

目 次

无人自主系统及智能决策专栏(专栏主编:李波,西北工业大学教授、博导)

- 基于强化学习的多智能体协同电子对抗方法 杨洋,王烨,康大勇,陈嘉玉,李姜,赵华栋(1)
- 基于Transformer的无人机多目标跟踪算法研究 苑玉彬,吴一全(11)
- 基于相依失效的“空-基-地”编队可靠性分析 李耀华,刘肖迪,路向阳,王洁(19)
- 复杂环境下仿蛇机器人的路径规划策略 李伟庆,王永娟,高云龙(28)
- 基于元作战域的无人集群自主协同能力验证研究 石治国,徐凯平,弓欣,李少宁,王非凡,杨奥,熊珍凯(38)
- 基于空间信息与视频结合的直接定位方法 韦卓,王建,李超,孙延鑫(44)
- 基于随机多权重TOPSIS法的目标威胁评估 刘畅,李姜,陈阳,郭立红,王烨,于洋(50)

装备理论与装备技术

- 基于Bahdanau注意力机制的大口径火炮双向GRU轨迹预测 彭晨洋,陈龙森,张鸣洋(56)
- 倾斜式防爆墙抗爆性能有限元数值分析与实验验证 张雪梅,顾文彬,谢兴博,何洋扬,沈朝虎(65)
- 基于改进GRA-KPCA模型的装备大气腐蚀因素分析 洪亮,孙伟赫,赵建印(75)
- 爆炸切割网络传爆能力影响因素的仿真分析 郭明开,赵铮(82)
- 航炮缓冲装置的优化设计 刘峻昊,岳帅,单君宇,杜忠华(88)
- 基于SPH方法的固体火箭发动机殉爆数值模拟研究 周东谋,惠步青,魏钰文,韩王申,谢旭源(97)
- 一种具有变结构的轻量化陆空两栖平台技术研究 张政,李兴伟,赵贤发(105)
- 横流环境中灭雷弹弹道特性分析与优化 李荣,王旭东,喻鹏(115)
- 航空炸弹气动特性及弹道特性仿真研究 吕静伟,王志军,徐永杰,王晓东(121)
- 基于目标概略航向的反舰导弹纯方位攻击法 魏海光(128)
- 基于RBF神经网络与SLAM的全捷联导引头定位研究 王嘉楠,彭晓乐,王之昊(134)

基础理论与应用研究

- UWB HPM对雷达方舱内电子设备的影响仿真分析 胡欣,杨江平,孟藏珍,许一,刘驰(142)
- 高氯酸盐对Al/PTFE活性材料热反应行为的影响 周丹,李如江,周鹏,王梦飞(150)

- 基于磁异探测的侵彻复杂工况磁响应仿真分析 赵 静,王瑞波,李长生(158)
- 装甲车辆用防爆复合结构抗爆性能试验技术研究 杨 江,郭 浩,支凯艳,贾 琪,孙 朋,雷变芳(167)
- 弹头/枪管耦合作用下枪口振动分析 吕航宇,李小奇,徐 诚(172)
- 四旋翼无人机鲁棒嵌套饱和控制 刘思成,郭玉英(179)
- 蜂窝结构半导体热电发生器发电性能分析 颜廷香,侯智轩,田 可,郑 丹,王 进(186)
- 扰流板参数对坑道爆炸冲击波衰减效率的影响 王建帅,樊成飞(192)
- 大质量弹体冲击下带壳装药起爆特性数值分析 吴扶生,侯海量,李 典(200)

综 述

- 弹体冲击载荷下头部损伤与防护研究进展 常利军,陈泰伟,王天昊,蔡志华(208)
- 含细观缺陷固体推进剂非冲击点火性能研究进展 张晓婧,郁红陶(217)
- 基于图像的目标毁伤评估研究进展 陈 曦,翟红波(224)
- 串联战斗部级间隔爆结构的研究现状和发展趋势 龚宏杰,余 瑞,郭 翔,唐昌州,王志昊,王 琦,姚 莉,李忠友(235)

化学工程与材料科学

- 石墨烯/纳米银对 Ag/AgCl 海洋电场探测电极的改性机制研究 李红霞,徐瑞昌,辛 颀,谢一戎(242)
- 硅橡胶胶接层缺陷结构的三维重构及其对粘接性能的影响 陈紫轩,于海金,冯 云,唐嘉雯,钱 震,曹 宇(247)
- 超聚能射流成型特性数值模拟研究 王 喜,田 斌,王 峰,李必红,杨佳乐(253)
- 基于细观力学的石墨烯复合材料导热性能分析 刘文君,韩海涛,鲁 芹,高俊杰,聂榕序(259)

信息科学与控制工程

- 一种基于火工品技术的数据安全保护方法研究 张 强,康长盛,樊文韬,洪应平,张会新(267)
- 基于宽带雷达 RCS 数据的空间物体识别方法 马 腾,周兰凤,李建鑫(275)
- 基于改进 VINS 的同步定位与建图算法 俞勇杰,沈亦纯,周志峰,王立端,周 围(283)
- 基于 MPC 的球形机器人轨迹跟踪方法研究 刘春政,陈志华,应展烽,靳一聪,葛 吴(290)
- 非同频场景下无人机遥控器信号参数估计方法 徐亚军,高田露,唐文波,张 强,鲁合德(298)

JOURNAL OF ORDNANCE EQUIPMENT ENGINEERING

Vol. 45 No. 7 (Sum. No. 312) Jul. 2024

CONTENTS

Multi-agent cooperative electronic countermeasure method based on reinforcement learning	..... YANG Yang, WANG Ye, KANG Dayong, et al(1)
Transformer-based multi-object tracking algorithm for UAV	..... YUAN Yubin, WU Yiquan(11)
Reliability analysis of “Air-Communication-Ground” formation based on interdependent failure	..... LI Yaohua, LIU Xiaodi, LU Xiangyang, et al(19)
Path planning strategy of snake-like robot in complex environment	..... LI Weiqing, WANG Yongjuan, GAO Yunlong(28)
Research on autonomous collaborative capability verification of unmanned swarm based on meta-combat domain	..... SHI Zhiguo, XU Kaiping, GONG Xin, et al(38)
A direct location method based on the combination of spatial information and video	..... WEI Zhuo, WANG Jian, LI Chao, et al(44)
Target threat assessment based on random multi-weights TOPSIS method	..... LIU Chang, LI Jiang, CHEN Yang, et al(50)
Bidirectional GRU trajectory prediction for large-caliber artillery based on bahdanau attention mechanism	..... PENG Chenyang, CHEN Longmiao, ZHANG Mingyang(56)
Finite element numerical analysis and experimental verification of anti-explosion performance of inclined explosion-proof wall	..... ZHANG Xuemei, GU Wenbin, XIE Xingbo, et al(65)
Analysis of equipment atmospheric corrosion factors based on improved GRA-KPCA model	..... HONG Liang, SUN Weihe, ZHAO Jianyin(75)
Simulation analysis of factors influencing the explosive transmission ability of explosive cutting networks	..... GUO Mingkai, ZHAO Zheng(82)
Optimization of the design of the aircraft gun buffer	..... LIU Junhao, YUE Shuai, SHAN Junyu, et al(88)
Solid rocket motor sympathetic detonation based on SPH method numerical simulation study	..... ZHOU Dongmo, HUI Buqing, WEI Yuwen, et al(97)
Research on technology of a lightweight air-ground platform with variable structure	..... ZHANG Zheng, LI Xingwei, ZHAO Xianfa(105)
Analysis and optimization of ballistic characteristics of mine eliminating bombs in cross flow environment	..... LI Rong, WANG Xudong, YU Peng(115)
Simulation research on aerodynamic and ballistic characteristics of aerial bombs	..... LYU Jingwei, WANG Zhijun, XU Yongjie, et al(121)
A bearing-only attack method for anti-ship missiles based on target approximate heading	..... WEI Haiguang(128)
Research on RBF neural network and SLAM system localization in the use of strapdown seeker	..... WANG Jianan, PENG Xiaole, WANG Zhihao(134)
Simulation analysis of influence of UWB HPM on electronic equipment in radar shelter	..... HU Xin, YANG Jiangping, MENG Cangzhen, et al(142)
The effect of perchlorate on the thermal reaction behavior of Al/PTFE active materials	..... ZHOU Dan, LI Ruijiang, ZHOU Peng, et al(150)

JOURNAL OF ORDNANCE EQUIPMENT ENGINEERING

Vol. 45 No. 7 (Sum. No. 312) Jul. 2024

Simulation analysis of magnetic response under complex penetration conditions based on magnetic anomaly detection	ZHAO Jing, WANG Ruibo, LI Changsheng(158)
Research on explosion-proof composite structure anti-explosion performance test technology for armored vehicles	YANG Jiang, GUO Hao, ZHI Kaiyan, et al(167)
Analysis of muzzle vibration under projectiles/barrel coupling effect	LYU Hangyu, LI Xiaoqi, XU Cheng(172)
Robust nested saturation control of quadrotor UAV	LIU Sicheng, GUO Yuying(179)
Performance analysis of thermoelectric generator with honeycomb structure semiconductors	YAN Tingxiang, HOU Zhixuan, TIAN Ke, et al(186)
Influence of spoiler parameters on attenuation efficiency of tunnel explosion shock wave	WANG Jianshuai, FAN Chengfei(192)
Numerical analysis of the detonation characteristics of cased charges under mass impact	WU Fusheng, HOU Hailiang, LI Dian(200)
Advances in head injury and protection under projectile impact loading	CHANG Lijun, CHEN Taiwei, WANG Tianhao, et al(208)
Progress in non-shock ignition performance of solid propellants with microscopic defects	ZHANG Xiaojing, YU Hongtao(217)
Image-based damage assessment: A review	CHEN Xi, ZHAI Hongbo(224)
Research status and development trend of the explosion-proof structure of the miniature tandem warhead	GONG Hongjie, YU Rui, GUO Xiang, et al(235)
Study on the modification mechanism of Ag/AgCl marine electric field detection electrode by graphene/silver nanoparticle	LI Hongxia, XU Ruichang, XIN Jie, et al(242)
3D reconstruction of defective structure in silicone rubber bonding layer and its influence on bonding properties	CHEN Zixuan, YU Haijing, FENG Yun, et al(247)
Numerical simulation study on the characteristics of supercharged jet forming	WANG Xi, TIAN Bin, WANG Feng, et al(253)
Analysis of thermal conductivity of graphene composites based on mesomechanics	LIU Wenjun, HAN Haitao, LU Qin, et al(259)
Research on data destruction method based on initiating explosive device technology	ZHANG Qiang, KANG Changsheng, FAN Wentao, et al(267)
Space object recognition method based on wideband radar RCS data	MA Teng, ZHOU Lanfeng, LI Jianxin(275)
Synuschronolocalization and mapping algorithm based on improved VINS	YU Yongjie, SHEN Yichun, ZHOU Zhifeng, et al(283)
Research on trajectory tracking method of spherical robot based on MPC	LIU Chunzheng, CHEN Zhihua, YING Zhanfeng, et al(290)
A method for estimating signal parameters of UAV remote controller in different frequency scenarios	XU Yajun, GAO Tianlu, TANG Wenbo, et al(298)