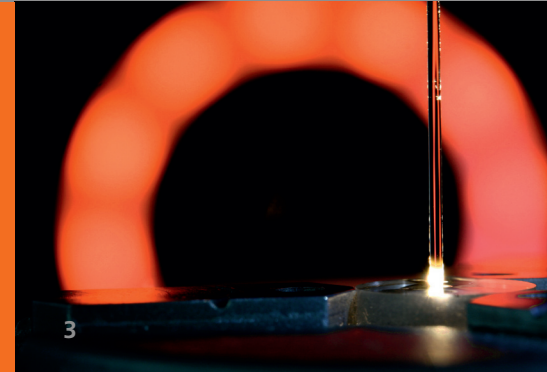


1



2



3

- 1 19 x 1 Fiber coupler.
- 2 End cap splice.
- 3 CO₂-laser process.

FIBER LASER COMPONENTS

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Motivation

Scalability of high power fiber lasers is closely linked to new fiber designs. As a consequence, new fiber optical components and processes are also necessary.

Characteristics and Technology

The Fraunhofer IOF Jena develops new joining technologies and processes for fiber optics and its components based on a CO₂-laser. High purity processes without any contaminations for splicing and tapering tasks can be provided.

Application

A CO₂-laser is an efficient tool for manufacturing of different fiber laser components and fiber preparation processes with high precision, purity, and reproducibility:

- Splicing of fibers with similar or different fiber cross-sections
- Tapering of fibers and capillaries
- Collapsing of Photonic Crystal Fibers
- Stripping of coated fiber material
- Shaping of fiber end facets
- Cleaning of fiber tips
- Splicing of special rod type fibers, etc.

Furthermore, pump couplers and beam shaping elements are manufactured.

The development of special customized processes and devices are possible.