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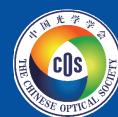
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光场调控专题（一）

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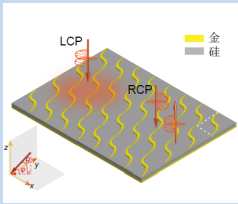
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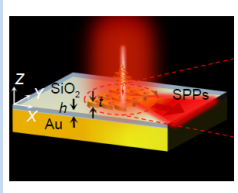


Efficient chiral absorber based on twisted catenary structure

220157

Lan Xiang , Deng Qinrong , Zhang Wenting , Tang Ziyi , Hu Jie , Huang Yijia , Li Ling

A metasurface absorber based on twisted catenary structure that can achieve efficient spin-selective absorption was proposed. The simulated results indicated that the perfect absorption can be achieved for left-handed circularly polarized incidence at the working wavelength, while the absorption for right-handed circularly polarized incidence was below 22%. The corresponding circular dichroism was larger than 78%.

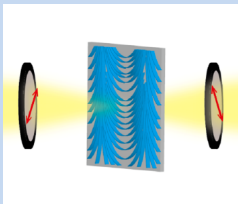


SPPs directional excitation of linearly polarized light based on catenary nanoparticle metasurface

220105

Han Yingying , Chen Panpan , Wang Man , Huang Wanxia , Shi Fenghua , Shi Jianping

A catenary nanoparticle metasurface to realize the SPPs directional excitation with linearly polarized light was designed. The spectral extinction ratio curve and electric field distribution under the incident of x -polarized light were calculated with the finite difference time domain.

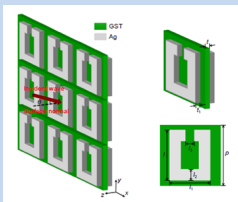


Broadband and high-efficiency edge detection device based on quasi-continuous metasurface

220175

Zhang Haimo , Yang Yang , Liu Kaifeng , Shi Lintong , He Mengyao , Zhang Xiaohu

An optical differential device based on quasi-continuous metasurface was designed and one-dimensional edge detection of an optical image was realized. By changing the spatial orientation of quasi-continuous nanostrips, the device achieved geometric phase in the range of $0 \sim 2\pi$, and maintained high energy efficiency over a wide wavelength range.



Design of tunable circular dichroism extrinsic chiral metasurface based on phase change material GST

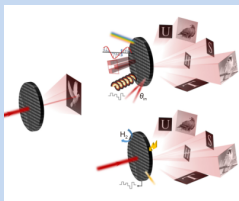
220092

Shi Zhuolin , He Jinglin , Wang Jinjin , Shao Hanru , Dong Jianfeng

A metasurface with tunable circular dichroism extrinsic chiral based on the phase change material $\text{Ge}_2\text{Sb}_2\text{Te}_5$ (GST) was proposed. It was composed of two symmetrical square silver split ring resonators and a GST intermediate layer arranged periodically.

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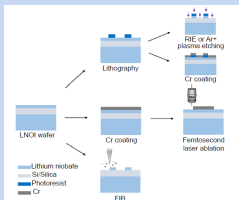


Meta-holography: from concept to realization

220183

Xu Ke, Wang Xinger, Fan Xuhao, Liu Yuncheng, Yu Xuan, Gao Hui, Xiong Wei

An overview of the development of meta-holography from four aspects: the design strategy, the modulation principle, the methods for realizing dynamic display and the micro-nano fabrication technologies for optical metasurface was given. A brief discussion of the future direction in this field was finally included.



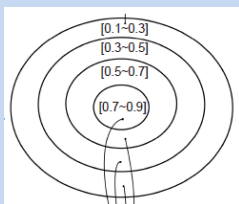
Lithium niobate metasurfaces: preparation and photonics applications

220093

Cui Xueqing, Xie Ranran, Liu Hongliang, Jia Yuechen, Chen Feng

Several micro-nano processing technologies that have the potential to prepare high-quality lithium niobate metasurfaces were summarized. At the same time, the research progress of lithium niobate metasurface structures in recent years was introduced, and its future research directions were prospected.

Article

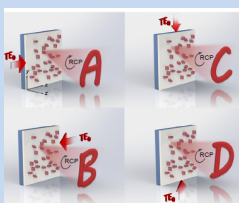


Miniature computational spectral detection technology based on correlation value selection

220130

Yang Gang, Guo Yinghui, Pu Mingbo, Li Xiong, Luo Xiangang

The relationship between the average correlation value of the metasurfaces transmission spectra and reconstruction quality was quantitatively analyzed, and a design methodology for miniature spectral detection based on metasurfaces was proposed. The spectral properties of the metasurfaces-based miniature spectral detection technology was verified.



Directional-multiplexing holography by on-chip metasurface

220177

Yang Rui, Yu Qianqian, Pan Yiwei, Chen Sihan, Zhang Chen, Ye Hong, Zhou Xinyao, Shi Yangyang, Wan Shuai, Liu Yang, Li Zhongyang

A quad-fold multiplexed holographic display optics device based on an on-chip metasurface was proposed and experimentally demonstrated. And the proposed method opens up a new prospect for multifunctional integration of on-chip metasurfaces and provides an alternative approach for integrated optical communication with high information storage capacity.