

# Are optical transceivers suitable for beam splitting



## Overview

Yadong Xu's group from Soochow University proposed a device based on bi-layer meta-gratings that can enable efficiently beam splitting and asymmetric transmission, with obtained results published in Chinese Optics Letters Volume 19, Issue 4 (Shi Qiangshi. Recently, the Prof. Among. This paper proposes a hundred-beam-scale LiDAR scheme based on large-field-of-view diffractive beam splitting and a fiber array for echo reception and presents an in-depth investigation of the angular nonuniformity of diffractive beam splitting and the microradian-scale alignment for such. A fiber-optic splitter, also known as a beam splitter, is based on a quartz substrate of an integrated waveguide optical power distribution device, similar to a coaxial cable transmission system. The optical network system uses an optical signal coupled to the branch distribution., 50/50 FBS, can be used as the frequency-mode Hadamard gate for frequency-encoded photonic qubits.

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However, current beam splitters based on cubes or plates are generally bulky and not suitable for integration. Here, a type of broadband multi-channel miniature beam splitters based on ...



Although the on-chip beam splitter is a basic unit in the integrated optical circuit, it plays an important role in many positions of the on-chip optical circuit.



This paper reviews the on-chip beam splitting methods in recent years, which are mainly divided into the following categories: y-branch, multimode interference coupling, directional coupling, and inverse ...



The authors demonstrate a high efficiency and high fidelity frequency beam splitter using coherent-state single photons and show how it can be used ...



They showed that the interlayer interaction can be controlled by changing the layer gap of the bi-layer meta-grating, which can lead to a transition from nearly perfect beam splitting to high-efficiency ...



The authors demonstrate a high efficiency and high fidelity frequency beam splitter using coherent-state single photons and show how it can be used for operations or devices in long ...



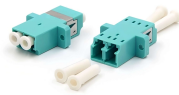
In this work, the authors present a metasurface-based wide-angle beam splitter designed for future applications in optical wireless communication.



A fiber-optic splitter, also known as a beam splitter, is based on a quartz substrate of an integrated waveguide optical power distribution device, similar to a coaxial cable transmission system.



By introducing signals with varying phases at the input ports, we demonstrate the device's ability to dynamically adjust the splitting ratio, covering all possible ratios with minimal loss.



This paper considers a combination of split-beam transmission based on a high-order diffractive optical element (DOE) and echo reception based on a high-precision fiber-optic line array....



First, we propose an overall scheme for a 128-beam LiDAR optical transceiver system and report a study on the nonlinearity of the high-order DOE used in this system, which is a key ...

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