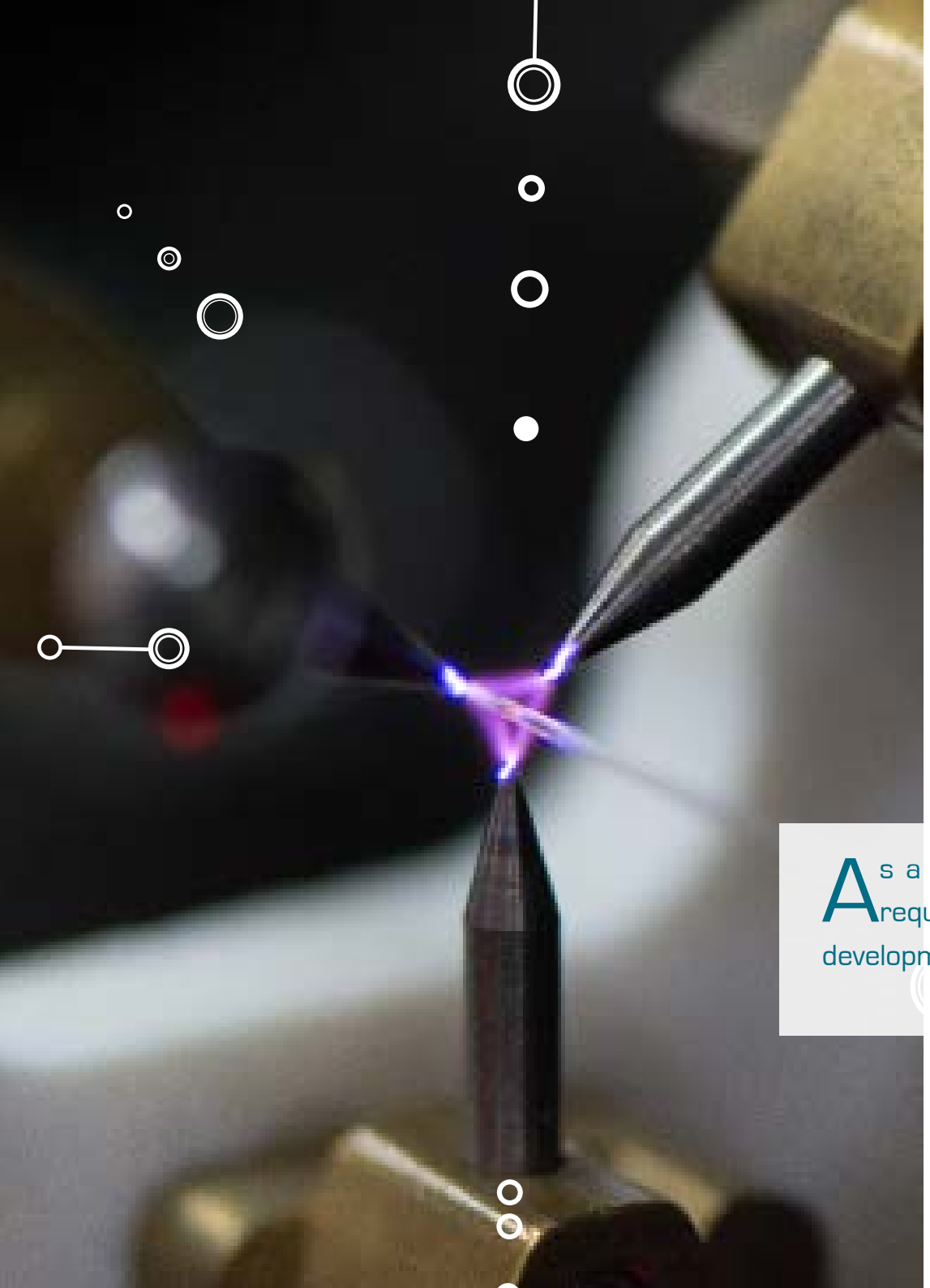
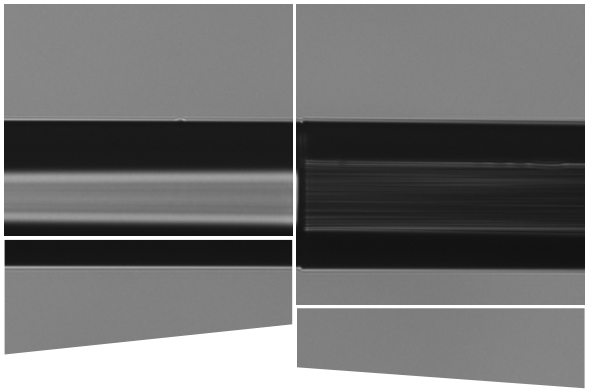


# SPECIAL TERMINATION

As a technology center, ALPhANOV is able to address special requests on PCF interfacing through feasibility studies or developments.

# SPLICES



- All kinds of PCF fibers
- PCF-to-PCF or PCF-to-standard fiber
- PM alignment

Different kinds of splices can be proposed: PCF-to-PCF splices or PCF-to-Standard fiber.

## Best effort splices

Each splice is different and ALPhANOV cannot guarantee a specific loss. Nevertheless this kind of splicing job is done on a best effort.

## Optimized splices

ALPhANOV offers you the possibility to optimize any kind of splice. Losses are not guaranteed, but through a short feasibility study, we are able to develop a specific process to minimize them.

Examples : Splice of 40/200 fiber to Kagome fiber with < 0.7 dB loss.

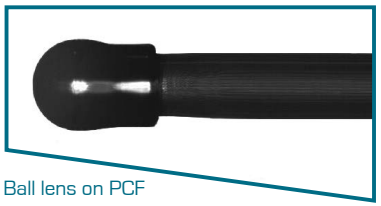
# LENSES

Grin lenses on PCF

## GRIN lenses

ALPhANOV has developed a process to splice and control Grin Lenses for micro-structured fibers. The behavior of the lens can be simulated ; the focal length and the beam waist can be controlled.

Example: Spot size of 20 µm at a distance of 150 µm starting from a non-linear fiber.



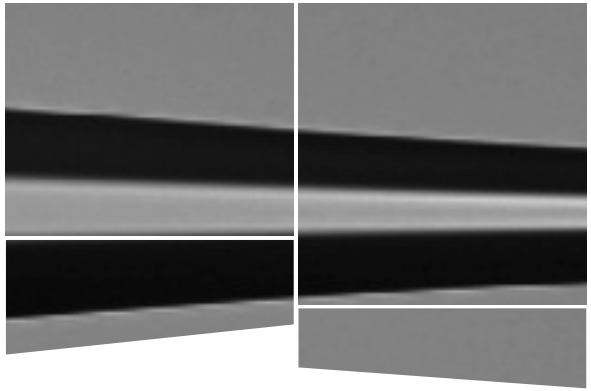
Ball lens on PCF

## Ball lenses

Example: By splicing a ball lens at the end of a Kagome fiber with 15 µm core size, we obtained a spot size of 7 µm at a focal distance of 500 µm.

# MODE FIELD ADAPTER & TAPERS

## MODE FIELD ADAPTATION



- For fiber with different MFD
- Up to 40 µm fiber core size
- PM alignment

The mode field adapter (MFA) is a component that reduces connection loss between fibers with different mode field diameters. The most extreme MFA from our standard product range connects 6 µm and 40 µm core fibers.

## Benefit of MFA component:

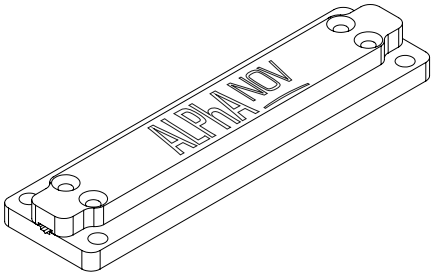
- Optimized signal transmission
- Improved stability
- Improved efficiency in fiber lasers

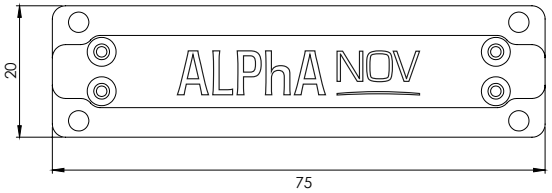
## Principle of a MFA

Fiber 1 with small MFD

Fiber 2 with bigger MFD

## Dimensions




## TAPERING

ALPhANOV's expertise allows us to taper micro-structured fibers without collapsing the air holes, in order to maintain the ratio of the structure inside the fiber during the tapering process.

Example: Tapering of a ROD fiber: reduction of the outer diameter of a ROD fiber from 1 mm to 600 µm without any loss.