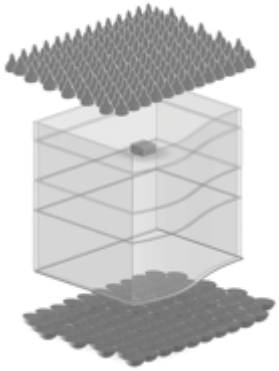
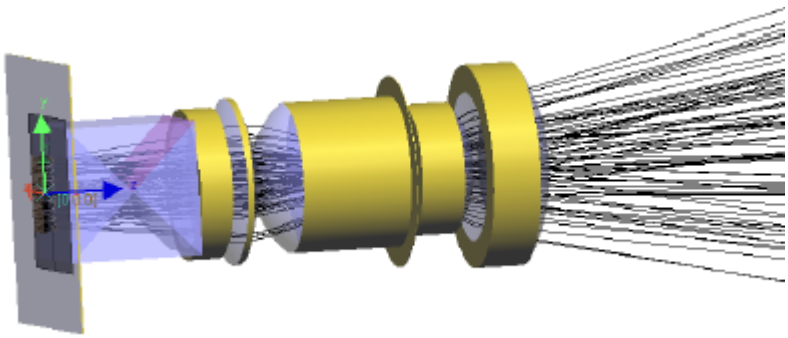
InfoDay LightTools/RSoft:
A mixed-level simulation for new design perspectives

Optical design: How to include diffractive effects into a Ray-tracing simulations

The coherent effects of light arising from the near/subwavelength features are difficult to include in the RayTracing simulation of a device. The RT techniques are based on the geometric optics approximation, their primary limitation is that they fail to model subwavelength geometric features where coherent effects, such as diffraction and interference, are critical. On the other hand, rigorous electromagnetic (EM) wave optics-based techniques, such as finite-difference time-domain (FDTD) and rigorous coupled wave analysis (RCWA); solve Maxwell's equations either directly or through some approximation. These rigorous EM techniques can be used for modeling several optical aspects of a design including the subwavelength layered structures, nanostructured gratings, micropatterned substrates, photonic crystal and other periodic gratings, coupling to surface plasmon modes for back-reflectors, and random surface textures. However, these rigorous EM techniques have difficulty in analyzing the larger structures due to computational resource limitations.

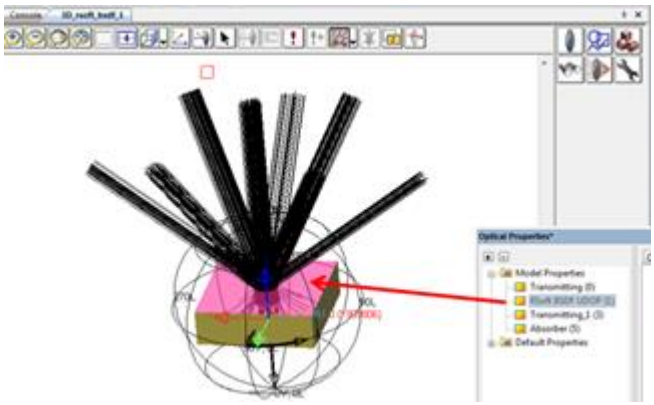




It becomes clear that a mixed-level simulation approach is required to circumvent the limitations of the individual numerical techniques.
We will introduce the principle of the mixed-level simulation approach and demonstrate its usage through various examples (LED, surface textures...).

Who should attend?

Any designer familiar with LightTools who is confronted with issues related to diffraction and sub-wavelength effects.



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How to include diffractive effects into a Ray-tracing simulations

Maryvonne CHALONY, Light Tec - RSoft technical support

Tuesday 19th February, 2019 in London, UK

AGENDA

9:45	**Welcome Coffee**
10:00 – 10:30	**Introduction of the RSoft and LigthTools products**
10:30 – 11:15	**Introduction of the co-simulation technics:** - How transfer data from RSoft to Ligthtools - Proof of concept on a sub-wavelength 3D grating
Coffee break	
11:30 – 12:15	**Introduction of the new features in RSoft**
Lunch break	
13:45 – 15:30	**Review of real application designs** - LED - Color filter - Micro-Lens Arrays - Structured color - Volume scattering - Ghost image reduction - AR/VR applications
Coffee break	
15:45 – 16:15	**Questions/answer**
16:15	**End of the event**

Please fill out this form (one per person) and send it back to sales@lighttec.eu.com or fax it to +33 494 12 18 49 to confirm your registration before **January 30th 2019.**

Company name: .....

Participant's name: .....

Position: .....

Phone number: .....

Email: .....

I hereby confirm that I will attend the LightTools Info-Day in London on Tuesday 19th February, 2019. Place to be confirmed.

Date: Signature:

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