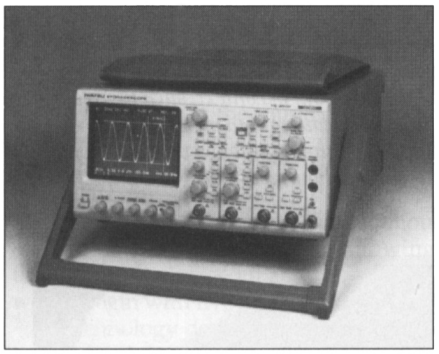
A summary of new products and services for materials research...

RF Glow Discharge Optical Emission Spectrometer: The RF 5000 from JY Emission is a simultaneous and sequential spectrometer with an RF source for depth profile analysis and for bulk analysis of conductive and nonconductive samples. The system extends the dynamic range of each channel to 10^{10}. Each detector features real-time automatic adjustment of the high voltage and gain. Quantitative surface analysis software provides the concentration versus depth. Solids such as steels, cast iron, and metal alloys can be analyzed, as well as nitrogen, oxygen, and hydrogen gases. Website: www.isainc.com.
Circle No. 60 on Reader Service Card.

Thin Film Measurement Instrument: The Porotec™ porosimeter from TPL measures small amounts of gas adsorbed by a thin film and calculates the surface porosity. The instrument can measure thin films in their deposited form and provides users with a technique to accurately characterize the entire adsorption/desorption system of products. The system evaluates mesoporous, microporous, and closed pore thin films as deposited on a surface porosity sensor. Sensitivity of the sensor allows detection of pore sizes of 4–500 Å.
Circle No. 62 on Reader Service Card.

HV and UHV Angle Valves: Vacuum angle valves from VAT are available in three versions for pump isolation and bypass applications. The Series 24 is aluminum and shaft sealed, with manual or pneumatic actuators. The Series 26 is available in aluminum or stainless steel, with manual, pneumatic, and electromagnetic actuators. The Series 28 is all stainless steel for UHV applications and is bellows sealed, with manual and pneumatic actuators to provide low outgassing rates. Optional solenoids and position indicators are available. Website: www.vatvalve.com.
Circle No. 63 on Reader Service Card.

2500 and 5000 W, 4 MHz Power Supplies: Advanced Energy's HFG 2501 and HFG 5000 power supplies use RF circuit topology to deliver up to 2500 W and 5000 W, respectively, into 50-Ω nonreactive loads. Designed for applications requiring 1% regulation accuracy, the series offers control flexibility through a 25-pin parallel user port. Water-cooled design eliminates fans and large heat sink hardware, and water-control solenoids are available. The HFGs are certified by CE, UL/CSA, and GS, and are SEMI S2-compliant. Website: www.advanced-energy.com.
Circle No. 64 on Reader Service Card.



Analog Oscilloscope: Iwatsu America's TS-8500 provides a visual writing speed of 5 div/ns with a DC to 500 MHz bandwidth and the ability to update displays to 1 million times per second. Features include a scan converter tube for brightness and a high-speed storage capability for immediate storage of high-speed single shot phenomena. Users can save or recall up to 256 panel setups with one-touch control. A persistence function allows super-imposition of real-time and stored waveforms. Website: www.iwatsu.com.
Circle No. 61 on Reader Service Card.

Temperature Calibration Software: AmeCal-T software from AMETEK Denmark A/S allows users to perform automatic temperature calibrations on transmitters, RTDs, thermocouples, and thermoswitches with built-in verification and documentation features. Users can choose the sensor, temperature calibrator, input, and temperature sequence. An on-screen guide shows where the user is in the program at all times and what procedure is being performed. The software can present the running calibration in graphic or table format. Website: www.ametek.com.
Circle No. 65 on Reader Service Card.

Metals Handbook: ASM International offers the first revision to its *Metals Handbook® Desk Edition* in 14 years. The 1,400-page second edition contains 60% new and updated material. The book includes a glossary of terms and key engineering data; information on chemical composition and mechanical properties for thousands of standard ferrous, nonferrous, and special-purpose materials; processing information, such as extractive metallurgy, casting, powder metallurgy, and recycling/life-cycle analysis; and coverage of testing, inspection, characterization, and quality control. Website: www.asm-intl.org.
Circle No. 66 on Reader Service Card.

Automatic Argon Console Leak Detector: The MS-50 from Veeco Instruments provides less than 1×10^{-8} STD cc/s ultimate sensitivity. Features include automatic calibration check, calibration and tuning, 50 programmable test recipes, resolution of 40 at mass 40 (argon), and internal temperature compensated argon calibrated leak standard traceable to NIST.
Circle No. 67 on Reader Service Card.

Custom Chip Arrays: BI Technologies provides custom resistor networks on a chip array and can produce custom versions of its 1206 and 2512 chip arrays in various configurations. Resistance values of 10 ohms to 1 MΩ can be combined in networked configurations of four and nine resistors. These networks can be manufactured with up to two resistance films on each chip. In the 1206 chip, maximum allowable resistance ratio in each film is 2:1. In the 2512 chip, the ratio is increased to 4:1. Tolerance on resistance values is ±1% to ±5%. Screened capacitors can be included to enable production of AC terminations or filters. Website: www.bitechnologies.com.
Circle No. 68 on Reader Service Card.

CCD Raman Systems: Detection Limit offers two models of SOLUTION™ series Raman systems. The SOLUTION 633 uses an external 633 nm, 40 mW HeNe laser as the excitation source. The SOLUTION 852 uses an internal 852 nm, 150 mW frequency-stabilized diode laser. Both systems feature fiber optic coupling between the laser, the remote mini epi-probe, and the f/2 imaging spectrograph. Both come with a Pentium™-based system controller with LabView™-based DLSPEC™ control and data acquisition software and the embedded GRAMS/32™ spectral analysis and presentation software. Website: www.dlimit.com.
Circle No. 69 on Reader Service Card.

Tip Evaluator for SPM/AFM: Digital Instruments's tip evaluation system, available for NanoScope® Dimension™ and MultiMode™ SPM/AFMs, determines whether the tip meets a selected tip sharpness criterion or should be replaced. The package includes the tip evaluation software and a roughness standard that is scanned as part of the evaluation. The software presents a worst-case tip sharpness in numerical and graphical form, and also displays an image of the tip. Website: www.di.com.
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