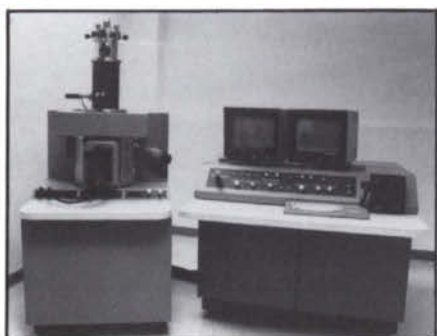


RESEARCH RESOURCES

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



Plasma CVD System



Real-Time SEM for Unprepared Specimens

Plasma CVD System: IBM-PC controlled system guarantees 2% uniformity for silicon dioxide, silicon nitride, and oxynitride films. Modular construction allows the addition of gas lines and use of various pumping configurations. The system includes standard PECVD processes stored on disk, additional processes are available. Microscience, Inc., 41 Accord Park Drive, Norwell, MA 02061; (617) 871-0308.

Real-Time SEM for Unprepared Specimens: Environmental scanning electron microscope makes possible for the first time the unrestricted, undistorted direct observation of unprepared specimens. The microscopist can put virtually anything in the ESEM without risking contamination of the microscope or charging or degradation of the specimen. In addition, a real-time videotape system offers the ability to observe and record dynamic processes (wetting, drying, absorption, melting, corrosion, crystallization) as they happen in the ESEM. The ESEM allows examination of wet specimens in their natural state and also continuous observation of wet samples, including liquids, under fully satu-

rated water vapor conditions (20 torr and above). Insulators such as plastics, paper, ceramics, glass or textiles can be imaged without artificial coatings or resolution-compromising low kilovoltage operation. Relatively high gas pressure in the instrument's specimen chamber prevents the buildup of beam-distorting surface charge, at all acceleration levels. ElectroScan, 100 Rosewood Drive, Danvers, MA 01923; (617) 777-9280.

Brookhaven National Laboratory:

trated 82-page booklet describes, by department and division, the laboratory's research activities during fiscal years 1986 and 1987. Research at the multidisciplinary laboratory ranges from superconductors and kaon decays to holography, nuclear waste disposal, and soot control. Large-scale research facilities at Brookhaven include the National Synchrotron Light Source; the Alternating Gradient Synchrotron, which is connected to the Tandem Van de Graaf accelerator and which is scheduled to be connected to an Accumulator-Booster in 1990; the High Flux Beam Reactor; and two high resolution Scanning Transmission Electron Microscopes that can easily image single heavy atoms. Supplies of the booklet, *Brookhaven Highlights*, are limited. Public Affairs Office, Brookhaven National Laboratory, Upton, Long Island, New York 11973; (516) 282-2123.

Photovoltaic Design Assistance:

at Sandia National Laboratories provides assistance on major projects to private industry, state and federal government agencies, and foreign concerns interested in using solar energy. The center offers consultations, systems analysis, and workshops. Three booklets developed by the center are currently available for users considering a photovoltaic project: *Today's Photovoltaic Systems* evaluates several existing photovoltaic projects and explores details of their performance. *Photovoltaics for Military Applications* provides a step-by-step approach to identifying applications and procuring appropriate systems. *Stand-Alone Photovoltaic Systems: A Handbook of Design Practices* offers a simplified approach to sizing systems and discusses hardware selection, installation, and maintenance. The book provides examples of photovoltaic systems covering a range of typical applications. Photovoltaic Design Assistance Center, Division 6223, Sandia National Laboratories, P.O. Box 5800, Albuquerque, NM 87185; (505) 844-4383.

Laser Safety Video: 21-minute videotape, *Laser Safety Comes to Light*, can assist in developing in-house laser safety programs. The properties of coherent light are described, along with related safety hazards such as electrical hazards, eye and skin protection, and access control. Included with the videotape are an operator's guide for safe working habits, instructions for developing a laser safety program, the Laser Institute of America's *Safety Guide and Guidelines for Selection of Laser Eye Protection*, and the 1986 ANSI Standards. Price: \$520. Coherent Safety Department B-50, 3270 West Bayshore Road, Palo Alto, CA 94303; (415) 852-3823.

Vacuum Components Brochure: Six-page brochure discusses reliable vacuum components for instrumentation and R&D applications. Manufacturing capabilities are featured with descriptions of vacuum systems and various vacuum pumps and components. A new cryogenic laboratory which provides applications testing, quality control, and special product development capabilities is also featured. Leybold Vacuum Products Inc., Marketing Services Department, 5700 Mellon Road, Export, PA 15632; (412) 327-5700.

Gas Purifiers for Advanced Epitaxy Systems: Reactant purification module RPM-301 removes oxygen compounds and water vapor from MOCVD reactant gases through a metal bubbling process, increases purity of products grown, and prevents impurities from contaminating the MOCVD machine. Stainless steel component is compatible with all MOCVD hydride/gas sources and can be easily fitted to existing MOCVD system. Options include purification charges and a stainless steel valve block for gas switching. EMCORE Corporation, 111 Corporate Boulevard, South Plainfield, NJ 07080; (201) 753-1311.

Chemical-Beam Epitaxy Gas-Delivery System: Model 422-CBE interfaces to existing MBE chambers from major manufacturers and allows use of various compressed gases and organometallic compounds. Four metalorganic delivery channels and three gaseous-source channels are provided as well as comprehensive computer control of all sections. Numerous customization options and subsystems for treating toxic exhaust are also available. Crystal Specialties, Systems Division, 16535 SW 72nd, Portland, OR 97224-7705; (503) 684-0470. □