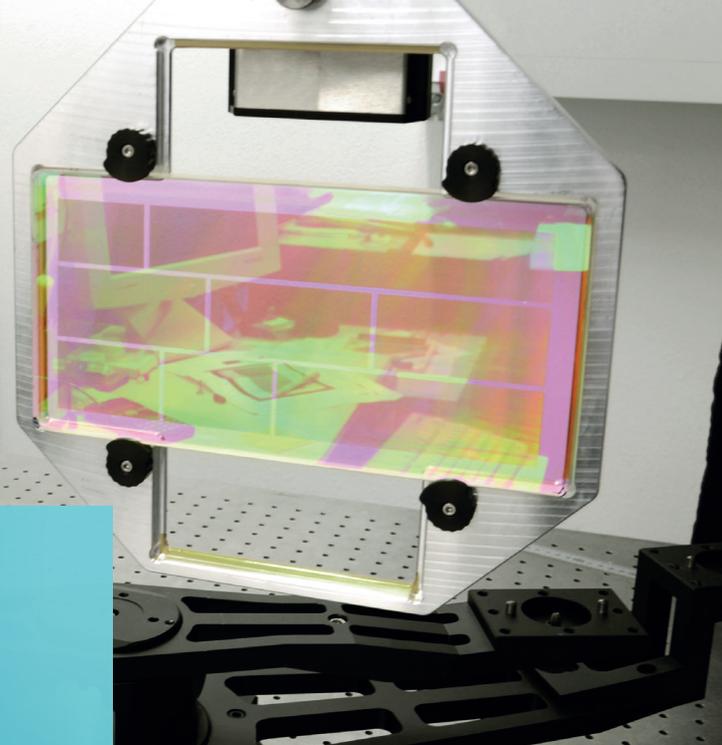


Diffraction gratings for high-power laser applications

Demanding applications. Customized solutions.



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Cover: Diffraction gratings.

Top: Dielectric reflection gratings during a full size measurement scan of diffraction efficiency.

Description

Customized diffraction gratings for laser applications are designed, fabricated with lithographic technologies and characterized with respect to their optical parameters.

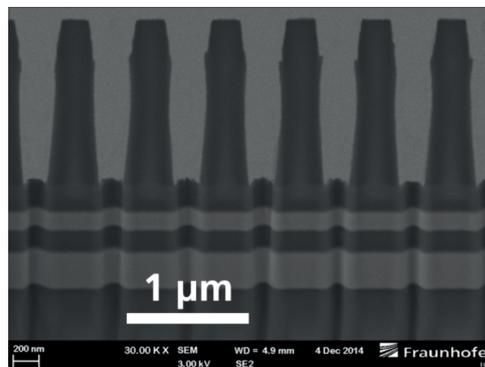
- Characterization
 - Diffraction efficiency
 - Wave front error
- Dicing / machining of grating elements
- Backside anti-reflection coating (T)

Parameters

- Reflection (R) or Transmission (T)
- Line density: up to 3500 l/mm
- Polarization: TE or TM
- Wavelength: 266 – 2100 nm
- Bandwidth: 20 – 100 nm
- Angle of incidence: Littrow (T)
 - < +/- 5° off Littrow (R)
- Efficiency:
 - > 95 % over bandwidth
 - > 99 % possible
- Element size:
 - < 260 x 120 mm² or
 - < 200 x 200 mm²
- Substrate: fused silica

Applications

- Laser pulse compression
- Phase gratings for FBG-Inscription
- DWM-components
- Beam shaping



SEM micrograph (post processed) of a grating profile cross section. Grating etched into a dielectric layer stack.

Service / technology

- Grating design
- Lithographic wafer-level processing:
 - Electron beam lithography
 - Reactive ion etching

Contact

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