

RESOURCES

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

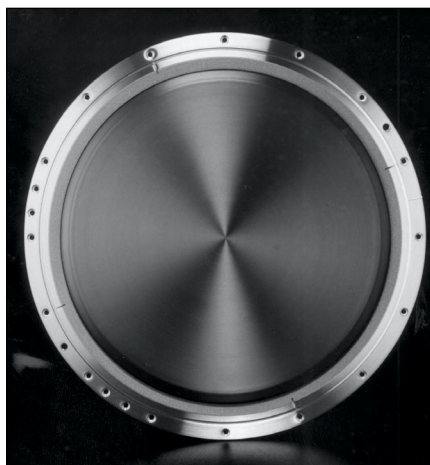
PC Spectrometer: The WaveStar from Ophir Optronics measures spectra from a variety of sources, including continuous and pulsed sources from microwatts to watts in intensity. Spectral response is 570–1100 nm for the Model V, and 350–635 nm for the Model U. The instrument automatically finds and tags peak wavelengths to 0.1 nm accuracy. Resolution is 0.5 nm full width half maximum. Contact: sales@ophiropt.com; www.ophiropt.com. **Circle No. 61 on Inside Back Cover.**

High-Pressure Gas Cell: SensIR Technologies' high-pressure gas cell for FTIR analysis fits the TravelIR™ portable FTIR spectrometer, and the Dura-SamplerIR™ and DuraScope™ in-compartment FTIR analysis systems. The cell tests gases up to 1300 psi and is compact but creates a 10-cm path length. High-pressure allows the gas cell to handle small samples directly from the container, producing high-quality spectral data with a minimum number of scans. Contact: info@sensir.com; www.sensir.com.

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10-Carbon Cyclic Alcohol: Texmark Chemicals has produced dicyclopentadiene alcohol (DCPD), a 10-carbon cyclic alcohol. The alcohol is a monomer that has dual functionality similar to unsaturated alcohols in that it possesses both alcohol group and double bond characteristics. It differs from other organic alcohols because it is 3D. The material is sold in two forms: the pure distilled form, and the crude form (impurities include residual DCPD) as it is taken from the reactor. DCPD is expected to be the basis for products that can use the OH radical as a starting point for manufacturing value-added derivatives. Contact: www.texmark.com. **Circle No. 66 on Inside Back Cover.**

ArF Excimer Laser: The NanoLith™ 7000 from Cymer® is a 400-kHz 20W ArF production laser for 193-nm step-and-scan tools. With line-narrowed bandwidth of <0.35 pm (FWHM) and 0.95 pm (95% energy integral), the system enables high-contrast imaging from lithography scanners using lenses with an NA over 0.75. The NanoLith 7000 enables tight control of exposure dose (<+0.3%) and laser wavelength (<+0.03 pm). Built-in laser metrology for pulse-to-pulse data acquisition and feedback control minimizes transient wavelength instabilities. Contact: marketing@cymer.com; www.cymer.com. **Circle No. 69 on Inside Back Cover.**



Tantalum Targets: Tosoh SMD offers tantalum targets that have a grain size of <65 μm with preferred grain orientation and a low oxygen content of <50 ppm. The material has a 4N5 purity with low niobium content and is available for all leading PVD systems. With high strength in excess of 20,000 psi, the tantalum target assembly uses Tosoh SMD's Prelude® diffusion bonding technology. Contact: portugaljv@tsmd.com; www.tsmd.com.

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Vacuum Products: Pfeiffer Vacuum's 300-page catalog provides solutions for semiconductor, analytical, R&D, and industrial applications. Products include turbomolecular, dry backing, rotary vane, Roots and diaphragm pumps; vacuum gauges and controllers; helium leak detectors; residual gas analyzers; quadrupole mass spectrometers; and flanges, fittings, and valves. Featured are the PAC-Line rotary vane pumps, large-capacity TPH2101 turbopump with integrated drive unit, and diaphragm pumps with dual-voltage dual-frequency features. Contact: contact@pfeiffer-vacuum.com; www.pfeiffer-vacuum.com.

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Particle Size Characterization: The NIST Recommended Practice Guide is designed to help industrial and academic laboratories measure particle size and size distribution of ceramic powders. The guide covers such techniques as microscopy, sieving, gravitational sedimentation, and laser light diffraction. For each measurement, directions are provided for sample preparation, instrument calibration, and setup. Contact Carolyn Sladic at 301-975-6119; www.nist.gov.

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Production Overrun Optics: Free Stock Parts List from Meller Optics features more than 2500 items made from sapphire, CaF₂, fused and crystalline quartz, germanium, silicon, and laser glasses that were production overruns. Most of the lenses, mirrors, and substrates range from 0.25 in. to 2 in. (from ~0.64 cm to ~5.0 cm) in diameter and are 1–4 mm thick. Providing a large inventory of sapphire, the parts typically have 10-5 to 80-50 scratch-dig surface finishes, flatness from 10 waves to 0.1 wave, and dimensional tolerances from +0.001 in. to +0.005 in (from ~+0.003 cm to ~+0.013 cm). The list is updated monthly. Contact: sales@melleroptics.com; www.melleroptics.com.

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Vibrating Sample Magnetometer: Oxford Instruments' MagLabVSM measures magnetic moments down to 10⁻⁶ emu for the study of magnetic and superconducting materials. Its high sampling rate can be combined with the application of a rapidly changing external field up to 16 T, over the full dynamic range from 10⁻⁶ emu to 100 emu. Typical hysteresis loops to fields in excess of 9 T can be recorded in less than 10 min. Magnets are available to generate applied fields up to 16 T, and a range of inserts provides sample temperatures from 1.5 K to 1000 K. The noise floor of 2 × 10⁻⁶ emu to peak (5 × 10⁻⁷ emu RMS) remains constant for all applied fields. Vibration frequency can be varied from 40 Hz to 80 Hz. Contact: info@ma.oxinst.com; www.oxford-instruments.com.

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Showcase Your New Products

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For further information for these products, check www.mrs.org/publications/bulletin/resources