

NEW PRODUCTS

Focus on software, data acquisition, 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 its description. Please send all new product submissions to ptpub@aip.org.

Andreas Mandelis

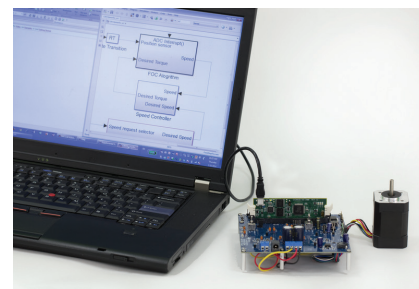
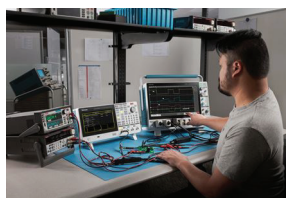


Polarity-reversing modules

Spellman High Voltage has launched its MXE family of high-voltage, hot-switchable, polarity-reversing modules with output voltages of 2.5–10 kV at 200 μ A. The ultracompact MXE series is controlled by means of an analog interface provided via a standard 15-pin D-type connector. The units feature a differential-voltage program input for low-noise control and “enable” and “polarity-control” signal inputs compatible with transistor–transistor logic. According to the company, its advanced low-noise, high-stability technology provides the high quality and performance needed for precision applications, such as mass spectrometry, automatic test equipment evaluation, capillary electrophoresis, dual-ion surface analysis, electrostatic printing and lensing, and electrospinning. The products are compliant with the following European and UK environmental protection, health, and safety regulations: CE, RoHS, and UKCA. **Spellman High Voltage Electronics Corp**, 475 Wireless Blvd, Hauppauge, NY 11788, www.spellmanhv.com

Software for double-pulse testing

A new release of the oscilloscope-based wide-bandgap double-pulse test (WBG-DPT) solution from Tektronix speeds up validation time on silicon carbide and gallium nitride power converters. The WBG-DPT solution provides automated, repeatable, and accurate measurements on devices such as SiC and GaN MOSFETs. It integrates seamlessly into the measurement system of the Tektronix 4, 5, and 6 series mixed-signal oscilloscopes. According to the company, the WBG-DPT solution features several industry-first measurement capabilities, such as an automatic WBG deskew technique that eliminates the need for rewiring and can even be performed after double-pulse measurements have been taken. Plots of reverse-recovery timing now make it easy for users to see reverse-recovery details for multiple pulses overlaid on a single display. They can zoom in on the reverse-recovery region and even debug reverse-recovery parameters of the system. **Tektronix Inc**, 14150 SW Karl Braun Dr, PO Box 500, Beaverton, OR 97077, www.tek.com



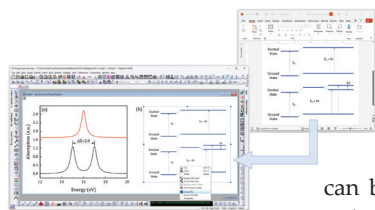
Mathematical programming software

Release 2023a (R2023a) of MathWorks MATLAB and Simulink software introduces MATLAB Test and enhanced features to help researchers and engineers develop, execute, verify, manage, and document dynamic tests of MATLAB code at scale. Organizations can group, save, and run custom test suites and identify untested code paths using industry-standard code-coverage metrics, such as condition, decision, and modified condition/decision coverage. The project-based quality dashboard can help users create an interactive, graphical summary of code-quality metrics and clickable details for code analysis and coverage, test results, and requirements. R2023a also features the new C2000 Microcontroller Blockset, with which users can design, simulate, and implement applications for Texas Instruments C2000 microcontrollers. They can also model digital power conversion and motor control applications. Major updates have been made to MATLAB and Simulink tools, including the Communications Toolbox and the Aerospace, Powertrain, and Vehicle Dynamics Blocksets. **The MathWorks Inc**, 1 Apple Hill Dr, Natick, MA 01760-2098, www.mathworks.com



Motion-control platform

Aerotech has developed new products and features for its Automation1 precision-machine and motion-control platform. Two servomotor drives with integrated motion controllers can command 12 axes at 20 kHz over the glass optical fiber HyperWire motion bus. The Automation1-iXL2e, a compact single-axis linear-amplifier servo drive, offers high in-position stability and small-step-size operation. It generates very low electromagnetic interference noise. The Automation1-iXC6e pulse-width-modulation servomotor drive is designed for larger loads that require high power output. It includes a 480 V_{AC} (680 V_{DC} bus voltage) option. New features in the HMI (human-machine interface) Builder for Windows PCs MachineApps tool include enhanced layout flexibility with drag-and-drop controls, indicator lamps, and better state-machine control features. The Automation1 device catalog makes the advanced gantry-control configuration accessible to precision machine builders. They can add the gantry as a mechanical device that can be set up using the machine setup wizard. **Aerotech Inc**, 101 Zeta Dr, Pittsburgh, PA 15238-2811, www.aerotech.com

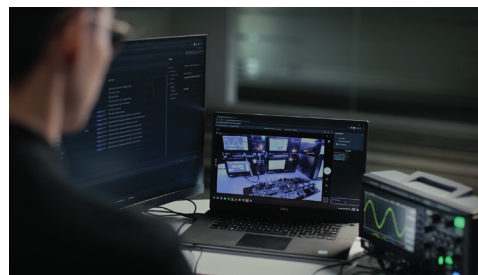


Data analysis and graphing software

Version 2023b of OriginLab's Origin and OriginPro data analysis and graphing software adds more than 150 new features, enhancements, and apps. To improve window management and let users take advantage of desktop space and multiple monitors, windows can be floated outside the Origin interface. Floating windows, with their own customizable menus, toolbar buttons, and Object Manager panel, can be pinned, dragged to an active folder, and retracted to their respective folder locations. Improvements to Browser Graph for multichannel data exploration include a new Stack Lines template, new controls to hide and sort plots, and faster run times. Built-in support for LaTeX equations has been added. New graph types in version 2023b include Sankey Map, Stacked Bar Map, Double-Y Waterfall, and Sunburst Color by Level. Apps let Origin users customize their software by allowing them to choose which tools they want. Those available for 2023 include Brain Atlas Analyzer, Abbott–Firestone Curve, Gaussian Filter in Surface Metrology, and Flow Cytometry Standard Connector. **OriginLab Corporation**, One Roundhouse Plaza, Ste 303, Northampton, MA 01060, www.originlab.com

Digital learning platform

The Digital Learning Suite from Keysight offers university engineering educators and students one-stop access to laboratory resources, measurement data analysis tools, and learning resources relevant to industry through a single, secure Web interface. The platform streamlines and simplifies laboratory management and allows educators to focus on teaching and collaboration tools to interact with students in real time. The software suite integrates with learning management systems (LMSs), such as Blackboard and Canvas. It provides direct access to the soft front panel of laboratory instruments so users can perform measurements remotely, take screenshots, plot measurement data and math functions on an x - y graph, and more. The platform connects and links to instruments in a laboratory and on a local network. It provides access to laboratory exercises and courseware from Keysight University through a single sign-on from an integrated LMS. **Keysight Technologies Inc**, 1400 Fountaingrove Pkwy, Santa Rosa, CA 95403-1738, www.keysight.com



Antivibration cryostat

ICE Oxford has upgraded its Dry Ice 300 mK single-shot system. The new Tertia cryostat offers single-shot and continuous operation, an extended hold time of 100 h with 7 L of helium-3, a reduced recondense time of 1 h, and up to 10 ports for wiring. Users of the closed-loop system can carry out experiments in a 300 mm sample plate within a temperature range of 280 mK to 425 K. The system offers a high-cooling-power capability of 50 μ W at 285 mK and 100 μ W at 295 K. It can achieve ± 1 mK and maintain temperature stability at 300 mK and above; its cool-down time to base temperature is 22.5 h. Tertia uses the company's ICE sock technology: The cryocooler is supported in a cold antivibration frame "sock" that separates the system's two cold heads from the cryostat. Vibration levels at the sample space are reduced to about 20 nm; additional options can reduce them to less than 10 nm. The ability to counteract high vibration means that Tertia can take advantage of Gifford–McMahon cryocooler technology, which is less costly than pulse-tube refrigerator cooling. The ICE sock technology also allows for easy removal of the cold head and eliminates the need for a remote motor. **ICE Oxford**, Ave Four, Station Lane, Witney, Oxford OX28 4BN, UK, www.iceoxford.com



PCIe digitizer cards

Spectrum Instrumentation has produced two new PCIe (peripheral component interconnect express) digitizer cards. The M5i.3350-x16 and M5i.3357-x16 extend the company's M5i series to deliver optimal signal acquisition and analysis capabilities to users working with challenging gigahertz-range electronic signals. The M5i.33xx series offers five models with one or two channels; users can select sample rates of 3.2, 6.4, or 10 GS/s and bandwidths of 1, 2, or 3 GHz. The cards combine an ultrafast sample speed of 10 GS/s with a vertical resolution of 12 bits and a data streaming rate of 12.8 GB/s. Sixteen-lane, Gen3, PCIe technology is used to achieve the high streaming rate that allows the acquired data to be sent directly to a computer's memory for storage or to central processing units and graphics processing units for customized signal processing and analysis. The cards feature front-end circuitry with a bandwidth of more than 3 GHz and onboard memory of up to 16 GB (8 GS). They can handle various signals, such as those found in communications, semiconductor testing, spectroscopy, optical systems, and quantum physics. **Spectrum Instrumentation Corp**, 401 Hackensack Ave, 4th Fl, Hackensack, NJ 07601, <https://spectrum-instrumentation.com>

