

new products

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers. PHYSICS TODAY can assume no responsibility for their accuracy. For more information about a particular product, visit the website at the end of the product description.

Lawrence G. Rubin

Focus on software

Remote control software

Athena Controls has introduced Multi-Comm remote monitoring and control software that is designed for bidirectional communications for the company's EMC, C series, and Legacy series controllers connected via an RS485 hookup using an RS232 serial computer port. Multi-Comm enables control of up to 100 temperature or process controllers or zones, of which up to 16 can be simultaneously viewed on a display that shows process value and set point in real time. Features include multiple operator security levels and password protection, pull-down and pop-up windows, automatic controller detection to locate and identify each instrument on the network, storage and retrieval of all configured parameters to a single data file, and user-defined 10-character controller labels. Multi-Comm provides two local alarms for each controller or control zone on the network. *Athena Controls Inc, 5145 Campus Drive, Plymouth Meeting, PA 19462, <http://www.athenacontrols.com>*

See www.pt.ims.ca/16302-131

Tool for PXI/CompactPCI instruments

KineticSystems has developed Soft-View, a powerful tool that integrates the company's entire line of PXI/Compact-PCI instruments into a single software package. Users can touch a button on the instrument and invoke operations such as calibration, reset, and data acquisition start and stop. Another button

brings up a dialog for configuring properties, including overall sample rate, individual channel enable, filter range, and input-level settings. Digital and analog output channels are driven by a simple expression syntax that combines discrete and continuous generation functions. That syntax can also be applied to input channels, allowing real-time scaling, offsets, and polynomial curve fitting. SoftView can simultaneously manage multiple instruments to test a complex system of cooperating instruments. *KineticSystems, 900 North State Street, Lockport, IL 60441, <http://www.kscorp.com>*

See www.pt.ims.ca/16302-132

Enhancement to test system software

Keithley Instruments has enhanced its Automated Characterization Suite software. Version 4.0 includes optional wafer level reliability (WLR) test tools used to predict reliable lifetimes for semiconductor components such as transistors, capacitors,



and interconnects. The new version adds a database capability and optional licenses for the reliability test module and ACS data analysis. The WLR tool allows the parallel testing of multiple devices while applying different stress conditions (voltage or current) to each device. Users can then extract the lifetime acceleration factors, enabling an increase in system throughput by up to a factor of five. The data analysis option supports standard analysis techniques such as normal fitting, acceleration, and distribution models. *Keithley Instruments Inc, 28775 Aurora Road, Cleveland, OH 44139, <http://www.keithley.com>*

See www.pt.ims.ca/16302-133

Toolbox for MATLAB

The Numerical Algorithms Group has announced the NAG Toolbox for MATLAB that allows users to call NAG's numerical routines directly, using customized interfaces, from

within the MATLAB environment. The toolbox gives access to increased mathematical and statistical functionalities, which were unavailable or accessible only by procuring multiple toolboxes. One of the key benefits of the new package is its extensive integrated documentation, including descriptions of every routine, its purpose, and an example of use, which helps users pick the right routine for their problem. The NAG library routine, which is accessed from the toolbox, is claimed to be the largest and most comprehensive collection of mathematical and statistical algorithms available; included in its documentation is "example MATLAB code" that shows how to call the routine. *The Numerical Algorithms Group Ltd, Wilkinson House, Jordan Hill Road, Oxford OX2 8DR, UK, <http://www.nag.co.uk>*

See www.pt.ims.ca/16302-134

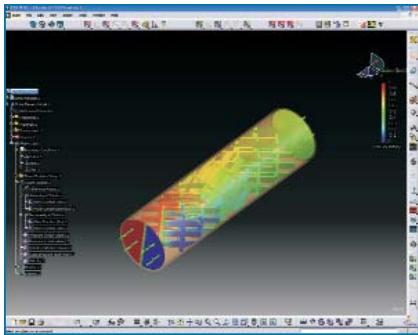
Application delivery system

Mathematica Player Pro from Wolfram Research is a new delivery system for Mathematica applications and interactive documents. It gives access to any Mathematica 6 notebook file and allows full interaction with that product's capabilities—performing adaptive visualization, controlling dynamic interface elements, and connecting to real-time data. On a technical level, Player Pro contains almost all of the Mathematica software, but it is a pure run-time environment. Whereas developers use Mathematica to create their applications, their end users can now use Player Pro to run them. The new package marries convenient deployment with Mathematica's math and rapid application development environment. Player Pro is compatible with Microsoft Windows, Mac OS X, and Linux (x86 2.4 or later). *Wolfram Research Inc, 100 Trade Center Drive, Champaign, IL 61820-7237, <http://www.wolfram.com>*

See www.pt.ims.ca/16302-135

Fluid dynamics software

ANSYS is offering version 4.0 of its Fluent for Catia V5 rapid flow modeling software. This release delivers computational fluid dynamics technology to users working with the Dassault Systèmes' Catia V5 software environment. The new product incorporates capabilities such as a species transport modeling feature that allows the modeling of mixtures of fluids with different



properties, thus expanding the types of equipment that can be optimized. Cavitation modeling lets users predict when cavitation may occur in systems such as rotating pumps and allows performance optimization of fuel injectors used in automobile and motorcycle engines. Other improvements include a new algorithm to build prismatic boundary layer meshes next to solids and an optimized memory management system to handle large models efficiently. *ANSYS Inc, Southpointe, 275 Technology Drive, Canonsburg, PA 15317, <http://www.ansys.com>*
See www.pt.ims.ca/16302-136

Engineering software

Maplesoft has released Maple 12, which delivers major innovations in engineering analysis and design. Users can now connect Maple 12 and popular CAD systems directly to deploy powerful mathematical capabilities to extend the range of analysis on CAD models. It is now also possible for users to tag designs electronically with rich technical documentation and calculations. Innovations include MATLAB code import and translation to enable the easy migration of legacy code to new Maple documents and database connectivity to allow Maple 12 applications to directly access stored data sets. A new dynamic systems package offers a large selection of analytic and graphing tools for linear time-invariant systems. New plotting capabilities simplify the creation of complex engineering plots. *Maplesoft, 615 Kumpf Drive, Waterloo, Ontario, Canada N2V 1K8, <http://www.maplesoft.com>*
See www.pt.ims.ca/16302-137

Photonics design automation software

RSoft Design Group's OptSim 5.0 includes advanced features to model

next-generation optical networks, with a particular focus on maximum likelihood sequence estimation decoding, electronic dispersion compensation equalization, bidirectional transmission, and modulation formats such as D(Q)PSK and OFDM. The new OptSim features are instrumental in designing dispersion-tolerant and faster optical networks. The demand in the worldwide telecommunications market is increasing for dispersion-tolerant technologies capable of electrically compensating the dispersion at the receiver. At the same time, the requirement for an increase in bandwidth is driving the transition from the common 10 Gbits/s to as high as 100 Gbits/s and beyond. *RSoft Design Group Inc, 400 Executive Boulevard, Suite 100, Ossining, NY 10562, <http://www.rsftdesign.com>*
See www.pt.ims.ca/16302-138

Graphical differencing and interface toolkit

National Instruments (NI) Corp has introduced the Graphical Differencing and User Interface Toolkit, a product that makes it possible for users to compare and identify the structural, parameter, and visual differences between models, including standard Simulink (Mathworks Inc.) software blocks, subsystems, S-functions, and state charts developed using Mathworks Stateflow software. That capability makes the toolkit ideal for team-based application development in industries such as aerospace, automotive, and medical. The toolkit also enables comparisons of models using the NI LabVIEW Base graphical programming environment and the LabVIEW Simulation Interface Toolkit. Users can also visualize model differences in Simulink and export them to Microsoft Excel for further analysis. *National Instruments Corporation, 11500 North Mopac Expressway, Austin, TX 78759-3504, <http://www.ni.com>*
See www.pt.ims.ca/16302-139



Circuit simulation software

Ansoft Corp has developed Nexxim v4, an enhanced model of the company's high-capacity circuit simulation software to allow users to rapidly simulate

high-speed serial channel behavior. The package was designed to meet the need of modern electronic products that use gigabit-speed serial links to move large quantities of digital data across today's telecommunication, high-definition video, and data storage systems. The product features VeriEye, a new methodology for eye analysis of serial links that uses statistical methods to maintain accuracy while providing major reductions in run time compared with conventional transient methods. Nexxim v4 offers mixed system-level behavioral simulation with transistor-level transient simulation and QuickEye to allow input of long, user-defined bit streams. *Ansoft Corporation, 225 West Station Square Drive, Suite 200, Pittsburgh, PA 15219, <http://www.ansoft.com>*
See www.pt.ims.ca/16302-140

Electronic laboratory notebook

Symyx Notebook from Symyx Technologies is an electronic laboratory notebook that simplifies laboratory operations and lowers costs by enabling users to replace multiple discipline-specific ELNs with a single, multidiscipline application deployable across the enterprise. The Symyx Notebook contains a full software development kit that permits rapid creation of custom functionality, including incorporation of third-party software; superior searching and browsing that is enabled via full-text searching of data-entry forms, experiments, and embedded files and annotations; the capability to significantly maximize an information technology setup while facilitating systems management and integration; and improved consistency and streamlined editing of experiments. *Symyx Technologies Inc, 3100 Central Expressway, Santa Clara, CA 95051, <http://www.symyx.com>*
See www.pt.ims.ca/16302-141

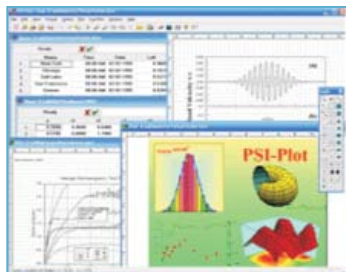
Optical design software

The Breault Research Organization has announced the next generation of its Advanced Systems Analysis Program, ASAP 2008. The release comes with numerous polarization ray-tracing enhancements, including a new realistic polarizer model, Stokes- and Jones-value inputs and data views, and a

Poincaré sphere visualization tool. It includes three new optimization methods: a Brent's method routine for single-variable problems and downhill simplex and simulated annealing methods for multivariable problems. ASAP 2008 provides enhanced CAD interoperability and a redesigned HTML help system with which users can expect improved HTML topics, easier access to parent topics and related information, and point-and-click access to example scripts. *Breault Research Organization Inc, 6400 East Grant Road, Suite 350, Tucson, AZ 85715, <http://www.breault.com>*
See www.pt.ims.ca/16302-142

Plotting and data processing software

Poly Software International has released PSI-Plot v8.8, a software package for technical plotting and data processing that has incorporated all the features from the previous versions plus more than 30 new capabilities. They include simplex and Powell methods for



nonlinear fitting; Weibull analysis for estimating the characteristic life and failure rate of a product; Kaplan-Meier survival and hazard estimates; more than 100 new predefined fitting models, such as popular peak fit, logistic, and sigmoidal; and improved multiple levels sorting for both balanced and unbalanced data. Plot wizard will create user-desired plots in a more convenient and intuitive way, and several new plot types and axis scales have been added. *Poly Software International Inc, P. O. Box 60, Pearl River, NY 10965, <http://www.polysoftware.com>*
See www.pt.ims.ca/16302-143

System model software

WinA&D 6.0 from Excel Software is for system models and simulation, requirements management, software design,

code generation, reengineering, and project reports. It includes hundreds of enhancements, a Microsoft Vista-friendly installer, new printed and PDF manuals, and an integrated help system. Once installed, WinA&D can run from a standard user account. The tool supports design software such as UML for object-oriented design, structured analysis and design, data models for database systems, and real-time, multi-task design. Its ready-to-run reports present project diagrams, tables, specifications, and a dictionary and requirements for an HTML browser or word processor. The report generator has complete access to all reports in a WinA&D document. *Excel Software, 19 Misty Mesa Court, Placitas, NM 87043, <http://www.excelsoftware.com>*
See www.pt.ims.ca/16302-144

Light-source modeling

Lambda Research Corp is offering TracePro v5.0, the latest release of its software for optical modeling, design, and analysis. Version 5.0 features enhanced light-source modeling with which users can combine multiple light sources with various wavelength spectrums (in one model) and analyze numerous light-source interactions in the same ray trace. The software's new surface source property editor allows users to specify light-source behavior dependent on specific wavelength, temperature, and emission angle. Fluorescence emission wavelengths can now be defined for each fluorescent object. A standalone light-source property wizard enables users to import properties such as wavelength spectrum and radiation patterns from manufacturer's data sheets. *Lambda Research Corporation, 25 Porter Road, Littleton, MA 01460, <http://www.lambdaresearch.com>*
See www.pt.ims.ca/16302-145

New literature

COMSOL has published the *COMSOL News 2008* edition of its technical magazine. It covers a broad range of articles that demonstrate how scientists and engineers use the COMSOL Multiphysics scientific software environment to model and simulate various physics-based systems. *COMSOL Inc, 1 New England Executive Park, Suite 350, Burlington, MA 01803, <http://www.comsol.com>* ■
See www.pt.ims.ca/16302-146

SCIENTIFIC
MAGNETICS

Cryogen Free Magnet Systems



- Magnetic fields up to 12T
- Cool down time from room temperature < 24 hours
- Sweep rates up to 1 T/min
- Integrated cryogen free variable temperature insert

Full Details are at:
www.scientificmagnetics.com
Phone: +44(0)1865 409200
LT25 Booth #15