

Lithium Niobate Array Waveguide Grating





Overview

We design and fabricate an eight-channel thin-film lithium niobate (TFLN) arrayed-waveguide grating (AWG) and demonstrate the electro-optical tunability of the device. The transmission of the fabricated TFLN AWG near the central wavelength of 1550 nm is. Arrayed waveguide grating is a versatile and scalable integrated light dispersion device, which has been widely adopted in various applications, including, optical communications and optical sensing.



Lithium Niobate Array Waveguide Grating



Recent progress towards large-scale integrated photonic quantum

Typically, periodically poled lithium niobate (PPLN) waveguides are very suitable to produce a squeezed state with high bandwidth and high squeezing (5 dB), broadband (GHz-level)

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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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On-Chip Arrayed Waveguide Grating Fabricated on Thin-Film Lithium

Herein, an on-chip 8-channel thin-film lithium niobate (TFLN) arrayed waveguide grating (AWG) is designed and the device is fabricated using photolithography-assisted chemo-mechanical etching

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Optimization design of a polarization-independent grating coupler on

We have designed a novel, to the best of our knowledge, polarization-independent grating coupler with non-uniform periods, assisted by plasmonic modes on a lithium-niobate-on



Thin-Film Lithium-Niobate Photonic Devices with Gratings

Abstract: This paper highlights recent works on waveguide-grating photonic devices on thin-film lithium-niobate for coarse/dense wavelength-division-multiplexing (WDM) and wavelength

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On-Chip Arrayed Waveguide Grating Fabricated on

Herein, an on-chip 8-channel thin-film lithium niobate (TFLN) arrayed waveguide grating (AWG) is designed and the device is fabricated using

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Fabrication-tolerant directional couplers on thin-film

Download Citation , Fabrication-tolerant directional couplers on thin-film lithium niobate , Directional couplers (DCs) are essential components in

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

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. The grating is formed in the

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Multichannel Lithium-Niobate-On-Insulator Photonic Filter for Dense

A high-performance optical filter is proposed and realized with multimode waveguide grating (MWG) and two-mode multiplexers on the x-cut lithium-niobate-on-insulator (LNOI) platform

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Storage of telecom-band time-bin qubits in thin-film lithium niobate

The coupling efficiency of the grating coupler is about 12.5% at 1531.6 nm, and the corresponding coupling efficiency curve is shown in Supplemental Fig. S2. Figure 1 (e) shows a finite

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Recent development in integrated Lithium niobate photonics

Zhou Y, Zhu Y, Fang Z, et al. Monolithically integrated active passive waveguide array fabricated on thin film lithium niobate using a single continuous photolithography process.

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16-channel 200-GHz-spacing RW-DFB laser array with

We experimentally demonstrated a ridge waveguide (RW) distributed feedback (DFB) continuous-wave (CW) laser array with high output power, low

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0.33 V-cm thin-film lithium niobate Mach-Zehnder

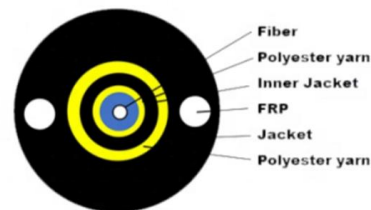
Recently, thin-film lithium niobate (TFLN) modulators with sub-1 V voltage and 140 GHz bandwidth have been emerged on the low permittivity

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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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Anisotropy-free arrayed waveguide gratings on X-cut thin 1m lithium

Arrayed waveguide grating is a versatile and scalable integrated light dispersion device, which has been widely adopted in various applications, including, optical communications and optical

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An electro-optically tunable arrayed waveguide grating

We design and fabricate an eight-channel thin-film lithium niobate (TFLN) arrayed-waveguide grating (AWG) and demonstrate the electro-optical

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Applications of thin-film lithium niobate in nonlinear integrated photonics

Photonics on thin-film lithium niobate (TFLN) has emerged as one of the most pursued disciplines within integrated optics. Ultracompact and low-loss optical waveguides and related

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Optical Component Startup Tracker

The number of venture-backed optical component startups has exploded - the Optical Component Start-Up Tracker identifies these companies

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High-efficiency graphene-silicon slot-waveguide microring modulator

To address this challenge, we propose and demonstrate a microring modulator featuring a double-layer graphene on a silicon slot waveguide. The modulator is constructed with a partially overlapped

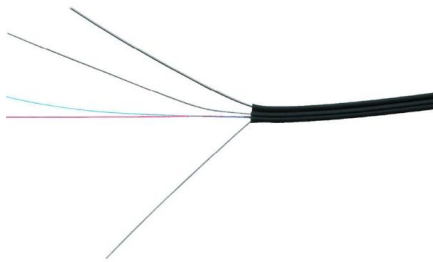
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Lighting the way forward: The bright future of photonic integrated

Integrated optics on the LN platform is a cutting-edge technology that leverages the exceptional properties of lithium niobate crystals to manipulate and control light at the microscopic

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High-Performance Wavelength Division Multiplexers

Applications of such arrayed waveguide gratings as a wavelength router and in a wavelength-division multiplexed optical transmission system are

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High-efficiency hybrid amorphous silicon grating

Abstract and Figures We demonstrate hybrid amorphous silicon uniform grating couplers for efficient coupling between the standard single-mode

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Highly Efficient Polarization-Insensitive Grating Couplers

The thin-film lithium niobate platform, which is emerging as a promising photonic integration platform, currently lacks a polarization-insensitive

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High-efficiency nano-integrated input/output based on shallow-etched

Deep-etched gratings can achieve high coupling efficiency but may cause nonnegligible damage to the waveguide device. In this study, we develop a shallow-etched grating coupler with

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Electrically and Arbitrarily Reconfigurable Arrayed Waveguide Grating

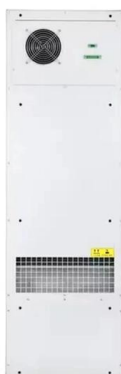
The device features a Manhattan-style waveguide layout with separately addressed electrodes on each arrayed waveguide, which enables rapid and efficient phase tuning of them via

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(PDF) Integrated lithium niobate photonics

Waveguides, resonators, periodically poled lithium niobate, modulators, and many other structures and devices can be integrated onto a

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Thin-film lithium niobate ridge-waveguide grating couplers integrated

Based on the X-cut single crystal lithium niobate thin film (TFLN), the deeply etched ridge-waveguide tapered grating couplers (GCs) embedded with additional modified slots, had been firstly

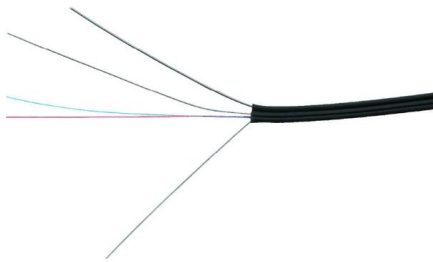
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Ultra-compact lithium niobate microcavity electro-optic modulator

A lithium-niobate-on-insulator (LNOI) electro-optic (EO) modulator based on a 2×2 FP-cavity was designed and realized with an ultra-compact footprint and an ultra-high bandwidth. A

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Waveguides - Buying Guide & Supplier List , RP Photonics

Standard waveguide components: Ready-to-use devices such as periodically poled lithium niobate (PPLN) waveguides for frequency conversion, or arrayed waveguide gratings (AWGs) and splitters

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<https://frindel.es>