Advanced Optics: Flat Lens

Science behind the Technology

Addressing …

- bulky conventional lens leading to optical system with larger footprints
- lack of sub-diffraction-limited focusing and optical angular momentum control
- shorter focal length and therefore shorter working distance

Key Features

- Compact and ultra-flat optical structure system designs
- Slimmer yet more powerful lens
- Sharper resolution
- Enhanced functionalities including desirable properties of sub-diffraction-limited focusing
- Far field sub-diffraction-limited focusing (FWHM<0.4λ) with a focal length larger than that of typical conventional objective lenses

Potential Applications

- Additive manufacturing
- Aerospace applications
- Spectroscopy

Collaboration Opportunities

- Development towards large-scale manufacturing
- Exploration of new applications

References:


For more information, please contact: industry@imre.a-star.edu.sg

IMRE website: https://www.a-star.edu.sg/imre/
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