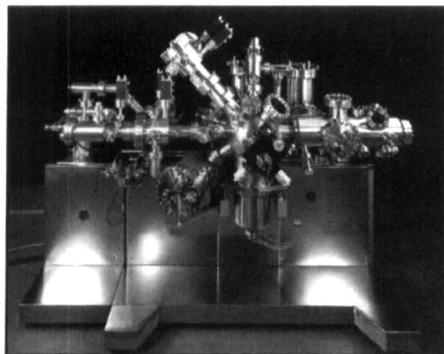


## RESEARCH RESOURCES

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



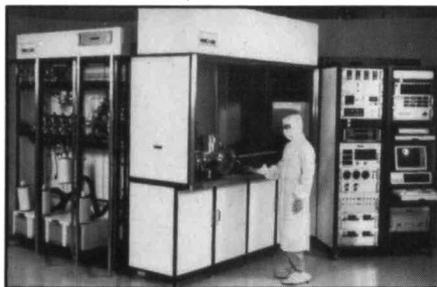
**High Sensitivity Chemical Analysis**



**Integrated Superconductor Testing System**

**High Sensitivity Chemical Analysis:** SIMSLAB MkIII uses high transmission ion optics with optical gating to ensure high sensitivity and fast depth profiling. It may be configured with a choice of three separate ion beam sources, and fast atom beams and microfocused liquid metal ion guns are available. VG Instruments Inc., 32 Commerce Center, Cherry Hill Drive, Danvers, MA 01923; (617) 777-8034.

**Integrated Superconductor Testing System:** One system can measure magnetic susceptibility, resistivity, critical current, Hall effect, adsorption/desorption, and microcalorimetry. Magnetic susceptibility is sensitive to  $10^7$  emu/g; cryostat temperature ranges 4-800 K (1000 K optional); resistivity and critical current package can measure resistance changes as small as  $10^6$  ohms. The following modules can be purchased individually or as a system: temperature controllable cryostat, resistivity and critical current probe, dewar, gas/liquid generator probe, transfer line, Cahn 2000 microbalance, Walker Scientific 10 kG kilogauss electromagnet, Keithley Instrumentation, and Lab Tech Notebook software. Zeamer Systems Group, Inc., 45 South Street, Hopkinton, MA 01748; (617) 435-2383.



**Advanced Epitaxy Systems For III-V Applications**

**Advanced Epitaxy Systems For III-V Applications:** Advanced metalorganic chemical vapor deposition systems have been designed to simultaneously grow epitaxial layers of both GaAs and InP with a thickness uniformity of less than 3% across 2-in. wafers. Dual stainless steel chambers enable work on two types of materials without cross-contamination. Other features include safety interlocks and high vacuum loadlocks that allow wafer reloading without opening reactant chambers; and 16- or 32-bit microcomputers with color graphics and software. EMCORE Corporation, 35 Elizabeth Avenue, Somerset, NJ 08873; (201) 271-9090.

**Mass Spectrometer Data Software System:** Available for all makes and models of mass spectrometers, this array of menu-driven software modules guides the user through data acquisition and processing options. Designed to meet the everyday data requirements of analytical laboratories, Shrader System™ modules include: 16-bit computer interface, main system hardware, gas chromatography/mass spectrometry (GC/MS) processing software, high resolution mass spec, multiple ion monitoring (MIM), library quantitation, library MIM, and Wiley/NBS library. Demonstration disks and data sheets are available. Vacumetrics, Incorporated, 5770 Nicolle Street, Ventura, CA 93003; (805) 644-7461, (800) 235-3333.

**Japanese Superconductivity Newsletter:** *Focus on Japan*, a monthly newsletter, reports primarily on Japanese developments in superconductivity and contains translated articles as they appear in Japanese trade papers and journals. Subscription also includes CSAC *Washington Update*, published eight times a year with information on federal and congressional activities and programs relevant to superconductivity, and on CSAC activities. Council on Superconductivity for American Competitiveness, 1050 Thomas Jefferson Street NW, 6th Floor, Washington, DC 20007; (202) 965-4070.

**Commercial TBA for Semiconductors:** Commercial volumes of tertiarybutylarsine (TBA), a key chemical vapor deposition (CVD) source and the liquid replacement for toxic arsine gas, are now available. TBA is considerably less hazardous than the widely used compressed arsine gas. In addition to its demonstrated performance in the MO-CVD growth of gallium arsenide and related III-V compounds, TBA also has a lower decomposition temperature and an improved usage efficiency compared to arsine. American Cyanamid Company, Venture Chemical Division, One Cyanamid Plaza, Wayne, NJ 07470; (201) 831-3647.

**Materials for Crystal Growth:** Brochure describes Optipur®, a diverse group of chemical materials designed for crystal growth purposes. Application tested materials can be used without extensive purification. Material technical specifications are also presented. EM Industries, Advanced Chemicals Group, 5 Skyline Drive, Hawthorne, NY 10532; (914) 592-4660; fax (914) 592-4668.

**High-Performance Ceramic Coatings:** Comprehensive market report, *Ceramic Coatings*, discusses potential applications of this rapidly growing area. Current market segments and their growth rates are examined, such as aircraft engines and aerospace applications, cutting tool inserts, and automotive and diesel engines. Potential markets are also discussed. Price: \$2,450. Business Communications Company, Inc., 25 Van Zant Street, Norwalk, CT 06855; (203) 853-4266.

**Evaporation Chemicals:** Four new Patinal evaporants are now available. Zirconium (IV) Oxide Disc Patinal 6 g consists of white discs 17.5 mm in diameter and 5 mm thick with flat upper and lower surfaces having bevelled edges which permit wide scanning by an electron beam and high utilization rates. Zirconium (IV) Oxide Patinal, Hafnium (IV) Oxide Patinal, and Zinc Sulfide Patinal all have 1-4mm particles and are used in resistance heated boats. EM Industries, Inc., 5 Skyline Drive, Hawthorne, NY 10532; (914) 592-4660.

**Superconducting Thin Film Deposition:** Free 8-page technical note describes superconducting thin film deposition processes and equipment. Research efforts, the benefits of sputtering from a loose powder oxide target, and descriptions of recent successful processes are featured. CVC Products, Inc., 525 Lee Road, P.O. Box 1886, Rochester, NY 14603; (716) 458-2550.