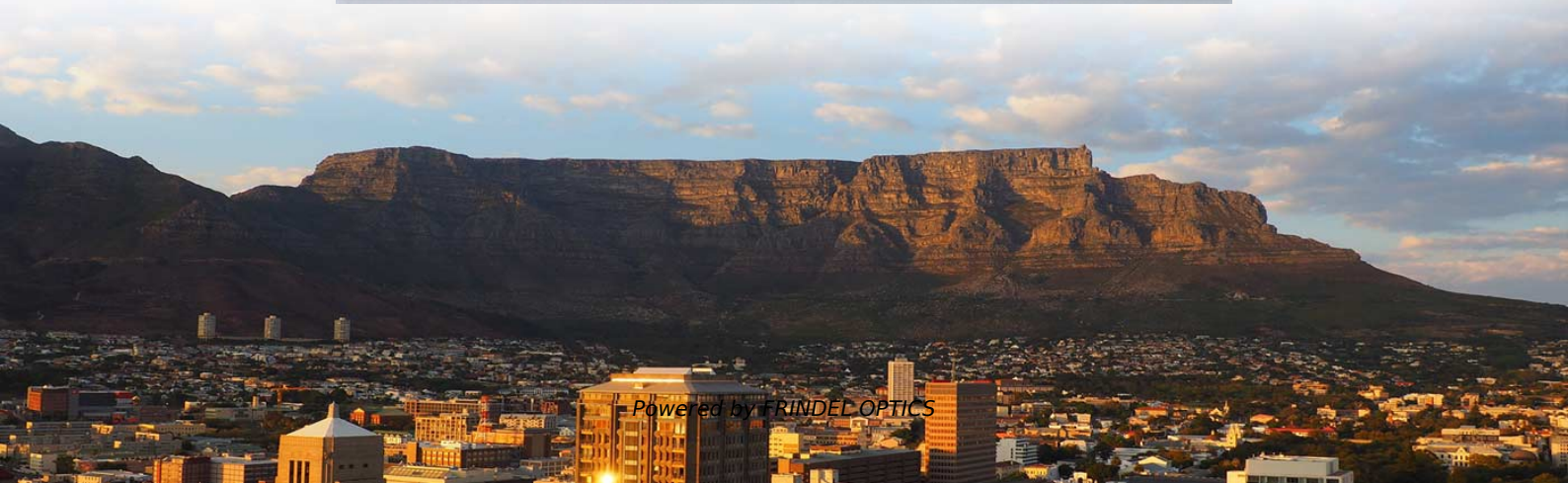


Comparison of Low Loss and Lifetime Performance of Planar Optical Waveguides





Comparison of Low Loss and Lifetime Performance of Planar Optical



Planar optical waveguides for sensing applications

Planar optical waveguides formed by ion-exchange in glass are sensitive to changes in parameters such as: refractive index, absorption, and light-emitting processes such as

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Ultra-low-loss high-aspect-ratio Si N waveguides

Introduction Compared to bulk and fiber optic systems, photonic integrated circuits (PICs) can offer improved performance and stability in a smaller footprint and at a lower cost. Many targeted PIC

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Review on Optical Waveguides

All optical information processing can overcome optoelectronic conversions that limit both the speed and bandwidth and are also power

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COMPARISON AND OPTIMIZATION OF DISPERSION, AND

This paper proposes an investigation in the terahertz (THz) frequency range of the dispersion and an individual quantitative treatment of the losses of the most classical microwave waveguides (coplanar,



Low-cost scalable fabrication of functionalized optical waveguide

Thermal imprinting, a technique proposed more than four decades ago, is known for its cost-efficiency and high throughput in microstructuring capability. The process involves the

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Design of silicon waveguides for Kerr nonlinear optical performance

Abstract--The Kerr nonlinear optical performance of silicon nanowire waveguides integrated with 2D layered graphene oxide (GO) films is theoretically studied and optimized based on experimentally

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Low loss, high contrast planar optical waveguides based on low-cost

is presented, based on low cost CMOS-compatible LPCVD processing of alternating Si₃N₄ and SiO₂ layers. Th. technology allows for medium and high index-contrast waveguides that exhibit low channel

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High Extinction, Broadband, and Low Loss Planar Waveguide Polarizers

Abstract: A technique for making high extinction and broadband polarizers in a low loss planar waveguide platform is presented and characterized. Extinction greater than 78 dB is obtained with

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Planar Waveguides

Planar Waveguides Optical signal transmission via fiberglass waveguides revolutionized telecommunication over long distances. The wavelength regimes around 1.3 μm and 1.55 μm are

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SiO₂ Nanoparticles-Acrylate Formulations for Core and

A combination of acrylate formulations and SiO₂ nanoparticles is investigated with the aim to improve the optical properties of low-refractive index

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Introduction to the Special Issue on Ultralow Loss Planar Waveguides

Ultra Low Loss Planar Waveguides and Their Applications. Ultra-low loss optical planar waveguide technology is a critical research area driven by the need to improve energy efficiency and advance

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Theoretical comparison of scattering losses in planar waveguides with

Scattering losses of guided waves that propagate in a planar waveguide are considered. Sources of scattering include random roughness at the cladding-core boundaries and random inhomogeneity of

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Low-loss planar optical waveguides fabricated from polycarbonate.

In this article, we proposed a novel polycarbonate that has high optical transparency at the communication wavelengths. The measured results show that this polycarbonate material exhibits

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Low-loss optical waveguides made with a high-loss material

Based on subwavelength gratings, here, we show that it is possible to create broadband, multimode waveguides with very low propagation losses despite using a strongly absorbing material.

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Planar Lightwave Circuits (PLCs)

Very low-loss silica waveguides with well-defined core geometry enable us to design complicated circuits by utilizing various numerical simulation techniques. Recently, synthesis theory of the lattice

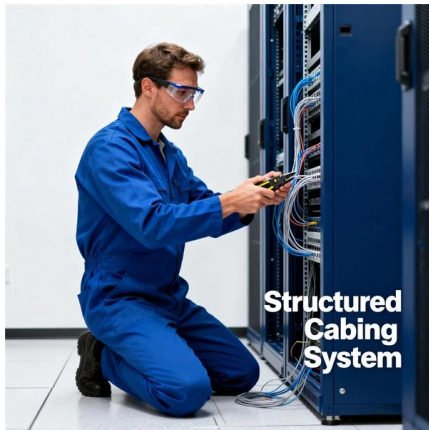
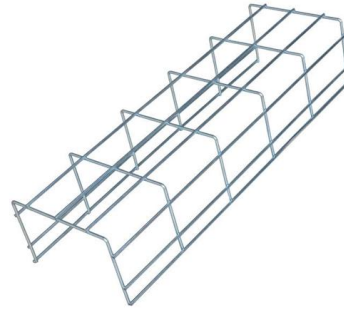
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Low-loss planar optical waveguides based on plasma deposited

One of the insights of the ATR FTIR investigations presented in section two is that a low SiH₄/CH₄ ratio is preferable, because Si-H bonds absorbing in the optical C band are less pronounced in this case.

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(PDF) Low Optical Loss Planar Waveguides Prepared in

Low Optical Loss Planar Waveguides Prepared in an Organic-Inorganic Hybrid System November 2000 Applied Physics Letters 77

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COMPARISON AND OPTIMIZATION OF DISPERSION, AND LOSSES OF PLANAR

Thus, direct comparisons of dispersion and losses between different planar waveguides in THz frequency are not obvious, because they depend on the substrate nature, [Z b.c] , or the

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(PDF) Performance of planar-waveguide external cavity

A 1542-nm planar-waveguide external cavity laser (PW-ECL) is shown to have a sufficiently low level of noise to be suitable for precision measurement

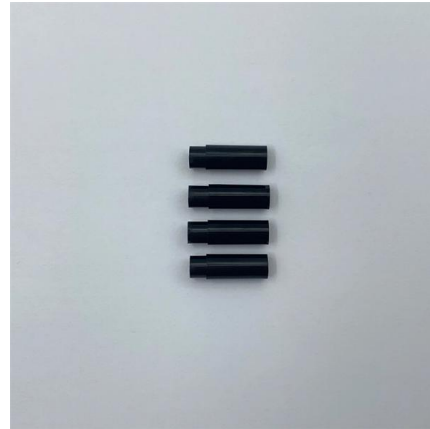
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Waveguide Loss

To quantitatively describe the optical loss, the exponential attenuation coefficient is generally used. In this case, the intensity (power per unit length) decays along the waveguide.

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Ultra-low-loss Single-mode Si₃N₄ Waveguides with 0.7 dB/m

Record low single-mode propagation loss in these waveguides was measured with OFDR to be 0.70 ± 0.02 dB/m, while the lowest fundamental mode loss in a multi-mode structure was 0.43 ± 0.04 dB/m.

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Low-Loss Planar Optical Waveguides Fabricated From Polycarbonate

Low-loss slab waveguides with air as overcladding based on a high glass transition temperature (T_g) polycarbonate were fabricated through spin-coating. Optical absorption and thermo

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A comprehensive review on optics and optical materials for planar

A systematic comparison of optics and optical material design parameters and the merit of the different PLC systems have been explored within this review to serve as a ready reference for its

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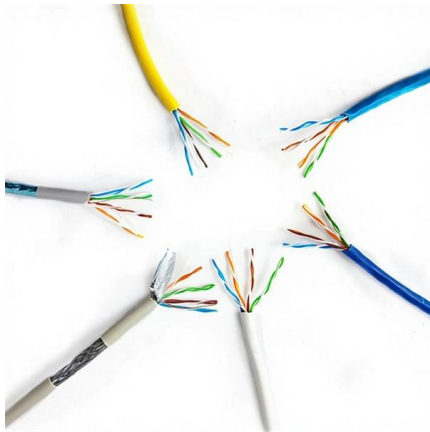




Low-loss optical waveguides made with a high-loss material

Integrated waveguides that consist of pairs of integrated high-index-contrast gratings. To showcase this concept, we demonstrate guiding of visible light in the wavelength range of 550-650

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Integrated planar optical waveguide interferometer biosensors: A

Integrated planar optical waveguide interferometer biosensors are advantageous combinations of evanescent field sensing and optical phase difference measurement methods. By

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Design and Analysis of a Low-Loss 1×2 POF Splitter Based on

To address the demand for low-cost, low-loss, and environmentally friendly optical power dividers in short-range visible light communication (VLC) systems, a low-loss 1×2 Y-branch optical

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Polymer-Based Optical Waveguides , Springer Nature Link

Polymer optical waveguides would play a key role in broadband communications, such as optical networking, metropolitan access communications, and computing systems, due mainly to

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A Comparison of Approaches for Ultra-Low-Loss Waveguides

From group index and critical bend radius measurements, we show that the BPSG and bonded thermal oxide approaches are low stress. From spectral measurements of the propagation loss for each

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<https://www.frindel.es>