



中文核心期刊 中国科技论文统计源期刊 中国科学引文数据库来源期刊  
中文科技期刊数据库 中国学术期刊(光盘版)收录期刊  
美国《剑桥科学文摘》美国《乌利希期刊指南》 RCCSE中国核心学术期刊  
英国《科学文摘》收录期刊

ISSN 1002-0640

CN 14-1138/TJ

# 火力与指挥控制

FIRE CONTROL & COMMAND CONTROL

2013.1

第38卷 VOL38  
第1期 No.1



ISSN 1002-0640



01>

9 771002 064130

火力与指挥控制研究会 主办  
火力与指挥控制专业情报网

# 火力与指挥控制

## HUOLI YU ZHIHUI KONGZHI

第38卷 第1期 (总第214期) 月刊 1976年创刊 国内外公开发行

### 目 次

#### 综 述

自组织协同控制研究进展

董世友, 祝小平, 龙国庆 (1)

#### 理论研究

基于集合 Kalman 滤波的目标被动跟踪系统

崔 波, 张家树, 杨 宇 (7)

基于 SPWVD 的差分跳频信号参数估计方法

钱 博, 冯永新, 田明浩, 等 (10)

径向基神经网络的联合作战方案评估仿真

刘祖煌, 程启月 (14)

基于群集的多机器人编队控制

夏梁盛 (18)

基于语义的军事数据资源需求描述模型

张 胜, 吴照林 (22)

DDBN 的无人机决策推理模型参数学习

黄世强, 高晓光, 任 佳 (26)

粒子群优化齿轮箱振动信号周期分量提取方法

原菊梅, 潘宏侠 (30)

双伪测量的多水下航行器移动长基线协同导航算法

张立川, 徐德民, 刘明雍 (34)

火炮自动操瞄使用姿态传感器调炮误差模型分析

杨晓红, 秦高林 (37)

双机交叉定位误差及配置距离最优化协调分析

胡 宁, 吴 华, 王 星, 等 (40)

不确定环境下多无人机动态任务分配方法

陈 侠, 唐 婷 (45)

多 Agent 仿真的装备维修保障效能评估系统设计与实现

刘 伟, 贾希胜, 王广彦, 等 (50)

舰炮发射增程弹道修正弹测量弹道坐标转换

黄 义, 汪德虎, 周海平, 等 (54)

模糊优化理论的武器 - 目标分配模型及求解算法

黄国锐, 李朋辉, 丁俊香, 等 (56)

基于 PC 机的模拟训练装备效能评估方法

奚显阳, 李 青, 周 杰, 等 (61)

基于熵权的改进 ADC 法通信基础网作战效能评估算法

许鹏飞, 张伟华, 马润年 (64)

应用于相控阵火控雷达的一种波束交叠新方法

谢金华, 梅江涛, 李 勇 (69)

军事需求体系层次结构的参考模型

余 溪, 余博超, 陈明霜, 等 (73)

面向设计的武器装备作战需求论证方法

陈 超, 马国善, 黄 力 (77)

接触碰撞模型的弹管耦合问题

唐 洪, 乐贵高, 姜 勇, 等 (81)

基于 LSSVM 的缺失飞行数据组合填补方法

杨 耀, 张晓丰, 赵录峰, 等 (84)

基于 EINSTein 的自适应指挥控制作战效能分析

贺登高, 吴志林 (87)

对 PD 雷达进行综合欺骗干扰研究

尚志刚, 白渭雄, 董会旭 (91)

基于故障树分析法的导弹分离机构可靠性研究

张 琳, 邓建军, 李彦彬 (94)

基于任务的网络中心战作战同步能力度量

王 欣, 姚佩阳, 周翔翔, 等 (96)

坦克分队纵深战斗火力对抗建模分析

徐大杰, 王海春, 刘学银 (102)

天波雷达信号传播模拟研究

代 林, 曾芳玲 (107)

#### 工程实践

武器装备经济寿命分析与研究

白利军, 王永智, 邵 鹏, 等 (111)

加宽中位数与接近系数的数据融合算法

吉琳娜, 杨风暴, 周新宇, 等 (114)

网络瞄准下武器协调发射与制导决策方法

于 雷, 赵 云, 王 琳, 等 (117)

基于反馈线性化的制导炮弹弹道控制系统设计

杨荣军, 王良明, 孙瑞胜 (123)

军用软件需求分析研究

常云丽, 邬欣明, 郑 威 (126)

PHM 系统中的费效模型

何厚伯, 赵建民, 郝茂森, 等 (129)

多品种维修器材统一订购策略的库存决策模型

刘亚东, 孙志刚 (133)

累积跟踪概率的舰载主动声纳作用距离衡量方法

初 磊, 楼晓平, 肖汉华, 等 (138)

某直升机综合航电显控仿真的开发与实现

欧爱辉, 卢卫国, 李程鹏, 等 (141)

基于 FPGA 的通用 PCM 测试仪的设计

张彦军, 刘龙飞, 刘 瓷 (145)

多方位 - 速度目标跟踪分析及一种新算法

夏佩伦, 朱伟良, 刘 勇 (149)

潜艇伴随护航最佳配置距离及其应用

纪金耀, 肖汉华, 初 磊 (152)

基于广义伽马分布的 SAR 图像相干斑抑制

王 杰, 刘新科, 谭乐祖, 等 (155)

航空发动机大延迟系统 Smith 预估补偿模糊 PID 控制算法

严 彤, 易振国, 张金朋, 等 (159)

#### 试验技术

尾流自导鱼雷攻击规避机动水面舰艇研究

孙珠峰, 吴 奔, 肖明彦 (163)

火炮模拟试验装置波形发生器参数试验设计

乔 梁, 鲁 飞, 赵庆嵒 (166)

#### 研究简报

斜度相似度的 ISAR 干扰效果评估方法

崔 瑞, 孙 杰, 潘继飞, 等 (170)

灰色系统理论的空爆核武剩余放射性污染数值分析

刘晓红, 王伟力 (173)

单兵遥控武器支架总体方案的设计

魏 峰, 田红凤 (176)

下期要目(144) 版权声明(169) 报道(178)

本期责任编辑 刘义平

[期刊基本参数] CN14-1138/TJ \* 1976 \* m \* A4 \* 180 \* zh \* P \* ¥20.00 \* 2 000 \* 47 \* 2013-01

# Fire Control & Command Control

Vol. 38 No. 1 Jan. 2013

## Contents

### SURVEY

- Advances in Self-organized Cooperative Control ..... DONG Shi-you, et al. (1)  
**THEORY RESEARCH**  
Passive Target Tracking System Based on Ensemble Kalman Filter ..... CUI Bo, et al. (7)  
Research on Parameter Estimation Method of Differential Frequency Hopping Signal Based on SPWVD ..... QIAN Bo, et al. (10)  
Research on Evaluation Model of Joint Operation Scheme Based on RBF Neural Network ..... LIU Zu-Huang, et al. (14)  
Formation Control for Multi-Robot Based on Flocking ..... XIA Liang-sheng. (18)  
Semantic Requirement Description Model of Military Data Resource ..... ZHANG Sheng, et al. (22)  
Parameter Study for Model of Decision-making and Reasoning Based on DDBN ..... HUANG Shi-qiang, et al. (26)  
Gearbox Vibration Signal Periodic Components Extraction Method Based on Advanced Particle Swarm Optimization Algorithm ..... YUAN Ju-mei, et al. (30)  
Cooperative Navigation Method of Multiple Autonomous Underwater Vehicles Base on Double Acoustic Measurement ..... ZHANG Li-chuan, et al. (34)  
The Error Model and Analysis of Artillery Automatic Aiming Using Attitude Angle Transducer ..... YANG Xiao-hong, et al. (37)  
Location Error of Bearing Crossing Location by Two Aircrafts and Analysis of Coordination on Optimal Allocation ..... HU Ning, et al. (40)  
Study on the Dynamic Task Assignment of Multi-UCAV under Dynamic Uncertain Environment ..... CHEN Xia, et al. (45)  
Framework Design of Equipment Maintenance Support Effectiveness Assessment System Based on Multi-Agent Simulation ..... LIU Wei, et al. (50)  
Study on Trajectory Coordinates Conversion of Extended-range Trajectory Correction Projectile Fired by Shipborne Gun ..... HUANG Yi, et al. (54)  
Research on Weapon-target Assignment Model and Algorithm Based on the Fuzzy Optimization Theory ..... HUANG Guo-rui, et al. (56)  
Effectiveness Evaluation Study on Simulation Equipment for Training Based on Personal Computer ..... XI Xian-yang, et al. (61)  
Study of Operational Effectiveness Evaluation Algorithm in Communication-based Network Based on Entropy Weight of the Improved ADC Method ..... XU Peng-fei, et al. (64)  
New Beam Overlap Method Used in Phased Array Radar ..... XIE Jin-hua, et al. (69)  
A Reference Model for Hierarchical Structure of Military Requirement System ..... YU Bin, et al. (73)  
Research of Operation Requirement Demonstration of Weapon and Equipment Orienting to Design ..... CHEN Chao, et al. (77)  
Rocket-tube Coupling Problem Based on Contact-impact Model ..... TANG Hong, et al. (81)  
Combined Method of Complementing Missing Flight Data Based on LSSVM ..... YANG Ke, et al. (84)  
Operational Effectiveness Analysis of EINSTEIN System for

### Self-adaptability Command and Control

- ..... HE Deng-gao, et al. (87)  
Investigation on Synthetical Deceiving Jamming to PD Radar ..... SHANG Zhi-gang, et al. (91)  
Reliability Study of Disengaging Mechanism Based on Fault Tree Analysis ..... ZHANG Lin, et al. (94)  
Measure of NCW Operation Synchronization Ability Based on Task ..... WANG Xin, et al. (96)  
Modeling Analysis of Firepower Counterwork about Tank Unit Depth Combat ..... XU Da-jie, et al. (102)  
Research Simulation of OTHR Signal Propagation ..... DAI Lin, et al. (107)

### ENGINEERING PRACTICE

- Analysis of Economic Life of Weapon Equipment ..... BAI Li-jun, et al. (111)  
Data Fusion Algorithm Based on Widened Median and Approach Coefficients ..... JI Lin-na, et al. (114)  
Weapon Coordinator Launch and Guidance Decision Method in Networked Targeting Environment ..... YU Lei, et al. (117)  
Trajectory Control Design for Guided Projectiles Based on Feedback Linearization ..... YANG Rong-jun, et al. (123)  
Research on Military Software Requirement Analysis ..... CHANG Yun-li, et al. (126)  
Experiment Design of Wave Generator Parameters of Gun Simulation Test Device ..... HE Hou-bo, et al. (129)  
Inventory Decision Model of Unanimous Ordering Policy with Multi-item Maintenance Materials ..... LIU Ya-dong, et al. (133)  
Based on Cumulative Tracking Probability for Assessing Detection Range of Active Sonar ..... CHU Lei, et al. (138)  
Development and Realization of Display and Control System in Integrated Avionics Simulation System of Helicopter ..... OU Ai-hui, et al. (141)  
The Design of General PCM Test Equipment Based on FPGA ..... ZHANG Yan-jun, et al. (145)  
Analysis of Target Tracking with Bearing Measurements Plus Known Speed and a New Algorithm ..... XIA Pei-lun, et al. (149)  
Research of Best Deployment Distance and Application of Submarines Accompanying Convoy ..... JI Jin-yao, et al. (152)  
SAR Image Despeckling Based on Generalized Gamma Distribution ..... WANG Jie, et al. (155)  
A Smith Predict Fuzzy PID Algorithm for Aeroengine System with Long Time-delay ..... YAN Tong, et al. (159)

### TEST TECHNIQUE

- Research on Wake Homing Torpedo Attacking Escaping Warship ..... SUN Zhu-feng, et al. (163)  
Experiment Design of Wave Generator Parameters of Gun Simulation Test Device ..... QIAO Liang, et al. (166)

### RESEARCH BULLETIN

- Evaluation Method of Jamming Effect on ISAR Based on the Pitch Similitude Degree ..... CUI Rui, et al. (170)  
Numerical Analysis of Residual Radiation Pollution from Air Explosion of Nuclear Weapons Based on Gray System Theory ..... LIU Xiao-hong, et al. (173)  
Design of Remote-controlled Weapon Support Ensemble of Individual Soldier ..... WEI Feng, et al. (176)