

## ESI Hot Papers in July 2023

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### 1. Silicon/2D-material photodetectors: from near-infrared to mid-infrared

Chaoyue Liu, Jingshu Guo, Laiwen Yu, Jiang Li, Ming Zhang, Huan Li, Yaocheng Shi &

Daoxin Dai

*Light Sci Appl* **10**, 123 (2021). DOI: 10.1038/s41377-021-00551-4

### 2. Augmented reality and virtual reality displays: emerging technologies and future perspectives

Jianghao Xiong, En-Lin Hsiang, Ziqian He, Tao Zhan & Shin-Tson Wu

*Light Sci Appl* **10**, 216 (2021). DOI: 10.1038/s41377-021-00658-8

### 3. Optical meta-waveguides for integrated photonics and beyond

Yuan Meng, Yizhen Chen, Longhui Lu, Yimin Ding, Andrea Cusano, Jonathan A. Fan,

Qiaomu Hu, Kaiyuan Wang, Zhenwei Xie, Zhoutian Liu, Yuanmu Yang, Qiang Liu,

Mali Gong, Qirong Xiao, Shulin Sun, Minming Zhang, Xiaocong Yuan & Xingjie Ni

*Light Sci Appl* **10**, 235 (2021). DOI: 10.1038/s41377-021-00655-x

### 4. Deep learning in optical metrology: a review

Chao Zuo, Jiaming Qian, Shijie Feng, Wei Yin, Yixuan Li, Pengfei Fan, Jing Han,

Kemao Qian & Qian Chen

*Light Sci Appl* **11**, 39 (2022). DOI: 10.1038/s41377-022-00714-x

### 5. Compact ultrabroadband light-emitting diodes based on lanthanide-doped lead-free double perovskites

Shilin Jin, Renfu Li, Hai Huang, Naizhong Jiang, Jidong Lin, Shaoxiong Wang, Yuanhui

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Zheng, Xueyuan Chen & Daqin Chen

*Light Sci Appl* **11**, 52 (2022). DOI: 10.1038/s41377-022-00739-2

### 6. [Advanced liquid crystal devices for augmented reality and virtual reality displays: principles and applications](#)

Kun Yin, En-Lin Hsiang, Junyu Zou, Yannanqi Li, Zhiyong Yang, Qian Yang, Po-Cheng Lai, Chih-Lung Lin & Shin-Tson Wu

*Light Sci Appl* **11**, 161 (2022). DOI: 10.1038/s41377-022-00851-3

### 7. [Dielectric metalens for miniaturized imaging systems: progress and challenges](#)

Meiyan Pan, Yifei Fu, Mengjie Zheng, Hao Chen, Yujia Zang, Huigao Duan, Qiang Li, Min Qiu & Yueqiang Hu

*Light Sci Appl* **11**, 195 (2022). DOI: 10.1038/s41377-022-00885-7

### 8. [Towards higher-dimensional structured light](#)

Chao He, Yijie Shen & Andrew Forbes

*Light Sci Appl* **11**, 205 (2022). DOI: 10.1038/s41377-022-00897-3

### 9. [Fundamentals and comprehensive insights on pulsed laser synthesis of advanced materials for diverse photo-and electrocatalytic applications](#)

Jayaraman Theerthagiri, K. Karuppasamy, Seung Jun Lee, R. Shwetharani, Hyun-Seok Kim, S. K. Khadheer Pasha, Muthupandian Ashokkumar & Myong Yong Choi

*Light Sci Appl* **11**, 250 (2022). DOI: 10.1038/s41377-022-00904-7