Software gets upgraded

FEI has launched new software and hardware for its Tecnai™ G2 transmission electron microscope (TEM).

Tecnai 3.0 operating software takes full digital control of the microscope and all its detectors. It also enhances overall system stability and performance, boosting ease of operation and reducing the time taken to achieve the highest quality data. The package includes a new version of TEM Imaging and Analysis software with enhanced image and data processing functionalities. The software now supports and embeds a wider range of third-party CCD cameras.

The hardware includes a new Inspect3D Xpress computer-based tomography reconstruction package that speeds quality realignment and three-dimensional image reconstruction techniques.

Contact: www.feicompany.com

Nanopositioning stages

The NTS-10 nanopositioning stage from DTI-NanoTech combines a long travel range (10 mm), nanoscale resolution (0.4 nm), and long-term stability (<2 nm drift/hr). The controller's digital signal processor platform provides a wide dynamic range and high measurement accuracy. Features include a multichannel controller, open/closed-loop mode, velocity range (stepped to continuous 0.5 nm/s to 2000 mm/s), rapid response (10 µs), high load-capacity (3 kg), and an optional joystick.

Contact: www.dti-nanotech.com

Microscope camera adds color

Meiji Techno's new digital color cameras are available as 2 megapixel or 3 megapixel models. The higher resolution model has a 12.7 mm image array and an on-chip analog-to-digital converter capable of operating at 7.5 frames per second (fps) with full resolution and 20 fps at lower resolution.

A low noise level allows high sensitivity at low temperature. User-friendly software offers a broad range of features for still and live image capture, including the flexibility to store protocols for personalized image capture.

Contact: www.meijitechno.com

Fast detector for X-ray diffraction

LynxEye™ from Bruker AXS is a one-dimensional X-ray diffraction (XRD) detector that simultaneously measures a wide angular range. This reduces measurement times compared with traditional point detectors, while achieving high resolution and excellent peak shape.

Applications include fast phase analysis, crystal structure refinement, microstrain and crystallite size determination, and stress measurements.

LynxEye uses compound Si strip technology, and has a large 14.4 mm x 16 mm active area. There is no need for counting gas, cooling water, or liquid N_2, so it is virtually maintenance-free, compact, and robust. The detector fits all D4 and D8 series Bruker AXS diffractometers and can be readily exchanged with other detectors.

Contact: www.bruker-axs.com

Elementary analysis

Ocean Optics' laser-induced breakdown spectrometer (LIBS) systems are real-time, high-resolution, portable instruments capable of analyzing almost all elements in gas, liquid, or solid samples with part-per-billion sensitivity.

A complete scan takes less than a second, enabling analysis of transient samples. Only trace amounts are required, minimizing sample preparation. The system can be used in the laboratory, in the field, or remotely, and on any sample geometry.

Intuitive operating software enables automatic identification of all elements in a sample. Other features allow tracking of emission intensities over multiple scans and correlation of analysis routines. Hardware options for rastering and video imaging are also available.

Contact: www.oceanoptics.com

Profiling through the looking glass

The Through Transmissive Media (TTM) module for Veeco Instruments' Wyko NT series of optical profilers enables measurements to be made through protective packaging, environmental chambers, and other transparent materials (up to 3 mm of glass and sapphire). Noncontact, three-dimensional nanoscale measurements of surface topography can be made within small, controlled chambers as samples react to applied changes in temperature, pressure, humidity, etc.

A family of objectives has a common housing for quick magnification changes (1x through 40x in conjunction with the profilers' standard field-of-view multipliers). The housing also allows compensation for different transmissive materials and thicknesses.

Contact: www.veeco.com

Maintenance-free X-ray detector

Evolving from the original Sahara X-ray detector, Princeton Gamma-Tech's Sahara II silicon drift detector (SDD) features high performance with no liquid N_2, moving parts, vibration, or need for maintenance.

Compatible with all types of electron microscopes, Sahara detectors are available with a Variable Z interface for optimum geometry regardless of microscope configuration or application. The high-count-rate performance and the ability to maintain resolution and calibration over an extremely wide range of count rates make the detector ideal for rapid data collection on electron-tolerant samples.

Contact: www.pgt.com