



CHINA MEASUREMENT & TEST

ISSN 1674-5124
CN 51-1714/TB

10
2018
第44卷 总第243期

中文核心期刊

中国科技核心期刊

中国科技论文统计源期刊

中国学术期刊综合评价数据库全文收录期刊

中国期刊(光盘版)全文收录期刊

《万方数据---数字化期刊群》全文收录期刊

RCCSE中国核心学术期刊(A)

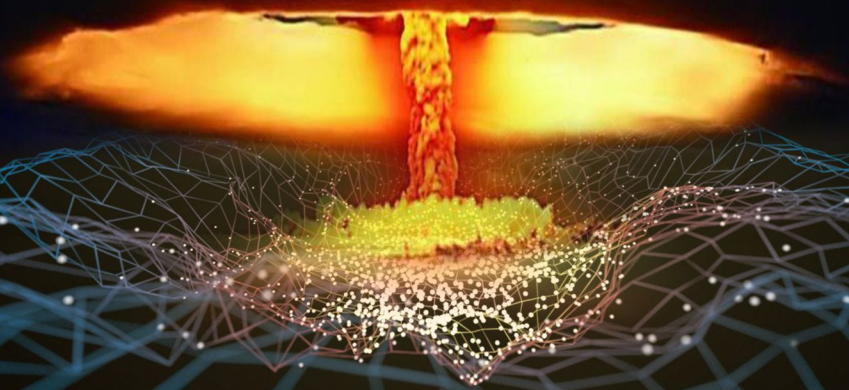
美国《化学文摘》(CA)收录期刊

美国《剑桥科学文摘(工程技术)》(CSA)收录期刊

美国《剑桥科学文摘(自然科学)》(CSA)收录期刊

俄罗斯《文摘杂志》收录期刊

美国《乌利希期刊指南》收录期刊



爆炸力学实验技术专题

主管：中国测试技术研究院



目次

测试理论

- | | | |
|--------------------------------|------------------|----|
| 中型浮动冲击平台试验爆源定位方法研究 | 金辉, 贾则, 张永坤, 等 | 1 |
| 水下爆炸中水面效应以及药包形状对冲击波的影响 | 王奕鑫, 马宏昊, 沈兆武, 等 | 7 |
| 装药水下接触爆炸驱动能力测量技术研究 | 张显丕, 刘建湖, 潘建强, 等 | 14 |
| 金属板在水下爆炸加载下的动态响应研究进展 | 郑监, 卢芳云, 李翔宇 | 20 |
| 非理想炸药水下爆炸载荷传输特性对气背板结构响应的不确定度研究 | 柳剑, 于文泽, 安丰江, 等 | 31 |
| 高温霍普金森拉杆实验技术研究进展 | 李尚昆, 胡文军, 徐伟芳, 等 | 35 |
| 坑道内化爆载荷数值模拟与泡沫混凝土吸能效应优化分析 | 吴文溢, 钟方平, 王春明, 等 | 43 |

测试方法

- | | | |
|--------------------------|------------------|-----|
| 高温条件下薄壁圆柱筒高速碰撞试验 | 徐伟芳, 张方举, 胡文军, 等 | 50 |
| 爆炸焊接动态参数的简易测量系统 | 杨明, 马宏昊, 沈兆武, 等 | 55 |
| 水中爆炸冲击波在高桩圆柱结构上的分布规律试验研究 | 庄铁栓, 伍俊, 许文轩, 等 | 60 |
| 超高速撞击过程产生的电磁脉冲对测试信号的干扰 | 黄家蓉, 王晓峰, 吴飏, 等 | 67 |
| 浅水中气泡运动及水射流行为实验研究 | 孟祎, 张舵 | 73 |
| 弹药动态加载下破片测试方法 | 陈君, 苏健军, 姬建荣, 等 | 78 |
| 硅橡胶拉伸力学的应变率相关性研究 | 郭玲梅, 汪洋, 徐伟芳 | 85 |
| 水深对毁伤效应的影响实验研究 | 王长利, 周刚, 冯娜, 等 | 89 |
| 混凝土聚能穿孔弹的试验研究 | 黄魁, 王励自, 何翔 | 96 |
| PVDF的标定及在泡沫铝爆炸冲击实验中的应用 | 徐景林, 顾文彬, 刘建青, 等 | 101 |

测试仪器

- | | | |
|---------------------|------------------|-----|
| 用于冲击加速度测量的机械滤波器设计 | 陈辉, 江楠 | 107 |
| 脉冲激光回波动态测试系统 | 马超, 陈慧敏, 龙胤宇, 等 | 115 |
| 水下爆炸试验高速摄像系统研制与应用 | 张姝红, 金辉, 潘建强, 等 | 120 |
| 热容式热流密度传感器的研制及应用 | 张俊锋, 苏健军, 姬建荣, 等 | 125 |
| 应变片粘贴因素对压杆测压的影响 | 李焰, 张敏, 史国凯 | 130 |
| 一种基于PDV的近场冲击波高压测量技术 | 李旭, 安丰江, 吴成, 等 | 134 |

性能测试

- | | | |
|-------------------------------|------------------|-----|
| PBX结构冲击实验研究 | 谢若泽, 张青平, 黄西成, 等 | 139 |
| 超高分子量聚乙烯复合材料抗多发弹性能试验研究 | 王绪财, 王伟, 陈春晓, 等 | 145 |
| PVDF薄膜单轴拉伸及交流极化特性研究 | 覃双, 张旭, 赵锋, 等 | 151 |
| 水下爆炸载荷作用下聚脲材料对钢结构防护效果研究 | 代利辉, 吴成, 安丰江, 等 | 157 |
| 冲击载荷作用下TC11钛合金失效模型中关键参数测试方法研究 | 陈军红, 徐伟芳, 张方举, 等 | 164 |
| 引导式落石拖挂网落石冲击模型试验研究 | 崔廉明, 石少卿, 王文康 | 169 |
| 地下密闭结构内高效化爆实验技术 | 王万鹏, 钟方平, 熊益波, 等 | 174 |
| PTFE/Al/CuO冲击激发反应材料性能分析 | 周敬轅, 丁亮亮, 冉宪文, 等 | 179 |
| 多层包装箱冲击缓冲效应数值分析 | 钟卫洲, 张则熊, 刘小刚, 等 | 184 |

CONTENTS

Test Theories

Research on locating method of explosion source for medium floating impact platform test	JIN Hui, JIA Ze, ZHANG Yongkun, et al	1
Effect of water surface and shape of charge on shock wave in underwater explosion	WANG Yixin, MA Honghao, SHEN Zhaowu, et al	7
Investigation on measurement technology of driving capability for underwater contact explosion	ZHANG Xianpi, LIU Jianhu, PAN Jianqiang, et al	14
Research progress on dynamic response of metal plate in underwater explosion loading	ZHENG Jian, LU Fangyun, LI Xiangyu	20
Study on uncertainty of underwater explosion load transfer characteristics of non-ideal explosives to air-back plate structural response	LIU Jian, YU Wenzhe, AN Fengjiang, et al	31
Research progress on SHTB experiment technique at elevated temperature	LI Shangkun, HU Wenjun, XU Weifang, et al	35
Numerical simulation of blasting load in tunnel and optimization analysis of energy absorption effect of foam concrete	WU Wenyi, ZHONG Fangping, WANG Chunming, et al	43

Test Methods

Study on high velocity impact experiment of thin cylinders at elevated temperature	XU Weifang, ZHANG Fangju, HU Wenjun, et al	50
A simple measurement system for dynamic parameters of explosive welding	YANG Ming, MA Honghao, SHEN Zhaowu, et al	55
Experimental investigation of distributing rule on high column stake for shock wave in underwater explosion	ZHUANG Tieshuan, WU Jun, XU Wenxuan, et al	60
Electromagnetic pulse interference to measure signal in hypervelocity impact	HUANG Jiarong, WANG Xiaofeng, WU Biao, et al	67
Analysis of bubble motion and water jet behavior in shallow water	MENG Yi, ZHANG Duo	73
Method to test the fragment of moving bombs	CHEN Jun, SU Jianjun, JI Jianrong, et al	78
The study on strain-rate dependence of tension behavior of filled silicone rubber	GUO Lingmei, WANG Yang, XU Weifang	85
Experimental research on influence of depth on damage effect	WANG Changli, ZHOU Gang, FENG Na, et al	89
Experimental investigations of shaped charge perforator for drilling concrete	HUANG Kui, WANG Lizi, HE Xiang	96
Calibration of PVDF and its application in the explosion experiment with aluminum foam	XU Jinglin, GU Wenbin, LIU Jianqing, et al	101

Test Instruments

Design of mechanical filter for shock acceleration measuring	CHEN Hui, JIANG Nan	107
Echo dynamic test system for pulsed laser	MA Chao, CHEN Huimin, LONG Yinyu, et al	115
Development and application of an underwater explosion experiment high-speed photography system	ZHANG Shuhong, JIN Hui, PAN Jianqiang, et al	120
Development and application of heat capacity type heat flux sensor	ZHANG Junfeng, SU Jianjun, JI Jianrong, et al	125
Influence of stickup factor of strain gauge on pressure bar measurement	LI Yan, ZHANG Min, SHI Guokai	130
A near-field shock wave measurement technique based on PDV	LI Xu, AN Fengjiang, WU Cheng, et al	134

Performance Tests

Experimental investigation on the PBX structure by drop test	XIE Ruoze, ZHANG Qingping, HUANG Xicheng, et al	139
Experimental study on the multi-hit performance of UHMWPE composite material	WANG Xucai, WANG Wei, CHEN Chunxiao, et al	145
Study on the uniaxial orientation behaviors and polarization properties of PVDF films	QIN Shuang, ZHANG Xu, ZHAO Feng, et al	151
Investigation on the protection effect of polyurea-coated steel plates at underwater explosive loading	DAI Lihui, WU Cheng, AN Fengjiang, et al	157
The measurement of the key parameters in the dynamic failure mode of TC11 titanium alloy	CHEN Junhong, XU Weifang, ZHANG Fangju, et al	164
The model test study on the hanging net system under rockfall impact	CUI Lianming, SHI Shaoqing, WANG Wenkang	169
The high efficiency experiment technology of chemical explosion in underground closed structure	WANG Wanpeng, ZHONG Fangping, XIONG Yibo, et al	174
Performance analysis of PTFE/Al/CuO impact-initiated energetic materials	ZHOU Jingyuan, DING Liangliang, RAN Xianwen, et al	179
Numerical analysis on impact cushion behavior of multilayer container	ZHONG Weizhou, ZHANG Zexiong, LIU Xiaogang, et al	184