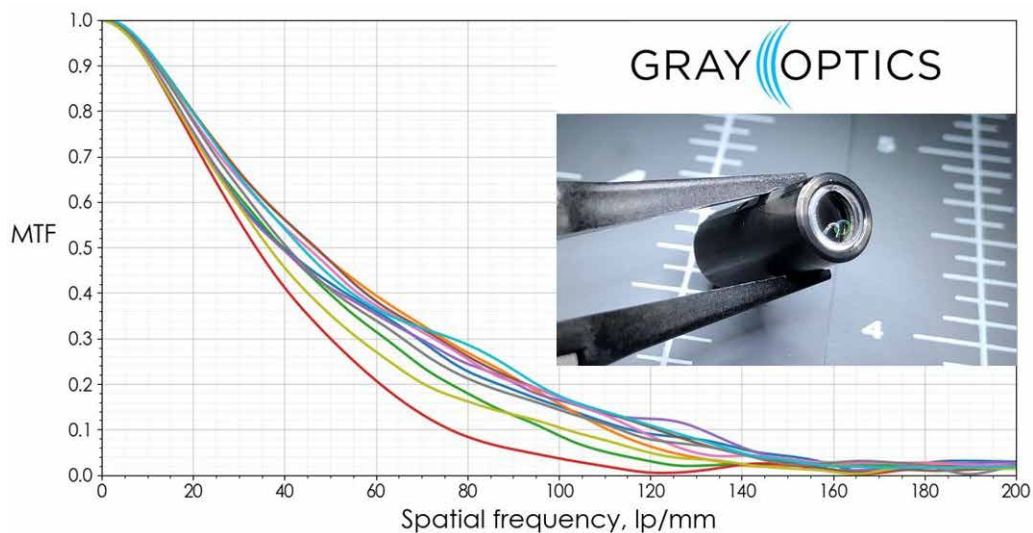


Synopsys and Gray Optics

Advancing Biomedical and Industrial Optics with CODE V

“The team at Gray Optics finds the optimization and tolerancing capabilities of CODE V to be very strong. These capabilities enable us to complete designs and release them for manufacture very quickly.”

~Rekha Doshi., Principal Optical Engineer,
Alexander Kapustin, Sr. Optical Engineer, Gray Optics



Compact microscope objective image courtesy of Gray Optics

Business

Founded in 2017, Gray Optics is an optical design firm headquartered in Portland, Maine, USA. The company is dedicated to helping clients develop innovative biomedical and industrial optics with services that span optical design and engineering, prototyping, precision optical assembly, and test equipment development.

“Our customers really appreciate the fast turnaround from concept to prototypes supported by CODE V. In addition, the CODEV customer support team is very knowledgeable and responsive.”

~Rekha Doshi., Principal Optical Engineer,
Alexander Kapustin, Sr. Optical Engineer, Gray Optics

Compact Microscope Objective Designed in CODE V

Microscope objective lenses are critical to the performance of an optical microscope, since they determine the image quality a microscope is capable of producing. The Gray Optics team used Synopsys CODE V to design and optimize a custom finite conjugate, achromatic microscope objective with the following specifications:

- 0.25 numerical aperture
- 5.8 x magnification within a total optical path of 40 mm
- Diffraction-limited performance

The lens is suitable for both medical and life sciences applications requiring a compact lens with a high magnification.

CODE V supported the microscope objective's design with the software's optimization and Macro-PLUS capabilities and fast wavefront differential tolerancing to meet stringent performance and manufacturability requirements.

To learn more about Gray Optics, visit <https://www.grayoptics.com/>.

To learn more about CODE V, visit [synopsys.com/optical-solutions/codev.html](https://www.synopsys.com/optical-solutions/codev.html).