



# 中国电机工程学报

ZHONGGUO DIANJI GONGCHENG XUEBAO

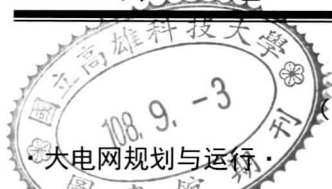
第 39 卷

第 13 期 (总第 624 期)

2019 年 7 月 5 日

## 目 次

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



· 大电网规划与运行 ·

最优潮流问题的凸松弛技术综述 ..... 林哲, 胡泽春, 宋永华 (3717)

基于可再生能源制氢系统附加阻尼控制的电力系统次同步振荡抑制方法 ..... 赵强, 张雅洁, 谢小荣, 等 (3728)

适用于交流长线路的动态相量时域短路电流计算方法研究 ..... 邱丽萍, 张彦涛, 王蒙, 曹生顺, 等 (3736)

· 智能电网 ·

新型多端口直流潮流控制器及其控制策略研究 ..... 武文, 吴学智, 荆龙, 魏梦航, 张颖 (3744)

混合双馈入直流输电控制系统交互影响机理分析 ..... 刘炜, 郭春义, 赵成勇 (3757)

含多并联组网 DG 的微电网分层控制体系及其控制策略 ..... 黄鑫, 汪可友, 李国杰, 张征 (3766)

混合微电网交直流母线接口变换器虚拟同步电机控制策略 ..... 李峰, 秦文萍, 任春光, 王祺, 等 (3776)

基于时间序列模式匹配的电能质量区域化治理 ..... 于浩, 贾清泉, 李珍国, 田书娅, 孙海东 (3788)

· 继电保护、通信及自动化 ·

基于等势 P 圈的电力通信骨干网保护优化 ..... 祁兵, 刘林, 李彬, 孙毅, 朱朝阳, 薛劲松 (3799)

广义双回线路反向量行波特性新解 ..... 束洪春, 宋晶, 田鑫萃 (3807)

不依赖边界元件及同步对时的多端柔直电网波形匹配式差动保护原理 ..... 童宁, 范理想, 林湘宁, 等 (3820)

利用同步挤压小波变换的高压交直流混联系统交流线路暂态方向保护 ..... 段建东, 李浩, 雷阳, 赵召 (3833)

· 发电 ·

电站锅炉低氮燃烧与高温受热面换热的联合模拟及分析 ..... 喻聪, 司风琪, 熊尾, 周建新, 江晓明 (3842)

大型 CFB 锅炉并联布置分离器烟气流动特性的数值模拟 ..... 郭强, 王泉海, 卢啸风, 李建波, 徐杰 (3851)

湿法脱硫烟气中两种模拟颗粒物在 CO<sub>2</sub> 吸收膜上的粘附特性研究 ..... 张琳, 孙莹, 杨林军 (3859)

基于 PMP 的机车用燃料电池混合动力系统能量管理策略 ..... 洪志湖, 李奇, 陈维荣 (3867)

· 电力电子与电力传动 ·

基于响应匹配的电力电子换流器恒导纳建模 ..... 徐晋, 汪可友, 李国杰, 郑晓冬 (3879)

扩展移相控制的双有源桥 DC-DC 变换器的优化控制策略 ..... 郭华越, 张兴, 赵文广, 高帅, 王付胜 (3889)

基于双拾取结构的恒功率输出动态无线电能传输系统研究 ..... 刘登伟, 周坤卓, 刘野然, 何正友, 等 (3899)

具有强抗偏移性能的电动汽车用无线电能传输系统 ..... 王懿杰, 陆凯兴, 姚友素, 刘晓胜, 徐殿国 (3907)

· 电机与电器 ·

不平衡电网电压下双馈发电机多目标模型预测控制 ..... 谢震, 牛立凡, 张兴, 杨淑英 (3917)

一种模块化的感应电机系统传导电磁干扰预测模型 ..... 肖芳, 戈宝军 (3930)

瓷柱型电气设备基于 BI-TMD 的混合控制减震研究 ..... 柏文, 戴君武, 杨永强 (3939)

· 电工理论与新技术 ·

基于传输线法的非线性静磁场四边形有限元加速求解方法研究 ..... 彭飞, 杨文英, 杨春玲 (3947)

考虑电感频变特性的共模扼流圈全电路建模及参数提取 ..... 罗广孝, 黄珊, 陈文颖, 高海珍, 等 (3955)

电磁感应线圈电特性研究 ..... 张晓东, 吴斌, 刘秀成, 何存富 (3963)

电磁层析成像图像重建中的修正 Landweber 迭代算法 ..... 刘向龙, 刘泽, 朱盛 (3971)

· 高电压技术 ·

基于国产基料的交联聚乙烯高压直流电缆绝缘材料电性能研究 ..... 王海田, 雷宪章, 周明瑜, 等 (3980)

SF<sub>6</sub> 局部过热分解的 Reax FF 力场构建及优化 ..... 张明轩, 唐炬, 曾福平, 雷志城, 姚强, 苗玉龙 (3989)

基于经验模态分解和长短期记忆神经网络的变压器油中溶解气体浓度预测方法 ..... 刘云鹏, 许自强, 等 (3998)

网格尺寸对碳纤维丝束风力发电机叶片融冰效果的影响研究 ..... 舒立春, 谭进峰, 胡琴, 蒋兴良, 邱刚 (4008)

· 英文概述见论文电子版

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

Vol.39 No.13 (Ser. 624)

Jul. 5, 2019

CONTENTS

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

• **Large Power Grid Planning and Operation** •

- Convex Relaxation for Optimal Power Flow Problem: A Recent Review..... LIN Zhe, HU Zechun, SONG Yonghua (3717)  
Mitigation of Subsynchronous Oscillations Based on Renewable Energy Hydrogen Production System and  
Its Supplementary Damping Control ..... ZHAO Qiang, ZHANG Yajie, XIE Xiaorong, et al (3728)  
Dynamic Phasor Time Domain Short-circuit Current Calculation Method for Power Systems With  
Long AC Transmission Lines ..... QIU Liping, ZHANG Yantao, WANG Meng, CAO Shengshun, et al (3736)

• **Smart Grid** •

- Studies of a Novel DC Power Flow Controller and Its control Strategy  
..... WU Wen, WU Xuezi, JING Long, WEI Menghang, ZHANG Ying (3744)  
Mechanism Analysis of Control Interactions in Dual-infeed Hybrid HVDC System  
..... LIU Wei, GUO Chunyi, ZHAO Chengyong (3757)  
Hierarchical Architecture and Control Strategy for Micro-grid With Multi-parallel Grid-forming DGs  
..... HUANG Xin, WANG Keyou, LI Guojie, ZHANG Zheng (3766)  
Virtual Synchronous Motor Control Strategy for Interfacing Converter in Hybrid AC/DC Micro-grid  
..... LI Feng, QIN Wenping, REN Chunguang, WANG Qi, et al (3776)  
Regionalization Control for Power Quality Based on Time Series Pattern Matching  
..... YU Hao, JIA Qingquan, LI Zhenguo, TIAN Shuya, SUN Haidong (3788)

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

- Protection Optimization of Power Communication Backbone Network Based on Equipotential P-cycle  
..... QI Bing, LIU Lin, LI Bin, SUN Yi, ZHU Chaoyang, XUE Jinsong (3799)  
New Analysis of Reverse Direction Traveling Wave Characteristics of Generalized Double Loop Lines  
..... SHU Hongchun, SONG Jing, TIAN Xincui (3807)  
Waveform Matching Based Protection Strategy for VSC-MTDC Independent on Synchronization and  
Boundary Component..... TONG Ning, FAN Lixiang, LIN Xiangning, et al (3820)  
Transient-based Directional Protection Using Synchrosqueezing Wavelet Transforms for AC Transmission Lines in  
HVAC/DC Hybrid System..... DUAN Jiandong, LI Hao, LEI Yang, ZHAO Zhao (3833)

• **Power Generation** •

- Coupled Simulation and Analysis of Low NO<sub>x</sub> Combustion and High-temperature Surfaces Heat Transfer for  
a Utility Boiler..... YU Cong, SI Fengqi, XIONG Wei, ZHOU Jianxin, JIANG Xiaoming (3842)  
Numerical Study on Gas Flow Characteristic in Three Parallel Separators of a Large-scale CFB Boiler  
..... GUO Qiang, WANG Quanhai, LU Xiaofeng, LI Jianbo, XU Jie (3851)  
Study of Adhesion Properties of Two Simulated Particles From Desulfurized Flue Gas on CO<sub>2</sub> Absorption Membrane  
..... ZHANG Lin, SUN Ying, YANG Linjun (3859)  
An Energy Management Strategy Based on PMP for the Fuel Cell Hybrid System of Locomotive  
..... HONG Zhihu, LI Qi, CHEN Weirong (3867)

• **Power Electronics and Drives** •

- Fixed-admittance Modeling of Power Electronic Converters Using Response-matching Technique  
..... XU Jin, WANG Keyou, LI Guojie, ZHENG Xiaodong (3879)  
Optimal Control Strategy of Dual Active Bridge DC-DC Converters With Extended-phase-shift Control  
..... GUO Huayue, ZHANG Xing, ZHAO Wenguang, GAO Shuai, WANG Fusheng (3889)  
Research on Constant Output Power Based on Double Pick-up in Dynamic Wireless Power Transfer System  
..... LIU Dengwei, ZHOU Kunzhuo, LIU Yeran, HE Zhengyou, et al (3899)  
An Electric Vehicle (EV)-oriented Wireless Power Transfer System Featuring High Misalignment Tolerance  
..... WANG Yijie, LU Kaixing, YAO Yousu, LIU Xiaosheng, XU Dianguo (3907)

• **Electric Machines and Apparatus** •

- Muti-objective Model Predictive Control of Double-fed Induction Generator Under Unbalanced Grid Voltage  
..... XIE Zhen, NIU Lifan, ZHANG Xing, YANG Shuying (3917)  
A Module Prediction Model for Conducted Electromagnetic Interference in Induction Motor Drive System  
..... XIAO Fang, GE Baojun (3930)  
Effectiveness Study of Combined Control Strategy Based on Base Isolation and Tuned Mass Damper on  
Porcelain Cylindrical Equipment..... BAI Wen, DAI Junwu, YANG Yongqiang (3939)

• **Theory and New Technology of Electrical Engineering** •

- Acceleration of Quadrilateral Shape Finite Element Method in Nonlinear Magnetostatics Field Based on  
Transmission Line Method..... PENG Fei, YANG Wenyong, YANG Chunling (3947)  
Full Circuit Modeling and Parameters Extraction of Common-mode Choke by Considering the Frequency-dependence  
Inductance Characteristic..... LUO Guangxiao, HUANG Shan, CHEN Wenyong, GAO Haizhen, et al (3955)  
Study on Electrical Characteristics of Electromagnetic Induction Coil  
..... ZHANG Xiaodong, WU Bin, LIU Xiucheng, HE Cunfu (3963)  
The Modified Landweber Iteration Algorithm in the Reconstruction of Electromagnetic Tomography Image Reconstruction  
..... LIU Xianglong, LIU Ze, ZHU Sheng (3971)

• **High Voltage Engineering** •

- Research on Electrical Performances of HVDC Cross-linked Polyethylene Cable Using Chinese Base Material  
..... WANG Haitian, LEI Xianzhang, ZHOU Mingyu, et al (3980)  
Construction and Optimization of Reax FF Force Field for the Decomposition of SF<sub>6</sub> Under Partial Over-thermal Fault  
..... ZHANG Mingxuan, TANG Ju, ZENG Fuping, LEI Zhicheng, YAO Qiang, MIAO Yulong (3989)  
Concentration Prediction of Dissolved Gases in Transformer Oil Based on Empirical Mode Decomposition and  
Long Short-term Memory Neural Networks..... LIU Yunpeng, XU Ziqiang, et al (3998)  
Study on the Effect of Mesh Size on Carbon Fiber Tow Wind Turbine Blade Ice Melting  
..... SHU Lichun, TAN Jinfeng, HU Qin, JIANG Xingliang, QIU Gang (4008)

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