

# SLM optical module



## Overview

A spatial light modulator (SLM) is a device that can control the intensity, phase, or polarization of light in a spatially varying manner. A simple example is an overhead projector transparency. Usually when the term SLM is used, it means that the transparency can be controlled by. 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. Wavefront control of the light can be applied to optical beam photolithography, aberration correction. Its key features include WUXGA (1920 x 1200) high resolution, 10-bit (1024 levels) phase resolution, and phase stability of less. 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.



## Article Content

Oct 23, 2025

Spatial Light Modulation Principles

Spatial Light Modulation Principles - Delivering the highest quality optics for over 40 years: polarizers, photonics, and more.

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Lcos Spatial Light Modulators (Lcos-Slm) Market Growth ...

Belgium LCoS Spatial Light Modulators (LCOS-SLM) Market Size & Growth Momentum  
Belgium's LCoS SLM market is emerging as a niche hub for optical research, holography, and

Apr 27, 2026

Spatial Light Modulation Principles

Our SLMs support free-space optics, modulators for continuous wave (CW) sources, and advanced temporal light control. Integration with IR receivers, IR remotes, or

Dec 12, 2025

Spatial Light Modulator Microscopy

The SLM microscope highlights some of the flexibility made available by this "universal optic, and which could " greatly simplify optical instrumentation and make it possible to construct miniaturized

Apr 05, 2026

Spatial Light Modulator: Revolutionizing Optical

Emerging Trends in Spatial Light Modulator Technology Advancements in Spatial Light Modulator (SLM) technology continue to push boundaries in optical

Jul 22, 2025

spatial light modulator | Photonics Dictionary | Photonics Marketplace

A spatial light modulator (SLM) is an optical device that modulates or manipulates the amplitude, phase, or polarization of light in two dimensions, typically in the form of an array. SLMs are versatile tools

Mar 14, 2026

The LCOS-SLM : Quote, RFQ, Price and Buy

An optical device that electrically regulates the spatial distribution of light amplitude, phase, or polarization is called a spatial light modulator (SLM).

Aug 23, 2025

488 nm SLM Laser

488 SLM laser diode module could be a perfect choice for Raman spectroscopy, especially for inorganic materials. Blue light lasers are widely used in surface

Feb 17, 2026

Spatial Light Modulator (LCOS-SLM) | Santec AOC

Santec 's LCOS (Liquid Crystal on Silicon) Spatial Light Modulator (SLM) is an optical device that precisely controls the phase, amplitude, and polarization of light.

Sep 01, 2025

Spatial light modulator

OverviewElectrically-addressed spatial light modulator (EASLM)Optically-addressed spatial light modulator (OASLM)Application in ultrafast pulse measuring and shapingExternal links

A spatial light modulator (SLM) is a device that can control the intensity, phase, or polarization of light in a spatially varying manner. A simple example is an overhead projector transparency. Usually when the term SLM is used, it means that the transparency can be controlled by a computer. SLMs are primarily marketed for image projection, displays devices, and maskless lithography. SLMs are also used in optical computing and holographic optical tweezers.

Mar 17, 2026

Spatial Light Modulators

In addition to standard Spatial Light Modulator products, additional sales & application support services are available: These SLM products allow optical

Aug 01, 2025

SLM (Spatial Light Modulator)

A Spatial Light Modulator (SLM) is an optical component that changes the spatial distribution of light in real time. The incident light can be modulated pixel by pixel

Jul 20, 2025

Spatial Light Modulator (LCOS-SLM) | Santec AOC

Spatial Light Modulator SLM-20 Embedded Module of standard spatial light modulator Datasheets PDF Designed for integration in industrial equipment.

Aug 25, 2025

### SLM (Spatial Light Modulator)

Find the right Spatial Light Modulator (SLM) for your project. Our experts will advise you individually so that your SLM meets all requirements.

Nov 29, 2025

### Spatial Light Modulator: Revolutionizing Optical

Advancements in Spatial Light Modulator (SLM) technology continue to push boundaries in optical innovation. Researchers and engineers are focusing on

Sep 09, 2025

### LCOS-SLM (Optical phase modulator) | Hamamatsu Photonics

LCOS-SLM are reflective spatial light phase modulators that freely modulates optical phases and optical phase of laser is modulated by the liquid crystal. Wavefront control of the light

Sep 14, 2025

### SLM Brochure\_website

The kit is based on the LC 2012 SLM. Additionally a laser module, two rotatable polarizers and some optomechanical components are included in the kit. The main topics covered in the six experimental

Aug 04, 2025

### Spatial Light Modulation as a Flexible Platform for

Spatial light modulation is a technology with a demonstrated wide range of applications, especially in optical systems. Among the various spatial

Mar 02, 2026

### Spatial Light Modulators Category

Spatial Light Modulators - Delivering the highest quality optics for over 40 years: polarizers, photonics, and more.

Aug 18, 2025

### Spatial Light Modulators

Fraunhofer IPMS leverages MEMS technology to deliver tailored SLM solutions for industry and research, enabling precise and fast light modulation. Application

Dec 11, 2025

Melia Bonomo / SLM Intro

I. What is an SLM? A spatial light modulator (SLM) is a transmissive or reflective device that's used to spatially modulate the amplitude and phase of an optical

Jul 20, 2025

532 nm SLM Laser

The 532 nm SLM laser is a very compact DPSS module for portable diagnostic applications, RGB holography, as well as various scientific setups. The module

Aug 21, 2025

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

Nov 29, 2025

Thorlabs · Spatial Light Modulators

The EXULUS-SE1 Spatial Light Modulator (SLM) is an ideal tool for general optical or educational applications, offering good performance in a compact footprint.

May 27, 2026

Spatial Light Modulators

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.

Dec 10, 2025

Spatial Light Modulator (SLM) Basics and Vendors

This page covers the basics of Spatial Light Modulators (SLMs) and lists some vendors. It also describes the two main types of SLMs: optically addressed and

## Contact Us

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