



RSoft Design Introduces *DiffractMOD*

A New Tool for Modeling Optical Diffraction

April 15, 2004 - Ossining, NY - RSoft Design Group, Inc. (www.rsoftdesign.com), the market leader in optical design, simulation, and optimization software, has announced today the release of *DiffractMOD*[™], a new design tool for diffractive optical structures such as surface normal gratings, photonic bandgap crystals, and subwavelength periodic structures. It employs one of the most efficient methods to simulate electromagnetic wave diffraction from periodic structures. *DiffractMOD* is well-suited to a variety of photonic applications including diffractive optical elements, narrow wavelength filters, dense wavelength division multiplexers, polarization sensitive devices, optical interconnects, optical data storage, microlens arrays, and beam splitters and shapers. It can also be used in semiconductor manufacturing process for optical profilometry and nano-metrology.

DiffractMOD is based on the Rigorous Coupled Wave Analysis (RCWA) method and implements several advanced algorithms including a fast converging formulation of Maxwell equations and a numerical stabilization scheme. The RCWA method uses the concept of a unit cell to handle both 2D and 3D periodic structures and is specifically tailored for multilayer structures. The unit cell definition can have arbitrary geometry and the index distribution can consist of both standard dielectric materials and dispersive or lossy materials such as metals. The input or incident plane wave can have arbitrary direction and polarization. Various simulation results can be output including diffraction efficiency, each vectorial field component, and both near and far fields.

As the latest addition to the RSoft's component-level design suite, which also includes *BeamPROP*[™], *FullWAVE*[™], *BandSOLVE*[™], *GratingMOD*[™], and *LaserMOD*[™], *DiffractMOD* also shares the same RSoft Photonic CAD Layout interface as the other component tools. The user-friendly CAD interface allows the accurate definition of an arbitrary profile without limitations associated with a piecewise approximation. Optimized results can be found quickly as the design and modeling process is fully-parameterized allowing for batch simulations. A significant advantage of a shared CAD interface is that once designers create and analyze the diffractive structure in *DiffractMOD*, the same design layout can be directly simulated in *FullWAVE* and *BandSOLVE* for other aspects of the same structure - such as time-domain response with finite-difference time domain method or band structure analysis with plane wave expansion method. *DiffractMOD* can also be easily used with *BeamPROP*, *BandSOLVE*, *FullWAVE* and *GratingMOD* for hybrid simulation of a multiple component module.

For more information, please contact RSoft Design Group at sales@rsoftdesign.com or visit our website at www.rsoftdesign.com. RSoft Design Group will also be exhibiting at the upcoming CLEO conference in San Francisco, May 18-20th, booth# 925.

About RSoft Design Group, Inc.

Offering a comprehensive suite of design and business analysis software solutions to the telecommunications and photonics industries, RSoft Design Group is the only company that provides a full range of simulation and planning software and services across the entire component to network-level hierarchy. The company's award-winning products are used by researchers, manufacturers, systems integrators, and service providers to address design challenges ranging from the physics of component design to the business implications of planning networks. RSoft Design Group, Inc. is a privately held corporation with software development offices across the US, and global marketing operations in the Pacific Rim, Europe, and other worldwide locations. For more information, visit www.rsoftdesign.com.

Media Contact:

RSoft Design Group, Inc.

+1 914-923-2164

info@rsoftdesign.com