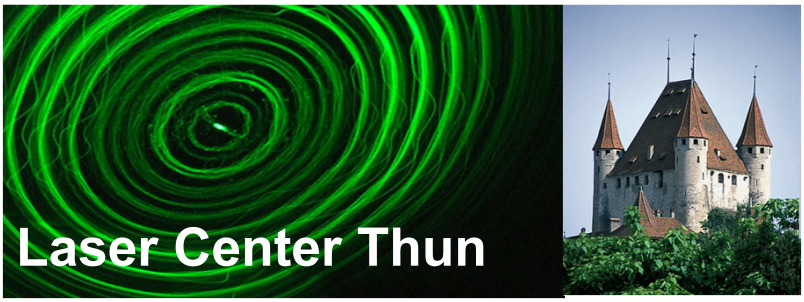

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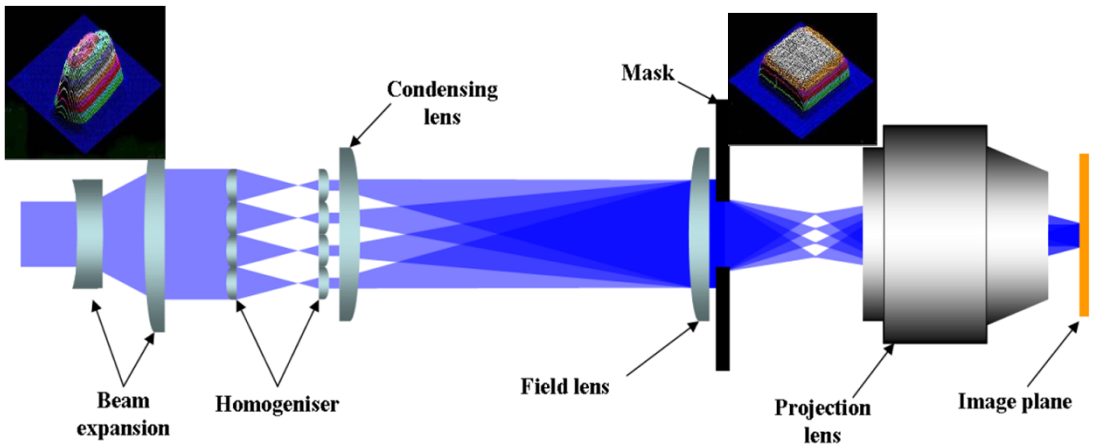
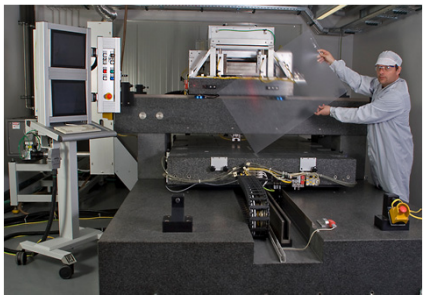
Excimer laser mask imaging systems



Laser System XXL

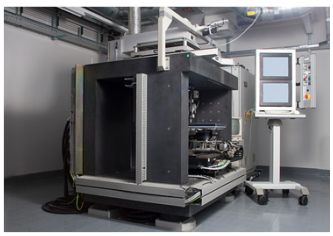
Specification	Unit	X-axis	Y-axis
Travel	mm	2000	1460
Speed	mm/s	200	360
Resolution	nm	20	20
Repeatability	µm	±2	±2
Accuracy (full travel)	µm	±4	±4

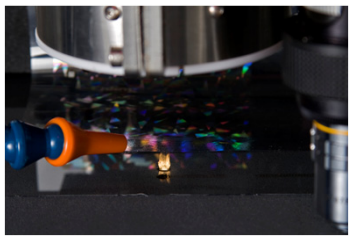


Additionally equipped with laser interferometer and temperature sensing to further enhance resolution and accuracy.

Laser System L

Specification	Unit	XY-axis
Travel	mm	400
Resolution	nm	40
Repeatability	µm	±0.2
Accuracy (full travel)	µm	±0.5





Laser Sources

Specification	Unit	
Wavelength	nm	248/193
Average Power	W	80/60
Pulse Duration	ns	20
Beam Dimensions	mm	10x24
Beam Divergence	mrad	1x3

Both systems in temperature controlled gray room facility

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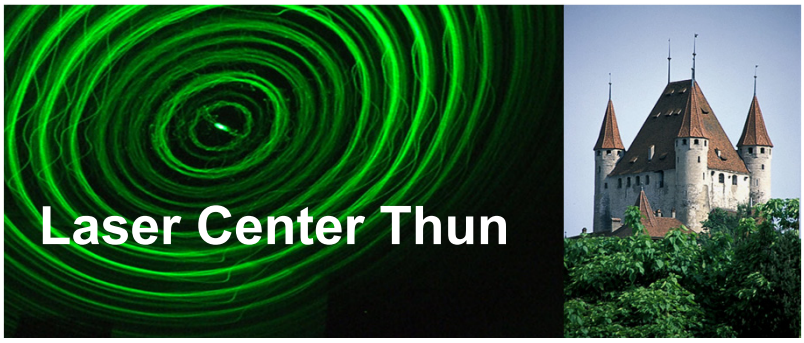

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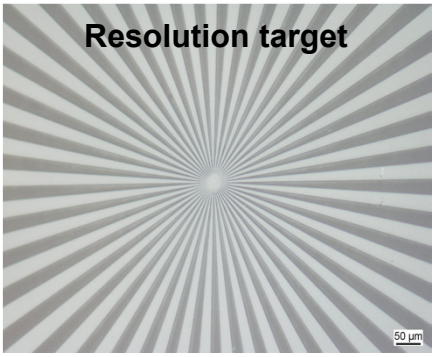
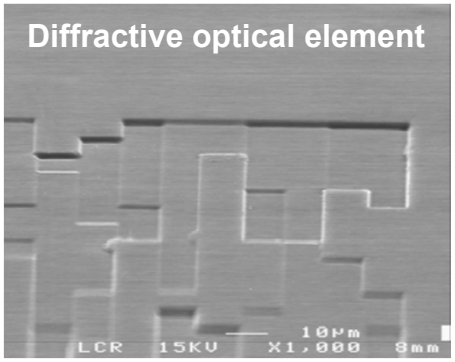
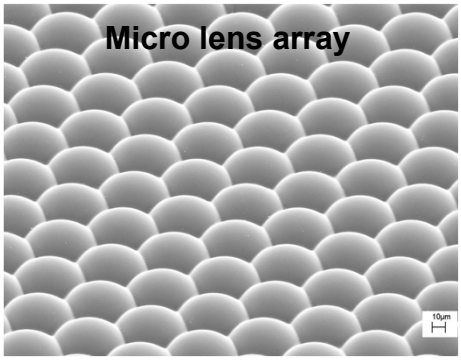
Superlarge area processing of novel functional surfaces

Laser patterning of large surfaces opens cost-effective production of micro- and nano-structured master pieces in polymers. This technology, based on excimer laser ablation of polymers, is a key enabling technology for prototyping large scale micro- and nano-structured materials. It creates availability of technical otherwise difficult to produce structures for present and future industrial challenges. Within the large range of potential applications of these micro- and nano-structured surfaces, light management such as photon harvesting or the opposite that is tailored light distribution will be focused on. More demanding devices implying light guiding and light manipulation are further topics the laboratory will deal with.







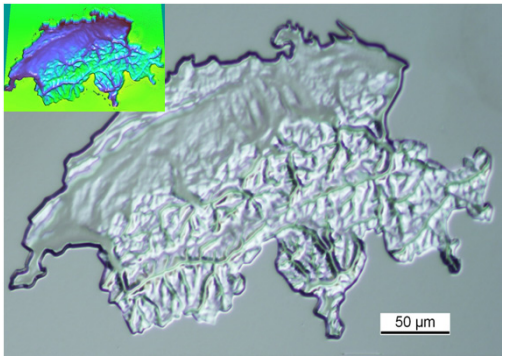
High precision machining

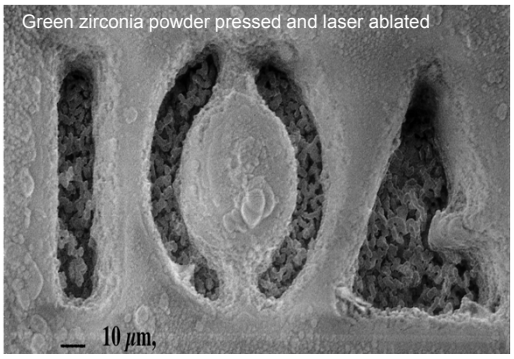
Processing materials for optical devices

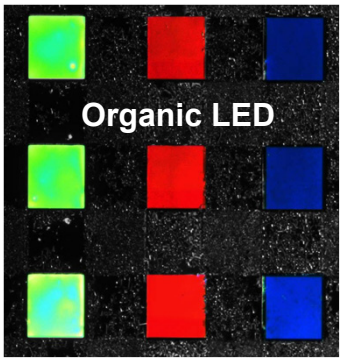
Polymer Feature Geometry
- Optical resolution: ~ 1 µm
- Depth resolution: < 50 nm
- Wall angles and slopes: 0°–90°
- Highly engineered geometries
- High aspect ratio features
- Optical surface finish
- 100% fill factor

Processable Materials:
- Polymers
- Metals
- Glasses
- Silicon
- Optical Materials
- Composites
- Ceramics
- Thin Films

Applications:
- Display
- Lighting
- Medical devices
- Photovoltaics
- Printed electronics
- Security markers







3D machining

Machining of many materials for specific applications

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