LICENSING OPPORTUNITY: A BETTER WAY TO CONNECT FIBER OPTICS TO COMPUTER CHIPS

DESCRIPTION

Problem

Traditional fiber-to-chip connections often suffer from misalignment, signal loss, and inefficiencies. These issues can lead to poor data transmission quality and increased costs in optical communication systems. The invention addresses these challenges by providing a more precise and stable coupling mechanism. It ensures better signal integrity, reducing errors and improving overall system performance. This advancement is crucial for industries relying on fast and reliable optical data transfer.

Invention

This invention provides a way to efficiently connect optical fibers to semiconductor chips. It improves the transfer of light signals between the fiber and the chip, reducing loss and increasing performance. The design allows for better alignment and integration, making it easier to manufacture and use. It enhances optical communication systems by improving signal quality and reliability. The invention is particularly useful for high-speed data transmission applications.

BENEFITS

Commercial Application

This technology can be used in telecommunications, data centers, and high-speed computing systems. It is valuable for companies developing optical networking equipment and semiconductor devices. The invention can enhance fiber-optic communication in medical imaging and sensing applications. It also has potential in aerospace and defense industries where reliable optical connections are essential. Any sector requiring efficient optical data transmission can benefit from this innovation.

Competitive Advantage

The invention offers superior alignment and reduced signal loss compared to existing fiber-to-chip coupling methods. It simplifies manufacturing and integration, lowering production costs. The improved efficiency leads to better performance in optical communication systems. Its design enhances durability and reliability, making it a preferred choice for critical applications. These advantages position it as a strong competitor in the optical technology market.

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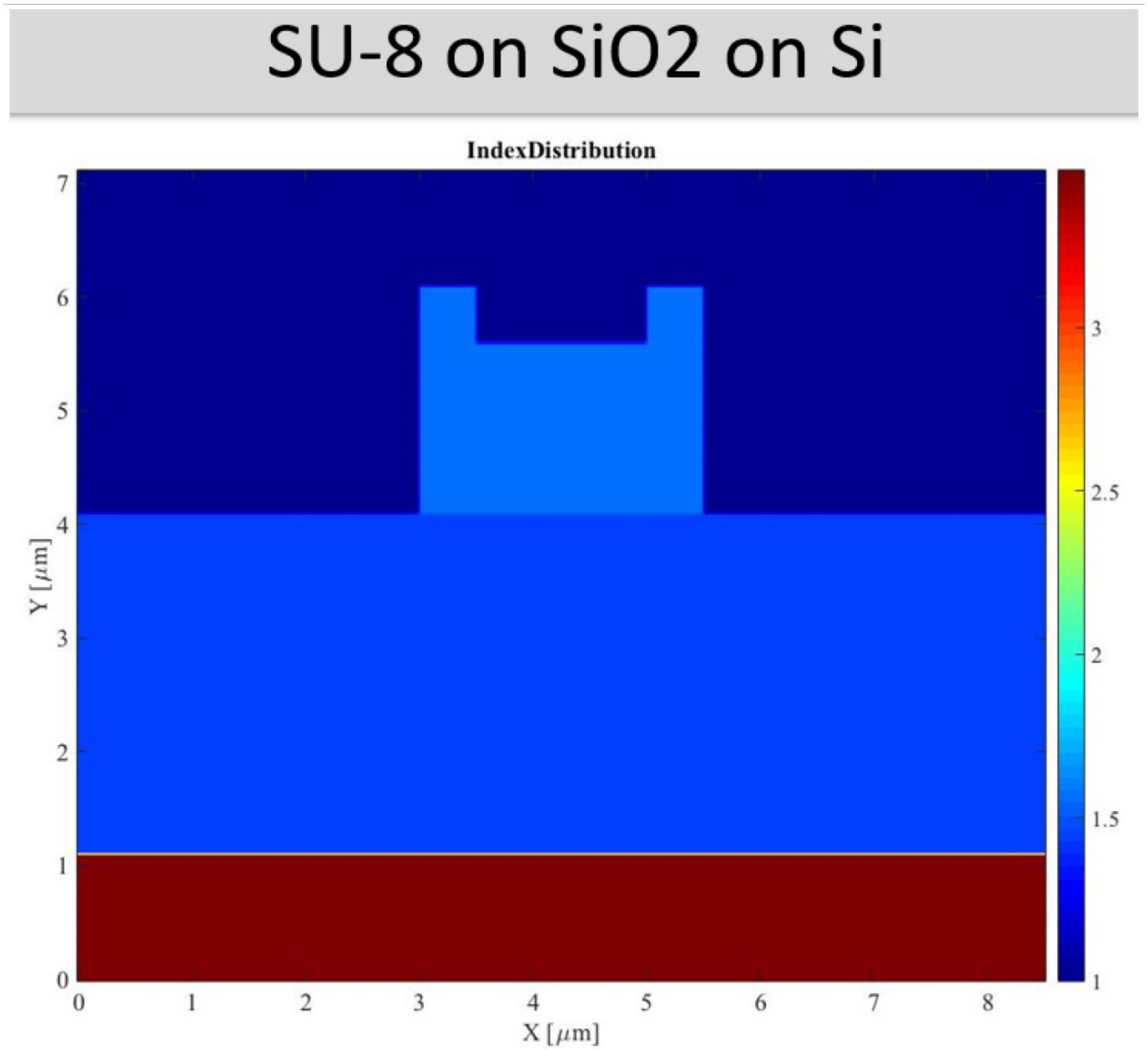

Chart illustrating the fiber channel structure.

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