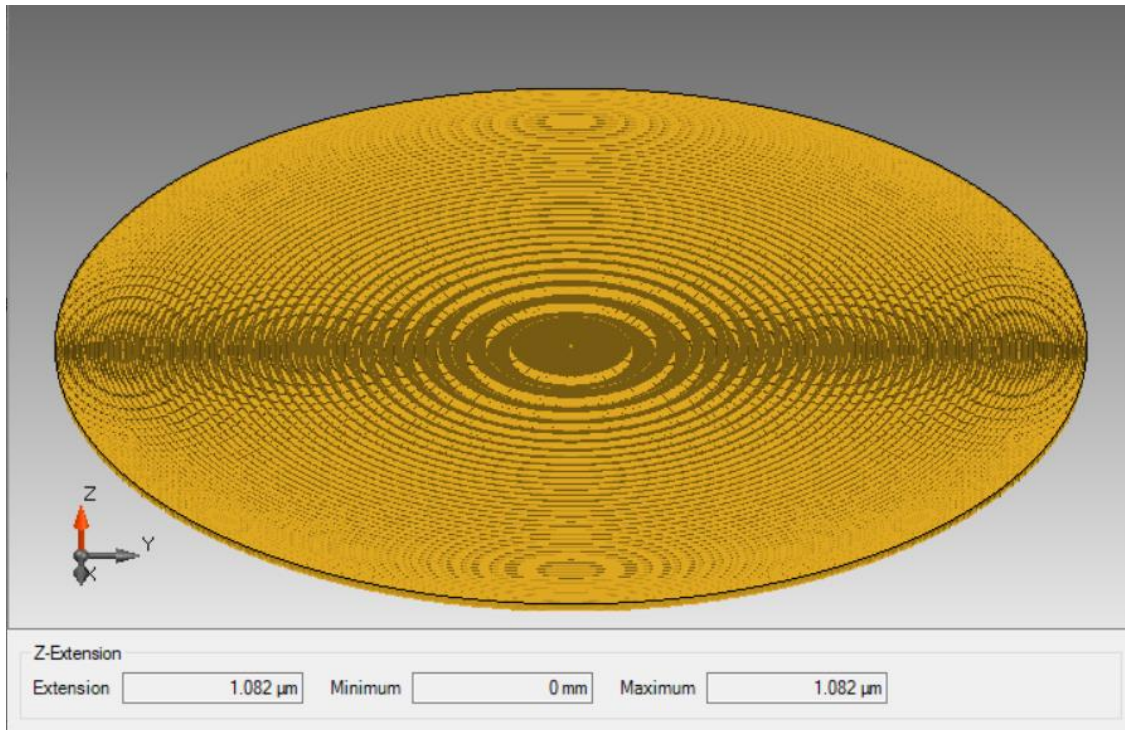


Design and Analysis of Intraocular Diffractive Lens with Curved Surface

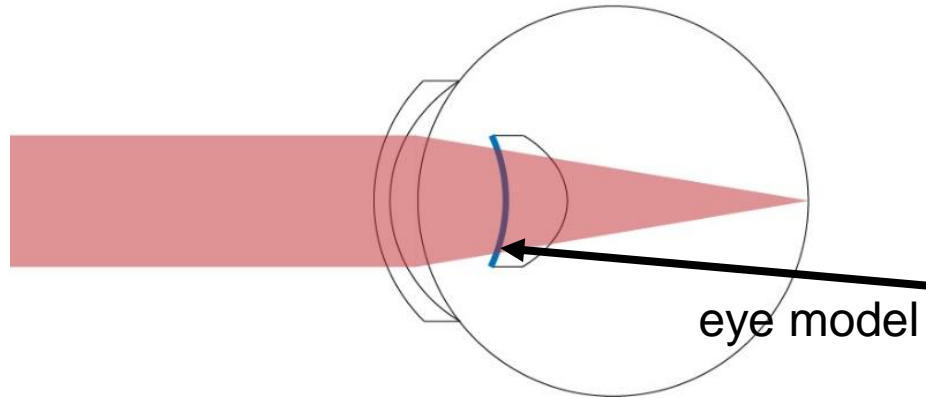
Abstract



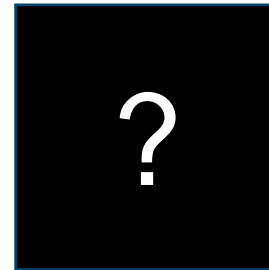
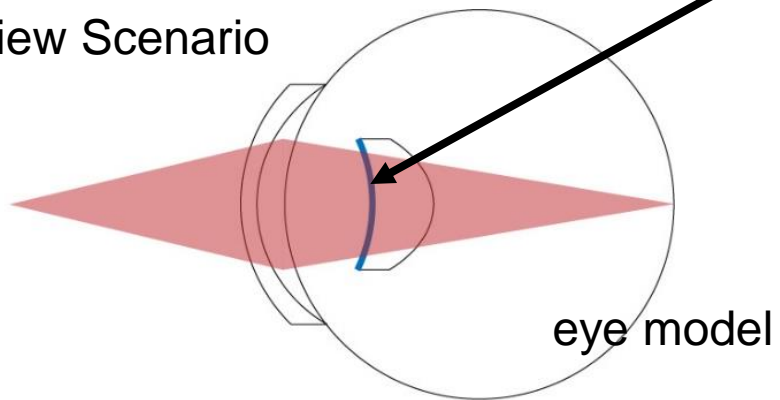
Currently, multifocal intraocular lens implantation has been widely used in the treatment of cataracts. As one of its advantages, the diffractive intraocular lens provides patients with good near and far vision. Such lenses are usually designed with a planar diffractive lens. In this example, we demonstrated how to model a intraocular lens system using a conical diffractive lens. For the actual structure and idealized grating structure, the performance of the conical diffractive lens is further studied.

Task Description

Far View Scenario

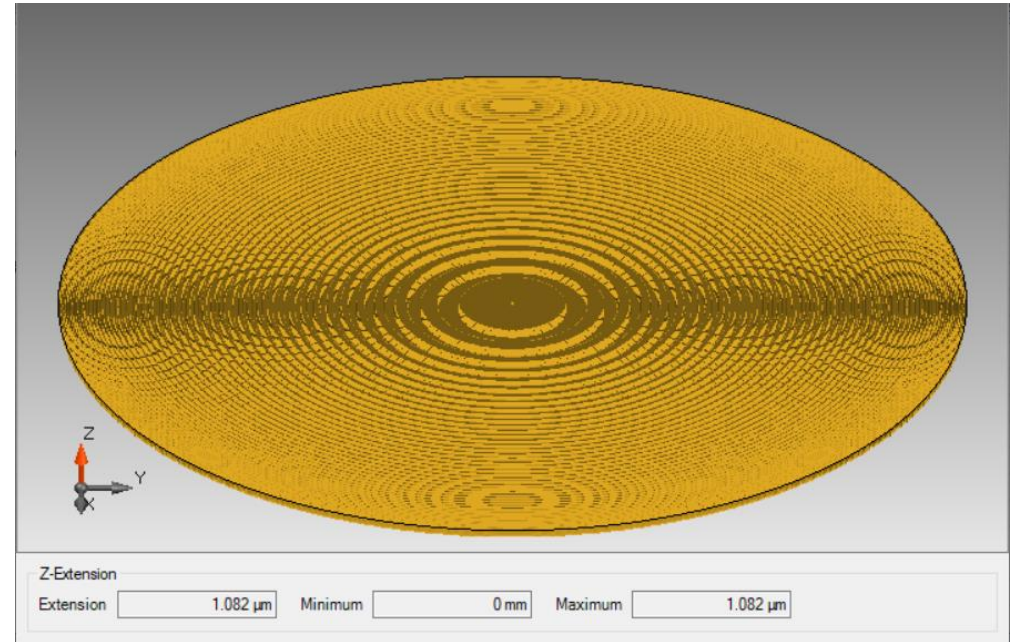
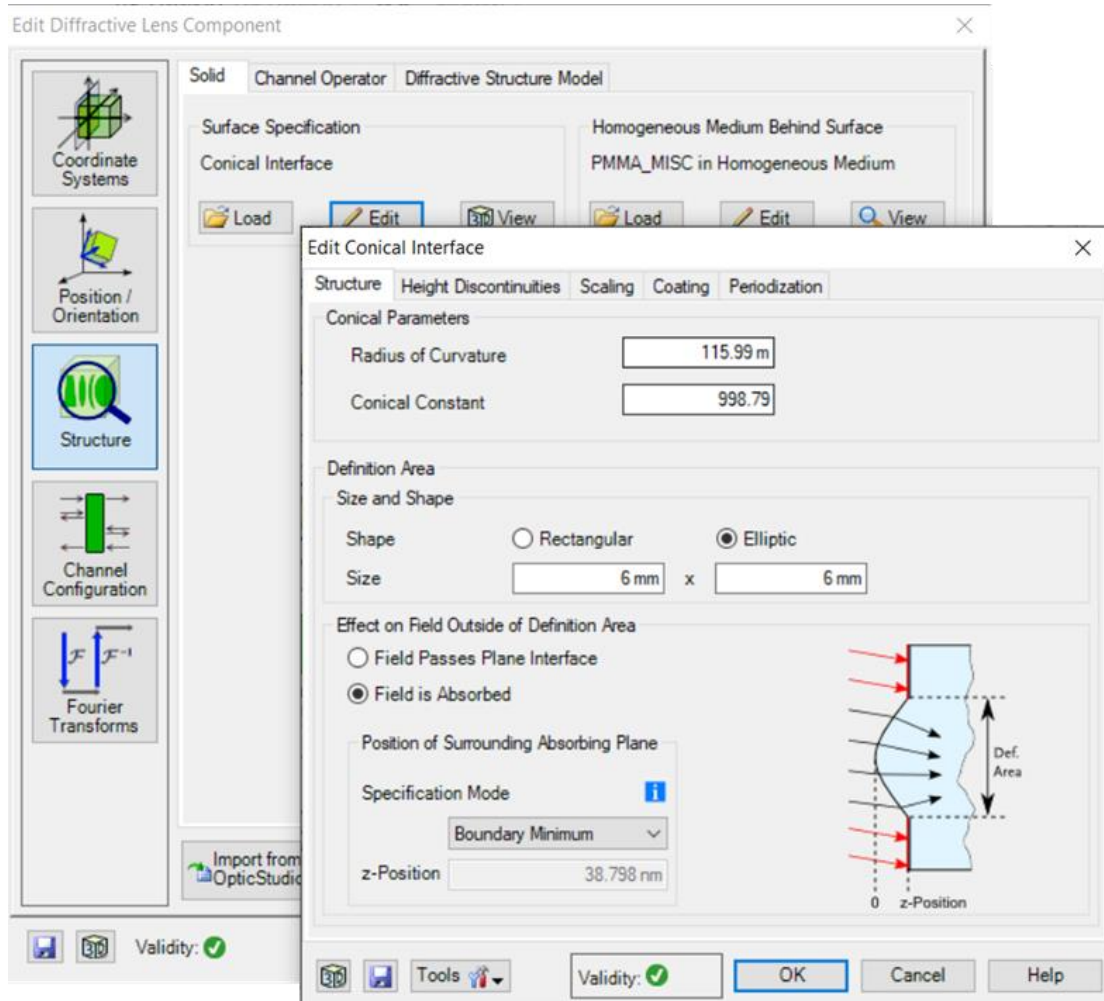


Near View Scenario



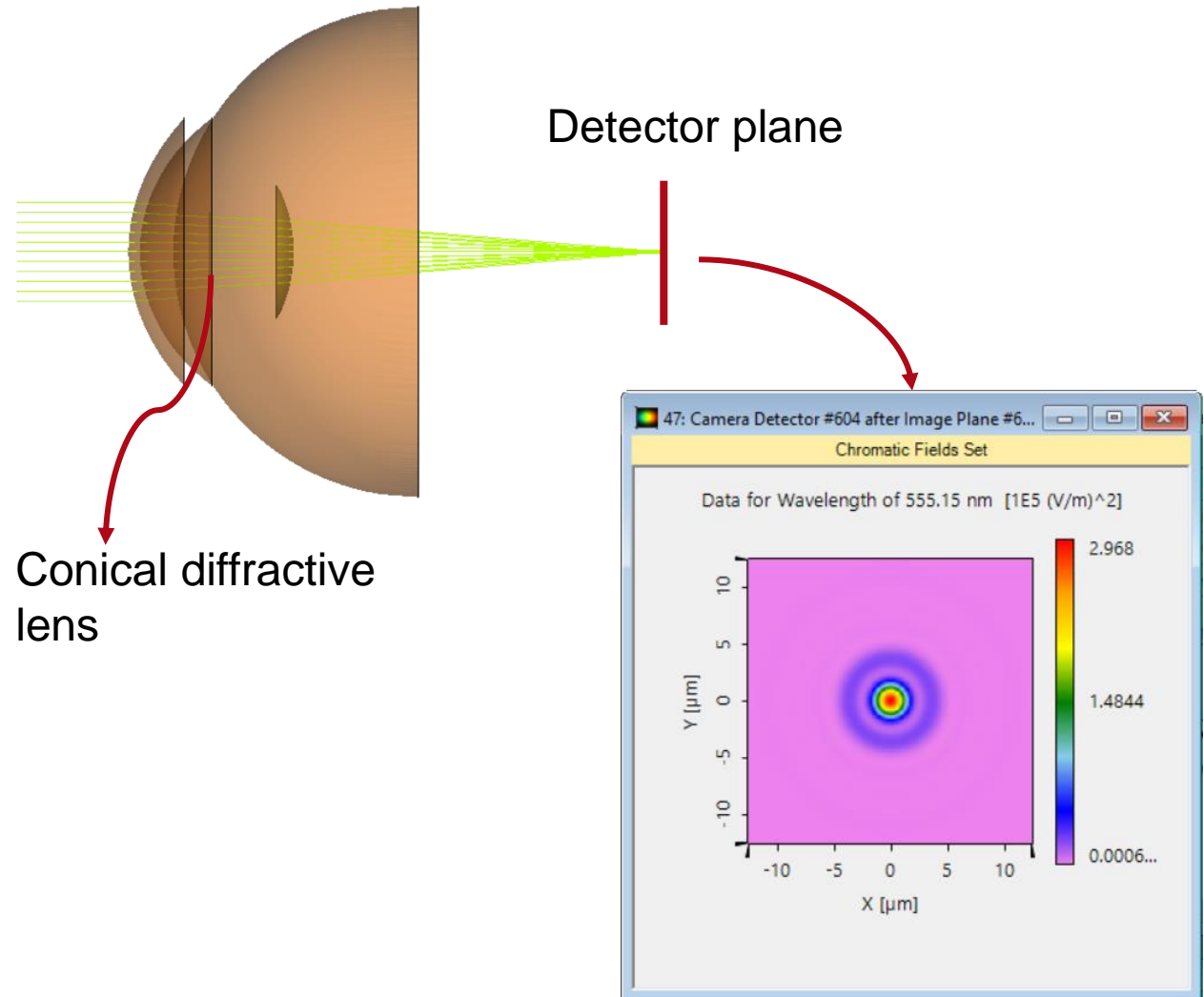
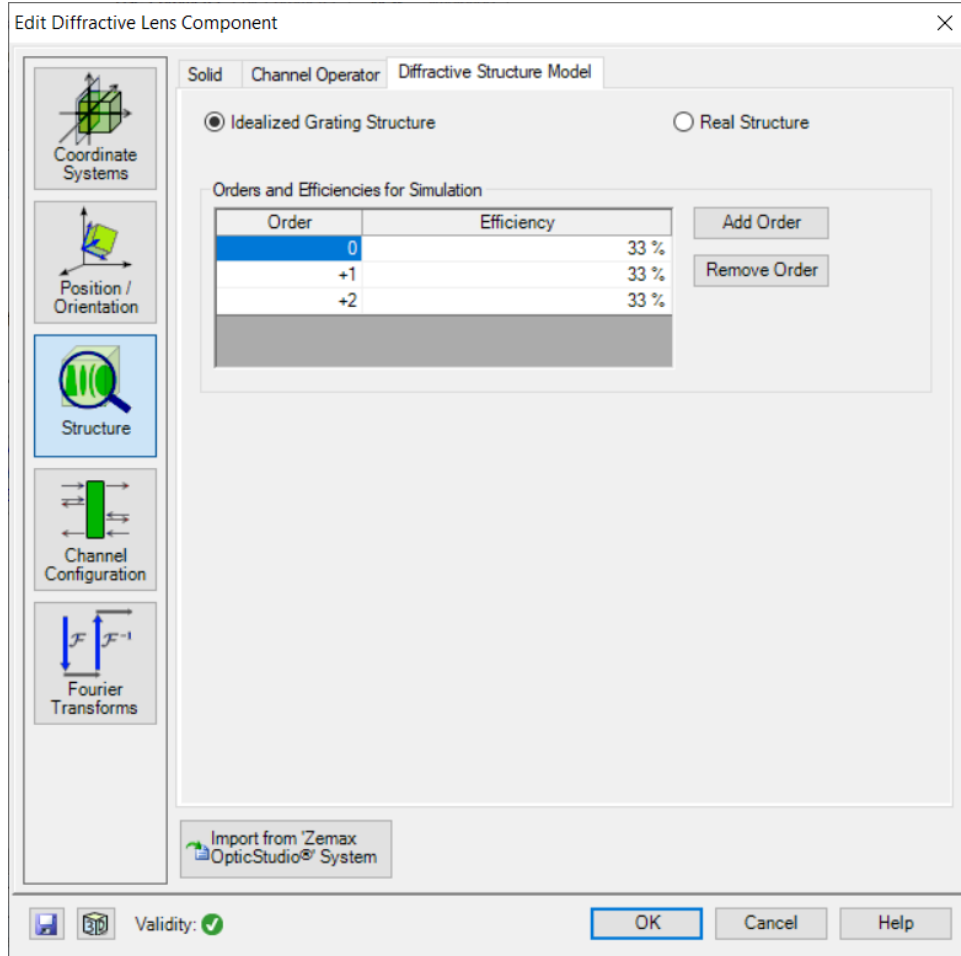
How to design and analyze the conical diffractive lens with two different wavefront effects for the two configurations?

Configuration of the Conical Diffractive Lens



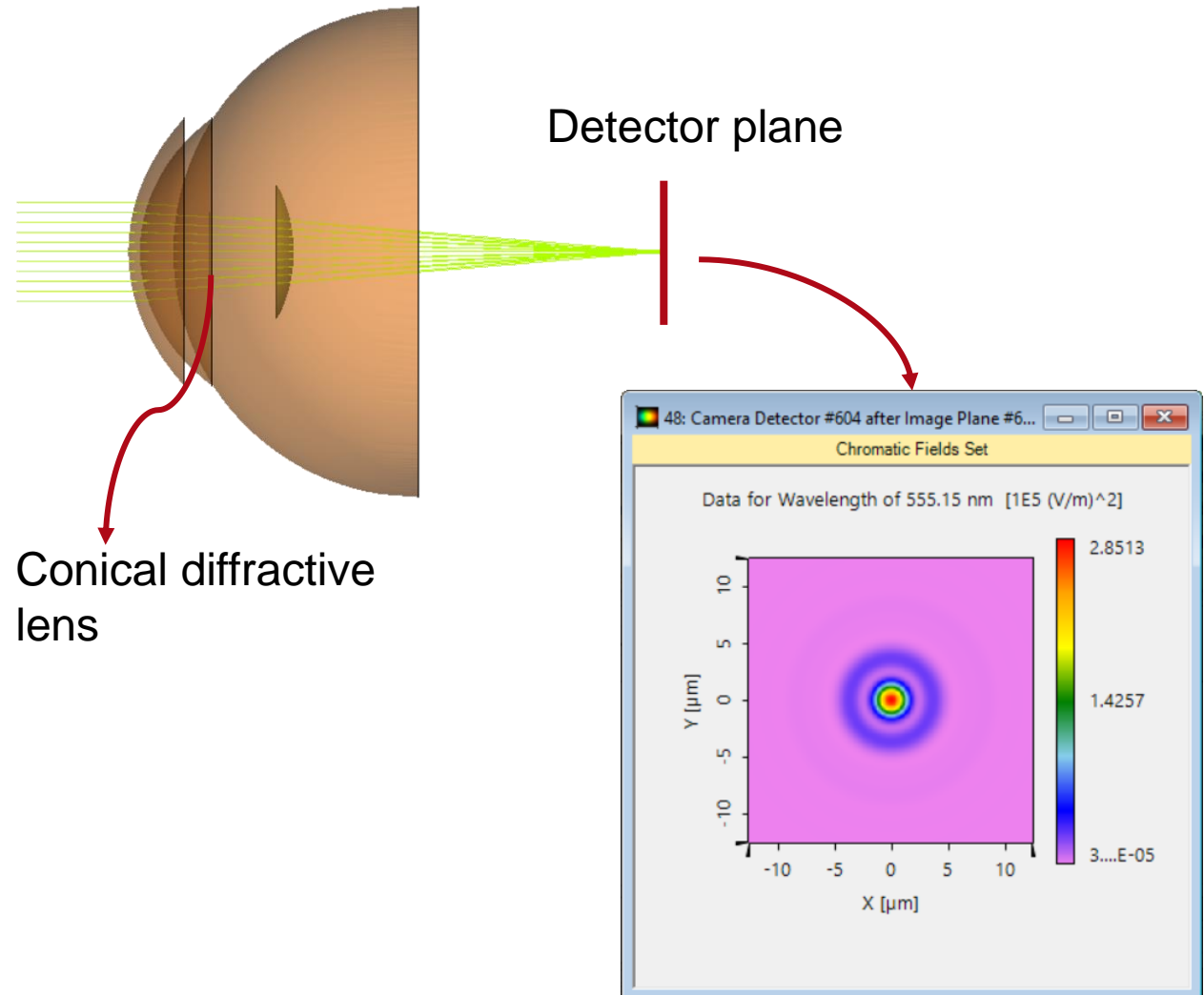
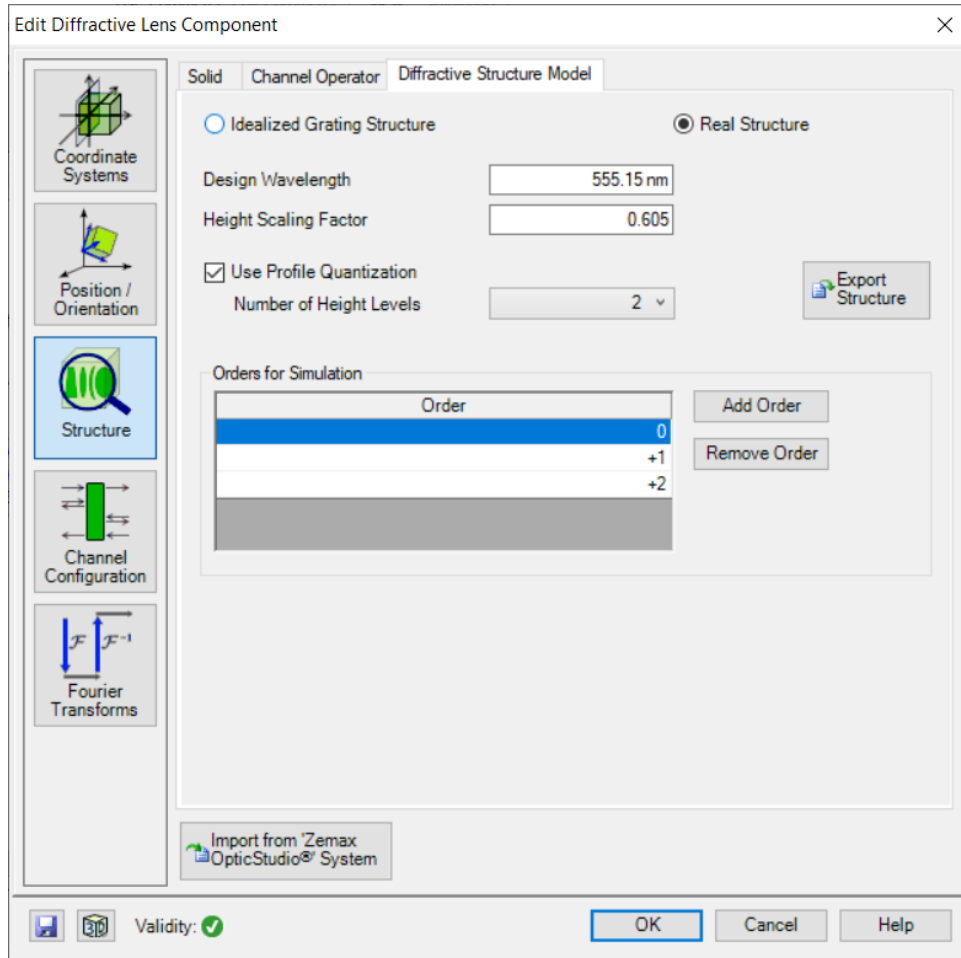
Far View Scenario

Idealized Grating Structure



Far View Scenario

Real Structure



Near View Scenario

Idealized Grating Structure

Edit Diffractive Lens Component

Solid Channel Operator Diffractive Structure Model

Idealized Grating Structure Real Structure

Orders and Efficiencies for Simulation

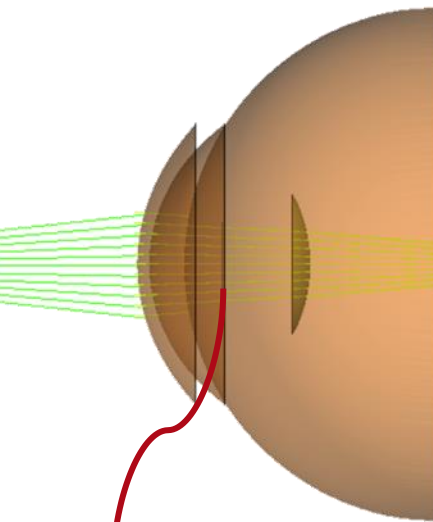
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|-------|------------|
| 0 | 33 % |
| +1 | 33 % |
| +2 | 33 % |

Add Order Remove Order

Import from Zemax OpticStudio® System

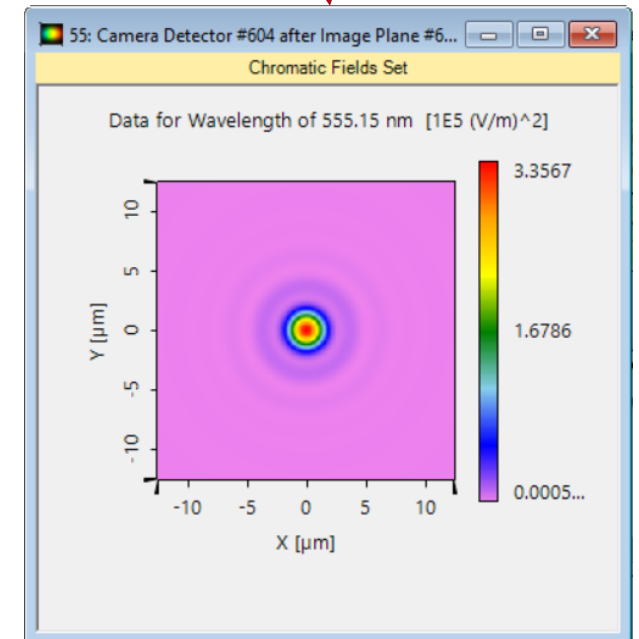
Validity:

OK Cancel Help



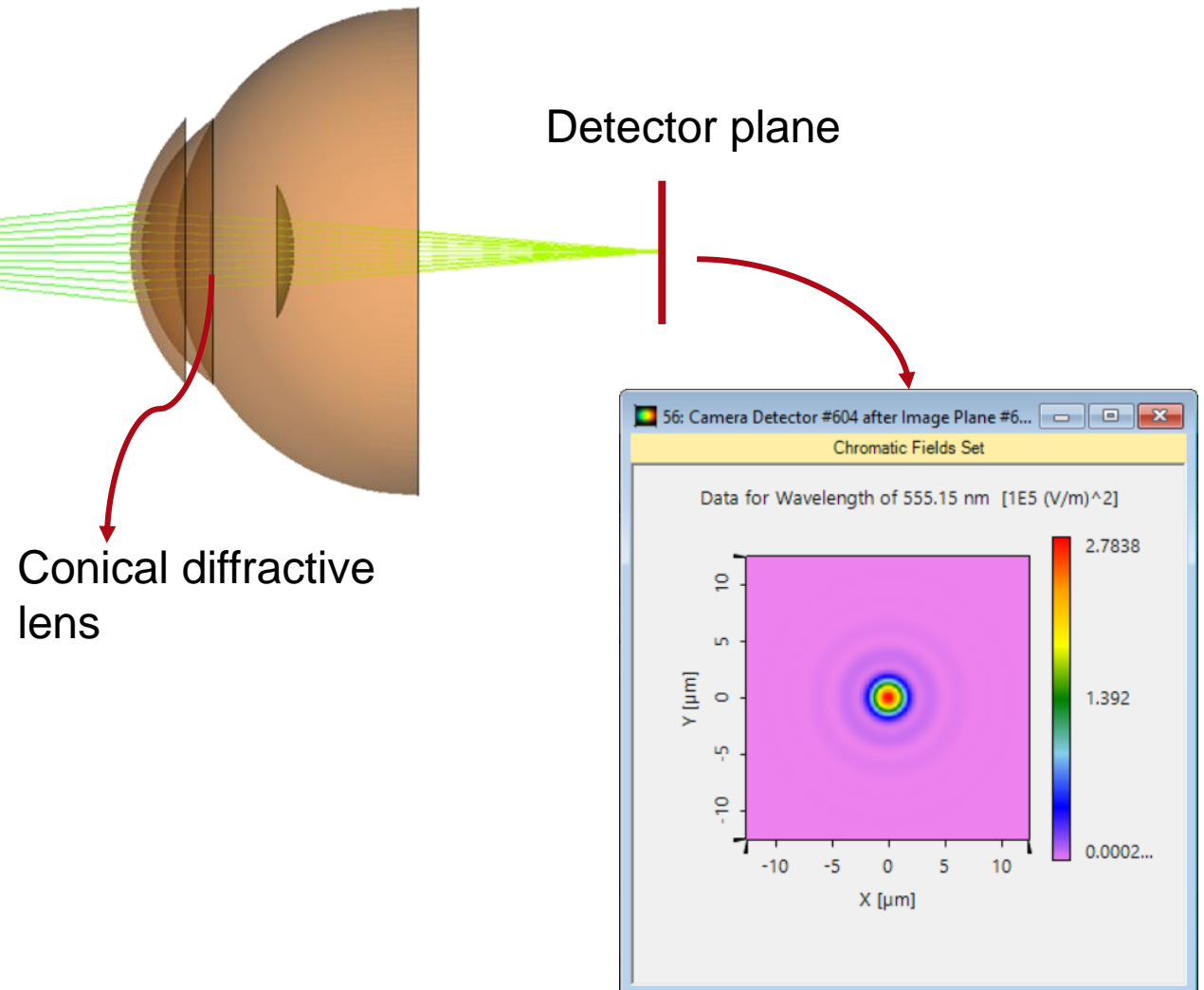
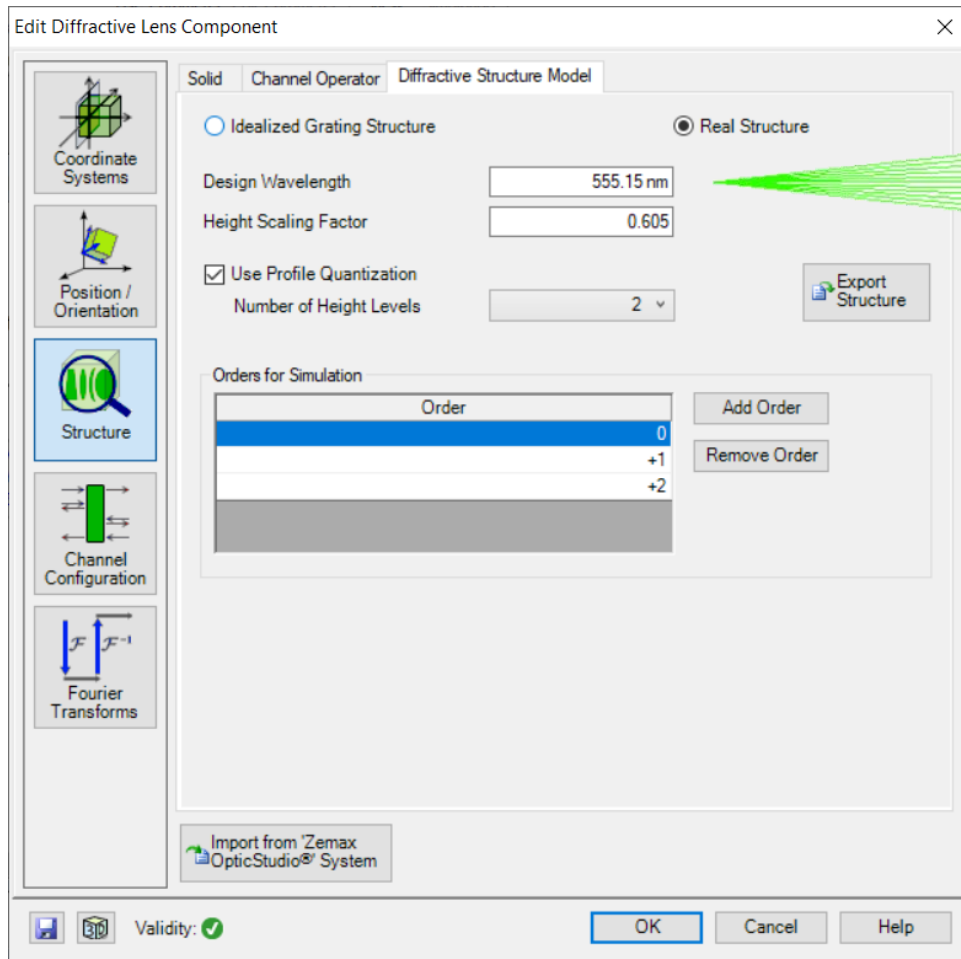
Conical diffractive lens

Detector plane



Near View Scenario

Real Structure



Document Information

| | |
|---------------------------------|---|
| title | Design and Analysis of Intraocular Diffractive Lens with Curved Surface |
| document code | Demo.0024 |
| version | 1.0 |
| VL version used for simulations | 2020.1 (Build 3.4) |
| category | Demo |
| further reading | |
