

RESEARCH RESOURCES

A summary of new products and services for materials research...

Electrochemical Scanning Tunneling Microscope:

Instrument combines STM with a bipotentiostat-controlled electrochemical cell to allow simultaneous STM imaging and voltammetry with atomic resolution. The controls are logical and fully interactive. The user can change STM and potentiostat parameters without pausing the experiment. Instrument can stand alone or attach to the NanoScope II STM controller. All standard NanoScope II realtime-control and image processing capabilities are provided, as well as ECSTM software. Digital Instruments.

Circle No. 50 on Reader Service Card.

SCR Database of Faculty Researchers:

A computer database of faculty engaged in microelectronics-related research contains information on over 800 faculty members across the United States. Included are specific research interests in the words of the researcher classified by a 29-point research taxonomy. The database, a computerized version of the recently published 1990 SRC U.S. Faculty Source Book, can be used to identify researchers with specific technology topics of interest. The directory is available in various database formats for both PC compatible and Mac-Intosh™ computers. Higher Education Publications, Inc.

Circle No. 51 on Reader Service Card.

Integrated Processing Systems:

New range of instruments combine sputtering, ion beam, and ECR techniques in a single chamber, allowing less cost to thin film researchers than individual systems. Applications include sputtering and ion beam etching using the plasma stream or extraction beam, low energy ion beam enhancement, and reactive sputtering using the ECR for the reactive gap. Microscience, Inc.

Circle No. 52 on Reader Service Card.

Ion Pumps: A new catalog entitled *Ion Pump Quick Reference Guide* has been released. The 20-page product catalog describes the operational advantages of an ion pump over other pumping systems. It details Perkin-Elmer's design, offers stability comparisons of differential ion pumps over competitor's pumps, and lists all pump specifications for the 0.2 l/s ion pump up to the 500 l/s ion pump. Ordering information is indexed by model number and shipping weight. Perkin-Elmer.

Circle No. 53 on Reader Service Card.

Field Emission Auger Surface Analysis System:

PHI 670 Auger Nanoprobe for surface and interface analysis combines Schottky field emission electron source with a new multichannel detector, cylindrical mirror analyzer, and advanced software to provide high magnification SEM images, elemental sensitivity with high detection limits, and very high throughput. Auger microscopy at magnifications of 100,000x can be performed in just a few minutes for applications such as particle analysis. The PHI 670's new features include a magnetic sample introduction system and an enhanced ultrahigh vacuum environment that permits ion beam Auger depth profiling. New software features include auto peak identification, and labeling and parameter flexibility during depth profile acquisition. Perkin-Elmer.

Circle No. 54 on Reader Service Card.

Study Tour of Mining in Spain and Portugal:

The well-known and ancient mining region of Rio Tinto features extensive remains of Roman works, as well as prehistoric mines and smelting sites. Various mines in Spain and Portugal (including recent excavations), museums, and the city of Seville will be visited over 11 days. An experienced guide will lead a maximum of eight people through this rarely visited rural area. Local experts will also participate. The next study tour is planned for May 17-27, 1991. £570 will include air fares from Gatwick (U.K.) to Faro, Portugal; accommodations; most meals; travel and medical insurance; transport; ferry; and entrances; and a single room supplement of about £30 will be charged. Atalaya Tours.

Circle No. 55 on Reader Service Card.

UHV Ion Pumps: Perkin-Elmer has announced a new addition to their line of Noble Diode (D-I), conventional and hydrogen ion pumps at 90, 170, and 320 l/s. The pumps offer contamination-free operation, handle all gas types, and have long operating lives. They provide high pumping speed, feature fast starting and stability, and operate from 5×10^{-4} torr to 5×10^{-11} torr and below. Perkin-Elmer.

Circle No. 56 on Reader Service Card.

Diamond Database: A bibliographical PC-based database on diamond film, diamondlike carbon, and cubic boron nitride covers technical, scientific, and popular papers, as well as patents. The database currently contains over 1,550 entries, primarily covering papers written in English and will be continuously upgraded. Danish Technological Institute.

Circle No. 57 on Reader Service Card.

Mini Pulsed Metal Plasma Gun: This plasma gun can deposit thin metal films, including multiple layers, on virtually any substrate with a thickness control from angstroms to microns with plasma generated by a metal vapor vacuum arc. The gun operates in pulsed mode, providing precise control over the plasma flux and deposition rate. Its small size offers great operational flexibility, and its new technology is simple, clean, and compatible with a wide range of metals including tungsten and molybdenum. Potential applications include electronic device fabrication, optical coatings, x-ray optical devices, and magnetic recording media. Lawrence Berkeley Laboratory.

Circle No. 58 on Reader Service Card.

Multi-Tasking Thermal Analysis Software:

Menu-driven thermal analysis software works with any analog TGA, DSC, or DTA instrument. Multi-tasking capability allows the user to collect data in the background and perform other tasks such as analysis, plotting, printing, etc., in the foreground. Data collected can be easily analyzed using standard ASTM methods. Onset temperatures, enthalpies, weight loss, etc., are automatically calculated, displayed, and stored. Files can also be exported. Optional software modules are available for kinetics, specific heat and purity determinations, and automating gas flows and motors. Up to 10 separate regions per file can be selected when analyzing data. Astra Scientific International, Inc.

Circle No. 59 on Reader Service Card.

For more information about the products and services described in this issue, circle the matching number on the Reader Service Card.