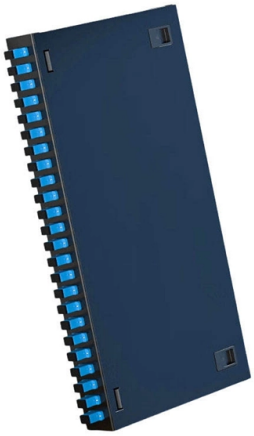
Long-period fiber grating as a function



Overview

A long-period fiber grating couples light from a guided mode into forward propagating cladding modes where it is lost due to absorption and scattering.

Article Content

Mechanically Induced Long-Period Fiber Gratings and

In this paper, we propose a new technique to fabricate long period gratings (LPGs) by mechanically applying a force to an optical fiber enclosed in a

Long-period fiber grating

A long-period fiber grating couples light from a guided mode into forward propagating cladding modes where it is lost due to absorption and scattering. The coupling from the guided mode to cladding

Long Period Fibre Gratings

The strain response of a long-period fibre grating arise due to the physical elongation of the fibre, changing the grating pitch and the effective refractive index of the core and cladding due to the

Mechanically Induced Long-Period Fiber Gratings and

This paper presents a review of the evolution of LPFGs, with a specific focus on the progression and current trends of mechanically induced

Long period fiber grating-based biosensing: Recent trends and future ...

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Decades have passed since the first demonstration of a long-period fiber grating (LPFG) and its practical application for sensors, and, in this period, manufacturing techniques, sensitivity

Arc-Induced Long-Period Fiber Gratings at INESC TEC. Part II ...

Long-period fiber gratings (LPFGs) exhibit resonances at specific wavelengths as a result of coupling of the core mode to discrete cladding modes and can work as wavelength selective optical filters.

Long-Period Fiber Grating Based on Side-Polished Optical Fiber and

Abstract: A novel side-polished long-period fiber grating (LPFG) sensor was proposed and experimentally validated. Side-polished can provide a stronger evanescent field than traditional

Optical fibre long-period grating sensors modified with

In this study, we present the proof-of-concept antifouling and biorecognition performance of a polymer brush nano-coating synthesized at the

Arc-induced Long Period Gratings in standard and speciality optical ...

In this paper, for the first time, the effects of mixed neutron and gamma flux on the spectral and sensing responses of Long Period Gratings (LPGs) are thoroughly analyzed.

Mechanically Induced Long Period Gratings (LPGs) in Standard and ...

This paper presents mechanically induced long-period gratings (MILPGs) realized in standard and unconventional optical fibers, like not-photosensitive double-clad and photonic crystal

(PDF) Optical Fiber Sensors: Working Principle

Fiber-optic sensors based on Bragg gratings, long-period gratings, interferometry, surface plasmon resonance (SPR), fluorescence, and light

Comparative study of optical fiber immunosensors based on traditional ...

Notable examples include the development of a long period grating biosensor utilizing graphene oxide (GO) for ultrasensitive label-free antibody-antigen immunosensing . An optical

Individually Switchable and Widely Tunable Multiwavelength Erbium

A novel concept of individually switchable and widely tunable erbium-doped multiwavelength fiber laser (MWFL) is proposed and experimentally demonstrated. The key

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Optical fiber bundle fluorescence sensor for a triacetone ...

Specifically, long-period fiber grating, Bragg grating and tapper fiber sensors coated with fluorescent materials or nanomaterials have been developed for real-time explosive detection

pH Sensor Through a Self-Assembled Multifunctional Layer With

In this study, Clitoria ternatea was used to provide a quantifiable method for pH measurement. The researchers proposed a new pH measurement method that involves the use of a

Long-term thermal stability and calibration of Type-II fiber Bragg ...

Abstract This paper investigates the long-term thermal stability of Type-II fiber Bragg grating (FBG) arrays, inscribed by femtosecond laser in radiation-hardened fiber, for potential applications as

(PDF) Long-period refractive index fiber gratings:

Experimental investigation of the cladding modes excited by long-period gratings, as well as sensitivity of the long-period grating spectrum to

Strain-independent high-temperature sensor with a suspended-core fiber ...

The device was composed of a short segment of suspended-core fiber (SCF) sandwiched between two standard single mode fibers (SMFs) with a misaligned splicing joint. Lower temperature

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