

## 目次

### · 轻质复合防护材料与结构的力学行为 ·

轻质复合防护材料与结构的力学行为专刊·前言	王志华, 李世强	070101
异质多孔结构材料的设计策略与抗冲击性能研究进展	李世强, 李子豪, 王志华, 卢国兴	070102
自锁结构设计及力学性能研究进展	熊健, 闫承瑞, 陈宗兵	070103
新型长载荷平台缓冲超材料的设计与性能研究	尤艺璇, 叶文康, 张天朋, 胡玲玲	070104
梯度泡沫金属冲击波形调控的逆向设计与边界效应研究	殷江南, 杨强, 高金翎, 刘小川, 刘家贵, 卢天健	070105
基于力学匹配设计的仿生薄壁-泡沫复合结构的分级能量吸收与动态响应	高丹丹, 闫昊, 周颖, 王涛, 黄广炎	070106
聚氨酯胶体含量对预浸PBO纤维复合板弹道性能的影响	苏子涵, 李翔宇, 梁民族, 王洁, 林玉亮, 张玉武	070107
超薄碳纤维复合材料的冲击动力学行为实验研究	赵昌方, 刘浩, 周才华, 周志坛, 冀梁	070108
高速撞击下不同背板碳化硼陶瓷复合靶板的陶瓷锥形成机制	王新德, 李明树, 王仁杰, 王永刚, 蒋招绣	070109
碳化硅/钛合金穿插式TPMS结构的抗侵彻性能数值模拟研究	周浩天, 李依男, 覃彬, 孟钰权, 宋卫东	070110
基于机器学习的三角形波纹夹芯梁的冲击响应与设计优化	李栋, 张晓斌, 刘志芳, 雷建银	070111
航空发动机复合材料叶片鸟撞损伤的元件级等效试验方法	司武林, 李文昊, 姜晓伟, 李游, 赵振强, 张超	070112
轴向荷载作用下仿生分形多胞圆管的耐撞性	高建铭, 张晓斌, 刘志芳, 雷建银, 李世强	070113
中间层材料对7B53铝合金复合板界面组织与动态力学性能的影响	万宇, 陈泽军, 曹先铭, 党岳辉, 丛福官, 王强	070114

# CHINESE JOURNAL OF HIGH PRESSURE PHYSICS

Vol. 40, No. 7, 2026 (Sum No. 201)

## CONTENTS

### · Mechanical Behavior of Lightweight Composite Protective Materials and Structures ·

Preface of Mechanical Behavior of Lightweight Composite Protective Materials and Structures .....	WANG Zhihua, LI Shiqiang	070101
Research Progress on Design Strategies and Impact Resistance of Heterogeneous Cellular Structures Material .....	LI Shiqiang, LI Zihao, WANG Zhihua, LU Guoxing	070102
Research Progress on Design Strategies and Mechanical Behaviors of Self-Locking Structure .....	XIONG Jian, YAN Chengrui, CHEN Zongbing	070103
Novel Buffering Metamaterials with a Long Load Plateau: Design and Mechanical Characterization .....	YOU Yixuan, YE Wenkang, ZHANG Tianpeng, HU Lingling	070104
Inverse Design and Boundary Effects in Impact Waveform Control of Graded Foam Metals .....	YIN Jiangnan, YANG Qiang, GAO Jinling, LIU Xiaochuan, LIU Jiagui, LU Tianjian	070105
Hierarchical Energy Absorption and Dynamic Response of Bionic Thin-Walled-Foam Composite Structures Based on Mechanical Matching Design .....	GAO Dandan, YAN Hao, ZHOU Ying, WANG Tao, HUANG Guangyan	070106
Effect of Polyurethane Colloid Content on the Ballistic Performance of Prepreg PBO Fiber Composite Laminates .....	SU Zihan, LI Xiangyu, LIANG Minzu, WANG Jie, LIN Yuliang, ZHANG Yuwu	070107
Experimental Study on the Impact Dynamics Behavior of Ultrathin Carbon Fiber Composites .....	ZHAO Changfang, LIU Hao, ZHOU Caihua, ZHOU Zhitan, JI Liang	070108
Formation Mechanism of Ceramic Cones in Boron Carbide Ceramic Composite Targets with Different Backplates under High-Velocity Impact .....	WANG Xinde, LI Mingshu, WANG Renjie, WANG Yonggang, JIANG Zhaoxiu	070109
Numerical Simulation on Anti-Penetration Performance of SiC/Ti-Alloy Interpenetrating TPMS Structures .....	ZHOU Haotian, LI Yanan, QIN Bin, MENG Yuquan, SONG Weidong	070110
Impact Response and Design Optimization of Triangular Corrugated Sandwich Beams: A Machine Learning Approach .....	LI Dong, ZHANG Xiaobin, LIU Zhifang, LEI Jianyin	070111
Equivalent Bird-Strike Test Method and Fixture Design for the Trailing Edge of Aero-Engine Composite Fan Blades .....	SI Wulin, LI Wenhao, JIANG Xiaowei, LI You, ZHAO Zhenqiang, ZHANG Chao	070112
Crashworthiness of Bionic Fractal Multi-Cell Circular Tubes under Axial Load .....	GAO Jianming, ZHANG Xiaobin, LIU Zhifang, LEI Jianyin, LI Shiqiang	070113
Effect of Interlayer Materials on the Interfacial Microstructure and Dynamic Mechanical Properties of 7B53 Aluminum Alloy Composite Plates .....	WAN Yu, CHEN Zejun, CAO Xianming, DANG Yuehui, CONG Fuguan, WANG Qiang	070114