

# 航空发动机

双月刊

2011年第37卷第1期  
(总第146期)

2011年2月出版

## 目次

### 设计技术

- 航空发动机滑油泵气塞的预防措施.....李国权,黄健(1)
- 涡轮盘低循环疲劳可靠性设计方法.....高阳,杨昌军,白广忱,林垲(4)
- 航空推进系统性能寻优控制的系统模型.....尹大伟,樊照远,廖瑛(9)
- 喷管喉道面积变化对大涵道比分排涡扇发动机性能的影响.....唐宇峰,沈锡钢,李泳凡,李瑞军(12)
- 涡扇发动机液压机主控制系统建模与仿真分析.....吴文斐,郭迎清,李睿,陆军(16)
- 燃烧室贫油多旋流预混合预蒸发特性数值研究.....周君辉,王力军(20)
- 基于LPV模型的航空发动机控制器Kalman滤波器设计.....李述清,张胜修,刘毅男,周志清(24)

### 试验成果

- 脉冲爆震发动机爆震声音信号分析.....章雄伟,何立明,曾昊,罗俊(28)
- 涡扇发动机消喘系统设计与试验研究.....刘世官,张绍基,薛秀生,郭贵喜(31)
- 基于数据库的新型航空发动机试验测控系统.....陈震宇(36)
- 压气机试验器排气节气门控制系统设计.....乔玄(40)
- 某型辅助动力装置地面起动过程故障分析.....陈艳艳,申晓霞,于芳芳(45)
- 转子振动故障的过程功率谱熵特征分析与定量诊断.....费成巍,柏树生,白广忱,艾延廷(48)
- 某型发动机燃烧室外套搭接滚焊缝裂纹对使用寿命的影响.....祁圣英,郑涛,杨俊(52)

### 材料与工艺

- 新型高强度抗热腐蚀单晶高温合金研究.....郑启,杨金侠,胡壮麒,腾百秋(56)
- 航空发动机叶片激光冲击处理过程控制研究.....曹子文,邹世坤,车志刚,许海鹰(60)

封二 PW公司F135发动机的研制进展

封三 特邀编委单位巡礼

刊名题字:林左鸣

# AEROENGINE

Vol.37 No.1 Feb. 2011(Total No.146)

Bimonthly

## Contents

### Design Technology

Aeroengine Oil Pump Airlock Preventive Methods

..... LI Guo-quan, HUANG Jian(1)

Reliability Design of Turbine Disk Low Cycle Fatigue

.....GAO Yang, YANG Chang-jun, BAI Guang-chen, LIN Kai(4)

System Models of Aviation Propulsion System Performance-seeking Control

.....YIN Da-wei , FAN Zhao-yuan, LIAO Ying(9)

Effect of Nozzle Throat Area Variation on Performance of High Bypass Ratio Turbofan Engine with Separate Flow..... TANG Yu-feng, SHEN Xi-gang, LI Yong-fan, LI Rui-jun(12)

Modeling and Simulation Analysis of Hydro-mechanical Main Control System for Turbofan Engine

..... WU Wen-fei, GUO Ying-qing, LI Rui, LU Jun(16)

Numerical Study of Lean Premixed and Pre-vaporized Characteristics for Combustor with a Multi-swirler

.....ZHOU Jun-hui, WANG Li-jun(20)

Kalman Filter Design for Aeroengine Controller Based on LPV Model

..... Li Shu-qing, Zhang Sheng-xiu, Liu Yi-nan, Zhou Zhi-qing(24)

### Experimental Accomplishment

Detonation Audio Data Analysis on Pulse Detonation Engine

..... ZHANG Xiong-wei, HE Li-ming, ZENG Hao, LUO Jun(28)

Design and Experimental Investigation of Anti-surge System for Turbofan Engine

.....LIU Shi-guan, ZHANG Shao-ji, XUE Xiu-sheng, GUO Gui-xi(31)

New Aeroengine Testing Measurement and Control System Based on Database.....CHEN Zhen-yu (36)

Design of Outlet Throttle Control System for Compressor Rig..... QIAO Xuan (40)

Failure Analysis of an Auxiliary Power Unit at Ground Starting Process

..... CHEN Yan -yan, SHEN Xiao -xia, YU Fang -fang (45)

Feature Analysis and Quantitative Diagnosis of Process Power Spectrum Entropy for Rotor Vibration Failure

.....FEI Cheng-wei , BAI Shu-sheng , BAI Guang-chen , AI Yan-ting(48)

Effect of Seam Welding Cracks on Operation Life of an Aeroengine Combustor Casing

..... QI Sheng-ying, ZHENG Tao, YANG Jun(52)

### Material and Technology

Study of a New High Strength and Hot-corrosion-resistant Single Crystal Superalloy

.....ZHENG Qi, YANG Jin-xia, HU Zhuang-qi,TENG Bai-qiu(56)

Research on Process Control of Laser Shock Peening for Aeroengine Blade

..... CAO Zi-wen , ZOU Shi-kun,CHE Zhi-gang, XU Hai-ying(60)