

NEW PRODUCTS

Focus on lasers, imaging, microscopy, and photonics

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

Backscattered-electron and x-ray imaging detector

The Unity detector from Oxford Instruments enables a new imaging technique called BEX in scanning electron microscopes. According to the company, Unity is the first detector that features backscattered-electron (BSE) and x-ray imaging sensors within one detector head located under the microscope pole piece. Topographic, crystallographic, atomic number, and elemental information are combined in an immediate full-color, high-resolution visual output. Accurate chemical mapping of whole samples is provided in minutes; users can quickly identify features and regions that warrant further investigation. The novel operating position for the x-ray sensors allows consistent chemical data to be acquired across a wide range of working distances. The BSE sensors are custom shaped to maximize signal collection and Peltier cooled for enhanced sensitivity. The company says the Unity detector can increase microscope productivity by up to 100-fold. **Oxford Instruments Nanoanalysis**, Halifax Rd, High Wycombe HP12 3SE, UK, <https://nano.oxinst.com>



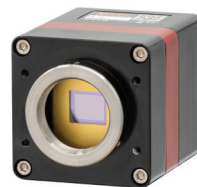
Optical filters

Newport, a brand in the MKS Instruments

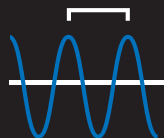
Photonics Solutions division, now manufactures ODiate optical filter coatings on its next-generation thin-film-coating platform. The filters are designed to deliver high precision, high productivity, and consistent spectral performance and to provide a high signal-to-noise ratio, low cross talk between channels, and repeatable spectral-feature placement for optical systems in scientific and medical applications. The filters offer a wavelength range of 340–1800 nm, a transmission peak of greater than 98%, a central wavelength accuracy of $\pm 0.25\%$, scattering and absorption of less than 1%, and a typical scratch-dig specification of 60-40. Substrate materials include Borofloat, fused silica, and silicon; the substrate is at most 200 mm in diameter and 6 mm thick. ODiate optical filters can be used in analytical instruments, fluorescence imaging, spectroscopy, microscopy, and laser systems. **Newport Corporation**, 1791 Deere Ave, Irvine, CA 92606, www.newport.com

Fast, digital short-wave IR camera

Raptor Photonics' Owl 640 S features faster frame rates than the standard Owl 640 model. It can run at 300 Hz in full-frame resolution and up to 30.2 kHz with a region of interest of 32×4 binning, enabling high-speed digital video. The rugged digital camera uses a 640×512 pixel indium gallium arsenide sensor, which enables high-resolution imaging in the short-wave IR region from $0.9 \mu\text{m}$ to $1.7 \mu\text{m}$. It has a readout noise (rms reading) of less than $50 e^-$, which allows for an ultrahigh intra-scene dynamic range that permits the simultaneous capture of bright and dark portions of a scene. Intelligent Automated Gain Control enables clear video in all light conditions. Applications for the Owl 640 S include beam profiling, hyperspectral imaging, semiconductor and solar-cell inspection, thermography, astronomy, and surveillance, such as vision enhancement. **Raptor Photonics Ltd**, Willowbank Business Park, Larne, Co Antrim BT40 2SF, Northern Ireland, UK, www.raptorphotonics.com **PT**



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