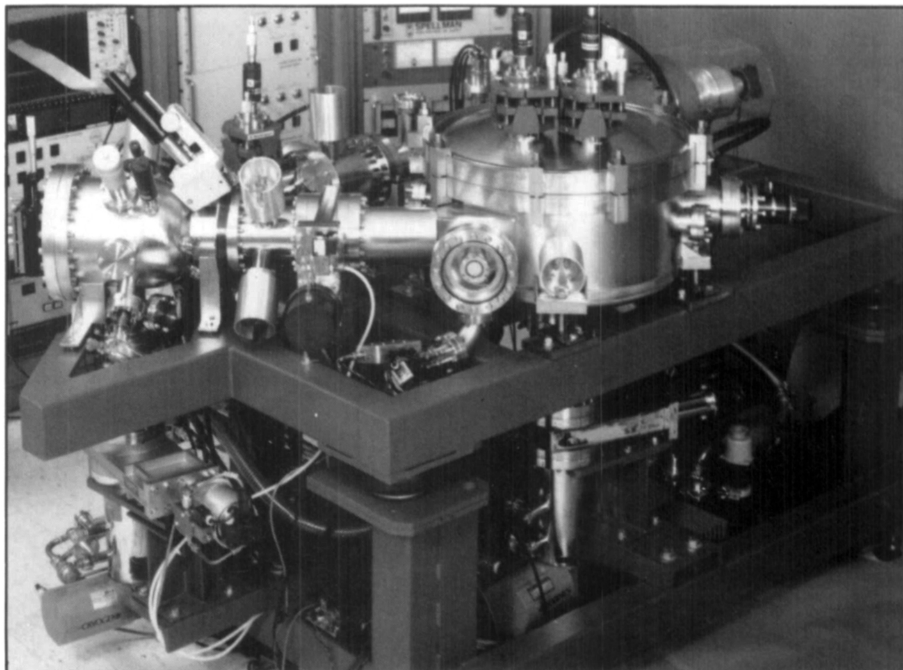
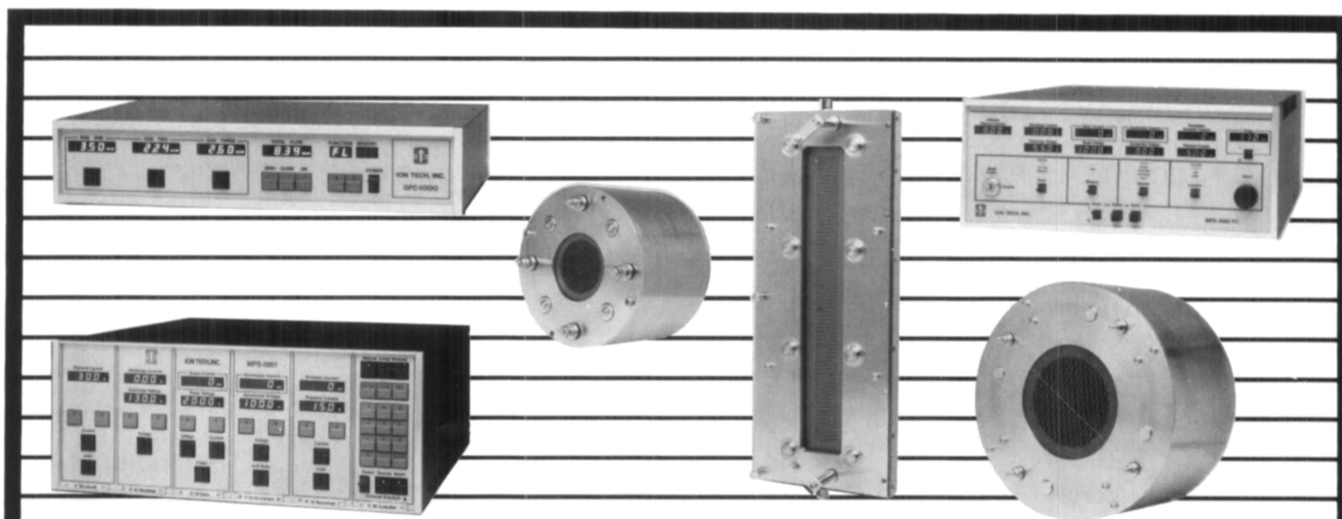
A summary of new products and services for materials research...

TOF-SIMS Surface Analyzer: Ion imaging time-of-flight secondary mass spectrometer (TOF-SIMS) combines the capability to image the surface of a sample with surface mass analysis. The system is designed to provide scientists and engineers with information which characterizes the surface of semiconductor materials, devices, polymeric materials and pharmaceuticals. The instrument can rapidly and efficiently collect mass spectra to very high masses with good mass resolution, combined with detailed imaging abilities. A new spectrometer design (stigmatic TOF ion optics) allows the entire analytical area to be bombarded and the secondary ions from each pixel to be simultaneously mass analyzed and detected, rather than sequentially. Charles Evans & Associates, 301 Chesapeake Drive, Redwood City, CA 94063; (415) 369-4567.

Sputtering System: Offering process repeatability for R&D, pilot plant and production applications, the CVC 611 Loadlok system can be installed as a through-the-



TOF-SIMS Surface Analyzer



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Facsimile 303/493-1439

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wall or stand-alone clean room compatible system. The load lock chamber is supplied with robotic wafer handling for single wafer or batch processing. Up to eight process stations can be installed for sputter-up, sputter-down, simultaneous up/down sputtering, and deposition in both rotation and static modes. Process repeatability is supplied by a completely automated user-friendly, microprocesser control system that simultaneously controls, records, and displays process parameters in real-time. CVC Products, Inc., 525 Lee Rd., P.O. Box 1886, Rochester, NY 14603; (716) 458-2550.

Refrigeration to 68 K with Nitrogen Gas: Researchers studying semiconductor or superconductor materials or IR sensor materials can now cool samples to as low as 68 K using a refrigerator operating only with nitrogen gas. Retrofitable to all MMR systems in use, the refrigerator operates with gas input pressures of 1,100 to 1,800 psi and utilizes vacuum assist on the gas exhaust port to achieve low temperatures. MMR Technologies, Inc., 1400 N. Shoreline Blvd., Mountain View, CA 94043-1312; (415) 962-9620.

Simultaneous DTA/TGA

Simultaneous DTA/TGA: Instrument combines differential thermal analysis (DTA) and thermogravimetric analysis (TGA) in one high quality but affordable unit. Sophisticated balance technology includes a sensitive (0.0001 gram) pan balance used to weigh an ultra-lightweight DTA thermocouple assembly. A novel technology for transmitting thermocouple voltages without intervening wires has also been employed to achieve very repeatable DTA and TGA results. The Model ST-732 is capable of 1200°C and can be used with inert gases, air, nitrogen, and oxygen. Harrop Industries, Inc., 3470 E. Fifth Ave., Columbus, OH 43219, (614) 231-3621.

Medium-Current Ion Implanter: Designed to assist in manufacturing semiconductor devices, this fully automated system offers parallel beam scanning and a dose measurement and operation technique that increases reproducibility and uniformity on wafers as large as 200 mm. Each wafer is scanned in the Y axis while a high-speed parallel beam scans the X axis. Beam angle deviation is less than 0.5°. Parallel scanning controls channeling and eliminates shadowing effects. An "ion-writing" technique measures and corrects beam uniformity over the entire scan field before implantation begins. Varian Associates, Inc., Extrion Div., Blackburn Industrial Park, Dory Rd., Gloucester, MA 01930; (508) 281-2000.

Continuous Spectra Monitoring and Control: Auditor™ I, a 650 amu quadrupole-based mass spectrometer, provides continuous spectra monitoring and alarming in a completely automatic instrument. Ideal for harsh chemical process and environmental gas monitoring and control, it offers fully interactive controls, mass-selectable software on a PC/AT-based data system, and quick-change ion replacement, electron multipliers, and turbomolecular vacuum pumps for increased operating time and easy maintenance. Leybold Inficon Inc., 6500 Fly Road, E. Syracuse, NY 13057; (315) 434-1100.

Auto Filament Switcher: Designed for the 8-cm, 12-cm, or 16-cm ion source, this unit provides automatic switching from first to second cathode filament and automatic restart of power supply upon loss of first cathode. Full opto-isolated status output is standard for use in the automated system. Auto-restart can be disabled from the front panel of the unit. Commonwealth Scientific Corp., 500 Pendleton St., Alexandria, VA 22314; (703) 548-0800. □

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