ZTP Thermal & Power

Polarization-maintaining fiber refractive index measurement

Overview

The proposed method retrieves refractive indices of PM optical fibers using adaptive algorithms and interferometry. Employing a Mach-Zehnder interferometer, the method accurately analyzes optical phase differences in PM fibers. It is difficult for manufacturers to specify a polarization extinction ratio (PER) for light output by polarization-maintaining (PM) fibers, since this parameter depends on the length of the fiber, how it is routed, and the polarization and alignment of the input light.

Polarization-maintaining fiber refractive index measurement

Refractive index retrieving of polarization maintaining optical fibers

Interferograms analyses to extract the optical phases caused by the PM optical fibres. In this paper, the cross-section images, of two different types of polarization maintaining (PM) optical

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Refractive index retrieving of polarization maintaining optical fibers

To evaluate the proposed method, we measured the refractive index profiles of multimode and single-mode fibers and compared with S14 based on refracted near-field method and SHR-1802

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Polarization maintaining fibers (PMFs) achieve their functionality through controlled birefringence, which introduces a systematic refractive index difference between two orthogonal polarization axes.

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Polarization-maintaining fiber sensor for simultaneous measurement of

A polarization-maintaining fiber (PMF) sensor for simultaneous measurement of the temperature and refractive index (RI) based on the Mach-Zehnder interferometer is proposed and demonstrated

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Method for nonlinear refractive index estimation in photonic crystal fibers

In this report, a new method for estimating the nonlinear refractive index of polarization-maintaining PCF using phase shift between orthogonal polarization modes is presented.

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Broadband polarization independent nanophotonic coupler for silicon

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Multi-tapered polarization-maintaining fiber-optic sensor for

In this paper, a fiber-optic refractive index and temperature sensor based on Mach-Zehnder interferometer (MZI) is designed and fabricated. The sensor structure consists of a section

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Polarization-maintaining fiber based macehead shaped interferometric

A macehead-shaped bent polarization-maintaining fiber-based interferometric sensing structure called MBPIS is described and experimentally demonstrated for precise temperature and

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Beat Length and Polarization Maintaining Fiber

The larger the refractive index difference between the two fiber axes, the larger the birefringence, the shorter the beat length, and the better the

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Polarization-maintaining fiber based macehead shaped interferometric

Repeatability and reproducibility of the sensor have been verified. A macehead-shaped bentpolarization-maintainingfiber-basedinterferometricsensingstructurecalledMBPIS is described

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Refractive index retrieving of polarization maintaining optical fibers

In this paper, the cross-section images, of two different types of polarization maintaining (PM) optical fibers, are employed to estimate the optical phase variation due to transverse optical

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Polarization-maintaining optical fiber

Polarization-maintaining optical fiber Image of the cross section of a polarization-maintaining optical fiber patch cord, taken with an illuminated microscopic viewer

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Polarization-maintaining fiber sensor for simultaneous measurement of

Asurfaceplasmonresonance-basedfiber-opticsensorforsimultaneousmeasurementof refractive index and temperature of liquid samples is proposed and experimentally demonstrated.

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Birefringence manipulation in tapered polarization-maintaining

A temperature insensitive, compact and high resolution refractive index measurement system using tapered polarization maintaining photonic crystal fiber (PM-PCF) Mach-Zehnder

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Liquid Refractive Index Sensor Based on a Polarization-Maintaining

A liquid refractive index sensor based on a fiber loop mirror (FLM) combined with an etched polarization maintaining fiber (PMF) is proposed. As the etched section of the PMF is

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Optimization design of a polarization-independent grating coupler on

The demonstrated grating coupler can serve as a polarization-independent optical fiber interface on lithium-niobate-on-insulator and facilitate on-chip polarization diversity applications.

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A polarization-maintaining fiber loop mirror based sensor for liquid

A fiber sensor based on polarization-maintaining fiber loop mirror (FLM) for liquid refractive index absolute measurement is described. Two sections of polarization maintaining fibers

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Polarization-Maintaining Fiber (PMF)

Maintaining Polarization State by Birefringence Theoretically speaking, an optical fiber with a circular core has no birefringence, and the polarization

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A polarization-maintaining fiber loop mirror based

Abstract A fiber sensor based on polarization-maintaining fiber loop mirror (FLM) for liquid refractive index absolute measurement is described.

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Polarization-maintaining fiber sensor for simultaneous measurement of

A polarization-maintaining fiber (PMF) sensor for simultaneous measurement of the temperature and refractive index (RI) based on the Mach-Zehnder interferometer is proposed and

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Refractive index retrieving of polarization maintaining optical fibers

Abstract In this paper, the cross-section images, of two different types of polarization maintaining (PM) optical fibers, are employed to estimate the optical phase variation due to

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Refractive index retrieving of polarization maintaining

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