

RESOURCES

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

Scientific 3-D Software: Sigma-Plot® 5.0 from Jandel Scientific offers 3-D plotting with scientific features such as automatic error bars, regression lines, non-linear curve fitting, axis breaks, multiple axes, and confidence intervals. Users can create 3-D mesh and scatter plots, rotate graphs and change perspective interactively, interpolate data, and fit equations to 3-D data. A worksheet of 16,000 columns by 65,000 rows enables users to store, manipulate, and transform data which may be imported from sources such as Lotus® 1-2-3, Quattro®, Symphony®, Microsoft® Excel, dBase™, or ASCII files.
Circle No. 75 on Reader Service Card.

High-Speed Spectral Imaging: Cell Robotics' FT 1000™ converts a standard laser-scan confocal microscope into a multichannel imaging spectrometer. The FT 1000™ performs high-speed spectral analysis on individual pixels of the sample being scanned, and separately images multiple, simultaneously present fluorescent probes. The system can resolve and image up to eight spectral parameters. Automated configuration of spectral characteristics can be accomplished with control samples or recalled from computer storage. The FT 1000™ requires no optical filters and can be automatically adjusted for new fluorescent probes with minimal operator intervention. Applications include the imaging of complex 2-D and 3-D structures.
Circle No. 51 on Reader Service Card.

Guide to OSHA's Lab Standard: *The ABC's of Lab Safety, A Beginner's Guide to Occupational Exposure to Hazardous Chemicals in Laboratories - 29 CFR 1910.1450* is free from SAVANT Audiovisuals to laboratories affected by the Standard. The document outlines the law's scope and applications, permissible exposure limits, employee exposure determination, and requirements for a chemical hygiene plan. Employee information and training, medical consultation, hazard identification, the use of respirators, and recordkeeping are also covered.
Circle No. 73 on Reader Service Card.

Image Intensifier: Photek's 75-mm channel plate image intensifier offers over 10,000 gain and submicrosecond exposure capability. The system may be used as a detector for new large ground-based telescopes and on the echelle spectrographs of existing telescopes. The camera has a time resolution of 1–10 msec and may be used

for interferometry. Each image intensifier is built to order and available with a variety of input windows, photocathodes, and phosphor screens. Applications include high-speed photography, x-ray crystallography, and neutron imaging.

Circle No. 74 on Reader Service Card.

Cold Fusion Vacuum System: Viotech Japan's ACFVS, manufactured exclusively by Thermionics Laboratory, can be supplied as a prototype or used to modify an existing vacuum system for cold fusion experimentation. Thin-film deposition is accomplished with an e-Gun™ electron beam evaporation source; a tungsten resistance heating source is optional. Other multiple functions include deuterium loading, manipulation of up to four samples, sample transfer, sample heating and cooling, mass spectrometer analysis, and energy analysis.

Circle No. 76 on Reader Service Card.



Deposition Chambers: R&D deposition chambers from Conductus may be used to make high T_c superconductor single-layer films and multilayer devices. Off-axis sputter deposition and laser ablation chambers are available. Chambers include internal fixturing, feedthroughs, top plate, and two substrate heaters capable of 950°C in O_2 . Chambers may also be used to deposit epitaxial oxides and metals. The sputtering chamber includes one or two 3-in. diameter magnetron sputter guns positioned for off-axis geometry. The laser ablation chamber includes a rotating multitarget holder that can be positioned for laser and optic setups. A rotating target assembly holds six 1-in. diameter targets for *in-situ* multilayer growth.

Circle No. 77 on Reader Service Card.

Catalog of Chemicals and Accessories: Free 1,200-page 1993–1994 catalog

from Alfa/Johnson Matthey details more than 10,000 products. Listed are aqueous percent solutions, asbestos standards, and ICP standards; glassy carbon rods, plates, and powders; reference materials featuring Googolplex™ molecular models, plus software and database items; safety products; and more than 2,000 glassware products, including chromatography, environmental, and NMR items. More than 4,000 inorganic and 3,000 chemical compounds are featured, as well as 1,000 pure elements and fabricated metals in purities ranging from technical to high-purity grades.

Circle No. 78 on Reader Service Card.

Benchtop Flammability Tester: The SSI Setchkin Self-Ignition Cell from Atlas Electric Devices can determine the lowest possible ambient air temperature required for self-ignition and flash-ignition of plastics and other materials. Ignition susceptibility is based on the temperature measurement of uniformly heated air passing across the sample at a specified rate, causing flash- or self-ignition. The optional control cabinet features an air flow gauge, blower system, temperature controller, and data recorder.

Circle No. 79 on Reader Service Card.

Brittleness Tester for Plastics and Elastomers: Custom Scientific Instruments' CS-153 can determine the temperature at which plastics and elastomers experience brittle failure due to low-temperature impact. Users may evaluate long-time effects such as crystallization or those that may be introduced by low-temperature incompatibility of plasticizers in materials being tested. Features include a digital readout, 20-specimen capacity, solenoid actuated striker, optional CO_2 and LN_2 cooling, and optional safety bath cover. Individual specimens are secured in separate clamps.

Circle No. 80 on Reader Service Card.

Manual Large-Sample-Stage Microscope: Digital Instruments' NanoScope MLSS scanning probe microscope combines large-sample capability with high resolution. Compatible with Digital Instruments' large-sample atomic force and scanning tunnelling microscopes, the MLSS can inspect the surface of an 8-in. diameter sample and provide 1 Å vertical resolution. Samples are mounted on a vacuum chuck manually positioned under the scanning probe microscope, and tip sample engagement is automatic.

Circle No. 81 on Reader Service Card.