



JPT

推进技术

Journal of Propulsion Technology

3

第40卷 第3期
2019 Vol.40 No.3

ISSN 1001-4055 CN11-1813/V



《推进技术》
官方微信平台

中国航天科工集团三十一研究所

推进技术

第40卷 第3期
总第261期

2019年3月
(月刊)

目 次

总体与系统

- 固体火箭发动机燃气科氏加速度的影响分析 王立武,田维平,郭运强,林志远 (481)

气动热力学

- 隔板对低外阻二元高马赫数进气道反压特性的影响 吴中明,张德平,王肖,谢文忠 (487)
航空发动机静止盘腔瞬态特性数值与实验研究 高文君,刘振侠,朱鹏飞,吕亚国 (496)
叶片表面粗糙度对压气机叶栅内三维角区分离及损失研究
..... 刘凯,楚武利,张皓光,陈向艺,李金鸽,李兰攀 (504)
涡流发生器和附面层抽吸相结合对于低速压气机叶栅性能的影响
..... 马姗,楚武利,张皓光,旷海洋 (515)
轻小型超声速射流控制元件性能影响因素研究 孙娜,王佳兴,马新建,牛禄 (525)
蒸汽吸入对稳定性影响中修正关联方法的研究 徐浩洋,胡骏,屠宝锋 (532)
Eckardt离心叶轮失速流场非定常特征分析 王生玲,刘正先 (542)
孔式非定常脉动抽吸控制高负荷压气机叶栅内流动分离的参数研究
..... 张洪鑫,陈绍文,巩贊,王松涛,王仲奇 (552)
轴流燃气涡轮气动设计中反动度可行域的研究
..... 崔涛,王松涛,刘维,温风波,冯国泰,王仲奇 (561)

燃烧 传热

- 液体燃料碳原子数对微尺度扩散火焰特性的影响 梅开,李军伟,王宁飞 (574)
亚声速涡轮导叶前缘气膜冷却特性实验研究 付仲议,朱惠人,姚春意,高强 (583)
甩油盘系统内部流场数值模拟 覃文隆,樊未军,张荣春,冯阳,王倚阳 (593)
贫油预混预蒸发燃烧室燃烧不稳定性试验研究 马存祥,孙露,马鑫,邓远灏,徐华胜 (602)
带收敛出口的单元贫油直喷燃烧室冷态和热态流动特性研究 于涵,索建秦,郑龙席 (608)
稳态与瞬态冲击射流换热性能实验对比 刘明阳,常士楠,杨波 (619)
扰流柱形状对冲击冷却综合换热效率影响研究 贺业光,郭曾嘉,李润东,李少白,杨天华 (624)
超临界燃料在喷嘴附近的相变和流动过程 高伟,林宇震,张弛 (635)
双排孔顺-逆射流组合方式对气膜冷却的影响 李广超,高志阳,张魏,张国臣,寇志海 (643)
基于热色液晶技术的尾迹对涡轮动叶表面换热系数影响研究
..... 陈大为,朱惠人,李华太,周道恩,贾晓萌 (653)

结构 强度 可靠性

- 中介轴承外圈故障动力学建模及仿真分析 田晶,王志,张凤玲,艾延廷,周海仑 (660)

- 基于Wiener和Copula函数性能退化模型的减推力起飞可靠性收益评估研究
..... 周义蛟,郭基联,万 巍,姜禹呈,邵 帅 (667)

测试与控制

- 基于相似参数的加速供油规律反设计方法研究 苗浩洁,王 曜,杨舒柏 (675)
径向总压分布模拟器的设计与研究 代小强,王志强,陈 洛,周 凯 (682)

材料 推进剂 燃料

- 一种RP-3航空煤油的三组分替代燃料简化机理构建与验证
..... 陈登炳,刘云鹏,方 文,李井华,颜应文 (691)

电推进和其它推进

- 霍尔推力器阳极加热机制及设计优化 张 旭,魏 鑫,刘 敏,吕红剑,于达仁 (699)
高功率螺旋波等离子体诊断试验研究 孙 斌,赵 杨,魏建国,方吉汉,谭 畅 (707)
磁场对高电压霍尔推力器性能影响研究 程佳兵,康小录,杭观荣,王 宣 (714)

期刊基本参数:CN11-1813/V * 1980 * b * A4 * 240 * zh+en * P * ¥ 60.00 * 1000 * 28 * 2019-03

本期责任编辑:梅 瑛

JOURNAL OF PROPULSION TECHNOLOGY

Vol. 40 No. 3 Sum No. 261

Mar. 2019 (Monthly)

CONTENTS

System

- Impact Analysis of Combustion Exhaust Coriolis Acceleration in Solid Rocket Motor
..... WANG Li-wu, TIAN Wei-ping, GUO Yun-qiang, LIN Zhi-yuan (481)

Aero-thermodynamics

- Impact of Splitter on Back Pressure Characteristics of Low Cowl-Drag High Mach Number Inlets
..... WU Zhong-ming, ZHANG De-ping, WANG Xiao, XIE Wen-zhong (487)
- Numerical and Experimental Investigation of Transient Response of Static Disc Cavity in Aero-Engine
..... GAO Wen-jun, LIU Zhen-xia, ZHU Peng-fei, LYU Ya-guo (496)
- Effectiveness of Blade Surface Roughness on 3D Corner Separation and Loss in Compressor Cascade
..... LIU Kai, CHU Wu-li, ZHANG Hao-guang, CHEN Xiang-yi, LI Jin-ge, LI Lan-pan (504)
- Combined Effects of Vortex Generator and Boundary Layer Suction on Performance of Low-Speed Compressor Cascade
..... MA Shan, CHU Wu-li, ZHANG Hao-guang, KUANG Hai-yang (515)
- Influence Factors of Light-Small Supersonic Fluidic Element on Performance
..... SUN Na, WANG Jia-xing, MA Xin-jian, NIU Lu (525)
- Numerical Simulation for Effects of Steam Ingestion on Stability with Improved Correlation Method
..... XU Hao-yang, HU Jun, TU Bao-feng (532)
- Investigation of Unsteady Characteristics of Rotating Stall on Eckardt Centrifugal Impeller
..... WANG Sheng-ling, LIU Zheng-xian (542)
- Parametric Investigations of Unsteady Holed Pulsed Suction to Control Flow Separations in a Highly Loaded Compressor Cascade
..... ZHANG Hong-xin, CHEN Shao-wen, GONG Yun, WANG Song-tao, WANG Zhong-qi (552)
- Study on Feasible Region of Reaction Degree in Aerodynamics Design for Axial-Flow Gas Turbine
..... CUI Tao, WANG Song-tao, LIU Wei, WEN Feng-bo, FENG Guo-tai, WANG Zhong-qi (561)

Combustion and Heat Transfer

- Effects of Number of Carbon Atoms in Molecule of Liquid Fuels on Characteristic of Micro-Scale Jet Flames
..... MEI Kai, LI Jun-wei, WANG Ning-fei (574)
- Experimental Investigation of Leading Edge Film Cooling Characteristics of Subsonic Turbine Guide Vane
..... FU Zhong-yi, ZHU Hui-ren, YAO Chun-yi, GAO Qiang (583)
- Numerical Simulation of Fluid Field Inside Slinger System
..... TAN Wen-long, FAN Wei-jun, ZHANG Rong-chun, FENG Yang, WANG Yi-yang (593)
- Experimental Study on Combustion Instability of Lean Premixed Pre-Vaporized Combustor
..... MA Cun-xiang, SUN Lu, MA Xin, DENG Yuan-hao, XU Hua-sheng (602)
- Investigation of Non-Reaction and Reaction Flow Characteristic of Single Element Lean Direct Injection Combustor with Convergent Outlet
..... YU Han, SUO Jian-qin, ZHENG Long-xi (608)
- Experimental Comparison of Heat Transfer Performance Between Steady and Transient Impinging Jet
..... LIU Ming-yang, CHANG Shi-nan, YANG Bo (619)
- Numerical Simulation of Efficiency Index of Impingement Cooling System with Different Pin Fins Shapes
..... HE Ye-guang, GUO Zeng-jia, LI Run-dong, LI Shao-bai, YANG Tian-hua (624)
- Phase Transition and Flow Process of Supercritical Fuel near Injector Nozzle
..... GAO Wei, LIN Yu-zhen, ZHANG Chi (635)
- Effects of Combination of Forward Jet and Backward Jet with Two Rows of Holes on Film Cooling
..... LI Guang-chao, GAO Zhi-yang, ZHANG Wei, ZHANG Guo-chen, KOU Zhi-hai (643)

- Effects of Unsteady Wake on Heat Transfer Distribution of Turbine Blade Using Thermochromic Liquid Crystal Technique
..... CHEN Da-wei, ZHU Hui-ren, LI Hua-tai, ZHOU Dao-en, JIA Xiao-meng (653)

Structure, Strength and Reliability

- Dynamic Modeling and Simulation Analysis on Outer Race Fault of Inter-Shaft Bearing
..... TIAN Jing, WANG Zhi, ZHANG Feng-ling, AI Yan-ting, ZHOU Hai-lun (660)
A Study on Reliability Benefit Assessment of Reduced Thrust Takeoff Based on Performance Degradation Model of Wiener and Copula Functions ZHOU Yi-jiao, GUO Ji-lian, WAN Wei, JIANG Yu-cheng, SHAO Shuai (667)

Test and Control

- Reverse Design Method of Fuel Supply Law for Acceleration Based on Similarity Parameters
..... MIAO Hao-jie, WANG Xi, YANG Shu-bo (675)
Design and Research of Radial Total Pressure Distribution Simulator
..... DAI Xiao-qiang, WANG Zhi-qiang, CHEN Luo, ZHOU Kai (682)

Material, Propellant and Fuel

- A Simplified Mechanism Model of Three Component Surrogate Fuels for RP-3 Aviation Kerosene and Its Verification
..... CHEN Deng-bing, LIU Yun-peng, FANG Wen, LI Jing-hua, YAN Ying-wen (691)

Electric Propulsion and Other Advanced Propulsion

- Heating Mechanism and Thermal Design Optimization of Anode in a Hall Thruster
..... ZHANG Xu, WEI Xin, LIU Min, LYU Hong-jian, YU Da-ren (699)
Plasma Diagnostics of a High Power Helicon Source SUN Bin, ZHAO Yang, WEI Jian-guo, FANG Ji-han, TAN Chang (707)
Effects of Magnetic Field on Performance of Hall Effect Thruster under High Discharge Voltage
..... CHENG Jia-bing, KANG Xiao-lu, HANG Guan-rong, WANG Xuan (714)