

NEW PRODUCTS

Focus on test, measurement, and data acquisition

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.

Andreas Mandelis



Photon-counting camera

PicoQuant has added the LINCcam photon-counting camera from Photonscore to its line of single-photon-sensitive detectors. Pairing the LINCcam with pulsed-light sources makes a conventional fluorescence microscope into a

scanning-free, time-resolved imaging instrument. Used with off-the-shelf optics, it is suitable for larger-scale applications such as lidar. The heart of the LINCcam is a position-sensitive microchannel plate-based detector assembly coupled to a data acquisition system. It achieves high spatial resolution equivalent to a 1000×1000 pixel CCD camera. The data acquisition system records position and time information for each detected photon in spectral ranges from 200 nm to 800 nm and can achieve an overall time resolution down to 50 ps (full width at half maximum). **PicoQuant**, Rudower Chaussee 29, 12489 Berlin, Germany, www.picoquant.com

Laser-pulse characterization

APE has extended the wavelength range of its frequency-resolved optical gating technique for characterizing ultrashort laser pulses. It can now efficiently measure spectral and temporal properties from 1800 nm to 2200 nm, which allows for precise characterization of pulsed-laser systems emitting in the spectral region of 2 μm . Pulsed-laser sources that cover that wavelength region include optical parametric oscillators and classical optical parametric amplifiers. Thulium- and holmium-doped materials also enable pulsed-laser emission with comparatively high photon-energy pulses. Such laser systems are useful for making precise cuts in surgery, for materials processing, and for applications that detect molecules of water, carbon, and methane gases. Those 2 μm laser sources have the potential to be used for gas detection and in lidar systems. **APE Angewandte Physik & Elektronik GmbH**, Plauener Str 163–165, 13053 Berlin, Germany, www.ape-berlin.de

Compact FTIR spectrophotometer

According to Shimadzu Scientific Instruments, its IRSpirit Fourier transform IR (FTIR) spectrophotometer offers exceptional functionality for its size and high reliability in contaminant analyses, identification tests, and quantitative measurements. The design allows access from two sides, and the sample compartment is the widest of any compact FTIR spectrophotometer. The IRSpirit accommodates existing Shimadzu and third-party accessories, such as attenuated total reflectance and diffuse reflectance, and transmission accessories, such as a potassium bromide pellet holder. A sealed interferometer protects the beamsplitter from air and moisture. The IRSpirit comes with the IR

Pilot analysis assistant program, an identification test program, and a contaminant analysis program. **Shimadzu Scientific Instruments Inc**, 7102 Riverwood Dr, Columbia, MD 21046, www.ssi.shimadzu.com



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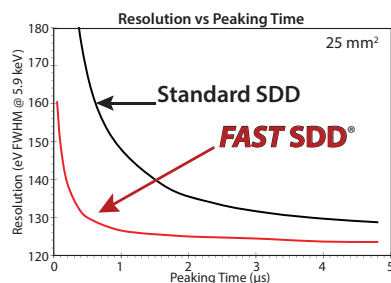
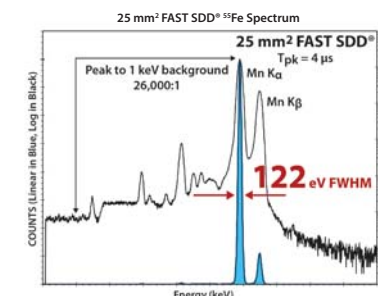
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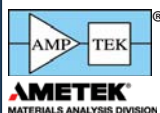


Options:

- 25 mm² collimated to 17 mm²
- 70 mm² collimated to 50 mm²
- Windows: Be (0.5 mil) 12.5 μm, or C Series
- TO-8 package fits all Amptek configurations



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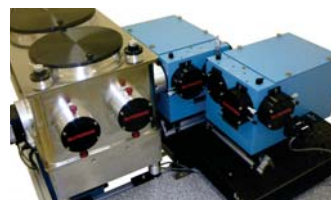


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NEW PRODUCTS

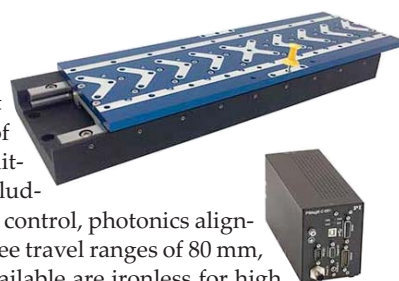
Triple monochromator for scattering measurements

McPherson has announced a triple monochromator suitable for making Raman, photoluminescence, and Thomson scattering measurements in spectroscopy research and experimental science. The triple configuration allows users to create a bandpass "notch" of select wavelengths to disperse onto a sensitive CCD or other array detector. The width and slope of the notch's edges can be tailored for individual applications. The triple monochromator uses exclusively reflective optics. It can work deep into the UV, below 190 nm; can be equipped with different diffraction gratings; and works as fast as f/5. According to McPherson, that represents a higher light-gathering power than many single spectrometers can provide. The triple monochromator is also offered with astigmatic optics for point-to-point imaging. *McPherson Inc, 7A Stuart Rd, Chelmsford, MA 01824, www.mcphersoninc.com*



Linear motor stages

Physik Instrumente has added the V-508 family of 18 positioning stages with magnetic direct drive and absolute encoders to its PIMag series of high-dynamics linear motor stages. They are suitable for research and industrial applications, including metrology, testing, biotechnology, laser-beam control, photonics alignment, and microassembly. The stages provide three travel ranges of 80 mm, 170 mm, and 250 mm; the two motor options available are ironless for high resolution and smooth motion and iron core for high force, acceleration, and velocity up to 1 m/s. The V-508 family features high-load, high-precision crossed roller bearings with anticreep cage assist. Motion is provided directly by zero-wear, noncontact linear motors with no mechanical components, which can add friction, vibration, and noise. *Physik Instrumente LP, 16 Albert St, Auburn, MA 01501, www.pi-usa.us*



Current-voltage source

According to Lake Shore Cryotronics, its Measure-Ready 155 current-voltage (I-V) source is easy to use and provides the precise, very low noise output needed to measure and characterize novel materials and early-stage devices in materials and scientific R&D laboratories. The 155 generates just 200 nV_{RMS} (1 μV_{p-p}) of low-frequency noise and 9 μV_{RMS} of higher-frequency (10 Hz to 100 kHz) noise in the 10 mV DC range—with no external filters needed. It also provides DC low-noise performance without compromising AC bandwidth. The 155 is suitable for users performing I-V curve, Hall effect, resistance, resistivity, and other fundamental measurements; for high-accuracy device testing; and for semiconductor materials and devices research in which a high-quality source is required to excite samples. *Lake Shore Cryotronics Inc, 575 McCorkle Blvd, Westerville, OH 43082, www.lakeshore.com*



Optical probe for thickness measurements

Bristol Instruments has introduced its Quick Align optical probe for use with its 137 and 157 optical thickness gauge products. The novel alignment aid is easy to use and ensures reliable accuracy and repeatability in demanding noncontact thickness measurement applications. A built-in camera provides an onscreen target to help minimize the time required for alignment and setup. The camera displays the location of the optical signal reflected from the material under test; the probe's alignment can be adjusted to position the optical signal on the target. That results in a measurement accuracy of ±0.1 μm with the 157 optical thickness gauge and ±1 μm with the lower-cost 137 model. *Bristol Instruments Inc, 770 Canning Pkwy, Victor, NY 14564, www.bristol-inst.com*

