

Holographic Algorithm for Spatial Light Modulator



Overview

This paper proposes an optimized iterative algorithm based on the angular spectrum method (ASM) to achieve high-quality holographic imaging across multiple planes. Hubei Key Laboratory of Modern Manufacturing Quantity Engineering, School of Mechanical Engineering, Hubei University of Technology, Wuhan 430068, China School of Science, Hubei University of Technology, Wuhan 430068, China Author to whom correspondence should be addressed. We discuss some of the engineering work. GitHub - holodyne/slmsuite: Python package for high-performance spatial light modulator (SLM) control and holography. · GitHub Add testing github ci/cd.



Holographic Algorithm for Spatial Light Modulator



A metasurface-based spatial light modulator brings the pixel size down to the submicrometre scale while demonstrating real-time complex-amplitude holography, three ...

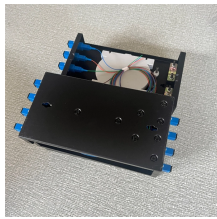


Figure 1: A piston micro mirror array can modulate coherent light to produce fully realistic 3D images. Such modulators are not available today, but IPMS and SeeReal together with consortium partners ...



In this work, optical, computational, and electronic considerations for high-speed MEMS micromirror-based spatial light modulators (SLMs) are presented with a focus on holographic systems that utilize ...



An optimized method of dual spatial light modulators holographic display is proposed in accordance with wavefront frequency decomposition. The wavefront frequency decomposition is ...



This algorithm divides 3D complex scenes into multiple layers based on depth information and employs the ASM to simulate the optical propagation process from these parallel layers to the hologram, ...



This paper gives the overview on the speckle noise suppression of holographic display based on spatial light modulator, and the main body is divided into the following sections.



Driven by the demands for speed and field of view in the holographic photostimulation community, we designed, built, and tested a liquid crystal on silicon (LCoS) spatial light modulator (SLM) with a ...



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slmsuite combines GPU-accelerated beamforming algorithms with optimized hardware control, automated calibration, and user-friendly scripting to enable high-performance programmable optics ...

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