Structured light for material processing

Ultrafast Optics – Prof. Stefan Nolte

Topic (problem definition):

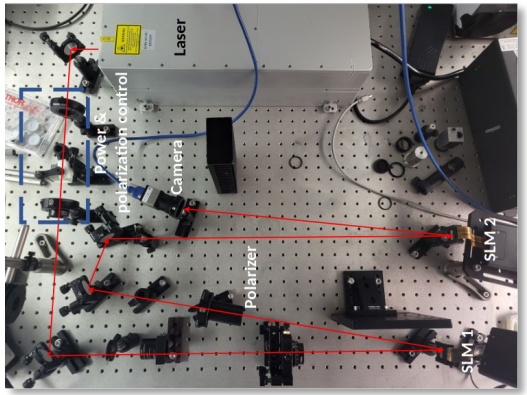
- Intense ultrashort pulses can permanently modify transparent materials (nonlinear photolithography)
- Structured light can improve the yield of the process and permitting the writing of new kind of structures using ultrashort laser pulses

Research Focus:

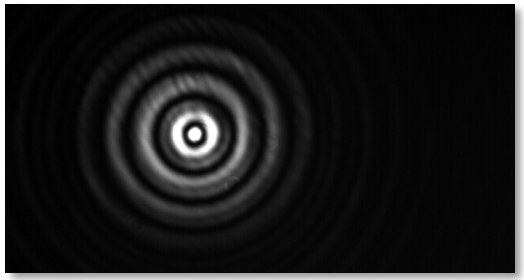
- Material processing with ultrashort laser pulses.
- Processing with structured beams

Tasks:

- laser-based inscription of photonic devices
- Investigation on complex beams profiles in writing 3D structures in transparent materials
- Use spatial light modulator, model structured light propagation, inscribe structures, familiar with Python



Experimental setup



Bessel beam generated using a phase-only SLM

Scientific Profile

Basic research	*Applied research*
Lab work	*Simulation*
New setup	*Tested setup*

Language *English*

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