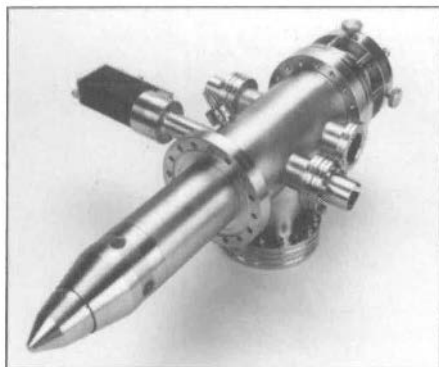


RESEARCH RESOURCES

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



Microfocused Ion Guns



Low Profile Cryopumps

Microfocused Ion Guns: Range of micro-focused ion guns produce intense and highly stable beams with spot sizes down to less than 500 Å. Designed for use in fields such as high resolution SIMS analysis, micromachining, ion beam lithography, and submicron surface engineering, the guns produce current densities in the range of 1 A/cm². Gallium is the most popular source material, but alternative metals and alloys are available for special applications. Guns are available separately, or as part of complete systems. VG Ionex Limited, The Maltings, Burgess Hill, West Sussex, RH15 9TQ, England; +44 4446 46333.

Low Profile Cryopumps: Family of low profile cryopumps saves valuable installation space and provides maximum refrigeration power, enabling integration into a variety of high-vacuum processing systems. Pumps can be mounted either horizontally or vertically. Fixed speed sputtering low profile pump (FS-8LP) designed for sputtercoating applications, is nine inches high, and provides over 1500 std liters at 10⁻⁶ torr. The high vacuum low profile pump (HV-8LP) is an eight-inch, valveless pump with high pumping speeds well suited for ion implantation, surface analysis, molecular beam epitaxy, and general laboratory studies. Varian Vacuum Products Division, 121 Hartwell Avenue, Lexington, MA 02173; (617) 861-7200.



Advanced Epitaxy System For II-VI Applications

Advanced Epitaxy System For II-VI Applications: Advanced metalorganic chemical vapor deposition system is designed specifically for growing II-VI compound semiconductor wafers, including HgCdTe. The System 2600 can grow three 2-inch wafers per run, and is suited for growth of optoelectronic devices such as focal plane arrays for IR wavelengths and night vision applications. Special features include a stainless steel Turbo Disc[®] reactor which uses highspeed rotation to assure composition uniformity; an optional loadlock; a gas panel that injects Cd and Te separately; safe handling and accurate dispensing of elemental reactants; and a rapid switching injector. EMCORE Corporation, 35 Elizabeth Avenue, Somerset, NJ 08873; (201) 271-9090.

USSR Science and Technology: 405-page guide, *Science and Technology in the USSR*, details the policies and directions of science and technology within the social, economic, and political systems of the Soviet Union today. The guide is arranged in 27 chapters. The first 12 chapters cover the historical background of Russian science and technology, the organizational structure supporting scientific research, and related topics. The remaining 15 chapters discuss specific branches of science from agriculture to biotechnology. An index of establishments is also included. Price: \$95. Gale Research Company, Book Tower, Detroit, MI 48226-9990; (313) 961-2242.

Nonvolatile Ferroelectric RAM: Ferroelectric process is integrated with a conventional CMOS silicon process to produce a read/write nonvolatile Ferroelectric Random Access Memory (FRAM[™]). A thin film of ceramic PZT is sandwiched between two metal electrodes to form a "digital memory capacitor" which is built above existing semiconductor circuitry. Nonvolatile operation results from the film's two stable polarization states. FRAM features immunity to power failures, resistance to radiation, fast access time, symmetrical read and write cycles, high density, and low power consumption.

Memory is operated and programmed from a single +5 V power supply. Ramtron Corporation, 1873 Austin Bluffs Parkway, Colorado Springs, CO 80918; (303) 594-4455.

Science and Technology in France and Belgium: 131-page guide, *Science and Technology in France and Belgium*, details the policies and directions of science and technology within the social, economic, and political systems of France and Belgium today. The guide is arranged in two parts, one for each country. Each part contains separate chapters on science policy, industrial research and development, universities and academic institutions, and general topics. Individual branches of science and technology are also discussed in subsequent chapters. Price: \$100. Gale Research Company, Book Tower, Detroit, MI 48226-9990; (313) 961-2242.

Real-Time Measurement for Deposition Process Control: TPC-100 telemetry process controller is an *in situ*, real-time measurement system that provides critical data for process characterization and control during deposition. Resistance and temperature measurements are carried via the transmitter module (in the shape of a 4-inch wafer), in the vacuum system to the receiver. The receiver interfaces with a personal computer for real-time temperature of rotating substrates and film thickness measurement. System is compact, vacuum compatible, unaffected by rf sputtering, and non-particulate generating. Manufactured by MBB DATA Technology, Munich, W. Germany. CVC Products, Inc., 525 Lee Road, P.O. Box 1886, Rochester, NY 14603; (716) 458-2550.

High T_c Information Service: Monthly program provides high T_c superconductivity information, including government reports, scientific papers, congressional studies, budget documents, speeches, congressional testimony, patent applications, and industry reports. Atlantic Information Services, Inc., 1050 17th Street, NW, Suite 480, Washington, DC 20036; (800) 521-4323.

Catalyst Testing Guide: Operational handbook, *A Practical Guide to Catalyst Testing*, offers practical, in-depth information for those working in laboratory-scale catalyst evaluation and associated process development. Catalytica Studies Division, 430 Ferguson Drive, Mountain View, CA 94043; (415) 960-3000. □