Commercial Announcements

Reflection Imaging, Inc. Announces New PCLD Position Sensitive X-ray Detector

The new Photon Counting Linear Detector (PCLD) uses breakthrough design to achieve accurate position sensing at a price comparable to conventional NaI detector systems. The PCLD possesses excellent quantum efficiency in the 5-20 keV (2-0.6 Angstrom) energy range. Other features include: low deadtime for wide dynamic range, reliable dedicated electronics and sealed detector, and convenient PC interface which yields portable ASCII data files.

The PCLD is a gas-filled proportional device which is intended for X-ray diffractometry applications and is especially suited to powder measurements, including forward and backward reflection. Horizontal Soller slits are available for use with line focus sources. The detector is ideal for upgrading film-based apparatus, enabling rapid and convenient data collection. The system includes source code which drives the interface, plots data, and located peaks. Optional software will provide publication quality graphic output. The product can also be used to dramatically increase data collection rate on modern focusing goniometers. Featuring a very short deadtime, the system will perform well in experiments using synchrotron or rotating anode in addition to sealed tube sources. The PCLD is available now at a special introductory price.

For more information, contact Jeff Radtke at Reflection Imaging, Inc. PO Box 55252, Madison, Wisconsin 53705 or telephone (608) 238-5068.

Rigaku's New Diffractometer Offers Direct-Drive Rotating Anode X-Ray Source

Rigaku/USA has introduced a vertical version of its D/MAX diffractometer series with a unique direct-drive rotating anode X-ray source that allows simultaneous use of both line and point focuses.

Called D/MAX-1500V, the new diffractometer's direct-drive capability reduces vibration and noise associated with belt-driven systems. The system also eliminates particle generation, making it ideal for clean room applications.

"The high intensity of X-rays generated by the D/MAX-1500V coupled with its improved stability allow thin film specimens and microscopic samples to be analyzed more readily," said Dr. Alan Robson, Ph.D., vice president of marketing for Rigaku/USA.

"Because of its clean, vibration-free operating mode, the system is particularly effective in materials characterization and structural analysis in chemical, pharmaceutical, semiconductor, and other clean room applications," he added.

Dr. Robson noted that the D/MAX-1500V automatic switchover feature enables users to conduct concurrent measurements employing the optical systems of both the point and line focus modes with a single wide-angle goniometer.

"Together with built-in alignment, automatic switchover simplifies set-up and operation of the system's attachments," he noted. "This means considerable savings in time, particularly when using attachments that require a point focus, including those involving stress measurement and fiber analysis."

The D/MAX-1500V's triple-axis goniometer has been redesigned with extended 2-theta scan ranges from -10 degrees up to 154 degrees. An optional 285-millimeter radius configuration achieves ranges up to 164 degrees.

The new diffractometer operates in a windows environment with UNIX-based applications software that runs on either IBM or Hewlett-Packard workstations. All instrument functions are computer controlled and automatic, including operation of the X-ray generator and alignment and operation of the goniometer, attachment slits, and monochromer.

A 43-position automatic changer allows samples to be rotated freely or step-scanned. Data analysis is performed independently of instrument control, so the system is free to perform other experiments while the operator works with previous results.

For more information, call (508) 777-2446; fax (508) 777-3549; or write Rigaku/USA, Inc., Northwoods Business Park, 200 Rosewood Drive, Danvers, MA 01923.

Increased Resolution Now Available with New Polycrystalline X-ray Diffraction Instrument from Siemens

The D 5000 HR Polycrystalline X-ray Diffractometer system integrates new high-resolution diffractometer hardware with innovative control, evaluation and simulation software for the complete characterization of epitaxially-grown thin films. In addition to identification of the crystalline structure and orientation of the layers, the D 5000 calculates layer thickness, chemical composition and bond lengths for either single or multi-layer films.

The D 5000 HR incorporates a 4-bounce incident beam monochromer and reduction gearing to achieve accurate resolution at a minimum step size of 0.0002 degrees for theta and 2-theta drives. If necessary, an additional diffracted beam monochromer consisting of a flat Ge (111) crystal can be added to produce the 4+4+1 geometry (triple axis).

The high-resolution configuration includes an open Eulerian cradle for examination of any desired reflection, a motorized X-Y stage for sample positioning for surface mapping and a wafer stage that can accommodate up to a 6-inch wafer.

The WIN-HRXRD software package runs under MS-Windows™ and requires an IBM PC-AT or compatible equipped with either an 80386 with math coprocessor or 80486 processor, 8 Mbytes of RAM and VGA color graphics. Data collection can occur as a background process, permitting other programs such as data reduction or simulation to occur simultaneously. The simulation routines can be used to predict the appearance of the experimental diffraction pattern and to observe how effects like chemical composition and layer thickness affect it.

Reciprocal space software is also available to perform the high-precision measurements necessary for full characterization of each layer.

For more information, call Dale Kivi at (608) 276-3011; fax (608) 276-3015; or write Siemens Analytical X-ray Instruments, Inc., 6300 Enterprise Lane, Madison, WI 53719. Worldwide contact: Siemens AG, Analytical Systems AUT V 353; D 7500 Karlsruhe 21 P.O.Box 21 1262; Federal Republic of Germany; telephone (0721) 595-4295.