

# NEW PRODUCTS

## Focus on test, measurement, and analytical equipment

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. For all new products submissions, please send to [ptpub@aip.org](mailto:ptpub@aip.org).

**Andreas Mandelis**



### Thermal interface material

Indium Corporation has added to its line of thermal interface materials (TIMs) with the introduction of HSMF-OS, a non-silicone-based metal and polymer material developed for burn-in and test applications. HSMF-OS is designed for high insertion capability. Its high tensile strength and soft compliant polymer

backing allow it to survive multiple insertions. It has been tested to withstand more than 5000 insertion cycles without loss of performance. One of the challenges associated with a burn-in TIM is the attachment method. HSMF-OS has inherent adhesive properties on one side that allow for hand placement. That removes the need for additional steps and fixtures without compromising thermal performance. The opposite side is aluminum; it will not mark or stain the device under test. According to the company, HSMF-OS offers consistently good performance without phase change.

**Indium Corporation**, 34 Robinson Rd, Clinton, NY 13323, [www.indium.com](http://www.indium.com)

### Flow cytometer for cell analysis

Agilent developed its NovoCyte Advanteon flow cytometer to deliver multicolor flow-cytometry assays with high sensitivity and detection speed to users in basic research, drug discovery, and clinical diagnostics fields. The NovoCyte Advanteon can be configured with one, two, or three lasers and

up to 21 fluorescence channels. A large 7.2 log dynamic range and fully automated compensation features enable users to pick up both dim and bright signals in the same run. According to Agilent, the NovoCyte Advanteon's resolution metrics are among the best on the market. The system can easily discern particles in the range of 100 nm. The system's intuitive analytical software package allows it to be fully automated and makes it easy to use. **Agilent Technologies Inc**, 5301 Stevens Creek Blvd, Santa Clara, CA 95051, [www.agilent.com](http://www.agilent.com)



### Optical time-domain reflectometer

According to Terahertz Technologies, its FTE7100 MicroOTDR with color touch screen is the smallest full-featured optical time-domain reflectometer (OTDR) available. When equipped with the optional videoscope, it is a multipurpose video inspection system with IEC61300-3-35 auto pass/fail capabilities. Other optional features include a broadband power meter and visual fault locator. The MicroOTDR is available in single-mode (SM) or multimode (MM) dual/triple wavelength configurations, or in SM/MM or coarse wavelength-division multiplexing (CWDM) quad-wavelength versions. The OTDR is operated with a standard 5 V USB charging system. It can also be connected to a laptop via the USB cable for real-time OTDR operation on Windows or via Bluetooth to a compatible Android phone or tablet. **Terahertz Technologies Inc**, 169 Clear Rd, Oriskany, NY 13424, [www.teratec.us](http://www.teratec.us)

### High-resolution-display oscilloscopes

Tektronix has launched its 3 Series mixed domain oscilloscope (MDO) and 4 Series mixed signal oscilloscope (MSO). Designed for ease of use, the instruments feature intuitive touch-screen user interfaces and what the company claims is the largest and highest-resolution display in their class. The compact 3 Series MDO can cover a wide range of debugging and validation tasks. It offers a built-in spectrum analyzer up to 3 GHz, with a separate RF input and specifications comparable to a standalone analyzer. Sixteen digital input channels are available for mixed-signal analysis. The 4 Series MSO offers bandwidths up to 1.5 GHz and uses 12-bit analog-to-digital converters. It offers six input channels; when a logic probe is connected, FlexChannel technology lets any input channel be converted from an analog signal to eight digital channels. **Tektronix Inc**, 14150 SW Karl Braun Dr, PO Box 500, Beaverton, OR 97077, [www.tek.com](http://www.tek.com)





## Optical thickness gauge

Bristol Instruments has added the model 157LS optical thickness gauge to its line of interferometer-based precision instruments. It uses light to measure material thickness up to 40 mm, with an accuracy of  $\pm 0.1 \mu\text{m}$  and a repeatability of  $\pm 0.02 \mu\text{m}$ , and without damage or deformation. Total thickness and up to 31 individual layers can be measured simultaneously. The new

model extends the company's precise thickness-measurement capability to applications such as multielement lens assemblies and thicker optical components. **Bristol Instruments Inc.**, 770 Canning Pkwy, Victor, NY 14564, [www.bristol-inst.com](http://www.bristol-inst.com)

## Soft x-ray solid-anode source

McPherson now offers 30 W electron-impact soft x-ray sources in single- and multi-anode versions, which it claims are a unique source of photons above  $\sim 70 \text{ eV}$ . The compact model 642 can be used for soft x-ray measurement and wavelength calibration. Its dual output of equivalent beams also makes it useful for comparative applications such as spectroscopy and metrology. The x-ray photons follow the anode valence band structure, with line emissions from  $\ll 1 \text{ nm}$  to  $25 \text{ nm}$ . The model 642 is available as a single-anode source; the anodes can easily be exchanged at atmosphere. The larger model 642-1 has a multiple-anode carousel that lets users exchange anode materials without breaking vacuum. Operation is continuous wave; pulsed is optional. The option also exists to water cool the anodes and operate with power as high as 300 W. **McPherson Inc.**, 7A Stuart Rd, Chelmsford, MA 01824, <http://mcphersoninc.com>



## EDS system detectors

Ametek Edax has added a  $160 \text{ mm}^2$  detector to its Elite T energy dispersive spectroscopy (EDS) system for transmission electron microscopes. The Elite T EDS system uses fast silicon drift detectors, now with  $70 \text{ mm}^2$  and  $160 \text{ mm}^2$  options and state-of-the-art integrated electronics. The system's geometric design provides an optimized solid angle that increases the count rates. The Elite T EDS system includes windowless detectors and does not require the typical protective window in front of the module. That design improves the light element sensitivity of the detector, enhancing the mapping speed and light element detection in low concentrations. It also allows flexibility for placement of the sensor to ensure the maximum exposure to the signal. The system is equipped with a precision motorized slide and optional shutter. **Edax Inc.**, 91 McKee Dr, Mahwah, NJ 07430, [www.edax.com](http://www.edax.com)



## Where did the "New Books" go?



Physics Today Online now features a monthly online catalog listing newly published books in the physical sciences. Available at:

<https://physicstoday.scitation.org/departments/commentary-and-reviews>

**TOUGHENED**  
two part, room temperature curing  
**EPOXY**

**Supreme 11HT-3A**  
HIGH STRENGTH ADHESIVE

**Tensile lap shear strength, 75°F**  
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**Service temperature range**  
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**Hardness, 75°F**  
75-85 Shore D

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## NEW PRODUCTS

### Electronic design software

Keysight has announced PathWave Design 2020, which includes the latest releases of its electronic design-automation software to accelerate workflows for RF, microwave, 5G, and automotive design. According to the company, the software suite's new tools and enhancements can shorten the design cycle and speed product development. Its libraries and customized simulators reduce setup time, and improved automation lessens manual work. The software integrates circuit design, electromagnetic simulation, layout capabilities, and system-level modeling. It reduces the time needed to import and export designs and to fix errors associated with changing tools. Improvements in data analytics allow for rapid analysis, such as on circuit simulations. **Keysight Technologies Inc.**, 1400 Fountaingrove Pkwy, Santa Rosa, CA 95403-1738, [www.keysight.com](http://www.keysight.com)



### Wide-bandwidth vector signal transceiver

National Instruments has expanded its vector signal transceiver (VST) product family to cover applications in X-band, K<sub>a</sub>-band, and K<sub>a</sub>-band radar and satellite communications components and systems. The PXIe-5831 VST delivers 1 GHz of instantaneous bandwidth for generation and analysis. A high-

performance field-programmable gate array lets users perform fast, optimized measurements, inline signal processing, and high-speed data transfer. The PXIe-5831 combines the PXIe-5820 baseband VST with the PXIe-3622 vector-signal upconverter and downconverter for direct RF generation and analysis from 5 GHz to 21 GHz. Modular millimeter wave heads expand coverage to include frequencies from 23 GHz to 44 GHz with integrated and calibrated switching for up to 32 channels. That enables multichannel beamformer and phased-array measurements without the need for additional infrastructure. **National Instruments Corporation**, 11500 N Mopac Expwy, Austin, TX 78759-3504, [www.ni.com](http://www.ni.com)

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### Nanopositioning Systems

Piezo Nanopositioning Systems

UHV Nanopositioners

Low Noise PicoQ<sup>®</sup> Sensors

AFM, NSOM & Microscopy

High Precision Micropositioning

Custom Solutions



**MCL**  
MAD CITY LABS INC.

[madcitylabs.com](http://madcitylabs.com)



香港中文大學

The Chinese University of Hong Kong

Applications are invited for:-

**Department of Physics**

**Assistant Professor(s)**

(Ref. 1900011C)

The Department invites applications for tenure-track Assistant Professorship(s), which will start from the academic year 2020-2021. The Department anticipates that there will be multiple posts. Appointment at the level of Assistant Professor is expected but a more senior appointment will be considered for candidates with exceptional qualifications.

Applicants in areas in physics currently being pursued in the department, particularly in experimental studies, are welcome to apply, including:

- Astrophysics and Cosmology;
- Atomic, Molecular, and Optical Physics;
- Biophysics and Soft Matter Physics;
- Complex systems and Fluids
- Condensed Matter Physics;
- Materials Science;
- Quantum Information Science and Technology
- Particle physics.

Applicants should (i) have a relevant PhD degree with postdoctoral research experience; (ii) demonstrate a track record of research accomplishments, potential for establishing a significant externally funded research programme; and (iii) have a strong interest in teaching at undergraduate and postgraduate levels.

Appointment(s) will normally be made on contract basis for up to three years initially, which, subject to mutual agreement, may lead to longer-term appointment or substantiation later (substantive appointment may be considered during the second three-year contract).

Applications will be accepted until the post(s) is/are filled.

Salary will be highly competitive, commensurate with qualifications and experience. The University offers a comprehensive fringe benefit package, including medical care, plus housing benefits for eligible appointees. Further information about the University and the general terms of service for appointments is available at [http://www.per.cuhk.edu.hk/fac\\_career/about.html](http://www.per.cuhk.edu.hk/fac_career/about.html). The terms mentioned herein are for reference only and are subject to revision by the University.

#### Application Procedure

Applicants should submit an online application and attach a full resume, research plan, teaching statement, copies of academic credentials, a publication list and/or abstracts of selected published papers (if any), together with names, addresses and fax numbers/e-mail addresses of three referees to whom the applicants' consent has been given for their providing references (unless otherwise specified).

The University only accepts and considers applications submitted online for the post(s) above. For more information and to apply online, please visit <http://career.cuhk.edu.hk>.