# 爆炸与冲击

# BAOZHA YU CHONGJI

# 1981 年 7 月创刊 2025 年 3 月 第 45 卷 第 3 期 (总第 257 期)

目 次

# ・封面文章・

用于软材料的中应变率 LSHPB 系统及应用 ……… 徐沛栋, 倪萍, 杨宝, 蒋震宇, 刘逸平, 刘泽佳, 周立成, 汤立群 031001

・爆炸物理・

考虑壳体运动惯性约束效应的装药燃烧裂纹网络反应演化理论模型	
教继轩,白志玲,段卓平,张连生,黄风雷	032101

## ・冲击动力学・

基于拉格朗日反分析法的砂岩动态力学特性 张子健,陈骏,朱锐,余浩然,李冉鑫,张渊通	033101
退火态增材制造 AlSi10Mg 合金在极端条件下的力学行为 张权, 陈剑斌, 史同亚, 汪小锋, 南小龙, 王永刚	033102
Ta-Hf-Nb-Zr 体系高熵合金 J-C 模型及应用试验李海峰,门建兵,金文,刘旭东	033103
接触爆炸下聚脲/钢筋混凝土厚板复合结构的抗爆性能 徐赵威,汪维,李奕硕,张仲昊,张丛琨	033104
基于 PCA-BPNN 的桥梁爆炸荷载时程预测 杜晓庆,何益平,邱涛,程帅,张德志	033201
弹体侵彻钢筋混凝土遮弹层的阻力方程	033301
钨纤维增强金属玻璃复合材料的长杆弹斜侵彻/穿甲性能 章浪,赵丰鹏,张钰忠,邓勇军,李继承	033302
椭圆类截面弹体侵彻多层间隔钢靶的弹道特性 杨士林,高旭东,张先锋,王晓锋	033303
远场冲击波下螺旋桨毁伤与空化特征研究 王志凯,郑景洲,杨洋,夏辉衡,姚熊亮	033401

# ・实验技术与数值方法・

基于罚函数法的大变形冲击碰撞问题显式健壮格式 …………… 初东阳, 戎宇飞, 周章涛, 伍星星, 汪俊, 王海坤 034201

## ・应用爆炸力学・

抗 8 000 kJ 能级落石冲击被动柔性防护网设计	r	吴昊,吴逸凡,马亮;	훈 035101
----------------------------	---	------------	----------

# **EXPLOSION AND SHOCK WAVES**

### Vol. 45, No. 3, 2025 (Sum No. 257)

## **CONTENTS**

#### • On the Cover •

An intermediate strain rate LSHPB system for soft materials and its application ...... XU Peidong, NI Ping, YANG Bao, JIANG Zhenyu, LIU Yiping, LIU Zejia, ZHOU Licheng, TANG Liqun 031001 · Explosion Physics · A buring-crack network theoretical model for reaction evolution of explosives considering the inertial confinement effect of the shell • Impact Dynamics • Experiment on dynamic mechanical properties of sandstone based on Lagrangian inverse analysis method Mechanical behavior of additively manufactured AlSi10Mg alloy with annealing state under extreme conditions ......ZHANG Quan, CHEN Jianbin, SHI Tongya, WANG Xiaofeng, NAN Xiaolong, WANG Yonggang 033102 J-C model of high-entropy alloy Ta-Hf-Nb-Zr system and its application test ..... LI Haifeng, MEN Jianbing, JIN Wen, LIU Xudong 033103 Blast resistance of polyurea/reinforced concrete thick slab composite structures under contact explosion Prediction of blast loads on bridge girders based on PCA-BPNN Resistance equation of projectile penetrating into reinforced concrete shield WANG Wu, YANG Jun, WANG Anbao, LI Shengjie 033301 Ballistic performance of tungsten fiber-reinforced metallic glass composite in the long rod oblique penetration/perforation ..... Trajectory characteristics of elliptical cross-section projectile penetrating multi-layer spaced steel targets VANG Shilin, GAO Xudong, ZHANG Xianfeng, WANG Xiaofeng 033303 Research on damage and cavitation characteristics of propellers under far field shock waves WANG Zhikai, ZHENG Jingzhou, YANG Yang, XIA Huiheng, YAO Xiongliang 033401

#### Experimental Techniques & Numerical Methods

### Applied Explosion Mechanics

Design of passive flexible barrier against rockfall impact with 8 000 kJ energy level ..... WU Hao, WU Yifan, MA Liangliang 035101