

中文核心期刊 中国科技核心期刊

# 航空发动机

Aeroengine



中国航发沈阳发动机研究所

# 航空发动机

2019年第45卷第5期

2019年10月

## 目 次

### 设计

- 高性能二元收敛喷管型面设计方法 ..... 李 娜,吉洪湖(1)  
混合动力系统建模及能量管理策略应用 ..... 王 哲,郭迎清(7)  
基于图像化变差函数的性能数据异常判别 ..... 师利中,孙天宇,蔡舒好(12)  
基于封严间隙的涡轮盘篦齿综合优化设计 ..... 陈志英,汪宇峰,刘 勇,赵连鹏(19)  
弹性环式挤压油膜阻尼器流固耦合计算 ..... 江志敏,高雄兵,张 鹏(26)  
航空发动机整体叶盘结构刚度的多目标优化 ..... 陈鼎欣,简卫斌,邓敬亮(31)  
大扩张角涡轮过渡段非定常流动数值仿真 ..... 蒋首民,张海华,王 雷,陈 云,马广健(36)  
蒸汽 / 空气预旋系统温降和流阻特性对比研究 ..... 毛莎莎,王锁芳,胡伟学(42)  
氟硅橡胶与氟橡胶 O 形圈密封性能仿真 ..... 徐 瑗,陆 浩,周毅博,王志坚,王法全(48)  
旋流雾化喷嘴雾化特性的数值模拟 ..... 马佳敏,王博韬,李胡坤,范熊杰,刘存喜,刘美丽(53)  
1 种软轴推拉钢索运动关系的建模分析方法 ..... 郑伟连,张让威(58)

### 试验

- 直板叶片振动响应试验的相似关系确定方法 ..... 张文笛,罗 忠,于清文,王 菲(63)  
多功能便携式数据采集系统设计与应用 ..... 文维阳,刘汉青,杨 娟,刘 辰(70)  
基于 EMD 模糊熵与会诊决策融合模型的中介轴承故障诊断技术  
..... 王 志,李有儒,田 晶,刘丽丽,李吉凯(76)  
某型涡桨发动机吹风流场计算与试验对比 ..... 孙 科,丁 旭,王 欢,许思琦(82)  
基于 PIV 技术的双旋流燃烧室冷态流场测量 ..... 顾大鹏,胡文成,窦义涛(87)

### 制造

- 数字孪生技术在航空发动机智能生产线中的应用 ..... 崔一辉,杨滨涛,方 义,徐 新(93)  
某镍基单晶高温合金塑性变形与失效分析 ..... 李林骏,胡绪腾,宋迎东,孟卫华(97)

《航空发动机》编辑委员会

封二

声明:

《航空发动机》征稿简则

封三

本刊已许可波兰“哥白尼索引”、美国“乌利希国际期刊指南”，中国学术期刊（光盘版）电子杂志社、北京万方数据股份有限公司、重庆维普资讯有限公司在其网络平台和系列数据库产品中传播本刊全文。著作权使用费与本刊稿酬一并支付。作者向本刊提交文章发表的行为即视为同意上述声明。

本期责任编辑:李华文

本期总审:李华文

期刊基本参数:

CN21-1359/V\*1975\*b\*A4\*106\*zh\*P\* ¥ 10.00\*1800\*18\*2019-10

# AEROENGINE

Vol. 45 No. 5 Oct. 2019

## Contents

### Design

- Configuration Design Method of High Performance Two-dimensional Convergent Nozzle ... LI Na, JI Hong-hu(1)  
Hybrid Power System Modeling and Energy Management Strategy Application ... WANG Zhe, GUO Ying-qing(7)  
Anomaly Identification of Performance Data Based on Image Variation Function  
..... SHI Li-zhong, SUN Tian-yu, CAI Shu-yu(12)  
Comprehensive Optimization Design of Turbine Disc Labyrinth Based on Seal Clearance  
..... CHEN Zhi-ying, WANG Yu-feng, LIU Yong, ZHAO Lian-peng(19)  
Fluid-structure Interaction Calculation of Elastic Ring Squeeze Film Damper  
..... JIANG Zhi-min, GAO Xiong-bing, ZHANG Peng(26)  
Multi-objective Optimization of Structural Stiffness of Aeroengine Multistage-blisk  
..... CHEN Ding-xin, JIAN Wei-bin, DENG Jing-liang(31)  
Numerical Simulation of the Unsteady Flow of an Aggressive Intermediate Turbine Duct  
..... JIANG Shou-min, ZHANG Hai-hua, WANG Lei, CHEN Yun, MA Guang-jian(36)  
Comparative Study on Characteristics of Temperature Reduction and Flow Resistance of Steam/Air Pre-swirl System  
..... MAO Sha-sha, WANG Suo-fang, HU Wei-xue(42)  
Simulation of Sealing Performance of Fluorosilicone Rubber O-ring and Fluoro Rubber O-ring  
..... XU Cong, LU Hao, ZHOU Yi-bo, WANG Zhi-jian, WANG Fa-quan(48)  
Numerical Simulation of Atomization Characteristics of Swirl Atomizing Nozzle  
..... MA Jia-min, WANG Bo-tao, LI Hu-kun, FAN Xiong-jie, LIU Cun-xi, LIU Mei-li(53)  
A Modeling Analysis Method for the Motion Relationship of Soft-axis Push-pull Cable  
..... ZHENG Wei-lian, ZHANG Rang-wei(58)

### Experiment

- Determination Method for Similarity Relationship of Straight-plate Blade Vibration Response Test  
..... ZHANG Wen-di, LUO Zhong, YU Qing-wen, WANG Fei(63)  
Design and Application of Multifunctional Portable Data Acquisition System  
..... WEN Wei-yang, LIU Han-qing, YANG Juan, LIU Chen(70)  
Fault Diagnosis Technology of Inter-shaft Bearing Based on EMD Fuzzy Entropy and Consultative Decision Fusion Model  
..... WANG Zhi, LI You-ru, TIAN Jing, LIU Li-li, LI Ji-kai(76)  
Calculation and Test Comparison of Blowing Flow Field of a Turboprop Engine  
..... SUN Ke, DING Xu, WANG Huan, XU Si-qi(82)  
Measurements of Two-stage Swirler Combustor Cold Flow Field Based on PIV Technology  
..... GU Da-peng, HU Wen-cheng, DOU Yi-tao(87)

### Manufacture

- Application of Digital Twin Technology in Aeroengine Smart Production Line  
..... CUI Yi-hui, YANG Bin-tao, FANG Yi, XU Xin(93)  
Plastic Deformation and Failure Analysis of a Nickel-based Single Crystal Superalloy  
..... LI Lin-jun, HU Xu-teng, SONG Ying-dong, MENG Wei-hua(97)