不确定性的多目标电网规划期望值模型与算法..... 胡源 别朝红 宁光涛 高玉洁
- 176 独立海岛微网分布式电源容量优化设计..... 黎嘉明 郑雪阳 艾小猛 文劲宇 孙树敏等
- 185 适合低压配电网分布式发电的抗谐波干扰型增强锁相环路技术..... 刘闯 潘岱栋 蔡国伟 张忠林
- 193 基于拉丁超立方采样的含风电电力系统的概率可靠性评估..... 蒋程 王硕 王宝庆 张建华 赵天阳
- 207 基于电网框架结构模型的机电波到达时间预测算法..... 毕天姝 燕跃豪 杨奇逊
- 214 基于零序阻抗模型故障特征的含分布式电源配电网故障区间定位方法..... 康忠健 田爱娜 冯艳艳 李卫星
- 222 一种具有滤波功能的磁集成式 10kV 箱式变电站..... 王灿 罗隆福 陈跃辉 周冠东 李晓芳

TRANSACTIONS OF CHINA ELECTROTECHNICAL SOCIETY

2016 Vol.31 No.10

Contents

1	Review on the Characteristic of New Cellulose Insulation Paper Used in the Converter Transformer	Liao Ruijin Wang Jiyu Yuan Yuan Gao Fei Li Jian
16	Analysis of Transition Process During Secondary Diffusion of Moisture in Oil-Paper Insulation	Lin Yuandi Liao Ruijin Xia Huanhuan Yang Lijun
26	Characteristic Parameters Extracted From Modified Cole-Cole Model and Moisture Content Assessment Methods Study on Frequency-Domain Dielectric Spectroscopy of Oil-Paper Insulation	Yang Lijun Gao Sihang Gao Jun Liu Jiefeng Yao Renyun et al
34	Space Charge Migration Characteristics of Transformer Oil-Paper Insulation Based on the Improved Pulsed Electro-Acoustic Measurement System	Hao Jian Fu Jin Hou Xingzhe Hao Miao Tang Chao et al
42	The Influence of Corrosive Sulfur Contentation in Transformer Oil to the Electrical Properties of Insulated Windings	Yang Lijun Xu Jiquan Hu Ende Liu Yang
49	Characteristics and Development Stage Recognition of Air-Gap Discharge within Oil-Paper Insulation Considering Effect of Cavity Size	Chen Weigen Long Zhenze Xie Bo Ling Yun Chen Xi
59	The Phenomena and Characteristics of Oil-Paper Insulation Surface Discharge Under AC and DC Voltage	Qi Bo Wei Zhen Li Chengrong Yuan Qing Gao Yi et al
68	Simulation and Experimental about the Thermal Aging Performance Improvement of Cellulose Insulation Paper	Tang Chao Zhang Song Zhang Fuzhou Li Xu Zhou Qu
77	Novel Method for Electric Field Calculation Considering the Thickness of Contaminant Layer on the Surface of Composite Insulator	Wang Feng Liao Pingjun Huang Jun Luo Yong Xiao Yunjun
85	Influence of Space Dielectric Particle on AC Corona Discharge Characteristic of Conductor	Zhu Lei Liu Yunpeng Wu Zhenyang Geng Jianghai
93	DC Pollution Flashover Performance of Ultra High Voltage Convert Stations Large-Size Composite Post Insulators at High Altitude Areas	Gu Yu Yang Lin Zhang Fuzeng Xue Yiwei Hao Yanpeng et al
102	Flashover Characteristic of Polluted Silicone Rubber with Different Hydrophobicity	Dai Hanqi Zhao Chenlong Liang Jianyu Zhou Jun Wang Liming
112	Rod Porcelain Insulator Filth State Detection of Catenary Based on Ultraviolet Image	Ai Jianyong Jin Lijun
119	A Positioning Approach Based on Successive Approximation of Multi-Samples for Partial Discharge Source	Tang Ju Huang Liang Zeng Fuping Zhang Xiaoxing
127	Design of Fourfold-Band Micro-Strip Monopole Antenna for Partial Discharge Detection in Gas Insulated Switchgear	Tan Qiao Tang Ju Zeng Fuping
136	A New Microstrip Antenna Used for Detecting the Ultra-High Frequency Signal Caused by the Partial Discharge in Power Equipments	Wang Youyuan Wu Junfeng Xu Haiying
145	Behavior of Space Charge Packet in Low-Density Polyethylene Injected by Electron Beam Irradiation	Guo Shizhong Zhang Yewen Zhao Hui Zheng Feihu An Zhenlian
151	Research on Dielectric Properties of Epoxy Resin Composites Doped with Carbon Nanotubes and Montmorillonite	Zhang Mingyan Wang Chen Wu Shulong Sun Guohui Wu Zijian
159	The Lithium-Ion Battery Low Temperature Stress Based on Different Degradation Paths	Sun Bingxiang Jiang Jiuchun Han Zhiqiang Ma Zeyu Zheng Fangdan
168	The Expected Model and Algorithm of Multi-Objective Transmission Network Planning Considering the Uncertainty of Wind Power	Hu Yuan Bie Zhaohong Ning Guangtao Gao Yujie
176	Optimal Design of Capacity of Distributed Generation in Island Standalone Microgrid	Li Jiaming Zheng Xueyang Ai Xiaomeng Wen Jinyu Sun Shumin et al
185	Enhanced Phased-Locked Loop Technology with Anti Harmonic Interference Capability for Distributed Generation in Low-Voltage Distribution	Liu Chuang Pan Daidong Cai Guowei Zhang Zhonglin
193	Probabilistic Reliability Assessment of Power System Containing Wind Power Based on Latin Hypercube Sampling	Jiang Cheng Wang Shuo Wang Baoqing Zhang Jianhua Zhao Tianyang
207	The Prediction Algorithm for the Arrival Time of Electromechanical Waves Based on Structural Frame Model of Power Networks	Bi Tianshu Yan Yuehao Yang Qixun
214	Fault Section Locating Method Based on Zero Sequence Impedance Model Fault Feature in Distribution Network with Distributed Generators	Kang Zhongjian Tian Aina Feng Yanyan Li Weixing
222	A Magnetic-Integrated 10kV Prefabricated Substation with Function of Filtering	Wang Can Luo Longfu Chen Yuehui Zhou Guandong Li Xiaofang