

# 发电设备

第38卷第1期(总第289期)

双月刊 国内外公开发行

1987年1月创刊 2024年1月15日出版

FADIAN SHEBEI

主任委员:严宏强

副主任委员:李政 俞谷颖

委员:丁士发 亓安芳 史进渊 匡江红

孙庆 陈坚红 肖军 杨建刚

杨宇 张瑞 余岳峰 郑开云

翁一武 程智海 窦一康 潘卫国

全国发电设备专业期刊

中国学术期刊综合评价数据库统计源期刊

《中国核心期刊(遴选)数据库》收录期刊

中国期刊全文数据库全文收录期刊

中文科技期刊数据库(全文版)收录期刊

《中国期刊网》全文收录来源期刊

主管:上海发电设备成套设计研究院有限责任公司

主办:上海上发院发电成套设备工程有限公司

编辑出版:《发电设备》编辑部

主编:陈秀彬

副主编:俞谷颖

地址:上海闵行剑川路1115号

邮政编码:200240

电话:021-64358710-9356

E-mail:fadi@speri.com.cn

http://fadsb.speri.com.cn

印刷:上海康城印务有限公司

国内总发行:上海市报刊发行局

国内订阅处:全国各地邮局

邮发代号:4-622

中国标准连续出版物号:ISSN 1671-086X  
CN 31-1391/TN

定价:8.00元

## 目次

### 综述

风力发电机叶片用防冰超疏水涂层的研究进展

倪一帆,张作贵(1)

### 研究与分析

燃煤锅炉协同燃烧污泥对受热面影响的研究

李明明,侯波(7)

基于炉内壁温计算的氧化层生长在线监测研究

李涛,靳旺宗,王宏伟,祖勇海,张添银,何栋(13)

### 新能源

电力现货市场下山东电化学储能电站净收益分析

王晓,周海妮,范云鹏,卞峰,温以千,  
陈娜,韩小岗,牟强(18)

### 自动控制

现货电价条件下火力发电厂辅机优化调度技术应用

姜涛,王广兵,蒋杰,刘龙,宋益纯(24)

火力发电厂分时线性智能吹灰模型的应用

马晓春,刘相宏,陈晶,郑云林,  
郭丽,赵滔滔,赵俊杰(30)

### 运行与改造

某1000 MW机组发电机阻尼条窜动致转子振动异常案例分析

及处理 杨玉磊(36)

某SGT5-8000H燃气轮机叶片流道温度保护故障分析及处理

刘润泽(42)

### 电站材料失效分析处理专题

锅炉水冷壁管泄漏事故失效分析

林星豪,王美欢,张凌瀚,黄芳建,蒋鹏,  
杨磊,张浩,史志刚(47)

余热锅炉高压蒸发器泄漏分析及处理

周柏成(53)

汽轮机高压内缸螺栓断裂分析及监督探讨

程翔,张洁,金莎莎,潘英峰(57)

长期服役锅炉末级再热器管泄漏分析

柏振峰(62)

# POWER EQUIPMENT

Founded in 1987 (Bimonthly)

Vol. 38, No. 1 (Ser. No. 289) Jan. 15, 2024

## CONTENTS

### Summary & Survey

Research Progress of Anti-icing Superhydrophobic Coatings for Wind Turbine Generator Blades  
..... Ni Yifan, Zhang Zuogui ( 1 )

### Research & Analysis

Study on the Effect of Coal and Sludge Co-firing on Heating Surface in Coal-fired Boiler  
..... Li Mingming, Hou Bo ( 7 )

Research on Online Monitoring of Oxide Layer Growth Based on Furnace Wall Temperature Calculation  
..... Li Tao, Jin Wangzong, Wang Hongwei, Zu Yonghai, Zhang Tianyin, He Dong ( 13 )

### New Energy

Analysis on the Net Revenue of Electrochemical Energy Storage Power Station in Shandong Province Based on Electricity  
Spot Market ..... Wang Xiao, Zhou Haini, Fan Yunpeng, Bian Feng, Wen Yiqian, Chen Na,  
Han Xiaogang, Mu Qiang ( 18 )

### Automatic Control

Application of Optimal Scheduling Technology for Auxiliary Equipment in Thermal Power Plants Under Spot Electricity  
Price Condition ..... Jiang Tao, Wang Guangbing, Jiang Jie, Liu Long, Song Yichun ( 24 )

Application on Intelligent Soot Blowing Model of Thermal Power Plant Based on Time Sharing Linearity  
..... Ma Xiaochun, Liu Xianghong, Chen Jing, Zheng Yunlin, Guo Li, Zhao Taotao, Zhao Weijie ( 30 )

### Operation & Retrofit

Analysis and Treatment on the Abnormal Rotor Vibration Case in a 1 000 MW Unit Generator with Damping Bar Runout  
..... Yang Yulei ( 36 )

Analysis and Treatment on the Fault of Interval Channel Temperature Protection in a SGT5-8000H Gas Turbine  
..... Liu Runze ( 42 )

### Special Column: Analysis and Treatment for Materials in Power Units

Failure Analysis of Boiler Water Wall Tubes Leakage Accident  
..... Lin Xinghao, Wang Meihuan, Zhang Linghan, Huang Fangjian, Jiang Peng,  
Yang Lei, Zhang Hao, Shi Zhigang ( 47 )

Analysis and Treatment on the Leakage of High Pressure Evaporator in Waste Heat Boiler  
..... Zhou Baicheng ( 53 )

Fracture Analysis and Supervision Discussion on the Bolt of a Turbine High-pressure Inner Cylinder  
..... Cheng Xiang, Zhang Jie, Jin Shasha, Pan Yingfeng ( 57 )

Analysis on the Leakage of Final-stage Reheater Tube in a Boiler with Long-term Service  
..... Bai Zhenfeng ( 62 )

<b>Responsible Institution:</b> Shanghai Power Equipment Research Institute Co., Ltd.	<b>Postcode:</b> 200240
<b>Sponsor:</b> SPERI Power Equipment & Engineering Co., Ltd.	<b>Tel:</b> 021-64358710-9356
<b>Editor and Publisher:</b> Editorial Department of Power Equipment	<b>E-mail:</b> fadi@speri.com.cn
<b>Editor-in-Chief:</b> Chen Xiubin	<b>http://</b> fdsb.speri.com.cn
<b>Vice-Editor-in-Chief:</b> Yu Guying	<b>Printer:</b> Shanghai Kangcheng Printing Co., Ltd.
<b>Address:</b> No. 1115 Jianchuan Road, Minhang, Shanghai, China	<b>Subscription Agency:</b> Post-offices in Every Parts of China
	<b>Code:</b> 4-622