

# 光电工程 (Guangdian Gongcheng)

月刊 1974 年创刊  
第 46 卷 第 5 期 (总第 354 期)  
2019 年 5 月

主管单位: 中国科学院  
主办单位: 中国科学院光电技术研究所  
中国光学学会  
主 编: 罗先刚  
编辑出版: 《光电工程》编辑部  
(四川省成都市双流区 350 信箱, 邮编 610209)  
电 话: 028-85100579  
电子邮箱: oee@ioe.ac.cn  
网 址: <http://www.ojournal.org>  
印 刷: 四川玖芝呈现印刷有限公司  
国内发行: 四川省报刊发行局  
(邮发代号: 62-296)  
国外发行: 中国国际图书贸易集团有限公司  
(发行代号: M7114)  
国内统一刊号: CN 51-1346/O4  
国际标准刊号: ISSN 1003-501X

## Opto-Electronic Engineering

(Monthly, since 1974)  
Volume 46, Issue 5 May 2019

Managed by  
Chinese Academy of Sciences  
Sponsored by  
Institute of Optics and Electronics,  
Chinese Academy of Sciences  
The Chinese Optical Society  
Editor-in-Chief Luo Xiangang  
Edited and Published by  
Editorial Office of *Opto-Electronic  
Engineering*, P. O. Box 350, Shuangliu,  
Chengdu 610209, P.R.China  
Tel +86-28-85100579  
E-mail oee@ioe.ac.cn  
Website <http://www.ojournal.org>  
Printed by Sichuan Joy Art Printing Co., Ltd.  
Domestic Distributed by  
Sichuan Provincial Newspaper &  
Periodical Subscription and Distribution  
Bureau (Code: 62-296)  
Overseas Distributed by  
China International Book Trading  
Corporation (Code: M7114)

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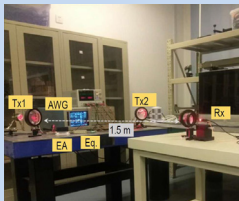
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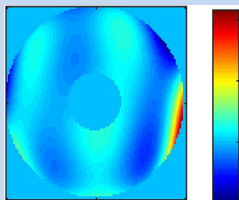
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### Article



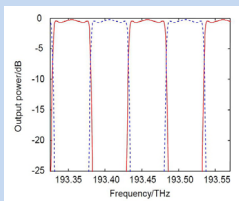
- Two input one output visible light communication system based on pulse amplitude modulation** 180306  
Shi Meng, Zhang Mengjie, Chi Nan

To improve the data transmission rate of the conventional point-to-point single input single output (SISO) visible light communication system, a multiple input multiple output (MIMO) visible light communication system was proposed.



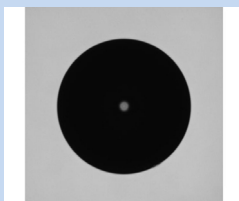
- Modal wavefront reconstruction to obtain Zernike coefficient with no cross coupling in lateral shearing measurement** 180273  
Sun Wenhan, Wang Shuai, He Xing, Chen Xiaojun, Xu Bing

A modal approach incorporating the Gram matrix was proposed, which used the orthogonality of angular derivative of  $m \neq 0$  modes with respect to weight function  $w(\rho) = \rho$  (polar coordinates), and the orthogonality of radial derivative of  $m = 0$  modes with respect to weight function  $w(\rho) = \rho(1 - \rho^2)$  (polar coordinates).



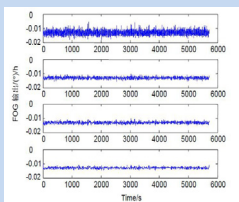
- All-fiber MZI-Interleaver with self-feedback fiber resonator** 180315  
Wei Xiaoming, Lu Huaiwei, Yang Qi, Fang Xuexin

In order to improve the transmission performance of all-fiber Mach-Zehnder interferometer (MZI), a novel all-fiber MZI Interleaver was proposed and discussed. All-fiber Interleaver consists of one  $2 \times 2$  fiber coupler and one coupler with self-feedback fiber ring resonator.



- Measurement of optical fiber geometry with arbitrary ellipse curve fitting** 180319  
Li Yiming, Zheng Gang, Tu Jiankun, Xiang Huazhong, Jiang Bin, Ge Bin

The arbitrary elliptical function (non-standard ellipse) was used which is more suitable for the fiber end face, and only this function fitting method was used to get the fiber geometry to fundamentally eliminate the principle defect caused by the inconsistent center fitting between the circle fitting and the ellipse fitting.



- Fiber optic gyroscope threshold denoising based on EMD-LWT** 180333  
Dai Shaowu, Zheng Baidong, Dai Hongde, Nie Zijian

In order to better eliminate the noise mixed in the FOG temperature drift data, a hybrid EMD-LWT filtering algorithm based on empirical mode decomposition (EMD) and lifting wavelet transform (LWT) threshold denoising was proposed for gyro signals preprocessing.

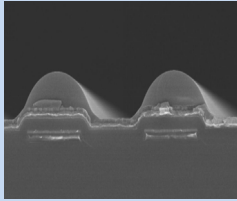


### All-fiber optical current transformer for measuring lightning current

Huang Ruitao, Duan Yantao, Shi Lihua, Liu Bo

180363

An all-fiber optical current transformer for measuring lightning currents was studied. Firstly, the basic principle and structure of the all-fiber optical current transformer were introduced. Then, the performances including the response speed, measurement accuracy and measurement range were tested in the laboratory.

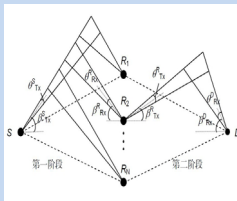


### The improvement of TFT lithography plane compensation

Zhang Yuhu, Xu Haitao, Li Yawen, Luo Chuanwen, Cao Shaobo, Li Li

180444

In order to improve this defect of photoresist remain in lithography pattern, based on the position of the best lithography pattern, the optimal compensation amount of lithography plane of the lithography machine was calculated, so lithography plane was improved.

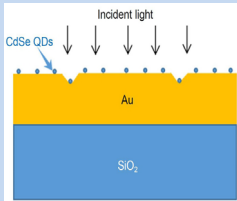


### Research on relay selection of armored formations wireless UV covert communication

Zhao Taifei, Li Yongming, Yuan Lu

180448

In order to improve the communication coordination ability among formations, an optimal relay selection algorithm for armored formations based on wireless ultraviolet (UV) covert communication was proposed on the premise of decode-and-forward protocol, combined with the threshold decision idea.

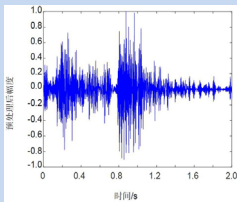


### Surface plasma enhanced fluorescence of CdSe quantum dots induced by laser on a grating surface

Li Xianji, Bai Zhongchen, Peng Man, Shang Ye, Qin Shuijie

180464

The fluorescence enhancement effect of CdSe quantum dots (QDs) was measured by using a picosecond pulsed laser with a 532 nm excitation wavelength to induce surface plasmon (SP) on a gold nanograting surface.

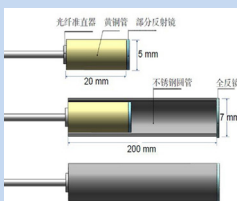


### Vibration events recognition of optical fiber based on multi-scale 1-D CNN

Wu Jun, Guan Luyang, Bao Ming, Xu Yaohua, Ye Wei

180493

A new CNN-based deep neural network, multi-scale one-dimensional convolutional neural network (MS 1-D CNN) was proposed to improve the efficiency and accuracy of vibration event recognition for a phase-sensitive optical time-domain reflectometry ( $\Phi$ -OTDR) distributed optical fiber vibration sensing system.



### Frequency-modulated continuous-wave laser interferometric optical fiber temperature sensor

Wang Huan, Zheng Gang, Chen Haibin, Zhang Xiongxing

180506

An extrinsic Fabry-Perot (F-P) cavity optical fiber temperature sensor was presented based on the frequency-modulated continuous-wave laser interference. The temperature sensing probe was fabricated by a stainless-steel tube with high coefficient of thermal expansion to encapsulate the F-P cavity.