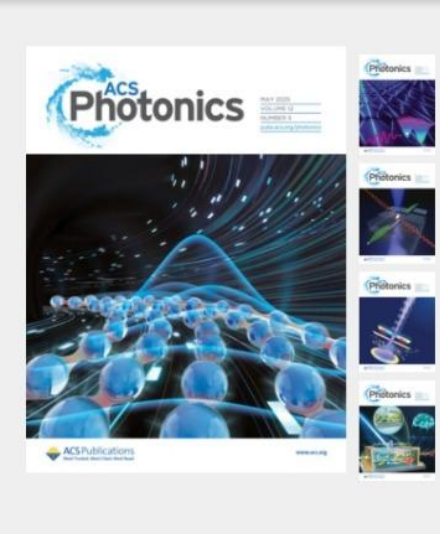

May 21, 2025
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About the Cover:

Coupled sphere chain displays a temporal SSH model enabled by a time photonic crystal with a chiral symmetry. The time tunnel is set as the background, indicating the coupling between sites in different time moments. The profile above the sphere chain demonstrates the field distribution of chiral-symmetry protected temporal edge states. **View the article.**

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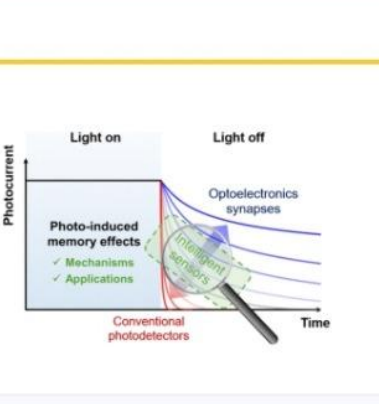

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Nonlinear Topological Photonics: Capturing Nonlinear Dynamics and Optical Thermodynamics

Stephan Wong, Alexander Cerjan, Konstantinos G. Makris, Mercedeh Khajavikhan, Demetrios Christodoulides, and Sang Soon Oh*

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Insulating Polymer Optimized Vertical Phase Separation Enables Organic Bulk Heterojunction Thick-Film Direct X-ray Detectors with Improved Sensitivity and Flexibility

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Machine Learning Inverse Design of Topological Quantum States in Photonic Topological Insulators

Zhen Jiang, Yixin Wang, Bo Ji, Guangqiang He*, and Chun Jiang*

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Reconfigurable Ion-Migration Driven Memristor for Multistate Neuromorphic Associative Learning

Jiaji Yang, Xin Li, Junzhe Gu, Feilong Yu, Jin Chen, Juntong Liu, Yuxin Song, Xianjie Lin, Xiaoshuang Chen*, Wei Lu, and Guanhai Li*

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Acoustic-Magnetic Tunable Liquid Crystal Microlens Arrays for Polarization-Selective Imaging

Qingqi Zhu, Shuai Wang, Qian Wu, Sen-Sen Li, Xuejia Hu*, and Lu-Jian Chen*

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Jiayuan Zhou, Yuhan Yang, Shasha Li, Yeqin Li, Kaipeng Ni, Ying Li, Aljoscha Söll, Wenshuai Gao, Xuegang Chen, Yuxuan Jiang, Liang Li, Yong Yan, Chunguang Hu, Wanfu Shen, Zdenek Sofer, Penglai Gong*, Mingliang Tian*, and Xue Liu*

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Victoria A. Norman*, Sridhar Majety, Alex H. Rubin, Pranta Saha, Nathan R. Gonzalez, Jeanette Simo, Bradi Palomarez, Liang Li, Pietra B. Curro, Scott Dhuey, Selven Virasawmy, and Marina Radulaski*

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Linpei Xue, Steve J. Elston, and Stephen M. Morris*

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Lu Zhu, Cong Lv, Wei Hua, Dechang Huang, and Yuanyuan Liu*

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Enhanced Interferometric Imaging by Rotating Coherent Scattering Microscopy

Kishwar Iqbal, Jan Christoph Thiele, Emanuel Pfitzner, and Philipp Kukura*

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Fully Suspended MoS_2 Photodetectors toward High Response Speed and Stable Responsivity

Jianyong Wei, Zhentao Lian, Yumeng Liu, Maosong Xie, Yueyang Jia, Kai Li, Robert Kudrawiec, Yaping Dan*, and Rui Yang*

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Zarko Sakotic*, Noah Mansfeld, Amogh Raju, Alexander Ware, Divya Hungund, Daniel Krueger, and Daniel Wasserman*

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High-Performance $MDABCO-NH_4(BF_4)_3$ Single Crystals for Rapid Real-Time Charged Particle Detection and Tissue-Equivalent X-ray Imaging

Yingming Wang, Lingyan Xu*, Lu Liang, Zhentao Qin, Shuai Han, Chongqi Liu, Lixiang Lian, Wei Zheng, Yanyan Lei, Qinzeng Hu, Tao Wang, and Wanqi Jie

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Precise Control of Charge States in Single Quantum Dots Using Bipolar Junction Transistors

Changkun Song, Jiawei Yang, Yingxin Chen, Ying Yu*, and Siyuan Yu

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Yan Wang, Jieyu Zhang, Yingjie Tang, Yitong Chen, Dingwei Li, Huihui Ren, Fanfan Li, Guolei Liu, Qi Huang, Botao Ji*, and Bowen Zhu*

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Jinsong Zhang, Renjie Zhou, Nicholas X. Fang, Weijie Deng, Jinlong Zhu*, and Shiyuan Liu*

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Peng Zhang, Xin Chen, Jing Li, and Xiangying Sun*

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Polarization-Sensitive Photodetectors Enabled by Plasmonic Metasurface Integrated Organic Photodiodes

Wei Wang, Shuai Sun, Wenjie Chen, Liangyu Zhang, Irfan Muhammad, Fang Xu, Wei Zhang, Yang Jiao*, Lei Kang*, Douglas H. Werner, Zeren Li, and Jia Li*

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Ultrafast Terahertz Emission in Centrosymmetric Films Driven by Nonlinear Photon-Drag Injection Currents

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Jiankai Xia, Yi He, Zhipeng Zhang, Jinhong Yan, Ruirong Wang, Mingxuan Tang, Jingye Chen, Jun Fan, and Kun Chen*

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Single-shot Multispectral Imaging via a Chromatic Metalens Array

Romil Audhkhasi*, Ningzhi Xie, Johannes E. Fröch, and Arka Majumdar

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High-Temperature Strong Nonreciprocal Thermal Radiation from Semiconductors

Bardia Nabavi, Sina Jafari Ghalekohneh, Komron J. Shayegan, Eric J. Tervo, Harry Atwater, and Bo Zhao*

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Machine Learning Prediction Framework for Tailoring the Optical Response of Particulate Media

Xiaokun Song, Hongchao Li, Hao Gong, Xianghui Liu, Manyao Zhang, Zhongyang Wang, Xiao Zhou*, Qibin Zhao*, and Tongxiang Fan*

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Helical Plasmonic Nanocrevices Formed by Metallic Double Helices for Ultrasensitive Chiral Detection and High-Performance Chiral Photoluminescence

Yong Li, Hui Fang, Ze Liu*, and Tao Ding*

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Brillouin Zone Folding Induced Spin–Orbit-Locking Chiral BIC and Quasi-BIC

Hao-Chang Mo, Wen-Jin Zhang, Ze-Yu Wu, Xiao-Dong Chen*, and Jianwen Dong

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Zeheng Wu, Hao Wu, Yusheng Jin, Yuan Tao, Zhongguo Ren, Jincheng Ni*, Yanlei Hu, Dong Wu, Jiaru Chu, and Jiawen Li*

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Zhaopin Chen*, Mark Levit, Yuval Kern, Basabendra Roy, Adi Goldner, and Michael Krüger*

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Dianzhuang Zheng, Shuiying Xiang*, Yahui Zhang, Xingxing Guo, Yuechun Shi, and Yue Hao

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Nanocavity-Enhanced Second-Harmonic Generation from Colossal Quantum Dots

David Sharp, Abhinav Kala, Hannah Rarick, Hao A. Nguyen, Elise Skytte, Brandi M. Cossairt, and Arka Majumdar*

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ABSTRACT

Doubly Resonant c-GaP Nanocavity for Second Harmonic Generation

Boris Kalinic*, Stefano Vezzoli, Neil Patel, Cynthia Vidal, Benjamin Tilmann, Stefan A. Maier, Riccardo Sapienza, and Giovanni Mattei

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ABSTRACT

Probing Spatiotemporal Reshaping of Three-Color Laser Waveforms in a Gas Medium via High-Order Harmonic Generation Spectroscopy

Chi Zhang, Xiangyu Tang, Baochang Li, Zhiming Yin, Jiahao You, Bincheng Wang, Xiaoyong Li, Chii-Dong Lin, and Cheng Jin*

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Full-Dimensional Photonic Spin-Hall Spatial Differential Imaging

Yanliang He*, Feiguo Fang, Cuicui Li, Wen Yuan, Haimei Luo, and Xianping Wang*

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ABSTRACT

Hyper Self-Doping of GeIn for Cost-Effective Ge PIN Photodiodes with Record-Low Dark Current

Yuying An, Jinlong Jiao, Guowei Chen, Liqiang Yao, Songsong Wu, Liangyu Wang, Qiang Wu, Rui Wang, Guangyang Lin*, Jianyuan Wang, Jianfang Xu, Wei Huang, Songyan Chen, and Cheng Li*

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Phase-Controlled Metasurface Design for Full-Stokes Polarization Detector Driven by SPPN

Peiqi Yu, Shikun Duan, Qixiang Jia, Yuanyu Zhu, Xueyu Guan, Ruonan Ji, Hailing Wang, Zhongshi Huang, Lin Li, Xiaolong Zhu, Xuechu Shen, and Shaowei Wang*

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