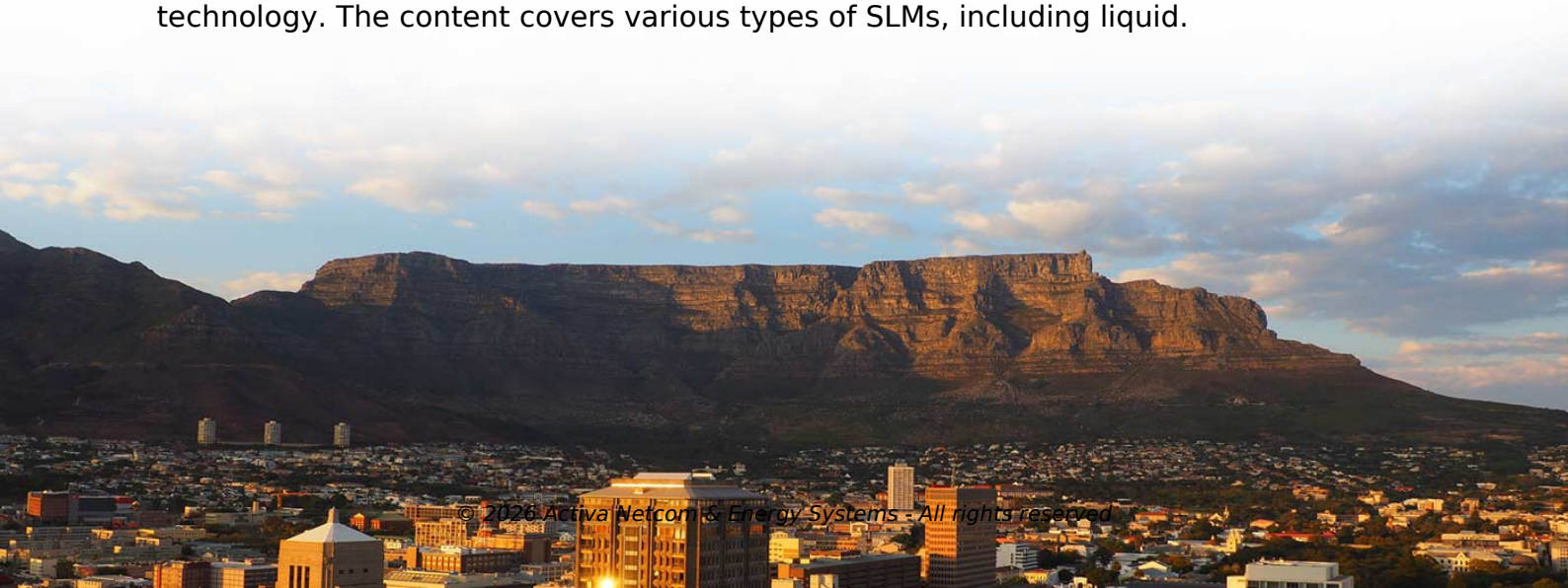
Activa Netcom & Energy Systems

Integrated Spatial Light Modulator

Overview

Here we introduce a new class of spatial light modula-tor that provides both 2D pixel geometry and high speed. The device operates by encoding spatial information in frequency bins via a broadband optical phase modulator, and decoding them via a first-of-its-kind . The spatial light modulators developed at Fraunhofer IPMS consist of arrays of micromirrors on semiconductor chips, with the number of mirrors varying from a few hundred to several million depending on the application. In most cases, this requires a highly integrated application-specific integrated. Thorlabs' Exulus® Spatial Light Modulators (SLMs) employ Liquid Crystal on Silicon (LCoS) technology to produce high-resolution, high-speed reflective phase modulation with individually addressable pixels. This phase control is highly stable with minimal fluctuations and minimal crosstalk with. Spatial light modulator (SLM) is a general term describing devices that are used to modulate amplitude, phase, or polarization of light waves in space and time. Manipulation of light at the nanoscale is cornerstone for the realization of miniaturized optical devices with enhanced efficiencies. It uses arrays of sub-wavelength. The SPIE Digital Library offers a comprehensive collection of research articles, conference papers, and technical documents focused on spatial light modulators (SLMs), reflecting the breadth and depth of this rapidly evolving technology. The content covers various types of SLMs, including liquid.



Article Content

ITO-based Spatial Light Modulators for Potential Integration with ...

An electrically controllable ITO metasurface is a breakthrough in light manipulation. Theoretical frequency response is 15–100 GHz for this cutting-edge technology. This technique might

Electro-optic spatial light modulator from an engineered ...

Spatial light modulators (SLM) provide tailored light fields for many applications. Here, the authors present an SLM device based on an organic electro-optic material that manipulates the ...

Spatial Light Modulators

Thorlabs'' Exulus® Spatial Light Modulators (SLMs) employ Liquid Crystal on Silicon (LCoS) technology to produce high-resolution, high-speed reflective phase

Multi-Wavelength Compatible Single-Shot Full-Stokes Polarimetric ...

This work introduces a parallel uncoupled spatial frequency modulation architecture for multi-wavelength compatible single-shot full-Stokes imaging. A strategic single-point characterization

45-2: Invited Paper: Liquid crystal spatial light modulator for ...

7-2: Integrated Cockpit Concept: Sunrise, A New Horizon of Integration digital version 7-3: Holographic Automotive Rear Viewing System digital version 7-4: Reconfigurable Cholesteric Liquid Crystal

Spatial Light Modulators

HOLOEYE´s Spatial Light Modulator systems are based on translucent (LCD) or reflective (LCOS) liquid crystal microdisplays. The use of LC materials in SLMs is

Metasurface-enabled polarization-independent LCoS spatial light ...

We propose and demonstrate a metasurface-embedded LCoS device that achieves polarization-independent phase modulation at telecommunication wavelengths with 4K resolution

Spatial light modulator via optically addressed metasurface

Emerging demands for dynamic wavefront modulation in holographic displays, augmented/virtual reality, and light detection and ranging require spatial light modulators (SLMs) with

Hamamatsu LCOS-SLM X15213-02R Reflective Pure-Phase Spatial Light Modulator

Overview The Hamamatsu LCOS-SLM X15213-02R is a high-performance reflective spatial light modulator engineered for precision wavefront control in advanced optical systems.

LCOS Spatial Light Modulators: Trends and Applications

1.1 Introduction Spatial light modulator (SLM) is a general term describing devices that are used to modulate amplitude, phase, or polarization of light waves in space and time. Current SLM–based

A 10 Megahertz Spatial Light Modulator

Here we introduce a new class of spatial light modula-tor that provides both 2D pixel geometry and high speed. The device operates by encoding spatial information in frequency bins via a broadband

Spatial Light Modulator Principles

Meadowlark Optics award-winning Spatial Light Modulators (SLMs) provide precision retardance control for spatially varying phase or amplitude requirements. Our SLMs consist of liquid crystal (LC) pixels,

A full degree-of-freedom spatiotemporal light modulator

Panuski et al. demonstrate a programmable photonic crystal cavity array, enabling the spatiotemporal control of a 64 resonator, two-dimensional spatial light modulator with nanosecond-

Spatial light modulators

The SPIE Digital Library offers a comprehensive collection of research articles, conference papers, and technical documents focused on spatial light modulators (SLMs), reflecting the breadth and depth of

A review of liquid crystal spatial light modulators: devices and ...

Spatial light modulators, as dynamic flat-panel optical devices, have witnessed rapid development over the past two decades, concomitant with the advancements in micro- and opto-electronic integration

Double-freeform lens design for angular-spatial control of light fields ...

Precise simultaneous control of both angular and spatial light-field distributions remains a longstanding challenge in optical design, often requiring complex multi-element configurations. In this

spatial light modulator

A spatial light modulator (SLM) is a pixellated liquid crystal device that can individually control the phase value of each pixel. It imposes spatially varying modulation onto an incident beam, allowing for the

Spatial Light Modulators

We develop custom spatial light modulators with segmented micromirror arrays and a high pixel count—tailored for demanding industrial applications. Our advanced micromirror technology enables

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://activa.net.pl
Email: sales@activa.net.pl
Phone: +48 662 748 193
Address: ul. Cybernetyki 7B, 02-677 Warsaw, Poland

This document is for informational purposes only. Specifications subject to change without notice.