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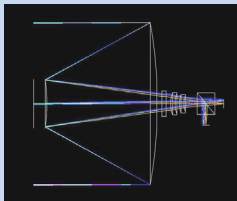
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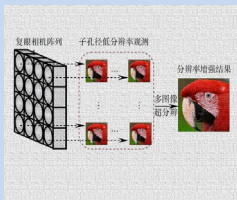
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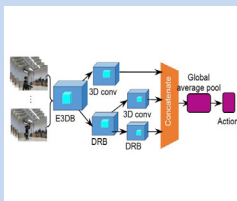
- Application of two step sensitivity matrix method in Cassegrain telescope alignment** 180536
Cao Yuze, Ma Wenli

In order to adjust the position of the secondary mirror of Cassegrain telescope with large field of view, a computer aided adjustment method of two-step sensitivity matrix model was proposed.



- Spatial resolution enhancement of planar compound eye based on variational Bayesian multi-image super-resolution** 180661
Min Lei, Yang Ping, Xu Bing, Liu Yong

The motion model of the multi-image super-resolution was improved in the variational Bayesian framework, and the derived joint estimation algorithm was used to enhance the resolution of the planar compound eye.



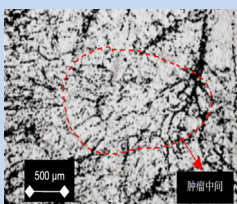
- Efficient 3D dense residual network and its application in human action recognition** 190139
Li Lianghua, Wang Yongxiang

An efficient 3D convolutional block was designed to replace the $3 \times 3 \times 3$ convolutional layer with a high amount of computation, and then a 3D-efficient dense residual networks (3D-EDRNs) integrating 3D convolutional blocks was proposed for human action recognition.



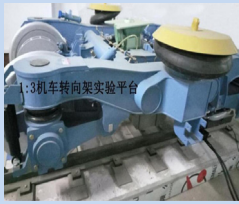
- Design and performance analysis of high efficiency non-imaging concentrated optical system** 190203
Ru Zhanqiang, Song Helun, Wu Fei, Song Shengxing, Zhu Yu, Yin Zhizhen, Liu Dengke, Zhang Yaohui

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- Imaging of skin structure and vessels in melanoma by swept source optical coherence tomography angiography** 190239
Liu Jingxuan, Fan Jinyu, Wang Quan, Shi Guohua

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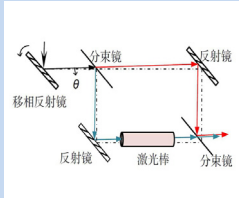


Track gauge measurement based on wheel-rail lateral relative displacement

190252

Zhang Guangyue, Ma Zengqiang, Yuan Jiajing, Kang De, Yan Deli, Li Junfeng

Aiming at the complexity of the traditional gauge detection method, high requirements for the installation and large amount of data analysis, a gauge measurement method based on the relative transverse movement of wheel and rail was designed.

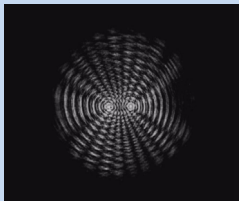


Variable-inclination Mach-Zehnder interferometer for testing laser rods

190254

Kong Lu, Chen Lei, Ding Yu, Wu Zhifei, Zheng Donghui, Zhu Wenhua

In order to measure the transmission wavefront of laser rods and to improve the edge diffraction effect of small-aperture laser rods measured by Tayman or Fizeau interferometer, a variable-inclination Mach-Zehnder interferometer was proposed.

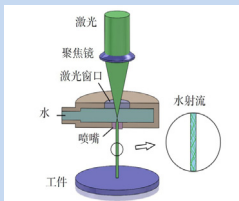


3-DOF measurement method for non-diffracting Moiré fringes based on CGH

190331

Lv Qinghua, Cheng Zhuang, Zhai Zhongsheng, Wang Xuanze, Cui Jiachen, Lv Hui

Aiming at the motion errors of the linear stage, a measurement method for the determination of three-degree-of-freedom (3-DOF) error motions was proposed based on non-diffracting Moiré fringes produced by computer-generated holograms (CGHs).

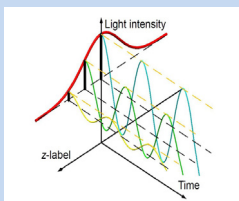


Experimental study on laser water-jet machining of metal material

190423

Cao Zhihe, Qiao Hongchao, Zhao Jibin

The basic principle of water-conducting laser processing technology and its advantages over traditional laser processing methods were expounded. A set of water-conducting laser processing equipment was constructed. The experiments of water-conducting laser processing for various metal materials were carried out.

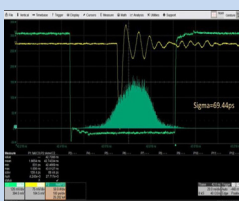


Full-field heterodyne white light interferometry

190617

Ru Hongwu, Wu Lingling, Zhang Wenxi, Li Yang

In order to solve the problem that the displacement accuracy of linear displacement mechanism is too high in traditional white light interferometry, a full-field heterodyne white light interferometry was proposed.



The study of test method of time characteristic for ultra-fast-MCP-PMT

190635

Wang Yang, Ma Xiurong, Qian Sen, Zhu Yao, Wang Zhigang, Gao Feng, Ma Lishuang, Chen Pengyu, Li Haitao, Gao Bo

Based on the VME test system in high-energy physics and picosecond laser with single-photon pulse mode, a device was designed to test the FPMT with 25 ps system error. The time characteristics of various FPMTs were tested by optimizing the FPMT signal readout anode, the voltage divider structure and voltage division ratio.