

## 目 次

### 流体力学与飞行力学

- 削尖三角翼涡破裂前后的气动弹性特性对比研究(论文) ..... 全景阁, 叶正寅, 张伟伟(379)  
空间碎片再入烧蚀预测与地面安全评估软件系统(论文) ..... 胡锐锋, 吴子牛, 曲溪, 王翔(390)  
多场耦合计算平台与高超声速热防护结构传热问题研究(论文) ..... 张兵, 韩景龙(400)

### 固体力学与飞行器总体设计

- 柔性空间结构选频二阶保结构平衡降阶(论文) ..... 孟占峰, 韩潮(410)  
基于 Galerkin 法的柔性绳系辅助返回系统的展开动力学建模与分析(论文) ... 曹喜滨, 郑鹏飞(421)  
竞争失效场合步进应力加速试验统计分析(论文) ..... 谭源源, 张春华, 陈循(429)

### 电子与自动控制

- 基于贡献度模型方法对空中交通管制中心系统的效能评估(论文) .....  
..... 白松浩, 兰洪亮, 郑娜, 夏正洪, 周臣(438)  
非均匀噪声稀疏均匀圆阵的二维 DOA 估计(论文) ..... 潘捷, 周建江, 汪飞(448)  
基于势函数法的航天器自主姿态机动控制(论文) ..... 郭延宁, 李传江, 马广富(457)  
卫星激光通信终端控制系统稳定性设计(论文) ..... 王岩, 郑燕红, 刘杨, 杨奇峰, 陈兴林(465)  
基于时滞不确定理论的导弹鲁棒控制系统设计(论文) ..... 沈毅, 刘皓(473)  
基于支持向量经验模态分解的故障率时间序列预测(论文) ..... 张弦, 王宏力(480)  
基于梯度算法的永磁伺服系统惯量辨识性能研究(论文) ..... 梁骄雁, 胡育文, 鲁文其(488)  
基于高斯混合概率假设密度滤波的扫描型光学传感器像平面多目标跟踪算法(论文) .....  
..... 盛卫东, 许丹, 周一宇, 安玮, 龙云利(497)  
基于 DSP 平台的机载高清视频编码器设计与实现(论文) ..... 刘荣科, 胡伟, 高杨, 周游(507)  
基于稀疏表示的多雷达信号二维融合处理(简报) ..... 叶帆, 何峰, 朱炬波, 张永胜(515)  
多目标跟踪中自适应时间资源调度(简报) ..... 张贞凯, 汪飞, 周建江, 刘伟强(522)

## 材料工程与机械制造

- 热轧对  $Ti_{50}Ni_{50-x}Al_x$  ( $x=1,2,4$ ) 形状记忆合金微观组织、相变和力学性能的影响(论文) ..... 李岩, 肖莉, 宋晓云(531)
- 精铸空心涡轮叶片模具虚拟修模方法(论文) ..... 卜昆, 王虹, 周桐, 李世峰, 沈翔鸿(538)
- 弧线齿面齿轮齿面接触分析(论文) ..... 苏进展, 方宗德, 崔艳梅(546)
- 高温合金复杂薄壁零件多道次充液拉深技术(论文) ..... 朱宇, 万敏, 周应科(552)
- Rainbow 型压电单膜片换能结构负载电压和输出功率分析(论文) ..... 刘祥建, 陈仁文(561)

期刊基本参数:CN 11-1929/V \* 1965 \* b \* A4 \* 192 \* zh \* P \* ¥80.00 \* 1200 \* 22 \* 2011-03

ACTA AERONAUTICA ET ASTRONAUTICA SINICA  
(Monthly)

Volume 32 Number 3

Mar. 2011

---

CONTENTS

**Fluid Mechanics and Flight Mechanics**

- Comparative Study on Aeroelastic Characteristics of a Cropped Delta Wing Before and After Vortex Breakdown(P) ....  
..... QUAN Jingge, YE Zhengyin, ZHANG Weiwei(379)  
Debris Reentry and Ablation Prediction and Ground Risk Assessment Software System(P) ....  
..... HU Ruifeng, WU Ziniu, QU Xi, WANG Xiang(390)  
Multi-field Coupled Computing Platform and Thermal Transfer of Hypersonic Thermal Protection Structures(P) ....  
..... ZHANG Bing, HAN Jinglong(400)

**Solid Mechanics and Vehicle Conceptual Design**

- Frequency-selective Second-order Structure-preserving Balanced Reduction for Flexible Space Structures(P) ....  
..... MENG Zhanfeng, HAN Chao(410)  
Modeling and Analysis of Deployment Dynamics for Flexible Tethered-assisted Return System Based on Galerkin Method  
(P) .... CAO Xibin, ZHENG Pengfei(421)  
Analysis of Step Stress Accelerated Testing with Competing Failure Modes(P) ....  
..... TAN Yuanyuan, ZHANG Chunhua, CHEN Xun(429)

**Avionics and Autocontrol**

- Effectiveness Evaluation of Air Traffic Control System Based on the Method of System Contributory Model(P) ....  
..... BAI Songhao, LAN Hongliang, ZHENG Na, XIA Zhenghong, ZHOU Chen(438)  
2-D DOA Estimation for Sparse Uniform Circular Array in Presence of Unknown Nonuniform Noise(P) ....  
..... PAN Jie, ZHOU Jianjiang, WANG Fei(448)  
Spacecraft Autonomous Attitude Maneuver Control by Potential Function Method(P) ....  
..... GUO Yanning, LI Chuanjiang, MA Guangfu(457)  
Stability Design of Control System for Satellite Laser Communication(P) ....  
..... WANG Yan, ZHENG Yanhong, LIU Yang, YANG Qifeng, CHEN Xinglin(465)  
Robust Control System Design for Missiles Based on Theory of Time-delay and Uncertainty(P) ....  
..... SHEN Yi, LIU Hao(473)  
Failure Rate Time Series Prediction Based on Support Vector Empirical Mode Decomposition(P) ....  
..... ZHANG Xian, WANG Hongli(480)  
Research on Inertia Identification Performance of Permanent Magnet Servo Systems Based on Gradient Algorithm(P) ...  
..... LIANG Jiaoyan, HU Yuwen, LU Wenqi(488)

- Gaussian-mixture Probáility Hypothesis Density Filter Based Multitarget Tracking Algorithm for Image Plane of Scanning Optical Sensor(P) ..... SHENG Weidong, XU Dan, ZHOU Yiyu, AN Wei, LONG Yunli(497)
- Design and Implementation of Airborne High Definition Video Encoder Based on DSP Platform(P) ..... LIU Rongke, HU Wei, GAO Yang, ZHOU You(507)
- Multi-radar Signal Two-dimensional Fusion Processing Based on Sparse Representation(TN) ..... YE Fan, HE Feng, ZHU Jubo, ZHANG Yongsheng(515)
- Adaptive Time Resource Scheduling for Multiple Target Tracking(TN) ..... ZHANG Zhenkai, WANG Fei, ZHOU Jianjiang, LIU Weiqiang(522)

### **Material Engineering and Mechanical Manufacturing**

- Effect of Hot-rolling on Microstructures, Phase Transformation and Mechanical Properties of Shape Memory Alloys Ti<sub>50</sub> Ni<sub>50-x</sub> Al, (x=1, 2, 4) (P) ..... LI Yan, XIAO Li, SONG Xiaoyun(531)
- Method of Virtual Mold-repair for Hollow Turbine Blades(P) ..... BU Kun, WANG Hong, ZHOU Tong, LI Shifeng, SHEN Xianghong(538)
- Tooth Contact Analysis on Face Gears with Arcuate Tooth(P) ..... SU Jinzhan, FANG Zongde, CUI Yanmei(546)
- Multi-stage Hydro-mechanical Deep Drawing of Complex Thin-walled Superalloy Parts(P) ..... ZHU Yu, WAN Min, ZHOU Yingke(552)
- Analysis of Load Voltage and Output Power for Rainbow Shape Piezoelectric Monomorph Energy Transferring Elements (P) ..... LIU Xiangjian, CHEN Renwen(561)

P: Paper; TN: Technical Note