

全国中文核心期刊
中国科技核心期刊

中国科学引文数据库(CSCD)核心期刊
荷兰《文摘与引文数据库》收录期刊

ISSN 1674-3415
CN 41-1401/TM
CODEN DXBYAZ

电力系统保护与控制

Power System Protection and Control

NARI 南瑞集团有限公司
NARI GROUP CORPORATION

电网事业部

——企业能源转型和电力市场改革整体解决方案供应商！



- ◆ 电网安全稳定分析与控制 ◆ 电网调度自动化 ◆ 新能源并网控制 ◆ 超/特高压输电 ◆ 柔性输电 ◆ 电力市场
- ◆ 用电自动化及需求侧管理 ◆ 电动汽车充换电设施及充换电站运营管理 ◆ 配电网自动化 ◆ 能源管控 ◆ 智能变电站



地址：江苏省南京市江宁区诚信大道19号
客服热线：400-828-8108
客服邮箱：cc@sgepri.sgcc.com.cn



许昌开普电气研究院 主办

2018 6

第46卷 第6期 总第504期

9 771674 341188

万方数据

电力系统保护与控制

DIANLI XITONG BAOHU YU KONGZHI

第 46 卷第 6 期(总第 504 期) 2018 年 3 月 16 日出版

目 次

理论分析

- 考虑系统损耗的 MMC 换流阀冗余配置策略 黄守道, 王海宁, 荣飞, 等(1)
基于连续潮流法的含双端 VSC-HVDC 交直流系统负荷裕度分析 王振浩, 由作宇, 黄亚磊, 等(9)
基于元胞自动机的电网隐性故障传播模型关键线路识别方法 李辉, 贾晓风, 李利娟, 等(16)
中压配电网电力线载波通信系统自适应频点选择算法 薛晨, 王艳, 焦彦军(24)
基于风电场集中储能的风储柔性控制策略研究 贾成真, 王灵梅, 孟恩隆, 等(30)

应用研究

- 多变量保护控制策略下换流器对并网点电压支撑作用研究 朱明琳, 杭丽君, 李国杰(38)
基于 MOPSO 的含分布式光伏配电网故障区段定位 吴凡, 赵晋泉, 朱斌, 等(46)
配电网降压节能装置中电容器组的选址定容问题研究 戴诗朦, 孙鸣, 刘俊勇(54)
超短期风电功率爬坡事件检测和统计分析 杨茂, 马剑, 李大勇, 等(62)
基于回声状态网络的电力 EPON 业务感知技术 李钟(69)
基于状态监测的继电保护系统检修策略研究 肖繁, 王紫薇, 张哲, 等(74)
基于敏感过程运行状态的事件型电能质量扰动损失评估 谭秀美, 肖先勇, 张逸, 等(84)
智能变电站继电保护系统所面临的若干问题 张旭泽, 郑永康, 康小宁, 等(90)
基于风险传递网络的智能变电站二次系统风险评估 王力军, 周凯, 吴迪, 等(97)
基于诱导有序加权证据推理方法的不完全信息下继电保护系统健康状态评价
..... 段嘉珺, 应黎明, 罗先成, 等(106)
电网电压不平衡及谐波状态下的并网逆变器控制策略 叶吉亮, 李岚, 刘海霞, 等(113)
考虑电动汽车接入的分布式电源出力优化 张忠会, 胡国宝, 李瑞欣(120)
基于 MapReduce 架构的就地化分布式母线保护研究 周小波, 唐治国(128)

工程应用

- 上海电网 220 kV 统一潮流控制装置示范工程应用效果分析 谢伟, 崔勇, 冯煜尧, 等(136)
风电接入的电力系统电能质量扰动的检测与定位 欧阳波, 易灵芝, 何巨龙, 等(143)
聚合时空特征的新疆 750 kV 特高压输电线路缺陷关联分析 田浩, 章涵, 王海涛, 等(151)

综述

- 关于自然灾害下电力系统安全稳定防御方法的评述 罗剑波, 郁琛, 谢云云, 等(158)

Power System Protection and Control

(Semimonthly)

Vol. 46 No. 6 (Ser. 504)

March 16, 2018

CONTENTS

Theoretical Analysis

Redundant configuration strategy of MMC converter valve considering system loss	HUANG Shoudao, WANG Haining, RONG Fei, et al(1)
Load margin analysis of hybrid AC/DC system with two terminal VSC-HVDC using continuous power flow method	WANG Zhenhao, YOU Zuoyu, HUANG Yalei, et al(9)
An approach for critical lines identification of power grid hidden fault propagation model based on cellular automata	LI Hui, JIA Xiaofeng, LI Lijuan, et al(16)
Adaptive frequency selection algorithm for power line carrier communication system in medium voltage distribution network	XUE Chen, WANG Yan, JIAO Yanjun(24)
Research on flexible control strategy based on the centralized storage joint with wind farm	JIA Chengzhen, WANG Lingmei, MENG Enlong, et al(30)

Application Research

Investigation of multi-variable protected strategies with voltage support under grid faults	ZHU Minglin, HANG Lijun, LI Guojie(38)
Faulty section location based on MOPSO for distribution networks with distributed photovoltaic generation	WU Fan, ZHAO Jinquan, ZHU Bin, et al(46)
Research of the placement and capacity of capacitor bank of conservation reduction voltage device in distribution network	DAI Shimeng, SUN Ming, LIU Junyong(54)
Ultra-short-term wind power climbing event detection and statistical analysis	YANG Mao, MA Jian, LI Dayong, et al(62)
Echo-State-Network based service-awareness technology of EPON for smart power grid	LI Zhong(69)
Study on maintenance strategy of relay protection system based on condition monitoring	XIAO Fan, WANG Ziwei, ZHANG Zhe, et al(74)
Assessment of economic loss caused by event power quality disturbances based on sensitive process running states	TAN Xiumei, XIAO Xianyong, ZHANG Yi, et al(84)
Several problems of intelligent substation relay protection system	ZHANG Xuze, ZHENG Yongkang, KANG Xiaoning, et al(90)
Risk assessment for smart substation secondary system using risk transfer network model	WANG Lijun, ZHOU Kai, WU Di, et al(97)
Health condition assessment for relay protection system based on the induced ordered weighted evidential reasoning method under incomplete information	DUAN Jiajun, YING Liming, LUO Xiancheng, et al(106)
Control strategy of grid-connected inverter under unbalanced and harmonic voltage condition	YE Jiliang, LI Lan, LIU Haixia, et al(113)
Optimization of distributed generation output in electric vehicles integrating into distribution network	ZHANG Zhonghui, HU Guobao, LI Ruixin(120)
Research on outdoor installation distributed busbar protection based on MapReduce architecture	ZHOU Xiaobo, TANG Zhiguo(128)

Engineering Application

Analysis of application effect of 220 kV UPFC demonstration project in Shanghai Grid	XIE Wei, CUI Yong, FENG Yuyao, et al(136)
Detection and localization of power quality disturbance for power system connected with wind energy generation	OUYANG Bo, YI Lingzhi, HE Julong, et al(143)
Defects association analysis of 750 kV UHV transmission lines in Xinjiang by combining spatial-temporal characteristics	TIAN Hao, ZHANG Han, WANG Haitao, et al(151)

Survey

A review on risk assessment of power grid security and stability under natural disasters	LUO Jianbo, YU Chen, XIE Yunyun, et al(158)
--	---