

Optical path applications of structured light modules



Overview

The structured light has found a wide variety of applications, such as optical manipulation, optical metrology, optical imaging, classical optical communications and quantum communications. This feature issue will highlight research spanning all fields influenced. In this perspective, we thus offer our take on a few key applied research fields where structured light is particularly promising, as well as some pivotal generation and characterisation techniques. In addition, we share our vision of where we believe structured light's applications are moving. Structured light refers to custom light fields with tailored phase, intensity or polarization. Generation of various types of the structured beams is possible, depending on the spatial beam profile.



Article Content

Jul 16, 2026

Structured light: fundamentals and applications

This feature issue will highlight research spanning all fields influenced by structured light. We encourage papers that are application based, exploring the use of structured light.

Feb 20, 2026

A perspective on structured light's applications

In this perspective, we thus offer our take on a few key applied research fields where structured light is particularly promising, as well as some pivotal generation and characterization ...

Jul 01, 2026

Integrated structured light architectures

This demonstration materializes a dynamical and programmable architecture to produce light by design, where spatio-temporal wavevector distributions can be tailored in real time to enable further ...

Oct 03, 2025

Online workshop on structured light and its applications

The large degree of freedom brought by structured beams is also an attractive feature for applications in optical communications. Different types of structured beams with unique properties have been reported.

Jul 08, 2026

Structured Light Beams: Science and Applications

The combination of structured beam optics and nonlinear optics has produced wavelength-variant structured laser sources for on-demand application. Structured light fields have ...

Dec 22, 2025

Integrated structured light architectures | Scientific Reports

We demonstrate a laser architecture based on coherent beam combination offering integrated spatio-temporal field control and programmability, thereby presenting unique opportunities ...

Feb 07, 2026

Types of structured light beams and their applications in optical ...

This paper reviews different types of structured light beams, with numerical simulation, and their recently emerged applications. The applications of structured beams in optical information security have been ...

Jan 19, 2026

Structured Light for Optical Communication

The first three chapters, contributed by the editors and their collaborators, provide a background on the basics of quantum information, address the fundamental principles of structured light in its most ...

Jul 05, 2026

Structured Light for Optical Communication

Structured Light for Optical Communication highlights principles and applications in the rapidly evolving field of structured light in wide-ranging contexts, from classical forms of ...

Jul 01, 2026

Structured Light's Applications: A perspective

As such, in what follows, we will provide a short description of current generation and characterisation techniques, followed by an overview of some of the applications developed using ...

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