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# 光电工程

# Opto-Electronic Engineering

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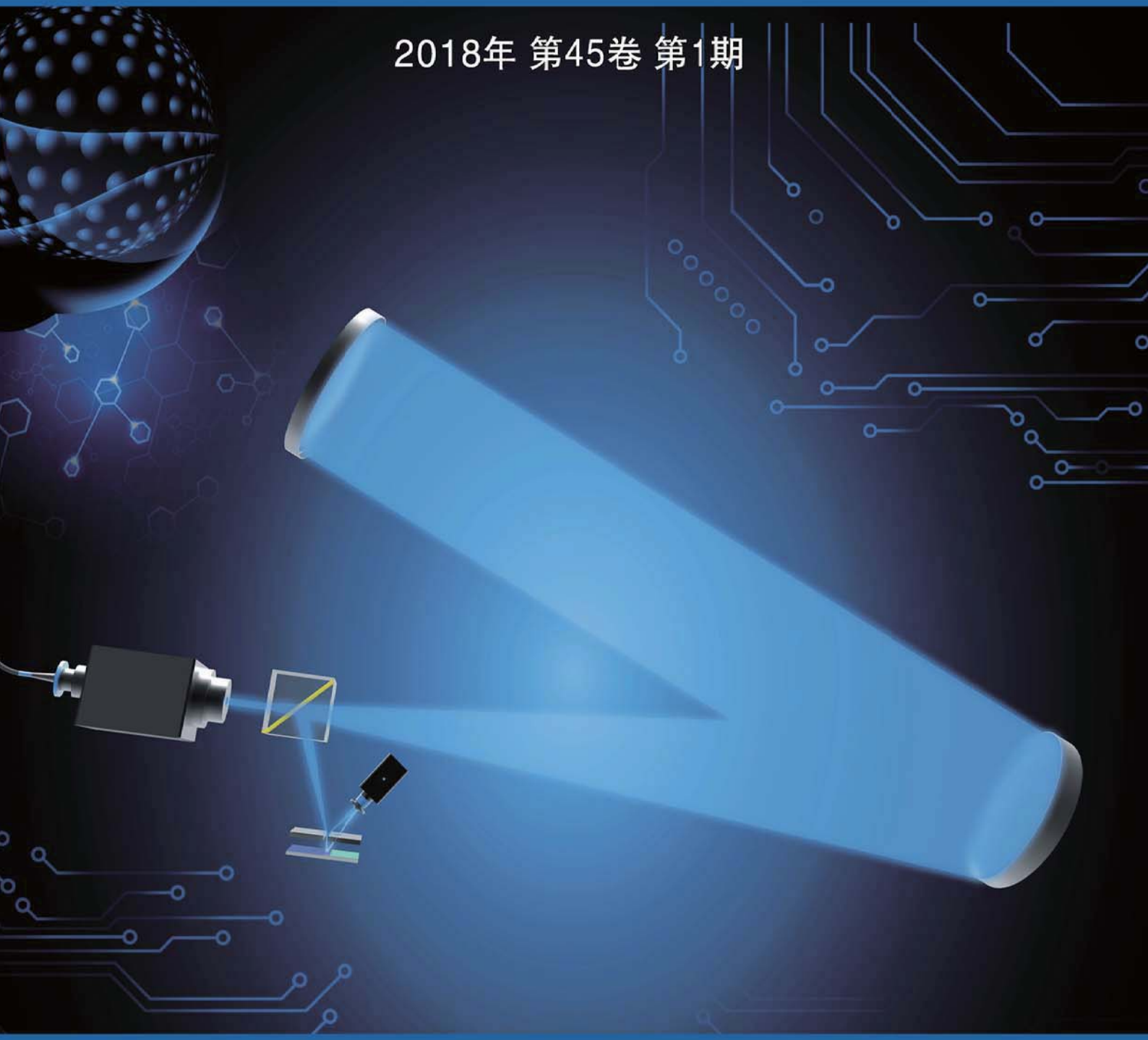

中国科学院光电技术研究所

中国光学学会

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# 目　次



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Opto-Electronic Engineering

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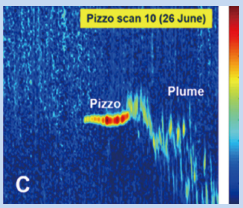
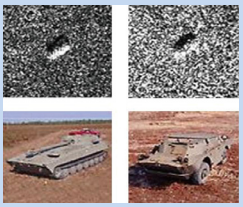
# Contents

## Review

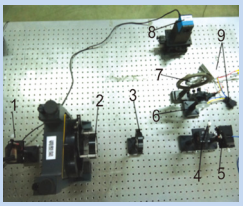




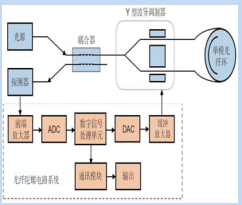

## Article



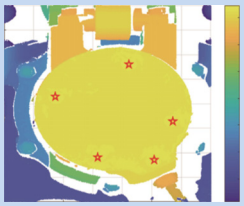








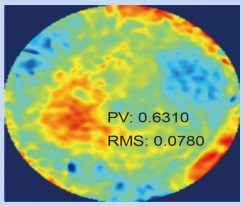



## Automatic recognition of bolts on locomotive running gear based on laser scanner 3D measurement

170532

Huang Qian , Wang Zeyong , Li Jinlong, Jiang Wennan, Gao Xiaorong

The locomotive running gear 3D point cloud data are obtained by line-structured laser scanner, and the bolts on the locomotive running gear under the 3D point cloud data are recognized and located automatically. The experimental results verify the effectiveness of the proposed method.

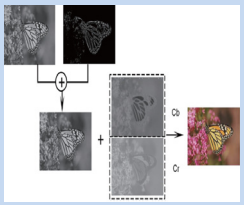



## Instantaneous wavefront measurement of large aperture optical elements

170536

Meng Shi, Chen Lei, Zhu Wenhua, Sun Qinyuan, Zhang Rui

In order to measure the instantaneous wavefront of large aperture optical elements, a method based on the structure of oblique incidence of reflective shearing point diffraction interferometer is proposed. The results indicate that the root mean square value is in accord with that acquired by SID4 wavefront sensor (less than 1/50λ).



## Image super-resolution reconstruction by fusing feature classification and independent dictionary training

170542

Wang Ronggui, Wang Qinghui, Yang Juan, Hu Min

A new effective super-resolution method is proposed. The experimental results show that the proposed method has a significant improvement in the reconstruction effect compared with other classic methods.

## An automatic white balance method via dark channel prior

170549

Wang Fei, Wang Wei

In order to overcome the problem that white balance failure caused by white region detection error in automatic white balance, a white balance method is proposed based on dark channel prior.

## Visual perception based rate distortion optimization method for high dynamic range video coding

170627

Yang Tong, Yu Mei, Jiang Hao, Jiang Gangyi

In view of the drastic increase of storage resources and transmission bandwidth requirement for HDR video compared to the traditional LDR video, a dynamic rate distortion optimization algorithm is proposed based on visual perception for HDR Video encoding to improve the performance of HEVC Main 10 for coding HDR video.