Chinese Physics B

Volume 32 Number 6 June 2023

Contents

SPECIAL TOPIC — Celebrating the 100th Anniversary of Physics Discipline of Xiamen University

- 060504 Accelerator-mode islands and superdiffusion in double-kicked rotor Fengdi Wang and Ping Fang
- 063402 Fragmentation dynamics of electron-impact double ionization of helium Shiwei Liu, Difa Ye and Jie Liu
- 064210 Broadband and wide-angle plane focal surface Luneburg lens Jue Li, Yangyang Zhou and Huanyang Chen
- 064211 Improving resolution of superlens based on solid immersion mechanism Zhanlei Hao, Yangyang Zhou, Bei Wu, Yineng Liu and Huanyang Chen
- 064212 Two-photon absorption of FAPbBr₃ perovskite nanocrystals Xuanyu Zhang, Shuyu Xiao, Xiongbin Wang, Tingchao He and Rui Chen
- 064402 Enhancement of thermal rectification by asymmetry engineering of thermal conductivity and geometric structure for multi-segment thermal rectifier Fu-Ye Du, Wang Zhang, Hui-Qiong Wang and Jin-Cheng Zheng
- 066107 Electronic and thermal properties of Ag-doped single crystal zinc oxide via laser-induced technique

Huan Xing, Hui-Qiong Wang, Tinglu Song, Chunli Li, Yang Dai, Gengming Fu, Junyong Kang and Jin-Cheng Zheng

066602 Hydrogen diffusion in C'_1 phase clathrate hydrate

Zixuan Song, Ziyue Zhou, Yanwen Lin, Qiao Shi, Yongchao Hao, Yuequn Fu, Zhisen Zhang and Jianyang Wu

067205 Impacts of hydrogen annealing on the carrier lifetimes in p-type 4H-SiC after thermal oxidation

Ruijun Zhang, Rongdun Hong, Jingrui Han, Hungkit Ting, Xiguang Li, Jiafa Cai, Xiaping Chen, Deyi Fu, Dingqu Lin, Mingkun Zhang, Shaoxiong Wu, Yuning Zhang, Zhengyun Wu and Feng Zhang

RAPID COMMUNICATION

060503 Stability and multistability of synchronization in networks of coupled phase oscillators Yun Zhai, Xuan Wang, Jinghua Xiao and Zhigang Zheng

(Continued on the Bookbinding Inside Back Cover)

- 063101 Relaxation of Ne¹⁺ 1s⁰2s²2p⁶np produced by resonant excitation of an ultraintense ultrafast x-ray pulse Jie Yan, Yanpeng Liu, Yong Hou, Cheng Gao, Jianhua Wu, Jiaolong Zeng and Jianmin Yuan
- 063601 Single-electron transport in $H_2O@C_{60}$ single-molecule transistors Bowen Liu, Jun Chen, Yiping Ouyang, Minhao Zhang, Yuan-Zhi Tan and Fengqi Song
- 066802 Critical behavior in the epitaxial growth of two-dimensional tellurium films on $SrTiO_3$ (001) substrates

Haimin Zhang, Dezhi Song, Fuyang Huang, Jun Zhang and Ye-Ping Jiang

067103 Flat band in hole-doped transition metal dichalcogenide observed by angle-resolved photoemission spectroscopy

Zilu Wang, Haoyu Dong, Weichang Zhou, Zhihai Cheng and Shancai Wang

- 067204 Tunable correlation in twisted monolayer-trilayer graphene Dongdong Ding, Ruirui Niu, Xiangyan Han, Zhuangzhuang Qu, Zhiyu Wang, Zhuoxian Li, Qianling Liu, Chunrui Han and Jianming Lu
- 067304 Gate-controlled localization to delocalization transition of flat band wavefunction in twisted monolayer-bilayer graphene Siyu Li, Zhengwen Wang, Yucheng Xue, Lu Cao, Kenji Watanabe, Takashi Taniguchi, Hongjun Gao and Jinhai Mao
- 068703 Stochastic fluctuations in the rotation of the bacterial flagellar motor Guanhua Yue, Rongjing Zhang and Junhua Yuan

GENERAL

- 060201 Interaction solutions for the second extended (3+1)-dimensional Jimbo–Miwa equation Hongcai Ma, Xue Mao and Aiping Deng
- 060301 Complete hyperentangled Greenberger–Horne–Zeilinger state analysis for polarization and time-bin hyperentanglement Zhi Zeng
- 060302 Entanglement properties of superconducting qubits coupled to a semi-infinite transmission line

Yang-Qing Guo, Ping-Xing Chen and Jian Li

- 060303 Energy shift and subharmonics induced by nonlinearity in a quantum dot system Yuan Zhou, Gang Cao, Hai-Ou Li and Guo-Ping Guo
- 060304 Faithful and efficient hyperentanglement purification for spatial-polarization-time-bin photon system

Fang-Fang Du, Gang Fan, Yi-Ming Wu and Bao-Cang Ren

- 060501 A novel fractional-order hyperchaotic complex system and its synchronization Mengxin Jin, Kehui Sun and Shaobo He
- 060502 Synchronization of stochastic complex networks with time-delayed coupling Duolan, Linying Xiang and Guanrong Chen
- 060505 Synchronization–desynchronization transitions in networks of circle maps with sinusoidal coupling

Yun Zhai, Jinghua Xiao and Zhigang Zheng

060506 Semi-analytical steady-state response prediction for multi-dimensional quasi-Hamiltonian systems

Wen-Wei Ye, Lin-Cong Chen, Zi Yuan, Jia-Min Qian and Jian-Qiao Sun

060507 Modeling differential car-following behavior under normal and rainy conditions: A memory-based deep learning method with attention mechanism Hai-Jian Bai, Chen-Chen Guo, Heng Ding, Li-Yang Wei, Ting Sun and Xing-Yu Chen

ATOMIC AND MOLECULAR PHYSICS

063201 Influence of acceleration on relativistic nonlinear Thomson scattering in tightly focused linearly polarized laser pulses

Yifan Chang, Yubo Wang, Chang Wang, Yuting Shen and Youwei Tian

- 063301 High harmonic generation in crystal SiO₂ by sub-10-fs laser pulses Shuai Wang, Jiawei Guo, Xinkui He, Yueying Liang, Baichuan Xie, Shiyang Zhong, Hao Teng and Zhiyi Wei
- 063302 Generation of quasi-chirp-free isolated attosecond pulses from atoms under the action of orthogonal two-color combined pulse of fundamental frequency and higher intensity second harmonic fields

Rui-Xian Yu, Yue Qiao, Ping Li, Jun Wang, Ji-Gen Chen, Wei Feng, Fu-Ming Guo and Yu-Jun Yang

063401 Electron-impact ionization of W^{9+} and W^{10+} Runjia Bao, Junkui Wei, Lei Chen, Bowen Li and Ximeng Chen

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

- 064201 Complex-amplitude Fourier single-pixel imaging via coherent structured illumination Hong-Yun Hou, Ya-Nan Zhao, Jia-Cheng Han, De-Zhong Cao, Su-Heng Zhang, Hong-Chao Liu and Bao-Lai Liang
- 064202 Generation of spectrally uncorrelated biphotons via fiber nonlinear quantum interference Zhengtong Wei, Chuan Qu, Tian'an Wu, Yuanyuan Li, Bo Li and Shenghai Zhang
- 064203 Principle of subtraction ghost imaging in scattering medium Qin Fu, Yanfeng Bai, Wei Tan, Xianwei Huang, Suqin Nan and Xiquan Fu

064204 A 54-fs diode-pumped Kerr-lens mode-locked Yb:LuYSiO₅ laser Yang Yu, Yuehang Chen, Wenlong Tian, Li Zheng, Geyang Wang, Chuan Bai, Xuan Tian, Haijing Mai, Yulong Su, Jiangfeng Zhu and Zhiyi Wei

- 064205 Antimonene-based saturable absorber for a soliton mode-locked and *Q*-switched fiber laser in the 2 μm wavelength region H Ahmad, B Nizamani, M Z Samion, N Yusoff and M F Ismail
- 064206 Ultraviolet metalens and metalens array of focused vortex beams Jinping Zhang, Yan Wang, Huan Yuan, Zehao Wang, Yang Deng, Chengzhi Huang, Jiagui Wu and Junbo Yang
- 064207 Theoretical research on the transverse spin of structured optical fields inside a waveguide Zhiyong Wang, Xiangru Wang, Anran Li, Kaiqiang Zhang, Yukun Ji and Mingyu Zhong
- 064208 Compact TE-pass polarizer based on lithium-niobate-on-insulator assisted by indium tin oxide and silicon nitride

Jia-Min Liu and De-Long Zhang

064209 Single-event-transient effect in nanotube tunnel field-effect transistor with bias-induced electron-hole bilayer

Xue-Ke Wang, Ya-Bin Sun, Zi-Yu Liu, Yun Liu, Xiao-Jin Li and Yan-Ling Shi

064213 Dynamic light storage based on controllable electromagnetically induced transparency effect

Liu-Ying Zeng, Jun-Fang Wu and Chao Li

- 064301 Characteristic analysis of scattering field in two-layer media by Green's function Ping Zhang, Zhi-Ying Liu, Shou-Guo Yan, Juan Huang and Bi-Xing Zhang
- 064302 Effect of magnetic field on expansion of ferrofluid-encapsulated microbubble Zhiwei Du, Fan Li, Ruiqi Pan, Runyang Mo and Chenghui Wang
- 064303 Bubble nucleation in spherical liquid cavity wrapped by elastic medium Xian-Mei Zhang, Fan Li, Cheng-Hui Wang, Jing Hu, Run-Yang Mo, Zhuang-Zhi Shen, Jian-Zhong Guo and Shu-Yu Lin

064304 Helical particle manipulation based on power-exponent-phase acoustic vortices generated by a sector transducer array

Qingdong Wang, Yantao Hu, Shengli Wang and Hongyu Li

- 064401 An optimized smearing scheming for first Brillouin zone sampling and its application on thermal conductivity prediction of graphite Chengye Li, Changying Zhao and Xiaokun Gu
- 064701 Rayleigh–Taylor instability of viscoelastic self-rewetting film flowing down a temperaturecontrolled inclined substrate

Siyi An and Yongjun Jian

064702 Effect of particle shape on packing fraction and velocity profiles at outlet of a silo Qing-Qing Gao, Yu-Chao Chen and Lin Hu

PHYSICS OF GASES, PLASMAS, AND ELECTRIC DISCHARGES

065201 Experimental and numerical analyses of electrohydrodynamic force according to air pressure

Rong-Hui Quan, Bo Wang and Yun-Jia Yao

065202 Nonlinear mixing-based terahertz emission in inclined rippled density plasmas K Gopal, A P Singh and S Divya

CONDENSED MATTER: STRUCTURAL, MECHANICAL, AND THERMAL PROP-ERTIES

- 066101 Effects of atomic corrugations on electronic structures in $Pb_{1-x}Bi_x$ thin films Pengju Li, Kun Xie, Yumin Xia, Desheng Cai and Shengyong Qin
- 066102 Probing the effects of lithium doping on structures, properties, and stabilities of magnesium cluster anions

Xiao-Yi Zhang, Ya-Ru Zhao, Hong-Xing Li, Kai-Ge Cheng, Zi-Rui Liu, Zhi-Ping Liu and Hang He

- 066103 Er intercalation and its impact on transport properties of epitaxial graphene Mingmin Yang, Yong Duan, Wenxia Kong, Jinzhe Zhang, Jianxin Wang and Qun Cai
- 066104 Dislocation mechanism of Ni₄₇Co₅₃ alloy during rapid solidification Yun-Chun Liu, Yong-Chao Liang, Qian Chen, Li Zhang, Jia-Jun Ma, Bei Wang, Ting-Hong Gao and Quan Xie
- 066105 Sensitivity study of the SiGe heterojunction bipolar transistor single event effect based on pulsed laser and technology computer-aided design simulation Ya-Hui Feng, Hong-Xia Guo, Xiao-Yu Pan, Jin-Xin Zhang, Xiang-Li Zhong, Hong Zhang, An-An Ju, Ye Liu and Xiao-Ping Ouyang
- 066106 Hydrogen evolution reaction between small-sized Zr_n (n = 2-5) clusters and water based on density functional theory Lei-Lei Tang, Shun-Ping Shi, Yong Song, Jia-Bao Hu, Kai Diao, Jing Jiang, Zhan-Jiang Duan and De-Liang Chen
- 066201 Layer thickness dependent plastic deformation mechanism in Ti/TiCu dual-phase nanolaminates

Minrong An, Yuefeng Lei, Mengjia Su, Lanting Liu, Qiong Deng, Haiyang Song, Yu Shang and Chen Wang

- 066501 Structural phase transition and transport properties in topological material candidate NaZn₄As₃ Qing-Xin Dong, Bin-Bin Ruan, Yi-Fei Huang, Yi-Yan Wang, Li-Bo Zhang, Jian-Li Bai, Qiao-Yu Liu, Jing-Wen Cheng, Zhi-An Ren and Gen-Fu Chen
- 066502 Molecular dynamics study on the dependence of thermal conductivity on size and strain in GaN nanofilms

Ying Tang, Junkun Liu, Zihao Yu, Ligang Sun and Linli Zhu

066601 Strain effects on Li⁺ diffusion in solid electrolyte interphases: A molecular dynamics study

Xiang Ji and Junqian Zhang

066801 A first-principles study on remote van der Waals epitaxy through a graphene monolayer on semiconductor substrates

Rui Hou and Shenyuan Yang

066803 Grand canonical Monte Carlo simulation study of hydrogen storage by Li-decorated phagraphene

Meng-Meng Zhang, Feng Zhang, Qiang Wu, Xin Huang, Wei Yan, Chun-Mei Zhao, Wei Chen, Zhi-Hong Yang, Yun-Hui Wang and Ting-Ting Wu

CONDENSED MATTER: ELECTRONIC STRUCTURE, ELECTRICAL, MAG-NETIC, AND OPTICAL PROPERTIES

- 067101 Structural and mass transport properties of liquid ytterbium in the temperature range 1123 K–1473 K D D Satikunvar, N K Bhatt and B Y Thakore
- 067102 Two-dimensional CrP_2 with high specific capacity and fast charge rate for lithium-ion battery

Xiaoyun Wang, Tao Jing and Dongmei Liang

- 067104 Symmetry-constrained quantum coupling in non-Fermi-liquid transport Rong Li and Zhen-Su She
- 067201 Ga intercalation in van der Waals layers for advancing p-type ${\rm Bi_2Te_3}$ -based thermoelectrics

Yiyuan Chen, Qing Shi, Yan Zhong, Ruiheng Li, Liwei Lin, Ding Ren, Bo Liu and Ran Ang

067202 High-performance spin-filtering and spin-rectifying effects in Blatter radical-based molecular spintronic device

Chun-Xu Tong, Peng Zhao and Gang Chen

- 067203 Thickness-dependent exciton relaxation dynamics of few-layer rhenium diselenide Chang-Fu Huo, Tiantian Yun, Xiao-Qing Yan, Zewen Liu, Xin Zhao, Wenxiong Xu, Qiannan Cui, Zhi-Bo Liu and Jian-Guo Tian
- 067301 Two-dimensional tetragonal ZnB: A nodalline semimetal with good transport properties Yong-Chun Zhao, Ming-Xin Zhu, Sheng-Shi Li and Ping Li
- 067302 Exploring plasmons weakly coupling to perovskite excitons with tunable emission by energy transfer

Guo-Dong Yan, Zhen-Hua Zhang, Heng Guo, Jin-Ping Chen, Qing-Song Jiang, Qian-Nan Cui, Zeng-Liang Shi and Chun-Xiang Xu

067303 An integrated split and dummy gates MOSFET with fast turn-off and reverse recovery characteristics

Weizhong Chen, Liuting Mou, Haifeng Qin, Hongsheng Zhang and Zhengsheng Han

- 067305 Research on self-supporting T-shaped gate structure of GaN-based HEMT devices Peng Zhang, Miao Li, Jun-Wen Chen, Jia-Zhi Liu and Xiao-Hua Ma
- 067401 Generalization properties of restricted Boltzmann machine for short-range order M A Timirgazin and A K Arzhnikov
- 067402 Extremely fast vortex dynamics in $Bi_2Sr_2Ca_2Cu_3O_{10+\delta}$ crystalline nanostrip A B Yu, C T Lin, X F Zhang and L X You
- 067501 Crystal growth of CeMn_{0.85}Sb₂: Absence of magnetic order of Ce-sublattice Yong Li, Shan-Shan Miao, Hai Feng, Huai-Xin Yang and You-Guo Shi
- 067502 Gate-voltage control of alternating-current-driven skyrmion propagation in ferromagnetic nanotrack devices

Xin-Yi Cai, Zhi-Hua Chen, Hang-Xiao Yang, Xin-Yan He, Zhen-Zhen Chen, Ming-Min Zhu, Yang Qiu, Guo-Liang Yu and Hao-Miao Zhou

- 067503 Magnonic band-pass and band-stop filters with structurally modulated waveguides Lai-He Feng, Mang-Yuan Ma, Zhi-Hua Liu, Kai-Le Xie and Fu-Sheng Ma
- 067504 Magnetic ordering induced magnetodielectric effect in Ho₂Cu₂O₅ and Yb₂Cu₂O₅ Hao Jin, Shuai Huang, Kai-Qi Wan, Chang-Ming Zhu, Hai-Ou Wang, Kun-Peng Su and De-Xuan Huo
- 067505 Electric-field control of perpendicular magnetic anisotropy by resistive switching via electrochemical metallization

Yuan Yuan, Lu-Jun Wei, Yu Lu, Ruo-Bai Liu, Tian-Yu Liu, Jia-Rui Chen, Biao You, Wei Zhang, Di Wu and Jun Du

067701 Multiferroic monolayers VOX (X = Cl, Br, I): Tunable ferromagnetism via charge doping and ferroelastic switching

Hong-Chao Yang, Peng-Cheng Liu, Liu-Yu Mu, Ying-De Li, Kai Han and Xiao-Le Qiu

- 067801 An ultrafast spectroscopy system for studying dynamic properties of superconductors under high pressure and low temperature conditions Jian Zhu, Ye-Xi Li, Deng-Man Feng, De-Peng Su, Dong-Niu Fan, Song Yang, Chen-Xiao Zhao, Gao-Yang Zhao, Liang Li, Fang-Fei Li, Ying-Hui Wang and Qiang Zhou
- 067802 Probing photocarrier dynamics of pressurized graphene using time-resolved terahertz spectroscopy

Yunfeng Wang, Shujuan Xu, Jin Yang and Fuhai Su

INTERDISCIPLINARY PHYSICS AND RELATED AREAS OF SCIENCE AND TECHNOLOGY

068101 Back interface passivation for ultrathin Cu(In,Ga)Se₂ solar cells with Schottky back contact: A trade-off of electrical effects

Ye Tu, Yong Li and Guanchao Yin

068102 Oxidation behavior of Ti_{0.2}Zr_{0.2}Hf_{0.2}Nb_{0.2}Ta_{0.2}C−M_xC (M = Ti, Zr, Hf, Nb, Ta) composite ceramic at high temperature Shuai Xu, Tao Wang, Xingang Wang, Lu Wu, Zhongqiang Fang, Fangfang Ge, Xuan Meng, Qing Liao,

Jinchun Wei and Bingsheng Li

- 068103 Morphological features and nanostructures generated during SiC graphitization process Wen-Xia Kong, Yong Duan, Jin-Zhe Zhang, Jian-Xin Wang and Qun Cai
- 068104 Enhanced xylene sensing performance of hierarchical flower-like Co₃O₄ via In doping Jing Zhang, Jianyu Ling, Kuikun Gu, Georgiy G. Levchenko and Xiao Liang
- 068201 Structural, electronic, and Li-ion mobility properties of garnet-type $Li_7La_3Zr_2O_{12}$ surface: An insight from first-principles calculations

Jing-Xuan Wang, Bao-Zhen Sun, Mei Li, Mu-Sheng Wu and Bo Xu

- 068501 A non-quasi-static model for nanowire gate-all-around tunneling field-effect transistors Bin Lu, Xin Ma, Dawei Wang, Guoqiang Chai, Linpeng Dong and Yuanhao Miao
- 068502 Synergistic effect of total ionizing dose on single-event gate rupture in SiC power MOS-FETs

Rongxing Cao, Kejia Wang, Yang Meng, Linhuan Li, Lin Zhao, Dan Han, Yang Liu, Shu Zheng, Hongxia Li, Yuqi Jiang, Xianghua Zeng and Yuxiong Xue

068701 Orderly hysteresis in field-driven robot swarm active matter

Yanping Liu, Gao Wang, Peilong Wang, Daming Yuan, Shuaixu Hou, Yangkai Jin, Jing Wang and Liyu Liu

068702 Comparison of sleep timing of people with different chronotypes affected by modern lifestyle

Ying Li, Ji-Chen Guo and Xue Wang

- 068704 A progressive surrogate gradient learning for memristive spiking neural network Shu Wang, Tao Chen, Yu Gong, Fan Sun, Si-Yuan Shen, Shu-Kai Duan and Li-Dan Wang
- 068901 Identification of key recovering node for spatial networks Zijian Yan, Yongxiang Xia, Lijun Guo, Lingzhe Zhu, Yuanyuan Liang and Haicheng Tu
- 068902 Robust multi-task distributed estimation based on generalized maximum correntropy criterion

Qian Hu, Feng Chen and Ming Ye

CORRIGENDUM

069901 Corrigendum to "Peptide backbone-copper ring structure: A molecular insight into copper-induced amyloid toxicity"

Jing Wang, Xiankai Jiang, Xiurong Su, Xingfei Zhou, Yu Wang, Geng Wang, Heping Geng, Zheng Jiang, Fang Huang, Gang Chen, Chunlei Wang and Haiping Fang

069902 Corrigendum to "The transition from conservative to dissipative flows in class-B laser model with fold-Hopf bifurcation and coexisting attractors"

Yue Li, Zengqiang Chen, Mingfeng Yuan and Shijian Cang