PWY Service GmbH & Co. KG
LightTrans USA LP

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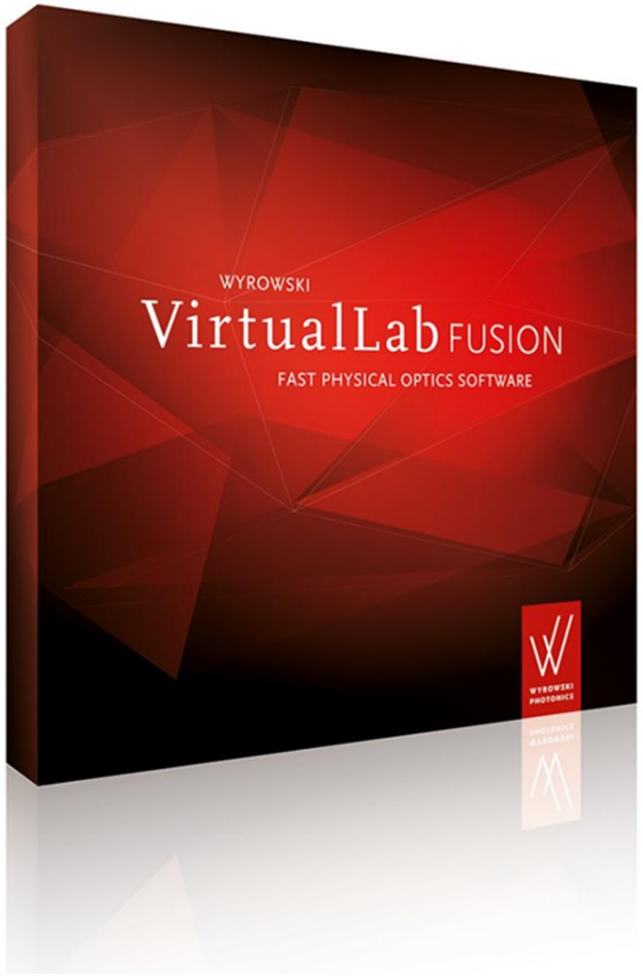
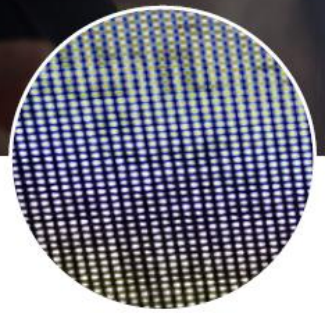
The Product

- Accurate, Flexible, Fast
- Many simulation techniques – connected on one platform



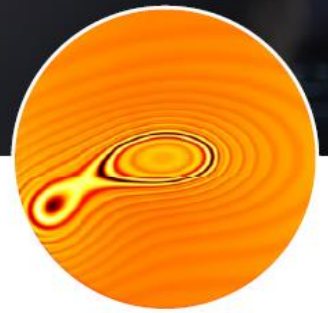
Augmented and Mixed Reality



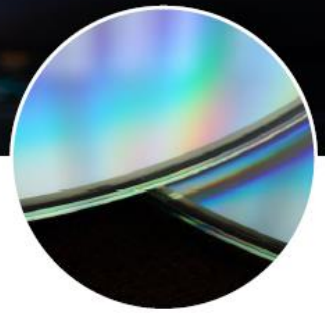
Diffractive and Meta Lenses

Diffusers and DOEs

Fiber Coupling



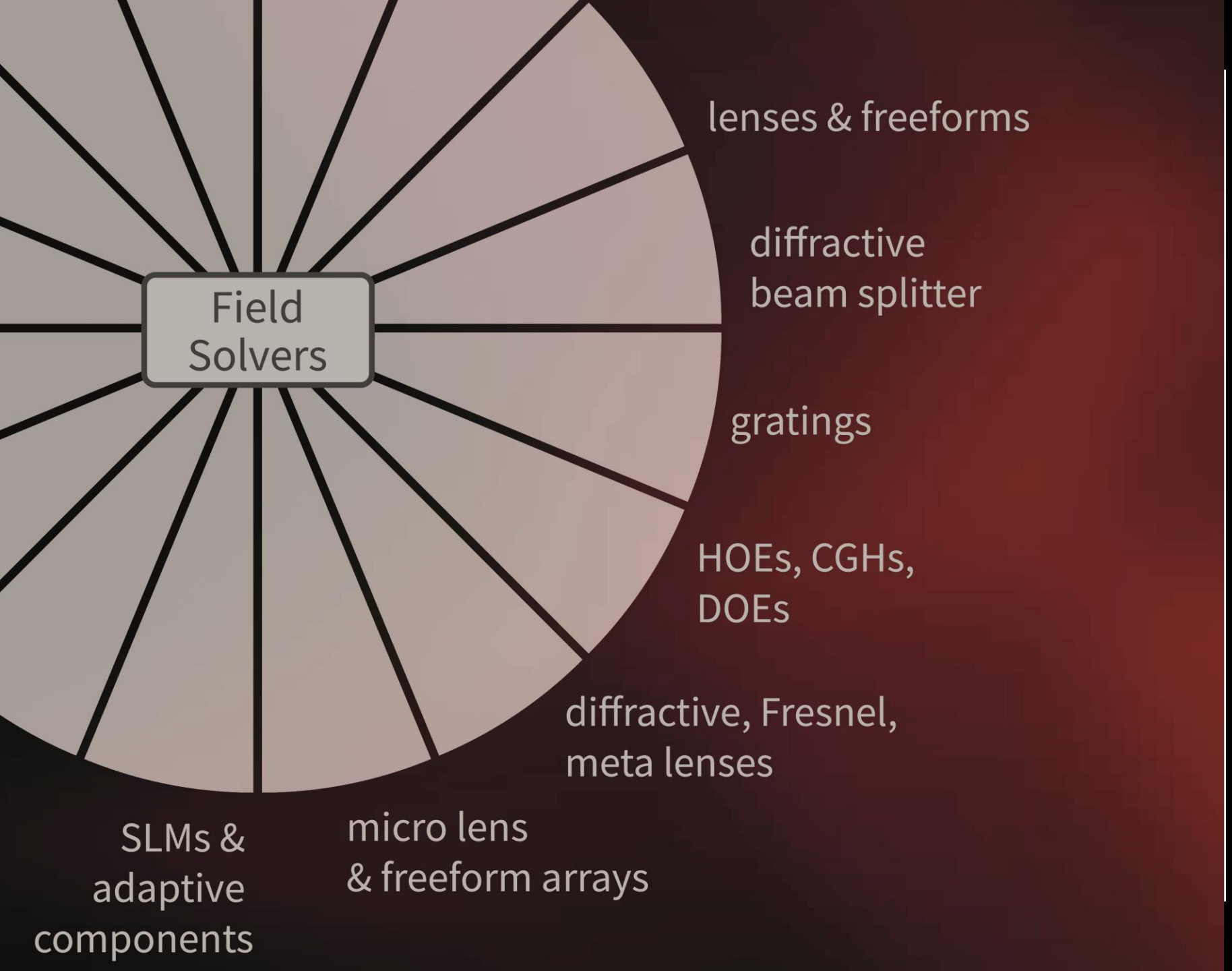
Interferometry



Gratings

Microscopy

Hot Topics in Optics Design and Analysis

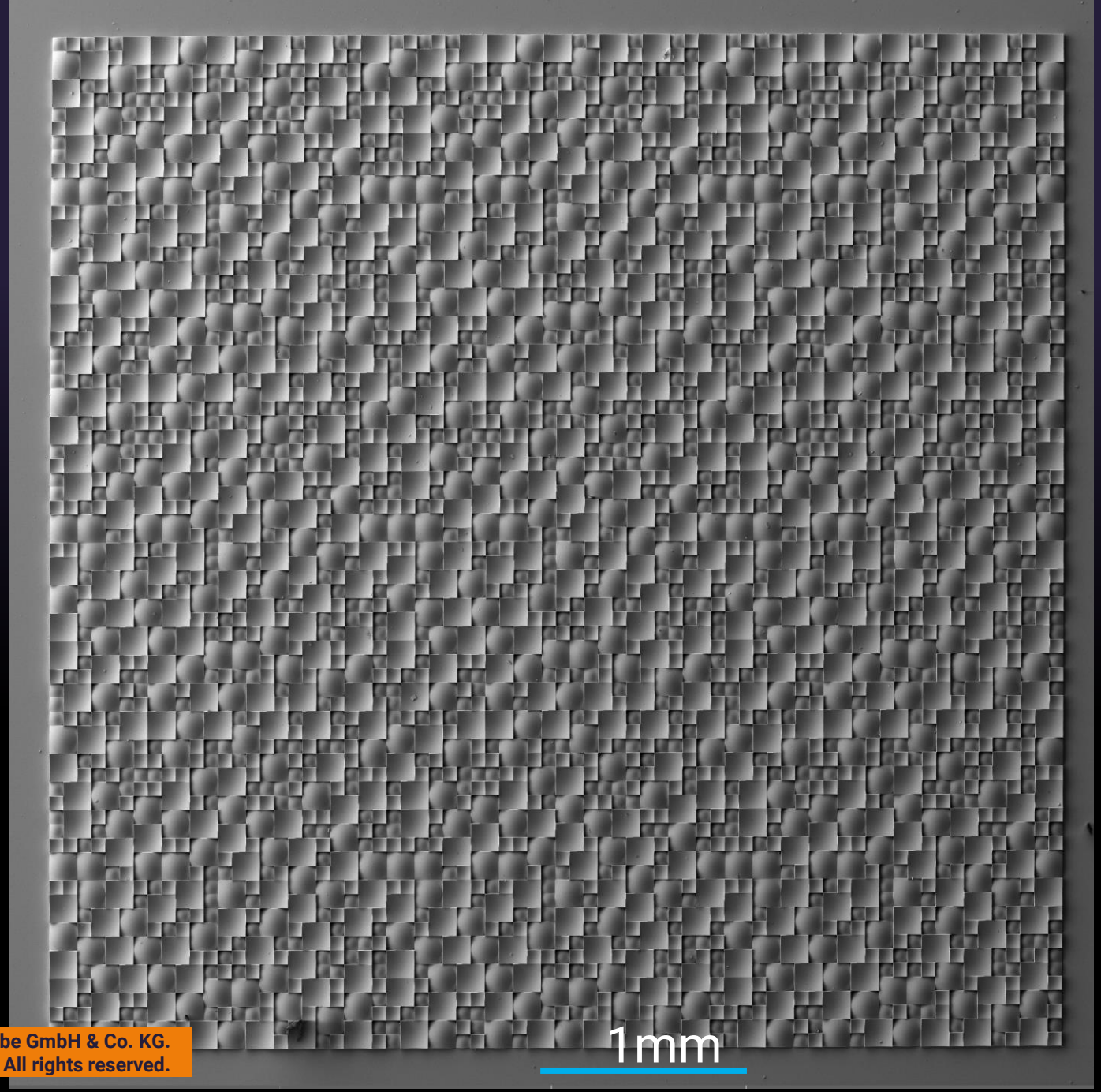


Fast Physical Optics Software

VirtualLab Fusion connects the ever-growing number of electromagnetic field solvers for noumerous components and effects.
As a result, it enables fast physical-optical system modeling.

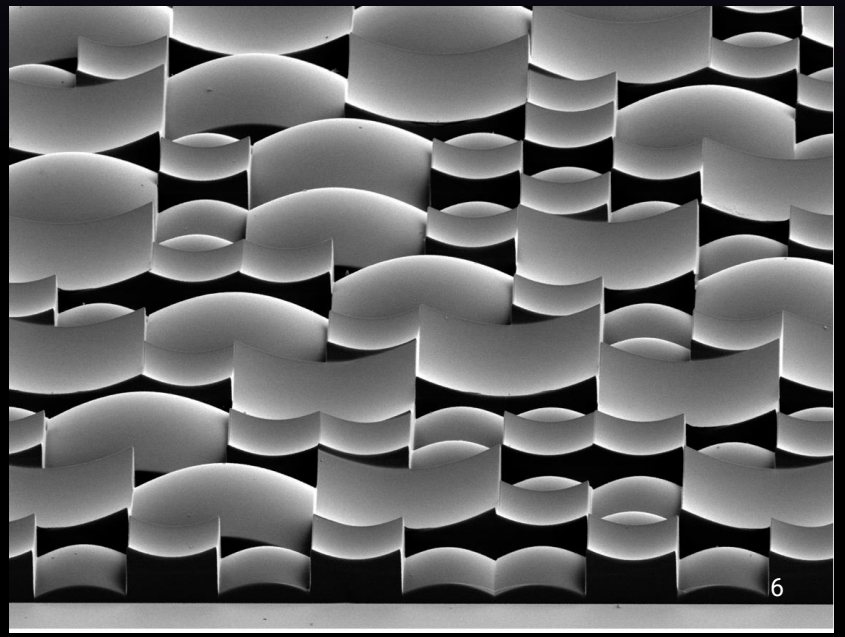
Examples of Flat Optics Designs

- LightTrans USA L.P.
- LightTrans International GmbH
- Wyrowski Photonics GmbH
- University of Jena, Germany
- Nanoscribe GmbH & Co. KG, Germany



Diffusor-Design based on random freeform surfaces

- Micro Lens Array (MLA)
- 5,4 mm x 5,4 mm



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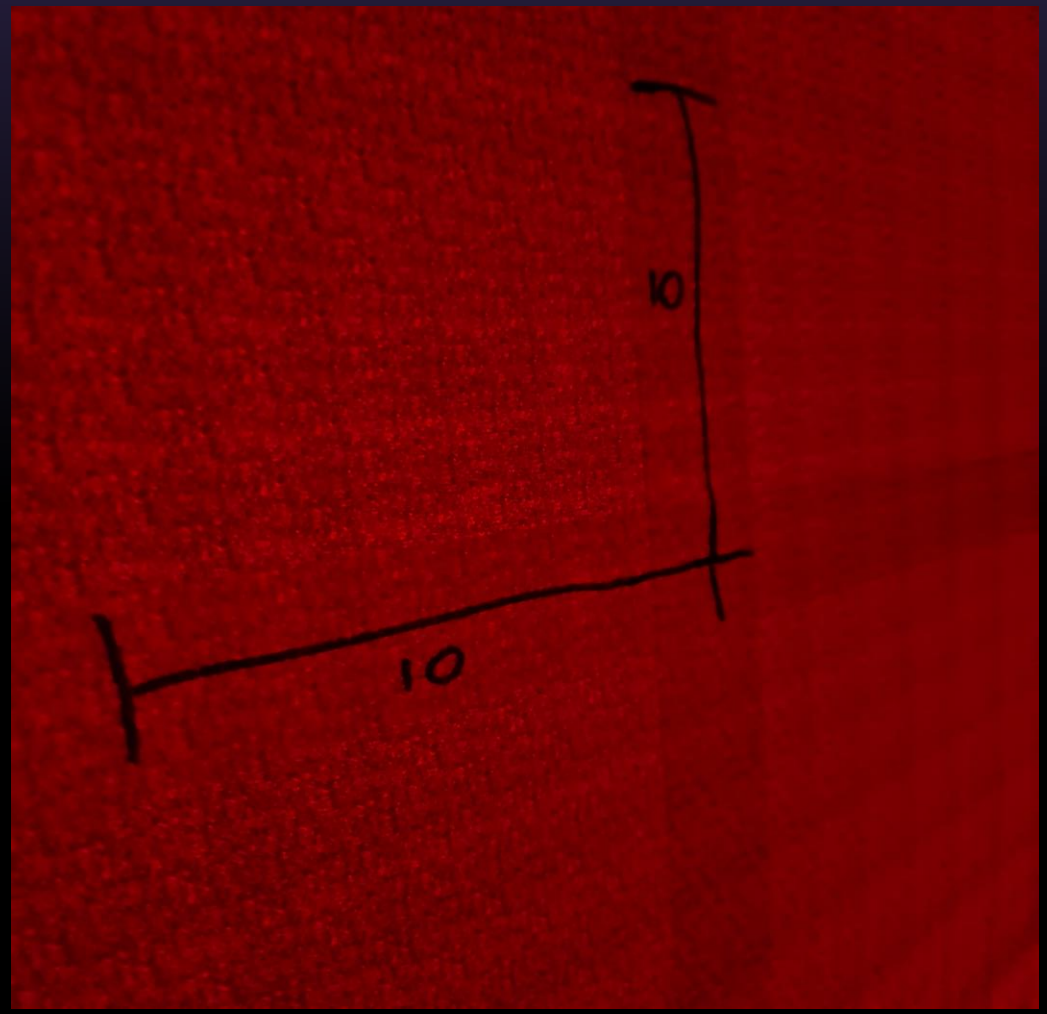
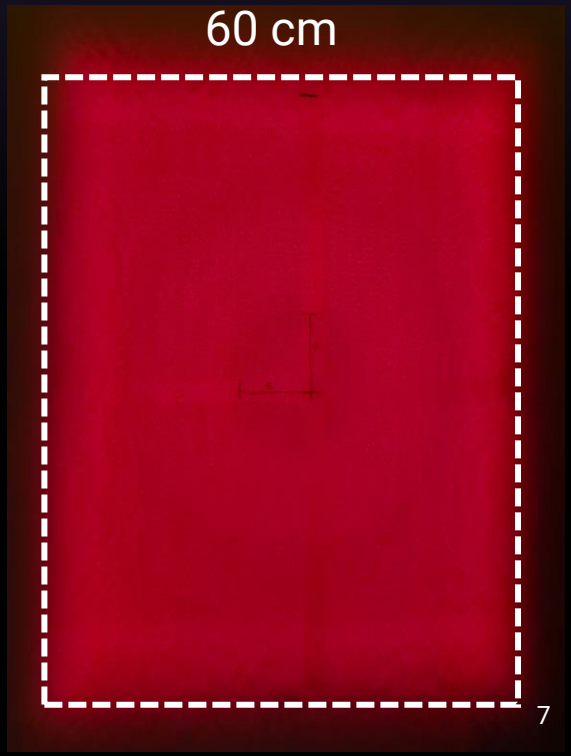
Diffuser based on randomized array of freeform light shaper

- Experimental results
- Very fine and homogeneous speckles



Mixed



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Laser Spot Grid Projection

Die Laserpunktrasterprojektion für Anwendungen

- 3D-Tiefenerfassung
- Lidar
- ….

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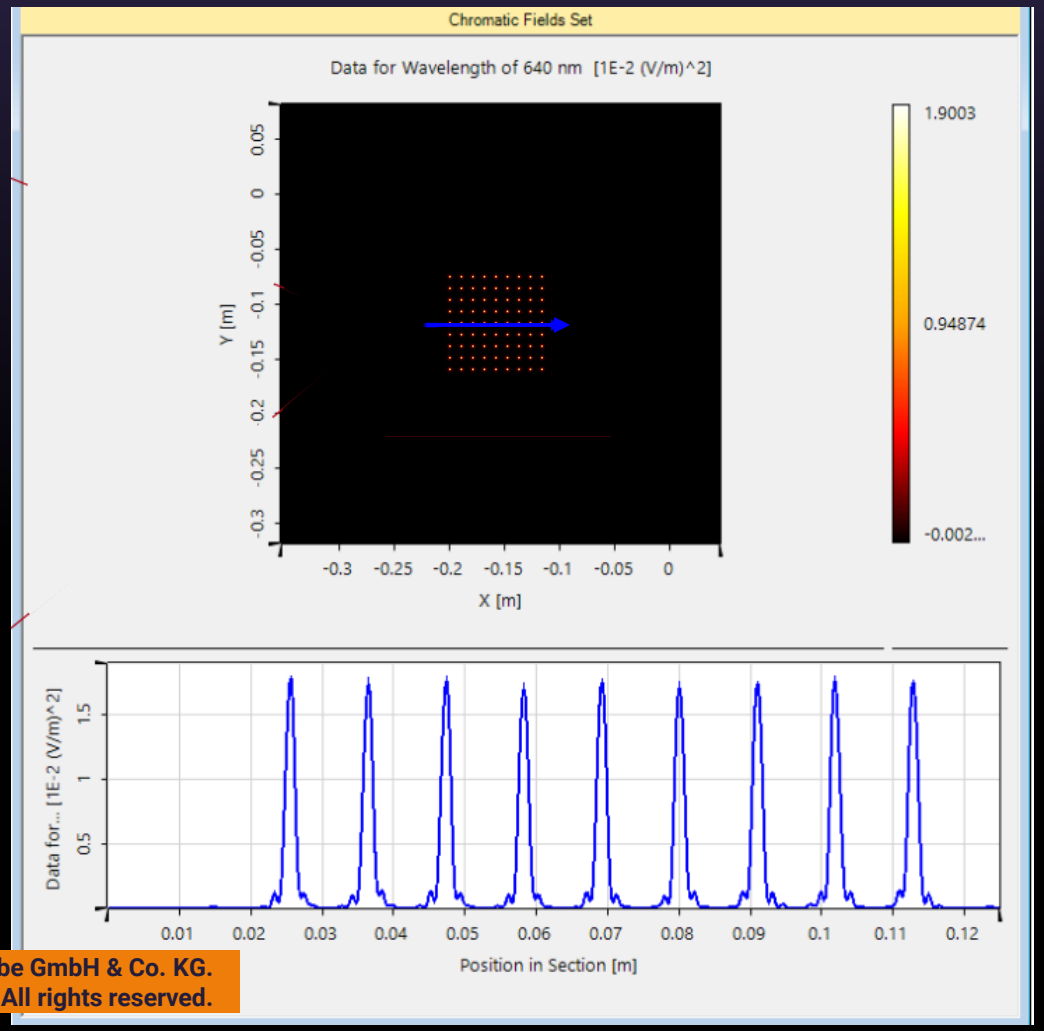
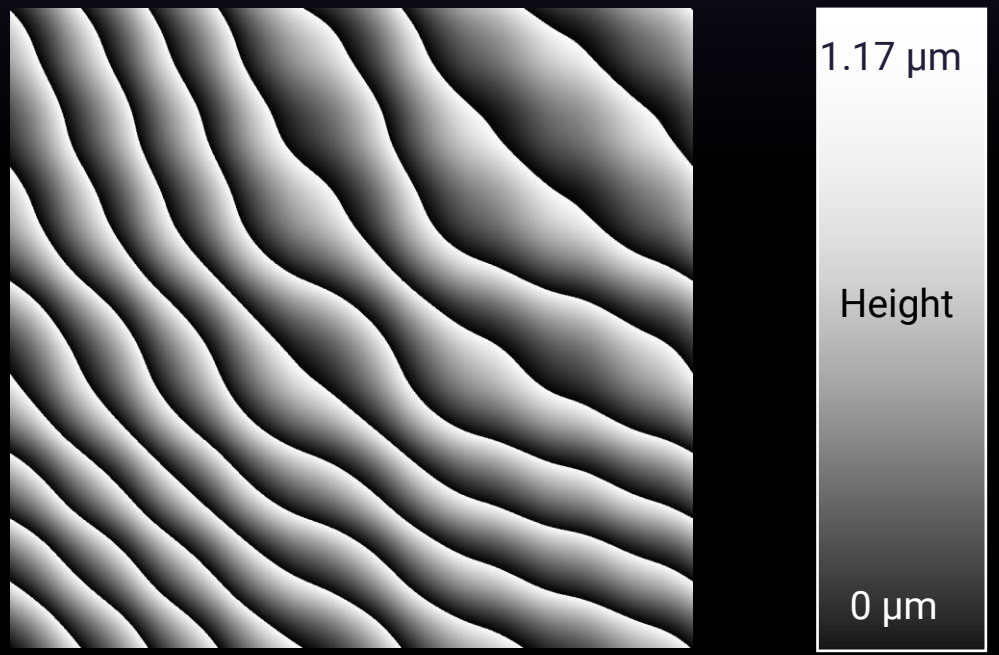
Grating for 9x9 dot grid projection (off-axis)



- Continuous height profile with 65535 levels
- Printing time independent from level number with 2GL



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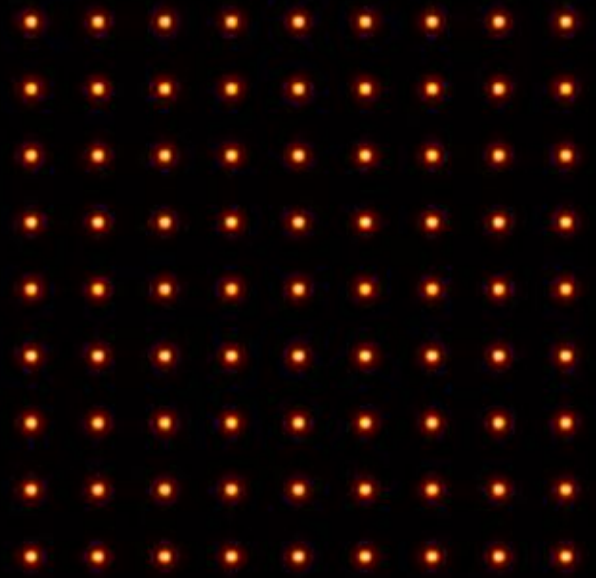
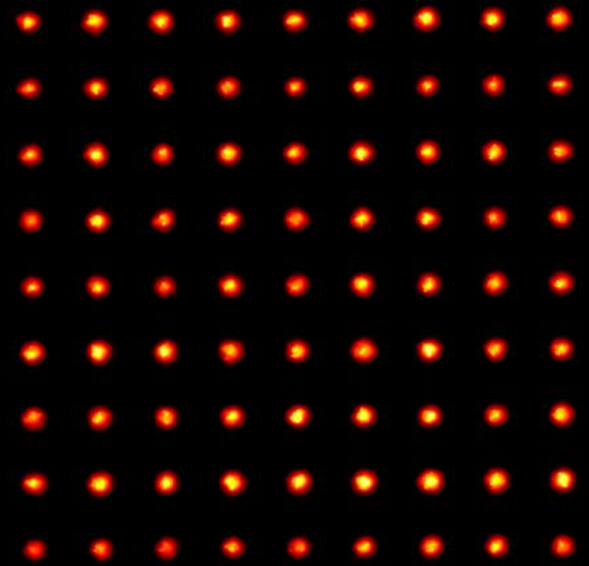
DOE for 9x9 dot grid projection





- Simulation (off-axis)
- Optisches Experiment (off-axis)

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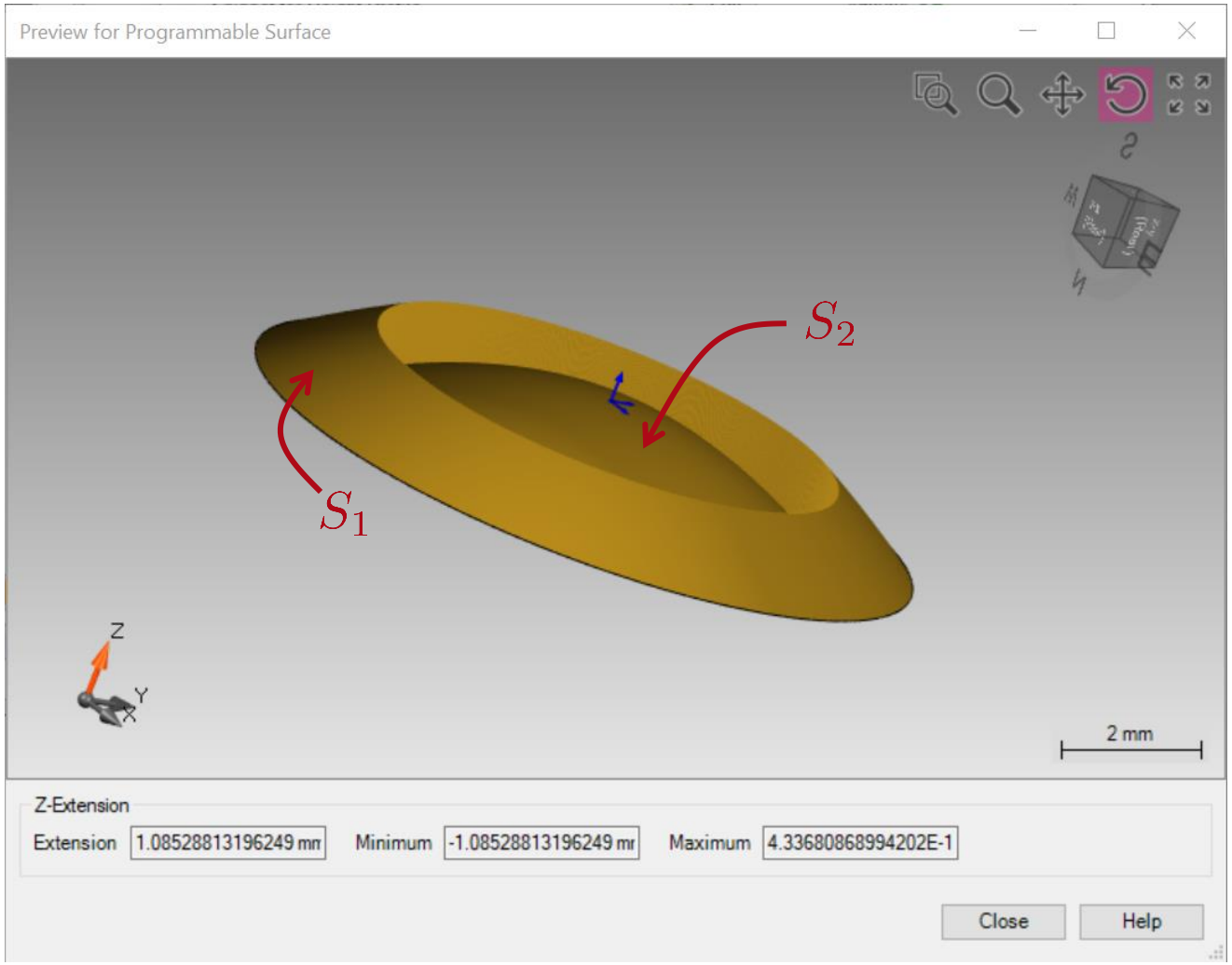
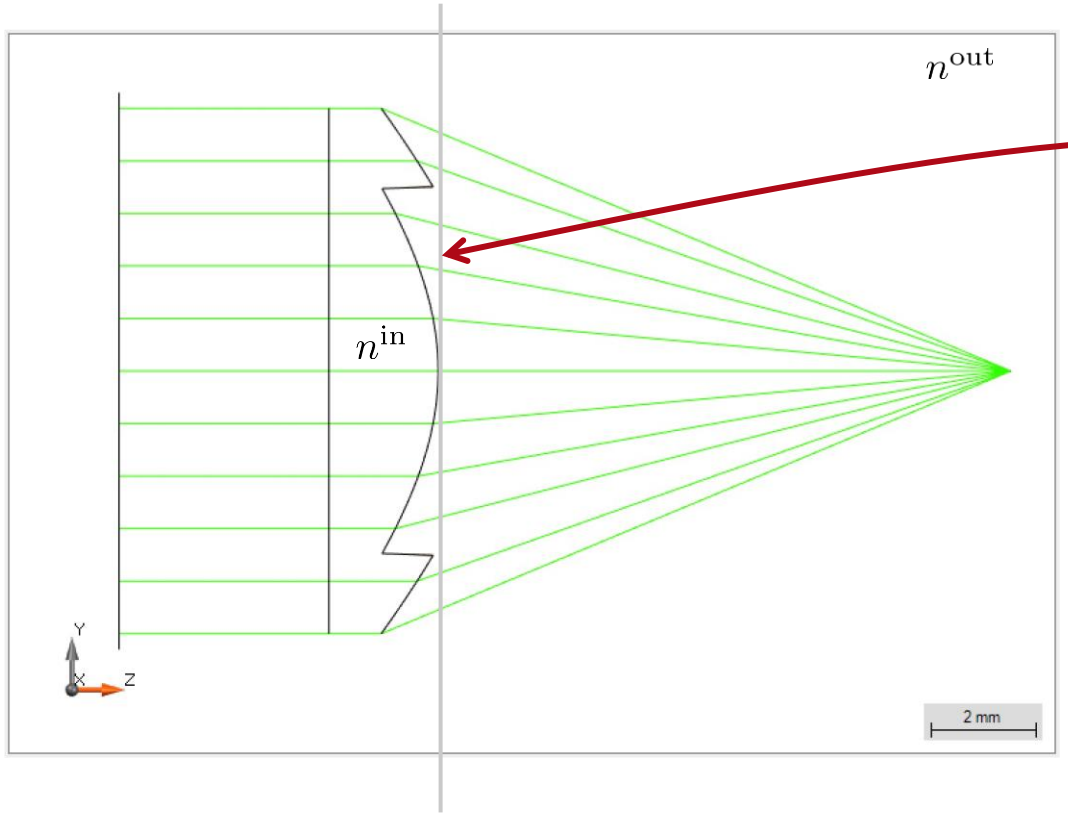
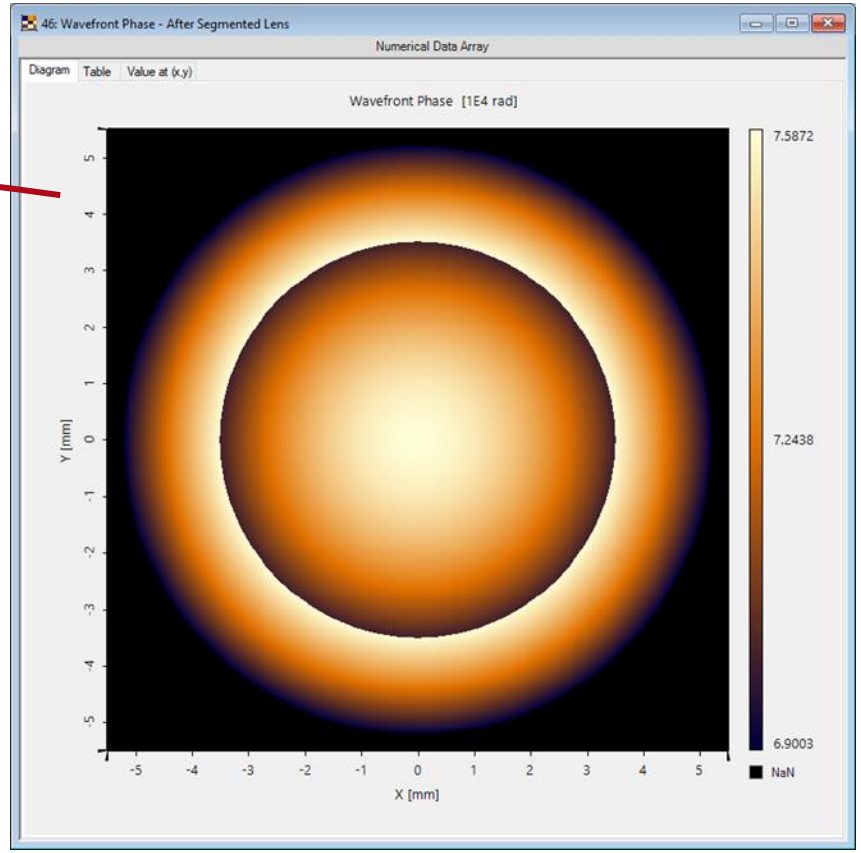
Example: Oculus Rift S VR Glasses (Meta)

Structural Design Segmented Lens: Focusing NA 0.4



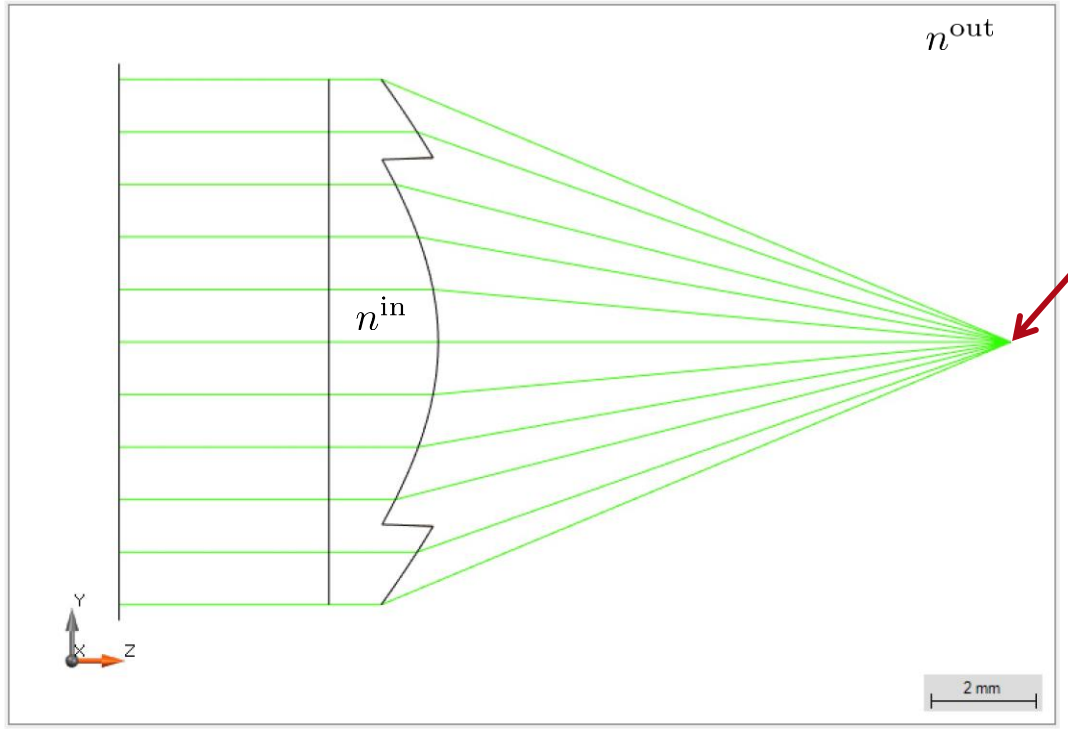
Focusing (NA = 0.4) Lens: Physical-Optics Modeling

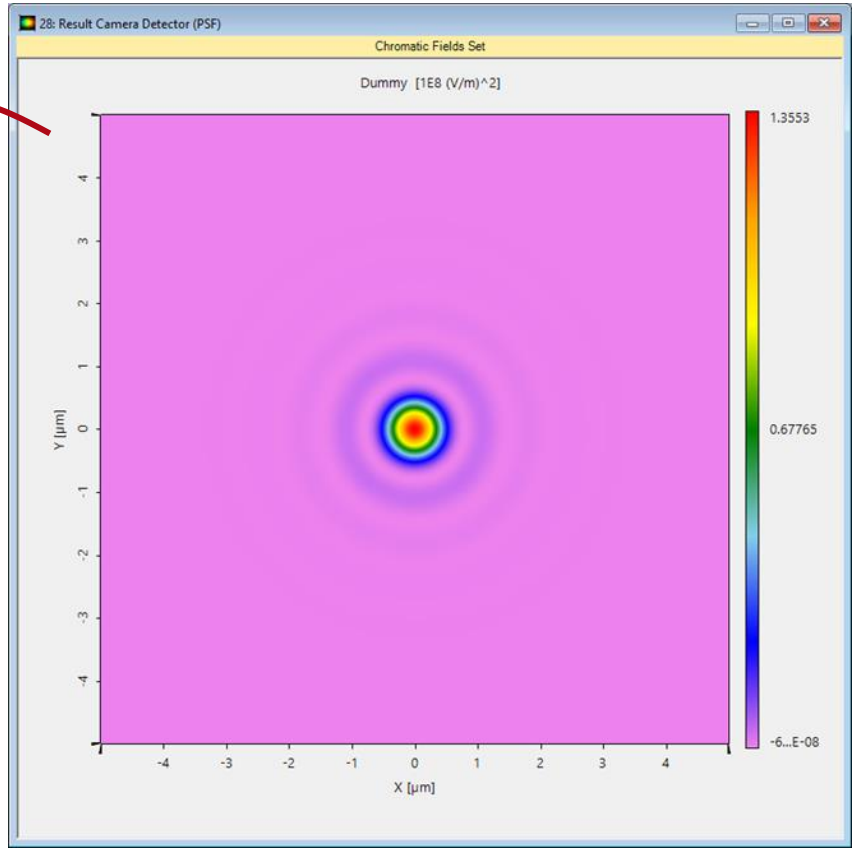




Phase behind lens

Focusing (NA = 0.4) Lens: Physical-Optics Modeling





Intensity in focus