High aspect ratio glass drilling with backside ablation

Ultrafast Optics – Prof. Stefan Nolte

Overall research topic:

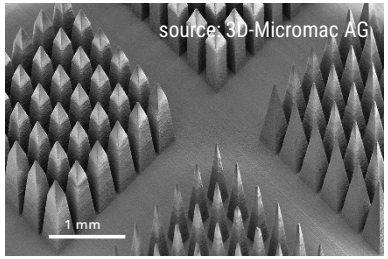
- Backside ablation of transparent substrates is a processing technique that is already applied in industry (e.g. FSLA by 3D-Micromac AG)
- Applications are typically limited to flat substrates

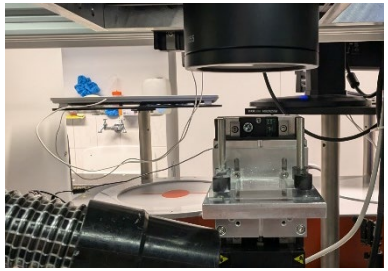
Research Focus:

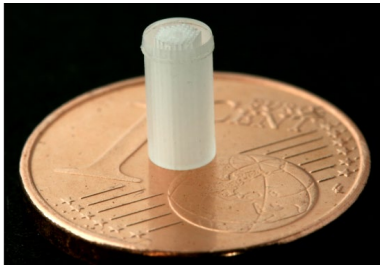
- Demonstration of 3D volume structures with high aspect ratios of over 1:40 with ultra short pulsed (USP) backside ablation
- Application as preforms for Hollow Core Photonic Crystal Fibers (PCF)

Possible fields of your topic:

- Lab based feasibility study of PCF preform production with USP backside ablation
- Adaptation of optical setup for very high aspect ratios
- Parameter study for quality vs. speed trade off







Scientific Profile

Basic research	Applied research
Lab work	Simulation
New setup	Tested setup

Language German & English

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