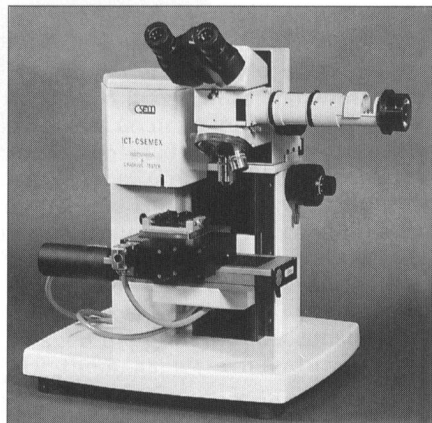


RESOURCES

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



Indenter and Crack Tester: The ICT-CSEMEX[®] distributed by Micro Photonics can measure mechanical properties of thin films and coatings and provide failure mechanism data. Automatic sample position control allows optical observation of indented areas before and after the test, and users can obtain simultaneous measurements of normal force variations and acoustic emission signals during loading and unloading cycles. A depth-sensing indentation system controls movement of the indenter to the material surface so that forces and displacement associated with the indentation process are measured accurately. An optical microscope is included.
Circle No. 76 on Reader Service Card.

Real-Time Confocal Microscope: The RCM-8000 from Nikon offers immediate dual-channel image acquisition and quantitative imaging, full-frame scanning, and ratioing in both the visible and UV ranges. The instrument provides real-time image ratioing of calcium, cyclic AMP, and pH, and incorporates high-speed real-time image processing for ratioing studies involving Indo-1, SNARF, and FICRHR probes.
Circle No. 73 on Reader Service Card.

Digital Oscilloscopes: Each of LeCroy's 9350 series of six digital oscilloscopes features 500 MHz analog bandwidth and 500 MS/s single-shot A/D conversion per channel. Two-channel and four-channel versions are available, and each comes with memory lengths of 25 K, 100 K, and 2 M memory per channel. The ADC and memory of individual channels may be combined to allow up to 2 GS/s digitizing and up to 8 megabytes of memory on one channel.
Circle No. 74 on Reader Service Card.

Nonporous Uniform Silica Spheres: Monospher[®] particles from EM Industries can be used as modifiers for bearing or sliding surfaces and as surface hardeners or lubricants. They are especially suited for light diffusion from sources such as LEDs. The particles are available in pure silica or with surface modification, with diameters from 250 to 1,200 nm, and as a powder or as dispersions in water, ethylene glycol, or polyethylene glycol.
Circle No. 70 on Reader Service Card.

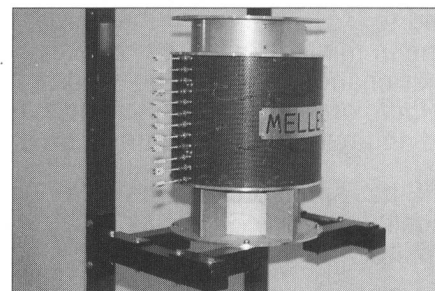
Technical Application Notes: Five free application notes are available from National Instruments[®] on the following topics: (1) methods for transferring data between GPIB controllers and VXIbus instruments linked by GPIB-VXI interface kits; (2) the use of thermocouples for measuring temperature; (3) the use of resistance-temperature detectors to measure temperatures over a wide range; (4) inaccuracies caused by settling time problems with data acquisition products; and (5) the use of signal conditioning hardware with PC-based data acquisition systems.
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Lanthanide Elements Booklet: Molycorp's free 61-page booklet, *A Lanthanide Lanthology, Part I, A—L*, is an alphabetically ordered collection of notes covering sources, production, nature, and uses of lanthanides and related elements beginning with the letters A through L. The notes emphasize the properties underlying practical applications, but each item contains its own footnote references for further information. A second booklet on lanthanide elements, letters M through Z, will be available at a later date.
Circle No. 78 on Reader Service Card.

Ion Pumps and Controllers: Varian's VacIon Plus ion pumps and controllers are available with four pumping elements: (1) noble diode, which combines noble gas pumping with high UHV pumping speed; (2) diode, which provides high pumping speeds for hydrogen and getterable gases; (3) triode, which provides better noble and getterable gas pumping speed at higher pressures; or (4) StarCell, which provides the highest overall speed for noble gases and methane. Sizes range from 20 to 500 l/s. Custom-designed systems are available.
Circle No. 72 on Reader Service Card.

Excimer Laser Workstation: The Projex[™] MicroMachining Center[™] from Resonetics can drill holes to less than 2 μm . Its integrated system package includes a microprocessor-controlled laser, beam delivery, CAD/CAM, and X/Y positioner, all within a tabletop footprint. The unit offers a 150-mm focal length, power density fluences of up to 50 joules/cm², a modular design, and up to 300X on-target camera viewing. The system is suitable for microfabrication tasks on hard materials such as ceramics, diamonds, and metals.
Circle No. 75 on Reader Service Card.

Online Access to UMI Databases: University Microfilms International (UMI) databases are now available to libraries who are patrons of DYNIX (through the VISTA system), Carl Systems, and WLN. The ABI/INFORM[®] database contains bibliographic information, indexing, abstracts, and selected full text for more than 1,000 business publications. Periodical Abstracts Research II cites more than one million articles in 1,500 business, academic, and general-interest publications. Newspaper Abstracts cites articles in 27 regional and national newspapers.
Circle No. 80 on Reader Service Card.



Multi-Zone Furnaces: Mellen's furnaces create and translate a controlled thermal profile without moving parts, allowing the furnace and work charge to remain stationary. Systems are available with 1000, 1400, and 1600°C temperature ratings and allow directional solidification techniques such as dynamic gradient freeze and zone melting. Applications include semiconductor processing, zone refining, crystal growth, fiber optic production, temperature gradient analysis, and more. Complete package consists of a 16-zone, 1000°C, 3-in. I.D. by 24-in. EDG10 furnace, mounting frame, and ADAPT computer control system.
Circle No. 77 on Reader Service Card.