Integrated Chips Based on Fiber Optic Communication

This review examines recent advancements in fiber- and chip-based platforms for generating non-classical states and their applications as quantum state processors in the time domain.

Combining the low-loss performance of optical fibers with large-scale integrated circuits, new work led by Caltech moves toward a new generation of ultralow-loss photonic integrated circuits.

"We have developed a method to print optical circuits, made from the same material as optical fiber, directly onto the same 8- and 12-inch wafers used for computer chips.

At the Optical Fiber Communication Conference (OFC) 2024, Intel"s Integrated Photonics Solutions (IPS) Group demonstrated the industry"s most advanced and first-ever fully integrated ...

By bringing fiber-like performance onto a silicon chip, they demonstrate that light can be precisely controlled across a broad spectrum -- from violet to telecom wavelengths -- with minimal ...

Abstract: We present an integrated optical chip (IOC) featuring a low-loss and compact waveguide coupler for miniaturized interferometric fiber optic gyroscopes (IFOGs).

Here we show that a high-dimensional optical fiber communication system can be implemented by a reconfigurable integrated photonic processor, featuring kernels of multichannel mode multiplexing ...

NIST scientists have developed a new process for packaging photonic integrated circuits so they can survive and operate in some of the most extreme environments imaginable. The ...

Researchers at Columbia Engineering integrated optical elements into computing chips, decreasing the amount of energy and space required for data transfer in interconnected systems.

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