

Principle of Black Gate Effect in Liquid Crystal Spatial Light Modulators

Schematic of a liquid crystal-based Spatial Light Modulator. Liquid crystals are birefringent, so applying a voltage to the cell changes the effective refractive index seen by the incident wave, and thus the ...

In this review, we provide our perspective on this field by reviewing the working principles of liquid crystal, diffraction optics, the recent progress of LC-SLMs, and their role in modern photonic ...

Liquid-crystal spatial light modulators control the optical path of light waves by modulating the refractive index. They play an important role in adaptive optics as phase-correction devices.

In the review, the authors show how such SLMs can be exploited for a myriad of tasks, from creating all forms of structured light to fast and efficient detectors.

This paper presents a flat panel complex spatial light modulator that consists of dual in-plane switching liquid crystal panels with double-degrees of freedom of voltage inputs.

In particular, liquid-crystal spatial light modulator (LC-SLM) technologies have been regarded as versatile tools for generating arbitrary optical fields and tailoring all degrees of freedom beyond just ...

Liquid crystals are organic materials whose physico-chemical properties are intermediate between those of solids and liquids. The elongated LC molecules therefore have both a structural order and ...

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We propose and demonstrate, both theoretically and experimentally, a direct interferometric method for calibrating liquid crystal spatial light modulators. This method uses a single ...

The operation principle is based on the birefringence of liquid crystals, where long molecules align to create anisotropic optical properties. This alignment, and thus the refractive index experienced by ...

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