



RSoft Design Group Announces *LaserMOD*'s new VCSEL and Self-heating Simulation Capabilities

January 27, 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 *LaserMOD 2.0*, a new version that now has design and simulation capabilities for Vertical Cavity Surface Emitting Lasers (VCSELs) and incorporates self-heating model. *LaserMOD* is an advanced simulation tool for active semiconductor devices, which combines the most versatile, user-friendly, and easy to learn GUI in the market with a powerful and robust simulation engine that determines the self-consistent solution of electro-thermal transport and optical field dynamics.

VCSELs have proven to be a cost efficient alternative to edge-emitting lasers, offering improved properties with respect to mode selectivity, fiber coupling, threshold currents, and integration into 2D arrays or with other electronic devices. State-of-the-art simulation tools are essential for modeling the subtle interactions between the physical processes that occur in these advanced laser structures. *LaserMOD 2.0* provides comprehensive simulation capabilities for VCSEL. The user-friendly CAD interface provides a new distributed Bragg reflector (DBR) element to conveniently and intuitively layout VCSEL structures. A set of new simulation features have been added to meet the VCSEL simulation requirement. *LaserMOD* can perform full 3D VCSEL simulations quickly by taking advantage of the cylindrical symmetry of the device.

Several advanced models are available in this new release including self-heating, which can significantly affect VCSEL performance under CW operation. This feature treats the lattice heat flow equation self-consistently to determine the temperature distribution within the device resulting from heat sources such as Joule, recombination, Peltier, and Thomson heat. Quantum correction models for carrier transport across hetero-interfaces, such as tunneling and barrier lowering have also been added. These in particular are critical in VCSEL simulations to accurately predict the affect of the DBRs on electronic performance. Furthermore, a new Transfer Matrix based mode solver allows for fast computation of the cavity spectrum of eigenmodes.

A variety of other new features is also available, for both VCSEL and edge-emitter simulation. For further information on *LaserMOD*, please visit our website: www.rsoftdesign.com. Promotional price is available before March 31, 2004. For more details please contact RSoft Design Group.

Please Visit RSoft Design Group at Photonics West 2004 in San Jose, CA, January 27-29, Booth 5036.

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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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