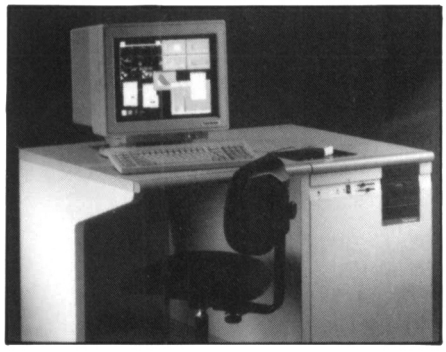
A summary of new products and services for materials research...

X-Ray Microanalysis System: VOYAGER™ x-ray microanalysis system includes powerful image analysis capabilities and a full-capability report generation program as well as the ability to perform elemental analysis and elemental mapping of samples. An integral SPARC™-based workstation from Sun Microsystems provides state-of-the-art computer power. The system features UNIX® multitasking operating system, a very high resolution monitor, and windowing display capability for total simultaneous on-screen control over all experiment and software operations. A 12-page product catalog on the VOYAGER is available. Tracor Northern, 2551 W. Beltline, Middleton, WI 53562; (608) 831-6511.

Furnace With Dilatometer for up to 3000°C: Graphite tube furnace with dilatometer accessory ramps from ambient temperature to 3000°C at 25C°/minute, and cools from 3000°C back to ambient in about two hours—allowing two runs a day. For operation at 3000°C, the dilatometer can accommodate up to a 1-in. cube specimen. A vertical stainless steel double-walled chamber ensures that an isothermal zone surrounds the specimen. A high-resolution linear variable displacement transducer controls the coarse adjustment, while the fine adjustment is accomplished via the micrometer head. This arrangement allows for thermal expansion and ensures accuracy and repeatability to 0.0001. Furnace system with its state-of-the-art optical pyrometer temperature control and all-digital instrumentation can be used to measure linear coefficients of expansion in advanced materials and to investigate the sintering behavior of ceramics. Centorr Furnaces, Route 28, Suncook, NH 03275-2399; (603)485-9504.

Fully Automated Scanning Tunneling Microscope: Compact desktop system scans areas up to 10 x 10 μm with a vertical resolution better than 0.01 nm; typical lateral resolution is 0.01 nm. The Tunnelscope 2400™ is highly automated. An operator simply places the specimen on the microscope, defines the measurement parameters and starts the process. Coarse and fine positioning of the tip and resulting measurements are fully controlled by electronics. Specialized design gives the system a very high natural frequency, producing an extremely fast and stable scan, while the construction and use of resilient mounting help minimize distortion of measurements caused by factors such as temperature, vibration, and acoustic radiation. Struers, Inc., 26100 First Street, Westlake, Ohio 44145; (216) 871-0071.



X-Ray Microanalysis System

Laser Beam Analyzer: Portable 13-pound, self-contained instrument provides real-time beam profile displays, 16 colors on beam profile contour plots, and X/Y cross-sectional views. Users can zoom or pan to beam profile areas of interest and use their own printers to record profiles for documentation and reports. Numerical beam calculations offer such standard features as beam energy, beam position, and beam dimensions, as well as Gaussian fit and Top Hat measurement. Users can also measure off-axis elliptical beams or square and rectangular Top Hats. In addition, all these functions can be screened with pass/fail limits. The analyzer is also easily interfaced to host computers for further data processing. Spiricon, Inc., 2600 North Main, Logan, Utah 84321; (801) 753-3729.

Three-Dimensional Surface Profiler: Optical system combines advanced software algorithms with standard hardware components to achieve superior measurement quality at roughly half the total system cost of other phase measurement profilers. PROMAP achieves 0.5 μm lateral resolution and sub-angstrom height resolution using standard turret mount microscope objectives and PC/AT compatible software. Analysis software is mouse driven for ease of use. Micromap, 4725 E. Sunrise Drive, Suite 432, Tucson, AZ 85718; 800-248-4855.

ECR Plasma Stream Sources: Six-page, color brochure features company's family of electron cyclotron resonance plasma stream sources. Catalog details ECR source design, characteristics, and principles of operation. It also premieres the new 9200 ECR system and discusses integrated process systems and custom designed systems, applications laboratory and laboratory services, and applications for the complete range of company's ECR systems. Microscience, Inc., 41 Accord Park Drive, Norwell, Massachusetts 02061; (617) 871-0308.

Dual Wavelength Thin Film Stress Measurement System: Designed for accurately measuring all substrates and film types, this system uses dual wavelength technology to solve the problem of stress interference, allowing ready measurement of stress in silicon nitride. The scanning capability of the system (Model F5200) provides measurement of wafer topography and stress uniformity at multiple points along the wafer diameter, and detects conditions leading to metal film and dielectric cracking, voiding, lifting, and other reliability problems caused by film stress. Model F5200, designed for easy operation in wafer production area, measures thin film stress at room temperature. FleXus, Inc., 544 Weddell Drive, Suite #7, Sunnyvale, CA 94089; (408) 734-3409.

Surface Mount Technology: Catalog, *Mastering the Variables of SMT*, details corporation's surface mount program and services, such as its SMTech Center, which offers access to industry experts who can help evaluate a process or planned upgrade, provide solutions, and answer questions. Catalog also describes how the corporation develops products for unique or standard SMT application, flex circuits, injection-molded boards, hybrids, and special metallizations. A no-charge technical advisory service is available via telephone. Indium Corporation of America, 1676 Lincoln Avenue, Utica, NY 13502; (800)448-9240 (in New York, call collect at 315-768-6400).

Cryogenic Temperature Sensor Guide: Free guide for the specification, application, and performance of virtually every type of cryogenic temperature sensor contains more than 50 pages of sensor reference tables and application notes with information on physical properties, recommended temperature range of use, magnetic field dependence, calibrations, precision options, installation, and measurement techniques. Temperature sensors profiled include silicon and gallium-aluminum-arsenide diodes, platinum resistance thermometers, germanium and carbon-glass resistors, rhodium-iron resistors, capacitance sensors, magnetic field Hall sensors, and thermocouples. Guide also contains the International Temperature Scale of 1990; a sensor size relationship scale; a Celsius, Fahrenheit, and Kelvin temperature conversion table; and application notes on sensor calibration. Lake Shore Cryotronics, Inc., 64 E. Walnut Street, Westerville, Ohio 43081; (614) 891-2243. □