

ACTA AERONAUTICA ET ASTRONAUTICA SINICA

中国航空学会 北京航空航天大学

ISSN 1000-6893
CN 11-1929/V

航空学报

S2

2022 / Vol.43

HANGKONG XUEBAO

高超声速与流动控制增刊



目次

高超声速与流动控制增刊

基于等离子体炬的磁流体动力学实验系统 化为卓,高岭,陈戈,李益文,巩耕,王延涛,魏彪(727699)

非线性耦合本构在高空侧向喷流中的数值研究 黄依峰,曾舒华,江中正,陈伟芳(727700)

等离子体激励器对高速翼型升阻特性的影响 孙志坤,史志伟,张伟麟,李铮,孙琪杰(727705)

耦合聚类的数据驱动稀薄流非线性本构计算方法 尧少波,蒋励剑,赵文文,卢铮,吴昌聚,陈伟芳(727708)

多级环量控制技术增升机理及能效分析 杜海,杨乐杰,李铮,徐悦,孙京阳,王宇航(727709)

等离子鞘套包覆目标长时间能量聚焦方法 张廷焜,李铮,温旭东,洪逸清,白博文(727715)

基于高温真实气体效应的双锥磁流体流动控制 罗凯,汪球,李进平,赵伟(727718)

高焓风洞中等离子体激励流动控制试验 罗凯,王永海,汪球,栗继伟,李峥,聂春生,李铮(727720)

等离子鞘套包覆钝锥的双站极化散射特性 牛戈钊,刘彦明,高澜,张廷焜,白博文(727722)

来流速度5~7 km/s时CO₂流场中CO离解现象的验证 廖东骏,石安华,黄洁,简和祥,谢爱民,王宗浩(727723)

高超声速流场等离子体逆向喷流减阻特性 张旭东,李铮,董昊,高思源,纪祖焱,黎凯昕,白光辉(727727)

高超声速升力体迎风面精细化降热优化设计 李昊歌,杨华,杨雨欣,陈伟芳(727728)

跨越第二宇宙速度的膨胀管风洞研制 吕治国,龚红明,常雨,廖振洋,钟涌(727729)

致密非晶SiCN低压热稳定性及高温导电行为 牛家宏,贾浩楠,易法军,彭祖军,陈伟(727732)

高超声速飞行器碳基结构高温应变测量 吴东,杨鸿,赵文峰,罗跃(727733)

主动引射气体参数对平板空气舵气动热影响 聂春生,袁野,马伟,曹占伟,于明星(727736)

基于车尾风能回收的气动减阻装置 冯雅婷,张辉(727740)

高超声速流场等离子体合成射流逆向喷流特性 马正雪,罗振兵,赵爱红,周岩,谢玮,刘强,朱寅鑫,彭文强(727747)

电弧放电激励器破除冰特性及裂纹扩展规律 景向嵘,程盼,罗振兵,高天翔,周岩,邓雄(727765)

物理化学模型对流场电磁波传播特性影响 田得阳,平熠,陈焯斯,陈伟芳(727772)

等离子体合成射流激励器高速流场逆向喷流控制 李铮,徐聪,张健,李萌萌,马祎蕾,白光辉(727789)

高超声速气动热标模HyHERM-I试验 胡守超,庄宇,李贤,江涛(727804)

ACTA AERONAUTICA ET ASTRONAUTICA SINICA

(Monthly)

Volume 43 Number S2

Dec. 2022

CONTENTS

Special Issue of Hypersonic and Flow Control

- Experimental magneto-hydrodynamic system based on plasma torch
.....HUA Weizhuo, GAO Ling, CHEN Ge, LI Yiwen, GONG Geng, WANG Yantao, WEI Biao(727699)
- Numerical study on high-altitude lateral jet based on nonlinear coupled constitutive relation
.....HUANG Yifeng, ZENG Shuhua, JIANG Zhongzheng, CHEN Weifang(727700)
- Effect of plasma actuator on lift-drag characteristics of high-speed airfoil
.....SUN Zhikun, SHI Zhiwei, ZHANG Weilin, LI Zheng, SUN Qijie(727705)
- Numerical method of data-driven rarefied nonlinear constitutive relations coupled with clustering
.....YAO Shaobo, JIANG Lijian, ZHAO Wenwen, LU Zheng, WU Changju, CHEN Weifang(727708)
- Lifting mechanism and energy efficiency analysis of multistage circulation control technology
.....DU Hai, YANG Lejie, LI Zheng, XU Yue, SUN Jingyang, WANG Yuhang(727709)
- Long-term energy focusing method for target covered by plasma sheath
.....ZHANG Tingkun, LI Zheng, WEN Xudong, HONG Yiqing, BAI Bowen(727715)
- Magnetohydrodynamic flow control of double-cone under high temperature real gas effect
.....LUO Kai, WANG Qiu, LI Jinping, ZHAO Wei(727718)
- Plasma-actuated flow control test in high enthalpy shock tunnel
.....LUO Kai, WANG Yonghai, WANG Qiu, LI Jiwei, LI Zheng, NIE Chunsheng, LI Zheng(727720)
- Bistatic polarization scattering characteristic of plasma-sheath-covered blunt cone
.....NIU Gezhao, LIU Yanming, GAO Lan, ZHANG Tingkun, BAI Bowen(727722)
- Validation of dissociation of CO in CO₂ flowfield with flow velocity from 5 to 7 km/s
.....LIAO Dongjun, SHI Anhua, HUANG Jie, JIAN Hexiang, XIE Aimin, WANG Zonghao(727723)
- Drag reduction characteristics of opposing plasma synthetic jet in hypersonic flow
.....ZHANG Xudong, LI Zheng, DONG Hao, GAO Siyuan, JI Zubi, LI Kaixin, BAI Guanghui(727727)
- Refinement optimization design for heat reduction on windward surface of hypersonic lifting body
.....LI Haoge, YANG Hua, YANG Yuxin, CHEN Weifang(727728)
- Development of an expansion tunnel with gas flow speed greater than escape velocity.....
.....LYU Zhiguo, GONG Hongming, CHANG Yu, LIAO Zhenyang, ZHONG Yong(727729)
- Low-pressure thermal stability and high-temperature electrical conductivity of dense amorphous SiCN
.....NIU Jiahong, JIA Haonan, YI Fajun, PENG Zujun, CHEN Wei(727732)
- High temperature strain measurement of hypersonic aircraft carbon-based composite material structures
.....WU Dong, YANG Hong, ZHAO Wenfeng, LUO Yue(727733)
- Effect of active ejection gas parameters on thermal environment of plate and air rudder
.....NIE Chunsheng, YUAN Ye, MA Wei, CAO Zhanwei, YU Mingxing(727736)
- Aerodynamic drag reduction device based on rear wind energy harvestingFENG Yating, ZHANG Hui(727740)
- Reverse jet characteristics of plasma synthetic jet in hypersonic flow field.....MA Zhengxue,
LUO Zhenbing, ZHAO Aihong, ZHOU Yan, XIE Wei, LIU Qiang, ZHU Yinxi, PENG Wenqiang(727747)
- Ice breaking characteristics and crack propagation law of arc discharge plasma actuator
.....JING Xiangrong, CHENG Pan, LUO Zhenbing, GAO Tianxiang, ZHOU Yan, DENG Xiong(727765)
- Influence of physical and chemical models on electromagnetic wave propagation characteristics of flow field
.....TIAN Deyang, PING Yi, CHEN Yesi, CHEN Weifang(727772)
- Reverse jet flow control by plasma synthetic jet actuator in high speed flow field
.....LI Zheng, XU Cong, ZHANG Jian, LI Mengmeng, MA Yilei, BAI Guanghui(727789)
- Hypersonic aero-heating environment research model HyHERM-I: Experiment.....
.....HU Shouchao, ZHUANG Yu, LI Xian, JIANG Tao(727804)