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New JEOL Scanning Probe Microscope Offers Total Control of the SPM/AFM Imaging Environment

A new, multi-function Scanning Probe Microscope from JEOL gives researchers the unique ability to observe the physical properties of specimens in their native environments. Using the JEOL JSPM-5200, scientists have greater control over the SPM imaging environment, allowing them to examine cooled or heated samples in fluid, controlled air, ambient air, or vacuum. The JSPM-5200 combines high resolution atomic force microscopy (AFM) and scanning tunneling microscopy (STM) in one dynamic, versatile instrument that reveals images never before achievable with conventional scanning probe microscopes. For example, it has been reported that red blood cells freeze-fractured *in situ* were observed in vacuum at 163K (Rev. Sci. Instrum., Vol. 72, No. 2). The ability to observe the sample in high vacuum produced clear images free of ice crystals. The JSPM-5200 can be configured for a wide variety of analysis functions that offer researchers unprecedented flexibility. More than 20 types of measurement modes are available for quantitative and qualitative analysis of sample surfaces, including contact, non-contact and tapping AFM, STM, nano-indentation, scanning Kelvin probe, magnetic force microscopy, and more. For more information about JEOL USA, Inc. or any JEOL products, visit www.jeol.com, or call 978-535-5900.

Pacific Nanotechnology Brings 'Developer's Corner' Resource to Customers

Pacific Nanotechnology, Inc. (PNI), the global leader in high-performance, easy-to-use, and affordable atomic force microscopes (AFMs), has added a Pacific Nanotechnology "Developer's Corner" feature to its Web site. The Developer's Corner is a resource for Pacific Nanotechnology customers that have modified or would like to customize a PNI product for a specific application. Designs and ideas are included that will help customers create new uses for PNI AFM products. Example applications include how to build a heating stage for a Nano-R(TM) AFM, where to obtain probes tips suitable for scanning in liquids, and how to construct a stand-alone AFM head. Ideas and applications contributed by users will be included and can be submitted to info@pacificnanotech.com.

PULNiX Announces 500fps Mega-Pixel Camera

PULNiX today announced the PC-1024CL Fast-Framing CMOS camera. Delivering speeds of 500fps (Frames per Second) from a full 1024 by 1024 active pixel photoplane through a standard Camera Link™ interface. The PC-1024CL integrates all the features required to successfully perform high-speed imaging. The asynchronous trigger assures that the event will always be captured no matter when it occurs. The PULNiX patented LUT (look up table) assures sharp contrast however disparate the lighting conditions may be. Progressive scan operation eliminates the field disparities of standard video cameras. The large pixels of the 1" imager format help overcome the light starvation problem inherent with the short exposure times of high-speed imaging. The PC-1024CL can handle 70g of shock in its miniature size (60mm x 70mm x 35mm, lens not included). The PC-1024CL's low weight of 185 grams and its low power dissipation of 1.3 watts at 5 volts further enhance its usefulness in difficult environments. For more information about this or any other PULNiX products, please contact: Don W. Lake, (800) 445-5444 dlake@pulnix.com

Oxford Instruments INCAx-sight EDS detectors offer performance guarantees in line with new ISO 15632:2002 specification

Resolution standards recommended for light element EDS detectors by the release of ISO 15632:2002 are already met by Oxford Instruments' new INCAx-sight detectors, where measuring resolution at CKα and FKα guarantees excellent performance at all energies. The standard recognises that most current EDS detectors are light element detectors with thin windows that detect low energy X-rays (less than 1keV). To reflect this major technology change, away from Be window detectors, ISO proposes that the performance of these detectors is specified at low energy as well as at Manganese Kα. Therefore, the resolution performance at carbon Kα and fluorine Kα shall also be guaranteed. These new tests provide sensitive evaluation of the noise and charge collection properties of an EDS detector, which are the important factors deciding the resolution which can be achieved at low energy.For further information, please contact Lynn Shepherd at Oxford Instruments Analytical Tel: +44 1494 479371 Email: lynn.shepherd@oxinst.co.uk

Ambios Technology Introduces a NEW Family of Scanning Probe Microscopes with Advanced Metrology Features

Santa Cruz, CA, February 10, 2003 - Ambios Technology, Inc. announces the introduction of a Scanning Probe Microscope (SPM) product line with superior features for accurate metrology measurements. The XE-Series SPMs deliver improved scan accuracy, scan speed, and advanced probe tip characterization and de-convolution. Distortion-free SPM data acquisition is achieved by a novel *x-y-z* scan system. The XE-Series scan system design incorporates an advanced guided flexure scanner with low inertia, minimal run-out, superior orthogonality and axis independent performance. The scan system design eliminates the cross-talk, non-linearity, creep and hysteresis inherent in conventional piezoelectric tube scanners employed by most commercial SPMs. Additional information on Ambios Technology, Inc. and its products can be found at http://www.ambiostech.com.

Allied High Tech Products, Inc. introduces new "TechCut 5(tm)" Precision Sectioning Machine

Allied High Tech Products, Inc. today announced the release of its latest generation precision sectioning machine, the TechCut 5(tm). The TechCut 5(tm) is a rugged, versatile, programmable sectioning saw designed to cut a wide variety of materials in a broad range of sizes. A sophisticated combination of intuitive software and stepper motor technology enables precise control of sample feed-rate, distance and force, and automatic variation of the feed rate as cutting conditions change due to material thickness and/or composition. This unique approach provides exceptionally fast sectioning, while preserving structural integrity, of even the most difficult materials. TechCut 5(tm), cutting depths are user definable, and, when sectioning is complete, the sample holding table automatically retracts to the "home" position, blade rotation stops and coolant flow ceases. Specification data and quote/purchase information about this and all of Allied's products may be obtained at www.alliedhightech.com, or from Allied Customer Service. Call toll free (800) 675-1118 or (310) 635-2466 (worldwide).

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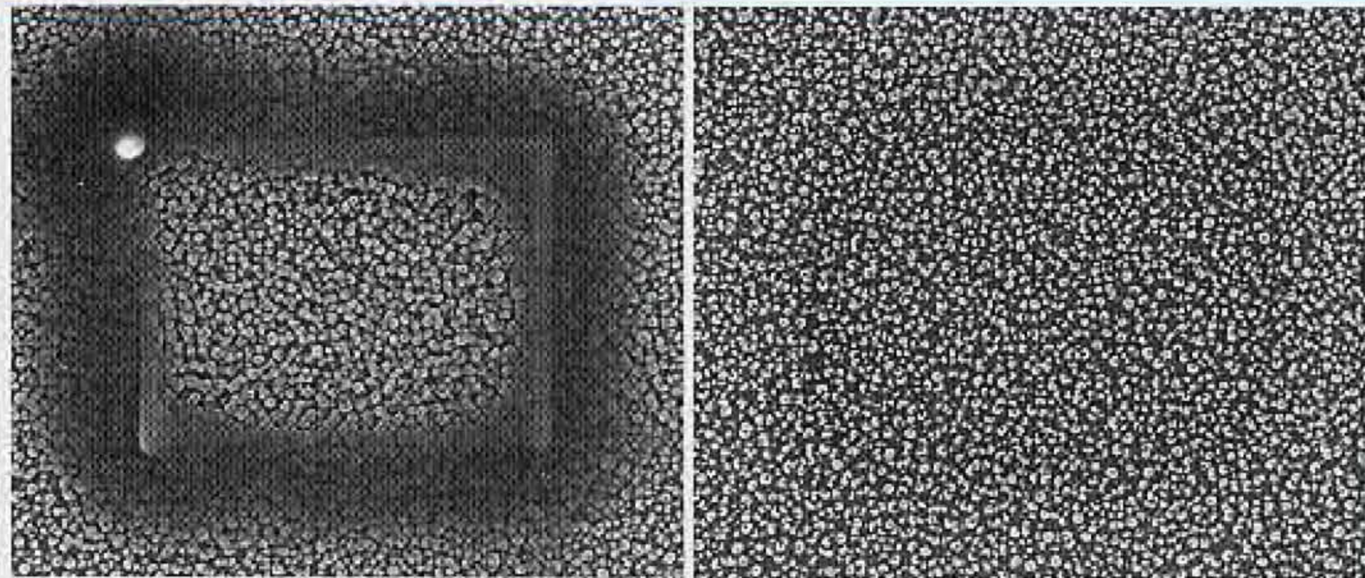
"The Evactron device can significantly reduce contamination in the SEM."



A silicon "grass" sample irradiated for 10 minutes before (left) and after (right) the use of Evactron SEM-CLEAN device. 50kX - From *Active Monitoring and Control of Electron Beam Induced Contamination* by **Andras E. Vladar, Michael T. Postek and Ronald Vane* "Active Monitoring and Control of Electron Beam Induced Contamination" Proc. SPIE Vol. 4344 (2001), 835**

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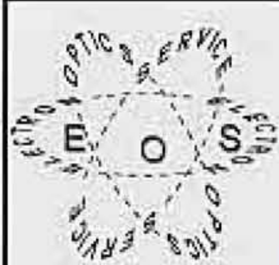

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