

NEW PRODUCTS

Focus on software and instrumentation

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.

Andreas Mandelis

Software for semiconductor testing

National Instruments has built on its TestStand test management software to create its TestStand semiconductor module. Its unique functionality helps users efficiently develop, deploy, and maintain semiconductor test systems. Users can program laboratory characterization systems that have the same paradigm as the company's Semiconductor Test System (STS) to quickly correlate measurements. Using TestStand and PCI



eXtensions for Instrumentation (PXI) outside the conventional "test head" architecture of the STS, they can build their own rack-and-stack systems for production testing. The module features dynamic, multisite programming for reuse of code across a scalable number of test sites; an intuitive pin map editor that includes both PXI and third-party instrumentation; and a test-data format result processor for industry-standard logging of parametric test results. **National Instruments Corporation**, 11500 Mopac Expy, Austin, TX 78759-3504, www.ni.com

Langmuir plasma probes



Now suitable for operation in both RF and DC plasma, Hidden Analytical's ESPion Langmuir-style electrostatic plasma probes provide rapid, accurate feedback for continuous and pulsed plasma-based process analysis and control. They automatically report electron density, energy distribution, and temperature, and ion density, plasma potential, and floating potential. Fast, on-board, software-controlled gating circuitry enables ESPion to provide high-resolution, segmented, temporal analyses through pulse frequencies as high as 3 MHz and an acquisition trigger resolution of 62.5 ns. The probes feature forced-air cooling of the tips, a programmable self-cleaning cycle for tip decontamination, and a high RF blocking impedance for optimum data integrity. An RF reference electrode identifies fluctuations that result from low-frequency drifting of the plasma potential and enables their cancellation. **Hidden Analytical Inc.**, 37699 Schoolcraft Rd, Livonia, MI 48150, <http://hiddeninc.com>

Bluetooth for vacuum pressure transducers

The Bluebridge adapter SLKBT from Thyracont Vacuum Instruments can receive wireless communications from up to 16 of the company's Smartline vacuum transducers. The wireless connection reaches up to 100 m (class 1). The Bluebridge module is plugged on a transducer; when required, it is connected to other transducers to form an RS-485 bus. The transducer information is available in Thyracont's VacuGraph software on a PC with a Bluetooth receiver. The transducers can be configured, monitored, and telecontrolled, and measurement results can be saved. A programmable logic controller can alternatively be used as a Bluetooth master. Thyracont's VacuSniff app also works with the Bluebridge device. A free download from the



Google Play store, the app can receive measurement values transferred on an RS-485 bus of Smartline products and display pressure readings numerically on an Android smartphone or tablet. **Thyracont Vacuum Instruments GmbH**, Max-Emanuel-Strasse 10, 94036 Passau, Germany, www.thyracont-vacuum.com

Arbitrary waveform UHF generator

Zurich Instruments has launched an ultrahigh-frequency arbitrary waveform generator (UHF-AWG) for its UHF 600 MHz lock-in amplifier platform. Designed for fast, intuitive waveform programming with sequence branching based on multiple detection schemes, it is suitable for advanced research applications such as quantum computing, NMR spectroscopy, and mixed-signal device testing. The dual-channel 600 MHz AWG has 128 MSa waveform memory per channel, 1.8 GSa/s temporal resolution, and 14-bit vertical resolution. It integrates signal generation and detection in a single instrument, which helps to minimize feedback times and reduce the complexity of the experimental setup. Detection options include a pulse counter, multiple demodulators, an oscilloscope, and a boxcar averager. Pulse sequences and waveforms can be easily defined and adjusted using LabOne instrument control software. **Zurich Instruments AG**, Technoparkstrasse 1, 8005 Zürich, Switzerland, www.zhinst.com





Active isolation workstation

Newport has designed its Guardian active isolation workstation for superhigh resolution microscopy, metrology, and other applications that require very low frequency isolation. It includes two active isolation modules that reduce translational and rotational vibration in all six degrees of freedom in real time. The combination of the active modules with Newport's patented VIBe mechanical isolators yields optimal performance across a wide frequency range. According to the company, the Guardian can outperform passive spring-based systems and pneumatic workstations. Newport's active vibration isolation technology removes resonance responses inherent to passive systems and provides up to 50 times (34 dB) more isolation. A precision-grade optical breadboard with modal dampers along its perimeter provides effective broadband damping for delicate instruments. The Guardian is not sensitive to load changes and does not require supplied air. **Newport Corporation**, 1791 Deere Ave, Irvine, CA 92606, www.newport.com

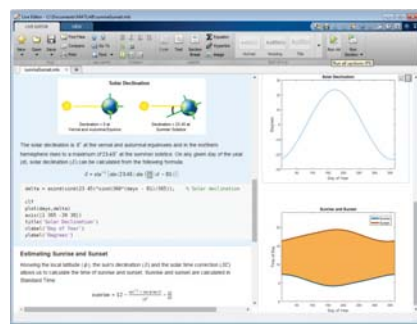
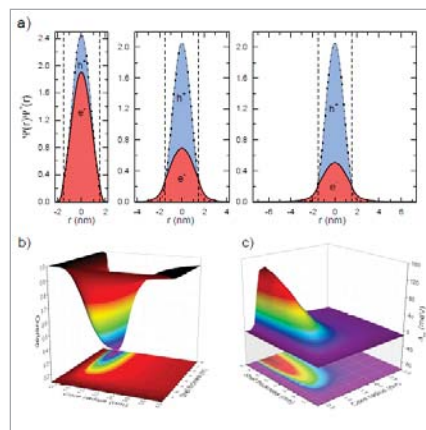
Motion control system



For its translation and rotation stages, the C-885 PIMotionMaster motion control system from Physik Instrumente has one interface and software suite that allows users to integrate various drive technologies, including traditional servo and stepper motors, ultrasonic ceramic motor-driven stages, and ultrahigh-precision PiezoWalk motor-equipped nanopositioners. The modular C-885 is available in two sizes and can house 4–20 controller frames (8–40 channels). The digital processor and interface module occupy one module slot and act as a communication hub between the C-885 and a PC. Modules are automatically detected when added, which saves set-up and programming time. Individual axis configuration and movement is easily initiated using the system's PIMikroMove software. Applications include precision motion control in nanopositioning, photonics, automation, semiconductor testing, and laser machining. **Physik Instrumente LP**, 16 Albert St, Auburn, MA 01501, www.pi-usa.us

Mac viewer for data analysis software

Origin and OriginPro software from OriginLab provide scientists and engineers with tools to analyze, interpret, and present research findings. The company now offers a native Mac application that lets users view and copy graph and worksheet information from Origin Project (OPJ) files and share them with colleagues who use the Mac operating system. Mac users can directly run the Mac Viewer, open OPJ files, and view data and analysis results. They can copy tabular data from worksheets, and they can copy graphs as PNG or PDF files and insert them into other documents. Even if users use virtualization to install the full Origin software on a Mac, they can use the viewer to copy graphs from Origin projects as PDF files via the clipboard and avoid the extra steps of exporting the graph as a file and importing it into other applications. Compatible with Mac OS X 10.7.0 or later, the viewer is available as a free download from the OriginLab website. **OriginLab Corporation**, One Roundhouse Plaza, Ste 303, Northampton, MA 01060, www.originlab.com



Mathematical programming software

MathWorks has added interactive design tools to MATLAB version R2016a, the latest iteration of the company's mathematical programming software. Developed for users who prefer an experimental and interactive environment and those learning MATLAB, the Live Editor tool combines inline documentation, code, and graphical results into a single window. Users can create easy-to-view documents that display not only code, descriptions, and images but also examples, results, and links to the internet. The system is integrated with MATLAB's latest symbolic math support. With the App Designer tool, users can move between graphical layout and testing and editing of application code. They can use the Add-On Explorer to search the online database of contributed code and support and download and install it quickly. **The MathWorks Inc**, 1 Apple Hill Dr, Natick, MA 01760-2098, www.mathworks.com

Data analysis and reporting software

Bruker Corp and Digital Surf have announced that Bruker Nano Surfaces is offering Vision64 Map software with its 3D optical microscope systems, including Contour Elite, ContourGT, NPFLEX, and Contour CMM. An extension to Bruker's Vision64 instrument control and analysis software, Vision64 Map is based on Digital Surf's Mountains Technology software platform. The user workflow includes automated data acquisition, advanced data analysis, and automated reporting of surface measurements in 11 languages. It ensures compatibility across a wide range of industry standards and enables comprehensive 3D surface visualization. Image enhancement tools provide optimal representation of features of interest. Users have access to advanced, customizable functions. Modules available for Vision64 Map include 2D and 3D advanced surface and texture, 3D Fourier and wavelets, statistics, and automotive. **Bruker Nano Surfaces**, 61 Daggett Dr, San Jose, CA 95134-2109, www.bruker.com

