Chinese Optics Letters

Volume 21 Number 3 March 2023 col.researching.cn

Atmospheric, Oceanic, Space, and Environmental Optics

Accurate measurement of aerosol optical prop- erties using the multilongitudinal mode high- spectral-resolution lidar with self-tuning Mach–Zehnder interferometer	Fei Gao, Fengjia Gao, Xiao Yang, Gaipan Li, Fan Yang, Shichun Li, Li Wang, Dengxin Hua, and Samo Stanič	030101
Inhibition of the aero-optical effects of super- sonic mixing layers based on the RVGAs' control	Zihao Xia, Haolin Ding, and Shihe Yi	030102

Diffraction, Gratings, and Holography

Binary diffractive lens with subwavelength focusing for terahertz imaging	Ran Ning, Dayong Wang, Lu Rong, Jie Zhao, Yunxin Wang, and Shufeng Lin	030501
Self-healing of holographically generated moiré lattice wave fields [Editors' Pick]	Siwei Tang, Chunlei Shang, Zhaofeng Liu, Chengzhen Lu, Yangjian Cai, Yuanmei Gao, and Zengrun Wen	030502

Fiber Optics and Optical Communications

Speckle backpropagation for compensation of nonlinear effects in few-mode optical fibers	Pavel S. Anisimov, Evgeny D. Tsyplakov, Viacheslav V. Zemlyakov, and Jiexing Gao	030601	
Fiber communication receiver models based on the multi-head attention mechanism	Yubin Zang, Zhenming Yu, Kun Xu, Minghua Chen, Sigang Yang, and Hongwei Chen	030602	
Improve the throughput of <i>M</i> -to-1 free-space optical systems by employing uniquely decodable codes	Yatian Li, Tianwen Geng, and Shijie Gao	030603	
Contents continu			

On the Cover

Combining the special spatial distribution characteristics of the noble metal nanostructures with the special electrical-vector distribution characteristics of the azimuthal vector beam, the electrical near-field intensity of the surface plasmonic mode localized near the noble metal nanostructures can be significantly improved, thereby achieving high sensitivity Raman examination. This vector light-field enhanced Raman spectroscopy is expected to be applied to trace detection.

Imaging Systems and Image Processing

Convenient noncooperative speckle-correlation imaging method	Shuyue Zhu, Wenjun Yi, Meicheng Fu, Junli Qi, Mengjun Zhu, Xin Chen, Hongyu Zhang, Junyi Du, Ping Wang, Ju Liu, and Xiujian Li	031101
Instrumentation, Measurement,	and Optical Sensing	
Method for active spatial alignment and stabi- lization of laser beams in multi-beam systems	Chenliang Ding, Dazhao Zhu, Chengpeng Ma, Mengbo Tang, Zhenyao Yang, Yong Liu, Cuifang Kuang, and Xu Liu	031201
Enhanced Fano resonance for high-sensitivity sensing based on bound states in the continuum	Guang Feng, Zhihui Chen, Yang Wang, Xin Liu, Yinshan Liu, Xiao Liu, Fei Sun, Yibiao Yang, and Shuqi Chen	031202
Integrated Optics		
Flexible high-resolution thin micropolarizers for imaging polarimetry	Yan Wu, Yang Yang, Yue Yin, Linmao Dai, Xiaochun Li, Huihui Huang, and Shuangchun Wen	031301
Lasers, Optical Amplifiers, and	Laser Optics	
Continuous-wave three-wavelength operation of a diode-pumped Tm:YVO ₄ laser on the ${}^{3}H_{4} \rightarrow {}^{3}H_{5}$ and ${}^{3}F_{4} \rightarrow {}^{3}H_{6}$ transitions	Jiaqun Zhao, Yuantong Liu, Ping Cheng, and Rui Yu	031401
Polarization domains and self-mode-locked pulses in an erbium-doped fiber laser	Peiyun Cheng, Mengmeng Han, Yueqing Du, and Xuewen Shu	031402
Serrated periodic electrode for high energy effi- ciency and large bandwidth acousto-optic modulators	Ji Wu, Li Liang, Kefeng Tu, Kunying Li, Zi Wang, and Guoqiang Lü	031403
All-fiber-based ultrastable laser with long-term frequency stability of 1.1 \times 10^{-14}	Yafeng Huang, Di Hu, Meifeng Ye, Yating Wang, Yanli Li, Ming Li, Yinnan Chen, Qiuzhi Qu, Lingke Wang, Liang Liu, and Tang Li	031404
Beam homogenization structure for a laser illuminator design based on diode laser beam combining technology	Jinliang Han, Jun Zhang, Xiaonan Shan, Yawei Zhang, Hangyu Peng, Li Qin, and Lijun Wang	031405
Subharmonic mode locking of a Q-switched Nd:YAG laser	Alexey Gribanov, Mikhail Yakovin, Dmitry Yakovin, and Mikhail Mosin	031406
Transverse mode interaction-induced Raman laser switching dynamics in a silica rod microresonator	Xueying Jin, Qinglin Fang, Xin Xu, Yu Yang, Haoran Gao, and Haojie Xia	031407
Nonlinear Optics		
Characteristic extraction of soliton dynamics based on convolutional autoencoder neural network	Congcong Liu, Jiangyong He, Pan Wang, Dengke Xing, Jin Li, Yange Liu, and Zhi Wang	031901
Highly efficient transient stimulated Raman scattering on secondary vibrational mode of $BaWO_4$ crystal due to its constructive interference with self-phase modulation	Igor Kinyaevskiy, Valeri Kovalev, Pavel Danilov, Nikita Smirnov, Sergey Kudryashov, Andrey Koribut, and Andrey Ionin	031902

Optoelectronics

High-uniformity 2 \times 64 silicon avalanche photodiode arrays with silicon multiple epitaxy technology	Tiancai Wang, Peng Cao, Hongling Peng, Chuanwang Xu, Haizhi Song, and Wanhua Zheng	032501
High-stability 4H-SiC avalanche photodiodes for UV detection at high temperatures	Xingye Zhou, Yuanjie Lü, Hongyu Guo, Xubo Song, Yuangang Wang, Shixiong Liang, Aimin Bu, and Zhihong Feng	032502
Quantum Optics and Quantum	Information	
All-fiber telecom band energy-time entangled biphoton source [Editors' Pick]	Yuting Liu, Junjie Xing, Zhiguang Xia, Run'ai Quan, Huibo Hong, Tao Liu, Shougang Zhang, Xiao Xiang, and Ruifang Dong	032701
Spectroscopy		
Advances in multipass cell for absorption spec- troscopy-based trace gas sensing technology [Invited]	Yahui Liu and Yufei Ma	033001
Nanophotonics, Metamaterials,	and Plasmonics	
Cylindrical vector beam generator on photonic crystal cavity integrated with metal split ring nanoresonators	Yingke Ji, Xin Xie, Liang Fang, Yisong Zhu, Jianlin Zhao, and Xuetao Gan	033601
High color saturation and angle-insensitive ultrathin color filter based on effective medium theory	Xinting Li, Yang Li, Chao Li, Song Gao, and Wenjing Yue	033602
Azimuthal vector beam illuminating plasmonic tips circular cluster for surface-enhanced Raman spectroscopy [On the Cover]	Lu Zhang, Chao Meng, Hao Yang, and Wending Zhang	033603

The color images are shown online.