



EI COMPENDEX
核心期刊

ISSN 0459-1879

CN 11-2062/O3

力学学报

Chinese Journal of Theoretical and Applied Mechanics

第 53 卷 第 9 期 Vol. 53 No. 9

2021



中国科学院力学研究所 主办
中国力学学会
力学学报期刊社 出版

万方数据



力学学报 (月刊)

Chinese Journal of Theoretical and
Applied Mechanics

1957 年 创刊

2021 年

第 53 卷 第 9 期

目 次

颗粒材料计算力学专题

- 颗粒材料计算力学专题序 季顺迎 (2355)
- 多相流动的光滑粒子流体动力学方法研究综述 陈飞国 葛 蔚 (2357)
- 椭球颗粒体系剪切过程中自由体积的分布与演化 邹宇雄 马 刚 李易奥 王 岷 邱焕峰 周 伟 (2374)
- 一种滞弹簧耗能的新型离散元滚动阻力模型研究 高政国 董朋昆 张雅俊 孙卉竹 迪 亚 (2384)
- 冲击载荷下颗粒材料临边界区域的波动行为及变形特征分析 王 蕉 楚锡华 (2395)
- 基于深度学习和细观力学的颗粒材料本构关系研究 瞿同明 冯云田 王孟琦 赵婷婷 狄少丞 (2404)
- 增材制造中滚筒铺粉工艺参数对尼龙粉体铺展性的影响研究 张江涛 谭援强 纪财源 肖湘武 姜胜强 (2416)
- 基于多介质、多尺度离散元方法的冰载荷数值冰水池 季顺迎 田于逵 (2427)

流体力学

- 倾斜吹吸控制下端流边界层减阻的直接数值模拟 夏前锦 连 龙 瞿建雄 王永生 薛 原 王 强 赵立豪 (2454)
- 受径向振荡激励的黏弹性液滴稳定性分析 姚慕伟 富庆飞 杨立军 (2468)
- 二维局部受热腔体内电热对流问题模拟和分析 刘镇涛 肖 莉 和 琨 汪 垒 (2477)
- 高超声速 MHD 球头激波脱体距离理论求解 李逸翔 汪 球 罗 凯 李进平 赵 伟 (2493)
- 自由液面对艇后螺旋桨性能的影响研究 李 鹏 王 超 韩 阳 邹云飞 王世民 (2501)
- 垂荡双气室振荡水柱波能装置水动力特性研究 郭权势 邓争志 王晓亮 程鹏达 (2515)

固体力学

- 两种典型高熵合金冲击释能及毁伤特性研究 侯先苇 熊 玮 陈海华 张先锋 汪海英 戴兰宏 (2528)
- 面内变刚度薄板弯曲问题的挠度-弯矩耦合神经网络方法 黄钟民 谢 臻 张易申 彭林欣 (2541)

动力学与控制

- 考虑胎路多点接触的电动汽车-路面耦合系统振动分析 李韶华 冯桂珍 丁 虎 (2554)
- 轮对系统的 Hopf 分岔研究 武世江 张继业 隋 皓 殷中慧 胥 奇 (2569)

生物、工程及交叉学科

- 一种新的玻尔兹曼方程可计算模型构造与分析 彭傲平 李志辉 吴俊林 皮兴才 蒋新宇 (2582)
- 数据驱动印度洋海域全局动力学研究 李自刚 严 旺 康佳琪 江 俊 洪 灵 (2595)
- 致密砂岩逆向渗吸作用距离实验研究 齐松超 于海洋 杨海烽 汪 洋 杨正明 (2603)

Chinese Journal of Theoretical and Applied Mechanics

(Monthly)

Vol. 53, No. 9, 2021

CONTENTS

Theme Articles on Computation Mechanics of Granular Materials

- Preface of theme articles on computation mechanics of granular materials Ji Shunying (2355)
- A review of smoothed particle hydrodynamics family methods for multiphase flow Chen Feiguo, Ge Wei (2357)
- Distribution and evolution of free volume of ellipsoidal particle systems during shearing
..... Zou Yuxiong, Ma Gang, Li Yiao, Wang Di, Qiu Huanfeng, Zhou Wei (2374)
- A novel discrete element rolling resistance model based on hysteresis spring energy dissipation
..... Gao Zhengguo, Dong Pengkun, Zhang Yajun, Sun Huizhu, Ndiaye Becaye Cissokho (2384)
- Analysis of wave behavior and deformation characteristics of granular materials in pro-border zone under impact load
..... Wang Jiao, Chu Xihua (2395)
- Constitutive relations of granular materials by integrating micromechanical knowledge with deep learning
..... Qu Tongming, Feng Yuntian, Wang Mengqi, Zhao Tingting, Di Shaocheng (2404)
- Research on the effects of roller-spreading parameters for nylon powder spreadability in additive manufacturing
..... Zhang Jiangtao, Tan Yuanqiang, Ji Caiyuan, Xiao Xiangwu, Jiang Shengqiang (2416)
- Numerical ice tank for ice loads based on multi-media and multi-scale discrete element method Ji Shunying, Tian Yukui (2427)

Fluid Mechanics

- Direct numerical simulation of drag reduction in turbulent boundary layers controlled by inclined blowing and sucking
..... Xia Qianjin, Lian Long, Qu Jianxiong, Wang Yongsheng, Xue Yuan, Wang Qiang, Zhao Lihao (2454)
- Stability analysis of viscoelastic liquid droplets excited by radial oscillations Yao Muwei, Fu Qingfei, Yang Lijun (2468)
- Numerical study on two-dimensional electro-thermal convection in a partially heated cavity
..... Liu Zhentao, Xiao Li, He Kun, Wang Lei (2477)
- Theoretical analysis on hypersonic MHD shock stand-off distance of blunt body
..... Li Yixiang, Wang Qiu, Luo Kai, Li Jinping, Zhao Wei (2493)
- The study about the impact of the free-surface on the performance of the propeller attached at the stern of a submarine
..... Li Peng, Wang Chao, Han Yang, Kuai Yunfei, Wang Shimin (2501)
- Hydrodynamics of a dual-chamber OWC wave energy converter in heaving motion
..... Guo Quanshi, Deng Zhengzhi, Wang Xiaoliang, Cheng Pengda (2515)

Solid Mechanics

- Impact energy release and damage characteristics of two high-entropy alloys
..... Hou Xianwei, Xiong Wei, Chen Haihua, Zhang Xianfeng, Wang Haiying, Dai Lanhong (2528)
- Deflection-bending moment coupling neural network method for the bending problem of thin plates with in-plane stiffness
gradient Huang Zhongmin, Xie Zhen, Zhang Yishen, Peng Linxin (2541)

Dynamics, Vibration and Control

- Vibration analysis of electric vehicle-road coupling system considering tire-road multi-point contact
..... Li Shaohua, Feng Guizhen, Ding Hu (2554)
- Hopf bifurcation study of wheelset system Wu ShiJiang, Zhang JiYe, Sui Hao, Yin Zhonghui, Xu Qi (2569)

Biomechanics, Engineering and Interdisciplinary Mechanics

- Construcion and analysis of a new computable model for Boltzmann equation
..... Peng Aoping, Li Zihui, Wu Junlin, Pi Xingcai, Jiang Xinyu (2582)
- Data-driven global dynamics of the Indian Ocean Li Zigang, Yan Wang, Kang Jiaqi, Jiang Jun, Hong Ling (2595)
- Experimental research on quantification of countercurrent imbibition distance for tight sandstone
..... Qi Songchao, Yu Haiyang, Yang Haifeng, Wang Yang, Yang Zhengming (2603)