

# NEW PRODUCT NEWS



## HIGH RESOLUTION SPUTTER COATER FOR FE-SEM

This high resolution sputter coater is equipped with both Chromium and Platinum/Palladium targets, rotary and turbo drag pump combination, and separate rotary, planetary and tilting sample stage movements as standard. Thickness optimized to the FE-SEM operating voltage using the high resolution thickness controller.

Benchtop design saves space and energy. Contact :

Ted Pella, Inc.  
P.O. Box 492477, Redding CA 96049-2477  
(916)243-2200 - Fax: (916)243-3761

Circle Reader Inquiry #40

## Philips Electron Optics Introduces the XL50: a new Defect Review Tool of the Semiconductor Industry

The XL50 is a highly integrated tool that combines an easy user interface, proven analytical performance and exceptional stage accuracy. Intended for use in the low yield analysis lab, the XL50 will allow classification of defects with imaging resolution of 3-5 nm. This data can then be fed back into quality control and continuous improvement processes, helping to minimize manufacturing deviations and hence raise yields and plant profitability.

The XL50 combines a field emission electron source with a specially developed 200 x 200 mm, 5-axis movement stage. The stage average accuracy is within 1.5 microns across an entire 8" wafer (or 0.6 microns over a 25 mm die). Menu driven operation, entirely under the familiar MS-Windows environment, means operators can classify defects in a user-friendly manner. The high precision stage enables a wide variety of wafers and wafer parts to be examined and navigation is both intuitive and straight-forward.

Circle Reader Inquiry #42

### Micro Plane

Sample Preparation Tool for Microscopy

The **Micro Plane** tools from Spectra-Tech Inc. are useful sample preparation tools for any microscopy laboratory, especially one that employs infrared microscopy. Samples prepared for infrared microanalysis

need to meet specific criteria for transmission analyses where the ideal sample thickness is between 5 and 20 microns. This device allows the user to plane or scrape the surface of polymers or other solid materials to produce a uniform slice thickness. Thickness is controlled through simple adjustment of the angle and position of

the Micro Plane's blade.

The Micro Plane is available in two configurations having either a carbide-steel blade version or a diamond-edge blade. For further information, contact Debbie Esposito at (800)243-9186.

Circle Reader Inquiry #41

to determine which two axes are to be monitored for a total period of at least 24 hours using a dual-channel chart recorder (ref. Part III). In this case, we have chosen axes Y and Z. With our completed chart (or charts) in hand, the statistics and magnitude of peak-to-peak low-frequency magnetic field variations occurring within any eight minute window (i.e., corresponding to -20 dB with respect to the lowest frequency of interest) are carefully noted. Let us assume here that the relevant peak-to-peak QDC variations discerned on the chart are 1.5  $\mu\text{Tp-p}$  [15 mGp-p] in the Y axis and 2.5  $\mu\text{Tp-p}$  [25 mGp-p] in the Z axis. It is readily apparent that these variations are over an order of magnitude greater than the ACMF EM threshold specs. Worse still, the EM conductive shrouds and UHV containment are relatively ineffective in blocking QDC field variations below 16 Hz, so the EM's exhibit up to 30% more sensitivity to magnetic field variations in this frequency range. All factors considered, our measurements indicate field modulations in the room are approximately 24 times greater than the interference threshold for a FEG instrument! From the standpoint of probable magnetic field interference, this site is clearly unacceptable in its present state for any of the previously mentioned instrument classes.

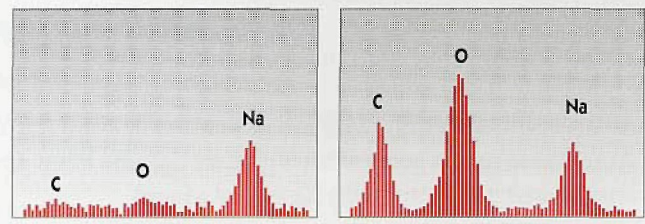
Nonetheless, since the observed magnetic field variation to EM susceptibility ratio is less than 25, the site may in fact be usable if magnetic shielding is employed. We will discuss that encouraging prospect in the next article of this series.

Questions and/or comments relating to this series are welcomed and may be faxed to the author's attention at Linear Research Associates, Trumansburg, NY (USA) 607-387-7806. ■



# Light Element Peaks Revealed!

## Oil Film on EDX Windows Removed:



Oil build-up on EDX detector windows can ruin sensitivity for light element X-rays in SEMs. To stop oil condensation and keep the system clean, smart SEM users rely on the XEI Scientific SEM-CLEAN™ system. Result: Consistent light element X-ray results and contamination-free pictures. The Nitrogen purge of the inexpensive SEM-CLEAN system actively cleans your electron microscope while you're away.

### SEM-CLEAN™ Stops the Oil



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