

MagicHOLO Optoelectronic Experiment Solution

Design different for U

Single Pixel Imaging Experimental System

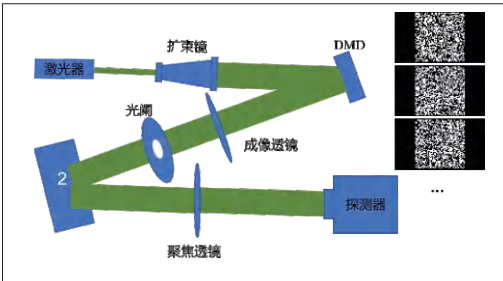
UPOLabs

EXPLORE PHOTONS ARCANE

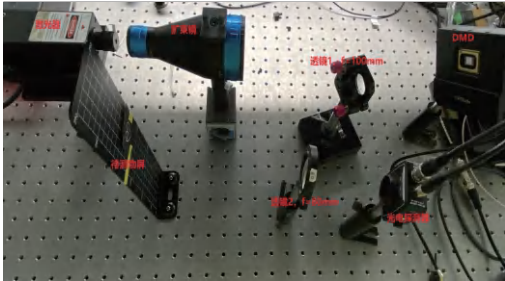


Overview

Encoding the target optical field based on DMD, UPOLabs Single Pixel Imaging Experimental System collects encoded optical field information through a single-pixel detector. It is an excellent option to reconstruct your target scene images through different algorithms including classical correlation calculation algorithm, differential correlation algorithm, and compressed sensing algorithm. This UPOLabs Experimental System contributes to single-pixel imaging experimental teaching in universities and is suitable for scientific research work related to reconstruction algorithms.



Single Pixel Imaging Experimental System schematic Photo



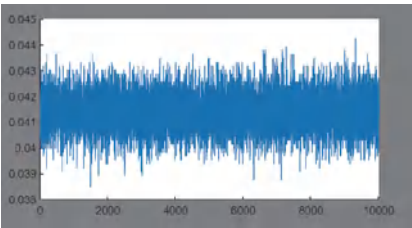
Single Pixel Imaging Experimental System Light path diagram

Typical Configuration

Category	Parameter	
Laser	Wavelength 532 nm	
DMD	Basic Version: HDSLM136D70	Resolution 1024 × 768
	Optional Configuration: HDSLM108D95	Resolution 1920 × 1080
Photodetector	Wavelength: 320 - 1100 nm Bandwidth: 11MHz	
Data Acquisition Card	16Bits ADC with 8-channel synchronization USB high-speed interface control	
Beam Expander	Multiple: 2x-6x Wavelength: 450-680 nm	
Optical Elements	Imaging component Focusing component Aperture component Target object component optical-mechanical component	

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

DEMO



Data Density Visualization



Reconstruction by Classical Algorithm



Reconstruction by Difference Algorithm



Reconstruction by Compressed Sensing Algorithm

Application

It is suitable for image encryption, 3D imaging, biomedical imaging and remote sensing detection.