

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. To facilitate inquiries about a particular product, a Reader Service Card is attached inside the back cover of the magazine.

LAWRENCE G. RUBIN

FOCUS ON SOFTWARE

Design of Experiments (DOE)

Stat-Ease has announced Design Expert 6.0 software (DX6) for design of experiments (DOE). The program allows users to make improvements to product quality and process efficiency by screening for vital factors, locating ideal process settings for top performance, and discovering optimal product formulation. DX6 offers new options, including the expansion of two-level factorials (up to 256 runs and up to eight blocks for 2–15 factors), the enabling of general factorials to handle multilevel variables with ease, and the creation of new plots, such as the Box-Cox transformation plot. Interactive 2D graphics and rotatable 3D plots improve response visualization. The Design Expert 6.0 tools for generating and graphing propagation-of-error help experimenters achieve six-sigma objectives for reducing variation. *Stat-Ease Inc., Hennepin Square, Suite 191, 2021 East Hennepin Avenue, Minneapolis, MN 55413-2723*

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Internet-Ready Measurement

With LabVIEW 6i, National Instruments has introduced its concept of measurement intelligence, a system to automatically recognize and configure available measurement components for faster application developments and less user programming. LabVIEW 6i offers improvements in the areas of execution performance, memory usage, program lead times, and file footprint size; one result is that a 10 000 point FFT computed in 693 ms with previous versions of LabVIEW can now be executed in 25 ms. Additionally, single-point data acquisition rates are 4.7 times faster. With LabVIEW 6i and the new LabVIEW Player browser plug-in (available free of charge from the company), users can stream live data continuously from any user interface control to the Web or other

applications with a single mouse click. The program includes new graphing functions, including multi-axis charts and graphs, and a digital I/O graph. *National Instruments, 11500 North Mopac Expressway, Austin, Texas 78759-3504*

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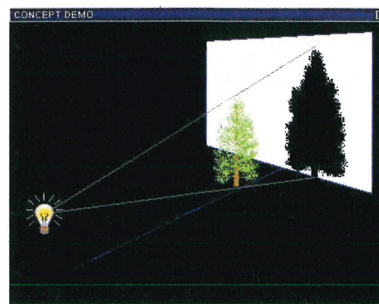
Bibliographic Management

ISI ResearchSoft has released Reference Manager 9.5, which incorporates an Internet reference searcher, a database manager, and a bibliography builder. Researchers can purchase from ISI eSource pay-per-view key reference data in the sciences, humanities, and the social sciences that contain nearly 10 years of information searchable by topic. Three-way citation linking lets users access an author's bibliographic references that subsequently cite the author's article and related records. Alternatively, researchers with institutional licenses from ISI Web of Science can export selected references directly from that source to Reference Manager 9.5. With the addition of more than 200 new output styles (required journal formats for bibliographies), Reference Manager 9.5 now provides more than 650 styles. *ISI ResearchSoft, 800 Jones Street, Berkeley, California 94710*

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Program for Instruction in Geometric Optics

This tutorial from Physics Academic Software is designed for high school and introductory-level college students. The Geometric Optics program uses 17 Java applets, each consisting of a text description of a single topic and a concept demonstration portraying the relevant physics in the animation. Demos include point-source shadows (see photo), extended-source shadows, refraction and reflection scenarios, dispersion prisms, rays and lenses, mirrors, and other topics.

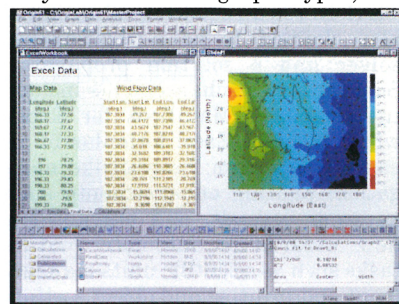


Geometric Optics incorporates a simple interface, an HTML page browser format familiar to Internet users, and the choice of Windows or Macintosh platforms. An optional Web license allows users to make the program available on a Web server to a restricted number of addresses or password holders. *Physics Academic Software, North Carolina State University, Box 8202, Raleigh, North Carolina 27695-8202*

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Scientific Graphing and Analysis

OriginLab has announced Origin 6.1, a Windows-based scientific graphing and data analysis software, which offers new data-handling features including raster image import and export. The user is thus able to use ODBC (object data basic connectivity) to query data from a database and import the results into an Origin worksheet. Additionally, Origin 6.1 provides a new EPS (encapsulated PostScript) export routine that reportedly furnishes publication-quality scientific graphs. That routine enables selection from more than fifty 2D and 3D graph types; the



printing of large graphs to multiple pages; the linking of multiple axes between graphs; and the arranging of multiple graphs, worksheets, and text in a layout page. Origin 6.1 includes built-in analysis tools, such as linear and nonlinear progression, peak finding, and filtering. *OriginLab Corp., 1 Roundhouse Plaza, Northampton, Massachusetts 01060*

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Graphical Programming

SoftWIRE Technology offers a graphical programming extension to Microsoft Visual Basic (VB), an industry standard language. Instead of code using text-based syntax, SoftWIRE 2.0 uses wires. The user selects functions from a simple menu, using pictures of real-world devices. There are more than 130 of Microsoft's ActiveX controls—GUI (graphical user interface) blocks—in categories such as data acquisition and control, full network communications, math and logic, graphing and charting, statistical analysis, and program flow and control. The selected GUI blocks are placed on the computer screen and connected with a few drag-and-drop wires. The ActiveX controls are then configured as desired via their property sheets: this completes the programming. Users may never have to write any VB code, but if, for example, there is a graphical function that is lacking, then a VB program can be written for the purpose. *SoftWIRE Technology LLC, 16 Commerce Boulevard, Middleboro, Massachusetts 02346*

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Equation Solver Program

UTS Software has introduced release 4, a major upgrade of the company's TK (for Tool Kit) Solver, a product that can crunch numbers and obtain instantaneous results, reportedly without the user having to learn complicated programming techniques. TK Solver is an equation solver but is also claimed to be a relationship solver and a solution propagator. Some of TK 4's enhancements include the company's MathLook for Excel, which displays Excel formulas in an easy-to-read form; browserlike navigation; plotting enhancements such as zoom, legends, and annotations; new wizards to automate routine tasks such as scientific units management and printing and object sorting;

new functions for integration, differentiation, database access, and for solving differential equations; and online interactive tutorials. *UTS Software Inc., 1220 Rock Street, Rockford, Illinois 61101*

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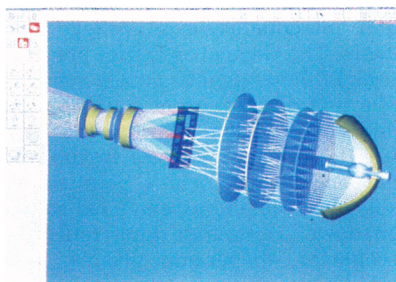
Symbolic Mathematics

The collaboration between MacKichan Software and SciFace of Paderborn, Germany, has created Scientific Workplace 3.5, a new product that lets the user enter mathematics in standard math notation, process this input with SciFace's MuPAD 2.0 (a computer algebra system), and typeset the output without having to know TeX or LaTeX. To accomplish that, Scientific Workplace 3.5 is designed to integrate the functionality of MuPAD 2.0, to write in any left-to-right language supported by Windows (including Chinese and Japanese), and to copy any mathematical expression in a Scientific Workplace document as a vector-graphics picture, which can then be used in a drawing, PowerPoint presentation, or Web page. Three printed manuals totaling more than 900 pages are available to assist users in exploiting the full power of the new version's computer algebra and document processing capabilities. *MacKichan Software Inc., 600 Ericksen, Suite 300, Bainbridge Island, Washington 98110*

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Illumination Design and Analysis

Optical Research Associates has announced LightTools 3.0, the company's illumination design and analysis software for the PC. The new version uses the OpenGL-rendering engine—the mechanism for graphical display—to deliver more realistic 3D rendering capability and an increase in display speed; it can also take advantage of the hardware acceleration provided by the OpenGL-compliant graphics



adapters. LightTools can now import measured bidirectional scatter distribution function data for a surface. Such data can be used to model rotationally symmetric scatter or fit to an elliptical gaussian function to model anisotropic scatter. By the implementation of "aim areas" and "aim cones" (user-defined surfaces or volumes over which the program analyzes scattered light), analysis can be accelerated by eliminating the tracing of rays that do not contribute to the final answer. *Optical Research Associates, 3280 East Foothill Boulevard, Pasadena, California 91107*

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Dynamic Math on the Web

Design Science recently acquired WebEQ, a suite of tools for building dynamic math Web pages that includes the WebEQ Equation Editor and Page Wizard for authoring MathML (Mathematical Markup Language), a program produced by Wolfram Research that has been adopted as a standard by the World Wide Web Consortium. The company's new release of WebEQ will include improved MathML authoring and processing capabilities and simplified editing, and new programming and interactivity features. Its reported purpose is to allow anyone—not just those with programming backgrounds—to build dynamic math Web pages. *Design Science Inc., 4028 Broadway, Long Beach, California 90803*

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Image Display and Analysis

1D Image Analysis Software 3.5, available from Kodak Scientific Imaging Systems, enables researchers to define and analyze bands or specific regions of interest in digital images, and then annotate database and export images for further analysis or presentation. More than 30 new filters allow for image enhancement while maintaining data integrity. The software's Ellipse Selection tool is useful for colony counting and dot blot analysis, while a Save Template feature simplifies the repeated analysis of standard gel or blot formats and microtiter assays and arrays. *Eastman Kodak Co., Scientific Imaging Systems, 4 Science Park, New Haven, Connecticut 06511*

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