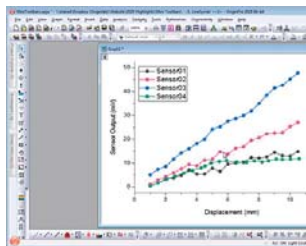


NEW PRODUCTS

Focus on test, measurement, 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 its description. Please send all new product submissions to ptpub@aip.org.

Andreas Mandelis



Data analysis and graphing software

OriginLab has released version 2020 of its Origin and OriginPro data analysis and graphing software. New features and improvements include mini toolbars for easier 2D graph customization: Buttons in a pop-up provide access to common options for quickly changing graphs without opening complex dialogs. Because the new version makes full use of a processor's multicore architecture, the

speed of importing large data files has been improved by a factor of 10 or more compared with previous versions and with Excel 2016. Speed enhancements have also been made in other areas, such as peak analysis, contour plotting, and data import from third-party files. New graph types include density dot and before-after plots, color dots, and dendrograms. New apps include 2D Peak Analyzer, Import NMR Data, and LeCroy Connector. **OriginLab Corporation**, One Roundhouse Plaza, Ste 303, Northampton, MA 01060, www.originlab.com

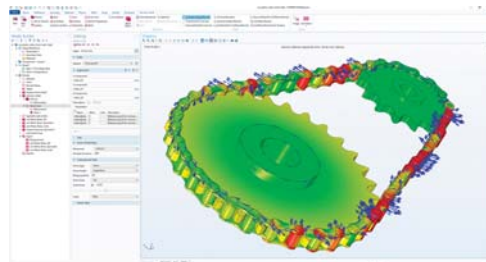
Tabletop system for Hall measurements

The MeasureReady FastHall Station from Lake Shore Cryotronics is a fully integrated tabletop system for performing fast, highly precise Hall effect measurements. The station features Lake Shore's proprietary M91 FastHall measurement controller, a Windows 10 PC, a 1 T permanent magnet, a high-precision sample holder, and the necessary software and cabling. According to the company, the system requires less setup time than similar apparatus. The electronically shielded, low-noise sample space with guarded contacts allows users to make high-quality measurements for quick and easy derivation of carrier type, carrier concentration, mobility, and Hall coefficient properties of a sample. Also available are a gate-bias instrument option and a liquid-nitrogen option for converting the standard room-temperature station to a cryogenically cooled sample space. **Lake Shore Cryotronics Inc.**, 575 McCorkle Blvd, Westerville, OH 43082, www.lakeshore.com



Modeling and simulation software

Comsol has updated its Multiphysics software for creating physics-based models and simulation applications. New in version 5.5 are geometry modeling tools and solver technology for acoustics simulation. The Design Module now provides a sketching tool for easier creation and more versatile parametric control of geometry models. Its users can more easily assign dimensions and constraints to planar drawings for 2D models and 3D work planes. New functionality based on the time-explicit discontinuous Galerkin method enables efficient multicore computations of ultrasound propagation in solids and fluids, including realistic materials featuring damping and anisotropy. The method also has low-frequency applications, such as in seismology. Two new products are the metal-processing and porous media flow modules. **Comsol Inc.**, 100 District Ave, Burlington, MA 01803, www.comsol.com



Atomic force microscope accessories

Oxford Instruments Asylum Research now offers several accessories for its versatile Jupiter XR large-sample atomic force microscope (AFM). They include the PolyHeater for heating samples up to 300 °C; the CoolerHeater, with a cooling and heating range of -30 °C to 120 °C; a fluid cell and probe holder for liquid imaging; and conductive AFM probe holders for nanoelectrical measurements. According to the company, the accessories will broaden experimental possibilities for multiuser, multidisciplinary laboratories. Many research fields require environmental control, like that provided by the PolyHeater and the CoolerHeater, to perform such tasks as mimicking real-life conditions and exploring thermal properties. The new probe holders will facilitate AFM imaging and nanoelectrical measurements, which are essential when working with semiconductor, 2D, and other functional materials. **Oxford Instruments Asylum Research**, 6310 Hollister Ave, Santa Barbara, CA 93117, www.oxinst.com

Wavelength meter for optical transceiver testing

Bristol Instruments has developed its 338 series optical wavelength meter to improve the efficiency of optical transceiver wavelength testing. With a high measurement rate of 25 Hz, it delivers greater production throughput at lower cost than comparable systems, according to the company. The 338 optical wavelength meter uses Michelson interferometer-based technology with FFT analysis to measure the wavelength of CW or modulated signals to an accuracy of ± 1.0 pm. Continuous calibration with a built-in wavelength standard ensures reliable test results. A convenient touch-screen display controls the system and shows the wavelength and power measurements in various formats. The data can also be sent to a PC. **Bristol Instruments Inc**, 770 Canning Pkwy, Victor, NY 14564, www.bristol-inst.com



Wideband measurement analysis

Keysight has designed a flexible, economical single-channel instrument to accelerate development of next-generation mmWave communications, satellite communications, and radar applications. The UXR0051AP Infiniium UXR-series oscilloscope offers a frequency range of 110 GHz and a standard analysis bandwidth of 5 GHz. It displays a very low -158 dBm/Hz average noise level from 28 GHz to 85 GHz, which enables error-vector-magnitude measurements of golden receiver quality on low-power wideband signals. The device directly measures wideband signals with up to 10 GHz bandwidth and fundamental frequencies as high as 110 GHz without the need for external downconverters. It can instantly expand to two in-

dependently configurable phase-coherent channels for multiple-input and multiple-output measurement support. **Keysight Technologies Inc**, 1400 Fountaingrove Pkwy, Santa Rosa, CA 95403-1738, www.keysight.com

Compact dry vacuum pump

The nXRi high-performance compact dry pump from Edwards offers low ultimate pressure and, according to the company, the highest pumping density on the market. Its compact size, low power, reliability, and low cost



make it suitable for a wide range of applications. Initial variants provide pumping speeds of $60 \text{ m}^3/\text{h}$ and $90 \text{ m}^3/\text{h}$, four times as fast as a similar-sized dry pump, the company claims. The nXRi fits easily under a benchtop and, at under 30 kg, is very mobile. It is maintenance-free for up to five years, with no tip-seal or oil change needed. Compared with alternative dry pumps, the nXRi has a 40% smaller footprint, which ensures its seamless integration into analytical instruments and vacuum systems. It is suitable for mass spectrometry, electron microscopy, and leak detection. **Edwards Ltd**, Innovation Dr, Burgess Hill, West Sussex, RH15 9TW, UK, www.edwardsvacuum.com



WS6-200 FAST IR High Precision Wavelength Meter

- ▶ For Pulsed and Continuous Lasers
 - ▶ Absolute Accuracy down to 200 MHz
 - ▶ Measurement Speed up to 1.8 kHz (IR-Devices)
- www.highfinesse.com



NEW PRODUCTS



Source meter without need for pulse tuning

The 2601B-Pulse System SourceMeter instrument from Tektronix integrates into one instrument a high-speed current pulser with DC source and measurement functions. It in-

corporates new PulseMeter technology—an industry first, according to the company—as a source of current pulses as short as 10 μ s at 10 A and 10 V without the need to manually tune the output to match device impedance up to 3 μ H. That is critical for minimizing device self-heating, which for optical instruments can result in measurement errors and equipment damage. Built-in dual 1 MS/s, 18-bit digitizers enhance the pulser's measurement function, which allows users to acquire pulse current and voltage waveforms simultaneously. The 2601B-Pulse System SourceMeter is suitable for such applications as characterizing semiconductor devices and testing vertical-cavity surface-emitting lasers and LEDs, fault power management, and surge protection. **Tektronix Inc**, 14150 SW Karl Braun Dr, PO Box 500, Beaverton, OR 97077, www.tek.com

Smart-connected turbomolecular pumps

Agilent has added two compact turbomolecular pumps to its TwisTorr family of devices: the TwisTorr 305 FS and the TwisTorr 305 IC. Both offer smart connectivity, a new feature for Agilent turbomolecular pumps. When installed on Apple or Android phones, the Vacuum Link app lets users communicate remotely. By typing commands and modifying parameters, users can quickly and easily control the pumps. An advanced function allows users to extract log files to share pump-operating data, which saves time. The model 305 FS, which features floating suspension, is a stand-alone unit with an external remote controller; the model 305 IC has an integrated controller. The pumps' small footprint makes them suitable for OEMs and other companies that want to integrate the pump in an instrument. **Agilent Technologies Inc**, 5301 Stevens Creek Blvd, Santa Clara, CA 95051, www.agilent.com



Analog and digital signal acquisition

Spectrum Instrumentation has extended the capabilities of its LXI/Ethernet digitizers by making a mixed-mode testing option available on four models. All feature eight analog input channels that synchronously sample signals at rates up to 5, 20, 40, or 125 MS/s with 16-bit resolution. The DN2.59x-08-Dig option adds eight digital lines to the three multipurpose input/output lines that come as standard with the units. The enhanced digitizers simultaneously acquire 8 analog and 11 digital signals in a fully synchronous fashion, and front-panel BNC connectors provide easy access to all 19 channels. Software drivers allow customized setups that can generate perfectly matching mixed-mode solutions. The units come with the tools needed to integrate them into virtually any test system, including mechatronics, vibrational studies, and control systems. **Spectrum Instrumentation Corp**, 401 Hackensack Ave, 4th Flr, Hackensack, NJ 07601, <https://spectrum-instrumentation.com>

High-resolution multichannel event timers

PicoQuant's MultiHarp 150 high-throughput multichannel event timers feature the company's latest time-correlated single-photon-counting electronics for fast, high-resolution fluorescence lifetime imaging and multichannel photon correlation. The latest MultiHarp 150 models—the 4P, 8P, and 16P—have 4, 8, or 16 detection channels and offer improved timing precision with 10 ps minimum bin width and jitter better than 45 ps (rms). According to the company, that is the best time resolution of any currently available event timer that has subnanosecond dead time. The MultiHarp 150 tabletop units are versatile and easy to use. They have a USB 3.0 interface and are suitable for many time-resolved applications in the life and materials sciences, metrology, and single-photon-based quantum technologies. **PicoQuant**, Rudower Chaussee 29, 12489 Berlin, Germany, www.picoquant.com **PT**



JANIS
sales@janis.com
www.janis.com/Cryogenics.aspx

Does your research require low temperatures? Contact Janis today. Our engineers will assist you in choosing the best system for your applications.