

目 次

气动热力学与总体设计

- 推力螺旋桨噪声试验 周家检, 郝璇, 付增良, 梁彬, 周平 (225)
连续式跨声速风洞与压缩机的气动性能匹配 雷鹏飞, 周恩民, 胡运华 (233)
基于模态发生器的进气道风扇噪声及声衬降噪实验
..... 张涛, 林大楷, 张颖哲, LEE Incheol (240)
倾转四旋翼飞行器垂直飞行状态气动特性 王军杰, 俞志明, 陈仁良, 王志瑾, 陆嘉鑫 (249)
一种锯齿状唇口超声速轴对称进气道特性 郭金默, 谢旅荣, 李晓驰, 汪昆, 胡蓉 (264)
基于 IPDG 方法的超声速混合层流动数值模拟 王贤, 刘伟, 赵明, 刘正先 (275)

叶轮机械

- 燃气轮机轮缘密封气动技术研究进展 高杰, 黄镜玮, 杜玉锋, 霍东晨, 付维亮 (284)
离心式压气机出口动态压力的关联维数特征分析 刘雁, 何浩, 肖军 (300)
刷式密封吹下效应诱发机理流固耦合数值研究 杜宸宇, 孙丹, 刘永泉, 战鹏, 信琦 (310)
叶尖泄漏流对压气机稳定性影响的数值分析 王昊, 屠宝锋 (320)

结构、强度、振动

单晶叶片取向相关的统一屈服强度分析方法及应用

- 石多奇, 隋天校, 王相平, 杨晓光, 杜伟 (329)
航空发动机转子盘腔积油振动故障分析 丁小飞, 曹航, 冯国全, 江建玲 (341)
涡轴发动机动力涡轮转子失去负载转速预测 龚立锋, 熊清勇, 罗明志, 付秋菊 (352)
止口螺栓连接结构非线性刚度机理分析及数值仿真 李伦绪, 陈果, 于平超, 杨默晗 (358)

燃烧、传热、传质

基于 Kriging 模型的冰风洞试验冰形参数化方法

- 李伟斌, 宋超, 赵凡, 王跃军, 易贤 (369)
客机隔热隔声棉点火特性与产烟毒性研究 刘天奇, 蔡之馨, 王宁 (377)

微通道内亲疏水壁面特性对入口段长度的影响

..... 吴瀚泉, 杨 雯, 李海旺, 徐天彤, 方卫东, 聂芃芃, 夏双枝 (384)

动力传输

某液体火箭发动机涡轮泵球轴承故障机理及改进方案

..... 张文虎, 李文超, 邓四二, 张 松, 郑艳伟 (396)

基于 ICA 包络增强 MEMD 的滚动轴承故障诊断 李红贤, 韩 延, 吴敬涛, 汤宝平 (405)

基于 LTSA 融合降维法的滚动轴承可靠性评估方法

..... 刘 璐, 邱 明, 李军星, 许艳雷, 牛凯岑 (413)

安全性、适航

航空发动机限寿件表面特征概率损伤容限评估 ... 丁水汀, 周惠敏, 刘俊博, 张 弓, 李 果 (421)

民用航空涡轮发动机持久试验条款发展历程 王晓明, 熹 蕾 (431)

自动控制

航空机载镍电阻温度传感器仿真及优化设计 张 磊, 彭 艳, 王 曦 (440)

期刊基本参数: CN 11—2297/V * 1986 * m * A4 * 224 * zh * P * ¥60.00 * 1000 * 23 * 2021—02

(本期责任编辑 王碧珺)

Contents

Aerothermodynamics and Aeroengine Design

- Noise tests of pusher-propeller ZHOU Jiajian, HAO Xuan, FU Zengliang, LIANG Bin, ZHOU Ping (225)
- Aerodynamic performance matching of continuous transonic wind tunnel and its driving compressor LEI Pengfei, ZHOU Enmin, HU Yunhua (233)
- Experiment of intake fan noise and noise reduction of acoustic liner based on mode generator ZHANG Tao, LIN Dakai, ZHANG Yingzhe, LEE Incheol (240)
- Aerodynamic characteristics of quad tilt rotor aircraft in vertical flight WANG Junjie, YU Zhiming, CHEN Renliang, WANG Zhijin, LU Jiaxin (249)
- Characteristics of a supersonic axisymmetric inlet with saw tooth lip GUO Jinmo, XIE Lürong, LI Xiaochi, WANG Kun, HU Rong (264)
- Numerical simulations of supersonic mixing layers with IPDG method WANG Xian, LIU Wei, ZHAO Ming, LIU Zhengxian (275)

Turbomachinery

- Advances in rim seal aerodynamic technology for gas turbines GAO Jie, HUANG Jingwei, DU Yufeng, HUO Dongchen, FU Weiliang (284)
- Correlation dimension characteristics analysis of dynamic pressure at centrifugal compressor outlet LIU Yan, HE Hao, XIAO Jun (300)
- Numerical investigation on induced mechanism of blow-down effect of brush seals with fluid-structure interaction DU Chenyu, SUN Dan, LIU Yongquan, ZHAN Peng, XIN Qi (310)
- Numerical analysis of tip leakage flow effect on compressor stability WANG Hao, TU Baofeng (320)

Structure, Strength and Vibration

- Orientation-dependent analysis method of unified yield strength and its application for single crystal blade SHI Duoqi, SUI Tianxiao, WANG Xiangping, YANG Xiaoguang, DU Wei (329)
- Vibration fault analysis of aeroengine rotor disk cavity filled with oil DING Xiaofei, CAO Hang, FENG Guoquan, JIANG Jianling (341)

- Speed prediction for power turbine rotors of turboshaft engine on loss-of-load GONG Lifeng, XIONG Qingyong, LUO Mingzhi, FU Qiuju (352)
- Nonlinear stiffness mechanism analysis and numerical simulation of rabbet-bolted connection structure LI Lunxu, CHEN Guo, YU Pingchao, YANG Mohan (358)

Combustion, Heat and Mass Transfer

- Parameterization method based on Kriging model for ice shape formed in icing wind tunnel LI Weibin, SONG Chao, ZHAO Fan, WANG Yuejun, YI Xian (369)
- Study on ignition characteristics and smoke toxicity of thermal and sound insulation cotton in airliner LIU Tianqi, CAI Zhixin, WANG Ning (377)
- Influence of hydrophobic and hydrophilic surfaces characteristic to entrance region length in micro channels WU Hanxiao, YANG Wen, LI Haiwang, XU Tiantong, FANG Weidong, NIE Pengpeng, XIA Shuangzhi (384)

Power Transimission

- Failure mechanism and improvement of ball bearing in a liquid rocket engine turbopump ZHANG Wenhua, LI Wenchao, DENG Sier, ZHANG Song, ZHENG Yanwei (396)
- Rolling bearing fault diagnosis based on MEMD with ICA envelop enhancement LI Hongxian, HAN Yan, WU Jingtao, TANG Baoping (405)
- Rolling bearing reliability evaluation method based on LTSA fusion dimensionality reduction method LIU Lu, QIU Ming, LI Junxing, XU Yanlei, NIU Kaicen (413)

Safety, Airworthiness

- Probabilistic damage tolerance assessment of surface features of aero engine life limited parts DING Shuiting, ZHOU Huimin, LIU Junbo, ZHANG Gong, LI Guo (421)
- Development history of civil turbine engine endurance test requirements WANG Xiaoming, QI Lei (431)

Autocontrol

- Simulation and optimization design of aviation nickel resistance temperature sensor ZHANG Lei, PENG Yan, WANG Xi (440)