What's New in CODE V Version 2025.03

Introduction

The CODE V 2025.03 release offers improvements that make it simple to model multiple operational environments. Enhancements to Multi-Environment Coupling allow you to optimize athermalized lens designs across vast temperature ranges and model designs with more mounting techniques. An expanded Example Model Library, with new and updated examples, facilitates quicker design initiation.
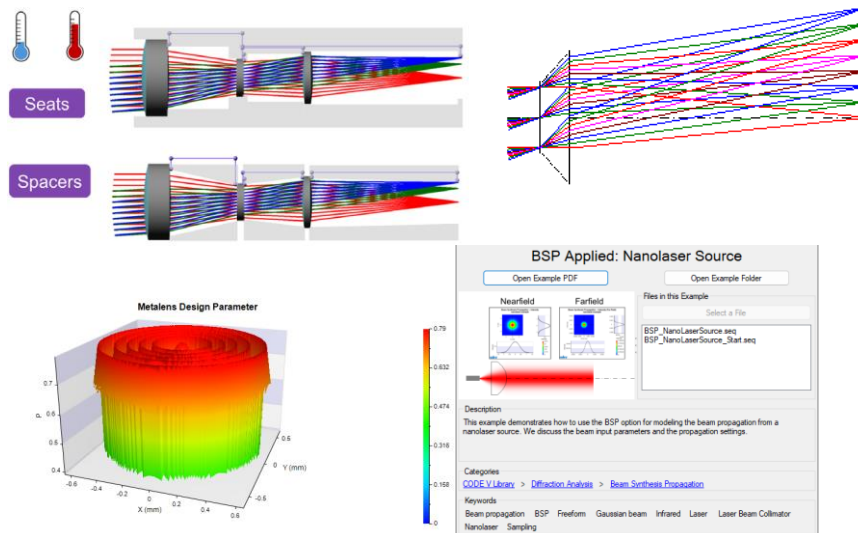
Upgrade Your Imaging Optics Designs

Figure 1. CODE V Version 2025.03

Multi-Environment Coupling enhancements

CODE V's enhanced Multi-Environment Coupling feature allows users to model lens designs based on any mounting technique, including spacer-based, seat-based, edge-mounted, and combinations of these. This advancement simplifies the athermalization of rotationally symmetric and folded lens systems.

Users can create athermalized or multi-environment designs in the initial lens set up, a vast improvement from designing lenses at a single temperature or condition first and then only checking use case performance later. Lens designs can be easily exported to LightTools for additional analysis, such as stray light studies.

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Hidden Lens Module expiration date

CODE V Hidden Lens Modules (HLMs) contain encrypted lens design data, enabling users to exchange optical analysis data without revealing the underlying design. CODE V now allows HLMs to include an expiration date, ensuring they become non-functional after this date. This feature is useful for controlling access to optical analysis data within a specified period, such as outlined in a non-disclosure agreement.

CODE V Meta Optic design

The latest CODE V release has enhanced Meta Optic design capabilities, enabling users to:

- Export designs to Hidden Lens Modules.
- Plot metalens transmission versus large-scale diffracted orders.
- Observe and understand the effects of design parameters on diffracted power phase and transmission.
- Visualize variations in meta-atoms across an optical surface.

Expanded Example Model Library

The CODE V Example Model Library is an excellent resource for learning how to use specific features, such as Global Synthesis for global optimization, Beam Synthesis Propagation to analyze diffraction-related characteristics, and SpecBuilder for setting up lens system specifications. The library includes 14 new and updated examples in this release to help users familiarize themselves with the latest enhancements and use application examples to jumpstart design workflows.

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