

# Fiber optic array fabrication under a microscope



## Overview

In this work, we demonstrate the fabrication of semi-cylindrical channels on glass substrates using femtosecond laser micromachining for fiber arrays edge couplers. Optical fiber arrays provide a powerful substrate for creating high-density sensing systems that can address a variety of biological problems. This method enables the formation of narrow, well-defined grooves in glass. Fiber optics coupled to components such as lenses and mirrors have seen extensive use as probes for Raman and fluorescence measurements. Probes can be placed directly on or into a sample to allow for simplified and remote application of these optical techniques. The printed microlenses can focus or collimate the light from. A fiber array unit (FAU) includes a substrate, a cover element, and a plurality of optical fibers each including a splice joint connecting fibers of different mode-field diameters with a recoating material arranged over at least a portion of the fibers overlapping the substrate, wherein stripped. For cleaning and polishing acrylic fibers, the recommended tool to use is a plastic nail buff. A digital scale (accurate to  $\pm 0.$





Fiber arrays are commonly used as edge couplers for PICs. In this work, we demonstrate the fabrication of semi-cylindrical channels on glass substrates using femtosecond laser ...



They are intended for free space coupling to other fiber arrays, photonic integrated circuits (PICs), or other components. The printed microlenses can focus or collimate the light from the fibers, enabling ...



The fiber after the cladding is removed, is shown in the microscope picture to the right. (Note: don't worry about scratching the inner fiber; it will all be polished away anyway.)



Our goal was to design a free-standing probe with integrated optics that could focus and collect light from outside the probe, be easily coupled to fiber optics, and have separate input (e.g. excitation) ...



This letter experimentally demonstrated a method to improve the resolution of compact microscope by employing the microsphere, in combination with the tube lens placed on the small-end ...

## Contact Us

For more information, pricing, or custom data center solutions, please contact us:

Website: <https://www.yoahorroenergia.es>

Email: [hello@yoahorroenergia.es](mailto:hello@yoahorroenergia.es)

Phone: +233 54 318 7269

Address: Plot 28, Spintex Road, Accra, Greater Accra, Ghana

This document is for informational purposes only. Specifications subject to change without notice.

