

# Multimode single-core temperature-sensing optical fiber

Here, we investigated the sensing performance of a simple multimode-interference-based fiber sensor containing a specialty fiber, the square-core fiber, for temperature and strain measurement.

As a laser beam passes through a multimode fiber (MMF), a speckle pattern is generated, which is sensitive to temperature, thereby making the MMF a temperature-sensing ...

In this paper, several different categories of SMS fiber structures, including traditional SMS, modified SMS and tapered SMS fiber structures are discussed with some theoretical ...

In this work, we investigate a specialty fiber, square-core fiber, for temperature and strain sensing. A simple single-mode-multimode-single-mode (SMS) fiber sensor was fabricated, consisting of a 30 ...

This paper compares the performance of single-mode and multimode fiber Bragg grating sensors for temperature monitoring in order to better understand how the grating's geometrical ...

Figure 1: Schematic diagram of the experimental setup for temperature and strain measurement; BLS, broadband light source; SMF, single-mode fiber; MMF, multimode fiber; OSA, optical spectrum analyzer.

We present a temperature-sensitive, single-mode-multimode-single-mode (SMS) fiber structure with an index-matching gel as a cladding material in a multimode segment. A silica core ...

In this review, we provide an overview of the latest developments in MMF sensors, ranging from conventional methods to those assisted by machine learning.

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## **single-core**

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