Fiber Array Coupling Efficiency

We compare the pros and cons of each light coupling method and provide an overview of the recent developments in waveguide coupling between optical fibers and integrated photonic circuits.

Accurate analysis of coupling efficiency is critical in the design of fiber coupling systems. This article demonstrates the use of several fiber coupling efficiency analyses in OpticStudio.

By using computational techniques and iterative algorithms, system designers can fine-tune coupling parameters to optimize performance. Efficient coupling of 2D fiber arrays plays a critical role in ...

To fully harness their benefits, an efficient coupling mechanism is required to successfully launch light into on-chip waveguides from fibers. This study introduces low-loss coupling strategies ...

In this paper, a 2D fiber array coupler with high coupling efficiency and high precision positioning is designed and manufactured, and then its performance and coupling efficiency are ...

A new scheme of microlens 4-fiber array (M4FA) for high-coupling efficiency in Si-photonics module employing automatic packaging a silicon V-groove array and microlens fibers is ...

In this example, we select two commercially available lenses, with the same effective focal length, but different surface types. They are evaluated, for the task of coupling light into a single-mode fiber, in ...

When propagating a polarized beam, the fiber coupling receiver efficiency is calculated individually for both the x- and y-polarized portions of the beam, using only the y- or x- components of the complex ...

To analyze the effect of fiber MFD on coupler coupling efficiency, the coupling between the couplers was simulated by ZEMAX using a ray-tracing method. The large beam coupler was modeled in Lens Data ...

We also investigate the use of a coherent fiber array as a receiver structure and find that a coherent fiber array that consists of seven subapertures would significantly increase the fiber-coupling efficiency.

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