

Customization Process for Low-Loss Optical Directional Couplers for Rail Transit





Customization Process for Low-Loss Optical Directional Couplers for



Designing Smarter Directional Couplers with Parametric

Learn how to leverage IPKISS to optimize the design of directional couplers and implement advanced parametric modeling. Introduction A directional coupler

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Design and modeling of a fabrication tolerant and broadband directional

We want our directional coupler to be both fabrication tolerant, and broadband, i.e., it has a constant coupling strength over a wide wavelength range. For that, we make the directional coupler



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Particle Swarm Optimized Optical Directional Couplers with Ultrasmall

Abstract Optical directional couplers are the basic components of many optical information devices. The optical directional couplers based on silicon-on-insulator are very attractive due to the

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Design of All-Optical Directional Coupler Using

The proposed directional coupler features good energy confinement, ultracompact and low propagation loss, which has potential application in dense



Fiber Directional Coupler

A fiber directional coupler is defined as an optical component that splits and combines optical signals by utilizing the interference of evanescent waves from two closely positioned fibers, enabling power

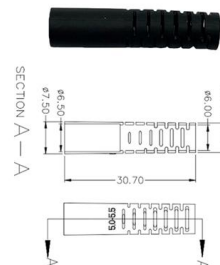
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Designing Smarter Directional Couplers with Parametric

In this tutorial, we'll uncover the benefits of creating a parametric model for directional couplers, leveraging the advanced layout and model-building

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Design of All-Optical Directional Coupler Using

The proposed 10-dB directional coupler and 3-dB directional coupler feature good energy confinement, ultra-compact, and low propagation loss, which

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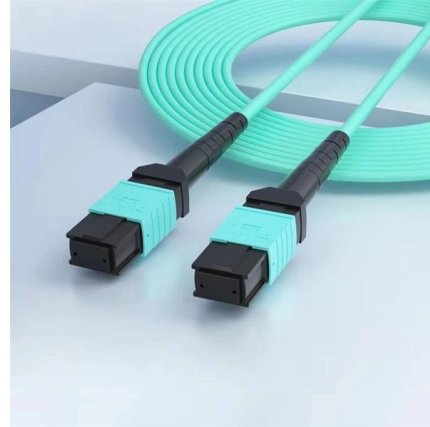




Design and simulation of ultra-low loss triple tapered asymmetric

We have designed and reported a broadband and low loss linearly tapered directional coupler as a substitute to replace bulky beam splitter that are deployed currently in OCT systems.

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Low-Loss and Broadband Nonvolatile Phase-Change Directional

Here, by exploiting an asymmetric directional coupler design, we demonstrate nonvolatile PCM-clad silicon photonic 1×2 and 2×2 switches with a low insertion loss of ~ 1 dB and a compact

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Design and fabrication of a photonic crystal directional coupler for

We have designed and fabricated a photonic crystal directional coupler for use as an optical switch. The design is for the SOI material system, and includes a silica overlayer and infilling of the etched

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Low-Loss Silicon Directional Coupler with Arbitrary Coupling Ratios for

Abstract--We demonstrate a design for a high-performance 2×2 splitter meeting the essential requirements of broadband coupling, support for arbitrary coupling ratio, ultra low-loss, high

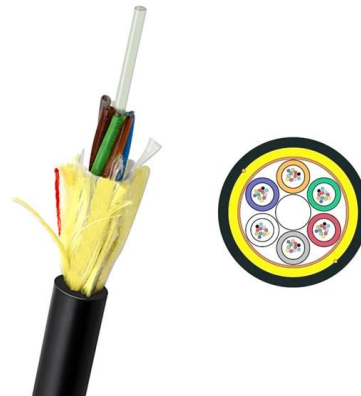
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Fabrication Tolerant Directional Coupler

We present the design of a fabrication-tolerant directional coupler in a passive photonic integrated chip fabricated on Imec's iSiPP50G silicon photonics platform. Based on Finite Difference Eigenmode,

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Chapter 5 The Optical Directional Coupler

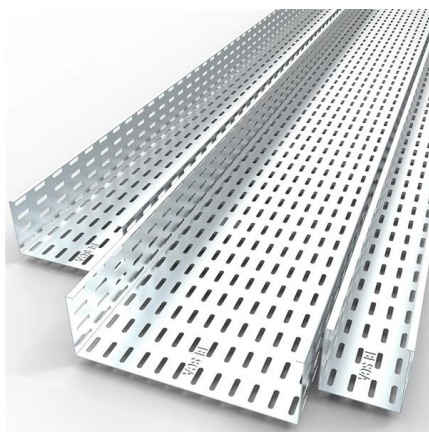
Abstract This chapter presents a detailed discussion of optical directional couplers, which is one of the important components of integrated quantum photonic circuits. Coupled mode theory is used to

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Low-Loss Directional Coupler for the C, L and U Bands Based on

Compact footprint and low losses are also essential features for circuits comprising multiple coupling stages. In this work, we propose a compact directional coupler with arbitrary coupling ratio, based on

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Tunable Directional Couplers for High Contrast Optical Meshes

We describe the operation, design, and fabrication of MEMS-tunable silicon-photonics directional couplers, with potential for smaller footprint, less sensitivity to fabrication errors, and

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Analysis and optimisation of bidirectional optical couplers in PCBs

As manufacturing technique we used an ion exchange process, as this has proven to be highly scalable and can be easily integrated into current PCB manufacturing processes. We developed an optical

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Novel optical directional coupler based on surface plasmon polaritons

In this paper, a novel optical directional coupler based on SPPs is proposed, and the finite difference time domain (FDTD) method is used to simulate and analyze its new optical properties.

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Flame-fused Optical Fiber Directional Couplers:

Abstract and Figures A microprocessor controlled system for fabrication of 2 x 2 flame-fused biconical single-mode fiber directional couplers

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Study of All-Optical Directional Coupler Based on Holes in Slab

In this paper, an investigation on all-optical direction couplers has been demonstrated. A two-dimensional, holes in slab, photonic crystal structure has been chosen for designing the

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Robust Characterization of Integrated Photonics Directional Couplers

To address these challenges, we propose a novel direct measurement technique that offers greater robustness to variations in optical interfaces, while by-passing extinction ratio

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A fixed phase tunable directional coupler based on coupling tuning

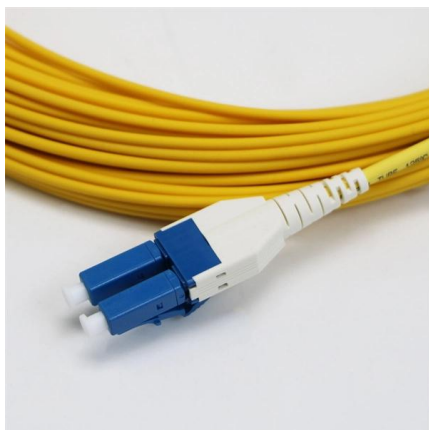
In this study, we introduce a design of a TDC based on coupling constant tuning in the thin film Lithium Niobate platform and present an optimized design. Our optimized TDC design

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Design and modeling of a fabrication tolerant and broadband

Based on the finite difference eigenmode and finite-difference time-domain simulation results, we analyze the effects of fabrication errors on the coupling of these directional couplers.

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Optical Directional Couplers and their Applications

Optical directional couplers (ODCs) consist of two or more closely-located optical waveguides, whose modes can couple evanescently and thereby exchange their powers, realizing,

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Multi-Octave All-Dielectric Directional Coupler Using

The realization of this directional coupler necessitated the development of an integrated quasi-optical substrateless silicon platform that is

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Robust Geometrical Dimensions in Uniform Directional Couplers

In this work, we identify and analyze stationary geometrical dimensions of directional couplers that enhance tolerance to such variations. Through theoretical predictions and experimental

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Design of All-Optical Directional Coupler Using Plasmonic

The proposed 10-dB directional coupler and 3-dB directional coupler feature good energy confinement, ultra-compact, and low propagation loss, which has potential applications in photonic

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Optical Directional Couplers and their Applications

Qualitative Description of the Operation of Directional Couplers Marcatili's Improved Coupled-Mode Equations Directional Couplers with Uniform Cross Section and Constant Spacing

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On-chip optical mode exchange using tapered directional coupler

We present an on-chip optical mode exchange between two multiplexed modes by using tapered directional couplers on silicon-on-insulator platform. The device consisting of mode

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Novel hybrid plasmonic-based directional coupler on InP substrate

In practical applications, the optical directional coupler is an essential component of integrated photonic circuits. The directional couplers in conventional dielectric waveguide are from a

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<https://www.frindel.es>