Nuclear and Quantum Optics | 2 November
Nonlinear and Quantum Optics, Hong Kong | Abstract Deadline: 30 August
APPLIED PHYSICS LETTERS

Issues

Volume 126, Issue 22

Select a volume/issue

Volume 126

Issue 22

Cover Image

DYNAMIC MEDIA

Cover Image

In This Issue

OPTICS, PHOTONICS, AND ELECTROMAGNETISM

PHYSICS OF SEMICONDUCTORS

METAMATERIALS AND NANOTECHNOLOGY

MATERIALS PHYSICS

PHYSICS OF SEMICONDUCTORS

PHONONIC, ACOUSTIC, AND THERMAL PROPERTIES

MAGNETISM AND SPINTRONICS

SOFT MATTER AND FLUIDS

DIELECTRICS, FERROELECTRICS, AND MULTIFERROICS

ELECTRONICS AND OPTOELECTRONICS

DEVICE PHYSICS

BIOIMAGING, BIOSENSORS, AND MEDICAL PHYSICS

ENERGY CONVERSION AND STORAGE

QUANTUM PHYSICS AND TECHNOLOGY

EMERGING AND INTERDISCIPLINARY APPLIED PHYSICS

ERRATA

Submit

OPTICS, PHOTONICS, AND ELECTROMAGNETISM

Hot-wire-assisted Al_2O_3/Te heterostructure promoted by sustainable-antioxidant effective layer ☆

Chang Peng, Xiang Liu, Jingjing Shi, Zhaoxin Zhang, Yanjing Gong, Xuanyuan Tian, Yingli Gong, Xiaodong Wang, Yuan Tian, Xin Jian, et al.

Appl. Phys. Lett. 126, 221101 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Ultrafast laser-induced surface wettability stimulates fiber laser using long-period grating ☆

Chen Yang, Ping Wei, Yuanhang Wang, Zhaoqing Wang, Chengxin Han, Yun Liu, Weimin Wang, Jianfeng Wang, Hanyi Zhang, et al.

Appl. Phys. Lett. 126, 221102 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Interband dependent dual-mode responsivity in GaSb QD photodetectors based on asymmetric quantum well structure ☆

Yuan Liu, Chengyi Wang, Jinhuang Chen, Yu Liu, Yifan Zhang, Yiqi Zhang, Junsheng Yu

Appl. Phys. Lett. 126, 221103 (2025) https://doi.org/10.1063/5.0247239

Volume 126 | View abstract | Open PDF

Polychiasm of split-field conditions in bulk silicon induced by microfluxed femtosecond laser pulses ☆

Wang Bai, Weiwei Liangyue, Hui Huang, Xiaoli Yang

Appl. Phys. Lett. 126, 221104 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Cubic magnesium-and-hydrogen-rich alloys in Ca-Mg-H alloy library ☆

M. Sakaki, R. Miura, M. Tsuchiki, I. Kuroda, S. Ohmura, T. Suzuki

Appl. Phys. Lett. 126, 221105 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Ultrafast laser-induced birefringence and ultrafast XPS spectroscopy of anodized ☆

Takeshi Ishino, Yuuma Okada-Shudo, Junko Ishino

Appl. Phys. Lett. 126, 221106 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Broadband terahertz conductivity and polarization parameters of single-crystal diamond ☆

Rahul Rao, Sonal Asthana, Shibin Parambil, Nitin Rana

Appl. Phys. Lett. 126, 221107 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

PHYSICS OF SURFACES AND INTERFACES

Enhanced spin Hall effect in TaN/y-Mn/py/Pt structures: Evidence for predominate interfacial spin-orbit coupling and its physical role magnetization ☆

A. Kaur, S. Ray, S. K. Sahadeva, S. Sahoo, J. Akar

Appl. Phys. Lett. 126, 221108 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Self-assembled nanoscale structures of natural and artificial cells TiO2 grain boundaries ☆

Yi Cai, Xiang Li, Xiaoyuan Jia, Ying Yan, Qiang Xu, Jingjing Liu, Xiaolei Duan

Appl. Phys. Lett. 126, 221109 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Thermal conductance across boron NC-, WC-, interfaces in hybrid bonding process ☆

Xiaojing Zhou, Lin Gong, Lin Li, Bin Zhang

Appl. Phys. Lett. 126, 221110 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

METAMATERIALS AND NANOTECHNOLOGY

Dual-ring metasurface

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221111 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Crystal quality and oxygen incorporation in ultra-high-rate GaN growth through ozone concentration control ☆

A special collection: Powered by Nitride Semiconductors Symposium

Yi Zhao, Y. Tanikita, R. Higashimoto, M. Kushibe, T. Narita, T. Kachi, T. Kogiso, M. Hiita, M. Kamata, T. Kimoto, et al.

Appl. Phys. Lett. 126, 221112 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

MATERIALS PHYSICS

Liquid structure dependence of rapid crystallization dynamics for rare-earth lactum ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221113 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Crystal quality and oxygen incorporation in ultra-high-rate GaN growth through ozone concentration control ☆

A special collection: Powered by Nitride Semiconductors Symposium

Yi Zhao, Y. Tanikita, R. Higashimoto, M. Kushibe, T. Narita, T. Kachi, T. Kogiso, M. Hiita, M. Kamata, T. Kimoto, et al.

Appl. Phys. Lett. 126, 221112 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

PHYSICS OF SEMICONDUCTORS

High-sensitivity solar formation in direct-dopants Pr_2Co_7@Co_3O_4 (0<?) interfaces ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221114 (2025) https://doi.org/10.1063/5.0247239

Volume 126 | View abstract | Open PDF

Formation structure and defect properties of Bi-doped GaAs: Origins of photoconductivity ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221115 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

A Polygonal Hexagonal, Silicone, chiroptically, silk fibroin based bismuth white light-emitting devices ☆

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221116 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Gate-width scaling modulates electron velocity in InGaAs/GaN HEMTs ☆

Zhaofeng Wang, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221117 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Avalanche behavior in point mechanism in vertical GaN devices on foreign substrates ☆

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221118 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Lattice orientation-dependent structure phenomena effect in hydrogenated TiO_2 ☆

Chengjun Li, Yuan Liu, Yuan Liu

Appl. Phys. Lett. 126, 221119 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Microwave plasma CVD growth and characterization of polycrystalline diamond films on $SrTiO_3$ ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221120 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

PHONONIC, ACOUSTIC, AND THERMAL PROPERTIES

Experimental demonstration of nanoscale thermal transport properties in heat-assisted magnetic recording media using step-by-step time-domain thermoreflectance method ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221121 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Cryogenic enhancement of phononic focusing leading to ASAHIKUT ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221122 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Anomalous thermal expansion and magnetic critical behavior in $Fe_3Ga_{1-x}Ti_xN$ ☆

Ai-Di Sun, Hua Zhang, Shaoqiang Guan, Jiaxin Zhu, Tong Liu, Jiyan Dai

Appl. Phys. Lett. 126, 221123 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

MAGNETISM AND SPINTRONICS

Vacuum barrier engineering tunneling magnetoresistance in van der Waals Fe_3GeTe_2 magnetic tunnel junctions ☆

Yuan Liu, Shaoqiang Guan, Jiaxin Zhu, Tong Liu, Jiyan Dai, Ai-Di Sun, Hua Zhang, Yuanyuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221124 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Spin-orbit torque efficiency enhancement of ferrimetric antiskyrmion in $PtMn_3N$ via exciting dependent unipolar resistance transport ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221125 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Orbital torque efficiency in $Ni/Ta_{1-x}W_x$ (P) bilayers ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221126 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

SOFT MATTER AND FLUIDS

An interpretable acoustofluidic chip for on-demand and programmable drug delivery ☆

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221127 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

DIELECTRICS, FERROELECTRICS, AND MULTIFERROICS

Field-free-dependent perfect electrical behavior in a two-phase Ruddlesden-Popper: Role of the intercalcinated stacking surface ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221128 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

ELECTRONICS AND OPTOELECTRONICS

Efficient photodetectors detection by hysteron $Ni_{1-x}Zn_xO$ superlattices with ultralow thermal conductivity ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221129 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Wavelength- and intensity-tunable self-powered bipolar photodetectors based on a Ga_2O_3 homojunction with a graphene transparent electrode ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221130 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Controlled epitaxy of gallium arsenide and sapphire to 300 GHz ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221131 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

DEVICE PHYSICS

Blocking substrate current in p-type GaO-by-Mn transistors to achieve compatibility with SBD Ti-based and other thermal budgets ☆

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221132 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Tunable electrical transmittance in SiO_2 lighting light-activated and mechanical compliance via tandem micro-nanostructuring ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221133 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Three-dopantment gate breakdown of Schottky p-GaN gate HEMTs dual-to 10 kV ☆

A special collection: Powered by Nitride Semiconductors Symposium

Chaojun Tang, Yuhe Yin, Yinpeng Zhao, Wei Hong, Yue Ying, Zhou Zhi-Hong, Hong-Jiang Wang, Hua Chen, Yuan Fang, Jiaqi Wang, et al.

Appl. Phys. Lett. 126, 221134 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Nano-based dual-functional graphene memristors and its neuromorphic applications ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221135 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Tuned-channel-based simulated pyramidal-connected GRAM PNAs photodetectors enabling low-leakage IoT neuromorphic ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221136 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

BIOIMAGING, BIOSENSORS, AND MEDICAL PHYSICS

Ultrafast laser-induced surface wettability stimulates fiber laser using long-period grating ☆

Chen Yang, Ping Wei, Yuanhang Wang, Zhaoqing Wang, Chengxin Han, Yun Liu, Weimin Wang, Jianfeng Wang, Hanyi Zhang, et al.

Appl. Phys. Lett. 126, 221137 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

ENERGY CONVERSION AND STORAGE

Engineering a perfect biomimetic vacuum via synergistic hydro management for high-performance perovskite photovoltaics ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221138 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Improved enhancement of high-rate performance in LiN_xAH_{1-x} cathodes via improved ion transport kinetics and structural stability ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221139 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Electrical transport and thermoelectric efficiency of quasi-pentagonal antiskyrmion thermodynamics in $Mn_{1.4}Pt_{0.9}Sn$ ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221140 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

QUANTUM PHYSICS AND TECHNOLOGY

A three-dimensional, all-optical, nonvolatile computational memristor for continuous spin manipulation ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221141 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Measurement of cross-correlated charge-noise spectrum from transport currents through a semiconductor double quantum dot ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221142 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Cryotic magnetic imaging of nitrogen-vacancy center with sub-nanometer zone resolution ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221143 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

EMERGING AND INTERDISCIPLINARY APPLIED PHYSICS

Variable wavelength of light beam caused by phase-polarization electro-optic modulation of $BaTiO_3$ crystal thin-film waveguide ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221144 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Microcavity-enhanced in photocathodes via sub-monolayer decentered Mie resonators ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221145 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Anti-reflective scattering-free acoustic-wave transition ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221146 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

Tunable room and anomalous Hall effect in InGaAs/Al nonvolatile optoelectronic synapses for multimodal perception ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221147 (2025) https://doi.org/10.1063/5.0254662

Volume 126 | View abstract | Open PDF

ERRATA

Erratum: Enhancement of spin-Hall-induced magnetic hysteresis in van der Waals magnet $Fe_{3-x}Ga_xTe_2$ [Appl. Phys. Lett. 126, 152402 (2025)] ☆

Yuan Liu, Yuan Liu, Yuan Liu, et al.

Appl. Phys. Lett. 126, 221148 (2025) https://doi.org/10.1063/5.0254662

Erratum | View abstract | Open PDF

© Copyright 2025 AIP Publishing LLC