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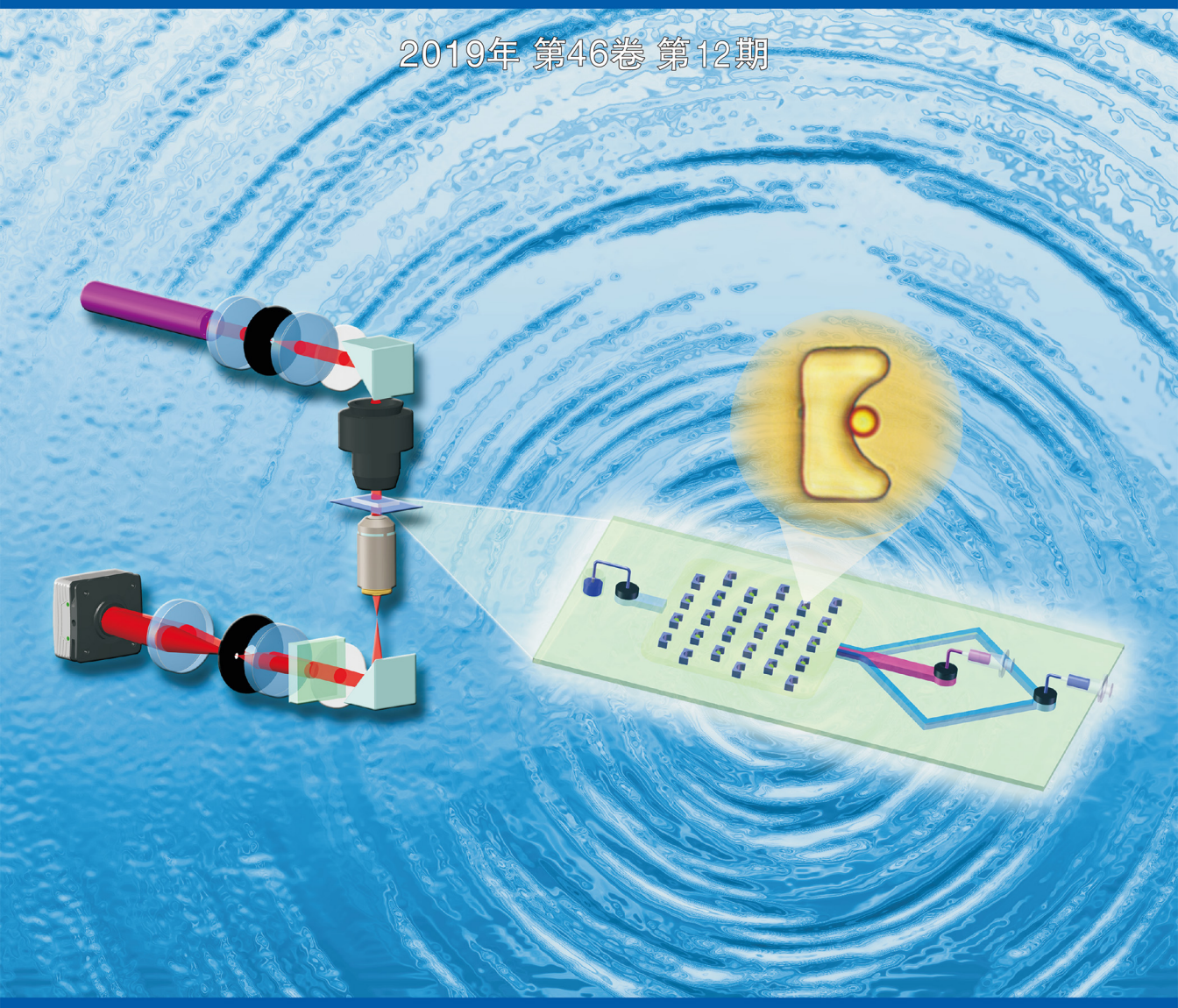

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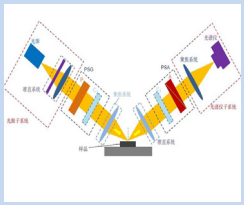
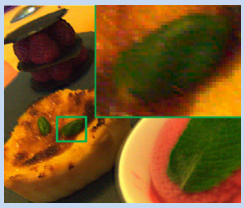


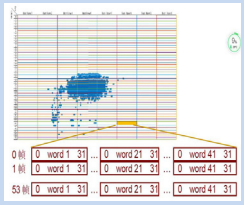
Measurement of polarization correlation coefficients of light source and spectrometer in spectroscopic ellipsometry 180507
Fan Zhentao, Tang Yuanyuan, Wei Kai, Chen Ying, Zhang Yudong

The degree of polarization of light from source and the polarization sensitivity of the spectroscopic ellipsometry were included. A method for measuring the polarization state of light source subsystem and polarization sensitivity of a spectrometer subsystem was proposed.



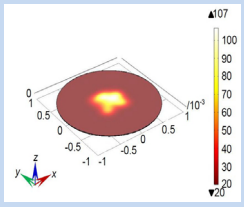
A light field demosaicing method with double guided filtering 180539
Shi Mengdi, Zhang Xudong, Dong Yunliu, Zhang Jun, Sun Rui

Aiming at the problem that the light field multi-view image quality is poor which is resulting from the specific lenslet structure of the light field camera and pixel aliasing at the lenslet edge, a light field demosaicing algorithm based on double-guided filtering was proposed.



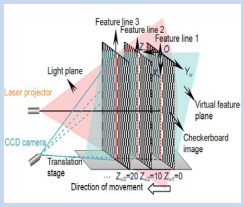
Research on fault injection system of FPGA in irradiation environment 180549
Xue Xiaoliang, Su Haibing, Shu Huailiang, Guo Shuai, Wu Wei

The frame structure of Xilinx FPGA configuration RAM was studied, giving the method of extracting the frame structure and providing the order of frames in the bit stream file. The structure of the intermediate file of SEM IP core was also analyzed to get the positions of essential bits.



Analysis of temperature rise of metal targets irradiated by CW laser 180659
Hou Jianhui, Liu Chong, Jing Chunyuan

The variation of peak temperature of metal materials irradiated by continuous wave (CW) laser was studied. A finite element model of metal materials irradiated by CW laser was established. The variation of peak temperature of aluminum alloy circular plates irradiated by CW laser was also studied.



An easy line-structured light system calibration method based on homography matrix 180677
Ping Yishan, Liu Yuankun

An easy line-structured light system calibration method was proposed based on the constructed light plane and homography matrix. The proposed method can make the entire calibration process easy and flexible.

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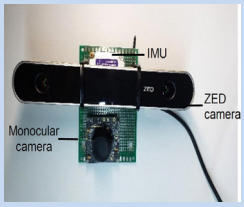
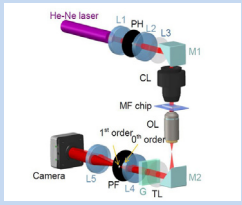


Equal-scale structure from motion method based on deep learning

190006

Chen Peng, Ren Jinjin, Wang Haixia, Tang Yuesheng, Liang Ronghua

A method of equal-scale motion restoration structure based on deep learning was proposed. First, the convolutional neural network was used to obtain the depth information of the image. Then, an inertial measurement unit (IMU) was introduced, and the acceleration and angular velocity and the camera position were demonstrated.

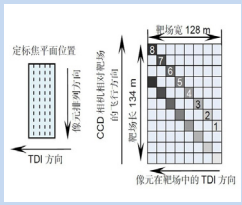


Microfluidic diffraction phase microscopy and its application in parasites measurement

190046

Gu Xin, Huang Wei, Yang Limei, Li Feng

A method of using diffraction phase microscopy combined with microfluidic chip was proposed to quantitatively measure waterborne parasites. A diffraction phase microscopy system was built up by combining interferometry with optical microscope to achieve high sensitivity real-time measurement of parasites.

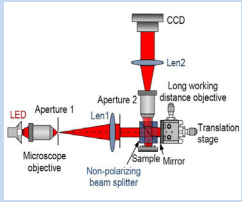


Design and data processing of TDICCD real-time radiation correction system

190112

Ning Yonghui, Shi Junxia, Liu Chunxiang

In order to increase the lifetime of the TDICCD imaging system in space and to decrease the impact on the imaging quality for a long-time working in orbit, a system of real-time radiation correction in space was designed.

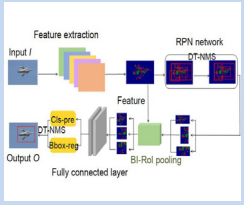


Study of low-noise phase-shifting digital holographic microscopy using a long working distance objective

190140

Hui Qiannan, Duan Cunli, Feng Bin, Wang Fan, Guo Rongli

In order to improve the measurement accuracy, a kind of phase shifting digital holographic microscopy based on a long working distance microscopic objective was proposed.



Improved algorithm of Faster R-CNN based on double threshold-non-maximum suppression

190159

Hou Zhiqiang, Liu Xiaoyi, Yu Wangsheng, Ma Sugang

According to the problems of target missed detection and repeated detection in the object detection algorithm, an improved Faster R-CNN algorithm based on dual threshold-non-maximum suppression was proposed.

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