

《电力电容器与无功补偿》
第3届编委会名单

主任委员:元复兴
名誉主任委员:房金兰
副主任委员:李秦
委员:(以姓氏笔画为序)

卫三民 王 耀 王玲海 王崇祐
刘水平 同向前 汲胜昌 张万荣
张丹丹 张宗有 张建平 张建军
张春朋 李 化 李 电 李志远
杨一民 杨佩侠 陈才明 段晓波
倪学锋 徐 政 徐林峰 翁利民
贾 华 梁 琰 葛锦萍 薛 晔

中文核心期刊

中国期刊全文数据库全文收录期刊
万方数据库数字化期刊群入网期刊
中国期刊订阅指南信息库收录期刊
第四届陕西省科技期刊优秀期刊奖
主管主办:西安电力电容器研究所
编辑出版:《电力电容器与无功补偿》
编辑部

总 编:房金兰
主 编:杨佩侠
责任编辑:杨文荣
编 辑:于淑霞

地 址:西安市西二环北段18号
邮政编码:710077

电 话:(029)84221423
传 真:(029)84221423

在线投稿:www.dldrq.com
电子邮箱:dldrq@126.com

出版日期:2017年12月25日

印 刷:西安新华印务有限公司
国内发行:陕西省邮政报刊发行局

订 购 处:全国各地邮局

中国标准连续 ISSN 1674-1757
出版物号 CN 61-1468/TM
邮发代号:52-13

每期定价:¥15.00元/本

广告经营许可证号:6101004001036

目 次

● 无功补偿与滤波装置 ●

大容量无功快速补偿方法的研究

..... 陈静,涂梦洁,王一飞,等(1)

并联电容器装置在变压器空载时投入引发串联谐振

..... 陈柏富,杨言孝(7)

电容器线夹断裂原因及解决方案分析

..... 刘青林,刘强,郭星月,等(12)

谐波电流的分频检测与分频控制策略

..... 张培远,蒋伟,吴应华,等(17)

一种用户侧智慧型电能质量综合治理装置的设计与应用

..... 张亮,徐魁,陈刚,等(23)

基于模糊神经网络控制的磁控电抗器的应用分析

..... 郭磊,张道乾,寇晓适,等(28)

● 动态无功补偿装置 ●

不平衡负载下静止同步补偿器比例谐振控制

..... 马文华,刘海波,刘昕彤,等(33)

● 电力电容器 ●

基于氢气含量监测的高压自愈式电容器自愈失效保护方法

..... 彭波,尹婷,姚健,等(39)

● 介质研究与改进 ●

影响苜蓿基甲苯老化性能的因素验证研究试验

..... 陈松,李兆林(44)

国内外聚丙烯薄膜的研究及应用

..... 付红星,安鸽(48)

● 电容式电压互感器 ●

基于遗传算法的特高压CVT严格无源宽频建模

..... 冯俊杰,张广勇,戴丽莉,等(54)

1100 kV GIS用罐式电磁式电压互感器的研制

..... 杨育京,王飞,张永涛(60)

● 配套设备 ●

干式空心电抗器匝间绝缘缺陷诊断试验及其解体分析

..... 王琼,辛力坚,张冬,等(64)

干式空心电抗器低温下故障研究

..... 罗天鸣,倪学锋,林浩,等(70)

干式空心电抗器匝间绝缘试验	车传强,刘利强,王亚杰,等(75)
干式铁心并联电抗器气隙分布对损耗的影响	孙春侠,郑莉军(80)
35 kV 干式并联电抗器T形双导线局部发热改造	范国柱,罗微(83)
一起干式空心并联电抗器故障原因分析	杨建立,田程涛,黄小华,等(87)
●系统应用研究●	
基于动态多种群粒子群算法的低压配电网电压无功优化	顾苏雯,马宏忠,王华芳,等(91)
220 kV 变电站出线上改下工程无功补偿的仿真研究	严浩军,豆书亮,张洁,等(97)
天中直流单极闭锁故障对新疆电网的影响分析	李朝阳,郭小龙,姚秀萍,等(102)
电压互感器对谐波视在功率概率密度函数的影响分析	朱建华,罗忠游,赵启(108)
三相四线制低压配电网三相不平衡治理装置选型研究	万玉良,项颂,刘海波,等(113)
500 kV 统一潮流控制器在苏州南部电网的应用研究	刘纲,蔡晖,祁万春,等(119)
●清洁能源领域应用技术●	
风-氢与燃氢燃气轮机耦合系统储能容量优化	赵军超,陈洁,王阳燊旭,等(125)
并网型光伏系统无功电压稳定性控制策略研究	刘中原,王维庆,王海云,等(130)
基于光-储-燃的直流微电网协调控制策略	胡巧辉,樊艳芳,王一波(138)
考虑机组进相调节代价的小水电站电抗器配置方法	杨夏,陶飞达,殷栢辉,等(144)
光储与DSTATCOM协同运行及定容	隋兴嘉,肖勇,郑楷洪,等(150)
基于复合控制的并网逆变器控制策略研究	邱林,夏伟,康劲松(158)
● 广告单位 ●	(16)
● 会议信息 ●	(157)
● 总目次 ●	(I)
● 征稿启事 ●	(V)

CONTENTS

●Reactive Power Compensation and Filter Device●

- Study on High Capacity Reactive Power Fast Compensation Method
..... CHEN Jing, TU Mengjie, WANG Yifei, et al(1)
- The Series Resonance Problem of Shunt Capacitor Bank When Transformer in No-load Condition
..... CHEN Baifu, YANG Yanxiao(7)
- Cause Analysis and Solution Analysis of Capacitor Clamp Fracture
..... LIU Qinglin, LIU Qiang, GUO Xingyue, et al(12)
- Strategy on Frequency Dividing Detection and Control of Harmonic Current
..... ZHANG Peiyuan, JIANG Wei, WU Yinghua, et al(17)
- Design and Application of a User-side Smart Power Quality Integrated Control Device
..... ZHANG Liang, XU Kui, CHEN Gang, et al(23)
- Application Analysis on Magnetic Valve Control Reactor Based on Fuzzy Neural Network Control System
..... GUO Lei, ZHANG Daoqian, KOU Xiaoshi, et al(28)

●Dynamic Reactive Power Compensation Device●

- Proportional Resonance Control of DSTATCOM at Unbalance Load
..... MA Wenhua, LIU Haibo, LIU Xintong, et al(33)

●Power Capacitor●

- Self-healing Failure Protection Method of High Voltage Self-healing Capacitor Based on Hydrogen Content Monitoring
..... PENG Bo, YIN Ting, YAO Jian, LI Hua, et al(39)

●Research and Improvement of Dielectric●

- Study and Test on the Factors Affecting Aging Properties of Monobenzyl Toluene\Dienzyl Toluene
..... CHEN Song, LI Zhaolin(44)
- Research and Application of Polypropylene Film at Home and Abroad
..... FU Hongxing, AN Ge(48)

●Capacitor Voltage Transformer●

- Strict Passive Broadband Modeling of Ultra High Voltage CVT Based on Genetic Algorithm
..... FENG Junjie, ZHANG Guangyong, DAI Lili, et al(54)
- Development of Tank-type Inductive Voltage Transformer for 1 100 kV GIS
..... YANG Yujing, WANG Fei, ZHANG Yongtao(60)

●Auxiliary Equipment●

- Diagnostic Test and its Disassembly Analysis on Inter-turn Insulation Defects of Dry-type Air-core Reactor
..... WANG Qiong, XIN Lijian, ZHANG Dong, et al(64)
- Study on the Fault of Dry-type Air-core Reactor Under Low Temperature
..... LUO Tianming, NI Xuefeng, LIN Hao, et al(70)
- Inter-turn Insulation Test of Dry-type Air-Core Reactor
..... CHE Chuanqiang, LIU Liqiang, WANG Yajie, et al(75)

The Influence of Dry-type Iron-core Shunt Reactor Air Gap Distribution on Loss
..... SUN Chunxia,ZHENG Lijun(80)

Local Heating Modification on T-shaped Double Conductor of 35 kV Dry-type Shunt Reactor
..... FAN Guozhu,LUO Wei(83)

Failure Analysis on Dry-type Air-core Shunt Reactor
..... YANG Jianli,TIAN Chengtao,HUANG Xiaohua, et al(87)

● **Research on System Application** ●

Voltage Reactive Power Optimization on Low Voltage Distribution Network Based on Dynamic Multi-swarm Particle Swarm Optimization
..... GU Suwen,MA Hongzhong,WANG Huafang, et al(91)

Simulation Study on Reactive Power Compensation of Line Modification for 220 kV Substation
..... YAN Haojun,DOU Shuliang,ZHANG Jie, et al(97)

Analysis on the Fault Influence of Tianzhong DC Monopole Locking on Xinjiang Power Grid
..... LI Zhaoyang, GUO Xiaolong, YAO Xiuping, et al(102)

Analysis of the Influence of Voltage Transformer on Apparent Power Probability Density Function of Harmonics
..... ZHU Jianhua,LUO Zhongyou,ZHAO Qi(108)

Study on Selection of Three-phase Unbalance Control Device for Three-phase Four-wire Low Voltage Distribution Network
..... WAN Yuliang, XIANG Song, LIU Haiibo, et al(113)

Study on Application of 500 kV Unified Power Flow Controller at Southern Power System of Suzhou
..... LIU Gang, CAI Hui, QI Wanchun, et al(119)

● **Application Technology in the Field of Clean Energy** ●

Energy Storage Capacity Optimization for Wind-hydrogen Combustion of Hydrogen Gas Turbine Coupling System
..... ZHAO Junchao, CHEN Jie, WANG Yangliangxu, et al(125)

Study on the Control Strategy of Reactive Power Voltage Stability of Grid-connected PV System
..... LIU Zhongyuan, WANG Weiqing, WANG Haiyun, et al(130)

DC Micro-grid Coordinated Control Strategy Based on PV, BES and FC
..... HU Qiaohui, FAN Yanfang, WANG Yibo(138)

Reactor Configuration Method for Small Hydropower Station Considering Leading Phase Adjustment Cost of Generating Unit
..... YANG Xia, TAO Feida, YIN Baihui, et al(144)

Coordinative Operation and Capacity Allocation of Photovoltaic-storage and DSTATCOM Systems
..... SUI Xingjia, XIAO Yong, ZHENG Kaihong, et al(150)

Study on the Control Strategy of Grid-connected Inverter Based on Complex Control
..... QIU Lin, XIA Wei, KANG Jinsong(158)

Sponsored by:Xi'an Power Capacitor Research Institute

Edited by:Editorial Office of POWER CAPACITOR & REACTIVE POWER COMPENSATION

Head of Editorial Committee:FANG Jinlan

Chief Editor:YANG Peixia

Add:No.18 the North of the No.2 West Ring Road, Xi'an, Shaanxi 710077, P.R.China

Tel:+86-29-84221423

Fax:+86-29-84221423

Website:www.dldrq.com

Email:dldrq@126.com

Distributed by:Shaanxi Office of Postal Service

版权声明

1.本刊对发表的文章拥有出版电子版、网络版版权,并拥有与其他网站交换信息的权利。本刊支付的稿酬已包含以上费用。
2.本刊文章版权所有,未经书面许可,不得以任何形式转载。