

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

Mathematica Applications Library Software

Wolfram Research announces the release of Dynamic Visualizer, intended to give users a new way to manipulate, render and animate three-dimensional graphics objects. Using standard *Mathematica* commands, the user can render in real time objects of arbitrary size and complexity, including point clouds, wire frames and filled polygons with hidden surface removal. Educators can use Dynamic Visualizer to create interactive tutorials and demonstrations.

Simulations and animations created with Dynamic Visualizer can be exported as movies in AVI format (on Windows platforms) or in QuickTime format (on the Macintosh). The program can be controlled through its own mouse-and-menu interface—without the need for command lines—or from *Mathematica*. *Wolfram Research Inc., 100 Trade Center Drive, Champaign, Illinois 61820-7237*

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Software for Data Acquisition

National Instruments has introduced version 2.0 of its Measure software for direct data acquisition and instrument control using personal computers running Microsoft Excel on Windows 95/NT. Users can configure and control data acquisition hardware as well as serial or GPIB instruments, and then drop acquisition results directly into spreadsheet cells for analysis and graphing.

Measure version 2.0 adds support to the company's DAQ Channel Wizard, which, we are told, greatly reduces the time and effort needed to develop a PC-based data acquisition system. For example, with thermocouples, the user must perform cold-junction compensation calculations to convert the

raw voltage value into a temperature reading, and then apply a scaling factor. With the DAQ Channel Wizard, the user fills in dialog windows with information such as type of transducer, scaling factors and so on. *National Instruments, 11500 North Mopac Expressway, Austin, Texas 78759-3504*

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Eddy-Current Measurement Software

The PC-based smartEDDY software program from SE Systems enables precise and noncontact, nondestructive measurements of metals and metal parts. The system can measure any physical parameter affecting the radio-frequency response, including electrical and thermal conductivity, magnetic permeability, hardness, case depth, diameter, gap, alloy composition, flaw and corrosion depth, surface smoothness and clad, plating, coating and wall thicknesses.

The smartEDDY software is said to turn a PC into a measurement instrument, an imaging system or an inspection system. It checks for pinpoint cracks, seams, laps, inclusions, weld defects, corrosion, defective holes and bad threads. When connected in an automatic test station, it provides an electronic record of inspections and measurements. *SE Systems Inc., 26203 Production Avenue, Suite 10, Hayward, California 94545*

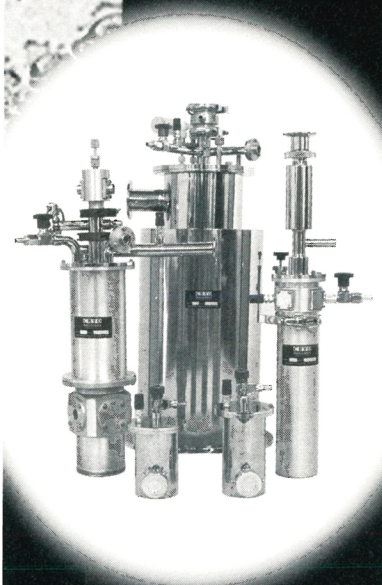
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Optical Engineering and Analysis Software

Breault Research Organization has released ASAP 6.0, the latest version of the company's optical engineering and analysis software, featuring several technical improvements and a new modular structure. The following modules are now available: ASAP/Basic, which processes up to 300 objects for nonimaging (illumination) analysis

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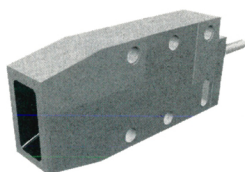
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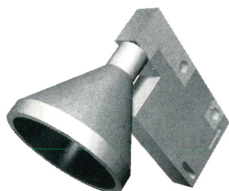
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Channel Electron Multipliers Series KBL

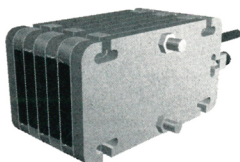
- Glass ceramic design
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- Removable anode
- High gain 10^8 at 2.3 kV
- Short rise time 2.5 nsec
- Easy mechanical mounting
- input cone up to 25 mm diameter



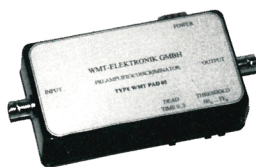
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Custom design CEMs



CEM Arrays



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and allows the importing and exporting of digital exchange format files and the exporting of initial graphic exchange specification (IGES) files; ASAP/Pro, an expanded version of ASAP/Basic that can model a wider range of optical system sizes; ASAP/CAD, which imports and exports optical system data from IGES format to ASAP input format for analysis; and ASAP/Optical, which provides coherent imaging functionality and wave optics propagation. *Breault Research Organization, 6400 East Grant Road, Suite 350, Tucson, Arizona 85715*

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Bibliographic Software

EndNote from Niles Software integrates on-line searching, reference database management and bibliography-making functions into one program. It includes more than 100 connection files to allow the user to access bibliographic databases, such as the Library of Congress and university library catalogs. References can be linked to full-text articles available on the World Wide Web. In one step, the user can create bibliographies from within Microsoft Word (both Macintosh and Windows versions) and WordPerfect. Citations can be automatically updated to incorporate last-minute changes. The program includes more than 300 bibliographic styles, for a variety of academic disciplines and journals, to format the in-text citations and reference lists in manuscripts, term papers and articles. *Niles Software Inc, 800 Jones Street, Berkeley, California 94710*

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Fast-Fourier Transform Analysis Software

Alligator Technologies announces Prime Factor FFT/32, a 32-bit Windows 98 and 95/NT version of the company's fast subroutine library for calculating complex forward and inverse fast Fourier transforms (FFTs) in one and two dimensions. The program is written in assembly language to maximize the performance of Intel Pentium floating-point processors. Prime Factor FFT/32 includes three FFT types: one covering data set sizes with prime number roots of 3, 5, 7, 11, 13, 15, 17 and 19; a Cooley-Tukey FFT covering the power of two data sets; and a discrete Fourier transform to analyze data set sizes not covered by the first two.

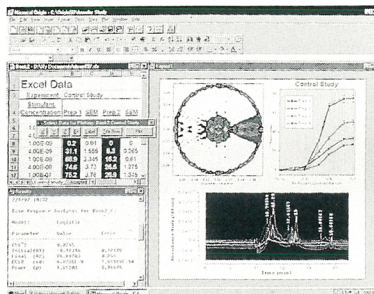
Prime Factor FFT/32 includes Hanning and Hanning windowing functions, and supports data types such as

short integer, long integer, scaled integer, single and double precision floating point and extended or long double precision floating point. *Alligator Technologies, 2900 Bristol Street, Suite E-101, Costa Mesa, California 92626*

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Graphing and Analysis Software

Microcal Software announces Origin 5.0 Professional for Windows, which provides tools for creating specialized user interfaces to enhance Origin 5.0's graphing and analysis features. With Origin 5.0 Professional, custom control objects can be constructed either as floating tools or as fixed objects on any worksheet or graph. For example, Origin 5.0 Professional can extend Origin's



functionality by using dynamic linked libraries to access compiled fitting functions. Visual Basic or C programming language applications can be designed to supply data to an Origin worksheet, as well as to display complex graphs in real time. The new program expands Origin's importing and exporting capabilities by providing commands for the company's LabTalk, which allows rapid reading and writing of ASCII or binary files. *Microcal Software Inc, One Roundhouse Plaza, Northampton, Massachusetts 01060*

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Scientific Graphing and Data Analysis Software

Wavemetrics has created a Windows 95 and NT 4.0 version of IGOR Pro 3.1, the company's scientific graphing and data analysis application, previously available only on Macintosh. The new version also includes curve fitting improvements, such as multivariate and multidimensional fitting, true constraints, automatic residuals and confidence and prediction bands. New built-in functions enhance IGOR's image processing features and han-

dling of complex numbers, while maintaining the emphasis on large data sets, fast graph updates, extensive control of graphs and publication-quality output. Users can automate complicated analysis, data acquisition and report generation. Extensions to IGOR Pro can be implemented in the C programming language using the company's IGOR XOP Toolkit. *WaveMetrics Inc, P. O. Box 2088, Lake Oswego, Oregon 97035*

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Statistics and Graphing Software

SYSTAT 8.0 is SPSS's latest version of its statistics and graphing software for Windows 95 and NT 4.0. With the aid of 32-bit architecture, several new features have been introduced: a new browser interface with drag and drop, right mouse support and enhanced toolbars; an output organizer that can automatically scroll to any statistical analysis or graph; a data editor that allows resizing columns and changing display formats and styles; evaluation of geostatistical models; and enhanced graph editing, such as changing graph location, scale or axis labels, titles, colors and symbols.

We are told that users who are beginning a research project will benefit from SYSTAT 8.0 because it allows them to quickly learn new statistical methods and exchange data in new file formats (including Excel 97). In the final stages of a project, better presentations can be created by overlaying graphs from multiple files. *SPSS Inc, 444 North Michigan Avenue, Chicago, Illinois 60611-3962*

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Design-of-Experiments (DOE) Software

Stat-Ease has created Design-Expert version 5.0, a software package designed to make working with DOE statistics easier by helping users to locate ideal process settings and optimal product formulations. It features an improved interface and interactive two-dimensional graphics for exploring contours with a mouse, as well as rotatable three-dimensional plots to make response surface visualization easy. Other statistical enhancements include x-y scatter plots and an increase in the maximum number of design points to 8000.

Design-Expert is available in commercial and educational versions. The latter, which operates for 180 days, is intended for use by college students

and will be distributed by John Wiley and Sons. The software comes on a CD-ROM, which also includes a tutorial keyed to an optional textbook. *Stat-Ease Inc, 2021 East Hennepin Avenue, Suite 191, Minneapolis, Minnesota 55413-2723*

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Software for Remote Viewing of Real-Time Data on the Internet

LABTECH has announced NetTrender, a software package that allows real-time data to be viewed across any transmission control protocol/Internet protocol (TCP/IP) network. We are told there is an industry demand for an easy-to-use interface for high-speed data transfers over the Internet and company intranets. NetTrender is a stand-alone client/server that provides remote access to any portion of a data acquisition and control application via the World Wide Web. This is accomplished by "pushing" Web data directly from the PC-based controller, eliminating the need for a separate Web server. Web browser viewer objects are automatically installed on client PCs. Real-time data can then be displayed on Netscape Navigator, Microsoft Internet Explorer or other browsers. *LABTECH Corp, Two Dundee Park, Suite B09, Andover, Massachusetts 01810*

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Numerical Software Library

Release 1 of the PINEAPL Numerical Software Library is now available from the Numerical Algorithms Group (NAG). The library contains over 100 new documented routines for parallel computing environments, enabling users to take advantage of the increased computing power and memory capacity offered by such environments. One of the main goals of PINEAPL is to extend the existing NAG Parallel Library for dealing with computationally intensive industrial applications—for example, by replacing sequential code sections with calls to appropriate parallel library routines.

The coverage of the PINEAPL library is primarily driven by the demands of the end-users, and focuses on three major numerical areas: sparse linear algebra, fast Fourier transforms and nonlinear optimization. *Numerical Algorithms Group Inc, 1400 Opus Place, Suite 200, Downers Grove, Illinois 60515-5702*

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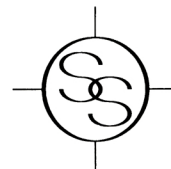
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