

中国科技核心期刊
中国航空学会会刊

ISSN 1671-654X
CN 61-1276/TP

航空计算技术

AERONAUTICAL COMPUTING TECHNIQUE

第52卷 第4期

Vol.52 No.4



中国航空工业集团有限公司 主管
航空工业西安航空计算技术研究所 主办

中国·西安

4
2022

目次 计算方法

基于 ConvLSTM 的飞机尾流时空预测 潘卫军,冷元飞,蒋倩兰(1)

基于改进马田系统的发动机转子振动信号研究 赵 凯,于向财,孙 涛,等(5)

基于 Bayes 的飞机审定维修要求制定技术研究 闫 锋,苏忠允(9)

适用于 P 型卡箍的线束捆直径计算方法 闫 静,顾嘉炜,裴龙涛(14)

基于 HPSO-W 算法的多机航迹协同规划方法 汤 森,胡明华,周 龙,等(19)

天窗骨架的综合优化设计及力学性能仿真 许鸿杰,何朝阳,陈 双(24)

基于 AHP-TOPSIS 的航班分类分批放行决策模型 赵 伟,韩伟东,王航臣,等(29)

基于蚁群算法的无人机三维路径规划与冲突解脱 赵 志,段 炼,路东林,等(33)

基于 STPA 的 SSPC 不安全控制行为识别与验证 张光玖,葛红娟,李文臣,等(38)

后机不同行为下近距离平行跑道安全前界分析 任慧玲,胡明华,赵 征(43)

无人机纵向轨迹控制的设计与仿真 秦 乐(48)

复合材料板冲击损伤的 Lamb 波场成像算法研究 马骁龙,肖 文,沙刚刚,等(51)

基于优先级的航班时刻弹性优化 舒 翔,王莎莎,曾维理(56)

基于数据分析的机场港湾冲突检测算法研究 常祎雯,王雪锋,李 品(61)

计 算 机 应 用

一种实时分区操作系统的多余度同步调度方法 周 霆,任晓瑞,朱晓宁(65)

贯通式液冷模块均温性控制研究 杨明明,陈亚洲,白振岳,等(70)

一种典型电容传感器采集故障分析与验证 李 军,于方春,赵 刚,等(73)

安全的开发运维一体化及其在机载领域的应用 郝玉锴,戴小氏,吴 姣(77)

机载电源模块低功耗技术研究 王 广,王国振,赵建平,等(81)

一种面向机载软件开发环境的运行架构设计 张 旻,武君胜,麦先根,等(86)

航空电子系统多核资源并发访问技术的研究 段海军,郭 勇,陈 福(91)

某型弹载计算机硬件原理与内部结构研究 隋 新,付 强,牛 亮,等(96)

一种嵌入式计算机工作寿命自监控方法 景德胜,缙丽敏,高 浩(100)

基于 ARINC 661 的 Web 端飞机座舱显示画面设计 吴家秀,张之江,易子淳,等(103)

基于 FPGA 和 AD9914 的可变频率源设计 谢 凝(108)

计 算 机 结 构 与 硬 件

一种基于 I²C 总线的温度监控电路的设计 代明清,赵 谦,花 飞(112)

一种组件化的硬件任务管理方法 刘建军,任晓瑞,邱海涛,等(117)

计 算 机 网 络

机载设备外场交互式维护网络化技术 孙 倩,张选刚,吕镇邦(121)

一种机载嵌入式 Rapid IO 网络动态管理方法 高业文(126)

综 述 报 告

无人机航迹规划算法综述 路 晶,史 宇,张书畅,等(131)

CONTENTS

Computing Method

- Spatio-temporal Prediction of Aircraft Wake Based on ConvLSTM PAN Wei-jun, LENG Yuan-fei, JIANG Qian-lan (1)
- Research on Engine Rotor Vibration Signal Based on Improved Martian System ZHAO Kai, YU Xiang-cai, SUN Tao, et al (5)
- Research on the Development of Aircraft Certification Maintenance Requirements Based on Bayes YAN Feng, SU Zhong-yun (9)
- The Calculation Method of Wire Bundle Diameter for P-type Clamp YAN Jing, GU Jia-wei, PEI Long-tao (14)
- Multi-aircraft Path Cooperative Planning Method Based on HPSO-W Algorithm TANG Miao, HU Ming-hua, ZHOU Long, et al (19)
- Comprehensive Optimization Design and Simulation Verification of Skylight Frame XU Hong-jie, HE Zhao-yang, CHEN Shuang (24)
- Decision Model of Flight Dispatch Based on AHP-TOPSIS ZHAO Wei, HAN Wei-dong, WANG Hang-chen, et al (29)
- Ant Colony Algorithm Based 3D Path Planning and Conflict Resolution for UAV ZHAO Zhi, DUAN Lian, LU Dong-lin, et al (33)
- Identification and Verification of SSPC Unsafe Control Action Based on STPA ZHANG Guang-jiu, GE Hong-juan, LI Wen-chen, et al (38)
- Safety Front Boundary Analysis of Close Parallel Runway Based on Trail Aircraft Behavior Selection REN Hui-ling, HU Ming-hua, ZHAO Zheng (43)
- Design and Simulation Verification of Flight Path Control Law of Unmanned Aerial Vehicle QIN Le (48)
- Research on Lamb Wavefield Imaging Algorithm of Impact Damage in Composite Plates MA Xiao-yang, XIAO Wen, SHA Gang-gang, et al (51)
- Flexible Optimization of Flight Schedules Based on Flight Priority SHU Xiang, WANG Sha-sha, ZENG Wei-li (56)
- Research on Airport Harbor Conflict Detection Algorithm Based on Data Analysis CHANG Yi-wen, WANG Xue-feng, LI Pin (61)

Computer Application

- A Redundancy Synchronous Scheduling Method for Real-time Partition Operating System ZHOU Ting, REN Xiao-rui, ZHU Xiao-ning (65)
- Research on Control of Inter Temperature Uniformity for Liquid Flow Through Module YANG Ming-ming, CHEN Ya-zhou, BAI Zhen-yue, et al (70)
- The Typical Fault Analysis and Verification of a Capacitive Sensor LI Jun, YU Fang-chun, ZHAO Gang, et al (73)
- DevSecOps and the Applications in Airborne Domain HAO Yu-kai, DAI Xiao-di, WU Jiao (77)
- Research on Airborne Power Module Low Dissipation Technology WANG Guang, WANG Guo-zhen, ZHAO Jian-ping, et al (81)
- Design of a Running Architecture for Airborne Software Development Environment ZHANG Min, WU Jun-sheng, MAI Xian-gen, et al (86)
- Research on Concurrent Access Technology of Multi Core Resources in Avionics System DUAN Hai-jun, GUO Yong, CHEN Fu (91)
- Research on Hardware Principle and Internal Structure of Missile-borne Computer SUI Xin, FU Qiang, NIU Liang, et al (96)
- Self-monitoring Method for Working Life of Embedded Computer JING De-sheng, GOU Li-min, GAO Hao (100)
- ARINC 661-based Aircraft Cockpit Display Design in Web WU Jia-xiu, ZHANG Zhi-jiang, YI Zi-chun, et al (103)
- Design of Variable Frequency Source Based on FPGA and AD9914 XIE Ning (108)

Computer Construction & Hardware

- Design of Temperature Monitoring Circuit Based on I²C Bus DAI Ming-qing, ZHAO Qian, HUA Fei (112)
- A Componentized Method for Hardware Task Management LIU Jian-jun, REN Xiao-rui, DI Hai-tao, et al (117)

Computer Network

- Web-based Field Interactive Maintenance Techniques for Airborne Equipments SUN Qian, ZHANG Xuan-gang, LYU Zhen-bang (121)
- An Airborne Embedded Rapid IO Network Dynamic Management Method GAO Ye-wen (126)

Survey and Review

- A Review of UAV Trajectory Planning Algorithms LU Jing, SHI Yu, ZHANG Shu-chang, et al (131)