Designing Augmented/Virtual Reality Devices using Multi-Domain Optical Simulations

EPIC Online Technology Meeting on Next Steps for Smart Glass in AR and Related Applications

Dr. Maryvonne Chalony

Light Tec Is Now Part of Synopsys' Optical Solutions

- Synopsys acquired Light Tec on November 19, 2020

- Provides a direct sales and support channel in Europe and Israel

- The addition of Light Tec's measurement products and services augments the technical capabilities of Synopsys' optical software tools

- We will continue our cooperation with our CODE V, LightTools, LucidShape and RSoft Photonic Device Tools software customers

- We remain your contact for technical support, technical webinars, and software training

SYNOPSYS

Light Tec is now part of Synopsys' Optical Solutions

Learn more

MOUNTAIN VIEW, Calif., Nov. 19, 2020 /PRNewswire/ — Synopsys, Inc. (NASDAQ: SNPS) today announced it has acquired Light Tec, a global provider of optical scattering measurements and measurement equipment. The combination of Synopsys' optical design software tools with Light Tec's solutions expands customer access to precision light scattering data for materials and media used in optical systems.

The terms of the deal, which are not material to Synopsys' financials, are not being disclosed.

Understanding the way light interacts with surfaces is a key part of successful optical product development. Light scattering data provides designers with real, accurate information to predict how light reflects and transmits in an optical system. It is used to obtain high-precision simulation results for a wide range of applications such as optical sensors, displays, semiconductors, and luminaires. Light scattering data is also important for demonstrating optical product spectral behavior in photorealistic renderings.

Upgrade to the Industry Standard

Optical Solutions That Help You Build Better Optical Designs, Faster

CODE V
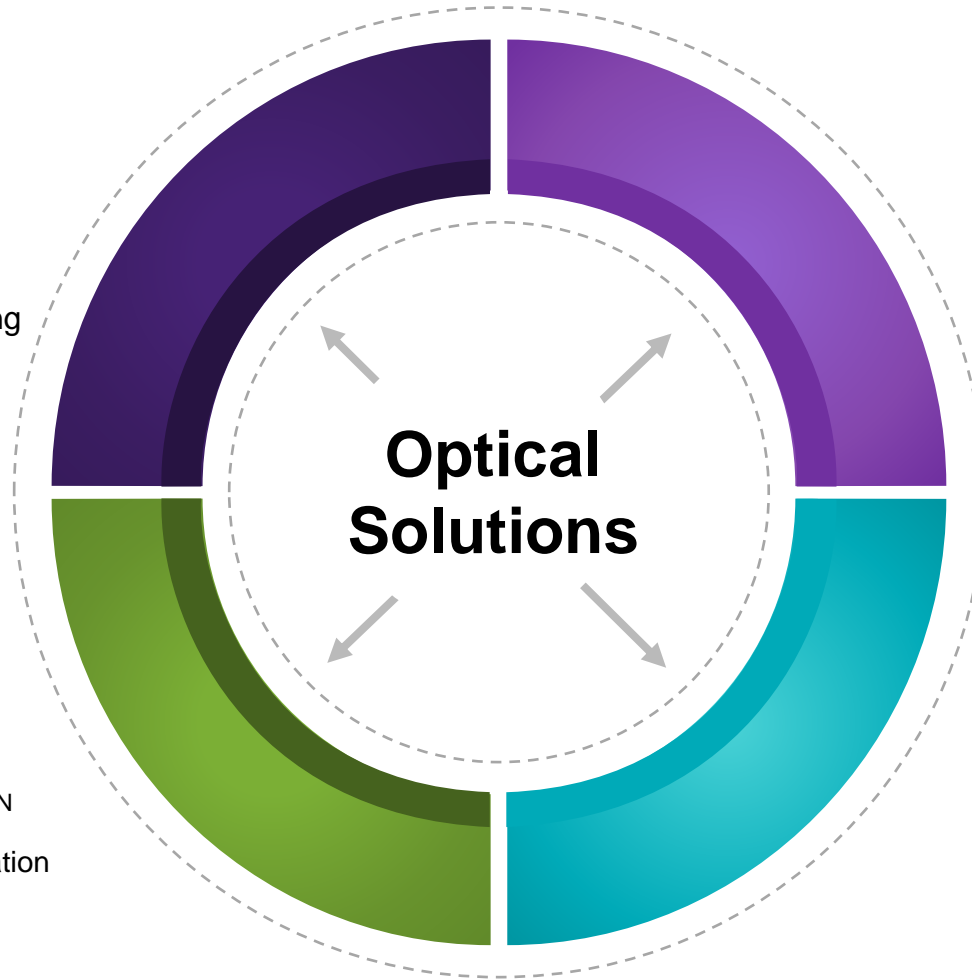APPLICATION: IMAGING DESIGN

Lens optimization, analysis, tolerancing and fabrication support

LightTools
APPLICATION: ILLUMINATION DESIGN

Virtual prototyping, simulation, optimization and visualization of illumination optics

Optical Solutions

LucidShape
APPLICATION: AUTOMOTIVE LIGHTING DESIGN

Design and real-time simulation of automotive forward, rear and signal lighting

Optical Engineering Services
APPLICATION: CUSTOM OPTICAL DESIGN

Imaging, illumination, and systems engineering services

SYNOPSYS®

Upgrade to the Industry Standard

Photonic Solutions That Empower Innovations from Concept to Manufacturing

RSoft Photonic Device Tools

Industry's widest portfolio of simulators for passive and active photonic devices

Photonic System Tools

Comprehensive simulation of optical communication system links
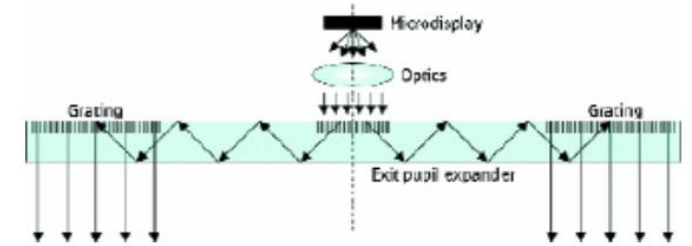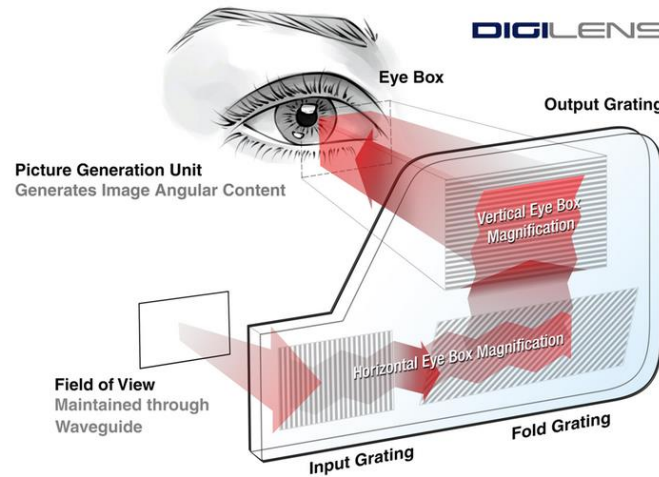
PIC Design Tools

Produce and verify photonic ICs in a unified design platform with OptoCompiler, OptSim Circuit and OptoDesigner
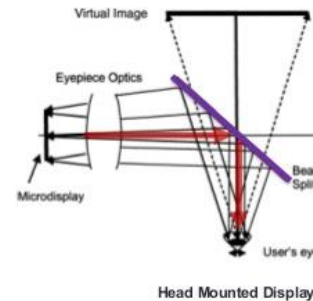
AR/VR Requirements

- Main VR/AR requirements:
  - Low weight
  - Small Size
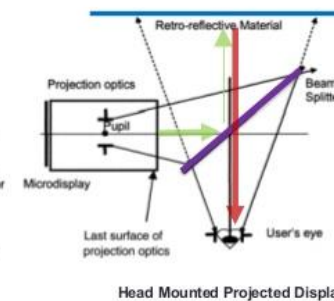 - Insensitive to vibration
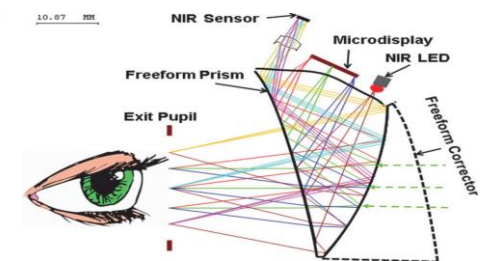 - Comfortableness

- Types of existing systems include:
  - Freeform optical prisms projection systems
  - Retina scanning
  - Reflective systems or hybrid reflective/refractive systems
  - Optical planar waveguides with diffraction gratings
    - This system type has the potential to meet these requirements, Synopsys tools can help!

DOE1 - Input

DOE3 - Output
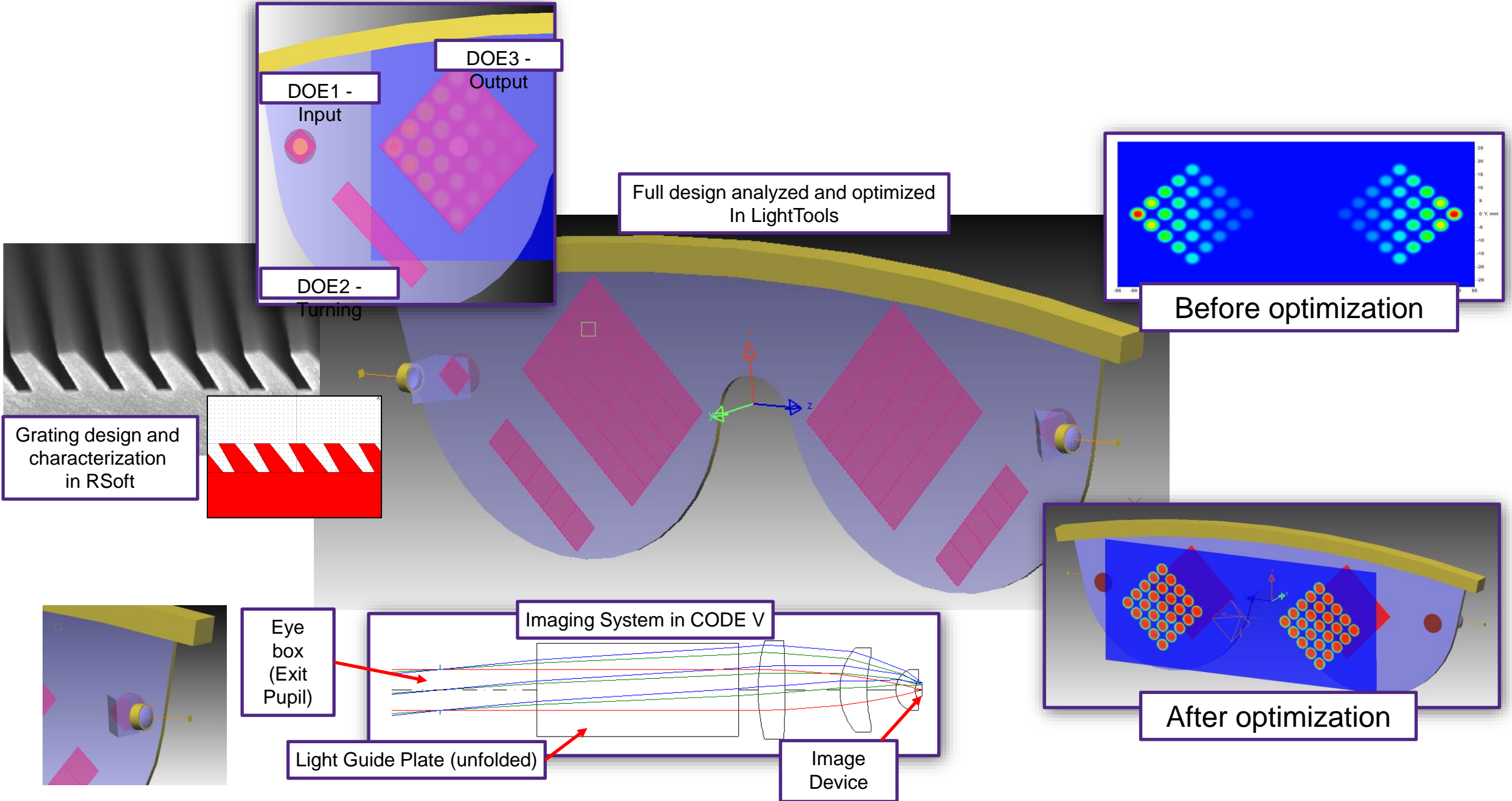
DOE2 - Turning

Full design analyzed and optimized In LightTools

Before optimization

Grating design and characterization in RSoft

After optimization

Imaging System in CODE V

Eye box (Exit Pupil)

Light Guide Plate (unfolded)

Image Device

What we offer and what we are looking for?

What we offer?

- Complete design suite

- Including data transfer from Maxwell's solver to Ray-tracing software

- Addressing challenges related to the various scales of the features using multi-domain optical simulation

What we are looking for?

- Optical definition of material are key component of accurate optical simulation

- We always appreciate customers and vendors who can help us to provide samples and/or data.

- Contact us : osg-libraries@synopsys.com.

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