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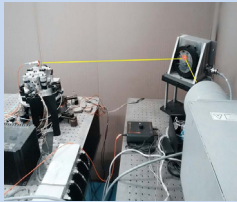
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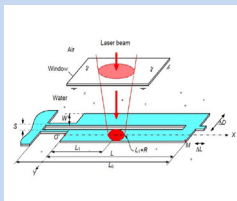
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Equivalent acceleration feedforward based on sensor optimization and robust prediction 210153

Xia Wenqiang, He Qionong, Duan Qianwen, Zhou Xi, Deng Jiuqiang, Mao Yao

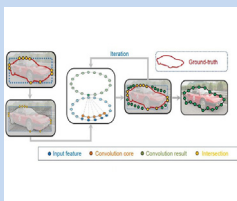
An equivalent acceleration feedforward method based on sensor optimization and robust prediction was proposed to further improve the tracking ability of the system. The experiment showed that this method can further improve the tracking ability of 0.1 Hz~ 4.5 Hz.



Research on optothermal microactuation method and technology in liquid 210199

Ni Kaijia, Zhang Haijun, You Qingyang, Zhang Ziyao

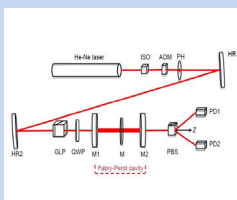
The optothermal microactuation technology and optothermal microactuator (OTMA) suitable for water or other liquids were proposed and developed. The model of optothermal expansion and temperature rise distribution was established, and simulation on a 1080 μm long OTMA was conducted, revealing the feasibility of optothermal micro-actuation technology in water.



Deep contour fragment matching algorithm for real-time instance segmentation 210245

Cao Chunlin, Tao Chongben, Li Huayi, Gao Hanwen

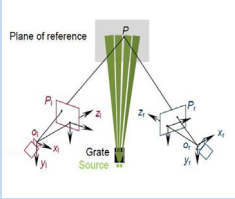
It is a general problem that target occlusion increases the time for contour processing and reduces the accuracy of the detection box. An algorithm for real-time instance segmentation was proposed by adding fragment matching, target aggregation loss function and boundary coefficient modules to the processing contour.



Polarized cavity ring-down technique for characterization of single-layer SiO_2 films 210270

Wu Meiyu, Wang Jing, Li Bincheng

A highly sensitive detection method—polarized cavity ring-down (P-CRD) technique was employed to investigate the influence of deposition angle on the optical loss and stress-induced birefringence of single-layer SiO_2 films prepared with specific deposition process parameters.



Fringe projection based three-dimensional measurement system by the light-source-stepping method using LD

210298

Ying Xiaolin, Yao Jianyun, Zhang Xiaosong, Chu Dongya, Li Yong

It was proposed to use laser diode (LD) as the light source to realize high brightness and high contrast phase-shift fringe projection in the light-source-stepping projection device. A portable and high-speed three-dimensional measurement system was designed by using the projection device and binocular camera.

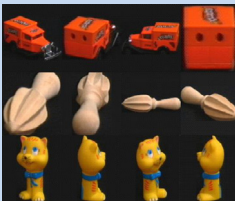


Gauss-Lorenz hybrid prior super resolution reconstruction with mixed sparse representation

210299

Ma Zijie, Zhao Xijun, Ren Guoqiang, Lei Tao, Yang Hu, Liu Dun

In order to obtain a super-resolution prior model with higher confidence and balance the reconstructed results between noise and details, a Gauss-Lorenz hybrid prior model based on the mixed sparse representation framework was established. This prior model's advantages and specific application schemes were studied.



Multi-scale image retrieval based on HSV and directional gradient features

210310

Jiang Man, Zhang Haoxiang, Cheng Deqiang, Guo Lin, Kou Qiqi, Zhao Lei

Aiming at the problems of poor robustness of rotation change, high feature dimension, and long retrieval time of existing color image retrieval algorithms, an innovative image retrieval method was proposed by fusing color features and improved directional gradient features.