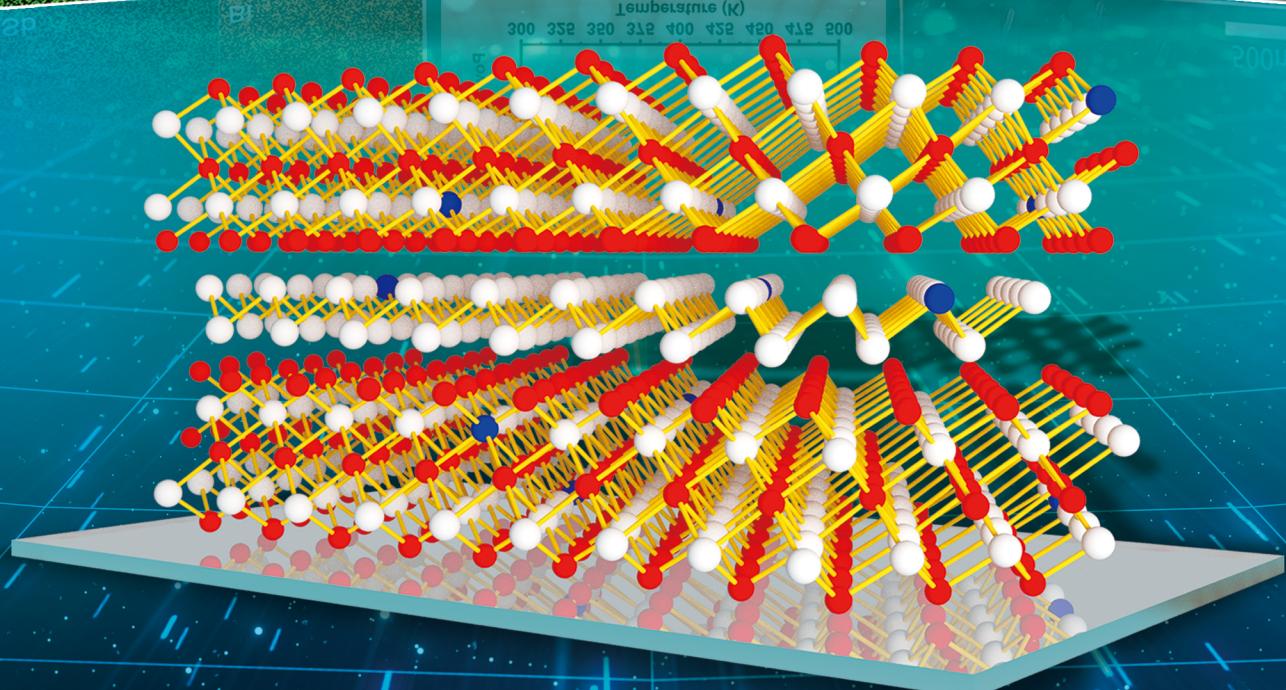
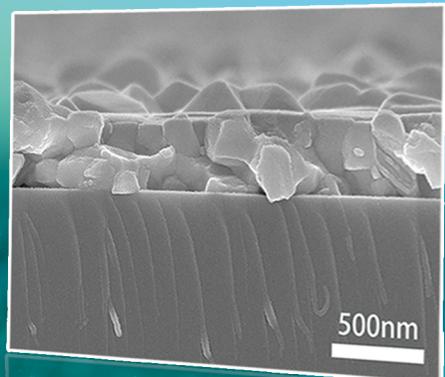
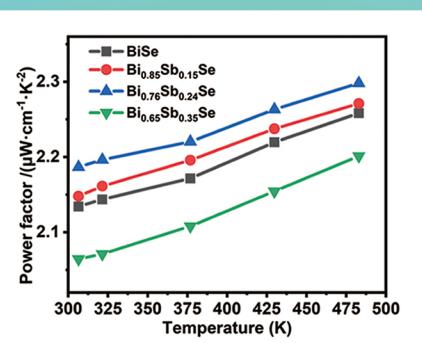
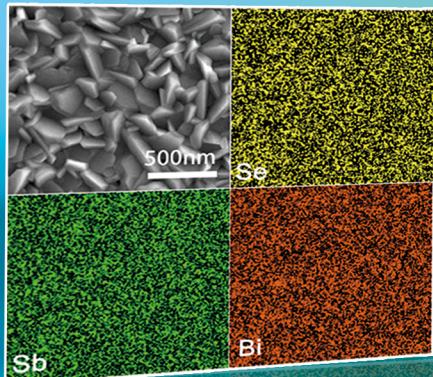


物理学报

Acta Physica Sinica

19

2022 Vol.71
ISSN 1000-3290



中国物理学会 | 中国科学院物理研究所

Chinese Physical Society | Institute of Physics, Chinese Academy of Sciences

物理学报

第 71 卷 第 19 期 2022 年 10 月 5 日

目 次

总论

- 190201 有限线法及其在流固域间耦合传热中的应用 高效伟 丁金兴 刘华零
190301 不同光学网络结构玻色采样发生随机光子损失的模拟研究 季阳 陈美玲 黄汎 吴永政 兰冰
190501 高斯色噪声激励下非对称双稳耦合网络系统的随机共振 王烨花 何美娟
190502 基于三个耦合量子点的四端混合驱动制冷机 刘行 徐帅 高金柱 何济洲

核物理学

- 192101 天体环境下⁶⁶Fe 的电子俘获几率计算 秦文韬 支启军 杨友昌
192501 14 MeV 附近¹⁹¹Ir(n,2n)¹⁹⁰Ir 反应截面实验研究 朱传新 秦建国 郑普 蒋励 朱通华 鹿心鑫
192801 Ti 含量对 TiB₂-SiC-Ti 材料制备和性能的影响 何晓珣 李炳生 刘瑞 张桐民 曹兴忠 陈黎明 徐帅

原子和分子物理学

- 193101 N₂⁺分子离子 X²Σ_g⁺, A²Π_u 和 B²Σ_u⁺态的不透明度 陈晨 赵国鹏 祁月盈 吴勇 王建国
193201 反旋双色椭偏场中 Ar 非次序双电离电子关联的强度依赖 苏杰 刘子超 廖健颖 李盈傧 黄诚
193301 基于二极管激光消光光谱的高温气体与颗粒物同时探测研究 张铭珂 高振威 高光珍 江宇豪 蔡廷栋
193302 倒 Y 型四能级系统中吸收谱线的窄化极限研究 邱凤清 贾宁 钱静

电磁学、光学、声学、传热学、经典力学和流体动力学

- 194101 拓扑自旋光子晶体中螺旋边界态单向传输调控研究 隋文杰 张玉 张紫瑞 王小龙 张洪方 吏强 杨冰
194102 面向激光驱动质子束应用的弱聚焦磁场束线设计研究 朱军高 卢海洋 赵媛 赖美福 古永力 徐世祥 周沧涛
194201 剪切光束成像技术稀疏重构算法 陈明徕 刘辉 张羽 罗秀娟 马彩文 岳泽霖 赵晶
194202 相位可变压缩相干态的高阶光子反聚束效应 张浩杰 郭龑强 郭晓敏 张健飞 左冠华 张玉驰 张天才
194203 一维超导传输线腔晶格中的拓扑相变和拓扑量子态的调制 王伟 王一平
194204 增益开关线偏振单频脉冲光纤激光器 张万儒 陈思雨 栗荣涛 姜曼 李灿 马阁星 周朴
194205 短内腔激光器对光子储备池计算的优化 赵彤 谢文丽 许俊伟 贾志伟
194206 局部异常因子优化的椭圆拟合算法及其在光纤振动传感相位解调中的应用 张令春 姜海明 张俊喜 谢康
194301 三维空腔流动波系建模及模态演化 罗勇 杨党国 武从海 李虎 张树海 吴军强
194601 二维 MoS₂ 压痕过程异质界面范德瓦尔斯力引起的撕裂行为 李耀华 董耀勇 董辉 郑学军
194701 横向矩形微槽抑制高超声速第二模态扰动波的参数化研究 刘勇 涂国华 向星皓 李晓虎 郭启龙 万兵兵
194702 二维湍流热对流最大速度 *Re* 数特性及流态突变特征 *Re* 数 何建超 方明卫 包芸
194703 三角形结构中磁涡旋自旋波模式的研究 强进 何开宙 刘东妮 卢启海 韩根亮 宋玉哲 王向谦

气体、等离子体和放电物理

- 195201 电四极跃迁对电子束离子阱等离子体中离子能级布居的影响 孟举 何贞岑 颜君 吴泽清 姚科 李冀光 吴勇 王建国
195202 星光 III 装置上材料动态压缩过程的激光质子照相实验研究 黄华 李江涛 王倩男
孟令彪 齐伟 洪伟 张智猛 张博 贺书凯 崔波 伍艺通 张航 吉亮亮 周维民 胡建波
195203 多模式离子推力器放电室和栅极设计及其性能实验研究 李建鹏 赵以德 靳伍银 张兴民 李娟 王彦龙

凝聚物质: 结构、力学和热学性质

- 196101 不同方向石墨烯片构筑纳米孔隙浸润特征 王文远 谢章 郝少倩 吴锋民 寇建龙
196201 超紧凑硅基混合表面等离激元光场窄化器件的实验研究 孙鹏斐 朱科建 许鹏飞 刘兴鹏 孙堂友 李海鸥 周治平
196801 多层石墨烯与 TiAl 合金复合材料固相烧结过程中 Ti_2AlC 与 Ti_3AlC 的形成机制 吴明宇 弼光宝 李培杰 黄旭

凝聚物质: 电子结构、电学、磁学和光学性质

- 197301 层状 $Bi_{1-x}Sb_xSe$ 纳米薄膜的制备及其热电性能研究 许静 何梓民 杨文龙 吴荣 赖晓芳 简基康
197501 外尔半金属 WTe_2/Ti 异质结的热稳定性拉曼散射研究 刘娜 王译 李文波 张丽艳 何世坤 赵建坤 赵纪军
197502 金属磁记忆应变诱导磁性变化的原子尺度作用机理 王思远 梁添寿 时朋朋
197701 In_2Se_3 薄膜的掺杂效应及其纳米带铁电性 黄鸿飞 姚杨 姚承君 郝翔 吴银忠
197901 氧氯化铋/铯铅氯范德瓦尔斯异质结环境稳定性与光电性质的第一性原理研究 姚熠舟 曹丹 颜洁 刘雪吟 王建峰 姜舟婷 舒海波

物理学交叉学科及有关科学技术领域

- 198101 纳米金刚石/竖立石墨烯复合三维电极的制备及电化学性能研究 蒋梅燕 王平 陈爱盛 陈成克 李晓 鲁少华 胡晓君
198102 氮化镓相图预测及其高压熔化特性研究 雷振帅 孙小伟 刘子江 宋婷 田俊红
198501 一种能够改善鲁棒性的新型 4H-SiC ESD 防护器件 常帅军 马海伦 李浩 欧树基 郭建飞 钟鸣浩 刘莉
198502 自旋偏压驱动的硅烯和锗烯光控晶体管 郑军 马力 李春雷 袁瑞旸 郭亚涛 付旭日

地球物理学、天文学和天体物理学

- 199601 纳米晶 CoNiCrFeMn 高熵合金力学性能的原子尺度分析 陈晶晶 邱小林 李柯 周丹 袁军军

文章图片的彩色效果详见网刊



扫码阅读
电子版

ACTA PHYSICA SINICA

Vol. 71, No. 19, October 5, 2022

CONTENTS

GENERAL

- 190201 Finite line method and its application in coupled heat transfer between fluid-solid domains
Gao Xiao-Wei Ding Jin-Xing Liu Hua-Yu
- 190301 Simulation of random photon loss in boson sampling of different optical networks
Ji Yang Chen Mei-Ling Huang Xun Wu Yong-Zheng Lan Bing
- 190501 Stochastic resonance in asymmetric bistable coupled network systems driven by Gaussian colored noise
Wang Ye-Hua He Mei-Juan
- 190502 Four-terminal hybrid driven refrigerator based on three coupled quantum dots
Liu Xing Xu Shuai Gao Jin-Zhu He Ji-Zhou

NUCLEAR PHYSICS

- 192101 Calculations of electron capture rates of ^{66}Fe in astrophysical environment
Qing Wen-Tao Zhi Qi-Jun Yang You-Chang
- 192501 Measurement of $^{191}\text{Ir}(\text{n},2\text{n})^{190}\text{Ir}$ cross section near 14 MeV
Zhu Chuan-Xin Qin Jian-Guo Zheng Pu Jiang Li Zhu Tong-Hua Lu Xin-Xin
- 192801 Effect of Ti content on preparation and properties of $\text{TiB}_2\text{-SiC-Ti}$ materials
He Xiao-Xun Li Bing-Sheng Liu Rui Zhang Tong-Min Cao Xing-Zhong Chen Li-Ming Xu Shuai

ATOMIC AND MOLECULAR PHYSICS

- 193101 Molecular opacities of $\text{X}^2\Sigma_g^+$, $\text{A}^2\Pi_u$ and $\text{B}^2\Sigma_u^+$ states of nitrogen cation
Chen Chen Zhao Guo-Peng Qi Yue-Ying Wu Yong Wang Jian-Guo
- 193201 Intensity-dependent electron correlation in nonsequential double ionization of Ar atoms in counter-rotating two-color elliptically polarized laser fields
Su Jie Liu Zi-Chao Liao Jian-Ying Li Ying-Bin Huang Cheng
- 193301 Simultaneous detection of particle and C_2H_2 at high temperature using tunable diode laser extinction spectroscopy
Zhang Ming-Ke Gao Zhen-Wei Gao Guang-Zhen Jiang Yu-Hao Cai Ting-Dong
- 193302 Narrowing the absorption linewidth and its limitation in a four-level inverted-Y atomic system
Di Feng-Qing Jia Ning Qian Jing

ELECTROMAGNETISM, OPTICS, ACOUSTICS, HEAT TRANSFER, CLASSICAL MECHANICS, AND FLUID DYNAMICS

- 194101 Unidirectional propagation control of helical edge states in topological spin photonic crystals
Sui Wen-Jie Zhang Yu Zhang Zi-Rui Wang Xiao-Long Zhang Hong-Fang Shi Qiang Yang Bing
- 194102 Beamlne design with weak-focusing magnetic field for applications of laser-driven proton beams
Zhu Jun-Gao Lu Hai-Yang Zhao Yuan Lai Mei-Fu Gu Yong-Li Xu Shi-Xiang Zhou Cang-Tao
- 194201 Spatial domain sparse reconstruction algorithm of sheared beam imaging
Chen Ming-Lai Liu Hui Zhang Yu Luo Xiu-Juan Ma Cai-Wen Yue Ze-Lin Zhao Jing

(Continued)

- 194202 Higher-order photon antibunching of phase-variable squeezed coherent state
Zhang Hao-Jie *Guo Yan-Qiang* *Guo Xiao-Min* *Zhang Jian-Fei* *Zuo Guan-Hua*
Zhang Yu-Chi *Zhang Tian-Cai*
- 194203 Modulation of topological phase transitions and topological quantum states in one-dimensional superconducting transmission line cavities lattice
Wang Wei *Wang Yi-Ping*
- 194204 Gain switched linearly polarized single-frequency pulsed fiber laser
Zhang Wan-Ru *Chen Si-Yu* *Su Rong-Tao* *Jiang Man* *Li Can* *Ma Yan-Xing* *Zhou Pu*
- 194205 Optimization of photonic reservoir computing using short internal cavity laser
Zhao Tong *Xie Wen-Li* *Xu Jun-Wei* *Jia Zhi-Wei*
- 194206 Phase demodulation of fiber vibration sensing by modified ellipse fitting algorithm based on local outlier factor optimization
Zhang Ling-Chun *Jiang Hai-Ming* *Zhang Jun-Xi* *Xie Kang*
- 194301 Waves model of three-dimensional cavity flow and its oscillation mode evolution
Luo Yong *Yang Dang-Guo* *Wu Cong-Hai* *Li Hu* *Zhang Shu-Hai* *Wu Jun-Qiang*
- 194601 Tearing behavior induced by van der Waals force at heterogeneous interface during two-dimensional MoS₂ nanoindentation
Li Yao-Hua *Dong Yao-Yong* *Dong Hui* *Zheng Xue-Jun*
- 194701 Parametrization of suppressing hypersonic second-mode waves by transverse rectangular microgrooves
Liu Yong *Tu Guo-Hua* *Xiang Xing-Hao* *Li Xiao-Hu* *Guo Qi-Long* *Wan Bing-Bing*
- 194702 Scaling of Reynolds number based on maximum velocity and characteristic Reynolds number in two-dimensional thermal turbulence convection
He Jian-Chao *Fang Ming-Wei* *Bao Yun*
- 194703 Study of magnetic vortex spin wave mode in triangular structures
Qiang Jin *He Kai-Zhou* *Liu Dong-Ni* *Lu Qi-Hai* *Han Gen-Liang* *Song Yu-Zhe*
Wang Xiang-Qian

PHYSICS OF GASES, PLASMAS, AND ELECTRIC DISCHARGES

- 195201 Effects of electric quadrupole transitions on ion energy-level populations of in electron beam ion trap plasma
Meng Ju *He Zhen-Cen* *Yan Jun* *Wu Ze-Qing* *Yao Ke* *Li Ji-Guang* *Wu Yong*
Wang Jian-Guo
- 195202 Experimental study on the dynamic compression of materials at XGIII facility by laser proton photography
Huang Hua *Li Jiang-Tao* *Wang Qian-Nan* *Meng Ling-Biao* *Qi Wei* *Hong Wei*
Zhang Zhi-Meng *Zhang Bo* *He Shu-Kai* *Cui Bo* *Wu Yi-Tong* *Zhang Hang*
Ji Liang-Liang *Zhou Wei-Min* *Hu Jian-Bo*
- 195203 Design and performance test of discharge chamber and grid for multi-mode ion thrusters
Li Jian-Peng *Zhao Yi-De* *Jin Wu-Yin* *Zhang Xing-Min* *Li Juan* *Wang Yan-Long*

CONDENSED MATTER: STRUCTURAL, MECHANICAL, AND THERMAL PROPERTIES

- 196101 Infiltration characteristics of nanochannels composed of graphene sheets in different directions
Wang Wen-Yuan *Xie Zhang* *Hao Shao-Qian* *Wu Feng-Min* *Kou Jian-Long*
- 196201 Experimental research on ultracompact silicon hybrid plasmonic nanofocusing device
Sun Peng-Fei *Zhu Ke-Jian* *Xu Peng-Fei* *Liu Xing-Peng* *Sun Tang-You* *Li Hai-Ou*
Zhou Zhi-Ping
- 196801 Formation mechanisms of Ti₂AlC and Ti₃AlC during solid-state sintering between multilayer graphene and TiAl alloy composite
Wu Ming-Yu *Mi Guang-Bao* *Li Pei-Jie* *Huang Xu*

(Continued)

CONDENSED MATTER: ELECTRONIC STRUCTURE, ELECTRICAL, MAGNETIC, AND OPTICAL PROPERTIES

- 197301 Preparation and thermoelectric properties of layered $\text{Bi}_{1-x}\text{Sb}_x\text{Se}$ nanocrystalline films
Xu Jing He Zi-Min Yang Wen-Long Wu Rong Lai Xiao-Fang Jian Ji-Kang
- 197501 Thermal stability study of Weyl semimetal WTe_2/Ti heterostructures by Raman scattering
Liu Na Wang Yi Li Wen-Bo Zhang Li-Yan He Shi-Kun Zhao Jian-Kun Zhao Ji-Jun
- 197502 Mechanism of strain-induced magnetic properties changes for metal magnetic memory technology on atomic scale
Wang Si-Yuan Liang Tian-Shou Shi Peng-Peng
- 197701 Doping effect and ferroelectricity of nanoribbons of In_2Se_3 monolayer
Huang Hong-Fei Yao Yang Yao Cheng-Jun Hao Xiang Wu Yin-Zhong
- 197901 A first-principles study on environmental stability and optoelectronic properties of bismuth oxychloride/ cesium lead chloride van der Waals heterojunctions
Yao Yi-Zhou Cao Dan Yan Jie Liu Xue-Yin Wang Jian-Feng Jiang Zhou-Ting Shu Hai-Bo

INTERDISCIPLINARY PHYSICS AND RELATED AREAS OF SCIENCE AND TECHNOLOGY

- 198101 Preparation and electrochemical properties of nano-diamond/vertical graphene composite three-dimensional electrodes
Jiang Mei-Yan Wang Ping Chen Ai-Sheng Chen Cheng-Ke Li Xiao Lu Shao-Hua Hu Xiao-Jun
- 198102 Phase diagram prediction and high pressure melting characteristics of GaN
Lei Zhen-Shuai Sun Xiao-Wei Liu Zi-Jiang Song Ting Tian Jun-Hong
- 198501 A novel 4H-SiC ESD protection device with improved robustness
Chang Shuai-Jun Ma Hai-Lun Li Hao Ou Shu-Ji Guo Jian-Fei Zhong Ming-Hao Liu Li
- 198502 Optically controlled silicene and germanene transistors driven by spin-bias
Zheng Jun Ma Li Li Chun-Lei Yuan Rui-Yang Guo Ya-Tao Fu Xu-Ri

GEOPHYSICS, ASTRONOMY, AND ASTROPHYSICS

- 199601 Mechanical performance analysis of nanocrystalline CoNiCrFeMn high entropy alloy: atomic simulation method
Chen Jing-Jing Qiu Xiao-Lin Li Ke Zhou Dan Yuan Jun-Jun

Color figures can be viewed in the online issue.



Online issue