

目次

结构、强度、振动

SiC/SiC 复合材料涡轮叶片结构设计及静强度评价

石多奇, 刘长奇, 程震, 杨锐, 梁湘华, 栗尼娜, 杨晓光, 国怡泉 (1)

刷式密封临界承压能力流固耦合数值研究 孙丹, 刘伟, 焦忠泽, 赵欢, 李玉 (13)

基于 EWT-熵值方法的发动机风扇叶片损伤监控 徐建新, 赵树杰, 马超, 巴翔 (23)

突加不平衡下弹性环挤压油膜阻尼器减振性能实验

张广辉, 黄延忠, 陈亚龙, 王震林, 徐科繁, 冯磊 (32)

单晶叶片表层组织转变影响因素及其控制方法 李世峰, 马护生 (41)

基础随机激励下纤维增强复合薄板振动疲劳寿命预报 许卓, 徐鹤松, 李晖, 王相平,

张海洋, 刘洋, 孙伟, 马辉, 赵丙峰, 韩清凯, 贾璞, 周晋, 闻邦椿 (47)

热振环境下钛合金薄壁结构疲劳寿命 揭小落, 李丽远, 胡由宏, 谢学多, 吴彦增 (55)

基于光学几何测量的整体叶盘几何失谐建模与辨识

张元, 赵景超, 周标, 吕福慧, 金易璇 (61)

燃烧、传热、传质

密度比对弯扭导叶扇形孔气膜冷却效率的影响 王晓增, 阚瑞, 刘存良 (70)

氢气引导乙烯火焰非定常燃烧过程 邓维鑫, 李季, 张冬青, 田野 (79)

60 m³ 卧式液氮贮罐预冷过程试验

张青, 苑文豪, 郑艳, 李朋虎, 夏明波, 何国庚, 陈建业 (86)

单头部模型燃烧室燃烧组织及 NO_x 排放 王晶, 张漫, 张弛, 王建臣 (94)

基于特征时间模型的高效喷雾燃烧数值模拟

尹钰, 杨天威, 周华, 任祝寅, 林宏军, 尚守堂 (104)

基于波长调制技术的燃烧室出口温度分布 TDLAT 测试方法

刘重阳, 许振宇, 黄安, 宋文艳 (116)

气动热力学与总体设计

涡轴发动机整机吞砂试验及性能退化评估 刘伟, 张赞 (127)

超声速旋流器内气相流场的数值模拟 刘仪, 丁畅, 孙万林, 姜克建, 黄言理 (134)

航空发动机全机推力试车台测力方法与校准技术 丁旭, 冯传奇, 薛文鹏, 宋江涛 (144)

大型运输机地面涡流场数值模拟 杨 柳, 刘 雨, 王俊琦 (151)

节径凸起结构对串列双圆柱干涉噪声的影响 王大庆, 全 帆, 冯和英, 王 勇, 杨成浩 (160)

双通道内并联式进气道模态转换过程流动特性分析
..... 赵家辉, 杨顺华, 游 进, 王宇航, 罗佳茂, 张千丰 (173)

叶轮机械

不同来流附面层厚度下容腔泄漏流对围带式静叶性能影响
..... 孔晓治, 黄天硕, 刘育心, 王成泽, 陆华伟 (184)

航空液压泵脉动压力的解析表达与级数展开
..... 江辉军, 张军禹, 周小锴, 李 巍, 马 军, 仇原鹰, 李 静 (197)

基于补偿切割法的离心泵轴向力控制试验 曾继来, 刘在伦, 吴新瑞, 赵伟国, 张 森 (206)

进口导叶角对叶根失稳压气机流动失稳的影响 陈晓松, 武文倩, 潘天宇, 李秋实 (215)

火箭发动机

流场不均匀对液体火箭发动机纵向振荡燃烧影响及控制
..... 李龙飞, 杨宝庆, 葛树宏, 刘佩进, 刘新华 (223)

液体火箭发动机供应系统频率特性 董 蒙, 谭永华, 邢理想, 徐浩海, 李鹏飞 (230)

自动控制

动力短舱校准装置的供气流量控制策略 陈 旷, 章荣平, 晋荣超 (240)

安全性、适航

基于粒子群算法的飞机燃油箱热参数反演 杜明杰, 吕旭飞, 魏锦洲, 姚尚宏 (250)

Contents

Structure, Strength and Vibration

Structural design and static strength evaluation of SiC/SiC-composite turbine blade	
..... SHI Duoqi, LIU Changqi, CHENG Zhen, YANG Rui, LIANG Xianghua, LI Nina, YANG Xiaoguang, GUO Yiquan	(1)
Numerical study on fluid-structure interaction of critical pressure capacity of brush seal	
..... SUN Dan, LIU Wei, JIAO Zhongze, ZHAO Huan, LI Yu	(13)
Damage monitoring of engine fan blades based on EWT-entropy method	
..... XU Jianxin, ZHAO Shujie, MA Chao, BA Xiang	(23)
Experiment on vibration reduction performance of elastic ring squeeze film damper under sudden unbalance	
..... ZHANG Guanghui, HUANG Yanzhong, CHEN Yalong, WANG Zhenlin, XU Kefan, FENG Lei	(32)
Influencing factors and control methods of surface microstructure transformation of single crystal blade	
..... LI Shifeng, MA Husheng	(41)
Vibration fatigue life prediction of fiber reinforced composite thin plate under basic random excitation	
..... XU Zhuo, XU Hesong, LI Hui, WANG Xiangping, ZHANG Haiyang, LIU Yang, SUN Wei, MA Hui, ZHAO Bingfeng, HAN Qingkai, JIA Pu, ZHOU Jin, WEN Bangchun	(47)
Fatigue life of titanium alloy thin-walled structure under thermal vibration environment	
..... JIE Xiaoluo, LI Liyuan, HU Youhong, XIE Xueduo, WU Yanzeng	(55)
Modeling and identification of geometric mistuning in blisks based on optical geometry measurement	
..... ZHANG Yuan, ZHAO Jingchao, ZHOU Biao, LÜ Fuhui, JIN Yixuan	(61)

Combustion, Heat and Mass Transfer

Effect of density ratio on film cooling characteristics of a bowed and twisted turbine vane with fan-shaped film holes	
..... WANG Xiaozeng, KAN Rui, LIU Cunliang	(70)
Unsteady combustion process of ethylene flame with pilot hydrogen	
..... DENG Weixin, LI Ji, ZHANG Dongqing, TIAN Ye	(79)
Experimental on chilldown performance of 60 m ³ horizontal storage tank with liquid nitrogen	
..... ZHANG Qing, YUAN Wenhao, ZHENG Yan, LI Penghu, XIA Mingbo, HE Guogeng, CHEN Jianye	(86)
Combustion organization and NO _x emission in a single sector model combustor	
..... WANG Jing, ZHANG Man, ZHANG Chi, WANG Jianchen	(94)
Efficient spray combustion simulations using the characteristic timescale model	
..... YIN Yu, YANG Tianwei, ZHOU Hua, REN Zhuyin, LIN Hongjun, SHANG Shoutang	(104)
TDLAT measurement method for outlet temperature profile of combustor based on wavelength modulation spectroscopy technology	
..... LIU Chongyang, XU Zhenyu, HUANG An, SONG Wenyan	(116)

Aerothermodynamics and Aeroengine Design

- Sand ingestion test and performance degradation evaluation of turboshaft engine
..... LIU Wei, ZHANG Yun (127)
- Numerical simulation of gas flow field in supersonic swirler
..... LIU Yi, DING Chang, SUN Wanlin, JIANG Kejian, HUANG Yanli (134)
- Force measurement method and calibration technology of aeroengine whole thrust test bed
..... DING Xu, FENG Chuanqi, XUE Wenpeng, SONG Jiangtao (144)
- Numerical simulation of ground vortex flow field of large transport aircraft
..... YANG Liu, LIU Yu, WANG Junqi (151)
- Influence of pitch diameter protruding structure on interference noise of tandem double cylinders
..... WANG Daqing, TONG Fan, FENG Heying, WANG Yong, YANG Chenghao (160)
- Study on flowfield for mode transition of over-under type inlet with double flow path
..... ZHAO Jiahui, YANG Shunhua,
YOU Jin, WANG Yuhang, LUO Jiamao, ZHANG Qianfeng (173)

Turbomachinery

- Influences of the cavity leakage flow on shrouded stator performance at different inlet boundary layer thicknesses KONG Xiaozhi, HUANG Tianshuo,
LIU Yuxin, WANG Chengze, LU Huawei (184)
- Analytic expression and series expansion of pulsation pressures of aviation hydraulic pumps
..... JIANG Huijun, ZHANG Junyu,
ZHOU Xiaokai, LI Wei, MA Jun, QIU Yuanying, LI Jing (197)
- Experiment of axial force control for centrifugal pump based on compensation trimming method
..... ZENG Jilai, LIU Zailun, WU Xinrui, ZHAO Weiguo, ZHANG Sen (206)
- Influence of inlet guide vane angle on flow instability of hub instability compressor
..... CHEN Xiaosong, WU Wenqian, PAN Tianyu, LI Qiushi (215)

Rocket Engine

- Influence and control of non-uniform flow field on longitudinal combustion instability of liquid rocket engines LI Longfei, YANG Baoqing, GE Shuhong, LIU Peijin, LIU Xinhua (223)
- Frequency characteristics of liquid rocket engine feed system
..... DONG Meng, TAN Yonghua, XING Lixiang, XU Haohai, LI Pengfei (230)

Autocontrol

- Flow control strategy for powered nacelle calibration facility
..... CHEN Kuang, ZHANG Rongping, JIN Rongchao (240)

Safety, Airworthiness

- Inversion of thermal parameters of aircraft fuel tank based on particle swarm optimization
..... DU Mingjie, LÜ Xufei, WEI Jinzhou, YAO Shanghong (250)