July 16, 2025
Volume 12, Issue 7
Pages 3295-3958

About the Cover:

Artistic impression of a two-photon microscope setup used to image and optogenetically manipulate neuronal activity in the mouse brain. A microscope objective focuses infrared laser pulses into the brain, where indicators of neuronal activity and optogenetic opsins are expressed. The lateral projections provide a detailed view of the following: (1) The process of imaging neuronal activity, extracting activity traces from individual neurons over time. (2) A spatial light modulator using computer-generated holography to precisely photostimulate specific neurons. At the bottom, an artistic representation depicts fluorescence light being detected by a photodetector.

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Highlighting Contributions from Our Editorial Board Members in 2024

Romain Quidant*

ACS Photonics 2025, 12, 7, 3295 **(Editorial)** Subscribed
Publication Date (Web): July 16, 2025

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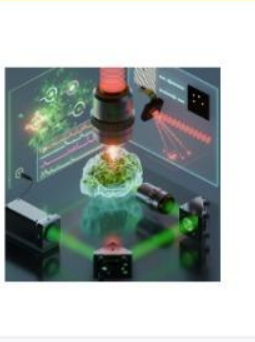
REVIEWS

Multiphoton Neurophotonics: Recent Advances in Imaging and Manipulating Neuronal Circuits

Cécile Telliez*, Ruth Sims, Giulia Faini, Pascal Berto, Eirini Papagiakoumou, Dimitrii Tanese, and Nicolò Accanto*

ACS Photonics 2025, 12, 7, 3296-3318 **(Review)** Open Access Editors' Choice
Publication Date (Web): April 4, 2025



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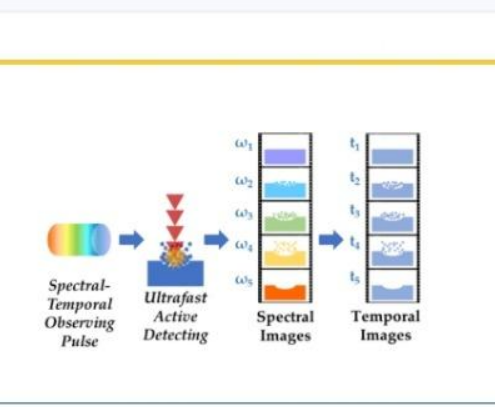
Single-Shot Spectral-Temporal Ultrafast Photography: Fundamentals, Methods, and Applications

Yu Lu, Yizhao Meng, Fei Yin, Qing Yang, and Feng Chen*

ACS Photonics 2025, 12, 7, 3319-3336 **(Review)** Subscribed
Publication Date (Web): May 15, 2025



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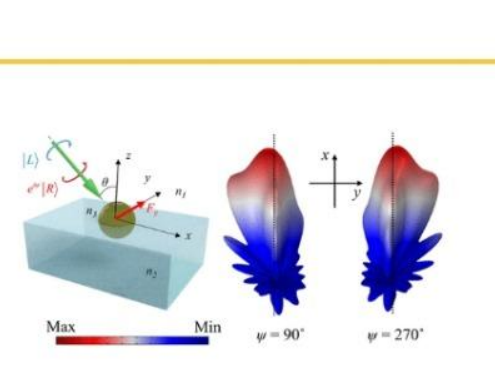
ARTICLES

Large Optical Lateral Force with a Phase-Engineered Photonic Spin Hall Effect

Hang Li, Qi Jia, Bojian Shi, Yuan Zhou, Yongyin Cao, Kunpeng Luan, Dahui Wang, Tongtong Zhu, Yuzhi Shi, Donghua Tang, Yanxia Zhang, Xiaoxin Li, Rui Feng, Fangkui Sun, Baoli Yao, Pengling Yang*, Cheng-Wei Qiu*, and Weiqiang Ding*

ACS Photonics 2025, 12, 7, 3337-3343 **(Article)** Subscribed
Publication Date (Web): June 9, 2025



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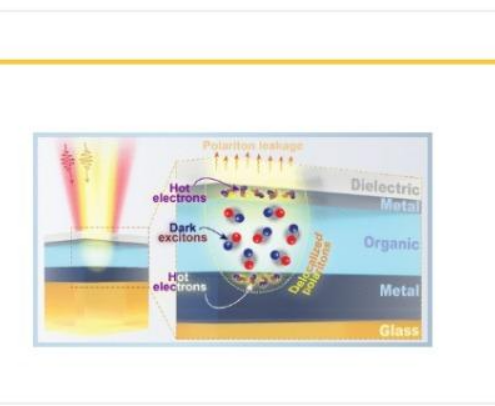
ABSTRACT

Dark Excitons and Hot Electrons Modulate Exciton-Photon Strong Coupling in Metal–Organic Optical Microcavities

Pavel V. Kolesnichenko*, Manuel Hertzog, Felix Hainer, Oskar Kefer, Jana Zaumseil, and Tiago Buckup*

ACS Photonics 2025, 12, 7, 3344-3354 **(Article)** Subscribed
Publication Date (Web): June 11, 2025



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ABSTRACT

Enhanced Exciton–Plasmon Interaction Enabling Observation of Near-Field Photoluminescence in a WSe$_2$–Gold Nanoparticle Hybrid System

Anastasia Romashkina*, Sandhya Sushil, Angela I. Barreda, Zlata Fedorova, Fatemeh Abtahi, Nathan Doolaard, Zifei Zhang, Christian Helgert, Isabelle Staude, Falk Eilenberger, Thomas Pertsch, and Bayarjargal N. Tugchin*

ACS Photonics 2025, 12, 7, 3355-3363 **(Article)** Open Access
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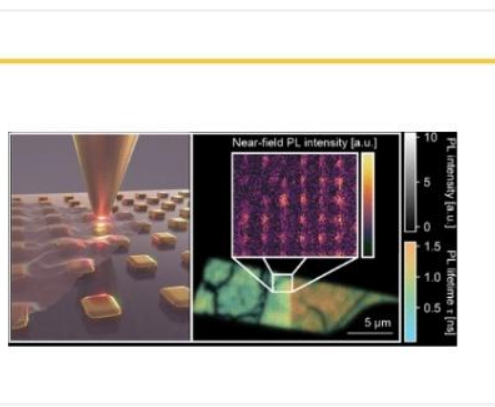

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Hardware–Software Co-design Computational Framework and Hardware-Aware Training for Photonic Spiking Convolutional Networks with DFB-SA Laser

Chengyang Yu, Shuiying Xiang*, Liyan Zhao, Xinran Niu, Wenzhuo Liu, Yuechun Shi, Licun Yu, and Yue Hao

ACS Photonics 2025, 12, 7, 3364-3375 **(Article)** Subscribed
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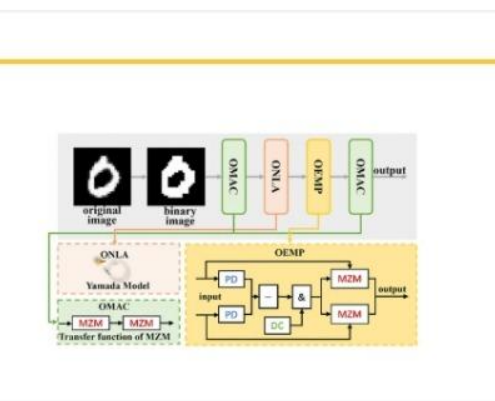

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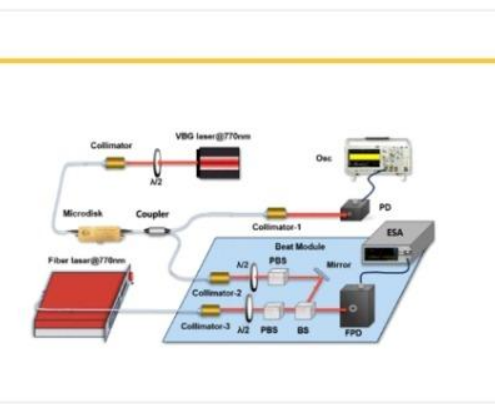
A 770 nm Narrow Line Width VBG Laser Via Self-Injection Locking to a Fully Packaged High-Q WGM Microresonator

Lingwei Zhang, Xinxiu Zhou*, Lijin Liu, Jingcheng Shang, Fangxing Zhang, Yueyang Zhai, and Gang Liu*

ACS Photonics 2025, 12, 7, 3376-3382 **(Article)** Subscribed
Publication Date (Web): June 10, 2025



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Graphene/Poly(methyl Methacrylate) Heterostructure-Gated Flexible Organic Light-Emitting Transistors

Shuangdeng Yuan, Dingdong Zhang, Jinhong Du*, Xu Han, Rui Liu, Yun Sun, Songfeng Pei, and Wencai Ren*

ACS Photonics 2025, 12, 7, 3383-3393 **(Article)** Subscribed
Publication Date (Web): June 10, 2025

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Adaptive Filtering and Sequence Estimation for High-Precision Single-Photon 3D Imaging

Zihao Pei, Haitao Guan, Bowen Wang*, Sheng Li, Min Zeng, Qian Chen, and Chao Zuo*

ACS Photonics 2025, 12, 7, 3394-3401 **(Article)** Subscribed
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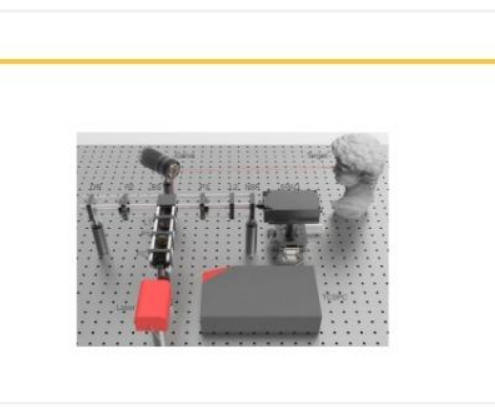

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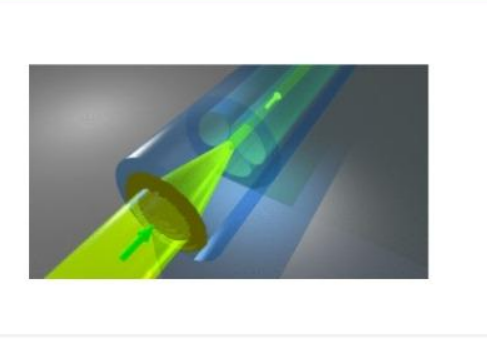
ABSTRACT

Nonlinear Metafiber: On-fiber 3D Nanoprinted Metalenses to Enhance Ultrafast Supercontinuum Generation in Suspended Core Fibers

Shahrzad Hosseinabadi, Johannes Hofmann, Torsten Wieduwilt, Xue Qi, Michael H. Frosz, and Markus A. Schmidt*

ACS Photonics 2025, 12, 7, 3402-3411 **(Article)** Subscribed
Publication Date (Web): June 20, 2025



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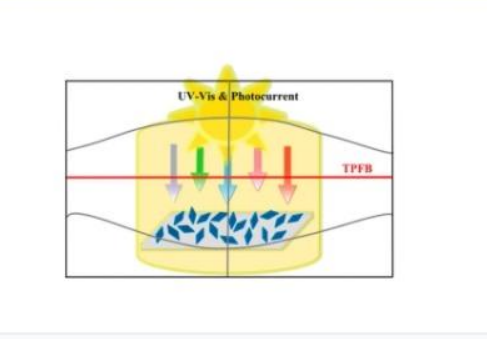
Characterizing Topological Flat Bands in Tin-Phthalocyanine Nanosheets Using Photoelectric Detections

Yanshu Shi, Jianhua Zhu, Xuekun Wang, Yiqian Wang, Qinghao Song, Lei Chen, Yumin Song, Wei Wu*, and Tingting Guo*

ACS Photonics 2025, 12, 7, 3412-3420 **(Article)** Subscribed
Publication Date (Web): July 2, 2025



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Bin Dong, R. Michael Everly, Shivam Mahapatra, Mark S. Carlsen, Seohee Ma, and Chi Zhang*

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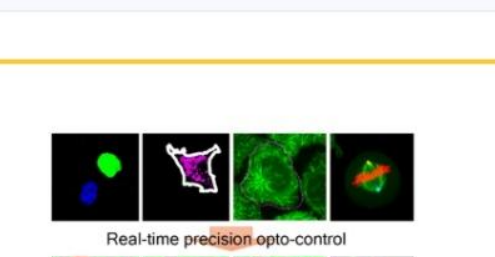

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Topology-Optimized Interference-Based Compact Photonic Logic Units

Berkay Neseli, Junhyeong Kim, Seokjin Hong, Jae-Yong Kim, Hyo-Hoon Park, Mirbek Turduev, and Hamza Kurt*

ACS Photonics 2025, 12, 7, 3435-3446 **(Article)** Subscribed
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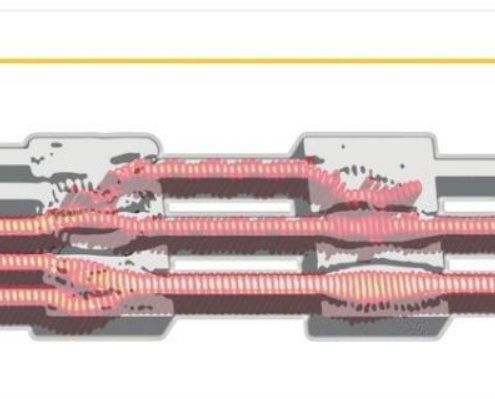

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Optical Supertorque Induced by Mie-Resonant Modes

Ivan Toftul*, Mihail Petrov, Romain Quidant, and Yuri Kivshar*

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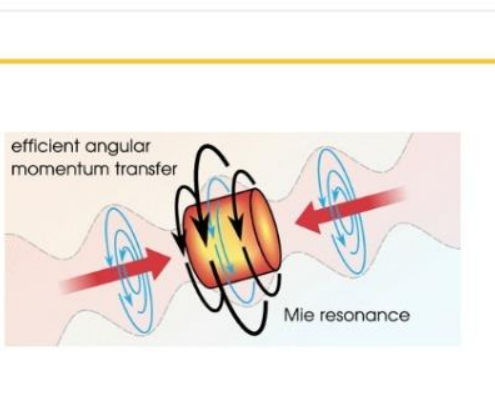

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ABSTRACT

Generation and Control of Higher-Order-Mode Lasers in Multimode Silicon Resonators

He Gao, Alekhya Ghosh, Arghadeep Pal, Keyi Zhong, Haochen Yan, Hao Zhang, Yongyong Zhuang, Ke Xu, Lu Sun, Shuangyou Zhang, Pascal Del'Haye, Wengang Bi, Hon Ki Tsang*, and Yaojing Zhang*

ACS Photonics 2025, 12, 7, 3457-3464 **(Article)** Subscribed
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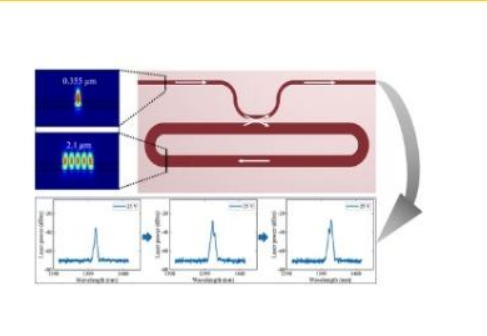

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ABSTRACT

Where Does Light Come From: Propagation and Emission of Surface Plasmon Polaritons in Plasmonic Crystals Visualized by Cathodoluminescence

Izzah Machfuudzoh, Sotatsu Yanagimoto, Naoki Yamamoto, and Takumi Sannomiya*

ACS Photonics 2025, 12, 7, 3465-3475 **(Article)** Open Access
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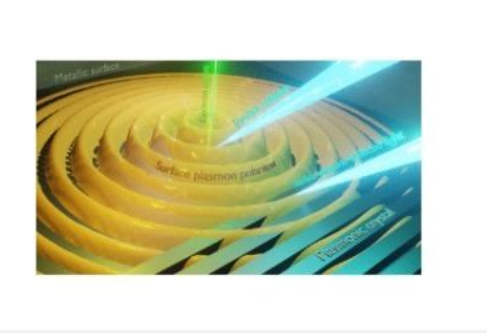

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ABSTRACT

Superlattice-Induced Superfluorescence in Quasi-2D Metal Halide Perovskites

Aaron J. Wildenborg, Ryan J. Munter, Francisco Freire-Fernández, Erico Tadeu Fraga Freitas, and Jae Yong Suh*

ACS Photonics 2025, 12, 7, 3476-3483 **(Article)** Subscribed
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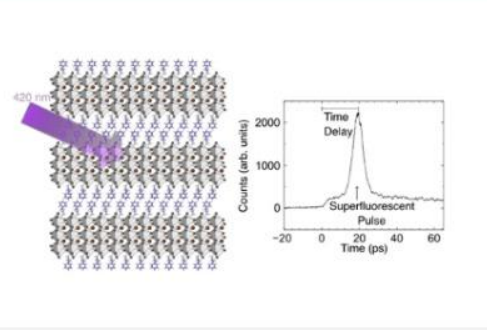

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ABSTRACT

Photoemission Electron Microscopy of Exciton–Polaritons in Thin WSe$_2$ Waveguides

Tobias Eul*, Mirwan Sabir, Victor DeManuel-Gonzalez, Florian Diekmann, Kai Rossnagel, and Michael Bauer

ACS Photonics 2025, 12, 7, 3484-3491 **(Article)** Open Access
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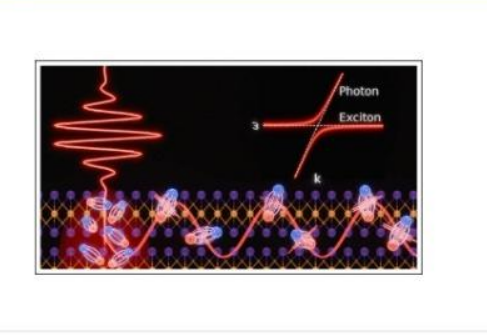

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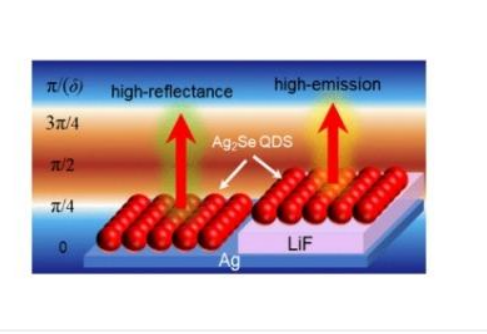
ABSTRACT

Phase-Dependent Energy Dissipation for Dynamic Emissivity Modulation Using Quantum Dots Near Metallic Surfaces

Haixiao Xu, Yichi Zhang, Yousheng Zou, Zhi Li, and Yu Gu*

ACS Photonics 2025, 12, 7, 3492-3500 **(Article)** Subscribed
Publication Date (Web): June 17, 2025



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ABSTRACT

Mode Selection of High-Quality Microlasers in Thermally Evaporated Perovskite Films by Femtosecond Laser Direct Writing

Hao Li, Sihao Huang, Zijun Zhan, Zhengzheng Liu, Qian Li, Xingrong Jiang, Zhiping Hu, Yang Liao*, Yuxin Leng*, and Juan Du*

ACS Photonics 2025, 12, 7, 3501-3509 **(Article)** Subscribed
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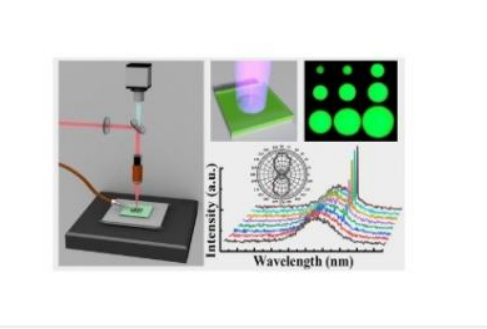

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ABSTRACT

Inverse Design of 3D-Printable Metalenses with Complementary Dispersion for Terahertz Imaging

Mo Chen, Ka Fai Chan, Alec M. Hammond, Chi-Hou Chan, and Steven G. Johnson*

ACS Photonics 2025, 12, 7, 3510-3516 **(Article)** Subscribed
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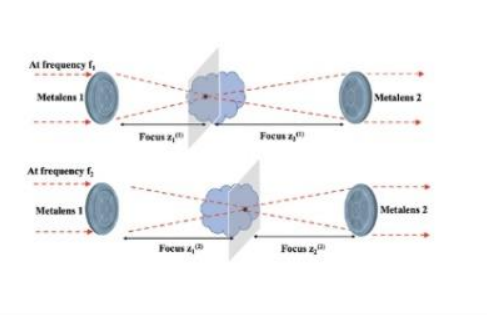

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ABSTRACT

Exciton-Polaron Transform and Its Effect on the Ultrafast Carrier Dynamic in CsPbBr$_3$ Single Crystals

Yang Chen, Han Sun, Shuang Sun, Wenjie Liu, Ruichen Bai, Meng Xu, Bangzhi Ge*, Rongrong Guo*, Wanqi Jie, Yan Zhang, and Yadong Xu*

ACS Photonics 2025, 12, 7, 3517-3524 **(Article)** Subscribed
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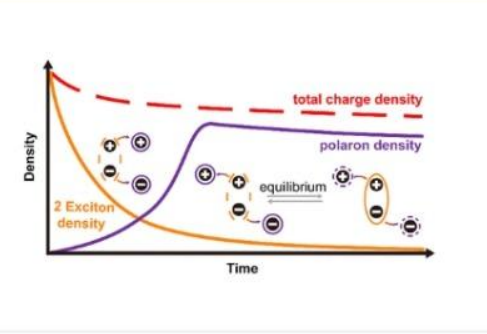

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ABSTRACT

Insight on Self-Emissive µLED Display from Correlations between Surface Current and Efficiency/Emission Properties of Size-Dependent µLEDs

Woo Jin Baek, Juhyuk Park, Hyun Soo Kim, Daemyeong Geum, Jung-Hong Min, Tae-Hoon Chung, and Sanghyeon Kim*

ACS Photonics 2025, 12, 7, 3525-3536 **(Article)** Subscribed
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ABSTRACT

Bipedal Anchoring Strategy via Dicarboxylic Acid Molecules for Efficient NiO$_x$-Based Perovskite Solar Cells

Haoyu Ge, Xianzhao Wang, Xinhang Cai, Yuting Song, Hai Xu, Aijun Li*, and Xiao-Feng Wang*

ACS Photonics 2025, 12, 7, 3537-3549 **(Article)** Subscribed
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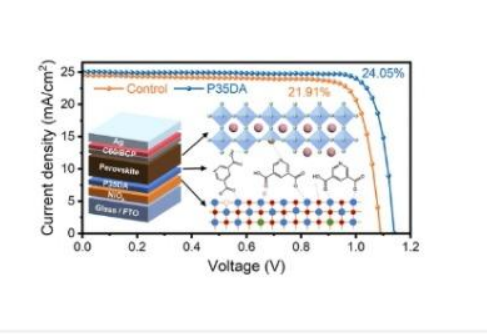

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ABSTRACT

Multifocal Metalens-Assisted Correlation Spectroscopy for Measuring Microfluidic Dynamics

Siqi Li, Lan Yu, Min Liu, Wenfu Zhang, Peng Gao*, and Guoxi Wang*

ACS Photonics 2025, 12, 7, 3550-3556 **(Article)** Subscribed
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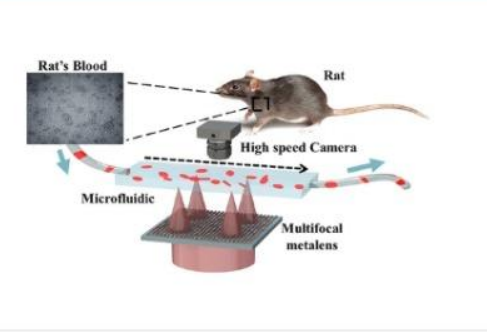

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ABSTRACT

Continuous-Flow Fabry-Pérot Cavity for Enhanced Catalysis via Cooperative Vibrational Strong Coupling

Jiaqi Lian, Yifei Song, Qiankang Si, Xinmin Zhao, Lin Chen*, Ruisong Xu*, and Feng Zhang*

ACS Photonics 2025, 12, 7, 3557-3564 **(Article)** Subscribed
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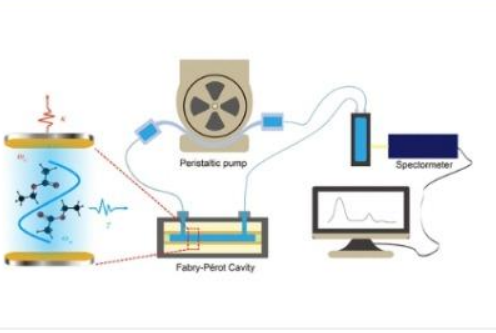

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ABSTRACT

Multicolor Super-Resolution Structured Illumination Microscopy Based on Snapshot Spectral Ghost Imaging via Sparsity Constraints

Li Chen, Pengwei Wang, Zhentao Liu*, Jianrong Wu, and Shensheng Han*

ACS Photonics 2025, 12, 7, 3565-3573 **(Article)** Open Access
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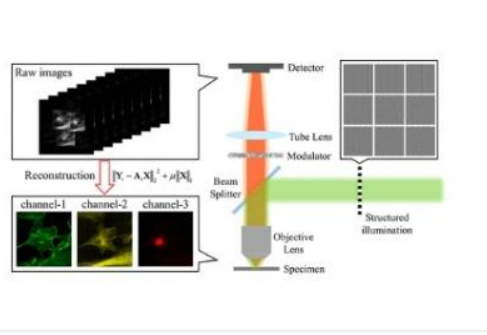

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ABSTRACT

High-Performance Electron Transport in CsPbBr$_3$ Perovskite Crystals for Room-Temperature Radiation Detection

Mustafa Unal, Indra R. Pandey, Sujita Karki, Duck Young Chung, and Mercouri G. Kanatzidis*

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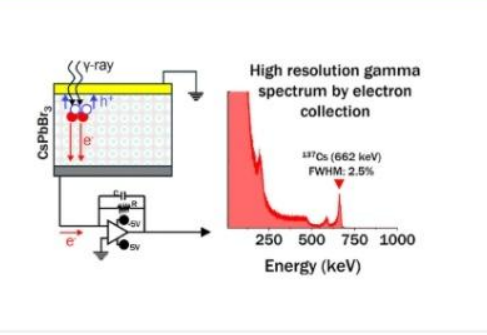

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ABSTRACT

Time-Efficient Preparation of Perovskite Thick Films via Vacuum-Assisted Hot-Pressing for X-ray Detectors

Jixiang Tang, Xianggang Chen, Rui Jia, Depeng Chu, Yucheng Liu, Meng Xun, Molang Cai*, and Xing Li*

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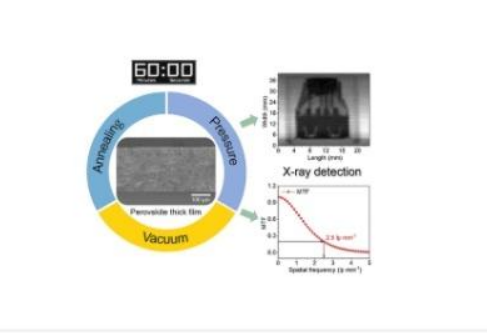

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ABSTRACT

All-Dielectric Meta-Atoms for Three-Dimensional Isotropic Chiral Metamaterials

Ekin Gunes Ozaktas, Paul V. Braun, and Shanhui Fan*

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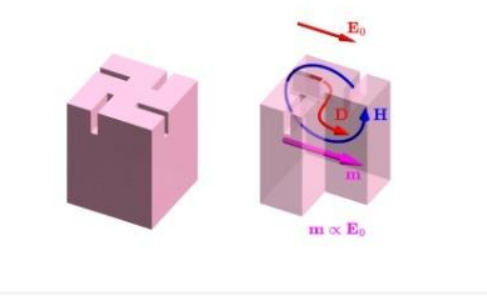

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ABSTRACT

Direct Interferometric Measurement of Nonreciprocity Induced by a Plasmonic Metasurface with False Chirality

Ahmed Lafeef Ettapuram Naduvilepurayil, Harel Ginat, Fernando Lorén, Luis Martín-Moreno, Shmuel Sternklar, and Yuri Gorodetski*

ACS Photonics 2025, 12, 7, 3602-3608 **(Article)** Open Access
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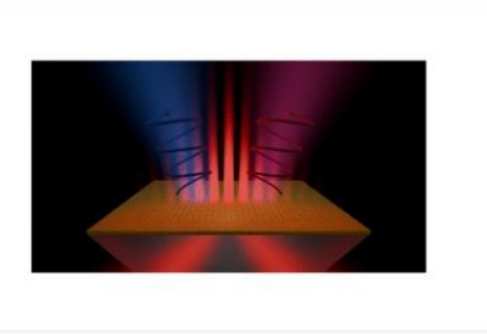

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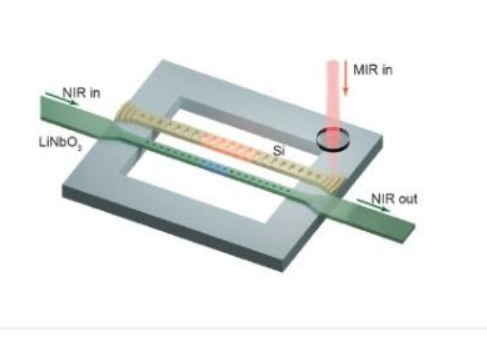
ABSTRACT

Sensitive Infrared Detection via Optomechanical Spring Sensing

Chen Qian, Li He, Shixin Xue, Qiang Lin, and Bo Zhen*

ACS Photonics 2025, 12, 7, 3609-3617 **(Article)** Subscribed
Publication Date (Web): June 11, 2025



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ABSTRACT

Femtosecond Laser-Induced Refractive Index Modulation of 2D Perovskites for Phase-Modulated Holographic Neural Networks

Ying Lv, Yi Wei, Shengting Zhu, Jinming Hu, Min Gu, and Yinan Zhang*

ACS Photonics 2025, 12, 7, 3618-3625 **(Article)** Subscribed
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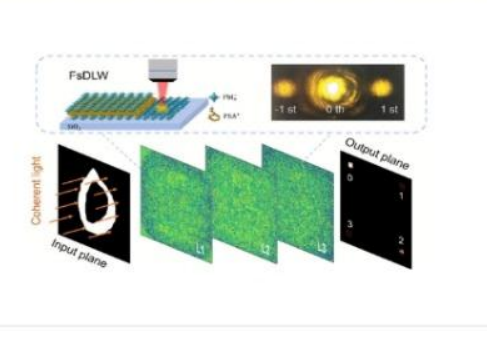

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ABSTRACT

Single-Photon Source Monolithically Integrated on a 300 mm Silicon Wafer Using III–V Nano-ridge Engineering

Davide Colucci*, Ulrich Pfister, Reynald Alcotte, Peter Swekis, Michiel De Maeyer, Zhongtao Ouyang, Tom Vandekerckhove, Yves Mols, Robert Langer, Michael Jetter, Simone Luca Portalupi, Peter Michler, Geoffrey Pourtois, Dries Van Thourhout, and Bernardette Kunert

ACS Photonics 2025, 12, 7, 3626-3634 **(Article)** Subscribed
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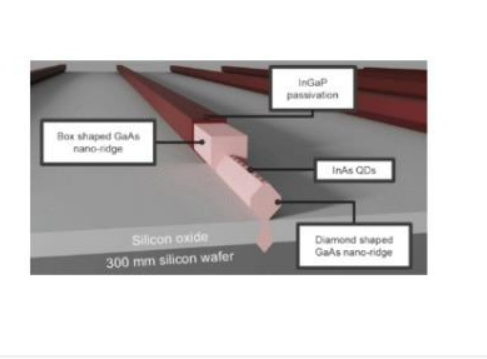

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ABSTRACT

Synthesis of Arbitrary Interference Patterns Using a Single Galvanometric Mirror and Its Application to Structured Illumination Microscopy

Ke Guo, Abderrahim Boualam, James D. Manton, and Christopher J. Rowlands*

ACS Photonics 2025, 12, 7, 3635-3643 **(Article)** Open Access
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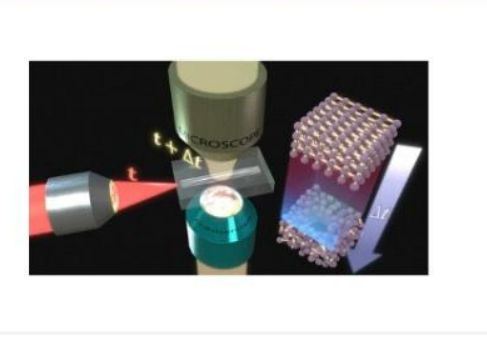
ABSTRACT

Dynamic Ultrafast Laser-Induced Structural Changes and Extreme Nanostructuring in Hard Dielectric Materials

Rajeev Dwivedi, Huu Dat Nguyen, Sergio Sao Joao, Anne-Magali Seydoux-Guillaume, Thirunaukkarasu Kuppan, Ciro D'Amico, Guillaume Kermouche, and Razvan Stoian*

ACS Photonics 2025, 12, 7, 3644-3652 **(Article)** Subscribed
Publication Date (Web): July 3, 2025



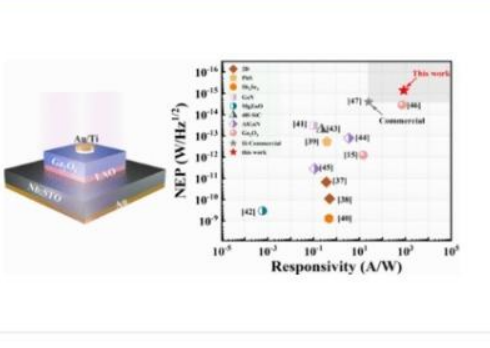
Abstract | Full text | PDF

ABSTRACT

N-Barrier-N Ga$_2$O$_3$ Photodetector Achieving Ultralow Equivalent Noise Power for Solar-Blind Detection

Dianmeng Dong, Min Peng, Tao Zhang, Shichao Zhang, Xiaotong Ma, Yuanjun Tang, Yilin Cao, Qingyi Zhang, Fan Zhang*, Yang Zhang*, and Zhenping Wu*

ACS Photonics 2025, 12, 7, 3653-3661 **(Article)** Subscribed
Publication Date (Web): June 23, 2025



Abstract | Full text | PDF

ABSTRACT

Observation of Anisotropic Wavelength-Dependent Acousto-Optic Scattering on X-Cut Thin-Film Lithium Niobate

Haotian Shi, Chukun Huang, Tianheng Zhang, Youwen Zhang, Tiancheng Zheng, Qiang Huang, and Junqiang Sun*

ACS Photonics 2025, 12, 7, 3662-3670 **(Article)** Subscribed
Publication Date (Web): June 19, 2025

Abstract | Full text | PDF

ABSTRACT

Resonance Fluorescence from a Single Quantum Dot in a Nanopost Optical Cavity

Maxime Gaignard, Matteo Finazzer, Clemens Spinnler, Giang N. Nguyen, Saptarshi Kotal, Alberto Artioli, Yann Genuist, Niels Gregersen, Jean-Philippe Poizat, Jean-Michel Gérard, Richard J. Warburton, and Julien Claudon*

ACS Photonics 2025, 12, 7, 3671-3679 **(Article)** Subscribed
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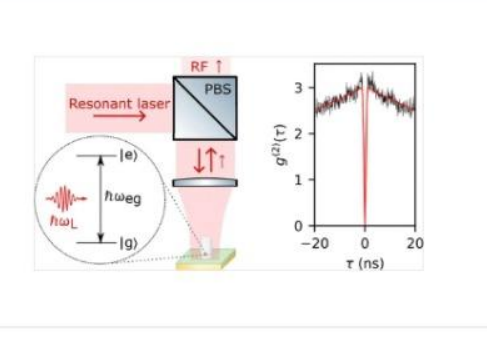


Abstract | Full text | PDF

ABSTRACT

Room-Temperature Continuous-Wave Random Lasing from a GaAs Thin Film

Bingheng Meng, Yubin Kang, Xuanchi Yu, Xuanyu Zhang, Jilong Tang, Longxing Su, Zhipeng Wei*, and Rui Chen*

ACS Photonics 2025, 12, 7, 3680-3686 **(Article)** Subscribed
Publication Date (Web): June 20, 2025

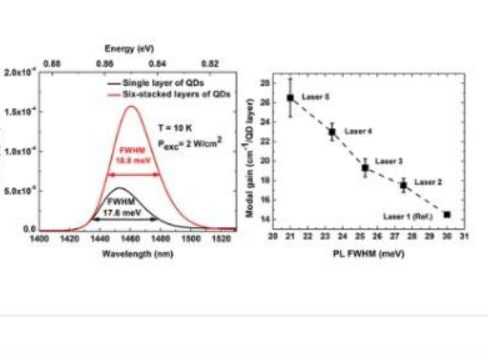
Abstract | Full text | PDF

ABSTRACT

Increased Modal Gain in 1.55 µm Quantum Dot Lasers Based on Improved Size Homogeneity Obtained by Comprehensive Growth Optimization

Vikram Khatri*, Vitalii Sichkovskyi, Larisa Popilevsky, Yaron Kauffmann, Gadi Eisenstein, and Johann Peter Reithmaier

ACS Photonics 2025, 12, 7, 3687-3697 **(Article)** Open Access
Publication Date (Web): June 10, 2025



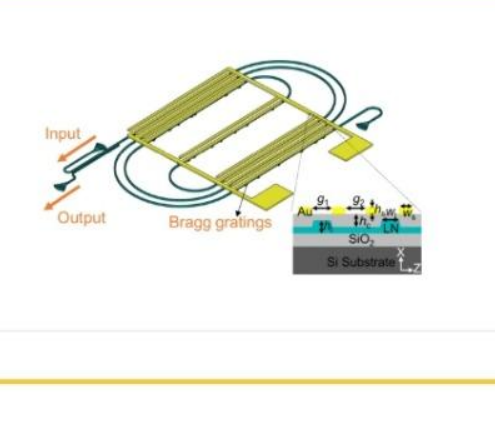
Abstract | Full text | PDF

ABSTRACT

Ultrahigh Resolution Reconstructive Spectrometer Using a Disordered Cavity on Thin-Film Lithium Niobate

Xijie Wang, Ziliang Ruan, Gengxin Chen, Shengqi Gong, Zexu Wang, Kaixuan Chen*, and Liu Liu*

ACS Photonics 2025, 12, 7, 3698-3705 **(Article)** Subscribed
Publication Date (Web): June 19, 2025



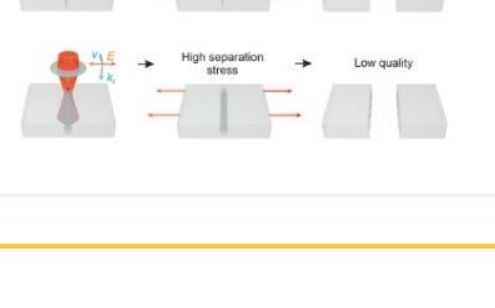
Abstract | Full text | PDF

ABSTRACT

Polarization-Dependent Laser-Assisted Cutting of Glass Using a Nondiffractive Beam in the MHz Burst Regime

Juozas Dudutis*, Aleksandras Kondratas, and Paulius Gečys

ACS Photonics 2025, 12, 7, 3706-3716 **(Article)** Open Access
Publication Date (Web): July 2, 2025



Abstract | Full text | PDF

ABSTRACT

Ultrasensitive Pressure Sensing with Boron Vacancy Defects in Hexagonal Boron Nitride: *In-Situ* Pressure Imaging of Two-Dimensional Heterostructures under High Pressure

Cheng Zhong, Di Mai, Yupeng Wang, He Wang, Rucheng Dai, Zhongping Wang, Xiaoyu Sun, and Zengming Zhang*

ACS Photonics 2025, 12, 7, 3717-3724 **(Article)** Subscribed
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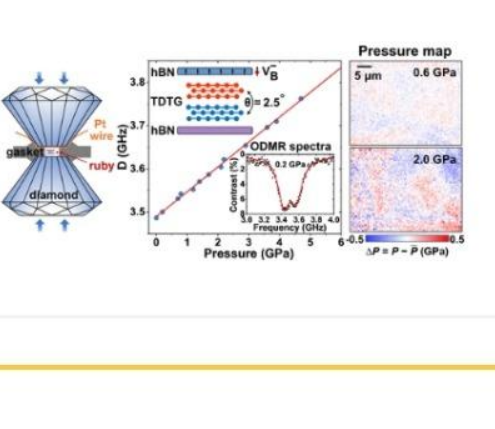

Abstract | Full text | PDF

ABSTRACT

Bionic Scotopic-Adaptive Ternary CdS$_x$Se$_{1-x}$ Memory Phototransistor for Weak RGB Light Perception

Zhibin Shao*, Peihao Wu, Ming Wu, Lei Wang, Na Sai, Xingxing Hong, Meng Xu, Jiangfeng Gong, Jiang Yue, and Hong Wang

ACS Photonics 2025, 12, 7, 3725-3734 **(Article)** Subscribed
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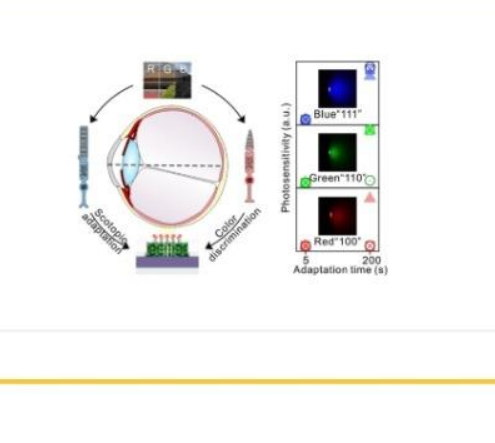

Abstract | Full text | PDF

ABSTRACT

Mapping Plasmon-Enhanced Photocurrent in Single Au Nanoplate/MoS$_2$ Heterostructures

Tiepei Geng, Le Wang, Ningneng Hu, Hao Li, Heng Zhang, Xingjian Feng, Liang Li, Jian-Hua Jiang, Luis M. Liz-Marzán, and Weihai Ni*

ACS Photonics 2025, 12, 7, 3735-3744 **(Article)** Subscribed
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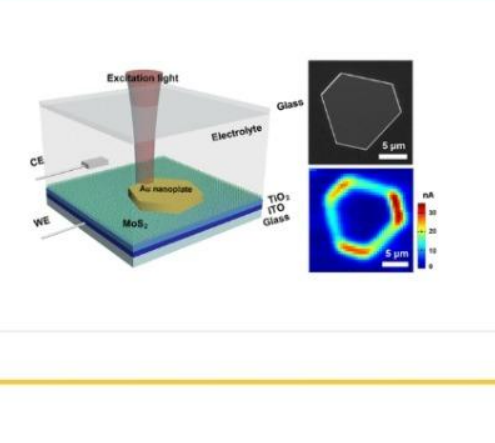

Abstract | Full text | PDF

ABSTRACT

Ultrabroadband Infrared Polarization Beam Combiner Based on Calomel Crystals with High Efficiency Exceeding 92% and Low Wavefront Distortion

Zhongjie Yue, Lulu Yang, Jian Song, Zhongjun Zhai, Lin Liu, Xin Wang*, Xutang Tao*, and Guodong Zhang*

ACS Photonics 2025, 12, 7, 3745-3753 **(Article)** Subscribed
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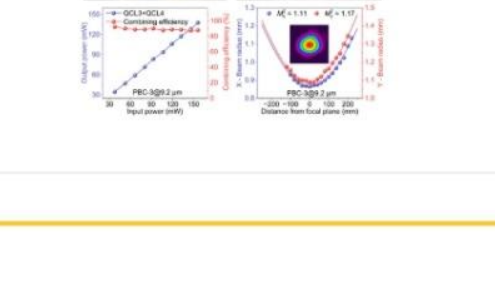


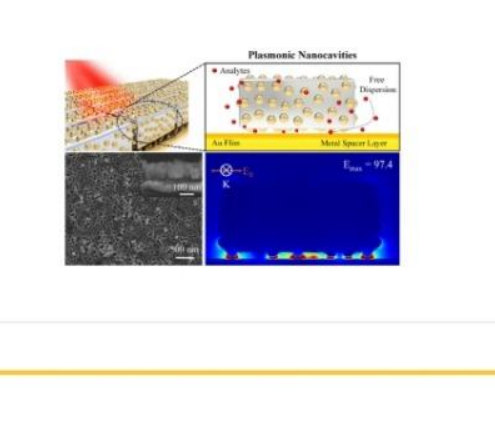
Abstract | Full text | PDF

ABSTRACT

Plasmonic Nanocavities with Metallic Spacer Layers for Ultrasensitive Detection of Cr^{6+} Ions

Xiaotian Wang, Wuliji Hasi*, Shuang Lin, Siqingaowa Han, Guoqiang Fang*, and Xiang Lin*

ACS Photonics 2025, 12, 7, 3754-3762 **(Article)** Subscribed
Publication Date (Web): July 4, 2025



Abstract | Full text | PDF

ABSTRACT

Determination of the Absolute Concentration of Rayleigh Particles via Interferometric Scattering Microscopy

Il-Buem Lee, Hyeon-Min Moon, Jin-Sung Park, Se-Hwan Lee, Jaewon Lee, Sung Hun Park, Seungwoo Lee, Seok-Cheol Hong*, and Minhaeng Cho*

ACS Photonics 2025, 12, 7, 3763-3771 **(Article)** Subscribed
Publication Date (Web): June 18, 2025

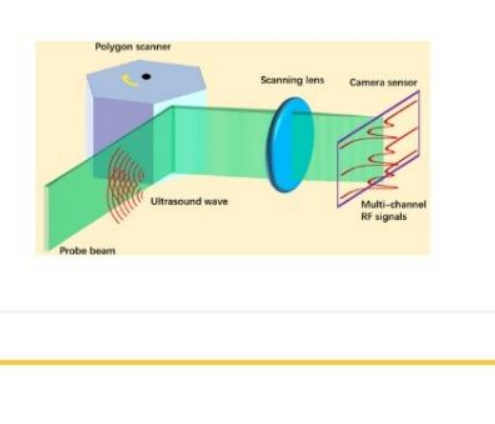
Abstract | Full text | PDF

ABSTRACT

All-Optical Ultrasonic Line Detector and Camera-Based Parallel Readout Architecture for Single-Shot Photoacoustic Tomography

Pengfei Zhang*, Yiwen Ma, Pengfei Niu, Yuxin You, and Feng Gao*

ACS Photonics 2025, 12, 7, 3772-3781 **(Article)** Subscribed
Publication Date (Web): July 4, 2025



Abstract | Full text | PDF

ABSTRACT

Theoretical Description of Infrared Near-Field Spectroscopy of In- and Out-of-Plane Molecular Vibrations in Thin Layers

Isabel Pascual Robledo, Carlos Maciel-Escudero, Martin Schnell, Lars Mester, Javier Aizpurua*, and Rainer Hillenbrand*

ACS Photonics 2025, 12, 7, 3782-3793 **(Article)** Open Access
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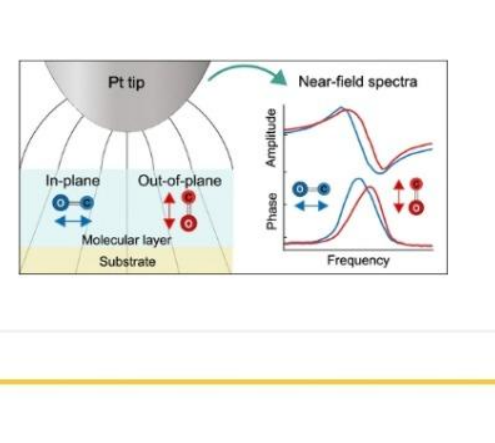


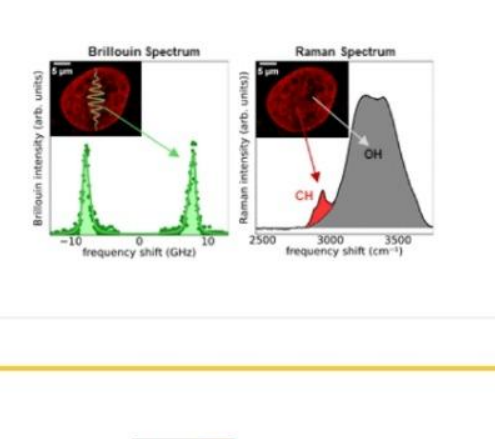
Abstract | Full text | PDF

ABSTRACT

Beyond Water Content: Unraveling Stiffness in Hydrated Materials by a Correlative Brillouin–Raman Approach

Alessandra Anna Passeri, Francesco Morena, Chiara Argentati, Francesco Bonacci, Igor Neri, Daniele Fioretto, Massimo Vassalli, Sabata Martino, Maurizio Mattarelli*, and Silvia Caponi*

ACS Photonics 2025, 12, 7, 3794-3802 **(Article)** Open Access
Publication Date (Web): June 21, 2025



Abstract | Full text | PDF

ABSTRACT

Photoactivation of Color Centers Induced by CW Laser Irradiation in Ion-Implanted Diamond

Vanna Pugliese, Elena Nieto Hernández*, Emilio Corte, Marco Govoni, Sviatoslav Ditalia Tchernij, Paolo Olivero, and Jacopo Forneris

ACS Photonics 2025, 12, 7, 3803-3814 **(Article)** Open Access
Publication Date (Web): July 1, 2025

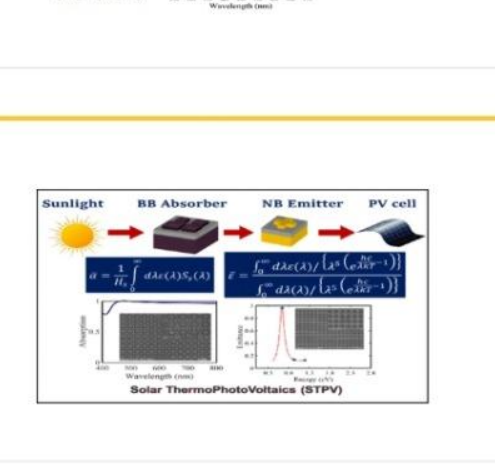
Abstract | Full text | PDF

ABSTRACT

Unveiling Low-Energy Emission in 2D Organic–Inorganic Perovskites: A Photorecycling and Electron–Phonon Coupling Study

Maykon A. Lemes, Cássio C. Soares, Eliane A. Morais, Yina J. Onofre, Marcio P. F. de Godoy, Carlos W. A. Paschoal, Jose J. S. Acuña, Carlos Mera Acosta, and Jose Antonio Souza*

ACS Photonics 2025, 12, 7, 3815-3828 **(Article)** Open Access
Publication Date (Web): June 11, 2025



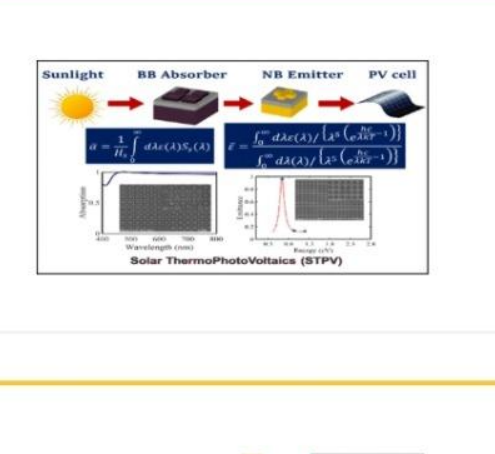
Abstract | Full text | PDF

ABSTRACT

Metasurface Absorber–Emitter Pair-Integrated High-Efficiency Thermophotovoltaic System

Sumbel Ijaz, Dohyun Kang, Ahsan Sarwar Rana, Joohoon Kim, Muhammad Tariq Saeed Chani, Muhammad Zubair*, Qammer H. Abbassi*, Muhammad Qasim Mehmood*, and Junsuk Rho*

ACS Photonics 2025, 12, 7, 3829-3839 **(Article)** Subscribed
Publication Date (Web): July 3, 2025



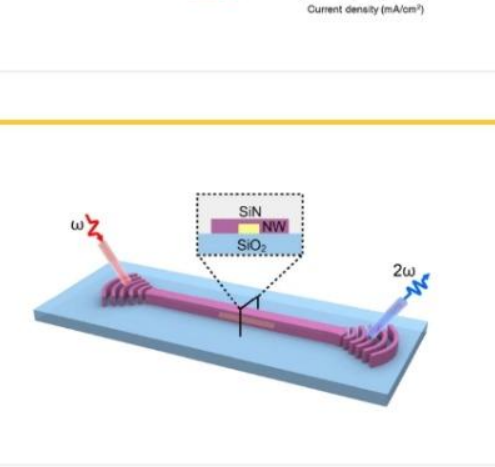
Abstract | Full text | PDF

ABSTRACT

Improved Efficiency and Operational Lifetime in InP-Based Quantum-Dot Light-Emitting Diodes Using a ZnO:ZnS Nanocomposite Electron Transport Layer

Yisu Kim, Taesoo Lee, Beomsoo Chun, Jaekwon Kim, and Jeonghun Kwak*

ACS Photonics 2025, 12, 7, 3840-3848 **(Article)** Open Access
Publication Date (Web): July 1, 2025



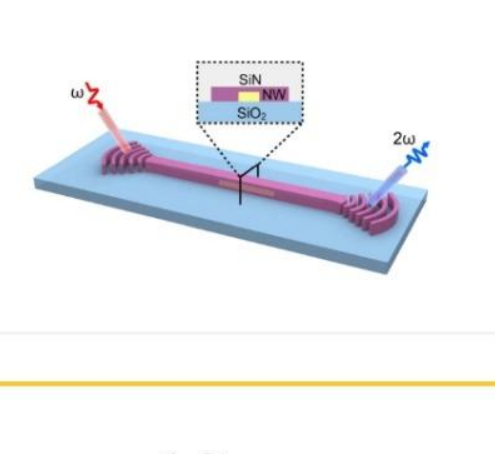
Abstract | Full text | PDF

ABSTRACT

Second-Harmonic and Sum-Frequency Generation in Silicon Nitride Photonics Integrated with Cadmium Sulfide Nanowire

Jianguo Wang, Junling Qu*, Binbin Wang, Ruixuan Yi, Liang Fang, Like Shui, Zhonglin Xie, Chenyang Zhao, Jie Wang, Jianlin Zhao, and Xuetao Gan

ACS Photonics 2025, 12, 7, 3849-3855 **(Article)** Subscribed
Publication Date (Web): June 20, 2025



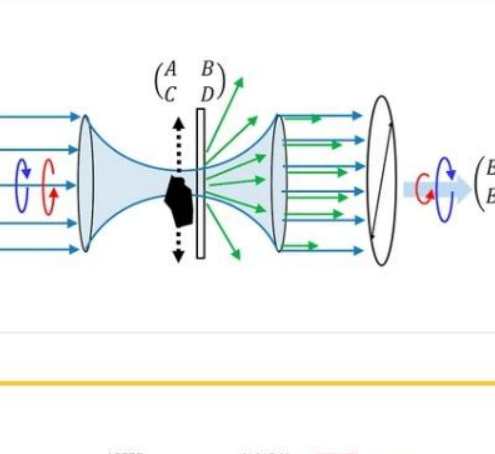
Abstract | Full text | PDF

ABSTRACT

Bright-Field Polarimetry of a Single Plasmonic Nanostructure Combining Polarization and Position Modulation Techniques

Marius Gauchet, Floriane Perrier, Christophe Bonnet, Marie-Ange Lebeault, Emmanuel Cottancin, Jean Lermé, Renaud Bachelot, Jérémie Béal, Safi Jradi, and Michel Pellarin*

ACS Photonics 2025, 12, 7, 3856-3870 **(Article)** Subscribed
Publication Date (Web): June 18, 2025



Abstract | Full text | PDF

ABSTRACT

Versatile Ultrafast Single-Shot Imaging

Alisson Rodrigues de Paula, Saïd Idlahcen, Denis Lebrun, Pierre-Henry Hanzard, Ammar Hideur, and Thomas Godin*

ACS Photonics 2025, 12, 7, 3871-3879 **(Article)** Subscribed
Publication Date (Web): June 18, 2025

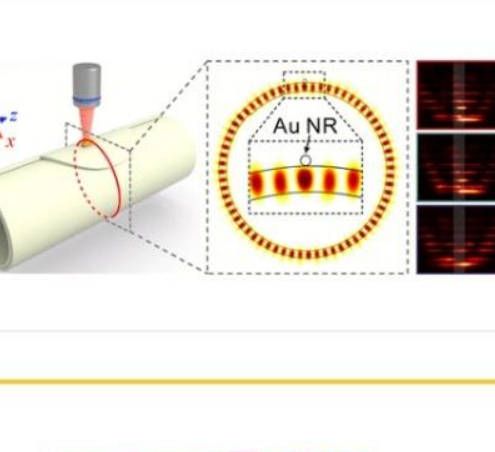
Abstract | Full text | PDF

ABSTRACT

Switchable Photon-Plasmon Coupling in a Single-Nanoparticle-Perturbed Microcavity

Xiaoyan Zhang, Yin Yin*, Jiawei Wang, Christian N. Saggau, Xiaoyu Wang, Xiaoyi Wu, Ling Bai, Junlin Liu, Oliver G. Schmidt, and Libo Ma*

ACS Photonics 2025, 12, 7, 3880-3885 **(Article)** Subscribed
Publication Date (Web): June 21, 2025



Abstract | Full text | PDF

ABSTRACT

Switchable High-Order Transverse Mode Fiber Laser with over Ten Distinct Modes

Lei Gui, Zhaosheng Chu, Huaqiao Gui, Qiwen Zhan, and Anting Wang*

ACS Photonics 2025, 12, 7, 3886-3891 **(Article)** Subscribed
Publication Date (Web): July 6, 2025

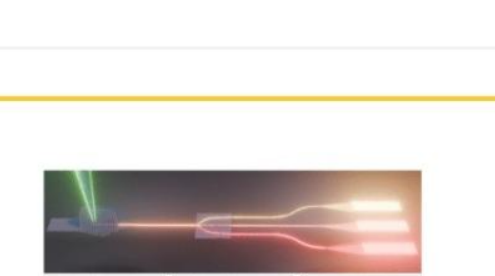
Abstract | Full text | PDF

ABSTRACT

High-Contrast Transmissive Terahertz Programmable Metasurface Based on Liquid Crystal

Wei Zhu, Sheng Wang, Hangbing Guo, Da Tian, Lei Wang, Yucheng Xu, Fangyu Wan, Hengyu Cui, Xinyu Huang, Jingbo Wu*, Kebin Fan, Caihong Zhang, Huabing Wang, Biao-bing Jin*, Jian Chen, and Peiheng Wu

ACS Photonics 2025, 12, 7, 3892-3900 **(Article)** Subscribed
Publication Date (Web): June 20, 2025



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ABSTRACT

An Inverse-Design Wavelength Demultiplexer for On-Chip Photoluminescence Sorting in TMDC Heterostructures

Anastasiia Zalogina*, Chi Li*, Ivan Zhigulin, Nathan Coste, Hossein Alijani, Otto Cranwell Schaeper, Hugo Charlton, Joseph Ward, Haoran Ren*, and Igor Aharonovich

ACS Photonics 2025, 12, 7, 3901-3908 **(Article)** Subscribed
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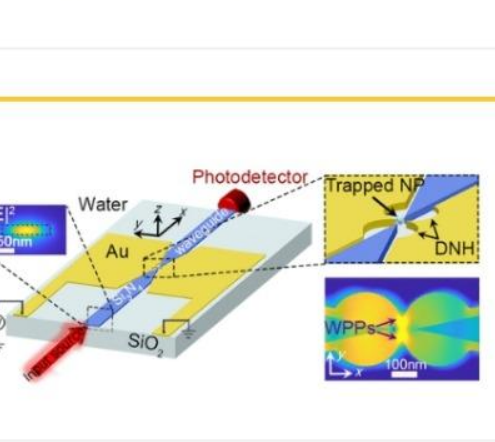

Abstract | Full text | PDF

ABSTRACT

In-Plane Excitation of Wedge Plasmon Polariton Modes in a Double Nanohole for Trapping and Sensing Nanoparticles

Mostafa Ghorbanzadeh*

ACS Photonics 2025, 12, 7, 3909-3918 **(Article)** Subscribed
Publication Date (Web): June 12, 2025

Abstract | Full text | PDF

ABSTRACT

Stability Breakthrough in Single-Layer PET-Encapsulated Perovskite Quantum Dot Backlighting Films: Synergistic Effect of the PbO Precursor and the Sapphire Substrate

Han Zhao, Wenying Zhu, Jiapeng Yang, Enrou Mei, Ye He, Zhaoping Chen*, Yang Li*, Xiaojuan Liang*, and Weidong Xiang*

ACS Photonics 2025, 12, 7, 3919-3927 **(Article)** Subscribed
Publication Date (Web): June 26, 2025

Abstract | Full text | PDF

ABSTRACT

Near-Infrared Organic Photodetectors with Tailored Junction Thickness for Resonance-Enhanced Photoresponse and Suppressed Dark Current

Yijun Huang, Lu Hao, Lin Shao, Zhaohong Tan, Shuaiqi Li, Sheng Dong, Xiye Yang, Wenkai Zhong, Yazhong Wang*, and Fei Huang*

ACS Photonics 2025, 12, 7, 3928-3938 **(Article)** Subscribed
Publication Date (Web): July 6, 2025

Abstract | Full text | PDF

ABSTRACT

Multiplication-Type Organic Polarization-Sensitive Photodetector Capable of Detecting Specific Wavelength Bands

Xiaogang Chen*, Aohuan Shi, Kailiang Bai, Nana Ren, Qin Zhou, Yao Li*, Qihai Lu*, and Feiping Lu*

ACS Photonics 2025, 12, 7, 3939-3949 **(Article)** Subscribed
Publication Date (Web): June 27, 2025

Abstract | Full text | PDF

ABSTRACT

Attoliter Mie Void Sensing

Serkan Arslan*, Micha Kappel, Adrià Canós Valero, Thi Thu Huong Tran, Julian Karst, Philipp Christ, Ulrich Hohenester, Thomas Weiss, Harald Giessen, and Mario Hentschel

ACS Photonics 2025, 12, 7, 3950-3958 **(Article)** Subscribed
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ABSTRACT

MASTHEADS

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