NCFL's PHI Quantera SXM-03 Scanning XPS Microprobe

Features and Specifications

- A patented, fully automated, XPS instrument that uses a scanned, focused, X-ray beam specifically designed for spatially resolved chemical analysis.
- A 180° hemispherical electron energy analyzer optimized for energy resolution and PHIs high angular acceptance lens optimized for small area XPS sensitivity.
- A unique, 32-channel detector and fast electronics for rapid data acquisition and maximum sensitivity.
- A scanning monochromatic X-ray source with a highly focused beam (<9 microns) for rapid chemical state imaging.
- A unique, fully automated, rapid sample introduction and transfer system that features 75 mm sample platens, color video selection of the analysis position in the introduction chamber, automated platen movement, parking, and exchange.
- A fully automated, five-axis (X, Y, Z, rotation and tilt), precision, eucentric specimen stage that uses the computer to locate the selected analysis positions. Stage motion allows access to all points on a 100 mm diameter specimen.
- A PentiumTM-based PC computer controlling all necessary hardware, analysis, data massage and data output. Includes a floppy disk drive, a recordable/erasable CD drive, a color LCD monitor and a color ink jet printer.
- Automated apertures for defining large or small take-off angles as well as automated protection for the analyzer during ion sputtering.
- Full analytical capability including surveys, high-resolution multiplexes, sputter depth profiles, line scans, chemical images, automated analyses and user-defined settings. Full support for all automation.
- Extensive library of post-analysis data processing algorithms including: background subtraction, smoothing, peak identification, linear least squares fitting, target factor analysis, curve and peak analysis and separation of multiple chemical states in maps, line scans and profiles. UHV compatible test chamber featuring stainless steel construction, 360 l/s ion pump with titanium sublimation pump, and a one button bake-out set-up and control on an integrated console.
- Instruction manuals, system tool kit, operators chair, table and three days of hands-on analytical training by a PHI laboratory scientist at the users site three to six months after system installation. (Advanced training must be scheduled within one year of installation.
- System assembly, performance verification, installation, and a one year warranty excluding consumables.

Sample Positioning Station Option

- High magnification images of the specimen surface for ease in locating analysis points.
- Analysis coordinates are determined before the platen is placed in the spectrometer.

Hot/Cold Stage and Intro Option

- Replaces the ambient temperature stage.
- Stage temperature controllable from -120°C to 250°C.
- Intro chamber controllable from -150°C to 250°C. *Note: Heating and cooling is limited to a 10 mm x 30 mm area on the platen included for this purpose.*