

中文核心期刊
CSCD核心期刊
中国科技核心期刊
RCCSE中国核心学术期刊

ISSN 2096-2304
CN 50-1213/TJ

兵器装备工程学报

Journal of Ordnance Equipment Engineering

ISSN 2096-2304



9 772096 230227

2022

6

第43卷总第287期



目次

不敏感推进剂及装药技术专栏(专栏主编:庞维强,西安近代化学研究所 研究员)

- HTPE 推进剂药浆粘流性能及其影响因素研究 那 青,姚维尚,夏 敏,郭 涛,张铭浩,祁振宇,罗运军(1)
- 钝感氧化剂对 PBT 基推进剂低易损性的影响 王 旭,徐 森,李苗苗,刘大斌,吴星亮,徐飞扬,杨 年(7)
- HTPE 与 PBT 对推进剂慢速烤燃特性的影响 李苗苗,陈静静,郑亭亭,周智鹏(13)
- 低易损性推进剂研究进展及发展趋势 李海涛,钱 勖,庞爱民,汪 越(19)
- 射流冲击固体发动机起爆阈值的数值模拟 石浩男,戴开达,张 媛,向 召,赵 猛,李苗苗,陈静静(24)

综述

- 自行火炮身管指向测量关键技术综述 程泽俊,滕红智,韩兰懿,石志勇(29)
- 基于卷积神经网络的目标检测算法综述 张 静,农昌瑞,杨智勇(37)
- 热循环与随机振动下焊点可靠性的研究综述 徐鹏博,吕卫民,刘陵顺,孙晨峰(48)

装备理论与装备技术

- 钛合金半穿甲战斗部高速侵彻钢靶性能对比实验研究 周忠彬,张 博,赵永刚,张萌昭,郭双锋,袁宝慧(55)
- 岸舰导弹“刹车+起竖”过程传递对准方法研究 李 根,吕卫民,刘陵顺,张天琦(61)
- 弹丸发射过程横向过载模拟及其对炸药动态响应的影响研究 刘刚伟,贾 宇,宋 浦(66)
- 基于 WRF 模式的初始场误差分析方法 刘公铄,杜英森,李 岩,冀宵玉,孙 琦(72)
- 多种侵彻环境的弹药炸点控制研究 胡晓东,熊 伟,蒋学乔,芮 亮,赵保全(79)
- 典型含铝炸药深水爆炸气泡脉动特性研究 段超伟,宋 浦(84)
- 火炮身管疲劳损伤及其健康监测研究 李慧杰,吴 斌,郑 靖(90)
- 船用核动力装置强迫循环向自然循环转换程序优化研究 孙吉晨,马 杰,韩 壮(96)
- 双脉冲发动机软隔层材料性能表征及数值分析 种 峰,陈 雄,许进升(102)
- 中口径舰炮对无人水面舰艇射击效力仿真 高 龙,王 磊,谢保军,赵亚东,申战胜(108)
- 全方位运动车辆变结构耦合同步控制策略研究 张豫南,闫猛飞,房 远,尚颖辉(116)
- 基于启发式遗传算法的近距离空中支援超网络结构优化 张 泽,王 瑛,闫孟达,岳龙飞,胡东愿(121)
- 一种可在高空投放的低成本小型无人机技术研究 周前进,胡学峰,胡 浩,叶波波,王子一(128)
- 基于灰色关联和比例风险模型的装备环境影响因素分析 李逸源,杨江平,谢雨希,胡 欣(134)
- 内弹道雷达的枪械膛压非接触式测量方法 景春阳,经 哲,杜炽旭(141)

基础理论与应用研究

- 高强纤维复合材料典型胶接接头抗弹性能研究 吴 伟,李 典,侯海量,李永清,姜安邦,朱 锡(147)
- 靶材对铜爆炸箔电爆炸性能一致性的影响 周 全,陈 航,代 波,任 勇(155)
- 基于 Fluent 的火炮减后坐喷管数值计算与分析 薛 滨,何 永,胡元涛(162)
- 照门座金属粉末注射成形数值模拟及试验研究 张 驰,高炳桢,周 涛,康彦东,赵随波,楚夏威(169)
- 棱镜式激光陀螺零偏补偿方法 崔 娟,马家君,胡珍妮(176)
- 基于改进 Faster R-CNN 的海上弹着点水柱目标检测算法 王永生,姬嗣愚,杜彬彬(182)
- 基于 Merkle 哈希树的异构通信网络数据异常值概率识别算法 蒋诚智,徐 浩,黄传锋,邓 松(190)
- 脊形前体飞行器静态绕流数值模拟研究 司芳芳,袁先旭,贺旭照,谢昱飞,叶友达(196)
- 电涡流阻尼器布置方式对炮口振动的对比性研究 谢子豪,刘 宁,黄建文,沈艳萍(204)
- 基于改进 YOLOv4 算法的无人机目标检测 祁江鑫,吴 玲,卢发兴,史浩然,许俊飞(210)
- 人体躯干冲击波超压测试方法研究 李 冈,蔡 萌,徐冰川,尤文斌,胡 滨,刘伟巍(218)

机械制造与检测技术

- 圆弧齿轮泵端面油膜流固耦合数值分析研究 冯永保,刘 珂,魏小玲,李淑智,何祯鑫(224)
- 基于 GA 优化的 SVR 对膛线切削力的预测 刘 洋,关世奎,赵 宏,沙业典(232)
- 基于 MSCAE 的滚动轴承健康指标提取及其应用 叶子健,张 强,邵思羽,杨新宇,牛天林,赵玉伟,焦晓璇(239)
- 上肢智能康复外骨骼的设计与仿真 马 泽,管小荣,李 仲,李 灿(248)
- 基于可靠性仿真的液压系统稳定性优化设计 初 琦,刘 勤,史利娟,李雪艳(255)

信息科学与控制工程

- 基于可观测性分析的机载 SINS 起飞阶段自标定研究 赵 阳,戴邵武,丁 祥,杨大光,戴洪德(261)
- 末制导弹药捷联制导控制一体化技术研究 韩旭东,张鹏飞,张 意,齐竹昌,柴 劲(269)
- 基于滑模和控制分配的航天器 RCS 容错控制 信玉暄,辛万青,王 勇(276)
- 基于移动边缘计算的车联网资源分配方案研究 欧阳中辉,冯韶华,凌云峰,陈青华(283)
- 基于 B-CNN 模型的异构网络大数据知识扩充算法研究 张伟华,王海英(290)

化学工程与材料科学

- 纳米铝粉粒度对高能量密度悬浮燃料性能影响 王 芳,王 凯,史 钰,黄 谱,李春涛,付晓梦,王 伟,李 伟,王艳薇(295)
- $\text{Fe}_3\text{O}_4@\text{Ti}_3\text{C}_2\text{T}_x@\text{rGO}$ 复合材料吸波性能研究 王欣欣,李 凌,张啸锟,吕绪良(302)
- 平纹碳纤维复合材料拉伸及环氧树脂压缩力学实验研究 赵昌林,何永明(309)

JOURNAL OF ORDNANCE EQUIPMENT ENGINEERING

Vol. 43 No. 6(Sum. No. 287) Jun. 2022

CONTENTS

Study on viscous flow properties of HTPE propellant slurry and its influencing factors	NA Qing, YAO Weishang, XIA Min, et al(1)
Influence of insensitive oxidants on low vulnerability of PBT-based propellants	WANG Xu, XU Sen, LI Miaomiao, et al(7)
Effect of HTPE and PBT binders on slow cook-off characteristics of propellant	LI Miaomiao, CHEN Jingjing, ZHENG Tingting, et al(13)
Research progresses and development trend of low vulnerability propellants	LI Haitai, QIAN Xu, PANG Aimin, et al(19)
Numerical simulation of initiation threshold of solid engine by shaped-charge jet	SHI Haonan, DAI Kaida, ZHANG Yuan, et al(24)
Summarization on key technology of self-propelled artillery barrel aiming direction measurement	CHENG Zejun, TENG Hongzhi, HAN Lanyi, et al(29)
Review of object detection algorithms based on convolutional neural network	ZHANG Jing, NONG Changrui, YANG Zhiyong(37)
Review of research on solder joint reliability under thermal cycling and random vibration	XU Pengbo, LYU Weimin, LIU Lingshun, et al(48)
Experimental study on high-speed penetration performance of Ti alloy semi armor piercing warhead into steel target	ZHOU Zhongbin, ZHANG Bo, ZHAO Yonggang, et al(55)
Research on transfer alignment method of shore-to-ship missile's "Brake + Erect" process	LI Gen, LYU Weimin, LIU Lingshun, et al(61)
Numerical research on transverse overload of the projectile launch and influence on dynamic response of explosives	LIU Gangwei, JIA Yu, SONG Pu(66)
Research on initial field error analysis method based on WRF model	LIU Gongshuo, DU Yingsen, LI Yan, et al(72)
Research on ammunition explosion point control in various penetration environments	HU Xiaodong, XIONG Wei, JIANG Xueqiao, et al(79)
Research on bubble pulsation characteristics of typical aluminium-containing explosives in deep water explosion	DUAN Chaowei, SONG Pu(84)
Fatigue behavior and safety evaluation of gun barrel	LI Huijie, WU Bin, ZHENG Jing(90)
Study on conversion process optimization for forced circulation to natural circulation of marine nuclear power plant	SUN Jichen, MA Jie, HAN Zhuang(96)
Material characterization and numerical analysis of soft PSD in dual-pulse motors	CHONG Feng, CHEN Xiong, XU Jinsheng(102)
Firing effectiveness simulation on medium caliber Naval gun against USV	GAO Long, WANG Lei, XIE Baojun, et al(108)
Research on variable structure coupled synchronous control strategy for omni-directional moving vehicle	ZHANG Yunan, YAN Mengfei, FANG Yuan, et al(116)
Optimization of close air support super-network structure based on heuristic genetic algorithm	ZHANG Ze, WANG Ying, YAN Mengda, et al(121)
Technology study on high altitudes deployed, low-cost small UVA	ZHOU Qianjin, HU Xuefeng, HU Hao, et al(128)
Analysis of environmental factors on radar failures based on Grey correlation and proportional risk model	LI Yiyuan, YANG Jiangping, XIE Yuxi, et al(134)
Non-contact measurement method of chamber pressure of firearms based on interior ballistic radar	JING Chunyang, JING Zhe, DU Chixu(141)
Research on ballistic performance of typical adhesive joints of high-strength fiber composites	WU Wei, LI Dian, HOU Hailiang, et al(147)

JOURNAL OF ORDNANCE EQUIPMENT ENGINEERING

Vol. 43 No. 6(Sum. No. 287) Jun. 2022

Effect of target on consistency of electrical explosion performance of copper explosive foil	
.....	ZHOU Quan, CHEN Hang, DAI Bo, et al(155)
Numerical calculation and analysis of gun recoil nozzle based on fluent	 XUE Bin, HE Yong, HU Yuantao(162)
Numerical simulation and experimental research on metal powder injection molding of scope-base parts	
.....	ZHANG Chi, GAO Bingzhen, ZHOU Tao, et al(169)
Research on zero offset compensation method of prism laser gyro	 CUI Juan, MA Jiajun, HU Zhenni(176)
Marine impact water column signal detection algorithm based on improved Faster R-CNN	
.....	WANG Yongsheng, JI Siyu, DU Binbin(182)
Probability identification algorithm of outliers in heterogeneous communication networks based on Merkle hash tree	
.....	JIANG Chengzhi, XU Hao, HUANG Chuanfeng, et al(190)
Simulation of aerodynamic characteristics of a simplified aircraft with chined forebody	
.....	SI Fangfang, YUAN Xianxu, HE Xuzhao, et al(196)
Comparative study on effect of eddy current damper arrangement on muzzle vibration	
.....	XIE Zihao, LIU Ning, HUANG Jianwen, et al(204)
UAV cluster detection based on improved YOLOv4 algorithm	 QI Jiangxin, WU Ling, LU Faxing, et al(210)
Research on blast overpressure measurement method of a simplified torso surrogate	
.....	LI Gang, CAI Meng, XU Bingchuan, et al(218)
Numerical analysis of fluid-solid coupling of oil film on the end face of arc gear pump	
.....	FENG Yongbao, LIU Ke, WEI Xiaoling, et al(224)
Prediction of rifling cutting force by support vector machine based on genetic algorithm optimization	
.....	LIU Yang, GUAN Shixi, ZHAO Hong, et al(232)
Extraction of rolling bearing health index based on MSCAE and its application	
.....	YE Zijian, ZHANG Qiang, SHAO Siyu, et al(239)
Design and simulation of upper limb intelligent rehabilitation exoskeleton	
.....	MA Ze, GUAN Xiaorong, LI Zhong, et al(248)
Stability optimization design of hydraulic system based on reliability simulation	
.....	CHU Qi, LIU Qin, SHI Lijuan, et al(255)
Research on self calibration of airborne SINS in takeoff phase based on observability analysis	
.....	ZHAO Yang, DAI Shaowu, DING Xiang, et al(261)
Research on strapdown integrated guidance and control technology of terminal guided munitions	
.....	HAN Xudong, ZHANG Pengfei, ZHANG Yi, et al(269)
RCS fault tolerant control based on sliding mode control and control allocation	
.....	XIN Yuxuan, XIN Wanqing, WANG Yong(276)
Research on resource allocation scheme of internet of vehicles based on mobile edge computing	
.....	OUYANG Zhonghui, FENG Shaohua, LING Yunfeng, et al(283)
Research on knowledge expansion algorithm of heterogeneous network big data based on B-CNN model	
.....	ZHANG Weihua, WANG Haiying(290)
Effect of particle size of nano-aluminum powders on performance of high density suspension fuels	
.....	WANG Fang, WANG Kai, SHI Yu, et al(295)
Research on absorbing properties of $\text{Fe}_3\text{O}_4@\text{Ti}_3\text{C}_2\text{T}_x@\text{rGO}$ Composite	
.....	WANG Xinxin, LI Ling, ZHANG Xiaokun, et al(302)
Tensile properties of plain woven carbon fiber reinforced composite and compressive behaviors of epoxy resin:	
An experimental investigation	 ZHAO Changlin, HE Yongming(309)