



RSOFT Design Group Enhances FullWAVE, The Industry's Leading FDTD-Based Commercial Tool For Modeling Photonic Nanostructures

Version 3.0 Addresses Complex Design Needs In Areas Such As Photonic Crystals, Micro-Diffractive Devices, Surface Plasmons, And Biophotonics

July 1, 2003 — Ossining, NY — RSOFT Design Group, Inc. (www.rsoftdesign.com), the market leader in optical design, simulation, and optimization software, today announced *FullWAVE*[™] 3.0, the latest release of its highly integrated CAD and simulation program for the design of complex photonic devices such as photonic crystals and ring resonators. The software employs the finite-difference time-domain (FDTD) method for simulation of structures that cannot be handled by the beam propagation method (BPM) used in RSOFT's *BeamPROP*[™] and similar packages. *FullWAVE* was the first commercial tool for modeling photonic nanostructures based on FDTD.

Version 3.0 meets the increasingly complex design needs of engineers in the rapidly developing area of photonic crystal-related research and applications, as well as in new areas where the FDTD method can be feasibly applied, such as micro-diffractive devices, surface plasmons, biophotonics, and VCSEL cavity design. The latest version of *FullWAVE* incorporates extensive new data output features and analysis capabilities, which greatly simplify post-processing. Users can now easily measure specific field components in both the temporal and spatial domain, as well as several common electromagnetic quantities. FFT and DFT based options allow for improved frequency analysis.

Also included in the latest version are new material simulation capabilities for both dispersive and anisotropic materials — both the Drude and Lorentzian dispersion models are now available. Anisotropic support enables complex optical materials with polarization and birefringent effects to be studied. *FullWAVE* 3.0 also gives engineers more flexibility in controlling the launch and input fields that are used for a simulation. Users can create multiple launch fields at arbitrary locations with different wavelengths, spatial patterns, and temporal excitations. In addition, arbitrarily (including circularly) polarized launch fields can be defined.

As the only photonic FDTD tool with a parallel computing feature, *FullWAVE*'s clustering capability has been significantly improved in terms of simulation capability, display, and post-processing. These advancements make *FullWAVE* the only feasible simulator for large-scale 2D and 3D modeling. Additional performance improvements make *FullWAVE* the fastest, most memory-efficient tool on the market. *FullWAVE* provides complete options for simulation platforms on both Windows and UNIX (Linux, Solaris, and SGI) systems.

While *FullWAVE* can be used as a stand-alone solution, it can also be easily integrated with other RSoft device design tools such as *BeamPROP*, *GratingMOD*[™], and *BandSOLVE*[™] because of the shared RSoft CAD-layout interface which allows hybrid simulation on complicated photonic devices. Combined with RSoft's *BandSOLVE*, for instance, *FullWAVE* offers a complete solution for photonic band gap (PBG) design.

FullWAVE remains the leading FDTD tool because of its superior technology and maturity compared to competing products. Version 3.0 will be available in mid-July.

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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 wired and wireless networks. RSoft Design Group, Inc. is a privately held corporation with software development offices in New York, New Jersey, Illinois and Silicon Valley, and global marketing operations in the Pacific Rim, Europe, and the Middle East. For more information, visit www.rsoftdesign.com.

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