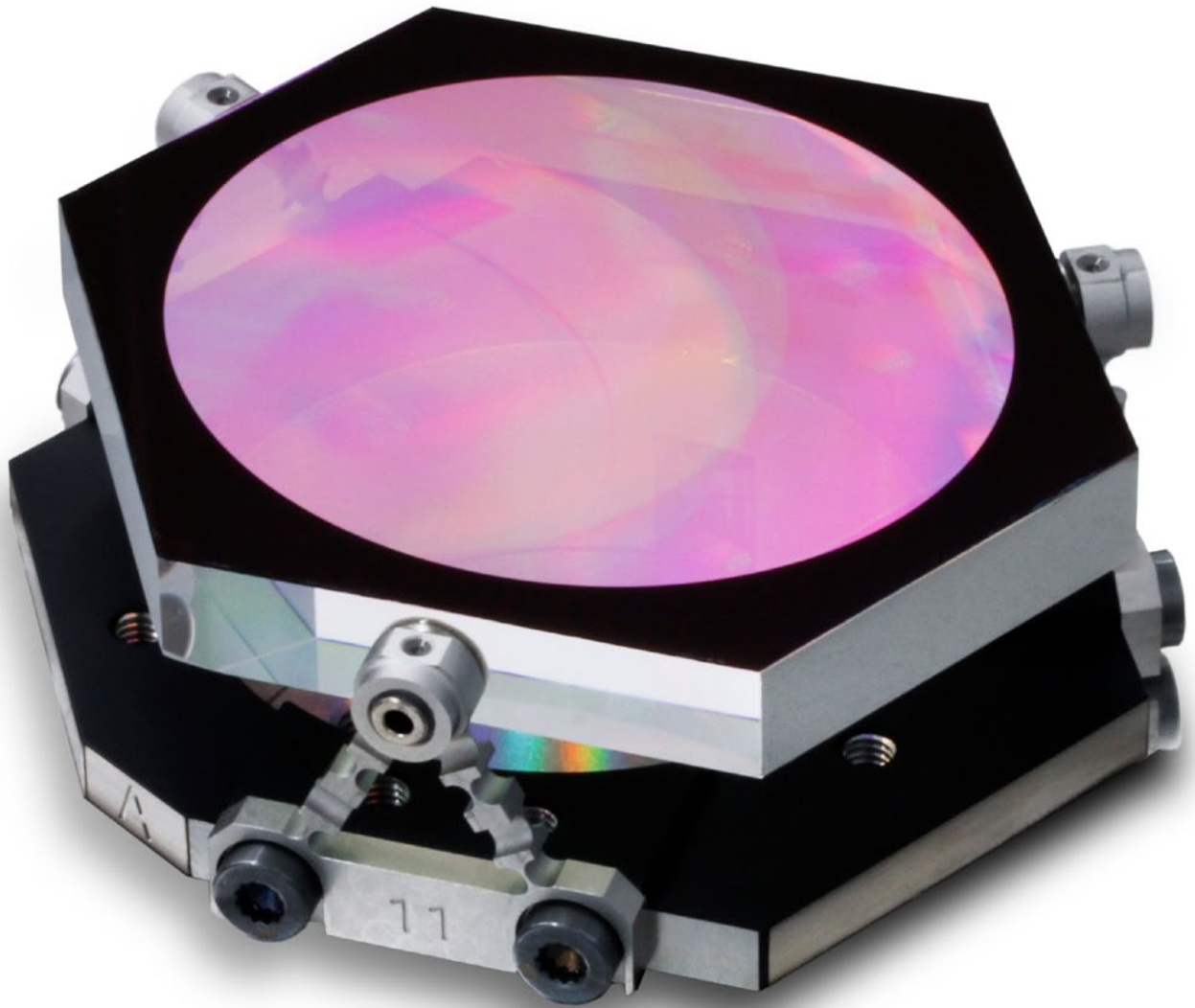




High-performance diffraction gratings  
for spectrometer applications

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High-performance diffraction gratings  
for spectrometer applications

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Near Infrared Reflection Grating with iso-static mount to the  
mechanical interface frame.

# Features

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Customized diffraction gratings are designed, manufactured with lithographic technologies, machined for mechanical interface, assembled and fully characterized with respect to their optical parameters.

## Parameters

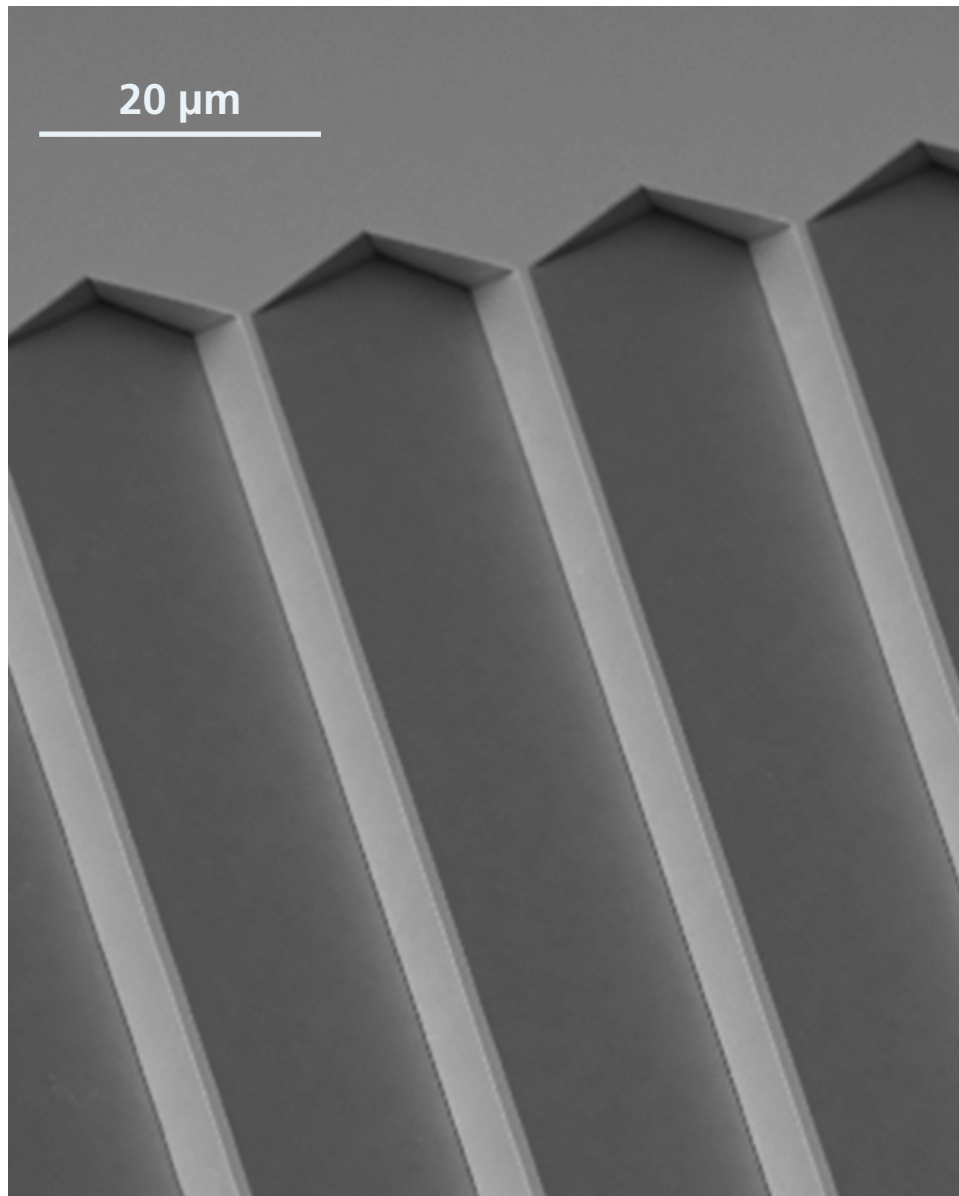
- Reflection (R) or Transmission (T)
- Line density: 10 to 3582 l/mm
  - Polarization: TE, TM or unpolarized down to < 2 %
- Channels: UV, VIS, NIR, SWIR1/2/3
- Bandwidth:
  - Low resolution 200–600 nm
  - High resolution 50–200 nm
- Element size: < 260 × 120 mm<sup>2</sup> or < 200 × 200 mm<sup>2</sup> or < 270 mm diameter
- Efficiency depends on grating configuration

## Service / technology

- Grating design
- Lithographic wafer-level processing
  - Electron beam lithography
  - Reactive ion etching and/or wet chemical etching
- Characterization
  - Diffraction efficiency
  - Wave front error
  - Stray light
- Machining of mechanical interface
- Backside anti-reflection coating (T)
- Aperture-stop coating
- Bonding / Assembly

## References

- ESA GAIA mission
- Sentinel 4 mission
- CO2M mission



*SEM micrograph of an Echelle grating in silicon with 20 microns period.*



*Top: Adjusted grating.*

*Cover: Sentinel 5-grating.*

## Contact

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**Department**  
**Micro- and Nanostructured Optics**

**Head of Department**  
Dr. Falk Eilenberger  
Phone +49 3641 807- 274  
falk.eilenberger@iof.fraunhofer.de

**Scientific Group**  
**Center for Advanced Micro- and Nano-Optics**  
Dr. Martin Heusinger  
Phone +49 3641 947-993  
martin.heusinger@iof.fraunhofer.de

Fraunhofer IOF  
Albert-Einstein-Strasse 7  
07745 Jena  
Germany  
[www.iof.fraunhofer.de](http://www.iof.fraunhofer.de)



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