Synopsys Announces Release 2016.03 of the RSoft Photonic Component Design Suite

Latest Release Enables Advanced Design of LEDs, OLEDs and Displays

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Highlights:

- Enhances Bidirectional Scattering Distribution Function (BSDF) capabilities for the design and optimization of complex optical structures used in LEDs, OLEDs and displays
- Extends multi-threaded processing support for dramatically faster BSDF calculations
- Includes new BSDF Viewer for visualization of BSDF data

Synopsys, Inc. (Nasdaq: SNPS) today announced the latest release of its RSoft™ Photonic Component Design Suite, the company's industry-leading software for the design of photonic devices and components used in optical communications, optoelectronics and semiconductor manufacturing. Version 2016.03 of the Synopsys RSoft Photonic Component Design Suite streamlines the design of LEDs, OLEDs and displays, with faster, more rigorous simulation techniques for comprehensive modeling of nano-textured optical structures. The new capabilities can help designers gain an in-depth understanding of the underlying physics of photonic devices as well as insights into how they can increase device performance.

"The latest release of the RSoft Photonic Component Design Suite enables advanced design flows for modeling optical surface scattering properties in nanotechnology applications, helping designers optimize device efficiency and satisfy stringent performance, size and cost requirements," said George Bayz, vice president and general manager of Synopsys' Optical Solutions Group.

Enhanced Design of LEDs, OLEDs and Displays Using Mixed-Level Simulation

The RSoft Photonic Component Design Suite includes enhancements to its Bidirectional Scattering Distribution Function (BSDF) capabilities for the design and optimization of complex optical structures used in LEDs, OLEDs and displays. BSDF capabilities provide a highly accurate method for modeling optical surface scattering properties, and the enhancements significantly speed BSDF calculations and simulations as well as enable users to visualize BSDF file contents. RSoft BSDF files can be imported into Synopsys' LightTools® illumination design software to facilitate the design of lighting systems with small-feature, diffractive optical structures. The unique, mixed-level simulation approach between the RSoft products and LightTools helps optical designers improve the design of LEDs, OLEDs and nano-textured displays to enhance light extraction efficiency, beam shaping and color tuning.

The RSoft BSDF enhancements include:

- Increased BSDF User-Defined Optical Properties (UDOP) speed of up to 5x for all LightTools simulations and up to 40x speedup for unpolarized cases. Users working with color displays, LED and OLED applications can now more efficiently perform mixed-level simulation using RSoft tools and LightTools in order to accurately model the effects of nanoscale textured or patterned surfaces within these types of devices.
- A new option that allows users to distribute the RSoft BSDF calculation using multiple CPUs or cores on one or more computers. This can significantly improve BSDF calculations, enabling easier characterization and optimization of surface properties using either RSoft DiffractMOD™ or FullWAVE™ solutions. The option requires a MOST™ cluster license and also allows for increased efficiency for mixed-level RSoft and LightTools simulations.
- The new BSDF Viewer enables RSoft BSDF file content visualization. Users can view the BSDF data as a function of incident angle, wavelength, polarization and side (front and back). This allows users to extract simulation results and replicate the RSoft BSDF UDOP behavior for simple illumination cases.

Availability & Resources

The RSoft Photonic Component Design Suite version 2016.03 is available now. Customers with a current maintenance agreement can download the software from the Synopsys website using their SolvNet® account.

About Synopsys' RSoft Products

Synopsys' RSoft products are leading solutions in photonic design software and serve several industries including optical communication, optoelectronics and semiconductor manufacturing. RSoft products provide a full range of design, optimization and planning tools for optical communications, as well as solutions for optoelectronics components and subsystems. For more

information, visit http://optics.synopsys.com/rsoft.

About Synopsys

Synopsys, Inc. (Nasdaq:SNPS) is the Silicon to Software™ partner for innovative companies developing the electronic products and software applications we rely on every day. As the world's 16th largest software company, Synopsys has a long history of being a global leader in electronic design automation (EDA) and semiconductor IP and is also growing its leadership in software quality and security solutions. Whether you're a system-on-chip (SoC) designer creating advanced semiconductors, or a software developer writing applications that require the highest quality and security, Synopsys has the solutions needed to deliver innovative, high-quality, secure products. Learn more at www.synopsys.com.

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