

Relative Refractive Index of Planar Optical Waveguides





Overview

- A new method is proposed to measure the refractive index profile of planar optical waveguides.



Relative Refractive Index of Planar Optical Waveguides

Refractive index profiling of planar optical waveguides using near

The refractive index profile of a straight channel phosphosilicate glass planar optical waveguide is obtained with high spatial resolution (approximately 0.25 micrometers) using near-

Smart optical nanocomposites enabled by refractive index engineering

Smart optical nanocomposites, capable of dynamically altering their optical properties, are poised to revolutionize next-generation optoelectronic technologies. Precise and active manipulation of the



Planar optical waveguide for refractive index determining

In this paper, we develop an optical waveguide based on metal-insulator-metal as a refractive index sensor with dual-band feature and a high figure of merit (FOM) and sensitivity.

Construction of the refractive index profiles for few-mode planar

The modeling and fabrication of integrated optical components with well-defined characteristics require an accurate knowledge of refractive index profiles (RIP) of the waveguides.

2.7 Waveguides and Integrated Optics



2.7 Waveguides and Integrated Optics As with electronics, miniaturization and integration of optics is desired to reduce cost while increasing functionality and reliability. One essential element is the

Surface relief grating near-eye display waveguide design

In this work, diffractive waveguide design using the relative direction cosine space, which extends the direction cosine space to a relative space

A general method for analyzing arbitrary planar negative-refractive

In this paper, a general method for analyzing arbitrary planar negative-refractive-index (NRI) multilayer slab optical waveguide structures was proposed. Some degenerated examples were



Optical waveguide refractive index profiles determined from

The WKB approximation is used to derive simple equations that predict the shape of the index profile from measured mode indices of a planar optical waveguide. This nondestructive test is a useful tool

Determination of refractive index profiles of planar buried waveguides

Planar optical waveguide structures produced in glass substrate can have a variously shaped distribution of the refractive index. The ion-exchange technique applied for the production of



PLANAR OPTICAL WAVEGUIDES

Of the various guiding principles for electromagnetic waves the phenomena of total reflection proves particularly effective at optical frequencies and most of the optical waveguides work on this principle.

Refractive index profile measurement of planar optical waveguides

The near-field intensity profile of optical waveguides is recorded by CCD to get the primary refractive index profile. The primary phase difference distribution is calculated based on the

Refractive indices and thicknesses of optical waveguides fabricated by

Planar optical waveguides formed by Si ion implantation into PECVD SiO₂ have been



characterized by the dark mode spectroscopy method at a wavelength of 0.6328 μm .
The measured

Microsoft Word

The waveguide perturbation theory can be used to calculate the change in the propagation vector in the presence of material loss (or gain). Suppose the core of the waveguide becomes lossy and the

Planar Lightguide Circuits: An Emerging Market for Refractive Index

Refractive Index Profiling of Planar Waveguides The refractive index profile (RIP) of the waveguide core plays an important role in characterizing the properties of the planar waveguide.



SiON high

sent an overview of an approach used to produce an optical single-mode waveguide. Through its strong mode confinement, the approach makes it possible to integrate optical filter functions.

The effective refractive-index profile of the planar waveguide defined

The effective refractive-index profile of the planar waveguide defined by Eq. (9) and the corresponding field distribution of the quasi-mode for a bend radius of $r = 0.5$ cm.

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1.1. WAVEGUIDE STRUCTURE Optical fibers and optical waveguides consist of a core, in which light is confined, and a cladding, or substrate surrounding the core, as shown in Fig. 1.1. The refractive

Effective Refractive Index - modal index, waveguide,

The effective refractive index is a number quantifying the phase delay per unit length in a waveguide, relative to the phase delay in vacuum.

OPTICAL DEVICES, SYSTEMS, AND METHODS FOR WAVEGUIDE

Abstract: Apparatuses, systems, and methods are provided for waveguide alignment. An example optical module includes a substrate, one or more primary waveguides supported by the substrate,



Introduction to Optical Waveguides

Abstract This chapter presents an introduction to the optical waveguides including planar and nonplanar structures. Additionally, an analysis of planar waveguides based on ray-optical approach and

Optical waveguide metrology and index of refraction

Accurate refractive index measurement is necessary for the development, the optimization, and the quality monitoring of produced photonic devices. As a non

OPTICAL WAVEGUIDING



In the experiments detailed below, we are able to investigate the modal properties of step and graded index waveguides formed by thin film deposition and ion exchange processes respectively, and to

Waveguide (optics)

A dielectric slab waveguide consists of three dielectric layers with different refractive indices. Perhaps the simplest optical waveguide is the dielectric slab waveguide,

Refractive indices of the Al₂O₃ optical films varied with

Refractive indices of the Al₂O₃ optical films varied with wavelength (a) at different deposition rate. (b) at different post-annealed temperature.



The effective refractive-index profile of the planar waveguide defined

In this paper, we introduce a new method to realize the separation of waveguide modes in photonic crystal waveguides by controlling the position and polarization of the dipole sources.

Planar optical waveguide for refractive index determining with high

In this paper, we develop an optical waveguide based on metal-insulator-metal as a refractive index sensor with dual-band feature and a high figure of merit (FOM) and sensitivity. In this

Planar Waveguides - Buying Guide & Supplier List , RP Photonics



Planar waveguides are available in different material systems and fabrication technologies: Crystalline vs. glass: Crystalline waveguides (e.g., YAG, LiNbO₃) are often used for lasers and nonlinear

Novel Planar Waveguide-Coupled D-Shaped Optical Fiber Sensor to

Novel Planar Waveguide-Coupled D-Shaped Optical Fiber Sensor to Generate Fano Resonance for Enhanced Refractive Index Sensing Applications - Maurya, Rajiv, Mishra, Ankit, Yadav, Chandan

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