

Polarization characteristics of fiber optic gratings

Preview

Recent experiments (Kopp et al 2007 J. B 24 A48) have demonstrated that the polarization sensitivity of chiral fiber gratings depends strongly on the grating symmetry: double-helix fibers are polarization sensitive while single-helix fibers are not. In particular, the following silica fibers with both different dopants and geometrical structures are considered: standard Ge-doped, photosensitive B/Ge codoped, P-doped, pure-silica core with F-doped cladding, Panda type Polarization-maintaining, and Hollow core Photonic crystal fiber. An adaptive discriminator with poor characteristics. Here, we present a simple, compact, and robust technique featuring high linearity over a wide bandwidth and low background noise. Our technique exploits the reflection characteristics of fiber Bragg gratings written in polarization-maintaining fibers to. Abstract: Polarization mode coupling (PMC) and related effects from writing fiber Bragg gratings in polarization maintaining fiber (FBGs-in-PMF) are observed experimentally for the first time by optical fiber coherence domain polarimetry (OCDP) using a broadband light source. PMC is another useful. Two-dimensional (2D) diffractive gratings offer a polarization-independent coupling solution between optical fibers and photonic integrated circuits, with advantages including placement flexibility, ease of fabrication, and tolerance to alignment errors.

A unique setup making use of PM-FBG in edge filtering configuration with an additional polarizing beam splitter was utilized to study the effect of the polarization direction of the optical wave

Just as a linearly varying birefringence can be used to make a polarization-sensitive diffractive wedge (i.e., grating), a radially varying birefringence can be patterned to make a polarization-sensitive

Bragg gratings may be written at a same or nearly same axial position for all optical fibers in the configuration and may be written at the same time and may have a substantially equal index of

One goal of this paper is to investigate the polarization properties of single- and double-helical chiral fiber gratings and to explain why the former is polarization insensitive while...

Fiber Optics and Optical Communications Highly tunable and versatile dual-wavelength fiber laser based on optofluidic tuning of multimode interference filters Daniel A. May-Arrijo, José E. Antonio-Lopez,

Data center interconnect (DCI) links with high data-rate direct-detection require strict chromatic dispersion compensation. One such solution which has been widely deployed is based on

An all-polarization-maintaining (PM) figure-9 mode-locked Tm-doped fiber laser that leverages a nonlinear amplifying loop mirror (NALM) incorporated with a chirped fiber Bragg grating

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Imagine a world where the Internet doesn't just connect but senses--detecting earthquakes, monitoring battery health, or safeguarding

Light propagation and dynamic effects in fibers Nonlinear effects, polarization and spatial modes, acousto-optic, thermo-optic, opto-mechanical effects. Fiber characterization, diagnostic and

In this work, we demonstrate that a full characterization is possible using the well-known transient-grating (TG) or polarization-gating (PG) frequency-resolved optical gating (FROG) techniques, and

In this work, we report about our recent results concerning the fabrication of Long Period Grating (LPG) sensors in several optical fibers, through the Electric Arc Discharge (EAD) technique.

Abstract In this paper, we investigate the multi-wavelength lasing characteristics of an actively Q-switched ytterbium-doped fiber laser with two cascaded polarization maintaining fiber

Our technique exploits the reflection characteristics of fiber Bragg gratings written in polarization-maintaining fibers to create a frequency discriminator, which is able to convert PM/FM signals into

A study of the spectral characterization of polarization properties of locally pressed fiber Bragg grating (FBG) is presented. The evolutions of the first Stokes (s_1) parameter of a FBG as

We demonstrate a variable optical attenuator (VOA) based on liquid crystal polarization gratings (LCPGs), which eliminates the need for complex polarization management found in

An analytic approach to calculate the radiation pattern (including the wavelength dependence, azimuthal distribution, and polarization dependence) of tilted fiber phase gratings using

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