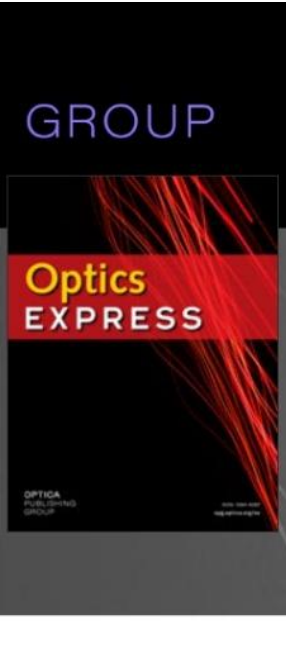


Optics Express

Siddharth Ramachandran, Editor-in-Chief

Editorial Board >

19 OCTOBER 2026, VOLUME 34, ISSUE 21, PP. 38754-40704

128 ARTICLES

☐ Actions ▾ Sort: Topic | Page Number

COMPUTATIONAL OPTICAL SENSING AND IMAGING 2026

☐ Computational and AI-Driven Imaging

☐ **Optical image encryption and information hiding with computational ghost imaging based on a forgery attack mechanism**
Suqin Nan, Chuhan Zou, Shuming Jiao, Xuanpengfan Zou, Tengfei Liu, Lingxi Mao, Xianwei Huang, Yanfeng Bai, and Xiquan Fu
Opt. Express 34(21), 39219-39238 (2026) View: HTML | PDF

☐ Optical Sensing and Metrology

☐ **Calibration-driven modulation transfer function estimation for event-based cameras**
Achour Idoughi and Keigo Hirakawa
Opt. Express 34(21), 40323-40339 (2026) View: HTML | PDF [Suppl. Mat. (1)]

TINY INTEGRATED LASERS AND THEIR APPLICATION TO INDUSTRIAL LASER TECHNOLOGIES 2026

☐ Solid State Lasers

☐ **High-power yellow solid-state laser at 574 nm and dual-wavelength operation at 1148 and 1163 nm by selecting Raman line of KGW**
Yung-Fu Chen, Hsin-Jia Huang, Jian-Cheng Chen, Yu-Hsin Hsu, Cheng-Li Hsieh, and Hsing-Chih Liang
Opt. Express 34(21), 39907-39915 (2026) View: HTML | PDF

☐ Structured Light, Beam Shaping, and Propagation

☐ **Multiple structured laser arrays via the superimposition of fork gratings in Nd:YAG**
Siwen Ai, Zhixiang Chen, Yuechen Jia, and Hongliang Liu
Opt. Express 34(21), 39474-39482 (2026) View: HTML | PDF

Research Articles

☐ Atomic and Molecular Physics

☐ **Quantum photonic treatment of nano-polarization in diffraction gratings**
Mobin Rahimi Malekshan, Sina Mahmoudi, Arya Monfared, Majid Shalchian, and Hassan Kaatuzian
Opt. Express 34(21), 39096-39107 (2026) View: HTML | PDF

☐ Computational and AI-Driven Imaging

☐ **Robust single-pixel imaging for high-speed rotating objects with large rotational speed variations**
Manhong Yao, Siyang Liao, Ganhong Yang, Di He, Sicheng Long, Zibang Zhang, Junzheng Peng, and Jingang Zhong
Opt. Express 34(21), 39239-39250 (2026) View: HTML | PDF [Suppl. Mat. (2)]

☐ **Sensor-aware physical modelling for deep learning-based single-photon imaging**
Yiwei Chen, Xun Lang, and Yu Pan
Opt. Express 34(21), 39417-39436 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Optical-parameter-conditioned one-shot autofocus for multi-objective-lens microscopy**
Xiaoxi Fu, Tai Zhang, Yake Zhang, Yunfeng Zhou, Yibo Dai, Jingjing Xiao, Yanping He, and Yongping Zhai
Opt. Express 34(21), 39568-39581 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Probe-aware self-supervised neural network for X-ray holographic reconstruction**
Jiarui Hu, Yu Hu, Guangcai Chang, Lei Wang, Bin Ji, and Jingyan Shi
Opt. Express 34(21), 39601-39615 (2026) View: HTML | PDF

☐ **Imaging and tracking of moving targets through scattering media using an optical phased array with controlled translation and acceleration**
Shijie Wei, Yinuo Zhang, Yishuang Deng, Yutong Chen, Zongxi Song, Tengfei Wu, and Xiaopeng Shao
Opt. Express 34(21), 40008-40019 (2026) View: HTML | PDF

☐ **Background–dynamic joint decoupling method for dynamic-scene reconstruction in shift-encoded optically multiplexed imaging**
Yunhan Ma, Chenglong Yang, Yingming Zhao, Huiling Hu, Zibo Yu, Yuqi Wang, and Chunyu Liu
Opt. Express 34(21), 40105-40135 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Efficient SPAD reconstruction framework with time-frequency domain compression and lightweight joint depth-intensity optimization**
Yaoqi Bao, Sijie Wu, Dong Li, Yisheng Zhao, Lichen Feng, Rui Ma, and Zhangming Zhu
Opt. Express 34(21), 40165-40189 (2026) View: HTML | PDF

☐ **Physics-guided deep neural networks for Laguerre–Gaussian modal decomposition via PCA-ranked Zernike descriptors**
Malihe Karami and Saeed Ghavami Sabouri
Opt. Express 34(21), 40539-40552 (2026) View: HTML | PDF

☐ Environmental and Atmospheric Optics

☐ **PRF-controlled near-IR spectral selection in a semiconductor-LTD-driven $MnBr_2$–Ne–HBr source**
Maxim Trigub, Zhenzhu Wang, Pavel Gembukh, Dmitriy Shiyanov, Anton Kulagin, Dong Liu, and Yingjian Wang
Opt. Express 34(21), 39169-39181 (2026) View: HTML | PDF

☐ **Physics-statistics decoupled operators for ensemble-averaged intensity prediction in turbulent laser propagation**
Rui Yu, Jining Li, Qingmingyang Zhou, Dong Wang, Shimin Yang, Zhen Xu, Kai Chen, and Degang Xu
Opt. Express 34(21), 39455-39473 (2026) View: HTML | PDF

☐ **Polarization total variation method for backscatter suppression and visibility enhancement in turbid underwater environments**
Haihong Jin, Jinchuan Wang, Yifan Wang, Bufan Yao, and Zhiguo Fan
Opt. Express 34(21), 39523-39540 (2026) View: HTML | PDF

☐ Fiber Lasers and Amplifiers

☐ **Sub-10-ns single-frequency linearly polarized 2055-nm thulium-doped distributed-feedback fiber laser inscribed by femtosecond-laser direct writing**
Zhenzhen Zhang, Jindan Shi, and Xian Feng
Opt. Express 34(21), 38843-38861 (2026) View: HTML | PDF

☐ **Synchronously-pumped pulsed multimode Raman fiber laser**
Haotuo Shen, Yingjuan Shi, Xinru Cao, Huawei Jiang, Jiaqi Zhou, Xuezong Yang, and Yan Feng
Opt. Express 34(21), 39784-39795 (2026) View: HTML | PDF

☐ **High-power broadband amplification around 2.3 µm in thulium-doped fluorotellurite glass fibers**
Fangning Wang, Zhixu Jia, Chenyu Wang, Songshan He, Fanchao Meng, Yasutake Ohishi, Weiping Qin, and Guanshi Qin
Opt. Express 34(21), 40584-40596 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ Holography, Gratings, and Diffraction

☐ **Faithful reconstruction of orthogonal circular polarization holography modulated by spatial frequency in TI/PMMA photopolymers**
Hongling Huang, Feiyang Song, Xinyue Yin, and Peng Liu
Opt. Express 34(21), 39796-39814 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Efficient and photorealistic polygon-based CGH through unified linear mapping**
Pin Wang, Yaping Zhang, Qingyang Fu, Yatao Luo, and Ting-Chung Poon
Opt. Express 34(21), 39881-39906 (2026) View: HTML | PDF [Suppl. Mat. (2)]

☐ Integrated Optics

☐ **Compact thermo-optic switch based on graphene-silicon nitride nanobeam cavity**
Yunjie Li, Jingming Chan, Huaixu Chen, Wen-Di Li, Minghua Chen, and Ciyuan Qiu
Opt. Express 34(21), 38813-38820 (2026) View: HTML | PDF

Editors' Pick
☐ **Inverse-designed integrated computational spectrometer with sub-ångström resolution**
Kai Wang, Enge Zhang, Luyang Liu, Qian Wang, Jinglei Qin, Mengjia Jin, and Lei Zhang
Opt. Express 34(21), 38862-38873 (2026) View: HTML | PDF

☐ **Integrated gain-controlled semiconductor optical amplifier for input-power range extension in 100 Gb/s upstream PON receiver applications**
Samir Ghosh, Fariba Jamali, Owen Moynihan, Artem S. Vorobev, Chinna Devarapu, Cleitus Antony, Kevin Thomas, Emanuele Pelucchi, Liam O'Faolain, Paul Townsend, and Brian Corbett
Opt. Express 34(21), 39718-39735 (2026) View: HTML | PDF

☐ **Study on angular and polarization dependence of optical force in multilayered dielectric coatings for optical devices**
Siyu Huang, Chunyang Gu, XI Qiao, and Fengzhou Fang
Opt. Express 34(21), 39931-39950 (2026) View: HTML | PDF

☐ **3D photonic integration leveraging hybrid-confinement circuits**
Kanhaya Sharma, Adrià Grabulosa, Erik Jung, and Daniel Brunner
Opt. Express 34(21), 40340-40355 (2026) View: HTML | PDF

☐ Interferometry

☐ **Differential phase recovery from correlated long-baseline fiber interferometers using a DFB diode source**
Anneshwa Dey, Paul G. Sibley, Malcolm B. Gray, and Chathura P. Bandutunga
Opt. Express 34(21), 39330-39341 (2026) View: HTML | PDF

☐ Laser Machining and Material Processing

☐ **Inscription method for chirped fiber Bragg gratings with high spectral flatness based on a nonlinear phase mask**
Yangning Guo, Kerong Jiao, Yuqi Bi, Jia Li, Zihao Zhu, Yunhan Zheng, and Hua Shen
Opt. Express 34(21), 39437-39454 (2026) View: HTML | PDF

☐ **Iterative aberration compensation of femtosecond 3D-printed microlenses using wavefront measurements**
Yanqiu Zhao and Harald Giessen
Opt. Express 34(21), 40597-40610 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ LEDs and Lighting

☐ **Multi-cycle rapid thermal annealing for enhancement of luminescence performance in InGaN/GaN green light-emitting diodes**
Maolin Gao, Lars Samuelson, Zhaoxia Bi, Anders Gustafsson, Xin Hou, and Baoping Zhang
Opt. Express 34(21), 39616-39625 (2026) View: HTML | PDF

☐ **Monolithic spectrally tunable UVA/UVB/UVC AlGaN-based UV-LEDs via p-type trenches**
Pingjuan Niu, Shuo Xu, Ning Zhang, Zhe Cheng, Chunyan Liu, Qi Li, Xiao Deng, Canyao Liu, Mengyao Li, Yucheng Li, Yuqiang Li, Jie Yang, and Yun Zhang
Opt. Express 34(21), 39638-39648 (2026) View: HTML | PDF [Suppl. Mat. (1)]

Editors' Pick
☐ **Enhancing color discrimination in older adults through age-adaptive spectral optimization of lighting**
Chengya Lu, Guanming Bao, Zijian Tao, Chang Liu, Lin Guo, Changrong Zhu, Haiyun Ma, and Qi Dai
Opt. Express 34(21), 39836-39852 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Optical crosstalk suppression in micro-pitch mini-LED arrays via silicon grid integration**
Zhanyuan Chen, Yongwei Tang, Pei Jiang, and Leimeng Sun
Opt. Express 34(21), 40156-40164 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ Metasurfaces and Flat Optics

☐ **Dual-wavelength diffraction-order-multiplexed metasurface for wide-angle sun sensing**
Ji Chen, Yue Wu, Si Zhang, and Zaichen Zhang
Opt. Express 34(21), 38800-38812 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **High-Q toroidal resonances enabled by tailoring field spatial localization in all-dielectric metasurfaces**
Chen Peng, Guangxiang Li, Yulong Cao, Haizhou Wang, Hanpeng Zhou, Siliang Liu, Yanlin Zhu, Jin Xiang, Yan Chang, and Wenchao Zhou
Opt. Express 34(21), 38982-38991 (2026) View: HTML | PDF

☐ **Coexisting strong and critical coupling in a silicon quasi-BIC metasurface integrated with monolayer WS_2**
Yongliang Zhang, Xia Zhang, and A. Louise Bradley
Opt. Express 34(21), 39182-39194 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Experimental demonstration of static sub-terahertz metasurface lenses on a glass wafer operating at 0.14 or 0.3 THz**
Bilal Ouardi, Ronan Sauleau, and Antonio Clemente
Opt. Express 34(21), 39251-39264 (2026) View: HTML | PDF

☐ **Highly tunable mid-infrared perfect absorber based on unpatterned α-MoO_3 integrated with an inverted metasurface**
Daxing Dong, Guohao Zhang, Jingkai Miao, Yue Fei, Chuanjie Hu, Yaoyao Shi, Youwen Liu, and Yangyang Fu
Opt. Express 34(21), 39407-39416 (2026) View: HTML | PDF

☐ **Polarization-insensitive broadband achromatic metalens with implicit pupil apodization and focal sharpening**
Jiangqing Xu, Jiamin Zhang, Yanrong Deng, Gongli Xiao, Junqi Chen, and Peihua Wangyang
Opt. Express 34(21), 39916-39930 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **$Ge_2Sb_2Te_5$-enabled nonvolatile switching of symmetry-engineered chiral q-BIC states in mid-infrared metasurfaces**
Xin Niu, Lun Wang, Ju Yang, Peng Lang, BoYu Ji, Yang Xu, ZhenLong Zhao, XiaoWei Song, and Jingquan Lin
Opt. Express 34(21), 40226-40239 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Transmission-type coding metasurface for spatially tailored Rydberg-atom microwave sensing**
Hao Zhang, Jun Huang, Wenguang Yang, Mingyong Jing, Zongkai Liu, Junyao Xie, and Linjie Zhang
Opt. Express 34(21), 40284-40295 (2026) View: HTML | PDF

☐ **Dynamic beam scanning and polarization manipulation based on a dual-circularly polarized programmable metasurface**
Yue Gou, Yunan Zhang, Yankai Zhang, Yukun Wang, Nan Ju, Junshu Chen, Tianyu Lu, Hanwei Tian, Yeming Qing, and Leilei Liu
Opt. Express 34(21), 40487-40500 (2026) View: HTML | PDF

☐ **Guided-wave-driven eight-channel spin- and direction-multiplexed on-chip metasurface for light manipulation**
Zhu Wang, Zihao Zhang, Yulang Peng, Bisheng Quan, Zichun Le, and Lin Li
Opt. Express 34(21), 40649-40660 (2026) View: HTML | PDF

☐ Microscopy and Biomedical Imaging

☐ **Markov-based photon statistics for blood flow estimation in parallelized diffuse correlation spectroscopy**
Melissa M. Wu, Lucas Kreiss Roohian, Michael A. Wayne, Claudio Bruschini, Edoardo Charbon, and Roarke Horstmeyer
Opt. Express 34(21), 39130-39156 (2026) View: HTML | PDF | Compressed PDF [Suppl. Mat. (1)]

☐ **Three-dimensional measurement of RBC speed, flux, and density using optical projection functional angiography**
Xiaoxin Mai, Riwei Liao, Yifen Ke, and Ruidong Jia
Opt. Express 34(21), 39314-39329 (2026) View: HTML | PDF [Suppl. Mat. (6)]

☐ **Acoustic coherence-aware oriented 3D photoacoustic microscopy super-resolution with noise-suppression**
Yuchen Sun, Baoguo Lu, Tianxiang Zuo, Jie Yuan, Chao Tao, and Xiaojun Liu
Opt. Express 34(21), 40067-40082 (2026) View: HTML | PDF [Suppl. Mat. (3)]

☐ Near-Field Optics and Plasmonics

☐ **Anisotropic perfect absorber with borophene-based metasurface at near-infrared wavelengths**
Fangjin Chang, Qiao Wang, Kaili Kuang, and Wei Peng
Opt. Express 34(21), 39043-39054 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Dual physical origins of polarization-independent scattering in plasmonic nanoparticle dimers**
Mingchen Yin, Chong Yan, Mingjie Wan, Luxiao Sang, Kang Gu, Chunlian Zhan, and Yadong Zhou
Opt. Express 34(21), 40250-40261 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Optical response of surface-immobilized gold nanospheres on finite-thickness gold thin films**
Tong Zhou, Maria Vanessa Balois Oguchi, and Kotaro Kajikawa
Opt. Express 34(21), 40640-40648 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ Nonlinear and Ultrafast Optics

☐ **Wavelength-selective second-harmonic splitting and focusing in engineered $\chi^{(2)}$ photonic crystals**
Zongheng Cui, Tianxiang Xu, Shan Liu, Ruwei Zhao, and Yan Sheng
Opt. Express 34(21), 39108-39120 (2026) View: HTML | PDF

☐ **Self-referenced laser frequency comb using analog feed-forward carrier-envelope phase stabilization**
Gregory Sercel, Mirali Seyed Shariatdoust, Yichen Zou, Cyrus Bry, and Sergio Carbajo
Opt. Express 34(21), 39121-39129 (2026) View: HTML | PDF

☐ **Retrieval of the dephasing time in solids from spatial high-harmonic spectroscopy**
Jiahao You, Bin Lu, Zhong Guan, Chi Zhang, Yong Fu, Shengfei Wu, Feier Xu, Yi Huang, Bincheng Wang, Chuan Yu, and Cheng Jin
Opt. Express 34(21), 40420-40434 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Deep-ultraviolet second-harmonic generation in a three-coherence-length SrB_4O_7 microcavity**
Tomoaki Nambu, Kazuki Matsumoto, Ryuma Matsuki, Keijiro Takashima, Masahiro Yoshiike, Kazuki Sato, Hiroyuki Togawa, Yusuke Mori, Masashi Yoshimura, Ryota Ishii, Masahiro Uemukai, Tomoyuki Tanikawa, and Ryuji Katayama
Opt. Express 34(21), 40611-40626 (2026) View: HTML | PDF

☐ **Thermo-optically tunable Bragg soliton-effect compression in on-chip silicon nitride gratings**
Wang Xuchang, Amdad Chowdury, Choi Ju Won, Benjamin J. Eggleton, and Dawn T. H. Tan
Opt. Express 34(21), 40661-40671 (2026) View: HTML | PDF

☐ Optical Communications

☐ **Asymmetric laser gating for robust low power half-duplex optical link in camera-on-tip surgical endoscopes**
Asif Khan, Valentina Rajkumari, Meena Baskaran, Owen Moynihan, Cleitus Antony, James O'Callaghan, Brendan Roycroft, Kevin Thomas, Emanuele Pelucchi, Sanathana Konugolu Venkata Sekar, Stefan Andersson-Engels, Paul Townsend, and Brian Corbett
Opt. Express 34(21), 38916-38928 (2026) View: HTML | PDF

☐ **Mobile optical communication using a fiber-optic drone**
Jiahao Gou, Mingxu Liu, Xinjie Mo, Linning Wang, Ziqian Qi, Pengyang Liu, Yingze Liang, Qunjie Liu, Shuqin Chen, Tianchen Fang, and Yongjin Wang
Opt. Express 34(21), 38957-38965 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Parametric sensitivity characterization of two-way time transfer over hollow-core fiber links up to 91 km**
Bo Liu, Xinxing Guo, Jiang Chen, Huibo Hong, Qian Zhou, Xiang Zhang, Ru Yuan, Rongduo Lu, Tao Liu, Ruifang Dong, and Shougang Zhang
Opt. Express 34(21), 38966-38981 (2026) View: HTML | PDF

☐ **Single-step initialization of a 16-channel silicon nitride DWDM demultiplexer using a physics-informed digital twin**
Zuyang Liu and Joyce K. S. Poon
Opt. Express 34(21), 39028-39042 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Secret key rate enhancement through joint precoding and power loading for downstream CV-QKD over passive optical networks**
Yuan Liu and Chun-Kit Chan
Opt. Express 34(21), 39369-39388 (2026) View: HTML | PDF | Compressed PDF

☐ **Advanced equalizer for 800-Gb/s DP-16QAM coherent transmission systems**
Xuecheng Ren, Jing Zhang, Shen Wang, Rui Wang, Zhaopeng Xu, Shaohua Hu, Bo Xu, and Kun Qiu
Opt. Express 34(21), 39649-39656 (2026) View: HTML | PDF

☐ **STLFM-based integration of sensing and secure communication in optical fiber**
Ying Wu, Shuang Wei, Xiangyu Liu, Wei Wang, Yajie Li, Yongli Zhao, and Jie Zhang
Opt. Express 34(21), 39657-39673 (2026) View: HTML | PDF

☐ **High-speed TFLN Mach-Zehnder modulator for 448 Gb/s optical-amplification-free links**
Armands Ostrovskis, Darja Cirjulina, Toms Salgals, Said El-Busaidy, Michael Koenigsmann, Benjamin Krüger, Fabio Pittalà, Lu Zhang, Xianbin Yu, Hadrien Louchet, Robert Jahn, Kazuo Yamaguchi, Markus Gruen, Vjaceslavs Bobrovs, Marcel Zeiler, Xiaodan Pang, and Oskars Ozolins
Opt. Express 34(21), 40083-40095 (2026) View: HTML | PDF

☐ **Performance modeling and outdoor experimental investigation of a multi-format-compatible FSO system under atmospheric turbulence**
Dongsheng Tian, Peng Zhang, He Zhao, Yuanxin Wang, Hao Yu, Yan An, Dashuai Wang, Hang Nan, Zhiqun Yang, Lun Jiang, Shoufeng Tong, and Huilin Jiang
Opt. Express 34(21), 40211-40225 (2026) View: HTML | PDF

☐ **Large key space and efficient hierarchical chaotic encryption for secure transmission of 65536-QAM via delta sigma modulation**
Haolin Bai, Jiahao Huo, Peng Qin, Weizhang Chen, Ruihua Huang, Wenhao Ma, and Keping Long
Opt. Express 34(21), 40296-40313 (2026) View: HTML | PDF

☐ **Pipelined spiking neural network equalizer architecture designed for CMOS implementation in IM/DD optical transmission systems**
Shuangxu Li, Vincent Scholl, Georg Böcherer, and Stefano Calabrò
Opt. Express 34(21), 40435-40452 (2026) View: HTML | PDF

☐ Optical Computing

☐ **Optically writable atomic vapor memory as a substrate for optical reservoir computing**
Elizabeth Robertson, Mingwei Yang, Lina Jaurigue, Guillermo Gallego, Kathy Lüdge, and Janik Wolters
Opt. Express 34(21), 39389-39406 (2026) View: HTML | PDF

☐ **Multi-level registration method for visible and infrared images guided by common optical axis priors**
Huibo Shao, Lingyun Wang, Ru Zheng, Dandan Xie, Yunting Gui, Xin Yu, and Guangxi Li
Opt. Express 34(21), 40371-40393 (2026) View: HTML | PDF

☐ Optical Design and Fabrication

☐ **Electrically switchable liquid crystal lens for bright-field and spiral phase contrast imaging**
Weiping Ding, Mingyuan Tang, Yubo Liu, Aojie Wu, Changli Sun, and Jiangang Lu
Opt. Express 34(21), 38831-38842 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Design and analysis of single-layer f-θ metalens enabling wide-field-of-view, low-distortion scanning**
Shicheng Zhou, Tong Jiang, Hao Ding, Mandi Rong, Yunshuo Xie, Linze Chen, Wenjie Xie, Li Ding, Xingang Ren, and Zhixiang Huang
Opt. Express 34(21), 38900-38915 (2026) View: HTML | PDF

☐ **Data-driven surface figure analysis and process optimization for full-aperture continuous polishing based on processing data**
Defeng Liao, Qishan Hu, Wei Wang, Lin Zhu, and Ruiqing Xie
Opt. Express 34(21), 38992-39010 (2026) View: HTML | PDF

☐ **Rapid stress birefringence mapping in mounted curved lenses with a curved-layer Jones approximation**
Chizhi Chris Zhang, Shuo Zhang, Hongwei Lou, Jian Jiang, Lei Sheng, and Georgios Markou
Opt. Express 34(21), 39011-39027 (2026) View: HTML | PDF

☐ **Investigation into dielectrophoretic force profiles in optoelectronic tweezers using gradient light patterns**
Yuanxing Geng, Euan McGookin, Zonghao Li, Yida Ren, Bo Xu, Shuailong Zhang, and Steven L. Neale
Opt. Express 34(21), 39288-39302 (2026) View: HTML | PDF [Suppl. Mat. (2)]

☐ **Removal-angular-spectrum-guided targeted notch matching for suppressing MSF errors in oblique-incidence MJP**
Yulu Miao, Yunpeng Feng, Haobo Cheng, and Le Yu
Opt. Express 34(21), 39582-39600 (2026) View: HTML | PDF | Compressed PDF

☐ **Mechanism-informed dynamic surrogate modeling for rapid thermal-aberration prediction in bonded optical systems**
Yuxi Zhao, Huanxiong Xia, Xiumin Zhang, and Jianhua Liu
Opt. Express 34(21), 39768-39783 (2026) View: HTML | PDF

☐ **Design and experimental evaluation of a rotationally symmetric zonal aspheric lens for early presbyopia correction**
Yujie Cui, Xiaoqin Chen, Yanzhe Fan, Xiaoyang Hu, Xinyu Du, Xingyi Guo, Kailang Zhang, Bingyin Zhang, Yun Kang, and Yongji Liu
Opt. Express 34(21), 39853-39868 (2026) View: HTML | PDF

☐ **Control of optical surface gradient error via directional matching of a non-rotationally symmetric removal function**
Ci Song, Ziyuan Cui, Yunheng Chen, Pengqian Yang, Zhaoyang Jiang, Xuejie Zhang, Feng Shi, Wanli Zhang, and Wang Bo
Opt. Express 34(21), 40136-40155 (2026) View: HTML | PDF

☐ Optical Materials, Nanomaterials and 2D Materials

☐ **Avoided-crossing engineering of quasi-BIC resonances for flat-band metadevices with suppressed angular dispersion**
Youpeng Zhuo, Fan Zhang, Ang Xu, Linfan Wang, Peiqing Zhang, Zhiqiang Yang, Qiushun Zou, and Xiang Shen
Opt. Express 34(21), 40020-40029 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Dynamic manipulation of Goos-Hänchen shifts empowered by phase-change quasi-BIC metasurfaces**
Xu Yang, Yuyang Liu, Cong Zhang, Ying Liu, Peipei Chen, Na Liu, Huazheng Wu, Shaowei Jiang, Chengfei Guo, and Jiaju Wu
Opt. Express 34(21), 40573-40583 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ Optical Modulators and Tunable Devices

☐ **Engineered fused optical fiber bundle with embedded electrodes**
Davide Rizzotti, Stuart Gray, Stefano Signorini, William J. Miller, and Valerio Pruneri
Opt. Express 34(21), 38874-38885 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Calibration method for geometric parameters of acousto-optic tunable filters based on polarization-dependent characteristics**
Ran Li and Huijie Zhao
Opt. Express 34(21), 39507-39522 (2026) View: HTML | PDF

☐ **High voltage, bandwidth-limited, segmented CPW transmission lines for a thin-film lithium niobate electro-optic modulator using a conical-shaped high-permittivity material**
Mohsen Karimian Kakolaki, Ahmad Bakhtafrouz, and Parisa Karimi
Opt. Express 34(21), 40356-40370 (2026) View: HTML | PDF

☐ Optical Sensing and Metrology

Editors' Pick
☐ **Wafer alignment measurement using vortex beam interferometry and double diffraction by the same grating**
Lijun Zhou, Li Chen, Zhongliang Li, Peng Feng, Kaining Zhang, Jinming Gao, Lan Wu, and Xiangzhao Wang
Opt. Express 34(21), 38785-38799 (2026) View: HTML | PDF

Editors' Pick
☐ **Optical retardance measurement with constant sensitivity using vector vortex beams**
Gabriela Flores-Cova, Daniel Salamanca-Roldán, Carmelo Rosales-Guzmán, Daniel F. Urrego, and Juan P. Torres
Opt. Express 34(21), 38886-38899 (2026) View: HTML | PDF

☐ **Multiscale axial displacement measurement based on radially segmented double-helix PSF and multi-feature hierarchical demodulation**
Liu Zhang, Mengyang Shi, Hua Liu, Shikai Zan, Yangyang Zou, and Yang Zhu
Opt. Express 34(21), 39076-39095 (2026) View: HTML | PDF | Compressed PDF

☐ **Sub-microkelvin resolution temperature sensing using orthogonal polarization modes in a fiber ring resonator**
Ze-Long Huang, Jie Xu, Jue Li, Wei-Tong Fan, Chun-Zhao Ma, Qi-Sen Yang, Shi-Zhe Wen, and Chang-Lei Guo
Opt. Express 34(21), 39157-39168 (2026) View: HTML | PDF

☐ **Motion-state recognition of satellite active components based on high-frequency photometric signals**
Mu Ye, Yin Zhang, Xuguo Zhang, Pu Huang, Dawei Wang, Zhipeng Wang, and Junhua Yan
Opt. Express 34(21), 39195-39218 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Generic phase correction method based on phase recoding for deflectometry**
Jie Wang, Hongyi Zeng, Haisen Yuan, Hao Xing, Chen Wei, Renjun Peng, Huimin Yue, and Yong Liu
Opt. Express 34(21), 39303-39313 (2026) View: HTML | PDF

☐ **Simultaneous misalignment and mode mismatch sensing in resonant optical cavities using intensity-only measurements**
Liu Tao, Eleonora Capocasa, Yuhang Zhao, Jacques Ding, Isander Ahrend, and Matteo Barsuglia
Opt. Express 34(21), 39541-39558 (2026) View: HTML | PDF

☐ **Enhanced nanometer-scale linewidth metrology using dark-field through-focus scanning optical microscopy**
Se Jeong Kim, Ji Yong Joo, Jun Ho Lee, and Oh-hyung Kwon
Opt. Express 34(21), 40030-40048 (2026) View: HTML | PDF

☐ **Pixel-wise multi-error calibration and DoLP image recovery for low-extinction-ratio LWIR DoFP polarimetric cameras**
Qi Wang, Guan Wang, Xiheng Wang, HaiRui Wang, KanGeng Li, Panpan Yang, Huanhuan Zhao, Qiang Fu, and Huilin Jiang
Opt. Express 34(21), 40466-40486 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Compact low-frequency optomechanical triaxial inertial sensor**
Daniel George, Jose D. Hernandez Rivero, Moritz Mehmet, Ramses Miranda Espino, Xiangyu Guo, Andrea Nelson, Jose Sanjuan, and Felipe Guzman
Opt. Express 34(21), 40501-40520 (2026) View: HTML | PDF

☐ Photodetectors and Photovoltaics

☐ **Graphene-enabled interface engineering for bias-tunable UV-visible photodetection in an InGaN/$Cs_3Cu_2I_5$ heterojunction**
Jixing Chai, Yangpu Liu, Wenliang Wang, and Guoqiang Li
Opt. Express 34(21), 39494-39506 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **MUTC photodiodes with integrated stub-lines for band-selective flat response in millimeter-wave applications**
Mengbo Fu, Dechao Ban, Ya Jin, Sha Zhu, Mengbin Wang, Wei Chen, Ming Li, and Ninghua Zhu
Opt. Express 34(21), 39674-39685 (2026) View: HTML | PDF

☐ **Polarization-insensitive high-efficiency superconducting nanowire single-photon detector**
Xin Xu, Yue Fei, Qi Chen, Hao Wang, Liang Ma, Mengfan Zhang, Zhuolin Yang, Yanqiu Guan, Huipeng Xia, Xiaoqing Jia, Lin Kang, Labao Zhang, and Peiheng Wu
Opt. Express 34(21), 39869-39880 (2026) View: HTML | PDF

☐ **Pressure-resilient bulk photovoltaic effect in c-BeB_2**
Hang Meng, Zhiming Luo, Mingyang Du, and Zonglun Li
Opt. Express 34(21), 40201-40210 (2026) View: HTML | PDF [Suppl. Mat. (1)]

Editors' Pick
☐ **Gap-engineered high-performance broad spectral-band plasmonic terahertz detectors for wireless communication**
Chao Zhang, Boyu Yang, Haoran Jia, Xing Gao, Shuaiqin Wu, Heng Luo, Guozhen Liang, Feiliang Chen, Yan Chen, Jianlu Wang, Junhao Chu, and Jinchao Tong
Opt. Express 34(21), 40262-40272 (2026) View: HTML | PDF

☐ Photonic Crystals and Periodic Structures

☐ **Frequency-tunable high-efficiency retroreflection from a magnetically biased ferrite metagrating**
Zhao-Fei Sui, Yang-Chen Hao, Ling-Feng Cai, and Rui-Xin Wu
Opt. Express 34(21), 39483-39493 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Triple-band nonreciprocal optical Tamm states in a Weyl-semimetal/Fibonacci-type photonic heterostructure**
Jipeng Wu, Lingfeng Liao, Yulei Liao, RongZhou Zeng, XiaoYu Dai, and Yuanjiang Xiang
Opt. Express 34(21), 39686-39702 (2026) View: HTML | PDF

☐ **Edge states and edge solitons in counter-rotating trimer helical waveguide arrays**
Yanan Ma, Hongguang Wang, Milivoj R. Belić, Yongdong Li, and Yiqi Zhang
Opt. Express 34(21), 40627-40638 (2026) View: HTML | PDF [Suppl. Mat. (2)]

☐ Quantum Optics

Editors' Pick
☐ **Generation and manipulation of frequency-converted Airy vortex beam via atomic four-wave mixing**
Sandan Wang, Jingyi Zhou, Xuewen Wang, Yi Hu, Jinpeng Yuan, Lirong Wang, Liantuan Xiao, and Suotang Jia
Opt. Express 34(21), 38821-38830 (2026) View: HTML | PDF

☐ **Rethinking free-space orbital angular momentum quantum key distribution: encoding selection and branch-cut-length-minimized adaptive optics**
Zhiwei Tao, Congming Dai, Pengfei Wu, Yichong Ren, Yanling Li, Hanling Deng, Xianmei Qian, Ruizhong Rao, Heli Wei, and Wenyue Zhu
Opt. Express 34(21), 39342-39368 (2026) View: HTML | PDF | Compressed PDF [Suppl. Mat. (1)]

☐ Reflectometry and LIDAR

☐ **Detecting clear-air turbulence via beam broadening in a Rayleigh-scattering lidar system**
Christopher Miller, Daniel Lum, Brandon Rodenburg, Michael Stenner, Anthony DiCarlo, Bradford Snios, and Paul D. Williams
Opt. Express 34(21), 39055-39075 (2026) View: HTML | PDF

☐ **Interference fading suppression for φ-OTDR based on non-uniform bandwidth allocation**
Mingzhuo Cai, DeSheng Li, Tianye Huang, Liangming Xiong, Tao Chen, Quanlong He, Wufeng Sun, Jing Zhang, Xiang Li, and Perry Ping Shum
Opt. Express 34(21), 39755-39767 (2026) View: HTML | PDF

☐ **Dual-comb time-of-flight measurement via attosecond-resolved active pulse tracking**
Yanqing Shi, Ziye Wang, Ziling Wu, Kai Wang, Peng Sun, Minglie Hu, and Youjian Song
Opt. Express 34(21), 39951-39963 (2026) View: HTML | PDF

☐ **Accurate phase extraction by phase-closure assisted self-mixing φ-OTDR**
Xingliang Shen, Wenxuan Zhang, Dora Juan Juan Hu, Hailiang Zhang, Hui Dong, Bonan Liu, Perry Ping Shum, Tianyu Yang, Chao Lu, Yuming Dong, and Huanhuan Liu
Opt. Express 34(21), 40190-40200 (2026) View: HTML | PDF

☐ **Forward modeling of near-field optical processes in pure rotational Raman temperature lidar**
Siying Chen, Rui Hu, Yurong Jiang, He Chen, Pan Guo, Yinchao Zhang, and Yunxi An
Opt. Express 34(21), 40521-40538 (2026) View: HTML | PDF

☐ Semiconductor Lasers

☐ **Time-domain traveling-wave simulations for generating near-transform-limited 1-ps pulses using gain-switched distributed-feedback lasers**
Fuyi Cao, Cong Wang, Yihan Qi, Masataka Kobayashi, Shaoqiang Chen, and Hidefumi Akiyama
Opt. Express 34(21), 40273-40283 (2026) View: HTML | PDF

☐ Solid State Lasers

☐ **Phase and amplitude pre-shaping for a high-power ps-wedged thin-disk amplifier**
Pirmin Schweizer, Raoul-Amadeus Lorbeer, Jochen Speiser, and Thomas Dekorsy
Opt. Express 34(21), 40240-40249 (2026) View: HTML | PDF

☐ **20-ps passively mode-locked Nd:MgO:$LiNbO_3$ laser with intracavity-loss-dependent dynamics**
Xiaotian Lei, Mingrui Wang, Hang Liu, Zijian Wang, Guangyong Jin, and Yongji Yu
Opt. Express 34(21), 40314-40322 (2026) View: HTML | PDF

☐ Spectroscopy

☐ **Dual-comb spectroscopy for spatially resolved hydrogen combustion diagnostics over a wide temperature range**
Meng-Zhe Lian, Wei-Fan Hu, Yu-Xuan Cao, Ming-Ming Gu, Yan Tan, Hao-Wei Liu, You Pang, Lei Hou, Qi Shen, Shui-Ming Hu, Hai-Feng Jiang, Fei Qi, and Qiang Zhang
Opt. Express 34(21), 39703-39717 (2026) View: HTML | PDF

☐ **Spatially resolved extreme ultraviolet emission and opacity effects in laser-produced zinc plasmas**
Siqi He, Yufu Ma, Chaowei He, Fengling Zhang, Fangjun Zhang, Xujuan Zhang, Jundi Wang, Shiquan Cao, Duixiong Sun, Qi Min, Maogen Su, and Chenzhong Dong
Opt. Express 34(21), 40049-40066 (2026) View: HTML | PDF

☐ **Evaluating and choosing experimental parameters for shifted excitation Raman difference spectroscopy: a quantitative study**
Jesper L. Sand, Minna Groenning, Erik Skibsted, and Anders Kristensen
Opt. Express 34(21), 40096-40104 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Methane monitoring in faecal headspace gas using mid-IR laser spectroscopy with a hollow waveguide gas cell**
Daniel Francis, Jane Hodgkinson, Célia Lourenço, Dawn P. Fowler, Stephen E. Staines, Christopher Walton, and Ralph P. Tatam
Opt. Express 34(21), 40672-40683 (2026) View: HTML | PDF

☐ Structured Light, Beam Shaping, and Propagation

☐ **Symplectic-inspired neural operators for discretization-invariant light propagation with exact power conservation**
Rui Yu, Jining Li, Qingmingyang Zhou, Dong Wang, Shimin Yang, Zhen Xu, Kai Chen, and Degang Xu
Opt. Express 34(21), 39265-39287 (2026) View: HTML | PDF | Compressed PDF

☐ **Quasi-Bessel Stokes skyrmions with enhanced topological robustness in free-space and turbulent propagation**
Fan Yang, Jiming Wang, Tong Wu, Zhe Sun, Xiaorong Gu, and Youwen Liu
Opt. Express 34(21), 39736-39754 (2026) View: HTML | PDF

☐ **LES-derived turbulence tank optical propagation with numerical adaptive-optics modeling: quantifying OAM modal crosstalk and mitigation**
Yanling Li, Zhiwei Tao, Hanling Deng, Azezigul Abdukirim, Haiping Mei, Yichong Ren, and Ruizhong Rao
Opt. Express 34(21), 39964-39990 (2026) View: HTML | PDF | Compressed PDF [Suppl. Mat. (14)]

☐ **Intensity–phase–modal degradation of Bessel–Gaussian vortex beams in sea-fog scattering environments**
Hairui Wang, Guan Wang, Kangeng Li, Shuoshuo Wu, Chen Luo, Tengfei Wang, Yan Lou, Qiang Fu, and Huilin Jiang
Opt. Express 34(21), 40394-40419 (2026) View: HTML | PDF

☐ **Self-interferometric helical phase resolving of 2 µm vortex beams**
Xiaozhao Song, Jiacheng Ma, Tongxi Gu, Kairui Miao, Yongzheng Liu, Ziyi Jin, Zhiwei Cao, Yao Zhou, Yanzu Jiang, Zhaoji Wang, Hui Kang, Tianchen Yao, Deyou Jiang, Xin Hou, Senxin Fu, Yanfu Li, Anwen Zhou, Ziyue Qiu, Jiaxin Wang, Wei Zhou, Haotian Wang, Xiaodong Xu, Xue Cao, Bo Zhao, Yishan Wang, Feng Li, Fei Wang, and Deyuan Shen
Opt. Express 34(21), 40453-40465 (2026) View: HTML | PDF [Suppl. Mat. (2)]

☐ Terahertz Optics

☐ **Passive-band-matched frequency–momentum routing in a time-modulated terahertz metasurface**
Jian Lei, Le Zhang, and Jie Li
Opt. Express 34(21), 38944-38956 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Polarization conversion of a flexible chiral optical fiber in the terahertz band**
Peng-Fei Li, Zhi-Yong Tan, Yu-Min Xia, Hong-Ying Zhou, Jun-Cheng Cao, and Cheng-Ran Du
Opt. Express 34(21), 39626-39637 (2026) View: HTML | PDF

☐ Vision and Displays

☐ **Color constancy in pseudo-3D scenes with global and spatially localized illuminants: effects of chromaticity and explicit illuminant cues**
Qiang Gao, Ruiqing Ma, and Keizo Shinomori
Opt. Express 34(21), 38754-38784 (2026) View: HTML | PDF [Suppl. Mat. (1)]

☐ **Reference-guided defocus estimation enables physics-guided image restoration in deep ultraviolet wafer microscopy**
Xiangji Guo, Yubo Wang, and Ming Ming
Opt. Express 34(21), 39815-39835 (2026) View: HTML | PDF

☐ **Optimization and psychophysical validation of RGB display primary spectra for reducing observer metameric mismatch**
Siyuan Song and Ming Ronnier Luo
Opt. Express 34(21), 39991-40007 (2026) View: HTML | PDF

☐ **Optical design and characterization of geometric distortion and spatial resolution in lens-enhanced aerial imaging by retro-reflection (LeAIRR)**
Kazuaki Takiyama, Toru Iwane, Shiro Suyama, and Hirotsugu Yamamoto
Opt. Express 34(21), 40553-40572 (2026) View: HTML | PDF

☐ **Dual-focal display through polarization-directed birefringence for compact virtual reality**
Jiaping Sun, Dewen Cheng, Jianghao Xiong, and Yongtian Wang
Opt. Express 34(21), 40684-40704 (2026) View: HTML | PDF

☐ X-ray and Short-Wavelength Optics

☐ **Systematic opto-mechanical design approach for meter-long Nano-AKB mirror system at HEPS**
Haihan Yu, Shanzhi Tang, Ming Li, Fang Liu, Changrui Zhang, Ruiying Liao, Lingfei Wang, Zongyang Yue, Ling Fan, Xuejie Jiang, Bin Ji, Da Cheng, Wenkai Kang, Hao Qi, Dianshuai Zhang, Guangcai Chang, Gang Li, Yang Li, and Weifan Sheng
Opt. Express 34(21), 38929-38943 (2026) View: HTML | PDF

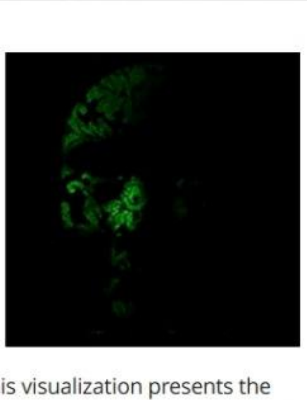
☐ **3-dimensional localization using X-ray lightsheet microscopy with non-blinking scintillating nanoparticles**
Sierra Dean, Hidekazu Takano, Shun-Min Yang, Hsiang-Hsin Chen, Xike Tian, Yeukuang Hwu, Hideo Yokota, Giorgio Margaritondo, Tetsuya Ishikawa, and Yoshiki Kohmura
Opt. Express 34(21), 39559-39567 (2026) View: HTML | PDF [Suppl. Mat. (1)]

Errata

☐ **Coherent detection in 3D FMCW flash LIDAR with large FOV: part II – heterodyne efficiency in the image plane: erratum**
Anis Daami, Laurent Frey, Florence Rigal, and Vincent Moulin
Opt. Express 34(21), 40639-40639 (2026) View: HTML | PDF

◂ Previous Issue

⬆ Top



This visualization presents the reconstructed textured face-relief object used in the experimental validation. See Wang et al., Fig. 19 for details.

TOPICS

Sort by Name | Total Articles
☆ My Topics
Login to access My Topics

- Atomic and Molecular Physics (1)
- Computational and AI-Driven Imaging (9)
- Environmental and Atmospheric Optics (3)
- Fiber Lasers and Amplifiers (3)
- Holography, Gratings, and Diffraction (2)
- Integrated Optics (5)
- Interferometry (1)
- Laser Machining and Material Processing (2)
- LEDs and Lighting (4)
- Metasurfaces and Flat Optics (10)
- Microscopy and Biomedical Imaging (3)
- Near-Field Optics and Plasmonics (3)
- Nonlinear and Ultrafast Optics (5)
- Optical Communications (11)
- Optical Computing (2)
- Optical Design and Fabrication (9)
- Optical Materials, Nanomaterials and 2D Materials (2)
- Optical Modulators and Tunable Devices (3)
- Optical Sensing and Metrology (11)
- Photodetectors and Photovoltaics (5)
- Photonic Crystals and Periodic Structures (3)
- Quantum Optics (2)
- Reflectometry and LIDAR (5)
- Semiconductor Lasers (1)
- Solid State Lasers (3)
- Spectroscopy (4)
- Structured Light, Beam Shaping, and Propagation (6)
- Terahertz Optics (2)
- Vision and Displays (5)
- X-ray and Short-Wavelength Optics (2)

TODAY'S TOP DOWNLOADS

1. Photometric parameter inversion and nonlinearity characterization of infrared focal plane arrays based on flat-field data
2. Efficient and accurate conversion-gain estimation of a photon-counting image sensor based on the maximum likelihood estimation
3. Localized photonic band edge modes and orbital angular momenta of light in a golden-angle spiral
4. Fourier light-field microscopy
5. Hybrid Fourier light field microscopy system with deep learning for 3D high-resolution reconstruction

Publishing Home
Journals
Conferences
Preprints (Optica Open)

INFORMATION FOR
Authors
Reviewers
Librarians

OPEN ACCESS INFORMATION
Open Access Statement and Policy
Terms for Journal Article Reuse

OTHER RESOURCES
Optica AI
Optica Open
Optica Publishing Group Bookshelf
Optics ImageBank
Optics & Photonics News
Spotlight on Optics
Optica Home

ACCESSIBILITY INFORMATION
OPG Accessibility Statement

ABOUT
About Optica Publishing Group
About My Account
Sign up for Alerts
Contact Us
Send Us Feedback

My Favorites ▾ Recent Pages ▾

© Copyright 2026 | Optica Publishing Group. All rights reserved, including rights for text and data mining and training of artificial technologies or similar technologies.

Privacy | Terms of Use