Applications in planar optical waveguide chips

As photonics technology continues to evolve, planar waveguides are likely to remain a key component, driving innovations in optical communications, sensing, and beyond. This document provides an ...

Planar waveguides, also called slab waveguides, are waveguides with a planar geometry, which guide light only in one dimension. They are often fabricated in the form of a thin transparent film with ...

Chip-integration of femtosecond technology could revolutionize applications such as point-of-care diagnostics, bio-medical imaging, portable chemical sensing, or autonomous navigation.

Examples of applications driving these advancements include data-communications, bio-sensing, positioning and navigation, low noise microwave synthesizers, spectroscopy, RF signal processing, ...

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An all-optical plasmonic sensor platform designed for smartphones based on planar-optical waveguide structures integrated in a polymer chip is reported for the first time.

This book focuses on the devel- opment of an planar waveguide optical sensor that includes its application as an evidence while capturing an essence of on-chip Lab on a Chip (LOC) device ...

In this paper, researchers demonstrated a wide range of functions, showing the device could tailor the dynamics of nonlinear optics in spectral, spatial, and spatio-spectral domains, all on a ...

FIMMWAVE/FIMMPROP can be used to design any arbitrary waveguide geometry. FIMMWAVE"s Thermo-Optic Solver can be used to model thermal lensing, self heating and thermo-optic switches. ...

The fundamental element in a photonic integrated circuit is the optical planar waveguide, also known as planar "dielectric" waveguide, which is a structure that is used to confine and guide light in integrated ...

In this paper, an architecture and tuning mechanisms of reconfigurable multifunctional fractional-order analogue pho-tonic chip are proposed and theoretically demonstrated, using a single silica-on-silicon ...

In this paper, we provide an overview and comparison of devices used for optical waveguide-to-waveguide coupling including inter-chip edge couplers, grating couplers, free form ...

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