

MagicHOLLO Optoelectronic Experiment Solution

Design different for U

Color Holographic Experimental System

UPOLabs

EXPLORE PHOTONS ARCANE



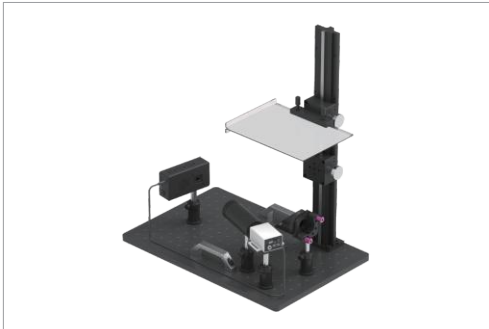
Overview

The core concept of this system is Color Diffraction Theory to set up a complete projection a display system and derivative experimental system. This experimental system is suited for the accurate experimental setup requirements of particles manipulation in holograms, holographic light beam control and holographic display.

- 1.Learn Principles of Fresnel Holography, Fourier Holography, Holographic Iterative, Multi-plane Fresnel Holography and Color holography.
- 2.Load computer-generated holograms on spatial light modulator (SLM).
- 3.Simulate and reconstruct object information through algorithms.
- 4.Achieve algorithm generation and reconstruction.
- 5.Realize real-time optical reconstruction of color holographic images.



Holography-36R
Installation diagram of color holographic experimental system



Holography-45R
Installation diagram of color holographic experimental system

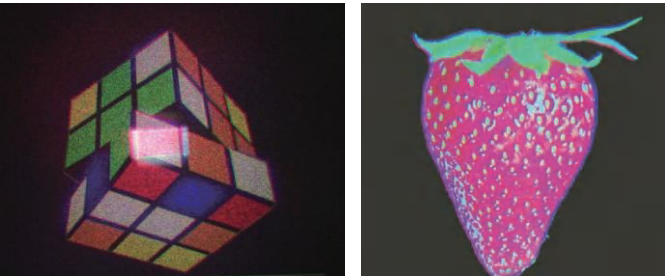
Typical Configuration

Magicholo-CCGH-36R	
Laser	Wavelength: R: 638 / G: 520 / B: 450 (nm)
Spatial Filter	Pinhole size 10 μm magnification: 10X
Collimating Lens	Diameter: φ25.4 mm Focal Length(f): 100.0 mm
Reflector	Wavelength: 450-700 nm Diameter: 25.4 mm Material: H-K9L
Spatilal Light Modulator HDSLM36R	Resolution: 3840 × 2160 Max. Frame Rate: 60 Hz Pixel Size: 3.6 μm
Polarizer	Diameter (mm): Φ25.4 Aperture: 22.0 mm PER: 500 : 1
Beam Profiler	Pixel Size : 3.45 × 3.45 Active Area: 14 mm (W) ×10 mm (H) Resolution: 4096 × 3000
Mirror Holder & Bracket	Collimating Lens Holder & 45° Reflector Bracket

Regarding detailed introduction for the system configuration, please consult sales@realic.cn.

Magicholo-CCGH-45R	
Laser	Wavelength: R: 638 / G: 520 / B: 450 (nm)
Beam Expander	5X
Collimating Lens	Diameter: φ25.4 mm Focal Length(f): 100.0 mm
Reflector	Wavelength: 450-700 nm Diameter: 25.4 mm Material: H-K9L
Spatilal Light Modulator HDSLM45R	Resolution: 1920 × 1080 Max. Frame Rate: 60 Hz Pixel Size: 4.5
Z-axis displacement table	Stroke 465 mm drive structure: rack and pinion. With locking Surface oxidation and blackening treatment
Beam Profiler	Pixel Size : 3.45 × 3.45 Active Area: 14 mm (W) ×10 mm (H) Resolution: 4096 × 3000
Mirror Holder & Bracket	Collimating Lens Holder & 45° Reflector Bracket

Demo



Application

This experimental system is suited for the accurate experimental setup requirements of particles manipulation in holograms, holographic light beam control and holographic display. It provides good scalability in the fields of optimization of deep learning holographic algorithm and neural network optical computing.