FRINDEL OPTICS

Based on grating waveguide arrays

Overview

Arrayed waveguide gratings (AWG) are commonly used as optical (de)multiplexers in wavelength division multiplexed (WDM) systems. It is usually built as part of a planar lightwave circuit (photonic integrated circuit), where the light coming from an input fiber first enters a multimode. Component-level simulations using varFDTD are carried out for more realistic results. It is a very powerful integrated light-dispersion technology with significant exibility for tailoring its performance to the individual.

Based on grating waveguide arrays

Silicon-Based Arrayed waveguide gratings for WDM and

We compare the performance of silicon-based arrayed waveguide gratings (AWGs) with star couplers of Rowland and Confocal configurations, respectively, for both TE and TM polarizations.

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Filling the frequency gaps of a planar optical spectrum analyzer using

A vernier configuration in a 2.5-GHz-spaced 128-channel arrayed-waveguide grating (AWG) for use as a secondary demultiplexer in a planar optical spectrum analyzer was incorporated with a tandem

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Arrayed waveguide grating (AWG)

Calculate the response of a 1x8 arrayed waveguide grating (AWG) working as a demultiplexer. An INTERCONNECT compact model is initially used for quick

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Arrayed waveguide grating

Arrayed waveguide gratings (AWG) are commonly used as optical (de)multiplexers in wavelength division multiplexed (WDM) systems. These devices are capable of multiplexing many wavelengths

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2D Polarization Splitting Grating Couplers - Ansys Optics

The parameterization of the PSGC shown below is based on ref. and , while the layer thickness and general geometry parameters (e.g., waveguide width)

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Submicron silicon waveguide Mach-Zehnder interferometer using

The phase-shifter consists of freestanding submicron-wide silicon waveguide with two waveguide couplers and an ultra-small silicon comb-drive actuator. The freestanding waveguide is moved by the

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High-Gain and Low Loss Dual-Polarized Antenna Array with Reduced

Request PDF , High-Gain and Low Loss Dual-Polarized Antenna Array with Reduced Sidelobe Level Based on Gap Waveguide at 28GHz , In this letter, a 16×16-element dual-polarized

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100-Channel Arrayed Waveguide Grating Based on Thin Film Lithium

In this work, we demonstrated a low-loss AWG with 100 output channels and a channel spacing of 50 pm based on a z-cut thin-film lithium niobate platform. The length increment of adjacent arrayed

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(PDF) High-resolution arrayed waveguide grating-assisted passive

Abstract and Figures Integrated optical phased arrays (OPAs) based on arrayed waveguide gratings (AWGs) enable two-dimensional (2D) beam steering through wavelength tuning.

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Custom Arrayed Waveguide Gratings with Improved Performance

In this review, an overview of the available methods for improving the bandwidth, spectral resolution, and transmission function shape of AWGs is provided. The working principle as well as the advantages

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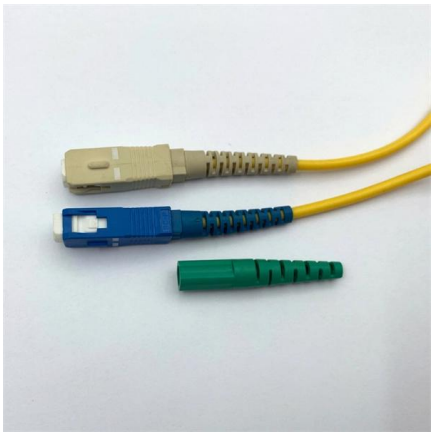

A fully reconfigurable waveguide Bragg grating for

To date, most fiber-based or waveguide-based gratings are designed with a specific index modulation profile for a user-defined application.

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Highly directional waveguide grating antenna for optical phased array

In this paper, we propose the highly directional waveguide grating antenna by patterning the top cladding above the waveguide. Spatial separation of the grating structure from the waveguide

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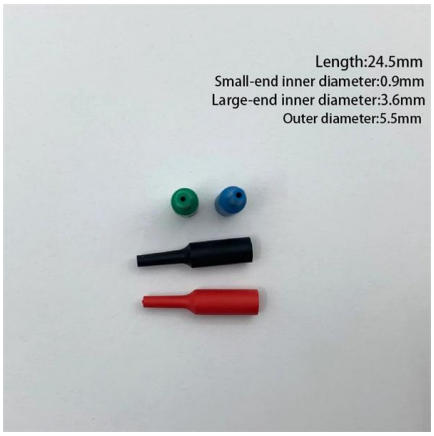

Review paper for developments in Array Waveguide Gratings

The proposed work reviews the evolution of Arrayed Waveguide Gratings (AWG) from concentric phased arrays to present day design. The article covers different designs and materials,

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Redundancy-free integrated optical convolver for optical neural

Here, we present a redundancy-free on-chip optical convolution scheme based on arrayed waveguide grating (AWG). It entails encoding input information into intensities at various wavelengths and

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Compact Silicon-Arrayed Waveguide Gratings with Low

Array waveguide gratings (AWGs) have been widely used in multi-purpose and multi-functional integrated photonic devices for Microwave photonics (MWP) systems.

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Enhanced Spontaneous Light Emission of

ZnO Nanowire-Based Gratings

We first demonstrated that the bands of the grating act like finite-length waveguides, exhibiting electromagnetic resonances. Both theoretical and experimental studies have shown that the grating

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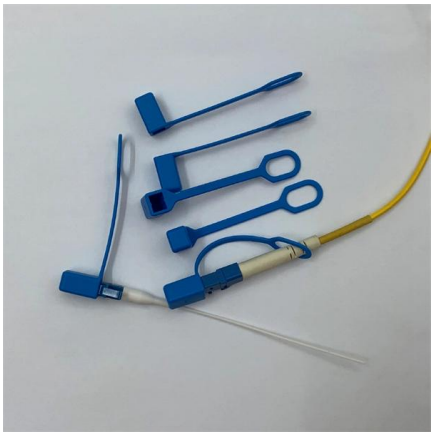

Subwavelength grating devices in silicon photonics

Subwavelength grating (SWG) waveguides in silicon-on-insulator are emerging as an enabling technology for implementing compact, high-performance photonic integrated devices and

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A Long-Period Grating Formed by Residual Stress on Thin-Film

ABSTRACT We propose and demonstrate a long-period waveguide grating with tunable resonant wavelength and contrast based on hybrid polymer and thin-film lithium niobate platform.

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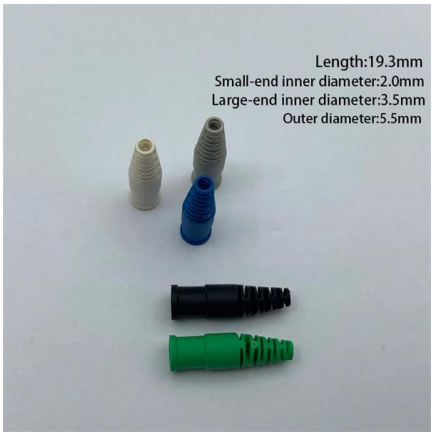

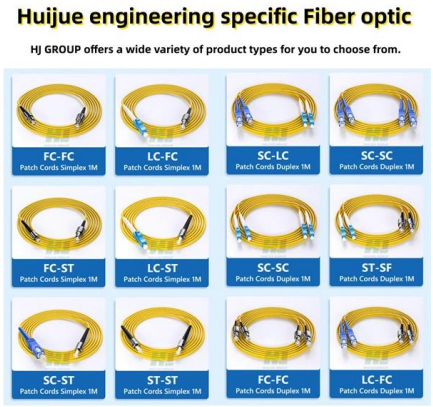

waveguide grating

input waveguides. The output elds from the ber array are coupled to the TE-polarized modes of the two silicon waveguides via SiOx-based spo -size converters. A variable attenuator is used to compensate

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Optical Ring Resonators and Arrayed Waveguide Grating

This chapter discusses the basic operating principles of waveguide ring resonators and arrayed waveguide gratings (AWG) which have important applications as wavelength filtersWavelength

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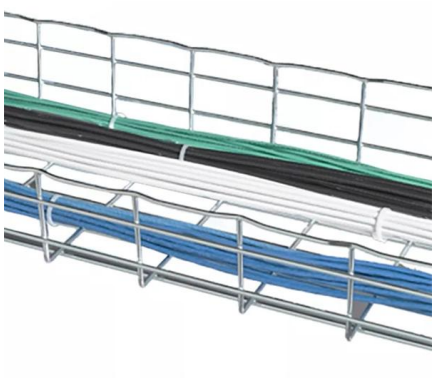

4 Arrayed Waveguide Gratings

Another highly effective method to reduce the insertion loss of an AWG, which is based on the same idea of tapering, has been patented by Lucent: A segmented transition region is inserted between

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Arrayed Waveguide Grating

Introduction Arrayed Waveguide Gratings (AWG) are optical Due to their ability to multiplex large numbers of wavelengths into a planar devices that are usually used as multiplexers/ single optical

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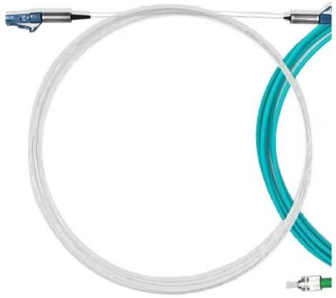

Quasi-bound state in the continuum enabled high performance optical

Download Citation , On May 1, 2026, Te Li and others published Quasi-bound state in the continuum enabled high performance optical filter based on high-contrast grating and distributed Bragg

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Real time 10Gb-ethernet transmission over 2D indoor passive beam

Summary We demonstrate the real-time 10Gb Ethernet data delivery to multiple users simultaneously over an indoor optical wireless system based on 2D passive optical beam-steering using high-port

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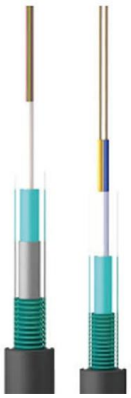

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Waveguide-Based Four-Channel Crosstalk-Free Metahologram

A diffraction-order-multiplexed, four-channel metahologram integrates a flat glass waveguide and an array of titanium dioxide nanopillars to realize crosstalk-free holographic

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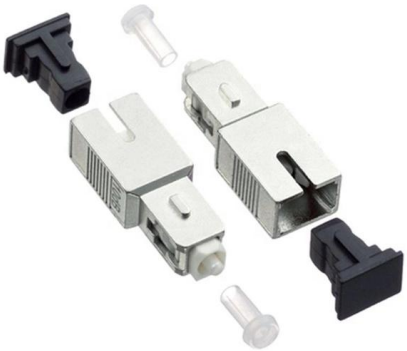

Arrayed Waveguide Gratings - AWG

Arrayed waveguide gratings are optical filter or multiplexer devices based on arrays of waveguides.

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Anisotropy-free arrayed waveguide gratings on X-cut

This leads to the first implementation of arrayed waveguide gratings on X-cut thin-film lithium niobate with various configurations and high-performances.

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Miniaturized NIR spectrometer based on novel MOEMS scanning tilted grating

The application of a resonantly-driven scanning grating mirror (SGM) as a dispersive element in a crossed Czerny-Turner configuration enables the design of a miniaturized spectrometer

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