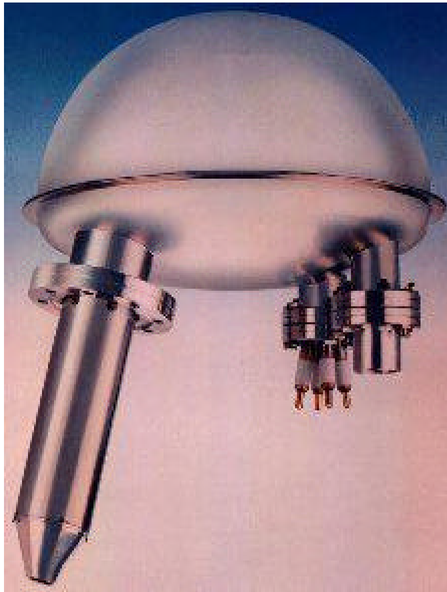
Entry level multi-technique surface analyser

Service only



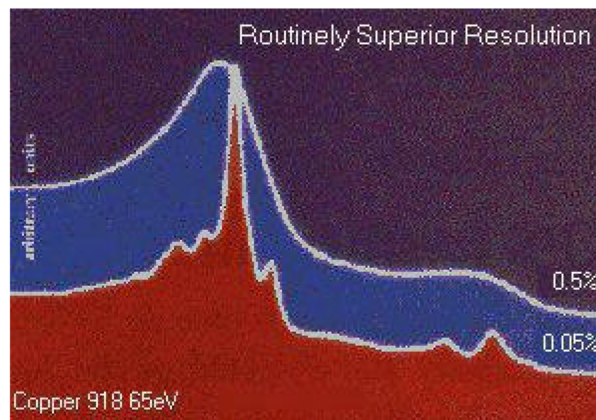
The VG100AX offers an inexpensive, high performance approach to multi-technique surface analysis at routinely high energy resolution. The 100mm hemispherical analyser features high energy resolution AES with high performance XPS, SAM UPS and ISS. The analyser is insensitive to sample position and features high signal-to-noise at low sample currents.

Easy upgrade

The VG100AX can be supplied with an electron source for AES; an x-ray source for XPS or with both for true multi-technique analysis. Whichever you choose, the complementary technique can be easily retrofitted, simply by the addition of the appropriate source, allowing instrumentation to keep pace with changing analysis needs and future funding.

High resolution AES

The energy resolution of the VG100AX is electronically variable (manually or by computer control) to better than 0.05% without the need to change apertures. (Resolution as low as 0.025% can be measured.). The coarse resolution (0.5%) is similar to that achievable by basic cylindrical mirror analyser (CMA) instruments and enables a comparison to be made with the high resolution routinely achieved by the VG100AX.



Auger spectra acquired by a VG100AX in both fine and coarse resolution modes.

Sample damage is minimised

AES spectra acquired by CMA instruments traditionally use differential techniques requiring high current electron beams which can cause sample damage and localised heating. The VG100AX uses a pulse-counting detector and can operate with very low beam current (<0.025μA) while maintaining high signal-to-noise and good resolution, thereby avoiding the sample damage caused when using other instrumentation. Within the surface analysis products range there is wide choice of electron guns for pulse-counting Auger, high spatial resolution SAM and, if required, differential Auger.

Advantages over CMA's

Unlike CMAs, the VG100AX is insensitive to sample position. The lens can quickly and easily be focussed onto the sample without the need for careful sample positioning and set-up. This means that a simple and inexpensive sample stage can be used and the electron beam can be defocused to further minimise sample damage. If required the sample can be tilted without the risk of shifts in the energy spectrum.