Optical design software from Zemax

OpticStudio™

IMAGING OPTICS

LIGHTING & ILLUMINATION

LASERS & FIBERS

## Design imaging optics, lighting and illumination systems, and laser systems

As the industry-leading optical design software, OpticStudio is used across a wide variety of industries, from aerospace and astronomy, to automotive, biomedical research, consumer electronics, machine vision, and more.
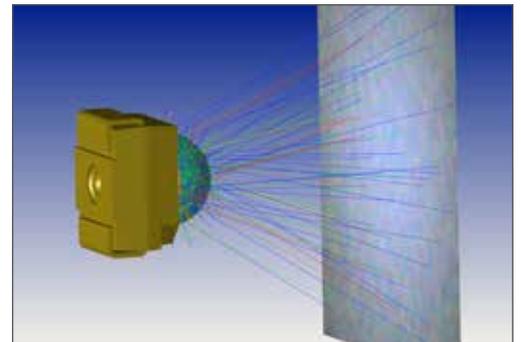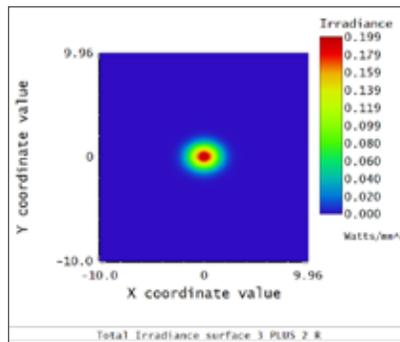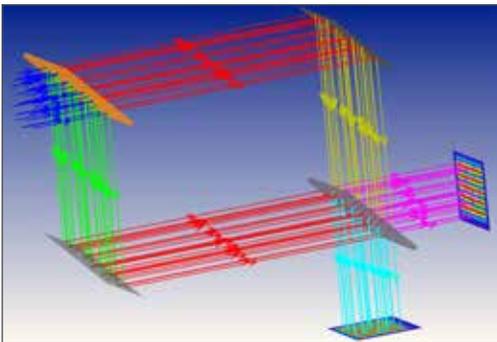
Optimize with precision

Improve design performance with easy-to-use optimization tools and advanced optimization algorithms.

Manually adjust your system with optimization tools like the sliders in the Visual Optimizer, or let the advanced optimization algorithms find the best design for you. These algorithms automatically maximize your system performance by changing parameters in your design, such as lens radii, thicknesses, and materials. Algorithms include the fast Local Optimizer and the exhaustive Global Search Optimizer.
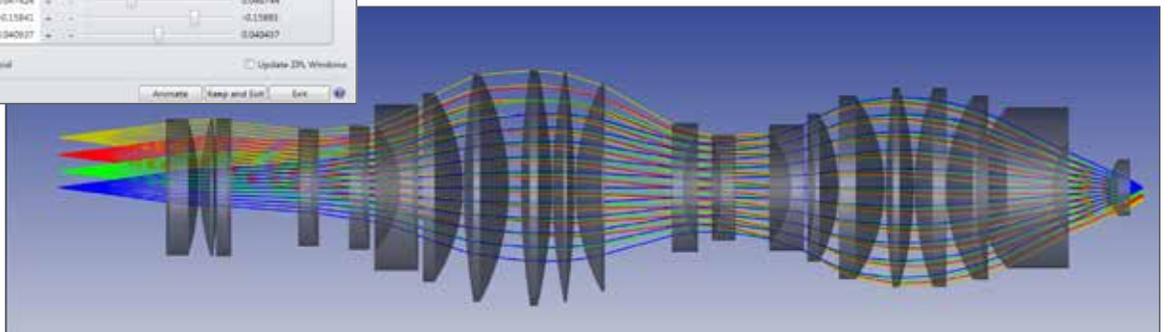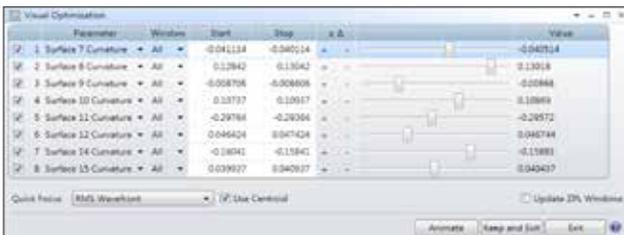
Tolerance to get it right the first time

Ensure manufacturability of your system with comprehensive tolerancing features.

Run a tolerance sensitivity analysis to calculate how each tolerance will affect your system performance, or let OpticStudio calculate the allowable tolerances for you by running an inverse sensitivity analysis. Then, simulate the aggregate effect of all tolerances with a Monte Carlo tolerance analysis. This analysis generates manufacturing yield statistics so you know what percentage of manufactured systems meet specifications.
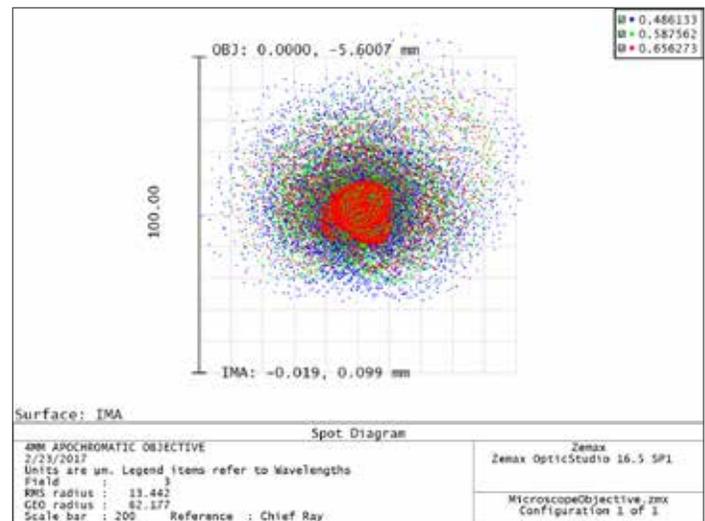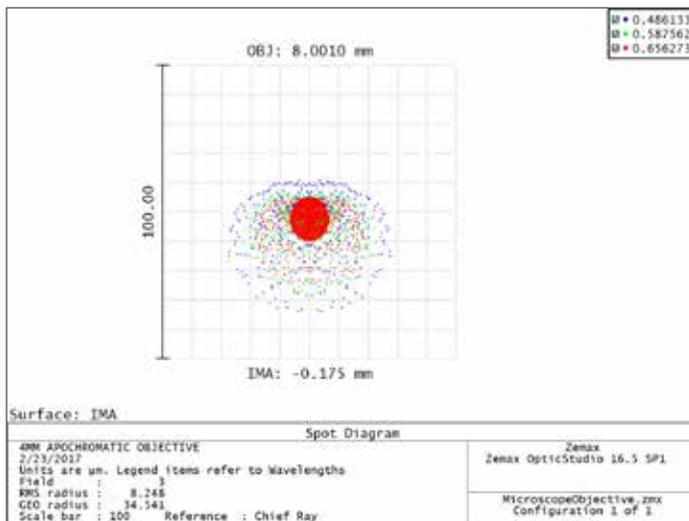
Import and export CAD files

Import, optimize, and export CAD parts with OpticStudio.

Dynamically open native SOLIDWORKS, PTC Creo Parametric, and Autodesk Inventor parts for optimization within OpticStudio, or use the built-in CAD program, Part Designer, to create custom shapes for any application.

For the best collaboration between optical and mechanical engineers, use LensMechanix, a SOLIDWORKS add-in by Zemax. Load OpticStudio files into SOLIDWORKS, efficiently package, analyze, and validate optomechanical designs, and send complete optomechanical assemblies as ZAR files back to OpticStudio.

Program OpticStudio to fit your needs

Three features help you customize your experience:

- **ZOS API** — Create applications or build your own analysis using the application programming interface.
- **Zemax Programming Language** — Write your own macros in OpticStudio.
- **User-defined surfaces and objects** — Program in any surface shape, phase, transmission function, or gradient index.

OpticStudio Editions

	On-Premise Perpetual			Cloud Subscription
	Standard	**Professional**	**Premium**	**Premium**
Features	• For designing lenses and simulating complex imaging and afocal systems • Tools for comprehensive sequential system design, including polarization analysis, optimization, tolerancing, geometric and diffraction analysis, and image simulation	• For simulating laser beam propagation, stray light, and illumination systems • All features in the Standard Edition, plus features to simulate, analyze, optimize, and tolerance illumination, laser, and fiber systems	• For designing comprehensive optical and illumination systems • All features in the Professional Edition, plus dynamic CAD control, illumination maps, LightningTrace™, phosphors and fluorescence simulation, and the complete set of source and scatter data libraries	• For designing comprehensive optical and illumination systems in the cloud • All features in the most up-to-date Premium Edition, accessible anywhere with a browser
Licensing	Single-user license	Single-user license and multi-user network license (volume discounts available)	Single-user license and multi-user network license (volume discounts available)	Annual subscription

The 9850TPIR+ memory link repair tool by ESI

Mars Rover Curiosity on Gale Crater

Two-photon microscope

Download a free trial of OpticStudio at Zemax.com/OpticStudio

About Zemax

Zemax's industry-leading optical and mechanical design software, OpticStudio and LensMechanix, help scientists, engineers, researchers, and students turn their optical and illumination systems ideas into reality. We touch nearly every optical system manufactured today, including cell phone cameras, autonomous-vehicle sensor systems, and intraocular lenses—even imaging systems for the Mars Rover. The cornerstones of our success are rock-solid physics architecture, a culture of excellence and innovation, and the insistence on listening to our customers. We deliver unmatched value in the industry and have the largest, most passionate user base in the industry.

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