

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



目 次

计算方法

- 基于管制运行关键指标的管制质量评估分析 潘卫军,任杰,王润东,等(1)
 发动机传感器数据偏差检测子空间方法研究 唐雅娟,丁丁(7)
 基于混合网格的 JSM 模型失速特性数值模拟研究 姚冰,淮洋,梁益华(12)
 基于增广伪距辅助的容错导航层次滤波方法 李传意,王融,刘建业,等(16)
 多机场系统对外航线协同优化研究 林思奇,吴薇薇(22)
 基于“三区”限制的航路优化 石新鹏(27)
 基于递归算法的航空器高空飞行绿色轨迹优化 何修齐,田勇,王倩,等(32)
 飞机平尾蜂窝夹芯结构抗鸟撞性能数值仿真 王露晨,刘信超,陆晓华,等(37)
 面向机场协同决策的离场动态排队方法研究 李冬,黄琪(41)
 多机场终端区的耦合运行分析 汤先宇,胡明华,赵征,等(46)
 基于实数编码加速遗传算法的飞机牵引车调度 王博,王剑辉,朱新平(50)
 基于贝叶斯网络的航空发动机故障诊断研究 徐嫄乐,缪志松,姜哲(55)
 区域多机场系统航线网络优化模型 刘欣仪,李海峰(59)
 基于通话熟练度的雷达模拟训练回归模型研究 骆菁菁,陈磊(64)

计算机软件

- 基于 CATIA 的 NACA 进气口参数化建模 崔永龙,裴后举,吴博宇,等(68)
 基于 TAU 的并行计算软件性能评估 牛俊强,周磊(72)

计算机应用

- 基于光纤通道的数据完整性设计与模拟测试 杜建华,胡靖宇,杨明伟,等(76)
 基于三种模型的航空电子设备结构设计分析 张丰华,田沣,刘治虎,等(79)
 北京大兴国际机场场面运行管理自动化系统建设 庄青(82)
 一种综合射频设备可调节电源的设计方法 冯毅,董凯(86)
 一种飞机密封舱门嵌入式自动测试系统 景月娟(90)
 基于微内核虚拟机架构的安全保障模型研究 张灯,黄凡帆(94)
 一种基于 FPGA 的混合密码机制设计 尹超(97)
 一种机载低功耗数字地图模块的设计与实现 詹思维(101)
 一种 PowerPC 系统毫秒级精度 RTC 时钟设计方法 强凯,孙靖国,颜丰琳(103)
 基于 QNX 系统的触摸飞行显示器软件设计 冯伟,刘文学,缪炜涛,等(106)
 分布式集散控制远程接口单元设计 屈盼让,呼明亮,蔡晓乐,等(110)
 图形流水线在线调试系统研究与设计 张兴雷,田泽,马城城,等(114)

综述报告

- 民机中央维护系统的工程开发方法概述 吕镇邦,王娟,沈新刚(118)
 综合模块化航电平台软件配置项划分方法研究 张坤旭,邢亮,戴小氏(124)
 符合 DO - 254 标准的机载复杂电子硬件验证技术研究 罗文超,张迪(129)

CONTENTS

Computing Method

Analysis of Regulation Quality Assessment Based on Key Indicators of Air Traffic Control Operation	PAN Wei-jun, REN Jie, WANG Run-dong, et al (1)
Study on Subspace Model-based Approach to Engine Sensor Data Error Detection	TANG Ya-juan, DING Ding (7)
Numerical Simulation of JSM Model's Stall Characteristics Based on Hybrid Grids	YAO Bing, HUAI Yang, LIANG Yi-hua (12)
Fault-tolerant Navigation Hierarchical Filtering Method Based on Augmented Pseudo-range Assist	LI Chuan-yi, WANG Rong, LIU Jian-ye, et al (16)
Research on Collaborative Optimization for Air Routes of Multi-airport System	LIN Si-qi, WU Wei-wei (22)
Route Optimization Based on "Three Zones" Circumvention	SHI Xin-peng (27)
Green Aircraft Trajectory Optimization of High-altitude Flight Based on Recursive Algorithm	HE Xiu-qi, TIAN Yong, WANG Qian, et al (32)
Numerical Simulation for Bird Strike Resistance of a Horizontal Tail Honeycomb Sandwich Structure	WANG Lu-chen, LIU Xin-chao, LU Xiao-hua, et al (37)
Research on Dynamic Queuing Method of Departure Flight for Airport Collaborative Decision Making	LI Dong, HUANG Qi (41)
Analysis of Coupling Operation of Multi-airport Terminal Area	TANG Xian-yu, HU Ming-hua, ZHAO Zheng, et al (46)
Scheduling of Service Vehicles for Aircraft Traction Based on Real-coded Accelerate Genetic Algorithm	WANG Bo, WANG Jian-hui, ZHU Xin-ping (50)
Research on Fault Diagnosis of Aero-engine Based on Bayesian Network	XU Yuan-le, MIAO Zhi-song, JIANG Zhe (55)
Optimization Model of Regional Multi-airport System Route Network	LIU Xin-yi, LI Hai-feng (59)
Research on Regression Model of Radar Simulator Training Based on Radio Telephony Communication Proficiency	LUO Jing-jing, CHEN Lei (64)

Computer Software

Parametric Modeling of NACA Air Inlet Based on CATIA	CUI Yong-long, PEI Hou-ju, WU Bo-yu, et al (68)
Performance Evaluation of Parallel Computing Software Based on TAU	NIU Jun-qiang, ZHOU Lei (72)

Computer Application

Date Integrity Design and Simulation Test Based on Fibre Channel	DU Jian-hua, HU Jing-yu, YANG Ming-wei, et al (76)
Structural Design Analysis of Avionics Equipment Based on Three Models	ZHANG Feng-hua, TIAN Feng, LIU Zhi-hu, et al (79)
Automatic Surface Movement Management System of Beijing Daxing International Airport	ZHUANG Qing (82)
An Adaptive Power Control Method for Integrated RF Equipment	FENG Yi, DONG Kai (86)
A Embedded Automatic Test System for Aircraft Airtight Cabin Door	JING Yue-juan (90)
Research on Security Assurance Model for Microvisor Architecture	ZHANG Deng, HUANG Fan-fan (94)
A Hybrid Cryptographic Mechanism Design Based on FPGA	YIN Chao (97)
Design and Implementation of an Airborne Low Power Digital Map Module	ZHAN Si-wei (101)
A Millisecond Precision RTC Clock Design Method for PowerPC System	QIANG Kai, SUN Jing-guo, YAN Feng-lin (103)
Design of Touch Flight Display Software Based on QNX System	FENG Wei, LIU Wen-xue, MIAO Wei-tao, et al (106)
Design of Remote Interface Unit Based on DCS	QU Pan-rang, HU Ming-liang, CAI Xiao-le, et al (110)
Research and Design of On-line Debugging System on Graphics Pipeline	ZHANG Xing-lei, TIAN Ze, MA Cheng-cheng, et al (114)

Survey and Review

Summary of Engineering Development Methods of Central Maintenance System for Civil Aircraft	LV Zhen-bang, WANG Juan, SHEN Xin-gang (118)
Study on Partition Method of Configuration Item for Integrated Modular Avionics Platform Software	ZHANG Kun-xu, XING Liang, DAI Xiao-di (124)
Research on Airborne Complex Electronic Hardware Verification Technology for DO-254 Compliance	LUO Wen-chao, ZHANG Di (129)