Latest Release of Synopsys' CODE V Enables Faster, More Robust Optical Design Optimization

CODE V version 10.6 is now generally available

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Highlights:

- Unique optimization algorithm speeds design of optical systems with superior image quality
- Customizable charts provide enhanced system performance visualization
- Ease of use improvements simplify design and analysis

Synopsys, Inc. (Nasdaq: SNPS), a global leader providing software, IP and services used to accelerate innovation in chips and electronic systems, today announced the availability of Synopsys' CODE V® Optical Design Software, version 10.6. Further enhancing the industry-leading design optimization capabilities already available in CODE V, this latest release delivers an innovative new optimization feature to speed the design of advanced optical systems. In addition, the release provides new charting capabilities and analysis improvements that enable faster, more flexible optical design validation.

"CODE V 10.6 introduces the latest addition to our suite of unique optimization algorithms," said George Bayz, vice president and general manager of the Optical Solutions Group at Synopsys. "This release provides a significant capability that will enable faster development of new and emerging optical technologies that provide superior performance, but that are also cost effective to fabricate and package."

Step Optimization Feature

The new Step Optimization (STP) feature uses an algorithm developed by Synopsys to improve CODE V's industry-leading optimization capabilities in two ways. Step Optimization can substantially accelerate optimization convergence, reducing the time needed to find the best solution. It can also navigate complicated solution spaces more effectively to find optical system solutions with smaller (better) error functions compared to traditional damped-least-squares optimization. This gives designers a powerful new tool for helping ensure that optical quality meets or exceeds performance specifications.

Step Optimization is particularly useful for optimizing complex lens systems. It can also speed up the optimization when used with the Reduce Tolerance Sensitivity (SAB) feature to reduce the impact of tolerances on system performance and minimize production costs. Step Optimization can be used in CODE V's local optimization feature as well as its Global Synthesis® global optimization feature.

"CODE V's Step Optimization (STP) feature yielded significant reductions in error function for my microlithography lenses, particularly in the early stages of the design process," said David Williamson, NRCA Fellow, Nikon Research Corporation of America. "I am very impressed with STP's convergence speed and effectiveness, and think it is possibly the greatest improvement to CODE V optimization in all the years that I have used the software."

New 2D and 3D Charting

CODE V line and surface charts have been significantly improved in several key analysis features, with a new look and many additional capabilities that enhance users' ability to visualize and present system performance results. The new 2D and 3D charting features provide extensive customization capabilities, including the ability to rotate and zoom 3D charts, select Cartesian 2D or 3D surface charts, choose from multiple scaling, rendering and color scheme options, and interactively explore data points of interest.

Ease of Use Enhancements

The CODE V Automatic Design, Beam Synthesis Propagation, Point Spread Function and Modulation Transfer Function (MTF) features now have completely redesigned graphical user interfaces, which feature intuitive, simplified windows to streamline design and analysis, especially for optimization setup and beam propagation analysis.

Availability & Resources

CODE V version 10.6 is available now. Customers with a current maintenance agreement can download this version from the Synopsys website using their SolvNet account. Learn more about CODE V at https://optics.synopsys.com/codev.

About CODE V

CODE V is an optical engineering and design software solution that supports the optimization, analysis and tolerancing of image-forming optical systems and free-space photonic devices. For more information, visit https://optics.synopsys.com/codev.

About Synopsys

Synopsys, Inc. (Nasdaq: SNPS) accelerates innovation in the global electronics market. As a leader in electronic design automation (EDA) and semiconductor IP, Synopsys delivers software, IP and services to help engineers address their design, verification, system and manufacturing challenges. Since 1986, engineers around the world have been using Synopsys technology to design and create billions of chips and systems. Learn more at www.synopsys.com.

Editorial Contacts:
Tess Cahayag
Synopsys, Inc.
650-584-5446
maritess@synopsys.com

Lisa Gillette-Martin
MCA, Inc.
650-968-8900, ext.115
lgmartin@mcapr.com

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