

IEEE

PHOTONICS TECHNOLOGY LETTERS

OCTOBER 1, 2016

VOLUME 28

NUMBER 19

IPTLET

(ISSN 1041-1135)

PAPERS

Active Photonic Devices

Monolithic Integration on InP of a DML and a Ring Resonator for Future Access Networks	N. Chimot, S. Joshi, J.-G. Provost, K. Mekhazni, F. Blache, F. Pommereau, C. Fortin, Y. Gottesman, L.-A. Neto, M. Gay, M. Thual, and F. Lelarge	2039
All-Optical Shift Register Using Polarization Bistable VCSEL Array	T. Katayama, D. Hayashi, and H. Kawaguchi	2062
Switchable Dual-Wavelength Mode-Locking of Thulium-Doped Fiber Laser Based on SWNTs	K. Jiang, Z. Wu, S. Fu, J. Song, H. Li, M. Tang, P. Shum, and D. Liu	2019
Multiplexing and Amplification of 2- μ m Vortex Beams With a Ho:YAG Rod Amplifier	Y. Li, W. Li, K. Miller, and E. G. Johnson	2031
128-Gb/s Line Rate OFDM Signal Modulation Using an Integrated Silicon Microring Modulator	X. Wu, C. Huang, K. Xu, C. Shu, and H. K. Tsang	2058
1060-nm High Brightness Picosecond Pulse Generation in Photonic Band Crystal Lasers	R. Rosales, J. Roblot, V. Kalosha, K. Lauritsen, and D. Bimberg	2086
Supercontinuum Generation in an Ytterbium-Doped Photonic Crystal Fiber for CARS Spectroscopy	C. Louot, B. M. Shalaby, E. Capitaine, S. Hilaire, P. Leproux, D. Pagnoux, and V. Couderc	2011

Passive Devices and Waveguides

Broadband, Fabrication-Tolerant Polarization Beam Splitters Based on a Tapered Directional Coupler	D. Chen, X. Xiao, L. Wang, G. Gao, W. Liu, and Q. Yang	2074
The Study of Optical and Electrical Properties of Solar Cells With Oblique Incidence	Z. Huang, L. Cheng, B. Wu, and X. Wu	2047

Photonic Materials and Fabrication Technology

Gain Enhancement of Single-Mode Cr-Doped Core Fibers by Online Growth System	C.-N. Liu, G.-L. Cheng, N.-K. Chen, P.-L. Huang, S.-L. Huang, and W.-H. Cheng	2098
--	---	------

Optical Sensors and Measurement Systems

Dual-Channel Fiber-Optic Biosensor for Self-Compensated Refractive Index Measurement	L. Li, Y. Liang, Q. Liu, and W. Peng	2110
Magnetic Field Sensor Based on Ferrofluid and Photonic Crystal Fiber With Offset Fusion Splicing	Y. Chen, Q. Han, T. Liu, W. Yan, and Y. Yao	2043
Localized Plasmon-Based Optical Fiber Sensing Platform for Operation in Infrared	A. Patnaik, J. K. Nayak, K. Senthilnathan, and R. Jha	2054

(Contents Continued on Page 2010)

IEEE PHOTONICS TECHNOLOGY LETTERS (ISSN 1041-1135) is published semimonthly by the Institute of Electrical and Electronics Engineers, Inc. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society/Council, or its members. **IEEE Corporate Office:** 3 Park Avenue, 17th Floor, New York, NY 10016-5997. **IEEE Operations Center:** 445 Hoes Lane, Piscataway, NJ 08854-4141. **NJ Telephone:** +1 732 981 0060. **Price/Publication Information:** Individual copies: IEEE Members \$20.00 (first copy only), nonmembers \$367.00 per copy. (Note: Postage and handling charge not included.) Member and nonmember subscription prices available upon request. Available in microfiche and microfilm. **Copyright and Reprint Permissions:** Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee of \$31.00 is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For all other copying, reprint, or republication permission, write to Copyrights and Permissions Department, IEEE Publications Administration, 445 Hoes Lane, Piscataway, NJ 08854-4141. Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved. **Postmaster:** Send address changes to IEEE PHOTONICS TECHNOLOGY LETTERS, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4141. GST Registration No. 125634188. CPC Sales Agreement #40013087. Return undeliverable Canada addresses to: Pitney Bowes IMEX, P.O. Box 4332, Stanton Rd., Toronto, ON M5W 3J4, Canada. IEEE prohibits discrimination, harassment and bullying. For more information visit <http://www.ieee.org/nondiscrimination>. Printed in U.S.A.

High-Responsivity GaN/InGaN Heterojunction Phototransistors	T.-T. Kao, J. Kim, T. Detchprohm, R. D. Dupuis, and S.-C. Shen	2035
Uniform and Reliable GaN <i>p-i-n</i> Ultraviolet Avalanche Photodiode Arrays	M.-H. Ji, J. Kim, T. Detchprohm, R. D. Dupuis, A. K. Sood, N. K. Dhar, and J. Lewis	2015
Fiber Optic SPR-Based Uric Acid Biosensor Using Uricase Entrapped Polyacrylamide Gel	R. Kant, R. Tabassum, and B. D. Gupta	2050
Agarose Filled Fabry–Perot Cavity for Temperature Self-Calibration Humidity Sensing	C. Wang, B. Zhou, H. Jiang, and S. He	2027
Bending Vector Sensor Based on the Multimode-2-Core-Multimode Fiber Structure	S. Wang, W.-G. Zhang, L. Chen, Y.-X. Zhang, P.-C. Geng, B. Wang, T.-Y. Yan, Y.-P. Li, and W. Hu	2066
<i>Photonic Subsystems (optical, digital, RF, and THz)</i>		
Nonlinearity Mitigation Using a Machine Learning Detector Based on <i>k</i> -Nearest Neighbors	D. Wang, M. Zhang, M. Fu, Z. Cai, Z. Li, H. Han, Y. Cui, and B. Luo	2102
Robust Faster-Than-Nyquist PDM-mQAM Systems With Tomlinson–Harashima Precoding	D. Chang, O. Omomukuyo, X. Lin, S. Zhang, O. A. Dobre, and R. Venkatesan	2106
A 40-Gb/s QPSK/16-QAM Integrated Silicon Coherent Receiver	J. Verbist, J. Zhang, B. Moeneclaey, W. Soenen, J. V. Weerdenburg, R. V. Uden, C. Okonkwo, J. Bauwelinck, G. Roelkens, and X. Yin	2070
<i>Free Space Transmission Systems (optical, RF, and THz)</i>		
High Bandwidth GaN-Based Micro-LEDs for Multi-Gb/s Visible Light Communications	R. X. G. Ferreira, E. Xie, J. J. D. McKendry, S. Rajbhandari, H. Chun, G. Faulkner, S. Watson, A. E. Kelly, E. Gu, R. V. Penty, I. H. White, D. C. O'Brien, and M. D. Dawson	2023
Wide-FOV and High-Gain Imaging Angle Diversity Receiver for Indoor SDM-VLC Systems	C. Chen, W.-D. Zhong, D. Wu, and Z. Ghassemlooy	2078
On the Performance of Spatial Modulation-Based Optical Wireless Communications	J.-Y. Wang, Z. Yang, Y. Wang, and M. Chen	2094
Priori Aided Compressed Sensing-Based Clipping Noise Cancellation for ACO-OFDM Systems	F. Yang, J. Gao, and S. Liu	2082
<i>Optical Fiber Networks and Transmission Systems</i>		
Carrier Phase Estimation in Multi-Subcarrier Coherent Optical Systems	S. M. Bilal, C. Fludger, and G. Bosco	2090
