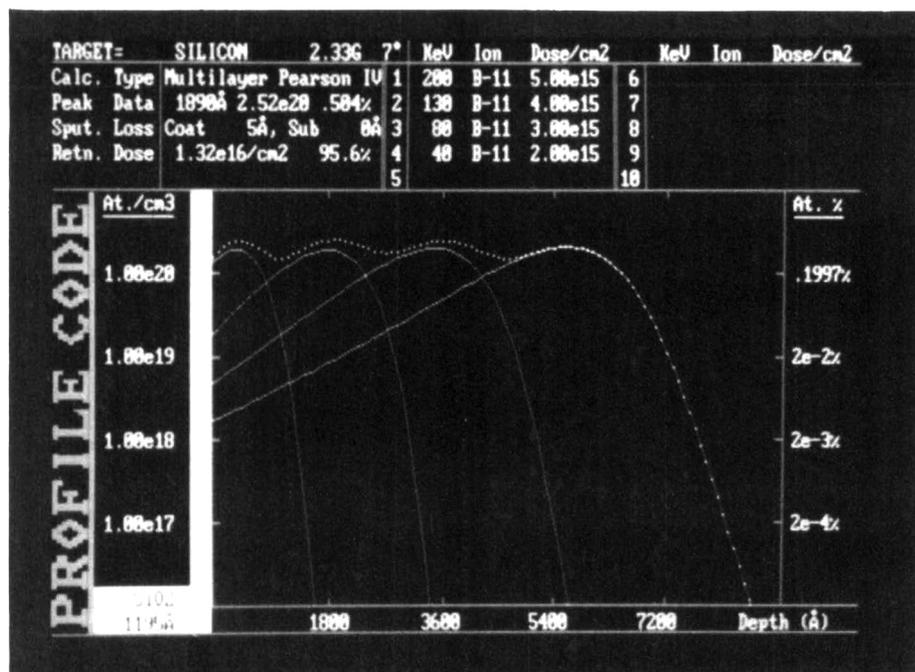


## RESEARCH RESOURCES

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

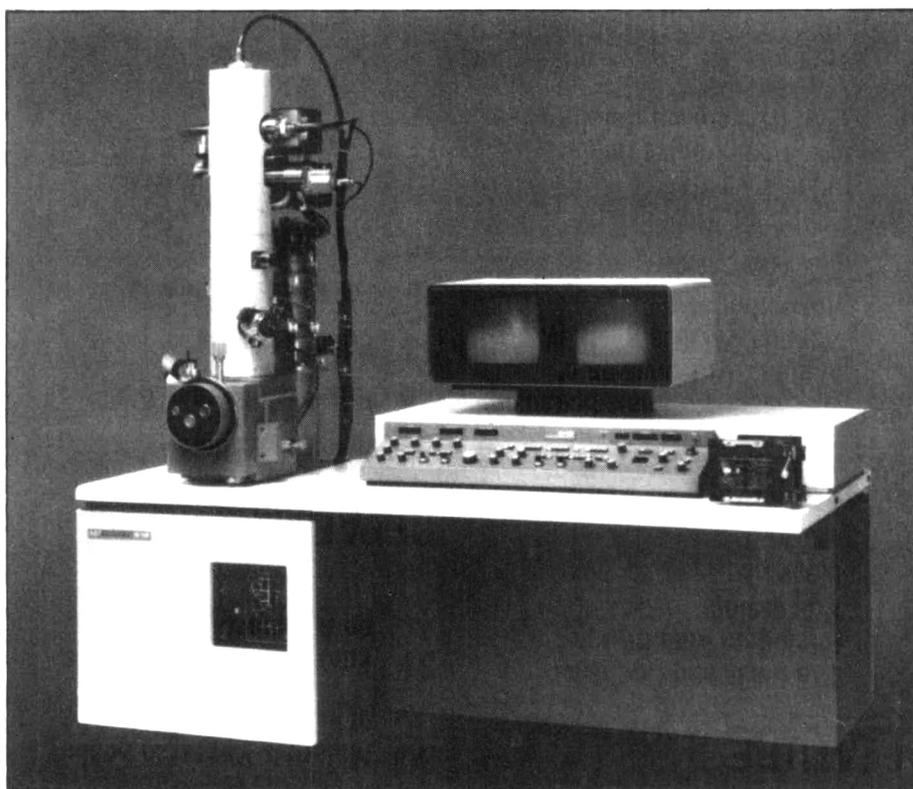


**Multilayer and High Dose Ion Implant Calculation Software:** New version of ion implant calculation software allows greater capability, flexibility, and ease of use than earlier versions. Greatly enhanced summing capabilities provide profile subtraction (for counterdoping) and random profile selection from a list. Multiple implant profiles automatically adjust to fit a selectable liner function or data set. Other features include plot label creation and editing, ability to recall up to 20 plots, and selectable CGA or EGA color graphics. The Multilayer Profile Code™ version 3.0 is also available with a High Dose Module which has the unusual capacity of real-time modification of target material properties as dose is accumulated in the sample. Implant Sciences Corp., 35 Cherry Hill Dr., Danvers, MA 01923; (508) 777-5110.

### Multilayer and High Dose Ion Implant Calculation Software

**Field Emission SEM for Ultrahigh Resolution:** Scanning electron microscope provides ultrahigh resolution (1 nm) in its top stage as well as large-specimen handling (while still maintaining 2 nm resolution) in the bottom stage. The DS-130F can accommodate samples as large as six inches in diameter and up to eight inches with an optional stage. A newly developed condenser lens system is included in addition to a high-brightness thermal field emission gun which operates in the  $10^{-6}$  torr range compared to  $10^{-10}$  torr required by other systems. Because of the emission current's high stability, no tip flashing is required. International Scientific Instruments, Inc., 1457 McCarthy Blvd., Milpitas, CA 95035; (800) 538-6850; in California (408) 945-2233.

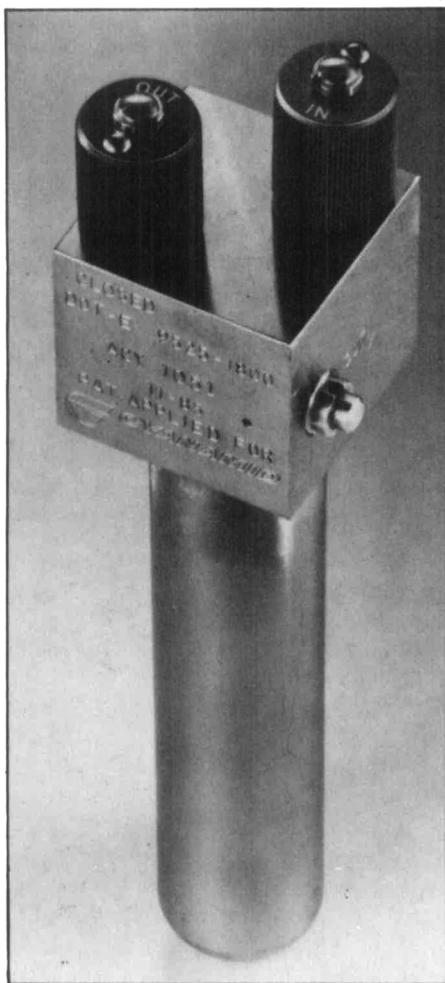
**Surface Analysis Software:** Data system for Auger, ESCA, and other electron spectroscopies offers accurate quantitative analysis using peak extraction and area measurements. Designed for analog or counting acquisition modes, MAES is fully automatic, including background fitting. The system takes only two minutes for a spectrum with more than 50 peaks. Sophisticated peak synthesis, interactive operation, and automatic element identification are provided. MAES operates on IBM PC/XT/AT, PS2 or compatibles. A detailed data sheet, No. 50350, is available. Vacumetrics Inc., 5770 Nicolle Street, Ventura, CA 93003; (805) 644-7461.



### Field Emission SEM for Ultrahigh Resolution

## RESEARCH RESOURCES

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



### Liquid Silicon Source for CVD

#### **Nonlinear Infrared Optical Coatings:**

Coatings provide a dramatic change in optical transmission and reflection plus electrical resistivity based on a narrow temperature change. Applications include infrared radar, scan laser, "Q"-switching and "ladar" as well as thermally sensitive controls and devices. Infrared Non-Linear Materials Co., P.O. Box 216, Farmingdale, NY 11735; (516) 694-2877.

#### **Desktop Double Crystal X-Ray Diffractometers:**

Designed for characterizing epitaxial thin films and semiconductor films, these computer automated systems run on 115 volts with air-cooled x-ray tube. Systems offer horizontal sample loading with rotary and sample translation, and will run over 100 x-ray rocking curves a day with software output of lattice mismatch, splitting, ternary composition, FWHM, and film thickness. North Eastern Analytical Corp., 17 Sherman Rd., P.O. Box 25, Millis, MA 02054; (508) 376-4132.

**Liquid Silicon Source for CVD:** Hexachlorodisilane (HCDS) has been added to a chemical vapor deposition (CVD) product line of electronic-grade metalorganics. Useful as a liquid replacement for silane and dichlorosilane, HCDS has been successfully used in applications such as silicon nitride deposition and polysilicon deposition. Now available in research quantities, HCDS is shipped in a reusable and reshipable CVD source bubbler, a stainless steel package with electropolished interior walls and valves. American Cyanamid Co., Electronic Chemicals Dept., One Cyanamid Plaza, Wayne, NJ 07470; (201) 831-3334.

#### **EM Embedding Kit for Electron Microscopy Samples:**

Epoxy resin kit embeds electron microscopy samples into plastic and emulates the viscosity, hardness, and sectioning characteristics of Shell Epon. Contained in the EPON 812 Epoxy Resin Kit are: 500 ml of Epikote 812, 250 ml of Hardener DDSA, 250 ml of Hardener MNA, and 250 ml of Accelerator DMP-30. Hardness of the final block is a function of user-regulated mixing ratios. The kit creates a low viscosity plastic that hardens in heat overnight at 60°C, or in a three-stage process at 35, 45, and 60°C for one day at each temperature. Balzers, 8 Sagamore Park Rd., Hudson, NJ 03051; (603) 889-6888.

#### **Sputtering Target Product Selection Guide:**

Guide presents an overview of sputtering target materials such as aluminum and its alloys, chromium, cobalt, nickel, titanium and tungsten, and also includes typical applications. Also listed are the wide variety of target geometries available such as conical, planar, and inset types. Targets are available for all sputtering equipment manufacturers including Varian, MRC, Electrotech, Anelva, and Ulvac. Tosoh SMD, Inc., 3515 Grove City Rd., Grove City, OH 43123-3099; (614) 875-7912.

#### **Rapid Thermal Processor for GaAs Applications:**

Mechanical loading system features a proprietary GaAs susceptor which prevents arsenic from escaping, supports the wafer, allows uniform heating and controlled cool down, and provides slip-free rapid thermal processing. The Heatpulse™ 4100 features III-V an all-quartz processing chamber, a high level of process parameter control, cassette-to-cassette robotic wafer handling, multi-gas capability (O<sub>2</sub>, NH<sub>3</sub>, N<sub>2</sub>, Ar/H<sub>2</sub>, HCl, and Ar), and high yields. A software option allows the 4100 III-V to be operated by re-

mote control from a host computer. AG Associates, 1325 Borregas Ave., Sunnyvale, CA 94089; (408) 745-1790.

**Aerospace Technology Centres:** Directory describes over 700 industrial centers, government labs, universities and technical college labs involved in aerospace technology. Arranged by country, information for each entry includes name and address; telephone, telex, and fax numbers; product range; affiliation or parent; research director and division heads; graduate research staff; annual expenditures; scope of activities; publications; and names of firms or organizations for which they conduct research. Indexed by name of establishment and subject. Price: \$245.00. Gale Research Inc., Book Tower, Detroit, MI 48226-9948; (800) 223-4253 or (313) 961-2242.

#### **European Sources of Scientific and Technical Information:**

Revised edition identifies key sources of scientific and technical information found in the countries of Western and Eastern Europe, including national offices of information, organizations active in the field, research centers and institutes, libraries, and laboratories. Separate chapters list scientific and technical information centers, patent offices, and standards offices. Each entry identifies the official name and English translation; address, telephone, telex, cable; affiliation; contact person for inquiries; subjects covered; facilities; publications; services provided, and more. The 375-page directory is indexed by subject and establishment title. Price: \$215. Gale Research Inc., Book Tower, Detroit, MI 48226; (313) 961-2242.

#### **European Technical Consultancies:**

New guide identifies 800 firms and organizations in 17 countries offering consulting and technical services for such areas as new product development, new applications for existing technologies, redirecting technical expertise, and organizational restructuring. An industries served index identifies some 25 industry groups served by these consultancies. Among the services offered by the firms listed are feasibility studies, market surveys, process development, project management, standards and testing work, technical audits and strategy, and technical writing. The 342-page guide has four indexes: companies and acronyms, consultancy services, industries served, and personal name. Price: \$140. Gale Research Inc., Book Tower, Detroit, MI 48226; (313) 961-2242. □