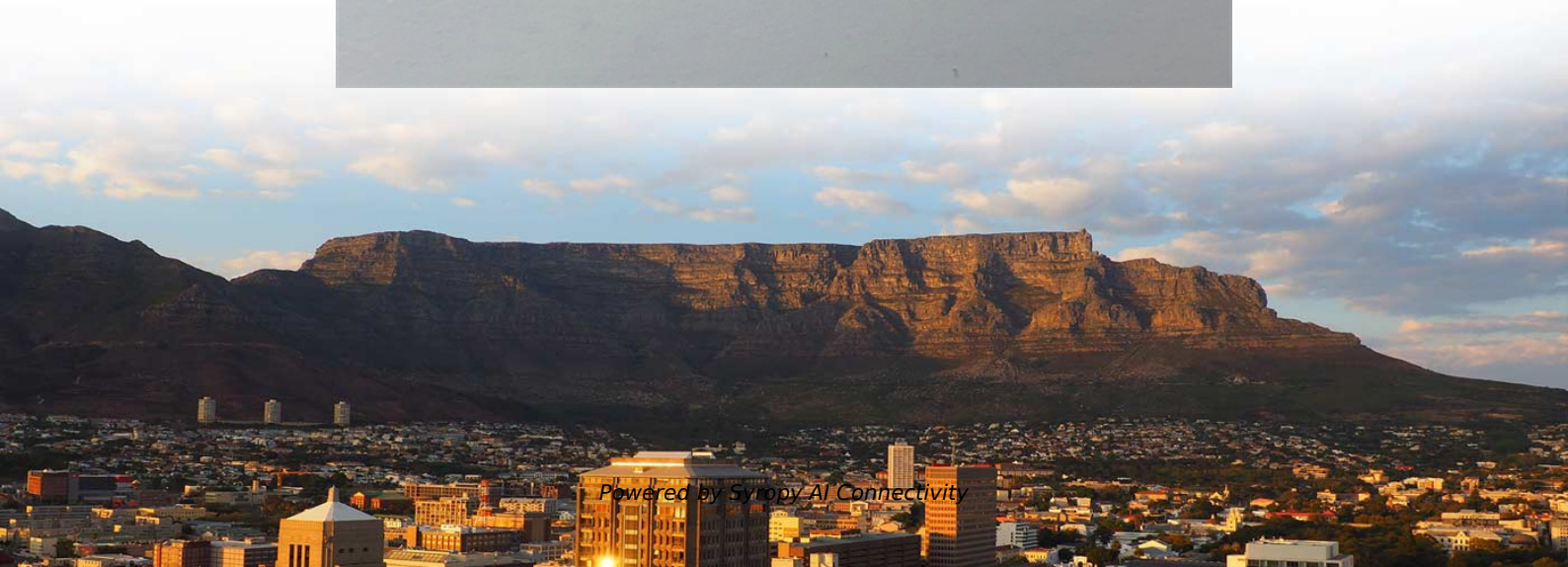
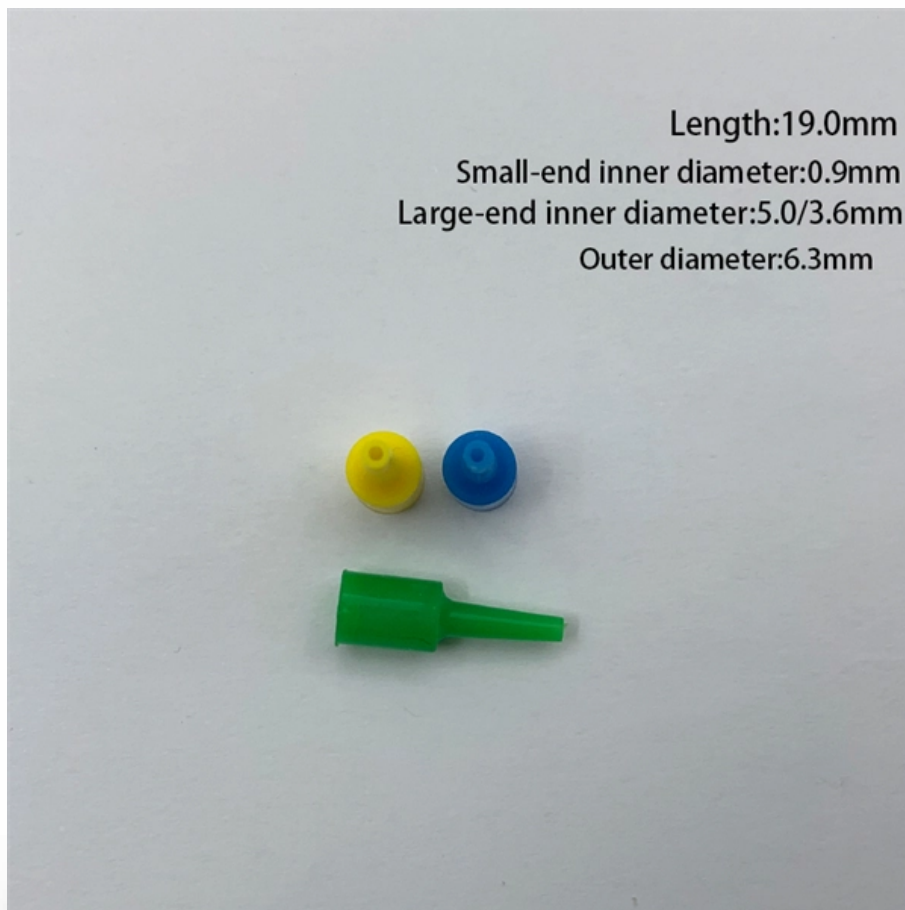


Comparison of Low Loss and Performance of Planar Optical Waveguides





Overview

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.



Comparison of Low Loss and Performance of Planar Optical Wavegu

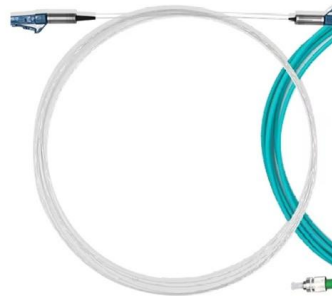


Classification-regression backpropagation neural network for efficient

With the rising demand for bandwidth and reliable data transmission, low-loss, wide-bandwidth, and fabrication-tolerant planar lightwave circuit (PLC) devices have emerged as a critical component for

FBT vs PLC Splitter: Performance & Cost Comparison for PON Networks

Professional comparison of FBT and PLC optical splitters for PON networks. Analyze insertion loss, uniformity, cost, and application scenarios to choose the right splitter for GPON, XGS

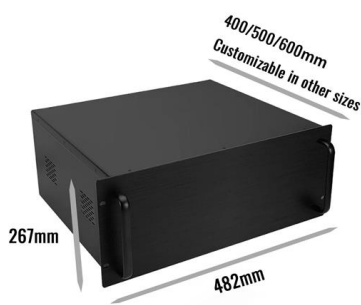


Achieving Low Propagation Loss and Small-Index

This work presents the first passivated, open-pore structure, large-mode field diameter PS waveguide with low propagation loss and low alignment

Multiple fano resonances in all-dielectric metasurface for

Systematic investigation on the fabricated waveguide amplifiers reveals remarkable optical gain around the peak wavelength of 1532 nm as well as the low fiber-coupling loss of -1.2



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

Planar waveguides with low loss that are fully compatible with existing photonic circuit fabrication techniques are missing.

Ultra-low-loss silicon nitride photonic integrated circuits for highly

Achieving extremely low optical loss often requires a corresponding increase in the device footprint. This work explores a regime in integrated photonics in which optical loss at parity with the world-record



The Crucial Role of Waveguides in Microwave Communication

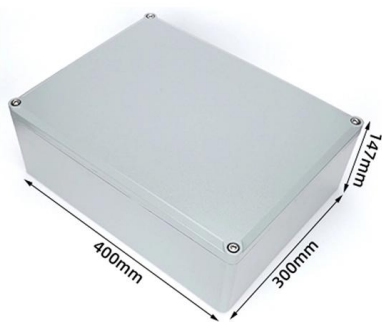
In contrast, planar waveguides are often used in low-power applications, such as wireless local area networks, due to their low cost and compact size. By selecting the appropriate type of





k-Wave: A MATLAB toolbox for the time domain simulation of acoustic

Features k-Wave is an open source acoustics toolbox for MATLAB and C++ developed by Bradley Treeby and Ben Cox (University College London) and Jiri Jaros (Brno University of Technology). The



Low loss Silicon Nitride Waveguides for Photonic

Loss as low as 0.1 dB cm⁻¹ has been demonstrated by wafer bond-ing of thermal oxide in planar waveguides. This loss is estimated as being close to the fundamental loss of Si₃N₄ waveguides.

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.



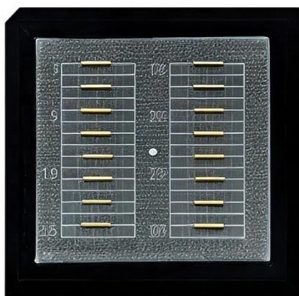
Recent advances in high-performance and integrated terahertz

Short-carrier-lifetime photoconductive materials and record-performing PCAs Since 2021, high-performance THz photoconductive antennas have evolved along two closely related directions:



Performance tradeoffs in low-loss Si₃N₄ waveguides for

We experimentally analyze tradeoffs in terms of waveguide losses, dispersion engineering and single-mode behaviour for different waveguide geometries.



The integration of microelectronic and photonic circuits on a single

The combining microelectronic devices and associated technologies onto a single silicon chip poses a substantial challenge. However, in recent years, the area of silicon photonics has

Comparison of two types of silicon nitride grating couplers for 1550nm

Photonic integrated circuits (PIC) enable the miniaturization and integration of optical components on a single chip. Essential for testing of PICs, especially when sources and detectors are not integrated



Low-Loss Elliptical Response Filter at 100 GHz , Request PDF

COMPARISON OF RECENTLY PUBLISHED W -BAND WAVEGUIDE BANDPASS FILTERS demonstrate a comparable performance (in terms of low insertion loss and good return



A Comparison of Approaches for Ultra-Low-Loss

We compare ultra-low-loss silica waveguides with PECVD SiO₂, borophosphosilicate glass (BPSG), and wafer-bonded thermal oxide upper



High-bandwidth CMOS-level integrated thin-film lithium niobate electro

High-performance EOMs based on thin-film lithium niobate (TFLN) have been extensively studied and optimized for the conventional telecommunication band around 1550 nm, exhibiting

(a) Scheme of the waveguide bend with GRIN PCs composed of a

Reducing the bending radius of silica waveguides with low bend loss is vital in miniaturizing silica planar light-wave circuits. The Eaton lens is a gradient index lens that can bend parallel



Huijue engineering specific Fiber optic

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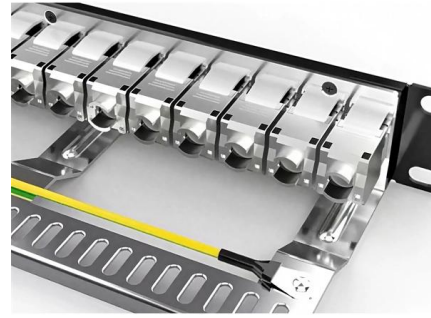
Miniaturization of 2 × 4 90-Degree Hybrid Optical Couplers

Abstract--In this work we study the limits of miniaturization of a 90-degree hybrid coupler working in the L, C and S bands, with respect to a number of performance parameters aimed at its application for



A Comparison of Approaches for Ultra-Low-Loss Waveguides

Abstract: We compare ultra-low-loss silica waveguides with PECVD SiO₂, borophosphosilicate glass (BPSG), and wafer-bonded thermal oxide upper claddings. We demonstrate fiber-like (0.045 dB/m)



Waveguide shape and waveguide core size optimization of Y-branch

The obtained simulation results of all designed splitters with different S-Bend shape waveguides together with the different waveguide core sizes are discussed and compared with each

Juan Luis Albadalejo Lijarcio, Communication, Antennas and Optical

Second, it addresses MMIC integration by proposing and validating compact, low-loss transitions between planar chips and gap waveguides, progressing from early demonstrators to surface



Waveguide (radio frequency)

In radio-frequency engineering and communications engineering, a waveguide is a hollow metal pipe used to carry radio waves. This type of waveguide is used



Review on Optical Waveguides

The building block of an optical device/circuit is the optical waveguide, which enables low-loss light propagation and is thereby used to connect components and devices.

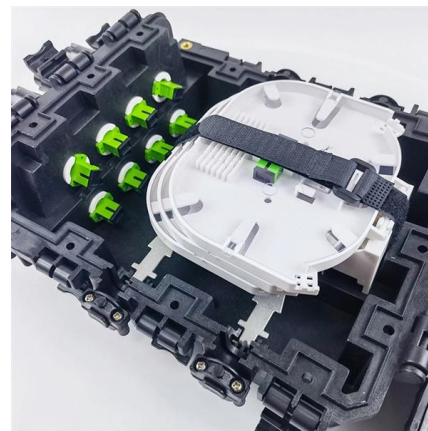


Photonic Crystal Slow-Light Waveguide Optical Buffer Memory Market

Photonic crystal slow-light waveguide optical buffer memory devices are advanced integrated photonic components designed to temporarily store optical signals by significantly reducing the group velocity

(PDF) Design and fabrication of integrated optical

Abstract Taper optical waveguide and microcavity coupling system based on the taper-fiber and planar microring cavity coupling theory was



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



Program for Monday, March 23rd

Andrey Khudchenko (Astro Space Center of Lebedev Physical Institute RAS, Moscow, Russia, Russia)



A Comparison of Approaches for Ultra-Low-Loss

We compare ultra-low-loss silica waveguides with PECVD SiO₂, borophosphosilicate glass (BPSG), and wafer-bonded thermal oxide upper

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